

Women's 400m Split Times - by athlete

LAST UPDATE: 5-Mar-25

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
Abraham, Shiny (IND) (1965)																			
FINAL - 1989 IAAF World Cup (Barcelona, ESP)																			
date	10-Sep-89	time	13.68		25.50		31.18		53.80	53.80	/- 7								
reaction time		interval			11.82		5.68		22.62	PB	# of strides	13.68	11.82	5.68	22.62	25.50	28.30	2.80	
		velocity	7.31		8.46		17.61		4.42	7.43		7.31	8.46	17.61	4.42	7.84	7.07		
Abrams, Aliyah (GUY) (1997)																			
Repechage 1 - 2024 Olympic Games (Paris, FRA)																			
date	06-Aug-24	time	6.81	12.45	18.31	24.33	30.61	37.18	44.20	51.84	51.84	8 / 5							
reaction time	0.174	interval		5.64	5.86	6.02	6.28	6.57	7.02	7.64		# of strides	12.45	11.88	12.85	14.66	24.33	27.51	3.18
		velocity	7.34	8.87	8.53	8.31	7.96	7.61	7.12	6.54	7.72	203.0	8.03	8.42	7.78	6.82	8.22	7.27	
Heat 5 - 2024 Olympic Games (Paris, FRA)																			
date	05-Aug-24	time	6.78	12.32	18.02	23.98	30.25	36.91	43.95	51.55	51.55	4 / 5							
reaction time	0.163	interval		5.54	5.70	5.96	6.27	6.66	7.04	7.60		# of strides	12.32	11.66	12.93	14.64	23.98	27.57	3.59
		velocity	7.37	9.03	8.77	8.39	7.97	7.51	7.10	6.58	7.76	203.7	8.12	8.58	7.73	6.83	8.34	7.25	
FINAL - 2024 Xiamen Diamond League (Xiamen, CHN)																			
date	20-Apr-24	time	6.91	12.63	18.48	24.53	30.90	37.63	44.81	52.69	52.69	3 / 7							
reaction time	0.160	interval		5.72	5.85	6.05	6.37	6.73	7.18	7.88		# of strides	12.63	11.90	13.10	15.06	24.53	28.16	3.63
		velocity	7.24	8.74	8.55	8.26	7.85	7.43	6.96	6.35	7.59	205.5	7.92	8.40	7.63	6.64	8.15	7.10	
FINAL - 2023 Prefontaine Classic (Eugene, OR)																			
date	17-Sep-23	time	6.77	12.37	18.15	24.29	30.62	37.27	44.31	51.97	51.97	2 / 8							
reaction time	0.137	interval		5.60	5.78	6.14	6.33	6.65	7.04	7.66		# of strides	12.37	11.92	12.98	14.70	24.29	27.68	3.39
		velocity	7.39	8.93	8.65	8.14	7.90	7.52	7.10	6.53	7.70	203.7	8.08	8.39	7.70	6.80	8.23	7.23	
Heat 5 - 2023 World Athletics Championships (Budapest, HUN)																			
date	20-Aug-23	time		12.45						51.44	51.44	3 / 5							
reaction time	0.229	interval										# of strides	12.45						
		velocity		8.03						7.78	7.78	202.5	8.03						
FINAL - 2023 Golden Gala Pietro Mennea (Firenze, ITA)																			
date	02-Jun-23	time	6.67	12.22	18.00	23.99	30.22	36.76	43.72	51.31	51.31	7 / 5							
reaction time	0.134	interval		5.55	5.78	5.99	6.23	6.54	6.96	7.59		# of strides	12.22	11.77	12.77	14.55	23.99	27.32	3.33
		velocity	7.50	9.01	8.65	8.35	8.03	7.65	7.18	6.59	7.80	202.0	8.18	8.50	7.83	6.87	8.34	7.32	
Semi-Final 2 - 2022 Commonwealth Games (Birmingham, GBR)																			
date	05-Aug-22	time	6.7	12.4	18.4	24.7	31.2	38.0	45.1	52.82	52.82	4 / 6							
reaction time	0.145	interval		5.70	6.00	6.30	6.50	6.80	7.10	7.72		# of strides	12.40	12.30	13.30	14.82	24.70	28.12	3.42
		velocity	7.46	8.77	8.33	7.94	7.69	7.35	7.04	6.48	7.57	202.0	8.06	8.13	7.52	6.75	8.10	7.11	
Semi-Final 2 - 2022 World Athletics Championships (Eugene, OR)																			
date	20-Jul-22	time		12.46		24.54		37.52		51.79	51.79	6 / 6							
reaction time	0.157	interval			12.08		12.98		14.27			# of strides	12.46	12.08	12.98	14.27	24.54	27.25	2.71
		velocity		8.03	8.28		7.70		7.01	7.72	198.0	8.03	8.28	7.70	7.01	8.15	7.34		
Heat 1 - 2022 World Athletics Championships (Eugene, OR)																			
date	17-Jul-22	time		12.51		24.81		37.86		51.98	51.98	6 / 2							
reaction time	0.148	interval			12.30		13.05		14.12			# of strides	12.51	12.30	13.05	14.12	24.81	27.17	2.36
		velocity		7.99	8.13		7.66		7.08	7.70	196.2	7.99	8.13	7.66	7.08	8.06	7.36		
Abugan, Folasade (NGR) (1990)																			
Semi-Final 2 - 2009 IAAF World Championships (Berlin, GER)																			
date	16-Aug-09	time		12.09		24.04		37.25		51.75	51.75	1 / 6							
reaction time	0.229	interval			11.95		13.21		14.50			# of strides	12.09	11.95	13.21	14.50	24.04	27.71	3.67
		velocity		8.27	8.37		7.57		6.90	7.73		8.27	8.37	7.57	6.90	8.32	7.22		
Heat 3 - 2009 IAAF World Championships (Berlin, GER)																			
date	15-Aug-09	time		12.56		24.68		37.64		51.70	51.70	5 / 4							
reaction time	0.217	interval			12.12		12.96		14.06			# of strides	12.56	12.12	12.96	14.06	24.68	27.02	2.34
		velocity		7.96	8.25		7.72		7.11	7.74		7.96	8.25	7.72	7.11	8.10	7.40		
Achy, Shiori (JPN) (2003)																			
U20 FINAL - 2019 Japanese National U18/U20 Championships (Hiroshima, JPN)																			
date	18-Oct-19	time	7.28	13.53	19.90	26.61	33.51	40.59	47.92	55.60	55.60	6 / 5							
reaction time	0.185	interval		6.25	6.37	6.71	6.90	7.08	7.33	7.68		# of strides	13.53	13.08	13.98	15.01	26.61	28.99	2.38
		velocity	6.87	8.00	7.85	7.45	7.25	7.06	6.82	6.51	7.19	208.2	7.39	7.65	7.15	6.66	7.52	6.90	
FINAL - 2019 Japanese National High School Championships (Okinawa, JPN)																			
date	04-Aug-19	time	7.32	13.46	19.80	26.33	33.13	40.13	47.40	55.11	55.11	6 / 6							
reaction time		interval		6.14	6.34	6.53	6.80	7.00	7.27	7.71	PB	# of strides	13.46	12.87	13.80	14.98	26.33	28.78	2.45
		velocity	6.83	8.14	7.89	7.66	7.35	7.14	6.88	6.49	7.26	208.2	7.43	7.77	7.25	6.68	7.60	6.95	
Adachi, Marin (JPN) (2003)																			
FINAL - 2023 Japanese National Championships (Osaka, JPN)																			
date	02-Jun-23	time	6.91	13.03	19.30	25.68	32.28	39.10	46.31	54.05	54.05	5 / 3							
reaction time	0.185	interval		6.12	6.27	6.38	6.60	6.82	7.21	7.74		# of strides	13.03	12.65	13.42	14.95	25.68	28.37	2.69
		velocity	7.24	8.17	7.97	7.84	7.58	7.33	6.93	6.46	7.40	208.0	7.67	7.91	7.45	6.69	7.79	7.05	
Heat 3 - 2023 Japanese National Championships (Osaka, JPN)																			
date	01-Jun-23	time	7.07	13.32	19.69	26.21	32.85	39.65	46.68	54.29	54.29	8 / 2							

reaction time	0.182	interval	6.25	6.37	6.52	6.64	6.80	7.03	7.61		# of strides	13.32	12.89	13.44	14.64	26.21	28.08	1.87		
		velocity	7.07	8.00	7.85	7.67	7.53	7.35	7.11	6.57	7.37	7.51	7.76	7.44	6.83	7.63	7.12			
A FINAL - 2020 Japanese High School National Championships (Hiroshima, JPN)										<i>Kobayashi (2002) - national high school and U20 national championships</i>										
date	23-Oct-20	time	6.94	13.05	19.44	26.04	32.71	39.62	46.84	54.57	54.57	6 / 2								
reaction time	0.165	interval	6.11	6.39	6.60	6.67	6.91	7.22	7.73		# of strides	13.05	12.99	13.58	14.95	26.04	28.53	2.49		
		velocity	7.20	8.18	7.82	7.58	7.50	7.24	6.93	6.47	7.33	210.1	7.66	7.70	7.36	6.69	7.68	7.01		
Adeleke, Rhasidat (IRL) (2002)																				
FINAL - 2024 Memorial van damme (Brussels, BEL)										<i>Omega Timing (2024) - diamond league race analysis</i>										
date	13-Sep-24	time	6.75	12.22	17.83	23.78	29.93	36.40	43.24	50.96	50.96	4 / 4 3								
reaction time	0.155	interval	5.47	5.61	5.95	6.15	6.47	6.84	7.72		# of strides	12.22	11.56	12.62	14.56	23.78	27.18	3.40		
		velocity	7.41	9.14	8.91	8.40	8.13	7.73	7.31	6.48	7.85	8.18	8.65	7.92	6.87	8.41	7.36			
FINAL - 2024 Kamila Skolimowska Memorial (Silesia, POL)										<i>Omega Timing (2024) - diamond league race analysis</i>										
date	25-Aug-24	time	6.56	11.80	17.37	23.27	29.42	35.81	42.57	50.00	50.00	7 / 4								
reaction time	0.153	interval	5.24	5.57	5.90	6.15	6.39	6.76	7.43		# of strides	11.80	11.47	12.54	14.19	23.27	26.73	3.46		
		velocity	7.62	9.54	8.98	8.47	8.13	7.82	7.40	6.73	8.00	8.47	8.72	7.97	7.05	8.59	7.48			
FINAL - 2024 Olympic Games (Paris, FRA)										<i>Paris 2024 Olympic Games - Results Book (2024)</i>										
date	09-Aug-24	time	6.58	12.01	17.54	23.29	29.23	35.51	42.02	49.28	49.28	4 / 4								
reaction time	0.153	interval	5.43	5.53	5.75	5.94	6.28	6.51	7.26		# of strides	12.01	11.28	12.22	13.77	23.29	25.99	2.70		
		velocity	7.60	9.21	9.04	8.70	8.42	7.96	7.68	6.89	8.12	186.2	8.33	8.87	8.18	7.26	8.59	7.70		
Semi-Final 1 - 2024 Olympic Games (Paris, FRA)										<i>Paris 2024 Olympic Games - Results Book (2024)</i>										
date	07-Aug-24	time	6.62	12.07	17.54	23.22	29.16	35.44	42.26	49.95	49.95	8 / 2								
reaction time	0.159	interval	5.45	5.47	5.68	5.94	6.28	6.82	7.69		# of strides	12.07	11.15	12.22	14.51	23.22	26.73	3.51		
		velocity	7.55	9.17	9.14	8.80	8.42	7.96	7.33	6.50	8.01	8.29	8.97	8.18	6.89	8.61	7.48			
Heat 6 - 2024 Olympic Games (Paris, FRA)										<i>Paris 2024 Olympic Games - Results Book (2024)</i>										
date	05-Aug-24	time	6.59	12.02	17.55	23.40	29.45	35.77	42.45	50.09	50.09	5 / 1								
reaction time	0.162	interval	5.43	5.53	5.85	6.05	6.32	6.68	7.64		# of strides	12.02	11.38	12.37	14.32	23.40	26.69	3.29		
		velocity	7.59	9.21	9.04	8.55	8.26	7.91	7.49	6.54	7.99	187.0	8.32	8.79	8.08	6.98	8.55	7.49		
FINAL - 2024 Herculis Meeting International d'Athlétisme (Monaco, MON)										<i>Omega Timing (2024) - diamond league race analysis</i>										
date	12-Jul-24	time	6.69	12.09	17.54	23.25	29.22	35.38	41.93	49.17	49.17	5 / 1								
reaction time	0.161	interval	5.40	5.45	5.71	5.97	6.16	6.55	7.24		# of strides	12.09	11.16	12.13	13.79	23.25	25.92	2.67		
		velocity	7.47	9.26	9.17	8.76	8.38	8.12	7.63	6.91	8.14	184.0	8.27	8.96	8.24	7.25	8.60	7.72		
FINAL - 2024 European Athletics Championships (Roma, ITA)										<i>European Athletics (2024) - 2024 european athletics championships - results book</i>										
date	10-Jun-24	time	12.29				23.69		35.82		49.07	49.07	6 / 2							
reaction time	0.104	interval					11.40		12.13		13.25	NR PB	# of strides	12.29	11.40	12.13	13.25	23.69	25.38	1.69
		velocity					8.14		8.24		7.55	8.15	# of strides	8.14	8.77	8.24	7.55	8.44	7.88	
Semi-Final 1 - 2024 European Athletics Championships (Roma, ITA)										<i>European Athletics (2024) - 2024 european athletics championships - results book</i>										
date	09-Jun-24	time	12.35				24.32		37.09		50.54	50.54	8 / 1							
reaction time	0.172	interval					11.97		12.77		13.45		# of strides	12.35	11.97	12.77	13.45	24.32	26.22	1.90
		velocity					8.10		8.35		7.83	7.43	# of strides	8.10	8.35	7.83	7.43	8.22	7.63	
FINAL - 2023 World Athletics Championships (Budapest, HUN)										<i>Seiko Timing (2023) - world championship race analysis</i>										
date	23-Aug-23	time	12.22				23.54		35.90		50.13	50.13	4 / 4							
reaction time	0.181	interval					11.32		12.36		14.23		# of strides	12.22	11.32	12.36	14.23	23.54	26.59	3.05
		velocity					8.18		8.83		8.09	7.03	# of strides	8.18	8.83	8.09	7.03	8.50	7.52	
Semi-Final 1 - 2023 World Athletics Championships (Budapest, HUN)										<i>Seiko Timing (2023) - world championship race analysis</i>										
date	21-Aug-23	time	12.48				24.20		36.63		49.87	49.87	5 / 2							
reaction time	0.161	interval					11.72		12.43		13.24		# of strides	12.48	11.72	12.43	13.24	24.20	25.67	1.47
		velocity					8.01		8.53		8.05	7.55	# of strides	8.01	8.53	8.05	7.55	8.26	7.79	
Heat 5 - 2023 World Athletics Championships (Budapest, HUN)										<i>Seiko Timing (2023) - world championship race analysis</i>										
date	20-Aug-23	time	12.90								50.80		5 / 1							
reaction time	0.163	interval											# of strides	12.90						
		velocity											# of strides	7.87						
FINAL - 2023 Herculis Meeting International d'Athlétisme (Monaco, MON)										<i>Omega Timing (2023) - diamond league race analysis</i>										
date	21-Jul-23	time	6.74	12.23	17.79	23.58	29.60	35.90	42.55	49.99	49.99	5 / 4								
reaction time	0.144	interval	5.49	5.56	5.79	6.02	6.30	6.65	7.44		# of strides	12.23	11.35	12.32	14.09	23.58	26.41	2.83		
		velocity	7.42	9.11	8.99	8.64	8.31	7.94	7.52	6.72	8.00	184.7	8.18	8.81	8.12	7.10	8.48	7.57		
FINAL - 2022 European Athletics Championships (Munich, GER)										<i>European Athletics (2022) - european athletics championships race analysis</i>										
date	17-Aug-22	time	12.32				23.94		36.60		50.53	50.53	1 / 5							
reaction time	0.199	interval					11.62		12.66		13.93	NR PB	# of strides	12.32	11.62	12.66	13.93	23.94	26.59	2.65
		velocity					8.12		8.61		7.90	7.18	# of strides	8.12	8.61	7.90	7.18	8.35	7.52	
Semi-Final 3 - 2022 European Athletics Championships (Munich, GER)										<i>European Athletics (2022) - european athletics championships race analysis</i>										
date	16-Aug-22	time	12.47				24.29		37.06		51.08	51.08	4 / 3							
reaction time	0.254	interval					11.82		12.77		14.02		# of strides	12.47	11.82	12.77	14.02	24.29	26.79	2.50
		velocity					8.02		8.46		7.83	7.13	# of strides	8.02	8.46	7.83	7.13	8.23	7.47	
Semi-Final 1 - 2022 World Athletics Championships (Eugene, OR)										<i>Timing by Seiko (2022) - world athletics championships race analysis</i>										
date	20-Jul-22	time	12.33				24.15		36.68		50.81	50.81	5 / 4							
reaction time	0.178	interval					11.82		12.53		14.13		# of strides	12.33	11.82	12.53	14.13	24.15	26.66	2.51
		velocity					8.11		8.46		7.98	7.08	# of strides	8.11	8.46	7.98	7.08	8.28	7.50	
Heat 4 - 2022 World Athletics Championships (Eugene, OR)										<i>Timing by Seiko (2022) - world athletics championships race analysis</i>										

WR=World Rec. AR=Area Rec. OR=Olympic Rec. CR=Championship Rec. NR=National Rec. PB=Personal Best DQ=Disqualified DV=Drug Violation

date	time	12.65	24.68	37.40	51.59	51.59	2 / 2												
reaction time	interval	0.151	12.03	12.72	14.19	14.19	# of strides	12.65	12.03	12.72	14.19	24.68	26.91	2.23					
	velocity	7.91	8.31	7.86	7.05	7.75	184.0	7.91	8.31	7.86	7.05	8.10	7.43						
Adeloye, Tosin (NGR) (1996)																			
Heat 2 - 2015 IAAF World Championships (Beijing, CHN)																			
date	24-Aug-15	time	6.87	12.54	18.39	24.54	31.01	37.66	44.65	52.42	52.42	<i>Yamamoto (2015) - race analysis of 15th World Championships 400m- focusing on men's semis and women's prelims</i>							
reaction time	0.234	interval	5.67	5.85	6.15	6.47	6.65	6.99	7.77	DV	# of strides	12.54	12.00	13.12	14.76	24.54	27.88	3.34	
		velocity	7.28	8.82	8.55	8.13	7.73	7.52	7.15	6.44	7.63	7.97	8.33	7.62	6.78	8.15	7.17		
Aguilar, Evelyn (COL) (1993)																			
Repechage 3 - 2024 Olympic Games (Paris, FRA)																			
date	06-Aug-24	time	6.86	12.64	18.57	24.70	31.00	37.64	44.79	52.86	52.86	<i>Paris 2024 Olympic Games - Results Book (2024)</i>							
reaction time	0.156	interval	5.78	5.93	6.13	6.30	6.64	7.15	8.07		# of strides	12.64	12.06	12.94	15.22	24.70	28.16	3.46	
		velocity	7.29	8.65	8.43	8.16	7.94	7.53	6.99	6.20	7.57	7.91	8.29	7.73	6.57	8.10	7.10		
Heat 6 - 2024 Olympic Games (Paris, FRA)																			
date	05-Aug-24	time	6.97	12.74	18.64	24.72	31.09	37.80	45.12	53.36	53.36	<i>Paris 2024 Olympic Games - Results Book (2024)</i>							
reaction time	0.165	interval	5.77	5.90	6.08	6.37	6.71	7.32	8.24		# of strides	12.74	11.98	13.08	15.56	24.72	28.64	3.92	
		velocity	7.17	8.67	8.47	8.22	7.85	7.45	6.83	6.07	7.50	7.85	8.35	7.65	6.43	8.09	6.98		
FINAL - 2024 Xiamen Diamond League (Xiamen, CHN)																			
date	20-Apr-24	time	7.13	13.16	19.38	25.77	32.20	38.81	45.62	52.97	52.97	<i>Omega Timing (2024) - diamond league race analysis</i>							
reaction time	0.151	interval	6.03	6.22	6.39	6.43	6.61	6.81	7.35		# of strides	13.16	12.61	13.04	14.16	25.77	27.20	1.43	
		velocity	7.01	8.29	8.04	7.82	7.78	7.56	7.34	6.80	7.55	7.60	7.93	7.67	7.06	7.76	7.35		
Semi-Final 1 - 2023 World Athletics Championships (Budapest, HUN)																			
date	21-Aug-23	time	12.42	24.14		37.06		51.07	51.07	<i>Seiko Timing (2023) - world championship race analysis</i>									
reaction time	0.157	interval	11.72	12.92		14.01	PB	# of strides	12.42	11.72	12.92	14.01	24.14	26.93	2.79				
		velocity	8.05	8.53	7.74	7.14	7.83	8.05	8.53	7.74	7.14	8.29	7.43						
Heat 2 - 2023 World Athletics Championships (Budapest, HUN)																			
date	20-Aug-23	time	12.37	24.09		36.90		51.27	51.27	<i>Seiko Timing (2023) - world championship race analysis</i>									
reaction time	0.163	interval	11.72	12.81		14.37	PB	# of strides	12.37	11.72	12.81	14.37	24.09	27.18	3.09				
		velocity	8.08	8.53	7.81	6.96	7.80	8.08	8.53	7.81	6.96	8.30	7.36						
Ajayi, Yinka (NGR) (1997)																			
Semi-Final 2 - 2017 IAAF World Championships (London, GBR)																			
date	07-Aug-17	time	12.56	24.74		37.71	44.55	51.85	52.10	<i>Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Women's 400m</i>									
reaction time	0.247	interval	12.18	12.97	6.84	7.30		# of strides	12.56	12.18	12.97	14.14	24.74	27.11	2.37				
		velocity	7.96	8.21	7.71	7.31	6.85	7.68	198.2	7.96	8.21	7.71	7.07	8.08	7.38				
Akasaka, Mirei (JPN) (2004)																			
FINAL - 2021 Japanese U18 National Championships (Matsuyama, JPN) (300m)																			
date	23-Oct-21	time	7.08	12.85	18.79	25.13	31.89	39.40		39.40	<i>Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition</i>								
reaction time	0.196	interval	5.77	5.94	6.34	6.76	7.51		# of strides	12.85	12.28	14.27	25.13						
		velocity	7.06	8.67	8.42	7.89	7.40	6.66	7.61	152.2	7.78	8.14	7.01	7.96					
Akasaka, Miyu (JPN)																			
FINAL - 2023 Japanese National High School Championships (Sapporo, JPN)																			
date	02-Aug-23	time	13.46	27.03		40.24		54.28	54.28	<i>Takashima (2023) - national high school sports festival - biomechanics data</i>									
reaction time	0.291	interval	13.57	13.21		14.04		# of strides	13.46	13.57	13.21	14.04	27.03	27.25	0.22				
		velocity	7.43	7.37	7.57	7.12	7.37	7.43	7.37	7.43	7.37	7.57	7.12	7.40	7.34				
Akinsulie, Esther (CAN) (1984)																			
Heat 6 - 2009 IAAF World Championships (Berlin, GER)																			
date	15-Aug-09	time	12.60	25.34		38.77		53.21	53.21	<i>Graubner (2009) - biomechanical analyses at the 12th IAAF world championships</i>									
reaction time	0.194	interval	12.74	13.43		14.44		# of strides	12.60	12.74	13.43	14.44	25.34	27.87	2.53				
		velocity	7.94	7.85	7.45	6.93	7.52	7.94	7.85	7.45	6.93	7.89	7.18						
Al Qassimi, Hanaa Juma Masi (OMA) (1997)																			
FINAL - West Asian Championships - 2024 Seashore Doha Meeting (Doha, QAT)																			
date	10-May-24	time	7.17	13.34	19.86	26.89	34.45	42.63	51.47	61.96	61.96	<i>Omega Timing (2024) - diamond league race analysis</i>							
reaction time	0.178	interval	6.17	6.52	7.03	7.56	8.18	8.84	10.49		# of strides	13.34	13.55	15.74	19.33	26.89	35.07	8.18	
		velocity	6.97	8.10	7.67	7.11	6.61	6.11	5.66	4.77	6.46	7.50	7.38	6.35	5.17	7.44	5.70		
Al-Saiddi, Line (NOR) (2006)																			
National FINAL - 2023 Bislett Games (Oslo, NOR)																			
date	15-Jun-23	time	6.96	12.85	18.89	25.07	31.61	38.52	45.63	53.28	53.28	<i>Omega Timing (2023) - diamond league race analysis</i>							
reaction time	0.142	interval	5.89	6.04	6.18	6.54	6.91	7.11	7.65	PB	# of strides	12.85	12.22	13.45	14.76	25.07	28.21	3.14	
		velocity	7.18	8.49	8.28	8.09	7.65	7.24	7.03	6.54	7.51	7.78	8.18	7.43	6.78	7.98	7.09		
Alekseyeva, Tatyana (RUS) (1963)																			
FINAL - 1997 IAAF World Championships (Athens, GRE)																			
date	04-Aug-97	time	6.48	12.24	17.64	23.48	29.72	36.28	43.24	51.20	51.37	<i>Ritzdorf (1997) - biomechanical research project at the VI th world championships in athletics, Athens 1997</i>							
reaction time	0.167	interval	5.76	5.40	5.84	6.24	6.56	6.96	7.96		# of strides	12.24	11.24	12.80	14.92	23.48	27.72	4.24	
		velocity	7.72	8.68	9.26	8.56	8.01	7.62	7.18	6.28	7.79	8.17	8.90	7.81	6.70	8.52	7.22		
FINAL - 1993 IAAF World Championships (Stuttgart, GER)																			
date	17-Aug-93	time	23.48					50.52	50.52	<i>Butler (2013) - IAAF world championships statistics handbook- moscow 2013</i>									
reaction time		interval						27.04		# of strides				23.48	27.04	3.56			
		velocity			8.52			7.40	7.92					8.52	7.40				
Alexander, Kineke (VIN) (1986)																			
Heat 1 - 2015 IAAF World Championships (Beijing, CHN)																			
<i>Yamamoto (2015) - race analysis of 15th World Championships 400m- focusing on men's semis and women's prelims</i>																			

date	24-Aug-15	time	6.92	12.74	18.82	25.14	31.65	38.24	44.98	52.24	52.24	8 / 6								
reaction time	0.217	interval		5.82	6.08	6.32	6.51	6.59	6.74	7.26		# of strides	12.74	12.40	13.10	14.00	25.14	27.10	1.96	
		velocity	7.23	8.59	8.22	7.91	7.68	7.59	7.42	6.89	7.66		7.85	8.06	7.63	7.14	7.96	7.38		
Semi-Final 1 - 2009 IAAF World Championships (Berlin, GER)												<i>Graubner (2009) - biomechanical analyses at the 12th IAAF world championships</i>								
date	16-Aug-09	time	12.52	24.59				38.08		53.43	53.43	2 / 7								
reaction time	0.177	interval		12.07				13.49		15.35		# of strides	12.52	12.07	13.49	15.35	24.59	28.84	4.25	
		velocity	7.99	8.29			7.41		6.51	7.49		7.99	8.29	7.41	6.51	8.13	6.93			
Heat 2 - 2009 IAAF World Championships (Berlin, GER)												<i>Graubner (2009) - biomechanical analyses at the 12th IAAF world championships</i>								
date	15-Aug-09	time	12.91	24.83				37.78		52.44	52.44	5 / 4								
reaction time	0.193	interval		11.92				12.95		14.66		# of strides	12.91	11.92	12.95	14.66	24.83	27.61	2.78	
		velocity	7.75	8.39			7.72		6.82	7.63		7.75	8.39	7.72	6.82	8.05	7.24			
Allcock, Amy (GBR) (1993)												<i>Graubner (2009) - biomechanical analyses at the 12th IAAF world championships</i>								
FINAL - 2018 Müller Anniversary Games (London, GBR)												<i>Omega Timing (2018) - diamond league race analysis</i>								
date	22-Jul-18	time	12.8	24.9				37.6		51.36	51.36	8 / 6								
reaction time	0.157	interval		12.1				12.7		13.8	PB	# of strides	12.80	12.10	12.70	13.76	24.90	26.46	1.56	
		velocity	7.81	8.26			7.87		7.27	7.79		194.7	7.81	8.26	7.87	7.27	8.03	7.56		
Almohamad, Ghufuran (SYR) (1989)												<i>Omega Timing (2024) - diamond league race analysis</i>								
FINAL - West Asian Championships - 2024 Seashore Doha Meeting (Doha, QAT)												<i>Omega Timing (2024) - diamond league race analysis</i>								
date	10-May-24	time	7.44	13.92	20.75	27.95	35.44	43.39	51.65	60.74	60.74	6 / 4								
reaction time	0.180	interval		6.48	6.83	7.20	7.49	7.95	8.26	9.09		# of strides	13.92	14.03	15.44	17.35	27.95	32.79	4.84	
		velocity	6.72	7.72	7.32	6.94	6.68	6.29	6.05	5.50	6.59		7.18	7.13	6.48	5.76	7.16	6.10		
Amano, Iori (JPN)												<i>Shimizu (2018) - shimane high school championships 2018 - biomechanics data analysis</i>								
FINAL - 2018 Shimane High School Championships (Izumo, JPN)												<i>Shimizu (2018) - shimane high school championships 2018 - biomechanics data analysis</i>								
date	25-May-18	time	14.61	28.97				44.26		61.20	61.21	8 / 6								
reaction time		interval		14.36				15.29		16.94		# of strides	14.61	14.36	15.29	16.94	28.97	32.23	3.26	
		velocity	6.84	6.96			6.54		5.90	6.53		6.84	6.96	6.54	5.90	6.90	6.21			
Amertil, Christine (BAH) (1979)												<i>Hisashi (2007) - Super Grand Prix 2006 - sprinting speed changes in the 400m</i>								
FINAL - 2006 Seiko Super Grand Prix (Yokohama, JPN)												<i>Hisashi (2007) - Super Grand Prix 2006 - sprinting speed changes in the 400m</i>								
date	24-Sep-06	time	6.7	12.3	18.1	24.0	30.3	36.7	43.5	50.68	50.68	6 / 1								
reaction time		interval		5.60	5.80	5.90	6.30	6.40	6.80	7.18		# of strides	12.30	11.70	12.70	13.98	24.00	26.68	2.68	
		velocity	7.46	8.93	8.62	8.47	7.94	7.81	7.35	6.96	7.89		8.13	8.55	7.87	7.15	8.33	7.50		
FINAL - 2005 Seiko Super Grand Prix (Yokohama, JPN)												<i>Masaaki (2006) - time analysis in the 400m at the Seiko Super Grand Prix</i>								
date	19-Sep-05	time	12.53	24.40				36.42	43.03	50.09	50.09	6 / 2								
reaction time		interval		11.87				12.02	6.61	7.06	PB	# of strides	12.53	11.87	12.02	13.67	24.40	25.69	1.29	
		velocity	7.98	8.42			8.32	7.56	7.08	7.99		7.98	8.42	8.32	7.32	8.20	7.79			
FINAL - 2004 Olympic Games (Athens, GRE)												<i>Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016</i>								
date	24-Aug-04	time	12.1	24.0				36.4		50.4	50.37	8 / 7								
reaction time	0.276	interval		11.9				12.4		14.0		# of strides	12.10	11.90	12.40	14.00	24.00	26.40	2.40	
		velocity	8.26	8.40			8.06		7.14	7.94		8.26	8.40	8.06	7.14	8.33	7.58			
Amlie, Sigrid Kongssund (NOR) (200)												<i>Omega Timing (2023) - diamond league race analysis</i>								
National FINAL - 2023 Bislett Games (Oslo, NOR)												<i>Omega Timing (2023) - diamond league race analysis</i>								
date	15-Jun-23	time	7.37	13.71	20.23	26.74	33.47	40.51	47.70	55.34	55.34	2 / 5								
reaction time	0.186	interval		6.34	6.52	6.51	6.73	7.04	7.19	7.64		# of strides	13.71	13.03	13.77	14.83	26.74	28.60	1.86	
		velocity	6.78	7.89	7.67	7.68	7.43	7.10	6.95	6.54	7.23		7.29	7.67	7.26	6.74	7.48	6.99		
National FINAL - 2019 Bislett Games (Oslo, NOR)												<i>Omega Timing (2019) - diamond league race analysis</i>								
date	13-Jun-19	time	13.5	26.4				41.0		56.98	56.98	1 / 7								
reaction time	0.174	interval		12.9				14.6		16.0	PB	# of strides	13.50	12.90	14.60	15.98	26.40	30.58	4.18	
		velocity	7.41	7.75			6.85		6.26	7.02		7.41	7.75	6.85	6.26	7.58	6.54			
Amoore, Judy (AUS) (1940)												<i>Müller (1965) - die leichtathletik-wettkämpfe der XVIII olympischen sommerspielen Tokio 1964 - 400m lauf</i>								
FINAL - 1964 Olympic Games (Tokyo, JPN)												<i>Müller (1965) - die leichtathletik-wettkämpfe der XVIII olympischen sommerspielen Tokio 1964 - 400m lauf</i>								
date	17-Oct-64	time		24.2				53.4		53.4		3 / 3								
reaction time		interval						29.20				# of strides					24.20	29.20	5.00	
		velocity		8.26				6.85	7.49								8.26	6.85		
Anderson, Andrea (USA) (1977)												<i>Hymans (2008) - history of the US olympic trials - track and field</i>								
FINAL - 2000 USA Olympic Trials (Sacramento, CA)												<i>Hymans (2008) - history of the US olympic trials - track and field</i>								
date	16-Jul-00	time	12.2	23.4				36.0		51.32	51.32	1 / 6								
reaction time		interval		11.20				12.60		15.32		# of strides	12.20	11.20	12.60	15.32	23.40	27.92	4.52	
		velocity	8.20	8.93			7.94		6.53	7.79		8.20	8.93	7.94	6.53	8.55	7.16			
Angelia, Niken (INA) (1997)												<i>Saputri (2016) - analisis kecepatan lari 400m putri final kejuaraan nasional atletik jawa timur terbuka</i>								
FINAL - 2016 East Java National Championships (Surabaya, INA)												<i>Saputri (2016) - analisis kecepatan lari 400m putri final kejuaraan nasional atletik jawa timur terbuka</i>								
date	15-Apr-16	time	7.51	15.24	22.02	29.68	38.19	46.96	54.28	64.38	64.38	1 / 7								
reaction time		interval		7.73	6.78	7.66	8.51	8.77	7.32	10.10		# of strides	15.24	14.44	17.28	17.42	29.68	34.70	5.02	
		velocity	6.66	6.47	7.37	6.53	5.88	5.70	6.83	4.95	6.21		6.56	6.93	5.79	5.74	6.74	5.76		
Anning, Amber (GBR) (2000)												<i>Paris 2024 Olympic Games - Results Book (2024)</i>								
FINAL - 2024 Olympic Games (Paris, FRA)												<i>Paris 2024 Olympic Games - Results Book (2024)</i>								
date	09-Aug-24	time	6.55	11.95	17.57	23.39	29.56	35.97	42.50	49.29	49.29	4 / 4								
reaction time	0.185	interval		5.40	5.62	5.82	6.17	6.41	6.53	6.79	NR PB	# of strides	11.95	11.44	12.58	13.32	23.39	25.90	2.51	
		velocity	7.63	9.26	8.90	8.59	8.10	7.80	7.66	7.36	8.12		186.2	8.37	8.74	7.95	7.51	8.55	7.72	
Semi-Final 3 - 2024 Olympic Games (Paris, FRA)												<i>Paris 2024 Olympic Games - Results Book (2024)</i>								
date	07-Aug-24	time	6.61	12.02	17.58	23.42	29.64	36.03	42.61	49.47	49.47	6 / 2								

reaction time	0.227	interval	5.41	5.56	5.84	6.22	6.39	6.58	6.86	PB	# of strides	12.02	11.40	12.61	13.44	23.42	26.05	2.63	
		velocity	7.56	9.24	8.99	8.56	8.04	7.82	7.60	7.29	8.09	179.5	8.32	8.77	7.93	7.44	8.54	7.68	
Heat 3 - 2024 Olympic Games (Paris, FRA)										Paris 2024 Olympic Games - Results Book (2024)									
date	05-Aug-24	time	6.54	11.94	17.55	23.46	29.73	36.22	42.83	49.68	49.68	8 / 1							
reaction time	0.185	interval	5.40	5.61	5.91	6.27	6.49	6.61	6.85		# of strides	11.94	11.52	12.76	13.46	23.46	26.22	2.76	
		velocity	7.65	9.26	8.91	8.46	7.97	7.70	7.56	7.30	8.05	8.38	8.68	7.84	7.43	8.53	7.63		
FINAL - 2024 London Athletics Meet (London, GBR)										Omega Timing (2024) - diamond league race analysis									
date	20-Jul-24	time	6.61	12.09	17.73	23.59	29.80	36.18	42.76	49.63	49.63	4 / 4							
reaction time	0.192	interval	5.48	5.64	5.86	6.21	6.38	6.58	6.87		# of strides	12.09	11.50	12.59	13.45	23.59	26.04	2.45	
		velocity	7.56	9.12	8.87	8.53	8.05	7.84	7.60	7.28	8.06	8.27	8.70	7.94	7.43	8.48	7.68		
Antyukh, Natalya (RUS) (1981)																			
		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
FINAL - 2007 IAAF World Championships (Osaka, JPN)										Mochida (2008) - biomechanical analysis of the 400m final race at the 2007 world championships in athletics									
date	29-Aug-07	time	6.78	12.19	17.75	23.53	29.58	35.93	42.66	50.33	50.33	5 / 6							
reaction time	0.161	interval	5.41	5.56	5.78	6.05	6.35	6.73	7.67		# of strides	12.19	11.34	12.40	14.40	23.53	26.80	3.27	
		velocity	7.37	9.24	8.99	8.65	8.26	7.87	7.43	6.52	7.95	185.0	8.20	8.82	8.06	6.94	8.50	7.46	
FINAL - 2004 Olympic Games (Athens, GRE)										Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016									
date	24-Aug-04	time	12.1		23.6		35.9		49.9	49.89	6 / 3								
reaction time	0.263	interval			11.5		12.3		14.0		# of strides	12.10	11.50	12.30	14.00	23.60	26.30	2.70	
		velocity	8.26		8.70		8.13		7.14	8.02	8.26	8.70	8.13	7.14	8.47	7.60			
FINAL - 2001 European Cup (Bremen, GER)										Graubner (2007) - http://www.fgs.uni-halle.de									
date	23-Jun-01	time	12.76		24.72		37.36		51.37	51.37	/ 3								
reaction time		interval			11.96		12.64		14.01		# of strides	12.76	11.96	12.64	14.01	24.72	26.65	1.93	
		velocity	7.84		8.36		7.91		7.14	7.79	7.84	8.36	7.91	7.14	8.09	7.50			
Aoki, Rin (JPN) (1998)																			
		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
FINAL - 2018 National Sports Festival (Fukui, JPN)										Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition									
date	07-Oct-18	time	6.97	13.01	19.44	26.36	33.50	40.76	48.05	55.46	55.46	1 / 6							
reaction time	0.161	interval	6.04	6.43	6.92	7.14	7.26	7.29	7.41		# of strides	13.01	13.35	14.40	14.70	26.36	29.10	2.74	
		velocity	7.17	8.28	7.78	7.23	7.00	6.89	6.86	6.75	7.21	7.69	7.49	6.94	6.80	7.59	6.87		
FINAL - 2017 National Sports Festival (Matsuyama, JPN)										Yamanaka (2017) - male and female 400m analysis in the 2017 season									
date	08-Oct-17	time	7.12	13.04	19.30	26.00	33.05	40.38	47.91	55.80	55.80	2 / 6							
reaction time	0.159	interval	5.92	6.26	6.70	7.05	7.33	7.53	7.89		# of strides	13.04	12.96	14.38	15.42	26.00	29.80	3.80	
		velocity	7.02	8.45	7.99	7.46	7.09	6.82	6.64	6.34	7.17	7.67	7.72	6.95	6.49	7.69	6.71		
Heat 1 - 2017 National Sports Festival (Matsuyama, JPN)										(2017) - tfdata-store.com/2017/10/12/post-1100/									
date	08-Oct-17	time	13.04		25.85		39.97		55.84	55.84	3 / 3								
reaction time	0.153	interval			12.81		14.12		15.87		# of strides	13.04	12.81	14.12	15.87	25.85	29.99	4.14	
		velocity	7.67		7.81		7.08		6.30	7.16	218.0	7.67	7.81	7.08	6.30	7.74	6.67		
FINAL - 2017 Japanese National Championships (Osaka, JPN)										Yamanaka (2017) - male and female 400m analysis in the 2017 season									
date	24-Jun-17	time	7.11	13.36	19.65	26.11	32.75	39.82	47.16	54.85	54.85	3 / 5							
reaction time	0.180	interval	6.25	6.29	6.46	6.64	7.07	7.34	7.69		# of strides	13.36	12.75	13.71	15.03	26.11	28.74	2.63	
		velocity	7.03	8.00	7.95	7.74	7.53	7.07	6.81	6.50	7.29	7.49	7.84	7.29	6.65	7.66	6.96		
Heat 1 - 2017 Japanese National Championships (Osaka, JPN)										(2017) - tfdata-store.com/2017/07/10/post-978/									
date	23-Jun-17	time	12.95		25.42		39.23		54.49	54.49	3 / 4								
reaction time	0.156	interval			12.47		13.81		15.26		# of strides	12.95	12.47	13.81	15.26	25.42	29.07	3.65	
		velocity	7.72		8.02		7.24		6.55	7.34	216.5	7.72	8.02	7.24	6.55	7.87	6.88		
FINAL - 2017 Shizuoka International Meeting (Fukuroi, JPN)										Yamanaka (2017) - male and female 400m analysis in the 2017 season									
date	03-May-17	time	7.02	12.91	19.04	25.50	32.40	39.48	46.89	54.83	54.83	/ 3							
reaction time		interval	5.89	6.13	6.46	6.90	7.08	7.41	7.94		# of strides	12.91	12.59	13.98	15.35	25.50	29.33	3.83	
		velocity	7.12	8.49	8.16	7.74	7.25	7.06	6.75	6.30	7.30	7.75	7.94	7.15	6.51	7.84	6.82		
FINAL - 2017 Izumo Athletics Games (Izuma, JPN) (300m)										(2017) - tfdata-store.com/2017/05/17/post-537/									
date	23-Apr-17	time	12.69		24.82		38.47		54.49	54.49	5 / 3								
reaction time		interval			12.13		13.65		15.26		# of strides	12.69	12.13	13.65		24.82	25.78		
		velocity	7.88		8.24		7.33		6.55	7.80	162.2	7.88	8.24	7.33		8.06	7.76		
U19 FINAL - 2016 National Sports Festival (Kitakami, JPN)										Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016									
date	10-Oct-16	time	6.97	12.93	19.09	25.78	32.72	39.73	46.97	54.67	54.67	7 / 1							
reaction time	0.175	interval	5.96	6.16	6.69	6.94	7.01	7.24	7.70		# of strides	12.93	12.85	13.95	14.94	25.78	28.89	3.11	
		velocity	7.17	8.39	8.12	7.47	7.20	7.13	6.91	6.49	7.32	7.73	7.78	7.17	6.69	7.76	6.92		
FINAL - 2016 Japanese National High School Championships (Okayama, JPN)										Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016									
date	29-Jul-16	time	6.99	12.65	18.55	24.96	31.80	39.07	46.51	54.14	54.14	7 / 1							
reaction time	0.177	interval	5.66	5.90	6.41	6.84	7.27	7.44	7.63		# of strides	12.65	12.31	14.11	15.07	24.96	29.18	4.22	
		velocity	7.15	8.83	8.47	7.80	7.31	6.88	6.72	6.55	7.39	7.91	8.12	7.09	6.64	8.01	6.85		
FINAL - 2016 Japanese National Championships (Nagoya, JPN)										Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016									
date	25-Jun-16	time	6.96	12.74	18.64	24.90	31.51	38.48	45.75	53.66	53.66	4 / 2							
reaction time	0.213	interval	5.78	5.90	6.26	6.61	6.97	7.27	7.91		# of strides	12.74	12.16	13.58	15.18	24.90	28.76	3.86	
		velocity	7.18	8.65	8.47	7.99	7.56	7.17	6.88	6.32	7.45	7.85	8.22	7.36	6.59	8.03	6.95		
Heat 1 - 2016 Japanese National Championships (Nagoya, JPN)										Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016									
date	24-Jun-16	time	7.09	12.93	18.99	25.36	31.95	38.80	45.89	53.44	53.44	8 / 1							
reaction time	0.215	interval	5.84	6.06	6.37	6.59	6.85	7.09	7.55	PB	# of strides	12.93	12.43	13.44	14.64	25.36	28.08	2.72	
		velocity	7.05	8.56	8.25	7.85	7.59	7.30	7.05	6.62	7.49	7.73	8.05	7.44	6.83	7.89	7.12		

WR=World Rec. AR=Area Rec. OR=Olympic Rec. CR=Championship Rec. NR=National Rec. PB=Personal Best DQ=Disqualified DV=Drug Violation

date	06-Jun-21	time	7.01	12.87	18.94	25.24	31.83	38.73	45.91	53.57	53.57	/ 1							
reaction time		interval		5.86	6.07	6.30	6.59	6.90	7.18	7.66		# of strides	12.87	12.37	13.49	14.84	25.24	28.33	3.09
		velocity	7.13	8.53	8.24	7.94	7.59	7.25	6.96	6.53	7.47		7.77	8.08	7.41	6.74	7.92	7.06	
FINAL - 2020 Japanese National Championships (Niigata, JPN)												<i>Yamanaka (2020) - 400m race analysis of men and women during 2020 season</i>							
date	02-Oct-20	time	6.97	12.80	18.82	25.06	31.62	38.50	45.72	53.55	53.55	4 / 1							
reaction time	0.193	interval		5.83	6.02	6.24	6.56	6.88	7.22	7.83		# of strides	12.80	12.26	13.44	15.05	25.06	28.49	3.43
		velocity	7.17	8.58	8.31	8.01	7.62	7.27	6.93	6.39	7.47	210.0	7.81	8.16	7.44	6.64	7.98	7.02	
Heat 1 - 2020 Japanese National Championships (Niigata, JPN)												<i>Yamanaka (2020) - 400m race analysis of men and women during 2020 season</i>							
date	01-Oct-20	time	6.86	12.59	18.49	24.66	31.11	38.00	45.28	53.29	53.29	6 / 1							
reaction time	0.185	interval		5.73	5.90	6.17	6.45	6.89	7.28	8.01		# of strides	12.59	12.07	13.34	15.29	24.66	28.63	3.97
		velocity	7.29	8.73	8.47	8.10	7.75	7.26	6.87	6.24	7.51	210.0	7.94	8.29	7.50	6.54	8.11	6.99	
FINAL - 2020 All Japan Corporate Championships (Kumagaya, JPN)												<i>Yamanaka (2020) - 400m race analysis of men and women during 2020 season</i>							
date	19-Sep-20	time	7.05	12.96	19.05	25.37	31.92	38.76	45.96	53.55	53.55	7 / 1							
reaction time	0.234	interval		5.91	6.09	6.32	6.55	6.84	7.20	7.59		# of strides	12.96	12.41	13.39	14.79	25.37	28.18	2.81
		velocity	7.09	8.46	8.21	7.91	7.63	7.31	6.94	6.59	7.47		7.72	8.06	7.47	6.76	7.88	7.10	
FINAL - 2020 World Athletics Trials (Fuji, JPN)												<i>Yamanaka (2020) - 400m race analysis of men and women during 2020 season</i>							
date	06-Sep-20	time	6.93	12.83	18.92	25.13	31.55	38.37	45.66	53.41	53.41	5 / 1							
reaction time		interval		5.90	6.09	6.21	6.42	6.82	7.29	7.75		# of strides	12.83	12.30	13.24	15.04	25.13	28.28	3.15
		velocity	7.22	8.47	8.21	8.05	7.79	7.33	6.86	6.45	7.49	208.0	7.79	8.13	7.55	6.65	7.96	7.07	
FINAL - 2020 Seiko Golden Grand Prix (Tokyo, JPN)												<i>Yamanaka (2020) - 400m race analysis of men and women during 2020 season</i>							
date	23-Aug-20	time	6.96	12.72	18.60	24.77	31.27	38.21	45.45	53.35	53.35	7 / 1							
reaction time	0.205	interval		5.76	5.88	6.17	6.50	6.94	7.24	7.90		# of strides	12.72	12.05	13.44	15.14	24.77	28.58	3.81
		velocity	7.18	8.68	8.50	8.10	7.69	7.20	6.91	6.33	7.50		7.86	8.30	7.44	6.61	8.07	7.00	
FINAL - 2019 Japanese National Championships (Fukuoka, JPN)												<i>Yamanaka (2019) - research on athlete performance and technique- 2019 data book</i>							
date	28-Jun-19	time	7.08	13.01	19.15	25.46	31.98	38.85	46.02	53.68	53.68	4 / 1							
reaction time	0.228	interval		5.93	6.14	6.31	6.52	6.87	7.17	7.66		# of strides	13.01	12.45	13.39	14.83	25.46	28.22	2.76
		velocity	7.06	8.43	8.14	7.92	7.67	7.28	6.97	6.53	7.45	209.5	7.69	8.03	7.47	6.74	7.86	7.09	
Heat 3 - 2019 Japanese National Championships (Fukuoka, JPN)												<i>Yamanaka (2019) - race analysis of men and women 400m competition</i>							
date	27-Jun-19	time	6.98	12.79	18.89	25.16	31.63	38.53	45.82	53.71	53.71	5 / 1							
reaction time	0.235	interval		5.81	6.10	6.27	6.47	6.90	7.29	7.89		# of strides	12.79	12.37	13.37	15.18	25.16	28.55	3.39
		velocity	7.16	8.61	8.20	7.97	7.73	7.25	6.86	6.34	7.45		7.82	8.08	7.48	6.59	7.95	7.01	
A FINAL - 2019 Shizuoka International Athletics Meeting (Fukuroi, JPN)												<i>Kobayashi (2019) - research on athlete performance and technique- 2019 data book</i>							
date	03-May-19	time	7.03	13.09	19.25	25.50	32.01	38.86	46.09	53.86	53.86	/ 2							
reaction time		interval		6.06	6.16	6.25	6.51	6.85	7.23	7.77		# of strides	13.09	12.41	13.36	15.00	25.50	28.36	2.86
		velocity	7.11	8.25	8.12	8.00	7.68	7.30	6.92	6.44	7.43		7.64	8.06	7.49	6.67	7.84	7.05	
Heat 1 - 2018 Japanese National Championships (Yamaguchi, JPN)												<i>Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition</i>							
date	22-Jun-18	time	7.26	13.37	19.70	26.39	33.30	40.63	48.11	55.92	55.92	4 / 5							
reaction time	0.190	interval		6.11	6.33	6.69	6.91	7.33	7.48	7.81		# of strides	13.37	13.02	14.24	15.29	26.39	29.53	3.14
		velocity	6.89	8.18	7.90	7.47	7.24	6.82	6.68	6.40	7.15	214.7	7.48	7.68	7.02	6.54	7.58	6.77	
FINAL - 2018 Seiko Golden Grand Prix (Osaka, JPN)												<i>Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition</i>							
date	20-May-18	time	7.12	13.06	19.34	25.94	32.91	40.39	48.31	56.95	56.95	8 / 8							
reaction time	0.200	interval		5.94	6.28	6.60	6.97	7.48	7.92	8.64		# of strides	13.06	12.88	14.45	16.56	25.94	31.01	5.07
		velocity	7.02	8.42	7.96	7.58	7.17	6.68	6.31	5.79	7.02		7.66	7.76	6.92	6.04	7.71	6.45	
FINAL - 2018 Shizuoka International Meeting (Fukuroi, JPN)												<i>Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition</i>							
date	03-May-18	time	7.15	13.20	19.49	25.89	32.58	39.59	47.19	55.86	55.86	6 / 7							
reaction time	0.229	interval		6.05	6.29	6.40	6.69	7.01	7.60	8.67		# of strides	13.20	12.69	13.70	16.27	25.89	29.97	4.08
		velocity	6.99	8.26	7.95	7.81	7.47	7.13	6.58	5.77	7.16	211.7	7.58	7.88	7.30	6.15	7.72	6.67	
FINAL - 2017 Japanese National Championships (Osaka, JPN)												<i>Yamanaka (2017) - male and female 400m analysis in the 2017 season</i>							
date	24-Jun-17	time	6.98	12.95	19.00	25.26	31.77	38.73	46.31	54.98	54.98	4 / 6							
reaction time	0.188	interval		5.97	6.05	6.26	6.51	6.96	7.58	8.67		# of strides	12.95	12.31	13.47	16.25	25.26	29.72	4.46
		velocity	7.16	8.38	8.26	7.99	7.68	7.18	6.60	5.77	7.28	210.2	7.72	8.12	7.42	6.15	7.92	6.73	
Heat 2 - 2017 Japanese National Championships (Osaka, JPN)												<i>(2017) - tfdata-store.com/2017/07/10/post-978/</i>							
date	23-Jun-17	time		13.11		25.43		38.68		53.61	53.61	8 / 2							
reaction time	0.186	interval				12.32		13.25		14.93		# of strides	13.11	12.32	13.25	14.93	25.43	28.18	2.75
		velocity		7.63		8.12		7.55		6.70	7.46	205.0	7.63	8.12	7.55	6.70	7.86	7.10	
FINAL - 2017 Kansai Regional University Championships (Osaka, JPN)												<i>(2017) - tfdata-store.com/2017/05/13/post-441/</i>							
date	11-May-17	time		12.79		24.79		37.89		53.03	53.03	7 / 1							
reaction time		interval				12.00		13.10		15.14		# of strides	12.79	12.00	13.10	15.14	24.79	28.24	3.45
		velocity		7.82		8.33		7.63		6.61	7.54		7.82	8.33	7.63	6.61	8.07	7.08	
FINAL - 2017 Izumo Athletics Games (Izuma, JPN) (300m)												<i>(2017) - tfdata-store.com/2017/05/17/post-537/</i>							
date	23-Apr-17	time		12.39		24.32		37.76		53.76	53.76	6 / 1							
reaction time		interval				11.93		13.44		PB		# of strides	12.39	11.93	13.44		24.32	25.37	100m-300m
		velocity		8.07		8.38		7.44		7.94		153.0	8.07	8.38	7.44		8.22	7.88	
FINAL - 2016 National Sports Festival (Kitakami, JPN)												<i>Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016</i>							
date	09-Oct-16	time	6.90	12.76	18.79	25.11	31.73	38.75	46.17	54.35	54.35	5 / 1							
reaction time	0.247	interval		5.86	6.03	6.32	6.62	7.02	7.42	8.18		# of strides	12.76	12.35	13.64	15.60	25.11	29.24	4.13
		velocity	7.25	8.53	8.29	7.91	7.55	7.12	6.74	6.11	7.36		7.84	8.10	7.33	6.41	7.96	6.84	
FINAL - 2016 Japanese National Championships (Nagoya, JPN)												<i>Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016</i>							

date	15-Aug-22	time	12.88	24.71	37.45	51.63	51.63	3 / 1										
reaction time	0.284	interval		11.83	12.74	14.18		# of strides	12.88	11.83	12.74	14.18	24.71	26.92	2.21			
		velocity	7.76	8.45	7.85	7.05	7.75	196.0	7.76	8.45	7.85	7.05	8.09	7.43				
Semi-Final 1 - 2022 World Athletics Championships (Eugene, OR)										<i>Timing by Seiko (2022) - world athletics championships race analysis</i>								
date	20-Jul-22	time	12.75	24.73	37.66	51.79	51.79	1 / 7										
reaction time	0.169	interval		11.98	12.93	14.13		# of strides	12.75	11.98	12.93	14.13	24.73	27.06	2.33			
		velocity	7.84	8.35	7.73	7.08	7.72		7.84	8.35	7.73	7.08	8.09	7.39				
Heat 2 - 2022 World Athletics Championships (Eugene, OR)										<i>Timing by Seiko (2022) - world athletics championships race analysis</i>								
date	17-Jul-22	time	12.94	24.77	37.65	51.55	51.55	6 / 5										
reaction time	0.181	interval		11.83	12.88	13.90		# of strides	12.94	11.83	12.88	13.90	24.77	26.78	2.01			
		velocity	7.73	8.45	7.76	7.19	7.76	195.5	7.73	8.45	7.76	7.19	8.07	7.47				
FINAL - 2022 Meeting International Mohammed VI d'Athlétisme (Rabat, MAR)										<i>Omega Timing (2022) - diamond league race analysis</i>								
date	05-Jun-22	time	6.97	12.74	18.58	24.76	31.22	38.03	44.86	52.23	52.23	3 / 6						
reaction time	0.194	interval		5.77	5.84	6.18	6.46	6.81	6.83	7.37		# of strides	12.74	12.02	13.27	14.20	24.76	27.47
		velocity	7.17	8.67	8.56	8.09	7.74	7.34	7.32	6.78	7.66		7.85	8.32	7.54	7.04	8.08	7.28
B FINAL - 2021 Weltklasse (Zürich, SUI)										<i>Omega Timing (2021) - diamond league race analysis</i>								
date	09-Sep-21	time	7.0	12.8	18.6	24.8	31.1	37.7	44.8	52.42	52.42	5 / 3						
reaction time	0.150	interval		5.80	5.80	6.20	6.30	6.60	7.10	7.62		# of strides	12.80	12.00	12.90	14.72	24.80	27.62
		velocity	7.14	8.62	8.62	8.06	7.94	7.58	7.04	6.56	7.63		7.81	8.33	7.75	6.79	8.06	7.24
Baas, Mette (FIN) (2000)																		
Heat 3 - 2024 European Athletics Championships (Roma, ITA)										<i>European Athletics (2024) - 2024 european athletics championships - results book</i>								
date	08-Jun-24	time	13.44	26.14	38.76	52.94	52.94	7 / 5										
reaction time	0.252	interval		12.70	12.62	14.18		# of strides	13.44	12.70	12.62	14.18	26.14	26.80	0.66			
		velocity	7.44	7.87	7.92	7.05	7.56		7.44	7.87	7.92	7.05	7.65	7.46				
Heat 1 - 2022 European Athletics Championships (Munich, GER)										<i>European Athletics (2022) - european athletics championships race analysis</i>								
date	15-Aug-22	time	12.54	24.69	38.19	53.02	53.02	2 / 5										
reaction time	0.164	interval		12.15	13.50	14.83		# of strides	12.54	12.15	13.50	14.83	24.69	28.33	3.64			
		velocity	7.97	8.23	7.41	6.74	7.54		7.97	8.23	7.41	6.74	8.10	7.06				
Baisden, Kendall (USA) (1995)																		
FINAL - 2015 NCAA Championships (Eugene, OR)										<i>USTFCCCA (2017) - NCAA DI outdoor championship history</i>								
date	13-Jun-15	time		25.5		51.7	51.74	4 / 2										
reaction time		interval				26.20		# of strides					25.50	26.20	0.70			
		velocity		7.84		7.63	7.73						7.84	7.63				
FINAL - 2014 NCAA Championships (Eugene, OR)										<i>USTFCCCA (2017) - NCAA DI outdoor championship history</i>								
date	13-Jun-14	time		24.4		51.3	51.32	7 / 3										
reaction time		interval				26.90		# of strides					24.40	26.90	2.50			
		velocity		8.20		7.43	7.79						8.20	7.43				
Baker, Keshia (USA) (1988)																		
FINAL - 2012 USA Olympic Trials (Eugene, OR)										<i>Hymans (2020) - history of the US olympic trials - track and field</i>								
date	24-Jun-12	time		24.2		36.7	51.23	51.23	1 / 5									
reaction time	0.273	interval				12.50	14.53		# of strides				24.20	12.50	14.53	24.20	27.03	2.83
		velocity		8.26		8.00	6.88	7.81					4.13	8.00	6.88	8.26	7.40	
Baldwin, LaJada (USA) (1988)																		
Quarter-Final 4 - 2008 USA Olympic Trials (Sacramento, CA)										<i>USATF Women's Sprint Development with HPC (2008)</i>								
date	29-Jun-08	time	13.16	26.31	32.92	39.76	46.58	54.01	54.01	5 / 7								
reaction time		interval		13.15	6.61	6.84	6.82	7.43		# of strides	13.16	13.15	13.45	14.25	26.31	27.70	1.39	
		velocity	7.60	7.60	7.56	7.31	7.33	6.73	7.41		7.60	7.60	7.43	7.02	7.60	7.22		
Balogh-Sxomov, Györgyi (HUN) (194)																		
FINAL - 1972 Olympic Games (Munich, FRG)										<i>Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016</i>								
date	07-Sep-72	time		24.2		52.4	52.39	2 / 8										
reaction time		interval				28.2		# of strides					24.20	28.20	4.00			
		velocity		8.26		7.09	7.64						8.26	7.09				
Bamgbose, Margaret (NGR) (1993)																		
Semi-Final 3 - 2017 IAAF World Championships (London, GBR)										<i>Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Women's 400m</i>								
date	07-Aug-17	time	12.24	23.97	37.10	44.31	51.97	52.23	9 / 5									
reaction time	0.262	interval		11.73	13.13	7.21	7.66	DV		# of strides	12.24	11.73	13.13	14.87	23.97	28.00	4.03	
		velocity	8.17	8.53	7.62	6.93	6.53	7.66		188.2	8.17	8.53	7.62	6.72	8.34	7.14		
Barber, MeLisa (USA) (1980)																		
Semi-Final 1 - 2004 USA Olympic Trials (Sacramento, CA)										<i>USATF Women's Sprint Development (2004)</i>								
date	15-Jul-04	time	12.62	24.72	30.88	37.57	44.60	52.10	52.10	2 / 6								
reaction time		interval		12.10	6.16	6.69	7.03	7.50		# of strides	12.62	12.10	12.85	14.53	24.72	27.38	2.66	
		velocity	7.92	8.26	8.12	7.47	7.11	6.67	7.68		7.92	8.26	7.78	6.88	8.09	7.30		
Heat 2 - 2004 USA Olympic Trials (Sacramento, CA)										<i>USATF Women's Sprint Development (2004)</i>								
date	12-Jul-04	time	11.82	23.42	36.68	43.87	52.30	52.30	4 / 5									
reaction time		interval		11.60	13.26	7.19	8.43		# of strides	11.82	11.60	13.26	15.62	23.42	28.88	5.46		
		velocity	8.46	8.62	7.54	6.95	5.93	7.65		207.0	8.46	8.62	7.54	6.40	8.54	6.93		
FINAL - 2003 USATF National Championship (Palo Alto, CA)										<i>USATF Women's Sprint Development (2003)</i>								
date	21-Jun-03	time	25.34	38.10	44.07	52.04	52.04	6 / 5										
reaction time		interval		12.76	5.97	7.97		# of strides					12.76	13.94	25.34	26.70	1.36	
		velocity	7.89	7.84	8.38	6.27	7.69						7.84	7.17	7.89	7.49		

WR=World Rec. AR=Area Rec. OR=Olympic Rec. CR=Championship Rec. NR=National Rec. PB=Personal Best DQ=Disqualified DV=Drug Violation

Semi-Final 1 - 2003 USATF National Championship (Palo Alto, CA)											<i>USATF Women's Sprint Development (2003)</i>								
date	20-Jun-03	time	24.84		37.82	44.83	52.53	52.53		4 / 2									
reaction time		interval			12.98	7.01	7.70			# of strides		12.98	14.71	24.84	27.69	2.85			
		velocity	8.05		7.70	7.13	6.49	7.61			7.70	6.80	8.05	7.22					
Barber, Mikele (USA) (1980)																			
Semi-Final 1 - 2003 USATF National Championship (Palo Alto, CA)											<i>USATF Women's Sprint Development (2003)</i>								
date	20-Jun-03	time	24.63		38.12	45.73	54.23	54.23		2 / 8									
reaction time		interval			13.49	7.61	8.50			# of strides		13.49	16.11	24.63	29.60	4.97			
		velocity	8.12		7.41	6.57	5.88	7.38			7.41	6.21	8.12	6.76					
FINAL - 2000 USA Olympic Trials (Sacramento, CA)											<i>Hymans (2008) - history of the US olympic trials - track and field</i>								
date	16-Jul-00	time	12.5		36.8		51.17	51.17		8 / 5									
reaction time		interval			11.60		12.70	14.37		# of strides	12.50	11.60	12.70	14.37	24.10	27.07	2.97		
		velocity	8.00		8.62		7.87	6.96	7.82		8.00	8.62	7.87	6.96	8.30	7.39			
Barnes, Tiffany (USA) (1981)																			
Semi-Final 1 - 2003 USATF National Championship (Palo Alto, CA)											<i>USATF Women's Sprint Development (2003)</i>								
date	20-Jun-03	time	24.73		38.49	45.80	53.83	53.83		9 / 6									
reaction time		interval			13.76	7.31	8.03			# of strides		13.76	15.34	24.73	29.10	4.37			
		velocity	8.09		7.27	6.84	6.23	7.43			7.27	6.52	8.09	6.87					
Barnett-Burkart, Helen (GBR) (1958)																			
Semi-Final 2 - 1984 Olympic Games (Los Angeles, CA) (TV Analysis)											<i>Adams (1984) - 1984 olympic games - 200m & 400m</i>								
date	05-Aug-84	time	23.88				52.26	52.26		7 / 8									
reaction time		interval					28.38	PB		# of strides				23.88	28.38	4.50			
		velocity	8.38				7.05	7.65						8.38	7.05				
Baskakova, Irina (URS) (1956)																			
FINAL - 1983 IAAF World Championships (Helsinki, FIN)											<i>Butler (2013) - IAAF world championships statistics handbook- moscow 2013</i>								
date	10-Aug-83	time	24.1				50.5	50.48		8 / 6									
reaction time		interval					26.40			# of strides				24.10	26.40	2.30			
		velocity	8.30				7.58	7.92						8.30	7.58				
Baas, Mette (FIN) (2000)																			
Heat 5 - 2023 World Athletics Championships (Budapest, HUN)											<i>Seiko Timing (2023) - world championship race analysis</i>								
date	20-Aug-23	time	12.87					52.74		7 / 7									
reaction time	0.135	interval								# of strides	12.87								
		velocity	7.77					7.58			7.77								
Baumgart-Witan, Iga (POL) (1989)																			
Heat 1 - 2024 European Athletics Championships (Roma, ITA)											<i>European Athletics (2024) - 2024 european athletics championships - results book</i>								
date	08-Jun-24	time	12.95		24.89		37.68	52.18	52.18		7 / 2								
reaction time	0.180	interval			11.94		12.79	14.50		# of strides	12.95	11.94	12.79	14.50	24.89	27.29	2.40		
		velocity	7.72		8.38		7.82	6.90	7.67		7.72	8.38	7.82	6.90	8.04	7.33			
FINAL - 2022 European Athletics Championships (Munich, GER)											<i>European Athletics (2022) - european athletics championships race analysis</i>								
date	17-Aug-22	time	12.64		24.41		37.11	51.28	51.28		2 / 8								
reaction time	0.228	interval			11.77		12.70	14.17		# of strides	12.64	11.77	12.70	14.17	24.41	26.87	2.46		
		velocity	7.91		8.50		7.87	7.06	7.80	180.0	7.91	8.50	7.87	7.06	8.19	7.44			
Semi-Final 1 - 2022 European Athletics Championships (Munich, GER)											<i>European Athletics (2022) - european athletics championships race analysis</i>								
date	16-Aug-22	time	12.72		24.38		37.11	51.17	51.17		5 / 3								
reaction time	0.209	interval			11.66		12.73	14.06		# of strides	12.72	11.66	12.73	14.06	24.38	26.79	2.41		
		velocity	7.86		8.58		7.86	7.11	7.82	181.0	7.86	8.58	7.86	7.11	8.20	7.47			
Heat 2 - 2022 European Athletics Championships (Munich, GER)											<i>European Athletics (2022) - european athletics championships race analysis</i>								
date	15-Aug-22	time	12.55		24.36		36.98	51.09	51.09		5 / 1								
reaction time	0.229	interval			11.81		12.62	14.11		# of strides	12.55	11.81	12.62	14.11	24.36	26.73	2.37		
		velocity	7.97		8.47		7.92	7.09	7.83	180.0	7.97	8.47	7.92	7.09	8.21	7.48			
FINAL - 2020 Memorial Van Damme (Brussels, BEL)											<i>Omega Timing (2020) - diamond league race analysis</i>								
date	04-Sep-20	time	7.1	12.9	18.9	25.0	31.3	37.9	44.8	52.13	52.13								
reaction time	0.157	interval		5.80	6.00	6.10	6.30	6.60	6.90	7.33		# of strides	12.90	12.10	12.90	14.23	25.00	27.13	2.13
		velocity	7.04	8.62	8.33	8.20	7.94	7.58	7.25	6.82	7.67	183.2	7.75	8.26	7.75	7.03	8.00	7.37	
Semi-Final 1 - 2019 IAAF World Championships (Doha, QAT)											<i>Yamanaka (2019) - race analysis of men and women 400m competition</i>								
date	01-Oct-19	time	6.99	12.70	18.48	24.49	30.71	37.24	43.97	51.02	51.02								
reaction time	0.192	interval		5.71	5.78	6.01	6.22	6.53	6.73	7.05	PB	# of strides	12.70	11.79	12.75	13.78	24.49	26.53	2.04
		velocity	7.15	8.76	8.65	8.32	8.04	7.66	7.43	7.09	7.84	178.7	7.87	8.48	7.84	7.26	8.17	7.54	
FINAL - 2019 The Match - Europe v USA (Minsk, BLR)											<i>European Athletics (2019) - race analysis</i>								
date	09-Sep-19	time	12.97		24.93		37.65	51.52	51.52		7 / 3								
reaction time	0.265	interval			11.96		12.72	13.87		# of strides	12.97	11.96	12.72	13.87	24.93	26.59	1.66		
		velocity	7.71		8.36		7.86	7.21	7.76		182.0	7.71	8.36	7.86	7.21	8.02	7.52		
Baumgart, Iga (POL) (1989)																			
Semi-Final 3 - 2017 IAAF World Championships (London, GBR)											<i>Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Women's 400m</i>								
date	07-Aug-17	time	12.71		24.79		37.62	44.35	51.59	51.81									
reaction time	0.213	interval			12.08		12.83	6.73	7.24		# of strides	12.71	12.08	12.83	13.97	24.79	26.80	2.01	
		velocity	7.87		8.28		7.79	7.43	6.91	7.72		183.9	7.87	8.28	7.79	7.16	8.07	7.46	
Heat 6 - 2015 IAAF World Championships (Beijing, CHN)											<i>Yamamoto (2015) - race analysis of 15th World Championships 400m- focusing on men's semis and women's prelims</i>								
date	24-Aug-15	time	7.01	12.70	18.59	24.77	31.10	37.65	44.60	52.02	52.02								
reaction time	0.228	interval		5.69	5.89	6.18	6.33	6.55	6.95	7.42	PB	# of strides	12.70	12.07	12.88	14.37	24.77	27.25	2.48

velocity	7.13	8.79	8.49	8.09	7.90	7.63	7.19	6.74	7.69		7.87	8.29	7.76	6.96	8.07	7.34
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		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential					
Beard, Jessica (USA) (1989)																							
FINAL - 2019 Weltklasse (Zürich, SUI)																							
date	29-Aug-19	time	7.1	12.8	18.9	25.4	31.9	38.6	45.4	52.60	52.60	8 / 8											
reaction time	0.244	interval		5.7	6.1	6.5	6.5	6.7	6.8	7.2		# of strides	12.80	12.60	13.20	14.00	25.40	27.20	1.80				
		velocity	7.04	8.77	8.20	7.69	7.69	7.46	7.35	6.94	7.60		7.81	7.94	7.58	7.14	7.87	7.35					
FINAL - 2019 Golden Gala Pietro Mennea (Rome, ITA)																							
date	06-Jun-19	time		12.4		24.3		37.3		51.55	51.55	8 / 4											
reaction time	0.237	interval				11.9		13.0		14.3		# of strides	12.40	11.90	13.00	14.25	24.30	27.25	2.95				
		velocity		8.06		8.40		7.69		7.02	7.76		8.06	8.40	7.69	7.02	8.23	7.34					
FINAL - 2019 Shanghai (Shanghai, CHN)																							
date	18-May-19	time		12.3		24.0		37.0		51.40	51.40	3 / 5											
reaction time	0.236	interval				11.7		13.0		14.4		# of strides	12.30	11.70	13.00	14.40	24.00	27.40	3.40				
		velocity		8.13		8.55		7.69		6.94	7.78		8.13	8.55	7.69	6.94	8.33	7.30					
FINAL - 2018 Meeting de Paris (Paris, FRA)																							
date	30-Jun-18	time		12.3		24.0		36.9		50.39	50.39	3 / 2											
reaction time	0.216	interval				11.7		12.9		13.5		# of strides	12.30	11.70	12.90	13.49	24.00	26.39	2.39				
		velocity		8.13		8.55		7.75		7.41	7.94		8.13	8.55	7.75	7.41	8.33	7.58					
FINAL - 2018 Bauhaus Galan (Stockholm, SWE)																							
date	10-Jun-18	time		12.4		24.1		36.9		50.55	50.55	4 / 3											
reaction time	0.182	interval				11.7		12.8		13.7		# of strides	12.40	11.70	12.80	13.65	24.10	26.45	2.35				
		velocity		8.06		8.55		7.81		7.33	7.91		8.06	8.55	7.81	7.33	8.30	7.56					
FINAL - 2018 Bislett Games (Oslo, NOR)																							
date	07-Jun-18	time		12.7		24.3		37.5		50.57	50.57	3 / 4											
reaction time	0.287	interval				11.6		13.2		13.1		# of strides	12.70	11.60	13.20	13.07	24.30	26.27	1.97				
		velocity		7.87		8.62		7.58		7.65	7.91		7.87	8.62	7.58	7.65	8.23	7.61					
FINAL - 2017 USATF National Championship (Sacramento, CA)																							
date	24-Jun-17	time		12.43		23.99		36.88		50.85	50.85	2 / 7											
reaction time		interval				11.56		12.89		13.97		# of strides	12.43	11.56	12.89	13.97	23.99	26.86	2.87				
		velocity		8.24		8.73		8.12		7.24	7.87		8.05	8.65	7.76	7.16	8.34	7.45					
FINAL - 2012 USA Olympic Trials (Eugene, OR)																							
date	24-Jun-12	time				24.1		36.8		51.52	51.52	2 / 7											
reaction time	0.264	interval						12.70		14.72		# of strides	24.10	12.70	14.72	24.10	27.42	3.32					
		velocity				8.30		7.87		6.79	7.76		4.15	7.87	6.79	8.30	7.29						
Semi-Final 1 - 2009 IAAF World Championships (Berlin, GER)																							
date	16-Aug-09	time		12.41		24.01		36.79		51.20	51.20	3 / 5											
reaction time	0.265	interval				11.60		12.78		14.41		# of strides	12.41	11.60	12.78	14.41	24.01	27.19	3.18				
		velocity		8.06		8.62		7.82		6.94	7.81		8.06	8.62	7.82	6.94	8.33	7.36					
Heat 2 - 2009 IAAF World Championships (Berlin, GER)																							
date	15-Aug-09	time		12.55		24.54		37.54		51.72	51.72	7 / 2											
reaction time	0.239	interval				11.99		13.00		14.18		# of strides	12.55	11.99	13.00	14.18	24.54	27.18	2.64				
		velocity		7.97		8.34		7.69		7.05	7.73		7.97	8.34	7.69	7.05	8.15	7.36					
FINAL - 2006 USATF National Junior Championship (Indianapolis, IN)																							
date	24-Jun-06	time		13.13		18.85		25.67		32.02	38.42	44.95	51.89	51.89	6 / 1								
reaction time		interval				5.72		6.82		6.35	6.40	6.53	6.94	PB	# of strides	13.13	12.54	12.75	13.47	25.67	26.22	0.55	
		velocity		7.62		8.74		7.33		7.87	7.81	7.66	7.20	7.71		7.62	7.97	7.84	7.42	7.79	7.63		
Becker, Sophie (IRL) (1997)																							
Repechage 4 - 2024 Olympic Games (Paris, FRA)																							
date	06-Aug-24	time		6.73		12.30		18.01		24.01	30.23	36.78	43.72	51.28	51.28	6 / 2							
reaction time	0.184	interval				5.57		5.71		6.00	6.22	6.55	6.94	7.56		# of strides	12.30	11.71	12.77	14.50	24.01	27.27	3.26
		velocity		7.43		8.98		8.76		8.33	8.04	7.63	7.20	6.61	7.80		8.13	8.54	7.83	6.90	8.33	7.33	
Heat 1 - 2024 Olympic Games (Paris, FRA)																							
date	05-Aug-24	time		6.65		12.14		17.81		23.85	30.25	36.98	44.11	51.84	51.84	6 / 6							
reaction time	0.165	interval				5.49		5.67		6.04	6.40	6.73	7.13	7.73		# of strides	12.14	11.71	13.13	14.86	23.85	27.99	4.14
		velocity		7.52		9.11		8.82		8.28	7.81	7.43	7.01	6.47	7.72		199.2	8.24	8.54	7.62	6.73	8.39	7.15
Semi-Final 2 - 2024 European Athletics Championships (Roma, ITA)																							
date	09-Jun-24	time		12.15		24.33		37.28		51.54	51.54	7 / 4											
reaction time	0.219	interval				12.18		12.95		14.26		# of strides	12.15	12.18	12.95	14.26	24.33	27.21	2.88				
		velocity		8.23		8.21		7.72		7.01	7.76		8.23	8.21	7.72	7.01	8.22	7.35					
FINAL - 2024 Bauhaus Galan (Stockholm, SWE)																							
date	02-Jun-24	time		6.72		12.32		18.21		24.52	31.09	37.90	44.80	52.17	52.17	7 / 3							
reaction time	0.170	interval				5.60		5.89		6.31	6.57	6.81	6.90	7.37		# of strides	12.32	12.20	13.38	14.27	24.52	27.65	3.13
		velocity		7.44		8.93		8.49		7.92	7.61	7.34	7.25	6.78	7.67		8.12	8.20	7.47	7.01	8.16	7.23	
Heat 3 - 2022 World Athletics Championships (Eugene, OR)																							
date	17-Jul-22	time		12.18		24.20		37.64		52.24	52.24	8 / 5											
reaction time	0.151	interval				12.02		13.44		14.60		# of strides	12.18	12.02	13.44	14.60	24.20	28.04	3.84				
		velocity		8.21		8.32		7.44		6.85	7.66		8.21	8.32	7.44	6.85	8.26	7.13					
FINAL - 2022 Meeting International Mohammed VI d'Athlétisme (Rabat, MAR)																							

date	05-Jun-22	time	6.53	12.29	18.28	24.63	31.23	37.94	44.62	51.84	51.84	4 / 4								
reaction time	0.156	interval		5.76	5.99	6.35	6.60	6.71	6.68	7.22		# of strides	12.29	12.34	13.31	13.90	24.63	27.21	2.58	
		velocity	7.66	8.68	8.35	7.87	7.58	7.45	7.49	6.93	7.72		8.14	8.10	7.51	7.19	8.12	7.35		
Beckford, Lily (GBR) (1997)			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
			FINAL - 2022 Müller Birmingham Diamond League (Birmingham, GBR)										<i>Omega Timing (2022) - diamond league race analysis</i>							
date	21-May-22	time	6.8	12.4	18.7	25.0	31.6	38.4	45.5	53.46	53.46	7 / 4								
reaction time	0.212	interval		5.60	6.30	6.30	6.60	6.80	7.10	7.96		# of strides	12.40	12.60	13.40	15.06	25.00	28.46	3.46	
		velocity	7.35	8.93	7.94	7.94	7.58	7.35	7.04	6.28	7.48		8.06	7.94	7.46	6.64	8.00	7.03		
Beer, Ellie (AUS) (2003)			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
			Repechage 3 - 2024 Olympic Games (Paris, FRA)										<i>Paris 2024 Olympic Games - Results Book (2024)</i>							
date	06-Aug-24	time	6.92	12.45	18.11	24.10	30.41	37.06	44.05	51.65	51.65	4 / 4								
reaction time	0.201	interval		5.53	5.66	5.99	6.31	6.65	6.99	7.60		# of strides	12.45	11.65	12.96	14.59	24.10	27.55	3.45	
		velocity	7.23	9.04	8.83	8.35	7.92	7.52	7.15	6.58	7.74		189.0	8.03	8.58	7.72	6.85	8.30	7.26	
			Heat 2 - 2024 Olympic Games (Paris, FRA)										<i>Paris 2024 Olympic Games - Results Book (2024)</i>							
date	05-Aug-24	time	6.74	12.23	17.94	24.02	30.29	36.82	43.81	51.47	51.47	6 / 5								
reaction time	0.183	interval		5.49	5.71	6.08	6.27	6.53	6.99	7.66	PB	# of strides	12.23	11.79	12.80	14.65	24.02	27.45	3.43	
		velocity	7.42	9.11	8.76	8.22	7.97	7.66	7.15	6.53	7.77		188.0	8.18	8.48	7.81	6.83	8.33	7.29	
			FINAL - 2024 Xiamen Diamond League (Xiamen, CHN)										<i>Omega Timing (2024) - diamond league race analysis</i>							
date	20-Apr-24	time	6.91	12.43	18.22	24.42	30.90	37.64	44.67	52.36	52.36	9 / 5								
reaction time	0.222	interval		5.52	5.79	6.20	6.48	6.74	7.03	7.69		# of strides	12.43	11.99	13.22	14.72	24.42	27.94	3.52	
		velocity	7.24	9.06	8.64	8.06	7.72	7.42	7.11	6.50	7.64		189.0	8.05	8.34	7.56	6.79	8.19	7.16	
Belle, Roberta (USA) (1958)			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
			FINAL - 1984 USA Olympic Trials (Los Angeles, CA)										<i>Hymans (2008) - history of the US olympic trials - track and field</i>							
date	19-Jun-84	time				24.7				51.3	51.26	2 / 8								
reaction time		interval								26.60		# of strides					24.70	26.60	1.90	
		velocity				8.10				7.52	7.80						8.10	7.52		
			FINAL - 1980 USA Olympic Trials (Eugene, OR)										<i>Hymans (2008) - history of the US olympic trials - track and field</i>							
date	25-Jun-80	time				24.2				52.7	52.67	/ 5								
reaction time		interval								28.50		# of strides					24.20	28.50	4.30	
		velocity				8.26				7.02	7.59						8.26	7.02		
Best, Ashlan (CAN) (1999)			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
			FINAL - 2018 IAAF World Junior Championships (Tampere, FIN)										<i>Koyama (2018) - research on athlete performance and technique- 2018 data book</i>							
date	12-Jul-18	time	6.82	12.66	18.60	24.94	31.61	38.61	45.94	53.59	53.59	8 / 8								
reaction time	0.148	interval		5.84	5.94	6.34	6.67	7.00	7.33	7.65		# of strides	12.66	12.28	13.67	14.98	24.94	28.65	3.71	
		velocity	7.33	8.56	8.42	7.89	7.50	7.14	6.82	6.54	7.46		197.5	7.90	8.14	7.32	6.68	8.02	6.98	
Bévis, Marie-Louise (FRA) (1972)			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
			FINAL - 1997 European Cup (Munich, GER)										<i>Jung (2003) - http://www.fgs.uni-halle.de</i>							
date	21-Jun-97	time		12.56		24.90		38.30		53.13	53.13	/ 6								
reaction time		interval				12.34		13.40		14.83		# of strides	12.56	12.34	13.40	14.83	24.90	28.23	3.33	
		velocity		7.96		8.10		7.46		6.74	7.53		7.96	8.10	7.46	6.74	8.03	7.08		
Blake, Dominique (USA) (1987)			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
			Quarter-Final 1 - 2008 USA Olympic Trials (Eugene, OR)										<i>USATF Women's Sprint Development with HPC (2008)</i>							
date	29-Jun-08	time		12.91	18.94	25.35	31.92	38.91	46.18	53.90	53.90	7 / 5								
reaction time		interval			6.03	6.41	6.57	6.99	7.27	7.72		# of strides	12.91	12.44	13.56	14.99	25.35	28.55	3.20	
		velocity		7.75	8.29	7.80	7.61	7.15	6.88	6.48	7.42		7.75	8.04	7.37	6.67	7.89	7.01		
			FINAL - 2006 USATF National Junior Championship (Indianapolis, IN)										<i>USATF Women's Sprint Development (2006)</i>							
date	24-Jun-06	time		12.98	18.92	25.27	31.72	38.74	46.43	54.77	54.77	8 / 7								
reaction time		interval			5.94	6.35	6.45	7.02	7.69	8.34	DV	# of strides	12.98	12.29	13.47	16.03	25.27	29.50	4.23	
		velocity		7.70	8.42	7.87	7.75	7.12	6.50	6.00	7.30		7.70	8.14	7.42	6.24	7.91	6.78		
Boatright, Tominique (USA) (1986)			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
			FINAL - 2005 USATF National Junior Championships (Carson, CA)										<i>USATF Women's Sprint Development (2005)</i>							
date	25-Jun-05	time				25.34	32.03	39.02	46.43	54.51	54.51	9 / 8 7								
reaction time		interval					6.69	6.99	7.41	8.08	PB	# of strides			13.68	15.49	25.34	29.17	3.83	
		velocity				7.89	7.47	7.15	6.75	6.19	7.34				7.31	6.46	7.89	6.86		
Bokesa, Aauri Lorena (ESP) (1988)			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
			Heat 6 - 2015 IAAF World Championships (Beijing, CHN)										<i>Yamamoto (2015) - race analysis of 15th World Championships 400m- focusing on men's semis and women's prelims</i>							
date	24-Aug-15	time	7.12	12.92	18.87	24.98	31.32	37.99	45.14	52.98	52.98	4 / 7								
reaction time	0.194	interval		5.80	5.95	6.11	6.34	6.67	7.15	7.84		# of strides	12.92	12.06	13.01	14.99	24.98	28.00	3.02	
		velocity	7.02	8.62	8.40	8.18	7.89	7.50	6.99	6.38	7.55		7.74	8.29	7.69	6.67	8.01	7.14		
Bol, Femke (NED) (2000)			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
			FINAL - 2023 FBK Games (Hengelo, NED)										<i>Omega Timing (2023) - continental tour race analysis</i>							
date	04-Jun-23	time	6.70	12.30	18.09	24.11	30.39	36.82	43.39	50.11	50.11	4 / 1								
reaction time	0.167	interval		5.60	5.79	6.02	6.28	6.43	6.57	6.72		# of strides	12.30	11.81	12.71	13.29	24.11	26.00	1.89	
		velocity	7.46	8.93	8.64	8.31	7.96	7.78	7.61	7.44	7.98		182.5	8.13	8.47	7.87	7.52	8.30	7.69	
			FINAL - 2022 European Athletics Championships (Munich, GER)										<i>European Athletics (2022) - european athletics championships race analysis</i>							
date	17-Aug-22	time		12.20		23.70		36.17		49.44	49.44	5 / 1								
reaction time	0.252	interval				11.50		12.47		13.27	NR PB	# of strides	12.20	11.50	12.47	13.27	23.70	25.74	2.04	
		velocity		8.20		8.70		8.02		7.54	8.09		180.0	8.20	8.70	8.02	7.54	8.44	7.77	
			Semi-Final 3 - 2022 European Athletics Championships (Munich, GER)										<i>European Athletics (2022) - european athletics championships race analysis</i>							
date	16-Aug-22	time		12.41		24.02		36.58		50.60	50.60	6 / 1								

reaction time	0.243	interval		11.61	12.56	14.02		# of strides	12.41	11.61	12.56	14.02	24.02	26.58	2.56			
		velocity	8.06	8.61	7.96	7.13	7.91	179.7	8.06	8.61	7.96	7.13	8.33	7.52				
FINAL - 2022 Silesia Kamila Skolimowska Memorial (Chorzów, POL)										<i>Omega Timing (2022) - diamond league race analysis</i>								
date	06-Aug-22	time	6.80	12.36	18.12	24.03	30.07	36.38	42.94	49.75	49.75	4 / 1						
reaction time	0.172	interval	5.56	5.76	5.91	6.04	6.31	6.56	6.81	NR PB	# of strides	12.36	11.67	12.35	13.37	24.03	25.72	1.69
		velocity	7.35	8.99	8.68	8.46	8.28	7.92	7.62	7.34	8.04	8.09	8.57	8.10	7.48	8.32	7.78	
FINAL - 2021 Meeting de Paris (Paris, FRA)										<i>Omega Timing (2021) - diamond league race analysis</i>								
date	28-Aug-21	time	6.9	12.6	18.5	24.6	30.7	37.0	43.6	50.59	50.59	4 / 4						
reaction time	0.205	interval	5.70	5.90	6.10	6.10	6.30	6.60	6.99		# of strides	12.60	12.00	12.40	13.59	24.60	25.99	1.39
		velocity	7.25	8.77	8.47	8.20	8.20	7.94	7.58	7.15	7.91	189.7	7.94	8.33	8.06	7.36	8.13	7.70
Bolingo, Cynthia (BEL) (1993)																		
		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 5 - 2024 Olympic Games (Paris, FRA)										<i>Paris 2024 Olympic Games - Results Book (2024)</i>								
date	05-Aug-24	time	6.80	12.48	18.34	24.52	31.10	37.94	45.11	52.77	52.77	3 / 8						
reaction time	0.172	interval	5.68	5.86	6.18	6.58	6.84	7.17	7.66		# of strides	12.48	12.04	13.42	14.83	24.52	28.25	3.73
		velocity	7.35	8.80	8.53	8.09	7.60	7.31	6.97	6.53	7.58	8.01	8.31	7.45	6.74	8.16	7.08	
FINAL - 2023 Memorial van Damme (Brussels, BEL)										<i>Seiko Timing (2023) - world championship race analysis</i>								
date	08-Sep-23	time	6.71	12.20	17.87	23.79	30.01	36.46	43.15	50.09	50.09	4 / 1						
reaction time	0.186	interval	5.49	5.67	5.92	6.22	6.45	6.69	6.94		# of strides	12.20	11.59	12.67	13.63	23.79	26.30	2.51
		velocity	7.45	9.11	8.82	8.45	8.04	7.75	7.47	7.20	7.99	192.0	8.20	8.63	7.89	7.34	8.41	7.60
FINAL - 2023 World Athletics Championships (Budapest, HUN)										<i>Seiko Timing (2023) - world championship race analysis</i>								
date	23-Aug-23	time	12.19		23.66		36.30		50.33	50.33	2 / 5							
reaction time	0.190	interval			11.47		12.64		14.03		# of strides	12.19	11.47	12.64	14.03	23.66	26.67	3.01
		velocity			8.20		7.91		7.13	7.95	195.0	8.20	8.72	7.91	7.13	8.45	7.50	
Semi-Final 1 - 2023 World Athletics Championships (Budapest, HUN)										<i>Seiko Timing (2023) - world championship race analysis</i>								
date	21-Aug-23	time	12.23		23.71		36.46		49.96	49.96	8 / 3							
reaction time	0.184	interval			11.48		12.75		13.50	NR PB	# of strides	12.23	11.48	12.75	13.50	23.71	26.25	2.54
		velocity			8.18		7.84		7.41	8.01	191.0	8.18	8.71	7.84	7.41	8.44	7.62	
Heat 1 - 2023 World Athletics Championships (Budapest, HUN)										<i>Seiko Timing (2023) - world championship race analysis</i>								
date	20-Aug-23	time	12.45		24.08		36.84		50.29	50.29	2 / 2							
reaction time	0.187	interval			11.63		12.76		13.45		# of strides	12.45	11.63	12.76	13.45	24.08	26.21	2.13
		velocity			8.03		7.84		7.43	7.95	192.0	8.03	8.60	7.84	7.43	8.31	7.63	
FINAL - 2022 Memorial van Damme (Brussels, BEL)										<i>Omega Timing (2022) - diamond league race analysis</i>								
date	02-Sep-22	time	6.66	12.27	17.72	23.87	29.98	36.39	43.07	50.19	50.19	5 / 3						
reaction time	0.172	interval	5.61	5.45	6.15	6.11	6.41	6.68	7.12	NR PB	# of strides	12.27	11.60	12.52	13.80	23.87	26.32	2.45
		velocity	7.51	8.91	9.17	8.13	8.18	7.80	7.49	7.02	7.97	8.15	8.62	7.99	7.25	8.38	7.60	
National FINAL - 2022 Memorial van Damme (Brussels, BEL)										<i>Omega Timing (2022) - diamond league race analysis</i>								
date	02-Sep-22	time	6.87	12.51	18.34	24.40	30.64	37.17	44.20	51.74	51.74	2 / 1						
reaction time	0.176	interval	5.64	5.83	6.06	6.24	6.53	7.03	7.54		# of strides	12.51	11.89	12.77	14.57	24.40	27.34	2.94
		velocity	7.28	8.87	8.58	8.25	8.01	7.66	7.11	6.63	7.73	7.99	8.41	7.83	6.86	8.20	7.32	
FINAL - 2022 European Athletics Championships (Munich, GER)										<i>European Athletics (2022) - european athletics championships race analysis</i>								
date	17-Aug-22	time	12.18		24.05		36.98		50.94	50.94	7 / 7							
reaction time	0.227	interval			11.87		12.93		13.96		# of strides	12.18	11.87	12.93	13.96	24.05	26.89	2.84
		velocity			8.21		7.73		7.16	7.85	189.0	8.21	8.42	7.73	7.16	8.32	7.44	
Semi-Final 3 - 2022 European Athletics Championships (Munich, GER)										<i>European Athletics (2022) - european athletics championships race analysis</i>								
date	16-Aug-22	time	12.35		24.39		37.15		50.83	50.83	8 / 2							
reaction time	0.217	interval			12.04		12.76		13.68		# of strides	12.35	12.04	12.76	13.68	24.39	26.44	2.05
		velocity			8.10		7.84		7.31	7.87	189.7	8.10	8.31	7.84	7.31	8.20	7.56	
Borga, Rebecca (ITA) (1998)																		
Invitational - 2024 Memorial van damme (Brussels, BEL)										<i>Omega Timing (2024) - diamond league race analysis</i>								
date	13-Sep-24	time	6.95	12.82	18.91	25.27	31.93	38.85	46.07	54.25	54.25	2 / 7						
reaction time	0.165	interval	5.87	6.09	6.36	6.66	6.92	7.22	8.18		# of strides	12.82	12.45	13.58	15.40	25.27	28.98	3.71
		velocity	7.19	8.52	8.21	7.86	7.51	7.23	6.93	6.11	7.37	210.0	7.80	8.03	7.36	6.49	7.91	6.90
FINAL - 2020 Golden Gala Pietro Mennea (Rome, ITA)										<i>Omega Timing (2020) - diamond league race analysis</i>								
date	17-Sep-20	time	7.0	13.1	19.3	25.7	32.1	38.7	45.5	52.88	52.88	1 / 9						
reaction time	0.176	interval	6.10	6.20	6.40	6.40	6.60	6.80	7.38		# of strides	13.10	12.60	13.00	14.18	25.70	27.18	1.48
		velocity	7.14	8.20	8.06	7.81	7.81	7.58	7.35	6.78	7.56	7.63	7.94	7.69	7.05	7.78	7.36	
Botlogetswe, Christine (BOT) (1995)																		
FINAL - 2019 Meeting de Paris (Paris, FRA)										<i>Omega Timing (2019) - diamond league race analysis</i>								
date	24-Aug-19	time	12.7		24.9		37.8		52.02	52.02	2 / 6							
reaction time	0.199	interval			12.2		12.9		14.2		# of strides	12.70	12.20	12.90	14.22	24.90	27.12	2.22
		velocity			7.87		8.20		7.75	7.03	7.69	185.0	7.87	8.20	7.75	7.03	8.03	7.37
FINAL - 2019 Athletissima (Lausanne, SUI)										<i>Omega Timing (2019) - diamond league race analysis</i>								
date	05-Jul-19	time	12.5		24.4		37.5		51.50	51.50	3 / 5							
reaction time	0.187	interval			11.9		13.1		14.0		# of strides	12.50	11.90	13.10	14.00	24.40	27.10	2.70
		velocity			8.00		8.40		7.63	7.14	7.77	8.00	8.40	7.63	7.14	8.20	7.38	
FINAL - 2019 Meeting International Mohammed VI d'Athlétisme (Rabat, MAR)										<i>Omega Timing (2019) - diamond league race analysis</i>								
date	16-Jun-19	time	12.3		23.9		36.5		50.48	50.48	6 / 3							
reaction time	0.184	interval			11.6		12.6		14.0	PB	# of strides	12.30	11.60	12.60	13.98	23.90	26.58	2.68
		velocity			8.13		8.62		7.94	7.15	7.92	182.0	8.13	8.62	7.94	7.15	8.37	7.52

FINAL - 2019 Shanghai (Shanghai, CHN)											Omega Timing (2019) - diamond league race analysis								
date	18-May-19	time	12.7		24.6		37.6		51.29	51.29	9 / 3								
reaction time	0.222	interval			11.9		13.0		13.7		# of strides	12.70	11.90	13.00	13.69	24.60	26.69	2.09	
		velocity	7.87		8.40		7.69		7.30	7.80		7.87	8.40	7.69	7.30	8.13	7.49		
Bouma, Andrea (NED) (1999)											Omega Timing (2024) - continental tour gold race analysis								
National FINAL - 2024 FBK Games (Hengelo, NED)																			
date	07-Jul-24	time	7.01	12.73	18.60	24.73	31.16	37.97	45.23	53.34	53.34	7 / 2							
reaction time	0.191	interval		5.72	5.87	6.13	6.43	6.81	7.26	8.11		# of strides	12.73	12.00	13.24	15.37	24.73	28.61	3.88
		velocity	7.13	8.74	8.52	8.16	7.78	7.34	6.89	6.17	7.50		7.86	8.33	7.55	6.51	8.09	6.99	
FINAL - 2021 Memorial van Damme (Brussels, BEL)											Omega Timing (2021) - diamond league race analysis								
date	03-Sep-21	time	6.9	12.5	18.3	24.4	31.0	37.9	45.4	53.39	53.39	6 / 3							
reaction time	0.219	interval		5.60	5.80	6.10	6.60	6.90	7.50	7.99		# of strides	12.50	11.90	13.50	15.49	24.40	28.99	4.59
		velocity	7.25	8.93	8.62	8.20	7.58	7.25	6.67	6.26	7.49		195.0	8.00	8.40	7.41	6.46	8.20	6.90
Brehmer, Christina (GDR) (1958)											Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016								
FINAL - 1980 Olympic Games (Moscow, URS)																			
date	28-Jul-80	time						36.2		49.66	49.66	5 / 3							
reaction time		interval								13.46	PB	# of strides				13.46			
		velocity						8.29		7.43	8.05					7.43			
FINAL - 1976 Olympic Games (Montreal, CAN)											Lamare (1976) - les jeux de la XXI olympia, Montreal 1976								
date	29-Jul-76	time	11.78		23.3		35.3		50.6	50.51	2 / 2								
reaction time		interval			11.52		12.00		15.30		# of strides	11.78	11.52	12.00	15.30	23.30	27.30	4.00	
		velocity	8.49		8.68		8.33		6.54	7.92		8.49	8.68	8.33	6.54	8.58	7.33		
Semi-Final 2 - 1976 Olympic Games (Montreal, CAN)											Lamare (1976) - les jeux de la XXI olympia, Montreal 1976								
date	26-Jul-76	time	12.32		24.00		36.58		50.86	50.86	4 / 2								
reaction time		interval			11.68		12.58		14.28		# of strides	12.32	11.68	12.58	14.28	24.00	26.86	2.86	
		velocity	8.12		8.56		7.95		7.00	7.86		8.12	8.56	7.95	7.00	8.33	7.45		
Breuer, Grit (GER) (1972)											Graubner (2009) - http://www.fgs.uni-halle.de								
FINAL - 2002 European Championships (Munich, GER)																			
date	08-Aug-02	time	12.49		24.22		36.96		50.70	50.70	1 / 2								
reaction time	0.161	interval			11.73		12.74		13.74		# of strides	12.49	11.73	12.74	13.74	24.22	26.48	2.26	
		velocity	8.01		8.53		7.85		7.28	7.89		8.01	8.53	7.85	7.28	8.26	7.55		
Heat 3 - 2002 European Championships (Munich, GER)											Graubner (2009) - http://www.fgs.uni-halle.de								
date	07-Aug-02	time	12.38		23.90		37.01		50.98	50.98	1 / 1								
reaction time	0.150	interval			11.52		13.11		13.97		# of strides	12.38	11.52	13.11	13.97	23.90	27.08	3.18	
		velocity	8.08		8.68		7.63		7.16	7.85		8.08	8.68	7.63	7.16	8.37	7.39		
FINAL - 2001 ISTAF (Berlin, GER)											Graubner (2007) - http://www.fgs.uni-halle.de								
date	31-Aug-01	time	12.45		24.28		37.22		50.78	50.78	1 / 1								
reaction time	0.217	interval			11.83		12.94		13.56		# of strides	12.45	11.83	12.94	13.56	24.28	26.50	2.22	
		velocity	8.03		8.45		7.73		7.37	7.88		8.03	8.45	7.73	7.37	8.24	7.55		
FINAL - 2001 European Cup (Bremen, GER)											Graubner (2009) - http://www.fgs.uni-halle.de								
date	23-Jun-01	time	12.33		24.18		37.02		50.49	50.49	1 / 1								
reaction time		interval			11.85		12.84		13.47		# of strides	12.33	11.85	12.84	13.47	24.18	26.31	2.13	
		velocity	8.11		8.44		7.79		7.42	7.92		8.11	8.44	7.79	7.42	8.27	7.60		
FINAL - 1999 IAAF World Championships (Seville, ESP)											Ferro (2001) - biomechanical analysis of the 7th world championships, seville 1999								
date	26-Aug-99	time	6.81	12.39	18.09	24.08	30.28	36.51	43.18	50.67	50.67	6 / 7							
reaction time	0.176	interval		5.58	5.70	5.99	6.20	6.23	6.67	7.49		# of strides	12.39	11.69	12.43	14.16	24.08	26.59	2.51
		velocity	7.34	8.96	8.77	8.35	8.06	8.03	7.50	6.68	7.89		8.07	8.55	8.05	7.06	8.31	7.52	
FINAL - 1997 IAAF World Championships (Athens, GRE)											Ritzdorf (1997) - biomechanical research project at the VI th world championships in athletics, Athens 1997								
date	04-Aug-97	time	6.44	11.92	17.16	23.52	29.72	36.12	42.76	49.92	50.06	6 / 4							
reaction time	0.143	interval		5.48	5.24	6.36	6.20	6.40	6.64	7.16		# of strides	11.92	11.60	12.60	13.80	23.52	26.40	2.88
		velocity	7.76	9.12	9.54	7.86	8.06	7.81	7.53	6.98	7.99		8.39	8.62	7.94	7.25	8.50	7.58	
FINAL - 1997 European Cup (Munich, GER)											Jung (2003) - http://www.fgs.uni-halle.de								
date	21-Jun-97	time	12.27		24.02		36.67		50.38	50.38	1 / 1								
reaction time		interval			11.75		12.65		13.71		# of strides	12.27	11.75	12.65	13.71	24.02	26.36	2.34	
		velocity	8.15		8.51		7.91		7.29	7.94		8.15	8.51	7.91	7.29	8.33	7.59		
FINAL - 1996 Olympic Games (Atlanta, GA)											Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016								
date	29-Jul-96	time			23.76		36.3		50.71	50.71	1 / 8								
reaction time	0.219	interval					12.54		14.41		# of strides			12.54	14.41	23.76	26.95	3.19	
		velocity			8.42		7.97		6.94	7.89				7.97	6.94	8.42	7.42		
FINAL - 1991 IAAF World Championships (Tokyo, JPN)											Butler (2013) - IAAF world championships statistics handbook- moscow 2013								
date	27-Aug-91	time			23.00		35.39		49.42	49.42	3 / 2								
reaction time		interval					12.39		14.03	WJR	# of strides			12.39	14.03	23.00	26.42	3.42	
		velocity			8.70		8.07		7.13	8.09		193.5		8.07	7.13	8.70	7.57		
FINAL - 1991 European Cup (Frankfurt, GER)											Federle (2003) - http://www.fgs.uni-halle.de								
date	29-Jun-91	time	12.21		23.83		35.98		49.87	49.87	1 / 2								
reaction time	0.183	interval			11.62		12.15		13.89		# of strides	12.21	11.62	12.15	13.89	23.83	26.04	2.21	
		velocity	8.19		8.61		8.23		7.20	8.02		194.7	8.19	8.61	8.23	7.20	8.39	7.68	
Breuer, Grit (GDR) (1972)											Pascua (1990) - atletismo (I) carreras y marcha								
FINAL - 1989 IAAF World Cup (Barcelona, ESP)																			

date	10-Sep-89	time	12.87	24.50	36.87	50.67	50.67	/ → 2											
reaction time		interval		11.63	12.37	13.80		# of strides	12.87	11.63	12.37	13.80	24.50	26.17	1.67				
		velocity	7.77	8.60	8.08	7.25	7.89		7.77	8.60	8.08	7.25	8.16	7.64					
Brier, Hannah (GBR) (1998)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
		National FINAL - 2024 London Athletics Meet (London, GBR)																	
		<i>Omega Timing (2024) - diamond league race analysis</i>																	
date	20-Jul-24	time	6.85	12.77	18.84	25.14	31.61	38.31	45.29	52.94	52.94	8 / 7							
reaction time	0.150	interval		5.92	6.07	6.30	6.47	6.70	6.98	7.65		# of strides	12.77	12.37	13.17	14.63	25.14	27.80	2.66
		velocity	7.30	8.45	8.24	7.94	7.73	7.46	7.16	6.54	7.56		7.83	8.08	7.59	6.84	7.96	7.19	
Brisco-Hooks, Valerie (USA) (1960)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
		FINAL - 1988 Olympic Games (Seoul, KOR)																	
		<i>Brüggemann (1990) - scientific research project at the games of the XXXIV Olympiad, Seoul 1988</i>																	
date	26-Sep-88	time	11.71		22.94		35.47		50.16	50.16	1 / 4								
reaction time	0.196	interval			11.23		12.53		14.69		# of strides	11.71	11.23	12.53	14.69	22.94	27.22	4.28	
		velocity	8.54		8.90		7.98		6.81	7.97	199.0	8.54	8.90	7.98	6.81	8.72	7.35		
		Semi-Final 2 - 1988 Olympic Games (Seoul, KOR)																	
		<i>Brüggemann (1990) - scientific research project at the games of the XXXIV Olympiad, Seoul 1988</i>																	
date	25-Sep-88	time	12.27		23.77		36.33		49.90	49.90	4 / 2								
reaction time		interval			11.50		12.56		13.57		# of strides	12.27	11.50	12.56	13.57	23.77	26.13	2.36	
		velocity	8.15		8.70		7.96		7.37	8.02		8.15	8.70	7.96	7.37	8.41	7.65		
		FINAL - 1984 Olympic Games (Los Angeles, CA)																	
		<i>Adams (1984) - 1984 olympic games - 200m & 400m</i>																	
date	06-Aug-84	time			23.5				48.83	48.83	5 / 1								
reaction time	0.182	interval							25.33	OR / NR	# of strides					23.50	25.33	1.83	
		velocity			8.51				7.90	8.19	192.5					8.51	7.90		
		FINAL - 1984 USA Olympic Trials (Los Angeles, CA)																	
		<i>Hymans (2008) - history of the US olympic trials - track and field</i>																	
date	19-Jun-84	time			23.0				49.8	49.79	3 / 2								
reaction time		interval							26.80		# of strides					23.00	26.80	3.80	
		velocity			8.70				7.46	8.03						8.70	7.46		
Brock, Laila (USA) (1978)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
		FINAL - 1996 USATF National Junior Championships (Delaware, OH)																	
		<i>USATF Women's Sprint Development (1996)</i>																	
date	29-Jun-96	time			25.61		39.48	47.24	55.72	55.72	8 / 7								
reaction time		interval					13.87	7.76	8.48		# of strides			13.87	16.24	25.61	30.11	4.50	
		velocity			7.81		7.21	6.44	5.90	7.18				7.21	6.16	7.81	6.64		
Bromfield, Junelle (JAM) (1998)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
		Semi-Final 1 - 2024 Olympic Games (Paris, FRA)																	
		<i>Paris 2024 Olympic Games - Results Book (2024)</i>																	
date	07-Aug-24	time	6.75	12.26	17.97	23.92	30.16	36.86	44.05	51.93	51.93	9 / 8							
reaction time	0.187	interval		5.51	5.71	5.95	6.24	6.70	7.19	7.88		# of strides	12.26	11.66	12.94	15.07	23.92	28.01	4.09
		velocity	7.41	9.07	8.76	8.40	8.01	7.46	6.95	6.35	7.70		8.16	8.58	7.73	6.64	8.36	7.14	
		Heat 6 - 2024 Olympic Games (Paris, FRA)																	
		<i>Paris 2024 Olympic Games - Results Book (2024)</i>																	
date	05-Aug-24	time	6.80	12.30	18.09	24.11	30.42	36.95	43.88	51.36	51.36	8 / 3							
reaction time	0.198	interval		5.50	5.79	6.02	6.31	6.53	6.93	7.48		# of strides	12.30	11.81	12.84	14.41	24.11	27.25	3.14
		velocity	7.35	9.09	8.64	8.31	7.92	7.66	7.22	6.68	7.79	179.0	8.13	8.47	7.79	6.94	8.30	7.34	
		FINAL - 2022 Herculis Meeting International d'Athlétisme (Monaco, MON)																	
		<i>Omega Timing (2022) - diamond league race analysis</i>																	
date	10-Aug-22	time	6.75	12.30	18.07	24.07	30.25	36.73	43.59	50.93	50.93	2 / 6							
reaction time	0.194	interval		5.55	5.77	6.00	6.18	6.48	6.86	7.34		# of strides	12.30	11.77	12.66	14.20	24.07	26.86	2.79
		velocity	7.41	9.01	8.67	8.33	8.09	7.72	7.29	6.81	7.85		8.13	8.50	7.90	7.04	8.31	7.45	
		FINAL - 2022 Commonwealth Games (Birmingham, GBR)																	
		<i>Longines Timing (2022) - commonwealth games race analysis</i>																	
date	07-Aug-22	time	6.8	12.5	18.4	24.6	30.8	37.3	44.1	51.45	51.45	3 / 5							
reaction time	0.188	interval		5.70	5.90	6.20	6.20	6.50	6.80	7.35		# of strides	12.50	12.10	12.70	14.15	24.60	26.85	2.25
		velocity	7.35	8.77	8.47	8.06	8.06	7.69	7.35	6.80	7.77	185.7	8.00	8.26	7.87	7.07	8.13	7.45	
		Semi-Final 2 - 2022 Commonwealth Games (Birmingham, GBR)																	
		<i>Longines Timing (2022) - commonwealth games race analysis</i>																	
date	05-Aug-22	time	6.6	12.2	18.1	24.2	30.7	37.5	44.6	52.18	52.18	6 / 4							
reaction time	0.184	interval		5.60	5.90	6.10	6.50	6.80	7.10	7.58		# of strides	12.20	12.00	13.30	14.68	24.20	27.98	3.78
		velocity	7.58	8.93	8.47	8.20	7.69	7.35	7.04	6.60	7.67	185.0	8.20	8.33	7.52	6.81	8.26	7.15	
		FINAL - 2016 IAAF World Junior Championships (Bydgoszcz, POL)																	
		<i>Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016</i>																	
date	21-Jul-16	time	6.96	12.55	18.40	24.51	30.90	37.44	44.43	52.05	52.05	4 / 3							
reaction time	0.324	interval		5.59	5.85	6.11	6.39	6.54	6.99	7.62		# of strides	12.55	11.96	12.93	14.61	24.51	27.54	3.03
		velocity	7.18	8.94	8.55	8.18	7.82	7.65	7.15	6.56	7.68		7.97	8.36	7.73	6.84	8.16	7.26	
Brossier, Amandine (FRA) (1995)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
		FINAL - 2024 Memorial van damme (Brussels, BEL)																	
		<i>Omega Timing (2024) - diamond league race analysis</i>																	
date	13-Sep-24	time	6.90	12.59	18.49	24.62	30.95	37.59	44.53	51.94	51.94	1 / → 6							
reaction time	0.208	interval		5.69	5.90	6.13	6.33	6.64	6.94	7.41		# of strides	12.59	12.03	12.97	14.35	24.62	27.32	2.70
		velocity	7.25	8.79	8.47	8.16	7.90	7.53	7.20	6.75	7.70		7.94	8.31	7.71	6.97	8.12	7.32	
		FINAL - 2024 Herculis Meeting International d'Athlétisme (Monaco, MON)																	
		<i>Omega Timing (2024) - diamond league race analysis</i>																	
date	12-Jul-24	time	6.81	12.35	18.07	24.03	30.20	36.51	43.20	50.43	50.43	7 / 4							
reaction time	0.197	interval		5.54	5.72	5.96	6.17	6.31	6.69	7.23	PB	# of strides	12.35	11.68	12.48	13.92	24.03	26.40	2.37
		velocity	7.34	9.03	8.74	8.39	8.10	7.92	7.47	6.92	7.93	203.0	8.10	8.56	8.01	7.18	8.32	7.58	
		FINAL - 2024 Meeting de Paris (Paris, FRA)																	
		<i>Omega Timing (2024) - diamond league race analysis</i>																	
date	07-Jul-24	time	6.82	12.40	18.14	24.08	30.32	36.72	43.69	51.27	51.27	1 / 8							
reaction time	0.206	interval		5.58	5.74	5.94	6.24	6.40	6.97	7.58		# of strides	12.40	11.68	12.64	14.55	24.08	27.19	3.11
		velocity	7.33	8.96	8.71	8.42	8.01	7.81	7.17	6.60	7.80	207.0	8.06	8.56	7.91	6.87	8.31	7.36	
		Semi-Final 1 - 2024 European Athletics Championships (Roma, ITA)																	
		<i>European Athletics (2024) - 2024 european athletics championships - results book</i>																	

date	09-Jun-24	time	12.79	24.96	37.60	51.78	51.78	9 / 4											
reaction time	0.205	interval		12.17	12.64	14.18		# of strides	12.79	12.17	12.64	14.18	24.96	26.82	1.86				
		velocity	7.82	8.22	7.91	7.05	7.72	205.0	7.82	8.22	7.91	7.05	8.01	7.46					
Heat 1 - 2024 European Athletics Championships (Roma, ITA)										<i>European Athletics (2024) - 2024 european athletics championships - results book</i>									
date	08-Jun-24	time	12.70	24.67	37.36	51.30	51.30	6 / 1											
reaction time	0.207	interval		11.97	12.69	13.94		# of strides	12.70	11.97	12.69	13.94	24.67	26.63	1.96				
		velocity	7.87	8.35	7.88	7.17	7.80		7.87	8.35	7.88	7.17	8.11	7.51					
B Race - 2023 Memorial van Damme (Brussels, BEL)										<i>Seiko Timing (2023) - world championship race analysis</i>									
date	08-Sep-23	time	6.86	12.53	18.40	24.49	30.75	37.15	43.97	51.40	51.40	8 / 1							
reaction time	0.191	interval		5.67	5.87	6.09	6.26	6.40	6.82	7.43		# of strides	12.53	11.96	12.66	14.25	24.49	26.91	2.42
		velocity	7.29	8.82	8.52	8.21	7.99	7.81	7.33	6.73	7.78		7.98	8.36	7.90	7.02	8.17	7.43	
Heat 3 - 2023 World Athletics Championships (Budapest, HUN)										<i>Seiko Timing (2023) - world championship race analysis</i>									
date	20-Aug-23	time	12.81	24.76	37.56	51.98	51.98	7 / 5											
reaction time	0.183	interval		11.95	12.80	14.42		# of strides	12.81	11.95	12.80	14.42	24.76	27.22	2.46				
		velocity	7.81	8.37	7.81	6.93	7.70	204.0	7.81	8.37	7.81	6.93	8.08	7.35					
FINAL - 2023 FBK Games (Hengelo, NED)										<i>Omega Timing (2023) - continental tour race analysis</i>									
date	04-Jun-23	time	6.93	12.59	18.53	24.78	31.30	38.23	45.63	53.65	53.65	2 / 7							
reaction time	0.171	interval		5.66	5.94	6.25	6.52	6.93	7.40	8.02		# of strides	12.59	12.19	13.45	15.42	24.78	28.87	4.09
		velocity	7.22	8.83	8.42	8.00	7.67	7.22	6.76	6.23	7.46		7.94	8.20	7.43	6.49	8.07	6.93	
National FINAL - 2022 Weltklasse (Zürich, SUI)										<i>Omega Timing (2022) - diamond league race analysis</i>									
date	08-Sep-22	time	6.75	12.33	18.06	24.01	30.22	36.72	43.66	51.21	51.21	6 / 1							
reaction time	0.151	interval		5.58	5.73	5.95	6.21	6.50	6.94	7.55		# of strides	12.33	11.68	12.71	14.49	24.01	27.20	3.19
		velocity	7.41	8.96	8.73	8.40	8.05	7.69	7.20	6.62	7.81		8.11	8.56	7.87	6.90	8.33	7.35	
Semi-Final 3 - 2022 European Athletics Championships (Munich, GER)										<i>European Athletics (2022) - european athletics championships race analysis</i>									
date	16-Aug-22	time	12.54	24.50	37.14	51.21	51.21	7 / 4											
reaction time	0.158	interval		11.96	12.64	14.07		# of strides	12.54	11.96	12.64	14.07	24.50	26.71	2.21				
		velocity	7.97	8.36	7.91	7.11	7.81	202.0	7.97	8.36	7.91	7.11	8.16	7.49					
Heat 2 - 2022 European Athletics Championships (Munich, GER)										<i>European Athletics (2022) - european athletics championships race analysis</i>									
date	15-Aug-22	time	12.44	24.23	37.01	51.26	51.26	4 / 2											
reaction time	0.203	interval		11.79	12.78	14.25		# of strides	12.44	11.79	12.78	14.25	24.23	27.03	2.80				
		velocity	8.04	8.48	7.82	7.02	7.80	200.7	8.04	8.48	7.82	7.02	8.25	7.40					
FINAL - 2022 Meeting de Paris (Paris, FRA)										<i>Omega Timing (2022) - diamond league race analysis</i>									
date	18-Jun-22	time	6.78	12.52	18.45	24.57	30.85	37.37	44.28	51.78	51.78	3 / 7							
reaction time	0.147	interval		5.74	5.93	6.12	6.28	6.52	6.91	7.50		# of strides	12.52	12.05	12.80	14.41	24.57	27.21	2.64
		velocity	7.37	8.71	8.43	8.17	7.96	7.67	7.24	6.67	7.72		201.5	7.99	8.30	7.81	6.94	8.14	7.35
FINAL - 2021 Meeting de Paris (Paris, FRA)										<i>Omega Timing (2021) - diamond league race analysis</i>									
date	28-Aug-21	time	6.8	12.7	18.9	25.2	31.5	38.1	45.1	52.79	52.79	3 / 8							
reaction time	0.189	interval		5.90	6.20	6.30	6.30	6.60	7.00	7.69		# of strides	12.70	12.50	12.90	14.69	25.20	27.59	2.39
		velocity	7.35	8.47	8.06	7.94	7.94	7.58	7.14	6.50	7.58		204.0	7.87	8.00	7.75	6.81	7.94	7.25
FINAL - 2020 Memorial Van Damme (Brussels, BEL)										<i>Omega Timing (2020) - diamond league race analysis</i>									
date	04-Sep-20	time	7.0	12.9	19.0	25.3	31.9	38.6	45.8	53.64	53.64	1 / 7							
reaction time	0.177	interval		5.90	6.10	6.30	6.60	6.70	7.20	7.84		# of strides	12.90	12.40	13.30	15.04	25.30	28.34	3.04
		velocity	7.14	8.47	8.20	7.94	7.58	7.46	6.94	6.38	7.46		7.75	8.06	7.52	6.65	7.91	7.06	
FINAL - 2019 Meeting de Paris (Paris, FRA)										<i>Omega Timing (2019) - diamond league race analysis</i>									
date	24-Aug-19	time	12.6	24.5	37.6	53.29	53.29	1 / 8											
reaction time	0.172	interval		11.9	13.1	15.7		# of strides	12.60	11.90	13.10	15.69	24.50	28.79	4.29				
		velocity	7.94	8.40	7.63	6.37	7.51	204.7	7.94	8.40	7.63	6.37	8.16	6.95					
Brown, Kaylyn (USA) (2004)										<i>USATF and Karmarush (2024) - USA Olympic trials results and race analysis</i>									
		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
FINAL - 2024 USA Olympic Trials (Eugene, OR)										<i>USATF and Karmarush (2024) - USA Olympic trials results and race analysis</i>									
date	23-Jun-24	time	11.90		23.54		36.29		50.07	50.07	7 / 4								
reaction time		interval			11.64		12.75		13.78		# of strides	11.90	11.64	12.75	13.78	23.54	26.53	2.99	
		velocity	8.40		8.59		7.84		7.26	7.99		8.40	8.59	7.84	7.26	8.50	7.54		
Semi-Final 1 - 2024 USA Olympic Trials (Eugene, OR)										<i>USATF and Karmarush (2024) - USA Olympic trials results and race analysis</i>									
date	22-Jun-24	time	11.98		23.53		36.17		49.71	49.71	8 / 1								
reaction time		interval			11.55		12.64		13.54		# of strides	11.98	11.55	12.64	13.54	23.53	26.18	2.65	
		velocity	8.35		8.66		7.91		7.39	8.05		8.35	8.66	7.91	7.39	8.50	7.64		
Heat 5 - 2024 USA Olympic Trials (Eugene, OR)										<i>USATF and Karmarush (2024) - USA Olympic trials results and race analysis</i>									
date	21-Jun-24	time	11.96		23.48		36.74		51.09	51.09	3 / 3								
reaction time		interval			11.52		13.26		14.35		# of strides	11.96	11.52	13.26	14.35	23.48	27.61	4.13	
		velocity	8.36		8.68		7.54		6.97	7.83	185.0	8.36	8.68	7.54	6.97	8.52	7.24		
Brown, Toya (USA) (1975)										<i>USATF Women's Sprint Development (1996)</i>									
		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
Semi-Final 2 - 1996 USA Olympic Trials (Atlanta, GA)										<i>USATF Women's Sprint Development (1996)</i>									
date	17-Jun-96	time	12.26		24.13		37.16	44.38	52.27	52.27	2 / 6								
reaction time		interval			11.87		13.03	7.22	7.89		# of strides	12.26	11.87	13.03	15.11	24.13	28.14	4.01	
		velocity	8.16		8.42		7.67	6.93	6.34	7.65		8.16	8.42	7.67	6.62	8.29	7.11		
Bruhin, Shoelle (SUI) (1999)										<i>Omega Timing (2024) - diamond league race analysis</i>									
FINAL - 2024 Athletissima (Lausanne, SUI)										<i>Omega Timing (2024) - diamond league race analysis</i>									
date	22-Aug-24	time	7.02	12.97	19.22	25.79	32.51	39.56	46.93	54.97	54.97	1 / 7							
reaction time	0.168	interval		5.95	6.25	6.57	6.72	7.05	7.37	8.04		# of strides	12.97	12.82	13.77	15.41	25.79	29.18	3.39

velocity	7.12	8.40	8.00	7.61	7.44	7.09	6.78	6.22	7.28		7.71	7.80	7.26	6.49	7.75	6.85
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		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Bryant, Rosalyn (USA) (1956)																		
FINAL - 1983 IAAF World Championships (Helsinki, FIN)																		
date	10-Aug-83	time			24.9				50.7	50.66	7 / 8							
reaction time		interval							25.80		# of strides				24.90	25.80	0.90	
		velocity			8.03				7.75	7.90					8.03	7.75		
FINAL - 1976 Olympic Games (Montreal, CAN)																		
date	29-Jul-76	time			23.3		35.8		50.7	50.65	7 / 5							
reaction time		interval					12.50		14.90		# of strides		12.50	14.90	23.30	27.40	4.10	
		velocity			8.58		8.00		6.71	7.90			8.00	6.71	8.58	7.30		
FINAL - 1976 USA Olympic Trials (Eugene, OR)																		
date	25-Jun-76	time			24.8				52.76	52.76	/ 3							
reaction time		interval							27.96		# of strides				24.80	27.96	3.16	
		velocity			8.06				7.15	7.58					8.06	7.15		
Bryzgina, Olga (URS) (1963)																		
FINAL - 1992 Olympic Games (Barcelona, ESP)																		
date	05-Aug-92	time			23.7		35.4		49.1	49.05	3 / 2							
reaction time		interval					11.70		13.70		# of strides		11.70	13.70	23.70	25.40	1.70	
		velocity			8.44		8.55		7.30	8.15			8.55	7.30	8.44	7.87		
FINAL - 1991 IAAF World Championships (Tokyo, JPN)																		
date	27-Aug-91	time			23.49				49.82	49.82	6 / 4							
reaction time		interval							26.33		# of strides				23.49	26.33	2.84	
		velocity			8.51				7.60	8.03					8.51	7.60		
FINAL - 1988 Olympic Games (Seoul, KOR)																		
date	26-Sep-88	time	11.94		23.41		35.47		48.65	48.65	3 / 1							
reaction time	0.215	interval			11.47		12.06		13.18	OR	# of strides	11.94	11.47	12.06	13.18	23.41	25.24	1.83
		velocity	8.38		8.72		8.29		7.59	8.22		8.38	8.72	8.29	7.59	8.54	7.92	
Semi-Final 2 - 1988 Olympic Games (Seoul, KOR)																		
date	25-Sep-88	time		12.19		23.82		36.38	49.33	49.33	8 / 1							
reaction time		interval			11.63		12.56		12.95		# of strides	12.19	11.63	12.56	12.95	23.82	25.51	1.69
		velocity		8.20		8.60		7.96	7.72	8.11		8.20	8.60	7.96	7.72	8.40	7.84	
FINAL - 1987 IAAF World Championships (Rome, ITA)																		
date	31-Aug-87	time		12.34		23.82		36.15	49.38	49.38	2 / 1							
reaction time		interval			11.48		12.33		13.23		# of strides	12.34	11.48	12.33	13.23	23.82	25.56	1.74
		velocity		8.10		8.71		8.11	7.56	8.10		8.10	8.71	8.11	7.56	8.40	7.82	
Semi-Final 2 - 1987 IAAF World Championships (Rome, ITA)																		
date	30-Aug-87	time		12.21		24.09		36.74	50.88	50.88	9 / 2							
reaction time		interval			11.88		12.65		14.14		# of strides	12.21	11.88	12.65	14.14	24.09	26.79	2.70
		velocity		8.19		8.42		7.91	7.07	7.86		8.19	8.42	7.91	7.07	8.30	7.47	
Heat 2 - 1987 IAAF World Championships (Rome, ITA)																		
date	29-Aug-87	time		12.51		24.50		37.22	51.62	51.62	8 / 1							
reaction time		interval			11.99		12.72		14.40		# of strides	12.51	11.99	12.72	14.40	24.50	27.12	2.62
		velocity		7.99		8.34		7.86	6.94	7.75		7.99	8.34	7.86	6.94	8.16	7.37	
FINAL - 1986 European Championships (Stuttgart, FRG)																		
date	28-Aug-86	time		11.82		23.41		35.75	49.67	49.67	/ 2							
reaction time		interval			11.59		12.34		13.92		# of strides	11.82	11.59	12.34	13.92	23.41	26.26	2.85
		velocity		8.46		8.63		8.10	7.18	8.05		8.46	8.63	8.10	7.18	8.54	7.62	
FINAL - 1984 Women's Friendship Games (Praha, TCH)																		
date	16-Aug-84	time		11.82		23.41		35.76	49.55	49.52	/ 3							
reaction time		interval			11.59		12.35		13.79		# of strides	11.82	11.59	12.35	13.79	23.41	26.14	2.73
		velocity		8.46		8.63		8.10	7.25	8.08		8.46	8.63	8.10	7.25	8.54	7.65	
Busch, Sabine (GDR) (1962)																		
FINAL - 1984 East German National Championships (Erfurt, GDR)																		
date	02-Jun-84	time		12.54		24.06		36.08	49.24	49.24	/ 2							
reaction time		interval			11.52		12.02		13.16	PB	# of strides	12.54	11.52	12.02	13.16	24.06	25.18	1.12
		velocity		7.97		8.68		8.32	7.60	8.12		7.97	8.68	8.32	7.60	8.31	7.94	
Bussman, Gaby (FRG) (1959)																		
FINAL - 1983 IAAF World Championships (Helsinki, FIN)																		
date	10-Aug-83	time			23.9				49.8	49.75	5 / 4							
reaction time		interval							25.90		# of strides				23.90	25.90	2.00	
		velocity			8.37				7.72	8.04					8.37	7.72		
Butler, Aaliyah (USA) (2003)																		
Semi-Final 1 - 2024 Olympic Games (Paris, FRA)																		
date	07-Aug-24	time	6.61	12.00	17.57	23.44	29.62	36.18	43.24	51.18	51.18	5 / 6						
reaction time	0.160	interval		5.39	5.57	5.87	6.18	6.56	7.06	7.94	# of strides	12.00	11.44	12.74	15.00	23.44	27.74	4.30
		velocity	7.56	9.28	8.98	8.52	8.09	7.62	7.08	6.30		8.33	8.74	7.85	6.67	8.53	7.21	
Heat 5 - 2024 Olympic Games (Paris, FRA)																		
date	05-Aug-24	time	6.83	12.48	18.29	24.31	30.40	36.67	43.27	50.52	50.52	7 / 2						
reaction time	0.155	interval		5.65	5.81	6.02	6.09	6.27	6.60	7.25	# of strides	12.48	11.83	12.36	13.85	24.31	26.21	1.90

velocity	7.32	8.85	8.61	8.31	8.21	7.97	7.58	6.90	7.92	190.0	8.01	8.45	8.09	7.22	8.23	7.63
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FINAL - 2024 USA Olympic Trials (Eugene, OR)

USATF and Karmarush (2024) - USA Olympic trials results and race analysis

date	23-Jun-24	time	12.01	23.70	36.15	49.71	49.71	5 / 2									
reaction time		interval		11.69	12.45	13.56	PB	# of strides	12.01	11.69	12.45	13.56	23.70	26.01	2.31		
		velocity	8.33	8.55	8.03	7.37	8.05	192.0	8.33	8.55	8.03	7.37	8.44	7.69			

Semi-Final 1 - 2024 USA Olympic Trials (Eugene, OR)

USATF and Karmarush (2024) - USA Olympic trials results and race analysis

date	22-Jun-24	time	12.34	23.74	36.16	50.01	50.01	5 / 2									
reaction time		interval		11.40	12.42	13.85	7.22	# of strides	12.34	11.40	12.42	13.85	23.74	26.27	2.53		
		velocity	8.10	8.77	8.05	7.22	8.00	189.7	8.10	8.77	8.05	7.22	8.42	7.61			

Heat 2 - 2024 USA Olympic Trials (Eugene, OR)

USATF and Karmarush (2024) - USA Olympic trials results and race analysis

date	21-Jun-24	time	12.05	23.59	36.48	50.44	50.44	3 / 1									
reaction time		interval		11.54	12.89	13.96	7.93	# of strides	12.05	11.54	12.89	13.96	23.59	26.85	3.26		
		velocity	8.30	8.67	7.76	7.16	7.93	191.0	8.30	8.67	7.76	7.16	8.48	7.45			

Caicedo, Nicole (ECU) (2000)

50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

Heat 2 - 2023 World Athletics Championships (Budapest, HUN)

Seiko Timing (2023) - world championship race analysis

date	20-Aug-23	time	12.08	23.89	36.97	52.82	52.82	3 / 7									
reaction time	0.227	interval		11.81	13.08	15.85	7.57	# of strides	12.08	11.81	13.08	15.85	23.89	28.93	5.04		
		velocity	8.28	8.47	7.65	6.31	7.57	8.28	8.47	7.65	6.31	8.37	6.91				

Campbell, Juliet (JAM) (1970)

50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

FINAL - 1993 IAAF World Championships (Stuttgart, GER)

Butler (2013) - IAAF world championships statistics handbook- moscow 2013

date	17-Aug-93	time	24.27			51.40	51.40	7 / 7									
reaction time		interval				27.13	7.78	# of strides					24.27	27.13	2.86		
		velocity	8.24			7.37	7.78	8.24					8.24	7.37			

Candra, Kadek Dian (INA) (1998)

50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

FINAL - 2016 East Java National Championships (Surabaya, INA)

Saputri (2016) - analisis kecepatan lari 400m putri final kejuaraan nasional atletik jawa timur terbuka

date	15-Apr-16	time	7.84	15.24	20.98	28.76	37.29	45.48	52.36	62.08	62.08	1 / 5					
reaction time		interval		7.40	5.74	7.78	8.53	8.19	6.88	9.72	7.70	# of strides	15.24	13.52	16.72	16.60	28.76
		velocity	6.38	6.76	8.71	6.43	5.86	6.11	7.27	5.14	6.44	6.56	7.40	5.98	6.02	6.95	6.00

Carabali, Norfalia (COL) (1964)

50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

FINAL - 1993 IAAF World Championships (Stuttgart, GER)

Butler (2013) - IAAF world championships statistics handbook- moscow 2013

date	17-Aug-93	time	24.85			51.92	51.92	8 / --									
reaction time		interval				27.07	DQ	# of strides					24.85	27.07	2.22		
		velocity	8.05			7.39	7.70	8.05					8.05	7.39			

Semi-Final 2 - 1988 Olympic Games (Seoul, KOR)

Brüggemann (1990) - scientific research project at the games of the XXXIV Olympiad, Seoul 1988

date	25-Sep-88	time	12.91	25.13	38.29	52.65	52.65	2 / 8									
reaction time		interval		12.22	13.16	14.36	7.60	# of strides	12.91	12.22	13.16	14.36	25.13	27.52	2.39		
		velocity	7.75	8.18	7.60	6.96	7.60	7.75	8.18	7.60	6.96	7.96	7.27				

Chapple, Jerrika (USA) (1984)

50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

Semi-Final 1 - 2004 USA Olympic Trials (Sacramento, CA)

USATF Women's Sprint Development (2004)

date	15-Jul-04	time	12.73	24.81	31.13	37.84	44.60	52.08	52.08	1 / 5							
reaction time		interval		12.08	6.32	6.71	6.76	7.48	7.68	# of strides	12.73	12.08	13.03	14.24	24.81	27.27	2.46
		velocity	7.86	8.28	7.91	7.45	7.40	6.68	7.68	7.86	8.28	7.67	7.02	8.06	7.33		

Heat 2 - 2004 USA Olympic Trials (Sacramento, CA)

USATF Women's Sprint Development (2004)

date	12-Jul-04	time	12.46	24.35	37.33	44.10	52.16	52.16	7 / 4								
reaction time		interval		11.89	12.98	6.77	8.06	7.67	# of strides	12.46	11.89	12.98	14.83	24.35	27.81	3.46	
		velocity	8.03	8.41	7.70	7.39	6.20	7.67	195.0	8.03	8.41	7.70	6.74	8.21	7.19		

Cheeseborough, Chandra (USA) (195)

50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

FINAL - 1984 Olympic Games (Los Angeles, CA)

Adams (1984) - 1984 olympic games - 200m & 400m

date	06-Aug-84	time	24.2			49.05	49.05	7 / 2									
reaction time	0.212	interval				24.85	PB	# of strides					24.20	24.85	0.65		
		velocity	8.26			8.05	8.15	192.0					8.26	8.05			

FINAL - 1984 USA Olympic Trials (Los Angeles, CA)

Hymans (2008) - history of the US olympic trials - track and field

date	19-Jun-84	time	23.8			49.3	49.28	5 / 1									
reaction time		interval				25.50	NR	# of strides					23.80	25.50	1.70		
		velocity	8.40			7.84	8.12	8.40					8.40	7.84			

Chen Jingwen (CHN) (1990)

50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

FINAL - 2017 Chinese National Games (Tianjin, CHN)

Yang (2019) - analysis of the characteristics of Yang Huizhen's running speed in 400m

date	03-Sep-17	time	13.13	25.69	39.32	54.17	54.17	1 / 6									
reaction time		interval		12.56	13.63	14.85	7.38	# of strides	13.13	12.56	13.63	14.85	25.69	28.48	2.79		
		velocity	7.62	7.96	7.34	6.73	7.38	207.0	7.62	7.96	7.34	6.73	7.79	7.02			

Cheng Chong (CHN) (1992)

50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

FINAL - 2017 Chinese National Games (Tianjin, CHN)

Yang (2019) - analysis of the characteristics of Yang Huizhen's running speed in 400m

date	03-Sep-17	time	13.16	25.09	38.09	52.45	52.45	1 / 2									
reaction time		interval		11.93	13.00	14.36	PB	# of strides	13.16	11.93	13.00	14.36	25.09	27.36	2.27		
		velocity	7.60	8.38	7.69	6.96	7.63	200.0	7.60	8.38	7.69	6.96	7.97	7.31			

Chiba, Asami (JPN) (1985)

50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

Heat 2 - 2016 Japanese National Championships (Nagoya, JPN)

Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016

date	24-Jun-16	time	6.96	12.96	19.11	25.53	32.31	39.48	47.18	55.80	55.80	4 / 7					
reaction time	0.228	interval		6.00	6.15	6.42	6.78	7.17	7.70	8.62	7.17	# of strides	12.96	12.57	13.95	16.32	25.53
		velocity	7.18	8.33	8.13	7.79	7.37	6.97	6.49	5.80	7.17	7.72	7.96	7.17	6.13	7.83	6.61

FINAL - 2015 National Sports Festival (Wayakama, JPN)											<i>Kohei (2015) - 400m race analysis of male & female at major 2015 competitions</i>								
date	04-Oct-15	time	7.01	13.24	19.84	26.64	33.45	40.27	47.36	54.74	54.74	7 / 3							
reaction time		interval	6.23	6.60	6.80	6.81	6.82	7.09	7.38			# of strides	13.24	13.40	13.63	14.47	26.64	28.10	1.46
		velocity	7.13	8.03	7.58	7.35	7.34	7.33	7.05	6.78	7.31		7.55	7.46	7.34	6.91	7.51	7.12	
FINAL - 2015 Japanese National Championships (Niigata, JPN)											<i>Kohei (2015) - 400m race analysis of male & female at major 2015 competitions</i>								
date	27-Jun-15	time	6.85	12.71	18.79	25.07	31.87	38.83	45.97	53.65	53.65	9 / 5							
reaction time	0.193	interval	5.86	6.08	6.28	6.80	6.96	7.14	7.68			# of strides	12.71	12.36	13.76	14.82	25.07	28.58	3.51
		velocity	7.30	8.53	8.22	7.96	7.35	7.18	7.00	6.51	7.46	202.5	7.87	8.09	7.27	6.75	7.98	7.00	
Tanno, Asami (JPN) (1985)											<i>Graubner (2009) - biomechanical analyses at the 12th IAAF world championships</i>								
Heat 6 - 2009 IAAF World Championships (Berlin, GER)											<i>Graubner (2009) - biomechanical analyses at the 12th IAAF world championships</i>								
date	15-Aug-09	time	12.81			25.36	38.66	53.30	53.30	53.30	53.30	2 / 5							
reaction time	0.161	interval				12.55	13.30	14.64				# of strides	12.81	12.55	13.30	14.64	25.36	27.94	2.58
		velocity	7.81			7.97	7.52	6.83	7.50			7.81	7.97	7.52	6.83	7.89	7.16		
Semi-Final 1 - 2007 IAAF World Championships (Osaka, JPN)											<i>Mochida (2008) - biomechanical analysis of the 400m final race at the 2007 world championships in athletics</i>								
date	27-Aug-07	time	6.84	12.58	18.54	24.76	31.06	37.63	44.57	51.81	51.81	3 / 8							
reaction time	0.199	interval	5.74	5.96	6.22	6.30	6.57	6.94	7.24			# of strides	12.58	12.18	12.87	14.18	24.76	27.05	2.29
		velocity	7.31	8.71	8.39	8.04	7.94	7.61	7.20	6.91	7.72	203.7	7.95	8.21	7.77	7.05	8.08	7.39	
FINAL - 2006 Seiko Super Grand Prix (Yokohama, JPN)											<i>Hisashi (2007) - Super Grand Prix 2006 - sprinting speed changes in the 400m</i>								
date	24-Sep-06	time	6.8	12.6	18.6	24.7	31.2	38.2	45.6	53.54	53.54	5 / 2							
reaction time		interval	5.80	6.00	6.10	6.50	7.00	7.40	7.94			# of strides	12.60	12.10	13.50	15.34	24.70	28.84	4.14
		velocity	7.35	8.62	8.33	8.20	7.69	7.14	6.76	6.30	7.47		7.94	8.26	7.41	6.52	8.10	6.93	
FINAL - 2005 Seiko Super Grand Prix (Yokohama, JPN)											<i>Masaaki (2006) - time analysis in the 400m at the Seiko Super Grand Prix</i>								
date	19-Sep-05	time	12.83			25.14	37.80	44.62	51.80	51.80	51.80	4 / 4							
reaction time		interval				12.31	12.66	6.82	7.18	NR		# of strides	12.83	12.31	12.66	14.00	25.14	26.66	1.52
		velocity	7.79			8.12	7.90	7.33	6.96	7.72		7.79	8.12	7.90	7.14	7.96	7.50		
Chigbolu, Maria Benedicta (ITA) (1981)											<i>Yamamoto (2015) - race analysis of 15th World Championships 400m - focusing on men's semis and women's prelims</i>								
Heat 3 - 2015 IAAF World Championships (Beijing, CHN)											<i>Yamamoto (2015) - race analysis of 15th World Championships 400m - focusing on men's semis and women's prelims</i>								
date	24-Aug-15	time	6.70	12.38	18.34	24.51	30.86	37.50	44.57	52.48	52.48	6 / 5							
reaction time	0.190	interval	5.68	5.96	6.17	6.35	6.64	7.07	7.91			# of strides	12.38	12.13	12.99	14.98	24.51	27.97	3.46
		velocity	7.46	8.80	8.39	8.10	7.87	7.53	7.07	6.32	7.62		8.08	8.24	7.70	6.68	8.16	7.15	
Christianti, Emma Anita (INA) (1997)											<i>Saputri (2016) - analisis kecepatan lari 400m putri final kejuaraan nasional atletik jawa timur terbuka</i>								
FINAL - 2016 East Java National Championships (Surabaya, INA)											<i>Saputri (2016) - analisis kecepatan lari 400m putri final kejuaraan nasional atletik jawa timur terbuka</i>								
date	15-Apr-16	time	7.11	14.27	20.46	27.56	35.66	43.44	50.03	59.81	59.81	1 / 4							
reaction time		interval	7.16	6.19	7.10	8.10	7.78	6.59	9.78			# of strides	14.27	13.29	15.88	16.37	27.56	32.25	4.69
		velocity	7.03	6.98	8.08	7.04	6.17	6.43	7.59	5.11	6.69		7.01	7.52	6.30	6.11	7.26	6.20	
Ćirić, Maja (SRB) (1989)											<i>European Athletics (2024) - 2024 european athletics championships - results book</i>								
Heat 3 - 2024 European Athletics Championships (Roma, ITA)											<i>European Athletics (2024) - 2024 european athletics championships - results book</i>								
date	08-Jun-24	time	12.59			24.85	38.18		52.96	52.96	5 / 6								
reaction time	0.239	interval				12.26	13.33		14.78			# of strides	12.59	12.26	13.33	14.78	24.85	28.11	3.26
		velocity	7.94			8.16	7.50		6.77	7.55		7.94	8.16	7.50	6.77	8.05	7.11		
Claes, Hanne (BEL) (1991)											<i>Omega Timing (2024) - diamond league race analysis</i>								
Invitational - 2024 Memorial van damme (Brussels, BEL)											<i>Omega Timing (2024) - diamond league race analysis</i>								
date	13-Sep-24	time	6.84	12.62	18.65	24.91	31.34	37.96	44.77	52.03	52.03	3 / 5							
reaction time	0.219	interval	5.78	6.03	6.26	6.43	6.62	6.81	7.26			# of strides	12.62	12.29	13.05	14.07	24.91	27.12	2.21
		velocity	7.31	8.65	8.29	7.99	7.78	7.55	7.34	6.89	7.69	193.7	7.92	8.14	7.66	7.11	8.03	7.37	
Claesson, Jonna (SWE) (2000)											<i>Omega Timing (2024) - diamond league race analysis</i>								
FINAL - 2024 Bauhaus Galan (Stockholm, SWE)											<i>Omega Timing (2024) - diamond league race analysis</i>								
date	02-Jun-24	time	7.05	12.92	18.94	25.38	32.15	39.17	46.54	54.57	54.57	4 / 6							
reaction time	0.222	interval	5.87	6.02	6.44	6.77	7.02	7.37	8.03			# of strides	12.92	12.46	13.79	15.40	25.38	29.19	3.81
		velocity	7.09	8.52	8.31	7.76	7.39	7.12	6.78	6.23	7.33		7.74	8.03	7.25	6.49	7.88	6.85	
Clark, Zoey (GBR) (1994)											<i>Longines Timing (2022) - commonwealth games race analysis</i>								
FINAL - 2022 Commonwealth Games (Birmingham, GBR)											<i>Longines Timing (2022) - commonwealth games race analysis</i>								
date	07-Aug-22	time	6.6	12.2	18.1	24.2	30.6	37.3	44.3	51.90	51.90	2 / 8							
reaction time	0.169	interval	5.60	5.90	6.10	6.40	6.70	7.00	7.60			# of strides	12.20	12.00	13.10	14.60	24.20	27.70	3.50
		velocity	7.58	8.93	8.47	8.20	7.81	7.46	7.14	6.58	7.71	204.0	8.20	8.33	7.63	6.85	8.26	7.22	
Semi-Final 1 - 2022 Commonwealth Games (Birmingham, GBR)											<i>Longines Timing (2022) - commonwealth games race analysis</i>								
date	05-Aug-22	time	6.7	12.2	18.3	24.5	31.0	37.7	44.5	51.99	51.99	7 / 4							
reaction time	0.153	interval	5.50	6.10	6.20	6.50	6.70	6.80	7.49			# of strides	12.20	12.30	13.20	14.29	24.50	27.49	2.99
		velocity	7.46	9.09	8.20	8.06	7.69	7.46	7.35	6.68	7.69	201.7	8.20	8.13	7.58	7.00	8.16	7.28	
FINAL - 2022 Müller Birmingham Diamond League (Birmingham, GBR)											<i>Omega Timing (2022) - diamond league race analysis</i>								
date	21-May-22	time	6.6	12.1	18.0	24.1	30.6	37.5	44.4	51.88	51.88	4 / 1							
reaction time	0.159	interval	5.50	5.90	6.10	6.50	6.90	6.90	7.48			# of strides	12.10	12.00	13.40	14.38	24.10	27.78	3.68
		velocity	7.58	9.09	8.47	8.20	7.69	7.25	7.25	6.68	7.71		8.26	8.33	7.46	6.95	8.30	7.20	
B Race - 2021 Müller British Grand Prix (Gateshead, GBR)											<i>Omega Timing (2021) - diamond league race analysis</i>								
date	13-Jun-21	time	6.8	12.5	18.5	24.8	31.4	38.2	45.0	52.13	52.13	3 / 2							
reaction time	0.145	interval	5.70	6.00	6.30	6.60	6.80	6.80	7.13			# of strides	12.50	12.30	13.40	13.93	24.80	27.33	2.53
		velocity	7.35	8.77	8.33	7.94	7.58	7.35	7.35	7.01	7.67		8.00	8.13	7.46	7.18	8.06	7.32	
FINAL - 2018 Müller Anniversary Games (London, GBR)											<i>Omega Timing (2018) - diamond league race analysis</i>								
date	22-Jul-18	time	12.7			24.8	37.6		51.36	51.36	9 / 7								
reaction time	0.142	interval				12.1	12.8		13.8	PB		# of strides	12.70	12.10	12.80	13.76	24.80	26.56	1.76

velocity	7.87	8.26	7.81	7.27	7.79	7.87	8.26	7.81	7.27	8.06	7.53
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Semi-Final 3 - 2017 IAAF World Championships (London, GBR)

date	07-Aug-17	time	12.41	24.38	37.38	44.23	51.61	51.81	<i>Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Women's 400m</i>							
reaction time	0.188	interval		11.97	13.00	6.85	7.38	PB	# of strides	12.41	11.97	13.00	14.23	24.38	27.23	2.85
		velocity	8.06	8.35	7.69	7.30	6.78	7.72	# of strides	206.5	8.06	8.35	7.69	7.03	8.20	7.34

Clay, Julian (USA) (1977)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
FINAL - 2005 USATF National Championship (Carson, CA)																		
<i>USATF Women's Sprint Development (2005)</i>																		
date	25-Jun-05	time	12.31	18.12	24.41	30.78	37.29	42.79	51.70	51.70	2 / 7							
reaction time		interval		5.81	6.29	6.37	6.51	5.50	8.91		# of strides	12.31	12.10	12.88	14.41	24.41	27.29	2.88
		velocity	8.12	8.61	7.95	7.85	7.68	9.09	5.61	7.74	# of strides	8.12	8.26	7.76	6.94	8.19	7.33	

FINAL - 2003 USATF National Championship (Palo Alto, CA)

date	21-Jun-03	time			38.41	45.11	52.47	52.47		9 / 7					<i>USATF Women's Sprint Development (2003)</i>		
reaction time		interval				6.70	7.36			# of strides			14.06				
		velocity			7.81	7.46	6.79	7.62					7.11				

Semi-Final 2 - 2003 USATF National Championship (Palo Alto, CA)

date	20-Jun-03	time		24.12		37.67	44.71	52.88	52.88		6 / 4				<i>USATF Women's Sprint Development (2003)</i>		
reaction time		interval				13.55	7.04	8.17			# of strides		13.55	15.21	24.12	28.76	4.64
		velocity		8.29		7.38	7.10	6.12	7.56				7.38	6.57	8.29	6.95	

Clayton, Rushell (JAM) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential		
National FINAL - 2022 Memorial van Damme (Brussels, BEL)																			
<i>Omega Timing (2022) - diamond league race analysis</i>																			
date	02-Sep-22	time	6.98	12.64	18.53	24.69	31.03	37.71	44.69	52.02	52.02	8 / 3							
reaction time	0.233	interval		5.66	5.89	6.16	6.34	6.68	6.98	7.33	PB	# of strides	12.64	12.05	13.02	14.31	24.69	27.33	2.64
		velocity	7.16	8.83	8.49	8.12	7.89	7.49	7.16	6.82	7.69	# of strides	7.91	8.30	7.68	6.99	8.10	7.32	

Coetzee, Miranda (RSA) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential		
Semi-Final 3 - 2024 Olympic Games (Paris, FRA)																			
<i>Paris 2024 Olympic Games - Results Book (2024)</i>																			
date	07-Aug-24	time	6.87	12.54	18.28	24.32	30.63	37.13	44.03	51.60	51.60	3 / 8							
reaction time	0.217	interval		5.67	5.74	6.04	6.31	6.50	6.90	7.57		# of strides	12.54	11.78	12.81	14.47	24.32	27.28	2.96
		velocity	7.28	8.82	8.71	8.28	7.92	7.69	7.25	6.61	7.75	# of strides	193.0	7.97	8.49	7.81	6.91	8.22	7.33

Repechage 2 - 2024 Olympic Games (Paris, FRA)

date	06-Aug-24	time	6.71	12.35	18.05	24.00	30.20	36.52	43.22	50.66	50.66	8 / 2							
reaction time	0.164	interval		5.64	5.70	5.95	6.20	6.32	6.70	7.44	PB	# of strides	12.35	11.65	12.52	14.14	24.00	26.66	2.66
		velocity	7.45	8.87	8.77	8.40	8.06	7.91	7.46	6.72	7.90	# of strides	191.0	8.10	8.58	7.99	7.07	8.33	7.50

Heat 6 - 2024 Olympic Games (Paris, FRA)

date	05-Aug-24	time	6.56	11.96	17.52	23.35	29.53	36.10	43.39	51.58	51.58	2 / 4							
reaction time	0.149	interval		5.40	5.56	5.83	6.18	6.57	7.29	8.19		# of strides	11.96	11.39	12.75	15.48	23.35	28.23	4.88
		velocity	7.62	9.26	8.99	8.58	8.09	7.61	6.86	6.11	7.75	# of strides	199.0	8.36	8.78	7.84	6.46	8.57	7.08

Heat 1 - 2023 World Athletics Championships (Budapest, HUN)

date	20-Aug-23	time	12.34	24.06		37.01		52.30	52.30		3 / 7				<i>Seiko Timing (2023) - world championship race analysis</i>			
reaction time	0.184	interval		11.72		12.95		15.29			# of strides	12.34	11.72	12.95	15.29	24.06	28.24	4.18
		velocity	8.10	8.53		7.72		6.54	7.65		# of strides	196.0	8.10	8.53	7.72	6.54	8.31	7.08

Heat 1 - 2022 World Athletics Championships (Eugene, OR)

date	17-Jul-22	time	12.43	27.48		38.02		53.30	53.30		2 / 7			<i>Timing by Seiko (2022) - world athletics championships race analysis</i>				
reaction time	0.137	interval		15.05		10.54		15.28			# of strides	12.43	15.05	10.54	15.28	27.48	25.82	-1.66
		velocity	8.05	6.64		9.49		6.54	7.50		# of strides	197.0	8.05	6.64	9.49	6.54	7.28	7.75

Cofil, Fiordaliza (DOM) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential		
FINAL - 2022 Weltklasse (Zürich, SUI)																			
<i>Omega Timing (2022) - diamond league race analysis</i>																			
date	08-Sep-22	time	6.78	12.47	18.30	24.23	30.30	36.57	43.10	49.93	49.93	4 / 2							
reaction time	0.162	interval		5.69	5.83	5.93	6.07	6.27	6.53	6.83		# of strides	12.47	11.76	12.34	13.36	24.23	25.70	1.47
		velocity	7.37	8.79	8.58	8.43	8.24	7.97	7.66	7.32	8.01	# of strides	8.02	8.50	8.10	7.49	8.25	7.78	

FINAL - 2022 Memorial van Damme (Brussels, BEL)

date	02-Sep-22	time	6.75	12.45	18.22	24.12	30.18	36.43	42.86	49.80	49.80	2 / 1			<i>Omega Timing (2022) - diamond league race analysis</i>				
reaction time	0.160	interval		5.70	5.77	5.90	6.06	6.25	6.43	6.94	PB	# of strides	12.45	11.67	12.31	13.37	24.12	25.68	1.56
		velocity	7.41	8.77	8.67	8.47	8.25	8.00	7.78	7.20	8.03	# of strides	8.03	8.57	8.12	7.48	8.29	7.79	

FINAL - 2022 Athletissima (Lausanne, SUI)

date	26-Aug-22	time	6.64	12.23	18.00	24.02	30.12	36.51	43.02	50.13	50.13	8 / 3			<i>Omega Timing (2022) - diamond league race analysis</i>				
reaction time	0.168	interval		5.59	5.77	6.02	6.10	6.39	6.51	7.11	PB	# of strides	12.23	11.79	12.49	13.62	24.02	26.11	2.09
		velocity	7.53	8.94	8.67	8.31	8.20	7.82	7.68	7.03	7.98	# of strides	189.5	8.18	8.48	8.01	7.34	8.33	7.66

FINAL - 2022 Herculis Meeting International d'Athlétisme (Monaco, MON)

date	10-Aug-22	time	6.74	12.43	18.25	24.31	30.51	36.80	43.39	50.55	50.55	3 / 5			<i>Omega Timing (2022) - diamond league race analysis</i>				
reaction time	0.166	interval		5.69	5.82	6.06	6.20	6.29	6.59	7.16		# of strides	12.43	11.88	12.49	13.75	24.31	26.24	1.93
		velocity	7.42	8.79	8.59	8.25	8.06	7.95	7.59	6.98	7.91	# of strides	8.05	8.42	8.01	7.27	8.23	7.62	

FINAL - 2022 Silesia Kamila Skolimowska Memorial (Chorzów, POL)

date	06-Aug-22	time	6.76	12.41	18.38	24.74	31.27	37.75	44.23	51.36	51.36	9 / 6			<i>Omega Timing (2022) - diamond league race analysis</i>				
reaction time	0.190	interval		5.65	5.97	6.36	6.53	6.48	6.48	7.13		# of strides	12.41	12.33	13.01	13.61	24.74	26.62	1.88
		velocity	7.40	8.85	8.38	7.86	7.66	7.72	7.72	7.01	7.79	# of strides	8.06	8.11	7.69	7.35	8.08	7.51	

FINAL - 2022 World Athletics Championships (Eugene, OR)

date	22-Jul-22	time	12.12	23.71		36.65		50.57	50.57		4 / 6			<i>Timing by Seiko (2022) - world athletics championships race analysis</i>				
reaction time	0.173	interval		11.59		12.94		13.92			# of strides	12.12	11.59	12.94	13.92	23.71	26.86	3.15
		velocity	8.25	8.63		7.73		7.18	7.91		# of strides	190.7	8.25	8.63	7.73	7.18	8.44	7.45

Semi-Final 2 - 2022 World Athletics Championships (Eugene, OR)											<i>Timing by Seiko (2022) - world athletics championships race analysis</i>								
date	20-Jul-22	time	12.18	23.83	36.67	50.14	50.14	5 / 1											
reaction time	0.158	interval		11.65	12.84	13.47	PB	# of strides	12.18	11.65	12.84	13.47	23.83	26.31	2.48				
		velocity	8.21	8.58	7.79	7.42	7.98		191.0	8.21	8.58	7.79	7.42	8.39	7.60				
Heat 5 - 2022 World Athletics Championships (Eugene, OR)											<i>Timing by Seiko (2022) - world athletics championships race analysis</i>								
date	17-Jul-22	time	12.60	24.75	37.77	51.19	51.19	7 / 1											
reaction time	0.214	interval		12.15	13.02	13.42		# of strides	12.60	12.15	13.02	13.42	24.75	26.44	1.69				
		velocity	7.94	8.23	7.68	7.45	7.81		192.0	7.94	8.23	7.68	7.45	8.08	7.56				
FINAL - 2022 Meeting de Paris (Paris, FRA)											<i>Omega Timing (2022) - diamond league race analysis</i>								
date	18-Jun-22	time	6.77	12.39	18.19	24.23	30.51	37.01	43.69	50.76	50.76	7 / 4							
reaction time	0.191	interval		5.62	5.80	6.04	6.28	6.50	6.68	7.07		# of strides	12.39	11.84	12.78	13.75	24.23	26.53	2.30
		velocity	7.39	8.90	8.62	8.28	7.96	7.69	7.49	7.07	7.88		193.2	8.07	8.45	7.82	7.27	8.25	7.54
Colander-Richardson, LaTasha (USA) 50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential											<i>Hymans (2008) - history of the US olympic trials - track and field</i>								
FINAL - 2000 USA Olympic Trials (Sacramento, CA)																			
date	16-Jul-00	time	12.3	23.7	35.9	49.87	49.87	7 / 1											
reaction time		interval		11.40	12.20	13.97	PB	# of strides	12.30	11.40	12.20	13.97	23.70	26.17	2.47				
		velocity	8.13	8.77	8.20	7.16	8.02		8.13	8.77	8.20	7.16	8.44	7.64					
Cole, Leslie (USA) (1987) 50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential											<i>USATF Women's Sprint Development with HPC (2008)</i>								
Quarter-Final 4 - 2008 USA Olympic Trials (Eugene, OR)																			
date	29-Jun-08	time	19.20	25.60	31.88	38.51	45.54	53.19	53.19	4 / 6									
reaction time		interval		6.40	6.28	6.63	7.03	7.65			# of strides	12.91	14.68	25.60	27.59	1.99			
		velocity		7.81	7.81	7.96	7.54	7.11	6.54	7.52		7.75	6.81	7.81	7.25				
Coleman, Kenyata (USA) (1986) 50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential											<i>USATF Women's Sprint Development with HPC (2008)</i>								
Quarter-Final 4 - 2008 USA Olympic Trials (Eugene, OR)																			
date	29-Jun-08	time	12.35	18.89	25.30	31.68	38.51	45.62	52.92	52.92	2 / 4								
reaction time		interval		6.54	6.41	6.38	6.83	7.11	7.30		# of strides	12.35	12.95	13.21	14.41	25.30	27.62	2.32	
		velocity	8.10	7.65	7.80	7.84	7.32	7.03	6.85	7.56		8.10	7.72	7.57	6.94	7.91	7.24		
FINAL - 2005 USATF National Junior Championships (Carson, CA)											<i>USATF Women's Sprint Development (2005)</i>								
date	25-Jun-05	time	13.21	19.33	32.10	38.79	45.96	53.68	53.68	1 / 7 6									
reaction time		interval		6.12	12.77	6.69	7.17	7.72		# of strides	13.21		14.89	6.72					
		velocity	7.57	8.17	7.83	7.47	6.97	6.48	7.45		7.57		6.72						
Collins, Michelle (USA) (1971) 50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential											<i>Hymans (2008) - history of the US olympic trials - track and field</i>								
FINAL - 2000 USA Olympic Trials (Sacramento, CA)																			
date	16-Jul-00	time	12.3	23.5	35.7	50.29	50.29	4 / 3											
reaction time		interval		11.20	12.20	14.59		# of strides	12.30	11.20	12.20	14.59	23.50	26.79	3.29				
		velocity	8.13	8.93	8.20	6.85	7.95		8.13	8.93	8.20	6.85	8.51	7.47					
Semi-Final 2 - 1996 USA Olympic Trials (Atlanta, GA)											<i>USATF Women's Sprint Development (1996)</i>								
date	17-Jun-96	time	12.68	24.70	37.35	44.28	52.03	52.03	8 / 5										
reaction time		interval		12.02	12.65	6.93	7.75		# of strides	12.68	12.02	12.65	14.68	24.70	27.33	2.63			
		velocity	7.89	8.32	7.91	7.22	6.45	7.69		7.89	8.32	7.91	6.81	8.10	7.32				
Connolly, Ella (AUS) (2000) 50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential											<i>Koyama (2018) - research on athlete performance and technique- 2018 data book</i>								
FINAL - 2018 IAAF World Junior Championships (Tampere, FIN)																			
date	12-Jul-18	time	6.63	12.37	18.33	24.62	31.15	37.89	45.01	52.82	52.82	5 / 4							
reaction time	0.186	interval		5.74	5.96	6.29	6.53	6.74	7.12	7.81		# of strides	12.37	12.25	13.27	14.93	24.62	28.20	3.58
		velocity	7.54	8.71	8.39	7.95	7.66	7.42	7.02	6.40	7.57		192.0	8.08	8.16	7.54	6.70	8.12	7.09
Constantine, Kyra (CAN) (1998) 50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential											<i>Seiko Timing (2023) - world championship race analysis</i>								
Heat 2 - 2023 World Athletics Championships (Budapest, HUN)																			
date	20-Aug-23	time	12.61	24.70	37.81	52.28	52.28	8 / 6											
reaction time	0.171	interval		12.09	13.11	14.47		# of strides	12.61	12.09	13.11	14.47	24.70	27.58	2.88				
		velocity	7.93	8.27	7.63	6.91	7.65		7.93	8.27	7.63	6.91	8.10	7.25					
FINAL - 2022 Commonwealth Games (Birmingham, GBR)											<i>Longines Timing (2022) - commonwealth games race analysis</i>								
date	07-Aug-22	time	6.8	12.6	18.7	25.0	31.2	37.8	44.6	51.75	51.75	7 / 7							
reaction time	0.129	interval		5.80	6.10	6.30	6.20	6.60	6.80	7.15		# of strides	12.60	12.40	12.80	13.95	25.00	26.75	1.75
		velocity	7.35	8.62	8.20	7.94	8.06	7.58	7.35	6.99	7.73		176.2	7.94	8.06	7.81	7.17	8.00	7.48
Semi-Final 2 - 2022 Commonwealth Games (Birmingham, GBR)											<i>Longines Timing (2022) - commonwealth games race analysis</i>								
date	05-Aug-22	time	6.7	12.3	18.2	24.4	30.9	37.7	44.5	51.78	51.78	7 / 2							
reaction time	0.138	interval		5.60	5.90	6.20	6.50	6.80	6.80	7.28		# of strides	12.30	12.10	13.30	14.08	24.40	27.38	2.98
		velocity	7.46	8.93	8.47	8.06	7.69	7.35	7.35	6.87	7.72		177.0	8.13	8.26	7.52	7.10	8.20	7.30
Cook, Kathy (GBR) (1960) 50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential											<i>Adams (1984) - 1984 olympic games - 200m & 400m</i>								
FINAL - 1984 Olympic Games (Los Angeles, CA)																			
date	06-Aug-84	time		23.4		49.43	49.43	6 / 3											
reaction time	0.208	interval				26.03	NR	# of strides					23.40	26.03	2.63				
		velocity		8.55		7.68	8.09		178.0				8.55	7.68					
Couckuyt, Paulien (BEL) (1997) 50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential											<i>Omega Timing (2022) - diamond league race analysis</i>								
National FINAL - 2022 Memorial van Damme (Brussels, BEL)																			
date	02-Sep-22	time	6.91	12.78	18.93	25.38	32.03	38.86	45.97	53.45	53.45	3 / 7							
reaction time	0.204	interval		5.87	6.15	6.45	6.65	6.83	7.11	7.48		# of strides	12.78	12.60	13.48	14.59	25.38	28.07	2.69
		velocity	7.24	8.52	8.13	7.75	7.52	7.32	7.03	6.68	7.48		7.82	7.94	7.42	6.85	7.88	7.13	
FINAL - 2021 Memorial van Damme (Brussels, BEL)											<i>Omega Timing (2021) - diamond league race analysis</i>								

date	03-Sep-21	time	6.8	12.6	18.6	24.9	31.6	38.5	45.8	53.68	53.68	7 / 4															
reaction time	0.175	interval		5.80	6.00	6.30	6.70	6.90	7.30	7.88		# of strides	12.60	12.30	13.60	15.18	24.90	28.78	3.88								
		velocity	7.35	8.62	8.33	7.94	7.46	7.25	6.85	6.35	7.45	198.0	7.94	8.13	7.35	6.59	8.03	6.95									
FINAL - 2020 Memorial Van Damme (Brussels, BEL)												<i>Omega Timing (2020) - diamond league race analysis</i>															
date	04-Sep-20	time	6.8	12.6	18.7	25.1	31.7	38.5	45.6	53.08	53.08	6 / 6															
reaction time	0.149	interval		5.80	6.10	6.40	6.60	6.80	7.10	7.48		# of strides	12.60	12.50	13.40	14.58	25.10	27.98	2.88								
		velocity	7.35	8.62	8.20	7.81	7.58	7.35	7.04	6.68	7.54	201.0	7.94	8.00	7.46	6.86	7.97	7.15									
Cousins, Jessica (USA) (1985)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential									
Quarter-Final 3 - 2008 USA Olympic Trials (Eugene, OR)																				<i>USATF Women's Sprint Development with HPC (2008)</i>							
date	29-Jun-08	time		12.88	18.67	24.75	31.30	37.88	45.02	52.63	52.63	2 / 5															
reaction time		interval			5.79	6.08	6.55	6.58	7.14	7.61		# of strides	12.88	11.87	13.13	14.75	24.75	27.88	3.13								
		velocity		7.76	8.64	8.22	7.63	7.60	7.00	6.57	7.60	198.0	7.76	8.42	7.62	6.78	8.08	7.17									
Coutinho, Geisa (BRA) (1980)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential									
Heat 2 - 2015 IAAF World Championships (Beijing, CHN)																				<i>Yamamoto (2015) - race analysis of 15th World Championships 400m- focusing on men's semis and women's prelims</i>							
date	24-Aug-15	time	6.90	12.74	18.77	25.08	31.52	38.17	45.22	52.72	52.72	5 / 6															
reaction time	0.187	interval		5.84	6.03	6.31	6.44	6.65	7.05	7.50		# of strides	12.74	12.34	13.09	14.55	25.08	27.64	2.56								
		velocity	7.25	8.56	8.29	7.92	7.76	7.52	7.09	6.67	7.59	198.0	7.85	8.10	7.64	6.87	7.97	7.24									
Cox, Crystal (USA) (1979)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential									
FINAL - 2006 USATF National Championship (Indianapolis, IN)																				<i>USATF Women's Sprint Development (2006)</i>							
date	24-Jun-06	time		11.82	17.50	23.69	29.85	36.45	43.63	51.34	51.34	5 / 6															
reaction time		interval			5.68	6.19	6.16	6.60	7.18	7.71		# of strides	11.82	11.87	12.76	14.89	23.69	27.65	3.96								
		velocity		8.46	8.80	8.08	8.12	7.58	6.96	6.49	7.79	198.0	8.46	8.42	7.84	6.72	8.44	7.23									
FINAL - 2004 USA Olympic Trials (Sacramento, CA)																				<i>USATF Women's Sprint Development (2004)</i>							
date	17-Jul-04	time		12.30		23.64	29.73	36.25	42.91	50.52	50.52	2 / 4															
reaction time		interval				11.34	6.09	6.52	6.66	7.61	PB	# of strides	12.30	11.34	12.61	14.27	23.64	26.88	3.24								
		velocity		8.13		8.82	8.21	7.67	7.51	6.57	7.92	198.0	8.13	8.82	7.93	7.01	8.46	7.44									
Semi-Final 1 - 2004 USA Olympic Trials (Sacramento, CA)																				<i>USATF Women's Sprint Development (2004)</i>							
date	15-Jul-04	time		12.38		23.92	30.01	36.49	43.46	51.23	51.23	5 / 4															
reaction time		interval				11.54	6.09	6.48	6.97	7.77	PB	# of strides	12.38	11.54	12.57	14.74	23.92	27.31	3.39								
		velocity		8.08		8.67	8.21	7.72	7.17	6.44	7.81	190.7	8.08	8.67	7.96	6.78	8.36	7.32									
Heat 1 - 2004 USA Olympic Trials (Sacramento, CA)																				<i>USATF Women's Sprint Development (2004)</i>							
date	12-Jul-04	time		12.61		24.22		37.12	43.99	51.44	51.44	7 / 2															
reaction time		interval				11.61		12.90	6.87	7.45	PB	# of strides	12.61	11.61	12.90	14.32	24.22	27.22	3.00								
		velocity		7.93		8.61		7.75	7.28	6.71	7.78	198.0	7.93	8.61	7.75	6.98	8.26	7.35									
FINAL - 2003 USATF National Championship (Palo Alto, CA)																				<i>USATF Women's Sprint Development (2003)</i>							
date	21-Jun-03	time		23.99				37.12	44.18	52.07	52.07	3 / 6															
reaction time		interval						13.13	7.06	7.89		# of strides			13.13	14.95	23.99	28.08	4.09								
		velocity		8.34				7.62	7.08	6.34	7.68	198.0			7.62	6.69	8.34	7.12									
Semi-Final 1 - 2003 USATF National Championship (Palo Alto, CA)																				<i>USATF Women's Sprint Development (2003)</i>							
date	20-Jun-03	time		24.01				37.27	44.44	52.57	52.57	7 / 3															
reaction time		interval						13.26	7.17	8.13		# of strides			13.26	15.30	24.01	28.56	4.55								
		velocity		8.33				7.54	6.97	6.15	7.61	198.0			7.54	6.54	8.33	7.00									
Cox, Shana (USA) (1985)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential									
Quarter-Final 2 - 2008 USA Olympic Trials (Eugene, OR)																				<i>USATF Women's Sprint Development with HPC (2008)</i>							
date	29-Jun-08	time		12.31	18.08	24.21	31.44	37.17	44.16	51.69	51.69	3 / 3															
reaction time		interval			5.77	6.13	7.23	5.73	6.99	7.53		# of strides	12.31	11.90	12.96	14.52	24.21	27.48	3.27								
		velocity		8.12	8.67	8.16	6.92	8.73	7.15	6.64	7.74	198.0	8.12	8.40	7.72	6.89	8.26	7.28									
FINAL - 2006 USATF National Championship (Indianapolis, IN)																				<i>USATF Women's Sprint Development (2006)</i>							
date	24-Jun-06	time		12.48	18.38	24.71	30.88	37.40	44.14	51.36	51.36	8 / 7															
reaction time		interval			5.90	6.33	6.17	6.52	6.74	7.22		# of strides	12.48	12.23	12.69	13.96	24.71	26.65	1.94								
		velocity		8.01	8.47	7.90	8.10	7.67	7.42	6.93	7.79	198.0	8.01	8.18	7.88	7.16	8.09	7.50									
FINAL - 2003 USATF National Junior Championship (Palo Alto, CA)																				<i>USATF Women's Sprint Development (2003)</i>							
date	22-Jun-03	time		23.84				37.47	44.86	53.47	53.47	5 / 6															
reaction time		interval						13.63	7.39	8.61		# of strides			13.63	16.00	23.84	29.63	5.79								
		velocity		8.39				7.34	6.77	5.81	7.48	198.0			7.34	6.25	8.39	6.75									
Crooks, Charmaine (CAN) (1962)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential									
Semi-Final 2 - 1988 Olympic Games (Seoul, KOR)																				<i>Brüggemann (1990) - scientific research project at the games of the XXXIV Olympiad, Seoul 1988</i>							
date	25-Sep-88	time		12.43				36.85		51.63	51.63	5 / 7															
reaction time		interval						12.68		14.78		# of strides	12.43	11.74	12.68	14.78	24.17	27.46	3.29								
		velocity		8.05				7.89		6.77	7.75	198.0	8.05	8.52	7.89	6.77	8.27	7.28									
FINAL - 1984 Olympic Games (Los Angeles, CA)																				<i>Adams (1984) - 1984 olympic games - 200m & 400m</i>							
date	06-Aug-84	time								50.45	50.45	3 / 7															
reaction time	0.239	interval								25.65	PB	# of strides					24.80	25.65	0.85								
		velocity						8.06		7.80	7.93	198.0					8.06	7.80									
Cross, Brandi (USA) (1988)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential									
Quarter-Final 3 - 2008 USA Olympic Trials (Eugene, OR)																				<i>USATF Women's Sprint Development with HPC (2008)</i>							
date	29-Jun-08	time		12.33	18.12	24.24	30.55	37.20	44.06	51.63	51.63	3 / 3															
reaction time		interval			5.79	6.12	6.31	6.65	6.86	7.57	PB	# of strides	12.33	11.91	12.96	14.43	24.24	27.39	3.15								
		velocity		8.11	8.64	8.17	7.92	7.52	7.29	6.61	7.75	198.0	8.11	8.40	7.72	6.93	8.25	7.30									

FINAL - 2006 USATF National Junior Championship (Indianapolis, IN)																	USATF Women's Sprint Development (2006)		
date	24-Jun-06	time	12.78	18.80	24.19	31.29	37.80	44.60	51.96	51.96	4 / 2								
reaction time		interval		6.02	5.39	7.10	6.51	6.80	7.36	PB	# of strides	12.78	11.41	13.61	14.16	24.19	27.77	3.58	
		velocity	7.82	8.31	9.28	7.04	7.68	7.35	6.79	7.70		7.82	8.76	7.35	7.06	8.27	7.20		
FINAL - 2005 USATF National Junior Championships (Carson, CA)																	USATF Women's Sprint Development (2005)		
date	25-Jun-05	time	12.79	18.79	24.98	31.33	37.91	45.05	52.65	52.65	5 / 3								
reaction time		interval		6.00	6.19	6.35	6.58	7.14	7.60		# of strides	12.79	12.19	12.93	14.74	24.98	27.67	2.69	
		velocity	7.82	8.33	8.08	7.87	7.60	7.00	6.58	7.60		7.82	8.20	7.73	6.78	8.01	7.23		
Cuddihy, Joanne (IRL) (1984)																	Behm (2006) - Championnats d'Europe Göteborg 2006... Le 400m avec ou sans obstacles		
FINAL - 2006 European Championships (Göteborg, SWE)																	Behm (2006) - Championnats d'Europe Göteborg 2006... Le 400m avec ou sans obstacles		
date	10-Aug-06	time			24.3		37.0		51.46	51.46	1 / 8								
reaction time		interval					12.70		14.46		# of strides		24.30	12.70	14.46	24.30	27.16	2.86	
		velocity			8.23		15.75		6.92	7.77			4.12	7.87	6.92	8.23	7.36		
Curbishley, Allison (GBR) (1976)																	Graubner (2007) - http://www.fgs.uni-halle.de		
FINAL - 2001 European Cup (Bremen, GER)																	Graubner (2007) - http://www.fgs.uni-halle.de		
date	23-Jun-01	time	12.73		24.74		37.84		51.99	51.99	1 / 5								
reaction time		interval			12.01		13.10		14.15		# of strides	12.73	12.01	13.10	14.15	24.74	27.25	2.51	
		velocity	7.86		8.33		7.63		7.07	7.69		7.86	8.33	7.63	7.07	8.08	7.34		
Cuthbert, Betty (AUS) (1938)																	Müller (1965) - die leichtathletik-wettkämpfe der XVIII olympischen sommerspielen Tokio 1964 - 400m lauf		
FINAL - 1964 Olympic Games (Tokyo, JPN)																	Müller (1965) - die leichtathletik-wettkämpfe der XVIII olympischen sommerspielen Tokio 1964 - 400m lauf		
date	17-Oct-64	time			24.3				52.0	52.0	2 / 1								
reaction time		interval							27.70	OR	# of strides					24.30	27.70	3.40	
		velocity			8.23				7.22	7.69	(52.01)					8.23	7.22		
da Silva, Tiffani (BRA) (1999)																	Omega Timing (2020) - diamond league race analysis		
FINAL - 2020 Golden Gala Pietro Mennea (Rome, ITA)																	Omega Timing (2020) - diamond league race analysis		
date	17-Sep-20	time	7.0	12.8	18.8	25.0	31.1	37.6	44.6	52.44	52.44	2 / 6							
reaction time	0.179	interval		5.80	6.00	6.20	6.10	6.50	7.00	7.84		# of strides	12.80	12.20	12.60	14.84	25.00	27.44	2.44
		velocity	7.14	8.62	8.33	8.06	8.20	7.69	7.14	6.38	7.63		7.81	8.20	7.94	6.74	8.00	7.29	
Dabney, Sharon (USA) (1957)																	Hymans (2008) - history of the US olympic trials - track and field		
FINAL - 1980 USA Olympic Trials (Eugene, OR)																	Hymans (2008) - history of the US olympic trials - track and field		
date	25-Jun-80	time			24.6				52.0	52.00	1 / 4								
reaction time		interval							27.40		# of strides					24.60	27.40	2.80	
		velocity			8.13				7.30	7.69						8.13	7.30		
Daichi, Saori (JPN) (2000)																	tdata-store.com/2017/10/12/post-1100/		
U19 Semi-Final 2 - 2017 National Sports Festival (Matsuyama, JPN)																	tdata-store.com/2017/10/12/post-1100/		
date	08-Oct-17	time	13.62		26.72		40.83		56.63	56.63	3 / 5								
reaction time	0.254	interval			13.10		14.11		15.80		# of strides	13.62	13.10	14.11	15.80	26.72	29.91	3.19	
		velocity	7.34		7.63		7.09		6.33	7.06	205.0	7.34	7.63	7.09	6.33	7.49	6.69		
Damyanova, Svobodka (BUL) (1955)																	Bondarchuk (2007) - transfer of training in sports		
FINAL - 1980 Balkan Games (Sofia, BUL)																	Bondarchuk (2007) - transfer of training in sports		
date	14-Jun-80	time	11.92		23.90				51.63	51.63	1 / 1								
reaction time		interval			11.98				27.73	PB	# of strides	11.92	11.98			23.90	27.73	3.83	
		velocity	8.39		8.35				7.21	7.75		8.39	8.35			8.37	7.21		
Das, Hima (IND) (2000)																	Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition		
FINAL - 2018 Asian Games (Jakarta, INA)																	Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition		
date	26-Aug-18	time	6.82	12.58	18.49	24.52	30.84	37.39	43.99	50.79	50.79	3 / 2							
reaction time	0.161	interval		5.76	5.91	6.03	6.32	6.55	6.60	6.80	NJR PB	# of strides	12.58	11.94	12.87	13.40	24.52	26.27	1.75
		velocity	7.33	8.68	8.46	8.29	7.91	7.63	7.58	7.35	7.88	197.0	7.95	8.38	7.77	7.46	8.16	7.61	
FINAL - 2018 IAAF World Junior Championships (Tampere, FIN)																	Koyama (2018) - research on athlete performance and technique- 2018 data book		
date	12-Jul-18	time	6.84	12.69	18.69	25.00	31.51	38.03	44.59	51.47	51.47	4 / 1							
reaction time	0.180	interval		5.85	6.00	6.31	6.51	6.52	6.56	6.88		# of strides	12.69	12.31	13.03	13.44	25.00	26.47	1.47
		velocity	7.31	8.55	8.33	7.92	7.68	7.67	7.62	7.27	7.77	197.5	7.88	8.12	7.67	7.44	8.00	7.56	
Davis, Kia (USA) (1976)																	USATF Women's Sprint Development (2004)		
Semi-Final 2 - 2004 USA Olympic Trials (Sacramento, CA)																	USATF Women's Sprint Development (2004)		
date	15-Jul-04	time	12.41			30.64	37.39	44.96	52.27	52.27	1 / 6								
reaction time		interval				18.23	6.75	7.57	7.31		# of strides	12.41			14.88				
		velocity	8.06			8.23	7.41	6.61	6.84	7.65		8.06			6.72				
Heat 4 - 2004 USA Olympic Trials (Sacramento, CA)																	USATF Women's Sprint Development (2004)		
date	12-Jul-04	time	12.13		23.99		37.18	44.29	52.51	52.51	6 / 4								
reaction time		interval			11.86		13.19	7.11	8.22		# of strides	12.13	11.86	13.19	15.33	23.99	28.52	4.53	
		velocity	8.24		8.43		7.58	7.03	6.08	7.62		8.24	8.43	7.58	6.52	8.34	7.01		
Davis-Thompson, Pauline (BAH) (196																	Ritzdorf (1997) - biomechanical research project at the VI th world championships in athletics, Athens 1997		
FINAL - 1997 IAAF World Championships (Athens, GRE)																	Ritzdorf (1997) - biomechanical research project at the VI th world championships in athletics, Athens 1997		
date	04-Aug-97	time	6.58	12.30	18.18	24.18	30.38	36.79	43.39	50.55	50.68	7 / 7							
reaction time	0.120	interval		5.72	5.88	6.00	6.20	6.41	6.60	7.16		# of strides	12.30	11.88	12.61	13.76	24.18	26.37	2.19
		velocity	7.60	8.74	8.50	8.33	8.06	7.80	7.58	6.98	7.89		8.13	8.42	7.93	7.27	8.27	7.58	
FINAL - 1996 Olympic Games (Atlanta, GA)																	Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016		
date	29-Jul-96	time			23.23		35.4		49.28	49.28	2 / 4								
reaction time	0.222	interval					12.17		13.88	PB	# of strides			12.17	13.88	23.23	26.05	2.82	
		velocity			8.61		8.22		7.20	8.12				8.22	7.20	8.61	7.68		

Day, Christine (JAM) (1986)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
FINAL - 2015 IAAF World Championships (Beijing, CHN)		<i>Kohei (2015) - 400m race analysis of male & female at major 2015 competitions</i>																	
date	27-Aug-15	time	6.94	12.61	18.42	24.37	30.40	36.62	43.17	50.14	50.14	8 / 4							
reaction time	0.180	interval	5.67	5.81	5.95	6.03	6.22	6.55	6.97	PB	# of strides	12.61	11.76	12.25	13.52	24.37	25.77	1.40	
		velocity	7.20	8.82	8.61	8.40	8.29	8.04	7.63	7.17	7.98		7.93	8.50	8.16	7.40	8.21	7.76	
Heat 3 - 2015 IAAF World Championships (Beijing, CHN)		<i>Yamamoto (2015) - race analysis of 15th World Championships 400m- focusing on men's semis and women's prelims</i>																	
date	24-Aug-15	time	6.85	12.40	18.12	24.06	30.18	36.51	43.29	50.58	50.58	4 / 1							
reaction time	0.215	interval	5.55	5.72	5.94	6.12	6.33	6.78	7.29		# of strides	12.40	11.66	12.45	14.07	24.06	26.52	2.46	
		velocity	7.30	9.01	8.74	8.42	8.17	7.90	7.37	6.86	7.91		8.06	8.58	8.03	7.11	8.31	7.54	
Semi-Final 3 - 2009 IAAF World Championships (Berlin, GER)		<i>Graubner (2009) - biomechanical analyses at the 12th IAAF world championships</i>																	
date	16-Aug-09	time	12.42	24.37	37.60	53.46	53.46	53.46	53.46	53.46	53.46	2 / 8							
reaction time	0.177	interval	11.95	13.23	15.86	15.86	15.86	15.86	15.86	15.86	# of strides	12.42	11.95	13.23	15.86	24.37	29.09	4.72	
		velocity	8.05	8.37	7.56	6.31	7.48					8.05	8.37	7.56	6.31	8.21	6.88		
Heat 1 - 2009 IAAF World Championships (Berlin, GER)		<i>Graubner (2009) - biomechanical analyses at the 12th IAAF world championships</i>																	
date	15-Aug-09	time	13.08	25.64	38.62	53.13	53.13	53.13	53.13	53.13	53.13	8 / 5							
reaction time	0.208	interval	12.56	12.98	14.51	14.51	14.51	14.51	14.51	14.51	# of strides	13.08	12.56	12.98	14.51	25.64	27.49	1.85	
		velocity	7.65	7.96	7.70	6.89	7.53					7.65	7.96	7.70	6.89	7.80	7.28		
De Angeli, Vira (ITA) (1976)		<i>Jung (2003) - http://www.fgs.uni-halle.de</i>																	
FINAL - 1997 European Cup (Munich, GER)																			
date	21-Jun-97	time	13.08	25.33	38.15	52.30	52.30	52.30	52.30	52.30	52.30	1 / 4							
reaction time		interval	12.25	12.82	14.15	14.15	14.15	14.15	14.15	14.15	# of strides	13.08	12.25	12.82	14.15	25.33	26.97	1.64	
		velocity	7.65	8.16	7.80	7.07	7.65					7.65	8.16	7.80	7.07	7.90	7.42		
de Blaauw, Britt (NED) (2004)		<i>Omega Timing (2024) - continental tour gold race analysis</i>																	
National FINAL - 2024 FBK Games (Hengelo, NED)																			
date	07-Jul-24	time	6.90	12.60	18.50	24.56	31.10	38.20	46.08	55.06	55.06	3 / 7							
reaction time	0.177	interval	5.70	5.90	6.06	6.54	7.10	7.88	8.98		# of strides	12.60	11.96	13.64	16.86	24.56	30.50	5.94	
		velocity	7.25	8.77	8.47	8.25	7.65	7.04	6.35	5.57	7.26		7.94	8.36	7.33	5.93	8.14	6.56	
de Carvalho, Tabata (BRA) (1996)		<i>Seiko Timing (2023) - world championship race analysis</i>																	
Heat 5 - 2023 World Athletics Championships (Budapest, HUN)																			
date	20-Aug-23	time	12.46							54.15	54.15	2 / 8							
reaction time	0.181	interval									# of strides	12.46							
		velocity	8.03									8.03							
Semi-Final 1 - 2022 World Athletics Championships (Eugene, OR)		<i>Timing by Seiko (2022) - world athletics championships race analysis</i>																	
date	20-Jul-22	time	12.40	24.64	37.89	52.42	52.42	52.42	52.42	52.42	52.42	2 / 8							
reaction time	0.203	interval	12.24	13.25	14.53	14.53	14.53	14.53	14.53	14.53	# of strides	12.40	12.24	13.25	14.53	24.64	27.78	3.14	
		velocity	8.06	8.17	7.55	6.88	7.63					8.06	8.17	7.55	6.88	8.12	7.20		
Heat 2 - 2022 World Athletics Championships (Eugene, OR)		<i>Timing by Seiko (2022) - world athletics championships race analysis</i>																	
date	17-Jul-22	time	12.57	24.52	37.85	52.17	52.17	52.17	52.17	52.17	52.17	3 / 6							
reaction time	0.158	interval	11.95	13.33	14.32	14.32	14.32	14.32	14.32	14.32	# of strides	12.57	11.95	13.33	14.32	24.52	27.65	3.13	
		velocity	7.96	8.37	7.50	6.98	7.67					182.0	7.96	8.37	7.50	6.98	8.16	7.23	
de Witte, Laura (NED) (1995)		<i>Omega Timing (2021) - diamond league race analysis</i>																	
FINAL - 2021 Memorial van Damme (Brussels, BEL)																			
date	03-Sep-21	time	6.8	12.5	18.4	24.7	31.3	38.4	46.1	54.84	54.84	2 / 5							
reaction time	0.188	interval	5.70	5.90	6.30	6.60	7.10	7.70	8.74		# of strides	12.50	12.20	13.70	16.44	24.70	30.14	5.44	
		velocity	7.35	8.77	8.47	7.94	7.58	7.04	6.49	5.72	7.29		8.00	8.20	7.30	6.08	8.10	6.64	
de Witte, Lisanne (NED) (1992)		<i>Omega Timing (2024) - diamond league race analysis</i>																	
FINAL - 2024 Bauhaus Galan (Stockholm, SWE)																			
date	02-Jun-24	time	7.09	12.98	18.87	25.12	31.58	38.19	45.01	52.17	52.17	3 / 4							
reaction time	0.182	interval	5.89	5.89	6.25	6.46	6.61	6.82	7.16		# of strides	12.98	12.14	13.07	13.98	25.12	27.05	1.93	
		velocity	7.05	8.49	8.49	8.00	7.74	7.56	7.33	6.98	7.67		7.70	8.24	7.65	7.15	7.96	7.39	
FINAL - 2023 Weltklasse (Zürich, SUI)		<i>Omega Timing (2023) - diamond league race analysis</i>																	
date	31-Aug-23	time	7.03	12.84	18.77	24.94	31.31	37.99	44.94	52.23	52.23	2 / 4							
reaction time	0.166	interval	5.81	5.93	6.17	6.37	6.68	6.95	7.29		# of strides	12.84	12.10	13.05	14.24	24.94	27.29	2.35	
		velocity	7.11	8.61	8.43	8.10	7.85	7.49	7.19	6.86	7.66		7.79	8.26	7.66	7.02	8.02	7.33	
FINAL - 2023 FBK Games (Hengelo, NED)		<i>Omega Timing (2023) - continental tour race analysis</i>																	
date	04-Jun-23	time	7.21	13.13	19.22	25.53	32.03	38.78	45.70	53.10	53.10	1 / 6							
reaction time	0.244	interval	5.92	6.09	6.31	6.50	6.75	6.92	7.40		# of strides	13.13	12.40	13.25	14.32	25.53	27.57	2.04	
		velocity	6.93	8.45	8.21	7.92	7.69	7.41	7.23	6.76	7.53		7.62	8.06	7.55	6.98	7.83	7.25	
National FINAL - 2022 Weltklasse (Zürich, SUI)		<i>Omega Timing (2022) - diamond league race analysis</i>																	
date	08-Sep-22	time	7.01	12.90	19.00	25.32	31.85	38.59	45.53	52.71	52.71	1 / 6							
reaction time	0.150	interval	5.89	6.10	6.32	6.53	6.74	6.94	7.18		# of strides	12.90	12.42	13.27	14.12	25.32	27.39	2.07	
		velocity	7.13	8.49	8.20	7.91	7.66	7.42	7.20	6.96	7.59		7.75	8.05	7.54	7.08	7.90	7.30	
FINAL - 2021 Müller British Grand Prix (Gateshead, GBR)		<i>Omega Timing (2021) - diamond league race analysis</i>																	
date	13-Jun-21	time	7.0	12.9	18.9	25.1	31.5	38.2	45.2	52.67	52.67	1 / 8							
reaction time	0.155	interval	5.90	6.00	6.20	6.40	6.70	7.00	7.47		# of strides	12.90	12.20	13.10	14.47	25.10	27.57	2.47	
		velocity	7.14	8.47	8.33	8.06	7.81	7.46	7.14	6.69	7.59		7.75	8.20	7.63	6.91	7.97	7.25	
FINAL - 2021 Müller Grand Prix (Gateshead, GBR)		<i>Omega Timing (2021) - diamond league race analysis</i>																	
date	23-May-21	time	7.6	13.5	19.5	25.6	31.9	38.8	46.0	53.42	53.42	1 / 7							
reaction time	0.155	interval	5.90	6.00	6.10	6.30	6.90	7.20	7.42		# of strides	13.50	12.10	13.20	14.62	25.60	27.82	2.22	
		velocity	6.58	8.47	8.33	8.20	7.94	7.25	6.94	6.74	7.49		7.41	8.26	7.58	6.84	7.81	7.19	

FINAL - 2019 Weltklasse (Zürich, SUI)

Omega Timing (2019) - diamond league race analysis

date	29-Aug-19	time	7.0	12.8	18.6	24.6	30.8	37.4	44.1	51.30	51.30	1 / 3							
reaction time	0.167	interval		5.8	5.8	6.0	6.2	6.6	6.7	7.2		# of strides	12.80	11.80	12.80	13.90	24.60	26.70	2.10
		velocity	7.14	8.62	8.62	8.33	8.06	7.58	7.46	6.94	7.80		7.81	8.47	7.81	7.19	8.13	7.49	

FINAL - 2019 Meeting de Paris (Paris, FRA)

Omega Timing (2019) - diamond league race analysis

date	24-Aug-19	time		12.8		25.0		37.9		51.83	51.83	8 / 5							
reaction time	0.196	interval				12.2		12.9		13.9		# of strides	12.80	12.20	12.90	13.93	25.00	26.83	1.83
		velocity		7.81		8.20		7.75		7.18	7.72		7.81	8.20	7.75	7.18	8.00	7.45	

FINAL - 2019 Meeting International Mohammed VI d'Athlétisme (Rabat, MAR)

Omega Timing (2019) - diamond league race analysis

date	16-Jun-19	time		12.7		24.6		37.5		51.53	51.53	7 / 6							
reaction time	0.174	interval				11.9		12.9		14.0		# of strides	12.70	11.90	12.90	14.03	24.60	26.93	2.33
		velocity		7.87		8.40		7.75		7.13	7.76		7.87	8.40	7.75	7.13	8.13	7.43	

FINAL - 2019 Golden Gala Pietro Mennea (Rome, ITA)

Omega Timing (2019) - diamond league race analysis

date	06-Jun-19	time		13.0		25.3		38.4		52.17	52.17	3 / 7							
reaction time	0.190	interval				12.3		13.1		13.8		# of strides	13.00	12.30	13.10	13.77	25.30	26.87	1.57
		velocity		7.69		8.13		7.63		7.26	7.67		7.69	8.13	7.63	7.26	7.91	7.44	

FINAL - 2019 Shanghai (Shanghai, CHN)

Omega Timing (2019) - diamond league race analysis

date	18-May-19	time		12.9		24.9		37.8		51.80	51.80	2 / 6							
reaction time	0.180	interval				12.0		12.9		14.0		# of strides	12.90	12.00	12.90	14.00	24.90	26.90	2.00
		velocity		7.75		8.33		7.75		7.14	7.72		7.75	8.33	7.75	7.14	8.03	7.43	

FINAL - 2018 Müller Anniversary Games (London, GBR)

Omega Timing (2018) - diamond league race analysis

date	22-Jul-18	time		13.0		24.9		37.5		51.08	51.08	2 / 4							
reaction time	0.157	interval				11.9		12.6		13.6		# of strides	13.00	11.90	12.60	13.58	24.90	26.18	1.28
		velocity		7.69		8.40		7.94		7.36	7.83		7.69	8.40	7.94	7.36	8.03	7.64	

Depuydt, Manon (BEL) (1997)

50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

FINAL - 2021 Memorial van Damme (Brussels, BEL) Omega Timing (2021) - diamond league race analysis

date	03-Sep-21	time		6.9		12.6		18.7		25.0		31.9		39.2		47.0		55.37	55.37	3 / 6
reaction time	0.145	interval				5.70		6.10		6.30		6.90		7.30		7.80		8.37		# of strides
		velocity		7.25		8.77		8.20		7.94		7.25		6.85		6.41		5.97		7.22

National FINAL - 2019 Memorial van Damme (Brussels, BEL)

Omega Timing (2019) - diamond league race analysis

date	06-Sep-19	time		6.8		12.4		18.2		24.5		31.2		38.5		45.8		53.59	53.59	3 / 4
reaction time	0.129	interval				5.6		5.8		6.3		6.7		7.3		7.3		7.8		# of strides
		velocity		7.35		8.93		8.62		7.94		7.46		6.85		6.85		6.42		7.46

Désert-Marillier, Solen (FRA) (1982)

50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

Semi-Final 2 - 2009 IAAF World Championships (Berlin, GER) Graubner (2009) - biomechanical analyses at the 12th IAAF world championships

date	16-Aug-09	time		12.47		24.90		37.57		53.26	53.26	7 / 8							
reaction time	0.221	interval				12.43		12.67		15.69		# of strides	12.47	12.43	12.67	15.69	24.90	28.36	3.46
		velocity		8.02		8.05		7.89		6.37	7.51		8.02	8.05	7.89	6.37	8.03	7.05	

Heat 3 - 2009 IAAF World Championships (Berlin, GER)

Graubner (2009) - biomechanical analyses at the 12th IAAF world championships

date	15-Aug-09	time		12.75		24.79		37.81		51.63	51.63	6 / 3							
reaction time	0.210	interval				12.04		13.02		13.82		# of strides	12.75	12.04	13.02	13.82	24.79	26.84	2.05
		velocity		7.84		8.31		7.68		7.24	7.75		7.84	8.31	7.68	7.24	8.07	7.45	

FINAL - 2009 French National Championships (Angers, FRA)

Le Bras (2013) - analyse de la performance et conception de dispositifs d'entrainement

date	28-Jul-10	time		12.2		24.1		37.2		52.2	52.31	1 / 1							
reaction time		interval				11.90		13.10		15.00		# of strides	12.20	11.90	13.10	15.00	24.10	28.10	4.00
		velocity		8.20		8.40		7.63		6.67	7.65		8.20	8.40	7.63	6.67	8.30	7.12	

FINAL - 2007 European Cup (Munich, GER)Graubner (2007) - <http://www.fgs.uni-halle.de>

date	23-Jun-07	time		13.01		25.47		38.76		52.60	52.60	1 / 6							
reaction time	0.342	interval				12.46		13.29		13.84		# of strides	13.01	12.46	13.29	13.84	25.47	27.13	1.66
		velocity		7.69		8.03		7.52		7.23	7.60		7.69	8.03	7.52	7.23	7.85	7.37	

Dezuka, Chie (JPN)

50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

FINAL - 2013 Japanese National High School Championships (Oita, JPN) Matsuo (2013) - 66th high school championships: JAF scientific committee- biomechanics data

date	30-Jul-13	time		13.57		26.50		40.03		55.74	55.74	8 / 7							
reaction time		interval				12.93		13.53		15.71		# of strides	13.57	12.93	13.53	15.71	26.50	29.24	2.74
		velocity		7.37		7.73		7.39		6.37	7.18		7.37	7.73	7.39	6.37	7.55	6.84	

Diamond, Emily (GBR) (1991)

50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

B Race - 2021 Müller British Grand Prix (Gateshead, GBR) Omega Timing (2021) - diamond league race analysis

date	13-Jun-21	time		7.1		12.9		18.9		25.1		31.4		37.9		44.7		51.89	51.89	5 / 1
reaction time	0.164	interval				5.80		6.00		6.20		6.30		6.50		6.80		7.19		# of strides
		velocity		7.04		8.62		8.33		8.06		7.94		7.69		7.35		6.95		7.71

Diggs, Talitha (USA) (2002)

50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

FINAL - 2024 London Athletics Meet (London, GBR) Omega Timing (2024) - diamond league race analysis

date	20-Jul-24	time		6.77		12.38		18.15		24.24		30.62		37.25		44.30		52.47	52.47	8 / 8
reaction time	0.147	interval				5.61		5.77		6.09		6.38		6.63		7.05		8.17		# of strides
		velocity		7.39		8.91		8.67		8.21		7.84		7.54		7.09		6.12		7.62

Semi-Final 3 - 2024 USA Olympic Trials (Eugene, OR)

USATF and Karmarush (2024) - USA Olympic trials results and race analysis

date	22-Jun-24	time		12.10		23.66		36.63		50.78	50.78	9 / 4							
reaction time		interval				11.56		12.97		14.15		# of strides	12.10	11.56	12.97	14.15	23.66	27.12	3.46
		velocity		8.26		8.65		7.71		7.07	7.88		8.26	8.65	7.71	7.07	8.45	7.37	

Heat 1 - 2024 USA Olympic Trials (Eugene, OR)											USATF and Karmarush (2024) - USA Olympic trials results and race analysis								
date	21-Jun-24	time	12.36	24.33	37.29	51.57	51.57	4 / 3											
reaction time		interval	11.97	12.96	14.28			# of strides	12.36	11.97	12.96	14.28	24.33	27.24	2.91				
		velocity	8.09	8.35	7.72	7.00	7.76	196.0	8.09	8.35	7.72	7.00	8.22	7.34					
FINAL - 2023 Xiamen Diamond League (Xiamen, CHN)											Omega Timing (2023) - diamond league race analysis								
date	02-Sep-23	time	6.74	12.46	18.51	24.76	31.09	37.56	44.20	51.27	51.27	7 / 6							
reaction time	0.156	interval	5.72	6.05	6.25	6.33	6.47	6.64	7.07			# of strides	12.46	12.30	12.80	13.71	24.76	26.51	1.75
		velocity	7.42	8.74	8.26	8.00	7.90	7.73	7.53	7.07	7.80	8.03	8.13	7.81	7.29	8.08	7.54		
Semi-Final 2 - 2023 World Athletics Championships (Budapest, HUN)											Seiko Timing (2023) - world championship race analysis								
date	21-Aug-23	time	12.29	23.97	36.72	50.86	50.86	9 / 2											
reaction time	0.174	interval	11.68	12.75	14.14			# of strides	12.29	11.68	12.75	14.14	23.97	26.89	2.92				
		velocity	8.14	8.56	7.84	7.07	7.86	200.5	8.14	8.56	7.84	7.07	8.34	7.44					
Heat 6 - 2023 World Athletics Championships (Budapest, HUN)											Seiko Timing (2023) - world championship race analysis								
date	20-Aug-23	time	12.34	24.20	37.04	50.87	50.87	9 / 3											
reaction time	0.175	interval	11.86	12.84	13.83			# of strides	12.34	11.86	12.84	13.83	24.20	26.67	2.47				
		velocity	8.10	8.43	7.79	7.23	7.86	199.0	8.10	8.43	7.79	7.23	8.26	7.50					
Semi-Final 3 - 2022 World Athletics Championships (Eugene, OR)											Timing by Seiko (2022) - world athletics championships race analysis								
date	20-Jul-22	time	12.38	24.48	37.05	50.84	50.84	6 / 3											
reaction time	0.147	interval	12.10	12.57	13.79			# of strides	12.38	12.10	12.57	13.79	24.48	26.36	1.88				
		velocity	8.08	8.26	7.96	7.25	7.87	195.0	8.08	8.26	7.96	7.25	8.17	7.59					
Heat 5 - 2022 World Athletics Championships (Eugene, OR)											Timing by Seiko (2022) - world athletics championships race analysis								
date	17-Jul-22	time	12.39	24.65	37.75	51.54	51.54	3 / 2											
reaction time	0.133	interval	12.26	13.10	13.79			# of strides	12.39	12.26	13.10	13.79	24.65	26.89	2.24				
		velocity	8.07	8.16	7.63	7.25	7.76	194.7	8.07	8.16	7.63	7.25	8.11	7.44					
Dimitrova, Mariyana (BUL) (1982)											Behm (2006) - Championnats d'Europe Göteborg 2006... Le 400m avec ou sans obstacles								
date	10-Aug-06	time	24.6	36.8	50.64	50.64	4 / 4												
reaction time		interval	12.20	13.84	PB		# of strides	24.60	12.20	13.84	24.60	26.04	1.44						
		velocity	8.13	16.39	7.23	7.90	4.07	8.20	7.23	8.13	7.68								
Disch, Karin (SUI) (1997)											Omega Timing (2024) - diamond league race analysis								
date	22-Aug-24	time	6.97	12.97	19.23	25.82	32.57	39.62	46.72	54.03	54.03	8 / 4							
reaction time	0.154	interval	6.00	6.26	6.59	6.75	7.05	7.10	7.31			# of strides	12.97	12.85	13.80	14.41	25.82	28.21	2.39
		velocity	7.17	8.33	7.99	7.59	7.41	7.09	7.04	6.84	7.40	7.71	7.78	7.25	6.94	7.75	7.09		
B Race - 2023 Athletissima (Lausanne, SUI)											Omega Timing (2023) - diamond league race analysis								
date	30-Jun-23	time	7.10	13.19	19.56	26.16	32.88	39.92	47.08	54.50	54.50	8 / 4							
reaction time	0.216	interval	6.09	6.37	6.60	6.72	7.04	7.16	7.42	PB	# of strides	13.19	12.97	13.76	14.58	26.16	28.34	2.18	
		velocity	7.04	8.21	7.85	7.58	7.44	7.10	6.98	6.74	7.34	7.58	7.71	7.27	6.86	7.65	7.06		
Dixon, Diamond (USA) (1992)											Hymans (2020) - history of the US olympic trials - track and field								
date	24-Jun-12	time	24.3	36.9	50.88	50.88	8 / 4												
reaction time	0.340	interval	12.60	13.98	PB		# of strides	24.30	12.60	13.98	24.30	26.58	2.28						
		velocity	8.23	7.94	7.15	7.86	4.12	7.94	7.15	8.23	7.52								
Dixon, Diane (USA) (1964)											Butler (2013) - IAAF world championships statistics handbook- moscow 2013								
date	27-Aug-91	time	24.17	36.58	50.72	50.72	1 / 8												
reaction time		interval	12.29	11.64	12.65	14.14	# of strides	24.17	27.56	3.39									
		velocity	8.27	7.91	7.07	7.89	8.27	7.26	7.73	8.27	7.26								
FINAL - 1988 Olympic Games (Seoul, KOR)											Brüggemann (1990) - scientific research project at the games of the XXXIV Olympiad, Seoul 1988								
date	26-Sep-88	time	12.29	23.93	36.58	50.72	5 / 5												
reaction time	0.197	interval	11.64	12.65	14.14	# of strides	12.29	11.64	12.65	14.14	23.93	26.79	2.86						
		velocity	8.14	8.59	7.91	7.07	8.14	8.59	7.91	7.07	8.36	7.47							
Semi-Final 1 - 1988 Olympic Games (Seoul, KOR)											Brüggemann (1990) - scientific research project at the games of the XXXIV Olympiad, Seoul 1988								
date	25-Sep-88	time	12.03	23.56	36.06	49.84	49.84	8 / 3											
reaction time		interval	11.53	12.50	13.78	PB	# of strides	12.03	11.53	12.50	13.78	23.56	26.28	2.72					
		velocity	8.31	8.67	8.00	7.26	8.31	8.67	8.00	7.26	8.49	7.61							
FINAL - 1987 IAAF World Championships (Rome, ITA)											Moravec (1990) - time analysis of the sprints - Rome 1987 Scientific Report (2nd ed)								
date	31-Aug-87	time	12.32	23.94	37.01	51.13	51.13	4 / 7											
reaction time		interval	11.62	13.07	14.12	# of strides	12.32	11.62	13.07	14.12	23.94	27.19	3.25						
		velocity	8.12	8.61	7.65	7.08	8.12	8.61	7.65	7.08	8.35	7.36							
FINAL - 1984 USA Olympic Trials (Los Angeles, CA)											Hymans (2008) - history of the US olympic trials - track and field								
date	19-Jun-84	time	23.9	36.58	50.72	50.72	1 / 7												
reaction time		interval	12.29	11.64	12.65	14.14	# of strides	23.90	27.40	3.50									
		velocity	8.37	7.91	7.07	7.89	8.37	7.30	7.80	8.37	7.30								
Doe, Carielle (USA) (1980)											USATF Women's Sprint Development (2003)								
date	20-Jun-03	time	24.56	38.46	45.93	54.09	54.09	3 / 7											
reaction time		interval	13.90	7.47	8.16	# of strides	13.90	15.63	24.56	29.53	4.97								
		velocity	8.14	7.19	6.69	6.13	7.40	7.19	6.40	8.14	6.77								

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
Drinkwater, Lois (USA) (1951)																			
FINAL - 1968 USA Olympic Trials (Walnut, CA)																			
date	25-Aug-68	time			24.7				54.0	54.0	8 / 2								
reaction time		interval							29.30		# of strides					24.70	29.30	4.60	
		velocity			8.10				6.83	7.41						8.10	6.83		
Drozd, Wiktoria (POL) (2001)																			
National FINAL - 2022 Silesia Kamila Skolimowska Memorial (Chorzów, POL)																			
date	06-Aug-22	time	7.02	12.84	18.92	25.28	31.91	38.92	46.30	54.22	54.22	7 / 4							
reaction time	0.192	interval	5.82	6.08	6.36	6.63	7.01	7.38	7.92			# of strides	12.84	12.44	13.64	15.30	25.28	28.94	3.66
		velocity	7.12	8.59	8.22	7.86	7.54	7.13	6.78	6.31	7.38		7.79	8.04	7.33	6.54	7.91	6.91	
Dunmore, Makenzie (USA) (1997)																			
FINAL - 2023 Xiamen Diamond League (Xiamen, CHN)																			
date	02-Sep-23	time	6.76	12.39	18.35	24.68	31.49	38.63	45.97	53.85	53.85	2 / 9							
reaction time	0.135	interval	5.63	5.96	6.33	6.81	7.14	7.34	7.88			# of strides	12.39	12.29	13.95	15.22	24.68	29.17	4.49
		velocity	7.40	8.88	8.39	7.90	7.34	7.00	6.81	6.35	7.43		8.07	8.14	7.17	6.57	8.10	6.86	
Dunn, Debbie (USA) (1978)																			
FINAL - 2012 USA Olympic Trials (Eugene, OR)																			
date	24-Jun-12	time			23.7		36.3		50.78	50.78	4 / 4								
reaction time	0.198	interval					12.60		14.48	DV	# of strides		23.70	12.60	14.48	23.70	27.08	3.38	
		velocity			8.44		7.94		6.91	7.88			4.22	7.94	6.91	8.44	7.39		
FINAL - 2009 IAAF World Championships (Berlin, GER)																			
date	18-Aug-09	time		12.19		23.94		36.49		50.35	50.35	1 / 6							
reaction time	0.275	interval			11.75		12.55		13.86		# of strides	12.19	11.75	12.55	13.86	23.94	26.41	2.47	
		velocity		8.20		8.51		7.97		7.22	7.94	197.2	8.20	8.51	7.97	7.22	8.35	7.57	
Semi-Final 2 - 2009 IAAF World Championships (Berlin, GER)																			
date	16-Aug-09	time		12.08		23.70		36.08		49.95	49.95	3 / 3							
reaction time	0.189	interval			11.62		12.38		13.87	PB	# of strides	12.08	11.62	12.38	13.87	23.70	26.25	2.55	
		velocity		8.28		8.61		8.08		7.21	8.01		8.28	8.61	8.08	7.21	8.44	7.62	
Heat 4 - 2009 IAAF World Championships (Berlin, GER)																			
date	15-Aug-09	time		12.37		24.29		36.94		51.13	51.13	5 / 1							
reaction time	0.181	interval			11.92		12.65		14.19		# of strides	12.37	11.92	12.65	14.19	24.29	26.84	2.55	
		velocity		8.08		8.39		7.91		7.05	7.82		8.08	8.39	7.91	7.05	8.23	7.45	
FINAL - 2008 USA Olympic Trials (Eugene, OR)																			
date	03-Jul-08	time	11.90	17.05	23.42	29.90	36.66	43.96	52.41	52.41	3 / 8								
reaction time		interval		5.15	6.37	6.48	6.76	7.30	8.45		# of strides	11.90	11.52	13.24	15.75	23.42	28.99	5.57	
		velocity	8.40	9.71	7.85	7.72	7.40	6.85	5.92	7.63		8.40	8.68	7.55	6.35	8.54	6.90		
Quarter-Final 4 - 2008 USA Olympic Trials (Eugene, OR)																			
date	29-Jun-08	time	12.66	19.07	25.40	31.70	38.37	44.86	52.20	52.20	7 / 2								
reaction time		interval		6.41	6.33	6.30	6.67	6.49	7.34		# of strides	12.66	12.74	12.97	13.83	25.40	26.80	1.40	
		velocity	7.90	7.80	7.90	7.94	7.50	7.70	6.81	7.66		7.90	7.85	7.71	7.23	7.87	7.46		
FINAL - 2004 USA Olympic Trials (Sacramento, CA)																			
date	17-Jul-04	time	12.06		23.47	29.61	36.32	43.50	51.93	51.93	1 / 8								
reaction time		interval			11.41	6.14	6.71	7.18	8.43		# of strides	12.06	11.41	12.85	15.61	23.47	28.46	4.99	
		velocity	8.29		8.76	8.14	7.45	6.96	5.93	7.70		8.29	8.76	7.78	6.41	8.52	7.03		
Semi-Final 2 - 2004 USA Olympic Trials (Sacramento, CA)																			
date	15-Jul-04	time	12.76		24.78	30.75	37.15	43.91	51.84	51.84	8 / 4								
reaction time		interval			12.02	5.97	6.40	6.76	7.93		# of strides	12.76	12.02	12.37	14.69	24.78	27.06	2.28	
		velocity	7.84		8.32	8.38	7.81	7.40	6.31	7.72	192.2	7.84	8.32	8.08	6.81	8.07	7.39		
Heat 1 - 2004 USA Olympic Trials (Sacramento, CA)																			
date	12-Jul-04	time	12.43		24.06		36.85	43.88	51.67	51.67	5 / 3								
reaction time		interval			11.63		12.79	7.03	7.79		# of strides	12.43	11.63	12.79	14.82	24.06	27.61	3.55	
		velocity	8.05		8.60		7.82	7.11	6.42	7.74		8.05	8.60	7.82	6.75	8.31	7.24		
Semi-Final 2 - 2003 USATF National Championship (Palo Alto, CA)																			
date	20-Jun-03	time					37.97	46.25	53.46	53.46	2 / 6								
reaction time		interval						8.28	7.21		# of strides				15.49				
		velocity					7.90	6.04	6.93	7.48					6.46				
Dyer, Tonette (USA) (1982)																			
Semi-Final 2 - 2004 USA Olympic Trials (Sacramento, CA)																			
date	15-Jul-04	time	11.98		23.94	30.36	37.24	44.76	53.70	53.70	6 / 8								
reaction time		interval			11.96	6.42	6.88	7.52	8.94		# of strides	11.98	11.96	13.30	16.46	23.94	29.76	5.82	
		velocity	8.35		8.36	7.79	7.27	6.65	5.59	7.45	196.0	8.35	8.36	7.52	6.08	8.35	6.72		
Heat 3 - 2004 USA Olympic Trials (Sacramento, CA)																			
date	12-Jul-04	time	11.92		23.17		36.30	43.86	52.14	52.14	3 / 2								
reaction time		interval			11.25		13.13	7.56	8.28		# of strides	11.92	11.25	13.13	15.84	23.17	28.97	5.80	
		velocity	8.39		8.89		7.62	6.61	6.04	7.67	196.7	8.39	8.89	7.62	6.31	8.63	6.90		
Eda, Ryo (JPN) (1997)																			
FINAL - 2015 Japanese National High School Championships (Wakayama, JPN)																			
date	29-Jul-15	time	6.91	13.05	19.37	25.99	32.97	40.24	47.81	55.82	55.82	1 / 7							
reaction time		interval		6.14	6.32	6.62	6.98	7.27	7.57	8.01		# of strides	13.05	12.94	14.25	15.58	25.99	29.83	3.84

velocity	7.24	8.14	7.91	7.55	7.16	6.88	6.61	6.24	7.17		7.66	7.73	7.02	6.42	7.70	6.70
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		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
Edmonson, Malika (USA) (1979)																			
FINAL - 1996 USATF National Junior Championships (Delaware, OH)																			
date	29-Jun-96	time	12.53		24.67		37.95	45.09	52.95	52.95	4 / 2								
reaction time		interval			12.14		13.28	7.14	7.86	PB	# of strides	12.53	12.14	13.28	15.00	24.67	28.28	3.61	
		velocity	7.98		8.24		7.53	7.00	6.36	7.55		7.98	8.24	7.53	6.67	8.11	7.07		
Effiong, Rosey (USA) (2001)																			
Semi-Final 3 - 2024 USA Olympic Trials (Eugene, OR)																			
date	22-Jun-24	time	12.22		23.81		36.50		50.92	50.92	6 / 5								
reaction time		interval			11.59		12.69		14.42		# of strides	12.22	11.59	12.69	14.42	23.81	27.11	3.30	
		velocity	8.18		8.63		7.88		6.93	7.86	193.0	8.18	8.63	7.88	6.93	8.40	7.38		
Heat 4 - 2024 USA Olympic Trials (Eugene, OR)																			
date	21-Jun-24	time	12.34		24.14		37.03		51.21	51.21	8 / 2								
reaction time		interval			11.80		12.89		14.18		# of strides	12.34	11.80	12.89	14.18	24.14	27.07	2.93	
		velocity	8.10		8.47		7.76		7.05	7.81	192.5	8.10	8.47	7.76	7.05	8.29	7.39		
Eguchi, Kotomi (JPN) (1997)																			
FINAL - 2014 Japanese National High School Championships (Kofu, JPN)																			
date	30-Jul-14	time	7.14	13.17	19.25	25.46	31.91	38.80	46.09	53.94	53.94	/ 2							
reaction time		interval		6.03	6.08	6.21	6.45	6.89	7.29	7.85		# of strides	13.17	12.29	13.34	15.14	25.46	28.48	3.02
		velocity	7.00	8.29	8.22	8.05	7.75	7.26	6.86	6.37	7.42		7.59	8.14	7.50	6.61	7.86	7.02	
Ehara, Mizuyu (JPN) (2005)																			
U20 FINAL - 2023 Japanese National Sports Festival (Kagoshima, JPN) (300m)																			
date	14-Oct-23	time	7.03	12.85	18.81	24.96	31.49	38.48		38.48	3 / 4								
reaction time	0.192	interval		5.82	5.96	6.15	6.53	6.99		PB	# of strides	12.85	12.11	13.52		24.96		25.63	
		velocity	7.11	8.59	8.39	8.13	7.66	7.15		7.80		7.78	8.26	7.40		8.01		7.80	
Elliott, Rosie (NZL) (1997)																			
Heat 3 - 2023 World Athletics Championships (Budapest, HUN)																			
date	20-Aug-23	time	13.23		25.63		38.80		52.88	52.88	3 / 8								
reaction time	0.167	interval			12.40		13.17		14.08		# of strides	13.23	12.40	13.17	14.08	25.63	27.25	1.62	
		velocity	7.56		8.06		7.59		7.10	7.56	186.0	7.56	8.06	7.59	7.10	7.80	7.34		
Heat 6 - 2022 World Athletics Championships (Eugene, OR)																			
date	17-Jul-22	time	13.54		26.15		39.75		54.92	54.92	4 / 8								
reaction time	0.147	interval			12.61		13.60		15.17		# of strides	13.54	12.61	13.60	15.17	26.15	28.77	2.62	
		velocity	7.39		7.93		7.35		6.59	7.28		7.39	7.93	7.35	6.59	7.65	6.95		
Ellis, Kendall (USA) (1996)																			
Semi-Final 3 - 2024 Olympic Games (Paris, FRA)																			
date	07-Aug-24	time	6.79	12.39	18.13	24.02	30.22	36.64	43.19	50.40	50.40	2 / 4							
reaction time	0.215	interval		5.60	5.74	5.89	6.20	6.42	6.55	7.21		# of strides	12.39	11.63	12.62	13.76	24.02	26.38	2.36
		velocity	7.36	8.93	8.71	8.49	8.06	7.79	7.63	6.93	7.94		8.07	8.60	7.92	7.27	8.33	7.58	
Repechage 4 - 2024 Olympic Games (Paris, FRA)																			
date	06-Aug-24	time	6.79	12.33	18.12	24.09	30.28	36.66	43.22	50.44	50.44	8 / 1							
reaction time	0.203	interval		5.54	5.79	5.97	6.19	6.38	6.56	7.22		# of strides	12.33	11.76	12.57	13.78	24.09	26.35	2.26
		velocity	7.36	9.03	8.64	8.38	8.08	7.84	7.62	6.93	7.93		8.11	8.50	7.96	7.26	8.30	7.59	
Heat 1 - 2024 Olympic Games (Paris, FRA)																			
date	05-Aug-24	time	6.83	12.40	18.13	24.18	30.41	36.86	43.57	51.16	51.16	5 / 5							
reaction time	0.195	interval		5.57	5.73	6.05	6.23	6.45	6.71	7.59		# of strides	12.40	11.78	12.68	14.30	24.18	26.98	2.80
		velocity	7.32	8.98	8.73	8.26	8.03	7.75	7.45	6.59	7.82		8.06	8.49	7.89	6.99	8.27	7.41	
FINAL - 2024 Herculis Meeting International d'Athlétisme (Monaco, MON)																			
date	12-Jul-24	time	6.86	12.40	18.06	23.96	30.20	36.61	43.28	50.39	50.39	4 / 3							
reaction time	0.224	interval		5.54	5.66	5.90	6.24	6.41	6.67	7.11		# of strides	12.40	11.56	12.65	13.78	23.96	26.43	2.47
		velocity	7.29	9.03	8.83	8.47	8.01	7.80	7.50	7.03	7.94		8.06	8.65	7.91	7.26	8.35	7.57	
FINAL - 2024 USA Olympic Trials (Eugene, OR)																			
date	23-Jun-24	time	12.11		23.96		36.35		49.46	49.46	8 / 1								
reaction time		interval			11.85		12.39		13.11	PB	# of strides	12.11	11.85	12.39	13.11	23.96	25.50	1.54	
		velocity	8.26		8.44		8.07		7.63	8.09		8.26	8.44	8.07	7.63	8.35	7.84		
Semi-Final 2 - 2024 USA Olympic Trials (Eugene, OR)																			
date	22-Jun-24	time	12.27		23.64		35.93		49.81	49.81	4 / 1								
reaction time		interval			11.37		12.29		13.88	PB	# of strides	12.27	11.37	12.29	13.88	23.64	26.17	2.53	
		velocity	8.15		8.80		8.14		7.20	8.03	184.0	8.15	8.80	8.14	7.20	8.46	7.64		
Heat 2 - 2024 USA Olympic Trials (Eugene, OR)																			
date	21-Jun-24	time	12.37		24.08		37.20		51.22	51.22	5 / 3								
reaction time		interval			11.71		13.12		14.02		# of strides	12.37	11.71	13.12	14.02	24.08	27.14	3.06	
		velocity	8.08		8.54		7.62		7.13	7.81	188.0	8.08	8.54	7.62	7.13	8.31	7.37		
Heat 1 - 2022 World Athletics Championships (Eugene, OR)																			
date	17-Jul-22	time	12.70		25.32		38.31		52.55	52.55	8 / 6								
reaction time	0.187	interval			12.62		12.99		14.24		# of strides	12.70	12.62	12.99	14.24	25.32	27.23	1.91	
		velocity	7.87		7.92		7.70		7.02	7.61	189.0	7.87	7.92	7.70	7.02	7.90	7.34		
FINAL - 2022 Doha Diamond League (Doha, QAT)																			
date	13-May-22	time	6.7	12.7	19.2	25.8	32.4	39.0	45.5	52.58	52.58	2 / 7							

reaction time	0.223	interval	6.00	6.50	6.60	6.60	6.60	6.50	7.08		# of strides	12.70	13.10	13.20	13.58	25.80	26.78	0.98
		velocity	7.46	8.33	7.69	7.58	7.58	7.58	7.69	7.06	7.61	7.87	7.63	7.58	7.36	7.75	7.47	

FINAL - 2021 Müller Grand Prix (Gateshead, GBR)

Omega Timing (2021) - diamond league race analysis

date	23-May-21	time	7.3	12.9	18.7	24.6	30.7	37.4	44.6	51.86	51.86	5 / 1							
reaction time	0.179	interval	5.60	5.80	5.90	6.10	6.70	7.20	7.26			# of strides	12.90	11.70	12.80	14.46	24.60	27.26	2.66
		velocity	6.85	8.93	8.62	8.47	8.20	7.46	6.94	6.89	7.71	189.5	7.75	8.55	7.81	6.92	8.13	7.34	

FINAL - 2019 Weltklasse (Zürich, SUI)

Omega Timing (2019) - diamond league race analysis

date	29-Aug-19	time	6.8	12.5	18.3	24.4	30.9	37.7	44.7	51.92	51.92	2 / 7							
reaction time	0.202	interval	5.7	5.8	6.1	6.5	6.8	7.0	7.2			# of strides	12.50	11.90	13.30	14.22	24.40	27.52	3.12
		velocity	7.35	8.77	8.62	8.20	7.69	7.35	7.14	6.93	7.70	8.00	8.40	7.52	7.03	8.20	7.27		

FINAL - 2019 Meeting de Paris (Paris, FRA)

Omega Timing (2019) - diamond league race analysis

date	24-Aug-19	time	12.3	24.5	37.2	51.21	51.21	6 / 2										
reaction time	0.205	interval	12.2	12.7	14.0			# of strides	12.30	12.20	12.70	14.01	24.50	26.71	2.21			
		velocity	8.13	8.20	7.87	7.14	7.81	186.2	8.13	8.20	7.87	7.14	8.16	7.49				

FINAL - 2019 Golden Gala Pietro Mennea (Rome, ITA)

Omega Timing (2019) - diamond league race analysis

date	06-Jun-19	time	12.2	24.3	37.1	52.09	52.09	9 / 6										
reaction time	0.217	interval	12.1	12.8	15.0			# of strides	12.20	12.10	12.80	14.99	24.30	27.79	3.49			
		velocity	8.20	8.26	7.81	6.67	7.68	189.2	8.20	8.26	7.81	6.67	8.23	7.20				

FINAL - 2017 USATF National Championship (Sacramento, CA)

Lee (& Ferrara) (2017) - speedendurance.com/2017/07/13/400m-splits-from-usa-national-championships/

date	24-Jun-17	time	12.39	23.92	36.37	50.00	50.00	6 / 3										
reaction time		interval	11.53	12.45	13.63	PB		# of strides	12.39	11.53	12.45	13.63	23.92	26.08	2.16			
		velocity	8.24	8.73	8.12	7.24	8.00	8.07	8.67	8.03	7.34	8.36	7.67					

FINAL - 2017 NCAA Championships (Eugene, OR)

USTFCCCA (2017) - NCAA DI outdoor championship history

date	10-Jun-17	time	24.3	37.2	51.1	51.06	6 / 3											
reaction time		interval	12.90	13.90			# of strides	12.90	13.90	24.30	26.80	2.50						
		velocity	8.23	7.75	7.19	7.83	188.7	7.75	7.19	8.23	7.46							

Ellis-Watson, Taylor (USA) (1993)

50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

Hymans (2020) - history of the US olympic trials - track and field

date	03-Jul-16	time	24.1	36.6	50.25	50.25	3 / 4											
reaction time	0.602	interval	12.50	13.65	PB		# of strides	12.50	13.65	24.10	26.15	2.05						
		velocity	8.30	8.00	7.33	7.96	8.00	7.33	7.96	8.00	7.33	8.30	7.65					

FINAL - 2016 NCAA Championships (Eugene, OR)

USTFCCCA (2017) - NCAA DI outdoor championship history

date	11-Jun-16	time	24.3	37.3	50.9	50.86	5 / 2											
reaction time		interval	13.00	13.60			# of strides	13.00	13.60	24.30	26.60	2.30						
		velocity	8.23	7.69	7.35	7.86	7.69	7.35	8.23	7.52								

Ellsworth, Maureen (NED) (1991)

50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

Omega Timing (2024) - continental tour gold race analysis

date	07-Jul-24	time	7.17	13.11	19.13	25.43	32.05	39.09	46.39	54.30	54.30	8 / 6							
reaction time	0.158	interval	5.94	6.02	6.30	6.62	7.04	7.30	7.91			# of strides	13.11	12.32	13.66	15.21	25.43	28.87	3.44
		velocity	6.97	8.42	8.31	7.94	7.55	7.10	6.85	6.32	7.37	7.63	8.12	7.32	6.57	7.86	6.93		

FINAL - 2021 Memorial van Damme (Brussels, BEL)

Omega Timing (2021) - diamond league race analysis

date	03-Sep-21	time	7.1	12.9	18.9	25.3	32.0	39.1	46.6			8 / --						
reaction time	0.197	interval	5.80	6.00	6.40	6.70	7.10	7.50			DQ	# of strides	12.90	12.40	13.80	25.30		
		velocity	7.04	8.62	8.33	7.81	7.46	7.04	6.67			7.75	8.06	7.25	7.91			

Emmelmann, Kirsten (GDR) (1961)

50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

Brüggemann (1990) - scientific research project at the games of the XXXIV Olympiad, Seoul 1988

date	25-Sep-88	time	12.15	23.64	36.45	50.39	50.39	3 / 5										
reaction time		interval	11.49	12.81	13.94			# of strides	12.15	11.49	12.81	13.94	23.64	26.75	3.11			
		velocity	8.23	8.70	7.81	7.17	7.94	8.23	8.70	7.81	7.17	8.46	7.48					

FINAL - 1987 IAAF World Championships (Rome, ITA)

Moravec (1990) - time analysis of the sprints - Rome 1987 Scientific Report (2nd ed)

date	31-Aug-87	time	12.21	23.75	36.35	50.20	50.20	6 / 3										
reaction time		interval	11.54	12.60	13.85			# of strides	12.21	11.54	12.60	13.85	23.75	26.45	2.70			
		velocity	8.19	8.67	7.94	7.22	7.97	8.19	8.67	7.94	7.22	8.42	7.56					

Semi-Final 3 - 1987 IAAF World Championships (Rome, ITA)

Moravec (1990) - time analysis of the sprints - Rome 1987 Scientific Report (2nd ed)

date	30-Aug-87	time	12.39	24.15	36.78	50.53	50.53	7 / 1										
reaction time		interval	11.76	12.63	13.75			# of strides	12.39	11.76	12.63	13.75	24.15	26.38	2.23			
		velocity	8.07	8.50	7.92	7.27	7.92	8.07	8.50	7.92	7.27	8.28	7.58					

Heat 6 - 1987 IAAF World Championships (Rome, ITA)

Moravec (1990) - time analysis of the sprints - Rome 1987 Scientific Report (2nd ed)

date	29-Aug-87	time	12.32	23.98	36.74	51.62	51.62	7 / 1										
reaction time		interval	11.66	12.76	14.88			# of strides	12.32	11.66	12.76	14.88	23.98	27.64	3.66			
		velocity	8.12	8.58	7.84	6.72	7.75	8.12	8.58	7.84	6.72	8.34	7.24					

Ertzgaard, Astri (NOR) (2002)

50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

European Athletics (2024) - 2024 european athletics championships - results book

date	09-Jun-24	time	12.68	24.85	38.17	52.82	52.82	3 / 6										
reaction time	0.174	interval	12.17	13.32	14.65			# of strides	12.68	12.17	13.32	14.65	24.85	27.97	3.12			
		velocity	7.89	8.22	7.51	6.83	7.57	206.5	7.89	8.22	7.51	6.83	8.05	7.15				

Heat 3 - 2024 European Athletics Championships (Roma, ITA)

European Athletics (2024) - 2024 european athletics championships - results book

date	08-Jun-24	time	13.18	25.49	38.40	52.78	52.78	6 / 4										
reaction time	0.249	interval	12.31	12.91	14.38			# of strides	13.18	12.31	12.91	14.38	25.49	27.29	1.80			

velocity 7.59 8.12 7.75 6.95 7.58 7.59 8.12 7.75 6.95 7.85 7.33

Table for Ertzgaard, Kaitesi (NOR) (2000) with columns: 50m, 100m, 150m, 200m, 250m, 300m, 350m, 400m, Official Time, Lane / Place, 0-100m, 100-200m, 200-300m, 300-400m, 0-200m, 200m-400m, Differential. Includes race analysis for Omega Timing (2019) - diamond league.

Table for Estes, Carla (USA) (1979) with columns: 50m, 100m, 150m, 200m, 250m, 300m, 350m, 400m, Official Time, Lane / Place, 0-100m, 100-200m, 200-300m, 300-400m, 0-200m, 200m-400m, Differential. Includes race analysis for USATF Women's Sprint Development (1996).

Table for Esumi, Kazuka (JPN) with columns: 50m, 100m, 150m, 200m, 250m, 300m, 350m, 400m, Official Time, Lane / Place, 0-100m, 100-200m, 200-300m, 300-400m, 0-200m, 200m-400m, Differential. Includes race analysis for Shimizu (2024) - shimane high school championships.

Table for Fahr, Annina (SUI) (1993) with columns: 50m, 100m, 150m, 200m, 250m, 300m, 350m, 400m, Official Time, Lane / Place, 0-100m, 100-200m, 200-300m, 300-400m, 0-200m, 200m-400m, Differential. Includes race analysis for Omega Timing (2024) - diamond league.

Table for Fahr, Annina (SUI) (1993) with columns: 50m, 100m, 150m, 200m, 250m, 300m, 350m, 400m, Official Time, Lane / Place, 0-100m, 100-200m, 200-300m, 300-400m, 0-200m, 200m-400m, Differential. Includes race analysis for Omega Timing (2024) - diamond league.

Table for Fahr, Annina (SUI) (1993) with columns: 50m, 100m, 150m, 200m, 250m, 300m, 350m, 400m, Official Time, Lane / Place, 0-100m, 100-200m, 200-300m, 300-400m, 0-200m, 200m-400m, Differential. Includes race analysis for Omega Timing (2023) - diamond league.

Table for Fahr, Annina (SUI) (1993) with columns: 50m, 100m, 150m, 200m, 250m, 300m, 350m, 400m, Official Time, Lane / Place, 0-100m, 100-200m, 200-300m, 300-400m, 0-200m, 200m-400m, Differential. Includes race analysis for Omega Timing (2022) - diamond league.

Table for Fahr, Annina (SUI) (1993) with columns: 50m, 100m, 150m, 200m, 250m, 300m, 350m, 400m, Official Time, Lane / Place, 0-100m, 100-200m, 200-300m, 300-400m, 0-200m, 200m-400m, Differential. Includes race analysis for Omega Timing (2022) - diamond league.

Table for Fahr, Annina (SUI) (1993) with columns: 50m, 100m, 150m, 200m, 250m, 300m, 350m, 400m, Official Time, Lane / Place, 0-100m, 100-200m, 200-300m, 300-400m, 0-200m, 200m-400m, Differential. Includes race analysis for Omega Timing (2022) - Tokyo 2020 - race analysis - women's 400m final.

Table for Fahr, Annina (SUI) (1993) with columns: 50m, 100m, 150m, 200m, 250m, 300m, 350m, 400m, Official Time, Lane / Place, 0-100m, 100-200m, 200-300m, 300-400m, 0-200m, 200m-400m, Differential. Includes race analysis for European Athletics (2019) - race analysis.

Table for Fahr, Annina (SUI) (1993) with columns: 50m, 100m, 150m, 200m, 250m, 300m, 350m, 400m, Official Time, Lane / Place, 0-100m, 100-200m, 200-300m, 300-400m, 0-200m, 200m-400m, Differential. Includes race analysis for Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Women's 400m.

Table for Fahr, Annina (SUI) (1993) with columns: 50m, 100m, 150m, 200m, 250m, 300m, 350m, 400m, Official Time, Lane / Place, 0-100m, 100-200m, 200-300m, 300-400m, 0-200m, 200m-400m, Differential. Includes race analysis for Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Women's 400m.

Table for Fahr, Annina (SUI) (1993) with columns: 50m, 100m, 150m, 200m, 250m, 300m, 350m, 400m, Official Time, Lane / Place, 0-100m, 100-200m, 200-300m, 300-400m, 0-200m, 200m-400m, Differential. Includes race analysis for Yamamoto (2016) - race analysis of male & female 400m runners.

Table for Fahr, Annina (SUI) (1993) with columns: 50m, 100m, 150m, 200m, 250m, 300m, 350m, 400m, Official Time, Lane / Place, 0-100m, 100-200m, 200-300m, 300-400m, 0-200m, 200m-400m, Differential. Includes race analysis for Hymans (2020) - history of the US olympic trials - track and field.

Table for Fahr, Annina (SUI) (1993) with columns: 50m, 100m, 150m, 200m, 250m, 300m, 350m, 400m, Official Time, Lane / Place, 0-100m, 100-200m, 200-300m, 300-400m, 0-200m, 200m-400m, Differential. Includes race analysis for Kohei (2015) - 400m race analysis of male & female at major 2015 competitions.

WR=World Rec. AR=Area Rec. OR=Olympic Rec. CR=Championship Rec. NR=National Rec. PB=Personal Best DQ=Disqualified DV=Drug Violation

velocity	7.95	9.67	8.79	8.08	8.17	8.05	7.61	7.12	8.12	179.5	8.73	8.42	8.11	7.36	8.57	7.72
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Heat 1 - 2015 IAAF World Championships (Beijing, CHN)

date	24-Aug-15	time	6.39	11.75	17.55	23.89	30.35	36.88	43.50	50.60	50.60	6 / 1	<i>Yamamoto (2015) - race analysis of 15th World Championships 400m- focusing on men's semis and women's prelims</i>						
reaction time	0.173	interval		5.36	5.80	6.34	6.46	6.53	6.62	7.10		# of strides	11.75	12.14	12.99	13.72	23.89	26.71	2.82
		velocity	7.82	9.33	8.62	7.89	7.74	7.66	7.55	7.04	7.91		8.51	8.24	7.70	7.29	8.37	7.49	

FINAL - 2011 IAAF World Championships (Daegu, KOR)

date	29-Aug-11	time			23.4		35.9		49.59	49.59		3 / 2	<i>Butler (2013) - IAAF world athletic results 2008-2011 full results</i>					
reaction time	0.273	interval					12.50		13.69			# of strides		12.50	13.69	23.40	26.19	2.79
		velocity			8.55		8.00		7.30	8.07			8.00	7.30	8.55	7.64		

Fenton, Lorraine (JAM) (1973)

date	27-Aug-03	time			23.6		35.7		49.43	49.43		5 / 2	<i>Bonvin (2003) - Compte-rendu 400m et relais 4x 400m</i>					
reaction time	0.177	interval					12.10		13.73			# of strides		12.10	13.73	23.60	25.83	2.23
		velocity			8.47		8.26		7.28	8.09			8.26	7.28	8.47	7.74		

FINAL - 2002 Herculis (Monaco, MON)

date	19-Jul-02	time		12.35		23.80		36.27		49.30	49.30	/ 2	<i>Veney - split times from PJ</i>						
reaction time	0.218	interval			11.45		12.47		13.03	NR		# of strides	12.35	11.45	12.47	13.03	23.80	25.50	1.70
		velocity		8.10		8.73		8.02		7.67	8.11		8.10	8.73	8.02	7.67	8.40	7.84	

FINAL - 2000 Olympic Games (Sydney, AUS)

date	25-Sep-00	time		12.14		23.70		36.00		49.58	49.58	4 / 2	<i>Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016</i>						
reaction time	0.452	interval			11.56		12.30		13.58	PB		# of strides	12.14	11.56	12.30	13.58	23.70	25.88	2.18
		velocity		8.24		8.65		8.13		7.36	8.07		8.24	8.65	8.13	7.36	8.44	7.73	

Graham, Lorraine (JAM) (1973)

date	26-Aug-99	time	6.61	12.11	17.73	23.59	29.78	36.12	42.72	49.92	49.92	3 / 3	<i>Ferro (2001) - biomechanical analysis of the 7th world championships, seville 1999</i>						
reaction time	0.182	interval		5.50	5.62	5.86	6.19	6.34	6.60	7.20	PB	# of strides	12.11	11.48	12.53	13.80	23.59	26.33	2.74
		velocity	7.56	9.09	8.90	8.53	8.08	7.89	7.58	6.94	8.01		8.26	8.71	7.98	7.25	8.48	7.60	

Ferguson, Mable (USA) (1955)

date	07-Sep-72	time			24.8					52.0	51.96	3 / 5	<i>Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016</i>						
reaction time		interval								27.2		# of strides					24.80	27.20	2.40
		velocity			8.06					7.35	7.70						8.06	7.35	

Firova, Tatyana (RUS) (1982)

date	14-Jun-09	time		13.00		25.28		38.20		52.36	52.36	/ 6	<i>Graubner (2009) - http://www.fgs.uni-halle.de</i>						
reaction time	0.259	interval			12.28		12.92		14.16			# of strides	13.00	12.28	12.92	14.16	25.28	27.08	1.80
		velocity		7.69		8.14		7.74		7.06	7.64		7.69	8.14	7.74	7.06	7.91	7.39	

FINAL - 2008 IAAF World Athletics Final (Stuttgart, GER)

date	14-Sep-08	time		13.21		25.44		38.29		51.85	51.85	7 / 7	<i>Graubner (2009) - http://www.fgs.uni-halle.de</i>						
reaction time	0.192	interval			12.23		12.85		13.56			# of strides	13.21	12.23	12.85	13.56	25.44	26.41	0.97
		velocity		7.57		8.18		7.78		7.37	7.71		7.57	8.18	7.78	7.37	7.86	7.57	

FINAL - 2008 Olympic Games (Beijing, CHN)

date	19-Aug-08	time		12.5		24.0		36.0		50.1	50.11	3 / 6	<i>Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016</i>						
reaction time	0.196	interval			11.50		12.00		14.10			# of strides	12.50	11.50	12.00	14.10	24.00	26.10	2.10
		velocity		8.00		8.70		8.33		7.09	7.98		184.0	8.00	8.70	8.33	7.09	8.33	7.66

Floyd, Ebonie (USA) (1983)

date	03-Jul-08	time	12.31	17.88	24.70	30.93	37.55	44.23	51.26	51.26		1 / 6	<i>USATF Women's Sprint Development with HPC (2008)</i>						
reaction time		interval		5.57	6.82	6.23	6.62	6.68	7.03			# of strides	12.31	12.39	12.85	13.71	24.70	26.56	1.86
		velocity	8.12	8.98	7.33	8.03	7.55	7.49	7.11	7.80			8.12	8.07	7.78	7.29	8.10	7.53	

Quarter-Final 3 - 2008 USA Olympic Trials (Eugene, OR)

date	29-Jun-08	time	12.70	18.47	24.59	30.79	37.40	44.18	51.37	51.37		4 / 2	<i>USATF Women's Sprint Development with HPC (2008)</i>						
reaction time		interval		5.77	6.12	6.20	6.61	6.78	7.19			# of strides	12.70	11.89	12.81	13.97	24.59	26.78	2.19
		velocity	7.87	8.67	8.17	8.06	7.56	7.37	6.95	7.79			7.87	8.41	7.81	7.16	8.13	7.47	

Ford, JaMeesia (USA) (2005)

date	23-Jun-24	time		12.20		24.03		36.89		50.80	50.80	2 / 8	<i>USATF and Karmarush (2024) - USA Olympic trials results and race analysis</i>						
reaction time		interval			11.83		12.86		13.91			# of strides	12.20	11.83	12.86	13.91	24.03	26.77	2.74
		velocity		8.20		8.45		7.78		7.19	7.87		187.0	8.20	8.45	7.78	7.19	8.32	7.47

Semi-Final 1 - 2024 USA Olympic Trials (Eugene, OR)

date	22-Jun-24	time		12.02		23.50		36.18		50.33	50.33	4 / 4	<i>USATF and Karmarush (2024) - USA Olympic trials results and race analysis</i>						
reaction time		interval			11.48		12.68		14.15	PB		# of strides	12.02	11.48	12.68	14.15	23.50	26.83	3.33
		velocity		8.32		8.71		7.89		7.07	7.95		184.0	8.32	8.71	7.89	7.07	8.51	7.45

Heat 4 - 2024 USA Olympic Trials (Eugene, OR)

date	21-Jun-24	time		12.54		24.53		37.83		51.55	51.55	4 / 3	<i>USATF and Karmarush (2024) - USA Olympic trials results and race analysis</i>						
reaction time		interval			11.99		13.30		13.72			# of strides	12.54	11.99	13.30	13.72	24.53	27.02	2.49
		velocity		7.97		8.34		7.52		7.29	7.76		183.0	7.97	8.34	7.52	7.29	8.15	7.40

Formella, Aleksandra (POL) (2001)

date	06-Aug-22	time	7.03	12.73	18.83	25.37	32.12	38.98	46.15	53.86	53.86	4 / 3	<i>Omega Timing (2022) - diamond league race analysis</i>				
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reaction time	0.151	interval	5.70	6.10	6.54	6.75	6.86	7.17	7.71		# of strides	12.73	12.64	13.61	14.88	25.37	28.49	3.12	
		velocity	7.11	8.77	8.20	7.65	7.41	7.29	6.97	6.49	7.43	7.86	7.91	7.35	6.72	7.88	7.02		
Fox, Jessica (USA) (1982)			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2004 USA Olympic Trials (Sacramento, CA)																			
date	12-Jul-04	time	12.86		24.59		37.64	44.93	53.11	53.11		8 / 6							
reaction time		interval			11.73		13.05	7.29	8.18			# of strides	12.86	11.73	13.05	15.47	24.59	28.52	3.93
		velocity	7.78		8.53		7.66	6.86	6.11	7.53		7.78	8.53	7.66	6.46	8.13	7.01		
FINAL - 2003 USATF National Championship (Palo Alto, CA)																			
date	21-Jun-03	time	25.36				38.36	45.11	52.58	52.58		8 / 8							
reaction time		interval					13.00	6.75	7.47			# of strides		13.00	14.22	25.36	27.22	1.86	
		velocity	7.89				7.69	7.41	6.69	7.61		7.69	7.69	7.03	7.89	7.35			
Semi-Final 1 - 2003 USATF National Championship (Palo Alto, CA)																			
date	20-Jun-03	time	24.81				38.04	44.93	52.60	52.60		6 / 4							
reaction time		interval					13.23	6.89	7.67			# of strides		13.23	14.56	24.81	27.79	2.98	
		velocity	8.06				7.56	7.26	6.52	7.60		7.56	7.56	6.87	8.06	7.20			
Francis, Phyllis (USA) (1992)			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2019 IAAF World Championships (Doha, QAT)																			
date	01-Oct-19	time	6.82	12.33	17.95	23.93	30.15	36.65	43.26	50.22	50.22	5 / 2							
reaction time	0.218	interval		5.51	5.62	5.98	6.22	6.50	6.61	6.96		# of strides	12.33	11.60	12.72	13.57	23.93	26.29	2.36
		velocity	7.33	9.07	8.90	8.36	8.04	7.69	7.56	7.18	7.96	175.5	8.11	8.62	7.86	7.37	8.36	7.61	
FINAL - 2019 Meeting de Paris (Paris, FRA)																			
date	24-Aug-19	time	12.1		23.7		36.8		51.56	51.56		4 / 4							
reaction time	0.237	interval			11.6		13.1		14.8			# of strides	12.10	11.60	13.10	14.76	23.70	27.86	4.16
		velocity	8.26		8.62		7.63		6.78	7.76		179.2	8.26	8.62	7.63	6.78	8.44	7.18	
FINAL - 2019 Meeting International Mohammed VI d'Athlétisme (Rabat, MAR)																			
date	16-Jun-19	time	12.3		24.1		36.8		50.76	50.76		5 / 4							
reaction time	0.203	interval			11.8		12.7		14.0			# of strides	12.30	11.80	12.70	13.96	24.10	26.66	2.56
		velocity	8.13		8.47		7.87		7.16	7.88		177.0	8.13	8.47	7.87	7.16	8.30	7.50	
FINAL - 2018 Meeting de Paris (Paris, FRA)																			
date	30-Jun-18	time	12.3		24.2		36.9		50.50	50.50		6 / 3							
reaction time	0.198	interval			11.9		12.7		13.6			# of strides	12.30	11.90	12.70	13.60	24.20	26.30	2.10
		velocity	8.13		8.40		7.87		7.35	7.92		178.2	8.13	8.40	7.87	7.35	8.26	7.60	
FINAL - 2018 Bauhaus Galan (Stockholm, SWE)																			
date	30-Jun-18	time	12.3		24.0		36.7		50.07	50.07		5 / 2							
reaction time	0.190	interval			11.7		12.7		13.4			# of strides	12.30	11.70	12.70	13.37	24.00	26.07	2.07
		velocity	8.13		8.55		7.87		7.48	7.99		179.0	8.13	8.55	7.87	7.48	8.33	7.67	
FINAL - 2018 Bislett Games (Oslo, NOR)																			
date	07-Jun-18	time	12.3		23.8		36.4		50.47	50.47		4 / 2							
reaction time	0.205	interval			11.5		12.6		14.1			# of strides	12.30	11.50	12.60	14.07	23.80	26.67	2.87
		velocity	8.13		8.70		7.94		7.11	7.93		177.0	8.13	8.70	7.94	7.11	8.40	7.50	
FINAL - 2017 IAAF World Championships (London, GBR)																			
date	09-Aug-17	time	11.70		23.11		35.66	42.40	49.72	49.92		Pollitt (2017) - biomechanical report for the IAAF World Champs - London 2017 - Women's 400m							
reaction time	0.196	interval			11.41		12.55	6.74	7.32	PB		# of strides	11.70	11.41	12.55	14.06	23.11	26.61	3.50
		velocity	8.55		8.76		7.97	7.42	6.83	8.01		178.3	8.55	8.76	7.97	7.11	8.65	7.52	
Semi-Final 3 - 2017 IAAF World Championships (London, GBR)																			
date	07-Aug-17	time	11.91		23.19		35.96	42.94	50.18	50.37		Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Women's 400m							
reaction time	0.187	interval			11.28		12.77	6.98	7.24			# of strides	11.91	11.28	12.77	14.22	23.19	26.99	3.80
		velocity	8.40		8.87		7.83	7.16	6.91	7.94		179.2	8.40	8.87	7.83	7.03	8.62	7.41	
FINAL - 2017 USATF National Championship (Sacramento, CA)																			
date	24-Jun-17	time	12.23		23.44		36.13		49.96	49.96		Lee (& Ferrara) (2017) - speedendurance.com/2017/07/13/400m-splits-from-usa-national-championships/							
reaction time		interval			11.21		12.69		13.83			# of strides	12.23	11.21	12.69	13.83	23.44	26.52	3.08
		velocity	8.24		8.73		8.12		7.24	8.01		177.0	8.18	8.92	7.88	7.23	8.53	7.54	
FINAL - 2016 Olympic Games (Rio de Janeiro, BRA)																			
date	15-Aug-16	time	6.74	12.24	17.93	23.78	29.94	36.40	43.14	50.41	50.41								
reaction time	0.219	interval		5.50	5.69	5.85	6.16	6.46	6.74	7.27		# of strides	12.24	11.54	12.62	14.01	23.78	26.63	2.85
		velocity	7.42	9.09	8.79	8.55	8.12	7.74	7.42	6.88	7.93	176.2	8.17	8.67	7.92	7.14	8.41	7.51	
FINAL - 2016 USA Olympic Trials (Eugene, OR)																			
date	03-Jul-16	time			24.1		36.6		49.94	49.94		2 / 2							
reaction time	0.190	interval			12.50		13.34		PB			# of strides		12.50	13.34	24.10	25.84	1.74	
		velocity			8.30		8.00		7.50	8.01		177.0	8.00	7.50	8.30	7.74			
FINAL - 2015 IAAF World Championships (Beijing, CHN)																			
date	27-Aug-15	time	6.74	12.28	17.93	23.94	30.23	36.64	43.34	50.51	50.51								
reaction time	0.183	interval		5.54	5.65	6.01	6.29	6.41	6.70	7.17		# of strides	12.28	11.66	12.70	13.87	23.94	26.57	2.63
		velocity	7.42	9.03	8.85	8.32	7.95	7.80	7.46	6.97	7.92	176.2	8.14	8.58	7.87	7.21	8.35	7.53	
Heat 4 - 2015 IAAF World Championships (Beijing, CHN)																			
date	24-Aug-15	time	6.76	12.35	18.07	24.11	30.40	36.81	43.47	50.52	50.52								
reaction time	0.170	interval		5.59	5.72	6.04	6.29	6.41	6.66	7.05	PB	# of strides	12.35	11.76	12.70	13.71	24.11	26.41	2.30
		velocity	7.40	8.94	8.74	8.28	7.95	7.80	7.51	7.09	7.92	176.2	8.10	8.50	7.87	7.29	8.30	7.57	

											USTFCCCA (2017) - NCAA DI outdoor championship history										
FINAL - 2014 NCAA Championships (Eugene, OR)											0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential				
date	time	interval	velocity	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	# of strides	24.10	26.50	2.40				
reaction time				8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8 / 2		8.30	7.55					
Franks, Nina (NED) (2002)											0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential				
National FINAL - 2024 FBK Games (Hengelo, NED)											Omega Timing (2024) - continental tour gold race analysis										
date	time	interval	velocity	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	# of strides	12.68	11.96	13.51	15.96	24.64	29.47	4.83
reaction time				6.97	12.68	18.51	24.64	31.15	38.15	45.69	54.11	54.11	4 / 4		7.89	8.36	7.40	6.27	8.12	6.79	
Fraser, Donna (GBR) (1972)											0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential				
FINAL - 2000 Olympic Games (Sydney, AUS)											Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016										
date	time	interval	velocity	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	# of strides	12.40	11.70	12.70	13.00	24.10	25.70	1.60
reaction time				12.4	12.4	12.4	12.4	12.4	12.4	12.4	12.4	12.4	2 / 4		8.06	8.55	7.87	7.69	8.30	7.78	
FINAL - 1997 European Cup (Munich, GER)											Jung (2003) - http://www.fgs.uni-halle.de										
date	time	interval	velocity	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	# of strides	12.70	11.87	12.52	14.42	24.57	26.94	2.37
reaction time				12.70	12.70	12.70	12.70	12.70	12.70	12.70	12.70	12.70	/ 2		7.87	8.42	7.99	6.93	8.14	7.42	
Freeman, Cathy (AUS) (1973)											0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential				
FINAL - 2000 Olympic Games (Sydney, AUS)											Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016										
date	time	interval	velocity	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	# of strides	12.30	11.78	12.06	12.97	24.08	25.03	0.95
reaction time				12.30	12.30	12.30	12.30	12.30	12.30	12.30	12.30	12.30	6 / 1		8.13	8.49	8.29	7.71	8.31	7.99	
FINAL - 1999 IAAF World Championships (Sevilla, ESP)											Ferro (2001) - biomechanical analysis of the 7th world championships, seville 1999										
date	time	interval	velocity	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	# of strides	12.19	11.60	12.18	13.70	23.79	25.88	2.09
reaction time				6.56	12.19	17.87	23.79	29.87	35.97	42.50	49.67	49.67	5 / 1		8.20	8.62	8.21	7.30	8.41	7.73	
FINAL - 1997 IAAF World Championships (Athens, GRE)											Ritzdorf (1997) - biomechanical research project at the VI th world championships in athletics, Athens 1997										
date	time	interval	velocity	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	# of strides	12.26	11.44	12.20	13.64	23.70	25.84	2.14
reaction time				6.54	12.26	17.90	23.70	29.70	35.90	42.50	49.54	49.77	1 / 1		8.16	8.74	8.20	7.33	8.44	7.74	
FINAL - 1996 Olympic Games (Atlanta, GA)											Vazel (2011) - speed reserve in the 400m										
date	time	interval	velocity	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	# of strides	12.20	11.27	11.63	13.50	23.47	25.13	1.66
reaction time				12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	4 / 2		8.20	8.87	8.60	7.41	8.52	7.96	
FINAL - 1995 IAAF World Championships (Gothenburg, SWE)											Butler (2013) - IAAF world championships statistics handbook- moscow 2013										
date	time	interval	velocity	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	# of strides	12.40	14.90	23.30	27.30	4.00		
reaction time				23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	4 / 4		8.06	6.71	8.58	7.33			
FINAL - 1994 Herculis (Monaco, MON)											Vazel (2011) - speed reserve in the 400m										
date	time	interval	velocity	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	# of strides	12.50	11.80	12.60	13.30	24.30	25.90	1.60
reaction time				12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	/ 1		8.00	8.47	7.94	7.52	8.23	7.72	
Frobe, Linnéa (SWE) (1998)											0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential				
FINAL - 2024 Bauhaus Galan (Stockholm, SWE)											Omega Timing (2024) - diamond league race analysis										
date	time	interval	velocity	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	# of strides	12.74	12.42	13.24	15.63	25.16	28.87	3.71
reaction time				6.98	12.74	18.82	25.16	31.61	38.40	45.75	54.03	54.03	8 / 5		7.85	8.05	7.55	6.40	7.95	6.93	
FINAL - 2022 Bauhaus Galan (Stockholm, SWE)											Omega Timing (2022) - diamond league race analysis										
date	time	interval	velocity	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	# of strides	12.99	12.57	13.65	15.66	25.56	29.31	3.75
reaction time				7.05	12.99	19.15	25.56	32.29	39.21	46.66	54.87	54.87	8 / 6		7.70	7.96	7.33	6.39	7.82	6.82	
Fu Na (CHN) (1997)											0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential				
FINAL - 2017 Chinese National Games (Tianjin, CHN)											Yang (2019) - analysis of the characteristics of Yang Huizhen's running speed in 400m										
date	time	interval	velocity	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	# of strides	13.13	12.23	13.23	14.66	25.36	27.89	2.53
reaction time				13.13	13.13	13.13	13.13	13.13	13.13	13.13	13.13	13.13	/ 4		7.62	8.18	7.56	6.82	7.89	7.17	
Fuchsová, Helena (CZE) (1965)											0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential				
FINAL - 1997 IAAF World Championships (Sevilla, ESP)											Ritzdorf (1997) - biomechanical research project at the VI th world championships in athletics, Athens 1997										
date	time	interval	velocity	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	# of strides	12.18	11.48	12.72	14.12	23.66	26.84	3.18
reaction time				6.62	12.18	17.70	23.66	29.90	36.38	43.14	50.50	50.66	8 / 6		8.21	8.71	7.86	7.08	8.45	7.45	
Fuji, Mio (JPN)											0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential				
U20 FINAL - 2019 Japanese National U18/U20 Championships (Hiroshima, JPN)											Kijima (2019) - research on athlete performance and technique- 2019 data book										
date	time	interval	velocity	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	# of strides	13.43	13.03	13.75	14.52	26.46	28.27	1.81
reaction time				7.16	13.43	19.79	26.46	33.24	40.21	47.34	54.73	54.73	7 / 2		7.45	7.67	7.27	6.89	7.56	7.07	
Fuji, Ayano (JPN) (1998)											0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential				
Division 1 Semi-Final 2 - 2017 Kanto Collegiate Championships (Yokohama, JPN)											(2017) - tdata-store.com/2017/06/02/post-835/										
date	time	interval	velocity	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	# of strides	56.60	56.60					
reaction time				13.22	13.22	13.22	13.22	13.22	13.22	13.22	13.22	13.22	3 / 6								

reaction time	interval		13.02	14.54	15.82		# of strides	13.22	13.02	14.54	15.82	26.24	30.36	4.12						
	velocity	7.56	7.68	6.88	6.32	7.07	207.5	7.56	7.68	6.88	6.32	7.62	6.59							
FINAL - 2017 Izumo Athletics Games (Izuma, JPN) (300m)											(2017) - tfdata-store.com/2017/05/17/post-537/									
date	23-Apr-17	time	12.89	25.47	39.54		39.54	8 / 5						100m-300m						
reaction time	interval		12.58	14.07			PB	# of strides	12.89	12.58	14.07		25.47	26.65						
	velocity	7.76	7.95	7.11			7.59	152.0	7.76	7.95	7.11		7.85	7.50						
U19 FINAL - 2015 National Sports Festival (Wakayama, JPN)											Kohei (2015) - 400m race analysis of male & female at major 2015 competitions									
date	05-Oct-15	time	7.33	13.57	20.00	26.81	33.88	41.23	48.91	57.24		57.24		/ 8						
reaction time	interval		6.24	6.43	6.81	7.07	7.35	7.68	8.33				# of strides	13.57	13.24	14.42	16.01	26.81	30.43	3.62
	velocity	6.82	8.01	7.78	7.34	7.07	6.80	6.51	6.00	6.99				7.37	7.55	6.93	6.25	7.46	6.57	
Fujii, Natsumi (JPN) (1991)											Matsuo (2009) - 62nd high school championships: JAF scientific committee- biomechanics									
FINAL - 2009 Japanese National High School Championships (Nara, JPN)																				
date	29-Jul-09	time	13.23		27.02		40.95		55.32	55.32		5 / 3								
reaction time	interval		13.79		13.93		14.37					# of strides	13.23	13.79	13.93	14.37	27.02	28.30	1.28	
	velocity	7.56	7.25		7.18		6.96		7.23				7.56	7.25	7.18	6.96	7.40	7.07		
Fujinuma, Akane (JPN) (1996)											Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition									
FINAL - 2018 Japanese Corporate Championships (Osaka, JPN)																				
date	23-Sep-18	time	7.23	13.32	19.59	26.29	33.24	40.41	47.78	55.63	55.63		8 / 5							
reaction time	0.132	interval	6.09	6.27	6.70	6.95	7.17	7.37	7.85		PB		# of strides	13.32	12.97	14.12	15.22	26.29	29.34	3.05
	velocity	6.92	8.21	7.97	7.46	7.19	6.97	6.78	6.37	7.19			7.51	7.71	7.08	6.57	7.61	6.82		
Fujisawa, Sayaka (JPN) (1991)											Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016									
FINAL - 2017 Izumo Athletics Games (Izuma, JPN) (300m)																				
date	23-Apr-17	time	12.29		24.25		38.09		56.01	56.01		4 / 2								
reaction time	interval		11.96		13.84				PB			# of strides	12.29	11.96	13.84		24.25	25.80		
	velocity	8.14	8.36		7.23				7.88			151.7	8.14	8.36	7.23		8.25	7.75		
FINAL - 2016 National Sports Festival (Kitakami, JPN)											Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016									
date	09-Oct-16	time	6.96	12.91	19.12	25.73	32.65	39.89	47.60	56.01	56.01		6 / 8							
reaction time	0.230	interval	5.95	6.21	6.61	6.92	7.24	7.71	8.41			# of strides	12.91	12.82	14.16	16.12	25.73	30.28	4.55	
	velocity	7.18	8.40	8.05	7.56	7.23	6.91	6.49	5.95	7.14			7.75	7.80	7.06	6.20	7.77	6.61		
Heat 1 - 2016 Japanese National Championships (Nagoya, JPN)											Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016									
date	24-Jun-16	time	7.11	13.05	19.19	25.58	32.18	39.22	46.83	55.07	55.07		6 / 4							
reaction time	0.182	interval	5.94	6.14	6.39	6.60	7.04	7.61	8.24			# of strides	13.05	12.53	13.64	15.85	25.58	29.49	3.91	
	velocity	7.03	8.42	8.14	7.82	7.58	7.10	6.57	6.07	7.26			7.66	7.98	7.33	6.31	7.82	6.78		
FINAL - 2015 Japanese National Championships (Niigata, JPN)											Kohei (2015) - 400m race analysis of male & female at major 2015 competitions									
date	27-Jun-15	time	6.73	12.36	18.18	24.44	31.18	38.19	45.39	53.14	53.14		7 / 2							
reaction time	0.191	interval	5.63	5.82	6.26	6.74	7.01	7.20	7.75		PB		# of strides	12.36	12.08	13.75	14.95	24.44	28.70	4.26
	velocity	7.43	8.88	8.59	7.99	7.42	7.13	6.94	6.45	7.53			201.0	8.09	8.28	7.27	6.69	8.18	6.97	
Fukuda, Shoko (JPN) (1998)											Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016									
FINAL - 2016 Japanese National High School Championships (Okayama, JPN)																				
date	29-Jul-16	time	7.49	13.74	20.09	26.67	33.40	40.27	47.57	55.30	55.30		3 / 5							
reaction time	0.287	interval	6.25	6.35	6.58	6.73	6.87	7.30	7.73			# of strides	13.74	12.93	13.60	15.03	26.67	28.63	1.96	
	velocity	6.68	8.00	7.87	7.60	7.43	7.28	6.85	6.47	7.23			7.28	7.73	7.35	6.65	7.50	6.99		
FINAL - 2016 China Perfecture High School Championships (Okayama, JPN)											(2016.06.20) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en									
date	17-Jun-16	time	13.65		26.55		40.13		54.93	54.93		7 / 1								
reaction time	interval		12.90		13.58		14.80					# of strides	13.65	12.90	13.58	14.80	26.55	28.38	1.83	
	velocity	7.33	7.75		7.36		6.76		7.28				7.33	7.75	7.36	6.76	7.53	7.05		
Fukushima, Miyuki (JPN) (1997)											Shimizu (2019) - shimane high school championships 2019 - biomechanics data analysis									
Division 1 Semi-Final 1 - 2017 Kanto Collegiate Championships (Yokohama, JPN)																				
date	26-May-17	time	13.39		26.68		41.21		56.71	56.71		2 / 7								
reaction time	interval		13.29		14.53		15.50		PB			# of strides	13.39	13.29	14.53	15.50	26.68	30.03	3.35	
	velocity	7.47	7.52		6.88		6.45		7.05			210.0	7.47	7.52	6.88	6.45	7.50	6.66		
Fukuzato, Akiho (JPN) (1994)											Yasunori (2012) - 65th high school championships: JAF scientific committee- biomechanics									
FINAL - 2012 Japanese National High School Championships (Niigata, JPN)																				
date	29-Jul-12	time	13.53		26.86		40.55		55.49	55.49		8 / 4								
reaction time	interval		13.33		13.69		14.94					# of strides	13.53	13.33	13.69	14.94	26.86	28.63	1.77	
	velocity	7.39	7.50		7.30		6.69		7.21				7.39	7.50	7.30	6.69	7.45	6.99		
Funabiki, Ruka (JPN) (2002)											Ryutaro (2018) - research on athlete performance and technique- 2018 data book									
U18 FINAL - 2019 Japanese National U18/U20 Championships (Hiroshima, JPN) (300m)																				
date	18-Oct-19	time	13.50		26.84		40.82		40.82			7 / 8								
reaction time	0.176	interval	13.34		13.98							# of strides	13.50	13.34	13.98		26.84	27.32		
	velocity	7.41	7.50		7.15				7.35			152.7	7.41	7.50	7.15		7.45	7.32		
FINAL - 2018 Japanese National Youth (U18) Championships (Nagano, JPN)																				
date	19-Oct-18	time	7.34	13.65	20.26	27.07	34.02	41.23	48.78	56.64	56.64		1 / 6							
reaction time	0.202	interval	6.31	6.61	6.81	6.95	7.21	7.55	7.86			# of strides	13.65	13.42	14.16	15.41	27.07	29.57	2.50	
	velocity	6.81	7.92	7.56	7.34	7.19	6.93	6.62	6.36	7.06			7.33	7.45	7.06	6.49	7.39	6.76		
Funderbunk, Kala (USA) (1992)											USTFCCA (2017) - NCAA DI outdoor championship history									
FINAL - 2015 NCAA Championships (Eugene, OR)																				
date	13-Jun-15	time			26.0				51.7	51.67		8 / 1								
reaction time	interval							25.70				# of strides				26.00	25.70	-0.30		
	velocity			7.69				7.78	7.74							7.69	7.78			

Gacka, Kinga (POL) (2001)																			
National FINAL - 2022 Silesia Kamila Skolimowska Memorial (Chorzów, POL)																			
Omega Timing (2022) - diamond league race analysis																			
date	time	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
06-Aug-22		6.92	12.68	18.59	24.77	31.25	38.05	45.06	52.62	52.62	6 / 1	# of strides	12.68	12.09	13.28	14.57	24.77	27.85	3.08
reaction time	0.184	interval	5.76	5.91	6.18	6.48	6.80	7.01	7.56		# of strides	7.89	8.27	7.53	6.86	8.07	7.18		
		velocity	7.23	8.68	8.46	8.09	7.72	7.35	7.13	7.60									
Gale, Lauren (CAN) (2000)																			
Repechage 3 - 2024 Olympic Games (Paris, FRA)																			
Paris 2024 Olympic Games - Results Book (2024)																			
06-Aug-24		6.86	12.37	18.11	24.20	30.66	37.59	44.90	52.68	52.68	3 / 6	# of strides	12.37	11.83	13.39	15.09	24.20	28.48	4.28
reaction time	0.186	interval	5.51	5.74	6.09	6.46	6.93	7.31	7.78		# of strides	8.08	8.45	7.47	6.63	8.26	7.02		
		velocity	7.29	9.07	8.71	8.21	7.74	7.22	6.84	6.43	7.59								
Heat 6 - 2024 Olympic Games (Paris, FRA)																			
Paris 2024 Olympic Games - Results Book (2024)																			
05-Aug-24		6.80	12.35	18.09	24.20	30.72	37.72	45.16	53.13	53.13	3 / 6	# of strides	12.35	11.85	13.52	15.41	24.20	28.93	4.73
reaction time	0.207	interval	5.55	5.74	6.11	6.52	7.00	7.44	7.97		# of strides	8.10	8.44	7.40	6.49	8.26	6.91		
		velocity	7.35	9.01	8.71	8.18	7.67	7.14	6.72	6.27	7.53								
Heat 4 - 2022 World Athletics Championships (Eugene, OR)																			
Timing by Seiko (2022) - world athletics championships race analysis																			
17-Jul-22		12.30		24.55		37.66		52.46	52.46		5 / 5	# of strides	12.30	12.25	13.11	14.80	24.55	27.91	3.36
reaction time	0.157	interval		12.25		13.11		14.80			# of strides	8.13	8.16	7.63	6.76	8.15	7.17		
		velocity		8.13		8.16		7.63		6.76	7.62								
Gardner, Gwen (USA) (1960)																			
FINAL - 1980 USA Olympic Trials (Eugene, OR)																			
Hymans (2008) - history of the US olympic trials - track and field																			
25-Jun-80				24.0				51.7	51.68		/ 2	# of strides					24.00	27.70	3.70
reaction time								27.70			# of strides						8.33	7.22	
				8.33				7.22		7.74									
Gautadottir, Marin Stray (NOR) (2003)																			
National FINAL - 2023 Bislett Games (Oslo, NOR)																			
Omega Timing (2023) - diamond league race analysis																			
15-Jun-23		7.14	13.11	19.47	26.06	32.72	39.80	47.33	55.22	55.22	8 / 4	# of strides	13.11	12.95	13.74	15.42	26.06	29.16	3.10
reaction time	0.177	interval	5.97	6.36	6.59	6.66	7.08	7.53	7.89	PB	# of strides	7.63	7.72	7.28	6.49	7.67	6.86		
		velocity	7.00	8.38	7.86	7.59	7.51	7.06	6.64	6.34	7.24								
Gaworska, Aleksandra (POL) (1995)																			
National FINAL - 2022 Silesia Kamila Skolimowska Memorial (Chorzów, POL)																			
Omega Timing (2022) - diamond league race analysis																			
06-Aug-22		7.13	12.98	19.03	25.39	32.04	39.08	46.58	54.79	54.79	3 / 6	# of strides	12.98	12.41	13.69	15.71	25.39	29.40	4.01
reaction time	0.202	interval	5.85	6.05	6.36	6.65	7.04	7.50	8.21		# of strides	7.70	8.06	7.30	6.37	7.88	6.80		
		velocity	7.01	8.55	8.26	7.86	7.52	7.10	6.67	6.09	7.30								
Gaye, Fatou (SEN) (1997)																			
B Race - 2023 Memorial van Damme (Brussels, BEL)																			
Seiko Timing (2023) - world championship race analysis																			
08-Sep-23		6.83	12.85	19.15	25.74	32.72	39.74	46.84	54.19	54.19	2 / 7	# of strides	12.85	12.89	14.00	14.45	25.74	28.45	2.71
reaction time	0.197	interval	6.02	6.30	6.59	6.98	7.02	7.10	7.35		# of strides	7.78	7.76	7.14	6.92	7.77	7.03		
		velocity	7.32	8.31	7.94	7.59	7.16	7.12	7.04	6.80	7.38								
Gayot, Marie (FRA) (1989)																			
Heat 2 - 2015 IAAF World Championships (Beijing, CHN)																			
Yamamoto (2015) - race analysis of 15th World Championships 400m- focusing on men's semis and women's prelims																			
24-Aug-15		7.10	13.02	19.02	25.21	31.59	37.89	44.39	51.24	51.24	6 / 2	# of strides	13.02	12.19	12.68	13.35	25.21	26.03	0.82
reaction time	0.200	interval	5.92	6.00	6.19	6.38	6.30	6.50	6.85	PB	# of strides	7.68	8.20	7.89	7.49	7.93	7.68		
		velocity	7.04	8.45	8.33	8.08	7.84	7.94	7.69	7.30	7.81								
Geldenhuys, Zenéy (RSA) (2000)																			
FINAL - 2024 Bauhaus Galan (Stockholm, SWE)																			
Omega Timing (2024) - diamond league race analysis																			
02-Jun-24		6.79	12.47	18.33	24.50	30.94	37.56	44.61	52.12	52.12	2 / 2	# of strides	12.47	12.03	13.06	14.56	24.50	27.62	3.12
reaction time	0.160	interval	5.68	5.86	6.17	6.44	6.62	7.05	7.51		# of strides	8.02	8.31	7.66	6.87	8.16	7.24		
		velocity	7.36	8.80	8.53	8.10	7.76	7.55	7.09	6.66	7.67								
George, Patience (NGR) (1991)																			
Semi-Final 1 - 2022 Commonwealth Games (Birmingham, GBR)																			
Longines Timing (2022) - commonwealth games race analysis																			
05-Aug-22		6.6	12.1	17.8	23.8	30.2	37.1	44.5	52.90	52.90	3 / 5	# of strides	12.10	11.70	13.30	15.80	23.80	29.10	5.30
reaction time	0.183	interval	5.50	5.70	6.00	6.40	6.90	7.40	8.40		# of strides	200.0	8.26	8.55	7.52	6.33	8.40	6.87	
		velocity	7.58	9.09	8.77	8.33	7.81	7.25	6.76	5.95	7.56								
Semi-Final 1 - 2017 IAAF World Championships (London, GBR)																			
Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Women's 400m																			
07-Aug-17		12.09		23.79		37.44	44.41	52.41	52.60		4 / 7	# of strides	12.09	11.70	13.65	14.97	23.79	28.62	4.83
reaction time	0.189	interval		11.70		13.65	6.97	8.00			# of strides	199.0	8.27	8.55	7.33	6.68	8.41	6.99	
		velocity		8.27		8.55		7.33	7.17	6.25	7.60								
Heat 5 - 2015 IAAF World Championships (Beijing, CHN)																			
Yamamoto (2015) - race analysis of 15th World Championships 400m- focusing on men's semis and women's prelims																			
24-Aug-15		6.71	12.18	17.87	23.83	30.00	36.53	43.47	50.87	50.87	3 / 3	# of strides	12.18	11.65	12.70	14.34	23.83	27.04	3.21
reaction time	0.249	interval	5.47	5.69	5.96	6.17	6.53	6.94	7.40		# of strides	8.21	8.58	7.87	6.97	8.39	7.40		
		velocity	7.45	9.14	8.79	8.39	8.10	7.66	7.20	6.76	7.86								
George, Regina (NGR) (1991)																			
Heat 4 - 2015 IAAF World Championships (Beijing, CHN)																			
Yamamoto (2015) - race analysis of 15th World Championships 400m- focusing on men's semis and women's prelims																			
24-Aug-15		6.84	12.51	18.42	24.54	31.01	37.55	44.41	51.74	51.74	9 / 4	# of strides	12.51	12.03	13.01	14.19	24.54	27.20	2.66
reaction time	0.192	interval	5.67	5.91	6.12	6.47	6.54	6.86	7.33		# of strides	7.99	8.31	7.69	7.05	8.15	7.35		
		velocity	7.31	8.82	8.46	8.17	7.73	7.65	7.29	6.82	7.73								
Heat 7 - 2012 Olympic Games (London, GBR)																			
Hadley (2012) - uka 2012 olympic games report: 400m, 4x 400m																			
03-Aug-12				23.54				51.24	51.24		6 / 1	# of strides					23.54	27.70	4.16
reaction time	0.175	interval						27.70			# of strides						8.50	7.22	
		velocity			8.50			7.22	7.81		193.0								

Ghafoor, Madiea (NED) (1992)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential								
FINAL - 2019 Meeting International Mohammed VI d'Athlétisme (Rabat, MAR)		<i>Omega Timing (2019) - diamond league race analysis</i>																								
date	16-Jun-19	time	12.3		24.2		37.6		52.92		52.92		1 / 8													
reaction time	0.205	interval	11.9		13.4		15.3		15.3		# of strides		12.30	11.90	13.40	15.32	24.20	28.72	4.52							
		velocity	8.13	8.40	7.46	6.53	7.56	199.5	8.13	8.40	7.46	6.53	8.26	6.96												
Gilbert, Nina (USA) (1984)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential								
Quarter-Final 1 - 2008 USA Olympic Trials (Eugene, OR)		<i>USATF Women's Sprint Development with HPC (2008)</i>																								
date	29-Jun-08	time	12.43		18.29		24.49		30.99		37.82		45.15		53.37		53.37		3 / 4							
reaction time		interval	5.86		6.20		6.50		6.83		7.33		8.22		8.22		# of strides		12.43	12.06	13.33	15.55	24.49	28.88	4.39	
		velocity	8.05	8.53	8.06	7.69	7.32	6.82	6.08	7.49	8.05	8.29	7.50	6.43	8.17	6.93										
Giger, Yasmin (SUI) (1999)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential								
National FINAL - 2022 Weltklasse (Zürich, SUI)		<i>Omega Timing (2022) - diamond league race analysis</i>																								
date	08-Sep-22	time	7.10	13.09	19.21	25.48	31.89	38.60	45.59	52.90	52.90	3 / 8														
reaction time	0.156	interval	5.99		6.12		6.27		6.41		6.71		6.99		7.31		# of strides		13.09	12.39	13.12	14.30	25.48	27.42	1.94	
		velocity	7.04	8.35	8.17	7.97	7.80	7.45	7.15	6.84	7.56	7.64	8.07	7.62	6.99	7.85	7.29									
National FINAL - 2022 Athletissima (Lausanne, SUI)		<i>Omega Timing (2022) - diamond league race analysis</i>																								
date	26-Aug-22	time	7.0	12.9	19.0	25.3	31.7	38.3	45.2	52.42	52.42	6 / 1														
reaction time	0.150	interval	5.90		6.10		6.30		6.40		6.60		6.90		7.22		PB		# of strides	12.90	12.40	13.00	14.12	25.30	27.12	1.82
		velocity	7.14	8.47	8.20	7.94	7.81	7.58	7.25	6.93	7.63	7.75	8.06	7.69	7.08	7.91	7.37									
B FINAL - 2021 Weltklasse (Zürich, SUI)		<i>Omega Timing (2021) - diamond league race analysis</i>																								
date	09-Sep-21	time	7.1	13.1	19.4	25.8	32.3	38.9	45.8	53.03	53.03	2 / 7														
reaction time	0.164	interval	6.00		6.30		6.40		6.50		6.60		6.90		7.23		# of strides		13.10	12.70	13.10	14.13	25.80	27.23	1.43	
		velocity	7.04	8.33	7.94	7.81	7.69	7.58	7.25	6.92	7.54	7.63	7.87	7.63	7.08	7.75	7.34									
B Race - 2021 Athletissima (Lausanne, SUI)		<i>Omega Timing (2021) - diamond league race analysis</i>																								
date	26-Aug-21	time	7.1	13.1	19.5	26.0	32.4	39.1	46.1	53.39	53.39	7 / 3														
reaction time	0.148	interval	6.00		6.40		6.50		6.40		6.70		7.00		7.29		# of strides		13.10	12.90	13.10	14.29	26.00	27.39	1.39	
		velocity	7.04	8.33	7.81	7.69	7.81	7.46	7.14	6.86	7.49	7.63	7.75	7.63	7.00	7.69	7.30									
Gogi-Walli, Susanne (AUT) (1996)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential								
FINAL - 2024 Weltklasse (Zürich, SUI)		<i>Omega Timing (2024) - diamond league race analysis</i>																								
date	05-Sep-24	time	6.82	12.40	18.14	24.06	30.26	36.77	43.49	50.60	50.60	5 / 2														
reaction time	0.166	interval	5.58		5.74		5.92		6.20		6.51		6.72		7.11		NR PB		# of strides	12.40	11.66	12.71	13.83	24.06	26.54	2.48
		velocity	7.33	8.96	8.71	8.45	8.06	7.68	7.44	7.03	7.91	8.06	8.58	7.87	7.23	8.31	7.54									
Semi-Final 2 - 2024 Olympic Games (Paris, FRA)		<i>Paris 2024 Olympic Games - Results Book (2024)</i>																								
date	07-Aug-24	time	6.88	12.47	18.22	24.25	30.49	37.09	43.89	51.17	51.17	4 / 7														
reaction time	0.163	interval	5.59		5.75		6.03		6.24		6.60		6.80		7.28		# of strides		12.47	11.78	12.84	14.08	24.25	26.92	2.67	
		velocity	7.27	8.94	8.70	8.29	8.01	7.58	7.35	6.87	7.82	8.02	8.49	7.79	7.10	8.25	7.43									
Heat 5 - 2024 Olympic Games (Paris, FRA)		<i>Paris 2024 Olympic Games - Results Book (2024)</i>																								
date	05-Aug-24	time	6.82	12.34	18.08	24.13	30.36	36.84	43.60	50.67	50.67	6 / 3														
reaction time	0.168	interval	5.52		5.74		6.05		6.23		6.48		6.76		7.07		PB		# of strides	12.34	11.79	12.71	13.83	24.13	26.54	2.41
		velocity	7.33	9.06	8.71	8.26	8.03	7.72	7.40	7.07	7.89	8.10	8.48	7.87	7.23	8.29	7.54									
FINAL - 2024 European Athletics Championships (Roma, ITA)		<i>European Athletics (2024) - 2024 european athletics championships - results book</i>																								
date	10-Jun-24	time	12.50		24.39		37.21		51.23		51.23		2 / 7													
reaction time	0.225	interval	11.89		12.82		14.02		15.13		# of strides		12.50	11.89	12.82	14.02	24.39	26.84	2.45							
		velocity	8.00	8.41	7.80	7.13	7.81								8.00	8.41	7.80	7.13	8.20	7.45						
Semi-Final 2 - 2024 European Athletics Championships (Roma, ITA)		<i>European Athletics (2024) - 2024 european athletics championships - results book</i>																								
date	09-Jun-24	time	12.38		24.35		37.08		51.14		51.14		6 / 3													
reaction time	0.241	interval	11.97		12.73		14.06		15.14		# of strides		12.38	11.97	12.73	14.06	24.35	26.79	2.44							
		velocity	8.08	8.35	7.86	7.11	7.82	192.2	8.08	8.35	7.86	7.11	8.21	7.47												
Semi-Final 3 - 2023 World Athletics Championships (Budapest, HUN)		<i>Seiko Timing (2023) - world championship race analysis</i>																								
date	21-Aug-23	time	12.50		24.25		37.37		51.50		51.50		2 / 7													
reaction time	0.168	interval	11.75		13.12		14.13		15.13		# of strides		12.50	11.75	13.12	14.13	24.25	27.25	3.00							
		velocity	8.00	8.51	7.62	7.08	7.77								8.00	8.51	7.62	7.08	8.25	7.34						
Heat 2 - 2023 World Athletics Championships (Budapest, HUN)		<i>Seiko Timing (2023) - world championship race analysis</i>																								
date	20-Aug-23	time	12.48		24.27		37.18		51.00		51.00		4 / 4													
reaction time	0.173	interval	11.79		12.91		13.82		14.75		# of strides		12.48	11.79	12.91	13.82	24.27	26.73	2.46							
		velocity	8.01	8.48	7.75	7.24	7.84								8.01	8.48	7.75	7.24	8.24	7.48						
Walli, Susanne (AUT) (1996)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential								
National FINAL - 2022 Weltklasse (Zürich, SUI)		<i>Omega Timing (2022) - diamond league race analysis</i>																								
date	08-Sep-22	time	7.04	12.73	18.59	24.59	30.86	37.53	44.53	51.74	51.74	4 / 2														
reaction time	0.148	interval	5.69		6.00		6.27		6.67		7.00		7.21		# of strides		12.73	11.86	12.94	14.21	24.59	27.15	2.56			
		velocity	7.10	8.79	8.53	8.33	7.97	7.50	7.14	6.93	7.73	7.86	8.43	7.73	7.04	8.13	7.37									
Semi-Final 2 - 2022 World Athletics Championships (Eugene, OR)		<i>Timing by Seiko (2022) - world athletics championships race analysis</i>																								
date	20-Jul-22	time	12.73		24.97		38.13		52.37		52.37		1 / 8													
reaction time	0.157	interval	12.24		13.16		14.24		15.13		# of strides		12.73	12.24	13.16	14.24	24.97	27.40	2.43							
		velocity	7.86	8.17	7.60	7.02	7.64								7.86	8.17	7.60	7.02	8.01	7.30						
Heat 1 - 2022 World Athletics Championships (Eugene, OR)		<i>Timing by Seiko (2022) - world athletics championships race analysis</i>																								
date	17-Jul-22	time	12.50		24.66		37.82		52.18		52.18		3 / 4													
reaction time	0.170	interval	12.16		13.16		14.36		15.13		# of strides		12.50	12.16	13.16	14.36	24.66	27.52	2.86							
		velocity	8.00	8.22	7.60	6.96	7.67								8.00	8.22	7.60	6.96	8.11	7.27						

WR=World Rec. AR=Area Rec. OR=Olympic Rec. CR=Championship Rec. NR=National Rec. PB=Personal Best DQ=Disqualified DV=Drug Violation

FINAL - 2022 FBK Games (Hengelo, NED)																		<i>Omega Timing (2022) - continental tour race analysis</i>				
date	06-Jun-22	time	6.9	12.4	18.2	24.4	30.8	37.7	45.0	53.02	53.02	1 / 8										
reaction time	0.170	interval		5.50	5.80	6.20	6.40	6.90	7.30	8.02		# of strides	12.40	12.00	13.30	15.32	24.40	28.62	4.22			
		velocity	7.25	9.09	8.62	8.06	7.81	7.25	6.85	6.23	7.54		8.06	8.33	7.52	6.53	8.20	6.99				
Gola, Marlena (POL) (1998)																						
National FINAL - 2022 Silesia Kamila Skolimowska Memorial (Chorzów, POL)																		<i>Omega Timing (2022) - diamond league race analysis</i>				
date	06-Aug-22	time	7.03	13.15	19.57	26.32	33.24	40.55	48.21	56.36	56.36	9 / 7										
reaction time	0.174	interval		6.12	6.42	6.75	6.92	7.31	7.66	8.15		# of strides	13.15	13.17	14.23	15.81	26.32	30.04	3.72			
		velocity	7.11	8.17	7.79	7.41	7.23	6.84	6.53	6.13	7.10		7.60	7.59	7.03	6.33	7.60	6.66				
Gómez, Roxana (CUB) (1999)																						
Semi-Final 3 - 2024 Olympic Games (Paris, FRA)																		<i>Paris 2024 Olympic Games - Results Book (2024)</i>				
date	07-Aug-24	time	6.98	12.59	18.29	24.18	30.32	36.68	43.32	50.48	50.48	5 / 5										
reaction time	0.209	interval		5.61	5.70	5.89	6.14	6.36	6.64	7.16		# of strides	12.59	11.59	12.50	13.80	24.18	26.30	2.12			
		velocity	7.16	8.91	8.77	8.49	8.14	7.86	7.53	6.98	7.92		191.0	7.94	8.63	8.00	7.25	8.27	7.60			
Heat 4 - 2024 Olympic Games (Paris, FRA)																		<i>Paris 2024 Olympic Games - Results Book (2024)</i>				
date	05-Aug-24	time	6.87	12.42	18.12	24.02	30.13	36.49	43.24	50.38	50.38	9 / 2										
reaction time	0.178	interval		5.55	5.70	5.90	6.11	6.36	6.75	7.14		# of strides	12.42	11.60	12.47	13.89	24.02	26.36	2.34			
		velocity	7.28	9.01	8.77	8.47	8.18	7.86	7.41	7.00	7.94		189.0	8.05	8.62	8.02	7.20	8.33	7.59			
Semi-Final 2 - 2023 World Athletics Championships (Budapest, HUN)																		<i>Seiko Timing (2023) - world championship race analysis</i>				
date	21-Aug-23	time	12.68		24.33		36.91		51.07	51.07	7 / 3											
reaction time	0.227	interval			11.65		12.58		14.16			# of strides	12.68	11.65	12.58	14.16	24.33	26.74	2.41			
		velocity			7.89		8.58		7.95		7.83		193.0	7.89	8.58	7.95	7.06	8.22	7.48			
Heat 4 - 2023 World Athletics Championships (Budapest, HUN)																		<i>Seiko Timing (2023) - world championship race analysis</i>				
date	20-Aug-23	time	12.56		24.10		36.81		50.86	50.86	6 / 2											
reaction time	0.207	interval			11.54		12.71		14.05			# of strides	12.56	11.54	12.71	14.05	24.10	26.76	2.66			
		velocity			7.96		8.67		7.87		7.86		190.2	7.96	8.67	7.87	7.12	8.30	7.47			
FINAL - 2023 Golden Gala Pietro Mennea (Firenze, ITA)																		<i>Omega Timing (2023) - diamond league race analysis</i>				
date	02-Jun-23	time	7.01	12.64	18.44	24.44	30.63	37.08	43.93	51.29	51.29	2 / 4										
reaction time	0.193	interval		5.63	5.80	6.00	6.19	6.45	6.85	7.36		# of strides	12.64	11.80	12.64	14.21	24.44	26.85	2.41			
		velocity	7.13	8.88	8.62	8.33	8.08	7.75	7.30	6.79	7.80		7.91	8.47	7.91	7.04	8.18	7.45				
Semi-Final 3 - 2022 World Athletics Championships (Eugene, OR)																		<i>Timing by Seiko (2022) - world athletics championships race analysis</i>				
date	20-Jul-22	time	12.70		24.77		37.40		51.12	51.12	7 / 4											
reaction time	0.192	interval			12.07		12.63		13.72			# of strides	12.70	12.07	12.63	13.72	24.77	26.35	1.58			
		velocity			7.87		8.29		7.92		7.82		188.0	7.87	8.29	7.92	7.29	8.07	7.59			
Heat 5 - 2022 World Athletics Championships (Eugene, OR)																		<i>Timing by Seiko (2022) - world athletics championships race analysis</i>				
date	17-Jul-22	time	12.94		25.14		38.01		51.85	51.85	6 / 3											
reaction time	0.190	interval			12.20		12.87		13.84			# of strides	12.94	12.20	12.87	13.84	25.14	26.71	1.57			
		velocity			7.73		8.20		7.77		7.71		188.0	7.73	8.20	7.77	7.23	7.96	7.49			
FINAL - 2022 FBK Games (Hengelo, NED)																		<i>Omega Timing (2022) - continental tour race analysis</i>				
date	06-Jun-22	time	6.8	12.4	18.3	24.1	30.3	36.8	43.6	51.18	51.18	6 / 1										
reaction time	0.169	interval		5.60	5.90	5.80	6.20	6.50	6.80	7.58		# of strides	12.40	11.70	12.70	14.38	24.10	27.08	2.98			
		velocity	7.35	8.93	8.47	8.62	8.06	7.69	7.35	6.60	7.82		187.5	8.06	8.55	7.87	6.95	8.30	7.39			
Semi-Final 1 - 2017 IAAF World Championships (London, GBR)																		<i>Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Women's 400m</i>				
date	07-Aug-17	time	12.60		24.59		37.38	44.28	51.76	52.01	3 / 5											
reaction time	0.251	interval			11.99		12.79	6.90	7.48			# of strides	12.60	11.99	12.79	14.38	24.59	27.17	2.58			
		velocity			7.94		8.34	7.82	7.25	6.68	7.69		190.3	7.94	8.34	7.82	6.95	8.13	7.36			
FINAL - 2016 IAAF World Junior Championships (Bydgoszcz, POL)																		<i>Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016</i>				
date	21-Jul-16	time	7.19	12.86	18.79	24.89	31.13	37.67	44.53	52.24	52.24	9 / 6										
reaction time	0.227	interval		5.67	5.93	6.10	6.24	6.54	6.86	7.71	PB	# of strides	12.86	12.03	12.78	14.57	24.89	27.35	2.46			
		velocity	6.95	8.82	8.43	8.20	8.01	7.65	7.29	6.49	7.66		7.78	8.31	7.82	6.86	8.04	7.31				
Gono, Shiina (JPN) (1999)																						
FINAL - 2018 Japanese National Junior (U20) Championships (Nagano, JPN)																		<i>Ryutaro (2018) - research on athlete performance and technique- 2018 data book</i>				
date	19-Oct-18	time	7.28	13.60	20.10	26.88	33.87	41.14	48.60	56.59	56.59	1 / 7										
reaction time	0.198	interval		6.32	6.50	6.78	6.99	7.27	7.46			# of strides	13.60	13.28	14.26	15.45	26.88	29.71	2.83			
		velocity	6.87	7.91	7.69	7.37	7.15	6.88	6.70	6.26	7.07		7.35	7.53	7.01	6.47	7.44	6.73				
González, Norma (COL) (1982)																						
Semi-Final 1 - 2009 IAAF World Championships (Berlin, GER)																		<i>Graubner (2009) - biomechanical analyses at the 12th IAAF world championships</i>				
date	16-Aug-09	time	12.21		23.92		37.15		51.91	51.91	1 / 6											
reaction time	0.193	interval			11.71		13.23		14.76			# of strides	12.21	11.71	13.23	14.76	23.92	27.99	4.07			
		velocity			8.19		8.54		7.56		7.71		8.19	8.54	7.56	6.78	8.36	7.15				
Heat 5 - 2009 IAAF World Championships (Berlin, GER)																		<i>Graubner (2009) - biomechanical analyses at the 12th IAAF world championships</i>				
date	15-Aug-09	time	12.38		24.80		37.06		51.86	51.86	3 / 4											
reaction time	0.187	interval			12.42		12.26		14.80	PB		# of strides	12.38	12.42	12.26	14.80	24.80	27.06	2.26			
		velocity			8.08		8.05		8.16		7.71		8.08	8.05	8.16	6.76	8.06	7.39				
Gordon, Chrisann (JAM) (1994)																						
Semi-Final 3 - 2017 IAAF World Championships (London, GBR)																		<i>Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Women's 400m</i>				
date	07-Aug-17	time	12.24		23.83		36.44	43.32	50.70	50.87	7 / 3 2											
reaction time	0.172	interval			11.59		12.61	6.88	7.38			# of strides	12.24	11.59	12.61	14.26	23.83	26.87	3.04			
		velocity			8.17		8.63	7.93	7.27	6.78	7.86		201.7	8.17	8.63	7.93	7.01	8.39	7.44			

											USTFCCCA (2017) - NCAA DI outdoor championship history									
FINAL - 2017 NCAA Championships (Eugene, OR)											13.00	13.90	23.60	26.90	3.30					
date	time	23.6	36.6	50.5	50.51	4 / 1														
reaction time	interval		13.00	13.90		# of strides														
	velocity	8.47	7.69	7.19	7.92	197.5						7.69	7.19	8.47	7.43					
Graham, Kim (USA) (1971)																				
FINAL - 1996 USA Olympic Trials (Atlanta, GA)											USATF Women's Sprint Development (1996)									
date	time	12.55	24.34	36.84	43.63	50.87	50.87	6 / 3												
reaction time	interval		11.79	12.50	6.79	7.24		# of strides	12.55	11.79	12.50	14.03	24.34	26.53	2.19					
	velocity	7.97	8.48	8.00	7.36	6.91	7.86		7.97	8.48	8.00	7.13	8.22	7.54						
Semi-Final 1 - 1996 USA Olympic Trials (Atlanta, GA)																				
date	time	12.36	23.93	36.34	43.18	50.53	50.53	4 / 1												
reaction time	interval		11.57	12.41	6.84	7.35	PB	# of strides	12.36	11.57	12.41	14.19	23.93	26.60	2.67					
	velocity	8.09	8.64	8.06	7.31	6.80	7.92		8.09	8.64	8.06	7.05	8.36	7.52						
Grant, Sharkara (USA) (1978)																				
FINAL - 1996 USATF National Junior Championships (Delaware, OH)											USATF Women's Sprint Development (1996)									
date	time	12.93	25.05	38.55	46.14	54.33	54.33	2 / 6												
reaction time	interval		12.12	13.50	7.59	8.19		# of strides	12.93	12.12	13.50	15.78	25.05	29.28	4.23					
	velocity	7.73	8.25	7.41	6.59	6.11	7.36		7.73	8.25	7.41	6.34	7.98	6.83						
Graves-Fulgham, Mandela (USA) (198)																				
FINAL - 2006 USATF National Junior Championship (Indianapolis, IN)											USATF Women's Sprint Development (2006)									
date	time	13.06	19.10	23.64	32.11	39.39	46.88	55.11	55.11	2 / 7										
reaction time	interval		6.04	4.54	8.47	7.28	7.49	8.23		# of strides	13.06	10.58	15.75	15.72	23.64	31.47	7.83			
	velocity	7.66	8.28	11.01	5.90	6.87	6.68	6.08	7.26		7.66	9.45	6.35	6.36	8.46	6.36				
Grebo, Shana (FRA) (2000)																				
FINAL - 2024 Herculis Meeting International d'Athlétisme (Monaco, MON)											Omega Timing (2024) - diamond league race analysis									
date	time	6.84	12.45	18.24	24.27	30.71	37.43	44.47	52.02	52.02	2 / 7									
reaction time	interval	0.194		5.61	5.79	6.03	6.44	6.72	7.04	7.55		# of strides	12.45	11.82	13.16	14.59	24.27	27.75	3.48	
	velocity	7.31	8.91	8.64	8.29	7.76	7.44	7.10	6.62	7.69		8.03	8.46	7.60	6.85	8.24	7.21			
FINAL - 2022 Meeting de Paris (Paris, FRA)																				
date	time	6.75	12.39	18.33	24.45	30.87	37.60	44.55	51.98	51.98	1 / 8									
reaction time	interval	0.166		5.64	5.94	6.12	6.42	6.73	6.95	7.43		# of strides	12.39	12.06	13.15	14.38	24.45	27.53	3.08	
	velocity	7.41	8.87	8.42	8.17	7.79	7.43	7.19	6.73	7.70		8.07	8.29	7.60	6.95	8.18	7.26			
Green, Nicole (USA) (1971)																				
FINAL - 1996 USA Olympic Trials (Atlanta, GA)											USATF Women's Sprint Development (1996)									
date	time	12.59	24.56	37.28	44.30	51.95	51.95	8 / 7												
reaction time	interval		11.97	12.72	7.02	7.65		# of strides	12.59	11.97	12.72	14.67	24.56	27.39	2.83					
	velocity	7.94	8.35	7.86	7.12	6.54	7.70		7.94	8.35	7.86	6.82	8.14	7.30						
Semi-Final 1 - 1996 USA Olympic Trials (Atlanta, GA)																				
date	time	12.63	24.25	36.90	43.74	51.09	51.09	3 / 4												
reaction time	interval		11.62	12.65	6.84	7.35	PB	# of strides	12.63	11.62	12.65	14.19	24.25	26.84	2.59					
	velocity	7.92	8.61	7.91	7.31	6.80	7.83		7.92	8.61	7.91	7.05	8.25	7.45						
Greggs, Charlette (USA) (1983)																				
Semi-Final 2 - 2004 USA Olympic Trials (Sacramento, CA)											USATF Women's Sprint Development (2004)									
date	time	12.60	24.34	30.60	37.27	44.41	52.87	52.87	7 / 7											
reaction time	interval		11.74	6.26	6.67	7.14	8.46		# of strides	12.60	11.74	12.93	15.60	24.34	28.53	4.19				
	velocity	7.94	8.52	7.99	7.50	7.00	5.91	7.57		181.0	7.94	8.52	7.73	6.41	8.22	7.01				
Heat 3 - 2004 USA Olympic Trials (Sacramento, CA)																				
date	time	12.48	24.26	38.00	46.96	53.71	53.71	5 / 5												
reaction time	interval		11.78	13.74	8.96	6.75		# of strides	12.48	11.78	13.74	15.71	24.26	29.45	5.19					
	velocity	8.01	8.49	7.28	5.58	7.41	7.45		186.0	8.01	8.49	7.28	6.37	8.24	6.79					
Semi-Final 1 - 2003 USATF National Championship (Palo Alto, CA)																				
date	time	24.21	38.16	45.56	53.77	53.77	8 / 5													
reaction time	interval		13.95	7.40	8.21		# of strides						13.95	15.61	24.21	29.56	5.35			
	velocity	8.26	7.17	6.76	6.09	7.44							7.17	6.41	8.26	6.77				
Grenot, Libania (ITA) (1983)																				
FINAL - 2016 Olympic Games (Rio de Janeiro, BRA)											Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016									
date	time	6.77	12.24	17.97	23.85	30.13	36.66	43.69	51.25	51.25	2 / 8									
reaction time	interval	0.149		5.47	5.73	5.88	6.28	6.53	7.03	7.56		# of strides	12.24	11.61	12.81	14.59	23.85	27.40	3.55	
	velocity	7.39	9.14	8.73	8.50	7.96	7.66	7.11	6.61	7.80		187.5	8.17	8.61	7.81	6.85	8.39	7.30		
Heat 6 - 2015 IAAF World Championships (Beijing, CHN)																				
date	time	6.71	12.38	18.37	24.60	31.02	37.64	44.49	51.64	51.64	8 / 4									
reaction time	interval	0.186		5.67	5.99	6.23	6.42	6.62	6.85	7.15		# of strides	12.38	12.22	13.04	14.00	24.60	27.04	2.44	
	velocity	7.45	8.82	8.35	8.03	7.79	7.55	7.30	6.99	7.75		8.08	8.18	7.67	7.14	8.13	7.40			
FINAL - 2014 European Championships (Zurich, SUI)																				
date	time	11.95	23.49	36.30	43.18	50.53	50.53	3 / 1												
reaction time	interval	0.180		11.54	12.81	14.80		# of strides						12.81	14.80	23.49	27.61	4.12		
	velocity	8.37	8.67	7.81	6.76	7.83							7.81	6.76	8.51	7.24				
Semi-Final 3 - 2009 IAAF World Championships (Berlin, GER)																				
date	time	12.82	25.02	37.37	50.85	50.85	5 / 4													
reaction time	interval	0.178		12.20	12.35	13.48		# of strides						12.82	12.20	12.35	13.48	25.02	25.83	0.81

FINAL - 2007 IAAF World Championships (Osaka, JPN)

date 29-Aug-07 time 6.90 12.47 18.28 24.31 30.24 36.50 43.05 50.16 50.16
 reaction time 0.183 interval 5.57 5.81 6.03 5.93 6.26 6.55 7.11
 velocity 7.25 8.98 8.61 8.29 8.43 7.99 7.63 7.03

Mochida (2008) - biomechanical analysis of the 400m final race at the 2007 world championships in athletics

9 / 4
 # of strides 12.47 11.84 12.19 13.66 24.31 25.85 1.54
 196.0 8.02 8.45 8.20 7.32 8.23 7.74

FINAL - 2005 IAAF World Championships (Helsinki, FIN)

date 10-Aug-05 time 36.1 49.8 49.81 4 / 3
 reaction time 0.144 interval 13.71 # of strides
 velocity 8.31 7.29 8.03 196.0 7.29

Butler (2013) - IAAF world championships statistics handbook- moscow 2013

FINAL - 2004 Olympic Games (Athens, GRE)

date 24-Aug-04 time 12.0 23.5 35.7 49.6 49.56
 reaction time 0.234 interval 11.5 12.2 13.9
 velocity 8.33 8.70 8.20 7.19 8.07

Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016

3 / 2
 # of strides 12.00 11.50 12.20 13.90 23.50 26.10 2.60
 8.33 8.70 8.20 7.19 8.51 7.66

FINAL - 2003 IAAF World Championships (Paris, FRA)

date 27-Aug-03 time 12.00 23.20 35.70 48.89 48.89
 reaction time 0.242 interval 11.20 12.50 13.19
 velocity 8.33 8.93 8.00 7.58 8.18

Smith (2005) - high performance sprinting

3 / 1
 # of strides 12.00 11.20 12.50 13.19 23.20 25.69 2.49
 8.33 8.93 8.00 7.58 8.62 7.79

FINAL - 2000 Olympic Games (Sydney, AUS)

date 25-Sep-00 time 12.3 24.1 36.3 50.0 49.96
 reaction time 0.261 interval 11.80 12.20 13.70
 velocity 8.13 8.47 8.20 7.30 8.01

Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016

5 / 5
 # of strides 12.30 11.80 12.20 13.70 24.10 25.90 1.80
 8.13 8.47 8.20 7.30 8.30 7.72

Gulli-Nance, Jess (AUS) (1988)

50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place
FINAL - 2016 Shizuoka International Meeting (Fukuroi, JPN)
 date 03-May-16 time 7.10 13.06 19.29 25.77 32.43 39.50 46.72 54.20 54.20
 reaction time interval 5.96 6.23 6.48 6.66 7.07 7.22 7.48
 velocity 7.04 8.39 8.03 7.72 7.51 7.07 6.93 6.68 7.38

Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016

1 / 1
 # of strides 13.06 12.71 13.73 14.70 25.77 28.43 2.66
 7.66 7.87 7.28 6.80 7.76 7.03

Gushchina, Yuliya (RUS) (1983)

50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place
FINAL - 2009 ISTAF (Berlin, GER)
 date 14-Jun-09 time 12.21 24.26 37.11 51.10 51.10
 reaction time interval 0.186 12.05 12.85 13.99
 velocity 8.19 8.30 7.78 7.15 7.83

Graubner (2009) - http://www.fgs.uni-halle.de

1 / 3
 # of strides 12.21 12.05 12.85 13.99 24.26 26.84 2.58
 8.19 8.30 7.78 7.15 8.24 7.45

FINAL - 2008 Olympic Games (Beijing, CHN)

date 19-Aug-08 time 11.8 23.3 35.8 50.0 50.01
 reaction time interval 0.242 11.50 12.50 14.20
 velocity 8.47 8.70 8.00 7.04 8.00

Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016

5 / 4
 # of strides 11.80 11.50 12.50 14.20 23.30 26.70 3.40
 181.5 8.47 8.70 8.00 7.04 8.58 7.49

Hada, Yuka (JPN)

50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place
U18 FINAL - 2019 Japanese National U18/U20 Championships (Hiroshima, JPN) (300m)
 date 18-Oct-19 time 13.20 25.98 40.18 40.18
 reaction time interval 0.176 12.78 14.20
 velocity 7.58 7.82 7.04 7.47

Shimizu (2019) - shimane high school championships 2019 - biomechanics data analysis

2 / 7
 # of strides 13.20 12.78 14.20 25.98 26.98
 159.7 7.58 7.82 7.04 7.70 7.41

Häggman, Pirjo (FIN) (1951)

50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place
FINAL - 1980 Olympic Games (Moscow, URS)
 date 28-Jul-80 time 37.6 51.35 51.35
 reaction time interval interval 13.75
 velocity 7.98 7.27 7.79

Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016

2 / 7
 # of strides 13.75
 7.27

FINAL - 1976 Olympic Games (Montreal, CAN)

date 29-Jul-76 time 24.0 35.9 50.6 50.56
 reaction time interval interval 11.90
 velocity 8.33 8.40 6.80 7.91

Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016

1 / 4
 # of strides 11.90 14.70 24.00 26.60 2.60
 8.40 6.80 8.33 7.52

Hagiwara, Sayaka (JPN) (1989)

50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place
FINAL - 2009 Japanese National High School Championships (Nara, JPN)
 date 29-Jul-09 time 13.53 27.60 42.13 57.18
 reaction time interval interval 15.05
 velocity 7.39 7.11 6.88 6.64 7.00

Matsuo (2009) - 62nd high school championships: JAF scientific committee - biomechanics data collection

8 / 8
 # of strides 13.53 14.07 14.53 15.05 27.60 29.58 1.98
 7.39 7.11 6.88 6.64 7.25 6.76

Halkiá, Faní (GRE) (1979)

50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place
FINAL - 2007 European Cup (Munich, GER)
 date 23-Jun-07 time 12.92 24.78 37.46 51.85 51.85
 reaction time interval interval 14.39
 velocity 7.74 8.43 7.89 6.95 7.71

Graubner (2007) - http://www.fgs.uni-halle.de

1 / 1
 # of strides 12.92 11.86 12.68 14.39 24.78 27.07 2.29
 7.74 8.43 7.89 6.95 8.07 7.39

Hall, Anna (USA) (2001)

50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place
FINAL - 2023 Meeting de Paris (Paris, FRA)
 date 09-Jun-23 time 6.54 12.02 17.76 23.72 29.89 36.45 43.35 50.82 50.82
 reaction time interval interval 5.48 5.74 5.96 6.17 6.56 6.90 7.47
 velocity 7.65 9.12 8.71 8.39 8.10 7.62 7.25 6.69 7.87

Omega Timing (2023) - diamond league race analysis

8 / 7
 # of strides 12.02 11.70 12.73 14.37 23.72 27.10 3.38
 182.0 8.32 8.55 7.86 6.96 8.43 7.38

Hall, Monique (USA) (1980)

50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place
Heat 1 - 2004 USA Olympic Trials (Sacramento, CA)
 date 12-Jul-04 time 12.35 23.99 37.08 44.29 52.71 52.71
 reaction time interval interval 11.64
 velocity 8.10 8.59 7.64 6.93 5.94 7.59

USATF Women's Sprint Development (2004)

6 / 5
 # of strides 12.35 11.64 13.09 15.63 23.99 28.72 4.73
 8.10 8.59 7.64 6.40 8.34 6.96

Hammond, Kathy (USA) (1951)

50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place
FINAL - 1972 Olympic Games (Munich, FRG)

Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016

date	07-Sep-72	time			24.5			51.6	51.64		5 / 3								
reaction time		interval					27.1				# of strides	24.50	27.10	2.60					
		velocity			8.16		7.38	7.75				8.16	7.38						
Hanchak, Heather (USA) (1979)	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential		
FINAL - 1996 USATF National Junior Championships (Delaware, OH)															<i>USATF Women's Sprint Development (1996)</i>				
date	29-Jun-96	time	12.56		24.57	38.02	45.59	53.69	53.69	3 / 4									
reaction time		interval			12.01	13.45	7.57	8.10		# of strides	12.56	12.01	13.45	15.67	24.57	29.12	4.55		
		velocity	7.96		8.33	7.43	6.61	6.17	7.45		7.96	8.33	7.43	6.38	8.14	6.87			
Hanssens, Ilana (BEL) (2002)	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential		
FINAL - 2021 Memorial van Damme (Brussels, BEL)															<i>Omega Timing (2021) - diamond league race analysis</i>				
date	03-Sep-21	time	7.1	12.9	19.1	25.7	32.6	39.9	47.7	56.27	56.27								
reaction time	0.169	interval	5.80		6.20	6.60	6.90	7.30	7.80	8.57	# of strides	12.90	12.80	14.20	16.37	25.70	30.57	4.87	
		velocity	7.04		8.62	8.06	7.58	7.25	6.85	6.41	5.83	7.11	7.75	7.81	7.04	6.11	7.78	6.54	
Hao Miao (CHN) (2002)	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential		
FINAL - 2023 Chinese National Championships (Quzhou, CHN)															<i>Shandong Athletics Sport Science (2023)</i>				
date	23-Jul-23	time	13.00		26.01	39.81	46.79	54.07	54.07	6 / 1									
reaction time	0.338	interval			13.01	13.80	6.98	7.28		# of strides	13.00	13.01	13.80	14.26	26.01	28.06	2.05		
		velocity	7.69		7.69	7.25	7.16	6.87	7.40		196.0	7.69	7.69	7.25	7.01	7.69	7.13		
Hardeman, Christina (USA) (1984)	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential		
FINAL - 2003 USATF National Junior Championship (Palo Alto, CA)															<i>USATF Women's Sprint Development (2003)</i>				
date	22-Jun-03	time	25.11			38.64	45.75	53.76	53.76	9 / 8									
reaction time		interval				13.53	7.11	8.01	PB	# of strides			13.53	15.12	25.11	28.65	3.54		
		velocity				7.96	7.39	7.03	6.24	7.44			7.39	6.61	7.96	6.98			
Hargrove, Monica (USA) (1982)	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential		
FINAL - 2008 USA Olympic Trials (Eugene, OR)															<i>USATF Women's Sprint Development with HPC (2008)</i>				
date	03-Jul-08	time	12.28	17.40	24.20	30.40	37.10	44.30	51.94	51.94	2 / 7								
reaction time		interval	5.12		6.80	6.20	6.70	7.20	7.64		# of strides	12.28	11.92	12.90	14.84	24.20	27.74	3.54	
		velocity	8.14		9.77	7.35	8.06	7.46	6.94	6.54	7.70	8.14	8.39	7.75	6.74	8.26	7.21		
		Quarter-Final 4 - 2008 USA Olympic Trials (Eugene, OR)																	
date	29-Jun-08	time	12.65	18.93	25.24	31.64	38.36	44.89	52.36	52.36	6 / 3								
reaction time		interval	6.28		6.31	6.40	6.72	6.53	7.47		# of strides	12.65	12.59	13.12	14.00	25.24	27.12	1.88	
		velocity	7.91		7.96	7.92	7.81	7.44	7.66	6.69	7.64	7.91	7.94	7.62	7.14	7.92	7.37		
Harper, Daina (USA) (1995)	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential		
FINAL - 2018 Seiko Golden Grand Prix (Osaka, JPN)															<i>Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition</i>				
date	20-May-18	time	6.73	12.36	18.18	24.25	30.49	37.03	43.85	51.29	51.29	5 / 2							
reaction time	0.205	interval	5.63		5.82	6.07	6.24	6.54	6.82	7.44	# of strides	12.36	11.89	12.78	14.26	24.25	27.04	2.79	
		velocity	7.43		8.88	8.59	8.24	8.01	7.65	7.33	6.72	7.80	185.7	8.09	8.41	7.82	7.01	8.25	7.40
		FINAL - 2017 USATF National Championship (Sacramento, CA)																	
date	24-Jun-17	time	12.26		23.77		36.38		50.64	50.64	8 / 6								
reaction time		interval			11.51		12.61		14.26	PB	# of strides	12.26	11.51	12.61	14.26	23.77	26.87	3.10	
		velocity	8.24		8.73		8.12		7.24	7.90		8.16	8.69	7.93	7.01	8.41	7.44		
Harris, Kimberly (USA) (2002)	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential		
Semi-Final 2 - 2024 USA Olympic Trials (Eugene, OR)															<i>USATF and Karmarush (2024) - USA Olympic trials results and race analysis</i>				
date	22-Jun-24	time	12.40		24.02	36.82	51.26	51.26	6 / 4										
reaction time		interval			11.62	12.80	14.44		# of strides	12.40	11.62	12.80	14.44	24.02	27.24	3.22			
		velocity	8.06		8.61	7.81	6.93	7.80		197.0	8.06	8.61	7.81	6.93	8.33	7.34			
		Heat 3 - 2024 USA Olympic Trials (Eugene, OR)																	
date	21-Jun-24	time	12.50	24.23	36.99	51.07	51.07	6 / 2											
reaction time		interval	11.73		12.76	14.08	PB	# of strides	12.50	11.73	12.76	14.08	24.23	26.84	2.61				
		velocity	8.00		8.53	7.84	7.10	7.83		195.0	8.00	8.53	7.84	7.10	8.25	7.45			
Hasegawa, Misato (JPN) (1992)	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential		
FINAL - 2010 Japanese National High School Championships (Okinawa, JPN)															<i>Matsuo (2010) - 63rd high school championships: JAF scientific committee- biomechanics data</i>				
date	29-Jul-10	time	7.22	13.26	19.52	26.03	32.82	39.71	47.05	55.05	55.05								
reaction time		interval	6.04		6.26	6.51	6.79	6.89	7.34	8.00	# of strides	13.26	12.77	13.68	15.34	26.03	29.02	2.99	
		velocity	6.93		8.28	7.99	7.68	7.36	7.26	6.81	6.25	7.27	7.54	7.83	7.31	6.52	7.68	6.89	
Hastings, Natasha (USA) (1986)	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential		
FINAL - 2017 Memorial van Damme (Brussels, BEL)															<i>Omega Timing (2017) - diamond league race analysis</i>				
date	01-Sep-17	time	12.2	18.2	24.6	31.0	37.3	43.9	50.98	50.98	9 / 4								
reaction time	0.197	interval	6.00		6.40	6.40	6.30	6.60	7.08	# of strides	12.20	12.40	12.70	13.68	24.60	26.38	1.78		
		velocity	8.20		8.33	7.81	7.81	7.94	7.58	7.06	7.85	194.0	8.20	8.06	7.87	7.31	8.13	7.58	
		FINAL - 2017 USATF National Championship (Sacramento, CA)																	
date	24-Jun-17	time	11.83	23.19	35.92	50.14	50.14	3 / 4											
reaction time		interval			11.36	12.73	14.22		# of strides	11.83	11.36	12.73	14.22	23.19	26.95	3.76			
		velocity	8.24		8.73	8.12	7.24	7.98		8.45	8.80	7.86	7.03	8.62	7.42				
		FINAL - 2016 Olympic Games (Rio de Janeiro, BRA)																	
date	15-Aug-16	time	6.37	11.57	17.05	22.99	29.25	35.71	42.67	50.34	50.34	6 / 4							
reaction time	0.161	interval	5.20		5.48	5.94	6.26	6.46	6.96	7.67	# of strides	11.57	11.42	12.72	14.63	22.99	27.35	4.36	
		velocity	7.85		9.62	9.12	8.42	7.99	7.74	7.18	6.52	7.95	194.2	8.64	8.76	7.86	6.84	8.70	7.31
		FINAL - 2016 USA Olympic Trials (Eugene, OR)																	
date	03-Jul-16	time	11.8	23.7	36.0	50.17	50.17	7 / 3											

reaction time	0.225	interval		11.90	12.30	14.17		# of strides	11.80	11.90	12.30	14.17	23.70	26.47	2.77			
		velocity	8.47	8.40	8.13	7.06	7.97		8.47	8.40	8.13	7.06	8.44	7.56				
Heat 2 - 2015 IAAF World Championships (Beijing, CHN)										<i>Yamamoto (2015) - race analysis of 15th World Championships 400m - focusing on men's semis and women's prelims</i>								
date	24-Aug-15	time	6.51	11.94	17.72	23.91	30.26	36.86	43.83	51.25	51.25	7 / 3						
reaction time	0.154	interval	5.43	5.78	6.19	6.35	6.60	6.97	7.42		# of strides	11.94	11.97	12.95	14.39	23.91	27.34	3.43
		velocity	7.68	9.21	8.65	8.08	7.87	7.58	7.17	6.74	7.80	8.38	8.35	7.72	6.95	8.36	7.32	
FINAL - 2013 IAAF World Championships (Moscow, RUS)										<i>(2013) - http://speedendurance.com/2013/10/07/racing-400-meters-differences-in-elite-men-and-women/</i>								
date	12-Aug-13	time			23.5		36.3		50.5	50.30	3 / 5							
reaction time	0.163	interval					12.80		14.20		# of strides		12.80	14.20	23.50	27.00	3.50	
		velocity			8.51		7.81		7.04	7.95			7.81	7.04	8.51	7.41		
FINAL - 2012 USA Olympic Trials (Eugene, OR)										<i>Hymans (2020) - history of the US olympic trials - track and field</i>								
date	24-Jun-12	time			23.9		36.5		51.28	51.28	3 / 6							
reaction time	0.200	interval					12.60		14.78		# of strides	23.90	12.60	14.78	23.90	27.38	3.48	
		velocity			8.37		7.94		6.77	7.80		4.18	7.94	6.77	8.37	7.30		
FINAL - 2008 USA Olympic Trials (Eugene, OR)										<i>USATF Women's Sprint Development with HPC (2008)</i>								
date	03-Jul-08	time	12.17	17.40	24.29	30.46	36.92	43.69	51.13	51.13	6 / 5							
reaction time		interval	5.23	6.89	6.17	6.46	6.77	7.44			# of strides	12.17	12.12	12.63	14.21	24.29	26.84	2.55
		velocity	8.22	9.56	7.26	8.10	7.74	7.39	6.72	7.82		8.22	8.25	7.92	7.04	8.23	7.45	
Quarter-Final 2 - 2008 USA Olympic Trials (Eugene, OR)										<i>USATF Women's Sprint Development with HPC (2008)</i>								
date	29-Jun-08	time	12.35	18.51	25.03	31.37	37.71	44.40	51.51	51.51	7 / 1							
reaction time		interval	6.16	6.52	6.34	6.34	6.69	7.11			# of strides	12.35	12.68	12.68	13.80	25.03	26.48	1.45
		velocity	8.10	8.12	7.67	7.89	7.89	7.47	7.03	7.77		8.10	7.89	7.89	7.25	7.99	7.55	
FINAL - 2005 USATF National Junior Championships (Carson, CA)										<i>USATF Women's Sprint Development (2005)</i>								
date	25-Jun-05	time	12.30	18.05	24.17	30.33	36.82	43.76	51.34	51.34	6 / 1							
reaction time		interval	5.75	6.12	6.16	6.49	6.94	7.58	PB		# of strides	12.30	11.87	12.65	14.52	24.17	27.17	3.00
		velocity	8.13	8.70	8.17	8.12	7.70	7.20	6.60	7.79		8.13	8.42	7.91	6.89	8.27	7.36	
FINAL - 2003 USATF National Junior Championship (Palo Alto, CA)										<i>USATF Women's Sprint Development (2003)</i>								
date	22-Jun-03	time			24.89		38.06	44.78	52.09	52.09	4 / 3							
reaction time		interval					13.17	6.72	7.31	PB	# of strides		13.17	14.03	24.89	27.20	2.31	
		velocity			8.04		7.59	7.44	6.84	7.68			7.59	7.13	8.04	7.35		
Hatakeyama, Konomi (JPN) (2006)										<i>Takashima (2024) - national high school sports festival - biomechanics data</i>								
date	28-Jul-24	time	13.41		26.51		40.21		54.89	54.89	9 / 1							
reaction time	0.200	interval			13.10		13.70		14.68	PB	# of strides	13.41	13.10	13.70	14.68	26.51	28.38	1.87
		velocity			7.46		7.63		7.30	6.81	7.29		7.46	7.63	7.30	6.81	7.54	7.05
Hatano, Minami (JPN) (1998)										<i>(2017) - tfdata-store.com/2017/07/10/post-978/</i>								
date	23-Jun-17	time	13.05		25.33		39.17		55.04	55.04	4 / 5							
reaction time	0.146	interval			12.28		13.84		15.87		# of strides	13.05	12.28	13.84	15.87	25.33	29.71	4.38
		velocity			7.66		8.14		7.23	6.30	7.27		7.66	8.14	7.23	6.30	7.90	6.73
Division 1 FINAL - 2017 Kanto Collegiate Championships (Yokohama, JPN)										<i>(2017) - tfdata-store.com/2017/06/01/post-786/</i>								
date	26-May-17	time	13.62		26.82		40.88		55.71	55.71	8 / 6							
reaction time		interval			13.20		14.06		14.83		# of strides	13.62	13.20	14.06	14.83	26.82	28.89	2.07
		velocity			7.34		7.58		7.11	6.74	7.18		7.34	7.58	7.11	6.74	7.46	6.92
Division 1 Semi-Final 2 - 2017 Kanto Collegiate Championships (Yokohama, JPN)										<i>(2017) - tfdata-store.com/2017/06/02/post-835/</i>								
date	26-May-17	time	13.51		26.57		40.76		55.93	55.93	6 / 3							
reaction time		interval			13.06		14.19		15.17		# of strides	13.51	13.06	14.19	15.17	26.57	29.36	2.79
		velocity			7.40		7.66		7.05	6.59	7.15		7.40	7.66	7.05	6.59	7.53	6.81
FINAL - 2016 Japanese National Junior Championships (Mizuho, JPN)										<i>Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016</i>								
date	21-Oct-16	time	7.07	13.08	19.25	25.59	32.21	39.43	46.85	54.72	3 / 1							
reaction time		interval	6.01	6.17	6.34	6.62	7.22	7.42	7.87		# of strides	13.08	12.51	13.84	15.29	25.59	29.13	3.54
		velocity	7.07	8.32	8.10	7.89	7.55	6.93	6.74	6.35	7.31		7.65	7.99	7.23	6.54	7.82	6.87
U19 FINAL - 2016 National Sports Festival (Kitakami, JPN)										<i>Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016</i>								
date	10-Oct-16	time	7.08	13.04	19.19	25.67	32.48	39.61	47.06	55.10	6 / 3							
reaction time	0.204	interval		5.96	6.15	6.48	6.81	7.13	7.45	8.04	# of strides	13.04	12.63	13.94	15.49	25.67	29.43	3.76
		velocity		7.06	8.39	8.13	7.72	7.34	7.01	6.71	7.26		7.67	7.92	7.17	6.46	7.79	6.80
FINAL - 2016 Japanese National High School Championships (Okayama, JPN)										<i>Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016</i>								
date	29-Jul-16	time	7.01	12.94	19.05	25.47	32.28	39.34	46.57	54.21	9 / 2							
reaction time	0.161	interval		5.93	6.11	6.42	6.81	7.06	7.23	7.64	# of strides	12.94	12.53	13.87	14.87	25.47	28.74	3.27
		velocity		7.13	8.43	8.18	7.79	7.34	7.08	6.92	7.38		7.73	7.98	7.21	6.72	7.85	6.96
FINAL - 2015 Japanese National Youth Championships (Nagoya, JPN)										<i>Kohei (2015) - 400m race analysis of male & female at major 2015 competitions</i>								
date	16-Oct-15	time	7.39	13.80	20.35	27.14	34.16	41.34	48.61	56.07	6 / 6							
reaction time		interval		6.41	6.55	6.79	7.02	7.18	7.27	7.46	# of strides	13.80	13.34	14.20	14.73	27.14	28.93	1.79
		velocity		6.77	7.80	7.63	7.36	7.12	6.96	6.88	7.13		7.25	7.50	7.04	6.79	7.37	6.91
Haugen, Nora (NOR) (2003)										<i>Omega Timing (2023) - diamond league race analysis</i>								
date	15-Jun-23	time	7.52	13.90	20.65	27.51	34.41	41.43	48.67	56.54	1 / 7							
reaction time	0.178	interval		6.38	6.75	6.86	6.90	7.02	7.24	7.87	# of strides	13.90	13.61	13.92	15.11	27.51	29.03	1.52
		velocity		6.65	7.84	7.41	7.29	7.25	7.12	6.91	7.07		7.19	7.35	7.18	6.62	7.27	6.89

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
Hayashi, Maho (JPN)																			
FINAL - 2009 Japanese National High School Championships (Nara, JPN)																			
date	29-Jul-09	time	13.08		26.48		40.87		56.24	56.24	1 / 7								
reaction time		interval			13.40		14.39		15.37		# of strides	13.08	13.40	14.39	15.37	26.48	29.76	3.28	
		velocity	7.65		7.46		6.95		6.51	7.11		7.65	7.46	6.95	6.51	7.55	6.72		
Hayes, Quanera (USA) (1992)																			
FINAL - 2024 USA Olympic Trials (Eugene, OR)																			
date	23-Jun-24	time	12.45		24.57		37.19		50.55	50.55	1 / 5								
reaction time		interval			12.12		12.62		13.36		# of strides	12.45	12.12	12.62	13.36	24.57	25.98	1.41	
		velocity	8.03		8.25		7.92		7.49	7.91		8.03	8.25	7.92	7.49	8.14	7.70		
Semi-Final 2 - 2024 USA Olympic Trials (Eugene, OR)																			
date	22-Jun-24	time	12.44		23.86		36.37		50.46	50.46	5 / 3								
reaction time		interval			11.42		12.51		14.09		# of strides	12.44	11.42	12.51	14.09	23.86	26.60	2.74	
		velocity	8.04		8.76		7.99		7.10	7.93	184.0	8.04	8.76	7.99	7.10	8.38	7.52		
Heat 5 - 2024 USA Olympic Trials (Eugene, OR)																			
date	21-Jun-24	time	12.35		24.18		37.26		50.94	50.94	7 / 2								
reaction time		interval			11.83		13.08		13.68		# of strides	12.35	11.83	13.08	13.68	24.18	26.76	2.58	
		velocity	8.10		8.45		7.65		7.31	7.85	183.0	8.10	8.45	7.65	7.31	8.27	7.47		
FINAL - 2021 Weltklasse (Zürich, SUI)																			
date	09-Sep-21	time	6.7	12.4	18.3	24.3	30.3	36.4	42.9	49.88	49.88	7 / 1							
reaction time	0.188	interval		5.70	5.90	6.00	6.00	6.10	6.50	6.98		# of strides	12.40	11.90	12.10	13.48	24.30	25.58	1.28
		velocity	7.46	8.77	8.47	8.33	8.33	8.20	7.69	7.16	8.02		8.06	8.40	8.26	7.42	8.23	7.82	
FINAL - 2021 Meeting de Paris (Paris, FRA)																			
date	28-Aug-21	time	6.6	12.3	18.5	24.6	30.7	37.0	43.6	50.81	50.81	7 / 5							
reaction time	0.167	interval		5.70	6.20	6.10	6.10	6.30	6.60	7.21		# of strides	12.30	12.30	12.40	13.81	24.60	26.21	1.61
		velocity	7.58	8.77	8.06	8.20	8.20	7.94	7.58	6.93	7.87		8.13	8.13	8.06	7.24	8.13	7.63	
FINAL - 2021 Athletissima (Lausanne, SUI)																			
date	26-Aug-21	time	6.7	12.4	18.3	24.4	30.5	36.9	43.7	51.06	51.06	4 / 3							
reaction time	0.167	interval		5.70	5.90	6.10	6.10	6.40	6.80	7.36		# of strides	12.40	12.00	12.50	14.16	24.40	26.66	2.26
		velocity	7.46	8.77	8.47	8.20	8.20	7.81	7.35	6.79	7.83		8.06	8.33	8.00	7.06	8.20	7.50	
FINAL - 2020 Olympic Games (Tokyo, JPN)																			
date	06-Aug-21	time	6.71	12.54	18.57	24.87	31.09	37.47	43.98	50.89	50.88	2 / 7							
reaction time	0.176	interval		5.83	6.03	6.30	6.22	6.38	6.51	6.91		# of strides	12.54	12.33	12.60	13.42	24.87	26.02	1.15
		velocity	7.45	8.58	8.29	7.94	8.04	7.84	7.68	7.24	7.86		7.97	8.11	7.94	7.45	8.04	7.69	
Semi-Final 1 - 2017 IAAF World Championships (London, GBR)																			
date	07-Aug-17	time	12.37		24.67		37.02	43.61	50.52	50.71	6 / 3								
reaction time	0.191	interval			12.30		12.35	6.59	6.91		# of strides	12.37	12.30	12.35	13.50	24.67	25.85	1.18	
		velocity	8.08		8.13		8.10	7.59	7.24	7.89	175.6	8.08	8.13	8.10	7.41	8.11	7.74		
FINAL - 2017 USATF National Championship (Sacramento, CA)																			
date	24-Jun-17	time	12.20		23.89		36.14		49.72	49.72	7 / 1								
reaction time		interval			11.69		12.25		13.58	PB	# of strides	12.20	11.69	12.25	13.58	23.89	25.83	1.94	
		velocity	8.24		8.73		8.12		7.24	8.05		8.20	8.55	8.16	7.36	8.37	7.74		
FINAL - 2016 USA Olympic Trials (Eugene, OR)																			
date	03-Jul-16	time			24.6		37.5		51.80	51.80	1 / 8								
reaction time	0.357	interval			12.90		14.30				# of strides		12.90	14.30	24.60	27.20	2.60		
		velocity			8.13		7.75		6.99	7.72			7.75	6.99	8.13	7.35			
He Ke (CHN) (1993)																			
FINAL - 2017 Chinese National Games (Tianjin, CHN)																			
date	03-Sep-17	time	13.30		26.00		39.43		54.43	54.43	1 / 8								
reaction time		interval			12.70		13.43		15.00		# of strides	13.30	12.70	13.43	15.00	26.00	28.43	2.43	
		velocity	7.52		7.87		7.45		6.67	7.35	211.0	7.52	7.87	7.45	6.67	7.69	7.03		
He Miao (CHN) (2003)																			
FINAL - 2024 Chinese National Championships (Quzhou, CHN)																			
date	16-Sep-24	time	14.70		26.29		40.16	47.43	55.21	55.21	7 / 8								
reaction time	0.224	interval			11.59		13.87	7.27	7.78		# of strides	14.70	11.59	13.87	15.05	26.29	28.92	2.63	
		velocity	6.80		8.63		7.21	6.88	6.43	7.25	201.5	6.80	8.63	7.21	6.64	7.61	6.92		
Healy, Phil (IRL) (1994)																			
Heat 1 - 2022 European Athletics Championships (Munich, GER)																			
date	15-Aug-22	time	12.47		24.44		37.75		53.10	53.10	3 / 6								
reaction time	0.274	interval			11.97		13.31		15.35		# of strides	12.47	11.97	13.31	15.35	24.44	28.66	4.22	
		velocity	8.02		8.35		7.51		6.51	7.53		8.02	8.35	7.51	6.51	8.18	6.98		
FINAL - 2022 Meeting International Mohammed VI d'Atlétime (Rabat, MAR)																			
date	05-Jun-22	time	6.80	12.66	18.65	24.87	31.30	37.96	44.72	52.28	52.28	8 / 7							
reaction time	0.140	interval		5.86	5.99	6.22	6.43	6.66	6.76	7.56		# of strides	12.66	12.21	13.09	14.32	24.87	27.41	2.54
		velocity	7.35	8.53	8.35	8.04	7.78	7.51	7.40	6.61	7.65		7.90	8.19	7.64	6.98	8.04	7.30	
Helander, Klara (SWE) (1995)																			
FINAL - 2022 Bauhaus Galan (Stockholm, SWE)																			
date	30-Jun-22	time	7.26	13.47	19.78	26.34	33.18	40.12	47.52	55.45	55.45	2 / 8							
reaction time	0.150	interval		6.21	6.31	6.56	6.84	6.94	7.40	7.93		# of strides	13.47	12.87	13.78	15.33	26.34	29.11	2.77

velocity	6.89	8.05	7.92	7.62	7.31	7.20	6.76	6.31	7.21		7.42	7.77	7.26	6.52	7.59	6.87
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		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Henderson, Monique (USA) (1983)																		
FINAL - 2008 USA Olympic Trials (Eugene, OR)																		
<i>USATF Women's Sprint Development with HPC (2008)</i>																		
date	03-Jul-08	time	12.23	17.63	24.51	30.68	37.23	43.72	50.98	50.98	8 / 4							
reaction time		interval		5.40	6.88	6.17	6.55	6.49	7.26		# of strides	12.23	12.28	12.72	13.75	24.51	26.47	1.96
		velocity	8.18	9.26	7.27	8.10	7.63	7.70	6.89	7.85		8.18	8.14	7.86	7.27	8.16	7.56	
Quarter-Final 1 - 2008 USA Olympic Trials (Eugene, OR)																		
<i>USATF Women's Sprint Development with HPC (2008)</i>																		
date	29-Jun-08	time	12.66	18.72	25.12	31.45	38.03	44.72	52.24	52.24	5 / 2							
reaction time		interval		6.06	6.40	6.33	6.58	6.69	7.52		# of strides	12.66	12.46	12.91	14.21	25.12	27.12	2.00
		velocity	7.90	8.25	7.81	7.90	7.60	7.47	6.65	7.66		7.90	8.03	7.75	7.04	7.96	7.37	
FINAL - 2006 USATF National Championship (Indianapolis, IN)																		
<i>USATF Women's Sprint Development (2006)</i>																		
date	24-Jun-06	time	11.76	17.83	23.84	29.95	36.48	43.22	50.71	50.71	3 / 3							
reaction time		interval		6.07	6.01	6.11	6.53	6.74	7.49		# of strides	11.76	12.08	12.64	14.23	23.84	26.87	3.03
		velocity	8.50	8.24	8.32	8.18	7.66	7.42	6.68	7.89		8.50	8.28	7.91	7.03	8.39	7.44	
FINAL - 2005 IAAF World Championships (Helsinki, FIN)																		
<i>Butler (2013) - IAAF world championships statistics handbook- moscow 2013</i>																		
date	10-Aug-05	time					36.3		51.8	51.77	1 / 7							
reaction time	0.201	interval							15.47		# of strides				15.47			
		velocity					8.26		6.46	7.73					6.46			
FINAL - 2005 USATF National Championship (Carson, CA)																		
<i>USATF Women's Sprint Development (2005)</i>																		
date	25-Jun-05	time	12.31	18.06	24.09	30.18	36.35	42.86	49.96	49.96	6 / 3							
reaction time		interval		5.75	6.03	6.09	6.17	6.51	7.10	PB	# of strides	12.31	11.78	12.26	13.61	24.09	25.87	1.78
		velocity	8.12	8.70	8.29	8.21	8.10	7.68	7.04	8.01		8.12	8.49	8.16	7.35	8.30	7.73	
FINAL - 2004 USA Olympic Trials (Sacramento, CA)																		
<i>USATF Women's Sprint Development (2004)</i>																		
date	17-Jul-04	time	12.06		23.89	30.18	36.59	43.08	50.75	50.75	6 / 5							
reaction time		interval			11.83	6.29	6.41	6.49	7.67		# of strides	12.06	11.83	12.70	14.16	23.89	26.86	2.97
		velocity	8.29		8.45	7.95	7.80	7.70	6.52	7.88		8.29	8.45	7.87	7.06	8.37	7.45	
Semi-Final 1 - 2004 USA Olympic Trials (Sacramento, CA)																		
<i>USATF Women's Sprint Development (2004)</i>																		
date	15-Jul-04	time	12.28		23.89	30.06	36.40	43.14	50.53	50.53	4 / 2							
reaction time		interval			11.61	6.17	6.34	6.74	7.39	PB	# of strides	12.28	11.61	12.51	14.13	23.89	26.64	2.75
		velocity	8.14		8.61	8.10	7.89	7.42	6.77	7.92		8.14	8.61	7.99	7.08	8.37	7.51	
Heat 4 - 2004 USA Olympic Trials (Sacramento, CA)																		
<i>USATF Women's Sprint Development (2004)</i>																		
date	12-Jul-04	time	11.92		23.69		36.58	43.34	51.06	51.06	3 / 2							
reaction time		interval			11.77		12.89	6.76	7.72		# of strides	11.92	11.77	12.89	14.48	23.69	27.37	3.68
		velocity	8.39		8.50		7.76	7.40	6.48	7.83		8.39	8.50	7.76	6.91	8.44	7.31	
Semi-Final 2 - 2003 USATF National Championship (Palo Alto, CA)																		
<i>USATF Women's Sprint Development (2003)</i>																		
date	20-Jun-03	time					38.77	46.05	54.43	54.43	3 / 8							
reaction time		interval						7.28	8.38		# of strides				15.66			
		velocity					7.74	6.87	5.97	7.35					6.39			
FINAL - 2000 USA Olympic Trials (Sacramento, CA)																		
<i>Hymans (2008) - history of the US olympic trials - track and field</i>																		
date	16-Jul-00	time	12.6		24.3		37.1		51.79	51.79	2 / 8							
reaction time		interval			11.70		12.80		14.69		# of strides	12.60	11.70	12.80	14.69	24.30	27.49	3.19
		velocity	7.94		8.55		7.81		6.81	7.72		7.94	8.55	7.81	6.81	8.23	7.28	
Hennegan, Monique (USA) (1976)																		
Quarter-Final 3 - 2008 USA Olympic Trials (Eugene, OR)																		
<i>USATF Women's Sprint Development with HPC (2008)</i>																		
date	29-Jun-08	time	12.62	18.53	24.71	30.98	37.62	44.29	51.73	51.73	7 / 4							
reaction time		interval		5.91	6.18	6.27	6.64	6.67	7.44		# of strides	12.62	12.09	12.91	14.11	24.71	27.02	2.31
		velocity	7.92	8.46	8.09	7.97	7.53	7.50	6.72	7.73		7.92	8.27	7.75	7.09	8.09	7.40	
FINAL - 2006 USATF National Championship (Indianapolis, IN)																		
<i>USATF Women's Sprint Development (2006)</i>																		
date	24-Jun-06	time	12.04	18.17	24.18	30.46	37.13	44.04	51.46	51.46	1 / 8							
reaction time		interval		6.13	6.01	6.28	6.67	6.91	7.42		# of strides	12.04	12.14	12.95	14.33	24.18	27.28	3.10
		velocity	8.31	8.16	8.32	7.96	7.50	7.24	6.74	7.77		8.31	8.24	7.72	6.98	8.27	7.33	
FINAL - 2005 USATF National Championship (Carson, CA)																		
<i>USATF Women's Sprint Development (2005)</i>																		
date	25-Jun-05	time	12.04	17.72	23.72	29.83	36.28	43.18	50.76	50.76	3 / 5							
reaction time		interval		5.68	6.00	6.11	6.45	6.90	7.58		# of strides	12.04	11.68	12.56	14.48	23.72	27.04	3.32
		velocity	8.31	8.80	8.33	8.18	7.75	7.25	6.60	7.88		8.31	8.56	7.96	6.91	8.43	7.40	
FINAL - 2004 Olympic Games (Athens, GRE)																		
<i>Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016</i>																		
date	24-Aug-04	time	12.0		23.8		35.8		50.0	49.97	5 / 4							
reaction time	0.241	interval			11.8		12.0		14.2		# of strides	12.00	11.80	12.00	14.20	23.80	26.20	2.40
		velocity	8.33		8.47		8.33		7.04	8.00		8.33	8.47	8.33	7.04	8.40	7.63	
FINAL - 2004 USA Olympic Trials (Sacramento, CA)																		
<i>USATF Women's Sprint Development (2004)</i>																		
date	17-Jul-04	time	12.03		23.62	29.85	36.12	42.43	49.56	49.56	7 / 1							
reaction time		interval			11.59	6.23	6.27	6.31	7.13	PB	# of strides	12.03	11.59	12.50	13.44	23.62	25.94	2.32
		velocity	8.31		8.63	8.03	7.97	7.92	7.01	8.07		8.31	8.63	8.00	7.44	8.47	7.71	
Semi-Final 1 - 2004 USA Olympic Trials (Sacramento, CA)																		
<i>USATF Women's Sprint Development (2004)</i>																		
date	15-Jul-04	time	12.16		23.92	30.01	36.45	43.16	50.59	50.59	6 / 3							
reaction time		interval			11.76	6.09	6.44	6.71	7.43		# of strides	12.16	11.76	12.53	14.14	23.92	26.67	2.75
		velocity	8.22		8.50	8.21	7.76	7.45	6.73	7.91		8.22	8.50	7.98	7.07	8.36	7.50	
Heat 4 - 2004 USA Olympic Trials (Sacramento, CA)																		
<i>USATF Women's Sprint Development (2004)</i>																		

date	12-Jul-04	time	12.06	23.62	36.18	42.89	50.31	50.31	5 / 1										
reaction time		interval		11.56	12.56	6.71	7.42		# of strides	12.06	11.56	12.56	14.13	23.62	26.69	3.07			
		velocity	8.29	8.65	7.96	7.45	6.74	7.95		8.29	8.65	7.96	7.08	8.47	7.49				
Semi-Final 2 - 2003 USATF National Championship (Palo Alto, CA)										USATF Women's Sprint Development (2003)									
date	20-Jun-03	time		24.07	37.62	44.86	53.22	53.22	8 / 5										
reaction time		interval			13.55	7.24	8.36		# of strides		13.55	15.60	24.07	29.15	5.08				
		velocity		8.31	7.38	6.91	5.98	7.52			7.38	6.41	8.31	6.86					
FINAL - 2000 USA Olympic Trials (Sacramento, CA)										Hymans (2008) - history of the US olympic trials - track and field									
date	16-Jul-00	time	12.5	24.0	36.6		50.82	50.82	3 / 4										
reaction time		interval		11.50	12.60		14.22	PB	# of strides	12.50	11.50	12.60	14.22	24.00	26.82	2.82			
		velocity	8.00	8.70	7.94		7.03	7.87		8.00	8.70	7.94	7.03	8.33	7.46				
Semi-Final 2 - 1996 USA Olympic Trials (Atlanta, GA)										USATF Women's Sprint Development (1996)									
date	17-Jun-96	time	12.74	24.80	37.65	45.03	52.50	52.50	5 / 8										
reaction time		interval		12.06	12.85	7.38	7.47		# of strides	12.74	12.06	12.85	14.85	24.80	27.70	2.90			
		velocity	7.85	8.29	7.78	6.78	6.69	7.62		7.85	8.29	7.78	6.73	8.06	7.22				
Hespel, Nina (BEL) (2001)																			
National FINAL - 2022 Memorial van Damme (Brussels, BEL)										Omega Timing (2022) - diamond league race analysis									
date	02-Sep-22	time	6.90	12.65	18.76	25.19	31.85	38.82	46.23	54.47	54.47	1 / 8							
reaction time	0.196	interval		5.75	6.11	6.43	6.66	6.97	7.41	8.24		# of strides	12.65	12.54	13.63	15.65	25.19	29.28	4.09
		velocity	7.25	8.70	8.18	7.78	7.51	7.17	6.75	6.07	7.34		7.91	7.97	7.34	6.39	7.94	6.83	
Hihara, Honaka (JPN)																			
FINAL - 2021 Shimane High School Championships (Izumo, JPN)										Shimizu (2021) - shimane high school championships 2021 - biomechanics data analysis									
date	28-May-21	time		15.15	29.98		45.82		62.55	62.55	6 / 4								
reaction time		interval			14.83		15.84		16.73		# of strides	15.15	14.83	15.84	16.73	29.98	32.57	2.59	
		velocity		6.60	6.74		6.31		5.98	6.39		6.60	6.74	6.31	5.98	6.67	6.14		
FINAL - 2020 Shimane High School Championships (Izumo, JPN)										Shimizu (2020) - shimane high school championships 2020 - biomechanics data analysis									
date	11-Jul-20	time	14.02	28.65	44.01		60.51	60.51	6 / 2										
reaction time		interval		14.63	15.36		16.50		# of strides	14.02	14.63	15.36	16.50	28.65	31.86	3.21			
		velocity	7.13	6.84	6.51		6.06	6.61		7.13	6.84	6.51	6.06	6.98	6.28				
FINAL - 2019 Shimane High School Championships (Izumo, JPN)										Shimizu (2019) - shimane high school championships 2019 - biomechanics data analysis									
date	24-May-19	time	14.87	30.08		45.98		61.84	61.84	6 / 5									
reaction time		interval		15.21	15.90		15.86		# of strides	14.87	15.21	15.90	15.86	30.08	31.76	1.68			
		velocity	6.72	6.57	6.29		6.31	6.47		6.72	6.57	6.29	6.31	6.65	6.30				
Hilaire, Elan (USA) (1990)																			
FINAL - 2006 USATF National Junior Championship (Indianapolis, IN)										USATF Women's Sprint Development (2006)									
date	24-Jun-06	time	13.36	19.52	23.47	32.67	39.64	46.66	54.23	54.23	1 / 6								
reaction time		interval		6.16	3.95	9.20	6.97	7.02	7.57	PB	# of strides	13.36	10.11	16.17	14.59	23.47	30.76	7.29	
		velocity	7.49	8.12	12.66	5.43	7.17	7.12	6.61	7.38		7.49	9.89	6.18	6.85	8.52	6.50		
Hillyard, Amy (GBR) (1995)																			
FINAL - 2022 Müller Birmingham Diamond League (Birmingham, GBR)										Omega Timing (2022) - diamond league race analysis									
date	21-May-22	time	6.9	12.5	18.6	25.0	31.8	38.9	46.4	54.31	54.31	8 / 6							
reaction time	0.158	interval		5.60	6.10	6.40	6.80	7.10	7.50	7.91		# of strides	12.50	12.50	13.90	15.41	25.00	29.31	4.31
		velocity	7.25	8.93	8.20	7.81	7.35	7.04	6.67	6.32	7.37		8.00	8.00	7.19	6.49	8.00	6.82	
B Race - 2021 Müller British Grand Prix (Gateshead, GBR)										Omega Timing (2021) - diamond league race analysis									
date	13-Jun-21	time	7.0	12.7	18.7	25.0	31.6	38.7	46.1	53.84	53.84	2 / 6							
reaction time	0.149	interval		5.70	6.00	6.30	6.60	7.10	7.40	7.74		# of strides	12.70	12.30	13.70	15.14	25.00	28.84	3.84
		velocity	7.14	8.77	8.33	7.94	7.58	7.04	6.76	6.46	7.43		7.87	8.13	7.30	6.61	8.00	6.93	
Hirano, Rihoo (JPN) (2005)																			
FINAL - 2022 Japanese National High School Championships (Naruto, JPN)										Kishima (2022) - national high school championships biomechanics data collection									
date	03-Aug-22	time	13.97		27.27		41.49		56.29	56.29	4 / 8								
reaction time	0.224	interval			13.30		14.22		14.80		# of strides	13.97	13.30	14.22	14.80	27.27	29.02	1.75	
		velocity		7.16	7.52		7.03		6.76	7.11		7.16	7.52	7.03	6.76	7.33	6.89		
Hirayabu, Mei (JPN)																			
FINAL - 2019 Shimane High School Championships (Izumo, JPN)										Shimizu (2019) - shimane high school championships 2019 - biomechanics data analysis									
date	24-May-19	time	14.44		28.85		44.77		61.24	61.24	4 / 4								
reaction time		interval			14.41		15.92		16.47		# of strides	14.44	14.41	15.92	16.47	28.85	32.39	3.54	
		velocity		6.93	6.94		6.28		6.07	6.53		6.93	6.94	6.28	6.07	6.93	6.17		
Hirosawa, Mae (JPN) (1997)																			
Heat 3 - 2020 Japanese National Championships (Niigata, JPN)										Yamanaka (2020) - 400m race analysis of men and women during 2020 season									
date	01-Oct-20	time	6.82	12.74	19.05	25.74	32.71	39.92	47.38	55.40	55.40	6 / 3							
reaction time	0.156	interval		5.92	6.31	6.69	6.97	7.21	7.46	8.02		# of strides	12.74	13.00	14.18	15.48	25.74	29.66	3.92
		velocity	7.33	8.45	7.92	7.47	7.17	6.93	6.70	6.23	7.22		7.85	7.69	7.05	6.46	7.77	6.74	
FINAL - 2020 Seiko Golden Grand Prix (Tokyo, JPN)										Yamanaka (2020) - 400m race analysis of men and women during 2020 season									
date	23-Aug-20	time	7.02	13.03	19.25	25.85	32.77	39.86	47.06	54.61	54.61	9 / 4							
reaction time	0.179	interval		6.01	6.22	6.60	6.92	7.09	7.20	7.55		# of strides	13.03	12.82	14.01	14.75	25.85	28.76	2.91
		velocity	7.12	8.32	8.04	7.58	7.23	7.05	6.94	6.62	7.32		7.67	7.80	7.14	6.78	7.74	6.95	
Heat 1 - 2019 Japanese National Championships (Fukuoka, JPN)										Yamanaka (2019) - race analysis of men and women 400m competition									
date	27-Jun-19	time	7.10	13.27	19.69	26.30	33.03	40.04	47.19	54.80	54.80	4 / 3							
reaction time	0.191	interval		6.17	6.42	6.61	6.73	7.01	7.15	7.61		# of strides	13.27	13.03	13.74	14.76	26.30	28.50	2.20
		velocity	7.04	8.10	7.79	7.56	7.43	7.13	6.99	6.57	7.30		7.54	7.67	7.28	6.78	7.60	7.02	

A FINAL - 2019 Shizuoka International Athletics Meeting (Fukuroi, JPN)

Kobayashi (2019) - research on athlete performance and technique- 2019 data book

date	03-May-19	time	6.99	12.99	19.10	25.46	32.18	39.26	46.56	54.25	54.25										
reaction time		interval	6.00	6.11	6.36	6.72	7.08	7.30	7.69			# of strides	12.99	12.47	13.80	14.99	25.46	28.79	3.33		
		velocity	7.15	8.33	8.18	7.86	7.44	7.06	6.85	6.50	7.37		7.70	8.02	7.25	6.67	7.86	6.95			

FINAL - 2019 Asian Athletics Championships (Doha, QAT)

Yamanaka (2019) - race analysis of men and women 400m competition

date	21-Apr-19	time	6.85	12.72	18.82	25.23	31.87	38.75	45.89	53.54	53.54										
reaction time	0.163	interval	5.87	6.10	6.41	6.64	6.88	7.14	7.65			# of strides	12.72	12.51	13.52	14.79	25.23	28.31	3.08		
		velocity	7.30	8.52	8.20	7.80	7.53	7.27	7.00	6.54	7.47		199.5	7.86	7.99	7.40	6.76	7.93	7.06		

FINAL - 2018 Japanese National Championships (Yamaguchi, JPN)

Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition

date	23-Jun-18	time	6.80	12.83	19.09	25.56	32.32	39.27	46.37	53.95	53.95										
reaction time	0.149	interval	6.03	6.26	6.47	6.76	6.95	7.10	7.58			# of strides	12.83	12.73	13.71	14.68	25.56	28.39	2.83		
		velocity	7.35	8.29	7.99	7.73	7.40	7.19	7.04	6.60	7.41		199.0	7.79	7.86	7.29	6.81	7.82	7.04		

Division 1 FINAL - 2017 Kanto Collegiate Championships (Yokohama, JPN)

(2017) - tfdata-store.com/2017/06/01/post-786/

date	26-May-17	time		13.75		26.88		41.05		55.54	55.54										
reaction time		interval				13.13		14.17		14.49		# of strides	13.75	13.13	14.17	14.49	26.88	28.66	1.78		
		velocity		7.27		7.62		7.06		6.90	7.20		199.5	7.27	7.62	7.06	6.90	7.44	6.98		

Division 1 Semi-Final 1 - 2017 Kanto Collegiate Championships (Yokohama, JPN)

(2017) - tfdata-store.com/2017/06/02/post-835/

date	26-May-17	time	13.47		26.78		41.33		56.35	56.35											
reaction time		interval			13.31		14.55		15.02			# of strides	13.47	13.31	14.55	15.02	26.78	29.57	2.79		
		velocity		7.42		7.51		6.87		6.66	7.10		199.5	7.42	7.51	6.87	6.66	7.47	6.76		

Hirota, Yuki (JPN) (1995)50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential
FINAL - 2017 National Sports Festival (Matsuyama, JPN) Yamanaka (2017) - male and female 400m analysis in the 2017 season

date	08-Oct-17	time	7.62	13.97	20.42	27.12	33.96	41.00	48.30	55.98	55.98										
reaction time	0.230	interval		6.35	6.45	6.70	6.84	7.04	7.30	7.68		# of strides	13.97	13.15	13.88	14.98	27.12	28.86	1.74		
		velocity		6.56	7.87	7.75	7.46	7.31	7.10	6.85	6.51		197.7	7.16	7.60	7.20	6.68	7.37	6.93		

Hiwa, Hiyori (JPN)50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential
FINAL - 2018 Shimane High School Championships (Izumo, JPN) Shimizu (2018) - shimane high school championships 2018 - biomechanics data analysis

date	25-May-18	time		14.45		28.98		44.33		61.85	61.85										
reaction time		interval				14.53		15.35		17.52		# of strides	14.45	14.53	15.35	17.52	28.98	32.87	3.89		
		velocity		6.92		6.88		6.51		5.71	6.47		6.92	6.88	6.51	5.71	6.90	6.08			

Hjelmer, Moa (SWE) (1990)50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential
FINAL - 2024 Bauhaus Galan (Stockholm, SWE) Omega Timing (2024) - diamond league race analysis

date	02-Jun-24	time	7.00	12.76	18.80	25.27	32.03	39.12	46.53	54.79	54.79										
reaction time	0.176	interval		5.76	6.04	6.47	6.76	7.09	7.41	8.26		# of strides	12.76	12.51	13.85	15.67	25.27	29.52	4.25		
		velocity		7.14	8.68	8.28	7.73	7.40	7.05	6.75	6.05		7.84	7.99	7.22	6.38	7.91	6.78			

FINAL - 2022 Bauhaus Galan (Stockholm, SWE)

Omega Timing (2022) - diamond league race analysis

date	30-Jun-22	time	6.81	12.53	18.39	24.57	31.15	38.08	45.37	53.44	53.44										
reaction time	0.165	interval		5.72	5.86	6.18	6.58	6.93	7.29	8.07		# of strides	12.53	12.04	13.51	15.36	24.57	28.87	4.30		
		velocity		7.34	8.74	8.53	8.09	7.60	7.22	6.86	6.20		7.98	8.31	7.40	6.51	8.14	6.93			

FINAL - 2020 Bauhaus Galan (Stockholm, SWE)

Omega Timing (2020) - diamond league race analysis

date	23-Aug-20	time	6.9	12.7	18.7	25.1	31.7	38.8	46.1	53.79	53.79										
reaction time	0.171	interval		5.80	6.00	6.40	6.60	7.10	7.30	7.69		# of strides	12.70	12.40	13.70	14.99	25.10	28.69	3.59		
		velocity		7.25	8.62	8.33	7.81	7.58	7.04	6.85	6.50		7.87	8.06	7.30	6.67	7.97	6.97			

FINAL - 2018 Bauhaus Galan (Stockholm, SWE)

Omega Timing (2018) - diamond league race analysis

date	10-Jun-18	time		12.6		24.8		38.4		53.47	53.47										
reaction time	0.160	interval				12.2		13.6		15.1		# of strides	12.60	12.20	13.60	15.07	24.80	28.67	3.87		
		velocity		7.94		8.20		7.35		6.64	7.48		198.0	7.94	8.20	7.35	6.64	8.06	6.98		

Hoffmann, Claudia (GER) (1982)50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential
FINAL - 2007 European Cup (Munich, GER) Graubner (2007) - http://www.fgs.uni-halle.de

date	23-Jun-07	time		12.71		24.68		37.64		52.31	52.31										
reaction time	0.176	interval				11.97		12.96		14.67		# of strides	12.71	11.97	12.96	14.67	24.68	27.63	2.95		
		velocity		7.87		8.35		7.72		6.82	7.65		7.87	8.35	7.72	6.82	8.10	7.24			

Holland, Maree (AUS) (1963)50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential
FINAL - 1988 Olympic Games (Seoul, KOR) Brüggermann (1990) - scientific research project at the games of the XXXIV Olympiad, Seoul 1988

date	26-Sep-88	time		12.29		23.94		36.72		51.25	51.25										
reaction time	0.221	interval				11.65		12.78		14.53		# of strides	12.29	11.65	12.78	14.53	23.94	27.31	3.37		
		velocity		8.14		8.58		7.82		6.88	7.80		8.14	8.58	7.82	6.88	8.35	7.32			

Semi-Final 2 - 1988 Olympic Games (Seoul, KOR)

Brüggermann (1990) - scientific research project at the games of the XXXIV Olympiad, Seoul 1988

date	25-Sep-88	time		12.43		24.40		36.99		50.24	50.24										
reaction time		interval				11.97		12.59		13.25		# of strides	12.43	11.97	12.59	13.25	24.40	25.84	1.44		
		velocity		8.05		8.35		7.94		7.55	7.96		8.05	8.35	7.94	7.55	8.20	7.74			

Holman, Ziyah (USA) (2002)50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential
Semi-Final 3 - 2024 USA Olympic Trials (Eugene, OR) USATF and Karmarush (2024) - USA Olympic trials results and race analysis

date	22-Jun-24	time		12.45		24.43		37.63		53.00	53.00										
reaction time		interval				11.98		13.20		15.37		# of strides	12.45	11.98	13.20	15.37	24.43	28.57	4.14		
		velocity		8.03		8.35		7.58		6.51	7.55		8.03	8.35	7.58	6.51	8.19	7.00			

Heat 1 - 2024 USA Olympic Trials (Eugene, OR)

USATF and Karmarush (2024) - USA Olympic trials results and race analysis

date	21-Jun-24	time		12.56		24.59		37.66		51.96	51.96										
reaction time		interval				12.03		13.07		14.30		# of strides	12.56	12.03	13.07	14.30	24.59	27.37	2.78		

			velocity	7.96	8.31	7.65	6.99	7.70	196.0	7.96	8.31	7.65	6.99	8.13	7.31				
Holmes, Alexis (USA) (2000)	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential		
FINAL - 2024 Memorial van damme (Brussels, BEL)																			
<i>Omega Timing (2024) - diamond league race analysis</i>																			
date	13-Sep-24	time	6.73	12.32	18.09	24.14	30.42	36.88	43.51	50.32	50.32	3 / 2							
reaction time	0.145	interval	5.59	5.77	6.05	6.28	6.46	6.63	6.81		# of strides	12.32	11.82	12.74	13.44	24.14	26.18	2.04	
		velocity	7.43	8.94	8.67	8.26	7.96	7.74	7.54	7.34	7.95	8.12	8.46	7.85	7.44	8.29	7.64		
FINAL - 2024 Kamila Skolimowska Memorial (Silesia, POL)																			
<i>Omega Timing (2024) - diamond league race analysis</i>																			
date	25-Aug-24	time	6.63	12.12	17.79	23.83	30.08	36.62	43.27	50.01	50.01	3 / 5							
reaction time	0.148	interval	5.49	5.66	5.98	6.16	6.25	6.54	6.65	6.74		# of strides	12.12	11.71	12.79	13.39	23.83	26.18	2.35
		velocity	7.54	9.11	8.82	8.28	8.00	7.65	7.52	7.42	8.00	8.25	8.54	7.82	7.47	8.39	7.64		
FINAL - 2024 Olympic Games (Paris, FRA)																			
<i>Paris 2024 Olympic Games - Results Book (2024)</i>																			
date	09-Aug-24	time	6.53	11.96	17.59	23.47	29.61	36.05	42.67	49.77	49.77	9 / 6							
reaction time	0.147	interval	5.43	5.63	5.88	6.14	6.44	6.62	7.10	PB	# of strides	11.96	11.51	12.58	13.72	23.47	26.30	2.83	
		velocity	7.66	9.21	8.88	8.50	8.14	7.76	7.55	7.04	8.04	187.7	8.36	8.69	7.95	7.29	8.52	7.60	
Semi-Final 2 - 2024 Olympic Games (Paris, FRA)																			
<i>Paris 2024 Olympic Games - Results Book (2024)</i>																			
date	07-Aug-24	time	6.63	12.17	17.83	23.81	29.97	36.42	42.97	50.00	50.00	5 / 2							
reaction time	0.164	interval	5.54	5.66	5.98	6.16	6.45	6.55	7.03		# of strides	12.17	11.64	12.61	13.58	23.81	26.19	2.38	
		velocity	7.54	9.03	8.83	8.36	8.12	7.75	7.63	7.11	8.00	182.5	8.22	8.59	7.93	7.36	8.40	7.64	
Heat 6 - 2024 Olympic Games (Paris, FRA)																			
<i>Paris 2024 Olympic Games - Results Book (2024)</i>																			
date	05-Aug-24	time	6.58	11.99	17.65	23.63	29.96	36.44	43.16	50.35	50.35	7 / 2							
reaction time	0.144	interval	5.41	5.66	5.98	6.33	6.48	6.72	7.19		# of strides	11.99	11.64	12.81	13.91	23.63	26.72	3.09	
		velocity	7.60	9.24	8.83	8.36	7.90	7.72	7.44	6.95	7.94	178.0	8.34	8.59	7.81	7.19	8.46	7.49	
FINAL - 2024 Meeting de Paris (Paris, FRA)																			
<i>Omega Timing (2024) - diamond league race analysis</i>																			
date	07-Jul-24	time	6.68	12.28	18.12	24.13	30.32	36.61	43.16	50.02	50.02	4 / 4							
reaction time	0.175	interval	5.60	5.84	6.01	6.19	6.29	6.55	6.86		# of strides	12.28	11.85	12.48	13.41	24.13	25.89	1.76	
		velocity	7.49	8.93	8.56	8.32	8.08	7.95	7.63	7.29	8.00	180.2	8.14	8.44	8.01	7.46	8.29	7.72	
FINAL - 2024 USA Olympic Trials (Eugene, OR)																			
<i>USATF and Karmarush (2024) - USA Olympic trials results and race analysis</i>																			
date	23-Jun-24	time	12.09		23.90		36.49		49.78	49.78		3 / 4							
reaction time		interval			11.81		12.59		13.29	PB	# of strides	12.09	11.81	12.59	13.29	23.90	25.88	1.98	
		velocity	8.27		8.47		7.94		7.52	8.04	187.7	8.27	8.47	7.94	7.52	8.37	7.73		
Semi-Final 1 - 2024 USA Olympic Trials (Eugene, OR)																			
<i>USATF and Karmarush (2024) - USA Olympic trials results and race analysis</i>																			
date	22-Jun-24	time	12.15		23.59		36.35		50.19	50.19		6 / 4							
reaction time		interval			11.44		12.76		13.84	PB	# of strides	12.15	11.44	12.76	13.84	23.59	26.60	3.01	
		velocity	8.23		8.74		7.84		7.23	7.97	183.0	8.23	8.74	7.84	7.23	8.48	7.52		
Heat 4 - 2024 USA Olympic Trials (Eugene, OR)																			
<i>USATF and Karmarush (2024) - USA Olympic trials results and race analysis</i>																			
date	21-Jun-24	time	12.22		24.06		37.23		51.05	51.05		3 / 1							
reaction time		interval			11.84		13.17		13.82		# of strides	12.22	11.84	13.17	13.82	24.06	26.99	2.93	
		velocity	8.18		8.45		7.59		7.24	7.84	183.7	8.18	8.45	7.59	7.24	8.31	7.41		
FINAL - 2024 Bauhaus Galan (Stockholm, SWE)																			
<i>Omega Timing (2024) - diamond league race analysis</i>																			
date	02-Jun-24	time	6.69	12.25	17.93	24.06	30.41	37.02	43.92	51.18	51.18	5 / 1							
reaction time	0.142	interval	5.56	5.68	6.13	6.35	6.61	6.90	7.26		# of strides	12.25	11.81	12.96	14.16	24.06	27.12	3.06	
		velocity	7.47	8.99	8.80	8.16	7.87	7.56	7.25	6.89	7.82	8.16	8.47	7.72	7.06	8.31	7.37		
FINAL - 2024 Bislett Games (Oslo, NOR)																			
<i>Omega Timing (2024) - diamond league race analysis</i>																			
date	30-May-24	time	6.69	12.15	17.79	23.66	29.85	36.34	43.11	50.40	50.40	8 / 3							
reaction time	0.154	interval	5.46	5.64	5.87	6.19	6.49	6.77	7.29		# of strides	12.15	11.51	12.68	14.06	23.66	26.74	3.08	
		velocity	7.47	9.16	8.87	8.52	8.08	7.70	7.39	6.86	7.94	185.2	8.23	8.69	7.89	7.11	8.45	7.48	
Holmes, Dominique (USA) (1986)																			
<i>USATF Women's Sprint Development with HPC (2008)</i>																			
date	29-Jun-08	time	12.86	19.12	25.52	32.03	38.74	45.76	53.35	53.35		5 / 6							
reaction time		interval		6.26	6.40	6.51	6.71	7.02	7.59		# of strides	12.86	12.66	13.22	14.61	25.52	27.83	2.31	
		velocity	7.78	7.99	7.81	7.68	7.45	7.12	6.59	7.50		7.78	7.90	7.56	6.84	7.84	7.19		
Holub-Kowalik, Malgorzata (POL) (19)																			
<i>Omega Timing (2022) - diamond league race analysis</i>																			
date	06-Aug-22	time	7.07	12.88	18.88	25.11	31.55	38.23	45.32	53.24	53.24	5 / 2							
reaction time	0.231	interval	5.81	6.00	6.23	6.44	6.68	7.09	7.92		# of strides	12.88	12.23	13.12	15.01	25.11	28.13	3.02	
		velocity	7.07	8.61	8.33	8.03	7.76	7.49	7.05	6.31	7.51	7.76	8.18	7.62	6.66	7.96	7.11		
Holub, Malgorzata (POL) (1992)																			
<i>Yamamoto (2015) - race analysis of 15th World Championships 400m- focusing on men's semis and women's prelims</i>																			
date	24-Aug-15	time	7.04	12.78	18.55	24.49	30.70	37.21	44.15	51.74	51.74	4 / 5							
reaction time	0.200	interval	5.74	5.77	5.94	6.21	6.51	6.94	7.59	PB	# of strides	12.78	11.71	12.72	14.53	24.49	27.25	2.76	
		velocity	7.10	8.71	8.67	8.42	8.05	7.68	7.20	6.59	7.73	7.82	8.54	7.86	6.88	8.17	7.34		
Hooper, Gloria (ITA) (1992)																			
<i>Tozzi (2017) - FIDAL - analisi gloria hooper, 25 maggio Orvieto</i>																			
date	28-May-17	time	12.73		24.63		38.17		53.40	53.67		/ 5							
reaction time		interval			11.90		13.54		15.23		# of strides	12.73	11.90	13.54	15.23	24.63	28.77	4.14	
		velocity	7.86		8.40		7.39		6.57	7.45	199	7.86	8.40	7.39	6.57	8.12	6.95		
Horie, Mayu (JPN) (1983)																			
<i>Masaaki (2006) - time analysis in the 400m at the Seiko Super Grand Prix</i>																			
date	19-Sep-05	time	13.25		25.91		39.14	46.61	54.59	54.59		9 / 8							
reaction time		interval			12.66		13.23	7.47	7.98	PB	# of strides	13.25	12.66	13.23	15.45	25.91	28.68	2.77	

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
velocity		7.55	7.90	7.56	6.69	6.27	7.33					7.55	7.90	7.56	6.47	7.72	6.97	
Horn, Becky (USA) (1986)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2005 USATF National Junior Championships (Indianapolis, IN)		<i>USATF Women's Sprint Development (2005)</i>																
date	25-Jun-05	time	12.86	18.87	25.21	31.72	38.41	45.71	53.57	53.57	8 / 5							
reaction time		interval		6.01	6.34	6.51	6.69	7.30	7.86		# of strides	12.86	12.35	13.20	15.16	25.21	28.36	3.15
		velocity	7.78	8.32	7.89	7.68	7.47	6.85	6.36	7.47		7.78	8.10	7.58	6.60	7.93	7.05	
Horvat, Anita (SLO) (1996)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 4 - 2022 World Athletics Championships (Eugene, OR)		<i>Timing by Seiko (2022) - world athletics championships race analysis</i>																
date	17-Jul-22	time	12.86		25.31		38.50		52.67	52.67	7 / 6							
reaction time	0.192	interval			12.45		13.19		14.17		# of strides	12.86	12.45	13.19	14.17	25.31	27.36	2.05
		velocity	7.78		8.03		7.58		7.06	7.59	188.0	7.78	8.03	7.58	7.06	7.90	7.31	
FINAL - 2020 Memorial Van Damme (Brussels, BEL)		<i>Omega Timing (2020) - diamond league race analysis</i>																
date	04-Sep-20	time	7.2	13.1	19.2	25.5	31.8	38.4	45.3	52.70	52.70	3 / 2						
reaction time	0.188	interval		5.90	6.10	6.30	6.30	6.60	6.90	7.40		# of strides	13.10	12.40	12.90	14.30	25.50	27.20
		velocity	6.94	8.47	8.20	7.94	7.94	7.58	7.25	6.76	7.59	186.2	7.63	8.06	7.75	6.99	7.84	7.35
Hosono, Maika (JPN) (1997)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Division 1 FINAL - 2017 Kanto Collegiate Championships (Yokohama, JPN)		<i>(2017) - tfdata-store.com/2017/06/01/post-786/</i>																
date	26-May-17	time	13.89		26.92		40.93		55.59	55.59	5 / 5							
reaction time		interval			13.03		14.01		14.66	PB	# of strides	13.89	13.03	14.01	14.66	26.92	28.67	1.75
		velocity	7.20		7.67		7.14		6.82	7.20	204.5	7.20	7.67	7.14	6.82	7.43	6.98	
Division 1 Semi-Final 2 - 2017 Kanto Collegiate Championships (Yokohama, JPN)		<i>(2017) - tfdata-store.com/2017/06/02/post-835/</i>																
date	26-May-17	time	13.70		26.60		40.53		55.68	55.68	7 / 2							
reaction time		interval			12.90		13.93		15.15	PB	# of strides	13.70	12.90	13.93	15.15	26.60	29.08	2.48
		velocity	7.30		7.75		7.18		6.60	7.18	205.0	7.30	7.75	7.18	6.60	7.52	6.88	
Hosuyama, Shiori (JPN)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Kansai Regional University Championships (Osaka, JPN)		<i>(2017) - tfdata-store.com/2017/05/13/post-441/</i>																
date	11-May-17	time	13.05		25.78		39.78		55.64	55.64	2 / 6							
reaction time		interval			12.73		14.00		15.86		# of strides	13.05	12.73	14.00	15.86	25.78	29.86	4.08
		velocity	7.66		7.86		7.14		6.31	7.19		7.66	7.86	7.14	6.31	7.76	6.70	
Howard, Donna (USA) (1974)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 1996 USA Olympic Trials (Atlanta, GA)		<i>USATF Women's Sprint Development (1996)</i>																
date	17-Jun-96	time	12.36		24.34		37.85	44.98	52.37	52.37	1 / 7							
reaction time		interval			11.98		13.51	7.13	7.39		# of strides	12.36	11.98	13.51	14.52	24.34	28.03	3.69
		velocity	8.09		8.35		7.40	7.01	6.77	7.64		8.09	8.35	7.40	6.89	8.22	7.14	
Howard-Hill, Denean (USA) (1964)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 1996 USA Olympic Trials (Atlanta, GA)		<i>USATF Women's Sprint Development (1996)</i>																
date	17-Jun-96	time	12.05		23.78		36.65	43.85	51.74	51.74	2 / 6							
reaction time		interval			11.73		12.87	7.20	7.89		# of strides	12.05	11.73	12.87	15.09	23.78	27.96	4.18
		velocity	8.30		8.53		7.77	6.94	6.34	7.73		8.30	8.53	7.77	6.63	8.41	7.15	
FINAL - 1988 Olympic Games (Seoul, KOR)		<i>Brüggemann (1990) - scientific research project at the games of the XXXIV Olympiad, Seoul 1988</i>																
date	26-Sep-88	time	12.21		24.00		36.79		51.12	51.12	8 / 6							
reaction time	0.241	interval			11.79		12.79		14.33		# of strides	12.21	11.79	12.79	14.33	24.00	27.12	3.12
		velocity	8.19		8.48		7.82		6.98	7.82		8.19	8.48	7.82	6.98	8.33	7.37	
Semi-Final 1 - 1988 Olympic Games (Seoul, KOR)		<i>Brüggemann (1990) - scientific research project at the games of the XXXIV Olympiad, Seoul 1988</i>																
date	25-Sep-88	time	12.11		23.90		36.37		49.87	49.87	3 / 4							
reaction time		interval			11.79		12.47		13.50	PB	# of strides	12.11	11.79	12.47	13.50	23.90	25.97	2.07
		velocity	8.26		8.48		8.02		7.41	8.02		8.26	8.48	8.02	7.41	8.37	7.70	
Howard, Denean (USA) (1964)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1984 USA Olympic Trials (Los Angeles, CA)		<i>Hymans (2008) - history of the US olympic trials - track and field</i>																
date	19-Jun-84	time			24.0				51.1	51.05	7 / 5							
reaction time		interval							27.10		# of strides				24.00	27.10	3.10	
		velocity			8.33				7.38	7.84					8.33	7.38		
FINAL - 1980 USA Olympic Trials (Eugene, OR)		<i>Hymans (2008) - history of the US olympic trials - track and field</i>																
date	25-Jun-80	time			24.1				51.7	51.70	1 / 3							
reaction time		interval							27.60		# of strides				24.10	27.60	3.50	
		velocity			8.30				7.25	7.74					8.30	7.25		
Howard, Sherri (USA) (1962)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1984 USA Olympic Trials (Los Angeles, CA)		<i>Hymans (2008) - history of the US olympic trials - track and field</i>																
date	19-Jun-84	time			23.5				50.4	50.40	8 / 4							
reaction time		interval							26.90		# of strides				23.50	26.90	3.40	
		velocity			8.51				7.43	7.94					8.51	7.43		
FINAL - 1980 USA Olympic Trials (Eugene, OR)		<i>Hymans (2008) - history of the US olympic trials - track and field</i>																
date	25-Jun-80	time			24.2				51.5	51.48	1 / 1							
reaction time		interval							27.30		# of strides				24.20	27.30	3.10	
		velocity			8.26				7.33	7.77					8.26	7.33		
Huang Guifen (CHN) (1997)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Chinese National Championships (Quzhou, CHN)		<i>Shandong Athletics Sport Science (2024)</i>																
date	16-Sep-24	time	14.55		26.12		39.75	46.69	54.03	54.03	6 / 3							
reaction time	0.211	interval			11.57		13.63	6.94	7.34		# of strides	14.55	11.57	13.63	14.28	26.12	27.91	1.79
		velocity	6.87		8.64		7.34	7.20	6.81	7.40		6.87	8.64	7.34	7.00	7.66	7.17	

											Omega Timing (2019) - diamond league race analysis								
FINAL - 2019 Shanghai (Shanghai, CHN)																			
date	time	12.8	25.5	39.3	54.17	54.17	1 / 9												
reaction time	interval	0.168	12.7	13.8	14.9		# of strides	12.80	12.70	13.80	14.87	25.50	28.67	3.17					
	velocity	7.81	7.87	7.25	6.72	7.38													
FINAL - 2018 Asian Games (Jakarta, INA)											Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition								
date	time	12.75	18.86	25.36	32.03	38.98	46.26	53.89	53.89	8 / 5									
reaction time	interval	0.201	5.98	6.11	6.50	6.67	6.95	7.28	7.63	# of strides	12.75	12.61	13.62	14.91	25.36	28.53	3.17		
	velocity	7.39	8.36	8.18	7.69	7.50	7.19	6.87	6.55	7.42	7.84	7.93	7.34	6.71	7.89	7.01			
Huang Shiyao (CHN) (2002)																			
FINAL - 2023 Chinese National Championships (Quzhou, CHN)											Shandong Athletics Sport Science (2023)								
date	time	13.70	27.01	40.77	47.86	55.36	55.36	8 / 6											
reaction time	interval	0.226	13.31	13.76	7.09	7.50		# of strides	13.70	13.31	13.76	14.59	27.01	28.35	1.34				
	velocity	7.30	7.51	7.27	7.05	6.67	7.23	201.0	7.30	7.51	7.27	6.85	7.40	7.05					
Huang Xiaoxiao (CHN) (1983)																			
FINAL - 2009 Chinese National Games (Jinan, CHN)											Wang (2012) - Research on the analysis of the speed distribution of China's outstanding female 400-meter runners								
date	time	12.45	24.58	38.14	52.23	52.23	1 / 1												
reaction time	interval		12.13	13.56	14.09		# of strides	12.45	12.13	13.56	14.09	24.58	27.65	3.07					
	velocity	8.03	8.24	7.37	7.10	7.66	7.66	8.03	8.24	7.37	7.10	8.14	7.23						
Humphrey, Erin (USA) (1988)																			
FINAL - 2006 USATF National Junior Championship (Indianapolis, IN)											USATF Women's Sprint Development (2006)								
date	time	12.93	19.30	25.36	31.99	39.02	46.05	53.41	53.41	7 / 5									
reaction time	interval		6.37	6.06	6.63	7.03	7.03	7.36	PB	# of strides	12.93	12.43	13.66	14.39	25.36	28.05	2.69		
	velocity	7.73	7.85	8.25	7.54	7.11	7.11	6.79	7.49	7.73	8.05	7.32	6.95	7.89	7.13				
Huroresu, Arie (JPN) (2004)																			
FINAL - 2021 Japanese High School National Championships (Fukui, JPN)											Shibayama (2021) - national high school and U20 national championships								
date	time	7.36	13.84	20.52	27.36	34.41	41.52	48.70	56.20	56.20	2 / 6								
reaction time	interval	0.164	6.48	6.68	6.84	7.05	7.11	7.18	7.50	# of strides	13.84	13.52	14.16	14.68	27.36	28.84	1.48		
	velocity	6.79	7.72	7.49	7.31	7.09	7.03	6.96	6.67	7.12	7.23	7.40	7.06	6.81	7.31	6.93			
Hurtis, Muriel (FRA) (1979)																			
Heat 3 - 2010 European Championships (Barcelona, ESP)											Le Bras (2013) - analyse de la performance et conception de dispositifs d'entraînement								
date	time	12.2	24.1	36.8	52.0	51.97	1 / 3												
reaction time	interval		11.97	12.63	15.20		# of strides	12.15	11.97	12.63	15.20	24.12	27.83	3.71					
	velocity	8.23	8.35	7.92	6.58	7.70	8.23	8.35	7.92	6.58	8.29	7.19							
Ichise, Honaka (JPN)																			
FINAL - 2019 Shimane High School Championships (Izumo, JPN)											Shimizu (2019) - shimane high school championships 2019 - biomechanics data analysis								
date	time	14.68	29.45	45.20	62.09	62.09	8 / 6												
reaction time	interval		14.77	15.75	16.89		# of strides	14.68	14.77	15.75	16.89	29.45	32.64	3.19					
	velocity	6.81	6.77	6.35	5.92	6.44	6.81	6.77	6.35	5.92	6.79	6.13							
Idoabigeiru, Fuka (JPN) (2001)																			
B FINAL - 2019 Shizuoka International Athletics Meeting (Fukuroi, JPN)											Kobayashi (2019) - research on athlete performance and technique- 2019 data book								
date	time	6.83	12.80	19.22	26.43	34.19	42.16	50.51	59.19	59.19	1 / 6								
reaction time	interval		5.97	6.42	7.21	7.76	7.97	8.35	8.68	# of strides	12.80	13.63	15.73	17.03	26.43	32.76	6.33		
	velocity	7.32	8.38	7.79	6.93	6.44	6.27	5.99	5.76	6.76	7.81	7.34	6.36	5.87	7.57	6.11			
Igoshi, Akari (JPN) (2000)																			
U19 Semi-Final 2 - 2017 National Sports Festival (Matsuyama, JPN)											(2017) - tldata-store.com/2017/10/12/post-1100/								
date	time	13.15	26.24	40.55	56.66	56.66	5 / 7												
reaction time	interval	0.193	13.09	14.31	16.11		# of strides	13.15	13.09	14.31	16.11	26.24	30.42	4.18					
	velocity	7.60	7.64	6.99	6.21	7.06	206.2	7.60	7.64	6.99	6.21	7.62	6.57						
Iida, Keiko (JPN) (2002)																			
FINAL - 2021 Japanese U20 National Championships (Osaka, JPN)											Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition								
date	time	7.44	13.77	20.17	26.82	33.53	40.36	47.48	55.14	55.14	4 / 4								
reaction time	interval	0.217	6.33	6.40	6.65	6.71	6.83	7.12	7.66	PB	# of strides	13.77	13.05	13.54	14.78	26.82	28.32	1.50	
	velocity	6.72	7.90	7.81	7.52	7.45	7.32	7.02	6.53	7.25	208.0	7.26	7.66	7.39	6.77	7.46	7.06		
A FINAL - 2020 Japanese High School National Championships (Hiroshima, JPN)											Kobayashi (2002) - national high school and U20 national championships								
date	time	7.46	13.90	20.45	27.15	34.00	41.05	48.30	55.75	55.75	8 / 5								
reaction time	interval	0.196	6.44	6.55	6.70	6.85	7.05	7.25	7.45	# of strides	13.90	13.25	13.90	14.70	27.15	28.60	1.45		
	velocity	6.70	7.76	7.63	7.46	7.30	7.09	6.90	6.71	7.17	210.7	7.19	7.55	7.19	6.80	7.37	6.99		
U18 FINAL - 2019 Japanese National U18/U20 Championships (Hiroshima, JPN) (300m)											Shimizu (2019) - shimane high school championships 2019 - biomechanics data analysis								
date	time	13.50	26.37	40.07	40.07	8 / 5													
reaction time	interval	0.192	12.87	13.70		# of strides	13.50	12.87	13.70		26.37	26.57	100m-300m						
	velocity	7.41	7.77	7.30	7.49	158.0	7.41	7.77	7.30	7.58	7.53								
Ikasaki, Ai (JPN)																			
FINAL - 2016 China Perfcture High School Championships (Okayama, JPN)											(2016.06.20) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en								
date	time	13.38	26.05	40.03	55.85	55.85	6 / 2												
reaction time	interval		12.67	13.98	15.82		# of strides	13.38	12.67	13.98	15.82	26.05	29.80	3.75					
	velocity	7.47	7.89	7.15	6.32	7.16	7.47	7.89	7.15	6.32	7.68	6.71							
Ikejima, Shoko (JPN) (1994)																			
FINAL - 2011 Japanese National High School Championships (Okinawa, JPN)											Abe (2011) - 64th high school championships: JAF scientific committee - biomechanics								
date	time	13.09	26.17	40.63	55.26	55.26	4 / 3												
reaction time	interval		13.08	14.46	14.63	PB	# of strides	13.09	13.08	14.46	14.63	26.17	29.09	2.92					
	velocity	7.64	7.65	6.92	6.84	7.24	7.64	7.65	6.92	6.84	7.64	6.88							

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
Ikezaki, Airi (JPN) (1998)		<i>(2017) - tfdata-store.com/2017/10/12/post-1100/</i>																	
Heat 2 - 2017 National Sports Festival (Matsuyama, JPN)																			
date	08-Oct-17	time	13.72		27.01		41.41		57.06	57.06	7 / 5								
reaction time	0.287	interval			13.29		14.40		15.65		# of strides	13.72	13.29	14.40	15.65	27.01	30.05	3.04	
		velocity	7.29		7.52		6.94		6.39	7.01		7.29	7.52	6.94	6.39	7.40	6.66		
Division 1 Semi-Final 2 - 2017 Kanto Collegiate Championships (Yokohama, JPN)		<i>(2017) - tfdata-store.com/2017/06/02/post-835/</i>																	
date	26-May-17	time	13.36		26.58		41.48		57.67	57.67	2 / 7								
reaction time		interval			13.22		14.90		16.19		# of strides	13.36	13.22	14.90	16.19	26.58	31.09	4.51	
		velocity	7.49		7.56		6.71		6.18	6.94		7.49	7.56	6.71	6.18	7.52	6.43		
U19 FINAL - 2016 National Sports Festival (Kitakami, JPN)		<i>Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016</i>																	
date	10-Oct-16	time	7.27	13.30	19.54	26.26	33.14	40.47	48.06	56.22	56.22	2 / 6							
reaction time	0.236	interval		6.03	6.24	6.72	6.88	7.33	7.59	8.16		# of strides	13.30	12.96	14.21	15.75	26.26	29.96	3.70
		velocity	6.88	8.29	8.01	7.44	7.27	6.82	6.59	6.13	7.11		7.52	7.72	7.04	6.35	7.62	6.68	
FINAL - 2016 Japanese National High School Championships (Okayama, JPN)		<i>Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016</i>																	
date	29-Jul-16	time	7.31	13.21	19.27	25.79	32.61	39.68	47.00	54.64	54.64	5 / 3							
reaction time	0.221	interval		5.90	6.06	6.52	6.82	7.07	7.32	7.64	PB	# of strides	13.21	12.58	13.89	14.96	25.79	28.85	3.06
		velocity	6.84	8.47	8.25	7.67	7.33	7.07	6.83	6.54	7.32		7.57	7.95	7.20	6.68	7.75	6.93	
FINAL - 2015 Japanese National High School Championships (Wakayama, JPN)		<i>Kohei (2015) - 400m race analysis of male & female at major 2015 competitions</i>																	
date	29-Jul-15	time	7.15	13.04	19.22	25.73	32.59	39.78	47.17	55.08	55.08	/ 4							
reaction time		interval		5.89	6.18	6.51	6.86	7.19	7.39	7.91		# of strides	13.04	12.69	14.05	15.30	25.73	29.35	3.62
		velocity	6.99	8.49	8.09	7.68	7.29	6.95	6.77	6.32	7.26		7.67	7.88	7.12	6.54	7.77	6.81	
Inaoka, Mayu (JPN) (1996)		<i>Yamanaka (2019) - race analysis of men and women 400m competition</i>																	
Heat 2 - 2019 Japanese National Championships (Fukuoka, JPN)																			
date	27-Jun-19	time	6.95	12.85	19.04	25.68	32.66	39.98	47.65	56.01	56.01	6 / 7							
reaction time	0.211	interval		5.90	6.19	6.64	6.98	7.32	7.67	8.36		# of strides	12.85	12.83	14.30	16.03	25.68	30.33	4.65
		velocity	7.19	8.47	8.08	7.53	7.16	6.83	6.52	5.98	7.14		7.78	7.79	6.99	6.24	7.79	6.59	
A FINAL - 2019 Shizuoka International Athletics Meeting (Fukuroi, JPN)		<i>Kobayashi (2019) - research on athlete performance and technique- 2019 data book</i>																	
date	03-May-19	time	7.02	12.88	18.92	25.31	32.06	39.24	46.84	55.01	55.01	/ 8							
reaction time		interval		5.86	6.04	6.39	6.75	7.18	7.60	8.17		# of strides	12.88	12.43	13.93	15.77	25.31	29.70	4.39
		velocity	7.12	8.53	8.28	7.82	7.41	6.96	6.58	6.12	7.27		7.76	8.05	7.18	6.34	7.90	6.73	
Heat 1 - 2017 Japanese National Championships (Osaka, JPN)		<i>(2017) - tfdata-store.com/2017/07/10/post-978/</i>																	
date	23-Jun-17	time	13.09		26.12		40.24		55.10	55.10	8 / 5								
reaction time	0.163	interval			13.03		14.12		14.86		# of strides	13.09	13.03	14.12	14.86	26.12	28.98	2.86	
		velocity	7.64		7.67		7.08		6.73	7.26		7.64	7.67	7.08	6.73	7.66	6.90		
FINAL - 2017 Kansai Regional University Championships (Osaka, JPN)		<i>(2017) - tfdata-store.com/2017/05/13/post-441/</i>																	
date	11-May-17	time	13.04		25.49		39.23		54.65	54.65	5 / 2								
reaction time		interval			12.45		13.74		15.42	PB	# of strides	13.04	12.45	13.74	15.42	25.49	29.16	3.67	
		velocity	7.67		8.03		7.28		6.49	7.32		7.67	8.03	7.28	6.49	7.85	6.86		
Ingram, Sheila (USA) (1957)		<i>Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016</i>																	
FINAL - 1976 Olympic Games (Montreal, CAN)																			
date	29-Jul-76	time			24.4		35.8		50.9	50.90	3 / 6								
reaction time		interval			11.40		15.10		15.10		# of strides			11.40	15.10	24.40	26.50	2.10	
		velocity			8.20		8.77		6.62	7.86				8.77	6.62	8.20	7.55		
FINAL - 1976 USA Olympic Trials (Eugene, OR)		<i>Hymans (2008) - history of the US olympic trials - track and field</i>																	
date	25-Jun-76	time			25.8				52.69	52.69	/ 1								
reaction time		interval							26.89		# of strides					25.80	26.89	1.09	
		velocity			7.75				7.44	7.59					7.75	7.44			
Inoue, Mai (JPN)		<i>Shimizu (2018) - shimane high school championships 2018 - biomechanics data analysis</i>																	
FINAL - 2017 Shimane High School Championships (Izumo, JPN)																			
date	26-May-17	time	14.77		29.13		45.55		62.03	62.03	8 / 5								
reaction time		interval			14.36		16.42		16.48		# of strides	14.77	14.36	16.42	16.48	29.13	32.90	3.77	
		velocity	6.77		6.96		6.09		6.07	6.45		6.77	6.96	6.09	6.07	6.87	6.08		
Irby-Jackson, Lynna (USA) (1998)		<i>Omega Timing (2024) - diamond league race analysis</i>																	
FINAL - 2024 Memorial van damme (Brussels, BEL)																			
date	13-Sep-24	time	6.66	12.12	17.94	24.10	30.47	37.03	43.96	51.50	51.50	8 / 4							
reaction time	0.170	interval		5.46	5.82	6.16	6.37	6.56	6.93	7.54		# of strides	12.12	11.98	12.93	14.47	24.10	27.40	3.30
		velocity	7.51	9.16	8.59	8.12	7.85	7.62	7.22	6.63	7.77		8.25	8.35	7.73	6.91	8.30	7.30	
FINAL - 2024 London Athletics Meet (London, GBR)		<i>Omega Timing (2024) - diamond league race analysis</i>																	
date	20-Jul-24	time	6.64	12.14	17.82	23.67	29.78	36.15	42.98	50.71	50.71	2 / 6							
reaction time	0.173	interval		5.50	5.68	5.85	6.11	6.37	6.83	7.73		# of strides	12.14	11.53	12.48	14.56	23.67	27.04	3.37
		velocity	7.53	9.09	8.80	8.55	8.18	7.85	7.32	6.47	7.89		8.24	8.67	8.01	6.87	8.45	7.40	
FINAL - 2024 USA Olympic Trials (Eugene, OR)		<i>USATF and Karmarush (2024) - USA Olympic trials results and race analysis</i>																	
date	23-Jun-24	time	11.84		23.88		36.48		50.74	50.74	6 / 7								
reaction time		interval			12.04		12.60		14.26		# of strides	11.84	12.04	12.60	14.26	23.88	26.86	2.98	
		velocity	8.45		8.31		7.94		7.01	7.88		183.0	8.45	8.31	7.94	7.01	8.38	7.45	
Semi-Final 3 - 2024 USA Olympic Trials (Eugene, OR)		<i>USATF and Karmarush (2024) - USA Olympic trials results and race analysis</i>																	
date	22-Jun-24	time	11.98		23.66		36.23		50.17	50.17	7 / 1								
reaction time		interval			11.68		12.57		13.94		# of strides	11.98	11.68	12.57	13.94	23.66	26.51	2.85	
		velocity	8.35		8.56		7.96		7.17	7.97		181.2	8.35	8.56	7.96	7.17	8.45	7.54	

Heat 1 - 2024 USA Olympic Trials (Eugene, OR)										USATF and Karmarush (2024) - USA Olympic trials results and race analysis									
date	21-Jun-24	time	11.96		23.74		36.38		50.89	50.89	3 / 1								
reaction time		interval		11.78		12.64		14.51		18.20	# of strides	11.96	11.78	12.64	14.51	23.74	27.15	3.41	
		velocity	8.36	8.49	7.91	6.89	7.86					8.36	8.49	7.91	6.89	8.42	7.37		
FINAL - 2023 Prefontaine Classic (Eugene, OR)										Omega Timing (2023) - diamond league race analysis									
date	17-Sep-23	time	6.63	12.04	17.79	23.86	30.10	36.65	43.67	51.60	51.60	9 / 7							
reaction time	0.175	interval		5.41	5.75	6.07	6.24	6.55	7.02	7.93		# of strides	12.04	11.82	12.79	14.95	23.86	27.74	3.88
		velocity	7.54	9.24	8.70	8.24	8.01	7.63	7.12	6.31	7.75		8.31	8.46	7.82	6.69	8.38	7.21	
FINAL - 2023 Xiamen Diamond League (Xiamen, CHN)										Omega Timing (2023) - diamond league race analysis									
date	02-Sep-23	time	6.60	12.16	18.17	24.33	30.53	36.84	43.36	50.45	50.45	3 / 3							
reaction time	0.155	interval		5.56	6.01	6.16	6.20	6.31	6.52	7.09		# of strides	12.16	12.17	12.51	13.61	24.33	26.12	1.79
		velocity	7.58	8.99	8.32	8.12	8.06	7.92	7.67	7.05	7.93		181.0	8.22	8.22	7.99	7.35	8.22	7.66
Semi-Final 3 - 2023 World Athletics Championships (Budapest, HUN)										Seiko Timing (2023) - world championship race analysis									
date	21-Aug-23	time		12.10		23.91		36.84		50.71	50.71	4 / 3							
reaction time	0.173	interval			11.81		12.93		13.87			# of strides	12.10	11.81	12.93	13.87	23.91	26.80	2.89
		velocity		8.26	8.47	7.73	7.21	7.89					8.26	8.47	7.73	7.21	8.36	7.46	
Heat 2 - 2023 World Athletics Championships (Budapest, HUN)										Seiko Timing (2023) - world championship race analysis									
date	20-Aug-23	time		12.06		23.83		36.57		50.81	50.81	7 / 3							
reaction time	0.187	interval			11.77		12.74		14.24			# of strides	12.06	11.77	12.74	14.24	23.83	26.98	3.15
		velocity		8.29	8.50	7.85	7.02	7.87					8.29	8.50	7.85	7.02	8.39	7.41	
FINAL - 2023 Golden Gala Pietro Mennea (Firenze, ITA)										Omega Timing (2023) - diamond league race analysis									
date	02-Jun-23	time	6.66	12.28	18.26	24.43	30.55	36.85	43.54	50.84	50.84	8 / 3							
reaction time	0.183	interval		5.62	5.98	6.17	6.12	6.30	6.69	7.30		# of strides	12.28	12.15	12.42	13.99	24.43	26.41	1.98
		velocity	7.51	8.90	8.36	8.10	8.17	7.94	7.47	6.85	7.87		8.14	8.23	8.05	7.15	8.19	7.57	
Irby, Lynna (USA) (1998)																			
Semi-Final 1 - 2022 World Athletics Championships (Eugene, OR)										Timing by Seiko (2022) - world athletics championships race analysis									
date	20-Jul-22	time	12.07		24.24		36.80		51.00	51.00	7 / 6								
reaction time	0.184	interval		12.17		12.56		14.20			# of strides	12.07	12.17	12.56	14.20	24.24	26.76	2.52	
		velocity	8.29	8.22	7.96	7.04	7.84					8.29	8.22	7.96	7.04	8.25	7.47		
Heat 4 - 2022 World Athletics Championships (Eugene, OR)										Timing by Seiko (2022) - world athletics championships race analysis									
date	17-Jul-22	time	12.32		24.82		37.68		51.78	51.78	6 / 3								
reaction time	0.178	interval		12.50		12.86		14.10			# of strides	12.32	12.50	12.86	14.10	24.82	26.96	2.14	
		velocity	8.12	8.00	7.78	7.09	7.72					8.12	8.00	7.78	7.09	8.06	7.42		
FINAL - 2022 Doha Diamond League (Doha, QAT)										Omega Timing (2022) - diamond league race analysis									
date	13-May-22	time	6.6	12.6	18.8	25.2	31.7	38.3	45.2	52.86	52.86	8 / 8							
reaction time	0.222	interval		6.00	6.20	6.40	6.50	6.60	6.90	7.66		# of strides	12.60	12.60	13.10	14.56	25.20	27.66	2.46
		velocity	7.58	8.33	8.06	7.81	7.69	7.58	7.25	6.53	7.57		7.94	7.94	7.63	6.87	7.94	7.23	
FINAL - 2016 IAAF World Junior Championships (Bydgoszcz, POL)										Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016									
date	21-Jul-16	time	6.62	12.06	17.93	24.15	30.53	37.10	43.95	51.39	51.39	7 / 2							
reaction time	0.192	interval		5.44	5.87	6.22	6.38	6.57	6.85	7.44	PB	# of strides	12.06	12.09	12.95	14.29	24.15	27.24	3.09
		velocity	7.55	9.19	8.52	8.04	7.84	7.61	7.30	6.72	7.78		8.29	8.27	7.72	7.00	8.28	7.34	
Irie, Akiho (JPN) (2001)																			
FINAL - 2019 Japanese National High School Championships (Okinawa, JPN)										Kota (2019) - 72nd high school championships: JAF scientific committee - biomechanics data collection									
date	04-Aug-19	time	7.34	13.57	20.07	26.75	33.60	40.89	48.51	56.58	56.58	1 / 8							
reaction time		interval		6.23	6.50	6.68	6.85	7.29	7.62	8.07		# of strides	13.57	13.18	14.14	15.69	26.75	29.83	3.08
		velocity	6.81	8.03	7.69	7.49	7.30	6.86	6.56	6.20	7.07		7.37	7.59	7.07	6.37	7.48	6.70	
FINAL - 2018 Japanese National High School Championships (Nagoya, JPN)										Kota (2018) - 71st high school championships: JAF scientific committee - biomechanics data collection									
date	02-Aug-18	time	7.16	13.31	19.69	26.24	33.02	40.08	47.45	55.23	55.23	7 / 3							
reaction time		interval		6.15	6.38	6.55	6.78	7.06	7.37	7.78		# of strides	13.31	12.93	13.84	15.15	26.24	28.99	2.75
		velocity	6.98	8.13	7.84	7.63	7.37	7.08	6.78	6.43	7.24		7.51	7.73	7.23	6.60	7.62	6.90	
Ishikawa, Akane (JPN)																			
FINAL - 2024 Shimane High School Championships (Izumo, JPN)										Shimizu (2024) - shimane high school championships 2024 - biomechanics data analysis									
date	24-May-24	time	13.96		28.15		44.31		62.44	62.44	3 / 6								
reaction time		interval		14.19		16.16		18.13			# of strides	13.96	14.19	16.16	18.13	28.15	34.29	6.14	
		velocity	7.16	7.05	6.19							7.16	7.05	6.19	5.52	7.10	5.83		
Ishikawa, Kimishia (JPN)																			
FINAL - 2017 Izumo Athletics Games (Izuma, JPN) (300m)										(2017) - tldata-store.com/2017/05/17/post-537/									
date	23-Apr-17	time	12.93		25.72		40.03		40.03		2 / 7								
reaction time		interval		12.79		14.31					# of strides	12.93	12.79	14.31		25.72		27.10	
		velocity	7.73	7.82	6.99							163.0	7.73	7.82	6.99	7.78		7.38	
Ishikawa, Mahiro (JPN)																			
FINAL - 2017 Shimane High School Championships (Izumo, JPN)										Shimizu (2018) - shimane high school championships 2018 - biomechanics data analysis									
date	26-May-17	time	14.22		28.67		44.77		61.48	61.48	6 / 4								
reaction time		interval		14.45		16.10		16.71			# of strides	14.22	14.45	16.10	16.71	28.67	32.81	4.14	
		velocity	7.03	6.92	6.21							7.03	6.92	6.21	5.98	6.98	6.10		
Ishitobi, Miyu (JPN)																			
FINAL - 2019 Shimane High School Championships (Izumo, JPN)										Shimizu (2019) - shimane high school championships 2019 - biomechanics data analysis									
date	24-May-19	time	15.58		30.50		46.14		63.10	63.10	9 / 7								
reaction time		interval		14.92		15.64		16.96			# of strides	15.58	14.92	15.64	16.96	30.50	32.60	2.10	
		velocity	6.42	6.70	6.39							6.42	6.70	6.39	5.90	6.56	6.13		

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
Ishizuka, Haruko (JPN) (1997)																			
FINAL - 2016 Japanese National Junior Championships (Mizuho, JPN)																			
date	21-Oct-16	time	7.02	13.00	19.15	25.71	32.60	39.73	47.19	55.01	55.01	Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016							
reaction time		interval	5.98	6.15	6.56	6.89	7.13	7.46	7.82		# of strides	13.00	12.71	14.02	15.28	25.71	29.30	3.59	
		velocity	7.12	8.36	8.13	7.62	7.26	7.01	6.70	6.39	7.27	7.69	7.87	7.13	6.54	7.78	6.83		
FINAL - 2016 National Sports Festival (Kitakami, JPN)																			
date	09-Oct-16	time	7.01	13.10	19.40	26.04	33.03	40.31	47.86	55.79	55.79	Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016							
reaction time	0.243	interval	6.09	6.30	6.64	6.99	7.28	7.55	7.93		# of strides	13.10	12.94	14.27	15.48	26.04	29.75	3.71	
		velocity	7.13	8.21	7.94	7.53	7.15	6.87	6.62	6.31	7.17	7.63	7.73	7.01	6.46	7.68	6.72		
Heat 4 - 2016 IAAF World Junior Championships (Bydgoszcz, POL)																			
date	19-Jul-16	time	6.96	12.94	19.15	25.63	32.37	39.61	47.16	55.20	55.20	Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016							
reaction time	0.166	interval	5.98	6.21	6.48	6.74	7.24	7.55	8.04		# of strides	12.94	12.69	13.98	15.59	25.63	29.57	3.94	
		velocity	7.18	8.36	8.05	7.72	7.42	6.91	6.62	6.22	7.25	7.73	7.88	7.15	6.41	7.80	6.76		
FINAL - 2016 Japanese National Championships (Nagoya, JPN)																			
date	25-Jun-16	time	6.99	12.84	18.82	25.14	31.75	38.84	46.41	54.67	54.67	Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016							
reaction time	0.257	interval	5.85	5.98	6.32	6.61	7.09	7.57	8.26		# of strides	12.84	12.30	13.70	15.83	25.14	29.53	4.39	
		velocity	7.15	8.55	8.36	7.91	7.56	7.05	6.61	6.05	7.32	7.79	8.13	7.30	6.32	7.96	6.77		
Heat 1 - 2016 Japanese National Championships (Nagoya, JPN)																			
date	24-Jun-16	time	7.00	12.85	18.85	25.09	31.68	38.73	46.25	54.23	54.23	Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016							
reaction time	0.250	interval	5.85	6.00	6.24	6.59	7.05	7.52	7.98		# of strides	12.85	12.24	13.64	15.50	25.09	29.14	4.05	
		velocity	7.14	8.55	8.33	8.01	7.59	7.09	6.65	6.27	7.38	7.78	8.17	7.33	6.45	7.97	6.86		
FINAL - 2016 Shizuoka International Meeting (Fukuroi, JPN)																			
date	03-May-16	time	6.99	12.88	19.00	25.44	32.17	39.34	46.85	54.79	54.79	Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016							
reaction time		interval	5.89	6.12	6.44	6.73	7.17	7.51	7.94		# of strides	12.88	12.56	13.90	15.45	25.44	29.35	3.91	
		velocity	7.15	8.49	8.17	7.76	7.43	6.97	6.66	6.30	7.30	7.76	7.96	7.19	6.47	7.86	6.81		
FINAL - 2015 Japanese National Junior Championships (Nagoya, JPN)																			
date	16-Oct-15	time	7.04	12.97	19.10	25.51	32.17	39.14	46.44	54.21	54.21	Kohei (2015) - 400m race analysis of male & female at major 2015 competitions							
reaction time		interval	5.93	6.13	6.41	6.66	6.97	7.30	7.77		# of strides	12.97	12.54	13.63	15.07	25.51	28.70	3.19	
		velocity	7.10	8.43	8.16	7.80	7.51	7.17	6.85	6.44	7.38	7.71	7.97	7.34	6.64	7.84	6.97		
U19 FINAL - 2015 National Sports Festival (Wakayama, JPN)																			
date	05-Oct-15	time	6.99	12.97	19.29	25.77	32.44	39.43	46.76	54.44	54.44	Kohei (2015) - 400m race analysis of male & female at major 2015 competitions							
reaction time		interval	5.98	6.32	6.48	6.67	6.99	7.33	7.68		# of strides	12.97	12.80	13.66	15.01	25.77	28.67	2.90	
		velocity	7.15	8.36	7.91	7.72	7.50	7.15	6.82	6.51	7.35	7.71	7.81	7.32	6.66	7.76	6.98		
FINAL - 2015 Japanese National High School Championships (Wakayama, JPN)																			
date	29-Jul-15	time	6.91	12.75	18.82	25.07	31.62	38.49	45.70	53.30	53.30	Kohei (2015) - 400m race analysis of male & female at major 2015 competitions							
reaction time		interval	5.84	6.07	6.25	6.55	6.87	7.21	7.60	PB	# of strides	12.75	12.32	13.42	14.81	25.07	28.23	3.16	
		velocity	7.24	8.56	8.24	8.00	7.63	7.28	6.93	6.58	7.50	7.84	8.12	7.45	6.75	7.98	7.08		
FINAL - 2015 Japanese National Championships (Niigata, JPN)																			
date	27-Jun-15	time	7.07	12.84	18.85	25.11	31.75	38.76	45.94	53.44	53.44	Kohei (2015) - 400m race analysis of male & female at major 2015 competitions							
reaction time	0.272	interval	5.77	6.01	6.26	6.64	7.01	7.18	7.50	=PB	# of strides	12.84	12.27	13.65	14.68	25.11	28.33	3.22	
		velocity	7.07	8.67	8.32	7.99	7.53	7.13	6.96	6.67	7.49	200.5	7.79	8.15	7.33	6.81	7.96	7.06	
Isobe, Mami (JPN) (1999)																			
FINAL - 2016 Japanese National Youth Championships (Mizuho, JPN)																			
date	21-Oct-16	time	7.38	13.66	20.12	26.79	33.71	40.86	48.21	55.96	55.96	Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016							
reaction time		interval	6.28	6.46	6.67	6.92	7.15	7.35	7.75		# of strides	13.66	13.13	14.07	15.10	26.79	29.17	2.38	
		velocity	6.78	7.96	7.74	7.50	7.23	6.99	6.80	6.45	7.15	7.32	7.62	7.11	6.62	7.47	6.86		
Itani, Haruna (JPN) (2005)																			
FINAL - 2022 Japanese National High School Championships (Naruto, JPN)																			
date	03-Aug-22	time		13.47		26.65		40.87		56.25	56.25	Kishima (2022) - national high school championships biomechanics data collection							
reaction time	0.195	interval				13.18		14.22		15.38	PB	# of strides	13.47	13.18	14.22	15.38	26.65	29.60	2.95
		velocity		7.42		7.59		7.03		6.50	7.11	7.42	7.59	7.03	6.50	7.50	6.76		
Itani, Hina (JPN)																			
FINAL - 2023 Japanese National High School Championships (Sapporo, JPN)																			
date	02-Aug-23	time		13.30		26.49		40.59		55.37	55.37	Takashima (2023) - national high school sports festival - biomechanics data							
reaction time	0.241	interval				13.19		14.10		14.78		# of strides	13.30	13.19	14.10	14.78	26.49	28.88	2.39
		velocity		7.52		7.58		7.09		6.77	7.22	7.52	7.58	7.09	6.77	7.55	6.93		
Itani, Kanna (JPN) (1997)																			
Division 1 Semi-Final 1 - 2017 Kanto Collegiate Championships (Yokohama, JPN)																			
date	26-May-17	time		13.79		27.28		41.85		57.75	57.75	(2017) - tldata-store.com/2017/06/02/post-835/							
reaction time		interval				13.49		14.57		15.90		# of strides	13.79	13.49	14.57	15.90	27.28	30.47	3.19
		velocity		7.25		7.41		6.86		6.29	6.93	219.0	7.25	7.41	6.86	6.29	7.33	6.56	
Itkina, Mariya (URS) (1932)																			
FINAL - 1964 Olympic Games (Tokyo, JPN)																			
date	17-Oct-64	time				24.6				54.6	54.6	Müller (1965) - die leichtathletik-wettkämpfe der XVIII olympischen sommerspielen Tokio 1964 - 400m lauf							
reaction time		interval								30.00		# of strides				24.60	30.00	5.40	
		velocity				8.13				6.67	7.33				8.13	6.67			
Ito, Aimi (JPN) (1997)																			
FINAL - 2017 All Japan Corporate Championships (Osaka, JPN)																			
date	24-Sep-17	time		13.67		27.48		41.90		57.94	57.94	(2017) - tldata-store.com/2017/10/05/post-1097/							
		velocity								3 / 8									

reaction time	0.176	interval		13.81	14.42	16.04	PB	# of strides	13.67	13.81	14.42	16.04	27.48	30.46	2.98			
		velocity	7.32	7.24	6.93	6.23	6.90	213.0	7.32	7.24	6.93	6.23	7.28	6.57				
Iuel, Amalie (NOR) (1994)																		
B FINAL - 2021 Weltklasse (Zürich, SUI)																		
date	09-Sep-21	time	7.0	12.8	18.7	24.9	31.3	37.9	44.7	51.64	51.64							
reaction time	0.164	interval	5.80	5.90	6.20	6.40	6.60	6.80	6.94	NR PB	# of strides	12.80	12.10	13.00	13.74	24.90	26.74	1.84
		velocity	7.14	8.62	8.47	8.06	7.81	7.58	7.35	7.20	7.75	7.81	8.26	7.69	7.28	8.03	7.48	
FINAL - 2018 Müller Anniversary Games (London, GBR)																		
date	22-Jul-18	time	13.2		25.5		38.3		51.99	51.99								
reaction time	0.183	interval			12.3		12.8		13.7		# of strides	13.20	12.30	12.80	13.69	25.50	26.49	0.99
		velocity			7.58		8.13		7.81	7.30	7.69	7.58	8.13	7.81	7.30	7.84	7.55	
Ivolam, Revina (INA) (2001)																		
FINAL - 2016 East Java National Championships (Surabaya, INA)																		
date	15-Apr-16	time	7.14	14.64	20.82	28.20	36.79	45.24	52.61	64.03								
reaction time		interval	7.50	6.18	7.38	8.59	8.45	7.37	11.42		# of strides	14.64	13.56	17.04	18.79	28.20	35.83	7.63
		velocity	7.00	6.67	8.09	6.78	5.82	5.92	6.78	4.38	6.25	6.83	7.37	5.87	5.32	7.09	5.58	
Iwata, Mebuki (JPN) (1999)																		
U19 Semi-Final 1 - 2017 National Sports Festival (Matsuyama, JPN)																		
date	08-Oct-17	time	13.33		26.80		41.73		58.01	58.01								
reaction time	0.254	interval			13.47		14.93		16.28		# of strides	13.33	13.47	14.93	16.28	26.80	31.21	4.41
		velocity			7.50		7.42		6.70	6.14	6.90	7.50	7.42	6.70	6.14	7.46	6.41	
FINAL - 2016 Japanese National Youth Championships (Mizuho, JPN)																		
date	21-Oct-16	time	7.11	13.31	19.85	26.73	33.81	40.92	48.32	56.34	56.34							
reaction time		interval	6.20	6.54	6.88	7.08	7.11	7.40	8.02		# of strides	13.31	13.42	14.19	15.42	26.73	29.61	2.88
		velocity	7.03	8.06	7.65	7.27	7.06	7.03	6.76	6.23	7.10	7.51	7.45	7.05	6.49	7.48	6.75	
Iwata, Yuna (JPN) (1997)																		
FINAL - 2023 Japanese National Sports Festival (Kagoshima, JPN) (300m)																		
date	15-Oct-23	time	6.90	12.66	18.60	24.85	31.28	38.15		38.15								
reaction time	0.181	interval	5.76	5.94	6.25	6.43	6.87				# of strides	12.66	12.19	13.30		24.85	25.49	
		velocity	7.25	8.68	8.42	8.00	7.78	7.28		7.86	158.5	7.90	8.20	7.52		8.05	7.85	
FINAL - 2023 Japanese National Championships (Osaka, JPN)																		
date	02-Jun-23	time	6.97	12.95	19.07	25.46	32.14	39.12	46.55	54.48	54.48							
reaction time	0.171	interval	5.98	6.12	6.39	6.68	6.98	7.43	7.93		# of strides	12.95	12.51	13.66	15.36	25.46	29.02	3.56
		velocity	7.17	8.36	8.17	7.82	7.49	7.16	6.73	6.31	7.34	213.5	7.72	7.99	7.32	6.51	7.86	6.89
Heat 2 - 2023 Japanese National Championships (Osaka, JPN)																		
date	01-Jun-23	time	6.92	12.97	19.19	25.69	32.48	39.46	46.67	54.41	54.41							
reaction time	0.167	interval	6.05	6.22	6.50	6.79	6.98	7.21	7.74		# of strides	12.97	12.72	13.77	14.95	25.69	28.72	3.03
		velocity	7.23	8.26	8.04	7.69	7.36	7.16	6.93	6.46	7.35	7.71	7.86	7.26	6.69	7.79	6.96	
FINAL - 2021 Japanese National Championships (Osaka, JPN)																		
date	25-Jun-21	time	6.95	12.99	19.14	25.57	32.27	39.28	46.51	54.09	54.09							
reaction time	0.166	interval	6.04	6.15	6.43	6.70	7.01	7.23	7.58		# of strides	12.99	12.58	13.71	14.81	25.57	28.52	2.95
		velocity	7.19	8.28	8.13	7.78	7.46	7.13	6.92	6.60	7.40	7.70	7.95	7.29	6.75	7.82	7.01	
FINAL - 2021 Denka Athletics Challenge Cup (Niigata, JPN)																		
date	06-Jun-21	time	7.11	13.26	19.55	26.19	32.99	39.91	47.03	54.53	54.43							
reaction time		interval	6.15	6.29	6.64	6.80	6.92	7.12	7.50		# of strides	13.26	12.93	13.72	14.62	26.19	28.34	2.15
		velocity	7.03	8.13	7.95	7.53	7.35	7.23	7.02	6.67	7.35	7.54	7.73	7.29	6.84	7.64	7.06	
B FINAL - 2021 Shizuoka International Athletics Meeting (Fukuroi, JPN)																		
date	03-May-21	time	7.04	13.26	19.69	26.30	33.03	39.94	47.08	54.51	54.51							
reaction time	0.164	interval	6.22	6.43	6.61	6.73	6.91	7.14	7.43		# of strides	13.26	13.04	13.64	14.57	26.30	28.21	1.91
		velocity	7.10	8.04	7.78	7.56	7.43	7.24	7.00	6.73	7.34	209.0	7.54	7.67	7.33	6.86	7.60	7.09
Heat 2 - 2020 Japanese National Championships (Niigata, JPN)																		
date	01-Oct-20	time	7.00	13.15	19.44	25.99	33.00	40.38	48.06	56.34	56.34							
reaction time	0.152	interval	6.15	6.29	6.55	7.01	7.38	7.68	8.28		# of strides	13.15	12.84	14.39	15.96	25.99	30.35	4.36
		velocity	7.14	8.13	7.95	7.63	7.13	6.78	6.51	6.04	7.10	7.60	7.79	6.95	6.27	7.70	6.59	
FINAL - 2019 Japanese National Championships (Fukuoka, JPN)																		
date	28-Jun-19	time	6.98	13.10	19.39	25.93	32.63	39.60	46.79	54.31	54.31							
reaction time	0.151	interval	6.12	6.29	6.54	6.70	6.97	7.19	7.52		# of strides	13.10	12.83	13.67	14.71	25.93	28.38	2.45
		velocity	7.16	8.17	7.95	7.65	7.46	7.17	6.95	6.65	7.37	7.63	7.79	7.32	6.80	7.71	7.05	
Heat 3 - 2019 Japanese National Championships (Fukuoka, JPN)																		
date	27-Jun-19	time	6.84	12.83	19.05	25.56	32.23	39.17	46.41	53.97	53.97							
reaction time	0.135	interval	5.99	6.22	6.51	6.67	6.94	7.24	7.56		# of strides	12.83	12.73	13.61	14.80	25.56	28.41	2.85
		velocity	7.31	8.35	8.04	7.68	7.50	7.20	6.91	6.61	7.41	7.79	7.86	7.35	6.76	7.82	7.04	
A FINAL - 2019 Shizuoka International Athletics Meeting (Fukuroi, JPN)																		
date	03-May-19	time	7.10	13.16	19.34	25.79	32.57	39.59	46.89	54.48	54.48							
reaction time		interval	6.06	6.18	6.45	6.78	7.02	7.30	7.59		# of strides	13.16	12.63	13.80	14.89	25.79	28.69	2.90
		velocity	7.04	8.25	8.09	7.75	7.37	7.12	6.85	6.59	7.34	7.60	7.92	7.25	6.72	7.75	6.97	
FINAL - 2018 National Sports Festival (Fukuui, JPN)																		
date	07-Oct-18	time	6.91	12.96	19.32	25.96	32.84	39.78	46.75	54.00	54.00							
reaction time	0.162	interval	6.05	6.36	6.64	6.88	6.94	6.97	7.25		# of strides	12.96	13.00	13.82	14.22	25.96	28.04	2.08

velocity	7.24	8.26	7.86	7.53	7.27	7.20	7.17	6.90	7.41		7.72	7.69	7.24	7.03	7.70	7.13
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FINAL - 2018 Japanese National Championships (Yamaguchi, JPN)

Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition

date	23-Jun-18	time	7.06	13.12	19.52	26.12	32.92	39.85	46.87	54.08	54.08	3 / 3							
reaction time	0.153	interval		6.06	6.40	6.60	6.80	6.93	7.02	7.21		# of strides	13.12	13.00	13.73	14.23	26.12	27.96	1.84
		velocity	7.08	8.25	7.81	7.58	7.35	7.22	7.12	6.93	7.40	211.0	7.62	7.69	7.28	7.03	7.66	7.15	

Heat 3 - 2018 Japanese National Championships (Yamaguchi, JPN)

Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition

date	22-Jun-18	time	6.94	12.87	19.07	25.72	32.53	39.56	46.89	54.71	54.71	4 / 3							
reaction time	0.160	interval		5.93	6.20	6.65	6.81	7.03	7.33	7.82		# of strides	12.87	12.85	13.84	15.15	25.72	28.99	3.27
		velocity	7.20	8.43	8.06	7.52	7.34	7.11	6.82	6.39	7.31	7.77	7.78	7.23	6.60	7.78	6.90		

FINAL - 2018 Shizuoka International Meeting (Fukuroi, JPN)

Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition

date	03-May-18	time	6.96	13.04	19.29	25.74	32.44	39.35	46.56	54.16	54.16	8 / 4							
reaction time	0.163	interval		6.08	6.25	6.45	6.70	6.91	7.21	7.60		# of strides	13.04	12.70	13.61	14.81	25.74	28.42	2.68
		velocity	7.18	8.22	8.00	7.75	7.46	7.24	6.93	6.58	7.39	215.0	7.67	7.87	7.35	6.75	7.77	7.04	

FINAL - 2017 National Sports Festival (Matsuyama, JPN)

Yamanaka (2017) - male and female 400m analysis in the 2017 season

date	08-Oct-17	time	6.79	12.51	18.54	24.94	31.71	38.84	46.30	54.16	54.16	5 / 2							
reaction time	0.157	interval		5.72	6.03	6.40	6.77	7.13	7.46	7.86		# of strides	12.51	12.43	13.90	15.32	24.94	29.22	4.28
		velocity	7.36	8.74	8.29	7.81	7.39	7.01	6.70	6.36	7.39	216.0	7.99	8.05	7.19	6.53	8.02	6.84	

Heat 2 - 2017 National Sports Festival (Matsuyama, JPN)

(2017) - tfdata-store.com/2017/10/12/post-1100/

date	08-Oct-17	time		12.95		25.67		39.75		55.07	55.07	4 / 1							
reaction time	0.178	interval				12.72		14.08		15.32		# of strides	12.95	12.72	14.08	15.32	25.67	29.40	3.73
		velocity		7.72		7.86		7.10		6.53	7.26	213.0	7.72	7.86	7.10	6.53	7.79	6.80	

FINAL - 2017 Japanese National Championships (Osaka, JPN)

Yamanaka (2017) - male and female 400m analysis in the 2017 season

date	24-Jun-17	time	6.90	12.89	19.02	25.33	31.87	38.70	45.98	53.65	53.65	6 / 1							
reaction time	0.163	interval		5.99	6.13	6.31	6.54	6.83	7.28	7.67	PB	# of strides	12.89	12.44	13.37	14.95	25.33	28.32	2.99
		velocity	7.25	8.35	8.16	7.92	7.65	7.32	6.87	6.52	7.46	213.5	7.76	8.04	7.48	6.69	7.90	7.06	

Heat 1 - 2017 Japanese National Championships (Osaka, JPN)

(2017) - tfdata-store.com/2017/07/10/post-978/

date	23-Jun-17	time		12.94		25.45		39.11		53.82	53.82	5 / 1							
reaction time	0.173	interval				12.51		13.66		14.71		# of strides	12.94	12.51	13.66	14.71	25.45	28.37	2.92
		velocity		7.73		7.99		7.32		6.80	7.43	212.2	7.73	7.99	7.32	6.80	7.86	7.05	

Division 1 FINAL - 2017 Kanto Collegiate Championships (Yokohama, JPN)

(2017) - tfdata-store.com/2017/06/01/post-786/

date	26-May-17	time		13.14		25.90		39.75		54.36	54.36	7 / 1							
reaction time		interval				12.76		13.85		14.61		# of strides	13.14	12.76	13.85	14.61	25.90	28.46	2.56
		velocity		7.61		7.84		7.22		6.84	7.36	214.2	7.61	7.84	7.22	6.84	7.72	7.03	

Division 1 Semi-Final 2 - 2017 Kanto Collegiate Championships (Yokohama, JPN)

(2017) - tfdata-store.com/2017/06/02/post-835/

date	26-May-17	time		13.09		26.02		40.23		55.42	55.42	4 / 1							
reaction time		interval				12.93		14.21		15.19		# of strides	13.09	12.93	14.21	15.19	26.02	29.40	3.38
		velocity		7.64		7.73		7.04		6.58	7.22	212.5	7.64	7.73	7.04	6.58	7.69	6.80	

FINAL - 2017 Shizuoka International Meeting (Fukuroi, JPN)

Yamanaka (2017) - male and female 400m analysis in the 2017 season

date	03-May-17	time	7.14	13.21	19.44	25.84	32.63	39.69	47.00	54.53	54.53	1 / 2							
reaction time		interval		6.07	6.23	6.40	6.79	7.06	7.31	7.53		# of strides	13.21	12.63	13.85	14.84	25.84	28.69	2.85
		velocity	7.00	8.24	8.03	7.81	7.36	7.08	6.84	6.64	7.34	7.57	7.92	7.22	6.74	7.74	6.97		

FINAL - 2016 National Sports Festival (Kitakami, JPN)

Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016

date	09-Oct-16	time	7.40	13.94	20.52	27.26	34.16	41.24	48.46	56.00	56.00	9 / 7							
reaction time	0.209	interval		6.54	6.58	6.74	6.90	7.08	7.22	7.54		# of strides	13.94	13.32	13.98	14.76	27.26	28.74	1.48
		velocity	6.76	7.65	7.60	7.42	7.25	7.06	6.93	6.63	7.14	7.17	7.51	7.15	6.78	7.34	6.96		

FINAL - 2016 Shizuoka International Meeting (Fukuroi, JPN)

Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016

date	03-May-16	time	7.12	13.21	19.44	25.96	32.79	40.02	47.53	55.37	55.37	1 / 5							
reaction time		interval		6.09	6.23	6.52	6.83	7.23	7.51	7.84		# of strides	13.21	12.75	14.06	15.35	25.96	29.41	3.45
		velocity	7.02	8.21	8.03	7.67	7.32	6.92	6.66	6.38	7.22	7.57	7.84	7.11	6.51	7.70	6.80		

FINAL - 2015 Japanese National Junior Championships (Nagoya, JPN)

Kohei (2015) - 400m race analysis of male & female at major 2015 competitions

date	16-Oct-15	time	7.05	13.01	19.10	25.54	32.17	39.06	46.26	53.79	53.79	1 / 1							
reaction time		interval		5.96	6.09	6.44	6.63	6.89	7.20	7.53		# of strides	13.01	12.53	13.52	14.73	25.54	28.25	2.71
		velocity	7.09	8.39	8.21	7.76	7.54	7.26	6.94	6.64	7.44	7.69	7.98	7.40	6.79	7.83	7.08		

U19 FINAL - 2015 National Sports Festival (Wakayama, JPN)

Kohei (2015) - 400m race analysis of male & female at major 2015 competitions

date	05-Oct-15	time	7.19	13.44	19.84	26.41	33.19	40.10	47.08	54.28	54.28	1 / 1							
reaction time		interval		6.25	6.40	6.57	6.78	6.91	6.98	7.20		# of strides	13.44	12.97	13.69	14.18	26.41	27.87	1.46
		velocity	6.95	8.00	7.81	7.61	7.37	7.24	7.16	6.94	7.37	7.44	7.71	7.30	7.05	7.57	7.18		

FINAL - 2015 Japanese National High School Championships (Wakayama, JPN)

Kohei (2015) - 400m race analysis of male & female at major 2015 competitions

date	29-Jul-15	time	7.05	13.16	19.39	25.83	32.52	39.51	46.71	54.37	54.37	1 / 2							
reaction time		interval		6.11	6.23	6.44	6.69	6.99	7.20	7.66		# of strides	13.16	12.67	13.68	14.86	25.83	28.54	2.71
		velocity	7.09	8.18	8.03	7.76	7.47	7.15	6.94	6.53	7.36	7.60	7.89	7.31	6.73	7.74	7.01		

FINAL - 2014 Japanese National High School Championships (Kofu, JPN)

Yanagiya (2014) - research on athlete performance and technique- 2014 data book

date	30-Jul-14	time	7.29	13.53	19.74	26.07	32.72	39.71	47.09	55.00	55.00	1 / 5							
reaction time		interval		6.24	6.21	6.33	6.65	6.99	7.38	7.91	PB	# of strides	13.53	12.54	13.64	15.29	26.07	28.93	2.86
		velocity	6.86	8.01	8.05	7.90	7.52	7.15	6.78	6.32	7.27	7.39	7.97	7.33	6.54	7.67	6.91		

Iyo, Maeda (JPN)**FINAL - 2017 Osaka University Athletics Championships (Osaka, JPN)**

(2017) - tfdata-store.com/2017/04/07/post-249/

date	06-Apr-17	time		14.10		27.83		42.74		58.83	58.83	3 / 5							
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reaction time	interval	7.09	7.28	6.71	6.22	6.80	# of strides	14.10	13.73	14.91	16.09	27.83	31.00	3.17				
velocity		7.09	7.28	6.71	6.22	6.80		7.09	7.28	6.71	6.22	7.19	6.45					
Izu, Eri (JPN)																		
FINAL - 2016 China Perfecture High School Championships (Okayama, JPN)																		
date	17-Jun-16	time	13.85	27.32	41.62	57.33	57.33	3 / 6										
reaction time	interval	13.85	13.47	14.30	15.71	15.71	# of strides	13.85	13.47	14.30	15.71	27.32	30.01	2.69				
	velocity	7.22	7.42	6.99	6.37	6.98		7.22	7.42	6.99	6.37	7.32	6.66					
Jackson, Grace (JAM) (1961)																		
FINAL - 1988 Nikala (Nice, FRA)																		
date	10-Jul-88	time	12.52	23.91	36.39	49.57	49.57	/ 1										
reaction time	interval	12.52	11.39	12.48	13.18	PB	# of strides	12.52	11.39	12.48	13.18	23.91	25.66	1.75				
	velocity	7.99	8.78	8.01	7.59	8.07		7.99	8.78	8.01	7.59	8.36	7.79					
Jackson, Shericka (JAM) (1994)																		
FINAL - 2021 Müller Grand Prix (Gateshead, GBR)																		
date	23-May-21	time	7.3	12.9	18.7	24.7	31.2	38.2	45.6	53.40	53.40	4 / 6						
reaction time	0.177	interval	5.60	5.80	6.00	6.50	7.00	7.40	7.80	7.80	# of strides	12.90	11.80	13.50	15.20	24.70	28.70	4.00
	velocity	6.85	8.93	8.62	8.33	7.69	7.14	6.76	6.41	7.49		7.75	8.47	7.41	6.58	8.10	6.97	
FINAL - 2019 IAAF World Championships (Doha, QAT)																		
date	03-Oct-19	time	6.64	12.19	17.84	23.70	29.69	35.96	42.47	49.47	49.47	3 / 3						
reaction time	0.184	interval	5.55	5.65	5.86	5.99	6.27	6.51	7.00	PB	# of strides	12.19	11.51	12.26	13.51	23.70	25.77	2.07
	velocity	7.53	9.01	8.85	8.53	8.35	7.97	7.68	7.14	8.09		8.20	8.69	8.16	7.40	8.44	7.76	
Semi-Final 2 - 2019 IAAF World Championships (Doha, QAT)																		
date	01-Oct-19	time	6.91	12.60	18.37	24.40	30.61	36.96	43.41	50.10	50.10	7 / 3						
reaction time	0.181	interval	5.69	5.77	6.03	6.21	6.35	6.45	6.69	6.69	# of strides	12.60	11.80	12.56	13.14	24.40	25.70	1.30
	velocity	7.24	8.79	8.67	8.29	8.05	7.87	7.75	7.47	7.98		7.94	8.47	7.96	7.61	8.20	7.78	
FINAL - 2019 Athletissima (Lausanne, SUI)																		
date	05-Jul-19	time	12.6	24.5	37.3	52.35	52.35	6 / 8										
reaction time	0.168	interval	11.9	12.8	15.1	15.1	# of strides	12.60	11.90	12.80	15.05	24.50	27.85	3.35				
	velocity	7.94	8.40	7.81	6.64	7.64		7.94	8.40	7.81	6.64	8.16	7.18					
FINAL - 2019 Golden Gala Pietro Mennea (Rome, ITA)																		
date	06-Jun-19	time	12.5	24.4	37.2	51.05	51.05	6 / 2										
reaction time	0.198	interval	11.9	12.8	13.9	13.9	# of strides	12.50	11.90	12.80	13.85	24.40	26.65	2.25				
	velocity	8.00	8.40	7.81	7.22	7.84		8.00	8.40	7.81	7.22	8.20	7.50					
FINAL - 2017 Memorial van Damme (Brussels, BEL)																		
date	01-Sep-17	time	12.5	18.4	24.6	31.0	37.6	44.3	51.16	51.16	3 / 5							
reaction time	0.193	interval	5.90	6.20	6.40	6.60	6.70	6.86	6.86	# of strides	12.50	12.10	13.00	13.56	24.60	26.56	1.96	
	velocity	8.00	8.47	8.06	7.81	7.58	7.46	7.29	7.82		8.00	8.26	7.69	7.37	8.13	7.53		
FINAL - 2017 IAAF World Championships (London, GBR)																		
date	09-Aug-17	time	11.91	23.43	36.28	43.10	50.57	50.76	50.76	2 / 5								
reaction time	0.194	interval	11.52	12.85	6.82	7.47	7.47	# of strides	11.91	11.52	12.85	14.29	23.43	27.14	3.71			
	velocity	8.40	8.68	7.78	7.33	6.69	7.88		198.6	8.40	8.68	7.78	7.00	8.54	7.37			
Semi-Final 2 - 2017 IAAF World Championships (London, GBR)																		
date	07-Aug-17	time	12.09	23.59	36.40	43.21	50.51	50.70	50.70	5 / 4								
reaction time	0.191	interval	11.50	12.81	6.81	7.30	7.30	# of strides	12.09	11.50	12.81	14.11	23.59	26.92	3.33			
	velocity	8.27	8.70	7.81	7.34	6.85	7.89		198.5	8.27	8.70	7.81	7.09	8.48	7.43			
FINAL - 2017 Meeting de Paris (Paris, FRA)																		
date	01-Jul-17	time	12.5	18.3	24.4	30.9	37.6	44.6	51.91	51.91	5 / 3							
reaction time	0.182	interval	5.8	6.1	6.5	7.0	7.3	# of strides	12.50	11.90	13.20	14.31	24.40	27.51	3.11			
	velocity	8.00	8.62	8.20	7.69	7.46	7.14	6.84	7.71		8.00	8.40	7.58	6.99	8.20	7.27		
FINAL - 2016 Olympic Games (Rio de Janeiro, BRA)																		
date	15-Aug-16	time	6.67	12.04	17.60	23.39	29.52	35.92	42.61	49.85	49.85	5 / 3						
reaction time	0.176	interval	5.37	5.56	5.79	6.13	6.40	6.69	7.24	# of strides	12.04	11.35	12.53	13.93	23.39	26.46	3.07	
	velocity	7.50	9.31	8.99	8.64	8.16	7.81	7.47	6.91	8.02		8.31	8.81	7.98	7.18	8.55	7.56	
FINAL - 2015 IAAF World Championships (Beijing, CHN)																		
date	27-Aug-15	time	6.80	12.14	17.63	23.45	29.56	36.03	42.79	49.99	49.99	4 / 3						
reaction time	0.196	interval	5.34	5.49	5.82	6.11	6.47	6.76	7.20	PB	# of strides	12.14	11.31	12.58	13.96	23.45	26.54	3.09
	velocity	7.35	9.36	9.11	8.59	8.18	7.73	7.40	6.94	8.00		8.24	8.84	7.95	7.16	8.53	7.54	
Heat 5 - 2015 IAAF World Championships (Beijing, CHN)																		
date	24-Aug-15	time	6.70	12.29	18.00	23.93	30.20	36.66	43.39	50.41	50.41	5 / 2						
reaction time	0.183	interval	5.59	5.71	5.93	6.27	6.46	6.73	7.02	# of strides	12.29	11.64	12.73	13.75	23.93	26.48	2.55	
	velocity	7.46	8.94	8.76	8.43	7.97	7.74	7.43	7.12	7.93		8.14	8.59	7.86	7.27	8.36	7.55	
Jæger, Henriette (NOR) (2003)																		
FINAL - 2024 Weltklasse (Zürich, SUI)																		
date	05-Sep-24	time	6.71	12.30	18.06	23.99	30.23	36.74	43.41	50.49	50.49	4 / 1						
reaction time	0.138	interval	5.59	5.76	5.93	6.24	6.51	6.67	7.08	# of strides	12.30	11.69	12.75	13.75	23.99	26.50	2.51	
	velocity	7.45	8.94	8.68	8.43	8.01	7.68	7.50	7.06	7.92		8.13	8.55	7.84	7.27	8.34	7.55	
FINAL - 2024 Kamila Skolimowska Memorial (Silesia, POL)																		
date	25-Aug-24	time	6.66	12.15	17.84	23.84	30.01	36.48	43.28	50.33	50.33	2 / 6						
reaction time	0.139	interval	5.49	5.69	6.00	6.17	6.47	6.80	7.05	# of strides	12.15	11.69	12.64	13.85	23.84	26.49	2.65	

velocity	7.51	9.11	8.79	8.33	8.10	7.73	7.35	7.09	7.95		8.23	8.55	7.91	7.22	8.39	7.55
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FINAL - 2024 Olympic Games (Paris, FRA)

Paris 2024 Olympic Games - Results Book (2024)

date	09-Aug-24	time	6.63	12.04	17.63	23.47	29.62	36.06	42.71	49.96	49.96	3 / 8							
reaction time	0.142	interval		5.41	5.59	5.84	6.15	6.44	6.65	7.25		# of strides	12.04	11.43	12.59	13.90	23.47	26.49	3.02
		velocity	7.54	9.24	8.94	8.56	8.13	7.76	7.52	6.90	8.01	193.2	8.31	8.75	7.94	7.19	8.52	7.55	

Semi-Final 1 - 2024 Olympic Games (Paris, FRA)

Paris 2024 Olympic Games - Results Book (2024)

date	07-Aug-24	time	6.61	12.09	17.68	23.53	29.66	36.11	42.89	50.17	50.17	4 / 3							
reaction time	0.129	interval		5.48	5.59	5.85	6.13	6.45	6.78	7.28		# of strides	12.09	11.44	12.58	14.06	23.53	26.64	3.11
		velocity	7.56	9.12	8.94	8.55	8.16	7.75	7.37	6.87	7.97	194.0	8.27	8.74	7.95	7.11	8.50	7.51	

Heat 2 - 2024 Olympic Games (Paris, FRA)

Paris 2024 Olympic Games - Results Book (2024)

date	05-Aug-24	time	6.67	12.11	17.79	23.73	29.87	36.23	43.06	50.39	50.39	2 / 3							
reaction time	0.176	interval		5.44	5.68	5.94	6.14	6.36	6.83	7.33		# of strides	12.11	11.62	12.50	14.16	23.73	26.66	2.93
		velocity	7.50	9.19	8.80	8.42	8.14	7.86	7.32	6.82	7.94	82.6	8.61	8.00	7.06	8.43	7.50		

FINAL - 2024 Bislett Games (Oslo, NOR)

Omega Timing (2024) - diamond league race analysis

date	30-May-24	time	6.76	12.34	18.06	24.03	30.16	36.73	43.58	50.81	50.81	4 / 6							
reaction time	0.154	interval		5.58	5.72	5.97	6.13	6.57	6.85	7.23	NR PB	# of strides	12.34	11.69	12.70	14.08	24.03	26.78	2.75
		velocity	7.40	8.96	8.74	8.38	8.16	7.61	7.30	6.92	7.87	196.2	8.10	8.55	7.87	7.10	8.32	7.47	

Heat 5 - 2023 World Athletics Championships (Budapest, HUN)

Seiko Timing (2023) - world championship race analysis

date	20-Aug-23	time		12.80						51.33		8 / 4				
reaction time	0.164	interval										# of strides	12.80			
		velocity		7.81						7.79		198.0	7.81			

Jahn-Wilden, Rita (FRG) (1957)

50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

FINAL - 1972 Olympic Games (Munich, FRG)

Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016

date	07-Sep-72	time			24.4				51.2	51.21		4 / 2					
reaction time		interval							26.8			# of strides			24.40	26.80	2.40
		velocity			8.20				7.46	7.81					8.20	7.46	

James, Tiffany (JAM) (1997)

50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

FINAL - 2016 IAAF World Junior Championships (Bydgoszcz, POL)

Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016

date	21-Jul-16	time	6.85	12.52	18.30	24.29	30.59	37.13	43.94	51.32	51.32	5 / 1							
reaction time	0.153	interval		5.67	5.78	5.99	6.30	6.54	6.81	7.38	PB	# of strides	12.52	11.77	12.84	14.19	24.29	27.03	2.74
		velocity	7.30	8.82	8.65	8.35	7.94	7.65	7.34	6.78	7.79		7.99	8.50	7.79	7.05	8.23	7.40	

Jassim, Iman Isa (BRN) (1997)

50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

FINAL - 2018 Asian Games (Jakarta, INA)

Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition

date	26-Aug-18	time	6.77	12.73	18.85	25.35	32.00	38.89	46.22	54.19	54.19	6 / 7							
reaction time	0.158	interval		5.96	6.12	6.50	6.65	6.89	7.33	7.97		# of strides	12.73	12.62	13.54	15.30	25.35	28.84	3.49
		velocity	7.39	8.39	8.17	7.69	7.52	7.26	6.82	6.27	7.38		7.86	7.92	7.39	6.54	7.89	6.93	

Jean-Baptiste, Audrey (CAN) (1991)

50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

Heat 3 - 2015 IAAF World Championships (Beijing, CHN)

Yamamoto (2015) - race analysis of 15th World Championships 400m- focusing on men's semis and women's prelims

date	24-Aug-15	time	6.91	12.77	19.07	25.49	31.29	38.59	45.59	53.18	53.18	9 / 6							
reaction time	0.154	interval		5.86	6.30	6.42	5.80	7.30	7.00	7.59		# of strides	12.77	12.72	13.10	14.59	25.49	27.69	2.20
		velocity	7.24	8.53	7.94	7.79	8.62	6.85	7.14	6.59	7.52		7.83	7.86	7.63	6.85	7.85	7.22	

Jefferson, Kyra (USA) (1994)

50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

FINAL - 2023 Doha Diamond League (Doha, QAT)

Omega Timing (2023) - diamond league race analysis

date	05-May-23	time	6.85	12.60	18.76	25.20	31.92	38.84	45.91	54.00	54.00	1 / 8							
reaction time	0.164	interval		5.75	6.16	6.44	6.72	6.92	7.07	8.09		# of strides	12.60	12.60	13.64	15.16	25.20	28.80	3.60
		velocity	7.30	8.70	8.12	7.76	7.44	7.23	7.07	6.18	7.41		7.94	7.94	7.33	6.60	7.94	6.94	

FINAL - 2022 Silesia Kamila Skolimowska Memorial (Chorzów, POL)

Omega Timing (2022) - diamond league race analysis

date	06-Aug-22	time	6.73	12.38	18.24	24.47	30.87	37.46	44.35	51.93	51.93	1 / 8							
reaction time	0.195	interval		5.65	5.86	6.23	6.40	6.59	6.89	7.58		# of strides	12.38	12.09	12.99	14.47	24.47	27.46	2.99
		velocity	7.43	8.85	8.53	8.03	7.81	7.59	7.26	6.60	7.70		8.08	8.27	7.70	6.91	8.17	7.28	

Jele, Lydia (BOT) (1990)

50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

Semi-Final 1 - 2022 Commonwealth Games (Birmingham, GBR)

Longines Timing (2022) - commonwealth games race analysis

date	05-Aug-22	time	6.7	12.4	18.3	24.6	31.3	38.6	46.3	55.09	55.09	2 / 8							
reaction time	0.185	interval		5.70	5.90	6.30	6.70	7.30	7.70	8.79		# of strides	12.40	12.20	14.00	16.49	24.60	30.49	5.89
		velocity	7.46	8.77	8.47	7.94	7.46	6.85	6.49	5.69	7.26		205.0	8.06	8.20	7.14	6.06	8.13	6.56

FINAL - 2017 Memorial van Damme (Brussels, BEL)

Omega Timing (2017) - diamond league race analysis

date	01-Sep-17	time		12.6	18.4	24.6	31.1	37.9	45.1	53.11	53.11	2 / 8							
reaction time	0.193	interval			5.80	6.20	6.50	6.80	7.20	8.01		# of strides	12.60	12.00	13.30	15.21	24.60	28.51	3.91
		velocity		7.94	8.62	8.06	7.69	7.35	6.94	6.24	7.53		7.94	8.33	7.52	6.57	8.13	7.02	

Semi-Final 2 - 2017 IAAF World Championships (London, GBR)

Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Women's 400m

date	07-Aug-17	time		12.20		24.02		37.07	44.01	51.37	51.57	2 / 5							
reaction time	0.200	interval				11.82		13.05	6.94	7.36		# of strides	12.20	11.82	13.05	14.30	24.02	27.35	3.33
		velocity		8.20		8.46		7.66	7.20	6.79	7.76		195.5	8.20	8.46	7.66	6.99	8.33	7.31

FINAL - 2017 Meeting de Paris (Paris, FRA)

Omega Timing (2017) - diamond league race analysis

date	01-Jul-17	time	12.7	18.7	24.9	31.2	37.7	44.5	51.96	51.96		8 / 4							
reaction time	0.161	interval		6.0	6.2	6.3	6.5	6.8	7.5			# of strides	12.70	12.20	12.80	14.26	24.90	27.06	2.16
		velocity		7.87	8.33	8.06	7.94	7.69	7.35	6.70	7.70		194.5	7.87	8.20	7.81	7.01	8.03	7.39

Jensen, Christine Bjelland (NOR) (1957)

50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

National FINAL - 2019 Bislett Games (Oslo, NOR)

Omega Timing (2019) - diamond league race analysis

velocity	7.86	8.45	7.81	7.03	7.75	196.0	7.86	8.45	7.81	7.03	8.14	7.40
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		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Joseph, Rachel (USA) (2004)																		
Heat 4 - 2024 Olympic Games (Paris, FRA)																		
<i>Paris 2024 Olympic Games - Results Book (2024)</i>																		
date	05-Aug-24	time	6.72	12.25	18.06	24.17	30.46	37.12	44.32	52.13	52.13	8 / 2						
reaction time	0.219	interval		5.53	5.81	6.11	6.29	6.66	7.20	7.81	DQ	# of strides	12.25	11.92	12.95	15.01	24.17	27.96
		velocity	7.44	9.04	8.61	8.18	7.95	7.51	6.94	6.40	7.67		8.16	8.39	7.72	6.66	8.27	7.15
Joseph, Rachel (USA) (2004)																		
Semi-Final 3 - 2024 USA Olympic Trials (Eugene, OR)																		
<i>USATF and Karmarush (2024) - USA Olympic trials results and race analysis</i>																		
date	22-Jun-24	time			23.99			36.64		50.74	50.74	8 / 3						
reaction time		interval			11.62			12.65		14.10	PB	# of strides	12.37	11.62	12.65	14.10	23.99	26.75
		velocity			8.08			7.91		7.09	7.88		8.08	8.61	7.91	7.09	8.34	7.48
Heat 5 - 2024 USA Olympic Trials (Eugene, OR)																		
<i>USATF and Karmarush (2024) - USA Olympic trials results and race analysis</i>																		
date	21-Jun-24	time	12.44		24.28			37.09		50.92	50.92	4 / 1						
reaction time		interval			11.84			12.81		13.83	PB	# of strides	12.44	11.84	12.81	13.83	24.28	26.64
		velocity	8.04		8.45			7.81		7.23	7.86		8.04	8.45	7.81	7.23	8.24	7.51
Kabange, Mupopo (ZAM) (1992)																		
Heat 3 - 2015 IAAF World Championships (Beijing, CHN)																		
<i>Yamamoto (2015) - race analysis of 15th World Championships 400m- focusing on men's semis and women's prelims</i>																		
date	24-Aug-15	time	6.57	12.22	18.37	24.71	30.95	37.24	44.01	51.55	51.55	8 / 2						
reaction time	0.180	interval		5.65	6.15	6.34	6.24	6.29	6.77	7.54		# of strides	12.22	12.49	12.53	14.31	24.71	26.84
		velocity	7.61	8.85	8.13	7.89	8.01	7.95	7.39	6.63	7.76		8.18	8.01	7.98	6.99	8.09	7.45
Kaczmarek, Natalia (POL) (1998)																		
FINAL - 2024 Kamila Skolimowska Memorial (Silesia, POL)																		
<i>Omega Timing (2024) - diamond league race analysis</i>																		
date	25-Aug-24	time	6.76	12.29	17.82	23.71	30.00	36.56	43.21	49.95	49.95	5 / 3						
reaction time	0.167	interval		5.53	5.53	5.89	6.29	6.56	6.65	6.74		# of strides	12.29	11.42	12.85	13.39	23.71	26.24
		velocity	7.40	9.04	9.04	8.49	7.95	7.62	7.52	7.42	8.01		8.14	8.76	7.78	7.47	8.44	7.62
FINAL - 2024 Olympic Games (Paris, FRA)																		
<i>Paris 2024 Olympic Games - Results Book (2024)</i>																		
date	09-Aug-24	time	6.64	12.09	17.50	23.22	29.32	35.66	42.06	48.98	48.98	7 / 3						
reaction time	0.176	interval		5.45	5.41	5.72	6.10	6.34	6.40	6.92		# of strides	12.09	11.13	12.44	13.32	23.22	25.76
		velocity	7.53	9.17	9.24	8.74	8.20	7.89	7.81	7.23	8.17		8.27	8.98	8.04	7.51	8.61	7.76
Semi-Final 3 - 2024 Olympic Games (Paris, FRA)																		
<i>Paris 2024 Olympic Games - Results Book (2024)</i>																		
date	07-Aug-24	time	6.67	12.14	17.62	23.46	29.71	36.10	42.59	49.45	49.45	7 / 1						
reaction time	0.183	interval		5.47	5.48	5.84	6.25	6.39	6.49	6.86		# of strides	12.14	11.32	12.64	13.35	23.46	25.99
		velocity	7.50	9.14	9.12	8.56	8.00	7.82	7.70	7.29	8.09		8.24	8.83	7.91	7.49	8.53	7.70
Heat 4 - 2024 Olympic Games (Paris, FRA)																		
<i>Paris 2024 Olympic Games - Results Book (2024)</i>																		
date	05-Aug-24	time	6.71	12.17	17.72	23.51	29.71	36.10	42.86	49.98	49.98	4 / 1						
reaction time	0.169	interval		5.46	5.55	5.79	6.20	6.39	6.76	7.12		# of strides	12.17	11.34	12.59	13.88	23.51	26.47
		velocity	7.45	9.16	9.01	8.64	8.06	7.82	7.40	7.02	8.00		8.22	8.82	7.94	7.20	8.51	7.56
FINAL - 2024 London Athletics Meet (London, GBR)																		
<i>Omega Timing (2024) - diamond league race analysis</i>																		
date	20-Jul-24	time	6.70	12.21	17.63	23.31	29.28	35.51	41.93	48.90	48.90	5 / 2						
reaction time	0.169	interval		5.51	5.42	5.68	5.97	6.23	6.42	6.97	NR PB	# of strides	12.21	11.10	12.20	13.39	23.31	25.59
		velocity	7.46	9.07	9.23	8.80	8.38	8.03	7.79	7.17	8.18		8.19	9.01	8.20	7.47	8.58	7.82
FINAL - 2024 Meeting de Paris (Paris, FRA)																		
<i>Omega Timing (2024) - diamond league race analysis</i>																		
date	07-Jul-24	time	6.79	12.35	17.95	23.83	30.14	36.41	43.02	49.82	49.82	6 / 2						
reaction time	0.174	interval		5.56	5.60	5.88	6.31	6.27	6.61	6.80		# of strides	12.35	11.48	12.58	13.41	23.83	25.99
		velocity	7.36	8.99	8.93	8.50	7.92	7.97	7.56	7.35	8.03		8.10	8.71	7.95	7.46	8.39	7.70
FINAL - 2024 European Athletics Championships (Roma, ITA)																		
<i>European Athletics (2024) - 2024 european athletics championships - results book</i>																		
date	10-Jun-24	time		12.22		23.59		35.84		48.98	48.98	7 / 1						
reaction time	0.188	interval				11.37		12.25		13.14	NR PB	# of strides	12.22	11.37	12.25	13.14	23.59	25.39
		velocity		8.18		8.80		8.16		7.61	8.17		8.18	8.80	8.16	7.61	8.48	7.88
Semi-Final 2 - 2024 European Athletics Championships (Roma, ITA)																		
<i>European Athletics (2024) - 2024 european athletics championships - results book</i>																		
date	09-Jun-24	time		12.30		24.31		37.08		50.70	50.70	8 / 1						
reaction time	0.187	interval				12.01		12.77		13.62		# of strides	12.30	12.01	12.77	13.62	24.31	26.39
		velocity		8.13		8.33		7.83		7.34	7.89		8.13	8.33	7.83	7.34	8.23	7.58
FINAL - 2024 Xiamen Diamond League (Xiamen, CHN)																		
<i>Omega Timing (2024) - diamond league race analysis</i>																		
date	20-Apr-24	time	6.79	12.41	18.07	24.02	30.21	36.68	43.31	50.29	50.29	6 / 2						
reaction time	0.180	interval		5.62	5.66	5.95	6.19	6.47	6.63	6.98		# of strides	12.41	11.61	12.66	13.61	24.02	26.27
		velocity	7.36	8.90	8.83	8.40	8.08	7.73	7.54	7.16	7.95		8.06	8.61	7.90	7.35	8.33	7.61
FINAL - 2023 World Athletics Championships (Budapest, HUN)																		
<i>Seiko Timing (2023) - world championship race analysis</i>																		
date	23-Aug-23	time		12.30		23.46		35.92		49.57	49.57	6 / 2						
reaction time	0.168	interval				11.16		12.46		13.65		# of strides	12.30	11.16	12.46	13.65	23.46	26.11
		velocity		8.13		8.96		8.03		7.33	8.07		8.13	8.96	8.03	7.33	8.53	7.66
Semi-Final 3 - 2023 World Athletics Championships (Budapest, HUN)																		
<i>Seiko Timing (2023) - world championship race analysis</i>																		
date	21-Aug-23	time		12.19		23.58		36.21		49.50	49.50	5 / 1						
reaction time	0.173	interval				11.39		12.63		13.29		# of strides	12.19	11.39	12.63	13.29	23.58	25.92
		velocity		8.20		8.78		7.92		7.52	8.08		8.20	8.78	7.92	7.52	8.48	7.72
Heat 1 - 2023 World Athletics Championships (Budapest, HUN)																		
<i>Seiko Timing (2023) - world championship race analysis</i>																		
date	20-Aug-23	time	12.39		23.74			36.65		50.02	50.02	7 / 1						
reaction time	0.179	interval			11.35			12.91		13.37		# of strides	12.39	11.35	12.91	13.37	23.74	26.28
		velocity	8.07		8.81			7.75		7.48	8.00		8.07	8.81	7.75	7.48	8.42	7.61

FINAL - 2023 Herculis Meeting International d'Athlétisme (Monaco, MON)											<i>Omega Timing (2023) - diamond league race analysis</i>									
date	21-Jul-23	time	6.79	12.36	17.98	23.83	29.92	36.33	42.84	49.63	49.63	6 / 1								
reaction time	0.174	interval	5.57	5.62	5.85	6.09	6.41	6.51	6.79			# of strides	12.36	11.47	12.50	13.30	23.83	25.80	1.97	
		velocity	7.36	8.98	8.90	8.55	8.21	7.80	7.68	7.36	8.06	189.5	8.09	8.72	8.00	7.52	8.39	7.75		
FINAL - 2023 Meeting de Paris (Paris, FRA)											<i>Omega Timing (2023) - diamond league race analysis</i>									
date	09-Jun-23	time	6.54	12.03	17.62	23.48	29.69	36.19	42.87	50.10	50.10	6 / 4								
reaction time	0.160	interval	5.49	5.59	5.86	6.21	6.50	6.68	7.23			# of strides	12.03	11.45	12.71	13.91	23.48	26.62	3.14	
		velocity	7.65	9.11	8.94	8.53	8.05	7.69	7.49	6.92	7.98	191.7	8.31	8.73	7.87	7.19	8.52	7.51		
FINAL - 2023 Golden Gala Pietro Mennea (Firenze, ITA)											<i>Omega Timing (2023) - diamond league race analysis</i>									
date	02-Jun-23	time	6.74	12.33	19.97	23.93	30.12	36.60	43.35	50.41	50.41	4 / 1								
reaction time	0.142	interval	5.59	7.64	3.96	6.19	6.48	6.75	7.06			# of strides	12.33	11.60	12.67	13.81	23.93	26.48	2.55	
		velocity	7.42	8.94	6.54	12.63	8.08	7.72	7.41	7.08	7.93	194.0	8.11	8.62	7.89	7.24	8.36	7.55		
FINAL - 2023 Doha Diamond League (Doha, QAT)											<i>Omega Timing (2023) - diamond league race analysis</i>									
date	05-May-23	time	6.89	12.70	18.94	25.22	31.59	38.09	44.60	51.64	51.64	8 / 3								
reaction time	0.171	interval	5.81	6.24	6.28	6.37	6.50	6.51	7.04			# of strides	12.70	12.52	12.87	13.55	25.22	26.42	1.20	
		velocity	7.26	8.61	8.01	7.96	7.85	7.69	7.68	7.10	7.75	195.0	7.87	7.99	7.77	7.38	7.93	7.57		
FINAL - 2022 Weltklasse (Zürich, SUI)											<i>Omega Timing (2022) - diamond league race analysis</i>									
date	08-Sep-22	time	6.84	12.50	18.34	24.32	30.51	37.05	43.84	50.74	50.74	3 / 5								
reaction time	0.143	interval	5.66	5.84	5.98	6.19	6.54	6.79	6.90			# of strides	12.50	11.82	12.73	13.69	24.32	26.42	2.10	
		velocity	7.31	8.83	8.56	8.36	8.08	7.65	7.36	7.25	7.88	8.00	8.46	7.86	7.30	8.22	7.57			
FINAL - 2022 Athletissima (Lausanne, SUI)											<i>Omega Timing (2022) - diamond league race analysis</i>									
date	26-Aug-22	time	6.80	12.40	18.22	24.26	30.55	37.16	43.89	51.03	51.03	3 / 5								
reaction time	0.150	interval	5.60	5.82	6.04	6.29	6.61	6.73	7.14			# of strides	12.40	11.86	12.90	13.87	24.26	26.77	2.51	
		velocity	7.35	8.93	8.59	8.28	7.95	7.56	7.43	7.00	7.84	8.06	8.43	7.75	7.21	8.24	7.47			
FINAL - 2022 European Athletics Championships (Munich, GER)											<i>European Athletics (2022) - european athletics championships race analysis</i>									
date	17-Aug-22	time	12.17	23.59	36.29	49.94	49.94					6 / 2								
reaction time	0.178	interval		11.42	12.70	13.65	23.59	26.35	2.76			# of strides	12.17	11.42	12.70	13.65	23.59	26.35	2.76	
		velocity	8.22	8.76	7.87	7.33	8.01					195.0	8.22	8.76	7.87	7.33	8.48	7.59		
Semi-Final 2 - 2022 European Athletics Championships (Munich, GER)											<i>European Athletics (2022) - european athletics championships race analysis</i>									
date	16-Aug-22	time	12.48	24.15	36.99	50.40	50.40					6 / 1								
reaction time	0.200	interval		11.67	12.84	13.41	24.15	26.25	2.10			# of strides	12.48	11.67	12.84	13.41	24.15	26.25	2.10	
		velocity	8.01	8.57	7.79	7.46	7.94					194.2	8.01	8.57	7.79	7.46	8.28	7.62		
FINAL - 2022 Silesia Kamila Skolimowska Memorial (Chorzów, POL)											<i>Omega Timing (2022) - diamond league race analysis</i>									
date	06-Aug-22	time	6.83	12.53	18.27	24.23	30.37	36.69	43.13	49.86	49.86	6 / 2								
reaction time	0.145	interval	5.70	5.74	5.96	6.14	6.32	6.44	6.73	PB		# of strides	12.53	11.70	12.46	13.17	24.23	25.63	1.40	
		velocity	7.32	8.77	8.71	8.39	8.14	7.91	7.76	7.43	8.02	7.98	8.55	8.03	7.59	8.25	7.80			
Semi-Final 2 - 2022 World Athletics Championships (Eugene, OR)											<i>Timing by Seiko (2022) - world athletics championships race analysis</i>									
date	20-Jul-22	time	12.51	24.40	37.30	51.34	51.34					4 / 5								
reaction time	0.141	interval		11.89	12.90	14.04	24.40	26.94	2.54			# of strides	12.51	11.89	12.90	14.04	24.40	26.94	2.54	
		velocity	7.99	8.41	7.75	7.12	7.79					197.2	7.99	8.41	7.75	7.12	8.20	7.42		
Heat 2 - 2022 World Athletics Championships (Eugene, OR)											<i>Timing by Seiko (2022) - world athletics championships race analysis</i>									
date	17-Jul-22	time	12.76	24.41	37.11	50.21	50.21					8 / 2								
reaction time	0.152	interval		11.65	12.70	13.10	24.41	25.80	1.39			# of strides	12.76	11.65	12.70	13.10	24.41	25.80	1.39	
		velocity	7.84	8.58	7.87	7.63	7.97					197.5	7.84	8.58	7.87	7.63	8.19	7.75		
FINAL - 2022 Meeting de Paris (Paris, FRA)											<i>Omega Timing (2022) - diamond league race analysis</i>									
date	18-Jun-22	time	6.79	12.37	18.02	23.99	30.27	36.77	43.39	50.24	50.24	5 / 2								
reaction time	0.162	interval	5.58	5.65	5.97	6.28	6.50	6.62	6.85			# of strides	12.37	11.62	12.78	13.47	23.99	26.25	2.26	
		velocity	7.36	8.96	8.85	8.38	7.96	7.69	7.55	7.30	7.96	93.0	8.08	8.61	7.82	7.42	8.34	7.62		
FINAL - 2022 Doha Diamond League (Doha, QAT)											<i>Omega Timing (2022) - diamond league race analysis</i>									
date	13-May-22	time	6.8	12.6	19.1	25.7	31.7	38.4	45.6	52.54	52.54	1 / 6								
reaction time	0.148	interval	5.80	6.50	6.60	6.00	6.70	7.20	6.94			# of strides	12.60	13.10	12.70	14.14	25.70	26.84	1.14	
		velocity	7.35	8.62	7.69	7.58	8.33	7.46	6.94	7.20	7.61	7.94	7.63	7.87	7.07	7.78	7.45			
FINAL - 2021 Weltklasse (Zürich, SUI)											<i>Omega Timing (2021) - diamond league race analysis</i>									
date	09-Sep-21	time	7.0	12.8	18.6	24.6	30.7	37.2	44.0	51.00	51.00	3 / 6								
reaction time	0.186	interval	5.80	5.80	6.00	6.10	6.50	6.80	7.00			# of strides	12.80	11.80	12.60	13.80	24.60	26.40	1.80	
		velocity	7.14	8.62	8.62	8.33	8.20	7.69	7.35	7.14	7.84	7.81	8.47	7.94	7.25	8.13	7.58			
FINAL - 2021 Meeting de Paris (Paris, FRA)											<i>Omega Timing (2021) - diamond league race analysis</i>									
date	28-Aug-21	time	6.9	12.6	18.6	24.7	31.1	37.6	44.3	51.32	51.32	1 / 6								
reaction time	0.184	interval	5.70	6.00	6.10	6.40	6.50	6.70	7.02			# of strides	12.60	12.10	12.90	13.72	24.70	26.62	1.92	
		velocity	7.25	8.77	8.33	8.20	7.81	7.69	7.46	7.12	7.79	196.0	7.94	8.26	7.75	7.29	8.10	7.51		
FINAL - 2021 Athletissima (Lausanne, SUI)											<i>Omega Timing (2021) - diamond league race analysis</i>									
date	26-Aug-21	time	6.9	12.5	18.3	24.5	30.8	37.5	44.2	51.10	51.10	8 / 4								
reaction time	0.167	interval	5.60	5.80	6.20	6.30	6.70	6.70	6.90			# of strides	12.50	12.00	13.00	13.60	24.50	26.60	2.10	
		velocity	7.25	8.93	8.62	8.06	7.94	7.46	7.46	7.25	7.83	8.00	8.33	7.69	7.35	8.16	7.52			
FINAL - 2021 Müller British Grand Prix (Gateshead, GBR)											<i>Omega Timing (2021) - diamond league race analysis</i>									
date	13-Jun-21	time	7.0	12.7	18.6	24.8	31.3	37.9	44.6	51.71	51.71	6 / 4								
reaction time	0.151	interval	5.70	5.90	6.20	6.50	6.60	6.70	7.11			# of strides	12.70	12.10	13.10	13.81	24.80	26.91	2.11	
		velocity	7.14	8.77	8.47	8.06	7.69	7.58	7.46	7.03	7.74	7.87	8.26	7.63	7.24	8.06	7.43			

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Kaiser-Brown, Natasha (USA) (1967)																		
FINAL - 1996 USA Olympic Trials (Atlanta, GA)																		
date	19-Jun-96	time	12.49		24.58		37.58	44.42	51.52	51.52	2 / 6							
reaction time		interval			12.09		13.00	6.84	7.10		# of strides	12.49	12.09	13.00	13.94	24.58	26.94	2.36
		velocity	8.01		8.27		7.69	7.31	7.04	7.76		8.01	8.27	7.69	7.17	8.14	7.42	
Semi-Final 2 - 1996 USA Olympic Trials (Atlanta, GA)																		
date	17-Jun-96	time	12.43		24.43		37.30	44.05	51.18	51.18	7 / 4							
reaction time		interval			12.00		12.87	6.75	7.13		# of strides	12.43	12.00	12.87	13.88	24.43	26.75	2.32
		velocity	8.05		8.33		7.77	7.41	7.01	7.82		8.05	8.33	7.77	7.20	8.19	7.48	
FINAL - 1993 IAAF World Championships (Stuttgart, GER)																		
date	17-Aug-93	time			23.78				50.17	50.17	3 / 2							
reaction time		interval							26.39		# of strides					23.78	26.39	2.61
		velocity			8.41				7.58	7.97						8.41	7.58	
Kameoka, Mitsuru (JPN) (1996)																		
Heat 2 - 2017 National Sports Festival (Matsuyama, JPN)																		
date	08-Oct-17	time	13.12		26.49		41.61		58.52	58.52	3 / 6							
reaction time		interval			13.37		15.12		16.91		# of strides	13.12	13.37	15.12	16.91	26.49	32.03	5.54
		velocity	7.62		7.48		6.61		5.91	6.84		7.62	7.48	6.61	5.91	7.55	6.24	
Kanayama, Aoi (JPN)																		
FINAL - 2023 Shimane High School Championships (Izumo, JPN)																		
date	26-May-23	time	14.73		29.42		45.08		62.40	62.40	8 / 6							
reaction time		interval			14.69		15.66		17.32		# of strides	14.73	14.69	15.66	17.32	29.42	32.98	3.56
		velocity	6.79		6.81		6.39		5.77	6.41		6.79	6.81	6.39	5.77	6.80	6.06	
FINAL - 2022 Shimane High School Championships (Izumo, JPN)																		
date	26-May-22	time	15.05		29.93		45.69		63.50	63.50	8 / 8							
reaction time		interval			14.88		15.76		17.81		# of strides	15.05	14.88	15.76	17.81	29.93	33.57	3.64
		velocity	6.64		6.72		6.35		5.61	6.30		6.64	6.72	6.35	5.61	6.68	5.96	
Kaneko, Akira (JPN)																		
FINAL - 2023 Shimane High School Championships (Izumo, JPN)																		
date	26-May-23	time	14.12		28.28		43.75		60.93	60.93	6 / 3							
reaction time		interval			14.16		15.47		17.18		# of strides	14.12	14.16	15.47	17.18	28.28	32.65	4.37
		velocity	7.08		7.06		6.46		5.82	6.56		7.08	7.06	6.46	5.82	7.07	6.13	
Kaneko, Hitomi (JPN) (2002)																		
FINAL - 2020 Japanese U20 National Championships (Hiroshima, JPN)																		
date	23-Oct-20	time	7.48	13.94	20.54	27.29	34.13	41.11	48.36	56.20	56.20	4 / 3						
reaction time	0.198	interval		6.46	6.60	6.75	6.84	6.98	7.25	7.84		# of strides	13.94	13.35	13.82	15.09	27.29	28.91
		velocity	6.68	7.74	7.58	7.41	7.31	7.16	6.90	6.38	7.12	211.9	7.17	7.49	7.24	6.63	7.33	6.92
Kapachinskaya, Anastasiya (RUS) (19)																		
FINAL - 2011 IAAF World Championships (Daegu, KOR)																		
date	29-Aug-11	time			23.8		36.3		50.24	50.24	6 / 3							
reaction time	0.209	interval					12.50		13.94		# of strides					23.80	26.44	2.64
		velocity			8.40		8.00		7.17	7.96	194.0					8.40	7.56	
FINAL - 2009 IAAF World Championships (Berlin, GER)																		
date	18-Aug-09	time	12.54		24.39		36.92		50.53	50.53	2 / 7							
reaction time	0.220	interval			11.85		12.53		13.61		# of strides	12.54	11.85	12.53	13.61	24.39	26.14	1.75
		velocity	7.97		8.44		7.98		7.35	7.92	194.0	7.97	8.44	7.98	7.35	8.20	7.65	
Semi-Final 1 - 2009 IAAF World Championships (Berlin, GER)																		
date	16-Aug-09	time	12.37		24.08		36.49		50.30	50.30	6 / 3							
reaction time	0.247	interval			11.71		12.41		13.81		# of strides	12.37	11.71	12.41	13.81	24.08	26.22	2.14
		velocity	8.08		8.54		8.06		7.24	7.95		8.08	8.54	8.06	7.24	8.31	7.63	
Heat 4 - 2009 IAAF World Championships (Berlin, GER)																		
date	15-Aug-09	time	12.53		24.38		37.12		51.17	51.17	6 / 2							
reaction time	0.225	interval			11.85		12.74		14.05		# of strides	12.53	11.85	12.74	14.05	24.38	26.79	2.41
		velocity	7.98		8.44		7.85		7.12	7.82		7.98	8.44	7.85	7.12	8.20	7.47	
FINAL - 2008 Olympic Games (Beijing, CHN)																		
date	19-Aug-08	time	12.3		24.1		36.2		50.0	50.03	9 / 5							
reaction time	0.378	interval			11.80		12.10		13.80	PB	# of strides	12.30	11.80	12.10	13.80	24.10	25.90	1.80
		velocity	8.13		8.47		8.26		7.25	8.00	194.5	8.13	8.47	8.26	7.25	8.30	7.72	
FINAL - 2002 European Championships (Munich, GER)																		
date	08-Aug-02	time	12.88		24.96		37.86		51.69	51.69	1 / 5							
reaction time	0.286	interval			12.08		12.90		13.83		# of strides	12.88	12.08	12.90	13.83	24.96	26.73	1.77
		velocity	7.76		8.28		7.75		7.23	7.74		7.76	8.28	7.75	7.23	8.01	7.48	
Heat 3 - 2002 European Championships (Munich, GER)																		
date	07-Aug-02	time	12.88		24.69		37.46		51.56	51.56	1 / 3							
reaction time	0.209	interval			11.81		12.77		14.10		# of strides	12.88	11.81	12.77	14.10	24.69	26.87	2.18
		velocity	7.76		8.47		7.83		7.09	7.76		7.76	8.47	7.83	7.09	8.10	7.44	
Karpiuk, Kateryna (UKR) (1995)																		
Heat 1 - 2024 European Athletics Championships (Roma, ITA)																		
date	08-Jun-24	time	12.92		25.03		38.29		53.06	53.06	5 / 6							

reaction time	0.179	interval		12.11	13.26	14.77		# of strides	12.92	12.11	13.26	14.77	25.03	28.03	3.00
		velocity	7.74	8.26	7.54	6.77	7.54		7.74	8.26	7.54	6.77	7.99	7.14	

Heat 1 - 2023 World Athletics Championships (Budapest, HUN)

Seiko Timing (2023) - world championship race analysis

date	20-Aug-23	time	12.76	24.71	37.98	52.66	52.66	9 / 8							
reaction time	0.198	interval		11.95	13.27	14.68		# of strides	12.76	11.95	13.27	14.68	24.71	27.95	3.24
		velocity	7.84	8.37	7.54	6.81	7.60		7.84	8.37	7.54	6.81	8.09	7.16	

Karuyama, Yakari (JPN)

50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

FINAL - 2016 Japanese National Youth Championships (Mizuho, JPN) Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016

date	21-Oct-16	time	7.19	13.40	19.99	26.96	34.32	42.13	50.52	59.55	59.55	1 / 8							
reaction time		interval		6.21	6.59	6.97	7.36	7.81	8.39	9.03		# of strides	13.40	13.56	15.17	17.42	26.96	32.59	5.63
		velocity	6.95	8.05	7.59	7.17	6.79	6.40	5.96	5.54	6.72		7.46	7.37	6.59	5.74	7.42	6.14	

Kashcheyeva, Zhanna (RUS) (1982)

50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

FINAL - 2007 European Cup (Munich, GER) Graubner (2007) - <http://www.fgs.uni-halle.de>

date	23-Jun-07	time	12.70		24.58		37.34		51.87	51.87	1 / 2							
reaction time	0.150	interval			11.88		12.76		14.53		# of strides	12.70	11.88	12.76	14.53	24.58	27.29	2.71
		velocity	7.87		8.42		7.84		6.88	7.71		7.87	8.42	7.84	6.88	8.14	7.33	

Kashiyama, Kaede (JPN) (1994)

50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

FINAL - 2018 Japanese Corporate Championships (Osaka, JPN) Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition

date	23-Sep-18	time	7.08	13.05	19.15	25.66	32.45	39.56	47.01	55.19	55.19	6 / 4							
reaction time		interval		5.97	6.10	6.51	6.79	7.11	7.45	8.18		# of strides	13.05	12.61	13.90	15.63	25.66	29.53	3.87
		velocity	7.06	8.38	8.20	7.68	7.36	7.03	6.71	6.11	7.25		7.66	7.93	7.19	6.40	7.79	6.77	

FINAL - 2018 Seiko Golden Grand Prix (Osaka, JPN)

Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition

date	20-May-18	time	7.09	13.12	19.44	26.03	32.82	39.94	47.21	54.92	54.92	9 / 7							
reaction time	0.203	interval		6.03	6.32	6.59	6.79	7.12	7.27	7.71		# of strides	13.12	12.91	13.91	14.98	26.03	28.89	2.86
		velocity	7.05	8.29	7.91	7.59	7.36	7.02	6.88	6.49	7.28		7.62	7.75	7.19	6.68	7.68	6.92	

FINAL - 2017 National Sports Festival (Matsuyama, JPN)

Yamanaka (2017) - male and female 400m analysis in the 2017 season

date	08-Oct-17	time	7.11	13.06	19.35	26.10	33.08	40.31	47.86	55.96	55.96	3 / 7							
reaction time	0.277	interval		5.95	6.29	6.75	6.98	7.23	7.55	8.10		# of strides	13.06	13.04	14.21	15.65	26.10	29.86	3.76
		velocity	7.03	8.40	7.95	7.41	7.16	6.92	6.62	6.17	7.15		209.0	7.66	7.67	7.04	6.39	7.66	6.70

Heat 2 - 2017 National Sports Festival (Matsuyama, JPN)(2017) - tdata-store.com/2017/10/12/post-1100/

date	08-Oct-17	time	13.49		26.62		40.65		56.04	56.04	6 / 3							
reaction time	0.189	interval			13.13		14.03		15.39		# of strides	13.49	13.13	14.03	15.39	26.62	29.42	2.80
		velocity	7.41		7.62		7.13		6.50	7.14		208.5	7.41	7.62	7.13	6.50	7.51	6.80

FINAL - 2017 All Japan Corporate Championships (Osaka, JPN)(2017) - tdata-store.com/2017/10/05/post-1097/

date	24-Sep-17	time	13.22		26.00		39.55		54.91	54.91	7 / 3							
reaction time	0.243	interval			12.78		13.55		15.36		# of strides	13.22	12.78	13.55	15.36	26.00	28.91	2.91
		velocity	7.56		7.82		7.38		6.51	7.28		205.2	7.56	7.82	7.38	6.51	7.69	6.92

FINAL - 2017 Shizuoka International Meeting (Fukuroi, JPN)

Yamanaka (2017) - male and female 400m analysis in the 2017 season

date	03-May-17	time	7.05	13.02	19.27	25.77	32.71	40.05	47.92	56.57	56.57	1 / 6							
reaction time		interval		5.97	6.25	6.50	6.94	7.34	7.87	8.65		# of strides	13.02	12.75	14.28	16.52	25.77	30.80	5.03
		velocity	7.09	8.38	8.00	7.69	7.20	6.81	6.35	5.78	7.07		7.68	7.84	7.00	6.05	7.76	6.49	

FINAL - 2016 Japanese National Championships (Nagoya, JPN)

Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016

date	25-Jun-16	time	6.92	13.01	19.30	25.66	32.13	38.97	46.11	53.76	53.76	1 / 3							
reaction time	0.192	interval		6.09	6.29	6.36	6.47	6.84	7.14	7.65	PB	# of strides	13.01	12.65	13.31	14.79	25.66	28.10	2.44
		velocity	7.23	8.21	7.95	7.86	7.73	7.31	7.00	6.54	7.44		7.69	7.91	7.51	6.76	7.79	7.12	

FINAL - 2016 Shizuoka International Meeting (Fukuroi, JPN)

Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016

date	03-May-16	time	7.03	13.16	19.65	26.09	32.68	39.68	47.01	54.91	54.91	1 / 3							
reaction time		interval		6.13	6.49	6.44	6.59	7.00	7.33	7.90		# of strides	13.16	12.93	13.59	15.23	26.09	28.82	2.73
		velocity	7.11	8.16	7.70	7.76	7.59	7.14	6.82	6.33	7.28		7.60	7.73	7.36	6.57	7.67	6.94	

Käsling, Dagmar (GDR) (1947)

50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

FINAL - 1972 Olympic Games (Munich, FRG) Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016

date	07-Sep-72	time			24.7				52.2	52.19	1 / 7					
reaction time		interval							27.5		# of strides			24.70	27.50	2.80
		velocity			8.10				7.27	7.66				8.10	7.27	

Katayama, Shiori (JPN) (1999)

50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

U19 FINAL - 2017 National Sports Festival (Matsuyama, JPN) (2017) - tdata-store.com/2017/10/12/post-1100/

date	08-Oct-17	time		13.19	26.01		40.16		55.18	55.18	2 / 4							
reaction time	0.211	interval			12.82		14.15		15.02		# of strides	13.19	12.82	14.15	15.02	26.01	29.17	3.16
		velocity		7.58	7.80		7.07		6.66	7.25		195.7	7.58	7.80	7.07	6.66	7.69	6.86

U19 Semi-Final 1 - 2017 National Sports Festival (Matsuyama, JPN)(2017) - tdata-store.com/2017/10/12/post-1100/

date	08-Oct-17	time	13.36		26.63		40.88		55.74	55.74	4 / 4							
reaction time	0.182	interval			13.27		14.25		14.86		# of strides	13.36	13.27	14.25	14.86	26.63	29.11	2.48
		velocity	7.49		7.54		7.02		6.73	7.18		194.2	7.49	7.54	7.02	6.73	7.51	6.87

FINAL - 2017 Japanese National High School Championships (Yamagata, JPN)

Kota (2017) - 70th high school championships: JAF scientific committee- biomechanics data

date	29-Jul-17	time	7.10	13.06	19.47	26.17	33.15	40.44	47.81	55.47	55.47	4 / 4							
reaction time	0.347	interval		5.96	6.41	6.70	6.98	7.29	7.37	7.66		# of strides	13.06	13.11	14.27	15.03	26.17	29.30	3.13
		velocity	7.04	8.39	7.80	7.46	7.16	6.86	6.78	6.53	7.21		7.66	7.63	7.01	6.65	7.64	6.83	

Kato, Shiho (JPN) (2000)

50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

U19 Semi-Final 2 - 2017 National Sports Festival (Matsuyama, JPN) (2017) - tdata-store.com/2017/10/12/post-1100/

date	08-Oct-17	time	13.27	26.37	40.71	56.64	56.64	9 / 6											
reaction time	0.204	interval		13.10	14.34	15.93		# of strides	13.27	13.10	14.34	15.93	26.37	30.27	3.90				
		velocity	7.54	7.63	6.97	6.28	7.06	212.0	7.54	7.63	6.97	6.28	7.58	6.61					
FINAL - 2016 Japanese National Youth Championships (Mizuho, JPN)									Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016										
date	21-Oct-16	time	7.07	13.19	19.64	26.51	33.68	40.98	48.46	56.37	56.37	7 / 7							
reaction time		interval		6.12	6.45	6.87	7.17	7.30	7.48	7.91		# of strides	13.19	13.32	14.47	15.39	26.51	29.86	3.35
		velocity	7.07	8.17	7.75	7.28	6.97	6.85	6.68	6.32	7.10	7.58	7.51	6.91	6.50	7.54	6.70		
U19 FINAL - 2016 National Sports Festival (Kitakami, JPN)									Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016										
date	10-Oct-16	time	7.13	13.11	19.47	26.30	33.40	40.70	48.40	56.76	56.76	3 / 7							
reaction time	0.194	interval		5.98	6.36	6.83	7.10	7.30	7.70	8.36		# of strides	13.11	13.19	14.40	16.06	26.30	30.46	4.16
		velocity	7.01	8.36	7.86	7.32	7.04	6.85	6.49	5.98	7.05	7.63	7.58	6.94	6.23	7.60	6.57		
Kawachi, Sena (JPN) (2003)																			
FINAL - 2021 Japanese High School National Championships (Fukui, JPN)									Shibayama (2021) - national high school and U20 national championships										
date	28-Jul-21	time	7.04	13.26	19.70	26.36	33.21	40.08	47.05	54.53	54.53	5 / 2							
reaction time	0.152	interval		6.22	6.44	6.66	6.85	6.87	6.97	7.48	PB	# of strides	13.26	13.10	13.72	14.45	26.36	28.17	1.81
		velocity	7.10	8.04	7.76	7.51	7.30	7.28	7.17	6.68	7.34	7.54	7.63	7.29	6.92	7.59	7.10		
FINAL - 2021 Japanese U20 National Championships (Osaka, JPN)									Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition										
date	25-Jun-21	time	7.06	13.22	19.50	26.17	33.01	40.02	47.33	55.13	55.13	7 / 3							
reaction time	0.175	interval		6.16	6.28	6.67	6.84	7.01	7.31	7.80		# of strides	13.22	12.95	13.85	15.11	26.17	28.96	2.79
		velocity	7.08	8.12	7.96	7.50	7.31	7.13	6.84	6.41	7.26	211.2	7.56	7.72	7.22	6.62	7.64	6.91	
Kawada, Ayaka (JPN) (1999)																			
FINAL - 2021 Ready Steady Tokyo (Tokyo, JPN)									Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition										
date	09-May-21	time	7.05	13.18	19.49	26.05	32.80	39.74	46.92	54.46	54.46	8 / 4							
reaction time	0.170	interval		6.13	6.31	6.56	6.75	6.94	7.18	7.54		# of strides	13.18	12.87	13.69	14.72	26.05	28.41	2.36
		velocity	7.09	8.16	7.92	7.62	7.41	7.20	6.96	6.63	7.34	7.59	7.77	7.30	6.79	7.68	7.04		
FINAL - 2018 National Sports Festival (Fukui, JPN)									Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition										
date	07-Oct-18	time	6.87	12.91	19.27	25.92	32.76	39.66	46.65	53.97	53.97	6 / 1							
reaction time	0.183	interval		6.04	6.36	6.65	6.84	6.90	6.99	7.32		# of strides	12.91	13.01	13.74	14.31	25.92	28.05	2.13
		velocity	7.28	8.28	7.86	7.52	7.31	7.25	7.15	6.83	7.41	7.75	7.69	7.28	6.99	7.72	7.13		
FINAL - 2018 Japanese National Championships (Yamaguchi, JPN)									Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition										
date	23-Jun-18	time	6.91	12.91	19.12	25.67	32.39	39.32	46.35	53.75	53.75	5 / 1							
reaction time	0.176	interval		6.00	6.21	6.55	6.72	6.93	7.03	7.40		# of strides	12.91	12.76	13.65	14.43	25.67	28.08	2.41
		velocity	7.24	8.33	8.05	7.63	7.44	7.22	7.11	6.76	7.44	211.5	7.75	7.84	7.33	6.93	7.79	7.12	
Heat 2 - 2018 Japanese National Championships (Yamaguchi, JPN)									Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition										
date	22-Jun-18	time	6.90	12.78	18.90	25.35	32.09	39.09	46.35	54.05	54.05	5 / 2							
reaction time	0.174	interval		5.88	6.12	6.45	6.74	7.00	7.26	7.70		# of strides	12.78	12.57	13.74	14.96	25.35	28.70	3.35
		velocity	7.25	8.50	8.17	7.75	7.42	7.14	6.89	6.49	7.40	210.7	7.82	7.96	7.28	6.68	7.89	6.97	
FINAL - 2018 Shizuoka International Meeting (Fukuroi, JPN)									Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition										
date	03-May-18	time	7.06	13.12	19.37	25.84	32.55	39.40	46.36	53.58	53.58	4 / 1							
reaction time	0.184	interval		6.06	6.25	6.47	6.71	6.85	6.96	7.22		# of strides	13.12	12.72	13.56	14.18	25.84	27.74	1.90
		velocity	7.08	8.25	8.00	7.73	7.45	7.30	7.18	6.93	7.47	210.2	7.62	7.86	7.37	7.05	7.74	7.21	
U19 FINAL - 2017 National Sports Festival (Matsuyama, JPN)									(2017) - tfdata-store.com/2017/10/12/post-1100/										
date	08-Oct-17	time		12.96		25.41		39.11		53.56	53.56	5 / 1							
reaction time	0.220	interval				12.45		13.70		14.45		# of strides	12.96	12.45	13.70	14.45	25.41	28.15	2.74
		velocity		7.72		8.03		7.30		6.92	7.47	209.5	7.72	8.03	7.30	6.92	7.87	7.10	
U19 Semi-Final 2 - 2017 National Sports Festival (Matsuyama, JPN)									(2017) - tfdata-store.com/2017/10/12/post-1100/										
date	08-Oct-17	time		12.90		25.77		39.55		54.61	54.61	7 / 1							
reaction time	0.225	interval				12.87		13.78		15.06		# of strides	12.90	12.87	13.78	15.06	25.77	28.84	3.07
		velocity		7.75		7.77		7.26		6.64	7.32	211.0	7.75	7.77	7.26	6.64	7.76	6.93	
FINAL - 2017 Japanese National High School Championships (Yamagata, JPN)									Kota (2017) - 70th high school championships: JAF scientific committee- biomechanics data										
date	29-Jul-17	time	6.98	12.86	19.02	25.46	32.16	39.20	46.40	53.92	53.92	5 / 1							
reaction time	0.205	interval		5.88	6.16	6.44	6.70	7.04	7.20	7.52		# of strides	12.86	12.60	13.74	14.72	25.46	28.46	3.00
		velocity	7.16	8.50	8.12	7.76	7.46	7.10	6.94	6.65	7.42	7.78	7.94	7.28	6.79	7.86	7.03		
FINAL - 2017 Japanese National Championships (Osaka, JPN)									Yamanaka (2017) - male and female 400m analysis in the 2017 season										
date	24-Jun-17	time	6.96	12.90	19.04	25.51	32.28	39.31	46.57	54.18	54.18	7 / 3							
reaction time	0.171	interval		5.94	6.14	6.47	6.77	7.03	7.26	7.61		# of strides	12.90	12.61	13.80	14.87	25.51	28.67	3.16
		velocity	7.18	8.42	8.14	7.73	7.39	7.11	6.89	6.57	7.38	214.0	7.75	7.93	7.25	6.72	7.84	6.98	
Heat 1 - 2017 Japanese National Championships (Osaka, JPN)									(2017) - tfdata-store.com/2017/07/10/post-978/										
date	23-Jun-17	time		12.85		25.40		39.20		54.37	54.37	6 / 2							
reaction time	0.174	interval				12.55		13.80		15.17		# of strides	12.85	12.55	13.80	15.17	25.40	28.97	3.57
		velocity		7.78		7.97		7.25		6.59	7.36	213.2	7.78	7.97	7.25	6.59	7.87	6.90	
B FINAL - 2017 Shizuoka International Meeting (Fukuroi, JPN)									Yamanaka (2017) - male and female 400m analysis in the 2017 season										
date	03-May-17	time	7.05	13.08	19.34	25.95	32.71	39.76	47.15	54.67	54.67	1 / 1							
reaction time		interval		6.03	6.26	6.61	6.76	7.05	7.39	7.52	PB	# of strides	13.08	12.87	13.81	14.91	25.95	28.72	2.77
		velocity	7.09	8.29	7.99	7.56	7.40	7.09	6.77	6.65	7.32	7.65	7.77	7.24	6.71	7.71	6.96		
FINAL - 2016 Japanese National Youth Championships (Mizuho, JPN)									Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016										
date	21-Oct-16	time	7.11	13.09	19.42	26.04	32.85	39.89	47.24	54.93	54.93	4 / 1							
reaction time		interval		5.98	6.33	6.62	6.81	7.04	7.35	7.69		# of strides	13.09	12.95	13.85	15.04	26.04	28.89	2.85
		velocity	7.03	8.36	7.90	7.55	7.34	7.10	6.80	6.50	7.28	7.64	7.72	7.22	6.65	7.68	6.92		

FINAL - 2016 Japanese National High School Championships (Okayama, JPN)											<i>Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016</i>									
date	29-Jul-16	time	7.11	13.04	19.24	25.69	32.59	39.75	47.17	54.91	54.91	4 / 4	# of strides	13.04	12.65	14.06	15.16	25.69	29.22	3.53
reaction time	0.189	interval		5.93	6.20	6.45	6.90	7.16	7.42	7.74	PB			7.67	7.91	7.11	6.60	7.79	6.84	
		velocity	7.03	8.43	8.06	7.75	7.25	6.98	6.74	6.46	7.28									
Kawakami, Ichigo (JPN) (1999)											<i>Kota (2017) - 70th high school championships: JAF scientific committee- biomechanics data</i>									
U19 Semi-Final 1 - 2017 National Sports Festival (Matsuyama, JPN)											<i>(2017) - tldata-store.com/2017/10/12/post-1100/</i>									
date	08-Oct-17	time		13.22		26.34		40.54		56.35	56.35	7 / 6	# of strides	13.22	13.12	14.20	15.81	26.34	30.01	3.67
reaction time	0.232	interval				13.12		14.20		15.81				212.2	7.56	7.62	7.04	6.33	7.59	6.66
		velocity		7.56		7.62		7.04		6.33	7.10									
FINAL - 2017 Japanese National High School Championships (Yamagata, JPN)											<i>Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016</i>									
date	29-Jul-17	time	7.00	13.00	19.27	25.85	32.81	40.14	47.66	55.72	55.72	8 / 5	# of strides	13.00	12.85	14.29	15.58	25.85	29.87	4.02
reaction time	0.209	interval		6.00	6.27	6.58	6.96	7.33	7.52	8.06				7.69	7.78	7.00	6.42	7.74	6.70	
		velocity	7.14	8.33	7.97	7.60	7.18	6.82	6.65	6.20	7.18									
FINAL - 2016 Japanese National Youth Championships (Mizuho, JPN)											<i>Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016</i>									
date	21-Oct-16	time	7.01	13.13	19.42	26.11	33.22	40.42	47.86	55.77	55.77	2 / 2	# of strides	13.13	12.98	14.31	15.35	26.11	29.66	3.55
reaction time		interval		6.12	6.29	6.69	7.11	7.20	7.44	7.91				7.62	7.70	6.99	6.51	7.66	6.74	
		velocity	7.13	8.17	7.95	7.47	7.03	6.94	6.72	6.32	7.17									
Kawakami, Koyuki (JPN)											<i>Shimizu (2021) - shimane high school championships 2021 - biomechanics data analysis</i>									
FINAL - 2021 Shimane High School Championships (Izumo, JPN)											<i>Ryutarō (2018) - research on athlete performance and technique- 2018 data book</i>									
date	28-May-21	time		15.20		30.00		47.24		66.29	66.29	7 / 8	# of strides	15.20	14.80	17.24	19.05	30.00	36.29	6.29
reaction time		interval				14.80		17.24		19.05				6.58	6.76	5.80	5.25	6.67	5.51	
		velocity		6.58		6.76		5.80		5.25	6.03									
Kawakubo, Moeka (JPN) (2002)											<i>Kijima (2019) - research on athlete performance and technique- 2019 data book</i>									
FINAL - 2018 Japanese National Youth (U18) Championships (Nagano, JPN)											<i>Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition</i>									
date	19-Oct-18	time	7.34	13.94	20.70	27.51	34.35	41.57	49.03	56.69	56.69	2 / 8	# of strides	13.94	13.57	14.06	15.12	27.51	29.18	1.67
reaction time	0.200	interval		6.60	6.76	6.81	6.84	7.22	7.46	7.66				7.17	7.37	7.11	6.61	7.27	6.85	
		velocity	6.81	7.58	7.40	7.34	7.31	6.93	6.70	6.53	7.06									
Kawasaki, Natsumi (JPN) (2001)											<i>Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016</i>									
U20 FINAL - 2019 Japanese National U18/U20 Championships (Hiroshima, JPN)											<i>Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Women's 400m</i>									
date	18-Oct-19	time	7.27	13.64	20.15	26.89	33.72	40.71	47.97	55.50	55.50	5 / 4	# of strides	13.64	13.25	13.82	14.79	26.89	28.61	1.72
reaction time	0.215	interval		6.37	6.51	6.74	6.83	6.99	7.26	7.53				7.33	7.55	7.24	6.76	7.44	6.99	
		velocity	6.88	7.85	7.68	7.42	7.32	7.15	6.89	6.64	7.21									
Kawata, Ayaka (JPN) (1999)											<i>Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016</i>									
FINAL - 2021 Ready Steady Tokyo (Tokyo, JPN)											<i>Omega Timing (2024) - diamond league race analysis</i>									
date	09-May-21	time	7.05	13.18	19.49	26.05	32.80	39.74	46.92	54.46	54.46	8 / 4	# of strides	13.18	12.87	13.69	14.72	26.05	28.41	2.36
reaction time	0.170	interval		6.13	6.31	6.56	6.75	6.94	7.18	7.54				7.59	7.77	7.30	6.79	7.68	7.04	
		velocity	7.09	8.16	7.92	7.62	7.41	7.20	6.96	6.63	7.34									
Kawazu, Mayu (JPN) (1999)											<i>Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016</i>									
FINAL - 2016 Japanese National High School Championships (Okayama, JPN)											<i>Omega Timing (2024) - diamond league race analysis</i>									
date	29-Jul-16	time	6.94	12.78	18.84	25.52	32.80	40.43	48.20	56.19	56.19	8 / 8	# of strides	12.78	12.74	14.91	15.76	25.52	30.67	5.15
reaction time	0.238	interval		5.84	6.06	6.68	7.28	7.63	7.77	7.99				7.82	7.85	6.71	6.35	7.84	6.52	
		velocity	7.20	8.56	8.25	7.49	6.87	6.55	6.44	6.26	7.12									
Kelly, Ashley (IVB) (1991)											<i>Federle (2003) - http://www.fgs.uni-halle.de</i>									
Semi-Final 1 - 2017 IAAF World Championships (London, GBR)											<i>USATF Women's Sprint Development with HPC (2008)</i>									
date	07-Aug-17	time		11.89		23.83		37.75	44.67	54.32	54.50	9 / 8	# of strides	11.89	11.94	13.92	16.57	23.83	30.49	6.66
reaction time	0.184	interval				11.94		13.92	6.92	9.65				8.41	8.38	7.18	6.04	8.39	6.56	
		velocity		8.41		8.38		7.18	7.23	5.18	7.34									
Kelly, Hannah (GBR) (2000)											<i>Omega Timing (2023) - diamond league race analysis</i>									
National FINAL - 2024 London Athletics Meet (London, GBR)											<i>Omega Timing (2023) - diamond league race analysis</i>									
date	20-Jul-24	time	6.86	12.67	18.71	24.96	31.44	38.05	44.81	52.30	52.30	7 / 6	# of strides	12.67	12.29	13.09	14.25	24.96	27.34	2.38
reaction time	0.148	interval		5.81	6.04	6.25	6.48	6.61	6.76	7.49				7.89	8.14	7.64	7.02	8.01	7.32	
		velocity	7.29	8.61	8.28	8.00	7.72	7.56	7.40	6.68	7.65									
Kendall, Nicole (GBR) (1996)											<i>Omega Timing (2023) - diamond league race analysis</i>									
National FINAL - 2023 Bislett Games (Oslo, NOR)											<i>Omega Timing (2023) - diamond league race analysis</i>									
date	15-Jun-23	time	6.91	12.64	18.61	24.84	31.47	38.48	45.71	53.50	53.50	5 / 2	# of strides	12.64	12.20	13.64	15.02	24.84	28.66	3.82
reaction time	0.192	interval		5.73	5.97	6.23	6.63	7.01	7.23	7.79				7.91	8.20	7.33	6.66	8.05	6.98	
		velocity	7.24	8.73	8.38	8.03	7.54	7.13	6.92	6.42	7.48									
Keough, Linda (GBR) (1963)											<i>Omega Timing (2023) - diamond league race analysis</i>									
FINAL - 1991 European Cup (Frankfurt, GER)											<i>Omega Timing (2023) - diamond league race analysis</i>									
date	29-Jun-91	time		12.37		24.34		37.06		51.54	51.54	8 / 4	# of strides	12.37	11.97	12.72	14.48	24.34	27.20	2.86
reaction time		interval				11.97		12.72		14.48				8.08	8.35	7.86	6.91	8.22	7.35	
		velocity		8.08		8.35		7.86		6.91	7.76									
Kidd, Ashlee (USA) (1985)											<i>Omega Timing (2023) - diamond league race analysis</i>									
Quarter-Final 1 - 2008 USA Olympic Trials (Eugene, OR)											<i>Omega Timing (2023) - diamond league race analysis</i>									
date	29-Jun-08	time		12.52	18.52	24.78	31.38	38.33	45.49	53.22	53.22	2 / 3	# of strides	12.52	12.26	13.55	14.89	24.78	28.44	3.66
reaction time		interval		6.00	6.26	6.60	6.95	7.16	7.73					7.99	8.16	7.38	6.72	8.07	7.03	
		velocity		7.99	8.33	7.99	7.58	7.19	6.98	6.47	7.52									
Kielbasińska, Anna (POL) (1990)											<i>Omega Timing (2023) - diamond league race analysis</i>									
FINAL - 2023 Herculis Meeting International d'Athlétisme (Monaco, MON)											<i>Omega Timing (2023) - diamond league race analysis</i>									
date	21-Jul-23	time	6.82	12.60	18.56	24.70	31.05	37.79	44.83	52.67	52.67	2 / 8	# of strides							

reaction time	0.189	interval	5.78	5.96	6.14	6.35	6.74	7.04	7.84		# of strides	12.60	12.10	13.09	14.88	24.70	27.97	3.27
		velocity	7.33	8.65	8.39	8.14	7.87	7.42	7.10	6.38	7.59	7.94	8.26	7.64	6.72	8.10	7.15	
FINAL - 2023 Golden Gala Pietro Mennea (Firenze, ITA)											<i>Omega Timing (2023) - diamond league race analysis</i>							
date	02-Jun-23	time	6.65	12.37	18.24	24.46	30.79	37.43	44.39	51.76	51.76	3 / 6						
reaction time	0.157	interval	5.72	5.87	6.22	6.33	6.64	6.96	7.37		# of strides	12.37	12.09	12.97	14.33	24.46	27.30	2.84
		velocity	7.52	8.74	8.52	8.04	7.90	7.53	7.18	6.78	7.73	8.08	8.27	7.71	6.98	8.18	7.33	
FINAL - 2022 Weltklasse (Zürich, SUI)											<i>Omega Timing (2022) - diamond league race analysis</i>							
date	08-Sep-22	time	6.59	12.27	18.16	24.17	30.45	36.97	43.74	50.93	50.93	8 / 6						
reaction time	0.158	interval	5.68	5.89	6.01	6.28	6.52	6.77	7.19		# of strides	12.27	11.90	12.80	13.96	24.17	26.76	2.59
		velocity	7.59	8.80	8.49	8.32	7.96	7.67	7.39	6.95	7.85	8.15	8.40	7.81	7.16	8.27	7.47	
FINAL - 2022 Memorial van Damme (Brussels, BEL)											<i>Omega Timing (2022) - diamond league race analysis</i>							
date	02-Sep-22	time	6.59	12.31	18.09	24.10	30.41	37.06	43.98	51.63	51.63	6 / 7						
reaction time	0.150	interval	5.72	5.78	6.01	6.31	6.65	6.92	7.65		# of strides	12.31	11.79	12.96	14.57	24.10	27.53	3.43
		velocity	7.59	8.74	8.65	8.32	7.92	7.52	7.23	6.54	7.75	8.12	8.48	7.72	6.86	8.30	7.26	
FINAL - 2022 European Athletics Championships (Munich, GER)											<i>European Athletics (2022) - european athletics championships race analysis</i>							
date	17-Aug-22	time	12.39		24.21		36.90		50.29	50.29	4 / 3							
reaction time	0.225	interval	11.82		12.69		12.69		13.39		# of strides	12.39	11.82	12.69	13.39	24.21	26.08	1.87
		velocity	8.07		8.46		7.88		7.47	7.95	194.0	8.07	8.46	7.88	7.47	8.26	7.67	
Semi-Final 1 - 2022 European Athletics Championships (Munich, GER)											<i>European Athletics (2022) - european athletics championships race analysis</i>							
date	16-Aug-22	time	12.17		23.90		36.72		50.45	50.45	3 / 1							
reaction time	0.203	interval	11.73		12.82		13.73		13.73		# of strides	12.17	11.73	12.82	13.73	23.90	26.55	2.65
		velocity	8.22		8.53		7.80		7.28	7.93	194.0	8.22	8.53	7.80	7.28	8.37	7.53	
FINAL - 2022 Silesia Kamila Skolimowska Memorial (Chorzów, POL)											<i>Omega Timing (2022) - diamond league race analysis</i>							
date	06-Aug-22	time	6.64	12.29	18.11	24.16	30.34	36.75	43.37	50.57	50.57	3 / 5						
reaction time	0.154	interval	5.65	5.82	6.05	6.18	6.41	6.62	7.20		# of strides	12.29	11.87	12.59	13.82	24.16	26.41	2.25
		velocity	7.53	8.85	8.59	8.26	8.09	7.80	7.55	6.94	7.91	8.14	8.42	7.94	7.24	8.28	7.57	
FINAL - 2022 World Athletics Championships (Eugene, OR)											<i>Timing by Seiko (2022) - world athletics championships race analysis</i>							
date	22-Jul-22	time	12.28		24.12		36.89		50.81	50.81	1 / 8							
reaction time	0.147	interval	11.84		12.77		13.92		13.92		# of strides	12.28	11.84	12.77	13.92	24.12	26.69	2.57
		velocity	8.14		8.45		7.83		7.18	7.87	8.14	8.45	7.83	7.18	8.29	7.49		
Semi-Final 1 - 2022 World Athletics Championships (Eugene, OR)											<i>Timing by Seiko (2022) - world athletics championships race analysis</i>							
date	20-Jul-22	time	12.19		23.93		36.57		50.65	50.65	4 / 3							
reaction time	0.158	interval	11.74		12.64		14.08		14.08		# of strides	12.19	11.74	12.64	14.08	23.93	26.72	2.79
		velocity	8.20		8.52		7.91		7.10	7.90	196.2	8.20	8.52	7.91	7.10	8.36	7.49	
Heat 6 - 2022 World Athletics Championships (Eugene, OR)											<i>Timing by Seiko (2022) - world athletics championships race analysis</i>							
date	17-Jul-22	time	12.22		24.18		37.11		50.63	50.63	7 / 1							
reaction time	0.151	interval	11.96		12.93		13.52		13.52		# of strides	12.22	11.96	12.93	13.52	24.18	26.45	2.27
		velocity	8.18		8.36		7.73		7.40	7.90	195.0	8.18	8.36	7.73	7.40	8.27	7.56	
FINAL - 2022 Bauhaus Galan (Stockholm, SWE)											<i>Omega Timing (2022) - diamond league race analysis</i>							
date	30-Jun-22	time	6.63	12.25	17.96	23.91	30.15	36.60	43.35	50.60	50.60	6 / 1						
reaction time	0.155	interval	5.62	5.71	5.95	6.24	6.45	6.75	7.25		# of strides	12.25	11.66	12.69	14.00	23.91	26.69	2.78
		velocity	7.54	8.90	8.76	8.40	8.01	7.75	7.41	6.90	7.91	8.16	8.58	7.88	7.14	8.36	7.49	
FINAL - 2022 Meeting de Paris (Paris, FRA)											<i>Omega Timing (2022) - diamond league race analysis</i>							
date	18-Jun-22	time	6.54	12.16	17.92	23.86	30.05	36.52	43.18	50.28	50.28	6 / 3						
reaction time	0.165	interval	5.62	5.76	5.94	6.19	6.47	6.66	7.10	PB	# of strides	12.16	11.70	12.66	13.76	23.86	26.42	2.56
		velocity	7.65	8.90	8.68	8.42	8.08	7.73	7.51	7.04	7.96	194.0	8.22	8.55	7.90	7.27	8.38	7.57
Kikuchi Himeka (JPN) (2006)											<i>Takashima (2024) - national high school sports festival - biomechanics data</i>							
date	28-Jul-24	time	13.70		27.24		41.02		55.50	55.50	6 / 4							
reaction time	0.227	interval	13.54		13.78		14.48		14.48		# of strides	13.70	13.54	13.78	14.48	27.24	28.26	1.02
		velocity	7.30		7.39		7.26		6.91	7.21	7.30	7.39	7.26	6.91	7.34	7.08		
Kikuchi, Ruina (JPN) (1995)											<i>Matsuo (2013) - 66th high school championships: JAF scientific committee- biomechanics data</i>							
date	30-Jul-13	time	13.48		26.57		40.27		55.42	55.42	3 / 6							
reaction time		interval	13.09		13.70		15.15		15.15	PB	# of strides	13.48	13.09	13.70	15.15	26.57	28.85	2.28
		velocity	7.42		7.64		7.30		6.60	7.22	7.42	7.64	7.30	6.60	7.53	6.93		
Kimoto, Ayana (JPN) (1996)											<i>(2017) - tdata-store.com/2017/05/13/post-441/</i>							
date	11-May-17	time	13.59						55.43	55.43	8 / 4							
reaction time		interval							41.84		# of strides	13.59						
		velocity	7.36						7.17	7.22	7.36							
FINAL - 2016 Shizuoka International Meeting (Fukuroi, JPN)											<i>Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016</i>							
date	03-May-16	time	7.54	13.94	20.52	27.37	34.51	41.96	49.64	57.96	57.96	8 / 8						
reaction time		interval	6.40	6.58	6.85	7.14	7.45	7.68	8.32		# of strides	13.94	13.43	14.59	16.00	27.37	30.59	3.22
		velocity	6.63	7.81	7.60	7.30	7.00	6.71	6.51	6.01	6.90	7.17	7.45	6.85	6.25	7.31	6.54	
FINAL - 2014 Japanese National High School Championships (Kofu, JPN)											<i>Yanagiya (2014) - research on athlete performance and technique- 2014 data book</i>							
date	30-Jul-14	time	7.45	13.59	19.89	26.17	32.79	39.85	47.15	55.11	55.11	6 / 6						
reaction time		interval	6.14	6.30	6.28	6.62	7.06	7.30	7.96		# of strides	13.59	12.58	13.68	15.26	26.17	28.94	2.77
		velocity	6.71	8.14	7.94	7.96	7.55	7.08	6.85	6.28	7.26	7.36	7.95	7.31	6.55	7.64	6.91	

date	25-Aug-24	time	6.66	12.11	17.80	23.78	29.98	36.46	43.21	50.46	50.46	8 / 7							
reaction time	0.135	interval		5.45	5.69	5.98	6.20	6.48	6.75	7.25		# of strides	12.11	11.67	12.68	14.00	23.78	26.68	2.90
		velocity	7.51	9.17	8.79	8.36	8.06	7.72	7.41	6.90	7.93		8.26	8.57	7.89	7.14	8.41	7.50	
Semi-Final 1 - 2024 Olympic Games (Paris, FRA)												<i>Paris 2024 Olympic Games - Results Book (2024)</i>							
date	07-Aug-24	time	6.62	12.01	17.53	23.33	29.45	35.96	42.86	50.44	50.44	6 / 4							
reaction time	0.151	interval		5.39	5.52	5.80	6.12	6.51	6.90	7.58		# of strides	12.01	11.32	12.63	14.48	23.33	27.11	3.78
		velocity	7.55	9.28	9.06	8.62	8.17	7.68	7.25	6.60	7.93	188.0	8.33	8.83	7.92	6.91	8.57	7.38	
Heat 3 - 2024 Olympic Games (Paris, FRA)												<i>Paris 2024 Olympic Games - Results Book (2024)</i>							
date	05-Aug-24	time	6.67	12.07	17.68	23.47	29.59	36.07	42.83	49.96	49.96	2 / 2							
reaction time	0.162	interval		5.40	5.61	5.79	6.12	6.48	6.76	7.13		# of strides	12.07	11.40	12.60	13.89	23.47	26.49	3.02
		velocity	7.50	9.26	8.91	8.64	8.17	7.72	7.40	7.01	8.01	186.0	8.29	8.77	7.94	7.20	8.52	7.55	
FINAL - 2024 London Athletics Meet (London, GBR)												<i>Omega Timing (2024) - diamond league race analysis</i>							
date	20-Jul-24	time	6.59	11.90	17.35	23.05	29.11	35.43	42.18	49.58	49.58	3 / 3							
reaction time	0.160	interval		5.31	5.45	5.70	6.06	6.32	6.75	7.40	PB	# of strides	11.90	11.15	12.38	14.15	23.05	26.53	3.48
		velocity	7.59	9.42	9.17	8.77	8.25	7.91	7.41	6.76	8.07		8.40	8.97	8.08	7.07	8.68	7.54	
FINAL - 2024 Herculis Meeting International d'Athlétisme (Monaco, MON)												<i>Omega Timing (2024) - diamond league race analysis</i>							
date	12-Jul-24	time	6.63	11.94	17.35	22.99	29.03	35.37	42.14	49.64	49.64	3 / 2							
reaction time	0.153	interval		5.31	5.41	5.64	6.04	6.34	6.77	7.50	PB	# of strides	11.94	11.05	12.38	14.27	22.99	26.65	3.66
		velocity	7.54	9.42	9.24	8.87	8.28	7.89	7.39	6.67	8.06	185.0	8.38	9.05	8.08	7.01	8.70	7.50	
FINAL - 2024 Meeting de Paris (Paris, FRA)												<i>Omega Timing (2024) - diamond league race analysis</i>							
date	07-Jul-24	time	6.76	12.28	18.07	24.04	30.20	36.58	43.42	50.89	50.89	7 / 6							
reaction time	0.202	interval		5.52	5.79	5.97	6.16	6.38	6.84	7.47		# of strides	12.28	11.76	12.54	14.31	24.04	26.85	2.81
		velocity	7.40	9.06	8.64	8.38	8.12	7.84	7.31	6.69	7.86	186.2	8.14	8.50	7.97	6.99	8.32	7.45	
FINAL - 2024 European Athletics Championships (Roma, ITA)												<i>European Athletics (2024) - 2024 european athletics championships - results book</i>							
date	10-Jun-24	time		12.45		23.92		36.34		50.08	50.08	8 / 3							
reaction time	0.185	interval				11.47		12.42		13.74		# of strides	12.45	11.47	12.42	13.74	23.92	26.16	2.24
		velocity		8.03		8.72		8.05		7.28	7.99	184.0	8.03	8.72	8.05	7.28	8.36	7.65	
Semi-Final 3 - 2024 European Athletics Championships (Roma, ITA)												<i>European Athletics (2024) - 2024 european athletics championships - results book</i>							
date	09-Jun-24	time		12.24		24.05		37.00		50.57	50.57	7 / 1							
reaction time	0.189	interval				11.81		12.95		13.57		# of strides	12.24	11.81	12.95	13.57	24.05	26.52	2.47
		velocity		8.17		8.47		7.72		7.37	7.91	186.0	8.17	8.47	7.72	7.37	8.32	7.54	
FINAL - 2024 Bislett Games (Oslo, NOR)												<i>Omega Timing (2024) - diamond league race analysis</i>							
date	30-May-24	time	6.77	12.26	17.97	23.77	29.89	36.42	43.24	50.62	50.62	7 / 4							
reaction time	0.171	interval		5.49	5.71	5.80	6.12	6.53	6.82	7.38		# of strides	12.26	11.51	12.65	14.20	23.77	26.85	3.08
		velocity	7.39	9.11	8.76	8.62	8.17	7.66	7.33	6.78	7.90	186.5	8.16	8.69	7.91	7.04	8.41	7.45	
FINAL - 2023 Prefontaine Classic (Eugene, OR)												<i>Omega Timing (2023) - diamond league race analysis</i>							
date	17-Sep-23	time	6.76	12.40	18.21	24.35	30.61	37.00	43.56	50.47	50.47	8 / 3							
reaction time	0.139	interval		5.64	5.81	6.14	6.26	6.39	6.56	6.91		# of strides	12.40	11.95	12.65	13.47	24.35	26.12	1.77
		velocity	7.40	8.87	8.61	8.14	7.99	7.82	7.62	7.24	7.93	8.06	8.37	7.91	7.42	8.21	7.66		
FINAL - 2023 Memorial van Damme (Brussels, BEL)												<i>Seiko Timing (2023) - world championship race analysis</i>							
date	08-Sep-23	time	6.59	11.97	17.59	23.47	29.78	36.32	43.03	50.16	50.16	6 / 2							
reaction time	0.180	interval		5.38	5.62	5.88	6.31	6.54	6.71	7.13		# of strides	11.97	11.50	12.85	13.84	23.47	26.69	3.22
		velocity	7.59	9.29	8.90	8.50	7.92	7.65	7.45	7.01	7.97	186.0	8.35	8.70	7.78	7.23	8.52	7.49	
FINAL - 2023 World Athletics Championships (Budapest, HUN)												<i>Seiko Timing (2023) - world championship race analysis</i>							
date	23-Aug-23	time		11.96		23.06		35.61		50.33	50.33	5 / 6							
reaction time	0.145	interval				11.10		12.55		14.72		# of strides	11.96	11.10	12.55	14.72	23.06	27.27	4.21
		velocity		8.36		9.01		7.97		6.79	7.95	187.0	8.36	9.01	7.97	6.79	8.67	7.33	
Semi-Final 2 - 2023 World Athletics Championships (Budapest, HUN)												<i>Seiko Timing (2023) - world championship race analysis</i>							
date	21-Aug-23	time		12.15		23.52		36.16		49.87	49.87	6 / 1							
reaction time	0.177	interval				11.37		12.64		13.71		# of strides	12.15	11.37	12.64	13.71	23.52	26.35	2.83
		velocity		8.23		8.80		7.91		7.29	8.02	182.2	8.23	8.80	7.91	7.29	8.50	7.59	
Heat 2 - 2023 World Athletics Championships (Budapest, HUN)												<i>Seiko Timing (2023) - world championship race analysis</i>							
date	20-Aug-23	time		12.20		23.76		36.71		50.52	50.52	6 / 1							
reaction time	0.203	interval				11.56		12.95		13.81		# of strides	12.20	11.56	12.95	13.81	23.76	26.76	3.00
		velocity		8.20		8.65		7.72		7.24	7.92	182.7	8.20	8.65	7.72	7.24	8.42	7.47	
FINAL - 2023 Herculis Meeting International d'Athlétisme (Monaco, MON)												<i>Omega Timing (2023) - diamond league race analysis</i>							
date	21-Jul-23	time	6.67	12.02	17.56	23.34	29.49	36.01	42.78	49.99	49.99	4 / 3							
reaction time	0.247	interval		5.35	5.54	5.78	6.15	6.52	6.77	7.21		# of strides	12.02	11.32	12.67	13.98	23.34	26.65	3.31
		velocity	7.50	9.35	9.03	8.65	8.13	7.67	7.39	6.93	8.00	184.5	8.32	8.83	7.89	7.15	8.57	7.50	
FINAL - 2023 Meeting de Paris (Paris, FRA)												<i>Omega Timing (2023) - diamond league race analysis</i>							
date	09-Jun-23	time	6.46	11.84	17.45	23.38	29.64	36.17	42.89	50.32	50.32	7 / 5							
reaction time	0.132	interval		5.38	5.61	5.93	6.26	6.53	6.72	7.43		# of strides	11.84	11.54	12.79	14.15	23.38	26.94	3.56
		velocity	7.74	9.29	8.91	8.43	7.99	7.66	7.44	6.73	7.95	183.7	8.45	8.67	7.82	7.07	8.55	7.42	
FINAL - 2023 Golden Gala Pietro Mennea (Firenze, ITA)												<i>Omega Timing (2023) - diamond league race analysis</i>							
date	02-Jun-23	time	6.62	12.16	17.90	23.92	30.20	36.73	43.52	50.75	50.75	6 / 2							
reaction time	0.137	interval		5.54	5.74	6.02	6.28	6.53	6.79	7.23		# of strides	12.16	11.76	12.81	14.02	23.92	26.83	2.91
		velocity	7.55	9.03	8.71	8.31	7.96	7.66	7.36	6.92	7.88	8.22	8.50	7.81	7.13	8.36	7.45		
FINAL - 2022 Weltklasse (Zürich, SUI)												<i>Omega Timing (2022) - diamond league race analysis</i>							

FINAL - 2020 Bauhaus Galan (Stockholm, SWE)*Omega Timing (2020) - diamond league race analysis*

date	23-Aug-20	time	7.0	12.9	19.2	25.8	32.7	40.0	47.5	55.24	55.24	1 / 8							
reaction time	0.158	interval		5.90	6.30	6.60	6.90	7.30	7.50	7.74		# of strides	12.90	12.90	14.20	15.24	25.80	29.44	3.64
		velocity	7.14	8.47	7.94	7.58	7.25	6.85	6.67	6.46	7.24		7.75	7.75	7.04	6.56	7.75	6.79	

Knight, Jessie (GBR) (1994)

50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place *Omega Timing (2020) - diamond league race analysis*

FINAL - 2020 Bauhaus Galan (Stockholm, SWE)																			
date	23-Aug-20	time	6.9	12.7	18.7	24.9	31.4	38.1	45.1	52.42	52.42	2 / 4							
reaction time	0.146	interval		5.80	6.00	6.20	6.50	6.70	7.00	7.32		# of strides	12.70	12.20	13.20	14.32	24.90	27.52	2.62
		velocity	7.25	8.62	8.33	8.06	7.69	7.46	7.14	6.83	7.63		7.87	8.20	7.58	6.98	8.03	7.27	

Koba, Dzhoys (UKR) (1998)

50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place *Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*

FINAL - 2016 IAAF World Junior Championships (Bydgoszcz, POL)																			
date	21-Jul-16	time	7.27	13.21	19.29	25.50	32.08	38.92	46.06	53.74	53.74	3 / 8							
reaction time	0.224	interval		5.94	6.08	6.21	6.58	6.84	7.14	7.68		# of strides	13.21	12.29	13.42	14.82	25.50	28.24	2.74
		velocity	6.88	8.42	8.22	8.05	7.60	7.31	7.00	6.51	7.44		7.57	8.14	7.45	6.75	7.84	7.08	

Kobachi, Hinata (JPN) (2003)

50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place *Shibayama (2021) - national high school and U20 national championships*

FINAL - 2021 Japanese High School National Championships (Fukui, JPN)																			
date	28-Jul-21	time	7.04	13.26	19.72	26.40	33.27	40.38	47.68	55.57	55.57	4 / 4							
reaction time	0.173	interval		6.22	6.46	6.68	6.87	7.11	7.30	7.89		# of strides	13.26	13.14	13.98	15.19	26.40	29.17	2.77
		velocity	7.10	8.04	7.74	7.49	7.28	7.03	6.85	6.34	7.20		7.54	7.61	7.15	6.58	7.58	6.86	

Kobayashi, Mayu (JPN) (1996)

50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place *Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition*

FINAL - 2021 Japanese National Championships (Osaka, JPN)																			
date	25-Jun-21	time	7.17	13.04	19.02	25.21	31.65	38.37	45.43	52.86	52.86	9 / 1							
reaction time	0.201	interval		5.87	5.98	6.19	6.44	6.72	7.06	7.43	PB	# of strides	13.04	12.17	13.16	14.49	25.21	27.65	2.44
		velocity	6.97	8.52	8.36	8.08	7.76	7.44	7.08	6.73	7.57	198.0	7.67	8.22	7.60	6.90	7.93	7.23	

FINAL - 2021 Denka Athletics Challenge Cup (Niigata, JPN)																			
date	06-Jun-21	time	7.14	13.23	19.44	25.87	32.58	39.48	46.49	53.81	53.81	1 / 2							
reaction time		interval		6.09	6.21	6.43	6.71	6.90	7.01	7.32		# of strides	13.23	12.64	13.61	14.33	25.87	27.94	2.07
		velocity	7.00	8.21	8.05	7.78	7.45	7.25	7.13	6.83	7.43		7.56	7.91	7.35	6.98	7.73	7.16	

FINAL - 2021 Ready Steady Tokyo (Tokyo, JPN)																			
date	09-May-21	time	7.14	13.25	19.45	25.86	32.42	39.17	46.15	53.55	53.55	9 / 1							
reaction time	0.164	interval		6.11	6.20	6.41	6.56	6.75	6.98	7.40	PB	# of strides	13.25	12.61	13.31	14.38	25.86	27.69	1.83
		velocity	7.00	8.18	8.06	7.80	7.62	7.41	7.16	6.76	7.47		7.55	7.93	7.51	6.95	7.73	7.22	

Heat 3 - 2019 Japanese National Championships (Fukuoka, JPN)																			
date	27-Jun-19	time	7.07	13.11	19.39	25.86	32.52	39.60	47.03	55.10	55.10	4 / 5							
reaction time	0.143	interval		6.04	6.28	6.47	6.66	7.08	7.43	8.07		# of strides	13.11	12.75	13.74	15.50	25.86	29.24	3.38
		velocity	7.07	8.28	7.96	7.73	7.51	7.06	6.73	6.20	7.26		7.63	7.84	7.28	6.45	7.73	6.84	

B FINAL - 2019 Shizuoka International Athletics Meeting (Fukuroi, JPN)																			
date	03-May-19	time	7.06	13.16	19.31	25.72	32.48	39.53	47.04	55.00	55.00	1 / 1							
reaction time		interval		6.10	6.15	6.41	6.76	7.05	7.51	7.96		# of strides	13.16	12.56	13.81	15.47	25.72	29.28	3.56
		velocity	7.08	8.20	8.13	7.80	7.40	7.09	6.66	6.28	7.27		7.60	7.96	7.24	6.46	7.78	6.83	

FINAL - 2018 Japanese National Championships (Yamaguchi, JPN)																			
date	23-Jun-18	time	7.15	13.24	19.57	26.16	32.92	39.86	46.96	54.62	54.62	4 / 6							
reaction time	0.161	interval		6.09	6.33	6.59	6.76	6.94	7.10	7.66	PB	# of strides	13.24	12.92	13.70	14.76	26.16	28.46	2.30
		velocity	6.99	8.21	7.90	7.59	7.40	7.20	7.04	6.53	7.32	203.7	7.55	7.74	7.30	6.78	7.65	7.03	

Kocembová, Tatána (TCH) (1962)

50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place *Veney - split times from PJ*

FINAL - 1983 IAAF World Championships (Helsinki, FIN)																			
date	10-Aug-83	time		12.40		23.50		35.24		48.59	48.59	1 / 2							
reaction time		interval				11.10		11.74		13.35	PB	# of strides	12.40	11.10	11.74	13.35	23.50	25.09	1.59
		velocity		8.06		9.01		8.52		7.49	8.23		8.06	9.01	8.52	7.49	8.51	7.97	

FINAL - 1982 European Championships (Athens, GRE)																			
date	08-Sep-82	time		12.40		24.38		37.00		50.55	50.55	1 / 3							
reaction time		interval				11.98		12.62		13.55		# of strides	12.40	11.98	12.62	13.55	24.38	26.17	1.79
		velocity		8.06		8.35		7.92		7.38	7.91		8.06	8.35	7.92	7.38	8.20	7.64	

Koch, Marita (GDR) (1957)

50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place *Bondarchuk (2007) - transfer of training in sports*

FINAL - 1986 European Championships (Stuttgart, FRG)																			
date	28-Aug-86	time		11.79		22.63		34.22		48.22	48.22	1 / 1							
reaction time		interval				10.84		11.59		14.00		# of strides	11.79	10.84	11.59	14.00	22.63	25.59	2.96
		velocity		8.48		9.23		8.63		7.14	8.30		8.48	9.23	8.63	7.14	8.84	7.82	

FINAL - 1985 IAAF World Cup (Canberra, AUS)																			
date	06-Oct-85	time		11.30		22.90		34.60		47.60	47.60	2 / 1							
reaction time		interval				11.60		11.70		13.00	WR	# of strides	11.30	11.60	11.70	13.00	22.90	24.70	1.80
		velocity		8.85		8.62		8.55		7.69	8.40	196.0	8.85	8.62	8.55	7.69	8.73	8.10	

FINAL - 1984 Women's Friendship Games (Praha, TCH)																			
date	16-Aug-84	time		11.79		22.62		34.67		48.19	48.16	1 / 1							
reaction time		interval				10.83		12.05		13.52		# of strides	11.79	10.83	12.05	13.52	22.62	25.57	2.95
		velocity		8.48		9.23		8.30		7.40	8.31		8.48	9.23	8.30	7.40	8.84	7.82	

FINAL - 1984 East German Spitzenklasse (Dresden, GDR)																			
date	26-Jul-84	time		11.64		22.88		34.99		48.26	48.26	1 / 1							
reaction time		interval				11.24		12.11		13.27		# of strides	11.64	11.24	12.11	13.27	22.88	25.38	2.50
		velocity		8.59		8.90		8.26		7.54	8.29		8.59	8.90	8.26	7.54	8.74	7.88	

FINAL - 1982 European Championships (Athens, GRE)										<i>Heß (1985) - entwicklungsaspekte die leichtathletischen sprint-/hürdenisziplinen im olympiazklus 1981/84</i>								
date	08-Sep-82	time	11.82	22.80	34.75	48.16	48.16	48.16	3 / 1									
reaction time		interval	10.98	11.95	13.41	WR	# of strides	11.82	10.98	11.95	13.41	22.80	25.36	2.56				
		velocity	8.46	9.11	8.37	7.46	8.31	8.46	9.11	8.37	7.46	8.77	7.89					
FINAL - 1982 GDR vs. USA (Karl-Marx-Stadt, GDR)										<i>Schäfer (1989) - zu strukturmerkmalen der wettkamfleistung un den entsprechenden trainingshalten</i>								
date	09-Jul-82	time	11.70	22.76	34.97	48.77	48.77	48.77	1 / 1									
reaction time		interval	11.06	12.21	13.80		# of strides	11.70	11.06	12.21	13.80	22.76	26.01	3.25				
		velocity	8.55	9.04	8.19	7.25	8.20	8.55	9.04	8.19	7.25	8.79	7.69					
FINAL - 1980 Olympic Games (Moscow, URS)										<i>Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016</i>								
date	28-Jul-80	time		35.3	48.88	48.88	48.88	4 / 1										
reaction time		interval		13.58	OR	# of strides					13.58							
		velocity		8.50	7.36	8.18					7.36							
FINAL - 1979 European Cup Final (Torino, ITA)										<i>Hymans (2015) - progression of IAAF world records - 2015 edition</i>								
date	04-Aug-79	time	23.5	35.0	48.60	48.60	48.60	1 / 1										
reaction time		interval		11.50	13.60	WR	# of strides				11.50	13.60	23.50	25.10	1.60			
		velocity	8.51	8.70	7.35	8.23					8.70	7.35	8.51	7.97				
FINAL - 1979 East German Athletics Sportfest (Potsdam, GDR)										<i>Khomenkov (1982) - a textbook for a track and field coach</i>								
date	29-Jul-79	time	11.83	22.84	34.76	48.89	48.89	48.89	1 / 1									
reaction time		interval	11.01	11.92	14.13	WR	# of strides	11.83	11.01	11.92	14.13	22.84	26.05	3.21				
		velocity	8.45	9.08	8.39	7.08	8.18	8.45	9.08	8.39	7.08	8.76	7.68					
FINAL - 1978 European Championships (Prague, TCH)										<i>Lamare (1978) - championnats d'Europa 1978</i>								
date	31-Aug-78	time	11.70	23.06	35.08	48.94	48.94	48.94	5 / 1									
reaction time		interval	11.36	12.02	13.86	WR	# of strides	11.70	11.36	12.02	13.86	23.06	25.88	2.82				
		velocity	8.55	8.80	8.32	7.22	8.17	199.2	8.55	8.80	8.32	7.22	8.67	7.73				
Kojima, Yuzuki (JPN) (2004)																		
		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Japanese National Championships (Osaka, JPN)										<i>Yamanaka (2024) - analysis of men's and women's 400m and 300m runs in the 2023 season</i>								
date	02-Jun-23	time	6.84	12.90	19.12	25.63	32.42	39.33	46.48	53.99	53.99	3 / 2						
reaction time	0.196	interval	6.06	6.22	6.51	6.79	6.91	7.15	7.51	PB	# of strides	12.90	12.73	13.70	14.66	25.63	28.36	2.73
		velocity	7.31	8.25	8.04	7.68	7.36	7.24	6.99	6.66	7.41	203.0	7.75	7.86	7.30	6.82	7.80	7.05
Heat 2 - 2023 Japanese National Championships (Osaka, JPN)										<i>Yamanaka (2024) - analysis of men's and women's 400m and 300m runs in the 2023 season</i>								
date	01-Jun-23	time	7.02	13.03	19.27	25.81	32.48	39.43	46.64	54.42	54.42	6 / 3						
reaction time	0.207	interval	6.01	6.24	6.54	6.67	6.95	7.21	7.78		# of strides	13.03	12.78	13.62	14.99	25.81	28.61	2.80
		velocity	7.12	8.32	8.01	7.65	7.50	7.19	6.93	6.43	7.35	7.67	7.82	7.34	6.67	7.75	6.99	
FINAL - 2022 Japanese National High School Championships (Naruto, JPN)										<i>Kishima (2022) - national high school championships biomechanics data collection</i>								
date	03-Aug-22	time	13.25	26.15	39.53	54.04	54.04	54.04	6 / 1									
reaction time	0.206	interval	12.90	13.38	14.51	PB	# of strides	13.25	12.90	13.38	14.51	26.15	27.89	1.74				
		velocity	7.55	7.75	7.47	6.89	7.40	201.2	7.55	7.75	7.47	6.89	7.65	7.17				
FINAL - 2021 Japanese U18 National Championships (Matsuyama, JPN) (300m)										<i>Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition</i>								
date	23-Oct-21	time	7.12	13.18	19.39	25.87	32.55	39.70	39.70	4 / 6								
reaction time	0.176	interval	6.06	6.21	6.48	6.68	7.15		7.56	# of strides	13.18	12.69	13.83		25.87			
		velocity	7.02	8.25	8.05	7.72	7.49	6.99		153.0	7.59	7.88	7.23		7.73			
Kondo, Kana (JPN) (1994)																		
		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 National Sports Festival (Kitakami, JPN)										<i>Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016</i>								
date	09-Oct-16	time	7.08	13.37	19.79	26.48	33.37	40.49	47.87	55.78	55.78	8 / 4						
reaction time	0.251	interval	6.29	6.42	6.69	6.89	7.12	7.38	7.91		# of strides	13.37	13.11	14.01	15.29	26.48	29.30	2.82
		velocity	7.06	7.95	7.79	7.47	7.26	7.02	6.78	6.32	7.17	7.48	7.63	7.14	6.54	7.55	6.83	
Kong Yingying (CHN) (2003)																		
		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Chinese National Championships (Quzhou, CHN)										<i>Shandong Athletics Sport Science (2023)</i>								
date	23-Jul-23	time	13.21	25.96	39.47	46.64	54.39	54.39	54.39	4 / 2								
reaction time	0.285	interval	12.75	13.51	7.17	7.75	7.35	PB	# of strides	13.21	12.75	13.51	14.92	25.96	28.43	2.47		
		velocity	7.57	7.84	7.40	6.97	6.45	7.35	198.0	7.57	7.84	7.40	6.70	7.70	7.03			
Konrad, Grace (CAN) (1999)																		
		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 4 - 2023 World Athletics Championships (Budapest, HUN)										<i>Seiko Timing (2023) - world championship race analysis</i>								
date	20-Aug-23	time	12.66	25.02	38.03	51.60	51.60	51.60	8 / 5									
reaction time	0.193	interval	12.36	13.01	13.57	PB	# of strides	12.66	12.36	13.01	13.57	25.02	26.58	1.56				
		velocity	7.90	8.09	7.69	7.37	7.75	7.90	8.09	7.69	7.37	7.99	7.52					
Korzuch, Julia (POL) (1995)																		
		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2022 Silesia Kamila Skolimowska Memorial (Chorzów, POL)										<i>Omega Timing (2022) - diamond league race analysis</i>								
date	06-Aug-22	time	7.23	13.33	19.56	26.05	32.74	39.73	46.89	54.51	54.51	8 / 5						
reaction time	0.135	interval	6.10	6.23	6.49	6.69	6.99	7.16	7.62		# of strides	13.33	12.72	13.68	14.78	26.05	28.46	2.41
		velocity	6.92	8.20	8.03	7.70	7.47	7.15	6.98	6.56	7.34	7.50	7.86	7.31	6.77	7.68	7.03	
Kotlyarova, Nadezhda (RUS) (1989)																		
		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 4 - 2015 IAAF World Championships (Beijing, CHN)										<i>Yamamoto (2015) - race analysis of 15th World Championships 400m- focusing on men's semis and women's prelims</i>								
date	24-Aug-15	time	6.75	12.31	18.08	24.11	30.39	37.03	43.98	51.42	51.42	3 / 3						
reaction time	0.187	interval	5.56	5.77	6.03	6.28	6.64	6.95	7.44	PB	# of strides	12.31	11.80	12.92	14.39	24.11	27.31	3.20
		velocity	7.41	8.99	8.67	8.29	7.96	7.53	7.19	6.72	7.78	8.12	8.47	7.74	6.95	8.30	7.32	
Kotlyarova, Olga (RUS) (1976)																		
		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2000 Olympic Games (Sydney, AUS)										<i>Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016</i>								
date	25-Sep-00	time	12.3	24.0	37.7	51.0	51.04	51.04	1 / 8									

reaction time	0.188	interval		11.70	13.70	13.30		# of strides	12.30	11.70	13.70	13.30	24.00	27.00	3.00				
		velocity	8.13	8.55	7.30	7.52	7.84		8.13	8.55	7.30	7.52	8.33	7.41					
FINAL - 1999 IAAF World Championships (Sevilla, ESP)									<i>Ferro (2001) - biomechanical analysis of the 7th world championships, seville 1999</i>										
date	26-Aug-99	time	6.86	12.51	18.23	24.26	30.57	36.85	43.41	50.72	50.72	7 / 8							
reaction time	0.185	interval	5.65	5.72	6.03	6.31	6.28	6.56	7.31		# of strides	12.51	11.75	12.59	13.87	24.26	26.46	2.20	
		velocity	7.29	8.85	8.74	8.29	7.92	7.96	7.62	6.84	7.89	7.99	8.51	7.94	7.21	8.24	7.56		
FINAL - 1997 European Cup (Munich, GER)									<i>Jung (2003) - http://www.fgs.uni-halle.de</i>										
date	21-Jun-97	time	12.73		24.53	37.16		51.53	51.53	/ 3									
reaction time		interval		11.80	12.63		14.37			# of strides	12.73	11.80	12.63	14.37	24.53	27.00	2.47		
		velocity	7.86	8.47	7.92		6.96	7.76		7.86	8.47	7.92	6.96	8.15	7.41				
Koyama, Kana (JPN) (1998)																			
Division 1 FINAL - 2017 Kanto Collegiate Championships (Yokohama, JPN)									<i>(2017) - tfdata-store.com/2017/06/01/post-786/</i>										
date	26-May-17	time	13.57	26.58	40.41		54.82	54.82	4 / 2										
reaction time		interval		13.01	13.83		14.41	PB		# of strides	13.57	13.01	13.83	14.41	26.58	28.24	1.66		
		velocity	7.37	7.69	7.23		6.94	7.30		199.2	7.37	7.69	7.23	6.94	7.52	7.08			
Division 1 Semi-Final 1 - 2017 Kanto Collegiate Championships (Yokohama, JPN)									<i>(2017) - tfdata-store.com/2017/06/02/post-835/</i>										
date	26-May-17	time	13.57	26.61	40.75		55.55	55.55	7 / 1										
reaction time		interval		13.04	14.14		14.80			# of strides	13.57	13.04	14.14	14.80	26.61	28.94	2.33		
		velocity	7.37	7.67	7.07		6.76	7.20		197.0	7.37	7.67	7.07	6.76	7.52	6.91			
FINAL - 2015 Japanese National Youth Championships (Nagoya, JPN)									<i>Kohei (2015) - 400m race analysis of male & female at major 2015 competitions</i>										
date	16-Oct-15	time	7.27	13.52	20.00	26.74	33.56	40.54	47.76	55.59	55.59	/ 3							
reaction time		interval		6.25	6.48	6.74	6.82	6.98	7.22	7.83		# of strides	13.52	13.22	13.80	15.05	26.74	28.85	2.11
		velocity	6.88	8.00	7.72	7.42	7.33	7.16	6.93	6.39	7.20	7.40	7.56	7.25	6.64	7.48	6.93		
Koyama, Nagisa (JPN)																			
FINAL - 2023 Japanese National High School Championships (Sapporo, JPN)									<i>Takashima (2023) - national high school sports festival - biomechanics data</i>										
date	02-Aug-23	time	13.23	26.59	40.91		55.88	55.88	9 / 6										
reaction time	0.232	interval		13.36	14.32		14.97			# of strides	13.23	13.36	14.32	14.97	26.59	29.29	2.70		
		velocity	7.56	7.49	6.98		6.68	7.16		7.56	7.49	6.98	6.68	7.52	6.83				
Kozak, Anna (BLR) (1974)																			
FINAL - 2001 European Cup (Bremen, GER)									<i>Graubner (2007) - http://www.fgs.uni-halle.de</i>										
date	23-Jun-01	time	12.49		24.04	36.66		52.08	52.08	/ 6									
reaction time		interval		11.55	12.62		15.42			# of strides	12.49	11.55	12.62	15.42	24.04	28.04	4.00		
		velocity	8.01	8.66	7.92		6.49	7.68		8.01	8.66	7.92	6.49	8.32	7.13				
FINAL - 1997 European Cup (Munich, GER)									<i>Jung (2003) - http://www.fgs.uni-halle.de</i>										
date	21-Jun-97	time	12.71		24.68	37.94		53.50	53.50	/ 7									
reaction time		interval		11.97	13.26		15.56			# of strides	12.71	11.97	13.26	15.56	24.68	28.82	4.14		
		velocity	7.87	8.35	7.54		6.43	7.48		7.87	8.35	7.54	6.43	8.10	6.94				
Krab Scheibelein, Anna (DEN) (1998)																			
National FINAL - 2023 Bislett Games (Oslo, NOR)									<i>Omega Timing (2023) - diamond league race analysis</i>										
date	15-Jun-23	time	7.21	13.40	19.83	26.38	33.21	40.39	47.98	56.21	56.21	7 / 6							
reaction time	0.173	interval		6.19	6.43	6.55	6.83	7.18	7.59	8.23	PB	# of strides	13.40	12.98	14.01	15.82	26.38	29.83	3.45
		velocity	6.93	8.08	7.78	7.63	7.32	6.96	6.59	6.08	7.12	7.46	7.70	7.14	6.32	7.58	6.70		
Kratochvílová, Jarmila (TCH) (1951)																			
FINAL - 1983 IAAF World Championships (Helsinki, FIN)									<i>Butler (2013) - IAAF world championships statistics handbook- moscow 2013</i>										
date	10-Aug-83	time		23.1				48.0	47.99	3 / 1									
reaction time		interval						24.90	WR / CR	# of strides				23.10	24.90	1.80			
		velocity		8.66				8.03	8.34					8.66	8.03				
FINAL - 1982 Weltklasse (Zürich, SUI)									<i>Heß (1985) - entwicklungsaspekte die leichtathletischen sprint-/hürdendisziplinen im olympiazklus 1981/84</i>										
date	18-Aug-82	time	11.64		22.64	34.94		48.86	48.86	/ 1									
reaction time		interval		11.00	12.30		13.92			# of strides	11.64	11.00	12.30	13.92	22.64	26.22	3.58		
		velocity	8.59	9.09	8.13		7.18	8.19		8.59	9.09	8.13	7.18	8.83	7.63				
FINAL - 1981 IAAF World Cup (Rome, ITA)									<i>Queretani (2005) - a world history of the one-lap race: 1850-2004</i>										
date	06-Sep-81	time	11.95		23.53	35.82		48.61	48.61	/ 1									
reaction time		interval		11.58	12.29		12.79	PB		# of strides	11.95	11.58	12.29	12.79	23.53	25.08	1.55		
		velocity	8.37	8.64	8.14		7.82	8.23		8.37	8.64	8.14	7.82	8.50	7.97				
FINAL - 1980 Olympic Games (Moscow, URS)									<i>Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016</i>										
date	28-Jul-80	time			35.6			49.46	49.46	6 / 2									
reaction time		interval						13.86	PB	# of strides				13.86					
		velocity			8.43			7.22	8.09					7.22					
Krivoshapka, Antonina (RUS) (1987)																			
FINAL - 2013 IAAF World Championships (Moscow, RUS)									<i>(2013) - http://speedendurance.com/2013/10/07/racing-400-meters-differences-in-elite-men-and-women/</i>										
date	12-Aug-13	time		23.5		36.0		49.0	49.78	8 / 3									
reaction time	0.209	interval				12.50		13.00		# of strides			12.50	13.00	23.50	25.50	2.00		
		velocity		8.51	8.00		7.69	8.04					8.00	7.69	8.51	7.84			
FINAL - 2012 Olympic Games (London, GBR)									<i>Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016</i>										
date	05-Aug-12	time	11.8		23.2	35.8		50.2	50.17	5 / 4									
reaction time	0.175	interval		11.40	12.60		14.40	DV		# of strides	11.80	11.40	12.60	14.40	23.20	27.00	3.80		
		velocity	8.47	8.77	7.94		6.94	7.97		199.5	8.47	8.77	7.94	6.94	8.62	7.41			
FINAL - 2011 IAAF World Championships (Daegu, KOR)									<i>Butler (2013) - IAAF world athletic results 2008-2011 full results</i>										

											Omega Timing (2024) - diamond league race analysis								
FINAL - 2024 Weltklasse (Zürich, SUI)																			
date	time	7.15	13.17	19.36	25.47	31.78	38.30	45.04	52.10	52.10	1 / 3								
reaction time	interval	0.150	6.02	6.19	6.11	6.31	6.52	6.74	7.06		# of strides	13.17	12.30	12.83	13.80	25.47	26.63	1.16	
	velocity	6.99	8.31	8.08	8.18	7.92	7.67	7.42	7.08	7.68		7.59	8.13	7.79	7.25	7.85	7.51		
Kuwabara, Ayako (JPN) (2000)																			
FINAL - 2018 Japanese National Junior (U20) Championships (Nagano, JPN)											Ryutaro (2018) - research on athlete performance and technique- 2018 data book								
date	time	7.13	13.06	19.14	25.57	32.42	39.62	47.19	55.60	55.60	4 / 4								
reaction time	interval	0.199	5.93	6.08	6.43	6.85	7.20	7.57	8.41		# of strides	13.06	12.51	14.05	15.98	25.57	30.03	4.46	
	velocity	7.01	8.43	8.22	7.78	7.30	6.94	6.61	5.95	7.19		7.66	7.99	7.12	6.26	7.82	6.66		
FINAL - 2017 Japanese National High School Championships (Yamagata, JPN)											Kota (2017) - 70th high school championships: JAF scientific committee- biomechanics data								
date	time	7.13	13.18	19.52	26.23	33.12	40.20	47.44	55.25	55.25	6 / 3								
reaction time	interval	0.170	6.05	6.34	6.71	6.89	7.08	7.24	7.81		# of strides	13.18	13.05	13.97	15.05	26.23	29.02	2.79	
	velocity	7.01	8.26	7.89	7.45	7.26	7.06	6.91	6.40	7.24		7.59	7.66	7.16	6.64	7.62	6.89		
Kyoya, Yuka (JPN) (1997)																			
FINAL - 2014 Japanese National High School Championships (Kofu, JPN)											Yanagiya (2014) - research on athlete performance and technique- 2014 data book								
date	time	7.50	13.81	20.12	26.60	33.49	40.86	48.87	57.28	57.28	1 / 8								
reaction time	interval		6.31	6.31	6.48	6.89	7.37	8.01	8.41	PB	# of strides	13.81	12.79	14.26	16.42	26.60	30.68	4.08	
	velocity	6.67	7.92	7.92	7.72	7.26	6.78	6.24	5.95	6.98		7.24	7.82	7.01	6.09	7.52	6.52		
Lacoste, Sokhna (FRA) (2000)																			
Heat 3 - 2022 European Athletics Championships (Munich, GER)											European Athletics (2022) - european athletics championships race analysis								
date	time		12.56		24.56		37.75		52.62	52.62	2 / 5								
reaction time	interval	0.316			12.00		13.19		14.87		# of strides	12.56	12.00	13.19	14.87	24.56	28.06	3.50	
	velocity		7.96		8.33		7.58		6.72	7.60	206.0	7.96	8.33	7.58	6.72	8.14	7.13		
FINAL - 2022 Herculis Meeting International d'Athlétisme (Monaco, MON)											Omega Timing (2022) - diamond league race analysis								
date	time	7.06	12.79	18.81	25.08	31.64	38.45	45.63	53.21	53.21	1 / 8								
reaction time	interval	0.258	5.73	6.02	6.27	6.56	6.81	7.18	7.58		# of strides	12.79	12.29	13.37	14.76	25.08	28.13	3.05	
	velocity	7.08	8.73	8.31	7.97	7.62	7.34	6.96	6.60	7.52		7.82	8.14	7.48	6.78	7.97	7.11		
Lambert, Kylie (BEL) (2004)																			
B Race - 2023 Memorial van Damme (Brussels, BEL)											Seiko Timing (2023) - world championship race analysis								
date	time	6.91	12.78	19.02	25.46	32.21	39.30	46.77	54.84	54.84	1 / 8								
reaction time	interval	0.178	5.87	6.24	6.44	6.75	7.09	7.47	8.07		# of strides	12.78	12.68	13.84	15.54	25.46	29.38	3.92	
	velocity	7.24	8.52	8.01	7.76	7.41	7.05	6.69	6.20	7.29		7.82	7.89	7.23	6.44	7.86	6.81		
Landre, Francine (FRA) (1970)																			
FINAL - 2001 European Cup (Bremen, GER)											Graubner (2007) - http://www.fgs.uni-halle.de								
date	time		12.42		24.52		37.48		51.21	51.21	1 / 2								
reaction time	interval				12.10		12.96		13.73	=PB	# of strides	12.42	12.10	12.96	13.73	24.52	26.69	2.17	
	velocity		8.05		8.26		7.72		7.28	7.81		8.05	8.26	7.72	7.28	8.16	7.49		
Latīševa-Čudare, Gunta (LAT) (1995)																			
FINAL - 2018 Seiko Golden Grand Prix (Osaka, JPN)											Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition								
date	time	6.75	12.55	18.45	24.60	30.96	37.65	44.49	51.83	51.83	4 / 4								
reaction time	interval	0.203	5.80	5.90	6.15	6.36	6.69	6.84	7.34		# of strides	12.55	12.05	13.05	14.18	24.60	27.23	2.63	
	velocity	7.41	8.62	8.47	8.13	7.86	7.47	7.31	6.81	7.72		7.97	8.30	7.66	7.05	8.13	7.34		
Semi-Final 1 - 2017 IAAF World Championships (London, GBR)											Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Women's 400m								
date	time		12.56		24.50		37.36	44.23	51.35	51.57	8 / 4								
reaction time	interval	0.216			11.94		12.86	6.87	7.12		# of strides	12.56	11.94	12.86	13.99	24.50	26.85	2.35	
	velocity		7.96		8.38		7.78	7.28	7.02	7.76	195.4	7.96	8.38	7.78	7.15	8.16	7.45		
Heat 3 - 2015 IAAF World Championships (Beijing, CHN)											Yamamoto (2015) - race analysis of 15th World Championships 400m- focusing on men's semis and women's prelims								
date	time	7.00	12.74	18.65	24.84	31.26	37.88	44.76	52.17	52.17	7 / 4								
reaction time	interval	0.229	5.74	5.91	6.19	6.42	6.62	6.88	7.41	NUR / PB	# of strides	12.74	12.10	13.04	14.29	24.84	27.33	2.49	
	velocity	7.14	8.71	8.46	8.08	7.79	7.55	7.27	6.75	7.67		7.85	8.26	7.67	7.00	8.05	7.32		
Laus, Camille (BEL) (1993)																			
B Race - 2023 Memorial van Damme (Brussels, BEL)											Seiko Timing (2023) - world championship race analysis								
date	time	7.17	13.27	19.52	26.03	32.68	39.47	46.30	53.31	53.31	5 / 6								
reaction time	interval	0.218	6.10	6.25	6.51	6.65	6.79	6.83	7.01		# of strides	13.27	12.76	13.44	13.84	26.03	27.28	1.25	
	velocity	6.97	8.20	8.00	7.68	7.52	7.36	7.32	7.13	7.50		7.54	7.84	7.44	7.23	7.68	7.33		
National FINAL - 2022 Memorial van Damme (Brussels, BEL)											Omega Timing (2022) - diamond league race analysis								
date	time	7.06	12.94	19.01	25.39	32.01	38.88	45.78	52.93	52.93	5 / 5								
reaction time	interval	0.226	5.88	6.07	6.38	6.62	6.87	6.90	7.15		# of strides	12.94	12.45	13.49	14.05	25.39	27.54	2.15	
	velocity	7.08	8.50	8.24	7.84	7.55	7.28	7.25	6.99	7.56		7.73	8.03	7.41	7.12	7.88	7.26		
Semi-Final 2 - 2022 European Athletics Championships (Munich, GER)											European Athletics (2022) - european athletics championships race analysis								
date	time		13.01		25.62		39.55		54.28	54.28	1 / 8								
reaction time	interval	0.265			12.61		13.93		14.73		# of strides	13.01	12.61	13.93	14.73	25.62	28.66	3.04	
	velocity		7.69		7.93		7.18		6.79	7.37	197.0	7.69	7.93	7.18	6.79	7.81	6.98		
Heat 2 - 2022 European Athletics Championships (Munich, GER)											European Athletics (2022) - european athletics championships race analysis								
date	time		12.67		24.92		37.99		51.91	51.91	8 / 4								
reaction time	interval	0.248			12.25		13.07		13.92		# of strides	12.67	12.25	13.07	13.92	24.92	26.99	2.07	
	velocity		7.89		8.16		7.65		7.18	7.71	198.0	7.89	8.16	7.65	7.18	8.03	7.41		
Heat 3 - 2022 World Athletics Championships (Eugene, OR)											Timing by Seiko (2022) - world athletics championships race analysis								
date	time		12.91		25.46		38.60		52.56	52.56	3 / 6								
reaction time	interval	0.185			12.55		13.14		13.96		# of strides	12.91	12.55	13.14	13.96	25.46	27.10	1.64	

velocity	7.75	7.97	7.61	7.16	7.61	7.75	7.97	7.61	7.16	7.86	7.38
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FINAL - 2022 Meeting International Mohammed VI d'Athlétisme (Rabat, MAR)

Omega Timing (2022) - diamond league race analysis

date	05-Jun-22	time	6.87	12.71	18.74	25.09	31.68	38.64	45.50	52.77	52.77	1 / 8							
reaction time	0.216	interval	5.84	6.03	6.35	6.59	6.96	6.86	7.27			# of strides	12.71	12.38	13.55	14.13	25.09	27.68	2.59
		velocity	7.28	8.56	8.29	7.87	7.59	7.18	7.29	6.88	7.58		7.87	8.08	7.38	7.08	7.97	7.23	

FINAL - 2021 Memorial van Damme (Brussels, BEL)

Omega Timing (2021) - diamond league race analysis

date	03-Sep-21	time	6.9	12.6	18.6	24.8	31.3	38.0	44.9	52.34	52.34	5 / 1							
reaction time	0.221	interval	5.70	6.00	6.20	6.50	6.70	6.90	7.44			# of strides	12.60	12.20	13.20	14.34	24.80	27.54	2.74
		velocity	7.25	8.77	8.33	8.06	7.69	7.46	7.25	6.72	7.64		7.94	8.20	7.58	6.97	8.06	7.26	

FINAL - 2020 Memorial Van Damme (Brussels, BEL)

Omega Timing (2020) - diamond league race analysis

date	04-Sep-20	time	7.1	13.1	19.3	25.7	32.2	38.9	45.6	52.81	52.81	4 / 4							
reaction time	0.190	interval	6.00	6.20	6.40	6.50	6.70	6.70	7.21			# of strides	13.10	12.60	13.20	13.91	25.70	27.11	1.41
		velocity	7.04	8.33	8.06	7.81	7.69	7.46	7.46	6.93	7.57		196.2	7.63	7.94	7.58	7.19	7.78	7.38

National FINAL - 2019 Memorial van Damme (Brussels, BEL)

Omega Timing (2019) - diamond league race analysis

date	06-Sep-19	time	6.8	12.4	18.3	24.5	30.9	37.8	45.2	53.23	53.23	5 / 3							
reaction time	0.173	interval	5.6	5.9	6.2	6.4	6.9	7.4	8.0			# of strides	12.40	12.10	13.30	15.43	24.50	28.73	4.23
		velocity	7.35	8.93	8.47	8.06	7.81	7.25	6.76	6.23	7.51		8.06	8.26	7.52	6.48	8.16	6.96	

Lawrence, Deonna (USA) (1986)

50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

FINAL - 2005 USATF National Junior Championships (Carson, CA)

USATF Women's Sprint Development (2005)

date	25-Jun-05	time	12.86	18.95	31.53	38.05	45.18	52.98	52.98	2 / 5-4				
reaction time		interval	6.09		12.58	6.52	7.13	7.80		# of strides	12.86		14.93	
		velocity	7.78	8.21	7.95	7.67	7.01	6.41	7.55		7.78		6.70	

FINAL - 2003 USATF National Junior Championship (Palo Alto, CA)

USATF Women's Sprint Development (2003)

date	22-Jun-03	time	24.89	38.14	45.23	52.77	52.77	3 / 5					
reaction time		interval	13.25	7.09	7.54	8.0		# of strides	13.25	14.63	24.89	27.88	2.99
		velocity	8.04	7.55	7.05	6.63	7.58		7.55	6.84	8.04	7.17	

Le-Roy, Anastasia (JAM) (1987)

50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

FINAL - 2018 Müller Anniversary Games (London, GBR)

Omega Timing (2018) - diamond league race analysis

date	22-Jul-18	time	12.3	24.0	36.8	50.85	50.85	4 / 2							
reaction time	0.154	interval	11.7	12.8	14.1			# of strides	12.30	11.70	12.80	14.05	24.00	26.85	2.85
		velocity	8.13	8.55	7.81	7.12	7.87		197.0	8.13	8.55	7.81	7.12	8.33	7.45

FINAL - 2018 Meeting de Paris (Paris, FRA)

Omega Timing (2018) - diamond league race analysis

date	30-Jun-18	time	12.7	25.1	38.2	52.44	52.44	1 / 8							
reaction time	0.173	interval	12.4	13.1	14.2			# of strides	12.70	12.40	13.10	14.24	25.10	27.34	2.24
		velocity	7.87	8.06	7.63	7.02	7.63		200.0	7.87	8.06	7.63	7.02	7.97	7.32

Lear, Bailey (USA) (2001)

50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

Semi-Final 1 - 2024 USA Olympic Trials (Eugene, OR)

USATF and Karmarush (2024) - USA Olympic trials results and race analysis

date	22-Jun-24	time	12.33	24.12	36.74	50.94	50.94	7 / 5							
reaction time		interval	11.79	12.62	14.20			# of strides	12.33	11.79	12.62	14.20	24.12	26.82	2.70
		velocity	8.11	8.48	7.92	7.04	7.85		8.11	8.48	7.92	7.04	8.29	7.46	

Heat 1 - 2024 USA Olympic Trials (Eugene, OR)

USATF and Karmarush (2024) - USA Olympic trials results and race analysis

date	21-Jun-24	time	12.42	24.26	37.14	51.12	51.12	5 / 2							
reaction time		interval	11.84	12.88	13.98			# of strides	12.42	11.84	12.88	13.98	24.26	26.86	2.60
		velocity	8.05	8.45	7.76	7.15	7.82		191.2	8.05	8.45	7.76	7.15	8.24	7.45

Leatherwood, Lillie (USA) (1964)

50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

FINAL - 1991 IAAF World Championships (Tokyo, JPN)

Butler (2013) - IAAF world championships statistics handbook- moscow 2013

date	27-Aug-91	time	24.34	51.53	51.53	7 / 7			
reaction time		interval	27.19			# of strides	24.34	27.19	2.85
		velocity	8.22	7.36	7.76		8.22	7.36	

FINAL - 1987 IAAF World Championships (Rome, ITA)

Moravec (1990) - time analysis of the sprints - Rome 1987 Scientific Report (2nd ed)

date	31-Aug-87	time	12.70	24.37	37.07	50.82	50.82	7 / 5							
reaction time		interval	11.67	12.70	13.75			# of strides	12.70	11.67	12.70	13.75	24.37	26.45	2.08
		velocity	7.87	8.57	7.87	7.27	7.87		7.87	8.57	7.87	7.27	8.21	7.56	

FINAL - 1984 Olympic Games (Los Angeles, CA)

Adams (1984) - 1984 olympic games - 200m & 400m

date	06-Aug-84	time	24.4	50.25	50.25	8 / 5			
reaction time	0.260	interval	25.85			# of strides	24.40	25.85	1.45
		velocity	8.20	7.74	7.96		8.20	7.74	

FINAL - 1984 USA Olympic Trials (Los Angeles, CA)

Hymans (2008) - history of the US olympic trials - track and field

date	19-Jun-84	time	24.4	50.2	50.19	6 / 3			
reaction time		interval	25.80			# of strides	24.40	25.80	1.40
		velocity	8.20	7.75	7.97		8.20	7.75	

Lebret, Évelyne (FRA) (1939)

50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

FINAL - 1964 Olympic Games (Tokyo, JPN)

Müller (1965) - die leichtathletik-wettkämpfe der XVIII olympischen sommerspielen Tokio 1964 - 400m lauf

date	17-Oct-64	time	25.3	55.5	55.5	8 / 8			
reaction time		interval	30.20			# of strides	25.30	30.20	4.90
		velocity	7.91	6.62	7.21		7.91	6.62	

Lee, Jasmine (USA) (1986)

50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

FINAL - 2003 USATF National Junior Championship (Palo Alto, CA)

USATF Women's Sprint Development (2003)

date	22-Jun-03	time	25.01	38.46	45.16	52.52	52.52	8 / 4
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reaction time	interval								13.45	6.70	7.36	PB	# of strides		13.45	14.06	25.01	27.51	2.50	
	velocity	8.00							7.43	7.46	6.79	7.62			7.43	7.11	8.00	7.27		
Lemmens, Silke (SUI) (1999)	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential			
	National FINAL - 2022 Weltklasse (Zürich, SUI)																			
	<i>Omega Timing (2022) - diamond league race analysis</i>																			
date	08-Sep-22	time	6.71	12.39	18.27	24.46	30.92	37.67	44.64	52.03	52.03		7 / 3							
reaction time	0.172	interval	5.68	5.88	6.19	6.46	6.75	6.97	7.39			# of strides	12.39	12.07	13.21	14.36	24.46	27.57	3.11	
		velocity	7.45	8.80	8.50	8.08	7.74	7.41	7.17	6.77	7.69		8.07	8.29	7.57	6.96	8.18	7.25		
	National FINAL - 2022 Athletissima (Lausanne, SUI)																			
	<i>Omega Timing (2022) - diamond league race analysis</i>																			
date	26-Aug-22	time	6.7	12.5	18.5	24.8	31.4	38.2	45.4	53.14	53.14		5 / 3							
reaction time	0.181	interval	5.80	6.00	6.30	6.60	6.80	7.20	7.74			# of strides	12.50	12.30	13.40	14.94	24.80	28.34	3.54	
		velocity	7.46	8.62	8.33	7.94	7.58	7.35	6.94	6.46	7.53		8.00	8.13	7.46	6.69	8.06	7.06		
	Semi-Final 2 - 2022 European Athletics Championships (Munich, GER)																			
	<i>European Athletics (2022) - european athletics championships race analysis</i>																			
date	16-Aug-22	time	12.68			25.06			38.51		53.08	53.08		2 / 7						
reaction time	0.225	interval			12.38			13.45		14.57			# of strides	12.68	12.38	13.45	14.57	25.06	28.02	2.96
		velocity			7.89			8.08		7.43		6.86	7.54		7.89	8.08	7.43	6.86	7.98	7.14
	Heat 1 - 2022 European Athletics Championships (Munich, GER)																			
	<i>European Athletics (2022) - european athletics championships race analysis</i>																			
date	15-Aug-22	time	12.39					37.60		52.27	52.27		4 / 3							
reaction time	0.231	interval			12.03			13.18		14.67			# of strides	12.39	12.03	13.18	14.67	24.42	27.85	3.43
		velocity			8.07			8.31		7.59		6.82	7.65		8.07	8.31	7.59	6.82	8.19	7.18
	Heat 5 - 2022 World Athletics Championships (Eugene, OR)																			
	<i>Timing by Seiko (2022) - world athletics championships race analysis</i>																			
date	17-Jul-22	time	12.80			25.50		38.74		52.86	52.86		5 / 5							
reaction time	0.160	interval			12.70		13.24		14.12			# of strides	12.80	12.70	13.24	14.12	25.50	27.36	1.86	
		velocity			7.81		7.87		7.55		7.08	7.57		7.81	7.87	7.55	7.08	7.84	7.31	
	B FINAL - 2021 Weltklasse (Zürich, SUI)																			
	<i>Omega Timing (2021) - diamond league race analysis</i>																			
date	09-Sep-21	time	6.8	12.5	18.4	24.7	31.2	38.1	45.3	52.98	52.98		4 / 5							
reaction time	0.176	interval	5.70	5.90	6.30	6.50	6.90	7.20	7.68			# of strides	12.50	12.20	13.40	14.88	24.70	28.28	3.58	
		velocity	7.35	8.77	8.47	7.94	7.69	7.25	6.94	6.51	7.55		8.00	8.20	7.46	6.72	8.10	7.07		
	B Race - 2021 Athletissima (Lausanne, SUI)																			
	<i>Omega Timing (2021) - diamond league race analysis</i>																			
date	26-Aug-21	time	6.8	12.6	18.9	25.3	31.9	38.7	45.8	53.39	53.39		5 / 4							
reaction time	0.175	interval	5.80	6.30	6.40	6.60	6.80	7.10	7.59			# of strides	12.60	12.70	13.40	14.69	25.30	28.09	2.79	
		velocity	7.35	8.62	7.94	7.81	7.58	7.35	7.04	6.59	7.49		7.94	7.87	7.46	6.81	7.91	7.12		
	Lerf, Seraina (SUI) (2002)																			
	B Race - 2023 Athletissima (Lausanne, SUI)																			
	<i>Omega Timing (2023) - diamond league race analysis</i>																			
date	30-Jun-23	time	7.31	13.53	20.05	26.74	33.42	40.35	47.58	55.43	55.43		1 / 7							
reaction time	0.163	interval	6.22	6.52	6.69	6.68	6.93	7.23	7.85			# of strides	13.53	13.21	13.61	15.08	26.74	28.69	1.95	
		velocity	6.84	8.04	7.67	7.47	7.49	7.22	6.92	6.37	7.22		7.39	7.57	7.35	6.63	7.48	6.97		
	Lewis, Lauren (USA) (2005)																			
	Semi-Final 2 - 2024 USA Olympic Trials (Eugene, OR)																			
	<i>USATF and Karmarush (2024) - USA Olympic trials results and race analysis</i>																			
date	22-Jun-24	time	12.51			24.29		37.34		51.55	51.55		9 / 6							
reaction time		interval			11.78		13.05		14.21			# of strides	12.51	11.78	13.05	14.21	24.29	27.26	2.97	
		velocity			7.99		8.49		7.66		7.04	7.76		7.99	8.49	7.66	7.04	8.23	7.34	
	Heat 4 - 2024 USA Olympic Trials (Eugene, OR)																			
	<i>USATF and Karmarush (2024) - USA Olympic trials results and race analysis</i>																			
date	21-Jun-24	time	12.60			24.56		37.73		51.73	51.73		6 / 4							
reaction time		interval			11.96		13.17		14.00			# of strides	12.60	11.96	13.17	14.00	24.56	27.17	2.61	
		velocity			7.94		8.36		7.59		7.14	7.73		7.94	8.36	7.59	7.14	8.14	7.36	
	Li Guilian (CHN) (1970)																			
	FINAL - 1990 Asian Games (Beijing, CHN)																			
	<i>Feng (1992) - Beijing asian games women's 100m, 200m, 400m technical analysis</i>																			
date	02-Oct-90	time	12.72			24.35		37.07		52.13	52.13		1 / 1							
reaction time		interval			11.63		12.72		15.06			# of strides	12.72	11.63	12.72	15.06	24.35	27.78	3.43	
		velocity			7.86		8.60		7.86		6.64	7.67		185.6	7.86	8.60	7.86	6.64	8.21	7.20
	Liang Nuo (CHN) (1999)																			
	FINAL - 2023 Chinese National Championships (Quzhou, CHN)																			
	<i>Shandong Athletics Sport Science (2023)</i>																			
date	23-Jul-23	time	13.18			26.19		39.99	47.26	55.12	55.12		7 / 5							
reaction time	0.282	interval			13.01		13.80	7.27	7.86			# of strides	13.18	13.01	13.80	15.13	26.19	28.93	2.74	
		velocity			7.59		7.69		7.25	6.88	6.36	7.26		204.7	7.59	7.69	7.25	6.61	7.64	6.91
	FINAL - 2017 Chinese National Games (Tianjin, CHN)																			
	<i>Yang (2019) - analysis of the characteristics of Yang Huizhen's running speed in 400m</i>																			
date	03-Sep-17	time	12.56			24.89		38.49		53.99	53.99		1 / 5							
reaction time		interval			12.33		13.60		15.50			# of strides	12.56	12.33	13.60	15.50	24.89	29.10	4.21	
		velocity			7.96		8.11		7.35		6.45	7.41		202	7.96	8.11	7.35	6.45	8.04	6.87
	Licon, Lina (COL) (1998)																			
	Repechage 4 - 2024 Olympic Games (Paris, FRA)																			
	<i>Paris 2024 Olympic Games - Results Book (2024)</i>																			
date	06-Aug-24	time	6.93	12.55	18.33	24.41	30.64	37.16	44.18	51.90	51.90		4 / 4							
reaction time	0.169	interval	5.62	5.78	6.08	6.23	6.52	7.02	7.72			# of strides	12.55	11.86	12.75	14.74	24.41	27.49	3.08	
		velocity	7.22	8.90	8.65	8.22	8.03	7.67	7.12	6.48	7.71		207.0	7.97	8.43	7.84	6.78	8.19	7.28	
	Heat 2 - 2024 Olympic Games (Paris, FRA)																			
	<i>Paris 2024 Olympic Games - Results Book (2024)</i>																			
date	05-Aug-24	time	6.90	12.49	18.27	24.37	30.65	37.16	44.18	51.85	51.85		5 / 6							
reaction time	0.242	interval	5.59	5.78	6.10	6.28	6.51	7.02	7.67			# of strides	12.49	11.88	12.79	14.69	24.37	27.48	3.11	
		velocity	7.25	8.94	8.65	8.20	7.96	7.68	7.12	6.52	7.71		204.0	8.01	8.42	7.82	6.81	8.21	7.28	
	Liem, Michelle (SUI) (2005)																			

B Race - 2023 Athletissima (Lausanne, SUI)

Omega Timing (2023) - diamond league race analysis

date	30-Jun-23	time	7.05	12.78	18.76	25.09	31.78	38.90	46.48	54.58	54.58		3 / 6							
reaction time	0.166	interval		5.73	5.98	6.33	6.69	7.12	7.58	8.10			# of strides	12.78	12.31	13.81	15.68	25.09	29.49	4.40
		velocity	7.09	8.73	8.36	7.90	7.47	7.02	6.60	6.17	7.33			7.82	8.12	7.24	6.38	7.97	6.78	

Liles, Johnsie (USA) (1985)50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential
FINAL - 2005 USATF National Championship (Carson, CA) USATF Women's Sprint Development (2005)

date	25-Jun-05	time		25.46	31.70	38.26	45.68	52.43	52.43		9 / 9									
reaction time		interval			6.24	6.56	7.42	6.75	PB		# of strides			12.80	14.17	25.46	26.97	1.51		
		velocity		7.86	8.01	7.62	6.74	7.41	7.63					7.81	7.06	7.86	7.42			

Lilja, Lisa (SWE) (1996)

Semi-Final 2 - 2024 European Athletics Championships (Roma, ITA) European Athletics (2024) - 2024 european athletics championships - results book

date	09-Jun-24	time		12.81	25.40		38.39	52.55	52.55		2 / 8									
reaction time	0.195	interval			12.59		12.99	14.16			# of strides			12.81	12.59	12.99	14.16	25.40	27.15	1.75
		velocity		7.81	7.94		7.70	7.06	7.61					7.81	7.94	7.70	7.06	7.87	7.37	

Heat 2 - 2024 European Athletics Championships (Roma, ITA)

European Athletics (2024) - 2024 european athletics championships - results book

date	08-Jun-24	time		12.91	25.13		37.96	52.18	52.18		6 / 6									
reaction time	0.193	interval			12.22		12.83	14.22	PB		# of strides			12.91	12.22	12.83	14.22	25.13	27.05	1.92
		velocity		7.75	8.18		7.79	7.03	7.67					7.75	8.18	7.79	7.03	7.96	7.39	

Little, Shamier (USA) (1995)

FINAL - 2024 USA Olympic Trials (Eugene, OR) USATF and Karmarush (2024) - USA Olympic trials results and race analysis

date	23-Jun-24	time		12.02	23.69		36.28	50.96	50.96		4 / 9									
reaction time		interval			11.67		12.59	14.68			# of strides			12.02	11.67	12.59	14.68	23.69	27.27	3.58
		velocity		8.32	8.57		7.94	6.81	7.85		190.0			8.32	8.57	7.94	6.81	8.44	7.33	

Semi-Final 2 - 2024 USA Olympic Trials (Eugene, OR)

USATF and Karmarush (2024) - USA Olympic trials results and race analysis

date	22-Jun-24	time		12.48	24.01		36.62	50.16	50.16		8 / 2									
reaction time		interval			11.53		12.61	13.54			# of strides			12.48	11.53	12.61	13.54	24.01	26.15	2.14
		velocity		8.01	8.67		7.93	7.39	7.97					8.01	8.67	7.93	7.39	8.33	7.65	

Heat 3 - 2024 USA Olympic Trials (Eugene, OR)

USATF and Karmarush (2024) - USA Olympic trials results and race analysis

date	21-Jun-24	time		12.34	24.15		36.71	50.13	50.13		7 / 1									
reaction time		interval			11.81		12.56	13.42			# of strides			12.34	11.81	12.56	13.42	24.15	25.98	1.83
		velocity		8.10	8.47		7.96	7.45	7.98		185.0			8.10	8.47	7.96	7.45	8.28	7.70	

FINAL - 2023 Memorial van Damme (Brussels, BEL)

Seiko Timing (2023) - world championship race analysis

date	08-Sep-23	time		6.59	11.99	17.56	23.46	29.64	36.14	43.01	50.58	50.58		5 / 3							
reaction time	0.152	interval			5.40	5.57	5.90	6.18	6.50	6.87	7.57			# of strides	11.99	11.47	12.68	14.44	23.46	27.12	3.66
		velocity		7.59	9.26	8.98	8.47	8.09	7.69	7.28	6.61	7.91			8.34	8.72	7.89	6.93	8.53	7.37	

FINAL - 2023 Herculis Meeting International d'Athlétisme (Monaco, MON)

Omega Timing (2023) - diamond league race analysis

date	21-Jul-23	time		6.68	12.07	17.57	23.32	29.43	35.75	42.40	49.68	49.68		8 / 2							
reaction time	0.259	interval			5.39	5.50	5.75	6.11	6.32	6.65	7.28	PB		# of strides	12.07	11.25	12.43	13.93	23.32	26.36	3.04
		velocity		7.49	9.28	9.09	8.70	8.18	7.91	7.52	6.87	8.05			8.29	8.89	8.05	7.18	8.58	7.59	

FINAL - 2023 Doha Diamond League (Doha, QAT)

Omega Timing (2023) - diamond league race analysis

date	05-May-23	time		6.65	12.11	18.04	24.30	30.73	37.26	43.82	50.84	50.84		6 / 2							
reaction time	0.177	interval			5.46	5.93	6.26	6.43	6.53	6.56	7.02			# of strides	12.11	12.19	12.96	13.58	24.30	26.54	2.24
		velocity		7.52	9.16	8.43	7.99	7.78	7.66	7.62	7.12	7.87			8.26	8.20	7.72	7.36	8.23	7.54	

FINAL - 2018 Bauhaus Galan (Stockholm, SWE)

Omega Timing (2018) - diamond league race analysis

date	10-Jun-18	time		12.5		24.5		37.3		50.82	50.82		7 / 4							
reaction time	0.203	interval				12.0		12.8		13.5			# of strides	12.50	12.00	12.80	13.52	24.50	26.32	1.82
		velocity		8.00		8.33		7.81		7.40	7.87			8.00	8.33	7.81	7.40	8.16	7.60	

Litvinova, Lyudmila (RUS) (1985)

Semi-Final 3 - 2009 IAAF World Championships (Berlin, GER) Graubner (2009) - biomechanical analyses at the 12th IAAF world championships

date	16-Aug-09	time		12.50		24.24		36.86		50.52	50.52		6 / 3							
reaction time	0.206	interval				11.74		12.62		13.66			# of strides	12.50	11.74	12.62	13.66	24.24	26.28	2.04
		velocity		8.00		8.52		7.92		7.32	7.92			8.00	8.52	7.92	7.32	8.25	7.61	

Heat 1 - 2009 IAAF World Championships (Berlin, GER)

Graubner (2009) - biomechanical analyses at the 12th IAAF world championships

date	15-Aug-09	time		12.92		25.13		37.83		51.31	51.31		4 / 1							
reaction time	0.209	interval				12.21		12.70		13.48			# of strides	12.92	12.21	12.70	13.48	25.13	26.18	1.05
		velocity		7.74		8.19		7.87		7.42	7.80			7.74	8.19	7.87	7.42	7.96	7.64	

Liu Yutong (CHN) (2002)

FINAL - 2024 Chinese National Championships (Quzhou, CHN) Shandong Athletics Sport Science (2024)

date	16-Sep-24	time		14.35		25.96		39.60		46.51	53.94	53.94		5 / 2							
reaction time	0.176	interval				11.61		13.64		6.91	7.43			# of strides	14.35	11.61	13.64	14.34	25.96	27.98	2.02
		velocity		6.97		8.61		7.33		7.24	6.73	7.42			6.97	8.61	7.33	6.97	7.70	7.15	

Lloyd, Shereefa (JAM) (1982)

FINAL - 2008 IAAF World Athletics Final (Stuttgart, GER) Graubner (2009) - http://www.fgs.uni-halle.de

date	14-Sep-08	time		12.70		24.45		37.38		51.86	51.86		2 / 8							
reaction time	0.206	interval				11.75		12.93		14.48			# of strides	12.70	11.75	12.93	14.48	24.45	27.41	2.96
		velocity		7.87		8.51		7.73		6.91	7.71			7.87	8.51	7.73	6.91	8.18	7.30	

Logvynenko, Alina (UKR) (1990)

B FINAL - 2021 Weltklasse (Zürich, SUI) Omega Timing (2021) - diamond league race analysis

date	09-Sep-21	time		7.1	13.0	19.0	25.2	31.6	38.2	45.1	52.94	52.94		1 / 4							
reaction time	0.173	interval			5.90	6.00	6.20	6.40	6.60	6.90	7.84			# of strides	13.00	12.20	13.00	14.74	25.20	27.74	2.54

	velocity	7.04	8.47	8.33	8.06	7.81	7.58	7.25	6.38	7.56		7.69	8.20	7.69	6.78	7.94	7.21		
Löwe, Gabriele (GDR) (1958)																			
50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential			
FINAL - 1980 Olympic Games (Moscow, URS)																			
date	28-Jul-80	time							37.6	51.33	51.33				1 / 6				
reaction time	interval							13.73				# of strides				13.73			
velocity							7.98	7.28	7.79							7.28			
Lukudo, Raphaela Boaheng (ITA) (19																			
50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential			
FINAL - 2019 Golden Gala Pietro Mennea (Rome, ITA)																			
date	06-Jun-19	time	12.9	25.1	38.3	52.98	52.98	1 / 9											
reaction time	0.204	interval	12.2	13.2	14.7	13.18	14.7	# of strides	12.90	12.20	13.20	14.68	25.10	27.88	2.78				
velocity	7.75	8.20	7.58	6.81	7.55	198.0	7.75	8.20	7.58	6.81	7.97	7.17							
Ma Yuqin (CHN) (1972)																			
50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential			
FINAL - 1993 Chinese National Games (Beijing, CHN)																			
date	11-Sep-93	time	12.03	23.98	36.63	49.81	49.81	/ 1											
reaction time	interval	11.95	12.65	13.18	AR	# of strides	12.03	11.95	12.65	13.18	23.98	25.83	1.85						
velocity	8.31	8.37	7.91	7.59	8.03	8.31	8.37	7.91	7.59	8.34	7.74								
Mabuchi, Kanade (JPN) (1989)																			
50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential			
FINAL - 2007 Japanese National High School Championships (Saga, JPN)																			
date	02-Aug-07	time	6.83	13.57	21.05	28.49	35.70	42.88	50.28	58.01	58.01	/ 1							
reaction time	interval	6.74	7.48	7.44	7.21	7.18	7.40	7.73	6.70	7.73	# of strides	13.57	14.92	14.39	15.13	28.49	29.52	1.03	
velocity	7.32	7.42	6.68	6.72	6.93	6.96	7.46	6.47	6.90	7.37	6.70	6.95	6.61	7.02	6.78				
MacDonald, Linsey (GBR) (1964)																			
50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential			
FINAL - 1980 Olympic Games (Moscow, URS)																			
date	28-Jul-80	time							37.8	52.40	52.40				7 / 8				
reaction time	interval							14.60				# of strides				14.60			
velocity							7.94	6.85	7.63							6.85			
Maiyo, Maureen (KEN) (1985)																			
50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential			
Heat 2 - 2015 IAAF World Championships (Beijing, CHN)																			
date	24-Aug-15	time	6.79	12.36	18.25	24.38	30.67	37.18	44.05	51.40	51.40	/ 4							
reaction time	0.199	interval	5.57	5.89	6.13	6.29	6.51	6.87	7.35	PB	# of strides	12.36	12.02	12.80	14.22	24.38	27.02	2.64	
velocity	7.36	8.98	8.49	8.16	7.95	7.68	7.28	6.80	7.78	8.09	8.32	7.81	7.03	8.20	7.40				
Malik, Poppy (GBR) (2003)																			
50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential			
National FINAL - 2024 London Athletics Meet (London, GBR)																			
date	20-Jul-24	time	6.80	12.58	18.51	24.79	31.27	37.89	44.66	52.23	52.23	/ 5							
reaction time	0.163	interval	5.78	5.93	6.28	6.48	6.62	6.77	7.57	PB	# of strides	12.58	12.21	13.10	14.34	24.79	27.44	2.65	
velocity	7.35	8.65	8.43	7.96	7.72	7.55	7.39	6.61	7.66	7.95	8.19	7.63	6.97	8.07	7.29				
Maliková, Barbora (CZE) (2001)																			
50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential			
FINAL - 2020 Golden Gala Pietro Mennea (Rome, ITA)																			
date	17-Sep-20	time	7.2	13.1	19.1	25.2	31.3	37.8	44.7	52.17	52.17	/ 5							
reaction time	0.133	interval	5.90	6.00	6.10	6.10	6.50	6.90	7.47	# of strides	13.10	12.10	12.60	14.37	25.20	26.97	1.77		
velocity	6.94	8.47	8.33	8.20	8.20	7.69	7.25	6.69	7.67	7.63	8.26	7.94	6.96	7.94	7.42				
FINAL - 2020 Bauhaus Galan (Stockholm, SWE)																			
date	23-Aug-20	time	7.2	13.4	19.5	25.7	32.1	38.7	45.7	53.13	53.13	/ 6							
reaction time	0.146	interval	6.20	6.10	6.20	6.40	6.60	7.00	7.43	# of strides	13.40	12.30	13.00	14.43	25.70	27.43	1.73		
velocity	6.94	8.06	8.20	8.06	7.81	7.58	7.14	6.73	7.53	208.0	7.46	8.13	7.69	6.93	7.78	7.29			
Malone-Wallace, Maicel (USA) (1969)																			
50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential			
FINAL - 2000 USA Olympic Trials (Sacramento, CA)																			
date	16-Jul-00	time	12.5	24.0	36.6	51.39	51.39	/ 7											
reaction time	interval	11.50	12.60	14.79	14.79	# of strides	12.50	11.50	12.60	14.79	24.00	27.39	3.39						
velocity	8.00	8.70	7.94	6.76	7.78	8.00	8.70	7.94	6.76	8.33	7.30								
Malone, Maicel (USA) (1969)																			
50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential			
FINAL - 1996 USA Olympic Trials (Atlanta, GA)																			
date	19-Jun-96	time	12.22	23.78	36.22	43.10	50.52	50.52	/ 1										
reaction time	interval	11.56	12.44	6.88	7.42	# of strides	12.22	11.56	12.44	14.30	23.78	26.74	2.96						
velocity	8.18	8.65	8.04	7.27	6.74	7.92	8.18	8.65	8.04	6.99	8.41	7.48							
Semi-Final 2 - 1996 USA Olympic Trials (Atlanta, GA)																			
date	17-Jun-96	time	12.24	24.23	36.65	43.20	50.15	50.15	/ 1										
reaction time	interval	11.99	12.42	6.55	6.95	# of strides	12.24	11.99	12.42	13.50	24.23	25.92	1.69						
velocity	8.17	8.34	8.05	7.63	7.19	7.98	8.17	8.34	8.05	7.41	8.25	7.72							
FINAL - 1988 USA Olympic Trials (Indianapolis, IN)																			
date	18-Jul-88	time	23.4						51.93	51.93	/ 6								
reaction time	interval							28.53	# of strides				23.40	28.53	5.13				
velocity							7.01	7.70				8.55	7.01						
Mangione, Alice (ITA) (1997)																			
50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential			
Repechage 3 - 2024 Olympic Games (Paris, FRA)																			
date	06-Aug-24	time	6.87	12.48	18.26	24.33	30.57	37.02	43.74	51.07	51.07	/ 3							
reaction time	0.170	interval	5.61	5.78	6.07	6.24	6.45	6.72	7.33	PB	# of strides	12.48	11.85	12.69	14.05	24.33	26.74	2.41	
velocity	7.28	8.91	8.65	8.24	8.01	7.75	7.44	6.82	7.83	192.5	8.01	8.44	7.88	7.12	8.22	7.48			
Heat 3 - 2024 Olympic Games (Paris, FRA)																			
date	05-Aug-24	time	6.91	12.56	18.40	24.61	30.95	37.51	44.30	51.60	51.60	/ 5							
reaction time	0.196	interval	5.65	5.84	6.21	6.34	6.56	6.79	7.30	# of strides	12.56	12.05	12.90	14.09	24.61	26.99	2.38		

velocity	7.24	8.85	8.56	8.05	7.89	7.62	7.36	6.85	7.75		7.96	8.30	7.75	7.10	8.13	7.41
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Semi-Final 3 - 2024 European Athletics Championships (Roma, ITA)*European Athletics (2024) - 2024 european athletics championships - results book*

date	09-Jun-24	time	12.79	25.23	38.06	51.34	51.34	9 / 3									
reaction time	0.248	interval		12.44	12.83	13.28	PB	# of strides	12.79	12.44	12.83	13.28	25.23	26.11	0.88		
		velocity	7.82	8.04	7.79	7.53	7.79	194.0	7.82	8.04	7.79	7.53	7.93	7.66			

Heat 2 - 2024 European Athletics Championships (Roma, ITA)*European Athletics (2024) - 2024 european athletics championships - results book*

date	08-Jun-24	time	12.70	24.97	37.94	51.71	51.71	5 / 2									
reaction time	0.287	interval		12.27	12.97	13.77		# of strides	12.70	12.27	12.97	13.77	24.97	26.74	1.77		
		velocity	7.87	8.15	7.71	7.26	7.74		7.87	8.15	7.71	7.26	8.01	7.48			

Heat 1 - 2023 World Athletics Championships (Budapest, HUN)*Seiko Timing (2023) - world championship race analysis*

date	20-Aug-23	time	12.62	24.51	37.62	51.57	51.57	8 / 6									
reaction time	0.189	interval		11.89	13.11	13.95		# of strides	12.62	11.89	13.11	13.95	24.51	27.06	2.55		
		velocity	7.92	8.41	7.63	7.17	7.76	191.0	7.92	8.41	7.63	7.17	8.16	7.39			

FINAL - 2023 Golden Gala Pietro Mennea (Firenze, ITA)*Omega Timing (2023) - diamond league race analysis*

date	02-Jun-23	time	6.88	12.59	18.59	24.82	31.25	37.96	45.05	52.61	52.61	1 / 8							
reaction time	0.130	interval		5.71	6.00	6.23	6.43	6.71	7.09	7.56		# of strides	12.59	12.23	13.14	14.65	24.82	27.79	2.97
		velocity	7.27	8.76	8.33	8.03	7.78	7.45	7.05	6.61	7.60		7.94	8.18	7.61	6.83	8.06	7.20	

Semi-Final 2 - 2022 European Athletics Championships (Munich, GER)*European Athletics (2022) - european athletics championships race analysis*

date	16-Aug-22	time	12.78	24.87	38.02	52.02	52.02	7 / 5									
reaction time	0.179	interval		12.09	13.15	14.00		# of strides	12.78	12.09	13.15	14.00	24.87	27.15	2.28		
		velocity	7.82	8.27	7.60	7.14	7.69	194.7	7.82	8.27	7.60	7.14	8.04	7.37			

Heat 2 - 2022 European Athletics Championships (Munich, GER)*European Athletics (2022) - european athletics championships race analysis*

date	15-Aug-22	time	12.77	24.96	37.89	51.92	51.92	7 / 5									
reaction time	0.181	interval		12.19	12.93	14.03		# of strides	12.77	12.19	12.93	14.03	24.96	26.96	2.00		
		velocity	7.83	8.20	7.73	7.13	7.70	195.0	7.83	8.20	7.73	7.13	8.01	7.42			

Heat 5 - 2022 World Athletics Championships (Eugene, OR)*Timing by Seiko (2022) - world athletics championships race analysis*

date	17-Jul-22	time	13.27	26.06	39.13	52.72	52.72	8 / 4									
reaction time	0.205	interval		12.79	13.07	13.59		# of strides	13.27	12.79	13.07	13.59	26.06	26.66	0.60		
		velocity	7.54	7.82	7.65	7.36	7.59		7.54	7.82	7.65	7.36	7.67	7.50			

FINAL - 2020 Golden Gala Pietro Mennea (Rome, ITA)*Omega Timing (2020) - diamond league race analysis*

date	17-Sep-20	time	7.3	13.3	19.4	25.6	31.9	38.6	45.5	52.78	52.78	9 / 8							
reaction time	0.192	interval		6.00	6.10	6.20	6.30	6.70	6.90	7.28		# of strides	13.30	12.30	13.00	14.18	25.60	27.18	1.58
		velocity	6.85	8.33	8.20	8.06	7.94	7.46	7.25	6.87	7.58		7.52	8.13	7.69	7.05	7.81	7.36	

FINAL - 2020 Memorial Van Damme (Brussels, BEL)*Omega Timing (2020) - diamond league race analysis*

date	04-Sep-20	time	7.2	13.0	19.0	25.3	31.8	38.5	45.4	52.85	52.85	7 / 5							
reaction time	0.195	interval		5.80	6.00	6.30	6.50	6.70	6.90	7.45		# of strides	13.00	12.30	13.20	14.35	25.30	27.55	2.25
		velocity	6.94	8.62	8.33	7.94	7.69	7.46	7.25	6.71	7.57		7.69	8.13	7.58	6.97	7.91	7.26	

Manson, Taylor (USA) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
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Heat 2 - 2024 USA Olympic Trials (Eugene, OR)*USATF and Karmarush (2024) - USA Olympic trials results and race analysis*

date	21-Jun-24	time	12.37	24.18	37.81	53.49	53.49	7 / 7									
reaction time		interval		11.81	13.63	15.68		# of strides	12.37	11.81	13.63	15.68	24.18	29.31	5.13		
		velocity	8.08	8.47	7.34	6.38	7.48	196.0	8.08	8.47	7.34	6.38	8.27	6.82			

FINAL - 2018 IAAF World Junior Championships (Tampere, FIN)*Koyama (2018) - research on athlete performance and technique- 2018 data book*

date	12-Jul-18	time	6.78	12.41	18.28	24.57	31.02	37.63	44.63	52.28	52.28	6 / 3							
reaction time	0.150	interval		5.63	5.87	6.29	6.45	6.61	7.00	7.65		# of strides	12.41	12.16	13.06	14.65	24.57	27.71	3.14
		velocity	7.37	8.88	8.52	7.95	7.75	7.56	7.14	6.54	7.65		190.0	8.06	8.22	7.66	6.83	8.14	7.22

Manuel, Lurdes Gloria (CZE) (2005)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
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Semi-Final 2 - 2024 Olympic Games (Paris, FRA)*Paris 2024 Olympic Games - Results Book (2024)*

date	07-Aug-24	time	6.95	12.59	18.29	24.18	30.42	37.01	43.92	51.42	51.42	2 / 8							
reaction time	0.167	interval		5.64	5.70	5.89	6.24	6.59	6.91	7.50		# of strides	12.59	11.59	12.83	14.41	24.18	27.24	3.06
		velocity	7.19	8.87	8.77	8.49	8.01	7.59	7.24	6.67	7.78		7.94	8.63	7.79	6.94	8.27	7.34	

Repechage 2 - 2024 Olympic Games (Paris, FRA)*Paris 2024 Olympic Games - Results Book (2024)*

date	06-Aug-24	time	6.98	12.67	18.34	24.20	30.37	36.81	43.60	50.81	50.81	5 / 3							
reaction time	0.178	interval		5.69	5.67	5.86	6.17	6.44	6.79	7.21		# of strides	12.67	11.53	12.61	14.00	24.20	26.61	2.41
		velocity	7.16	8.79	8.82	8.53	8.10	7.76	7.36	6.93	7.87		192.0	7.89	8.67	7.93	7.14	8.26	7.52

Heat 5 - 2024 Olympic Games (Paris, FRA)*Paris 2024 Olympic Games - Results Book (2024)*

date	05-Aug-24	time	7.28	12.93	18.72	24.70	30.93	37.51	44.57	52.20	52.20	9 / 6							
reaction time	0.175	interval		5.65	5.79	5.98	6.23	6.58	7.06	7.63		# of strides	12.93	11.77	12.81	14.69	24.70	27.50	2.80
		velocity	6.87	8.85	8.64	8.36	8.03	7.60	7.08	6.55	7.66		7.73	8.50	7.81	6.81	8.10	7.27	

FINAL - 2024 Herculis Meeting International d'Athlétisme (Monaco, MON)*Omega Timing (2024) - diamond league race analysis*

date	12-Jul-24	time	7.05	12.67	18.25	24.08	30.24	36.63	43.37	50.72	50.72	6 / 5							
reaction time	0.196	interval		5.62	5.58	5.83	6.16	6.39	6.74	7.35		# of strides	12.67	11.41	12.55	14.09	24.08	26.64	2.56
		velocity	7.09	8.90	8.96	8.58	8.12	7.82	7.42	6.80	7.89		189.0	7.89	8.76	7.97	7.10	8.31	7.51

FINAL - 2024 European Athletics Championships (Roma, ITA)*European Athletics (2024) - 2024 european athletics championships - results book*

date	10-Jun-24	time	12.53	24.07	36.79	50.52	50.52	3 / 4									
reaction time	0.368	interval		11.54	12.72	13.73	NJR PB	# of strides	12.53	11.54	12.72	13.73	24.07	26.45	2.38		
		velocity	7.98	8.67	7.86	7.28	7.92		7.98	8.67	7.86	7.28	8.31	7.56			

Semi-Final 1 - 2024 European Athletics Championships (Roma, ITA)*European Athletics (2024) - 2024 european athletics championships - results book*

date	09-Jun-24	time	13.00	24.77	37.30	51.06	51.06	7 / 3											
reaction time	0.203	interval		11.77	12.53	13.76		# of strides	13.00	11.77	12.53	13.76	24.77	26.29	1.52				
		velocity	7.69	8.50	7.98	7.27	7.83	188.5	7.69	8.50	7.98	7.27	8.07	7.61					
Heat 2 - 2024 European Athletics Championships (Roma, ITA)										<i>European Athletics (2024) - 2024 european athletics championships - results book</i>									
date	08-Jun-24	time	13.30	25.46	38.02	51.36	51.36	8 / 1											
reaction time	0.212	interval		12.16	12.56	13.34		# of strides	13.30	12.16	12.56	13.34	25.46	25.90	0.44				
		velocity	7.52	8.22	7.96	7.50	7.79		7.52	8.22	7.96	7.50	7.86	7.72					
Marinho, Tiffani (BRA) (1999)																			
Repechage 4 - 2024 Olympic Games (Paris, FRA)										<i>Paris 2024 Olympic Games - Results Book (2024)</i>									
date	06-Aug-24	time	6.97	12.64	18.57	24.69	31.04	37.61	44.60	52.32	52.32	2 / 6							
reaction time	0.194	interval		5.67	5.93	6.12	6.35	6.57	6.99	7.72		# of strides	12.64	12.05	12.92	14.71	24.69	27.63	2.94
		velocity	7.17	8.82	8.43	8.17	7.87	7.61	7.15	6.48		202.0	7.91	8.30	7.74	6.80	8.10	7.24	
Heat 3 - 2024 Olympic Games (Paris, FRA)										<i>Paris 2024 Olympic Games - Results Book (2024)</i>									
date	05-Aug-24	time	6.95	12.75	18.79	24.93	31.25	37.82	44.82	52.62	52.62	4 / 7							
reaction time	0.188	interval		5.80	6.04	6.14	6.32	6.57	7.00	7.80		# of strides	12.75	12.18	12.89	14.80	24.93	27.69	2.76
		velocity	7.19	8.62	8.28	8.14	7.91	7.61	7.14	6.41		7.84	8.21	7.76	6.76	8.02	7.22		
Heat 6 - 2023 World Athletics Championships (Budapest, HUN)										<i>Seiko Timing (2023) - world championship race analysis</i>									
date	20-Aug-23	time	12.78	25.09	38.39	53.12	53.12	6 / 7											
reaction time	0.184	interval		12.31	13.30	14.73		# of strides	12.78	12.31	13.30	14.73	25.09	28.03	2.94				
		velocity	7.82	8.12	7.52	6.79	7.53		7.82	8.12	7.52	6.79	7.97	7.14					
Heat 6 - 2022 World Athletics Championships (Eugene, OR)										<i>Timing by Seiko (2022) - world athletics championships race analysis</i>									
date	17-Jul-22	time	12.92	25.29	38.39	52.80	52.80	3 / 6											
reaction time	0.188	interval		12.37	13.10	14.41		# of strides	12.92	12.37	13.10	14.41	25.29	27.51	2.22				
		velocity	7.74	8.08	7.63	6.94	7.58		202.0	7.74	8.08	7.63	6.94	7.91	7.27				
FINAL - 2022 FBK Games (Hengelo, NED)										<i>Omega Timing (2022) - continental tour race analysis</i>									
date	06-Jun-22	time	6.9	12.7	18.5	25.0	31.5	38.2	45.3	52.90	52.90	8 / 7							
reaction time	0.234	interval		5.80	5.80	6.50	6.50	6.70	7.10	7.60		# of strides	12.70	12.30	13.20	14.70	25.00	27.90	2.90
		velocity	7.25	8.62	8.62	7.69	7.69	7.46	7.04	6.58		7.87	8.13	7.58	6.80	8.00	7.17		
Martin, Jania (USA) (2000)																			
Semi-Final 1 - 2024 USA Olympic Trials (Eugene, OR)										<i>USATF and Karmarush (2024) - USA Olympic trials results and race analysis</i>									
date	22-Jun-24	time	12.42	24.65	37.83	52.34	52.34	1 / 6											
reaction time		interval		12.23	13.18	14.51		# of strides	12.42	12.23	13.18	14.51	24.65	27.69	3.04				
		velocity	8.05	8.18	7.59	6.89	7.64		8.05	8.18	7.59	6.89	8.11	7.22					
Heat 1 - 2024 USA Olympic Trials (Eugene, OR)										<i>USATF and Karmarush (2024) - USA Olympic trials results and race analysis</i>									
date	21-Jun-24	time	12.52	24.61	37.71	52.12	52.12	9 / 6											
reaction time		interval		12.09	13.10	14.41		# of strides	12.52	12.09	13.10	14.41	24.61	27.51	2.90				
		velocity	7.99	8.27	7.63	6.94	7.67		7.99	8.27	7.63	6.94	8.13	7.27					
Martin, Sophie (SUI) (2000)																			
FINAL - 2024 Athletissima (Lausanne, SUI)										<i>Omega Timing (2024) - diamond league race analysis</i>									
date	22-Aug-24	time	6.90	12.78	18.97	25.45	32.23	39.50	47.23	55.66	55.66	2 / 8							
reaction time	0.181	interval		5.88	6.19	6.48	6.78	7.27	7.73	8.43		# of strides	12.78	12.67	14.05	16.16	25.45	30.21	4.76
		velocity	7.25	8.50	8.08	7.72	7.37	6.88	6.47	5.93		7.82	7.89	7.12	6.19	7.86	6.62		
B Race - 2023 Athletissima (Lausanne, SUI)										<i>Omega Timing (2023) - diamond league race analysis</i>									
date	30-Jun-23	time	7.04	12.92	19.09	25.61	32.46	39.80	47.66	56.25	56.25	2 / 8							
reaction time	0.164	interval		5.88	6.17	6.52	6.85	7.34	7.86	8.59		# of strides	12.92	12.69	14.19	16.45	25.61	30.64	5.03
		velocity	7.10	8.50	8.10	7.67	7.30	6.81	6.36	5.82		7.74	7.88	7.05	6.08	7.81	6.53		
Marx, Claudia (GER) (1978)																			
Heat 2 - 2002 European Championships (Munich, GER)										<i>Graubner (2009) - http://www.fgs.uni-halle.de</i>									
date	07-Aug-02	time	12.84	25.00	37.16	52.42	52.42	1 / 3											
reaction time	0.157	interval		12.16	12.16	15.26		# of strides	12.84	12.16	12.16	15.26	25.00	27.42	2.42				
		velocity	7.79	8.22	8.22	6.55	7.63		7.79	8.22	8.22	6.55	8.00	7.29					
FINAL - 2001 ISTAF (Berlin, GER)										<i>Graubner (2009) - http://www.fgs.uni-halle.de</i>									
date	31-Aug-01	time	12.59	24.62	37.79	52.26	52.26	1 / 3											
reaction time	0.160	interval		12.03	13.17	14.47		# of strides	12.59	12.03	13.17	14.47	24.62	27.64	3.02				
		velocity	7.94	8.31	7.59	6.91	7.65		7.94	8.31	7.59	6.91	8.12	7.24					
Masano, Siho (JPN) (2004)																			
FINAL - 2021 Japanese High School National Championships (Fukui, JPN)										<i>Shibayama (2021) - national high school and U20 national championships</i>									
date	28-Jul-21	time	7.43	13.90	20.64	27.55	34.69	41.86	49.09	56.69	56.69	1 / 8							
reaction time	0.206	interval		6.47	6.74	6.91	7.14	7.17	7.23	7.60		# of strides	13.90	13.65	14.31	14.83	27.55	29.14	1.59
		velocity	6.73	7.73	7.42	7.24	7.00	6.97	6.92	6.58		7.19	7.33	6.99	6.74	7.26	6.86		
Masilingi, Beatrice (NAM) (2003)																			
FINAL - 2021 International All Comers Meeting (Lusaka, ZAM)										<i>Vazel (2021) - https://twitter.com/pjvazel/status/1382341180789231617?s=21</i>									
date	11-Apr-21	time	12.1	23.8	36.5	49.53	49.53	5 / 2											
reaction time		interval		11.70	12.70	13.03	PB	# of strides	12.10	11.70	12.70	13.03	23.80	25.73	1.93				
		velocity	8.26	8.55	7.87	7.67	8.08	182.0	8.26	8.55	7.87	7.67	8.40	7.77					
Mashita, Manami (JPN) (1991)																			
FINAL - 2009 Japanese National High School Championships (Nara, JPN)										<i>Matsuo (2009) - 62nd high school championships: JAF scientific committee- biomechanics</i>									
date	29-Jul-09	time	13.45	26.63	40.68	55.34	55.34	4 / 4											
reaction time		interval		13.18	14.05	14.66		# of strides	13.45	13.18	14.05	14.66	26.63	28.71	2.08				
		velocity	7.43	7.59	7.12	6.82	7.23		7.43	7.59	7.12	6.82	7.51	6.97					

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Matsuda, Yowa (JPN) (2006)		50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential																
FINAL - 2024 Japanese National High School Championships (Fukuoka, JPN)		<i>Takashima (2024) - national high school sports festival - biomechanics data</i>																
date	28-Jul-24	time	15.53		30.80		45.91		61.76	61.76	8 / 8							
reaction time		interval			15.27		15.11		15.85		# of strides	15.53	15.27	15.11	15.85	30.80	30.96	0.16
		velocity	6.44		6.55		6.62		6.31	6.48		6.44	6.55	6.62	6.31	6.49	6.46	
Matsui, Minata (JPN)		50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential																
FINAL - 2024 Shimane High School Championships (Izumo, JPN)		<i>Shimizu (2024) - shimane high school championships 2024 - biomechanics data analysis</i>																
date	24-May-24	time	14.97		29.45		44.99		61.97	61.97	9 / 5							
reaction time		interval			14.48		15.54		16.98		# of strides	14.97	14.48	15.54	16.98	29.45	32.52	3.07
		velocity	6.68		6.91		6.44		5.89	6.45		6.68	6.91	6.44	5.89	6.79	6.15	
FINAL - 2023 Shimane High School Championships (Izumo, JPN)		<i>Shimizu (2023) - shimane high school championships 2023 - biomechanics data analysis</i>																
date	26-May-23	time	14.53		28.93		45.06		61.30	60.99	4 / 4							
reaction time		interval			14.40		16.13		16.24		# of strides	14.53	14.40	16.13	16.24	28.93	32.37	3.44
		velocity	6.88		6.94		6.20		6.16	6.56		6.88	6.94	6.20	6.16	6.91	6.18	
FINAL - 2022 Shimane High School Championships (Izumo, JPN)		<i>Shimizu (2022) - shimane high school championships 2022 - biomechanics data analysis</i>																
date	26-May-22	time	14.27		28.77		44.96		62.70	62.70	3 / 7							
reaction time		interval			14.50		16.19		17.74		# of strides	14.27	14.50	16.19	17.74	28.77	33.93	5.16
		velocity	7.01		6.90		6.18		5.64	6.38		7.01	6.90	6.18	5.64	6.95	5.89	
Matsuoka, Moe (JPN) (2003)		50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential																
A FINAL - 2020 Japanese High School National Championships (Hiroshima, JPN)		<i>Kobayashi (2002) - national high school and U20 national championships</i>																
date	23-Oct-20	time	7.30	13.66	20.12	26.72	33.53	40.58	47.95	55.68	55.68	3 / 4						
reaction time	0.205	interval		6.36	6.46	6.60	6.81	7.05	7.37	7.73		# of strides	13.66	13.06	13.86	15.10	26.72	28.96
		velocity	6.85	7.86	7.74	7.58	7.34	7.09	6.78	6.47	7.18	211.6	7.32	7.66	7.22	6.62	7.49	6.91
																		2.24
Matsumoto, Chika (JPN) (1996)		50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential																
FINAL - 2018 National Sports Festival (Fukui, JPN)		<i>Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition</i>																
date	07-Oct-18	time	7.14	13.54	20.29	27.21	34.19	41.22	48.30	55.63	55.63	7 / 7						
reaction time	0.166	interval		6.40	6.75	6.92	6.98	7.03	7.08	7.33		# of strides	13.54	13.67	14.01	14.41	27.21	28.42
		velocity	7.00	7.81	7.41	7.23	7.16	7.11	7.06	6.82	7.19	7.39	7.32	7.14	6.94	7.35	7.04	1.21
FINAL - 2018 Japanese National Championships (Yamaguchi, JPN)		<i>Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition</i>																
date	23-Jun-18	time	7.15	13.19	19.68	26.37	33.18	40.20	47.52	55.67	55.67	2 / 8						
reaction time	0.149	interval		6.04	6.49	6.69	6.81	7.02	7.32	8.15		# of strides	13.19	13.18	13.83	15.47	26.37	29.30
		velocity	6.99	8.28	7.70	7.47	7.34	7.12	6.83	6.13	7.19	7.58	7.59	7.23	6.46	7.58	6.83	2.93
FINAL - 2017 National Sports Festival (Matsuyama, JPN)		<i>Yamanaka (2017) - male and female 400m analysis in the 2017 season</i>																
date	08-Oct-17	time	7.23	13.51	20.05	26.81	33.66	40.73	48.01	55.63	55.63	8 / 5						
reaction time	0.214	interval		6.28	6.54	6.76	6.85	7.07	7.28	7.62		# of strides	13.51	13.30	13.92	14.90	26.81	28.82
		velocity	6.92	7.96	7.65	7.40	7.30	7.07	6.87	6.56	7.19	202.2	7.40	7.52	7.18	6.71	7.46	6.94
Heat 2 - 2017 National Sports Festival (Matsuyama, JPN)		<i>(2017) - tldata-store.com/2017/10/12/post-1100/</i>																
date	08-Oct-17	time			26.70		40.56		55.57	55.57	8 / 2							
reaction time	0.309	interval					13.86		15.01		# of strides			13.86	15.01	26.70	28.87	2.17
		velocity			7.49		7.22		6.66	7.20				7.22	6.66	7.49	6.93	
Division 1 FINAL - 2017 Kanto Collegiate Championships (Yokohama, JPN)		<i>(2017) - tldata-store.com/2017/06/01/post-786/</i>																
date	26-May-17	time	13.84		27.38		41.75		56.49	56.49	6 / 8							
reaction time		interval			13.54		14.37		14.74		# of strides	13.84	13.54	14.37	14.74	27.38	29.11	1.73
		velocity			7.23		7.39		6.96	6.78	7.08	103.7	7.23	7.39	6.96	6.78	7.30	6.87
Division 1 Semi-Final 1 - 2017 Kanto Collegiate Championships (Yokohama, JPN)		<i>(2017) - tldata-store.com/2017/06/02/post-835/</i>																
date	26-May-17	time	13.77		27.32		41.68		56.13	56.13	6 / 2							
reaction time		interval			13.55		14.36		14.45		# of strides	13.77	13.55	14.36	14.45	27.32	28.81	1.49
		velocity			7.26		7.38		6.96	6.92	7.13	205.7	7.26	7.38	6.96	6.92	7.32	6.94
Matsumoto, Fuya (JPN) (1997)		50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential																
FINAL - 2016 Japanese National Junior Championships (Mizuho, JPN)		<i>Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016</i>																
date	21-Oct-16	time	7.33	13.54	20.00	26.82	33.96	41.33	48.82	56.64	56.64	1 / 7						
reaction time		interval		6.21	6.46	6.82	7.14	7.37	7.49	7.82		# of strides	13.54	13.28	14.51	15.31	26.82	29.82
		velocity	6.82	8.05	7.74	7.33	7.00	6.78	6.68	6.39	7.06	7.39	7.53	6.89	6.53	7.46	6.71	3.00
U19 FINAL - 2015 National Sports Festival (Wakayama, JPN)		<i>Kohei (2015) - 400m race analysis of male & female at major 2015 competitions</i>																
date	05-Oct-15	time	7.19	13.48	20.07	26.88	33.76	40.86	48.14	55.79	55.79	/ 4						
reaction time		interval		6.29	6.59	6.81	6.88	7.10	7.28	7.65		# of strides	13.48	13.40	13.98	14.93	26.88	28.91
		velocity	6.95	7.95	7.59	7.34	7.27	7.04	6.87	6.54	7.17	7.42	7.46	7.15	6.70	7.44	6.92	2.03
FINAL - 2015 Japanese National High School Championships (Wakayama, JPN)		<i>Kohei (2015) - 400m race analysis of male & female at major 2015 competitions</i>																
date	29-Jul-15	time	6.98	13.15	19.59	26.19	33.06	40.28	47.71	55.68	55.68	/ 5						
reaction time		interval		6.17	6.44	6.60	6.87	7.22	7.43	7.97		# of strides	13.15	13.04	14.09	15.40	26.19	29.49
		velocity	7.16	8.10	7.76	7.58	7.28	6.93	6.73	6.27	7.18	7.60	7.67	7.10	6.49	7.64	6.78	3.30
Matsumoto, Haruka (JPN)		50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential																
FINAL - 2022 Shimane High School Championships (Izumo, JPN)		<i>Shimizu (2022) - shimane high school championships 2022 - biomechanics data analysis</i>																
date	26-May-22	time	14.43		29.13		44.98		62.20	62.20	2 / 6							
reaction time		interval			14.70		15.85		17.22		# of strides	14.43	14.70	15.85	17.22	29.13	33.07	3.94
		velocity	6.93		6.80		6.31		5.81	6.43		6.93	6.80	6.31	5.81	6.87	6.05	
Matsumoto, Nanako (JPN) (1996)		50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential																
FINAL - 2023 Japanese National Sports Festival (Kagoshima, JPN) (300m)		<i>Yamanaka (2024) - analysis of men's and women's 400m and 300m runs in the 2023 season</i>																
date	15-Oct-23	time	6.93	12.61	18.49	24.70	31.10	37.87		37.87	6 / 3							
																		100m-300m

reaction time	0.282	interval	5.68	5.88	6.21	6.40	6.77			# of strides	12.61	12.09	13.17	24.70	25.26				
		velocity	7.22	8.80	8.50	8.05	7.81	7.39	7.92		150.5	7.93	8.27	7.59	8.10	7.92			
FINAL - 2023 Japanese National Championships (Osaka, JPN)										<i>Yamanaka (2024) - analysis of men's and women's 400m and 300m runs in the 2023 season</i>									
date	02-Jun-23	time	6.93	13.00	19.22	25.69	32.41	39.45	46.78	54.43	54.43	6 / 4							
reaction time	0.230	interval	6.07	6.22	6.47	6.72	7.04	7.33	7.65		# of strides	13.00	12.69	13.76	14.98	25.69	28.74	3.05	
		velocity	7.22	8.24	8.04	7.73	7.44	7.10	6.82	6.54	7.35	205.0	7.69	7.88	7.27	6.68	7.79	6.96	
Heat 2 - 2023 Japanese National Championships (Osaka, JPN)										<i>Yamanaka (2024) - analysis of men's and women's 400m and 300m runs in the 2023 season</i>									
date	01-Jun-23	time	6.95	13.04	19.25	25.72	32.39	39.32	46.58	54.35	54.35	2 / 1							
reaction time	0.255	interval	6.09	6.21	6.47	6.67	6.93	7.26	7.77		# of strides	13.04	12.68	13.60	15.03	25.72	28.63	2.91	
		velocity	7.19	8.21	8.05	7.73	7.50	7.22	6.89	6.44	7.36	7.67	7.89	7.35	6.65	7.78	6.99		
FINAL - 2021 Japanese National Championships (Osaka, JPN)										<i>Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition</i>									
date	25-Jun-21	time	6.90	12.60	18.54	24.81	31.40	38.30	45.57	53.35	53.35	6 / 2							
reaction time	0.259	interval	5.70	5.94	6.27	6.59	6.90	7.27	7.78		# of strides	12.60	12.21	13.49	15.05	24.81	28.54	3.73	
		velocity	7.25	8.77	8.42	7.97	7.59	7.25	6.88	6.43	7.50	7.94	8.19	7.41	6.64	8.06	7.01		
FINAL - 2021 Denka Athletics Challenge Cup (Niigata, JPN)										<i>Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition</i>									
date	06-Jun-21	time	7.10	13.13	19.34	25.91	32.69	39.65	46.80	54.40	54.40	1 / 4							
reaction time		interval	6.03	6.21	6.47	6.78	6.96	7.15	7.60		# of strides	13.13	12.78	13.74	14.75	25.91	28.49	2.58	
		velocity	7.04	8.29	8.05	7.61	7.37	7.18	6.99	6.58	7.35	7.62	7.82	7.28	6.78	7.72	7.02		
FINAL - 2021 Ready Steady Tokyo (Tokyo, JPN)										<i>Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition</i>									
date	09-May-21	time	6.96	12.88	19.05	25.46	32.17	39.14	46.27	53.74	53.74	4 / 2							
reaction time	0.157	interval	5.92	6.17	6.41	6.71	6.97	7.13	7.47		# of strides	12.88	12.58	13.68	14.60	25.46	28.28	2.82	
		velocity	7.18	8.45	8.10	7.80	7.45	7.17	7.01	6.69	7.44	7.76	7.95	7.31	6.85	7.86	7.07		
FINAL - 2020 Japanese National Championships (Niigata, JPN)										<i>Yamanaka (2020) - 400m race analysis of men and women during 2020 season</i>									
date	02-Oct-20	time	6.89	12.81	18.89	25.21	31.82	38.76	46.00	53.77	53.77	7 / 2							
reaction time	0.176	interval	5.92	6.08	6.32	6.61	6.94	7.24	7.77		# of strides	12.81	12.40	13.55	15.01	25.21	28.56	3.35	
		velocity	7.26	8.45	8.22	7.91	7.56	7.20	6.91	6.44	7.44	204.7	7.81	8.06	7.38	6.66	7.93	7.00	
Heat 3 - 2020 Japanese National Championships (Niigata, JPN)										<i>Yamanaka (2020) - 400m race analysis of men and women during 2020 season</i>									
date	01-Oct-20	time	6.91	12.78	18.89	25.38	32.15	39.20	46.49	54.24	54.24	4 / 1							
reaction time	0.180	interval	5.87	6.11	6.49	6.77	7.05	7.29	7.75		# of strides	12.78	12.60	13.82	15.04	25.38	28.86	3.48	
		velocity	7.24	8.52	8.18	7.70	7.39	7.09	6.86	6.45	7.37	204.7	7.82	7.94	7.24	6.65	7.88	6.93	
FINAL - 2020 All Japan Corporate Championships (Kumagaya, JPN)										<i>Yamanaka (2020) - 400m race analysis of men and women during 2020 season</i>									
date	19-Sep-20	time	7.01	12.96	19.09	25.48	32.18	39.32	46.71	54.39	54.39	5 / 2							
reaction time	0.243	interval	5.95	6.13	6.39	6.70	7.14	7.39	7.68		# of strides	12.96	12.52	13.84	15.07	25.48	28.91	3.43	
		velocity	7.13	8.40	8.16	7.82	7.46	7.00	6.77	6.51	7.35	7.72	7.99	7.23	6.64	7.85	6.92		
FINAL - 2020 Seiko Golden Grand Prix (Tokyo, JPN)										<i>Yamanaka (2020) - 400m race analysis of men and women during 2020 season</i>									
date	23-Aug-20	time	6.97	12.83	18.85	25.19	31.98	39.06	46.25	53.80	53.80	6 / 2							
reaction time	0.183	interval	5.86	6.02	6.34	6.79	7.08	7.19	7.55		# of strides	12.83	12.36	13.87	14.74	25.19	28.61	3.42	
		velocity	7.17	8.53	8.31	7.89	7.36	7.06	6.95	6.62	7.43	7.79	8.09	7.21	6.78	7.94	6.99		
FINAL - 2019 Japanese National Championships (Fukuoka, JPN)										<i>Yamanaka (2019) - research on athlete performance and technique- 2019 data book</i>									
date	28-Jun-19	time	6.93	12.70	18.67	24.94	31.52	38.56	45.95	53.70	53.70	5 / 3							
reaction time	0.193	interval	5.77	5.97	6.27	6.58	7.04	7.39	7.75		# of strides	12.70	12.24	13.62	15.14	24.94	28.76	3.82	
		velocity	7.22	8.67	8.38	7.97	7.60	7.10	6.77	6.45	7.45	205.7	7.87	8.17	7.34	6.61	8.02	6.95	
Heat 1 - 2019 Japanese National Championships (Fukuoka, JPN)										<i>Yamanaka (2019) - race analysis of men and women 400m competition</i>									
date	27-Jun-19	time	6.88	12.69	18.80	25.21	31.82	38.81	46.13	53.68	53.68	5 / 1							
reaction time	0.178	interval	5.81	6.11	6.41	6.61	6.99	7.32	7.55		# of strides	12.69	12.52	13.60	14.87	25.21	28.47	3.26	
		velocity	7.27	8.61	8.18	7.80	7.56	7.15	6.83	6.62	7.45	7.88	7.99	7.35	6.72	7.93	7.02		
A FINAL - 2019 Shizuoka International Athletics Meeting (Fukuroi, JPN)										<i>Kobayashi (2019) - research on athlete performance and technique- 2019 data book</i>									
date	03-May-19	time	7.03	13.00	19.12	25.45	32.20	39.28	46.68	54.45	54.45	1 / 4							
reaction time		interval	5.97	6.12	6.33	6.75	7.08	7.40	7.77		# of strides	13.00	12.45	13.83	15.17	25.45	29.00	3.55	
		velocity	7.11	8.38	8.17	7.90	7.41	7.06	6.76	6.44	7.35	7.69	8.03	7.23	6.59	7.86	6.90		
FINAL - 2018 National Sports Festival (Fukui, JPN)										<i>Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition</i>									
date	07-Oct-18	time	7.10	13.06	19.29	25.87	32.66	39.66	46.91	54.70	54.70	3 / 4							
reaction time	0.208	interval	5.96	6.23	6.58	6.79	7.00	7.25	7.79		# of strides	13.06	12.81	13.79	15.04	25.87	28.83	2.96	
		velocity	7.04	8.39	8.03	7.60	7.36	7.14	6.90	6.42	7.31	7.66	7.81	7.25	6.65	7.73	6.94		
Heat 2 - 2017 National Sports Festival (Matsuyama, JPN)										<i>(2017) - tfdata-store.com/2017/10/12/post-1100/</i>									
date	08-Oct-17	time		13.21		26.07		40.15		56.32	56.32	5 / 4							
reaction time	0.234	interval				12.86		14.08		16.17		# of strides	13.21	12.86	14.08	16.17	26.07	30.25	4.18
		velocity		7.57		7.78		7.10		6.18	7.10	205.2	7.57	7.78	7.10	6.18	7.67	6.61	
FINAL - 2017 Japanese National Championships (Osaka, JPN)										<i>Yamanaka (2017) - male and female 400m analysis in the 2017 season</i>									
date	24-Jun-17	time	7.08	13.15	19.37	25.85	32.55	39.65	46.92	54.72	54.72	8 / 4							
reaction time	0.180	interval	6.07	6.22	6.48	6.70	7.10	7.27	7.80		# of strides	13.15	12.70	13.80	15.07	25.85	28.87	3.02	
		velocity	7.06	8.24	8.04	7.72	7.46	7.04	6.88	6.41	7.31	207.0	7.60	7.87	7.25	6.64	7.74	6.93	
Heat 2 - 2017 Japanese National Championships (Osaka, JPN)										<i>(2017) - tfdata-store.com/2017/07/10/post-978/</i>									
date	23-Jun-17	time		13.10		25.47		38.98		54.23	54.23	3 / 3							
reaction time	0.187	interval				12.37		13.51		15.25		# of strides	13.10	12.37	13.51	15.25	25.47	28.76	3.29
		velocity		7.63		8.08		7.40		6.56	7.38	206.0	7.63	8.08	7.40	6.56	7.85	6.95	
Division 1 FINAL - 2017 Kanto Collegiate Championships (Yokohama, JPN)										<i>(2017) - tfdata-store.com/2017/06/01/post-786/</i>									
date	26-May-17	time		13.79		26.88		41.06		55.97	55.97	9 / 7							

reaction time	interval		13.09	14.18	14.91			# of strides	13.79	13.09	14.18	14.91	26.88	29.09	2.21				
	velocity	7.25	7.64	7.05	6.71	7.15		208.5	7.25	7.64	7.05	6.71	7.44	6.88					
Division 1 Semi-Final 1 - 2017 Kanto Collegiate Championships (Yokohama, JPN)													(2017) - tfdata-store.com/2017/06/02/post-835/						
date	26-May-17	time	13.59	26.49	40.64	56.22	56.22	9 / 3											
reaction time	interval		12.90	14.15	15.58			# of strides	13.59	12.90	14.15	15.58	26.49	29.73	3.24				
	velocity	7.36	7.75	7.07	6.42	7.11		210.0	7.36	7.75	7.07	6.42	7.55	6.73					
FINAL - 2017 Shizuoka International Meeting (Fukuroi, JPN)													Yamanaka (2017) - male and female 400m analysis in the 2017 season						
date	03-May-17	time	7.18	13.17	19.39	25.87	32.74	39.89	47.30	55.31	55.31	/ 4							
reaction time	interval		5.99	6.22	6.48	6.87	7.15	7.41	8.01			# of strides	13.17	12.70	14.02	15.42	25.87	29.44	3.57
	velocity	6.96	8.35	8.04	7.72	7.28	6.99	6.75	6.24	7.23		7.59	7.87	7.13	6.49	7.73	6.79		
FINAL - 2016 National Sports Festival (Kitakami, JPN)													Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016						
date	09-Oct-16	time	7.20	13.24	19.50	26.13	32.88	39.89	47.18	55.09	55.09	7 / 3							
reaction time	0.210	interval	6.04	6.26	6.63	6.75	7.01	7.29	7.91			# of strides	13.24	12.89	13.76	15.20	26.13	28.96	2.83
	velocity	6.94	8.28	7.99	7.54	7.41	7.13	6.86	6.32	7.26		7.55	7.76	7.27	6.58	7.65	6.91		
FINAL - 2016 Japanese National Championships (Nagoya, JPN)													Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016						
date	25-Jun-16	time	7.16	13.25	19.47	25.96	32.69	39.69	46.96	54.67	54.67	2 / 4							
reaction time	0.210	interval	6.09	6.22	6.49	6.73	7.00	7.27	7.71			# of strides	13.25	12.71	13.73	14.98	25.96	28.71	2.75
	velocity	6.98	8.21	8.04	7.70	7.43	7.14	6.88	6.49	7.32		7.55	7.87	7.28	6.68	7.70	6.97		
Heat 3 - 2016 Japanese National Championships (Nagoya, JPN)													Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016						
date	24-Jun-16	time	7.29	13.47	19.70	26.11	32.77	39.77	47.09	54.68	54.68	3 / 3							
reaction time	0.214	interval	6.18	6.23	6.41	6.66	7.00	7.32	7.59			# of strides	13.47	12.64	13.66	14.91	26.11	28.57	2.46
	velocity	6.86	8.09	8.03	7.80	7.51	7.14	6.83	6.59	7.32		7.42	7.91	7.32	6.71	7.66	7.00		
FINAL - 2016 Shizuoka International Meeting (Fukuroi, JPN)													Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016						
date	03-May-16	time	7.16	13.27	19.55	26.02	32.75	39.94	47.39	55.34	55.34	/ 4							
reaction time	interval		6.11	6.28	6.47	6.73	7.19	7.45	7.95			# of strides	13.27	12.75	13.92	15.40	26.02	29.32	3.30
	velocity	6.98	8.18	7.96	7.73	7.43	6.95	6.71	6.29	7.23		7.54	7.84	7.18	6.49	7.69	6.82		
FINAL - 2015 Japanese National Junior Championships (Nagoya, JPN)													Kohei (2015) - 400m race analysis of male & female at major 2015 competitions						
date	16-Oct-15	time	7.07	13.11	19.39	26.02	32.86	39.96	47.27	54.93	54.93	/ 3							
reaction time	interval		6.04	6.28	6.63	6.84	7.10	7.31	7.66			# of strides	13.11	12.91	13.94	14.97	26.02	28.91	2.89
	velocity	7.07	8.28	7.96	7.54	7.31	7.04	6.84	6.53	7.28		7.63	7.75	7.17	6.68	7.69	6.92		
FINAL - 2015 National Sports Festival (Wayakama, JPN)													Kohei (2015) - 400m race analysis of male & female at major 2015 competitions						
date	04-Oct-15	time	7.20	13.60	20.27	26.98	33.71	40.48	47.41	54.69	54.69	3 / 2							
reaction time	interval		6.40	6.67	6.71	6.73	6.77	6.93	7.28			# of strides	13.60	13.38	13.50	14.21	26.98	27.71	0.73
	velocity	6.94	7.81	7.50	7.45	7.43	7.39	7.22	6.87	7.31		7.35	7.47	7.41	7.04	7.41	7.22		
FINAL - 2015 Japanese National Championships (Niigata, JPN)													Kohei (2015) - 400m race analysis of male & female at major 2015 competitions						
date	27-Jun-15	time	7.23	13.15	19.20	25.55	32.37	39.48	46.70	54.31	54.31	3 / 8							
reaction time	0.185	interval	5.92	6.05	6.35	6.82	7.11	7.22	7.61			# of strides	13.15	12.40	13.93	14.83	25.55	28.76	3.21
	velocity	6.92	8.45	8.26	7.87	7.33	7.03	6.93	6.57	7.37		7.60	8.06	7.18	6.74	7.83	6.95		
FINAL - 2013 Japanese National High School Championships (Oita, JPN)													Matsuo (2013) - 66th high school championships: JAF scientific committee- biomechanics data						
date	30-Jul-13	time	13.50		26.47		39.97		54.81	54.81	5 / 5								
reaction time	interval				12.97		13.50		14.84			# of strides	13.50	12.97	13.50	14.84	26.47	28.34	1.87
	velocity	7.41		7.71	7.41		6.74	7.30				7.41	7.71	7.41	6.74	7.56	7.06		
FINAL - 2012 Japanese National High School Championships (Niigata, JPN)													Yasunori (2012) - 65th high school championships: JAF scientific committee- biomechanics						
date	29-Jul-12	time	14.16		27.31		41.05		56.10	56.10	4 / 6								
reaction time	interval				13.15		13.74		15.05			# of strides	14.16	13.15	13.74	15.05	27.31	28.79	1.48
	velocity	7.06		7.60	7.28		6.64	7.13				7.06	7.60	7.28	6.64	7.32	6.95		
Matsumura, Ai (JPN)																			
		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
FINAL - 2020 Shimane High School Championships (Izumo, JPN)													Shimizu (2020) - shimane high school championships 2020 - biomechanics data analysis						
date	11-Jul-20	time	14.04		28.40		44.39		61.78	61.78	4 / 4								
reaction time	interval				14.36		15.99		17.39			# of strides	14.04	14.36	15.99	17.39	28.40	33.38	4.98
	velocity	7.12		6.96	6.25		5.75	6.47				7.12	6.96	6.25	5.75	7.04	5.99		
Matsuo, Kina (JPN) (2000)																			
		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
FINAL - 2016 Japanese National Youth Championships (Mizuho, JPN)													Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016						
date	21-Oct-16	time	7.35	13.56	19.94	26.71	33.71	40.90	48.13	55.86	55.86	3 / 3							
reaction time	interval		6.21	6.38	6.77	7.00	7.19	7.23	7.73			# of strides	13.56	13.15	14.19	14.96	26.71	29.15	2.44
	velocity	6.80	8.05	7.84	7.39	7.14	6.95	6.92	6.47	7.16		7.37	7.60	7.05	6.68	7.49	6.86		
Mawdsley, Sharlene (IRL) (1998)																			
		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
Repechage 1 - 2024 Olympic Games (Paris, FRA)													Paris 2024 Olympic Games - Results Book (2024)						
date	06-Aug-24	time	6.76	12.37	18.14	24.09	30.29	36.81	43.69	51.18	51.18	3 / 3							
reaction time	0.169	interval		5.61	5.77	5.95	6.20	6.52	6.88	7.49		# of strides	12.37	11.72	12.72	14.37	24.09	27.09	3.00
	velocity	7.40	8.91	8.67	8.40	8.06	7.67	7.27	6.68	7.82		194.0	8.08	8.53	7.86	6.96	8.30	7.38	
Heat 5 - 2024 Olympic Games (Paris, FRA)													Paris 2024 Olympic Games - Results Book (2024)						
date	05-Aug-24	time	6.77	12.42	18.22	24.26	30.48	36.87	43.50	50.71	50.71	8 / 4							
reaction time	0.147	interval		5.65	5.80	6.04	6.22	6.39	6.63	7.21	PB	# of strides	12.42	11.84	12.61	13.84	24.26	26.45	2.19
	velocity	7.39	8.85	8.62	8.28	8.04	7.82	7.54	6.93	7.89		194.0	8.05	8.45	7.93	7.23	8.24	7.56	
FINAL - 2024 European Athletics Championships (Roma, ITA)													European Athletics (2024) - 2024 european athletics championships - results book						
date	10-Jun-24	time	12.33		24.09		36.82		51.59	51.59	4 / 8								
reaction time	0.201	interval			11.76		12.73		14.77			# of strides	12.33	11.76	12.73	14.77	24.09	27.50	3.41
	velocity	8.11		8.50	7.86		6.77	7.75				8.11	8.50	7.86	6.77	8.30	7.27		

Semi-Final 3 - 2024 European Athletics Championships (Roma, ITA)*European Athletics (2024) - 2024 european athletics championships - results book*

date	09-Jun-24	time	12.43	24.38	37.17	50.99	50.99	8 / 2										
reaction time	0.200	interval		11.95	12.79	13.82		# of strides	12.43	11.95	12.79	13.82	24.38	26.61	2.23			
		velocity	8.05	8.37	7.82	7.24	7.84	192.5	8.05	8.37	7.82	7.24	8.20	7.52				

Semi-Final 2 - 2023 World Athletics Championships (Budapest, HUN)*Seiko Timing (2023) - world championship race analysis*

date	21-Aug-23	time	12.47	24.13	37.24	51.78	51.78	2 / 7										
reaction time	0.177	interval		11.66	13.11	14.54		# of strides	12.47	11.66	13.11	14.54	24.13	27.65	3.52			
		velocity	8.02	8.58	7.63	6.88	7.72	8.02	8.58	7.63	6.88	8.29	7.23					

Heat 1 - 2023 World Athletics Championships (Budapest, HUN)*Seiko Timing (2023) - world championship race analysis*

date	20-Aug-23	time	12.41	23.90	36.83	51.17	51.17	5 / 4										
reaction time	0.169	interval		11.49	12.93	14.34	PB	# of strides	12.41	11.49	12.93	14.34	23.90	27.27	3.37			
		velocity	8.06	8.70	7.73	6.97	7.82	195.5	8.06	8.70	7.73	6.97	8.37	7.33				

FINAL - 2023 FBK Games (Hengelo, NED)*Omega Timing (2023) - continental tour race analysis*

date	04-Jun-23	time	6.74	12.40	18.36	24.54	30.91	37.62	44.66	52.14	52.14	5 / 4						
reaction time	0.143	interval		5.66	5.96	6.18	6.37	6.71	7.04	7.48		# of strides	12.40	12.14	13.08	14.52	24.54	27.60
		velocity	7.42	8.83	8.39	8.09	7.85	7.45	7.10	6.68	7.67	192.5	8.06	8.24	7.65	6.89	8.15	7.25

Heat 3 - 2022 European Athletics Championships (Munich, GER)*European Athletics (2022) - european athletics championships race analysis*

date	15-Aug-22	time	12.81	25.05	37.96	52.63	52.63	6 / 6										
reaction time	0.192	interval		12.24	12.91	14.67		# of strides	12.81	12.24	12.91	14.67	25.05	27.58	2.53			
		velocity	7.81	8.17	7.75	6.82	7.60	192.0	7.81	8.17	7.75	6.82	7.98	7.25				

Mboma, Christine (NAM) (2003)**FINAL - 2021 Irena Szewinska Memorial (Bydgoszcz, POL)** *Vazel (2021) - https://twitter.com/pjvazel/status/1410310278391140362?s=21*

date	30-Jun-21	time	11.9	23.0	35.2	48.54	48.54	4 / 1										
reaction time	0.342	interval		11.10	12.20	13.34	WJR	# of strides	11.90	11.10	12.20	13.34	23.00	25.54	2.54			
		velocity	8.40	9.01	8.20	7.50	8.24	191.0	8.40	9.01	8.20	7.50	8.70	7.83				

FINAL - 2021 International All Comers Meeting (Lusaka, ZAM)*Vazel (2021) - https://twitter.com/pjvazel/status/1382341180789231617?s=21*

date	11-Apr-21	time	13.0	24.3	36.5	49.24	49.24	1 / 1										
reaction time		interval		11.30	12.20	12.74	WJR	# of strides	13.00	11.30	12.20	12.74	24.30	24.94	0.64			
		velocity	7.69	8.85	8.20	7.85	8.12	195.0	7.69	8.85	8.20	7.85	8.23	8.02				

McAulay, Carys (GBR) (1998)**FINAL - 2022 Müller Birmingham Diamond League (Birmingham, GBR)** *Omega Timing (2022) - diamond league race analysis*

date	21-May-22	time	6.9	12.5	18.4	24.6	31.1	38.2	45.8	54.35	54.35	2 / 7						
reaction time	0.160	interval		5.60	5.90	6.20	6.50	7.10	7.60	8.55		# of strides	12.50	12.10	13.60	16.15	24.60	29.75
		velocity	7.25	8.93	8.47	8.06	7.69	7.04	6.58	5.85	7.36	8.00	8.26	7.35	6.19	8.13	6.72	

McConnell, Lee (GBR) (1978)**FINAL - 2009 ISTAF (Berlin, GER)** *Graubner (2009) - http://www.fgs.uni-halle.de*

date	14-Jun-09	time	12.49	24.76	37.77	52.22	52.22	1 / 4										
reaction time	0.282	interval		12.27	13.01	14.45		# of strides	12.49	12.27	13.01	14.45	24.76	27.46	2.70			
		velocity	8.01	8.15	7.69	6.92	7.66	8.01	8.15	7.69	6.92	8.08	7.28					

McConnell, Lee (GBR) (1978)**FINAL - 2009 ISTAF (Berlin, GER)** *Graubner (2009) - http://www.fgs.uni-halle.de*

date	14-Jun-09	time	12.49	24.76	37.77	52.22	52.22	1 / 4										
reaction time	0.282	interval		12.27	13.01	14.45		# of strides	12.49	12.27	13.01	14.45	24.76	27.46	2.70			
		velocity	8.01	8.15	7.69	6.92	7.66	8.01	8.15	7.69	6.92	8.08	7.28					

FINAL - 2003 IAAF World Championships (Paris, FRA)*Bonvin (2003) - Compte-rendu 400m et relais 4x 400m*

date	27-Aug-03	time		23.3	36.5	51.07	51.07	1 / 7										
reaction time	0.205	interval			13.20	14.57		# of strides			13.20	14.57	23.30	27.77	4.47			
		velocity		8.58	7.58	6.86	7.83				7.58	6.86	8.58	7.20				

FINAL - 2002 European Championships (Munich, GER)*Graubner (2009) - http://www.fgs.uni-halle.de*

date	08-Aug-02	time	12.58	24.33	37.02	51.02	51.02	1 / 3										
reaction time	0.209	interval		11.75	12.69	14.00	PB	# of strides	12.58	11.75	12.69	14.00	24.33	26.69	2.36			
		velocity	7.95	8.51	7.88	7.14	7.84	7.95	8.51	7.88	7.14	8.22	7.49					

Heat 3 - 2002 European Championships (Munich, GER)*Graubner (2009) - http://www.fgs.uni-halle.de*

date	07-Aug-02	time	12.66	24.52	37.37	51.24	51.24	1 / 2										
reaction time	0.218	interval		11.86	12.85	13.87		# of strides	12.66	11.86	12.85	13.87	24.52	26.72	2.20			
		velocity	7.90	8.43	7.78	7.21	7.81	7.90	8.43	7.78	7.21	8.16	7.49					

McCorory, Francena (USA) (1988)**FINAL - 2016 USA Olympic Trials (Eugene, OR)** *Hymans (2020) - history of the US olympic trials - track and field*

date	03-Jul-16	time		23.9	36.1	50.37	50.37	5 / 5										
reaction time	0.368	interval			12.20	14.27		# of strides			12.20	14.27	23.90	26.47	2.57			
		velocity		8.37	8.20	7.01	7.94				8.20	7.01	8.37	7.56				

FINAL - 2013 IAAF World Championships (Moscow, RUS)*(2013) - http://speedendurance.com/2013/10/07/racing-400-meters-differences-in-elite-men-and-women/*

date	12-Aug-13	time	23.3	35.7	50.7	50.68	6 / 6											
reaction time	0.241	interval		12.40	15.00		# of strides			12.40	15.00	23.30	27.40	4.10				
		velocity		8.58	8.06	6.67	7.89				8.06	6.67	8.58	7.30				

FINAL - 2012 Olympic Games (London, GBR)*Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*

date	05-Aug-12	time	12.2	23.8	35.8	50.3	50.33	9 / 6										
reaction time	0.196	interval		11.60	12.00	14.50		# of strides	12.20	11.60	12.00	14.50	23.80	26.50	2.70			
		velocity	8.20	8.62	8.33	6.90	7.95	189.7	8.20	8.62	8.33	6.90	8.40	7.55				

FINAL - 2012 USA Olympic Trials (Eugene, OR)

date	24-Jun-12	time	23.5	36.0	50.43	50.43	6 / 3	<i>Hymans (2020) - history of the US olympic trials - track and field</i>						
reaction time	0.259	interval			12.50	14.43	# of strides	23.50	12.50	14.43	23.50	26.93	3.43	
		velocity	8.51	8.00	6.93	7.93		4.26	8.00	6.93	8.51	7.43		

FINAL - 2011 IAAF World Championships (Daegu, KOR)

date	29-Aug-11	time	23.7	36.1	50.45	50.45	5 / 4	<i>Butler (2013) - IAAF world athletic results 2008-2011 full results</i>						
reaction time	0.198	interval			12.40	14.35	# of strides	12.40	14.35	23.70	26.75	3.05		
		velocity	8.44	8.06	6.97	7.93	185.0	8.06	6.97	8.44	7.48			

Quarter-Final 1 - 2008 USA Olympic Trials (Eugene, OR)

date	29-Jun-08	time	13.01	19.04	25.61	32.45	40.02	57.73	57.73	4 / 6	<i>USATF Women's Sprint Development with HPC (2008)</i>						
reaction time		interval			6.03	6.57	6.84	7.57	17.71	# of strides	13.01	12.60	14.41	17.71	25.61	32.12	6.51
		velocity	7.69	8.29	7.61	7.31	6.61	5.65	6.93		7.69	7.94	6.94	5.65	7.81	6.23	

McDonald, Natassha (CAN) (1997)

date	17-Jul-22	time	12.52	24.91	37.99	52.41	52.41	5 / 5	<i>Timing by Seiko (2022) - world athletics championships race analysis</i>								
reaction time	0.169	interval			12.39	13.08	14.42	# of strides	12.52	12.39	13.08	14.42	24.91	27.50	2.59		
		velocity	7.99	8.07	7.65	6.93	7.63	170.0	7.99	8.07	7.65	6.93	8.03	7.27			

FINAL - 2016 IAAF World Junior Championships (Bydgoszcz, POL)

date	21-Jul-16	time	7.13	12.90	18.89	25.12	31.61	38.37	45.53	53.35	53.35	<i>Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016</i>							
reaction time	0.181	interval			5.77	5.99	6.23	6.49	6.76	7.16	7.82	# of strides	12.90	12.22	13.25	14.98	25.12	28.23	3.11
		velocity	7.01	8.67	8.35	8.03	7.70	7.40	6.98	6.39	7.50		7.75	8.18	7.55	6.68	7.96	7.08	

McDowell, Jessica (USA) (2001)

date	22-Jun-24	time	12.24	23.84	36.93	51.75	51.75	2 / 8	<i>USATF and Karmarush (2024) - USA Olympic trials results and race analysis</i>								
reaction time		interval			11.60	13.09	14.82	# of strides	12.24	11.60	13.09	14.82	23.84	27.91	4.07		
		velocity	8.17	8.62	7.64	6.75	7.73		8.17	8.62	7.64	6.75	8.39	7.17			

Heat 2 - 2024 USA Olympic Trials (Eugene, OR)

date	21-Jun-24	time	12.10	23.90	37.20	52.12	52.12	4 / 5	<i>USATF and Karmarush (2024) - USA Olympic trials results and race analysis</i>								
reaction time		interval			11.80	13.30	14.92	# of strides	12.10	11.80	13.30	14.92	23.90	28.22	4.32		
		velocity	8.26	8.47	7.52	6.70	7.67	196.0	8.26	8.47	7.52	6.70	8.37	7.09			

McLaughlin-Levrone, Sydney (USA) (

date	13-Sep-24	time	6.52	11.89	17.47	23.37	29.42	35.61	42.10	49.11	49.11	<i>Omega Timing (2024) - diamond league race analysis</i>							
reaction time	0.161	interval			5.37	5.58	5.90	6.05	6.19	6.49	7.01	# of strides	11.89	11.48	12.24	13.50	23.37	25.74	2.37
		velocity	7.67	9.31	8.96	8.47	8.26	8.08	7.70	7.13	8.14		8.41	8.71	8.17	7.41	8.56	7.77	

FINAL - 2023 Meeting de Paris (Paris, FRA)

date	09-Jun-23	time	6.30	11.59	17.02	22.66	28.59	34.94	41.88	49.71	49.71	<i>Omega Timing (2023) - diamond league race analysis</i>							
reaction time	0.155	interval			5.29	5.43	5.64	5.93	6.35	6.94	7.83	# of strides	11.59	11.07	12.28	14.77	22.66	27.05	4.39
		velocity	7.94	9.45	9.21	8.87	8.43	7.87	7.20	6.39	8.05		8.63	9.03	8.14	6.77	8.83	7.39	

McLaughlin, Sydney (USA) (1999)

date	18-May-19	time	12.7	24.9	37.2	50.78	50.78	6 / 2	<i>Omega Timing (2019) - diamond league race analysis</i>								
reaction time	0.147	interval			12.2	12.3	13.6	# of strides	12.70	12.20	12.30	13.58	24.90	25.88	0.98		
		velocity	7.87	8.20	8.13	7.36	7.88	184.5	7.87	8.20	8.13	7.36	8.03	7.73			

McLeod, Candice (JAM) (1996)

date	17-Sep-23	time	6.79	12.37	18.04	23.98	30.13	36.53	43.34	50.76	50.76	<i>Omega Timing (2023) - diamond league race analysis</i>							
reaction time	0.157	interval			5.58	5.67	5.94	6.15	6.40	6.81	7.42	# of strides	12.37	11.61	12.55	14.23	23.98	26.78	2.80
		velocity	7.36	8.96	8.82	8.42	8.13	7.81	7.34	6.74	7.88		8.08	8.61	7.97	7.03	8.34	7.47	

FINAL - 2023 Memorial van Damme (Brussels, BEL)

date	08-Sep-23	time	6.78	12.25	17.93	23.87	30.10	36.57	43.41	50.82	50.82	<i>Seiko Timing (2023) - world championship race analysis</i>							
reaction time	0.175	interval			5.47	5.68	5.94	6.23	6.47	6.84	7.41	# of strides	12.25	11.62	12.70	14.25	23.87	26.95	3.08
		velocity	7.37	9.14	8.80	8.42	8.03	7.73	7.31	6.75	7.87		8.16	8.61	7.87	7.02	8.38	7.42	

FINAL - 2023 Xiamen Diamond League (Xiamen, CHN)

date	02-Sep-23	time	6.75	12.32	18.05	24.02	30.14	36.51	43.07	50.19	50.19	<i>Omega Timing (2023) - diamond league race analysis</i>							
reaction time	0.160	interval			5.57	5.73	5.97	6.12	6.37	6.56	7.12	# of strides	12.32	11.70	12.49	13.68	24.02	26.17	2.15
		velocity	7.41	8.98	8.73	8.38	8.17	7.85	7.62	7.02	7.97		8.12	8.55	8.01	7.31	8.33	7.64	

FINAL - 2023 World Athletics Championships (Budapest, HUN)

date	23-Aug-23	time	12.36	22.63	36.40	51.08	51.08	3 / 7	<i>Seiko Timing (2023) - world championship race analysis</i>								
reaction time	0.167	interval			10.27	13.77	14.68	# of strides	12.36	10.27	13.77	14.68	22.63	28.45	5.82		
		velocity	8.09	9.74	7.26	6.81	7.83	203.0	8.09	9.74	7.26	6.81	8.84	7.03			

Semi-Final 1 - 2023 World Athletics Championships (Budapest, HUN)

date	21-Aug-23	time	12.56	24.15	36.90	50.62	50.62	9 / 4	<i>Seiko Timing (2023) - world championship race analysis</i>								
reaction time	0.206	interval			11.59	12.75	13.72	# of strides	12.56	11.59	12.75	13.72	24.15	26.47	2.32		
		velocity	7.96	8.63	7.84	7.29	7.90	201.0	7.96	8.63	7.84	7.29	8.28	7.56			

Heat 1 - 2023 World Athletics Championships (Budapest, HUN)

date	20-Aug-23	time	12.46	24.01	36.60	50.37	50.37	4 / 3	<i>Seiko Timing (2023) - world championship race analysis</i>								
reaction time	0.190	interval			11.55	12.59	13.77	# of strides	12.46	11.55	12.59	13.77	24.01	26.36	2.35		
		velocity	8.03	8.66	7.94	7.26	7.94	198.0	8.03	8.66	7.94	7.26	8.33	7.59			

FINAL - 2023 Meeting de Paris (Paris, FRA)

Omega Timing (2023) - diamond league race analysis

date	09-Jun-23	time	6.76	12.40	18.19	24.18	30.40	36.82	43.49	50.80	50.80	2 / 6							
reaction time	0.173	interval	5.64	5.79	5.99	6.22	6.42	6.67	7.31			# of strides	12.40	11.78	12.64	13.98	24.18	26.62	2.44
		velocity	7.40	8.87	8.64	8.35	8.04	7.79	7.50	6.84	7.87		8.06	8.49	7.91	7.15	8.27	7.51	

FINAL - 2023 Golden Gala Pietro Mennea (Firenze, ITA)

Omega Timing (2023) - diamond league race analysis

date	02-Jun-23	time	6.71	12.28	18.08	24.20	30.44	37.01	44.16	52.09	52.09	5 / 7							
reaction time	0.132	interval	5.57	5.80	6.12	6.24	6.57	7.15	7.93			# of strides	12.28	11.92	12.81	15.08	24.20	27.89	3.69
		velocity	7.45	8.98	8.62	8.17	8.01	7.61	6.99	6.31	7.68		204.0	8.14	8.39	7.81	6.63	8.26	7.17

FINAL - 2023 Doha Diamond League (Doha, QAT)

Omega Timing (2023) - diamond league race analysis

date	05-May-23	time	6.82	12.47	18.56	24.78	31.11	37.67	44.69	52.43	52.43	7 / 5							
reaction time	0.172	interval	5.65	6.09	6.22	6.33	6.56	7.02	7.74			# of strides	12.47	12.31	12.89	14.76	24.78	27.65	2.87
		velocity	7.33	8.85	8.21	8.04	7.90	7.62	7.12	6.46	7.63		203.0	8.02	8.12	7.76	6.78	8.07	7.23

FINAL - 2022 Weltklasse (Zürich, SU)

Omega Timing (2022) - diamond league race analysis

date	08-Sep-22	time	6.66	12.18	17.88	23.76	29.75	36.07	42.76	50.03	50.03	7 / 4							
reaction time	0.149	interval	5.52	5.70	5.88	5.99	6.32	6.69	7.27			# of strides	12.18	11.58	12.31	13.96	23.76	26.27	2.51
		velocity	7.51	9.06	8.77	8.50	8.35	7.91	7.47	6.88	8.00		8.21	8.64	8.12	7.16	8.42	7.61	

FINAL - 2022 Memorial van Damme (Brussels, BEL)

Omega Timing (2022) - diamond league race analysis

date	02-Sep-22	time	7.02	12.71	18.40	24.28	30.39	36.79	43.46	50.76	50.76	8 / 5							
reaction time	0.214	interval	5.69	5.69	5.88	6.11	6.40	6.67	7.30			# of strides	12.71	11.57	12.51	13.97	24.28	26.48	2.20
		velocity	7.12	8.79	8.79	8.50	8.18	7.81	7.50	6.85	7.88		7.87	8.64	7.99	7.16	8.24	7.55	

FINAL - 2022 Athletissima (Lausanne, SU)

Omega Timing (2022) - diamond league race analysis

date	26-Aug-22	time	6.71	12.21	17.86	23.78	29.94	36.43	43.26	50.80	50.80	7 / 4							
reaction time	0.162	interval	5.50	5.65	5.92	6.16	6.49	6.83	7.54			# of strides	12.21	11.57	12.65	14.37	23.78	27.02	3.24
		velocity	7.45	9.09	8.85	8.45	8.12	7.70	7.32	6.63	7.87		200.7	8.19	8.64	7.91	6.96	8.41	7.40

FINAL - 2022 Herculis Meeting International d'Athlétisme (Monaco, MON)

Omega Timing (2022) - diamond league race analysis

date	10-Aug-22	time	6.79	12.36	18.06	23.97	30.04	36.30	42.85	49.87	49.87	7 / 2							
reaction time	0.137	interval	5.57	5.70	5.91	6.07	6.26	6.55	7.02			# of strides	12.36	11.61	12.33	13.57	23.97	25.90	1.93
		velocity	7.36	8.98	8.77	8.46	8.24	7.99	7.63	7.12	8.02		198.2	8.09	8.61	8.11	7.37	8.34	7.72

FINAL - 2022 Silesia Kamila Skolimowska Memorial (Chorzów, POL)

Omega Timing (2022) - diamond league race analysis

date	06-Aug-22	time	6.83	12.46	18.27	24.29	30.41	36.65	43.14	50.22	50.22	7 / 3							
reaction time	0.183	interval	5.63	5.81	6.02	6.12	6.24	6.49	7.08			# of strides	12.46	11.83	12.36	13.57	24.29	25.93	1.64
		velocity	7.32	8.88	8.61	8.31	8.17	8.01	7.70	7.06	7.96		8.03	8.45	8.09	7.37	8.23	7.71	

FINAL - 2022 World Athletics Championships (Eugene, OR)

Timing by Seiko (2022) - world athletics championships race analysis

date	22-Jul-22	time		12.30	24.17	36.65	50.78	50.78				5 / 7							
reaction time	0.159	interval		11.87	12.48	14.13						# of strides	12.30	11.87	12.48	14.13	24.17	26.61	2.44
		velocity		8.13	8.42	8.01	7.08	7.88					200.2	8.13	8.42	8.01	7.08	8.27	7.52

Semi-Final 1 - 2022 World Athletics Championships (Eugene, OR)

Timing by Seiko (2022) - world athletics championships race analysis

date	20-Jul-22	time	12.25	23.74	36.28	50.05	50.05					3 / 2							
reaction time	0.149	interval	11.49	12.54	13.77	23.74	26.31	2.57				# of strides	12.25	11.49	12.54	13.77	23.74	26.31	2.57
		velocity	8.16	8.70	7.97	7.26	7.99						198.7	8.16	8.70	7.97	7.26	8.42	7.60

Heat 6 - 2022 World Athletics Championships (Eugene, OR)

Timing by Seiko (2022) - world athletics championships race analysis

date	17-Jul-22	time	12.24	24.11	36.82	50.76	50.76					1 / 2							
reaction time	0.160	interval	11.87	12.71	13.94							# of strides	12.24	11.87	12.71	13.94	24.11	26.65	2.54
		velocity	8.17	8.42	7.87	7.17	7.88						8.17	8.42	7.87	7.17	8.30	7.50	

FINAL - 2022 Doha Diamond League (Doha, QAT)

Omega Timing (2022) - diamond league race analysis

date	13-May-22	time	6.7	12.4	18.6	25.0	31.4	38.0	44.9	52.37	52.37	3 / 5							
reaction time	0.183	interval	5.70	6.20	6.40	6.40	6.60	6.90	7.47			# of strides	12.40	12.60	13.00	14.37	25.00	27.37	2.37
		velocity	7.46	8.77	8.06	7.81	7.81	7.58	7.25	6.69	7.64		207.5	8.06	7.94	7.69	6.96	8.00	7.31

FINAL - 2021 Weltklasse (Zürich, SU)

Omega Timing (2021) - diamond league race analysis

date	09-Sep-21	time	7.0	12.9	19.0	25.1	31.3	37.6	44.1	50.96	50.96	8 / 5							
reaction time	0.152	interval	5.90	6.10	6.10	6.20	6.30	6.50	6.86			# of strides	12.90	12.20	12.50	13.36	25.10	25.86	0.76
		velocity	7.14	8.47	8.20	8.20	8.06	7.94	7.69	7.29	7.85		7.75	8.20	8.00	7.49	7.97	7.73	

FINAL - 2021 Meeting de Paris (Paris, FRA)

Omega Timing (2021) - diamond league race analysis

date	28-Aug-21	time	6.7	12.3	18.2	24.3	30.5	36.9	43.7	51.41	51.41	2 / 7							
reaction time	0.160	interval	5.60	5.90	6.10	6.20	6.40	6.80	7.71			# of strides	12.30	12.00	12.60	14.51	24.30	27.11	2.81
		velocity	7.46	8.93	8.47	8.20	8.06	7.81	7.35	6.49	7.78		206.0	8.13	8.33	7.94	6.89	8.23	7.38

FINAL - 2021 Athletissima (Lausanne, SU)

Omega Timing (2021) - diamond league race analysis

date	26-Aug-21	time	6.8	12.4	18.1	24.1	30.4	36.9	43.7	51.26	51.26	5 / 5							
reaction time	0.158	interval	5.60	5.70	6.00	6.30	6.50	6.80	7.56			# of strides	12.40	11.70	12.80	14.36	24.10	27.16	3.06
		velocity	7.35	8.93	8.77	8.33	7.94	7.69	7.35	6.61	7.80		203.0	8.06	8.55	7.81	6.96	8.30	7.36

FINAL - 2020 Olympic Games (Tokyo, JPN)

Omega Timing (2022) - Tokyo 2020 - race analysis - women's 400m final

date	06-Aug-21	time	6.69	12.22	17.86	23.78	29.96	36.39	42.92	49.88	49.87	4 / 5							
reaction time	0.152	interval	5.53	5.64	5.92	6.18	6.43	6.53	6.96			# of strides	12.22	11.56	12.61	13.49	23.78	26.10	2.32
		velocity	7.47	9.04	8.87	8.45	8.09	7.78	7.66	7.18	8.02		198.0	8.18	8.65	7.93	7.41	8.41	7.66

McNary, Lauren (USA) (1986)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	29-Jun-08	time	12.60	18.73	25.34	31.54	38.40	45.60	53.60	53.60		6 / 7							
reaction time		interval	6.13	6.61	6.20	6.86	7.20	8.00				# of strides	12.60	12.74	13.06	15.20	25.34	28.26	2.92
		velocity	7.94	8.16	7.56	8.06	7.29	6.94	6.25	7.46			7.94	7.85	7.66	6.58	7.89	7.08	

FINAL - 2005 USATF National Junior Championships (Carson, CA)											USATF Women's Sprint Development (2005)									
date	time	12.96	18.93	25.23	31.58	38.07	45.07	52.48	52.48	4 / 2	# of strides	12.96	12.27	12.84	14.41	25.23	27.25	2.02		
reaction time	interval	velocity	7.72	8.38	7.94	7.87	7.70	7.14	6.75	7.62	7.72	8.15	7.79	6.94	7.93	7.34				
McPherson, Stephenie (JAM) (1988) 50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place											0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential									
Invitational - 2024 Memorial van damme (Brussels, BEL)											Omega Timing (2024) - diamond league race analysis									
date	13-Sep-24	time	6.98	12.72	18.67	24.79	30.92	37.28	43.95	51.24	51.24	7 / 4	# of strides	12.72	12.07	12.49	13.96	24.79	26.45	1.66
reaction time	0.126	interval	5.74	5.95	6.12	6.13	6.36	6.67	7.29	7.81	186.0	7.86	8.29	8.01	7.16	8.07	7.56			
		velocity	7.16	8.71	8.40	8.17	8.16	7.86	7.50	6.86	7.81	7.86	8.29	8.01	7.16	8.07	7.56			
FINAL - 2023 Doha Diamond League (Doha, QAT)											Omega Timing (2023) - diamond league race analysis									
date	05-May-23	time	6.90	12.58	18.54	24.74	31.13	37.92	44.95	52.93	52.93	3 / 6	# of strides	12.58	12.16	13.18	15.01	24.74	28.19	3.45
reaction time	0.139	interval	5.68	5.96	6.20	6.39	6.79	7.03	7.98	7.56	193.0	7.95	8.22	7.59	6.66	8.08	7.09			
		velocity	7.25	8.80	8.39	8.06	7.82	7.36	7.11	6.27	7.56	7.95	8.22	7.59	6.66	8.08	7.09			
FINAL - 2022 Weltklasse (Zürich, SUI)											Omega Timing (2022) - diamond league race analysis									
date	08-Sep-22	time	6.97	12.72	18.67	24.68	30.87	37.38	44.44	52.32	52.32	2 / 8	# of strides	12.72	11.96	12.70	14.94	24.68	27.64	2.96
reaction time	0.127	interval	5.75	5.95	6.01	6.19	6.51	7.06	7.88	7.65	186.0	7.86	8.36	7.87	6.69	8.10	7.24			
		velocity	7.17	8.70	8.40	8.32	8.08	7.68	7.08	6.35	7.65	7.86	8.36	7.87	6.69	8.10	7.24			
FINAL - 2022 Memorial van Damme (Brussels, BEL)											Omega Timing (2022) - diamond league race analysis									
date	02-Sep-22	time	6.70	12.22	17.95	23.84	29.96	36.56	43.66	51.73	51.73	1 / 8	# of strides	12.22	11.62	12.72	15.17	23.84	27.89	4.05
reaction time	0.136	interval	5.52	5.73	5.89	6.12	6.60	7.10	8.07	7.73	186.0	8.18	8.61	7.86	6.59	8.39	7.17			
		velocity	7.46	9.06	8.73	8.49	8.17	7.58	7.04	6.20	7.73	8.18	8.61	7.86	6.59	8.39	7.17			
FINAL - 2022 Athletissima (Lausanne, SUI)											Omega Timing (2022) - diamond league race analysis									
date	26-Aug-22	time	6.85	12.51	18.46	24.56	30.80	37.26	44.11	51.63	51.63	2 / 7	# of strides	12.51	12.05	12.70	14.37	24.56	27.07	2.51
reaction time	0.139	interval	5.66	5.95	6.10	6.24	6.46	6.85	7.52	7.75	186.0	7.99	8.30	7.87	6.96	8.14	7.39			
		velocity	7.30	8.83	8.40	8.20	8.01	7.74	7.30	6.65	7.75	7.99	8.30	7.87	6.96	8.14	7.39			
FINAL - 2022 Herculis Meeting International d'Athlétisme (Monaco, MON)											Omega Timing (2022) - diamond league race analysis									
date	10-Aug-22	time	6.82	12.45	18.27	24.29	30.47	36.89	43.59	50.52	50.52	6 / 4	# of strides	12.45	11.84	12.60	13.63	24.29	26.23	1.94
reaction time	0.138	interval	5.63	5.82	6.02	6.18	6.42	6.70	6.93	7.92	186.5	8.03	8.45	7.94	7.34	8.23	7.62			
		velocity	7.33	8.88	8.59	8.31	8.09	7.79	7.46	7.22	7.92	8.03	8.45	7.94	7.34	8.23	7.62			
FINAL - 2022 Silesia Kamila Skolimowska Memorial (Chorzów, POL)											Omega Timing (2022) - diamond league race analysis									
date	06-Aug-22	time	6.82	12.48	18.27	24.28	30.32	36.61	43.14	50.31	50.31	5 / 4	# of strides	12.48	11.80	12.33	13.70	24.28	26.03	1.75
reaction time	0.149	interval	5.66	5.79	6.01	6.04	6.29	6.53	7.17	7.95	186.0	8.01	8.47	8.11	7.30	8.24	7.68			
		velocity	7.33	8.83	8.64	8.32	8.28	7.95	7.66	6.97	7.95	8.01	8.47	8.11	7.30	8.24	7.68			
FINAL - 2022 World Athletics Championships (Eugene, OR)											Timing by Seiko (2022) - world athletics championships race analysis									
date	22-Jul-22	time	12.36	23.98	36.52	50.36	50.36	2 / 5	# of strides	12.36	11.62	12.54	13.84	23.98	26.38	2.40				
reaction time	0.131	interval	11.62	12.54	13.84	7.94	7.94	187.7	8.08	8.55	7.91	7.23	8.34	7.58						
		velocity	8.09	8.61	7.97	7.23	7.94	187.7	8.08	8.55	7.91	7.23	8.34	7.58						
Semi-Final 2 - 2022 World Athletics Championships (Eugene, OR)											Timing by Seiko (2022) - world athletics championships race analysis									
date	20-Jul-22	time	12.38	24.07	36.72	50.56	50.56	3 / 3	# of strides	12.38	11.69	12.65	13.84	24.07	26.49	2.42				
reaction time	0.133	interval	11.69	12.65	13.84	7.91	7.91	187.7	8.08	8.55	7.91	7.23	8.31	7.55						
		velocity	8.08	8.55	7.91	7.23	7.91	187.7	8.08	8.55	7.91	7.23	8.31	7.55						
Heat 2 - 2022 World Athletics Championships (Eugene, OR)											Timing by Seiko (2022) - world athletics championships race analysis									
date	17-Jul-22	time	12.38	24.27	36.73	50.15	50.15	4 / 1	# of strides	12.38	11.89	12.46	13.42	24.27	25.88	1.61				
reaction time	0.123	interval	11.89	12.46	13.42	7.98	7.98	186.2	8.08	8.41	8.03	7.45	8.24	7.73						
		velocity	8.08	8.41	8.03	7.45	7.98	186.2	8.08	8.41	8.03	7.45	8.24	7.73						
FINAL - 2022 Meeting International Mohammed VI d'Athlétisme (Rabat, MAR)											Omega Timing (2022) - diamond league race analysis									
date	05-Jun-22	time	6.57	12.09	17.79	23.76	30.11	36.78	43.53	51.37	51.37	6 / 3	# of strides	12.09	11.67	13.02	14.59	23.76	27.61	3.85
reaction time	0.134	interval	5.52	5.70	5.97	6.35	6.67	6.75	7.84	7.79	190.0	8.27	8.57	7.68	6.85	8.42	7.24			
		velocity	7.61	9.06	8.77	8.38	7.87	7.50	7.41	6.38	7.79	8.27	8.57	7.68	6.85	8.42	7.24			
FINAL - 2022 Doha Diamond League (Doha, QAT)											Omega Timing (2022) - diamond league race analysis									
date	13-May-22	time	6.6	12.5	18.7	24.9	31.2	37.7	44.4	51.69	51.69	6 / 2	# of strides	12.50	12.40	12.80	13.99	24.90	26.79	1.89
reaction time	0.128	interval	5.90	6.20	6.20	6.30	6.50	6.70	7.29	7.74	191.7	8.00	8.06	7.81	7.15	8.03	7.47			
		velocity	7.58	8.47	8.06	8.06	7.94	7.69	7.46	6.86	7.74	8.00	8.06	7.81	7.15	8.03	7.47			
FINAL - 2021 Weltklasse (Zürich, SUI)											Omega Timing (2021) - diamond league race analysis									
date	09-Sep-21	time	6.8	12.4	18.2	24.1	30.1	36.5	43.2	50.25	50.25	4 / 4	# of strides	12.40	11.70	12.40	13.75	24.10	26.15	2.05
reaction time	0.130	interval	5.60	5.80	5.90	6.00	6.40	6.70	7.05	7.96	187.2	8.06	8.55	8.06	7.27	8.30	7.65			
		velocity	7.35	8.93	8.62	8.47	8.33	7.81	7.46	7.09	7.96	8.06	8.55	8.06	7.27	8.30	7.65			
FINAL - 2020 Olympic Games (Tokyo, JPN)											Omega Timing (2022) - Tokyo 2020 - race analysis - women's 400m final									
date	06-Aug-21	time	6.61	11.98	17.49	23.30	29.49	35.90	42.44	49.62	49.61	6 / 4	# of strides	11.98	11.32	12.60	13.72	23.30	26.32	3.02
reaction time	0.131	interval	5.37	5.51	5.81	6.19	6.41	6.54	7.18	8.06	185.5	8.35	8.83	7.94	7.29	8.58	7.60			
		velocity	7.56	9.31	9.07	8.61	8.08	7.80	7.65	6.96	8.06	8.35	8.83	7.94	7.29	8.58	7.60			
FINAL - 2021 Müller British Grand Prix (Gateshead, GBR)											Omega Timing (2021) - diamond league race analysis									
date	13-Jun-21	time	6.8	12.2	17.9	23.7	29.8	36.4	43.1	50.44	50.44	4 / 1	# of strides	12.20	11.50	12.70	14.04	23.70	26.74	3.04
reaction time	0.136	interval	5.40	5.70	5.80	6.10	6.60	6.70	7.34	7.93	188.0	8.20	8.70	7.87	7.12	8.44	7.48			
		velocity	7.35	9.26	8.77	8.62	8.20	7.58	7.46	6.81	7.93	8.20	8.70	7.87	7.12	8.44	7.48			
FINAL - 2021 Müller Grand Prix (Gateshead, GBR)											Omega Timing (2021) - diamond league race analysis									
date	23-May-21	time	7.4	13.2	19.0	25.0	31.1	37.8	44.9	51.96	51.96	6 / 2	# of strides	13.20	11.80	12.80	14.16	25.00	26.96	1.96
reaction time	0.129	interval	5.80	5.80	6.00	6.10	6.70	7.10	7.06											
		velocity																		

velocity	6.76	8.62	8.62	8.33	8.20	7.46	7.04	7.08	7.70	194.0	7.58	8.47	7.81	7.06	8.00	7.42
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Semi-Final 3 - 2019 IAAF World Championships (Doha, QAT)*Yamanaka (2019) - race analysis of men and women 400m competition*

date	01-Oct-19	time	6.71	12.28	17.91	23.81	29.94	36.38	43.16	50.70	50.70	6 / 1							
reaction time	0.134	interval		5.57	5.63	5.90	6.13	6.44	6.78	7.54		# of strides	12.28	11.53	12.57	14.32	23.81	26.89	3.08
		velocity	7.45	8.98	8.88	8.47	8.16	7.76	7.37	6.63	7.89		187.5	8.14	8.67	7.96	6.98	8.40	7.44

FINAL - 2019 Weltklasse (Zürich, SUI)*Omega Timing (2019) - diamond league race analysis*

date	29-Aug-19	time	6.9	12.5	18.4	24.4	30.7	37.3	44.3	51.90	51.90	5 / 6							
reaction time	0.126	interval		5.6	5.9	6.0	6.3	6.6	7.0	7.6		# of strides	12.50	11.90	12.90	14.60	24.40	27.50	3.10
		velocity	7.25	8.93	8.47	8.33	7.94	7.58	7.14	6.58	7.71		190.0	8.00	8.40	7.75	6.85	8.20	7.27

FINAL - 2019 Meeting de Paris (Paris, FRA)*Omega Timing (2019) - diamond league race analysis*

date	24-Aug-19	time		12.6		24.5		37.4		51.11	51.11	7 / 1							
reaction time	0.136	interval				11.9		12.9		13.7		# of strides	12.60	11.90	12.90	13.71	24.50	26.61	2.11
		velocity		7.94		8.40		7.75		7.29	7.83		188.5	7.94	8.40	7.75	7.29	8.16	7.52

FINAL - 2019 Athletissima (Lausanne, SUI)*Omega Timing (2019) - diamond league race analysis*

date	05-Jul-19	time		12.6		24.3		36.8		50.88	50.88	7 / 3							
reaction time	0.140	interval				11.7		12.5		14.1		# of strides	12.60	11.70	12.50	14.08	24.30	26.58	2.28
		velocity		7.94		8.55		8.00		7.10	7.86		7.94	8.55	8.00	7.10	8.23	7.52	

FINAL - 2019 Golden Gala Pietro Mennea (Rome, ITA)*Omega Timing (2019) - diamond league race analysis*

date	06-Jun-19	time		12.5		24.2		37.1		51.39	51.39	4 / 3							
reaction time	0.152	interval				11.7		12.9		14.3		# of strides	12.50	11.70	12.90	14.29	24.20	27.19	2.99
		velocity		8.00		8.55		7.75		7.00	7.78		190.0	8.00	8.55	7.75	7.00	8.26	7.36

FINAL - 2019 Shanghai (Shanghai, CHN)*Omega Timing (2019) - diamond league race analysis*

date	18-May-19	time		12.5		24.5		37.3		51.39	51.39	7 / 4							
reaction time	0.142	interval				12.0		12.8		14.1		# of strides	12.50	12.00	12.80	14.09	24.50	26.89	2.39
		velocity		8.00		8.33		7.81		7.10	7.78		190.0	8.00	8.33	7.81	7.10	8.16	7.44

FINAL - 2018 Müller Anniversary Games (London, GBR)*Omega Timing (2018) - diamond league race analysis*

date	22-Jul-18	time		12.3		24.0		36.7		50.31	50.31	5 / 1							
reaction time	0.133	interval				11.7		12.7		13.6		# of strides	12.30	11.70	12.70	13.61	24.00	26.31	2.31
		velocity		8.13		8.55		7.87		7.35	7.95		184.5	8.13	8.55	7.87	7.35	8.33	7.60

FINAL - 2018 Meeting de Paris (Paris, FRA)*Omega Timing (2018) - diamond league race analysis*

date	30-Jun-18	time		12.4		24.4		37.1		50.85	50.85	2 / 5							
reaction time	0.139	interval				12.0		12.7		13.8		# of strides	12.40	12.00	12.70	13.75	24.40	26.45	2.05
		velocity		8.06		8.33		7.87		7.27	7.87		186.7	8.06	8.33	7.87	7.27	8.20	7.56

FINAL - 2017 Memorial van Damme (Brussels, BEL)*Omega Timing (2017) - diamond league race analysis*

date	01-Sep-17	time		12.4	18.2	24.2	30.6	37.3	44.3	51.72	51.72	5 / 7							
reaction time	0.140	interval			5.80	6.00	6.40	6.70	7.00	7.42		# of strides	12.40	11.80	13.10	14.42	24.20	27.52	3.32
		velocity		8.06	8.62	8.33	7.81	7.46	7.14	6.74	7.73		186.0	8.06	8.47	7.63	6.93	8.26	7.27

FINAL - 2017 IAAF World Championships (London, GBR)*Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Women's 400m*

date	09-Aug-17	time		12.05		23.54		36.33	43.20	50.70	50.86	8 / 6							
reaction time	0.162	interval				11.49		12.79	6.87	7.50		# of strides	12.05	11.49	12.79	14.37	23.54	27.16	3.62
		velocity		8.30		8.70		7.82	7.28	6.67	7.86		188.0	8.30	8.70	7.82	6.96	8.50	7.36

Semi-Final 1 - 2017 IAAF World Championships (London, GBR)*Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Women's 400m*

date	07-Aug-17	time		12.18		23.73		36.47	43.16	50.40	50.56	7 / 2							
reaction time	0.159	interval				11.55		12.74	6.69	7.24		# of strides	12.18	11.55	12.74	13.93	23.73	26.67	2.94
		velocity		8.21		8.66		7.85	7.47	6.91	7.91		188.3	8.21	8.66	7.85	7.18	8.43	7.50

FINAL - 2016 Olympic Games (Rio de Janeiro, BRA)*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*

date	15-Aug-16	time		6.79	12.36	18.03	23.85	29.94	36.36	43.26	50.97	50.97	8 / 6							
reaction time	0.133	interval			5.57	5.67	5.82	6.09	6.42	6.90	7.71		# of strides	12.36	11.49	12.51	14.61	23.85	27.12	3.27
		velocity		7.36	8.98	8.82	8.59	8.21	7.79	7.25	6.49	7.85		187.2	8.09	8.70	7.99	6.84	8.39	7.37

FINAL - 2015 IAAF World Championships (Beijing, CHN)*Kohei (2015) - 400m race analysis of male & female at major 2015 competitions*

date	27-Aug-15	time		6.78	12.41	18.18	24.27	30.36	36.58	43.19	50.42	50.42	9 / 5							
reaction time	0.150	interval			5.63	5.77	6.09	6.09	6.22	6.61	7.23		# of strides	12.41	11.86	12.31	13.84	24.27	26.15	1.88
		velocity		7.37	8.88	8.67	8.21	8.21	8.04	7.56	6.92	7.93		8.06	8.43	8.12	7.23	8.24	7.65	

Heat 4 - 2015 IAAF World Championships (Beijing, CHN)*Yamamoto (2015) - race analysis of 15th World Championships 400m - focusing on men's semis and women's prelims*

date	24-Aug-15	time		6.68	12.22	17.93	23.86	30.07	36.63	43.42	50.34	50.34	5 / 1							
reaction time	0.169	interval			5.54	5.71	5.93	6.21	6.56	6.79	6.92		# of strides	12.22	11.64	12.77	13.71	23.86	26.48	2.62
		velocity		7.49	9.03	8.76	8.43	8.05	7.62	7.36	7.23	7.95		8.18	8.59	7.83	7.29	8.38	7.55	

FINAL - 2013 IAAF World Championships (Moscow, RUS)*(2013) - <http://speedendurance.com/2013/10/07/racing-400-meters-differences-in-elite-men-and-women/>*

date	12-Aug-13	time				23.7		36.0		49.6	49.99	2 / 4							
reaction time	0.198	interval						12.30		13.60		# of strides			12.30	13.60	23.70	25.90	2.20
		velocity				8.44		8.13		7.35	8.00				8.13	7.35	8.44	7.72	

Melnyk, Tetyana (UKR) (1995)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
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Heat 3 - 2024 European Athletics Championships (Roma, ITA)*European Athletics (2024) - 2024 european athletics championships - results book*

date	08-Jun-24	time		13.16		25.57		39.01		54.06	54.06	9 / 7							
reaction time	0.267	interval				12.41		13.44		15.05		# of strides	13.16	12.41	13.44	15.05	25.57	28.49	2.92
		velocity		7.60		8.06		7.44		6.64	7.40		7.60	8.06	7.44	6.64	7.82	7.02	

Merino, Julia (ESP) (1971)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
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FINAL - 1989 IAAF World Cup (Barcelona, ESP)*Pascua (1990) - atletismo (I) carreras y marcha*

date	10-Sep-89	time	13.45	25.20	38.95	53.63	53.63		/ - 6										
reaction time		interval		11.75	13.75	14.68			# of strides	13.45	11.75	13.75	14.68	25.20	28.43	3.23			
		velocity	7.43	8.51	7.27	6.81	7.46			7.43	8.51	7.27	6.81	7.94	7.03				
Merry, Katharine (GBR) (1974)	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential		
FINAL - 2000 Olympic Games (Sydney, AUS)																			
date	25-Sep-00	time	12.32		23.80		36.08	49.72	49.72										
reaction time	0.270	interval		11.48	12.28		13.64	PB		# of strides	12.32	11.48	12.28	13.64	23.80	25.92	2.12		
		velocity	8.12	8.71	8.14		7.33	8.05			8.12	8.71	8.14	7.33	8.40	7.72			
FINAL - 1999 IAAF World Championships (Sevilla, ESP)																			
date	26-Aug-99	time	6.68	12.24	17.95	23.91	30.04	36.37	43.12	50.52	50.52								
reaction time	0.193	interval		5.56	5.71	5.96	6.13	6.33	6.75	7.40									
		velocity	7.49	8.99	8.76	8.39	8.16	7.90	7.41	6.76									
Mikhailuyk, Mariya (RUS) (1991)	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential		
Heat 3 - 2015 IAAF World Championships (Beijing, CHN)																			
date	24-Aug-15	time	6.91	12.69	18.64	24.90	31.29	37.74	44.57	52.16	52.16								
reaction time	0.229	interval		5.78	5.95	6.26	6.39	6.45	6.83	7.59									
		velocity	7.24	8.65	8.40	7.99	7.82	7.75	7.32	6.59	7.67								
Mikhina, Elina (KAZ) (1994)	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential		
FINAL - 2019 Asian Athletics Championships (Doha, QAT)																			
date	21-Apr-19	time	7.05	12.83	18.85	25.33	32.04	38.93	45.99	53.19	53.19								
reaction time	0.244	interval		5.78	6.02	6.48	6.71	6.89	7.06	7.20									
		velocity	7.09	8.65	8.31	7.72	7.45	7.26	7.08	6.94	7.52								
FINAL - 2018 Asian Games (Jakarta, INA)																			
date	26-Aug-18	time	7.07	12.94	19.09	25.48	32.03	38.70	45.51	52.63	52.63								
reaction time	0.206	interval		5.87	6.15	6.39	6.55	6.67	6.81	7.12									
		velocity	7.07	8.52	8.13	7.82	7.63	7.50	7.34	7.02	7.60								
Miki, Shiori (JPN) (1991)	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential		
FINAL - 2008 Japanese National High School Championships (Kumagaya, JPN)																			
date	29-Jul-08	time	7.27	13.49	20.02	26.76	33.77	40.89	48.31	56.03	56.03								
reaction time		interval		6.22	6.53	6.74	7.01	7.12	7.42	7.72									
		velocity	6.88	8.04	7.66	7.42	7.13	7.02	6.74	6.48	7.14								
Miklós, Andrea (ROU) (1999)	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential		
Invitational - 2024 Memorial van damme (Brussels, BEL)																			
date	13-Sep-24	time	6.66	12.17	17.86	23.90	30.18	36.80	43.69	51.16	51.16								
reaction time	0.144	interval		5.51	5.69	6.04	6.28	6.62	6.89	7.47									
		velocity	7.51	9.07	8.79	8.28	7.96	7.55	7.26	6.69	7.82								
Semi-Final 2 - 2024 Olympic Games (Paris, FRA)																			
date	07-Aug-24	time	6.76	12.28	17.98	23.95	30.20	36.76	43.52	50.78	50.78								
reaction time	0.158	interval		5.52	5.70	5.97	6.25	6.56	6.76	7.26									
		velocity	7.40	9.06	8.77	8.38	8.00	7.62	7.40	6.89	7.88								
Heat 1 - 2024 Olympic Games (Paris, FRA)																			
date	05-Aug-24	time	6.70	12.13	17.83	23.88	30.14	36.57	43.29	50.54	PB								
reaction time	0.149	interval		5.43	5.70	6.05	6.26	6.43	6.72	7.25									
		velocity	7.46	9.21	8.77	8.26	7.99	7.78	7.44	6.90	7.91								
FINAL - 2024 Meeting de Paris (Paris, FRA)																			
date	07-Jul-24	time	6.81	12.33	17.94	23.88	30.17	36.69	43.60	51.08	51.08								
reaction time	0.188	interval		5.52	5.61	5.94	6.29	6.52	6.91	7.48									
		velocity	7.34	9.06	8.91	8.42	7.95	7.67	7.24	6.68	7.83								
FINAL - 2024 European Athletics Championships (Roma, ITA)																			
date	10-Jun-24	time		12.30		23.84		36.41		50.71	50.71								
reaction time	0.285	interval			11.54		12.57		14.30										
		velocity		8.13	8.67		7.96	6.99	6.99	7.89									
Semi-Final 2 - 2024 European Athletics Championships (Roma, ITA)																			
date	09-Jun-24	time		12.35		24.37		37.22		51.13	51.13								
reaction time	0.197	interval			12.02		12.85		13.91										
		velocity		8.10	8.32		7.78	7.19	7.82										
Semi-Final 3 - 2023 World Athletics Championships (Budapest, HUN)																			
date	21-Aug-23	time		12.43		24.09		36.98		50.77	50.77								
reaction time	0.178	interval			11.66		12.89		13.79										
		velocity		8.05	8.58		7.76	7.25	7.88										
Heat 5 - 2023 World Athletics Championships (Budapest, HUN)																			
date	20-Aug-23	time		12.55						51.24									
reaction time	0.192	interval																	
		velocity		7.97						7.81									
FINAL - 2018 IAAF World Junior Championships (Tampere, FIN)																			
date	12-Jul-18	time	6.93	12.70	18.65	24.86	31.31	37.99	44.81	52.07	52.07								
reaction time	0.198	interval		5.77	5.95	6.21	6.45	6.68	6.82	7.26	PB								
		velocity	7.22	8.67	8.40	8.05	7.75	7.49	7.33	6.89	7.68								
Miles-Clark, Jearl (USA) (1966)	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential		

FINAL - 2000 USA Olympic Trials (Sacramento, CA)*Hymans (2008) - history of the US olympic trials - track and field*

date	16-Jul-00	time	12.5	24.2	36.4	50.23	50.23	5 / 2								
reaction time		interval		11.70	12.20	13.83		# of strides	12.50	11.70	12.20	13.83	24.20	26.03	1.83	
		velocity	8.00	8.55	8.20	7.23	7.96		8.00	8.55	8.20	7.23	8.26	7.68		

FINAL - 1997 IAAF World Championships (Athens, GRE)*Ritzdorf (1997) - biomechanical research project at the VI th world championships in athletics, Athens 1997*

date	04-Aug-97	time	6.67	12.23	17.79	23.75	29.83	36.07	42.67	49.75	49.90	4 / 3							
reaction time	0.143	interval	5.56	5.56	5.96	6.08	6.24	6.60	7.08			# of strides	12.23	11.52	12.32	13.68	23.75	26.00	2.25
		velocity	7.50	8.99	8.99	8.39	8.22	8.01	7.58	7.06	8.02		8.18	8.68	8.12	7.31	8.42	7.69	

FINAL - 1996 Olympic Games (Atlanta, GA)*Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*

date	29-Jul-96	time		23.97	36.1	49.55	49.55	8 / 5								
reaction time	0.320	interval			12.13	13.45	PB	# of strides			12.13	13.45	23.97	25.58	1.61	
		velocity		8.34	8.24	7.43	8.07			8.24	7.43	8.34	7.82			

FINAL - 1996 USA Olympic Trials (Atlanta, GA)*USATF Women's Sprint Development (1996)*

date	19-Jun-96	time	12.28	24.05	36.60	43.33	50.61	50.61	4 / 2							
reaction time		interval	11.77	12.55	6.73	7.28		# of strides	12.28	11.77	12.55	14.01	24.05	26.56	2.51	
		velocity	8.14	8.50	7.97	7.43	6.87	7.90		8.14	8.50	7.97	7.14	8.32	7.53	

Semi-Final 2 - 1996 USA Olympic Trials (Atlanta, GA)*USATF Women's Sprint Development (1996)*

date	17-Jun-96	time	12.64	24.43	36.96	43.46	50.45	50.45	3 / 2							
reaction time		interval	11.79	12.53	6.50	6.99		# of strides	12.64	11.79	12.53	13.49	24.43	26.02	1.59	
		velocity	7.91	8.48	7.98	7.69	7.15	7.93		7.91	8.48	7.98	7.41	8.19	7.69	

FINAL - 1993 IAAF World Championships (Stuttgart, GER)*Smith (1994) - 400m pace control*

date	17-Aug-93	time	23.95	36.33	49.82	49.82	6 / 1									
reaction time		interval	12.38	13.49	PB	# of strides				12.38	13.49	23.95	25.87	1.92		
		velocity	8.35	8.08	7.41	8.03			8.08	7.41	8.35	7.73				

Miles, Jearl (USA) (1966)**FINAL - 1991 IAAF World Championships (Tokyo, JPN)***Butler (2013) - IAAF world championships statistics handbook- moscow 2013*

date	27-Aug-91	time	23.72		50.50	50.50	8 / 5									
reaction time		interval			26.78		# of strides					23.72	26.78	3.06		
		velocity	8.43		7.47	7.92						8.43	7.47			

Miller, Polina (RUS) (2000)**B Race - 2021 Athletissima (Lausanne, SU1)***Omega Timing (2021) - diamond league race analysis*

date	26-Aug-21	time	6.7	12.3	18.3	24.4	30.6	37.2	44.3	52.16	52.16	4 / 1							
reaction time	0.139	interval	5.60	6.00	6.10	6.20	6.60	7.10	7.86			# of strides	12.30	12.10	12.80	14.96	24.40	27.76	3.36
		velocity	7.46	8.93	8.33	8.20	8.06	7.58	7.04	6.36	7.67		8.13	8.26	7.81	6.68	8.20	7.20	

FINAL - 2019 The Match - Europe v USA (Minsk, BLR)*European Athletics (2019) - race analysis*

date	09-Sep-19	time	12.48	24.13	37.06	52.79	52.79	3 / 7								
reaction time	0.192	interval	11.65	12.93	15.73		# of strides	12.48	11.65	12.93	15.73	24.13	28.66	4.53		
		velocity	8.01	8.58	7.73	6.36	7.58		8.01	8.58	7.73	6.36	8.29	6.98		

Miller-Uibo, Shaunae (BAH) (1994)**Repechage 2 - 2024 Olympic Games (Paris, FRA)***Paris 2024 Olympic Games - Results Book (2024)*

date	06-Aug-24	time	6.76	12.24	17.83	23.71	30.01	36.78	44.53	53.50	53.50	2 / 7							
reaction time	0.167	interval	5.48	5.59	5.88	6.30	6.77	7.75	8.97			# of strides	12.24	11.47	13.07	16.72	23.71	29.79	6.08
		velocity	7.40	9.12	8.94	8.50	7.94	7.39	6.45	5.57	7.48		8.17	8.72	7.65	5.98	8.44	6.71	

Heat 4 - 2024 Olympic Games (Paris, FRA)*Paris 2024 Olympic Games - Results Book (2024)*

date	05-Aug-24	time	6.84	12.50	18.35	24.49	32.05			2:22.29	7 / 7					
reaction time	0.143	interval	5.66	5.85	6.14	7.56					# of strides	12.50	11.99		24.49	
		velocity	7.31	8.83	8.55	8.14	6.61					8.00	8.34		8.17	

FINAL - 2023 Weltklasse (Zürich, SU1)*Omega Timing (2023) - diamond league race analysis*

date	31-Aug-23	time	6.78	12.39	18.27	24.48	30.83	37.32	44.20	51.83	51.83	6 / 1							
reaction time	0.156	interval	5.61	5.88	6.21	6.35	6.49	6.88	7.63			# of strides	12.39	12.09	12.84	14.51	24.48	27.35	2.87
		velocity	7.37	8.91	8.50	8.05	7.87	7.70	7.27	6.55	7.72		8.07	8.27	7.79	6.89	8.17	7.31	

Heat 3 - 2023 World Athletics Championships (Budapest, HUN)*Seiko Timing (2023) - world championship race analysis*

date	20-Aug-23	time	12.65	24.80	37.70	52.65	52.65	8 / 7								
reaction time	0.151	interval	12.15	12.90	14.95		# of strides	12.65	12.15	12.90	14.95	24.80	27.85	3.05		
		velocity	7.91	8.23	7.75	6.69	7.60		7.91	8.23	7.75	6.69	8.06	7.18		

FINAL - 2022 Herculis Meeting International d'Athlétisme (Monaco, MON)*Omega Timing (2022) - diamond league race analysis*

date	10-Aug-22	time	6.56	11.90	17.47	23.32	29.31	35.43	41.97	49.28	49.28	4 / 1							
reaction time	0.146	interval	5.34	5.57	5.85	5.99	6.12	6.54	7.31			# of strides	11.90	11.42	12.11	13.85	23.32	25.96	2.64
		velocity	7.62	9.36	8.98	8.55	8.35	8.17	7.65	6.84	8.12		8.40	8.76	8.26	7.22	8.58	7.70	

FINAL - 2022 World Athletics Championships (Eugene, OR)*Timing by Seiko (2022) - world athletics championships race analysis*

date	22-Jul-22	time	11.76	23.24	35.61	49.11	49.11	3 / 1								
reaction time	0.123	interval	11.48	12.37	13.50		# of strides	11.76	11.48	12.37	13.50	23.24	25.87	2.63		
		velocity	8.50	8.71	8.08	7.41	8.14		8.50	8.71	8.08	7.41	8.61	7.73		

Semi-Final 1 - 2022 World Athletics Championships (Eugene, OR)*Timing by Seiko (2022) - world athletics championships race analysis*

date	20-Jul-22	time	11.78	23.43	35.71	49.55	49.55	6 / 1								
reaction time	0.129	interval	11.65	12.28	13.84		# of strides	11.78	11.65	12.28	13.84	23.43	26.12	2.69		
		velocity	8.49	8.58	8.14	7.23	8.07		8.49	8.58	8.14	7.23	8.54	7.66		

Heat 1 - 2022 World Athletics Championships (Eugene, OR)*Timing by Seiko (2022) - world athletics championships race analysis*

date	17-Jul-22	time	12.03	24.13	36.84	51.10	51.10	7 / 1								
reaction time	0.123	interval	12.10	12.71	14.26		# of strides	12.03	12.10	12.71	14.26	24.13	26.97	2.84		

velocity	8.31	8.26	7.87	7.01	7.83	175.0	8.31	8.26	7.87	7.01	8.29	7.42
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FINAL - 2022 Meeting de Paris (Paris, FRA)

Omega Timing (2022) - diamond league race analysis

date	18-Jun-22	time	6.53	11.92	17.54	23.44	29.56	35.82	42.44	50.10	50.10	4 / 1							
reaction time	0.142	interval	5.39	5.62	5.90	6.12	6.26	6.62	7.66			# of strides	11.92	11.52	12.38	14.28	23.44	26.66	3.22
		velocity	7.66	9.28	8.90	8.47	8.17	7.99	7.55	6.53	7.98	175.0	8.39	8.68	8.08	7.00	8.53	7.50	

FINAL - 2022 Doha Diamond League (Doha, QAT)

Omega Timing (2022) - diamond league race analysis

date	13-May-22	time	6.4	10.7	18.1	24.7	31.1	37.5	44.1	51.84	51.84	5 / 3							
reaction time	0.143	interval	4.30	7.40	6.60	6.40	6.40	6.60	7.74			# of strides	10.70	14.00	12.80	14.34	24.70	27.14	2.44
		velocity	7.81	11.63	6.76	7.58	7.81	7.81	7.58	6.46	7.72	180.0	9.35	7.14	7.81	6.97	8.10	7.37	

FINAL - 2020 Olympic Games (Tokyo, JPN)

Omega Timing (2022) - Tokyo 2020 - race analysis - women's 400m final

date	06-Aug-21	time	6.67	12.11	17.65	23.40	29.28	35.36	41.63	48.37	48.36	7 / 1							
reaction time	0.162	interval	5.44	5.54	5.75	5.88	6.08	6.27	6.74	AR		# of strides	12.11	11.29	11.96	13.01	23.40	24.97	1.57
		velocity	7.50	9.19	9.03	8.70	8.50	8.22	7.97	7.42	8.27	175.5	8.26	8.86	8.36	7.69	8.55	8.01	

FINAL - 2019 IAAF World Championships (Doha, QAT)

Yamanaka (2019) - race analysis of men and women 400m competition

date	03-Oct-19	time	6.58	12.06	17.72	23.61	29.63	35.67	41.81	48.37	48.37	7 / 2							
reaction time	0.145	interval	5.48	5.66	5.89	6.02	6.04	6.14	6.56	NR PB		# of strides	12.06	11.55	12.06	12.70	23.61	24.76	1.15
		velocity	7.60	9.12	8.83	8.49	8.31	8.28	8.14	7.62	8.27	173.0	8.29	8.66	8.29	7.87	8.47	8.08	

Semi-Final 2 - 2019 IAAF World Championships (Doha, QAT)

Yamanaka (2019) - race analysis of men and women 400m competition

date	01-Oct-19	time	6.57	12.13	17.85	23.83	29.92	36.06	42.43	49.66	49.66	6 / 1							
reaction time	0.144	interval	5.56	5.72	5.98	6.09	6.14	6.37	7.23			# of strides	12.13	11.70	12.23	13.60	23.83	25.83	2.00
		velocity	7.61	8.99	8.74	8.36	8.21	8.14	7.85	6.92	8.05	173.0	8.24	8.55	8.18	7.35	8.39	7.74	

FINAL - 2018 Herculis Meeting International d'Athlétisme (Monaco, MON)Vazel (2018.08.03) - <https://twitter.com/pjvazel>

date	20-Jul-18	time				23.5		36.1		48.97	48.97	6 / 1						
reaction time		interval						12.60		12.87	NR	# of strides	23.50	12.60	12.87	23.50	25.47	1.97
		velocity				8.51		7.94		7.77	8.17	177.0	4.26	7.94	7.77	8.51	7.85	

FINAL - 2017 Memorial van Damme (Brussels, BEL)

Omega Timing (2017) - diamond league race analysis

date	01-Sep-17	time	12.0	17.8	23.8	30.1	36.4	42.8	49.46	49.46		7 / 1							
reaction time	0.147	interval		5.80	6.00	6.30	6.30	6.40	6.66			# of strides	12.00	11.80	12.60	13.06	23.80	25.66	1.86
		velocity	8.33	8.62	8.33	7.94	7.94	7.81	7.51	8.09		179.0	8.33	8.47	7.94	7.66	8.40	7.79	

FINAL - 2017 IAAF World Championships (London, GBR)

Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Women's 400m

date	09-Aug-17	time	11.46			22.74		35.20	41.93	50.33	50.49	7 / 4							
reaction time	0.160	interval			11.28		12.46	6.73	8.40			# of strides	11.46	11.28	12.46	15.13	22.74	27.59	4.85
		velocity	8.73		8.87		8.03	7.43	5.95	7.92		182.2	8.73	8.87	8.03	6.61	8.80	7.25	

Semi-Final 1 - 2017 IAAF World Championships (London, GBR)

Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Women's 400m

date	07-Aug-17	time	11.93			23.58		36.12	42.85	50.20	50.36	5 / 1							
reaction time	0.161	interval			11.65		12.54	6.73	7.35			# of strides	11.93	11.65	12.54	14.08	23.58	26.62	3.04
		velocity	8.38		8.58		7.97	7.43	6.80	7.94		180.2	8.38	8.58	7.97	7.10	8.48	7.51	

FINAL - 2016 Olympic Games (Rio de Janeiro, BRA)

Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016

date	15-Aug-16	time	6.49	11.80	17.23	22.98	29.03	35.34	42.10	49.44	49.44	7 / 1							
reaction time	0.155	interval	5.31	5.43	5.75	6.05	6.31	6.76	7.34	NR PB		# of strides	11.80	11.18	12.36	14.10	22.98	26.46	3.48
		velocity	7.70	9.42	9.21	8.70	8.26	7.92	7.40	6.81	8.09	182.0	8.47	8.94	8.09	7.09	8.70	7.56	

FINAL - 2015 IAAF World Championships (Beijing, CHN)

Kohei (2015) - 400m race analysis of male & female at major 2015 competitions

date	27-Aug-15	time	6.78	12.24	17.90	23.84	30.01	36.14	42.65	49.67	49.67	5 / 2							
reaction time	0.176	interval	5.46	5.66	5.94	6.17	6.13	6.51	7.02	NR PB		# of strides	12.24	11.60	12.30	13.53	23.84	25.83	1.99
		velocity	7.37	9.16	8.83	8.42	8.10	8.16	7.68	7.12	8.05		8.17	8.62	8.13	7.39	8.39	7.74	

Heat 6 - 2015 IAAF World Championships (Beijing, CHN)

Yamamoto (2015) - race analysis of 15th World Championships 400m - focusing on men's semis and women's prelims

date	24-Aug-15	time	6.76	12.30	18.05	24.11	30.28	36.64	43.28	50.53	50.53	5 / 1							
reaction time	0.181	interval	5.54	5.75	6.06	6.17	6.36	6.64	7.25			# of strides	12.30	11.81	12.53	13.89	24.11	26.42	2.31
		velocity	7.40	9.03	8.70	8.25	8.10	7.86	7.53	6.90	7.92		8.13	8.47	7.98	7.20	8.30	7.57	

Minami, Chihiro (JPN) (2000)

50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

Kota (2017) - 70th high school championships: JAF scientific committee- biomechanics data

date	29-Jul-17	time	7.24	13.17	19.40	25.98	32.91	40.36	48.20	56.63	56.63	3 / 8							
reaction time	0.229	interval	5.93	6.23	6.58	6.93	7.45	7.84	8.43			# of strides	13.17	12.81	14.38	16.27	25.98	30.65	4.67
		velocity	6.91	8.43	8.03	7.60	7.22	6.71	6.38	5.93	7.06		7.59	7.81	6.95	6.15	7.70	6.53	

Minami, Enari (JPN) (1999)

50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

Kohei (2015) - 400m race analysis of male & female at major 2015 competitions

date	16-Oct-15	time	7.15	13.23	19.60	26.41	33.45	40.92	48.64	56.78	56.78	1 / 8							
reaction time		interval	6.08	6.37	6.81	7.04	7.47	7.72	8.14			# of strides	13.23	13.18	14.51	15.86	26.41	30.37	3.96
		velocity	6.99	8.22	7.85	7.34	7.10	6.69	6.48	6.14	7.04		7.56	7.59	6.89	6.31	7.57	6.59	

Mingilishi, Niddy (ZAM) (2001)

50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

Timing by Seiko (2022) - world athletics championships race analysis

date	17-Jul-22	time				25.06		38.38		52.84	52.84	5 / 7							
reaction time	0.163	interval			12.22		13.32		14.46			# of strides	12.84	12.22	13.32	14.46	25.06	27.78	2.72
		velocity			7.79		8.18		7.51		7.57	192.0	7.79	8.18	7.51	6.92	7.98	7.20	

Mito, Yuriko (JPN) (1995)

50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

(2017) - tfdata-store.com/2017/06/02/post-835/

date	26-May-17	time	13.80			27.11		41.31		56.69	56.69	8 / 6							
reaction time		interval			13.31		14.20		15.38			# of strides	13.80	13.31	14.20	15.38	27.11	29.58	2.47
		velocity			7.25		7.51		7.04		7.06	201.2	7.25	7.51	7.04	6.50	7.38	6.76	

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Mitsui, Sakiya (JPN)																		
FINAL - 2024 Shimane High School Championships (Izumo, JPN)																		
date	24-May-24	time	14.05		28.57		45.04		63.70	63.70	4 / 8							
reaction time		interval			14.52		16.47		18.66		# of strides	14.05	14.52	16.47	18.66	28.57	35.13	6.56
		velocity	7.12		6.89		6.07		5.36	6.28		7.12	6.89	6.07	5.36	7.00	5.69	
Miyama, Rika (JPN) (2005)																		
U20 FINAL - 2023 Japanese National Sports Festival (Kagoshima, JPN) (300m)																		
date	14-Oct-23	time	6.91	12.72	18.78	25.11	31.62	38.53		38.53	4 / 5							
reaction time	0.180	interval		5.81	6.06	6.33	6.51	6.91		PB	# of strides	12.72	12.39	13.42		25.11		100m-300m
		velocity	7.24	8.61	8.25	7.90	7.68	7.24		7.79		7.86	8.07	7.45		7.96		7.75
Miyachi, Ririka (JPN) (2005)																		
U20 FINAL - 2023 Japanese National Sports Festival (Kagoshima, JPN) (300m)																		
date	14-Oct-23	time	6.91	12.65	18.58	24.71	31.14	38.35		38.35	6 / 2							
reaction time	0.186	interval		5.74	5.93	6.13	6.43	7.21		PB	# of strides	12.65	12.06	13.64		24.71		100m-300m
		velocity	7.24	8.71	8.43	8.16	7.78	6.93		7.82		7.91	8.29	7.33		8.09		7.78
FINAL - 2022 Japanese National High School Championships (Naruto, JPN)																		
date	03-Aug-22	time	13.57		26.75		40.80		55.64	55.64	7 / 5							
reaction time	0.201	interval			13.18		14.05		14.84	PB	# of strides	13.57	13.18	14.05	14.84	26.75	28.89	2.14
		velocity	7.37		7.59		7.12		6.74	7.19	198.7	7.37	7.59	7.12	6.74	7.48	6.92	
Miyahara, Hina (JPN)																		
FINAL - 2021 Shimane High School Championships (Izumo, JPN)																		
date	28-May-21	time	14.53		28.35		43.51		60.59	60.59	3 / 2							
reaction time		interval			13.82		15.16		17.08		# of strides	14.53	13.82	15.16	17.08	28.35	32.24	3.89
		velocity	6.88		7.24		6.60		5.85	6.60		6.88	7.24	6.60	5.85	7.05	6.20	
FINAL - 2020 Shimane High School Championships (Izumo, JPN)																		
date	11-Jul-20	time	14.37		28.98		44.62		61.12	61.12	8 / 3							
reaction time		interval			14.61		15.64		16.50		# of strides	14.37	14.61	15.64	16.50	28.98	32.14	3.16
		velocity	6.96		6.84		6.39		6.06	6.54		6.96	6.84	6.39	6.06	6.90	6.22	
Miyaji, Rika (JPN)																		
FINAL - 2023 Japanese National High School Championships (Sapporo, JPN)																		
date	02-Aug-23	time	13.06		26.24		40.07		54.24	54.24	7 / 1							
reaction time	0.242	interval			13.18		13.83		14.17		# of strides	13.06	13.18	13.83	14.17	26.24	28.00	1.76
		velocity	7.66		7.59		7.23		7.06	7.37		7.66	7.59	7.23	7.06	7.62	7.14	
Mizuguchi, Moe (JPN) (2002)																		
U18 FINAL - 2019 Japanese National U18/U20 Championships (Hiroshima, JPN) (300m)																		
date	18-Oct-19	time	12.98		25.54		39.53		39.53		6 / 4							
reaction time	0.192	interval			12.56		13.99				# of strides	12.98	12.56	13.99		25.54		100m-300m
		velocity	7.70		7.96		7.15		7.59		149.2	7.70	7.96	7.15		7.83		7.53
Mizuguchi, Sayo (JPN) (1990)																		
FINAL - 2008 Japanese National High School Championships (Kumagaya, JPN)																		
date	29-Jul-08	time	7.02	13.10	19.42	25.94	32.96	40.12	47.73	55.91	1 / 2							
reaction time		interval		6.08	6.32	6.52	7.02	7.16	7.61	8.18	# of strides	13.10	12.84	14.18	15.79	25.94	29.97	4.03
		velocity	7.12	8.22	7.91	7.67	7.12	6.98	6.57	6.11		7.63	7.79	7.05	6.33	7.71	6.67	
Mo Jiadie (CHN) (2000)																		
FINAL - 2024 Chinese National Championships (Quzhou, CHN)																		
date	16-Sep-24	time	14.01		25.28		38.89	45.91	53.15	53.15	4 / 1							
reaction time	0.218	interval			11.27		13.61	7.02	7.24		# of strides	14.01	11.27	13.61	14.26	25.28	27.87	2.59
		velocity	7.14		8.87		7.35	7.12	6.91	7.53	200.5	7.14	8.87	7.35	7.01	7.91	7.18	
Mochida, Kanon (JPN) (2003)																		
FINAL - 2021 Shimane High School Championships (Izumo, JPN)																		
date	28-May-21	time	14.07		27.60		42.29		58.36	58.36	5 / 1							
reaction time		interval			13.53		14.69		16.07		# of strides	14.07	13.53	14.69	16.07	27.60	30.76	3.16
		velocity	7.11		7.39		6.81		6.22	6.85		7.11	7.39	6.81	6.22	7.25	6.50	
Montoya, Emma (FRA) (1999)																		
FINAL - 2024 Herculis Meeting International d'Athlétisme (Monaco, MON)																		
date	12-Jul-24	time	7.04	12.79	18.66	24.74	30.97	37.44	44.30	51.76	8 / 6							
reaction time	0.178	interval		5.75	5.87	6.08	6.23	6.47	6.86	7.46	PB	# of strides	12.79	11.95	12.70	14.32	24.74	27.02
		velocity	7.10	8.70	8.52	8.22	8.03	7.73	7.29	6.70		7.82	8.37	7.87	6.98	8.08	7.40	
Montsho, Amantle (BOT) (1983)																		
Semi-Final 3 - 2017 IAAF World Championships (London, GBR)																		
date	07-Aug-17	time	12.09		23.70		36.58	43.55	51.08	51.28	6 / 4							
reaction time	0.203	interval			11.61		12.88	6.97	7.53		# of strides	12.09	11.61	12.88	14.50	23.70	27.38	3.68
		velocity	8.27		8.61		7.76	7.17	6.64	7.80	187.0	8.27	8.61	7.76	6.90	8.44	7.30	
FINAL - 2013 IAAF World Championships (Moscow, RUS)																		
date	12-Aug-13	time			23.4		35.0		48.7	49.41	5 / 2							
reaction time	0.273	interval					11.60		13.70		# of strides			11.60	13.70	23.40	25.30	1.90
		velocity			8.55		8.62		7.30	8.10				8.62	7.30	8.55	7.91	
FINAL - 2012 Olympic Games (London, GBR)																		
date	05-Aug-12	time	12.2		23.9		36.3		49.8	49.75	7 / 4							
reaction time	0.198	interval			11.70		12.40		13.50		# of strides	12.20	11.70	12.40	13.50	23.90	25.90	2.00

velocity	8.20	8.55	8.06	7.41	8.04	182.0	8.20	8.55	8.06	7.41	8.37	7.72
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Semi-Final 2 - 2012 Olympic Games (London, GBR)

Hadley (2012) - uka 2012 olympic games report: 400m, 4x 400m

date	04-Aug-12	time	23.45	36.06	50.15	50.15	5 / 1									
reaction time	0.205	interval		12.61	14.09		# of strides		12.61	14.09	23.45	26.70	3.25			
		velocity	8.53	7.93	7.10	7.98	184.0		7.93	7.10	8.53	7.49				

FINAL - 2011 IAAF World Championships (Daegu, KOR)

Butler (2013) - IAAF world athletic results 2008-2011 full results

date	29-Aug-11	time	23.3	35.7	49.56	49.56	4 / 1									
reaction time	0.247	interval		12.40	13.86	NR	# of strides		12.40	13.86	23.30	26.26	2.96			
		velocity	8.58	8.06	7.22	8.07	183.5		8.06	7.22	8.58	7.62				

FINAL - 2009 IAAF World Championships (Berlin, GER)

Graubner (2009) - biomechanical analyses at the 12th IAAF world championships

date	18-Aug-09	time	12.38	37.05	50.65	50.65	8 / 8									
reaction time	0.212	interval		12.09	12.58	13.60	# of strides	12.38	12.09	12.58	13.60	24.47	26.18	1.71		
		velocity	8.08	8.27	7.95	7.35	178.0	8.08	8.27	7.95	7.35	8.17	7.64			

Semi-Final 1 - 2009 IAAF World Championships (Berlin, GER)

Graubner (2009) - biomechanical analyses at the 12th IAAF world championships

date	16-Aug-09	time	12.20	23.74	36.26	49.89	49.89	4 / 2								
reaction time	0.220	interval		11.54	12.52	13.63	# of strides	12.20	11.54	12.52	13.63	23.74	26.15	2.41		
		velocity	8.20	8.67	7.99	7.34	8.02	8.20	8.67	7.99	7.34	8.42	7.65			

Heat 3 - 2009 IAAF World Championships (Berlin, GER)

Graubner (2009) - biomechanical analyses at the 12th IAAF world championships

date	15-Aug-09	time	12.31	23.86	36.68	50.65	50.65	8 / 1								
reaction time	0.219	interval		11.55	12.82	13.97	# of strides	12.31	11.55	12.82	13.97	23.86	26.79	2.93		
		velocity	8.12	8.66	7.80	7.16	7.90	8.12	8.66	7.80	7.16	8.38	7.47			

FINAL - 2009 ISTAF (Berlin, GER)Graubner (2009) - <http://www.fgs.uni-halle.de>

date	14-Jun-09	time	12.56	24.73	37.42	50.94	50.94	/ 2								
reaction time	0.572	interval		12.17	12.69	13.52	# of strides	12.56	12.17	12.69	13.52	24.73	26.21	1.48		
		velocity	7.96	8.22	7.88	7.40	7.85	7.96	8.22	7.88	7.40	8.09	7.63			

FINAL - 2008 IAAF World Athletics Final (Stuttgart, GER)Graubner (2009) - <http://www.fgs.uni-halle.de>

date	14-Sep-08	time	13.04	24.83	37.69	51.54	51.54	3 / 4								
reaction time	0.387	interval		11.79	12.86	13.85	# of strides	13.04	11.79	12.86	13.85	24.83	26.71	1.88		
		velocity	7.67	8.48	7.78	7.22	7.76	7.67	8.48	7.78	7.22	8.05	7.49			

FINAL - 2008 Olympic Games (Beijing, CHN)

Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016

date	19-Aug-08	time	12.3	24.2	36.8	51.2	51.18	8 / 8								
reaction time	0.299	interval		11.90	12.60	14.40	# of strides	12.30	11.90	12.60	14.40	24.20	27.00	2.80		
		velocity	8.13	8.40	7.94	6.94	7.82	8.13	8.40	7.94	6.94	8.26	7.41			

Moraa, Mary (KEN) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
FINAL - 2023 Herculis Meeting International d'Athlétisme (Monaco, MON)																		
date	21-Jul-23	time	7.04	12.73	18.58	24.63	30.83	37.21	43.71	50.48	50.48	3 / 6						
reaction time	0.180	interval		5.69	5.85	6.05	6.20	6.38	6.50	6.77	# of strides	12.73	11.90	12.58	13.27	24.63	25.85	1.22
		velocity	7.10	8.79	8.55	8.26	8.06	7.84	7.69	7.39	7.92	7.86	8.40	7.95	7.54	8.12	7.74	

Omega Timing (2023) - diamond league race analysis

FINAL - 2022 Memorial van Damme (Brussels, BEL)

date	02-Sep-22	time	7.10	12.92	18.68	24.63	30.81	37.25	43.83	50.67	50.67	3 / 4							
reaction time	0.168	interval		5.82	5.76	5.95	6.18	6.44	6.58	6.84	NR PB	# of strides	12.92	11.71	12.62	13.42	24.63	26.04	1.41
		velocity	7.04	8.59	8.68	8.40	8.09	7.76	7.60	7.31	7.89	7.74	8.54	7.92	7.45	8.12	7.68		

Omega Timing (2022) - diamond league race analysis

FINAL - 2018 IAAF World Junior Championships (Tampere, FIN)

Koyama (2018) - research on athlete performance and technique- 2018 data book

date	12-Jul-18	time	7.05	12.85	18.89	25.29	31.84	38.53	45.46	52.94	52.94	7 / 5						
reaction time	0.286	interval		5.80	6.04	6.40	6.55	6.69	6.93	7.48	# of strides	12.85	12.44	13.24	14.41	25.29	27.65	2.36
		velocity	7.09	8.62	8.28	7.81	7.63	7.47	7.22	6.68	7.56	202.0	7.78	8.04	7.55	6.94	7.91	7.23

Morán, Paola (MEX) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
Semi-Final 3 - 2024 Olympic Games (Paris, FRA)																		
date	07-Aug-24	time	6.71	12.39	18.22	24.27	30.51	36.92	43.59	50.73	50.73	9 / 6						
reaction time	0.183	interval		5.68	5.83	6.05	6.24	6.41	6.67	7.14	# of strides	12.39	11.88	12.65	13.81	24.27	26.46	2.19
		velocity	7.45	8.80	8.58	8.26	8.01	7.80	7.50	7.00	7.88	8.07	8.42	7.91	7.24	8.24	7.56	

Paris 2024 Olympic Games - Results Book (2024)

Heat 3 - 2024 Olympic Games (Paris, FRA)

date	05-Aug-24	time	6.67	12.37	18.30	24.45	30.65	37.08	43.82	51.04	51.04	6 / 3						
reaction time	0.173	interval		5.70	5.93	6.15	6.20	6.43	6.74	7.22	# of strides	12.37	12.08	12.63	13.96	24.45	26.59	2.14
		velocity	7.50	8.77	8.43	8.13	8.06	7.78	7.42	6.93	7.84	190.0	8.08	8.28	7.92	7.16	8.18	7.52

Paris 2024 Olympic Games - Results Book (2024)

Semi-Final 1 - 2023 World Athletics Championships (Budapest, HUN)

Seiko Timing (2023) - world championship race analysis

date	21-Aug-23	time	12.58	24.32		37.18		51.46	51.46	6 / 6							
reaction time	0.215	interval		11.74		12.86		14.28		# of strides	12.58	11.74	12.86	14.28	24.32	27.14	2.82
		velocity	7.95	8.52		7.78		7.00	7.77	190.0	7.95	8.52	7.78	7.00	8.22	7.37	

Heat 3 - 2023 World Athletics Championships (Budapest, HUN)

Seiko Timing (2023) - world championship race analysis

date	20-Aug-23	time	12.41	24.53		37.35		51.59	51.59	6 / 2							
reaction time	0.189	interval		12.12		12.82		14.24		# of strides	12.41	12.12	12.82	14.24	24.53	27.06	2.53
		velocity	8.06	8.25		7.80		7.02	7.75	188.0	8.06	8.25	7.80	7.02	8.15	7.39	

Heat 1 - 2022 World Athletics Championships (Eugene, OR)

Timing by Seiko (2022) - world athletics championships race analysis

date	17-Jul-22	time	12.46	24.87		37.78		52.28	52.28	5 / 5							
reaction time	0.190	interval		12.41		12.91		14.50		# of strides	12.46	12.41	12.91	14.50	24.87	27.41	2.54
		velocity	8.03	8.06		7.75		6.90	7.65	192.7	8.03	8.06	7.75	6.90	8.04	7.30	

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Morauskaitė, Modesta Justė (LTU) (1)																	

Repechage 2 - 2024 Olympic Games (Paris, FRA)

Paris 2024 Olympic Games - Results Book (2024)

date	06-Aug-24	time	7.02	12.88	18.79	24.95	31.20	37.66	44.27	51.33	51.33	6 / 4							
reaction time	0.171	interval		5.86	5.91	6.16	6.25	6.46	6.61	7.06		# of strides	12.88	12.07	12.71	13.67	24.95	26.38	1.43
		velocity	7.12	8.53	8.46	8.12	8.00	7.74	7.56	7.08	7.79	195.7	7.76	8.29	7.87	7.32	8.02	7.58	

Heat 1 - 2024 Olympic Games (Paris, FRA)

Paris 2024 Olympic Games - Results Book (2024)

date	05-Aug-24	time	6.83	12.41	18.20	24.27	30.52	37.06	44.11	52.00	52.00	7 / 8							
reaction time	0.175	interval		5.58	5.79	6.07	6.25	6.54	7.05	7.89		# of strides	12.41	11.86	12.79	14.94	24.27	27.73	3.46
		velocity	7.32	8.96	8.64	8.24	8.00	7.65	7.09	6.34	7.69	198.0	8.06	8.43	7.82	6.69	8.24	7.21	

Semi-Final 1 - 2024 European Athletics Championships (Roma, ITA)

European Athletics (2024) - 2024 european athletics championships - results book

date	09-Jun-24	time	12.54	24.49		37.87	52.95	52.95				6 / 7							
reaction time	0.169	interval		11.95		13.38	15.08					# of strides	12.54	11.95	13.38	15.08	24.49	28.46	3.97
		velocity	7.97	8.37		7.47	6.63	7.55				201.5	7.97	8.37	7.47	6.63	8.17	7.03	

Semi-Final 2 - 2023 World Athletics Championships (Budapest, HUN)

Seiko Timing (2023) - world championship race analysis

date	21-Aug-23	time	12.42	24.13		37.21	52.15	52.15				3 / 8							
reaction time	0.160	interval		11.71		13.08	14.94					# of strides	12.42	11.71	13.08	14.94	24.13	28.02	3.89
		velocity	8.05	8.54		7.65	6.69	7.67				8.05	8.54	7.65	6.69	8.29	7.14		

Heat 6 - 2023 World Athletics Championships (Budapest, HUN)

Seiko Timing (2023) - world championship race analysis

date	20-Aug-23	time	12.50	24.15		36.83	51.06	51.06				7 / 5							
reaction time	0.159	interval		11.65		12.68	14.23					# of strides	12.50	11.65	12.68	14.23	24.15	26.91	2.76
		velocity	8.00	8.58		7.89	7.03	7.83				194.2	8.00	8.58	7.89	7.03	8.28	7.43	

Semi-Final 2 - 2022 European Athletics Championships (Munich, GER)

European Athletics (2022) - european athletics championships race analysis

date	16-Aug-22	time	12.35	24.05		37.02	51.70	51.70				4 / 3							
reaction time	0.179	interval		11.70		12.97	14.68					# of strides	12.35	11.70	12.97	14.68	24.05	27.65	3.60
		velocity	8.10	8.55		7.71	6.81	7.74				191.0	8.10	8.55	7.71	6.81	8.32	7.23	

Semi-Final 3 - 2022 World Athletics Championships (Eugene, OR)

Timing by Seiko (2022) - world athletics championships race analysis

date	20-Jul-22	time	12.37	24.49		37.11	52.19	52.19				4 / 7							
reaction time	0.176	interval		12.12		12.62	15.08					# of strides	12.37	12.12	12.62	15.08	24.49	27.70	3.21
		velocity	8.08	8.25		7.92	6.63	7.66				194.0	8.08	8.25	7.92	6.63	8.17	7.22	

Heat 3 - 2022 World Athletics Championships (Eugene, OR)

Timing by Seiko (2022) - world athletics championships race analysis

date	17-Jul-22	time	12.49	24.36		37.07	51.27	51.27				5 / 2							
reaction time	0.136	interval		11.87		12.71	14.20					# of strides	12.49	11.87	12.71	14.20	24.36	26.91	2.55
		velocity	8.01	8.42		7.87	7.04	7.80				192.5	8.01	8.42	7.87	7.04	8.21	7.43	

Mori, Ayano (JPN) (1995)**FINAL - 2017 Osaka University Athletics Championships (Osaka, JPN)**

(2017) - tfdata-store.com/2017/04/07/post-249/

date	06-Apr-17	time	13.93	27.73			59.14	59.14				9 / 6							
reaction time		interval		13.80			31.41					# of strides	13.93	13.80			27.73	31.41	3.68
		velocity	7.18	7.25			6.37	6.76				7.18	7.25				7.21	6.37	

Mori, Kanon (JPN) (2003)**FINAL - 2021 Japanese High School National Championships (Fukui, JPN)**

Shibayama (2021) - national high school and U20 national championships

date	28-Jul-21	time	7.13	13.40	19.99	26.74	33.84	41.00	48.20	55.54	55.54	6 / 3							
reaction time	0.184	interval		6.27	6.59	6.75	7.10	7.16	7.20	7.34		# of strides	13.40	13.34	14.26	14.54	26.74	28.80	2.06
		velocity	7.01	7.97	7.59	7.41	7.04	6.98	6.94	6.81	7.20	7.46	7.50	7.01	6.88	7.48	6.94		

Mori, Miyu (JPN)**FINAL - 2014 Japanese National High School Championships (Kofu, JPN)**

Yanagiya (2014) - research on athlete performance and technique- 2014 data book

date	30-Jul-14	time	7.01	13.10	19.35	25.83	32.49	39.71	47.05	54.79	54.79	/ 4							
reaction time		interval		6.09	6.25	6.48	6.66	7.22	7.34	7.74		# of strides	13.10	12.73	13.88	15.08	25.83	28.96	3.13
		velocity	7.13	8.21	8.00	7.72	7.51	6.93	6.81	6.46	7.30	7.63	7.86	7.20	6.63	7.74	6.91		

Morinaga, Saki (JPN) (1991)**FINAL - 2009 Japanese National High School Championships (Nara, JPN)**

Matsuo (2009) - 62nd high school championships: JAF scientific committee- biomechanics

date	29-Jul-09	time	13.42	26.95		41.23	56.21	56.21				7 / 6							
reaction time		interval		13.53		14.28	14.98					# of strides	13.42	13.53	14.28	14.98	26.95	29.26	2.31
		velocity	7.45	7.39		7.00	6.68	7.12				7.45	7.39	7.00	6.68	7.42	6.84		

Moriyama, Shizuho (JPN) (2001)**FINAL - 2023 Japanese National Sports Festival (Kagoshima, JPN) (300m)**

Yamanaka (2024) - analysis of men's and women's 400m and 300m runs in the 2023 season

date	15-Oct-23	time	6.61	12.22	18.07	24.21	30.63	37.56				7 / 2							
reaction time	0.197	interval		5.61	5.85	6.14	6.42	6.93				# of strides	12.22	11.99	13.35		24.21		25.34
		velocity	7.56	8.91	8.55	8.14	7.79	7.22				154.0	8.18	8.34	7.49		8.26		7.89

Moriyoshi, Hinata (JPN)**FINAL - 2023 Shimane High School Championships (Izumo, JPN)**

Shimizu (2023) - shimane high school championships 2023 - biomechanics data analysis

date	26-May-23	time	14.88	29.68		45.06	61.30	61.30				2 / 5							
reaction time		interval		14.80		15.38	16.24					# of strides	14.88	14.80	15.38	16.24	29.68	31.62	1.94
		velocity	6.72	6.76		6.50	6.16	6.53				6.72	6.76	6.50	6.16	6.74	6.33		

FINAL - 2022 Shimane High School Championships (Izumo, JPN)

Shimizu (2022) - shimane high school championships 2022 - biomechanics data analysis

date	26-May-22	time	14.25	28.30		43.97	61.52	61.52				9 / 5							
reaction time		interval		14.05		15.67	17.55					# of strides	14.25	14.05	15.67	17.55	28.30	33.22	4.92
		velocity	7.02	7.12		6.38	5.70	6.50				7.02	7.12	6.38	5.70	7.07	6.02		

Movchan, Tatyana (UKR) (1970)**FINAL - 1997 European Cup (Munich, GER)**

Jung (2003) - http://www.fgs.uni-halle.de

date	21-Jun-97	time	12.66	24.46		37.58	52.56	52.56				/ 5							
reaction time		interval		11.80		13.12	14.98					# of strides	12.66	11.80	13.12	14.98	24.46	28.10	3.64

velocity	7.90	8.47	7.62	6.68	7.61	7.90	8.47	7.62	6.68	8.18	7.12
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		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Mu, Athing (USA) (2002)																		
FINAL - 2021 NCAA Championships (Eugene, OR)																		
date	06-Jun-21	time	12.1		23.7		36.1		49.57	49.57	7 / 1							
reaction time	0.172	interval			11.60		12.40		13.47	NJR PB	# of strides	12.10	11.60	12.40	13.47	23.70	25.87	2.17
		velocity	8.26		8.62		8.06		7.42	8.07	180.5	8.26	8.62	8.06	7.42	8.44	7.73	
Quarter-Final 2 - 2021 NCAA Preliminary West Round (College Station, TX)																		
date	29-May-21	time	12.1		23.5		35.9		49.68	49.68	6 / 1							
reaction time	0.172	interval			11.40		12.40		13.78	NJR PB	# of strides	12.10	11.40	12.40	13.78	23.50	26.18	2.68
		velocity	8.26		8.77		8.06		7.26	8.05	181.0	8.26	8.77	8.06	7.26	8.51	7.64	
FINAL - 2019 The Match - Europe v USA (Minsk, BLR)																		
date	09-Sep-19	time	12.97		25.66		39.29		54.34	54.34	2 / 8							
reaction time	0.182	interval			12.69		13.63		15.05		# of strides	12.97	12.69	13.63	15.05	25.66	28.68	3.02
		velocity	7.71		7.88		7.34		6.64	7.36		7.71	7.88	7.34	6.64	7.79	6.97	
Muhammad, Dalilah (USA) (1990)																		
FINAL - 2019 Orlen Janusz Kosciuszki Memorial (Chorzów, POL)																		
date	16-Jun-19	time			24.3				50.60	50.60	1 / 1							
reaction time		interval							26.3	PB	# of strides		24.30		26.30	24.30	26.30	2.00
		velocity			8.23				7.60	7.91			8.23		7.60	8.23	7.60	
Muir, Carline (CAN) (1987)																		
Heat 5 - 2015 IAAF World Championships (Beijing, CHN)																		
date	24-Aug-15	time	6.89	12.45	18.18	24.14	30.39	36.96	44.04	51.70	51.70	4 / 5						
reaction time	0.229	interval			5.96		6.25		6.57	7.08		# of strides	12.45	11.69	12.82	14.74	24.14	27.56
		velocity	7.26	8.99	8.73	8.39	8.00	7.61	7.06	6.53	7.74		8.03	8.55	7.80	6.78	8.29	7.26
Müller, Laura (GER) (1995)																		
National FINAL - 2024 FBK Games (Hengelo, NED)																		
date	07-Jul-24	time	6.96	12.71	18.61	24.72	31.11	37.98	45.51	53.73	53.73	2 / 3						
reaction time	0.170	interval			5.75		5.90		6.11	6.39		# of strides	12.71	12.01	13.26	15.75	24.72	29.01
		velocity	7.18	8.70	8.47	8.18	7.82	7.28	6.64	6.08	7.44		7.87	8.33	7.54	6.35	8.09	6.89
FINAL - 2023 FBK Games (Hengelo, NED)																		
date	04-Jun-23	time	6.81	12.37	18.10	24.14	30.52	37.22	44.37	52.08	52.08	8 / 3						
reaction time	0.235	interval			5.56		5.73		6.04	6.38		# of strides	12.37	11.77	13.08	14.86	24.14	27.94
		velocity	7.34	8.99	8.73	8.28	7.84	7.46	6.99	6.49	7.68		8.08	8.50	7.65	6.73	8.29	7.16
Müller, Petra (GDR) (1965)																		
FINAL - 1988 Olympic Games (Seoul, KOR)																		
date	26-Sep-88	time	12.33		24.10		36.34		49.45	49.45	6 / 2							
reaction time	0.232	interval			11.77		12.24		13.11		# of strides	12.33	11.77	12.24	13.11	24.10	25.35	1.25
		velocity	8.11		8.50		8.17		7.63	8.09		8.11	8.50	8.17	7.63	8.30	7.89	
Semi-Final 1 - 1988 Olympic Games (Seoul, KOR)																		
date	25-Sep-88	time	12.45		23.94		36.09		49.50	49.50	4 / 2							
reaction time		interval			11.49		12.15		13.41		# of strides	12.45	11.49	12.15	13.41	23.94	25.56	1.62
		velocity	8.03		8.70		8.23		7.46	8.08		8.03	8.70	8.23	7.46	8.35	7.82	
FINAL - 1987 IAAF World Championships (Rome, ITA)																		
date	31-Aug-87	time	12.20		23.64		36.07		49.94	49.94	3 / 2							
reaction time		interval			11.44		12.43		13.87		# of strides	12.20	11.44	12.43	13.87	23.64	26.30	2.66
		velocity	8.20		8.74		8.05		7.21	8.01		8.20	8.74	8.05	7.21	8.46	7.60	
Semi-Final 2 - 1987 IAAF World Championships (Rome, ITA)																		
date	30-Aug-87	time	12.11		23.98		36.43		50.15	50.15	7 / 1							
reaction time		interval			11.87		12.45		13.72		# of strides	12.11	11.87	12.45	13.72	23.98	26.17	2.19
		velocity	8.26		8.42		8.03		7.29	7.98		8.26	8.42	8.03	7.29	8.34	7.64	
Heat 2 - 1987 IAAF World Championships (Rome, ITA)																		
date	29-Aug-87	time	12.59		24.81		37.30		51.68	51.68	7 / 1							
reaction time		interval			12.22		12.49		14.38		# of strides	12.59	12.22	12.49	14.38	24.81	26.87	2.06
		velocity	7.94		8.18		8.01		6.95	7.74		7.94	8.18	8.01	6.95	8.06	7.44	
FINAL - 1986 Golden Oval (Dresden, GDR)																		
date	16-Aug-86	time	11.00		22.14				49.79	49.79	1 / 2							
reaction time		interval			11.14				27.65	PB	# of strides	11.00	11.14			22.14	27.65	5.51
		velocity	9.09		8.98				7.23	8.03		9.09	8.98			9.03	7.23	
Munkácsi, Antónia (HUN) (1938)																		
FINAL - 1964 Olympic Games (Tokyo, JPN)																		
date	17-Oct-64	time			24.8				54.4	54.4	1 / 4							
reaction time		interval							29.60		# of strides					24.80	29.60	4.80
		velocity			8.06				6.76	7.35						8.06	6.76	
Mupopo, Kabange (ZAM) (1992)																		
FINAL - 2017 IAAF World Championships (London, GBR)																		
date	09-Aug-17	time	11.66		23.40		36.26	43.16	50.97	51.15	9 / 7							
reaction time	0.184	interval			11.74		12.86	6.90	7.81	DV	# of strides	11.66	11.74	12.86	14.71	23.40	27.57	4.17
		velocity	8.58		8.52		7.78	7.25	6.40	7.82		8.58	8.52	7.78	6.80	8.55	7.25	
Semi-Final 3 - 2017 IAAF World Championships (London, GBR)																		

date	07-Aug-17	time	12.09	23.74	36.32	43.04	50.40	50.60	4 / 2											
reaction time	0.204	interval		11.65	12.58	6.72	7.36	DV	# of strides	12.09	11.65	12.58	14.08	23.74	26.66	2.92				
		velocity	8.27	8.58	7.95	7.44	6.79	7.91	194.2	8.27	8.58	7.95	7.10	8.42	7.50					
Murakami, Hikaru (JPN) (2002)	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential			
FINAL - 2018 Japanese National Youth (U18) Championships (Nagano, JPN)										<i>Ryutaro (2018) - research on athlete performance and technique- 2018 data book</i>										
date	19-Oct-18	time	7.18	13.56	19.99	26.62	33.42	40.53	47.90	55.75	55.75	3 / 4								
reaction time	0.244	interval		6.38	6.43	6.63	6.80	7.11	7.37	7.85	# of strides	13.56	13.06	13.91	15.22	26.62	29.13	2.51		
		velocity	6.96	7.84	7.78	7.54	7.35	7.03	6.78	6.37	7.17	7.37	7.66	7.19	6.57	7.51	6.87			
Murphy, Bryannia (USA) (2001)	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential			
Heat 2 - 2024 USA Olympic Trials (Eugene, OR)										<i>USATF and Karmarush (2024) - USA Olympic trials results and race analysis</i>										
date	21-Jun-24	time	12.46	24.44	37.87	53.03	53.03	6 / 6												
reaction time		interval		11.98	13.43	15.16	7.54	# of strides	12.46	11.98	13.43	15.16	24.44	28.59	4.15					
		velocity	8.03	8.35	7.45	6.60	7.54	200.0	8.03	8.35	7.45	6.60	8.18	7.00						
Muto, Nana (JPN) (1991)	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential			
FINAL - 2006 Seiko Super Grand Prix (Yokohama, JPN)										<i>Hisashi (2007) - Super Grand Prix 2006 - sprinting speed changes in the 400m</i>										
date	24-Sep-06	time	6.9	12.9	19.1	25.6	32.4	39.8	47.5	55.53	55.53	3 / 7								
reaction time		interval		6.00	6.20	6.50	6.80	7.40	7.70	8.03	# of strides	12.90	12.70	14.20	15.73	25.60	29.93	4.33		
		velocity	7.25	8.33	8.06	7.69	7.35	6.76	6.49	6.23	7.20	7.75	7.87	7.04	6.36	7.81	6.68			
Mutsuki, Ririka (JPN)	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential			
A FINAL - 2020 Japanese High School National Championships (Hiroshima, JPN)										<i>Kobayashi (2002) - national high school and U20 national championships</i>										
date	23-Oct-20	time	7.04	13.20	19.69	26.46	33.43	40.62	47.99	55.44	55.44	4 / 3								
reaction time	0.171	interval		6.16	6.49	6.77	6.97	7.19	7.37	7.45	# of strides	13.20	13.26	14.16	14.82	26.46	28.98	2.52		
		velocity	7.10	8.12	7.70	7.39	7.17	6.95	6.78	6.71	7.22	7.58	7.54	7.06	6.75	7.56	6.90			
Mutua, Veronica (KEN) (1992)	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential			
Semi-Final 2 - 2022 Commonwealth Games (Birmingham, GBR)										<i>Longines Timing (2022) - commonwealth games race analysis</i>										
date	05-Aug-22	time	7.0	12.8	18.9	25.3	31.9	39.1	46.6	54.80	54.80	3 / 8								
reaction time	0.158	interval		5.80	6.10	6.40	6.60	7.20	7.50	8.20	# of strides	12.80	12.50	13.80	15.70	25.30	29.50	4.20		
		velocity	7.14	8.62	8.20	7.81	7.58	6.94	6.67	6.10	7.30	7.81	8.00	7.25	6.37	7.91	6.78			
Myers, Sandra (ESP) (1961)	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential			
FINAL - 1993 IAAF World Championships (Stuttgart, GER)										<i>Butler (2013) - IAAF world championships statistics handbook- moscow 2013</i>										
date	17-Aug-93	time		23.63					51.22	51.22	1 / 6									
reaction time		interval							27.59		# of strides					23.63	27.59	3.96		
		velocity		8.46					7.25	7.81					8.46	7.25				
FINAL - 1991 IAAF World Championships (Tokyo, JPN)										<i>Butler (2013) - IAAF world championships statistics handbook- moscow 2013</i>										
date	27-Aug-91	time		23.82					49.78	49.78	5 / 3									
reaction time		interval							25.96		# of strides					23.82	25.96	2.14		
		velocity		8.40					7.70	8.04					8.40	7.70				
Nachula, Racheal (ZAM) (1990)	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential			
Heat 3 - 2009 IAAF World Championships (Berlin, GER)										<i>Graubner (2009) - biomechanical analyses at the 12th IAAF world championships</i>										
date	15-Aug-09	time		13.14					25.58	38.88	53.21	53.21	2 / 5							
reaction time	0.184	interval							12.44	13.30	14.33	# of strides	13.14	12.44	13.30	14.33	25.58	27.63	2.05	
		velocity		7.61					8.04	7.52	6.98	7.52	7.61	8.04	7.52	6.98	7.82	7.24		
Nafiah, Nikmatul (INA)	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential			
FINAL - 2016 East Java National Championships (Surabaya, INA)										<i>Saputri (2016) - analisis kecepatan lari 400m putri final kejuaraan nasional atletik jawa timur terbuka</i>										
date	15-Apr-16	time	7.04	13.73	20.06	26.96	34.92	42.84	49.74	59.64	59.64	1 / 3								
reaction time		interval		6.69	6.33	6.90	7.96	7.92	6.90	9.90	# of strides	13.73	13.23	15.88	16.80	26.96	32.68	5.72		
		velocity	7.10	7.47	7.90	7.25	6.28	6.31	7.25	5.05	6.71	7.28	7.56	6.30	5.95	7.42	6.12			
Nagamachi, Aoi (JPN) (2006)	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential			
FINAL - 2024 Japanese National High School Championships (Fukuoka, JPN)										<i>Takashima (2024) - national high school sports festival - biomechanics data</i>										
date	28-Jul-24	time		13.86					26.88	40.77	55.35	55.35	7 / 3							
reaction time	0.291	interval							13.02	13.89	14.58	# of strides	13.86	13.02	13.89	14.58	26.88	28.47	1.59	
		velocity		7.22					7.68	7.20	6.86	7.23	7.22	7.68	7.20	6.86	7.44	7.02		
Nagase, Nozomi (JPN)	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential			
FINAL - 2019 Shimane High School Championships (Izumo, JPN)										<i>Shimizu (2019) - shimane high school championships 2019 - biomechanics data analysis</i>										
date	24-May-19	time		13.90					27.94	44.09	61.23	61.23	2 / 3							
reaction time		interval							14.04	16.15	17.14	# of strides	13.90	14.04	16.15	17.14	27.94	33.29	5.35	
		velocity		7.19					7.12	6.19	5.83	6.53	7.19	7.12	6.19	5.83	7.16	6.01		
Nagura, Ayaka (JPN) (1994)	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential			
FINAL - 2011 Japanese National High School Championships (Okinawa, JPN)										<i>Abe (2011) - 64th high school championships: JAF scientific committee - biomechanics</i>										
date	03-Aug-11	time		13.65					26.93	40.70	55.63	55.63	8 / 7							
reaction time		interval							13.28	13.77	14.93	# of strides	13.65	13.28	13.77	14.93	26.93	28.70	1.77	
		velocity		7.33					7.53	7.26	6.70	7.19	7.33	7.53	7.26	6.70	7.43	6.97		
Nagura, Chiaki (JPN) (1993)	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential			
FINAL - 2011 Japanese National High School Championships (Okinawa, JPN)										<i>Abe (2011) - 64th high school championships: JAF scientific committee - biomechanics</i>										
date	03-Aug-11	time		13.13					26.18	39.68	54.96	54.96	5 / 2							
reaction time		interval							13.05	13.50	15.28	PB	# of strides	13.13	13.05	13.50	15.28	26.18	28.78	2.60
		velocity		7.62					7.66	7.41	6.54	7.28	7.62	7.66	7.41	6.54	7.64	6.95		
Nakabayashi, Aya (JPN)	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential			
FINAL - 2018 Shimane High School Championships (Izumo, JPN)										<i>Shimizu (2018) - shimane high school championships 2018 - biomechanics data analysis</i>										
date	25-May-18	time		14.26					28.53	44.14	60.62	60.62	3 / 3							
reaction time		interval							14.27	15.61	16.48	# of strides	14.26	14.27	15.61	16.48	28.53	32.09	3.56	

velocity	7.01	7.01	6.41	6.07	6.60	7.01	7.01	6.41	6.07	7.01	6.23
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Nakajima, Aiharu (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Osaka University Athletics Championships (Osaka, JPN)																	
date	06-Apr-17	time	12.90	25.41	39.97	57.20	57.20	5 / 3									
reaction time		interval		12.51	14.56	17.23		# of strides	12.90	12.51	14.56	17.23	25.41	31.79	6.38		
		velocity	7.75	7.99	6.87	5.80	6.99	210.7	7.75	7.99	6.87	5.80	7.87	6.29			

Nakajima, Airi (JPN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential		
FINAL - 2016 Japanese National Junior Championships (Mizuho, JPN)																			
date	21-Oct-16	time	7.27	13.30	19.54	26.10	33.08	40.48	48.56	57.33	57.33	7 / 8							
reaction time		interval		6.03	6.24	6.56	6.98	7.40	8.08	8.77		# of strides	13.30	12.80	14.38	16.85	26.10	31.23	5.13
		velocity	6.88	8.29	8.01	7.62	7.16	6.76	6.19	5.70	6.98	7.52	7.81	6.95	5.93	7.66	6.40		

Race B - 2016 Shizuoka International Meeting (Fukuroi, JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential		
FINAL - 2016 Japanese National Junior Championships (Nagoya, JPN)																			
date	03-May-16	time	6.91	12.76	18.94	25.46	32.30	39.78	47.78	56.49	56.49	/ 3							
reaction time		interval		5.85	6.18	6.52	6.84	7.48	8.00	8.71		# of strides	12.76	12.70	14.32	16.71	25.46	31.03	5.57
		velocity	7.24	8.55	8.09	7.67	7.31	6.68	6.25	5.74	7.08	7.84	7.87	6.98	5.98	7.86	6.45		

FINAL - 2015 Japanese National Junior Championships (Nagoya, JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential		
U19 FINAL - 2015 National Sports Festival (Wakayama, JPN)																			
date	16-Oct-15	time	7.10	13.01	19.44	26.18	33.05	40.13	47.45	55.10	55.10	/ 4							
reaction time		interval		5.91	6.43	6.74	6.87	7.08	7.32	7.65		# of strides	13.01	13.17	13.95	14.97	26.18	28.92	2.74
		velocity	7.04	8.46	7.78	7.42	7.28	7.06	6.83	6.54	7.26	7.69	7.59	7.17	6.68	7.64	6.92		

U19 FINAL - 2015 National Sports Festival (Wakayama, JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential		
U19 FINAL - 2015 National Sports Festival (Wakayama, JPN)																			
date	05-Oct-15	time	7.11	13.32	19.72	26.49	33.37	40.55	47.99	55.85	55.85	/ 5							
reaction time		interval		6.21	6.40	6.77	6.88	7.18	7.44	7.86		# of strides	13.32	13.17	14.06	15.30	26.49	29.36	2.87
		velocity	7.03	8.05	7.81	7.39	7.27	6.96	6.72	6.36	7.16	7.51	7.59	7.11	6.54	7.55	6.81		

Nakajima, Sayaka (JPN) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
U19 Semi-Final 1 - 2017 National Sports Festival (Matsuyama, JPN)																	
date	08-Oct-17	time		12.88	25.95	40.29	56.14	56.14	3 / 5								
reaction time	0.155	interval			13.07	14.34	15.85		# of strides	12.88	13.07	14.34	15.85	25.95	30.19	4.24	
		velocity		7.76	7.65	6.97	6.31	7.13	220.0	7.76	7.65	6.97	6.31	7.71	6.62		

FINAL - 2017 Japanese National High School Championships (Yamagata, JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential		
FINAL - 2017 Japanese National High School Championships (Yamagata, JPN)																			
date	29-Jul-17	time	7.03	12.75	18.94	25.62	32.65	40.14	47.98	56.41	56.41	2 / 7							
reaction time	0.170	interval		5.72	6.19	6.68	7.03	7.49	7.84	8.43		# of strides	12.75	12.87	14.52	16.27	25.62	30.79	5.17
		velocity	7.11	8.74	8.08	7.49	7.11	6.68	6.38	5.93	7.09	7.84	7.77	6.89	6.15	7.81	6.50		

Nakamichi, Ayane (JPN) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
U19 FINAL - 2017 National Sports Festival (Matsuyama, JPN)																	
date	08-Oct-17	time		13.37	26.40	40.63	55.60	55.60	8 / 7								
reaction time	0.208	interval			13.03	14.23	14.97		# of strides	13.37	13.03	14.23	14.97	26.40	29.20	2.80	
		velocity		7.48	7.67	7.03	6.68	7.19	203.0	7.48	7.67	7.03	6.68	7.58	6.85		

U19 Semi-Final 2 - 2017 National Sports Festival (Matsuyama, JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
U19 Semi-Final 2 - 2017 National Sports Festival (Matsuyama, JPN)																	
date	08-Oct-17	time		13.22	26.18	40.40	55.64	55.64	4 / 3								
reaction time	0.238	interval			12.96	14.22	15.24		# of strides	13.22	12.96	14.22	15.24	26.18	29.46	3.28	
		velocity		7.56	7.72	7.03	6.56	7.19	205.5	7.56	7.72	7.03	6.56	7.64	6.79		

Nakamura, Mayumi (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Osaka University Athletics Championships (Osaka, JPN)																	
date	06-Apr-17	time		13.91	27.58	42.34	58.70	58.70	6 / 4								
reaction time		interval			13.67	14.76	16.36		# of strides	13.91	13.67	14.76	16.36	27.58	31.12	3.54	
		velocity		7.19	7.32	6.78	6.11	6.81	203.0	7.19	7.32	6.78	6.11	7.25	6.43		

Nakano, Nano (JPN) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential			
FINAL - 2020 Japanese U20 National Championships (Hiroshima, JPN)																				
date	23-Oct-20	time		7.34	13.66	20.14	26.81	33.72	40.90	48.21	55.83	55.83	6 / 1							
reaction time	0.197	interval			6.32	6.48	6.67	6.91	7.18	7.31	7.62		# of strides	13.66	13.15	14.09	14.93	26.81	29.02	2.21
		velocity		6.81	7.91	7.72	7.50	7.24	6.96	6.84	6.56	7.16	213.3	7.32	7.60	7.10	6.70	7.46	6.89	

FINAL - 2019 Japanese National High School Championships (Okinawa, JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential		
FINAL - 2019 Japanese National High School Championships (Okinawa, JPN)																			
date	04-Aug-19	time	7.36	13.72	20.13	26.70	33.47	40.46	47.55	55.07	55.07	4 / 5							
reaction time		interval		6.36	6.41	6.57	6.77	6.99	7.09	7.52	PB	# of strides	13.72	12.98	13.76	14.61	26.70	28.37	1.67
		velocity	6.79	7.86	7.80	7.61	7.39	7.15	7.05	6.65	7.26	7.29	7.70	7.27	6.84	7.49	7.05		

FINAL - 2018 Japanese National Youth (U18) Championships (Nagano, JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential		
FINAL - 2018 Japanese National Youth (U18) Championships (Nagano, JPN)																			
date	19-Oct-18	time	7.27	13.63	20.14	26.87	33.67	40.72	48.04	55.74	55.74	7 / 3							
reaction time	0.157	interval		6.36	6.51	6.73	6.80	7.05	7.32	7.70		# of strides	13.63	13.24	13.85	15.02	26.87	28.87	2.00
		velocity	6.88	7.86	7.68	7.43	7.35	7.09	6.83	6.49	7.18	7.34	7.55	7.22	6.66	7.44	6.93		

Nakao, Yuzuki (JPN) (2004)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Japanese National High School Championships (Naruto, JPN)																	
date	03-Aug-22	time		13.30	26.13	39.83	55.20	55.20	5 / 2								
reaction time	0.185	interval			12.83	13.70	15.37	PB	# of strides	13.30	12.83	13.70	15.37	26.13	29.07	2.94	
		velocity		7.52	7.79	7.30	6.51	7.25	203.0	7.52	7.79	7.30	6.51	7.65	6.88		

FINAL - 2021 Japanese U18 National Championships (Matsuyama, JPN) (300m)

	50m	100m	150m	200m	250m	300m	350m	4
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FINAL - 2016 Japanese National Junior Championships (Mizuho, JPN)

Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016

date	21-Oct-16	time	7.33	13.74	20.29	27.05	34.07	41.21	48.55	56.06	56.06									
reaction time		interval		6.41	6.55	6.76	7.02	7.14	7.34	7.51			# of strides	13.74	13.31	14.16	14.85	27.05	29.01	1.96
		velocity	6.82	7.80	7.63	7.40	7.12	7.00	6.81	6.66	7.14			7.28	7.51	7.06	6.73	7.39	6.89	

Naruse, Miki (JPN) (1982)**FINAL - 2006 Seiko Super Grand Prix (Yokohama, JPN)**

Hisashi (2007) - Super Grand Prix 2006 - sprinting speed changes in the 400m

date	24-Sep-06	time	7.10	13.20	19.30	26.00	32.90	40.20	47.70	55.36	55.36									
reaction time		interval		6.10	6.10	6.70	6.90	7.30	7.50	7.66			# of strides	13.20	12.80	14.20	15.16	26.00	29.36	3.36
		velocity	7.04	8.20	8.20	7.46	7.25	6.85	6.67	6.53	7.23			7.58	7.81	7.04	6.60	7.69	6.81	

Naser, Salwa Eid (BRN) (1998)**FINAL - 2024 Memorial van damme (Brussels, BEL)**

Omega Timing (2024) - diamond league race analysis

date	13-Sep-24	time	6.75	12.17	17.83	23.79	29.96	36.38	43.11	50.64	50.64									
reaction time	0.193	interval		5.42	5.66	5.96	6.17	6.42	6.73	7.53	DQ		# of strides	12.17	11.62	12.59	14.26	23.79	26.85	3.06
		velocity	7.41	9.23	8.83	8.39	8.10	7.79	7.43	6.64	7.90			188.0	8.22	8.61	7.94	7.01	8.41	7.45

FINAL - 2024 Kamila Skolimowska Memorial (Silesia, POL)

Omega Timing (2024) - diamond league race analysis

date	25-Aug-24	time	6.52	11.80	17.33	23.23	29.34	35.77	42.36	49.23	49.23									
reaction time	0.169	interval		5.28	5.53	5.90	6.11	6.43	6.59	6.87			# of strides	11.80	11.43	12.54	13.46	23.23	26.00	2.77
		velocity	7.67	9.47	9.04	8.47	8.18	7.78	7.59	7.28	8.13			186.0	8.47	8.75	7.97	7.43	8.61	7.69

FINAL - 2024 Olympic Games (Paris, FRA)

Paris 2024 Olympic Games - Results Book (2024)

date	09-Aug-24	time	6.45	11.73	17.28	23.12	29.10	35.23	41.60	48.53	48.53									
reaction time	0.165	interval		5.28	5.55	5.84	5.98	6.13	6.37	6.93			# of strides	11.73	11.39	12.11	13.30	23.12	25.41	2.29
		velocity	7.75	9.47	9.01	8.56	8.36	8.16	7.85	7.22	8.24			184.0	8.53	8.78	8.26	7.52	8.65	7.87

Semi-Final 1 - 2024 Olympic Games (Paris, FRA)

Paris 2024 Olympic Games - Results Book (2024)

date	07-Aug-24	time	6.49	11.81	17.27	23.00	28.96	35.21	41.86	49.08	49.08									
reaction time	0.167	interval		5.32	5.46	5.73	5.96	6.25	6.65	7.22			# of strides	11.81	11.19	12.21	13.87	23.00	26.08	3.08
		velocity	7.70	9.40	9.16	8.73	8.39	8.00	7.52	6.93	8.15			187.0	8.47	8.94	8.19	7.21	8.70	7.67

Heat 1 - 2024 Olympic Games (Paris, FRA)

Paris 2024 Olympic Games - Results Book (2024)

date	05-Aug-24	time	6.61	11.93	17.54	23.43	29.57	35.93	42.64	49.91	49.91									
reaction time	0.148	interval		5.32	5.61	5.89	6.14	6.36	6.71	7.27			# of strides	11.93	11.50	12.50	13.98	23.43	26.48	3.05
		velocity	7.56	9.40	8.91	8.49	8.14	7.86	7.45	6.88	8.01			187.7	8.38	8.70	8.00	7.15	8.54	7.55

FINAL - 2024 Meeting de Paris (Paris, FRA)

Omega Timing (2024) - diamond league race analysis

date	07-Jul-24	time	6.77	12.16	17.76	23.65	29.76	36.00	42.69	49.82	49.82									
reaction time	0.171	interval		5.39	5.60	5.89	6.11	6.24	6.69	7.13			# of strides	12.16	11.49	12.35	13.82	23.65	26.17	2.52
		velocity	7.39	9.28	8.93	8.49	8.18	8.01	7.47	7.01	8.03			186.0	8.22	8.70	8.10	7.24	8.46	7.64

FINAL - 2023 Meeting de Paris (Paris, FRA)

Omega Timing (2023) - diamond league race analysis

date	09-Jun-23	time	6.52	11.81	17.30	23.15	29.37	35.97	42.75	49.95	49.95									
reaction time	0.143	interval		5.29	5.49	5.85	6.22	6.60	6.78	7.20			# of strides	11.81	11.34	12.82	13.98	23.15	26.80	3.65
		velocity	7.67	9.45	9.11	8.55	8.04	7.58	7.37	6.94	8.01			186.2	8.47	8.82	7.80	7.15	8.64	7.46

FINAL - 2019 IAAF World Championships (Doha, QAT)

Yamanaka (2019) - race analysis of men and women 400m competition

date	03-Oct-19	time	6.71	12.09	17.57	23.20	29.03	35.10	41.43	48.14	48.14									
reaction time	0.186	interval		5.38	5.48	5.63	5.83	6.07	6.33	6.71	NR PB		# of strides	12.09	11.11	11.90	13.04	23.20	24.94	1.74
		velocity	7.45	9.29	9.12	8.88	8.58	8.24	7.90	7.45	8.31			181.2	8.27	9.00	8.40	7.67	8.62	8.02

Semi-Final 1 - 2019 IAAF World Championships (Doha, QAT)

Yamanaka (2019) - race analysis of men and women 400m competition

date	01-Oct-19	time	6.79	12.15	17.58	23.33	29.45	35.93	42.71	49.79	49.79									
reaction time	0.185	interval		5.36	5.43	5.75	6.12	6.48	6.78	7.08			# of strides	12.15	11.18	12.60	13.86	23.33	26.46	3.13
		velocity	7.36	9.33	9.21	8.70	8.17	7.72	7.37	7.06	8.03			183.0	8.23	8.94	7.94	7.22	8.57	7.56

FINAL - 2019 Weltklasse (Zürich, SUI)

Omega Timing (2019) - diamond league race analysis

date	29-Aug-19	time	6.9	12.3	18.0	23.9	30.1	36.5	43.3	50.24	50.24									
reaction time	0.145	interval		5.4	5.7	5.9	6.2	6.4	6.8	6.9			# of strides	12.30	11.60	12.60	13.74	23.90	26.34	2.44
		velocity	7.25	9.26	8.77	8.47	8.06	7.81	7.35	7.20	7.96			184.0	8.13	8.62	7.94	7.28	8.37	7.59

FINAL - 2019 Athletissima (Lausanne, SUI)

Omega Timing (2019) - diamond league race analysis

date	05-Jul-19	time		12.3		23.9		36.1		49.17	49.17									
reaction time	0.168	interval				11.6		12.2		13.1			# of strides	12.30	11.60	12.20	13.07	23.90	25.27	1.37
		velocity		8.13		8.62		8.20		7.65	8.14			184.2	8.13	8.62	8.20	7.65	8.37	7.91

FINAL - 2019 Meeting International Mohammed VI d'Athlétisme (Rabat, MAR)

Omega Timing (2019) - diamond league race analysis

date	16-Jun-19	time		12.2		23.7		36.3		50.13	50.13									
reaction time	0.165	interval				11.5		12.6		13.8			# of strides	12.20	11.50	12.60	13.83	23.70	26.43	2.73
		velocity		8.20		8.70		7.94		7.23	7.98			193.2	8.20	8.70	7.94	7.23	8.44	7.57

FINAL - 2019 Golden Gala Pietro Mennea (Rome, ITA)

Omega Timing (2019) - diamond league race analysis

date	06-Jun-19	time		12.6		24.4		36.7		50.26	50.26									
reaction time	0.178	interval				11.8		12.3		13.6			# of strides	12.60	11.80	12.30	13.56	24.40	25.86	1.46
		velocity		7.94		8.47		8.13		7.37	7.96			188.0	7.94	8.47	8.13	7.37	8.20	7.73

FINAL - 2019 Shanghai (Shanghai, CHN)

Omega Timing (2019) - diamond league race analysis

date	18-May-19	time		12.3		24.1		36.9		50.65	50.65									
reaction time	0.182	interval				11.8		12.8		13.8			# of strides	12.30	11.80	12.80	13.75	24.10	26.55	2.45
		velocity		8.13		8.47		7.81		7.27	7.90			187.5	8.13	8.47	7.81	7.27	8.30	7.53

FINAL - 2019 Asian Athletics Championships (Doha, QAT)

Yamanaka (2019) - race analysis of men and women 400m competition

date	21-Apr-19	time	6.64	12.15	18.00	24.26	30.67	37.24	44.08	51.34	51.34									
reaction time	0.187	interval		5.51	5.85	6.26	6.41	6.57	6.84	7.26			# of strides	12.15	12.11	12.98	14.10	24.26	27.08	2.82

velocity	7.53	9.07	8.55	7.99	7.80	7.61	7.31	6.89	7.79	187.0	8.23	8.26	7.70	7.09	8.24	7.39
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FINAL - 2018 Asian Games (Jakarta, INA)

Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition

date	26-Aug-18	time	6.69	12.30	18.10	24.14	30.40	36.77	43.29	50.09	50.09	5 / 1							
reaction time	0.156	interval		5.61	5.80	6.04	6.26	6.37	6.52	6.80	CR	# of strides	12.30	11.84	12.63	13.32	24.14	25.95	1.81
		velocity	7.47	8.91	8.62	8.28	7.99	7.85	7.67	7.35	7.99		187.5	8.13	8.45	7.92	7.51	8.29	7.71

FINAL - 2018 Herculis Meeting International d'Athlétisme (Monaco, MON)Vazel (2018.08.03) - <https://twitter.com/pjvazel>

date	20-Jul-18	time			23.7		36.2		49.08	49.08	5 / 2							
reaction time		interval					12.50		12.88	NR	# of strides		23.70	12.50	12.88	23.70	25.38	1.68
		velocity		8.44		8.00		7.76	8.15	8.15			4.22	8.00	7.76	8.44	7.88	

FINAL - 2018 Meeting de Paris (Paris, FRA)

Omega Timing (2018) - diamond league race analysis

date	30-Jun-18	time	12.5		24.3		36.7		49.55	49.55	5 / 1							
reaction time	0.159	interval			11.8		12.4		12.9	AR	# of strides	12.50	11.80	12.40	12.85	24.30	25.25	0.95
		velocity	8.00		8.47		8.06		7.78	8.07		183.7	8.00	8.47	8.06	7.78	8.23	7.92

FINAL - 2018 Bauhaus Galan (Stockholm, SWE)

Omega Timing (2018) - diamond league race analysis

date	10-Jun-18	time	12.4		24.2		36.7		49.84	49.84	6 / 1							
reaction time	0.165	interval			11.8		12.5		13.1	NR	# of strides	12.40	11.80	12.50	13.14	24.20	25.64	1.44
		velocity	8.06		8.47		8.00		7.61	8.03		184.7	8.06	8.47	8.00	7.61	8.26	7.80

FINAL - 2018 Bislett Games (Oslo, NOR)

Omega Timing (2018) - diamond league race analysis

date	07-Jun-18	time	12.4		24.0		36.5		49.98	49.98	5 / 1							
reaction time	0.161	interval			11.6		12.5		13.5		# of strides	12.40	11.60	12.50	13.48	24.00	25.98	1.98
		velocity	8.06		8.62		8.00		7.42	8.00		186.0	8.06	8.62	8.00	7.42	8.33	7.70

FINAL - 2017 Memorial van Damme (Brussels, BEL)

Omega Timing (2017) - diamond league race analysis

date	01-Sep-17	time	12.2	17.9	23.9	30.0	36.4	42.9	49.88	49.88	6 / 2							
reaction time	0.158	interval		5.70	6.00	6.10	6.40	6.50	6.98	NR AJR PB	# of strides	12.20	11.70	12.50	13.48	23.90	25.98	2.08
		velocity	8.20	8.77	8.33	8.20	7.81	7.69	7.16	8.02		186.0	8.20	8.55	8.00	7.42	8.37	7.70

FINAL - 2017 IAAF World Championships (London, GBR)

Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Women's 400m

date	09-Aug-17	time	12.01		23.50		35.93	42.60	49.86	50.06	4 / 2							
reaction time	0.203	interval			11.49		12.43	6.67	7.26	NR / NJR	# of strides	12.01	11.49	12.43	13.93	23.50	26.36	2.86
		velocity	8.33		8.70		8.05	7.50	6.89	7.99		189.6	8.33	8.70	8.05	7.18	8.51	7.59

Semi-Final 2 - 2017 IAAF World Championships (London, GBR)

Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Women's 400m

date	07-Aug-17	time	11.70		23.97		36.37	42.98	49.88	50.08	7 / 1							
reaction time	0.200	interval			12.27		12.40	6.61	6.90	NR / NJR	# of strides	11.70	12.27	12.40	13.51	23.97	25.91	1.94
		velocity	8.55		8.15		8.06	7.56	7.25	7.99		189.2	8.55	8.15	8.06	7.40	8.34	7.72

Natsuki, Okuni (JPN)

50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

FINAL - 2019 Shimane High School Championships (Izumo, JPN)

Shimizu (2019) - shimane high school championships 2019 - biomechanics data analysis

date	24-May-19	time	15.16		30.28		47.19		64.96	64.96	3 / 8							
reaction time		interval			15.12		16.91		17.77		# of strides	15.16	15.12	16.91	17.77	30.28	34.68	4.40
		velocity	6.60		6.61		5.91		5.63	6.16		6.60	6.61	5.91	5.63	6.61	5.77	

FINAL - 2018 Shimane High School Championships (Izumo, JPN)

Shimizu (2018) - shimane high school championships 2018 - biomechanics data analysis

date	25-May-18	time	14.56		29.12		45.16		62.47	62.47	1 / 8							
reaction time		interval			14.56		16.04		17.31		# of strides	14.56	14.56	16.04	17.31	29.12	33.35	4.23
		velocity	6.87		6.87		6.23		5.78	6.40		6.87	6.87	6.23	5.78	6.87	6.00	

Nazarova, Irina (URS) (1957)

50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

FINAL - 1980 Olympic Games (Moscow, URS)

Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016

date	28-Jul-80	time					36.2		50.07	50.07	8 / 4							
reaction time		interval							13.87	PB	# of strides				13.87			
		velocity					8.29		7.21	7.99					7.21			

Nazarova, Natalya (RUS) (1979)

50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

FINAL - 2004 Olympic Games (Athens, GRE)

Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016

date	24-Aug-04	time	12.2		23.8		36.3		50.7	50.65	7 / 8							
reaction time	0.251	interval			11.6		12.5		14.4		# of strides	12.20	11.60	12.50	14.40	23.80	26.90	3.10
		velocity	8.20		8.62		8.00		6.94	7.90		8.20	8.62	8.00	6.94	8.40	7.43	

FINAL - 2003 IAAF World Championships (Paris, FRA)

Bonvin (2003) - Compte-rendu 400m et relais 4x 400m

date	27-Aug-03	time			23.6		36.0		49.98	49.98	7 / 4							
reaction time	0.170	interval					12.40		13.98		# of strides		12.40	13.98	23.60	26.38	2.78	
		velocity		8.47		8.06		7.15	8.00				8.06	7.15	8.47	7.58		

FINAL - 1999 IAAF World Championships (Sevilla, ESP)

Ferro (2001) - biomechanical analysis of the 7th world championships, seville 1999

date	26-Aug-99	time	6.70	12.29	18.04	24.09	30.47	36.91	43.53	50.61	50.61	2 / 6							
reaction time	0.176	interval		5.59	5.75	6.05	6.38	6.44	6.62	7.08		# of strides	12.29	11.80	12.82	13.70	24.09	26.52	2.43
		velocity	7.46	8.94	8.70	8.26	7.84	7.76	7.55	7.06	7.90		8.14	8.47	7.80	7.30	8.30	7.54	

Nazarova, Olga (URS) (1965)

50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

FINAL - 1992 Olympic Games (Barcelona, ESP)

Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016

date	05-Aug-92	time			24.0		35.8		49.7	49.69	8 / 4							
reaction time		interval					11.80		13.90		# of strides		11.80	13.90	24.00	25.70	1.70	
		velocity		8.33		8.47		7.19	8.05				8.47	7.19	8.33	7.78		

FINAL - 1991 European Cup (Frankfurt, GER)Federle (2003) - <http://www.fgs.uni-halle.de>

date	29-Jun-91	time	12.79		24.35		36.74		51.17	51.17	7 / 3							
reaction time		interval			11.56		12.39		14.43		# of strides	12.79	11.56	12.39	14.43	24.35	26.82	2.47
		velocity	7.82		8.65		8.07		6.93	7.82		7.82	8.65	8.07	6.93	8.21	7.46	

FINAL - 1988 Olympic Games (Seoul, KOR)										<i>Brüggermann (1990) - scientific research project at the games of the XXXIV Olympiad, Seoul 1988</i>									
date	26-Sep-88	time	12.15	23.59	35.78	49.90	49.90			4 / 3									
reaction time	0.231	interval		11.44	12.19	14.12	14.12			# of strides	12.15	11.44	12.19	14.12	23.59	26.31	2.72		
		velocity	8.23	8.74	8.20	7.08	8.02			201.5	8.23	8.74	8.20	7.08	8.48	7.60			
Semi-Final 1 - 1988 Olympic Games (Seoul, KOR)										<i>Brüggermann (1990) - scientific research project at the games of the XXXIV Olympiad, Seoul 1988</i>									
date	25-Sep-88	time	12.28	23.73	35.79	49.11	49.11			5 / 1									
reaction time		interval		11.45	12.06	13.32	NR			# of strides	12.28	11.45	12.06	13.32	23.73	25.38	1.65		
		velocity	8.14	8.73	8.29	7.51	8.14			8.14	8.73	8.29	7.51	8.43	7.88				
FINAL - 1987 IAAF World Championships (Rome, ITA)										<i>Moravec (1990) - time analysis of the sprints - Rome 1987 Scientific Report (2nd ed)</i>									
date	31-Aug-87	time	12.90	24.68	37.40	51.20	51.20			1 / 8									
reaction time		interval		11.78	12.72	13.80				# of strides	12.90	11.78	12.72	13.80	24.68	26.52	1.84		
		velocity	7.75	8.49	7.86	7.25	7.81			7.75	8.49	7.86	7.25	8.10	7.54				
Nekhubui, Shirley (RSA) (2000)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
FINAL - 2023 FBK Games (Hengelo, NED)										<i>Omega Timing (2023) - continental tour race analysis</i>									
date	04-Jun-23	time	6.95	12.75	18.88	25.30	31.94	38.90	46.39	54.64	54.64	7 / 8							
reaction time	0.189	interval		5.80	6.13	6.42	6.64	6.96	7.49	8.25		# of strides	12.75	12.55	13.60	15.74	25.30	29.34	4.04
		velocity	7.19	8.62	8.16	7.79	7.53	7.18	6.68	6.06	7.32	7.84	7.97	7.35	6.35	7.91	6.82		
Neubauer, Dagmar (GDR) (1962)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
Semi-Final 1 - 1988 Olympic Games (Seoul, KOR)										<i>Brüggermann (1990) - scientific research project at the games of the XXXIV Olympiad, Seoul 1988</i>									
date	25-Sep-88	time	12.31	24.18	37.01	50.92	50.92			2 / 8									
reaction time		interval		11.87	12.83	13.91				# of strides	12.31	11.87	12.83	13.91	24.18	26.74	2.56		
		velocity	8.12	8.42	7.79	7.19	7.86			8.12	8.42	7.79	7.19	8.27	7.48				
Rübsam-Neubauer, Dagmar (GDR) (1962)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
FINAL - 1984 East German National Championships (Erfurt, GDR)										<i>Heß (1985) - entwicklungsaspekte die leichtathletischen sprint-/hürdendisziplinen im olympiazzyklus 1981/84</i>									
date	02-Jun-84	time	12.46	24.12	36.43	49.58	49.58			1 / 3									
reaction time		interval		11.66	12.31	13.15	PB			# of strides	12.46	11.66	12.31	13.15	24.12	25.46	1.34		
		velocity	8.03	8.58	8.12	7.60	8.07			8.03	8.58	8.12	7.60	8.29	7.86				
FINAL - 1983 IAAF World Championships (Helsinki, FIN)										<i>Butler (2013) - IAAF world championships statistics handbook- moscow 2013</i>									
date	10-Aug-83	time		24.1		50.5	50.48			7 / 7									
reaction time		interval				26.40				# of strides					24.10	26.40	2.30		
		velocity		8.30		7.58	7.92								8.30	7.58			
Neufville, Marilyn (JAM) (1952)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
FINAL - 1970 Commonwealth Games (Edinburgh, GBR)										<i>Hymans (2015) - progression of IAAF world records - 2015 edition</i>									
date	23-Jul-70	time		23.8		51.0	51.0			1 / 1									
reaction time		interval				27.2	WR			# of strides					23.80	27.20	3.40		
		velocity		8.40		7.35	7.84			(51.02)					8.40	7.35			
Newnham, Emily (GBR) (2004)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
National FINAL - 2024 London Athletics Meet (London, GBR)										<i>Omega Timing (2024) - diamond league race analysis</i>									
date	20-Jul-24	time	7.18	13.00	18.98	25.21	31.64	38.46	45.55	53.48	53.48	2 / 8							
reaction time	0.134	interval		5.82	5.98	6.23	6.43	6.82	7.09	7.93		# of strides	13.00	12.21	13.25	15.02	25.21	28.27	3.06
		velocity	6.96	8.59	8.36	8.03	7.78	7.33	7.05	6.31	7.48	7.69	8.19	7.55	6.66	7.93	7.07		
FINAL - 2023 Weltklasse (Zürich, SUI)										<i>Omega Timing (2023) - diamond league race analysis</i>									
date	31-Aug-23	time	7.06	13.01	19.28	25.81	32.29	38.80	45.51	52.59	52.59	1 / 8							
reaction time	0.177	interval		5.95	6.27	6.53	6.48	6.51	6.71	7.08		# of strides	13.01	12.80	12.99	13.79	25.81	26.78	0.97
		velocity	7.08	8.40	7.97	7.66	7.72	7.68	7.45	7.06	7.61	7.69	7.81	7.70	7.25	7.75	7.47		
Nguyen Thi Hang (VIE) (1990)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
FINAL - 2018 Asian Games (Jakarta, INA)										<i>Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition</i>									
date	26-Aug-18	time	6.89	12.77	18.94	25.33	32.06	39.09	46.47	54.30	54.30	2 / 8							
reaction time	0.175	interval		5.88	6.17	6.39	6.73	7.03	7.38	7.83	PB	# of strides	12.77	12.56	13.76	15.21	25.33	28.97	3.64
		velocity	7.26	8.50	8.10	7.82	7.43	7.11	6.78	6.39	7.37	7.83	7.96	7.27	6.57	7.90	6.90		
Niederberger, Julia (SUI) (2000)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
FINAL - 2024 Weltklasse (Zürich, SUI)										<i>Omega Timing (2024) - diamond league race analysis</i>									
date	05-Sep-24	time	6.95	12.72	18.75	24.98	31.58	38.49	45.64	53.11	53.11	2 / 8							
reaction time	0.161	interval		5.77	6.03	6.23	6.60	6.91	7.15	7.47		# of strides	12.72	12.26	13.51	14.62	24.98	28.13	3.15
		velocity	7.19	8.67	8.29	8.03	7.58	7.24	6.99	6.69	7.53	7.86	8.16	7.40	6.84	8.01	7.11		
Semi-Final 1 - 2024 European Athletics Championships (Roma, ITA)										<i>European Athletics (2024) - 2024 european athletics championships - results book</i>									
date	09-Jun-24	time	12.46	24.47	37.82	52.97	52.97			4 / 8									
reaction time	0.180	interval		12.01	13.35	15.15				# of strides	12.46	12.01	13.35	15.15	24.47	28.50	4.03		
		velocity	8.03	8.33	7.49	6.60	7.55			205.0	8.03	8.33	7.49	6.60	8.17	7.02			
Heat 1 - 2024 European Athletics Championships (Roma, ITA)										<i>European Athletics (2024) - 2024 european athletics championships - results book</i>									
date	08-Jun-24	time	12.78	24.76	37.81	52.42	52.42			8 / 4									
reaction time	0.193	interval		11.98	13.05	14.61				# of strides	12.78	11.98	13.05	14.61	24.76	27.66	2.90		
		velocity	7.82	8.35	7.66	6.84	7.63			7.82	8.35	7.66	6.84	8.08	7.23				
FINAL - 2023 Weltklasse (Zürich, SUI)										<i>Omega Timing (2023) - diamond league race analysis</i>									
date	31-Aug-23	time	6.86	12.59	18.48	24.63	31.03	37.77	44.75	52.11	52.11	5 / 3							
reaction time	0.153	interval		5.73	5.89	6.15	6.40	6.74	6.98	7.36		# of strides	12.59	12.04	13.14	14.34	24.63	27.48	2.85
		velocity	7.29	8.73	8.49	8.13	7.81	7.42	7.16	6.79	7.68	7.94	8.31	7.61	6.97	8.12	7.28		
National FINAL - 2022 Weltklasse (Zürich, SUI)										<i>Omega Timing (2022) - diamond league race analysis</i>									
date	08-Sep-22	time	6.84	12.72	18.81	25.00	31.43	38.23	45.35	52.86	52.86	2 / 7							
reaction time	0.172	interval		5.88	6.09	6.19	6.43	6.80	7.12	7.51		# of strides	12.72	12.28	13.23	14.63	25.00	27.86	2.86

velocity	7.31	8.50	8.21	8.08	7.78	7.35	7.02	6.66	7.57		7.86	8.14	7.56	6.84	8.00	7.18
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B Race - 2021 Athletissima (Lausanne, SUI)

Omega Timing (2021) - diamond league race analysis

date	26-Aug-21	time	7.3	13.4	20.1	27.1	34.0	41.2	48.2	55.54	55.54	1 / 8							
reaction time	0.199	interval		6.10	6.70	7.00	6.90	7.20	7.00	7.34		# of strides	13.40	13.70	14.10	14.34	27.10	28.44	1.34
		velocity	6.85	8.20	7.46	7.14	7.25	6.94	7.14	6.81	7.20		7.46	7.30	7.09	6.97	7.38	7.03	

Nielsen, Laviai (GBR) (1988)

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
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FINAL - 2024 Kamila Skolimowska Memorial (Silesia, POL)

Omega Timing (2024) - diamond league race analysis

date	25-Aug-24	time	6.66	12.20	17.94	24.03	30.34	37.04	43.96	51.02	51.02	1 / 9							
reaction time	0.154	interval		5.54	5.74	6.09	6.31	6.70	6.92	7.06		# of strides	12.20	11.83	13.01	13.98	24.03	26.99	2.96
		velocity	7.51	9.03	8.71	8.21	7.92	7.46	7.23	7.08	7.84		8.20	8.45	7.69	7.15	8.32	7.41	

Semi-Final 2 - 2024 Olympic Games (Paris, FRA)

Paris 2024 Olympic Games - Results Book (2024)

date	07-Aug-24	time	6.63	12.13	17.73	23.63	29.84	36.39	43.25	50.69	50.69	7 / 3							
reaction time	0.158	interval		5.50	5.60	5.90	6.21	6.55	6.86	7.44		# of strides	12.13	11.50	12.76	14.30	23.63	27.06	3.43
		velocity	7.54	9.09	8.93	8.47	8.05	7.63	7.29	6.72	7.89		194.0	8.24	8.70	7.84	6.99	8.46	7.39

Heat 2 - 2024 Olympic Games (Paris, FRA)

Paris 2024 Olympic Games - Results Book (2024)

date	05-Aug-24	time	6.69	12.32	18.12	24.15	30.29	36.62	43.26	50.36	50.36	7 / 2							
reaction time	0.167	interval		5.63	5.80	6.03	6.14	6.33	6.64	7.10		# of strides	12.32	11.83	12.47	13.74	24.15	26.21	2.06
		velocity	7.47	8.88	8.62	8.29	8.14	7.90	7.53	7.04	7.94		194.0	8.12	8.45	8.02	7.28	8.28	7.63

FINAL - 2024 London Athletics Meet (London, GBR)

Omega Timing (2024) - diamond league race analysis

date	20-Jul-24	time	6.61	12.12	17.77	23.68	29.82	36.18	42.80	49.87	49.87	7 / 5							
reaction time	0.144	interval		5.51	5.65	5.91	6.14	6.36	6.62	7.07	PB	# of strides	12.12	11.56	12.50	13.69	23.68	26.19	2.51
		velocity	7.56	9.07	8.85	8.46	8.14	7.86	7.55	7.07	8.02		8.25	8.65	8.00	7.30	8.45	7.64	

FINAL - 2024 Meeting de Paris (Paris, FRA)

Omega Timing (2024) - diamond league race analysis

date	07-Jul-24	time	6.66	12.29	18.16	24.19	30.34	36.67	43.39	50.67	50.67	8 / 5							
reaction time	0.165	interval		5.63	5.87	6.03	6.15	6.33	6.72	7.28	PB	# of strides	12.29	11.90	12.48	14.00	24.19	26.48	2.29
		velocity	7.51	8.88	8.52	8.29	8.13	7.90	7.44	6.87	7.89		192.0	8.14	8.40	8.01	7.14	8.27	7.55

FINAL - 2024 European Athletics Championships (Roma, ITA)

European Athletics (2024) - 2024 european athletics championships - results book

date	10-Jun-24	time		12.44		24.29		36.86		50.71	50.71	5 / 6							
reaction time	0.171	interval				11.85		12.57		13.85	PB	# of strides	12.44	11.85	12.57	13.85	24.29	26.42	2.13
		velocity		8.04		8.44		7.96		7.22	7.89		8.04	8.44	7.96	7.22	8.23	7.57	

Semi-Final 1 - 2024 European Athletics Championships (Roma, ITA)

European Athletics (2024) - 2024 european athletics championships - results book

date	09-Jun-24	time		12.25		23.95		36.90		50.73	50.73	5 / 2							
reaction time	0.160	interval				11.70		12.95		13.83	PB	# of strides	12.25	11.70	12.95	13.83	23.95	26.78	2.83
		velocity		8.16		8.55		7.72		7.23	7.88		8.16	8.55	7.72	7.23	8.35	7.47	

FINAL - 2024 Bislett Games (Oslo, NOR)

Omega Timing (2024) - diamond league race analysis

date	30-May-24	time	6.73	12.46	18.29	24.39	30.64	37.18	43.83	51.04	51.04	2 / 7							
reaction time	0.147	interval		5.73	5.83	6.10	6.25	6.54	6.65	7.21		# of strides	12.46	11.93	12.79	13.86	24.39	26.65	2.26
		velocity	7.43	8.73	8.58	8.20	8.00	7.65	7.52	6.93	7.84		191.0	8.03	8.38	7.82	7.22	8.20	7.50

FINAL - 2023 Memorial van Damme (Brussels, BEL)

Seiko Timing (2023) - world championship race analysis

date	08-Sep-23	time	6.69	12.18	17.92	23.92	30.16	36.67	43.47	50.84	50.84	3 / 6							
reaction time	0.174	interval		5.49	5.74	6.00	6.24	6.51	6.80	7.37		# of strides	12.18	11.74	12.75	14.17	23.92	26.92	3.00
		velocity	7.47	9.11	8.71	8.33	8.01	7.68	7.35	6.78	7.87		8.21	8.52	7.84	7.06	8.36	7.43	

Semi-Final 1 - 2022 European Athletics Championships (Munich, GER)

European Athletics (2022) - european athletics championships race analysis

date	16-Aug-22	time		12.42		24.28		37.22		51.53	51.53	7 / 6							
reaction time	0.162	interval				11.86		12.94		14.31		# of strides	12.42	11.86	12.94	14.31	24.28	27.25	2.97
		velocity		8.05		8.43		7.73		6.99	7.76		195.0	8.05	8.43	7.73	6.99	8.24	7.34

Heat 1 - 2022 European Athletics Championships (Munich, GER)

European Athletics (2022) - european athletics championships race analysis

date	15-Aug-22	time		12.37		24.58		37.60		51.60	51.60	7 / 1							
reaction time	0.175	interval				12.21		13.02		14.00		# of strides	12.37	12.21	13.02	14.00	24.58	27.02	2.44
		velocity		8.08		8.19		7.68		7.14	7.75		8.08	8.19	7.68	7.14	8.14	7.40	

FINAL - 2021 Müller Grand Prix (Gateshead, GBR)

Omega Timing (2021) - diamond league race analysis

date	23-May-21	time	7.2	12.8	18.6	24.6	31.0	37.9	45.7	53.96	53.96	3 / 8							
reaction time	0.140	interval		5.60	5.80	6.00	6.40	6.90	7.80	8.26		# of strides	12.80	11.80	13.30	16.06	24.60	29.36	4.76
		velocity	6.94	8.93	8.62	8.33	7.81	7.25	6.41	6.05	7.41		7.81	8.47	7.52	6.23	8.13	6.81	

FINAL - 2020 Golden Gala Pietro Mennea (Rome, ITA)

Omega Timing (2020) - diamond league race analysis

date	17-Sep-20	time	6.8	12.5	18.5	24.6	30.9	37.6	44.7	52.45	52.45	6 / 7							
reaction time	0.154	interval		5.70	6.00	6.10	6.30	6.70	7.10	7.75		# of strides	12.50	12.10	13.00	14.85	24.60	27.85	3.25
		velocity	7.35	8.77	8.33	8.20	7.94	7.46	7.04	6.45	7.63		8.00	8.26	7.69	6.73	8.13	7.18	

FINAL - 2020 Bauhaus Galan (Stockholm, SWE)

Omega Timing (2020) - diamond league race analysis

date	23-Aug-20	time	6.7	12.4	18.4	24.6	30.9	37.5	44.4	52.16	52.16	8 / 2							
reaction time	0.140	interval		5.70	6.00	6.20	6.30	6.60	6.90	7.76		# of strides	12.40	12.20	12.90	14.66	24.60	27.56	2.96
		velocity	7.46	8.77	8.33	8.06	7.94	7.58	7.25	6.44	7.67		8.06	8.20	7.75	6.82	8.13	7.26	

FINAL - 2019 Weltklasse (Zürich, SUI)

Omega Timing (2019) - diamond league race analysis

date	29-Aug-19	time	6.8	12.4	18.4	24.6	31.0	37.5	44.3	51.70	51.70	7 / 5							
reaction time	0.157	interval		5.6	6.0	6.2	6.4	6.5	6.8	7.4		# of strides	12.40	12.20	12.90	14.20	24.60	27.10	2.50
		velocity	7.35	8.93	8.33	8.06	7.81	7.69	7.35	6.76	7.74		194.5	8.06	8.20	7.75	7.04	8.13	7.38

FINAL - 2019 Athletissima (Lausanne, SUI)

Omega Timing (2019) - diamond league race analysis

date	05-Jul-19	time		12.5		24.6		37.4		51.31	51.31	1 / 4							
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reaction time	0.160	interval		12.1	12.8	13.9		# of strides	12.50	12.10	12.80	13.91	24.60	26.71	2.11				
		velocity	8.00	8.26	7.81	7.19	7.80		8.00	8.26	7.81	7.19	8.13	7.49					
FINAL - 2018 Müller Anniversary Games (London, GBR)													<i>Omega Timing (2018) - diamond league race analysis</i>						
date	22-Jul-18	time	12.6	24.6	37.2	51.70	51.70	3 / 8											
reaction time	0.154	interval		12.0	12.6	14.5	PB	# of strides	12.60	12.00	12.60	14.50	24.60	27.10	2.50				
		velocity	7.94	8.33	7.94	6.90	7.74		7.94	8.33	7.94	6.90	8.13	7.38					
Nishida, Ayaka (JPN) (1993)																			
FINAL - 2015 National Sports Festival (Wayakama, JPN)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
date	04-Oct-15	time	7.09	13.27	19.85	26.64	33.60	40.53	47.63	55.10	55.10	8 / 4	<i>Kohei (2015) - 400m race analysis of male & female at major 2015 competitions</i>						
reaction time		interval		6.18	6.58	6.79	6.96	6.93	7.10	7.47		# of strides	13.27	13.37	13.89	14.57	26.64	28.46	1.82
		velocity	7.05	8.09	7.60	7.36	7.18	7.22	7.04	6.69	7.26		7.54	7.48	7.20	6.86	7.51	7.03	
FINAL - 2011 Japanese National High School Championships (Okinawa, JPN)																			
date	03-Aug-11	time	13.28	26.65	40.22	55.52	55.52	2 / 6	<i>Abe (2011) - 64th high school championships: JAF scientific committee - biomechanics</i>										
reaction time		interval		13.37	13.57	15.30		# of strides	13.28	13.37	13.57	15.30	26.65	28.87	2.22				
		velocity	7.53	7.48	7.37	6.54	7.20		7.53	7.48	7.37	6.54	7.50	6.93					
Nishida, Mina (JPN) (1998)																			
FINAL - 2017 Kansai Regional University Championships (Osaka, JPN)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
date	11-May-17	time	13.29	25.76	39.86	56.14	56.14	3 / 8	<i>(2017) - tfdata-store.com/2017/05/13/post-441/</i>										
reaction time		interval		12.47	14.10	16.28		# of strides	13.29	12.47	14.10	16.28	25.76	30.38	4.62				
		velocity	7.52	8.02	7.09	6.14	7.13		7.52	8.02	7.09	6.14	7.76	6.58					
Nitta, Nozomi (JPN)																			
A FINAL - 2020 Japanese High School National Championships (Hiroshima, JPN)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
date	23-Oct-20	time	7.32	13.64	20.09	26.65	33.43	40.55	47.98	55.82	55.82	7 / 6	<i>Kobayashi (2002) - national high school and U20 national championships</i>						
reaction time	0.190	interval		6.32	6.45	6.56	6.78	7.12	7.43	7.84		# of strides	13.64	13.01	13.90	15.27	26.65	29.17	2.52
		velocity	6.83	7.91	7.75	7.62	7.37	7.02	6.73	6.38	7.17	204.3	7.33	7.69	7.19	6.55	7.50	6.86	
Noda, Kazuha (JPN)																			
FINAL - 2024 Shimane High School Championships (Izumo, JPN)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
date	24-May-24	time	14.07	28.33	42.47	60.06	60.06	5 / 3	<i>Shimizu (2024) - shimane high school championships 2024 - biomechanics data analysis</i>										
reaction time		interval		14.26	14.14	17.59		# of strides	14.07	14.26	14.14	17.59	28.33	31.73	3.40				
		velocity	7.11	7.01	7.07	5.69	6.66		7.11	7.01	7.07	5.69	7.06	6.30					
Nohra, Maria (LBN) (2001)																			
FINAL - West Asian Championships - 2024 Seashore Doha Meeting (Doha, QAT)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
date	10-May-24	time	7.11	13.26	19.93	27.02	34.39	42.03	49.97	58.36	58.36	7 / 3	<i>Omega Timing (2024) - diamond league race analysis</i>						
reaction time	0.179	interval		6.15	6.67	7.09	7.37	7.64	7.94	8.39		# of strides	13.26	13.76	15.01	16.33	27.02	31.34	4.32
		velocity	7.03	8.13	7.50	7.05	6.78	6.54	6.30	5.96	6.85		7.54	7.27	6.66	6.12	7.40	6.38	
Nwachukwu, Sorina (GER) (1987)																			
Semi-Final 3 - 2009 IAAF World Championships (Berlin, GER)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
date	16-Aug-09	time	12.56	24.90	37.74	51.98	51.98	8 / 6	<i>Graubner (2009) - biomechanical analyses at the 12th IAAF world championships</i>										
reaction time	0.210	interval		12.34	12.84	14.24		# of strides	12.56	12.34	12.84	14.24	24.90	27.08	2.18				
		velocity	7.96	8.10	7.79	7.02	7.70		7.96	8.10	7.79	7.02	8.03	7.39					
Heat 2 - 2009 IAAF World Championships (Berlin, GER)																			
date	15-Aug-09	time	12.87	25.07	37.74	51.74	51.74	6 / 3	<i>Graubner (2009) - biomechanical analyses at the 12th IAAF world championships</i>										
reaction time	0.208	interval		12.20	12.67	14.00		# of strides	12.87	12.20	12.67	14.00	25.07	26.67	1.60				
		velocity	7.77	8.20	7.89	7.14	7.73		7.77	8.20	7.89	7.14	7.98	7.50					
FINAL - 2009 ISTAF (Berlin, GER)																			
date	14-Jun-09	time	12.38	24.42	37.49	52.45	52.45	1 / 7	<i>Graubner (2009) - http://www.fgs.uni-halle.de</i>										
reaction time	0.313	interval		12.04	13.07	14.96		# of strides	12.38	12.04	13.07	14.96	24.42	28.03	3.61				
		velocity	8.08	8.31	7.65	6.68	7.63		8.08	8.31	7.65	6.68	8.19	7.14					
Nyhus, Mille Eide (NOR) (2003)																			
National FINAL - 2019 Bislett Games (Oslo, NOR)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
date	13-Jun-19	time	13.2	26.5	41.2	57.22	57.22	8 / 8	<i>Omega Timing (2019) - diamond league race analysis</i>										
reaction time	0.208	interval		13.3	14.7	16.0	PB	# of strides	13.20	13.30	14.70	16.02	26.50	30.72	4.22				
		velocity	7.58	7.52	6.80	6.24	6.99		7.58	7.52	6.80	6.24	7.55	6.51					
Odagaki, Aki (JPN) (1993)																			
FINAL - 2016 Japanese National Championships (Nagoya, JPN)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
date	25-Jun-16	time	7.18	13.53	19.95	26.56	33.23	40.13	47.35	55.01	55.01	7 / 7	<i>Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016</i>						
reaction time	0.223	interval		6.35	6.42	6.61	6.67	6.90	7.22	7.66		# of strides	13.53	13.03	13.57	14.88	26.56	28.45	1.89
		velocity	6.96	7.87	7.79	7.56	7.50	7.25	6.93	6.53	7.27		7.39	7.67	7.37	6.72	7.53	7.03	
Race B - 2016 Shizuoka International Meeting (Fukuroi, JPN)																			
date	03-May-16	time	7.41	13.88	20.55	27.25	33.90	40.76	48.07	55.80	55.80	1 / 2	<i>Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016</i>						
reaction time		interval		6.47	6.67	6.70	6.65	6.86	7.31	7.73		# of strides	13.88	13.37	13.51	15.04	27.25	28.55	1.30
		velocity	6.75	7.73	7.50	7.46	7.52	7.29	6.84	6.47	7.17		7.20	7.48	7.40	6.65	7.34	7.01	
FINAL - 2011 Japanese National High School Championships (Okinawa, JPN)																			
date	03-Aug-11	time	13.38	26.98	41.28	55.52	55.52	3 / 5	<i>Abe (2011) - 64th high school championships: JAF scientific committee - biomechanics</i>										
reaction time		interval		13.60	14.30	14.24		# of strides	13.38	13.60	14.30	14.24	26.98	28.54	1.56				
		velocity	7.47	7.35	6.99	7.02	7.20		7.47	7.35	6.99	7.02	7.41	7.01					
Ogoegbunam, Amaka (NGR) (1990)																			
Heat 4 - 2009 IAAF World Championships (Berlin, GER)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
date	15-Aug-09	time	12.74	24.74	37.95	52.85	52.85	3 / 4	<i>Graubner (2009) - biomechanical analyses at the 12th IAAF world championships</i>										
reaction time	0.166	interval		12.00	13.21	14.90	DV	# of strides	12.74	12.00	13.21	14.90	24.74	28.11	3.37				

velocity	7.85	8.33	7.57	6.71	7.57	7.85	8.33	7.57	6.71	8.08	7.11
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		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential		
Ogunkoya, Falilat (NGR) (1968)																				
FINAL - 2000 Olympic Games (Sydney, AUS)																				
date	25-Sep-00	time	12.3		24.2		36.6		50.1	50.12	8 / 7									
reaction time	0.254	interval			11.90		12.40		13.50		# of strides	12.30	11.90	12.40	13.50	24.20	25.90	1.70		
		velocity	8.13		8.40		8.06		7.41	7.98		8.13	8.40	8.06	7.41	8.26	7.72			
FINAL - 1999 IAAF World Championships (Sevilla, ESP)																				
date	26-Aug-99	time	6.55	12.14	17.82	23.66	29.79	35.95	42.63	50.03	50.03	4 / 4								
reaction time	0.157	interval			5.59	5.68	5.84	6.13	6.16	6.68	7.40	# of strides	12.14	11.52	12.29	14.08	23.66	26.37	2.71	
		velocity	7.63	8.94	8.80	8.56	8.16	8.12	7.49	6.76	8.00		8.24	8.68	8.14	7.10	8.45	7.58		
FINAL - 1997 IAAF World Championships (Athens, GRE)																				
date	04-Aug-97	time	6.58	12.30	17.94	23.70	29.78	35.98	42.74	50.14	50.27	3 / 5								
reaction time	0.126	interval			5.72	5.64	5.76	6.08	6.20	6.76	7.40	# of strides	12.30	11.40	12.28	14.16	23.70	26.44	2.74	
		velocity	7.60	8.74	8.87	8.68	8.22	8.06	7.40	6.76	7.96		8.13	8.77	8.14	7.06	8.44	7.56		
FINAL - 1996 Olympic Games (Atlanta, GA)																				
date	29-Jul-96	time			23.54		35.5		49.10	49.10	5 / 3									
reaction time	0.288	interval					11.96		13.60	AR PB	# of strides		11.96	13.60	23.54	25.56	2.02			
		velocity			8.50		8.36		7.35	8.15			8.36	7.35	8.50	7.82				
FINAL - 1989 IAAF World Cup (Barcelona, ESP)																				
date	10-Sep-89	time	12.27		24.90		37.17		51.67	51.67	1 / 4 3									
reaction time		interval			12.63		12.27		14.50		# of strides	12.27	12.63	12.27	14.50	24.90	26.77	1.87		
		velocity	8.15		7.92		8.15		6.90	7.74		8.15	7.92	8.15	6.90	8.03	7.47			
Ohuruogu, Christine (GBR) (1984)																				
FINAL - 2015 IAAF World Championships (Beijing, CHN)																				
date	27-Aug-15	time	6.68	12.10	17.77	23.76	29.92	36.29	43.07	50.63	50.63	7 / 8								
reaction time	0.189	interval			5.42	5.67	5.99	6.16	6.37	6.78	7.56	# of strides	12.10	11.66	12.53	14.34	23.76	26.87	3.11	
		velocity	7.49	9.23	8.82	8.35	8.12	7.85	7.37	6.61	7.90		8.26	8.58	7.98	6.97	8.42	7.44		
Heat 2 - 2015 IAAF World Championships (Beijing, CHN)																				
date	24-Aug-15	time	6.88	12.60	18.55	24.77	31.05	37.30	43.90	51.01	51.01	3 / 1								
reaction time	0.177	interval			5.72	5.95	6.22	6.28	6.25	6.60	7.11	# of strides	12.60	12.17	12.53	13.71	24.77	26.24	1.47	
		velocity	7.27	8.74	8.40	8.04	7.96	8.00	7.58	7.03	7.84		7.94	8.22	7.98	7.29	8.07	7.62		
FINAL - 2013 IAAF World Championships (Moscow, RUS)																				
date	12-Aug-13	time			23.8		35.7		49.0	49.41	4 / 1									
reaction time	0.247	interval					11.90		13.30	NR	# of strides		11.90	13.30	23.80	25.20	1.40			
		velocity			8.40		8.40		7.52	8.10			8.40	7.52	8.40	7.94				
FINAL - 2012 Olympic Games (London, GBR)																				
date	05-Aug-12	time	12.2		23.9		36.2		49.7	49.70	8 / 2									
reaction time	0.174	interval			11.70		12.30		13.50		# of strides	12.20	11.70	12.30	13.50	23.90	25.80	1.90		
		velocity	8.20		8.55		8.13		7.41	8.05		183.0	8.20	8.55	8.13	7.41	8.37	7.75		
FINAL - 2009 IAAF World Championships (Berlin, GER)																				
date	18-Aug-09	time	12.56		24.32		36.76		50.21	50.21	7 / 5									
reaction time	0.231	interval			11.76		12.44		13.45		# of strides	12.56	11.76	12.44	13.45	24.32	25.89	1.57		
		velocity	7.96		8.50		8.04		7.43	7.97		184.2	7.96	8.50	8.04	7.43	8.22	7.72		
Semi-Final 3 - 2009 IAAF World Championships (Berlin, GER)																				
date	16-Aug-09	time	12.51		24.43		36.92		50.35	50.35	4 / 2									
reaction time	0.204	interval			11.92		12.49		13.43		# of strides	12.51	11.92	12.49	13.43	24.43	25.92	1.49		
		velocity	7.99		8.39		8.01		7.45	7.94		7.99	8.39	8.01	7.45	8.19	7.72			
Heat 5 - 2009 IAAF World Championships (Berlin, GER)																				
date	15-Aug-09	time	12.74		24.62		37.36		51.30	51.30	4 / 2									
reaction time	0.263	interval			11.88		12.74		13.94		# of strides	12.74	11.88	12.74	13.94	24.62	26.68	2.06		
		velocity	7.85		8.42		7.85		7.17	7.80		7.85	8.42	7.85	7.17	8.12	7.50			
FINAL - 2008 IAAF World Athletics Final (Stuttgart, GER)																				
date	14-Sep-08	time	12.75		24.85		37.72		50.83	50.83	4 / 2									
reaction time	0.234	interval			12.10		12.87		13.11		# of strides	12.75	12.10	12.87	13.11	24.85	25.98	1.13		
		velocity	7.84		8.26		7.77		7.63	7.87		7.84	8.26	7.77	7.63	8.05	7.70			
FINAL - 2008 Olympic Games (Beijing, CHN) (TV Analysis)																				
date	19-Aug-08	time	12.40		23.83		36.24		49.62	49.62	4 / 1									
reaction time	0.237	interval			11.43		12.41		13.38		# of strides	12.40	11.43	12.41	13.38	23.83	25.79	1.96		
		velocity	8.06		8.75		8.06		7.47	8.06		185.2	8.06	8.75	8.06	7.47	8.39	7.75		
FINAL - 2007 IAAF World Athletics Final (Stuttgart, GER)																				
date	23-Sep-07	time	12.54		24.37		36.97		50.20	50.20	4 / 3									
reaction time	0.185	interval			11.83		12.60		13.23		# of strides	12.54	11.83	12.60	13.23	24.37	25.83	1.46		
		velocity	7.97		8.45		7.94		7.56	7.97		7.97	8.45	7.94	7.56	8.21	7.74			
FINAL - 2007 IAAF World Championships (Osaka, JPN)																				
date	29-Aug-07	time	6.86	12.27	17.98	23.85	29.87	36.14	42.72	49.61	49.61	6 / 1								
reaction time	0.219	interval			5.41	5.71	5.87	6.02	6.27	6.58	6.89	NR	# of strides	12.27	11.58	12.29	13.47	23.85	25.76	1.91
		velocity	7.29	9.24	8.76	8.52	8.31	7.97	7.60	7.26	8.06		183.5	8.15	8.64	8.14	7.42	8.39	7.76	
Ohuruogu, Victoria (GBR) (1993)																				

Semi-Final 1 - 2024 Olympic Games (Paris, FRA)

Paris 2024 Olympic Games - Results Book (2024)

date	07-Aug-24	time	6.76	12.21	17.80	23.76	30.03	36.63	43.61	51.14	51.14		3 / 5							
reaction time	0.189	interval		5.45	5.59	5.96	6.27	6.60	6.98	7.53			# of strides	12.21	11.55	12.87	14.51	23.76	27.38	3.62
		velocity	7.40	9.17	8.94	8.39	7.97	7.58	7.16	6.64	7.82		194.0	8.19	8.66	7.77	6.89	8.42	7.30	

Repechage 3 - 2024 Olympic Games (Paris, FRA)

Paris 2024 Olympic Games - Results Book (2024)

date	06-Aug-24	time	6.81	12.36	18.07	23.97	30.08	36.50	43.27	50.59	50.59		8 / 1							
reaction time	0.191	interval		5.55	5.71	5.90	6.11	6.42	6.77	7.32			# of strides	12.36	11.61	12.53	14.09	23.97	26.62	2.65
		velocity	7.34	9.01	8.76	8.47	8.18	7.79	7.39	6.83	7.91		194.0	8.09	8.61	7.98	7.10	8.34	7.51	

Heat 4 - 2024 Olympic Games (Paris, FRA)

Paris 2024 Olympic Games - Results Book (2024)

date	05-Aug-24	time	6.85	12.38	18.06	24.04	30.22	36.64	43.50	50.93	50.93		6 / 4							
reaction time	0.196	interval		5.53	5.68	5.98	6.18	6.42	6.86	7.43			# of strides	12.38	11.66	12.60	14.29	24.04	26.89	2.85
		velocity	7.30	9.04	8.80	8.36	8.09	7.79	7.29	6.73	7.85		193.2	8.08	8.58	7.94	7.00	8.32	7.44	

FINAL - 2024 London Athletics Meet (London, GBR)

Omega Timing (2024) - diamond league race analysis

date	20-Jul-24	time	6.96	12.52	18.25	24.19	30.44	36.85	43.59	50.76	50.76		1 / 7							
reaction time	0.163	interval		5.56	5.73	5.94	6.25	6.41	6.74	7.17			# of strides	12.52	11.67	12.66	13.91	24.19	26.57	2.38
		velocity	7.18	8.99	8.73	8.42	8.00	7.80	7.42	6.97	7.88		7.99	8.57	7.90	7.19	8.27	7.53		

Semi-Final 3 - 2024 European Athletics Championships (Roma, ITA)

European Athletics (2024) - 2024 european athletics championships - results book

date	09-Jun-24	time		12.43		24.23		37.25		52.07	52.07		6 / 6							
reaction time	0.224	interval				11.80		13.02		14.82			# of strides	12.43	11.80	13.02	14.82	24.23	27.84	3.61
		velocity		8.05		8.47		7.68		6.75	7.68		194.7	8.05	8.47	7.68	6.75	8.25	7.18	

FINAL - 2024 Bislett Games (Oslo, NOR)

Omega Timing (2024) - diamond league race analysis

date	30-May-24	time	7.03	12.72	18.47	24.58	30.78	37.33	44.30	51.61	51.61		1 / 8							
reaction time	0.161	interval		5.69	5.75	6.11	6.20	6.55	6.97	7.31			# of strides	12.72	11.86	12.75	14.28	24.58	27.03	2.45
		velocity	7.11	8.79	8.70	8.18	8.06	7.63	7.17	6.84	7.75		194.2	7.86	8.43	7.84	7.00	8.14	7.40	

FINAL - 2023 Prefontaine Classic (Eugene, OR)

Omega Timing (2023) - diamond league race analysis

date	17-Sep-23	time	6.88	12.50	18.33	24.47	30.77	37.28	44.03	51.15	51.15		3 / 6							
reaction time	0.162	interval		5.62	5.83	6.14	6.30	6.51	6.75	7.12			# of strides	12.50	11.97	12.81	13.87	24.47	26.68	2.21
		velocity	7.27	8.90	8.58	8.14	7.94	7.68	7.41	7.02	7.82		8.00	8.35	7.81	7.21	8.17	7.50		

FINAL - 2023 Memorial van Damme (Brussels, BEL)

Seiko Timing (2023) - world championship race analysis

date	08-Sep-23	time	6.92	12.66	18.47	24.45	30.60	37.02	43.73	50.81	50.81		8 / 4							
reaction time	0.218	interval		5.74	5.81	5.98	6.15	6.42	6.71	7.08			# of strides	12.66	11.79	12.57	13.79	24.45	26.36	1.91
		velocity	7.23	8.71	8.61	8.36	8.13	7.79	7.45	7.06	7.87		7.90	8.48	7.96	7.25	8.18	7.59		

FINAL - 2023 Xiamen Diamond League (Xiamen, CHN)

Omega Timing (2023) - diamond league race analysis

date	02-Sep-23	time	6.97	12.69	18.67	24.81	30.96	37.38	44.05	51.24	51.24		8 / 5							
reaction time	0.221	interval		5.72	5.98	6.14	6.15	6.42	6.67	7.19			# of strides	12.69	12.12	12.57	13.86	24.81	26.43	1.62
		velocity	7.17	8.74	8.36	8.14	8.13	7.79	7.50	6.95	7.81		7.88	8.25	7.96	7.22	8.06	7.57		

Semi-Final 3 - 2023 World Athletics Championships (Budapest, HUN)

Seiko Timing (2023) - world championship race analysis

date	21-Aug-23	time		12.39		24.21		36.91		50.74	50.74		8 / 4							
reaction time	0.238	interval				11.82		12.70		13.83			# of strides	12.39	11.82	12.70	13.83	24.21	26.53	2.32
		velocity		8.07		8.46		7.87		7.23	7.88		192.0	8.07	8.46	7.87	7.23	8.26	7.54	

Heat 6 - 2023 World Athletics Championships (Budapest, HUN)

Seiko Timing (2023) - world championship race analysis

date	20-Aug-23	time		12.46		24.10		36.76		50.60	50.60		2 / 2							
reaction time	0.181	interval				11.64		12.66		13.84			# of strides	12.46	11.64	12.66	13.84	24.10	26.50	2.40
		velocity		8.03		8.59		7.90		7.23	7.91		192.0	8.03	8.59	7.90	7.23	8.30	7.55	

FINAL - 2022 European Athletics Championships (Munich, GER)

European Athletics (2022) - european athletics championships race analysis

date	17-Aug-22	time		12.51		24.43		37.04		50.51	50.51		3 / 4							
reaction time	0.269	interval				11.92		12.61		13.47			# of strides	12.51	11.92	12.61	13.47	24.43	26.08	1.65
		velocity		7.99		8.39		7.93		7.42	7.92		192.0	7.99	8.39	7.93	7.42	8.19	7.67	

Semi-Final 2 - 2022 European Athletics Championships (Munich, GER)

European Athletics (2022) - european athletics championships race analysis

date	16-Aug-22	time		12.50		24.29		36.93		50.50	50.50		5 / 2							
reaction time	0.243	interval				11.79		12.64		13.57	PB		# of strides	12.50	11.79	12.64	13.57	24.29	26.21	1.92
		velocity		8.00		8.48		7.91		7.37	7.92		192.0	8.00	8.48	7.91	7.37	8.23	7.63	

FINAL - 2022 Commonwealth Games (Birmingham, GBR)

Longines Timing (2022) - commonwealth games race analysis

date	07-Aug-22	time	6.8	12.5	18.3	24.4	30.6	37.1	43.7	50.72	50.72		4 / 2							
reaction time	0.147	interval		5.70	5.80	6.10	6.20	6.50	6.60	7.02	PB		# of strides	12.50	11.90	12.70	13.62	24.40	26.32	1.92
		velocity	7.35	8.77	8.62	8.20	8.06	7.69	7.58	7.12	7.89		195.5	8.00	8.40	7.87	7.34	8.20	7.60	

Semi-Final 1 - 2022 Commonwealth Games (Birmingham, GBR)

Longines Timing (2022) - commonwealth games race analysis

date	05-Aug-22	time	6.7	12.3	18.1	24.2	30.5	37.0	43.7	51.00	51.00		5 / 1							
reaction time	0.160	interval		5.60	5.80	6.10	6.30	6.50	6.70	7.30			# of strides	12.30	11.90	12.80	14.00	24.20	26.80	2.60
		velocity	7.46	8.93	8.62	8.20	7.94	7.69	7.46	6.85	7.84		195.0	8.13	8.40	7.81	7.14	8.26	7.46	

Semi-Final 1 - 2022 World Athletics Championships (Eugene, OR)

Timing by Seiko (2022) - world athletics championships race analysis

date	20-Jul-22	time		12.55		24.55		37.29		50.99	50.99		8 / 5							
reaction time	0.178	interval				12.00		12.74		13.70	PB		# of strides	12.55	12.00	12.74	13.70	24.55	26.44	1.89
		velocity		7.97		8.33		7.85		7.30	7.84		193.2	7.97	8.33	7.85	7.30	8.15	7.56	

Heat 6 - 2022 World Athletics Championships (Eugene, OR)

Timing by Seiko (2022) - world athletics championships race analysis

date	17-Jul-22	time		12.67		24.78		37.40		51.07	51.07		6 / 3							
reaction time	0.190	interval				12.11		12.62		13.67			# of strides	12.67	12.11	12.62	13.67	24.78	26.29	1.51
		velocity		7.89		8.26		7.92		7.32	7.83		193.5	7.89	8.26	7.92	7.32	8.07	7.61	

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
Oikawa, Maaya (JPN) (2001)		FINAL - 2018 Japanese National Youth (U18) Championships (Nagano, JPN)										<i>Ryutarō (2018) - research on athlete performance and technique- 2018 data book</i>							
date	19-Oct-18	time	7.49	13.95	20.57	27.41	34.34	41.55	48.92	56.65	56.65	8 / 7							
reaction time		interval	6.46	6.62	6.84	6.93	7.21	7.37	7.73		# of strides	13.95	13.46	14.14	15.10	27.41	29.24	1.83	
		velocity	6.68	7.74	7.55	7.31	7.22	6.93	6.78	6.47	7.06	7.17	7.43	7.07	6.62	7.30	6.84		
Okabe, Yuika (JPN) (1996)		FINAL - 2015 Japanese National Junior Championships (Nagoya, JPN)										<i>Kohei (2015) - 400m race analysis of male & female at major 2015 competitions</i>							
date	16-Oct-15	time	7.13	13.12	19.40	26.06	33.01	40.34	48.09	56.40	56.40	/ 8							
reaction time		interval	5.99	6.28	6.66	6.95	7.33	7.75	8.31		# of strides	13.12	12.94	14.28	16.06	26.06	30.34	4.28	
		velocity	7.01	8.35	7.96	7.51	7.19	6.82	6.45	6.02	7.09	7.62	7.73	7.00	6.23	7.67	6.59		
Okada, Eina (JPN)		FINAL - 2021 Shimane High School Championships (Izumo, JPN)										<i>Shimizu (2021) - shimane high school championships 2021 - biomechanics data analysis</i>							
date	28-May-21	time		14.22		28.22		44.61		62.90	62.90	4 / 5							
reaction time		interval				14.00		16.39		18.29		# of strides	14.22	14.00	16.39	18.29	28.22	34.68	6.46
		velocity		7.03		7.14		6.10		5.47	6.36	7.03	7.14	6.10	5.47	7.09	5.77		
Okamoto, Yuna (CHN) (1995)		FINAL - 2013 Japanese National High School Championships (Oita, JPN)										<i>Matsuo (2013) - 66th high school championships: JAF scientific committee- biomechanics data</i>							
date	30-Jul-13	time		13.60		26.80		40.83		56.06	56.06	2 / 8							
reaction time		interval				13.20		14.03		15.23		# of strides	13.60	13.20	14.03	15.23	26.80	29.26	2.46
		velocity		7.35		7.58		7.13		6.57	7.14	7.35	7.58	7.13	6.57	7.46	6.84		
Oki, Sayaka (JPN) (1995)		FINAL - 2013 Japanese National High School Championships (Oita, JPN)										<i>Yanagiya (2014) - research on athlete performance and technique- 2014 data book</i>							
date	30-Jul-13	time	7.05	13.48	19.89	26.27	32.80	39.58	46.47	53.66	53.66	4 / 1							
reaction time		interval	6.43	6.41	6.38	6.53	6.78	6.89	7.19		# of strides	13.48	12.79	13.31	14.08	26.27	27.39	1.12	
		velocity	7.09	7.78	7.80	7.84	7.66	7.37	7.26	6.95	7.45	7.42	7.82	7.51	7.10	7.61	7.30		
FINAL - 2012 Japanese National High School Championships (Niigata, JPN)												<i>Yasunori (2012) - 65th high school championships: JAF scientific committee- biomechanics</i>							
date	29-Jul-12	time		12.93		25.38		39.14		54.31	54.31	6 / 1							
reaction time		interval				12.45		13.76		15.17		# of strides	12.93	12.45	13.76	15.17	25.38	28.93	3.55
		velocity		7.73		8.03		7.27		6.59	7.37	7.73	8.03	7.27	6.59	7.88	6.91		
Okolo, Courtney (USA) (1994)		Semi-Final 3 - 2024 USA Olympic Trials (Eugene, OR)										<i>USATF and Karmarush (2024) - USA Olympic trials results and race analysis</i>							
date	22-Jun-24	time		12.48		24.22		37.33		52.11	52.11	2 / 8							
reaction time		interval				11.74		13.11		14.78		# of strides	12.48	11.74	13.11	14.78	24.22	27.89	3.67
		velocity		8.01		8.52		7.63		6.77	7.68	8.01	8.52	7.63	6.77	8.26	7.17		
Heat 4 - 2024 USA Olympic Trials (Eugene, OR)												<i>USATF and Karmarush (2024) - USA Olympic trials results and race analysis</i>							
date	21-Jun-24	time		12.78		24.96		38.01		51.79	51.79	9 / 5							
reaction time		interval				12.18		13.05		13.78		# of strides	12.78	12.18	13.05	13.78	24.96	26.83	1.87
		velocity		7.82		8.21		7.66		7.26	7.72	197.0	7.82	8.21	7.66	7.26	8.01	7.45	
FINAL - 2019 The Match - Europe v USA (Minsk, BLR)												<i>European Athletics (2019) - race analysis</i>							
date	09-Sep-19	time		12.40		24.33		37.02		52.20	52.20	6 / 5							
reaction time	0.228	interval				11.93		12.69		15.18		# of strides	12.40	11.93	12.69	15.18	24.33	27.87	3.54
		velocity		8.06		8.38		7.88		6.59	7.66	202.7	8.06	8.38	7.88	6.59	8.22	7.18	
National FINAL - 2019 Memorial van Damme (Brussels, BEL)												<i>Omega Timing (2019) - diamond league race analysis</i>							
date	06-Sep-19	time	7.0	12.7	18.6	24.7	31.1	37.7	44.6	52.13	52.13	6 / 1							
reaction time	0.213	interval	5.7	5.9	6.1	6.4	6.6	6.9	7.5		# of strides	12.70	12.00	13.00	14.43	24.70	27.43	2.73	
		velocity	7.14	8.77	8.47	8.20	7.81	7.58	7.25	6.64	7.67	7.87	8.33	7.69	6.93	8.10	7.29		
FINAL - 2019 Athletissima (Lausanne, SUI)												<i>Omega Timing (2019) - diamond league race analysis</i>							
date	05-Jul-19	time		12.5		24.1		36.7		51.85	51.85	8 / 7							
reaction time	0.217	interval				11.6		12.6		15.2		# of strides	12.50	11.60	12.60	15.15	24.10	27.75	3.65
		velocity		8.00		8.62		7.94		6.60	7.71	8.00	8.62	7.94	6.60	8.30	7.21		
FINAL - 2019 Golden Gala Pietro Mennea (Rome, ITA)												<i>Omega Timing (2019) - diamond league race analysis</i>							
date	06-Jun-19	time		12.6		24.7		37.6		52.17	52.17	2 / 8							
reaction time	0.222	interval				12.1		12.9		14.6		# of strides	12.60	12.10	12.90	14.57	24.70	27.47	2.77
		velocity		7.94		8.26		7.75		6.86	7.67	198.7	7.94	8.26	7.75	6.86	8.10	7.28	
FINAL - 2018 Müller Anniversary Games (London, GBR)												<i>Omega Timing (2018) - diamond league race analysis</i>							
date	22-Jul-18	time		12.7		24.8		37.4		50.93	50.93	6 / 3							
reaction time	0.223	interval				12.1		12.6		13.5		# of strides	12.70	12.10	12.60	13.53	24.80	26.13	1.33
		velocity		7.87		8.26		7.94		7.39	7.85	192.0	7.87	8.26	7.94	7.39	8.06	7.65	
FINAL - 2018 Meeting de Paris (Paris, FRA)												<i>Omega Timing (2018) - diamond league race analysis</i>							
date	30-Jun-18	time		12.7		24.7		37.4		51.15	51.15	8 / 6							
reaction time	0.246	interval				12.0		12.7		13.8		# of strides	12.70	12.00	12.70	13.75	24.70	26.45	1.75
		velocity		7.87		8.33		7.87		7.27	7.82	193.0	7.87	8.33	7.87	7.27	8.10	7.56	
FINAL - 2018 Bauhaus Galan (Stockholm, SWE)												<i>Omega Timing (2018) - diamond league race analysis</i>							
date	10-Jun-18	time		12.5		24.5		37.0		51.28	51.28	8 / 6							
reaction time	0.234	interval				12.0		12.5		14.3		# of strides	12.50	12.00	12.50	14.28	24.50	26.78	2.28
		velocity		8.00		8.33		8.00		7.00	7.80	194.0	8.00	8.33	8.00	7.00	8.16	7.47	
FINAL - 2018 Bislett Games (Oslo, NOR)												<i>Omega Timing (2018) - diamond league race analysis</i>							
date	07-Jun-18	time		12.3		24.1		36.7		51.22	51.22	7 / 6							
reaction time	0.236	interval				11.8		12.6		14.5		# of strides	12.30	11.80	12.60	14.52	24.10	27.12	3.02
		velocity		8.13		8.47		7.94		6.89	7.81	194.7	8.13	8.47	7.94	6.89	8.30	7.37	

FINAL - 2017 Memorial van Damme (Brussels, BEL)

Omega Timing (2017) - diamond league race analysis

date	01-Sep-17	time	12.5	18.4	24.4	30.7	37.2	43.9	50.91	50.91	4 / 3							
reaction time	0.259	interval		5.90	6.00	6.30	6.50	6.70	7.01		# of strides	12.50	11.90	12.80	13.71	24.40	26.51	2.11
		velocity	8.00	8.47	8.33	7.94	7.69	7.46	7.13	7.86		192.7	8.00	8.40	7.81	7.29	8.20	7.54

FINAL - 2017 Meeting de Paris (Paris, FRA)

Omega Timing (2017) - diamond league race analysis

date	01-Jul-17	time	12.6	18.4	24.7	31.1	37.5	44.2	51.19	51.19	7 / 2							
reaction time	0.242	interval		5.8	6.3	6.4	6.4	6.7	7.0		# of strides	12.60	12.10	12.80	13.69	24.70	26.49	1.79
		velocity	7.94	8.62	7.94	7.81	7.81	7.46	7.15	7.81		191.7	7.94	8.26	7.81	7.30	8.10	7.55

FINAL - 2017 USATF National Championship (Sacramento, CA)

Lee (& Ferrara) (2017) - speedendurance.com/2017/07/13/400m-splits-from-usa-national-championships/

date	24-Jun-17	time	12.67	24.29	36.92	51.23	51.23				1 / 8							
reaction time		interval		11.62	12.63	14.31					# of strides	12.67	11.62	12.63	14.31	24.29	26.94	2.65
		velocity	8.24	8.73	8.12	7.24	7.81					7.89	8.61	7.92	6.99	8.23	7.42	

FINAL - 2016 USA Olympic Trials (Eugene, OR)

Hymans (2020) - history of the US olympic trials - track and field

date	03-Jul-16	time		24.3	36.6	50.39	50.39				4 / 6						
reaction time	0.271	interval			12.30	13.79					# of strides		12.30	13.79	24.30	26.09	1.79
		velocity		8.23	8.13	7.25	7.94						8.13	7.25	8.23	7.67	

FINAL - 2016 NCAA Championships (Eugene, OR)

USTFCCCA (2017) - NCAA DI outdoor championship history

date	11-Jun-16	time		24.3	36.8	50.4	50.36				4 / 1						
reaction time		interval			12.50	13.60					# of strides		12.50	13.60	24.30	26.10	1.80
		velocity		8.23	8.00	7.35	7.94						8.00	7.35	8.23	7.66	

FINAL - 2014 NCAA Championships (Eugene, OR)

USTFCCCA (2017) - NCAA DI outdoor championship history

date	13-Jun-14	time		24.1		50.2	50.23				4 / 1						
reaction time		interval				26.10					# of strides				24.10	26.10	2.00
		velocity		8.30		7.66	7.96								8.30	7.66	

Okuda, Masumi (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential		
FINAL - 2014 Japanese National High School Championships (Kofu, JPN)																			
date	30-Jul-14	time	7.39	13.56	19.65	26.03	32.78	39.95	47.63	56.10	56.10								
reaction time		interval		6.17	6.09	6.38	6.75	7.17	7.68	8.47		# of strides	13.56	12.47	13.92	16.15	26.03	30.07	4.04
		velocity	6.77	8.10	8.21	7.84	7.41	6.97	6.51	5.90	7.13		7.37	8.02	7.18	6.19	7.68	6.65	

Okumura, Yuri (JPN) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential		
FINAL - 2018 Japanese National Junior (U20) Championships (Nagano, JPN)																			
date	19-Oct-18	time	7.20	13.08	19.39	26.18	33.24	40.66	48.35	56.59	56.59								
reaction time	0.185	interval		5.88	6.31	6.79	7.06	7.42	7.69	8.24		# of strides	13.08	13.10	14.48	15.93	26.18	30.41	4.23
		velocity	6.94	8.50	7.92	7.36	7.08	6.74	6.50	6.07	7.07		7.65	7.63	6.91	6.28	7.64	6.58	

U19 FINAL - 2017 National Sports Festival (Matsuyama, JPN)

(2017) - tfdata-store.com/2017/10/12/post-1100/

date	08-Oct-17	time		12.86	25.43	39.21	54.11	54.11			7 / 2							
reaction time	0.171	interval			12.57	13.78	14.90				# of strides	12.86	12.57	13.78	14.90	25.43	28.68	3.25
		velocity		7.78	7.96	7.26	6.71	7.39				210.0	7.78	7.96	7.26	6.71	7.86	6.97

U19 Semi-Final 1 - 2017 National Sports Festival (Matsuyama, JPN)

(2017) - tfdata-store.com/2017/10/12/post-1100/

date	08-Oct-17	time		12.93	25.83	39.84	54.75	54.75			6 / 1							
reaction time	0.177	interval			12.90	14.01	14.91				# of strides	12.93	12.90	14.01	14.91	25.83	28.92	3.09
		velocity		7.73	7.75	7.14	6.71	7.31				211.5	7.73	7.75	7.14	6.71	7.74	6.92

FINAL - 2017 Japanese National High School Championships (Yamagata, JPN)

Kota (2017) - 70th high school championships: JAF scientific committee- biomechanics data

date	29-Jul-17	time	6.95	12.87	19.12	25.68	32.54	39.68	47.00	54.75	54.75								
reaction time	0.187	interval		5.92	6.25	6.56	6.86	7.14	7.32	7.75		# of strides	12.87	12.81	14.00	15.07	25.68	29.07	3.39
		velocity	7.19	8.45	8.00	7.62	7.29	7.00	6.83	6.45	7.31		7.77	7.81	7.14	6.64	7.79	6.88	

Okuni, Chinatsu (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
FINAL - 2024 Shimane High School Championships (Izumo, JPN)																		
date	24-May-24	time		14.42	28.20	42.91	57.54	57.54			7 / 1							
reaction time		interval			13.78	14.71	14.63				# of strides	14.42	13.78	14.71	14.63	28.20	29.34	1.14
		velocity		6.93	7.26	6.80	6.84	6.95				6.93	7.26	6.80	6.84	7.09	6.82	

FINAL - 2023 Shimane High School Championships (Izumo, JPN)

Shimizu (2023) - shimane high school championships 2023 - biomechanics data analysis

date	26-May-23	time		14.85	29.43	44.29	59.61	59.61			3 / 1							
reaction time		interval			14.58	14.86	15.32				# of strides	14.85	14.58	14.86	15.32	29.43	30.18	0.75
		velocity		6.73	6.86	6.73	6.53	6.71				6.73	6.86	6.73	6.53	6.80	6.63	

Onishi, Aonori (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential		
FINAL - 2018 Japanese National High School Championships (Nagoya, JPN)																			
date	02-Aug-18	time	7.09	13.02	19.20	25.59	32.15	39.17	46.74	55.24	55.24								
reaction time		interval		5.93	6.18	6.39	6.56	7.02	7.57	8.50		# of strides	13.02	12.57	13.58	16.07	25.59	29.65	4.06
		velocity	7.05	8.43	8.09	7.82	7.62	7.12	6.61	5.88	7.24		7.68	7.96	7.36	6.22	7.82	6.75	

Onishi, Manae (JPN) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential		
FINAL - 2018 Japanese National Junior (U20) Championships (Nagano, JPN)																			
date	19-Oct-18	time	7.32	13.30	19.45	25.93	32.70	39.74	47.10	55.14	55.14								
reaction time	0.272	interval		5.98	6.15	6.48	6.77	7.04	7.36	8.04		# of strides	13.30	12.63	13.81	15.40	25.93	29.21	3.28
		velocity	6.83	8.36	8.13	7.72	7.39	7.10	6.79	6.22	7.25		7.52	7.92	7.24	6.49	7.71	6.85	

Ono, Mizuna (JPN) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential		
A FINAL - 2020 Japanese High School National Championships (Hiroshima, JPN)																			
date	23-Oct-20	time	6.92	13.04	19.40	25.96	32.75	39.73	46.89	54.48	54.48								
reaction time	0.166	interval		6.12	6.36	6.56	6.79	6.98	7.16	7.59		# of strides	13.04	12.92	13.77	14.75	25.96	28.52	2.56

velocity	7.23	8.17	7.86	7.62	7.36	7.16	6.98	6.59	7.34	196.7	7.67	7.74	7.26	6.78	7.70	7.01
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U18 FINAL - 2019 Japanese National U18/U20 Championships (Hiroshima, JPN) (300m)

date	18-Oct-19	time	12.69	25.16	39.52	39.52	5 / 3	<i>Kijima (2019) - research on athlete performance and technique- 2019 data book</i>								
reaction time	0.166	interval		12.47	14.36		# of strides	12.69	12.47	14.36	25.16	26.83	100m-300m			
		velocity	7.88	8.02	6.96	7.59	147.5	7.88	8.02	6.96	7.95	7.45				

Onojuwewwo, Ela (NGR) (2005)

Semi-Final 2 - 2024 Olympic Games (Paris, FRA)	<i>Paris 2024 Olympic Games - Results Book (2024)</i>																		
date	07-Aug-24	time	6.77	12.31	18.01	23.95	30.13	36.69	43.58	51.05	51.05	3 / 6							
reaction time	0.188	interval		5.54	5.70	5.94	6.18	6.56	6.89	7.47		# of strides	12.31	11.64	12.74	14.36	23.95	27.10	3.15
		velocity	7.39	9.03	8.77	8.42	8.09	7.62	7.26	6.69	7.84	195.0	8.12	8.59	7.85	6.96	8.35	7.38	

Repechage 1 - 2024 Olympic Games (Paris, FRA)

date	06-Aug-24	time	6.83	12.31	18.07	24.07	30.17	36.54	43.29	50.59	50.59	5 / 1	<i>Paris 2024 Olympic Games - Results Book (2024)</i>						
reaction time	0.208	interval		5.48	5.76	6.00	6.10	6.37	6.75	7.30		# of strides	12.31	11.76	12.47	14.05	24.07	26.52	2.45
		velocity	7.32	9.12	8.68	8.33	8.20	7.85	7.41	6.85	7.91	192.0	8.12	8.50	8.02	7.12	8.31	7.54	

Heat 3 - 2024 Olympic Games (Paris, FRA)

date	05-Aug-24	time	6.66	12.07	17.59	23.36	29.49	36.11	43.36	51.65	51.65	3 / 6	<i>Paris 2024 Olympic Games - Results Book (2024)</i>						
reaction time	0.173	interval		5.41	5.52	5.77	6.13	6.62	7.25	8.29		# of strides	12.07	11.29	12.75	15.54	23.36	28.29	4.93
		velocity	7.51	9.24	9.06	8.67	8.16	7.55	6.90	6.03	7.74	199.0	8.29	8.86	7.84	6.44	8.56	7.07	

Onoue, Rika (JPN) (1999)

FINAL - 2016 Japanese National Youth Championships (Mizuho, JPN)	<i>Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016</i>																		
date	21-Oct-16	time	7.32	13.64	20.15	26.88	33.77	40.83	48.21	56.17	56.17	8 / 5							
reaction time		interval		6.32	6.51	6.73	6.89	7.06	7.38	7.96		# of strides	13.64	13.24	13.95	15.34	26.88	29.29	2.41
		velocity	6.83	7.91	7.68	7.43	7.26	7.08	6.78	6.28	7.12		7.33	7.55	7.17	6.52	7.44	6.83	

Onuora, Anyika (GBR) (1984)

FINAL - 2018 Müller Anniversary Games (London, GBR)	<i>Omega Timing (2018) - diamond league race analysis</i>																
date	22-Jul-18	time	13.0	25.2	37.4	51.13	51.13	7 / 5									
reaction time	0.167	interval		12.2	12.2	13.7		# of strides	13.00	12.20	12.20	13.73	25.20	25.93	0.73		
		velocity	7.69	8.20	8.20	7.28	7.82	193.5	7.69	8.20	8.20	7.28	7.94	7.71			

FINAL - 2018 Bislett Games (Oslo, NOR)

date	07-Jun-18	time	12.9	25.1	38.4	51.60	51.60	8 / 7	<i>Omega Timing (2018) - diamond league race analysis</i>								
reaction time	0.156	interval		12.2	13.3	13.2		# of strides	12.90	12.20	13.30	13.20	25.10	26.50	1.40		
		velocity	7.75	8.20	7.52	7.58	7.75	200.0	7.75	8.20	7.52	7.58	7.97	7.55			

Heat 5 - 2015 IAAF World Championships (Beijing, CHN)

date	24-Aug-15	time	6.86	12.43	18.42	24.64	30.87	37.11	43.79	51.14	51.14	6 / 4	<i>Yamamoto (2015) - race analysis of 15th World Championships 400m- focusing on men's semis and women's prelims</i>						
reaction time	0.167	interval		5.57	5.99	6.22	6.23	6.24	6.68	7.35	PB	# of strides	12.43	12.21	12.47	14.03	24.64	26.50	1.86
		velocity	7.29	8.98	8.35	8.04	8.03	8.01	7.49	6.80	7.82		8.05	8.19	8.02	7.13	8.12	7.55	

Oppegaard, Linn (NOR) (1998)

Heat 1 - 2022 European Athletics Championships (Munich, GER)	<i>European Athletics (2022) - european athletics championships race analysis</i>																
date	15-Aug-22	time	12.93	25.38	38.69	53.29	53.29	8 / 7									
reaction time	0.260	interval		12.45	13.31	14.60		# of strides	12.93	12.45	13.31	14.60	25.38	27.91	2.53		
		velocity	7.73	8.03	7.51	6.85	7.51		7.73	8.03	7.51	6.85	7.88	7.17			

Oshima, Airi (JPN) (2000)

FINAL - 2021 Ready Steady Tokyo (Tokyo, JPN)	<i>Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition</i>																		
date	09-May-21	time	7.20	13.43	19.87	26.60	33.42	40.28	47.19	54.25	54.25	7 / 3							
reaction time	0.146	interval		6.23	6.44	6.73	6.82	6.86	6.91	7.06		# of strides	13.43	13.17	13.68	13.97	26.60	27.65	1.05
		velocity	6.94	8.03	7.76	7.43	7.33	7.29	7.24	7.08	7.37		7.45	7.59	7.31	7.16	7.52	7.23	

FINAL - 2021 Shizuoka International Athletics Meeting (Fukuroi, JPN)

date	03-May-21	time	7.27	13.33	19.75	26.49	33.36	40.39	47.80	56.10	56.10	5 / 3	<i>Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition</i>						
reaction time	0.185	interval		6.06	6.42	6.74	6.87	7.03	7.41	8.30		# of strides	13.33	13.16	13.90	15.71	26.49	29.61	3.12
		velocity	6.88	8.25	7.79	7.42	7.28	7.11	6.75	6.02	7.13		7.50	7.60	7.19	6.37	7.55	6.75	

FINAL - 2020 Japanese National Championships (Niigata, JPN)

date	02-Oct-20	time	7.07	13.13	19.52	26.15	32.89	39.77	46.77	54.16	54.16	6 / 4	<i>Yamanaka (2020) - 400m race analysis of men and women during 2020 season</i>						
reaction time	0.174	interval		6.06	6.39	6.63	6.74	6.88	7.00	7.39		# of strides	13.13	13.02	13.62	14.39	26.15	28.01	1.86
		velocity	7.07	8.25	7.82	7.54	7.42	7.27	7.14	6.77	7.39		7.62	7.68	7.34	6.95	7.65	7.14	

Heat 1 - 2020 Japanese National Championships (Niigata, JPN)

date	01-Oct-20	time	7.04	12.93	19.04	25.49	32.21	39.18	46.37	53.96	53.96	4 / 2	<i>Yamanaka (2020) - 400m race analysis of men and women during 2020 season</i>						
reaction time	0.172	interval		5.89	6.11	6.45	6.72	6.97	7.19	7.59	PB	# of strides	12.93	12.56	13.69	14.78	25.49	28.47	2.98
		velocity	7.10	8.49	8.18	7.75	7.44	7.17	6.95	6.59	7.41		220.7	7.73	7.96	7.30	6.77	7.85	7.02

FINAL - 2020 Seiko Golden Grand Prix (Tokyo, JPN)

date	23-Aug-20	time	7.16	13.12	19.20	25.54	32.11	38.93	46.09	53.97	53.97	4 / 3	<i>Yamanaka (2020) - 400m race analysis of men and women during 2020 season</i>						
reaction time	0.161	interval		5.96	6.08	6.34	6.57	6.82	7.16	7.88	PB	# of strides	13.12	12.42	13.39	15.04	25.54	28.43	2.89
		velocity	6.98	8.39	8.22	7.89	7.61	7.33	6.98	6.35	7.41		7.62	8.05	7.47	6.65	7.83	7.03	

FINAL - 2018 Japanese National Junior (U20) Championships (Nagano, JPN)

date	19-Oct-18	time	7.31	13.35	19.67	26.31	33.12	40.12	47.39	55.33	55.33	2 / 3	<i>Ryutaro (2018) - research on athlete performance and technique- 2018 data book</i>						
reaction time	0.178	interval		6.04	6.32	6.64	6.81	7.00	7.27	7.94		# of strides	13.35	12.96	13.81	15.21	26.31	29.02	2.71
		velocity	6.84	8.28	7.91	7.53	7.34	7.14	6.88	6.30	7.23		7.49	7.72	7.24	6.57	7.60	6.89	

FINAL - 2018 Japanese National High School Championships (Nagoya, JPN)

date	02-Aug-18	time	7.55	13.91	20.55	27.37	34.35	41.45	48.64	56.08	56.08	2 / 7	<i>Kota (2018) - 71st high school championships: JAF scientific committee - biomechanics data collection</i>						
reaction time		interval		6.36	6.64	6.82	6.98	7.10	7.19	7.44		# of strides	13.91	13.46	14.08	14.63	27.37	28.71	1.34

velocity	6.62	7.86	7.53	7.33	7.16	7.04	6.95	6.72	7.13		7.19	7.43	7.10	6.84	7.31	6.97
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		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
Oshita, Airi (JPN)																			
FINAL - 2019 Shimane High School Championships (Izumo, JPN)		<i>Shimizu (2019) - shimane high school championships 2019 - biomechanics data analysis</i>																	
date	24-May-19	time	13.30		26.68		42.15		58.96	58.96	5 / 1								
reaction time		interval			13.38		15.47		16.81		# of strides	13.30	13.38	15.47	16.81	26.68	32.28	5.60	
		velocity	7.52		7.47		6.46		5.95	6.78		7.52	7.47	6.46	5.95	7.50	6.20		
Ota, Yuki (JPN) (1998)																			
FINAL - 2016 China Perfcture High School Championships (Okayama, JPN)		<i>(2016.06.20) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en</i>																	
date	17-Jun-16	time	13.61		26.87		40.65		56.26	56.26	8 / 4								
reaction time		interval			13.26		13.78		15.61		# of strides	13.61	13.26	13.78	15.61	26.87	29.39	2.52	
		velocity	7.35		7.54		7.26		6.41	7.11		7.35	7.54	7.26	6.41	7.44	6.81		
Otsuki, Naoko (JPN) (1991)																			
FINAL - 2017 All Japan Corporate Championships (Osaka, JPN)		<i>(2017) - tfdata-store.com/2017/10/05/post-1097/</i>																	
date	24-Sep-17	time	13.37		26.46		40.63		56.59	56.59	8 / 5								
reaction time	0.318	interval			13.09		14.17		15.96		# of strides	13.37	13.09	14.17	15.96	26.46	30.13	3.67	
		velocity	7.48		7.64		7.06		6.27	7.07	206.0	7.48	7.64	7.06	6.27	7.56	6.64		
Packer, Ann (GBR) (1942)																			
FINAL - 1964 Olympic Games (Tokyo, JPN)		<i>Müller (1965) - die leichtathletik-wettkampfe der XVIII olympischen sommerspielen Tokio 1964 - 400m lauf</i>																	
date	17-Oct-64	time			24.6				52.2	52.2	6 / 2								
reaction time		interval							27.60	(52.20)	# of strides					24.60	27.60	3.00	
		velocity			8.13				7.25	7.66						8.13	7.25		
Palfaman, Justine (RSA) (1993)																			
Heat 4 - 2015 IAAF World Championships (Beijing, CHN)		<i>Yamamoto (2015) - race analysis of 15th World Championships 400m- focusing on men's semis and women's prelims</i>																	
date	24-Aug-15	time	6.69	12.32	18.30	24.43	30.79	37.34	44.47	52.45	52.45	8 / 6							
reaction time	0.168	interval		5.63	5.98	6.13	6.36	6.55	7.13	7.98		# of strides	12.32	12.11	12.91	15.11	24.43	28.02	3.59
		velocity	7.47	8.88	8.36	8.16	7.86	7.63	7.01	6.27	7.63		8.12	8.26	7.75	6.62	8.19	7.14	
Pan Gaoqin (CHN) (1991)																			
FINAL - 2017 Chinese National Games (Tianjin, CHN)		<i>Yang (2019) - analysis of the characteristics of Yang Huizhen's running speed in 400m</i>																	
date	03-Sep-17	time	13.56		26.60		39.92		54.35	54.35	7 / 7								
reaction time		interval			13.04		13.32		14.43		# of strides	13.56	13.04	13.32	14.43	26.60	27.75	1.15	
		velocity	7.37		7.67		7.51		6.93	7.36	206.0	7.37	7.67	7.51	6.93	7.52	7.21		
Parrish, Donniece (USA) (1985)																			
Quarter-Final 3 - 2008 USA Olympic Trials (Eugene, OR)		<i>USATF Women's Sprint Development with HPC (2008)</i>																	
date	29-Jun-08	time	12.65	18.73	25.00	31.67	38.68	45.95	54.14	54.14	6 / 6								
reaction time		interval		6.08	6.27	6.67	7.01	7.27	8.19		# of strides	12.65	12.35	13.68	15.46	25.00	29.14	4.14	
		velocity	7.91	8.22	7.97	7.50	7.13	6.88	6.11	7.39		7.91	8.10	7.31	6.47	8.00	6.86		
Patterson, Angel (USA) (1979)																			
FINAL - 1996 USATF National Junior Championships (Delaware, OH)		<i>USATF Women's Sprint Development (1996)</i>																	
date	29-Jun-96	time	12.94		25.11		38.58	45.96	53.95	53.95	6 / 5								
reaction time		interval			12.17		13.47	7.38	7.99		# of strides	12.94	12.17	13.47	15.37	25.11	28.84	3.73	
		velocity	7.73		8.22		7.42	6.78	6.26	7.41		7.73	8.22	7.42	6.51	7.96	6.93		
Paulino, Marileidy (DOM) (1996)																			
FINAL - 2024 Memorial van damme (Brussels, BEL)		<i>Omega Timing (2024) - diamond league race analysis</i>																	
date	13-Sep-24	time	6.60	12.08	17.70	23.52	29.58	35.88	42.44	49.45	49.45	5 / 1							
reaction time	0.175	interval		5.48	5.62	5.82	6.06	6.30	6.56	7.01		# of strides	12.08	11.44	12.36	13.57	23.52	25.93	2.41
		velocity	7.58	9.12	8.90	8.59	8.25	7.94	7.62	7.13	8.09		8.28	8.74	8.09	7.37	8.50	7.71	
FINAL - 2024 Kamila Skolimowska Memorial (Silesia, POL)		<i>Omega Timing (2024) - diamond league race analysis</i>																	
date	25-Aug-24	time	6.56	11.96	17.59	23.43	29.61	35.69	42.01	48.66	48.66	6 / 1							
reaction time	0.177	interval		5.40	5.63	5.84	6.18	6.08	6.32	6.65		# of strides	11.96	11.47	12.26	12.97	23.43	25.23	1.80
		velocity	7.62	9.26	8.88	8.56	8.09	8.22	7.91	7.52	8.22		8.36	8.72	8.16	7.71	8.54	7.93	
FINAL - 2024 Olympic Games (Paris, FRA)		<i>Paris 2024 Olympic Games - Results Book (2024)</i>																	
date	09-Aug-24	time	6.56	11.87	17.22	22.81	28.67	34.78	41.15	48.17	48.17	6 / 1							
reaction time	0.187	interval		5.31	5.35	5.59	5.86	6.11	6.37	7.02	AR OR	# of strides	11.87	10.94	11.97	13.39	22.81	25.36	2.55
		velocity	7.62	9.42	9.35	8.94	8.53	8.18	7.85	7.12	8.30		8.42	9.14	8.35	7.47	8.77	7.89	
Semi-Final 2 - 2024 Olympic Games (Paris, FRA)		<i>Paris 2024 Olympic Games - Results Book (2024)</i>																	
date	07-Aug-24	time	6.60	12.00	17.45	23.13	29.07	35.33	41.84	49.21	49.21	6 / 1							
reaction time	0.195	interval		5.40	5.45	5.68	5.94	6.26	6.51	7.37		# of strides	12.00	11.13	12.20	13.88	23.13	26.08	2.95
		velocity	7.58	9.26	9.17	8.80	8.42	7.99	7.68	6.78	8.13		8.33	8.98	8.20	7.20	8.65	7.67	
Heat 5 - 2024 Olympic Games (Paris, FRA)		<i>Paris 2024 Olympic Games - Results Book (2024)</i>																	
date	05-Aug-24	time	6.73	12.20	17.74	23.52	29.54	35.77	42.25	49.42	49.42	5 / 1							
reaction time	0.164	interval		5.47	5.54	5.78	6.02	6.23	6.48	7.17		# of strides	12.20	11.32	12.25	13.65	23.52	25.90	2.38
		velocity	7.43	9.14	9.03	8.65	8.31	8.03	7.72	6.97	8.09		8.20	8.83	8.16	7.33	8.50	7.72	
FINAL - 2024 Meeting de Paris (Paris, FRA)		<i>Omega Timing (2024) - diamond league race analysis</i>																	
date	07-Jul-24	time	6.70	12.24	17.91	23.75	29.77	35.96	42.38	49.20	49.20	5 / 1							
reaction time	0.188	interval		5.54	5.67	5.84	6.02	6.19	6.42	6.82		# of strides	12.24	11.51	12.21	13.24	23.75	25.45	1.70
		velocity	7.46	9.03	8.82	8.56	8.31	8.08	7.79	7.33	8.13		8.17	8.69	8.19	7.55	8.42	7.86	
FINAL - 2024 Bislett Games (Oslo, NOR)		<i>Omega Timing (2024) - diamond league race analysis</i>																	
date	30-May-24	time	6.80	12.33	18.06	23.84	29.79	36.04	42.46	49.30	49.30	6 / 1							
reaction time	0.161	interval		5.53	5.73	5.78	5.95	6.25	6.42	6.84		# of strides	12.33	11.51	12.20	13.26	23.84	25.46	1.62
		velocity	7.35	9.04	8.73	8.65	8.40	8.00	7.79	7.31	8.11		8.11	8.69	8.20	7.54	8.39	7.86	

FINAL - 2024 Xiamen Diamond League (Xiamen, CHN)														<i>Omega Timing (2024) - diamond league race analysis</i>					
date	20-Apr-24	time	6.74	12.32	18.03	23.97	30.11	36.47	43.01	50.08	50.08	5 / 1							
reaction time	0.180	interval	5.58	5.71	5.94	6.14	6.36	6.54	7.07			# of strides	12.32	11.65	12.50	13.61	23.97	26.11	2.14
		velocity	7.42	8.96	8.76	8.42	8.14	7.86	7.65	7.07	7.99		173.0	8.12	8.58	8.00	7.35	8.34	7.66
FINAL - 2023 Prefontaine Classic (Eugene, OR)														<i>Omega Timing (2023) - diamond league race analysis</i>					
date	17-Sep-23	time	6.83	12.45	18.06	23.91	29.98	36.27	42.74	49.58	49.58	5 / 1							
reaction time	0.182	interval	5.62	5.61	5.85	6.07	6.29	6.47	6.84			# of strides	12.45	11.46	12.36	13.31	23.91	25.67	1.76
		velocity	7.32	8.90	8.91	8.55	8.24	7.95	7.73	7.31	8.07		172.2	8.03	8.73	8.09	7.51	8.36	7.79
FINAL - 2023 Xiamen Diamond League (Xiamen, CHN)														<i>Omega Timing (2023) - diamond league race analysis</i>					
date	02-Sep-23	time	6.70	12.40	18.20	24.20	30.20	36.40	42.70	49.36	49.36	5 / 1							
reaction time	0.160	interval	5.70	5.80	6.00	6.20	6.30	6.66				# of strides	12.40	11.80	12.20	12.96	24.20	25.16	0.96
		velocity	7.46	8.77	8.62	8.33	8.33	8.06	7.94	7.51	8.10		171.2	8.06	8.47	8.20	7.72	8.26	7.95
FINAL - 2023 World Athletics Championships (Budapest, HUN)														<i>Seiko Timing (2023) - world championship race analysis</i>					
date	23-Aug-23	time	12.28		23.36		35.34		48.76	48.76	7 / 1								
reaction time	0.200	interval			11.08		11.98		13.42	NR PB		# of strides	12.28	11.08	11.98	13.42	23.36	25.40	2.04
		velocity	8.14		9.03		8.35		7.45	8.20		172.0	8.14	9.03	8.35	7.45	8.56	7.87	
Semi-Final 1 - 2023 World Athletics Championships (Budapest, HUN)														<i>Seiko Timing (2023) - world championship race analysis</i>					
date	21-Aug-23	time	12.29		23.68		36.08		49.54	49.54	7 / 1								
reaction time	0.187	interval			11.39		12.40		13.46	8.07		# of strides	12.29	11.39	12.40	13.46	23.68	25.86	2.18
		velocity	8.14		8.78		8.06		7.43	8.07		171.0	8.14	8.78	8.06	7.43	8.45	7.73	
Heat 6 - 2023 World Athletics Championships (Budapest, HUN)														<i>Seiko Timing (2023) - world championship race analysis</i>					
date	20-Aug-23	time	12.37		23.82		36.16		49.90	49.90	5 / 1								
reaction time	0.207	interval			11.45		12.34		13.74			# of strides	12.37	11.45	12.34	13.74	23.82	26.08	2.26
		velocity	8.08		8.73		8.10		7.28	8.02		172.0	8.08	8.73	8.10	7.28	8.40	7.67	
FINAL - 2023 Meeting de Paris (Paris, FRA)														<i>Omega Timing (2023) - diamond league race analysis</i>					
date	09-Jun-23	time	6.62	12.13	17.69	23.43	29.30	35.40	41.85	49.12	49.12	5 / 1							
reaction time	0.189	interval	5.51	5.56	5.74	5.87	6.10	6.45	7.27			# of strides	12.13	11.30	11.97	13.72	23.43	25.69	2.26
		velocity	7.55	9.07	8.99	8.71	8.52	8.20	7.75	6.88	8.14		171.0	8.24	8.85	8.35	7.29	8.54	7.79
FINAL - 2023 Doha Diamond League (Doha, QAT)														<i>Omega Timing (2023) - diamond league race analysis</i>					
date	05-May-23	time	6.84	12.53	18.45	24.60	30.79	37.19	43.59	50.51	50.51	5 / 1							
reaction time	0.183	interval	5.69	5.92	6.15	6.19	6.40	6.40	6.92			# of strides	12.53	12.07	12.59	13.32	24.60	25.91	1.31
		velocity	7.31	8.79	8.45	8.13	8.08	7.81	7.81	7.23	7.92		174.7	7.98	8.29	7.94	7.51	8.13	7.72
FINAL - 2022 Weltklasse (Zürich, SU1)														<i>Omega Timing (2022) - diamond league race analysis</i>					
date	08-Sep-22	time	6.81	12.33	17.96	23.67	29.50	35.60	42.04	48.99	48.99	6 / 1							
reaction time	0.172	interval	5.52	5.63	5.71	5.83	6.10	6.44	6.95	NR PB		# of strides	12.33	11.34	11.93	13.39	23.67	25.32	1.65
		velocity	7.34	9.06	8.88	8.76	8.58	8.20	7.76	7.19	8.16		170.5	8.11	8.82	8.38	7.47	8.45	7.90
FINAL - 2022 Athletissima (Lausanne, SU1)														<i>Omega Timing (2022) - diamond league race analysis</i>					
date	26-Aug-22	time	6.60	11.98	17.51	23.29	29.35	35.83	42.55	49.87	49.87	6 / 1							
reaction time	0.178	interval	5.38	5.53	5.78	6.06	6.48	6.72	7.32			# of strides	11.98	11.31	12.54	14.04	23.29	26.58	3.29
		velocity	7.58	9.29	9.04	8.65	8.25	7.72	7.44	6.83	8.02		173.7	8.35	8.84	7.97	7.12	8.59	7.52
FINAL - 2022 World Athletics Championships (Eugene, OR)														<i>Timing by Seiko (2022) - world athletics championships race analysis</i>					
date	22-Jul-22	time	12.21		23.78		36.10		49.60	49.60	6 / 2								
reaction time	0.189	interval			11.57		12.32		13.50			# of strides	12.21	11.57	12.32	13.50	23.78	25.82	2.04
		velocity	8.19		8.64		8.12		7.41	8.06		175.2	8.19	8.64	8.12	7.41	8.41	7.75	
Semi-Final 3 - 2022 World Athletics Championships (Eugene, OR)														<i>Timing by Seiko (2022) - world athletics championships race analysis</i>					
date	20-Jul-22	time	12.18		23.67		36.22		49.98	49.98	3 / 1								
reaction time	0.171	interval			11.49		12.55		13.76			# of strides	12.18	11.49	12.55	13.76	23.67	26.31	2.64
		velocity	8.21		8.70		7.97		7.27	8.00		173.0	8.21	8.70	7.97	7.27	8.45	7.60	
Heat 4 - 2022 World Athletics Championships (Eugene, OR)														<i>Timing by Seiko (2022) - world athletics championships race analysis</i>					
date	17-Jul-22	time	12.14		23.74		36.39		50.76	50.76	4 / 1								
reaction time	0.173	interval			11.60		12.65		14.37			# of strides	12.14	11.60	12.65	14.37	23.74	27.02	3.28
		velocity	8.24		8.62		7.91		6.96	7.88		173.7	8.24	8.62	7.91	6.96	8.42	7.40	
FINAL - 2022 Meeting International Mohammed VI d'Athlétisme (Rabat, MAR)														<i>Omega Timing (2022) - diamond league race analysis</i>					
date	05-Jun-22	time	6.64	12.26	18.00	23.89	30.04	36.52	43.05	50.10	50.10	5 / 1							
reaction time	0.171	interval	5.62	5.74	5.89	6.15	6.48	6.53	7.05			# of strides	12.26	11.63	12.63	13.58	23.89	26.21	2.32
		velocity	7.53	8.90	8.71	8.49	8.13	7.72	7.66	7.09	7.98		173.0	8.16	8.60	7.92	7.36	8.37	7.63
FINAL - 2022 Doha Diamond League (Doha, QAT)														<i>Omega Timing (2022) - diamond league race analysis</i>					
date	13-May-22	time	6.6	12.3	18.4	24.6	30.9	37.3	43.9	51.20	51.20	4 / 1							
reaction time	0.209	interval	5.70	6.10	6.20	6.30	6.40	6.60	7.30			# of strides	12.30	12.30	12.70	13.90	24.60	26.60	2.00
		velocity	7.58	8.77	8.20	8.06	7.94	7.81	7.58	6.85	7.81		179.2	8.13	8.13	7.87	7.19	8.13	7.52
FINAL - 2021 Weltklasse (Zürich, SU1)														<i>Omega Timing (2021) - diamond league race analysis</i>					
date	09-Sep-21	time	6.8	12.5	18.3	24.3	30.3	36.5	43.0	49.96	49.96	5 / 2							
reaction time	0.179	interval	5.70	5.80	6.00	6.00	6.20	6.50	6.96			# of strides	12.50	11.80	12.20	13.46	24.30	25.66	1.36
		velocity	7.35	8.77	8.62	8.33	8.33	8.06	7.69	7.18	8.01		176.5	8.00	8.47	8.20	7.43	8.23	7.79
FINAL - 2021 Meeting de Paris (Paris, FRA)														<i>Omega Timing (2021) - diamond league race analysis</i>					
date	28-Aug-21	time	6.8	12.5	18.4	24.4	30.4	36.6	43.1	50.12	50.12	5 / 1							
reaction time	0.196	interval	5.70	5.90	6.00	6.00	6.20	6.50	7.02			# of strides	12.50	11.90	12.20	13.52	24.40	25.72	1.32
		velocity	7.35	8.77	8.47	8.33	8.33	8.06	7.69	7.12	7.98		176.0	8.00	8.40	8.20	7.40	8.20	7.78

FINAL - 2021 Athletissima (Lausanne, SUI)											Omega Timing (2021) - diamond league race analysis									
date	26-Aug-21	time	6.9	12.5	18.2	24.2	30.2	36.6	43.3	50.40	50.40	6 / 1								
reaction time	0.189	interval		5.60	5.70	6.00	6.00	6.40	6.70	7.10		# of strides	12.50	11.70	12.40	13.80	24.20	26.20	2.00	
		velocity	7.25	8.93	8.77	8.33	8.33	7.81	7.46	7.04	7.94		177.0	8.00	8.55	8.06	7.25	8.26	7.63	
FINAL - 2020 Olympic Games (Tokyo, JPN)											Omega Timing (2022) - Tokyo 2020 - race analysis - women's 400m final									
date	06-Aug-21	time	6.76	12.24	17.83	23.64	29.67	35.92	42.33	49.21	49.20	5 / 2								
reaction time	0.176	interval		5.48	5.59	5.81	6.03	6.25	6.41	6.88	NR PB	# of strides	12.24	11.40	12.28	13.29	23.64	25.57	1.93	
		velocity	7.40	9.12	8.94	8.61	8.29	8.00	7.80	7.27	8.13		174.0	8.17	8.77	8.14	7.52	8.46	7.82	
Pavlova, Pepa (BUL) (1961)											Bondarchuk (2007) - transfer of training in sports									
FINAL - 1986 Bulgarian National Championships (Sofia, BUL)																				
date	13-Aug-86	time		11.30		22.68				51.40	51.40	/ 1								
reaction time		interval				11.38				28.72	PB	# of strides	11.30	11.38			22.68	28.72	6.04	
		velocity		8.85		8.79				6.96	7.78		8.85	8.79			8.82	6.96		
Payne-Wiggins, Marita (CAN) (1960)											Brüggemann (1990) - scientific research project at the games of the XXXIV Olympiad, Seoul 1988									
Semi-Final 1 - 1988 Olympic Games (Seoul, KOR)																				
date	25-Sep-88	time		12.15		23.92				36.81	50.29	50.29	1 / 7							
reaction time		interval				11.77				12.89	13.48		# of strides	12.15	11.77	12.89	13.48	23.92	26.37	2.45
		velocity		8.23		8.50				7.76	7.42	7.95		8.23	8.50	7.76	7.42	8.36	7.58	
FINAL - 1984 Olympic Games (Los Angeles, CA)											Adams (1984) - 1984 olympic games - 200m & 400m									
date	06-Aug-84	time				24.6				49.91	49.91	2 / 4								
reaction time	0.251	interval								25.31	NR	# of strides					24.60	25.31	0.71	
		velocity				8.13				7.90	8.01						8.13	7.90		
FINAL - 1983 IAAF World Championships (Helsinki, FIN)											Butler (2013) - IAAF world championships statistics handbook- moscow 2013									
date	10-Aug-83	time				23.6				50.1	50.06	6 / 5								
reaction time		interval								26.50	AR	# of strides					23.60	26.50	2.90	
		velocity				8.47				7.55	7.99						8.47	7.55		
Peeters, Cathelijn (NED) (1996)											Seiko Timing (2023) - world championship race analysis									
B Race - 2023 Memorial van Damme (Brussels, BEL)																				
date	08-Sep-23	time	7.04	12.91	18.99	25.36	31.87	38.56	45.44	52.72	52.72	4 / 5								
reaction time	0.222	interval		5.87	6.08	6.37	6.51	6.69	6.88	7.28		# of strides	12.91	12.45	13.20	14.16	25.36	27.36	2.00	
		velocity	7.10	8.52	8.22	7.85	7.68	7.47	7.27	6.87	7.59		7.75	8.03	7.58	7.06	7.89	7.31		
Pellaud, Rachel (SUI) (1995)											Omega Timing (2023) - diamond league race analysis									
B Race - 2023 Athletissima (Lausanne, SUI)																				
date	30-Jun-23	time	7.12	12.99	19.11	25.53	32.06	38.78	45.66	53.11	53.11	4 / 1								
reaction time	0.173	interval		5.87	6.12	6.42	6.53	6.72	6.88	7.45		# of strides	12.99	12.54	13.25	14.33	25.53	27.58	2.05	
		velocity	7.02	8.52	8.17	7.79	7.66	7.44	7.27	6.71	7.53		7.70	7.97	7.55	6.98	7.83	7.25		
National FINAL - 2022 Athletissima (Lausanne, SUI)											Omega Timing (2022) - diamond league race analysis									
date	26-Aug-22	time	7.1	13.1	19.2	25.5	32.1	39.0	46.0	53.47	53.47	2 / 4								
reaction time	0.153	interval		6.00	6.10	6.30	6.60	6.90	7.00	7.47		# of strides	13.10	12.40	13.50	14.47	25.50	27.97	2.47	
		velocity	7.04	8.33	8.20	7.94	7.58	7.25	7.14	6.69	7.48		7.63	8.06	7.41	6.91	7.84	7.15		
FINAL - 2021 Athletissima (Lausanne, SUI)											Omega Timing (2021) - diamond league race analysis									
date	26-Aug-21	time	7.2	13.2	19.4	25.9	32.5	39.3	46.2	53.52	53.52	1 / 8								
reaction time	0.182	interval		6.00	6.20	6.50	6.60	6.80	6.90	7.32		# of strides	13.20	12.70	13.40	14.22	25.90	27.62	1.72	
		velocity	6.94	8.33	8.06	7.69	7.58	7.35	7.25	6.83	7.47		7.58	7.87	7.46	7.03	7.72	7.24		
Peoples, Paris (USA) (2000)											USATF and Karmarush (2024) - USA Olympic trials results and race analysis									
Semi-Final 1 - 2024 USA Olympic Trials (Eugene, OR)																				
date	22-Jun-24	time		12.47		24.17				37.28	52.68	52.68	2 / 8							
reaction time		interval				11.70				13.11	15.40		# of strides	12.47	11.70	13.11	15.40	24.17	28.51	4.34
		velocity		8.02		8.55				7.63	6.49	7.59		8.02	8.55	7.63	6.49	8.27	7.02	
Heat 3 - 2024 USA Olympic Trials (Eugene, OR)											USATF and Karmarush (2024) - USA Olympic trials results and race analysis									
date	21-Jun-24	time		12.48		24.18				37.18	52.20	52.20	4 / 4							
reaction time		interval				11.70				13.00	15.02		# of strides	12.48	11.70	13.00	15.02	24.18	28.02	3.84
		velocity		8.01		8.55				7.69	6.66	7.66		194.5	8.01	8.55	7.69	6.66	8.27	7.14
Pérec, Marie-José (FRA) (1968)											Vazel (2018.07.20) - https://twitter.com/pjvazel									
FINAL - 1996 Herculis (Monaco, MON)																				
date	10-Aug-96	time		12.0		23.3				35.7	49.2	49.18	/ 1							
reaction time		interval				11.30				12.40	13.48		# of strides	12.00	11.30	12.40	13.48	23.30	25.88	2.58
		velocity		8.33		8.85				8.06	7.42	8.13		8.33	8.85	8.06	7.42	8.58	7.73	
FINAL - 1996 Olympic Games (Atlanta, GA)											Vazel (2011) - speed reserve in the 400m									
date	29-Jul-96	time		12.05		23.28				35.10	48.25	48.25	3 / 1							
reaction time	0.209	interval				11.23				11.82	13.15	OR / NR	# of strides	12.05	11.23	11.82	13.15	23.28	24.97	1.69
		velocity		8.30		8.90				8.46	7.60	8.29		170.5	8.30	8.90	8.46	7.60	8.59	8.01
Semi-Final 2 - 1996 Olympic Games (Atlanta, GA)											Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016									
date	28-Jul-96	time				23.7				49.2	49.19	/ 1								
reaction time		interval								25.50		# of strides					23.70	25.50	1.80	
		velocity				8.44				7.84	8.13						8.44	7.84		
FINAL - 1995 IAAF World Championships (Gothenburg, SWE)											Butler (2013) - IAAF world championships statistics handbook- moscow 2013									
date	08-Aug-95	time				23.5				35.7	49.28	49.28	6 / 1							
reaction time		interval								12.20	13.58		# of strides			12.20	13.58	23.50	25.78	2.28

velocity	8.51	8.20	7.36	8.12	174.7	8.20	7.36	8.51	7.76
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FINAL - 1992 Olympic Games (Barcelona, ESP)

date	05-Aug-92	time	23.8	35.5	48.9	48.83	5 / 1	<i>Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016</i>				
reaction time		interval		11.70	13.40		# of strides	11.70	13.40	23.80	25.10	1.30
		velocity	8.40	8.55	7.46	8.19		8.55	7.46	8.40	7.97	

FINAL - 1992 Nikaia (Nice, FRA)

date	15-Jul-92	time	23.7		49.50	49.50	4 / 1	<i>Vazel (2020) - Pérec vs Torrence 400m Nice battle of titans</i>				
reaction time		interval			25.80		# of strides			23.70	25.80	2.10
		velocity	8.44		7.75	8.08				8.44	7.75	

FINAL - 1991 IAAF World Championships (Tokyo, JPN)

date	27-Aug-91	time	22.82	35.12	49.13	49.13	4 / 1	<i>Butler (2013) - IAAF world championships statistics handbook- moscow 2013</i>				
reaction time		interval		12.30	14.01	NR	# of strides	12.30	14.01	22.82	26.31	3.49
		velocity	8.76	8.13	7.14	8.14		8.13	7.14	8.76	7.60	

FINAL - 1991 European Cup (Frankfurt, GER)

date	29-Jun-91	time	12.43	23.92	35.93	49.32	49.32	6 / 1	<i>Federle (2003) - http://www.fgs.uni-halle.de</i>						
reaction time	0.336	interval		11.49	12.01	13.39	PB	# of strides	12.43	11.49	12.01	13.39	23.92	25.40	1.48
		velocity	8.05	8.70	8.33	7.47	8.11		8.05	8.70	8.33	7.47	8.36	7.87	

FINAL - 1989 IAAF World Cup (Barcelona, ESP)

date	10-Sep-89	time	12.52	24.00	36.52	50.53	50.53	1 / 1	<i>Pascua (1990) - atletismo (I) carreras y marcha</i>						
reaction time		interval		11.48	12.52	14.01	DQ	# of strides	12.52	11.48	12.52	14.01	24.00	26.53	2.53
		velocity	7.99	8.71	7.99	7.14	7.92		7.99	8.71	7.99	7.14	8.33	7.54	

FINAL - 1988 French National Championships (Tours, FRA)

date	14-Aug-88	time	12.8	24.6	37.4	51.3	51.35	1 / 1	<i>Vazel (2011) - speed reserve in the 400m</i>						
reaction time		interval		11.80	12.80	13.90	PB	# of strides	12.80	11.80	12.80	13.90	24.60	26.70	2.10
		velocity	7.81	8.47	7.81	7.19	7.79		7.81	8.47	7.81	7.19	8.13	7.49	

Perkins, Angel (USA) (1984)

Semi-Final 1 - 2004 USA Olympic Trials (Sacramento, CA)	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	<i>USATF Women's Sprint Development (2004)</i>	
date	15-Jul-04	time	12.11	23.97	30.45	37.30	44.66	52.84	52.84	7 / 7									
reaction time		interval		11.86	6.48	6.85	7.36	8.18		# of strides	12.11	11.86	13.33	15.54	23.97	28.87	4.90		
		velocity	8.26	8.43	7.72	7.30	6.79	6.11	7.57		8.26	8.43	7.50	6.44	8.34	6.93			

Heat 4 - 2004 USA Olympic Trials (Sacramento, CA)

date	12-Jul-04	time	12.01	23.96	37.22	44.24	52.46	52.46	4 / 3	<i>USATF Women's Sprint Development (2004)</i>								
reaction time		interval		11.95	13.26	7.02	8.22		# of strides	12.01	11.95	13.26	15.24	23.96	28.50	4.54		
		velocity	8.33	8.37	7.54	7.12	6.08	7.62		8.33	8.37	7.54	6.56	8.35	7.02			

FINAL - 2003 USATF National Junior Championship (Palo Alto, CA)

date	22-Jun-03	time	24.42		37.67	44.70	52.06	52.06	6 / 2	<i>USATF Women's Sprint Development (2003)</i>								
reaction time		interval			13.25	7.03	7.36	PB	# of strides			13.25	14.39	24.42	27.64	3.22		
		velocity	8.19		7.55	7.11	6.79	7.68				7.55	6.95	8.19	7.24			

Perpoli, Danielle (ITA) (1968)

FINAL - 2001 European Cup (Bremen, GER)	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	<i>Graubner (2007) - http://www.fgs.uni-halle.de</i>	
date	23-Jun-01	time	12.73	25.12	38.34		52.13	52.13	1 / 7										
reaction time		interval		12.39	13.22		13.79	PB	# of strides	12.73	12.39	13.22	13.79	25.12	27.01	1.89			
		velocity	7.86	8.07	7.56		7.25	7.67		7.86	8.07	7.56	7.25	7.96	7.40				

Perry, Corrsia (USA) (1996)

Heat 4 - 2024 USA Olympic Trials (Eugene, OR)	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	<i>USATF and Karmarush (2024) - USA Olympic trials results and race analysis</i>	
date	21-Jun-24	time	12.52	24.52	38.16		53.37	53.37	5 / 7										
reaction time		interval		12.00	13.64		15.21		# of strides	12.52	12.00	13.64	15.21	24.52	28.85	4.33			
		velocity	7.99	8.33	7.33		6.57	7.49		7.99	8.33	7.33	6.57	8.16	6.93				

Pesnopevtseva, Olga (URS) (1968)

FINAL - 1986 IAAF World Junior Championships (Athens, GRE)	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	<i>Moravec (1986) - IAAF biomechanical research - Athens 1986 - sprints</i>	
date	18-Jul-86	time	13.11	25.38	37.74		52.17	52.17	1 / 2										
reaction time		interval		12.27	12.36		14.43		# of strides	13.11	12.27	12.36	14.43	25.38	26.79	1.41			
		velocity	7.63	8.15	8.09		6.93	7.67		7.63	8.15	8.09	6.93	7.88	7.47				

Petržilková, Tereza (CZE) (1993)

Repechage 1 - 2024 Olympic Games (Paris, FRA)	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	<i>Paris 2024 Olympic Games - Results Book (2024)</i>	
date	06-Aug-24	time	6.96	12.72	18.65	24.76	30.95	37.36	44.12	51.46	51.46								
reaction time	0.170	interval		5.76	5.93	6.11	6.19	6.41	6.76	7.34		# of strides	12.72	12.04	12.60	14.10	24.76	26.70	1.94
		velocity	7.18	8.68	8.43	8.18	8.08	7.80	7.40	6.81	7.77		191.5	7.86	8.31	7.94	7.09	8.08	7.49

Heat 1 - 2024 Olympic Games (Paris, FRA)

date	05-Aug-24	time	6.97	12.61	18.53	24.70	31.00	37.54	44.44	51.92	51.92	9 / 7	<i>Paris 2024 Olympic Games - Results Book (2024)</i>						
reaction time	0.192	interval		5.64	5.92	6.17	6.30	6.54	6.90	7.48		# of strides	12.61	12.09	12.84	14.38	24.70	27.22	2.52
		velocity	7.17	8.87	8.45	8.10	7.94	7.65	7.25	6.68	7.70		7.93	8.27	7.79	6.95	8.10	7.35	

Semi-Final 2 - 2024 European Athletics Championships (Roma, ITA)

date	09-Jun-24	time	12.76	25.00	37.99		52.05	52.05	9 / 5	<i>European Athletics (2024) - 2024 european athletics championships - results book</i>								
reaction time	0.206	interval		12.24	12.99		14.06		# of strides	12.76	12.24	12.99	14.06	25.00	27.05	2.05		
		velocity	7.84	8.17	7.70		7.11	7.68		195.0	7.84	8.17	7.70	7.11	8.00	7.39		

Heat 3 - 2024 European Athletics Championships (Roma, ITA)

date	08-Jun-24	time	12.70	24.85	37.76		51.96	51.96	3 / 1	<i>European Athletics (2024) - 2024 european athletics championships - results book</i>								
reaction time	0.222	interval		12.15	12.91		14.20		# of strides	12.70	12.15	12.91	14.20	24.85	27.11	2.26		

velocity	7.87	8.23	7.75	7.04	7.70	7.87	8.23	7.75	7.04	8.05	7.38
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Semi-Final 3 - 2023 World Athletics Championships (Budapest, HUN)

Seiko Timing (2023) - world championship race analysis

date	21-Aug-23	time	12.83	24.86	37.87	51.94	51.94	9 / 8									
reaction time	0.192	interval		12.03	13.01	14.07		# of strides	12.83	12.03	13.01	14.07	24.86	27.08	2.22		
		velocity	7.79	8.31	7.69	7.11	7.70		7.79	8.31	7.69	7.11	8.05	7.39			

Heat 5 - 2023 World Athletics Championships (Budapest, HUN)

Seiko Timing (2023) - world championship race analysis

date	20-Aug-23	time	12.75			51.30	6 / 3										
reaction time	0.152	interval					# of strides	12.75									
		velocity	7.84			7.80		195.0	7.84								

Semi-Final 1 - 2022 European Athletics Championships (Munich, GER)

European Athletics (2022) - european athletics championships race analysis

date	16-Aug-22	time	12.84	38.02	52.38	52.38	2 / 7										
reaction time	0.222	interval		12.05	13.13	14.36		# of strides	12.84	12.05	13.13	14.36	24.89	27.49	2.60		
		velocity	7.79	8.30	7.62	6.96	7.64		193.0	7.79	8.30	7.62	6.96	8.04	7.28		

Heat 2 - 2022 European Athletics Championships (Munich, GER)

European Athletics (2022) - european athletics championships race analysis

date	15-Aug-22	time	12.76	24.97	37.97	52.35	52.35	2 / 6									
reaction time	0.205	interval		12.21	13.00	14.38		# of strides	12.76	12.21	13.00	14.38	24.97	27.38	2.41		
		velocity	7.84	8.19	7.69	6.95	7.64		190.0	7.84	8.19	7.69	6.95	8.01	7.30		

Pinigina, Mariya (URS) (1958)

50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

FINAL - 1987 IAAF World Championships (Rome, ITA)

Moravec (1990) - time analysis of the sprints - Rome 1987 Scientific Report (2nd ed)

date	31-Aug-87	time	12.40	23.85	36.53	50.53	50.53	5 / 4									
reaction time		interval		11.45	12.68	14.00		# of strides	12.29	11.86	12.91	14.01	23.85	26.68	2.83		
		velocity	8.06	8.73	7.89	7.14	7.92		8.14	8.43	7.75	7.14	8.39	7.50			

Kulchunova-Pinigina, Mariya (URS) (1958)**FINAL - 1983 IAAF World Championships Helsinki, FIN)**

Butler (2013) - IAAF world championships statistics handbook - moscow 2013

date	10-Aug-83	time	23.2			49.2	49.19	4 / 3									
reaction time		interval				26.00		# of strides					23.20	26.00	2.80		
		velocity	8.62			7.69	8.13						8.62	7.69			

Pipi, Ama (GBR) (1995)

50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

National FINAL - 2024 London Athletics Meet (London, GBR)

Omega Timing (2024) - diamond league race analysis

date	20-Jul-24	time	6.81	12.48	18.35	24.47	30.93	37.63	44.45	51.87	51.87	3 / 3						
reaction time	0.149	interval		5.67	5.87	6.12	6.46	6.70	6.82	7.42		# of strides	12.48	11.99	13.16	14.24	24.47	
		velocity	7.34	8.82	8.52	8.17	7.74	7.46	7.33	6.74	7.71		8.01	8.34	7.60	7.02	8.17	7.30

FINAL - 2023 Xiamen Diamond League (Xiamen, CHN)

Omega Timing (2023) - diamond league race analysis

date	02-Sep-23	time	6.87	12.57	18.50	24.73	31.10	37.49	44.14	51.51	51.51	9 / 8						
reaction time	0.198	interval		5.70	5.93	6.23	6.37	6.39	6.65	7.37		# of strides	12.57	12.16	12.76	14.02	24.73	
		velocity	7.28	8.77	8.43	8.03	7.85	7.82	7.52	6.78	7.77		7.96	8.22	7.84	7.13	8.09	7.47

Semi-Final 2 - 2023 World Athletics Championships (Budapest, HUN)

Seiko Timing (2023) - world championship race analysis

date	21-Aug-23	time	12.42	23.89		36.80	51.17	51.17	5 / 4								
reaction time	0.173	interval		11.47		12.91	14.37		# of strides	12.42	11.47	12.91	14.37	23.89	27.28	3.39	
		velocity	8.05	8.72		7.75	6.96	7.82		194.2	8.05	8.72	7.75	6.96	8.37	7.33	

Heat 2 - 2023 World Athletics Championships (Budapest, HUN)

Seiko Timing (2023) - world championship race analysis

date	20-Aug-23	time	12.37	24.11		37.02	50.81	50.81	9 / 2								
reaction time	0.168	interval		11.74		12.91	13.79		# of strides	12.37	11.74	12.91	13.79	24.11	26.70	2.59	
		velocity	8.08	8.52		7.75	7.25	7.87		192.0	8.08	8.52	7.75	7.25	8.30	7.49	

FINAL - 2023 Meeting de Paris (Paris, FRA)

Omega Timing (2023) - diamond league race analysis

date	09-Jun-23	time	6.65	12.13	17.92	24.00	30.50	37.22	44.13	51.76	51.76	1 / 8						
reaction time	0.153	interval		5.48	5.79	6.08	6.50	6.72	6.91	7.63		# of strides	12.13	11.87	13.22	14.54	24.00	
		velocity	7.52	9.12	8.64	8.22	7.69	7.44	7.24	6.55	7.73		8.24	8.42	7.56	6.88	8.33	7.20

FINAL - 2022 Commonwealth Games (Birmingham, GBR)

Longines Timing (2022) - commonwealth games race analysis

date	07-Aug-22	time	6.8	12.6	18.7	24.9	31.2	37.7	44.4	51.36	51.36	8 / 4						
reaction time	0.204	interval		5.80	6.10	6.20	6.30	6.50	6.70	6.96		# of strides	12.60	12.30	12.80	13.66	24.90	
		velocity	7.35	8.62	8.20	8.06	7.94	7.69	7.46	7.18	7.79		7.94	8.13	7.81	7.32	8.03	7.56

Semi-Final 1 - 2022 Commonwealth Games (Birmingham, GBR)

Longines Timing (2022) - commonwealth games race analysis

date	05-Aug-22	time	6.8	12.3	18.2	24.3	30.7	37.4	44.3	51.95	51.95	6 / 3							
reaction time	0.176	interval		5.50	5.90	6.10	6.40	6.70	6.90	7.65		# of strides	12.30	12.00	13.10	14.55	24.30		
		velocity	7.35	9.09	8.47	8.20	7.81	7.46	7.25	6.54	7.70		200.5	8.13	8.33	7.63	6.87	8.23	7.23

Semi-Final 3 - 2022 World Athletics Championships (Eugene, OR)

Timing by Seiko (2022) - world athletics championships race analysis

date	20-Jul-22	time	12.48	24.64		37.70	52.28	52.28	8 / 8								
reaction time	0.174	interval		12.16		13.06	14.58		# of strides	12.48	12.16	13.06	14.58	24.64	27.64	3.00	
		velocity	8.01	8.22		7.66	6.86	7.65		8.01	8.22	7.66	6.86	8.12	7.24		

Heat 3 - 2022 World Athletics Championships (Eugene, OR)

Timing by Seiko (2022) - world athletics championships race analysis

date	17-Jul-22	time	12.43	24.23		37.12	51.32	51.32	7 / 3								
reaction time	0.171	interval		11.80		12.89	14.20		# of strides	12.43	11.80	12.89	14.20	24.23	27.09	2.86	
		velocity	8.05	8.47		7.76	7.04	7.79		196.7	8.05	8.47	7.76	7.04	8.25	7.38	

FINAL - 2022 Bauhaus Galan (Stockholm, SWE)

Omega Timing (2022) - diamond league race analysis

date	30-Jun-22	time	6.90	12.50	18.26	24.28	30.69	37.40	44.28	51.80	51.80	3 / 3						
reaction time	0.191	interval		5.60	5.76	6.02	6.41	6.71	6.88	7.52		# of strides	12.50	11.78	13.12	14.40	24.28	
		velocity	7.25	8.93	8.68	8.31	7.80	7.45	7.27	6.65	7.72		8.00	8.49	7.62	6.94	8.24	7.27

FINAL - 2022 Müller Birmingham Diamond League (Birmingham, GBR)

Omega Timing (2022) - diamond league race analysis

date	21-May-22	time	6.8	12.3	18.3	24.4	30.9	37.6	44.7	52.57	52.57	5 / 2								
reaction time	0.177	interval		5.50	6.00	6.10	6.50	6.70	7.10	7.87		# of strides	12.30	12.10	13.20	14.97	24.40	28.17	3.77	
		velocity	7.35	9.09	8.33	8.20	7.69	7.46	7.04	6.35	7.61		8.13	8.26	7.58	6.68	8.20	7.10		
FINAL - 2021 Müller British Grand Prix (Gateshead, GBR)												<i>Omega Timing (2021) - diamond league race analysis</i>								
date	13-Jun-21	time	7.0	12.8	18.8	25.0	31.5	38.1	45.0	52.50	52.50	8 / 7								
reaction time	0.134	interval		5.80	6.00	6.20	6.50	6.60	6.90	7.50		# of strides	12.80	12.20	13.10	14.40	25.00	27.50	2.50	
		velocity	7.14	8.62	8.33	8.06	7.69	7.58	7.25	6.67	7.62		7.81	8.20	7.63	6.94	8.00	7.27		
Pipion, Ceonna (USA) (2002)																				
Semi-Final 2 - 2024 USA Olympic Trials (Eugene, OR)												<i>USATF and Karmarush (2024) - USA Olympic trials results and race analysis</i>								
date	22-Jun-24	time		12.89		25.14		38.37		52.76	52.76	1 / 9								
reaction time		interval				12.25		13.23		14.39		# of strides	12.89	12.25	13.23	14.39	25.14	27.62	2.48	
		velocity		7.76		8.16		7.56		6.95	7.58		7.76	8.16	7.56	6.95	7.96	7.24		
Heat 3 - 2024 USA Olympic Trials (Eugene, OR)												<i>USATF and Karmarush (2024) - USA Olympic trials results and race analysis</i>								
date	21-Jun-24	time		12.79		25.09		38.11		52.28	52.28	5 / 5								
reaction time		interval				12.30		13.02		14.17		# of strides	12.79	12.30	13.02	14.17	25.09	27.19	2.10	
		velocity		7.82		8.13		7.68		7.06	7.65	198.8	7.82	8.13	7.68	7.06	7.97	7.36		
Pirvu, Monica (ROU) (1973)																				
FINAL - 1997 European Cup (Munich, GER)												<i>Jung (2003) - http://www.fgs.uni-halle.de</i>								
date	21-Jun-97	time	13.18		25.93		39.60		54.87	54.87		/ 8								
reaction time		interval			12.75		13.67		15.27			# of strides	13.18	12.75	13.67	15.27	25.93	28.94	3.01	
		velocity	7.59		7.84		7.32		6.55	7.29			7.59	7.84	7.32	6.55	7.71	6.91		
Polinari, Anna (ITA) (1999)																				
Semi-Final 2 - 2024 European Athletics Championships (Roma, ITA)												<i>European Athletics (2024) - 2024 european athletics championships - results book</i>								
date	09-Jun-24	time		12.91		25.44		38.45		52.53	52.53	4 / 6								
reaction time	0.174	interval				12.53		13.01		14.08		# of strides	12.91	12.53	13.01	14.08	25.44	27.09	1.65	
		velocity		7.75		7.98		7.69		7.10	7.61		7.75	7.98	7.69	7.10	7.86	7.38		
Heat 3 - 2024 European Athletics Championships (Roma, ITA)												<i>European Athletics (2024) - 2024 european athletics championships - results book</i>								
date	08-Jun-24	time		12.98		25.14		37.90		52.06	52.06	8 / 2								
reaction time	0.199	interval				12.16		12.76		14.16		# of strides	12.98	12.16	12.76	14.16	25.14	26.92	1.78	
		velocity		7.70		8.22		7.84		7.06	7.68		7.70	8.22	7.84	7.06	7.96	7.43		
Heat 3 - 2022 European Athletics Championships (Munich, GER)												<i>European Athletics (2022) - european athletics championships race analysis</i>								
date	15-Aug-22	time		12.87		25.09		38.10		52.60	52.60	8 / 4								
reaction time	0.188	interval				12.22		13.01		14.50		# of strides	12.87	12.22	13.01	14.50	25.09	27.51	2.42	
		velocity		7.77		8.18		7.69		6.90	7.60	188.7	7.77	8.18	7.69	6.90	7.97	7.27		
Pompey, Aliann (GUY) (1978)																				
Semi-Final 1 - 2009 IAAF World Championships (Berlin, GER)												<i>Graubner (2009) - biomechanical analyses at the 12th IAAF world championships</i>								
date	16-Aug-09	time		12.25		24.05		36.70		50.71	50.71	8 / 4								
reaction time	0.178	interval				11.80		12.65		14.01	NR	# of strides	12.25	11.80	12.65	14.01	24.05	26.66	2.61	
		velocity		8.16		8.47		7.91		7.14	7.89		8.16	8.47	7.91	7.14	8.32	7.50		
Heat 5 - 2009 IAAF World Championships (Berlin, GER)												<i>Graubner (2009) - biomechanical analyses at the 12th IAAF world championships</i>								
date	15-Aug-09	time		12.52		24.88		37.67		51.38	51.38	6 / 3								
reaction time	0.184	interval				12.36		12.79		13.71		# of strides	12.52	12.36	12.79	13.71	24.88	26.50	1.62	
		velocity		7.99		8.09		7.82		7.29	7.79		7.99	8.09	7.82	7.29	8.04	7.55		
Ponette, Helena (BEL) (2000)																				
Invitational - 2024 Memorial van damme (Brussels, BEL)												<i>Omega Timing (2024) - diamond league race analysis</i>								
date	13-Sep-24	time		6.93	12.54	18.43	24.61	30.97	37.77	45.09	53.08	53.08	8 / 6							
reaction time	0.157	interval			5.61	5.89	6.18	6.36	6.80	7.32	7.99		# of strides	12.54	12.07	13.16	15.31	24.61	28.47	3.86
		velocity		7.22	8.91	8.49	8.09	7.86	7.35	6.83	6.26	7.54	202.0	7.97	8.29	7.60	6.53	8.13	7.02	
Repechage 2 - 2024 Olympic Games (Paris, FRA)												<i>Paris 2024 Olympic Games - Results Book (2024)</i>								
date	06-Aug-24	time		7.05	12.77	18.54	24.61	30.88	37.35	44.08	51.46	51.46	7 / 5							
reaction time	0.164	interval			5.72	5.77	6.07	6.27	6.47	6.73	7.38	PB	# of strides	12.77	11.84	12.74	14.11	24.61	26.85	2.24
		velocity		7.09	8.74	8.67	8.24	7.97	7.73	7.43	6.78	7.77	197.0	7.83	8.45	7.85	7.09	8.13	7.45	
Heat 4 - 2024 Olympic Games (Paris, FRA)												<i>Paris 2024 Olympic Games - Results Book (2024)</i>								
date	05-Aug-24	time		7.03	12.58	18.30	24.21	30.42	36.96	44.05	51.75	51.75	2 / 6							
reaction time	0.160	interval			5.55	5.72	5.91	6.21	6.54	7.09	7.70		# of strides	12.58	11.63	12.75	14.79	24.21	27.54	3.33
		velocity		7.11	9.01	8.74	8.46	8.05	7.65	7.05	6.49	7.73		7.95	8.60	7.84	6.76	8.26	7.26	
Semi-Final 3 - 2024 European Athletics Championships (Roma, ITA)												<i>European Athletics (2024) - 2024 european athletics championships - results book</i>								
date	09-Jun-24	time		12.57		24.36		37.27		51.65	51.65	5 / 4								
reaction time	0.243	interval				11.79		12.91		14.38		# of strides	12.57	11.79	12.91	14.38	24.36	27.29	2.93	
		velocity		7.96		8.48		7.75		6.95	7.74		7.96	8.48	7.75	6.95	8.21	7.33		
Heat 3 - 2024 European Athletics Championships (Roma, ITA)												<i>European Athletics (2024) - 2024 european athletics championships - results book</i>								
date	08-Jun-24	time		12.99		25.27		38.45		52.57	52.57	4 / 3								
reaction time	0.195	interval				12.28		13.18		14.12		# of strides	12.99	12.28	13.18	14.12	25.27	27.30	2.03	
		velocity		7.70		8.14		7.59		7.08	7.61		7.70	8.14	7.59	7.08	7.91	7.33		
FINAL - 2023 Memorial van Damme (Brussels, BEL)												<i>Seiko Timing (2023) - world championship race analysis</i>								
date	08-Sep-23	time	7.02	12.55	18.33	24.42	30.74	37.29	44.25	51.87	51.87	2 / 7								
reaction time	0.148	interval		5.53	5.78	6.09	6.32	6.55	6.96	7.62		# of strides	12.55	11.87	12.87	14.58	24.42	27.45	3.03	
		velocity	7.12	9.04	8.65	8.21	7.91	7.63	7.18	6.56	7.71		7.97	8.42	7.77	6.86	8.19	7.29		
Heat 5 - 2023 World Athletics Championships (Budapest, HUN)												<i>Seiko Timing (2023) - world championship race analysis</i>								

date	20-Aug-23	time	12.68							51.52	9 / 6														
reaction time	0.212	interval	7.89							PB	# of strides	12.68													
		velocity	7.89							7.76		7.89													
National FINAL - 2022 Memorial van Damme (Brussels, BEL)																			<i>Omega Timing (2022) - diamond league race analysis</i>						
date	02-Sep-22	time	6.97	12.60	18.35	24.38	30.72	37.46	44.40	51.82	51.82	6 / 2													
reaction time	0.146	interval	5.63	5.75	6.03	6.34	6.74	6.94	7.42	PB	# of strides	12.60	11.78	13.08	14.36	24.38	27.44	3.06							
		velocity	7.17	8.88	8.70	8.29	7.89	7.42	7.20	6.74	7.72	7.94	8.49	7.65	6.96	8.20	7.29								
Ponteen, Tiandra (SKN) (1984)																			<i>Graubner (2009) - biomechanical analyses at the 12th IAAF world championships</i>						
Semi-Final 3 - 2009 IAAF World Championships (Berlin, GER)																									
date	16-Aug-09	time	12.16							23.83	37.28	53.22	53.22	1 / 7											
reaction time	0.162	interval	8.22							11.67	13.45	15.94	7.52	# of strides	12.16	11.67	13.45	15.94	23.83	29.39	5.56				
		velocity	8.57							7.43	6.27	6.27		8.22	8.57	7.43	6.27	6.27	8.39	6.81					
Heat 1 - 2009 IAAF World Championships (Berlin, GER)																			<i>Graubner (2009) - biomechanical analyses at the 12th IAAF world championships</i>						
date	15-Aug-09	time	12.90							25.30	38.29	52.54	52.54	7 / 4											
reaction time	0.177	interval	12.40							12.99	14.25	14.25	# of strides	12.90	12.40	12.99	14.25	25.30	27.24	1.94					
		velocity	7.75							8.06	7.70	7.02	7.61	7.75	8.06	7.70	7.02	7.91	7.34						
Poovamma, Machettira Raju (IND) (19)																			<i>Yamanaka (2019) - race analysis of men and women 400m competition</i>						
FINAL - 2019 Asian Athletics Championships (Doha, QAT)																									
date	21-Apr-19	time	6.94	12.69	18.79	25.20	31.77	38.56	45.60	53.21	53.21	5 / 3													
reaction time	0.202	interval	5.75	6.10	6.41	6.57	6.79	7.04	7.61	7.61	# of strides	12.69	12.51	13.36	14.65	25.20	28.01	2.81							
		velocity	7.20	8.70	8.20	7.80	7.61	7.36	7.10	6.57	7.52	7.88	7.99	7.49	6.83	7.94	7.14								
Porter, Shanelle (USA) (1972)																			<i>USATF Women's Sprint Development (1996)</i>						
Semi-Final 1 - 1996 USA Olympic Trials (Atlanta, GA)																									
date	17-Jun-96	time	12.55							24.15	36.78	43.68	51.35	51.35	5 / 5										
reaction time		interval	11.60							12.63	6.90	7.67	# of strides	12.55	11.60	12.63	14.57	24.15	27.20	3.05					
		velocity	7.97							8.62	7.92	7.25	6.52	7.79	7.97	8.62	7.92	6.86	8.28	7.35					
Pospelova, Svetlana (RUS) (1979)																			<i>Behm (2006) - Championnats d'Europe Göteborg 2006... Le 400m avec ou sans obstacles</i>						
FINAL - 2006 European Championships (Göteborg, SWE)																									
date	10-Aug-06	time	24.9							37.1	50.90	50.90	1 / 7												
reaction time		interval	8.03							12.20	13.80	# of strides	24.90	12.20	13.80	24.90	26.00	1.10							
		velocity	8.03							16.39	7.25	7.86	4.02	8.20	7.25	8.03	7.69								
FINAL - 2005 IAAF World Championships (Helsinki, FIN)																			<i>Butler (2013) - IAAF world championships statistics handbook- moscow 2013</i>						
date	10-Aug-05	time	35.8							50.1	50.11	5 / 4													
reaction time	0.130	interval	8.38							14.31	6.99	7.98	# of strides				14.31	6.99							
		velocity	8.38							6.99	7.98														
FINAL - 2003 IAAF World Championships (Paris, FRA)																			<i>Bonvin (2003) - Compte-rendu 400m et relais 4x 400m</i>						
date	27-Aug-03	time	23.7							36.7	51.30	51.30	2 / 8												
reaction time	0.145	interval	8.44							13.00	14.60	# of strides			13.00	14.60	23.70	27.60	3.90						
		velocity	8.44							7.69	6.85	7.80	7.69	6.85	8.44	7.25									
Powell, Micha (CAN) (1995)																			<i>Longines Timing (2022) - commonwealth games race analysis</i>						
Semi-Final 2 - 2022 Commonwealth Games (Birmingham, GBR)																									
date	05-Aug-22	time	6.9	12.6	18.6	24.8	31.4	38.4	45.7	53.37	53.37	2 / 7													
reaction time	0.208	interval	5.70	6.00	6.20	6.60	7.00	7.30	7.67	# of strides	12.60	12.20	13.60	14.97	24.80	28.57	3.77								
		velocity	7.25	8.77	8.33	8.06	7.58	7.14	6.85	6.52	7.49	7.94	8.20	7.35	6.68	8.06	7.00								
Probert-Scutt, Michelle (GBR) (1960)																			<i>Adams (1984) - 1984 olympic games - 200m & 400m</i>						
Semi-Final 2 - 1984 Olympic Games (Los Angeles, CA) (TV Analysis)																									
date	05-Aug-84	time	24.41							52.07	52.07	4 / 6													
reaction time		interval	8.19							27.66	# of strides					24.41	27.66	3.25							
		velocity	8.19							7.23	7.68					8.19	7.23								
Prokopek, Grazyna (POL) (1977)																			<i>Graubner (2009) - http://www.fgs.uni-halle.de</i>						
FINAL - 2002 European Championships (Munich, GER)																									
date	08-Aug-02	time	12.61							24.54	37.33	51.53	51.53	1 / 4											
reaction time	0.171	interval	11.93							12.79	14.20	# of strides	12.61	11.93	12.79	14.20	24.54	26.99	2.45						
		velocity	7.93							8.38	7.82	7.04	7.76	7.93	8.38	7.82	7.04	8.15	7.41						
Heat 2 - 2002 European Championships (Munich, GER)																			<i>Graubner (2009) - http://www.fgs.uni-halle.de</i>						
date	07-Aug-02	time	12.76							24.66	37.41	52.01	52.01	1 / 2											
reaction time	0.181	interval	11.90							12.75	14.60	# of strides	12.76	11.90	12.75	14.60	24.66	27.35	2.69						
		velocity	7.84							8.40	7.84	6.85	7.69	7.84	8.40	7.84	6.85	8.11	7.31						
Pryce, Nickisha (JAM) (2001)																			<i>Paris 2024 Olympic Games - Results Book (2024)</i>						
Semi-Final 2 - 2024 Olympic Games (Paris, FRA)																									
date	07-Aug-24	time	6.59	11.98	17.57	23.47	29.65	36.15	43.07	50.77	50.77	8 / 4													
reaction time	0.160	interval	5.39	5.59	5.90	6.18	6.50	6.92	7.70	# of strides	11.98	11.49	12.68	14.62	23.47	27.30	3.83								
		velocity	7.59	9.28	8.94	8.47	8.09	7.69	7.23	6.49	7.88	189.0	8.35	8.70	7.89	6.84	8.52	7.33							
Heat 2 - 2024 Olympic Games (Paris, FRA)																			<i>Paris 2024 Olympic Games - Results Book (2024)</i>						
date	05-Aug-24	time	6.72	12.32	18.10	24.07	30.20	36.37	42.86	50.02	50.02	8 / 1													
reaction time	0.187	interval	5.60	5.78	5.97	6.13	6.17	6.49	7.16	# of strides	12.32	11.75	12.30	13.65	24.07	25.95	1.88								
		velocity	7.44	8.93	8.65	8.38	8.16	8.10	7.70	6.98	8.00	182.0	8.12	8.51	8.13	7.33	8.31	7.71							
FINAL - 2024 London Athletics Meet (London, GBR)																			<i>Omega Timing (2024) - diamond league race analysis</i>						
date	20-Jul-24	time	6.61	11.99	17.46	23.17	29.17	35.29	41.67	48.57	48.57	6 / 1													
reaction time	0.159	interval	5.38	5.47	5.71	6.00	6.12	6.38	6.90	NR PB	# of strides	11.99	11.18	12.12	13.28	23.17	25.40	2.23							

velocity	7.56	9.29	9.14	8.76	8.33	8.17	7.84	7.25	8.24	183.0	8.34	8.94	8.25	7.53	8.63	7.87
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Semi-Final 2 - 2023 World Athletics Championships (Budapest, HUN)*Seiko Timing (2023) - world championship race analysis*

date	21-Aug-23	time	12.10	23.39	36.25	51.24	51.24	8 / 5								
reaction time	0.186	interval		11.29	12.86	14.99		# of strides	12.10	11.29	12.86	14.99	23.39	27.85	4.46	
		velocity	8.26	8.86	7.78	6.67	7.81		191.0	8.26	8.86	7.78	6.67	8.55	7.18	

Heat 4 - 2023 World Athletics Championships (Budapest, HUN)*Seiko Timing (2023) - world championship race analysis*

date	20-Aug-23	time	12.30	23.77	36.31	50.38	50.38	9 / 1							
reaction time	0.210	interval		11.47	12.54	14.07		# of strides	12.30	11.47	12.54	14.07	23.77	26.61	2.84
		velocity	8.13	8.72	7.97	7.11	7.94		187.5	8.13	8.72	7.97	7.11	8.41	7.52

Putalová, Iveta (SVK) (1988)**Heat 1 - 2015 IAAF World Championships (Beijing, CHN)***Yamamoto (2015) - race analysis of 15th World Championships 400m - focusing on men's semis and women's prelims*

date	24-Aug-15	time	6.72	12.26	18.03	24.20	30.68	37.44	44.72	52.52	52.52	5 / 7							
reaction time	0.219	interval		5.54	5.77	6.17	6.48	6.76	7.28	7.80		# of strides	12.26	11.94	13.24	15.08	24.20	28.32	4.12
		velocity	7.44	9.03	8.67	8.10	7.72	7.40	6.87	6.41	7.62		8.16	8.38	7.55	6.63	8.26	7.06	

Pyhyda, Nataliya (UKR) (1981)**Heat 1 - 2015 IAAF World Championships (Beijing, CHN)***Yamamoto (2015) - race analysis of 15th World Championships 400m - focusing on men's semis and women's prelims*

date	24-Aug-15	time	6.60	12.29	18.07	24.15	30.46	37.06	43.88	51.07	51.07	3 / 3							
reaction time	0.184	interval		5.69	5.78	6.08	6.31	6.60	6.82	7.19		# of strides	12.29	11.86	12.91	14.01	24.15	26.92	2.77
		velocity	7.58	8.79	8.65	8.22	7.92	7.58	7.33	6.95	7.83		8.14	8.43	7.75	7.14	8.28	7.43	

Quirot, Ana Fidelia (CUB) (1963)**FINAL - 1989 IAAF World Cup (Barcelona, ESP)***Pascua (1990) - atletismo (I) carreras y marcha*

date	10-Sep-89	time	12.88	23.40	36.28	50.60	50.60	/ 2 1							
reaction time		interval		10.52	12.88	14.32		# of strides	12.88	10.52	12.88	14.32	23.40	27.20	3.80
		velocity	7.76	9.51	7.76	6.98	7.91		7.76	9.51	7.76	6.98	8.55	7.35	

FINAL - 1988 Nikala (Nice, FRA)*Veney - split times from PJ*

date	10-Jul-88	time	12.10	23.59	36.13	49.81	49.81	/ 2							
reaction time		interval		11.49	12.54	13.68		# of strides	12.10	11.49	12.54	13.68	23.59	26.22	2.63
		velocity	8.26	8.70	7.97	7.31	8.03		8.26	8.70	7.97	7.31	8.48	7.63	

FINAL - 1985 IAAF World Cup (Canberra, AUS)*Vazel (2011) - speed reserve in the 400m*

date	06-Oct-85	time		24.9		50.9	50.86	6 / 4							
reaction time		interval				26.00	PB	# of strides					24.90	26.00	1.10
		velocity		8.03		7.69	7.86						8.03	7.69	

Radecka-Pakaszewska, Zuzanna (POL)**FINAL - 2007 European Cup (Munich, GER)***Graubner (2007) - http://www.fgs.uni-halle.de*

date	23-Jun-07	time	12.52	24.61	37.67	52.59	52.59	/ 5							
reaction time	0.218	interval		12.09	13.06	14.92		# of strides	12.52	12.09	13.06	14.92	24.61	27.98	3.37
		velocity	7.99	8.27	7.66	6.70	7.61		7.99	8.27	7.66	6.70	8.13	7.15	

Rapai, Fanni (HUN) (2000)**Heat 4 - 2023 World Athletics Championships (Budapest, HUN)***Seiko Timing (2023) - world championship race analysis*

date	20-Aug-23	time	12.92	25.02	38.38	52.73	52.73	2 / 7							
reaction time	0.177	interval		12.10	13.36	14.35	PB	# of strides	12.92	12.10	13.36	14.35	25.02	27.71	2.69
		velocity	7.74	8.26	7.49	6.97	7.59		7.74	8.26	7.49	6.97	7.99	7.22	

Rasnayake, Chandrika (SRI) (1987)**Heat 4 - 2009 IAAF World Championships (Berlin, GER)***Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*

date	15-Aug-09	time	13.21	25.70	38.90	53.68	53.68	4 / 4 3							
reaction time	0.162	interval		12.49	13.20	14.78		# of strides	13.21	12.49	13.20	14.78	25.70	27.98	2.28
		velocity	7.57	8.01	7.58	6.77	7.45		7.57	8.01	7.58	6.77	7.78	7.15	

Ratray-Williams, Cathy (JAM) (1963)**Semi-Final 2 - 1988 Olympic Games (Seoul, KOR)***Briggemann (1990) - scientific research project at the games of the XXXIV Olympiad, Seoul 1988*

date	25-Sep-88	time	12.59	24.41	36.97	50.82	50.82	7 / 6							
reaction time		interval		11.82	12.56	13.85	PB	# of strides	12.59	11.82	12.56	13.85	24.41	26.41	2.00
		velocity	7.94	8.46	7.96	7.22	7.87		7.94	8.46	7.96	7.22	8.19	7.57	

Răzor, Bianca (ROU) (1994)**Semi-Final 1 - 2017 IAAF World Championships (London, GBR)***Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Women's 400m*

date	07-Aug-17	time	12.58	24.58	37.63	44.55	51.91	52.09	2 / 6							
reaction time	0.180	interval		12.00	13.05	6.92	7.36		# of strides	12.58	12.00	13.05	14.28	24.58	27.33	2.75
		velocity	7.95	8.33	7.66	7.23	6.79	7.68		202.4	7.95	8.33	7.66	7.00	8.14	7.32

Heat 5 - 2015 IAAF World Championships (Beijing, CHN)*Yamamoto (2015) - race analysis of 15th World Championships 400m - focusing on men's semis and women's prelims*

date	24-Aug-15	time	6.94	12.63	18.47	24.46	30.55	36.81	43.37	50.37	50.37	9 / 1							
reaction time	0.194	interval		5.69	5.84	5.99	6.09	6.26	6.56	7.00	PB	# of strides	12.63	11.83	12.35	13.56	24.46	25.91	1.45
		velocity	7.20	8.79	8.56	8.35	8.21	7.99	7.62	7.14	7.94		7.92	8.45	8.10	7.37	8.18	7.72	

Recio, Belén (ESP) (1980)**FINAL - 2007 European Cup (Munich, GER)***Graubner (2007) - http://www.fgs.uni-halle.de*

date	23-Jun-07	time	13.30	25.76	38.91	54.16	54.16	/ 8							
reaction time	0.228	interval		12.46	13.15	15.25		# of strides	13.30	12.46	13.15	15.25	25.76	28.40	2.64
		velocity	7.52	8.03	7.60	6.56	7.39		7.52	8.03	7.60	6.56	7.76	7.04	

Reed, Cassandra (USA) (1983)**Heat 4 - 2004 USA Olympic Trials (Sacramento, CA)***USATF Women's Sprint Development (2004)*

date	12-Jul-04	time	12.42	24.59	37.92	44.92	53.14	53.14	7 / 5							
reaction time		interval		12.17	13.33	7.00	8.22		# of strides	12.42	12.17	13.33	15.22	24.59	28.55	3.96

	velocity	8.05	8.22	7.50	7.14	6.08	7.53			8.05	8.22	7.50	6.57	8.13	7.01			
Reid, Suziann (USA) (1977)	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
FINAL - 2005 USATF National Championship (Carson, CA)																		
date	25-Jun-05	time	12.31	18.06	24.36	30.63	37.07	42.54	51.45	1 / 6								
reaction time		interval		5.75	6.30	6.27	6.44	5.47	8.91	# of strides	12.31	12.05	12.71	14.38	24.36	27.09	2.73	
		velocity	8.12	8.70	7.94	7.97	7.76	9.14	5.61	7.77	8.12	8.30	7.87	6.95	8.21	7.38		
FINAL - 2004 USA Olympic Trials (Sacramento, CA)																		
date	17-Jul-04	time	12.25	24.60	30.78	38.39	44.18	51.61	51.61	5 / 7								
reaction time		interval		12.35	6.18	7.61	5.79	7.43		# of strides	12.25	12.35	13.79	13.22	24.60	27.01	2.41	
		velocity	8.16	8.10	8.09	6.57	8.64	6.73	7.75		8.16	8.10	7.25	7.56	8.13	7.40		
Semi-Final 2 - 2004 USA Olympic Trials (Sacramento, CA)																		
date	15-Jul-04	time	12.25	24.64	30.65	37.17	43.78	51.14	51.14	5 / 2								
reaction time		interval		12.39	6.01	6.52	6.61	7.36		# of strides	12.25	12.39	12.53	13.97	24.64	26.50	1.86	
		velocity	8.16	8.07	8.32	7.67	7.56	6.79	7.82	193.0	8.16	8.07	7.98	7.16	8.12	7.55		
Heat 2 - 2004 USA Olympic Trials (Sacramento, CA)																		
date	12-Jul-04	time	12.18	24.12	37.09	43.61	51.03	51.03		8 / 2								
reaction time		interval		11.94	12.97	6.52	7.42			# of strides	12.18	11.94	12.97	13.94	24.12	26.91	2.79	
		velocity	8.21	8.38	7.71	7.67	6.74	7.84		197.0	8.21	8.38	7.71	7.17	8.29	7.43		
FINAL - 1996 USATF National Junior Championships (Deleware, OH)																		
date	29-Jun-96	time	12.16	24.05	37.45	44.77	52.46	52.46		5 / 1								
reaction time		interval		11.89	13.40	7.32	7.69			# of strides	12.16	11.89	13.40	15.01	24.05	28.41	4.36	
		velocity	8.22	8.41	7.46	6.83	6.50	7.62			8.22	8.41	7.46	6.66	8.32	7.04		
Semi-Final 1 - 1996 USA Olympic Trials (Deleware, OH)																		
date	17-Jun-96	time	12.56	24.76	38.55	46.18	54.39	54.39		8 / 8								
reaction time		interval		12.20	13.79	7.63	8.21			# of strides	12.56	12.20	13.79	15.84	24.76	29.63	4.87	
		velocity	7.96	8.20	7.25	6.55	6.09	7.35			7.96	8.20	7.25	6.31	8.08	6.75		
Rendina, Charlene (AUS) (1947)	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
FINAL - 1972 Olympic Games (Munich, FRG)																		
date	07-Sep-72	time		25.0				52.0	51.99	8 / 6								
reaction time		interval						27.0		# of strides					25.00	27.00	2.00	
		velocity		8.00				7.41	7.69						8.00	7.41		
Renzhina, Yekaterina (RUS) (1994)	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
Heat 6 - 2015 IAAF World Championships (Beijing, CHN)																		
date	24-Aug-15	time	6.84	12.55	18.44	24.67	31.06	37.49	44.25	51.55	51.55							
reaction time	0.193	interval		5.71	5.89	6.23	6.39	6.43	6.76	7.30								
		velocity	7.31	8.76	8.49	8.03	7.82	7.78	7.40	6.85	7.76	7.97	8.25	7.80	7.11	8.11	7.44	
Restrepo, Ximena (COL) (1969)	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
FINAL - 1993 IAAF World Championships (Stuttgart, GER)																		
date	17-Aug-93	time		23.71				50.91	50.91	2 / 5								
reaction time		interval						27.20		# of strides					23.71	27.20	3.49	
		velocity		8.44				7.35	7.86						8.44	7.35		
FINAL - 1992 Olympic Games (Barcelona, ESP)																		
date	05-Aug-92	time		24.0		35.7		49.7	49.64	5 / 3								
reaction time		interval				11.70		14.00	NR	# of strides			11.70	14.00	24.00	25.70	1.70	
		velocity		8.33		8.55		7.14	8.06				8.55	7.14	8.33	7.78		
FINAL - 1991 IAAF World Championships (Tokyo, JPN)																		
date	27-Aug-91	time		24.08				50.79	50.79	2 / 6								
reaction time		interval						26.71		# of strides					24.08	26.71	2.63	
		velocity		8.31				7.49	7.88						8.31	7.49		
Reyes, Norcady (GIB) (2003)	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
Heat 3 - 2022 European Athletics Championships (Munich, GER)																		
date	15-Aug-22	time	14.02	28.04		42.96		59.59	59.59	7 / 8								
reaction time	0.250	interval		14.02		14.92		16.63		# of strides	14.02	14.02	14.92	16.63	28.04	31.55	3.51	
		velocity	7.13	7.13		6.70		6.01	6.71		7.13	7.13	6.70	6.01	7.13	6.34		
Richard, Janet (MLT) (1998)	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
Heat 2 - 2023 World Athletics Championships (Budapest, HUN)																		
date	20-Aug-23	time	12.97	25.51		39.24		54.50	54.50	5 / 8								
reaction time	0.172	interval		12.54		13.73		15.26		# of strides	12.97	12.54	13.73	15.26	25.51	28.99	3.48	
		velocity	7.71	7.97		7.28		6.55	7.34		7.71	7.97	7.28	6.55	7.84	6.90		
Heat 2 - 2022 European Athletics Championships (Munich, GER)																		
date	15-Aug-22	time	12.84	25.55		38.80		53.49	53.49	6 / 7								
reaction time	0.206	interval		12.71		13.25		14.69	NR PB	# of strides	12.84	12.71	13.25	14.69	25.55	27.94	2.39	
		velocity	7.79	7.87		7.55		6.81	7.48		7.79	7.87	7.55	6.81	7.83	7.16		
Richards, Sandie (JAM) (1968)	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
FINAL - 1997 IAAF World Championships (Athens, GRE)																		
date	04-Aug-97	time	6.50	12.06	17.82	23.70	29.78	36.02	42.62	49.62	49.79							
reaction time	0.167	interval		5.56	5.76	5.88	6.08	6.24	6.60	7.00	PB							
		velocity	7.69	8.99	8.68	8.50	8.22	8.01	7.58	7.14	8.03	8.29	8.59	8.12	7.35	8.44	7.72	
FINAL - 1996 Olympic Games (Atlanta, GA)																		

FINAL - 2008 USA Olympic Trials (Eugene, OR)											<i>USATF Women's Sprint Development with HPC (2008)</i>							
date	03-Jul-08	time	11.87	17.18	24.07	30.09	36.43	42.79	49.89	49.89	5 / 1							
reaction time		interval		5.31	6.89	6.02	6.34	6.36	7.10		# of strides	11.87	12.20	12.36	13.46	24.07	25.82	1.75
		velocity	8.42	9.42	7.26	8.31	7.89	7.86	7.04	8.02		8.42	8.20	8.09	7.43	8.31	7.75	
Quarter-Final 3 - 2008 USA Olympic Trials (Eugene, OR)											<i>USATF Women's Sprint Development with HPC (2008)</i>							
date	29-Jun-08	time	12.11	18.24	24.48	30.48	36.80	43.64	51.08	51.08	5 / 1							
reaction time		interval		6.13	6.24	6.00	6.32	6.84	7.44		# of strides	12.11	12.37	12.32	14.28	24.48	26.60	2.12
		velocity	8.26	8.16	8.01	8.33	7.91	7.31	6.72	7.83		8.26	8.08	8.12	7.00	8.17	7.52	
FINAL - 2007 IAAF World Athletics Final (Stuttgart, GER)											<i>Graubner (2007) - http://www.fgs.uni-halle.de</i>							
date	23-Sep-07	time	11.88	23.71	36.06	49.27	49.27				5 / 1							
reaction time	0.166	interval		11.83	12.35	13.21					# of strides	11.88	11.83	12.35	13.21	23.71	25.56	1.85
		velocity	8.42	8.45	8.10	7.57	8.12					8.42	8.45	8.10	7.57	8.44	7.82	
FINAL - 2007 ISTAF (Berlin, GER) (TV Analysis)											<i>Graubner (2008) - http://www.fgs.uni-halle.de</i>							
date	16-Sep-07	time	12.03	23.89	36.24	49.27	49.27				4 / 1							
reaction time	0.251	interval		11.86	12.35	13.03					# of strides	12.03	11.86	12.35	13.03	23.89	25.38	1.49
		velocity	8.31	8.43	8.10	7.67	8.12					8.31	8.43	8.10	7.67	8.37	7.88	
FINAL - 2007 DN Galan (Stockholm, SWE)											<i>Vazel (2011) - speed reserve in the 400m</i>							
date	07-Aug-07	time	11.8	23.6	36.0	49.7	49.72				/ 2							
reaction time		interval		11.80	12.40	13.70					# of strides	11.80	11.80	12.40	13.70	23.60	26.10	2.50
		velocity	8.47	8.47	8.06	7.30	8.05					8.47	8.47	8.06	7.30	8.47	7.66	
FINAL - 2007 USATF National Championships (Indianapolis, IN)											<i>Vazel (2011) - speed reserve in the 400m</i>							
date	23-Jun-07	time	11.85	23.40	35.90	50.68	50.68				4 / 4							
reaction time		interval		11.55	12.50	14.78					# of strides	11.85	11.55	12.50	14.78	23.40	27.28	3.88
		velocity	8.44	8.66	8.00	6.77	7.89					8.44	8.66	8.00	6.77	8.55	7.33	
FINAL - 2006 IAAF World Cup (Athens, GRE) (TV Analysis)											<i>Graubner (2008) - http://www.fgs.uni-halle.de</i>							
date	16-Sep-06	time	11.93	23.82	35.83	48.70	48.70				7 / 1							
reaction time	0.175	interval		11.89	12.01	12.87	AR				# of strides	11.93	11.89	12.01	12.87	23.82	24.88	1.06
		velocity	8.38	8.41	8.33	7.77	8.21					8.38	8.41	8.33	7.77	8.40	8.04	
FINAL - 2006 USATF National Championship (Indianapolis, IN)											<i>USATF Women's Sprint Development (2006)</i>							
date	24-Jun-06	time	11.40	17.11	23.37	29.46	35.78	42.36	49.27	49.27	4 / 1							
reaction time		interval		5.71	6.26	6.09	6.32	6.58	6.91		# of strides	11.40	11.97	12.41	13.49	23.37	25.90	2.53
		velocity	8.77	8.76	7.99	8.21	7.91	7.60	7.24	8.12		8.77	8.35	8.06	7.41	8.56	7.72	
FINAL - 2005 Weltklasse (Zurich, SUI)											<i>ferrari (2009) - Split 100 metri uomini e donne (www.noivelocisti.net/forum?func=view&catid=9&id=1813)</i>							
date	19-Aug-05	time	11.9	23.7	35.6	48.92	48.92				/ 1							
reaction time	0.269	interval		11.80	11.90	13.32	PB				# of strides	11.90	11.80	11.90	13.32	23.70	25.22	1.52
		velocity	8.40	8.47	8.40	7.51	8.18					8.40	8.47	8.40	7.51	8.44	7.93	
FINAL - 2005 IAAF World Championships (Helsinki, FIN)											<i>Vazel (2011) - speed reserve in the 400m</i>							
date	10-Aug-05	time	12.4	23.5	35.6	49.7	49.74				3 / 2							
reaction time	0.155	interval		11.10	12.10	14.10					# of strides	12.40	11.10	12.10	14.10	23.50	26.20	2.70
		velocity	8.06	9.01	8.26	7.09	8.04					8.06	9.01	8.26	7.09	8.51	7.63	
FINAL - 2005 USATF National Championship (Carson, CA)											<i>USATF Women's Sprint Development (2005)</i>							
date	25-Jun-05	time	12.08	17.90	23.99	29.85	35.99	42.44	49.28	49.28	4 / 1							
reaction time		interval		5.82	6.09	5.86	6.14	6.45	6.84	PB	# of strides	12.08	11.91	12.00	13.29	23.99	25.29	1.30
		velocity	8.28	8.59	8.21	8.53	8.14	7.75	7.31	8.12		8.28	8.40	8.33	7.52	8.34	7.91	
FINAL - 2005 Jamaica Invitational (Kingston, JAM)											<i>ferrari (2009) - Split 100 metri uomini e donne (www.noivelocisti.net/forum?func=view&catid=9&id=1813)</i>							
date	07-May-05	time	12.3	24.6	36.9	49.96	49.96				/ 1							
reaction time		interval		12.30	12.30	13.06					# of strides	12.30	12.30	12.30	13.06	24.60	25.36	0.76
		velocity	8.13	8.13	8.13	7.66	8.01					8.13	8.13	8.13	7.66	8.13	7.89	
FINAL - 2004 Olympic Games (Athens, GRE)											<i>Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016</i>							
date	24-Aug-04	time	11.9	23.5	35.8	50.2	50.19				2 / 6							
reaction time	0.205	interval		11.6	12.3	14.4					# of strides	11.90	11.60	12.30	14.40	23.50	26.70	3.20
		velocity	8.40	8.62	8.13	6.94	7.97					8.40	8.62	8.13	6.94	8.51	7.49	
FINAL - 2004 USA Olympic Trials (Sacramento, CA)											<i>USATF Women's Sprint Development (2004)</i>							
date	17-Jul-04	time	12.00	23.87	30.00	36.20	42.59	49.89	49.89		3 / 2							
reaction time		interval		11.87	6.13	6.20	6.39	7.30	AJR	# of strides	12.00	11.87	12.33	13.69	23.87	26.02	2.15	
		velocity	8.33	8.42	8.16	8.06	7.82	6.85	8.02			8.33	8.42	8.11	7.30	8.38	7.69	
Semi-Final 2 - 2004 USA Olympic Trials (Sacramento, CA)											<i>USATF Women's Sprint Development (2004)</i>							
date	15-Jul-04	time	11.99	23.86	30.65	36.67	43.21	50.34	50.34		3 / 1							
reaction time		interval		11.87	6.79	6.02	6.54	7.13			# of strides	11.99	11.87	12.81	13.67	23.86	26.48	2.62
		velocity	8.34	8.42	7.36	8.31	7.65	7.01	7.95			8.34	8.42	7.81	7.32	8.38	7.55	
Heat 2 - 2004 USA Olympic Trials (Sacramento, CA)											<i>USATF Women's Sprint Development (2004)</i>							
date	12-Jul-04	time	11.98	23.66	36.43	42.92	50.22	50.22			6 / 1							
reaction time		interval		11.68	12.77	6.49	7.30				# of strides	11.98	11.68	12.77	13.79	23.66	26.56	2.90
		velocity	8.35	8.56	7.83	7.70	6.85	7.96				8.35	8.56	7.83	7.25	8.45	7.53	
FINAL - 2003 USATF National Championship (Palo Alto, CA)											<i>USATF Women's Sprint Development (2003)</i>							
date	21-Jun-03	time	23.79		36.96	43.63	51.01	51.01			4 / 1							
reaction time		interval			13.17	6.67	7.38				# of strides			13.17	14.05	23.79	27.22	3.43
		velocity		8.41	7.59	7.50	6.78	7.84						7.59	7.12	8.41	7.35	

														USATF Women's Sprint Development (2003)											
Semi-Final 2 - 2003 USATF National Championship (Palo Alto, CA)																									
date	20-Jun-03	time	23.96	37.17	44.01	51.74	51.74	7 / 1							13.21	14.57	23.96	27.78	3.82						
reaction time		interval		13.21	6.84	7.73		# of strides							7.57	6.86	8.35	7.20							
		velocity	8.35	7.57	7.31	6.47	7.73																		
Richardson-Briscoe, Jillian (CAN) (19)																									
FINAL - 1992 Olympic Games (Barcelona, ESP)														Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016											
date	05-Aug-92	time	23.9	35.8	50.0	49.93	4 / 5							11.90	14.20	23.90	26.10	2.20							
reaction time		interval		11.90	14.20		# of strides							8.40	7.04	8.37	7.66								
		velocity	8.37	8.40	7.04	8.01																			
Semi-Final 1 - 1988 Olympic Games (Seoul, KOR)														Brüggemann (1990) - scientific research project at the games of the XXXIV Olympiad, Seoul 1988											
date	25-Sep-88	time	11.99	23.57	36.19	49.91	49.91	7 / 5							11.99	11.58	12.62	13.72	23.57	26.34	2.77				
reaction time		interval		11.58	12.62		# of strides							8.34	8.64	7.92	7.29	8.49	7.59						
		velocity	8.34	8.64	7.92	7.29	8.01																		
Richardson, Jillian (CAN) (1965)														Moravec (1990) - time analysis of the sprints - Rome 1987 Scientific Report (2nd ed)											
FINAL - 1987 IAAF World Championships (Rome, ITA)																									
date	31-Aug-87	time	12.82	24.76	37.32	51.03	51.03	8 / 6							12.82	11.94	12.56	13.71	24.76	26.27	1.51				
reaction time		interval		11.94	12.56	13.71		# of strides							7.80	8.38	7.96	7.29	8.08	7.61					
		velocity	7.80	8.38	7.96	7.29	7.84																		
Risberg Thoor, Josephine (SWE) (19)																									
FINAL - 2024 Bauhaus Galan (Stockholm, SWE)														Omega Timing (2024) - diamond league race analysis											
date	02-Jun-24	time	7.23	13.32	19.43	25.82	32.53	39.49	47.00	55.55	55.55	1 / 8							13.32	12.50	13.67	16.06	25.82	29.73	3.91
reaction time	0.214	interval		6.09	6.11	6.39	6.71	6.96	7.51	8.55		# of strides							7.51	8.00	7.32	6.23	7.75	6.73	
		velocity	6.92	8.21	8.18	7.82	7.45	7.18	6.66	5.85	7.20														
FINAL - 2022 Bauhaus Galan (Stockholm, SWE)														Omega Timing (2022) - diamond league race analysis											
date	30-Jun-22	time	7.27	13.38	19.56	25.96	32.80	39.76	47.19	55.39	55.39	1 / 7							13.38	12.58	13.80	15.63	25.96	29.43	3.47
reaction time	0.213	interval		6.11	6.18	6.40	6.84	6.96	7.43	8.20		# of strides							7.47	7.95	7.25	6.40	7.70	6.80	
		velocity	6.88	8.18	8.09	7.81	7.31	7.18	6.73	6.10	7.22														
Rivers, Theodosha (USA) (1979)																									
FINAL - 1996 USATF National Junior Championships (Delaware, OH)														USATF Women's Sprint Development (1996)											
date	29-Jun-96	time		25.18	38.44	45.59	53.39	53.39	7 / 3							13.26	14.95	25.18	28.21	3.03					
reaction time		interval			13.26	7.15	7.80	PB	# of strides							7.54	6.69	7.94	7.09						
		velocity		7.94	7.54	6.99	6.41	7.49																	
Roberson, Daye Shon (USA) (1995)																									
FINAL - 2015 NCAA Championships (Eugene, OR)														USTFCCCA (2017) - NCAA DI outdoor championship history											
date	13-Jun-15	time		25.5			51.7	51.74	7 / 3							25.50	26.20	0.70							
reaction time		interval					26.20		# of strides							7.84	7.63								
		velocity		7.84			7.63	7.73																	
Robinson, Moushami (USA) (1981)																									
Quarter-Final 2 - 2008 USA Olympic Trials (Atlanta, GA)														USATF Women's Sprint Development with HPC (2008)											
date	29-Jun-08	time	12.16	18.09	24.26	30.70	37.35	44.21	52.02	52.02	4 / 4							12.16	12.10	13.09	14.67	24.26	27.76	3.50	
reaction time		interval		5.93	6.17	6.44	6.65	6.86	7.81		# of strides							8.22	8.26	7.64	6.82	8.24	7.20		
		velocity	8.22	8.43	8.10	7.76	7.52	7.29	6.40	7.69															
FINAL - 2006 USATF National Championship (Indianapolis, IN)														USATF Women's Sprint Development (2006)											
date	24-Jun-06	time	11.96	17.93	24.34	30.68	37.22	44.04	51.13	51.13	7 / 4							11.96	12.38	12.88	13.91	24.34	26.79	2.45	
reaction time		interval		5.97	6.41	6.34	6.54	6.82	7.09		# of strides							8.36	8.08	7.76	7.19	8.22	7.47		
		velocity	8.36	8.38	7.80	7.89	7.65	7.33	7.05	7.82															
FINAL - 2005 USATF National Championship (Carson, CA)														USATF Women's Sprint Development (2005)											
date	25-Jun-05	time	12.42	18.39	24.58	30.69	36.80	43.33	50.38	50.38	7 / 4							12.42	12.16	12.22	13.58	24.58	25.80	1.22	
reaction time		interval		5.97	6.19	6.11	6.11	6.53	7.05	PB	# of strides							8.05	8.22	8.18	7.36	8.14	7.75		
		velocity	8.05	8.38	8.08	8.18	8.18	7.66	7.09	7.94															
FINAL - 2004 USA Olympic Trials (Sacramento, CA)														USATF Women's Sprint Development (2004)											
date	17-Jul-04	time	12.22	24.04	30.43	37.01	43.72	51.54	51.54	8 / 6							12.22	11.82	12.97	14.53	24.04	27.50	3.46		
reaction time		interval		11.82	6.39	6.58	6.71	7.82	PB	# of strides							8.18	8.46	7.71	6.88	8.32	7.27			
		velocity	8.18	8.46	7.82	7.60	7.45	6.39	7.76																
Semi-Final 2 - 2004 USA Olympic Trials (Sacramento, CA)														USATF Women's Sprint Development (2004)											
date	15-Jul-04	time	12.16	30.15	37.07	43.91	51.72	51.72	2 / 3							12.16	14.65								
reaction time		interval		17.99	6.92	6.84	7.81	PB	# of strides							8.22	6.83								
		velocity	8.22	8.34	7.23	7.31	6.40	7.73																	
Heat 1 - 2004 USA Olympic Trials (Sacramento, CA)														USATF Women's Sprint Development (2004)											
date	12-Jul-04	time	12.43	24.14	36.88	44.11	52.14	52.14	3 / 4							12.43	11.71	12.74	15.26	24.14	28.00	3.86			
reaction time		interval		11.71	12.74	7.23	8.03		# of strides							8.05	8.54	7.85	6.55	8.29	7.14				
		velocity	8.05	8.54	7.85	6.92	6.23	7.67																	
FINAL - 2003 USATF National Championship (Palo Alto, CA)														USATF Women's Sprint Development (2003)											
date	21-Jun-03	time	25.01	38.04	44.66	51.93	51.93	7 / 4							13.03	13.89	25.01	26.92	1.91						
reaction time		interval		13.03	6.62	7.27		# of strides							7.67	7.20	8.00	7.43							
		velocity	8.00	7.67	7.55	6.88	7.70																		
Semi-Final 2 - 2003 USATF National Championship (Palo Alto, CA)														USATF Women's Sprint Development (2003)											
date	20-Jun-03	time	24.19	37.75	44.61	52.35	52.35	4 / 2							13.56	14.60	24.19	28.16	3.97						
reaction time		interval		13.56	6.86	7.74		# of strides							7.37	6.85	8.27	7.10							
		velocity	8.27	7.37	7.29	6.46	7.64																		

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
Robinson, Na'Asha (USA) (1997)																			
Semi-Final 3 - 2024 USA Olympic Trials (Eugene, OR)																			
date	22-Jun-24	time	12.14		23.52		36.56		51.65	51.65	4 / 6								
reaction time		interval			11.38		13.04		15.09		# of strides	12.14	11.38	13.04	15.09	23.52	28.13	4.61	
		velocity	8.24		8.79		7.67		6.63	7.74	197.0	8.24	8.79	7.67	6.63	8.50	7.11		
Heat 2 - 2024 USA Olympic Trials (Eugene, OR)																			
date	21-Jun-24	time	12.31		23.92		36.95		51.30	51.30	8 / 4								
reaction time		interval			11.61		13.03		14.35	=PB	# of strides	12.31	11.61	13.03	14.35	23.92	27.38	3.46	
		velocity	8.12		8.61		7.67		6.97	7.80	194.0	8.12	8.61	7.67	6.97	8.36	7.30		
Rockmeier, Birgit (GER) (1973)																			
FINAL - 2002 European Championships (Munich, GER)																			
date	08-Aug-02	time	12.75		25.02		38.46		52.91	52.91	/ 8								
reaction time	0.127	interval			12.27		13.44		14.45		# of strides	12.75	12.27	13.44	14.45	25.02	27.89	2.87	
		velocity	7.84		8.15		7.44		6.92	7.56		7.84	8.15	7.44	6.92	7.99	7.17		
Heat 1 - 2002 European Championships (Munich, GER)																			
date	07-Aug-02	time	12.72		25.00		37.95		52.28	52.28	/ 2								
reaction time	0.137	interval			12.28		12.95		14.33		# of strides	12.72	12.28	12.95	14.33	25.00	27.28	2.28	
		velocity	7.86		8.14		7.72		6.98	7.65		7.86	8.14	7.72	6.98	8.00	7.33		
FINAL - 2001 ISTAF (Berlin, GER)																			
date	31-Aug-01	time	12.31		24.53		37.69		53.04	53.04	/ 5								
reaction time	0.158	interval			12.22		13.16		15.35		# of strides	12.31	12.22	13.16	15.35	24.53	28.51	3.98	
		velocity	8.12		8.18		7.60		6.51	7.54		8.12	8.18	7.60	6.51	8.15	7.02		
Rooks, Cynethia (USA) (1984)																			
Quarter-Final 4 - 2008 USA Olympic Trials (Eugene, OR)																			
date	29-Jun-08	time	12.52	18.80	25.25	31.59	38.34	45.22	52.95	52.95	3 / 5								
reaction time		interval		6.28	6.45	6.34	6.75	6.88	7.73		# of strides	12.52	12.73	13.09	14.61	25.25	27.70	2.45	
		velocity	7.99	7.96	7.75	7.89	7.41	7.27	6.47	7.55		7.99	7.86	7.64	6.84	7.92	7.22		
Rubie, Anneliese (AUS) (1992)																			
FINAL - 2018 Seiko Golden Grand Prix (Osaka, JPN)																			
date	20-May-18	time	6.76	12.62	18.75	25.02	31.49	38.11	44.81	51.82	51.82	3 / 3							
reaction time	0.184	interval		5.86	6.13	6.27	6.47	6.62	6.70	7.01	# of strides	12.62	12.40	13.09	13.71	25.02	26.80	1.78	
		velocity	7.40	8.53	8.16	7.97	7.73	7.55	7.46	7.13	7.72	7.92	8.06	7.64	7.29	7.99	7.46		
Heat 1 - 2015 IAAF World Championships (Beijing, CHN)																			
date	24-Aug-15	time	6.68	12.37	18.28	24.47	30.77	37.35	44.25	51.69	51.69	4 / 5							
reaction time	0.184	interval		5.69	5.91	6.19	6.30	6.58	6.90	7.44	PB	# of strides	12.37	12.10	12.88	14.34	24.47	27.22	
		velocity	7.49	8.79	8.46	8.08	7.94	7.60	7.25	6.72	7.74	8.08	8.26	7.76	6.97	8.17	7.35		
Rücker, Anja (GER) (1972)																			
FINAL - 1999 IAAF World Championships (Sevilla, ESP)																			
date	26-Aug-99	time	6.80	12.41	18.10	24.03	30.09	36.21	42.66	49.74	49.74	8 / 2							
reaction time	0.203	interval		5.61	5.69	5.93	6.06	6.12	6.45	7.08	PB	# of strides	12.41	11.62	12.18	13.53	24.03	25.71	
		velocity	7.35	8.91	8.79	8.43	8.25	8.17	7.75	7.06	8.04	8.06	8.61	8.21	7.39	8.32	7.78	1.68	
Ruicu, Otilia (ROU) (1978)																			
FINAL - 2001 European Cup (Bremen, GER)																			
date	23-Jun-01	time	12.67		24.98		37.79		51.65	51.65	/ 4								
reaction time		interval			12.31		12.81		13.86	NR	# of strides	12.67	12.31	12.81	13.86	24.98	26.67	1.69	
		velocity	7.89		8.12		7.81		7.22	7.74		7.89	8.12	7.81	7.22	8.01	7.50		
Ruzina, Yelena (URS) (1964)																			
FINAL - 1989 IAAF World Cup (Barcelona, ESP)																			
date	10-Sep-89	time	13.01		24.90		38.21		52.48	52.48	/ 5								
reaction time		interval			11.89		13.31		14.27		# of strides	13.01	11.89	13.31	14.27	24.90	27.58	2.68	
		velocity	7.69		8.41		7.51		7.01	7.62		7.69	8.41	7.51	7.01	8.03	7.25		
Ryzhora, Kseniya (RUS) (1987)																			
FINAL - 2013 IAAF World Championships (Moscow, RUS)																			
date	12-Aug-13	time			23.6		36.3		51.0	50.98	7 / 7								
reaction time	0.195	interval			12.70		14.70		14.70		# of strides			12.70	14.70	23.60	27.40	3.80	
		velocity			8.47		7.87		6.80	7.85				7.87	6.80	8.47	7.30		
Saalberg, Eveline (NED) (1998)																			
FINAL - 2024 Weltklasse (Zürich, SUI)																			
date	05-Sep-24	time	6.94	12.60	18.47	24.57	30.99	37.74	44.68	52.27	52.27	6 / 4							
reaction time	0.203	interval		5.66	5.87	6.10	6.42	6.75	6.94	7.59	# of strides	12.60	11.97	13.17	14.53	24.57	27.70	3.13	
		velocity	7.20	8.83	8.52	8.20	7.79	7.41	7.20	6.59	7.65	7.94	8.35	7.59	6.88	8.14	7.22		
B Race - 2023 Memorial van Damme (Brussels, BEL)																			
date	08-Sep-23	time	6.93	12.65	18.50	24.66	31.11	37.84	44.78	52.31	52.31	7 / 4							
reaction time	0.222	interval		5.72	5.85	6.16	6.45	6.73	6.94	7.53	# of strides	12.65	12.01	13.18	14.47	24.66	27.65	2.99	
		velocity	7.22	8.74	8.55	8.12	7.75	7.43	7.20	6.64	7.65	7.91	8.33	7.59	6.91	8.11	7.23		
FINAL - 2023 Weltklasse (Zürich, SUI)																			
date	31-Aug-23	time	6.82	12.41	18.17	24.21	30.63	37.41	44.57	52.32	52.32	4 / 6							
reaction time	0.209	interval		5.59	5.76	6.04	6.42	6.78	7.16	7.75	# of strides	12.41	11.80	13.20	14.91	24.21	28.11	3.90	
		velocity	7.33	8.94	8.68	8.28	7.79	7.37	6.98	6.45	7.65	8.06	8.47	7.58	6.71	8.26	7.11		
FINAL - 2023 FBK Games (Hengelo, NED)																			

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential							
Saito, Yuna (JPN)																									
FINAL - 2023 Shimane High School Championships (Izumo, JPN)		<i>Shimizu (2023) - shimane high school championships 2023 - biomechanics data analysis</i>																							
date	26-May-23	time	15.44		28.97				44.08			60.52	60.52			5 / 2									
reaction time		interval			13.53				15.11			16.44				# of strides	15.44	13.53	15.11	16.44	28.97	31.55	2.58		
		velocity	6.48		7.39				6.62			6.08	6.61				6.48	7.39	6.62	6.08	6.90	6.34			
FINAL - 2021 Shimane High School Championships (Izumo, JPN)		<i>Shimizu (2021) - shimane high school championships 2021 - biomechanics data analysis</i>																							
date	28-May-21	time	14.75		29.00				45.18			63.66	63.66			2 / 6									
reaction time		interval			14.25				16.18			18.48				# of strides	14.75	14.25	16.18	18.48	29.00	34.66	5.66		
		velocity	6.78		7.02				6.18			5.41	6.28				6.78	7.02	6.18	5.41	6.90	5.77			
Sakakibara, Sora (JPN)																									
FINAL - 2022 Shimane High School Championships (Izumo, JPN)		<i>Shimizu (2022) - shimane high school championships 2022 - biomechanics data analysis</i>																							
date	26-May-22	time	13.82		27.87				43.41			60.03	60.03			5 / 2									
reaction time		interval			14.05				15.54			16.62				# of strides	13.82	14.05	15.54	16.62	27.87	32.16	4.29		
		velocity	7.24		7.12				6.44			6.02	6.66				7.24	7.12	6.44	6.02	7.18	6.22			
Saki, Shima (JPN)																									
U20 FINAL - 2019 Japanese National U18/U20 Championships (Hiroshima, JPN)		<i>Kijima (2019) - research on athlete performance and technique- 2019 data book</i>																							
date	18-Oct-19	time	7.57	14.10	20.75	27.48	34.24	41.01	47.81	54.63	54.63					4 / 1									
reaction time	0.241	interval		6.53	6.65	6.73	6.76	6.77	6.80	6.82						# of strides	14.10	13.38	13.53	13.62	27.48	27.15	-0.33		
		velocity	6.61	7.66	7.52	7.43	7.40	7.39	7.35	7.33	7.32						7.09	7.47	7.39	7.34	7.28	7.37			
Salamin, Noémie (SUI) (1999)																									
B Race - 2023 Athletissima (Lausanne, SUI)		<i>Omega Timing (2023) - diamond league race analysis</i>																							
date	30-Jun-23	time	7.02	12.81	18.92	25.27	31.80	38.60	45.76	53.46	53.46					5 / 2									
reaction time	0.215	interval		5.79	6.11	6.35	6.53	6.80	7.16	7.70						# of strides	12.81	12.46	13.33	14.86	25.27	28.19	2.92		
		velocity	7.12	8.64	8.18	7.87	7.66	7.35	6.98	6.49	7.48						7.81	8.03	7.50	6.73	7.91	7.09			
National FINAL - 2022 Athletissima (Lausanne, SUI)		<i>Omega Timing (2022) - diamond league race analysis</i>																							
date	26-Aug-22	time	7.1	13.1	19.3	25.9	32.8	39.9	47.3	55.35	55.35					8 / 7									
reaction time	0.206	interval		6.00	6.20	6.60	6.90	7.10	7.40	8.05	PB					# of strides	13.10	12.80	14.00	15.45	25.90	29.45	3.55		
		velocity	7.04	8.33	8.06	7.58	7.25	7.04	6.76	6.21	7.23						7.63	7.81	7.14	6.47	7.72	6.79			
Salin, Ritta (FIN) (1950)																									
FINAL - 1976 Olympic Games (Montreal, CAN)		<i>Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016</i>																							
date	29-Jul-76	time				23.8						51.0	50.98			6 / 7									
reaction time		interval										27.2				# of strides					23.80	27.20	3.40		
		velocity				8.40						7.35	7.85								8.40	7.35			
Sambell, Kathy (AUS) (1963)																									
FINAL - 1989 IAAF World Cup (Barcelona, ESP)		<i>Pascua (1990) - atletismo (I) carreras y marcha</i>																							
date	10-Sep-89	time	13.41		25.01				38.42			53.92	53.92			1 / 8									
reaction time		interval			11.60				13.41			15.50				# of strides	13.41	11.60	13.41	15.50	25.01	28.91	3.90		
		velocity	7.46		8.62				7.46			6.45	7.42				7.46	8.62	7.46	6.45	8.00	6.92			
Sananes, Déborah (FRA) (1995)																									
FINAL - 2019 Meeting de Paris (Paris, FRA)		<i>Omega Timing (2019) - diamond league race analysis</i>																							
date	24-Aug-19	time	12.5		24.5				37.6			52.04	52.04			3 / 7									
reaction time	0.227	interval			12.0				13.1			14.4				# of strides	12.50	12.00	13.10	14.44	24.50	27.54	3.04		
		velocity	8.00		8.33				7.63			6.93	7.69				8.00	8.33	7.63	6.93	8.16	7.26			
FINAL - 2017 Meeting de Paris (Paris, FRA)		<i>Omega Timing (2017) - diamond league race analysis</i>																							
date	01-Jul-17	time	12.8	18.8	25.1	31.6	38.5	45.8	53.41	53.41						1 / 6									
reaction time	0.207	interval		6.0	6.3	6.5	6.9	7.3	7.6			12.80	12.30	13.40	14.91	# of strides	12.80	12.30	13.40	14.91	25.10	28.31	3.21		
		velocity	7.81	8.33	7.94	7.69	7.25	6.85	6.57	7.49			7.81	8.13	7.46	6.71	198.7	7.81	8.13	7.46	6.71	7.97	7.06		
Sanders, Nicola (GBR) (1982)																									
Semi-Final 2 - 2009 IAAF World Championships (Berlin, GER)		<i>Graubner (2009) - biomechanical analyses at the 12th IAAF world championships</i>																							
date	16-Aug-09	time	12.13		23.79				36.19			50.45	50.45			6 / 4									
reaction time	0.160	interval			11.66				12.40			14.26				# of strides	12.13	11.66	12.40	14.26	23.79	26.66	2.87		
		velocity	8.24		8.58				8.06			7.01	7.93				8.24	8.58	8.06	7.01	8.41	7.50			
Heat 6 - 2009 IAAF World Championships (Berlin, GER)		<i>Graubner (2009) - biomechanical analyses at the 12th IAAF world championships</i>																							
date	15-Aug-09	time	12.59		24.62				37.04			51.64	51.64			3 / 2									
reaction time	0.171	interval			12.03				12.42			14.60				# of strides	12.59	12.03	12.42	14.60	24.62	27.02	2.40		
		velocity	7.94		8.31				8.05			6.85	7.75				7.94	8.31	8.05	6.85	8.12	7.40			
FINAL - 2007 IAAF World Athletics Final (Stuttgart, GER)		<i>Graubner (2007) - http://www.fgs.uni-halle.de</i>																							
date	23-Sep-07	time	12.59		24.40				36.69			50.44	50.44			3 / 5									
reaction time	0.177	interval			11.81				12.29			13.75				# of strides	12.59	11.81	12.29	13.75	24.40	26.04	1.64		
		velocity	7.94		8.47				8.14			7.27	7.93				7.94	8.47	8.14	7.27	8.20	7.68			
FINAL - 2007 IAAF World Championships (Osaka, JPN)		<i>Mochida (2008) - biomechanical analysis of the 400m final race at the 2007 world championships in athletics</i>																							
date	29-Aug-07	time	6.83	12.47	18.20	24.17	29.96	36.21	42.72	49.65	49.65					4 / 2									
reaction time	0.175	interval		5.64	5.73	5.97	5.79	6.25	6.51	6.93	PB					# of strides	12.47	11.70	12.04	13.44	24.17	25.48	1.31		
		velocity	7.32	8.87	8.73	8.38	8.64	8.00	7.68	7.22	8.06						190.0	8.02	8.55	8.31	7.44	8.27	7.85		
FINAL - 2006 European Championships (Göteborg, SWE)		<i>Behm (2006) - Championnats d'Europe Göteborg 2006... Le 400m avec ou sans obstacles</i>																							
date	10-Aug-06	time			24.4				37.0			50.87	50.87			1 / 6									
reaction time		interval							12.60			13.87				# of strides					24.40	26.47	2.07		
		velocity			8.20				15.87			7.21	7.86								4.10	7.94	7.21	8.20	7.56
Sapenter, Debra (USA) (1952)																									
FINAL - 1976 Olympic Games (Montreal, CAN)		<i>Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016</i>																							

date	29-Jul-76	time							24.0	51.7	51.66	5 / 8								
reaction time		interval								27.7		# of strides		24.00	27.70	3.70				
		velocity							8.33	7.22	7.74			8.33	7.22					
FINAL - 1976 USA Olympic Trials (Eugene, OR)																				
date	25-Jun-76	time							24.8	52.73	52.73	/ 2								<i>Hymans (2008) - history of the US olympic trials - track and field</i>
reaction time		interval								27.93		# of strides		24.80	27.93	3.13				
		velocity							8.06	7.16	7.59			8.06	7.16					
Sato, Hinako (JPN) (1996)																				
Division 1 FINAL - 2017 Kanto Collegiate Championships (Yokohama, JPN)																				
date	26-May-17	time	13.50	26.55	40.73	55.54	55.54			55.54		2 / 3								<i>(2017) - tfdata-store.com/2017/06/01/post-786/</i>
reaction time		interval		13.05	14.18	14.81						# of strides	13.50	13.05	14.18	14.81	26.55	28.99	2.44	
		velocity	7.41	7.66	7.05	6.75			7.20			214.7	7.41	7.66	7.05	6.75	7.53	6.90		
Division 1 Semi-Final 2 - 2017 Kanto Collegiate Championships (Yokohama, JPN)																				
date	26-May-17	time	13.62	26.82	40.88	56.11	56.11			56.11		5 / 4								<i>(2017) - tfdata-store.com/2017/06/02/post-835/</i>
reaction time		interval		13.20	14.06	15.23						# of strides	13.62	13.20	14.06	15.23	26.82	29.29	2.47	
		velocity	7.34	7.58	7.11	6.57			7.13			214.0	7.34	7.58	7.11	6.57	7.46	6.83		
FINAL - 2015 National Sports Festival (Wayakama, JPN)																				
date	04-Oct-15	time	6.89	13.03	19.62	26.40	33.28	40.28	47.54	55.14	55.14	9 / 5								<i>Kohei (2015) - 400m race analysis of male & female at major 2015 competitions</i>
reaction time		interval		6.14	6.59	6.78	6.88	7.00	7.26	7.60		# of strides	13.03	13.37	13.88	14.86	26.40	28.74	2.34	
		velocity	7.26	8.14	7.59	7.37	7.27	7.14	6.89	6.58		7.25	7.67	7.48	7.20	6.73	7.58	6.96		
FINAL - 2015 Japanese National Championships (Niigata, JPN)																				
date	27-Jun-15	time	7.17	12.95	18.95	25.20	31.76	38.82	46.13	54.00	54.00	2 / 7								<i>Kohei (2015) - 400m race analysis of male & female at major 2015 competitions</i>
reaction time	0.184	interval		5.78	6.00	6.25	6.56	7.06	7.31	7.87		# of strides	12.95	12.25	13.62	15.18	25.20	28.80	3.60	
		velocity	6.97	8.65	8.33	8.00	7.62	7.08	6.84	6.35		7.41	7.72	8.16	7.34	6.59	7.94	6.94		
FINAL - 2014 Japanese National High School Championships (Kofu, JPN)																				
date	30-Jul-14	time	7.18	13.25	19.25	25.49	32.06	39.08	46.57	54.63	54.63	/ 3								<i>Yanagiya (2014) - research on athlete performance and technique- 2014 data book</i>
reaction time		interval		6.07	6.00	6.24	6.57	7.02	7.49	8.06		# of strides	13.25	12.24	13.59	15.55	25.49	29.14	3.65	
		velocity	6.96	8.24	8.33	8.01	7.61	7.12	6.68	6.20		7.32	7.55	8.17	7.36	6.43	7.85	6.86		
Sato, Mayu (JPN) (1982)																				
FINAL - 2006 Seiko Super Grand Prix (Yokohama, JPN)																				
date	24-Sep-06	time	6.8	12.9	19.0	25.3	31.8	38.7	45.9	53.56	53.56	2 / 3								<i>Hisashi (2007) - Super Grand Prix 2006 - sprinting speed changes in the 400m</i>
reaction time		interval		6.10	6.10	6.30	6.50	6.90	7.20	7.66		# of strides	12.90	12.40	13.40	14.86	25.30	28.26	2.96	
		velocity	7.35	8.20	8.20	7.94	7.69	7.25	6.94	6.53		7.47	7.75	8.06	7.46	6.73	7.91	7.08		
FINAL - 2005 Seiko Super Grand Prix (Yokohama, JPN)																				
date	19-Sep-05	time	12.85			25.63	39.25	46.58	54.70	54.70		1 / 9								<i>Masaaki (2006) - time analysis in the 400m at the Seiko Super Grand Prix</i>
reaction time		interval				12.78	13.62	7.33	8.12			# of strides	12.85	12.78	13.62	15.45	25.63	29.07	3.44	
		velocity				7.78	7.82	7.34	6.82	6.16		7.31	7.78	7.82	7.34	6.47	7.80	6.88		
Sato, Shihori (JPN) (2005)																				
FINAL - 2021 Japanese U18 National Championships (Matsuyama, JPN) (300m)																				
date	23-Oct-21	time	6.88	12.58	18.54	24.91	31.56	38.69		38.69		9 / 2								<i>Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition</i>
reaction time	0.211	interval		5.70	5.96	6.37	6.65	7.13				# of strides	12.58	12.33	13.78		24.91			
		velocity	7.27	8.77	8.39	7.85	7.52	7.01				7.75	7.95	8.11	7.26		8.03			
Sato, Shizuka (JPN) (1994)																				
FINAL - 2016 National Sports Festival (Kitakami, JPN)																				
date	09-Oct-16	time	7.41	13.54	19.95	26.52	33.42	40.52	47.91	55.78	55.78	2 / 4								<i>Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016</i>
reaction time	0.208	interval		6.13	6.41	6.57	6.90	7.10	7.39	7.87		# of strides	13.54	12.98	14.00	15.26	26.52	29.26	2.74	
		velocity	6.75	8.16	7.80	7.61	7.25	7.04	6.77	6.35		7.17	7.39	7.70	7.14	6.55	7.54	6.84		
Schmidt, Alica (GER) (1998)																				
FINAL - 2023 Weltklasse (Zürich, SUI)																				
date	31-Aug-23	time	6.79	12.46	18.29	24.39	30.79	37.54	44.69	52.43	52.43	8 / 7								<i>Omega Timing (2023) - diamond league race analysis</i>
reaction time	0.155	interval		5.67	5.83	6.10	6.40	6.75	7.15	7.74		# of strides	12.46	11.93	13.15	14.89	24.39	28.04	3.65	
		velocity	7.36	8.82	8.58	8.20	7.81	7.41	6.99	6.46		7.63	8.03	8.38	7.60	6.72	8.20	7.13		
Semi-Final 3 - 2022 European Athletics Championships (Munich, GER)																				
date	16-Aug-22	time		12.87	25.12		38.43			53.12	53.12	2 / 8								<i>European Athletics (2022) - european athletics championships race analysis</i>
reaction time	0.208	interval			12.25		13.31			14.69		# of strides	12.87	12.25	13.31	14.69	25.12	28.00	2.88	
		velocity		7.77	8.16		7.51			6.81		185.0	7.77	8.16	7.51	6.81	7.96	7.14		
Heat 3 - 2022 European Athletics Championships (Munich, GER)																				
date	15-Aug-22	time		12.57	24.74		37.87			52.52	52.52	5 / 3								<i>European Athletics (2022) - european athletics championships race analysis</i>
reaction time	0.203	interval			12.17		13.13			14.65		# of strides	12.57	12.17	13.13	14.65	24.74	27.78	3.04	
		velocity		7.96	8.22		7.62			6.83		184.2	7.96	8.22	7.62	6.83	8.08	7.20		
Schmidt, Gertrud (GER) (1942)																				
FINAL - 1964 Olympic Games (Tokyo, JPN)																				
date	17-Oct-64	time			25.8					55.4		7 / 7								<i>Müller (1965) - die leichtathletik-wettkämpfe der XVIII olympischen sommerspielen Tokio 1964 - 400m lauf</i>
reaction time		interval								29.60		# of strides					25.80	29.60	3.80	
		velocity			7.75					6.76		7.22					7.75	6.76		
Schwab, Corinna (GER) (1999)																				
Semi-Final 1 - 2022 European Athletics Championships (Munich, GER)																				
date	16-Aug-22	time		12.37	24.11		37.16			52.70	52.70	4 / 8								<i>European Athletics (2022) - european athletics championships race analysis</i>
reaction time	0.281	interval			11.74		13.05			15.54		# of strides	12.37	11.74	13.05	15.54	24.11	28.59	4.48	
		velocity		8.08	8.52		7.66			6.44		195.0	8.08	8.52	7.66	6.44	8.30	7.00		

FINAL - 2022 Silesia Kamila Skolimowska Memorial (Chorzów, POL)

Omega Timing (2022) - diamond league race analysis

date	06-Aug-22	time	6.87	12.52	18.45	24.72	31.02	37.50	44.29	51.72	51.72		2 / 7							
reaction time	0.209	interval		5.65	5.93	6.27	6.30	6.48	6.79	7.43			# of strides	12.52	12.20	12.78	14.22	24.72	27.00	2.28
		velocity	7.28	8.85	8.43	7.97	7.94	7.72	7.36	6.73	7.73			7.99	8.20	7.82	7.03	8.09	7.41	

FINAL - 2022 FBK Games (Hengelo, NED)

Omega Timing (2022) - continental tour race analysis

date	06-Jun-22	time	6.6	12.1	17.9	23.9	30.1	36.8	43.9	51.76	51.76		3 / 4							
reaction time	0.201	interval		5.50	5.80	6.00	6.20	6.70	7.10	7.86			# of strides	12.10	11.80	12.90	14.96	23.90	27.86	3.96
		velocity	7.58	9.09	8.62	8.33	8.06	7.46	7.04	6.36	7.73			8.26	8.47	7.75	6.68	8.37	7.18	

B FINAL - 2021 Weltklasse (Zürich, SUI)

Omega Timing (2021) - diamond league race analysis

date	09-Sep-21	time	6.7	12.2	17.9	24.0	30.4	37.1	44.1	51.69	51.69		3 / 2							
reaction time	0.171	interval		5.50	5.70	6.10	6.40	6.70	7.00	7.59			# of strides	12.20	11.80	13.10	14.59	24.00	27.69	3.69
		velocity	7.46	9.09	8.77	8.20	7.81	7.46	7.14	6.59	7.74			8.20	8.47	7.63	6.85	8.33	7.22	

FINAL - 2020 Golden Gala Pietro Mennea (Rome, ITA)

Omega Timing (2020) - diamond league race analysis

date	17-Sep-20	time	6.8	12.6	18.6	24.8	31.0	37.6	44.6	52.12	52.12		8 / 4							
reaction time	0.155	interval		5.80	6.00	6.20	6.20	6.60	7.00	7.52			# of strides	12.60	12.20	12.80	14.52	24.80	27.32	2.52
		velocity	7.35	8.62	8.33	8.06	8.06	7.58	7.14	6.65	7.67			7.94	8.20	7.81	6.89	8.06	7.32	

Scott, Gabby (PUR) (1997)

Semi-Final 1 - 2024 Olympic Games (Paris, FRA) Paris 2024 Olympic Games - Results Book (2024)

date	07-Aug-24	time	6.76	12.36	18.11	24.10	30.40	36.99	43.90	51.22	51.22		2 / 7							
reaction time	0.164	interval		5.60	5.75	5.99	6.30	6.59	6.91	7.32			# of strides	12.36	11.74	12.89	14.23	24.10	27.12	3.02
		velocity	7.40	8.93	8.70	8.35	7.94	7.59	7.24	6.83	7.81			185.2	8.09	8.52	7.76	7.03	8.30	7.37

Repechage 2 - 2024 Olympic Games (Paris, FRA)

Paris 2024 Olympic Games - Results Book (2024)

date	06-Aug-24	time	6.63	12.02	17.61	23.52	29.76	36.20	43.06	50.52	50.52		4 / 1							
reaction time	0.159	interval		5.39	5.59	5.91	6.24	6.44	6.86	7.46	NR PB		# of strides	12.02	11.50	12.68	14.32	23.52	27.00	3.48
		velocity	7.54	9.28	8.94	8.46	8.01	7.76	7.29	6.70	7.92			185.0	8.32	8.70	7.89	6.98	8.50	7.41

Heat 1 - 2024 Olympic Games (Paris, FRA)

Paris 2024 Olympic Games - Results Book (2024)

date	05-Aug-24	time	6.82	12.39	18.20	24.34	30.66	37.05	43.69	50.74	50.74		2 / 4							
reaction time	0.170	interval		5.57	5.81	6.14	6.32	6.39	6.64	7.05	NR PB		# of strides	12.39	11.95	12.71	13.69	24.34	26.40	2.06
		velocity	7.33	8.98	8.61	8.14	7.91	7.82	7.53	7.09	7.88			8.07	8.37	7.87	7.30	8.22	7.58	

Semi-Final 2 - 2023 World Athletics Championships (Budapest, HUN)

Seiko Timing (2023) - world championship race analysis

date	21-Aug-23	time	12.48		24.19		37.36		51.52	51.52			4 / 6							
reaction time	0.177	interval			11.71		13.17		14.16				# of strides	12.48	11.71	13.17	14.16	24.19	27.33	3.14
		velocity	8.01		8.54		7.59		7.06	7.76				8.01	8.54	7.59	7.06	8.27	7.32	

Heat 4 - 2023 World Athletics Championships (Budapest, HUN)

Seiko Timing (2023) - world championship race analysis

date	20-Aug-23	time	12.40		24.18		37.15		51.07	51.07			7 / 3							
reaction time	0.171	interval			11.78		12.97		13.92				# of strides	12.40	11.78	12.97	13.92	24.18	26.89	2.71
		velocity	8.06		8.49		7.71		7.18	7.83				8.06	8.49	7.71	7.18	8.27	7.44	

Semi-Final 2 - 2022 World Athletics Championships (Eugene, OR)

Timing by Seiko (2022) - world athletics championships race analysis

date	20-Jul-22	time	12.59		24.65		37.69		51.97	51.97			7 / 7							
reaction time	0.215	interval			12.06		13.04		14.28				# of strides	12.59	12.06	13.04	14.28	24.65	27.32	2.67
		velocity	7.94		8.29		7.67		7.00	7.70				7.94	8.29	7.67	7.00	8.11	7.32	

Heat 1 - 2022 World Athletics Championships (Eugene, OR)

Timing by Seiko (2022) - world athletics championships race analysis

date	17-Jul-22	time	12.90		25.22		38.11		52.05	52.05			4 / 3							
reaction time	0.182	interval			12.32		12.89		13.94				# of strides	12.90	12.32	12.89	13.94	25.22	26.83	1.61
		velocity	7.75		8.12		7.76		7.17	7.68				7.75	8.12	7.76	7.17	7.93	7.45	

Scott, Jarvis (USA) (1947)

FINAL - 1968 USA Olympic Trials (Walnut, CA) Hymans (2008) - history of the US olympic trials - track and field

date	25-Aug-68	time			24.7				53.5	53.5			3 / 1						
reaction time		interval							28.80				# of strides				24.70	28.80	4.10
		velocity			8.10				6.94	7.48							8.10	6.94	

Segura, Berta (ESP) (2003)

Semi-Final 2 - 2024 European Athletics Championships (Roma, ITA) European Athletics (2024) - 2024 european athletics championships - results book

date	09-Jun-24	time	13.02		25.40		38.45		52.53	52.53			3 / 7							
reaction time	0.306	interval			12.38		13.05		14.08				# of strides	13.02	12.38	13.05	14.08	25.40	27.13	1.73
		velocity	7.68		8.08		7.66		7.10	7.61				7.68	8.08	7.66	7.10	7.87	7.37	

Heat 2 - 2024 European Athletics Championships (Roma, ITA)

European Athletics (2024) - 2024 european athletics championships - results book

date	08-Jun-24	time	12.70		24.58		37.54		51.92	51.92			3 / 3							
reaction time	0.296	interval			11.88		12.96		14.38	PB			# of strides	12.70	11.88	12.96	14.38	24.58	27.34	2.76
		velocity	7.87		8.42		7.72		6.95	7.70				7.87	8.42	7.72	6.95	8.14	7.32	

Seidler, Helga (GDR) (1949)

FINAL - 1972 Olympic Games (Munich, FRG) Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016

date	07-Sep-72	time			24.4				51.9	51.84			6 / 4						
reaction time		interval							27.5				# of strides				24.40	27.50	3.10
		velocity			8.20				7.27	7.72							8.20	7.27	

Semenya, Caster (RSA) (1991)

FINAL - 2018 African Championships (Asaba Asaba, NGR) Vazel (2018.08.03) - https://twitter.com/pjvazel

date	03-Aug-18	time			24.3		36.7		49.96	49.96			4 / 1							
reaction time		interval					12.40		13.26	NR			# of strides		24.30	12.40	13.26	24.30	25.66	1.36
		velocity			8.23		8.06		7.54	8.01					4.12	8.06	7.54	8.23	7.79	

Senn, Giulia (SUI) (2001)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
FINAL - 2024 Weltklasse (Zürich, SUI)		Omega Timing (2024) - diamond league race analysis																	
date	05-Sep-24	time	6.78	12.71	18.77	25.00	31.45	38.14	45.09	52.52	52.52	3 / 5							
reaction time	0.156	interval	5.93	6.06	6.23	6.45	6.69	6.95	7.43		# of strides	12.71	12.29	13.14	14.38	25.00	27.52	2.52	
		velocity	7.37	8.43	8.25	8.03	7.75	7.47	7.19	6.73	7.62	7.87	8.14	7.61	6.95	8.00	7.27		
Semi-Final 3 - 2024 European Athletics Championships (Roma, ITA)		European Athletics (2024) - 2024 european athletics championships - results book																	
date	09-Jun-24	time	12.36		24.41		37.73		52.16	52.16	4 / 7								
reaction time	0.183	interval	12.05		13.32		14.43		14.43		# of strides	12.36	12.05	13.32	14.43	24.41	27.75	3.34	
		velocity	8.09		8.30		7.51		6.93	7.67	194.0	8.09	8.30	7.51	6.93	8.19	7.21		
Heat 2 - 2024 European Athletics Championships (Roma, ITA)		European Athletics (2024) - 2024 european athletics championships - results book																	
date	08-Jun-24	time	12.62		25.03		38.08		52.24	52.24	4 / 7								
reaction time	0.176	interval	12.41		13.05		14.16		14.16		# of strides	12.62	12.41	13.05	14.16	25.03	27.21	2.18	
		velocity	7.92		8.06		7.66		7.06	7.66	7.92	8.06	7.66	7.06	7.99	7.35			
FINAL - 2023 Weltklasse (Zürich, SUI)		Omega Timing (2023) - diamond league race analysis																	
date	31-Aug-23	time	6.83	12.71	18.79	24.98	31.31	37.93	44.91	52.28	52.28	7 / 5							
reaction time	0.168	interval	5.88	6.08	6.19	6.33	6.62	6.98	7.37		# of strides	12.71	12.27	12.95	14.35	24.98	27.30	2.32	
		velocity	7.32	8.50	8.22	8.08	7.90	7.55	7.16	6.78	7.65	7.87	8.15	7.72	6.97	8.01	7.33		
Heat 4 - 2023 World Athletics Championships (Budapest, HUN)		Seiko Timing (2023) - world championship race analysis																	
date	20-Aug-23	time	12.60		24.72		37.95		52.66	52.66	5 / 6								
reaction time	0.157	interval	12.12		13.23		14.71		14.71		# of strides	12.60	12.12	13.23	14.71	24.72	27.94	3.22	
		velocity	7.94		8.25		7.56		6.80	7.60	7.94	8.25	7.56	6.80	8.09	7.16			
B Race - 2021 Athletissima (Lausanne, SUI)		Omega Timing (2021) - diamond league race analysis																	
date	26-Aug-21	time	7.2	13.4	20.1	26.7	33.5	40.6	47.6	55.06	55.06	8 / 6							
reaction time	0.154	interval	6.20	6.70	6.60	6.80	7.10	7.00	7.46		# of strides	13.40	13.30	13.90	14.46	26.70	28.36	1.66	
		velocity	6.94	8.06	7.46	7.58	7.35	7.04	7.14	6.70	7.26	7.46	7.52	7.19	6.92	7.49	7.05		
Šerkšniene, Agnė (LTU) (1998)		Omega Timing (2021) - diamond league race analysis																	
B FINAL - 2021 Weltklasse (Zürich, SUI)		Omega Timing (2021) - diamond league race analysis																	
date	09-Sep-21	time	6.8	12.6	18.6	24.9	31.4	38.2	45.3	52.99	52.99	7 / 6							
reaction time	0.193	interval	5.80	6.00	6.30	6.50	6.80	7.10	7.69		# of strides	12.60	12.30	13.30	14.79	24.90	28.09	3.19	
		velocity	7.35	8.62	8.33	7.94	7.69	7.35	7.04	6.50	7.55	7.94	8.13	7.52	6.76	8.03	7.12		
B Race - 2021 Athletissima (Lausanne, SUI)		Omega Timing (2021) - diamond league race analysis																	
date	26-Aug-21	time	6.7	12.5	18.9	25.4	31.7	38.4	45.5	53.22	53.22	6 / 2							
reaction time	0.173	interval	5.80	6.40	6.50	6.30	6.70	7.10	7.72		# of strides	12.50	12.90	13.00	14.82	25.40	27.82	2.42	
		velocity	7.46	8.62	7.81	7.69	7.94	7.46	7.04	6.48	7.52	8.00	7.75	7.69	6.75	7.87	7.19		
FINAL - 2020 Golden Gala Pietro Mennea (Rome, ITA)		Omega Timing (2020) - diamond league race analysis																	
date	17-Sep-20	time	6.8	12.5	18.5	24.6	30.8	37.3	44.2	51.80	51.80	7 / 2							
reaction time	0.160	interval	5.70	6.00	6.10	6.20	6.50	6.90	7.60		# of strides	12.50	12.10	12.70	14.50	24.60	27.20	2.60	
		velocity	7.35	8.77	8.33	8.20	8.06	7.69	7.25	6.58	7.72	8.00	8.26	7.87	6.90	8.13	7.35		
Seta, Haruna (JPN) (2006)		Kishima (2022) - national high school championships biomechanics data collection																	
FINAL - 2022 Japanese National High School Championships (Naruto, JPN)		Kishima (2022) - national high school championships biomechanics data collection																	
date	03-Aug-22	time	13.57		26.40		40.28		55.43	55.43	2 / 4								
reaction time	0.211	interval	12.83		13.88		15.15		15.15	PB	# of strides	13.57	12.83	13.88	15.15	26.40	29.03	2.63	
		velocity	7.37		7.79		7.20		6.60	7.22	198.2	7.37	7.79	7.20	6.60	7.58	6.89		
Seta, Hina (JPN)		Takashima (2023) - national high school sports festival - biomechanics data																	
FINAL - 2023 Japanese National High School Championships (Sapporo, JPN)		Takashima (2023) - national high school sports festival - biomechanics data																	
date	02-Aug-23	time	13.90		27.29		40.86		54.79	54.79	4 / 3								
reaction time	0.257	interval	13.39		13.57		13.57		13.93		# of strides	13.90	13.39	13.57	13.93	27.29	27.50	0.21	
		velocity	7.19		7.47		7.37		7.18	7.30	7.19	7.47	7.37	7.18	7.33	7.27			
Seyerling, Heide (RSA) (1976)		Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016																	
FINAL - 2000 Olympic Games (Sydney, AUS)		Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016																	
date	25-Sep-00	time	12.2		24.3		36.5		50.1	50.05	7 / 6								
reaction time	0.175	interval	12.10		12.20		13.60		13.60	NR / PB	# of strides	12.20	12.10	12.20	13.60	24.30	25.80	1.50	
		velocity	8.20		8.26		8.20		7.35	7.99	8.20	8.26	8.20	7.35	8.23	7.75			
Seyni, Aminatou (NIG) (1996)		Omega Timing (2019) - diamond league race analysis																	
FINAL - 2019 Athletissima (Lausanne, SUI)		Omega Timing (2019) - diamond league race analysis																	
date	05-Jul-19	time	12.6		24.4		36.6		49.19	49.19	4 / 2								
reaction time	0.223	interval	11.8		12.2		12.6		12.6	NR	# of strides	12.60	11.80	12.20	12.59	24.40	24.79	0.39	
		velocity	7.94		8.47		8.20		7.94	8.13	7.94	8.47	8.20	7.94	8.20	8.07			
FINAL - 2019 Meeting International Mohammed VI d'Athlétisme (Rabat, MAR)		Omega Timing (2019) - diamond league race analysis																	
date	16-Jun-19	time	12.8		24.5		37.1		50.24	50.24	3 / 2								
reaction time	0.219	interval	11.7		12.6		13.1		13.1	NR	# of strides	12.80	11.70	12.60	13.14	24.50	25.74	1.24	
		velocity	7.81		8.55		7.94		7.61	7.96	195.0	7.81	8.55	7.94	7.61	8.16	7.77		
Shcherbak, Oksana (UKR) (1982)		Graubner (2007) - http://www.fgs.uni-halle.de																	
FINAL - 2007 European Cup (Munich, GER)		Graubner (2007) - http://www.fgs.uni-halle.de																	
date	23-Jun-07	time	13.29		25.71		38.80		52.63	52.63	1 / 7								
reaction time	0.192	interval	12.42		13.09		13.83		13.83		# of strides	13.29	12.42	13.09	13.83	25.71	26.92	1.21	
		velocity	7.52		8.05		7.64		7.23	7.60	7.52	8.05	7.64	7.23	7.78	7.43			
Sheoran, Nirmala (IND) (1995)		Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition																	
FINAL - 2018 Asian Games (Jakarta, INA)		Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition																	

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
Shihi, Natsumi (JPN) (1991)																			
FINAL - 2009 Japanese National High School Championships (Nara, JPN)																			
date	29-Jul-09	time	13.58		27.37		41.62		55.75	55.75	6 / 5								
reaction time		interval			13.79		14.25		14.13		# of strides	13.58	13.79	14.25	14.13	27.37	28.38	1.01	
		velocity	7.36		7.25		7.02		7.08	7.17		7.36	7.25	7.02	7.08	7.31	7.05		
Shiyya, Kanako (JPN) (1997)																			
FINAL - 2017 Japanese National Championships (Osaka, JPN)																			
date	24-Jun-17	time	7.19	13.39	19.74	26.33	33.15	40.37	48.02	56.20	56.20	2 / 8							
reaction time	0.229	interval		6.20	6.35	6.59	6.82	7.22	7.65	8.18		# of strides	13.39	12.94	14.04	15.83	26.33	29.87	3.54
		velocity	6.95	8.06	7.87	7.59	7.33	6.93	6.54	6.11	7.12	203.2	7.47	7.73	7.12	6.32	7.60	6.70	
Heat 2 - 2017 Japanese National Championships (Osaka, JPN)																			
date	23-Jun-17	time	13.58		26.41		39.95		54.69	54.69	6 / 4								
reaction time		interval			12.83		13.54		14.74		# of strides	13.58	12.83	13.54	14.74	26.41	28.28	1.87	
		velocity	7.36		7.79		7.39		6.78	7.31	198.5	7.36	7.79	7.39	6.78	7.57	7.07		
FINAL - 2016 Japanese National Junior Championships (Mizuho, JPN)																			
date	21-Oct-16	time	7.29	13.52	19.95	26.61	33.43	40.39	47.53	54.99	54.99	4 / 2							
reaction time		interval		6.23	6.43	6.66	6.82	6.96	7.14	7.46		# of strides	13.52	13.09	13.78	14.60	26.61	28.38	1.77
		velocity	6.86	8.03	7.78	7.51	7.33	7.18	7.00	6.70	7.27	7.40	7.64	7.26	6.85	7.52	7.05		
FINAL - 2015 Japanese National Junior Championships (Nagoya, JPN)																			
date	16-Oct-15	time	7.31	13.43	19.89	26.67	33.62	40.82	48.21	55.91	55.91	/ 6							
reaction time		interval		6.12	6.46	6.78	6.95	7.20	7.39	7.70		# of strides	13.43	13.24	14.15	15.09	26.67	29.24	2.57
		velocity	6.84	8.17	7.74	7.37	7.19	6.94	6.77	6.49	7.15	7.45	7.55	7.07	6.63	7.50	6.84		
Shimada, Manayu (JPN) (1993)																			
FINAL - 2011 Japanese National High School Championships (Okinawa, JPN)																			
date	03-Aug-11	time	13.33		26.78		39.68		54.88	54.88	6 / 1								
reaction time		interval			13.45		12.90		15.20		# of strides	13.33	13.45	12.90	15.20	26.78	28.10	1.32	
		velocity	7.50		7.43		7.75		6.58	7.29	7.50	7.43	7.75	6.58	7.47	7.12			
Shimada, Yukina (JPN) (1998)																			
U19 FINAL - 2016 National Sports Festival (Kitakami, JPN)																			
date	10-Oct-16	time	6.83	12.72	18.85	25.39	32.28	39.48	47.04	54.82	54.82	4 / 2							
reaction time	0.215	interval		5.89	6.13	6.54	6.89	7.20	7.56	7.78		# of strides	12.72	12.67	14.09	15.34	25.39	29.43	4.04
		velocity	7.32	8.49	8.16	7.65	7.26	6.94	6.61	6.43	7.30	7.86	7.89	7.10	6.52	7.88	6.80		
FINAL - 2016 Japanese National High School Championships (Okayama, JPN)																			
date	29-Jul-16	time	7.09	13.17	19.37	25.79	32.57	39.77	47.52	55.65	55.65	2 / 6							
reaction time	0.204	interval		6.08	6.20	6.42	6.78	7.20	7.75	8.13		# of strides	13.17	12.62	13.98	15.88	25.79	29.86	4.07
		velocity	7.05	8.22	8.06	7.79	7.37	6.94	6.45	6.15	7.19	7.59	7.92	7.15	6.30	7.75	6.70		
FINAL - 2016 Japanese National Championships (Nagoya, JPN)																			
date	25-Jun-16	time	7.09	13.12	19.35	25.86	32.62	39.69	47.20	55.02	55.02	8 / 8							
reaction time	0.214	interval		6.03	6.23	6.51	6.76	7.07	7.51	7.82		# of strides	13.12	12.74	13.83	15.33	25.86	29.16	3.30
		velocity	7.05	8.29	8.03	7.68	7.40	7.07	6.66	6.39	7.27	7.62	7.85	7.23	6.52	7.73	6.86		
Heat 3 - 2016 Japanese National Championships (Nagoya, JPN)																			
date	24-Jun-16	time	6.98	12.91	18.95	25.24	31.79	38.94	46.63	54.59	54.59	8 / 2							
reaction time	0.208	interval		5.93	6.04	6.29	6.55	7.15	7.69	7.96	PB	# of strides	12.91	12.33	13.70	15.65	25.24	29.35	4.11
		velocity	7.16	8.43	8.28	7.95	7.63	6.99	6.50	6.28	7.33	7.75	8.11	7.30	6.39	7.92	6.81		
FINAL - 2015 Japanese National Youth Championships (Nagoya, JPN)																			
date	16-Oct-15	time	7.22	13.42	19.87	26.47	33.29	40.38	47.66	54.85	54.85	/ 1							
reaction time		interval		6.20	6.45	6.60	6.82	7.09	7.28	7.19		# of strides	13.42	13.05	13.91	14.47	26.47	28.38	1.91
		velocity	6.93	8.06	7.75	7.58	7.33	7.05	6.87	6.95	7.29	7.45	7.66	7.19	6.91	7.56	7.05		
Shimaoka, Masami (JPN)																			
FINAL - 2017 Osaka University Athletics Championships (Osaka, JPN)																			
date	06-Apr-17	time	13.40		26.43		40.91		57.17	57.17	4 / 2								
reaction time		interval			13.03		14.48		16.26		# of strides	13.40	13.03	14.48	16.26	26.43	30.74	4.31	
		velocity	7.46		7.67		6.91		6.15	7.00	206.5	7.46	7.67	6.91	6.15	7.57	6.51		
Shimura, Minami (JPN)																			
FINAL - 2021 Shimane High School Championships (Izumo, JPN)																			
date	28-May-21	time	14.93		29.08		44.56		61.21	61.21	8 / 3								
reaction time		interval			14.15		15.48		16.65		# of strides	14.93	14.15	15.48	16.65	29.08	32.13	3.05	
		velocity	6.70		7.07		6.46		6.01	6.53	6.70	7.07	6.46	6.01	6.88	6.22			
Shinden, Nozomi (JPN) (2003)																			
FINAL - 2021 Japanese High School National Championships (Fukui, JPN)																			
date	28-Jul-21	time	7.45	13.90	20.44	27.04	33.96	41.08	48.42	56.35	56.35	8 / 7							
reaction time	0.236	interval		6.45	6.54	6.60	6.92	7.12	7.34	7.93		# of strides	13.90	13.14	14.04	15.27	27.04	29.31	2.27
		velocity	6.71	7.75	7.65	7.58	7.23	7.02	6.81	6.31	7.10	7.19	7.61	7.12	6.55	7.40	6.82		
Shingu, Miho (JPN) (1991)																			
FINAL - 2017 All Japan Corporate Championships (Osaka, JPN)																			
date	24-Sep-17	time	13.34		26.45		40.42		55.40	55.40	4 / 4								
reaction time	0.161	interval			13.11		13.97		14.98		# of strides	13.34	13.11	13.97	14.98	26.45	28.95	2.50	
		velocity	7.50		7.63		7.16		6.68	7.22	199.7	7.50	7.63	7.16	6.68	7.56	6.91		
FINAL - 2009 Japanese National High School Championships (Nara, JPN)																			
date	29-Jul-09	time	13.07		26.17		40.08		54.21	54.21	3 / 1								

reaction time	interval	7.65	7.63	7.19	7.08	7.38	# of strides	13.07	13.10	13.91	14.13	26.17	28.04	1.87					
velocity								7.65	7.63	7.19	7.08	7.64	7.13						
Shintaku, Asami (JPN) (1994)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
FINAL - 2021 Denka Athletics Challenge Cup (Niigata, JPN)											<i>Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition</i>								
date	06-Jun-21	time	7.15	13.39	19.82	26.56	33.37	40.26	47.27	54.79	54.79	6							
reaction time		interval	6.24	6.43	6.74	6.81	6.89	7.01	7.52			# of strides	13.39	13.17	13.70	14.53	26.56	28.23	1.67
		velocity	6.99	8.01	7.78	7.42	7.34	7.26	7.13	6.65	7.30		7.47	7.59	7.30	6.88	7.53	7.08	
FINAL - 2021 Ready Steady Tokyo (Tokyo, JPN)											<i>Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition</i>								
date	09-May-21	time	7.15	13.49	20.00	26.63	33.37	40.18	47.21	54.89	54.89	3 / 5							
reaction time	0.143	interval	6.34	6.51	6.63	6.74	6.81	7.03	7.68			# of strides	13.49	13.14	13.55	14.71	26.63	28.26	1.63
		velocity	6.99	7.89	7.68	7.54	7.42	7.34	7.11	6.51	7.29		7.41	7.61	7.38	6.80	7.51	7.08	
FINAL - 2018 National Sports Festival (Fukui, JPN)											<i>Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition</i>								
date	07-Oct-18	time	7.27	13.55	20.20	27.07	33.98	40.91	47.94	55.28	55.28	8 / 5							
reaction time	0.144	interval	6.28	6.65	6.87	6.91	6.93	7.03	7.34			# of strides	13.55	13.52	13.84	14.37	27.07	28.21	1.14
		velocity	6.88	7.96	7.52	7.28	7.24	7.22	7.11	6.81	7.24		7.38	7.40	7.23	6.96	7.39	7.09	
FINAL - 2018 Japanese Corporate Championships (Osaka, JPN)											<i>Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition</i>								
date	23-Sep-18	time	7.24	13.36	19.55	26.15	32.94	39.93	47.30	55.15	55.15	5 / 3							
reaction time	0.153	interval	6.12	6.19	6.60	6.79	6.99	7.37	7.85			# of strides	13.36	12.79	13.78	15.22	26.15	29.00	2.85
		velocity	6.91	8.17	8.08	7.58	7.36	7.15	6.78	6.37	7.25		7.49	7.82	7.26	6.57	7.65	6.90	
FINAL - 2018 Japanese National Championships (Yamaguchi, JPN)											<i>Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition</i>								
date	23-Jun-18	time	7.12	13.34	19.84	26.49	33.25	40.17	47.38	55.25	55.25	9 / 7							
reaction time	0.161	interval	6.22	6.50	6.65	6.76	6.92	7.21	7.87			# of strides	13.34	13.15	13.68	15.08	26.49	28.76	2.27
		velocity	7.02	8.04	7.69	7.52	7.40	7.23	6.93	6.35	7.24		7.50	7.60	7.31	6.63	7.55	6.95	
FINAL - 2017 All Japan Corporate Championships (Osaka, JPN)											<i>(2017) - tfdata-store.com/2017/10/05/post-1097/</i>								
date	24-Sep-17	time	13.65		26.95		41.04		56.81	56.81	9 / 6								
reaction time	0.152	interval			13.30		14.09		15.77			# of strides	13.65	13.30	14.09	15.77	26.95	29.86	2.91
		velocity			7.33		7.10		6.34	7.04		227.7	7.33	7.52	7.10	6.34	7.42	6.70	
FINAL - 2017 Japanese National Championships (Osaka, JPN)											<i>Yamanaka (2017) - male and female 400m analysis in the 2017 season</i>								
date	24-Jun-17	time	7.25	13.56	20.07	26.70	33.41	40.35	47.66	55.59	55.59	9 / 7							
reaction time	0.146	interval	6.31	6.51	6.63	6.71	6.94	7.31	7.93			# of strides	13.56	13.14	13.65	15.24	26.70	28.89	2.19
		velocity	6.90	7.92	7.68	7.54	7.45	7.20	6.84	6.31	7.20		7.37	7.61	7.33	6.56	7.49	6.92	
Heat 1 - 2017 Japanese National Championships (Osaka, JPN)											<i>(2017) - tfdata-store.com/2017/07/10/post-978/</i>								
date	23-Jun-17	time	13.47		26.32		39.70		54.40	54.40	7 / 3								
reaction time	0.170	interval			12.85		13.38		14.70			# of strides	13.47	12.85	13.38	14.70	26.32	28.08	1.76
		velocity			7.42		7.47		6.80	7.35		218.7	7.42	7.78	7.47	6.80	7.60	7.12	
B FINAL - 2017 Shizuoka International Meeting (Fukuroi, JPN)											<i>Yamanaka (2017) - male and female 400m analysis in the 2017 season</i>								
date	03-May-17	time	7.02	13.06	19.27	25.77	32.36	39.27	46.81	55.07	55.07	1 / 2							
reaction time		interval	6.04	6.21	6.50	6.59	6.91	7.54	8.26			# of strides	13.06	12.71	13.50	15.80	25.77	29.30	3.53
		velocity	7.12	8.28	8.05	7.69	7.59	7.24	6.63	6.05	7.26		7.66	7.87	7.41	6.33	7.76	6.83	
FINAL - 2016 Shizuoka International Meeting (Fukuroi, JPN)											<i>Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016</i>								
date	03-May-16	time	7.14	13.16	19.39	25.93	32.70	40.01	47.86	56.51	56.51	1 / 7							
reaction time		interval	6.02	6.23	6.54	6.77	7.31	7.85	8.65			# of strides	13.16	12.77	14.08	16.50	25.93	30.58	4.65
		velocity	7.00	8.31	8.03	7.65	7.39	6.84	6.37	5.78	7.08		7.60	7.83	7.10	6.06	7.71	6.54	
FINAL - 2015 National Sports Festival (Wayakama, JPN)											<i>Kohei (2015) - 400m race analysis of male & female at major 2015 competitions</i>								
date	04-Oct-15	time	7.28	13.64	20.27	27.07	33.80	40.60	47.70	55.40	55.40	4 / 7							
reaction time		interval	6.36	6.63	6.80	6.73	6.80	7.10	7.70			# of strides	13.64	13.43	13.53	14.80	27.07	28.33	1.26
		velocity	6.87	7.86	7.54	7.35	7.43	7.35	7.04	6.49	7.22		7.33	7.45	7.39	6.76	7.39	7.06	
FINAL - 2015 Japanese National Championships (Niigata, JPN)											<i>Kohei (2015) - 400m race analysis of male & female at major 2015 competitions</i>								
date	27-Jun-15	time	7.07	13.03	19.05	25.21	31.77	38.53	45.68	53.78	53.78	6 / 6							
reaction time	0.180	interval	5.96	6.02	6.16	6.56	6.76	7.15	8.10	PB		# of strides	13.03	12.18	13.32	15.25	25.21	28.57	3.36
		velocity	7.07	8.39	8.31	8.12	7.62	7.40	6.99	6.17	7.44		221.2	7.67	8.21	7.51	6.56	7.93	7.00
FINAL - 2011 Japanese National High School Championships (Okinawa, JPN)											<i>Abe (2011) - 64th high school championships: JAF scientific committee - biomechanics</i>								
date	03-Aug-11	time	13.58		27.10		40.77		57.56	57.56	9 / 8								
reaction time		interval			13.52		13.67		16.79			# of strides	13.58	13.52	13.67	16.79	27.10	30.46	3.36
		velocity			7.36		7.32		5.96	6.95			7.36	7.40	7.32	5.96	7.38	6.57	
Shiomi, Ayano (JPN) (1999)																			
FINAL - 2018 Japanese National Junior (U20) Championships (Nagano, JPN)											<i>Ryutarou (2018) - research on athlete performance and technique- 2018 data book</i>								
date	19-Oct-18	time	7.19	13.24	19.40	25.81	32.49	39.45	46.61	54.32	54.32	3 / 1							
reaction time		interval	6.05	6.16	6.41	6.68	6.96	7.16	7.71	PB		# of strides	13.24	12.57	13.64	14.87	25.81	28.51	2.70
		velocity	6.95	8.26	8.12	7.80	7.49	7.18	6.98	6.49	7.36		7.55	7.96	7.33	6.72	7.75	7.02	
U19 FINAL - 2017 National Sports Festival (Matsuyama, JPN)											<i>(2017) - tfdata-store.com/2017/10/12/post-1100/</i>								
date	08-Oct-17	time			26.05		40.03		54.62	54.62	9 / 3								
reaction time	0.192	interval					13.98		14.59			# of strides			13.98	14.59	26.05	28.57	2.52
		velocity					7.68		7.15	6.85	7.32				7.15	6.85	7.68	7.00	
U19 Semi-Final 1 - 2017 National Sports Festival (Matsuyama, JPN)											<i>(2017) - tfdata-store.com/2017/10/12/post-1100/</i>								
date	08-Oct-17	time	13.43		26.32		40.21		55.01	55.01	5 / 3								
reaction time	0.193	interval			12.89		13.89		14.80			# of strides	13.43	12.89	13.89	14.80	26.32	28.69	2.37
		velocity			7.45		7.76		7.20	6.76	7.27		222.5	7.45	7.76	7.20	6.76	7.60	6.97

FINAL - 2003 USATF National Junior Championship (Palo Alto, CA)														USATF Women's Sprint Development (2003)				
date	22-Jun-03	time	24.07	37.25	44.26	52.04	52.04	7 / 1										
reaction time		interval		13.18	7.01	7.78	PB	# of strides			13.18	14.79	24.07	27.97	3.90			
		velocity	8.31	7.59	7.13	6.43	7.69				7.59	6.76	8.31	7.15				
Sokolowska, Julia (POL) (2000)														Omega Timing (2022) - diamond league race analysis				
National FINAL - 2022 Silesia Kamila Skolimowska Memorial (Chorzów, POL)																		
date	06-Aug-22	time	7.25	13.58	20.12	26.87	33.90	41.09	48.56	56.61	56.61	2 / 8						
reaction time	0.172	interval		6.33	6.54	6.75	7.03	7.19	7.47	8.05	# of strides	13.58	13.29	14.22	15.52	26.87	29.74	2.87
		velocity	6.90	7.90	7.65	7.41	7.11	6.95	6.69	6.21	7.07	7.36	7.52	7.03	6.44	7.44	6.72	
Spelmeyer, Ruth Sophia (GER) (1990)														Omega Timing (2019) - diamond league race analysis				
National FINAL - 2019 Memorial van Damme (Brussels, BEL)																		
date	06-Sep-19	time	7.0	13.0	19.0	25.3	31.9	38.6	45.8	53.62	53.62	8 / 5						
reaction time	0.170	interval		6.0	6.0	6.3	6.6	6.7	7.2	7.8	# of strides	13.00	12.30	13.30	15.02	25.30	28.32	3.02
		velocity	7.14	8.33	8.33	7.94	7.58	7.46	6.94	6.39	7.46	7.69	8.13	7.52	6.66	7.91	7.06	
Semi-Final 3 - 2017 IAAF World Championships (London, GBR)														Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Women's 400m				
date	07-Aug-17	time	12.74	24.76	37.59	44.34	51.61	51.77	3 / 5 4									
reaction time	0.164	interval		12.02	12.83	6.75	7.27	# of strides	12.74	12.02	12.83	14.02	24.76	26.85	2.09			
		velocity	7.85	8.32	7.79	7.41	6.88	7.73	189.7	7.85	8.32	7.79	7.13	8.08	7.45			
Spencer, Ashley (USA) (1993)														Hymans (2020) - history of the US olympic trials - track and field				
FINAL - 2016 USA Olympic Trials (Eugene, OR)																		
date	03-Jul-16	time	24.1	36.7	51.09	51.09	8 / 7											
reaction time	0.614	interval		12.60	14.39	# of strides	12.60	14.39	24.10	26.99	2.89							
		velocity	8.30	7.94	6.95	7.83	7.94	6.95	8.30	7.41								
Stambolova, Vania (BUL) (1983)														Behm (2006) - Championnats d'Europe Göteborg 2006... Le 400m avec ou sans obstacles				
FINAL - 2006 European Championships (Göteborg, SWE)																		
date	10-Aug-06	time	23.7	35.8	49.85	49.85	1 / 1											
reaction time		interval		12.10	14.05	# of strides	23.70	12.10	14.05	23.70	26.15	2.45						
		velocity	8.44	16.53	7.12	8.02	4.22	8.26	7.12	8.44	7.65							
Semi-Final 1 - 2006 European Championships (Göteborg, SWE) (TV Analysis)														Graubner (2008) - http://www.fgs.uni-halle.de				
date	09-Aug-06	time	12.67	24.33	36.58	49.69	49.69	1 / 1										
reaction time	0.232	interval		11.66	12.25	13.11	# of strides	12.67	11.66	12.25	13.11	24.33	25.36	1.03				
		velocity	7.89	8.58	8.16	7.63	8.05	7.89	8.58	8.16	7.63	8.22	7.89					
Stamenova, Rositsa (BUL) (1955)														Bondarchuk (2007) - transfer of training in sports				
FINAL - 1984 Women's Friendship Games (Praha, TCH)																		
date	16-Aug-84	time	11.30	23.64	50.82	50.82	1 / 6											
reaction time		interval		12.34	27.18	PB	# of strides	11.30	12.34	23.64	27.18	3.54						
		velocity	8.85	8.10	7.36	7.87	8.85	8.10	8.46	7.36								
Stepter, Jaide (USA) (1994)														Omega Timing (2019) - diamond league race analysis				
FINAL - 2019 Meeting International Mohammed VI d'Athlétisme (Rabat, MAR)																		
date	16-Jun-19	time	12.1	23.8	36.6	51.44	51.44	8 / 5										
reaction time	0.158	interval		11.7	12.8	14.8	# of strides	12.10	11.70	12.80	14.84	23.80	27.64	3.84				
		velocity	8.26	8.55	7.81	6.74	7.78	191.0	8.26	8.55	7.81	6.74	8.40	7.24				
FINAL - 2018 Bauhaus Galan (Stockholm, SWE)														Omega Timing (2018) - diamond league race analysis				
date	10-Jun-18	time	12.4	24.2	36.9	50.99	50.99	3 / 5										
reaction time	0.149	interval		11.8	12.7	14.1	# of strides	12.40	11.80	12.70	14.09	24.20	26.79	2.59				
		velocity	8.06	8.47	7.87	7.10	7.84	190.2	8.06	8.47	7.87	7.10	8.26	7.47				
FINAL - 2018 Bislett Games (Oslo, NOR)														Omega Timing (2018) - diamond league race analysis				
date	07-Jun-18	time	12.3	23.9	36.9	50.78	50.78	2 / 5										
reaction time	0.166	interval		11.6	13.0	13.9	# of strides	12.30	11.60	13.00	13.88	23.90	26.88	2.98				
		velocity	8.13	8.62	7.69	7.20	7.88	188.5	8.13	8.62	7.69	7.20	8.37	7.44				
Stevens, Rochelle (USA) (1966)														USATF Women's Sprint Development (1996)				
FINAL - 1996 USA Olympic Trials (Atlanta, GA)																		
date	19-Jun-96	time	12.20	23.99	36.75	43.64	51.16	51.16	1 / 4									
reaction time		interval		11.79	12.76	6.89	7.52	# of strides	12.20	11.79	12.76	14.41	23.99	27.17	3.18			
		velocity	8.20	8.48	7.84	7.26	6.65	7.82	8.20	8.48	7.84	6.94	8.34	7.36				
Semi-Final 2 - 1996 USA Olympic Trials (Atlanta, GA)														USATF Women's Sprint Development (1996)				
date	17-Jun-96	time	12.42	24.13	36.88	43.45	50.65	50.65	6 / 3									
reaction time		interval		11.71	12.75	6.57	7.20	# of strides	12.42	11.71	12.75	13.77	24.13	26.52	2.39			
		velocity	8.05	8.54	7.84	7.61	6.94	7.90	8.05	8.54	7.84	7.26	8.29	7.54				
FINAL - 1992 Olympic Games (Barcelona, ESP)														Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016				
date	05-Aug-92	time	24.1	36.2	50.1	50.11	1 / 6											
reaction time		interval		12.10	13.90	# of strides	12.10	13.90	24.10	26.00	1.90							
		velocity	8.30	8.26	7.19	7.98	8.26	7.19	8.30	7.69								
FINAL - 1989 IAAF World Cup (Barcelona, ESP)														Pascua (1990) - atletismo (I) carreras y marcha				
date	10-Sep-89	time	12.40	24.90	37.30	52.16	52.16	1 / 5 4										
reaction time		interval		12.50	12.40	14.86	# of strides	12.40	12.50	12.40	14.86	24.90	27.26	2.36				
		velocity	8.06	8.00	8.06	6.73	7.67	8.06	8.00	8.06	6.73	8.03	7.34					
Stiverne, Aiyanna (CAN) (1995)														Longines Timing (2022) - commonwealth games race analysis				
Semi-Final 1 - 2022 Commonwealth Games (Birmingham, GBR)																		
date	05-Aug-22	time	6.6	12.3	18.2	24.5	31.1	38.1	45.4	53.52	53.52	4 / 6						

reaction time	0.134	interval	5.70	5.90	6.30	6.60	7.00	7.30	8.12		# of strides	12.30	12.20	13.60	15.42	24.50	29.02	4.52	
		velocity	7.58	8.77	8.47	7.94	7.58	7.14	6.85	6.16	7.47	208.0	8.13	8.20	7.35	6.49	8.16	6.89	
Heat 5 - 2022 World Athletics Championships (Eugene, OR)										<i>Timing by Seiko (2022) - world athletics championships race analysis</i>									
date	17-Jul-22	time	12.50		25.12		38.62		53.07	53.07	4 / 6								
reaction time	0.115	interval			12.62		13.50		14.45		# of strides	12.50	12.62	13.50	14.45	25.12	27.95	2.83	
		velocity			8.00		7.92		7.41		7.54	203.5	8.00	7.92	7.41	6.92	7.96	7.16	
Strophal, Ellen (GDR) (1952)																			
	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential		
FINAL - 1976 Olympic Games (Montreal, CAN)										<i>Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016</i>									
date	29-Jul-76	time			23.7		35.7		50.6	50.55	8 / 3								
reaction time		interval					12.00		14.90		# of strides		12.00	14.90	23.70	26.90	3.20		
		velocity			8.44		8.33		6.71	7.91			8.33	6.71	8.44	7.43			
Sroy, Esther (USA) (1953)																			
	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential		
FINAL - 1968 USA Olympic Trials (Walnut, CA)										<i>Hymans (2008) - history of the US olympic trials - track and field</i>									
date	25-Aug-68	time			25.2				54.3	54.3	6 / 3								
reaction time		interval							29.10		# of strides				25.20	29.10	3.90		
		velocity			7.94				6.87	7.37					7.94	6.87			
Sudo, Mio (JPN) (2002)																			
	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential		
FINAL - 2021 Japanese U20 National Championships (Osaka, JPN)										<i>Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition</i>									
date	25-Jun-21	time	7.18	13.40	19.69	26.31	33.13	40.10	47.30	54.92	54.92	5 / 1							
reaction time	0.182	interval		6.22	6.29	6.62	6.82	6.97	7.20	7.62	# of strides	13.40	12.91	13.79	14.82	26.31	28.61	2.30	
		velocity	6.96	8.04	7.95	7.55	7.33	7.17	6.94	6.56	7.28	203.5	7.46	7.75	7.25	6.75	7.60	6.99	
FINAL - 2019 Japanese National High School Championships (Okinawa, JPN)										<i>Kota (2019) - 72nd high school championships: JAF scientific committee - biomechanics data collection</i>									
date	04-Aug-19	time	7.29	13.57	19.98	26.56	33.26	40.21	47.20	54.65	54.65	3 / 3							
reaction time		interval		6.28	6.41	6.58	6.70	6.95	6.99	7.45	PB	# of strides	13.57	12.99	13.65	14.44	26.56	28.09	1.53
		velocity	6.86	7.96	7.80	7.60	7.46	7.19	7.15	6.71	7.32		7.37	7.70	7.33	6.93	7.53	7.12	
FINAL - 2018 Japanese National Youth (U18) Championships (Nagano, JPN)										<i>Ryutarō (2018) - research on athlete performance and technique- 2018 data book</i>									
date	19-Oct-18	time	7.42	13.86	20.31	26.89	33.67	40.56	47.63	55.00	55.00	4 / 1							
reaction time	0.189	interval		6.44	6.45	6.58	6.78	6.89	7.07	7.37	# of strides	13.86	13.03	13.67	14.44	26.89	28.11	1.22	
		velocity	6.74	7.76	7.75	7.60	7.37	7.26	7.07	6.78	7.27		7.22	7.67	7.32	6.93	7.44	7.11	
U20 FINAL - 2018 National Sports Festival (Fukui, JPN)										<i>Joshi (2018) - research on athlete performance and technique- 2018 data book</i>									
date	08-Oct-18	time	7.25	13.56	20.04	26.67	33.51	40.47	47.59	55.28	55.28	3 / 3							
reaction time	0.167	interval		6.31	6.48	6.63	6.84	6.96	7.12	7.69	# of strides	13.56	13.11	13.80	14.81	26.67	28.61	1.94	
		velocity	6.90	7.92	7.72	7.54	7.31	7.18	7.02	6.50	7.24		7.37	7.63	7.25	6.75	7.50	6.99	
FINAL - 2018 Japanese National High School Championships (Nagoya, JPN)										<i>Kota (2018) - 71st high school championships: JAF scientific committee - biomechanics data collection</i>									
date	02-Aug-18	time	7.21	13.40	19.87	26.49	33.39	40.65	48.18	55.98	55.98	5 / 6							
reaction time		interval		6.19	6.47	6.62	6.90	7.26	7.53	7.80	# of strides	13.40	13.09	14.16	15.33	26.49	29.49	3.00	
		velocity	6.93	8.08	7.73	7.55	7.25	6.89	6.64	6.41	7.15		7.46	7.64	7.06	6.52	7.55	6.78	
Sugiura, Haruka (JPN) (1995)																			
	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential		
Division 1 Semi-Final 1 - 2017 Kanto Collegiate Championships (Yokohama, JPN)										<i>(2017) - tfdata-store.com/2017/06/02/post-835/</i>									
date	26-May-17	time			13.13		26.10		40.75	56.41	56.41	3 / 5							
reaction time		interval					12.97		14.65	15.66	# of strides	13.13	12.97	14.65	15.66	26.10	30.31	4.21	
		velocity			7.62		7.71		6.83	6.39	7.09	212.0	7.62	7.71	6.83	6.39	7.66	6.60	
FINAL - 2013 Japanese National High School Championships (Oita, JPN)										<i>Matsuo (2013) - 66th high school championships: JAF scientific committee- biomechanics data</i>									
date	30-Jul-13	time			13.17		26.10		39.55	54.10	54.10	6 / 2							
reaction time		interval					12.93		13.45	14.55	# of strides	13.17	12.93	13.45	14.55	26.10	28.00	1.90	
		velocity			7.59		7.73		7.43	6.87	7.39		7.59	7.73	7.43	6.87	7.66	7.14	
FINAL - 2013 Japanese National Championships (Chofu, JPN)										<i>Kota (2017) - 70th high school championships: JAF scientific committee- biomechanics data</i>									
date	08-Jun-13	time	7.00	12.94	19.09	25.31	31.60	38.22	45.18	52.52	52.52	5 / 1							
reaction time		interval		5.94	6.15	6.22	6.29	6.62	6.96	7.34	PB	# of strides	12.94	12.37	12.91	14.30	25.31	27.21	1.90
		velocity	7.14	8.42	8.13	8.04	7.95	7.55	7.18	6.81	7.62		211.0	7.73	8.08	7.75	6.99	7.90	7.35
FINAL - 2012 Japanese National High School Championships (Niigata, JPN)										<i>Yasunori (2012) - 65th high school championships: JAF scientific committee- biomechanics</i>									
date	29-Jul-12	time			13.33		25.99		40.01	55.90	55.90	2 / 5							
reaction time		interval					12.66		14.02	15.89	# of strides	13.33	12.66	14.02	15.89	25.99	29.91	3.92	
		velocity			7.50		7.90		7.13	6.29	7.16		7.50	7.90	7.13	6.29	7.70	6.69	
Sulastrī (INA) (1992)																			
	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential		
FINAL - 2016 East Java National Championships (Surabaya, INA)										<i>Saputri (2016) - analisis kecepatan lari 400m putri final kejuaraan nasional atletik jawa timur terbuka</i>									
date	15-Apr-16	time	7.04	13.58	19.50	26.08	33.89	41.48	47.98	57.51	57.51	1 / 1							
reaction time		interval		6.54	5.92	6.58	7.81	7.59	6.50	9.53	# of strides	13.58	12.50	15.40	16.03	26.08	31.43	5.35	
		velocity	7.10	7.65	8.45	7.60	6.40	6.59	7.69	5.25	6.96		7.36	8.00	6.49	6.24	7.67	6.36	
Święty-Ersetic, Justyna (POL) (1992)																			
	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential		
Repechage 1 - 2024 Olympic Games (Paris, FRA)										<i>Paris 2024 Olympic Games - Results Book (2024)</i>									
date	06-Aug-24	time	7.01	12.63	18.42	24.40	30.61	37.01	43.58	50.89	50.89	4 / 2							
reaction time	0.229	interval		5.62	5.79	5.98	6.21	6.40	6.57	7.31	# of strides	12.63	11.77	12.61	13.88	24.40	26.49	2.09	
		velocity	7.13	8.90	8.64	8.36	8.05	7.81	7.61	6.84	7.86		201.7	7.92	8.50	7.93	7.20	8.20	7.55
Heat 2 - 2024 Olympic Games (Paris, FRA)										<i>Paris 2024 Olympic Games - Results Book (2024)</i>									
date	05-Aug-24	time	6.94	12.51	18.33	24.47	30.71	37.06	43.73	50.95	50.95	4 / 4							
reaction time	0.192	interval		5.57	5.82	6.14	6.24	6.35	6.67	7.22	# of strides	12.51	11.96	12.59	13.89	24.47	26.48	2.01	
		velocity	7.20	8.98	8.59	8.14	8.01	7.87	7.50	6.93	7.85		200.0	7.99	8.36	7.94	7.20	8.17	7.55
Semi-Final 3 - 2024 European Athletics Championships (Roma, ITA)										<i>European Athletics (2024) - 2024 european athletics championships - results book</i>									

date	09-Jun-24	time	12.67	24.65	37.75	52.18	52.18	3 / 8											
reaction time	0.197	interval		11.98	13.10	14.43		# of strides	12.67	11.98	13.10	14.43	24.65	27.53	2.88				
		velocity	7.89	8.35	7.63	6.93	7.67	204.0	7.89	8.35	7.63	6.93	8.11	7.26					
Heat 2 - 2024 European Athletics Championships (Roma, ITA)										<i>European Athletics (2024) - 2024 european athletics championships - results book</i>									
date	08-Jun-24	time	12.92	25.31	38.29	52.01	52.01	9 / 4											
reaction time	0.285	interval		12.39	12.98	13.72		# of strides	12.92	12.39	12.98	13.72	25.31	26.70	1.39				
		velocity	7.74	8.07	7.70	7.29	7.69	209.0	7.74	8.07	7.70	7.29	7.90	7.49					
FINAL - 2023 Doha Diamond League (Doha, QAT)										<i>Omega Timing (2023) - diamond league race analysis</i>									
date	05-May-23	time	7.14	12.98	19.15	25.61	32.20	38.95	45.73	53.08	53.08	2 / 7							
reaction time	0.181	interval		5.84	6.17	6.46	6.59	6.75	6.78	7.35		# of strides	12.98	12.63	13.34	14.13	25.61	27.47	1.86
		velocity	7.00	8.56	8.10	7.74	7.59	7.41	7.37	6.80	7.54	212.0	7.70	7.92	7.50	7.08	7.81	7.28	
Semi-Final 3 - 2022 European Athletics Championships (Munich, GER)										<i>European Athletics (2022) - european athletics championships race analysis</i>									
date	16-Aug-22	time	12.96	25.07	38.10	52.17	52.17	3 / 6											
reaction time	0.284	interval		12.11	13.03	14.07		# of strides	12.96	12.11	13.03	14.07	25.07	27.10	2.03				
		velocity	7.72	8.26	7.67	7.11	7.67	209.0	7.72	8.26	7.67	7.11	7.98	7.38					
FINAL - 2022 Meeting de Paris (Paris, FRA)										<i>Omega Timing (2022) - diamond league race analysis</i>									
date	18-Jun-22	time	7.02	12.70	18.48	24.44	30.67	37.19	43.90	51.05	51.05	2 / 6							
reaction time	0.226	interval		5.68	5.78	5.96	6.23	6.52	6.71	7.15		# of strides	12.70	11.74	12.75	13.86	24.44	26.61	2.17
		velocity	7.12	8.80	8.65	8.39	8.03	7.67	7.45	6.99	7.84	212.0	7.87	8.52	7.84	7.22	8.18	7.52	
FINAL - 2020 Golden Gala Pietro Mennea (Rome, ITA)										<i>Omega Timing (2020) - diamond league race analysis</i>									
date	17-Sep-20	time	7.1	13.0	19.0	25.0	31.1	37.7	44.6	51.94	51.94	5 / 3							
reaction time	0.209	interval		5.90	6.00	6.00	6.10	6.60	6.90	7.34		# of strides	13.00	12.00	12.70	14.24	25.00	26.94	1.94
		velocity	7.04	8.47	8.33	8.33	8.20	7.58	7.25	6.81	7.70	204.0	7.69	8.33	7.87	7.02	8.00	7.42	
Semi-Final 3 - 2019 IAAF World Championships (Doha, QAT)										<i>Yamanaka (2019) - race analysis of men and women 400m competition</i>									
date	01-Oct-19	time	6.91	12.65	18.45	24.41	30.58	36.99	43.71	50.96	50.96	5 / 2							
reaction time	0.213	interval		5.74	5.80	5.96	6.17	6.41	6.72	7.25		# of strides	12.65	11.76	12.58	13.97	24.41	26.55	2.14
		velocity	7.24	8.71	8.62	8.39	8.10	7.80	7.44	6.90	7.85	204.0	7.91	8.50	7.95	7.16	8.19	7.53	
FINAL - 2019 The Match - Europe v USA (Minsk, BLR)										<i>European Athletics (2019) - race analysis</i>									
date	09-Sep-19	time	12.82	24.68	37.58	52.35	52.35	5 / 6											
reaction time	0.301	interval		11.86	12.90	14.77		# of strides	12.82	11.86	12.90	14.77	24.68	27.67	2.99				
		velocity	7.80	8.43	7.75	6.77	7.64	205.0	7.80	8.43	7.75	6.77	8.10	7.23					
FINAL - 2019 Weltklasse (Zürich, SUI)										<i>Omega Timing (2019) - diamond league race analysis</i>									
date	29-Aug-19	time	7.1	12.8	18.7	24.8	31.1	37.5	44.3	51.54	51.54	6 / 4							
reaction time	0.217	interval		5.7	5.9	6.1	6.3	6.4	6.8	7.2		# of strides	12.80	12.00	12.70	14.04	24.80	26.74	1.94
		velocity	7.04	8.77	8.47	8.20	7.94	7.81	7.35	6.91	7.76	207.7	7.81	8.33	7.87	7.12	8.06	7.48	
FINAL - 2019 Athletissima (Lausanne, SUI)										<i>Omega Timing (2019) - diamond league race analysis</i>									
date	05-Jul-19	time	12.8	24.9	37.7	51.73	51.73	2 / 6											
reaction time	0.204	interval		12.1	12.8	14.0		# of strides	12.80	12.10	12.80	14.03	24.90	26.83	1.93				
		velocity	7.81	8.26	7.81	7.13	7.73	207.7	7.81	8.26	7.81	7.13	8.03	7.45					
FINAL - 2019 Golden Gala Pietro Mennea (Rome, ITA)										<i>Omega Timing (2019) - diamond league race analysis</i>									
date	06-Jun-19	time	12.8	24.9	37.8	52.04	52.04	7 / 5											
reaction time	0.184	interval		12.1	12.9	14.2		# of strides	12.80	12.10	12.90	14.24	24.90	27.14	2.24				
		velocity	7.81	8.26	7.75	7.02	7.69	211.0	7.81	8.26	7.75	7.02	8.03	7.37					
FINAL - 2019 Shanghai (Shanghai, CHN)										<i>Omega Timing (2019) - diamond league race analysis</i>									
date	18-May-19	time	12.9	25.0	37.8	51.85	51.85	8 / 7											
reaction time	0.172	interval		12.1	12.8	14.1		# of strides	12.90	12.10	12.80	14.05	25.00	26.85	1.85				
		velocity	7.75	8.26	7.81	7.12	7.71	211.0	7.75	8.26	7.81	7.12	8.00	7.45					
FINAL - 2018 Bauhaus Galan (Stockholm, SWE)										<i>Omega Timing (2018) - diamond league race analysis</i>									
date	10-Jun-18	time	12.8	24.8	37.6	51.34	51.34	2 / 7											
reaction time	0.208	interval		12.0	12.8	13.7		# of strides	12.80	12.00	12.80	13.74	24.80	26.54	1.74				
		velocity	7.81	8.33	7.81	7.28	7.79	211.7	7.81	8.33	7.81	7.28	8.06	7.54					
FINAL - 2018 Seiko Golden Grand Prix (Osaka, JPN)										<i>Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition</i>									
date	20-May-18	time	7.01	12.72	18.55	24.67	30.92	37.44	44.12	51.05	51.05	6 / 1							
reaction time	0.216	interval		5.71	5.83	6.12	6.25	6.52	6.68	6.93	PB	# of strides	12.72	11.95	12.77	13.61	24.67	26.38	1.71
		velocity	7.13	8.76	8.58	8.17	8.00	7.67	7.49	7.22	7.84	211.5	7.86	8.37	7.83	7.35	8.11	7.58	
Szewinska, Irena (POL) (1946)																			
FINAL - 1976 Olympic Games (Montreal, CAN)																			
date	29-Jul-76	time				23.12		35.58		49.29	49.29	4 / 1							
reaction time		interval						12.46		13.71	WR	# of strides		12.46	13.71	23.12	26.17	3.05	
		velocity				8.65		8.03		7.29	8.12	211.5	8.03	7.29	8.65	7.64			
Semi-Final 1 - 1976 Olympic Games (Montreal, CAN)																			
date	26-Jul-76	time			12.20	24.24		36.92		50.48	50.48	1 / 1							
reaction time		interval				12.04		12.68		13.56	OR	# of strides	12.20	12.04	12.68	13.56	24.24	26.24	2.00
		velocity			8.20	8.31		7.89		7.37	7.92	211.5	8.20	8.31	7.89	7.37	8.25	7.62	
FINAL - 1974 Kusocinski Memorial (Warsaw, POL)										<i>Quercentani (2000). Athletics: A history of modern track and field athletics (1860-2000)</i>									
date	22-Jun-74	time	11.8	22.9	35.7	49.9	49.9	2 / 1											
reaction time		interval		11.1	12.8	14.2	WR	# of strides	11.80	11.10	12.80	14.20	22.90	27.00	4.10				
		velocity	8.47	9.01	7.81	7.04	8.02	187.0	8.47	9.01	7.81	7.04	8.73	7.41					

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Tærun, Frida Røe (NOR) (2001)																		
National FINAL - 2019 Bislett Games (Oslo, NOR)																		
date	13-Jun-19	time	13.2		26.0		40.6		56.23	56.23	3 / 5							
reaction time	0.182	interval			12.8		14.6		15.6		# of strides	13.20	12.80	14.60	15.63	26.00	30.23	4.23
		velocity	7.58		7.81		6.85		6.40	7.11		7.58	7.81	6.85	6.40	7.69	6.62	
Takagi, Rina (JPN) (1999)																		
U19 Semi-Final 2 - 2017 National Sports Festival (Matsuyama, JPN)																		
date	08-Oct-17	time	13.57		26.85		41.00		60.91	60.91	2 / 8							
reaction time		interval			13.28		14.15		19.91		# of strides	13.57	13.28	14.15	19.91	26.85	34.06	7.21
		velocity	7.37		7.53		7.07		5.02	6.57		213.0	7.37	7.53	7.07	5.02	7.45	5.87
FINAL - 2016 China Perfection High School Championships (Okayama, JPN)																		
date	17-Jun-16	time	13.70		27.05		40.98		56.62	56.62	(2016.06.20) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en	4 / 5						
reaction time		interval			13.35		13.93		15.64		# of strides	13.70	13.35	13.93	15.64	27.05	29.57	2.52
		velocity	7.30		7.49		7.18		6.39	7.06		7.30	7.49	7.18	6.39	7.39	6.76	
Takahara, Nanami (JPN)																		
FINAL - 2018 Shimane High School Championships (Izumo, JPN)																		
date	25-May-18	time	14.41		28.78		44.10		61.04	61.04	2 / 5							
reaction time		interval			14.37		15.32		16.94		# of strides	14.41	14.37	15.32	16.94	28.78	32.26	3.48
		velocity	6.94		6.96		6.53		5.90	6.55		6.94	6.96	6.53	5.90	6.95	6.20	
Takashima, Natsumi (JPN) (2000)																		
FINAL - 2019 Japanese National High School Championships (Okinawa, JPN)																		
date	04-Aug-19	time	7.36	13.74	20.13	26.71	33.41	40.26	47.38	54.94	54.94	8 / 4						
reaction time		interval		6.38	6.39	6.58	6.70	6.85	7.12	7.56		# of strides	13.74	12.97	13.55	14.68	26.71	28.23
		velocity	6.79	7.84	7.82	7.60	7.46	7.30	7.02	6.61	7.28		7.28	7.71	7.38	6.81	7.49	7.08
FINAL - 2018 Japanese National Junior (U20) Championships (Nagano, JPN)																		
date	19-Oct-18	time	7.40	13.58	20.07	26.87	33.98	41.22	48.58	56.28	56.28	8 / 6						
reaction time	0.239	interval		6.18	6.49	6.80	7.11	7.24	7.36	7.70		# of strides	13.58	13.29	14.35	15.06	26.87	29.41
		velocity	6.76	8.09	7.70	7.35	7.03	6.91	6.79	6.49	7.11		7.36	7.52	6.97	6.64	7.44	6.80
FINAL - 2018 Japanese National High School Championships (Nagoya, JPN)																		
date	02-Aug-18	time	7.29	13.54	19.90	26.54	33.49	40.75	48.18	55.95	55.95	9 / 5						
reaction time		interval		6.25	6.36	6.64	6.95	7.26	7.43	7.77		# of strides	13.54	13.00	14.21	15.20	26.54	29.41
		velocity	6.86	8.00	7.86	7.53	7.19	6.89	6.73	6.44	7.15		7.39	7.69	7.04	6.58	7.54	6.80
U19 FINAL - 2017 National Sports Festival (Matsuyama, JPN)																		
date	08-Oct-17	time	13.60		26.48		40.75		55.57	55.57	3 / 6							
reaction time	0.226	interval			12.88		14.27		14.82		# of strides	13.60	12.88	14.27	14.82	26.48	29.09	2.61
		velocity	7.35		7.76		7.01		6.75	7.20		213.7	7.35	7.76	7.01	6.75	7.55	6.88
U19 Semi-Final 2 - 2017 National Sports Festival (Matsuyama, JPN)																		
date	08-Oct-17	time	13.38		26.41		40.50		55.73	55.73	8 / 4							
reaction time	0.226	interval			13.03		14.09		15.23		# of strides	13.38	13.03	14.09	15.23	26.41	29.32	2.91
		velocity	7.47		7.67		7.10		6.57	7.18		217.7	7.47	7.67	7.10	6.57	7.57	6.82
Takashima, Saki (JPN) (2002)																		
FINAL - 2020 Japanese National Championships (Niigata, JPN)																		
date	02-Oct-20	time	7.21	13.37	19.64	26.04	32.62	39.39	46.36	53.81	53.81	8 / 3						
reaction time	0.191	interval		6.16	6.27	6.40	6.58	6.77	6.97	7.45		# of strides	13.37	12.67	13.35	14.42	26.04	27.77
		velocity	6.93	8.12	7.97	7.81	7.60	7.39	7.17	6.71	7.43		204.0	7.48	7.89	7.49	6.93	7.68
Heat 2 - 2020 Japanese National Championships (Niigata, JPN)																		
date	01-Oct-20	time	7.25	13.60	20.02	26.53	33.21	40.10	47.13	54.49	54.49	5 / 2						
reaction time	0.217	interval		6.35	6.42	6.51	6.68	6.89	7.03	7.36		# of strides	13.60	12.93	13.57	14.39	26.53	27.96
		velocity	6.90	7.87	7.79	7.68	7.49	7.26	7.11	6.79	7.34		203.5	7.35	7.73	7.37	6.95	7.54
FINAL - 2019 Japanese National High School Championships (Okinawa, JPN)																		
date	04-Aug-19	time	7.29	13.53	19.75	26.03	32.51	39.30	46.20	53.44	53.44	5 / 1						
reaction time		interval		6.24	6.22	6.28	6.48	6.79	6.90	7.24		# of strides	13.53	12.50	13.27	14.14	26.03	27.41
		velocity	6.86	8.01	8.04	7.96	7.72	7.36	7.25	6.91	7.49		7.39	8.00	7.54	7.07	7.68	7.30
FINAL - 2019 Japanese National Championships (Fukuoka, JPN)																		
date	28-Jun-19	time	7.10	13.03	19.10	25.38	31.82	38.60	45.75	53.68	53.68	6 / 2						
reaction time	0.195	interval		5.93	6.07	6.28	6.44	6.78	7.15	7.93		# of strides	13.03	12.35	13.22	15.08	25.38	28.30
		velocity	7.04	8.43	8.24	7.96	7.76	7.37	6.99	6.31	7.45		207.7	7.67	8.10	7.56	6.63	7.88
Heat 2 - 2019 Japanese National Championships (Fukuoka, JPN)																		
date	27-Jun-19	time	7.11	13.07	19.29	25.72	32.32	39.18	46.38	54.19	54.19	4 / 1						
reaction time	0.239	interval		5.96	6.22	6.43	6.60	6.86	7.20	7.81		# of strides	13.07	12.65	13.46	15.01	25.72	28.47
		velocity	7.03	8.39	8.04	7.78	7.58	7.29	6.94	6.40	7.38		7.65	7.91	7.43	6.66	7.78	7.02
U20 FINAL - 2018 National Sports Festival (Fukui, JPN)																		
date	08-Oct-18	time	7.35	13.78	20.39	27.07	33.78	40.50	47.30	54.61	54.61	6 / 1						
reaction time	0.240	interval		6.43	6.61	6.68	6.71	6.72	6.80	7.31		# of strides	13.78	13.29	13.43	14.11	27.07	27.54
		velocity	6.80	7.78	7.56	7.49	7.45	7.44	7.35	6.84	7.32		7.26	7.52	7.45	7.09	7.39	7.26
FINAL - 2018 Japanese National Championships (Yamaguchi, JPN)																		
date	23-Jun-18	time	7.11	13.37	19.86	26.49	33.20	39.98	47.01	54.58	54.58	7 / 5						
reaction time	0.194	interval		6.26	6.49	6.63	6.71	6.78	7.03	7.57		# of strides	13.37	13.12	13.49	14.60	26.49	28.09
		velocity	7.03	7.99	7.70	7.54	7.45	7.37	7.11	6.61	7.33		209.2	7.48	7.62	7.41	6.85	7.55

FINAL - 2017 All Japan Corporate Championships (Osaka, JPN)											(2017) - tfdata-store.com/2017/10/05/post-1097/								
date	24-Sep-17	time	12.80	25.65	39.57	54.54	54.54	5 / 2											
reaction time	0.165	interval		12.85	13.92	14.97		# of strides	12.80	12.85	13.92	14.97	25.65	28.89	3.24				
		velocity	7.81	7.78	7.18	6.68	7.33		193.0	7.81	7.78	7.18	6.68	7.80	6.92				
FINAL - 2017 Japanese National Championships (Osaka, JPN)											Yamanaka (2017) - male and female 400m analysis in the 2017 season								
date	24-Jun-17	time	6.90	12.86	18.94	25.33	31.98	38.97	46.21	53.83	53.83	5 / 2							
reaction time	0.163	interval		5.96	6.08	6.39	6.65	6.99	7.24	7.62		# of strides	12.86	12.47	13.64	14.86	25.33	28.50	3.17
		velocity	7.25	8.39	8.22	7.82	7.52	7.15	6.91	6.56	7.43		194.7	7.78	8.02	7.33	6.73	7.90	7.02
Heat 2 - 2017 Japanese National Championships (Osaka, JPN)											(2017) - tfdata-store.com/2017/07/10/post-978/								
date	23-Jun-17	time	12.74	25.00	38.65	53.47	53.47	5 / 1											
reaction time	0.165	interval		12.26	13.65	14.82	PB	# of strides	12.74	12.26	13.65	14.82	25.00	28.47	3.47				
		velocity	7.85	8.16	7.33	6.75	7.48		194.2	7.85	8.16	7.33	6.75	8.00	7.02				
FINAL - 2017 Shizuoka International Meeting (Fukuroi, JPN)											Yamanaka (2017) - male and female 400m analysis in the 2017 season								
date	03-May-17	time	6.90	12.85	19.17	25.85	32.86	40.04	47.43	55.34	55.34	/ 5							
reaction time		interval		5.95	6.32	6.68	7.01	7.18	7.39	7.91		# of strides	12.85	13.00	14.19	15.30	25.85	29.49	3.64
		velocity	7.25	8.40	7.91	7.49	7.13	6.96	6.77	6.32	7.23		7.78	7.69	7.05	6.54	7.74	6.78	
FINAL - 2017 Izumo Athletics Games (Izuma, JPN) (300m)											(2017) - tfdata-store.com/2017/05/17/post-537/								
date	23-Apr-17	time	12.42	24.87	38.96	38.96	3 / 4												
reaction time		interval		12.45	14.09		# of strides	12.42	12.45	14.09	24.87	26.54	100m-300m						
		velocity	8.05	8.03	7.10	7.70		149.5	8.05	8.03	7.10	8.04	7.54						
FINAL - 2016 National Sports Festival (Kitakami, JPN)											Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016								
date	09-Oct-16	time	6.95	13.05	19.37	26.01	32.95	40.05	47.34	54.93	54.93	4 / 2							
reaction time	0.200	interval		6.10	6.32	6.64	6.94	7.10	7.29	7.59		# of strides	13.05	12.96	14.04	14.88	26.01	28.92	2.91
		velocity	7.19	8.20	7.91	7.53	7.20	7.04	6.86	6.59	7.28		7.66	7.72	7.12	6.72	7.69	6.92	
FINAL - 2016 Shizuoka International Meeting (Fukuroi, JPN)											Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016								
date	03-May-16	time	6.87	12.79	19.00	25.68	32.81	40.21	47.89	56.11	56.11	/ 6							
reaction time		interval		5.92	6.21	6.68	7.13	7.40	7.68	8.22		# of strides	12.79	12.89	14.53	15.90	25.68	30.43	4.75
		velocity	7.28	8.45	8.05	7.49	7.01	6.76	6.51	6.08	7.13		7.82	7.76	6.88	6.29	7.79	6.57	
FINAL - 2015 Japanese National Championships (Niigata, JPN)											Kohei (2015) - 400m race analysis of male & female at major 2015 competitions								
date	27-Jun-15	time	6.85	12.67	18.72	25.09	31.97	39.05	46.18	53.58	53.58	8 / 4							
reaction time	0.159	interval		5.82	6.05	6.37	6.88	7.08	7.13	7.40	PB	# of strides	12.67	12.42	13.96	14.53	25.09	28.49	3.40
		velocity	7.30	8.59	8.26	7.85	7.27	7.06	7.01	6.76	7.47		196.5	7.89	8.05	7.16	6.88	7.97	7.02
Takeuchi, Kokoro (JPN)																			
U18 FINAL - 2019 Japanese National U18/U20 Championships (Hiroshima, JPN) (300m)											Shimizu (2019) - shimane high school championships 2019 - biomechanics data analysis								
date	18-Oct-19	time	13.57	26.46	40.13	40.13	1 / 6												
reaction time	0.194	interval		12.89	13.67		# of strides	13.57	12.89	13.67	26.46	26.56	100m-300m						
		velocity	7.37	7.76	7.32	7.48		7.37	7.76	7.32	7.56	7.53							
Takeuchi, Masako (JPN) (1982)																			
FINAL - 2006 Seiko Super Grand Prix (Yokohama, JPN)											Hisashi (2007) - Super Grand Prix 2006 - sprinting speed changes in the 400m								
date	24-Sep-06	time	6.9	12.9	18.9	25.2	31.8	38.8	46.1	54.04	54.04	4 / 4							
reaction time		interval		6.00	6.00	6.30	6.60	7.00	7.30	7.94	PB	# of strides	12.90	12.30	13.60	15.24	25.20	28.84	3.64
		velocity	7.25	8.33	8.33	7.94	7.58	7.14	6.85	6.30	7.40		7.75	8.13	7.35	6.56	7.94	6.93	
Takino, Miku (JPN) (2005)																			
FINAL - 2021 Japanese U18 National Championships (Matsuyama, JPN) (300m)											Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition								
date	23-Oct-21	time	7.00	12.87	18.91	25.23	31.81	38.63	38.63	5 / 1									
reaction time	0.204	interval		5.87	6.04	6.32	6.58	6.82		PB	# of strides	12.87	12.36	13.40	25.23				
		velocity	7.14	8.52	8.28	7.91	7.60	7.33	7.77		148.7	7.77	8.09	7.46	7.93				
Takisawa, Aya (JPN) (1994)																			
FINAL - 2012 Japanese National High School Championships (Niigata, JPN)											Yasunori (2012) - 65th high school championships: JAF scientific committee- biomechanics								
date	29-Jul-12	time	13.50	26.99	41.13	56.56	56.56	9 / 8											
reaction time		interval		13.49	14.14	15.43		# of strides	13.50	13.49	14.14	15.43	26.99	29.57	2.58				
		velocity	7.41	7.41	7.07	6.48	7.07		7.41	7.41	7.07	6.48	7.41	6.76					
Tanaka, Chisato (JPN) (1988)																			
Race C - 2016 Shizuoka International Meeting (Fukuroi, JPN)											Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016								
date	03-May-16	time	7.13	13.29	19.65	26.19	33.01	40.11	47.67	55.97	55.97	/ 1							
reaction time		interval		6.16	6.36	6.54	6.82	7.10	7.56	8.30		# of strides	13.29	12.90	13.92	15.86	26.19	29.78	3.59
		velocity	7.01	8.12	7.86	7.65	7.33	7.04	6.61	6.02	7.15		7.52	7.75	7.18	6.31	7.64	6.72	
FINAL - 2006 Seiko Super Grand Prix (Yokohama, JPN)											Hisashi (2007) - Super Grand Prix 2006 - sprinting speed changes in the 400m								
date	24-Sep-06	time	7.3	13.5	19.7	26.1	32.7	39.8	47.3	55.09	55.09	7 / 5							
reaction time		interval		6.20	6.20	6.40	6.60	7.10	7.50	7.79		# of strides	13.50	12.60	13.70	15.29	26.10	28.99	2.89
		velocity	6.85	8.06	8.06	7.81	7.58	7.04	6.67	6.42	7.26		7.41	7.94	7.30	6.54	7.66	6.90	
Taneru, Asuruhan Marino (JPN) (2003)																			
FINAL - 2021 Japanese High School National Championships (Fukui, JPN)											Shibayama (2021) - national high school and U20 national championships								
date	28-Jul-21	time	7.05	13.23	19.60	26.12	32.95	39.90	46.90	54.42	54.42	3 / 1							
reaction time	0.194	interval		6.18	6.37	6.52	6.83	6.95	7.00	7.52	PB	# of strides	13.23	12.89	13.78	14.52	26.12	28.30	2.18
		velocity	7.09	8.09	7.85	7.67	7.32	7.19	7.14	6.65	7.35		7.56	7.76	7.26	6.89	7.66	7.07	
FINAL - 2021 Japanese U20 National Championships (Osaka, JPN)											Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition								
date	25-Jun-21	time	7.19	13.50	19.90	26.60	33.45	40.38	47.50	55.08	55.08	6 / 2							
reaction time	0.281	interval		6.31	6.40	6.70	6.85	6.93	7.12	7.58		# of strides	13.50	13.10	13.78	14.70	26.60	28.48	1.88

velocity	6.95	7.92	7.81	7.46	7.30	7.22	7.02	6.60	7.26	204.5	7.41	7.63	7.26	6.80	7.52	7.02
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Tang Xiaoyin (CHN) (1985)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2009 Chinese National Championships (Suzhou, CHN)		<i>Wang (2012) - Research on the analysis of the speed distribution of China's outstanding female 400-meter runners</i>																
date	22-May-09	time	12.50		24.79		38.41		53.06	53.06	/ 1							
reaction time		interval			12.29		13.62		14.65		# of strides	12.50	12.29	13.62	14.65	24.79	28.27	3.48
		velocity	8.00		8.14		7.34		6.83	7.54		8.00	8.14	7.34	6.83	8.07	7.07	

Taniguchi, Rina (JPN) (2004)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Japanese National High School Championships (Naruto, JPN)		<i>Kishima (2022) - national high school championships biomechanics data collection</i>																
date	03-Aug-22	time	13.58				40.41		55.80	55.80	3 / 6							
reaction time	0.232	interval			13.18		13.65		15.39		# of strides	13.58	13.18	13.65	15.39	26.76	29.04	2.28
		velocity	7.36		7.59		7.33		6.50	7.17	207.7	7.36	7.59	7.33	6.50	7.47	6.89	

FINAL - 2021 Japanese High School National Championships (Fukui, JPN)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Japanese High School National Championships (Fukui, JPN)		<i>Shibayama (2021) - national high school and U20 national championships</i>																
date	28-Jul-21	time	7.16	13.48	20.09	26.83	33.87	40.96	48.19	55.90	55.90	7 / 5						
reaction time	0.184	interval		6.32	6.61	6.74	7.04	7.09	7.23	7.71		# of strides	13.48	13.35	14.13	14.94	26.83	29.07
		velocity	6.98	7.91	7.56	7.42	7.10	7.05	6.92	6.49	7.16		7.42	7.49	7.08	6.69	7.45	6.88

Taslakian, Greta (LBN) (1985)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - West Asian Championships - 2024 Seashore Doha Meeting (Doha, QAT)		<i>Omega Timing (2024) - diamond league race analysis</i>																
date	10-May-24	time	7.45	13.72	20.35	27.31	34.61	42.25	50.10	58.36	58.36	5 / 2						
reaction time	0.208	interval		6.27	6.63	6.96	7.30	7.64	7.85	8.26		# of strides	13.72	13.59	14.94	16.11	27.31	31.05
		velocity	6.71	7.97	7.54	7.18	6.85	6.54	6.37	6.05	6.85		7.29	7.36	6.69	6.21	7.32	6.44

Terrero, Indira (CUB) (1985)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2009 IAAF World Championships (Berlin, GER)		<i>Graubner (2009) - biomechanical analyses at the 12th IAAF world championships</i>																
date	16-Aug-09	time	12.73		24.77		37.46		51.87	51.87	7 / 5							
reaction time	0.273	interval			12.04		12.69		14.41		# of strides	12.73	12.04	12.69	14.41	24.77	27.10	2.33
		velocity	7.86		8.31		7.88		6.94	7.71		7.86	8.31	7.88	6.94	8.07	7.38	

Heat 1 - 2009 IAAF World Championships (Berlin, GER)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2009 IAAF World Championships (Berlin, GER)		<i>Graubner (2009) - biomechanical analyses at the 12th IAAF world championships</i>																
date	15-Aug-09	time	12.85		24.96		37.89		51.98	51.98	2 / 3							
reaction time	0.301	interval			12.11		12.93		14.09		# of strides	12.85	12.11	12.93	14.09	24.96	27.02	2.06
		velocity	7.78		8.26		7.73		7.10	7.70		7.78	8.26	7.73	7.10	8.01	7.40	

Thiam, Amy Mbacké (SEN) (1976)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2009 IAAF World Championships (Berlin, GER)		<i>Graubner (2009) - biomechanical analyses at the 12th IAAF world championships</i>																
date	16-Aug-09	time	12.11		24.04		37.16		51.70	51.70	8 / 5							
reaction time	0.166	interval			11.93		13.12		14.54		# of strides	12.11	11.93	13.12	14.54	24.04	27.66	3.62
		velocity	8.26		8.38		7.62		6.88	7.74		8.26	8.38	7.62	6.88	8.32	7.23	

Heat 6 - 2009 IAAF World Championships (Berlin, GER)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 6 - 2009 IAAF World Championships (Berlin, GER)		<i>Graubner (2009) - biomechanical analyses at the 12th IAAF world championships</i>																
date	15-Aug-09	time	12.68		25.40		38.56		52.79	52.79	6 / 3							
reaction time	0.159	interval			12.72		13.16		14.23		# of strides	12.68	12.72	13.16	14.23	25.40	27.39	1.99
		velocity	7.89		7.86		7.60		7.03	7.58		7.89	7.86	7.60	7.03	7.87	7.30	

FINAL - 2007 IAAF World Athletics Final (Stuttgart, GER)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2007 IAAF World Athletics Final (Stuttgart, GER)		<i>Graubner (2007) - http://www.fgs.uni-halle.de</i>																
date	23-Sep-07	time	12.10		23.87		36.63		50.33	50.33	1 / 4							
reaction time	0.159	interval			11.77		12.76		13.70		# of strides	12.10	11.77	12.76	13.70	23.87	26.46	2.59
		velocity	8.26		8.50		7.84		7.30	7.95		8.26	8.50	7.84	7.30	8.38	7.56	

FINAL - 2005 IAAF World Championships (Helsinki, FIN)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2005 IAAF World Championships (Helsinki, FIN)		<i>Butler (2013) - IAAF world championships statistics handbook- moscow 2013</i>																
date	10-Aug-05	time					36.5		52.2	52.22	8 / 8							
reaction time	0.169	interval					8.22		15.72		# of strides				15.72			
		velocity					8.22		6.36	7.66					6.36			

FINAL - 2003 IAAF World Championships (Paris, FRA)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2003 IAAF World Championships (Paris, FRA)		<i>Bonvin (2003) - Compte-rendu 400m et relais 4x 400m</i>																
date	27-Aug-03	time			23.1		35.7		49.95	49.95	6 / 3							
reaction time	0.175	interval			12.60		14.25		14.25		# of strides			12.60	14.25	23.10	26.85	3.75
		velocity			8.66		7.94		7.02	8.01				7.94	7.02	8.66	7.45	

Thimm, Ute (FRG) (1958)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 1988 Olympic Games (Seoul, KOR)		<i>Brüggenmann (1990) - scientific research project at the games of the XXXIV Olympiad, Seoul 1988</i>																
date	25-Sep-88	time	12.07		23.80		36.15		50.28	50.28	6 / 6							
reaction time		interval			11.73		12.35		14.13	PB	# of strides	12.07	11.73	12.35	14.13	23.80	26.48	2.68
		velocity	8.29		8.53		8.10		7.08	7.96		8.29	8.53	8.10	7.08	8.40	7.55	

FINAL - 1984 Olympic Games (Los Angeles, CA)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1984 Olympic Games (Los Angeles, CA)		<i>Adams (1984) - 1984 olympic games - 200m & 400m</i>																
date	06-Aug-84	time			24.9				50.37	50.37	1 / 6							
reaction time	0.215	interval							25.47		# of strides					24.90	25.47	0.57
		velocity			8.03				7.85	7.94						8.03	7.85	

Thomas, Kim (USA)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1980 USA Olympic Trials (Eugene, OR)		<i>Hymans (2008) - history of the US olympic trials - track and field</i>																
date	25-Jun-80	time			25.7				52.8	52.75	/ 6							
reaction time		interval							27.10		# of strides					25.70	27.10	1.40
		velocity			7.78				7.38	7.58						7.78	7.38	

Thomas, Maureen (KEN) (1997)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 IAAF World Junior Championships (Bydgoszcz, POL)		<i>Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016</i>																
date	21-Jul-16	time	6.97	12.67	18.59	24.86	31.27	37.91	44.79	52.09	52.09	2 / 5						
reaction time	0.164	interval		5.70	5.92	6.27	6.41	6.64	6.88	7.30	PB	# of strides	12.67	12.19	13.05	14.18	24.86	27.23

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Thornton, Jessica (AUS) (1998)																		
FINAL - 2016 IAAF World Junior Championships (Bydgoszcz, POL)											<i>Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016</i>							
date	21-Jul-16	time	6.69	12.21	18.15	24.43	30.87	37.57	44.54	52.05	6 / 4							
reaction time	0.159	interval		5.52	5.94	6.28	6.44	6.70	6.97	PB	# of strides	12.21	12.22	13.14	14.48	24.43	27.62	3.19
		velocity	7.47	9.06	8.42	7.96	7.76	7.46	7.17	7.68		8.19	8.18	7.61	6.91	8.19	7.24	
Thureson, Mijja (FIN) (1994)																		
Heat 2 - 2022 European Athletics Championships (Munich, GER)											<i>European Athletics (2022) - european athletics championships race analysis</i>							
date	15-Aug-22	time		12.58		24.89		38.19		53.63	53.63	1 / 8						
reaction time	0.178	interval			12.31		13.30		15.44		# of strides	12.58	12.31	13.30	15.44	24.89	28.74	3.85
		velocity		7.95		8.12		7.52		6.48	7.46	198.0	7.95	8.12	7.52	6.48	8.04	6.96
Tong Zenghuan (CHN) (1995)																		
FINAL - 2018 Asian Games (Jakarta, INA)											<i>Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition</i>							
date	26-Aug-18	time	7.26	13.37	19.61	26.04	32.66	39.44	46.44	53.95	53.95	7 / 6						
reaction time	0.296	interval		6.11	6.24	6.43	6.62	6.78	7.00	7.51	# of strides	13.37	12.67	13.40	14.51	26.04	27.91	1.87
		velocity	6.89	8.18	8.01	7.78	7.55	7.37	7.14	6.66	7.41	7.48	7.89	7.46	6.89	7.68	7.17	
FINAL - 2017 Chinese National Games (Tianjin, CHN)											<i>Yang (2019) - analysis of the characteristics of Yang Huizhen's running speed in 400m</i>							
date	03-Sep-17	time		13.13		25.46		38.39		52.76	52.76	1 / 3						
reaction time		interval			12.33		12.93		14.37		# of strides	13.13	12.33	12.93	14.37	25.46	27.30	1.84
		velocity		7.62		8.11		7.73		6.96	7.58	199.0	7.62	8.11	7.73	6.96	7.86	7.33
Torihara, Saki (JPN) (1992)																		
FINAL - 2009 Japanese National High School Championships (Nara, JPN)											<i>Matsuo (2009) - 62nd high school championships: JAF scientific committee- biomechanics</i>							
date	29-Jul-09	time	13.28		26.33		40.33		55.22	55.22	2 / 2							
reaction time		interval			13.05		14.00		14.89		# of strides	13.28	13.05	14.00	14.89	26.33	28.89	2.56
		velocity		7.53		7.66		7.14		6.72	7.24	7.53	7.66	7.14	6.72	7.60	6.92	
Torrence, Gwen (USA) (1965)																		
FINAL - 1992 Nikaïa (Nice, FRA)											<i>Vazel (2020) - Pérec vs Torrence 400m Nice battle of titans</i>							
date	15-Jul-92	time			24.3				49.64	49.64	5 / 2							
reaction time		interval						25.34		PB	# of strides					24.30	25.34	1.04
		velocity			8.23			7.89		8.06						8.23	7.89	
Totani, Nukumi (JPN) (1998)																		
FINAL - 2015 Japanese National Youth Championships (Nagoya, JPN)											<i>Kohei (2015) - 400m race analysis of male & female at major 2015 competitions</i>							
date	16-Oct-15	time	7.23	13.23	19.47	26.06	32.95	40.25	47.87	55.94	55.94	1 / 5						
reaction time		interval		6.00	6.24	6.59	6.89	7.30	7.62	8.07	# of strides	13.23	12.83	14.19	15.69	26.06	29.88	3.82
		velocity	6.92	8.33	8.01	7.59	7.26	6.85	6.56	6.20	7.15	7.56	7.79	7.05	6.37	7.67	6.69	
Toya, Moenan (JPN)																		
FINAL - 2018 Shimane High School Championships (Izumo, JPN)											<i>Shimizu (2018) - shimane high school championships 2018 - biomechanics data analysis</i>							
date	25-May-18	time	13.59		27.33		42.33		58.16	58.16	4 / 1							
reaction time		interval			13.74		15.00		15.83		# of strides	13.59	13.74	15.00	15.83	27.33	30.83	3.50
		velocity		7.36		7.28		6.67		6.32	6.88	7.36	7.28	6.67	6.32	7.32	6.49	
FINAL - 2017 Shimane High School Championships (Izumo, JPN)											<i>Shimizu (2018) - shimane high school championships 2018 - biomechanics data analysis</i>							
date	26-May-17	time	13.90		27.77		43.10		59.21	59.21	7 / 2							
reaction time		interval			13.87		15.33		16.11		# of strides	13.90	13.87	15.33	16.11	27.77	31.44	3.67
		velocity		7.19		7.21		6.52		6.21	6.76	7.19	7.21	6.52	6.21	7.20	6.36	
Trent, Tia (USA) (1979)																		
Semi-Final 2 - 2003 USATF National Championship (Palo Alto, CA)											<i>USATF Women's Sprint Development (2003)</i>							
date	20-Jun-03	time			24.64		38.37	45.89	54.24	54.24	9 / 7							
reaction time		interval					13.73	7.52	8.35		# of strides			13.73	15.87	24.64	29.60	4.96
		velocity			8.12		7.28	6.65	5.99	7.37				7.28	6.30	8.12	6.76	
Trevisan, Giancaria (ITA) (1993)																		
Semi-Final 1 - 2024 European Athletics Championships (Roma, ITA)											<i>European Athletics (2024) - 2024 european athletics championships - results book</i>							
date	09-Jun-24	time		12.63		25.12		38.34		52.59	52.59	2 / 5						
reaction time	0.188	interval			12.49		13.22		14.25		# of strides	12.63	12.49	13.22	14.25	25.12	27.47	2.35
		velocity		7.92		8.01		7.56		7.02	7.61	7.92	8.01	7.56	7.02	7.96	7.28	
Heat 1 - 2024 European Athletics Championships (Roma, ITA)											<i>European Athletics (2024) - 2024 european athletics championships - results book</i>							
date	08-Jun-24	time		12.63		24.69		37.78		52.22	52.22	4 / 3						
reaction time	0.192	interval			12.06		13.09		14.44		# of strides	12.63	12.06	13.09	14.44	24.69	27.53	2.84
		velocity		7.92		8.29		7.64		6.93	7.66	7.92	8.29	7.64	6.93	8.10	7.26	
Troiani, Virginia (ITA) (1996)																		
Heat 1 - 2022 European Athletics Championships (Munich, GER)											<i>European Athletics (2022) - european athletics championships race analysis</i>							
date	15-Aug-22	time		13.23		25.48		38.51		52.83	52.83	6 / 4						
reaction time	0.247	interval			12.25		13.03		14.32		# of strides	13.23	12.25	13.03	14.32	25.48	27.35	1.87
		velocity		7.56		8.16		7.67		6.98	7.57	7.56	8.16	7.67	6.98	7.85	7.31	
Trotter, De'Hashia (Dee Dee) (USA) (1961)																		
FINAL - 2012 Olympic Games (London, GBR)											<i>Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016</i>							
date	05-Aug-12	time		12.1		23.7		35.9		49.7	49.72	4 / 3						
reaction time	0.167	interval			11.60		12.20		13.80		# of strides	12.10	11.60	12.20	13.80	23.70	26.00	2.30
		velocity		8.26		8.62		8.20		7.25	8.05	187.5	8.26	8.62	8.20	7.25	8.44	7.69
FINAL - 2012 USA Olympic Trials (Eugene, OR)											<i>Hymans (2020) - history of the US olympic trials - track and field</i>							
date	24-Jun-12	time			24.3		36.5		50.02	50.02	7 / 2							
reaction time	0.269	interval					12.20		13.52		# of strides		24.30	12.20	13.52	24.30	25.72	1.42
		velocity			8.23		8.20		7.40	8.00			4.12	8.20	7.40	8.23	7.78	

FINAL - 2008 USA Olympic Trials (Eugene, OR)										<i>USATF Women's Sprint Development with HPC (2008)</i>								
date	03-Jul-08	time	12.79	17.89	24.62	30.72	37.15	43.61	50.88	50.88	7 / 3							
reaction time		interval	5.10	6.73	6.10	6.43	6.46	7.27			# of strides	12.79	11.83	12.53	13.73	24.62	26.26	1.64
		velocity	7.82	9.80	7.43	8.20	7.78	7.74	6.88	7.86		7.82	8.45	7.98	7.28	8.12	7.62	

Quarter-Final 4 - 2008 USA Olympic Trials (Eugene, OR)										<i>USATF Women's Sprint Development with HPC (2008)</i>								
date	29-Jun-08	time	19.53	25.72	31.92	38.43	44.83	51.97	51.97	8 / 1								
reaction time		interval	6.19	6.20	6.51	6.40	7.14				# of strides	12.71	13.54	25.72	26.25	0.53		
		velocity	7.68	8.08	8.06	7.68	7.81	7.00	7.70			7.87	7.39	7.78	7.62			

FINAL - 2007 IAAF World Championships (Osaka, JPN)										<i>Mochida (2008) - biomechanical analysis of the 400m final race at the 2007 world championships in athletics</i>								
date	29-Aug-07	time	7.00	12.54	18.28	24.23	30.03	36.27	42.91	50.17	50.17	8 / 5						
reaction time	0.162	interval	5.54	5.74	5.95	5.80	6.24	6.64	7.26		# of strides	12.54	11.69	12.04	13.90	24.23	25.94	1.71
		velocity	7.14	9.03	8.71	8.40	8.62	8.01	7.53	6.89	7.97	187.7	7.97	8.55	8.31	7.19	8.25	7.71

FINAL - 2006 USATF National Championship (Indianapolis, IN)										<i>USATF Women's Sprint Development (2006)</i>								
date	24-Jun-06	time	12.12	17.58	24.07	30.01	36.24	43.01	50.40	50.40	6 / 2							
reaction time		interval	5.46	6.49	5.94	6.23	6.77	7.39			# of strides	12.12	11.95	12.17	14.16	24.07	26.33	2.26
		velocity	8.25	9.16	7.70	8.42	8.03	7.39	6.77	7.94	191.2	8.25	8.37	8.22	7.06	8.31	7.60	

FINAL - 2005 Seiko Super Grand Prix (Yokohama, JPN)										<i>Masaaki (2006) - time analysis in the 400m at the Seiko Super Grand Prix</i>								
date	19-Sep-05	time	12.71	24.65	36.43	42.93	50.03	50.03			5 / 1							
reaction time		interval	11.94	11.78	6.50	7.10					# of strides	12.71	11.94	11.78	13.60	24.65	25.38	0.73
		velocity	7.87	8.38	8.49	7.69	7.04	8.00				7.87	8.38	8.49	7.35	8.11	7.88	

FINAL - 2005 IAAF World Championships (Helsinki, FIN)										<i>Butler (2013) - IAAF world championships statistics handbook- moscow 2013</i>							
date	10-Aug-05	time				36.5	51.1	51.14			7 / 5						
reaction time	0.176	interval					14.64				# of strides				14.64		
		velocity				8.22	6.83	7.82							6.83		

FINAL - 2005 USATF National Championship (Carson, CA)										<i>USATF Women's Sprint Development (2005)</i>								
date	25-Jun-05	time	12.45	18.28	24.46	30.50	36.60	43.04	49.88	49.88	5 / 2							
reaction time		interval	5.83	6.18	6.04	6.10	6.44	6.84	PB		# of strides	12.45	12.01	12.14	13.28	24.46	25.42	0.96
		velocity	8.03	8.58	8.09	8.28	8.20	7.76	7.31	8.02		8.03	8.33	8.24	7.53	8.18	7.87	

FINAL - 2004 Olympic Games (Athens, GRE)										<i>Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016</i>								
date	24-Aug-04	time	12.3	23.9	36.0	50.0	50.00				1 / 5							
reaction time	0.225	interval	11.6	12.1	14.0		PB				# of strides	12.30	11.60	12.10	14.00	23.90	26.10	2.20
		velocity	8.13	8.62	8.26	7.14	8.00					8.13	8.62	8.26	7.14	8.37	7.66	

FINAL - 2004 USA Olympic Trials (Sacramento, CA)										<i>USATF Women's Sprint Development (2004)</i>								
date	17-Jul-04	time	12.43	24.19	30.45	36.77	43.06	50.28	50.28		4 / 3							
reaction time		interval	11.76	6.26	6.32	6.29	7.22	PB			# of strides	12.43	11.76	12.58	13.51	24.19	26.09	1.90
		velocity	8.05	8.50	7.99	7.91	7.95	6.93	7.96			8.05	8.50	7.95	7.40	8.27	7.67	

Semi-Final 1 - 2004 USA Olympic Trials (Sacramento, CA)										<i>USATF Women's Sprint Development (2004)</i>								
date	15-Jul-04	time	12.88	24.71	30.83	37.29	43.68	50.53	50.53		3 / 1							
reaction time		interval	11.83	6.12	6.46	6.39	6.85				# of strides	12.88	11.83	12.58	13.24	24.71	25.82	1.11
		velocity	7.76	8.45	8.17	7.74	7.82	7.30	7.92		188.0	7.76	8.45	7.95	7.55	8.09	7.75	

Heat 1 - 2004 USA Olympic Trials (Sacramento, CA)										<i>USATF Women's Sprint Development (2004)</i>								
date	12-Jul-04	time	12.51	24.10	36.80	43.44	50.52	50.52			4 / 1							
reaction time		interval	11.59	12.70	6.64	7.08					# of strides	12.51	11.59	12.70	13.72	24.10	26.42	2.32
		velocity	7.99	8.63	7.87	7.53	7.06	7.92				7.99	8.63	7.87	7.29	8.30	7.57	

FINAL - 2003 USATF National Championship (Palo Alto, CA)										<i>USATF Women's Sprint Development (2003)</i>							
date	21-Jun-03	time	24.39	37.37	44.31	51.78	51.78				2 / 3						
reaction time		interval	12.98	6.94	7.47						# of strides	12.98	14.41	24.39	27.39	3.00	
		velocity	8.20	7.70	7.20	6.69	7.72					7.70	6.94	8.20	7.30		

Semi-Final 2 - 2003 USATF National Championship (Palo Alto, CA)										<i>USATF Women's Sprint Development (2003)</i>							
date	20-Jun-03	time	24.63	37.99	44.76	52.57	52.57				5 / 3						
reaction time		interval	13.36	6.77	7.81						# of strides	13.36	14.58	24.63	27.94	3.31	
		velocity	8.12	7.49	7.39	6.40	7.61					7.49	6.86	8.12	7.16		

Tsuboura, Ryoko (JPN) (1995)										<i>Yasunori (2012) - 65th high school championships: JAF scientific committee- biomechanics</i>								
date	29-Jul-12	time	13.38	26.53	40.71	56.42	56.42				3 / 7							
reaction time		interval	13.15	14.18							# of strides	13.38	13.15	14.18	15.71	26.53	29.89	3.36
		velocity	7.47	7.60	7.05	6.37	7.09					7.47	7.60	7.05	6.37	7.54	6.69	

Tsugawa, Rui (JPN) (2001)										<i>Kota (2019) - 72nd high school championships: JAF scientific committee - biomechanics data collection</i>								
date	04-Aug-19	time	7.47	13.90	20.42	26.97	33.65	40.63	47.91	55.73	55.73	2 / 7						
reaction time		interval	6.43	6.52	6.55	6.68	6.98	7.28	7.82		# of strides	13.90	13.07	13.66	15.10	26.97	28.76	1.79
		velocity	6.69	7.78	7.67	7.63	7.49	7.16	6.87	6.39	7.18	7.19	7.65	7.32	6.62	7.42	6.95	

FINAL - 2018 Japanese National High School Championships (Nagoya, JPN)										<i>Kota (2018) - 71st high school championships: JAF scientific committee - biomechanics data collection</i>								
date	02-Aug-18	time	7.35	13.60	20.19	27.02	33.93	41.17	48.64	56.75	56.75	3 / 8						
reaction time		interval	6.25	6.59	6.83	6.91	7.24	7.47	8.11		# of strides	13.60	13.42	14.15	15.58	27.02	29.73	2.71
		velocity	6.80	8.00	7.59	7.32	7.24	6.91	6.69	6.17	7.05	7.35	7.45	7.07	6.42	7.40	6.73	

Tsugu, Kaneko (JPN)										<i>Shimizu (2022) - shimane high school championships 2022 - biomechanics data analysis</i>							
date		time															

date	time	13.82	27.80	43.09	59.78	59.78	7 / 1												
reaction time	interval		13.98	15.29	16.69		# of strides	13.82	13.98	15.29	16.69	27.80	31.98	4.18					
	velocity	7.24	7.15	6.54	5.99	6.69		7.24	7.15	6.54	5.99	7.19	6.25						
Tsuji, Mio (JPN) (2000)																			
FINAL - 2017 Osaka University Athletics Championships (Osaka, JPN)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
date	06-Apr-17	time	14.63		29.01				61.26	61.26	8 / 8								
reaction time		interval			14.38				32.25		# of strides	14.63	14.38			29.01	32.25	3.24	
		velocity	6.84	6.95					6.20	6.53		6.84	6.95			6.89	6.20		
Tsumagari, Ako (JPN) (1995)																			
FINAL - 2017 Kansai Regional University Championships (Osaka, JPN)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
date	11-May-17	time	14.15						55.79	55.79	9 / 7								
reaction time		interval							41.64		# of strides	14.15							
		velocity	7.07						7.20	7.17		7.07							
Tsumoto, Erika (JPN) (2007)																			
FINAL - 2024 Japanese National High School Championships (Fukuoka, JPN)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
date	28-Jul-24	time	13.56		27.31		41.54		57.50	57.50	2 / 7								
reaction time	0.199	interval			13.75		14.23		15.96		# of strides	13.56	13.75	14.23	15.96	27.31	30.19	2.88	
		velocity	7.37	7.27	7.03		6.27	6.96				7.37	7.27	7.03	6.27	7.32	6.62		
Tveit, June Sæbøe (NOR) (1999)																			
National FINAL - 2019 Bislett Games (Oslo, NOR)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
date	13-Jun-19	time	13.5		26.9		41.1		56.56	56.56	2 / 6								
reaction time	0.182	interval			13.4		14.2		15.5	=PB	# of strides	13.50	13.40	14.20	15.46	26.90	29.66	2.76	
		velocity	7.41	7.46	7.04		6.47	7.07				7.41	7.46	7.04	6.47	7.43	6.74		
Uko, Imaobong Nse (NGR) (2004)																			
Heat 3 - 2023 World Athletics Championships (Budapest, HUN)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
date	20-Aug-23	time	12.89		25.13		38.35		52.24	52.24	2 / 6								
reaction time	0.206	interval			12.24		13.22		13.89		# of strides	12.89	12.24	13.22	13.89	25.13	27.11	1.98	
		velocity	7.76	8.17	7.56		7.20	7.66				7.76	8.17	7.56	7.20	7.96	7.38		
Heat 4 - 2022 World Athletics Championships (Eugene, OR)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
date	17-Jul-22	time	12.76		25.22		38.50		52.80	52.80	8 / 7								
reaction time	0.203	interval			12.46		13.28		14.30		# of strides	12.76	12.46	13.28	14.30	25.22	27.58	2.36	
		velocity	7.84	8.03	7.53		6.99	7.58				7.84	8.03	7.53	6.99	7.93	7.25		
Uesugi, Haruna (JPN) (1998)																			
Heat 2 - 2017 Japanese National Championships (Osaka, JPN)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
date	23-Jun-17	time	13.01		25.52		39.85		56.07	56.07	2 / 6								
reaction time	0.175	interval			12.51		14.33		16.22		# of strides	13.01	12.51	14.33	16.22	25.52	30.55	5.03	
		velocity	7.69	7.99	6.98		6.17	7.13				7.69	7.99	6.98	6.17	7.84	6.55		
FINAL - 2017 Kansai Regional University Championships (Osaka, JPN)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
date	11-May-17	time	13.03		25.55		39.66		55.52	55.52	4 / 5								
reaction time		interval			12.52		14.11		15.86		# of strides	13.03	12.52	14.11	15.86	25.55	29.97	4.42	
		velocity	7.67	7.99	7.09		6.31	7.20				7.67	7.99	7.09	6.31	7.83	6.67		
FINAL - 2017 Izumo Athletics Games (Izuma, JPN) (300m)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
date	23-Apr-17	time	12.99		25.77		39.98		39.98		7 / 6								
reaction time		interval			12.78		14.21		PB		# of strides	12.99	12.78	14.21		25.77	26.99		
		velocity	7.70	7.82	7.04				7.50			7.70	7.82	7.04		7.76	7.41		
FINAL - 2017 Osaka University Athletics Championships (Osaka, JPN)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
date	06-Apr-17	time	13.15		25.86		40.24		56.78	56.78	7 / 1								
reaction time		interval			12.71		14.38		16.54		# of strides	13.15	12.71	14.38	16.54	25.86	30.92	5.06	
		velocity	7.60	7.87	6.95		6.05	7.04				7.60	7.87	6.95	6.05	7.73	6.47		
U19 FINAL - 2016 National Sports Festival (Kitakami, JPN)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
date	10-Oct-16	time	6.98	12.93	19.24	26.00	33.13	40.48	48.04	56.00									
reaction time	0.202	interval			5.95	6.31	7.13	7.35	7.56	7.96	# of strides	12.93	13.07	14.48	15.52	26.00	30.00	4.00	
		velocity	7.16	8.40	7.92	7.40	7.01	6.80	6.61	6.28		7.73	7.65	6.91	6.44	7.69	6.67		
FINAL - 2015 Japanese National High School Championships (Wakayama, CHN)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
date	29-Jul-15	time	7.12	13.27	19.50	26.12	33.09	40.38	47.88	55.74									
reaction time		interval			6.15	6.23	6.62	6.97	7.29	7.50	# of strides	13.27	12.85	14.26	15.36	26.12	29.62	3.50	
		velocity	7.02	8.13	8.03	7.55	7.17	6.86	6.67	6.36		7.54	7.78	7.01	6.51	7.66	6.75		
Ueyama, Misaki (JPN) (1992)																			
FINAL - 2010 Japanese National High School Championships (Okinawa, JPN)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
date	29-Jul-10	time	7.20	13.30	19.57	25.98	32.69	39.84	47.33	55.52									
reaction time		interval			6.10	6.27	6.41	6.71	7.15	7.49	# of strides	13.30	12.68	13.86	15.68	25.98	29.54	3.56	
		velocity	6.94	8.20	7.97	7.80	7.45	6.99	6.68	6.11		7.52	7.89	7.22	6.38	7.70	6.77		
Umehara, Satsuki (JPN) (1994)																			
FINAL - 2017 Izumo Athletics Games (Izuma, JPN) (300m)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
date	23-Apr-17	time	13.35		26.28		40.52		40.52		1 / 9								
reaction time		interval			12.93		14.24				# of strides	13.35	12.93	14.24		26.28	27.17		
		velocity	7.49	7.73	7.02				7.40			7.49	7.73	7.02		7.61	7.36		
Usovich, Ilona (BLR) (1982)																			
FINAL - 2007 IAAF World Athletics Final (Stuttgart, GER)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
date	23-Sep-07	time	12.59		24.27		37.21		51.31	51.38	8 / 8								

reaction time	0.196	interval		11.68	12.94	14.10		# of strides	12.59	11.68	12.94	14.10	24.27	27.04	2.77				
		velocity	7.94	8.56	7.73	7.09	7.79		7.94	8.56	7.73	7.09	8.24	7.40					
FINAL - 2007 IAAF World Championships (Osaka, JPN)									<i>Mochida (2008) - biomechanical analysis of the 400m final race at the 2007 world championships in athletics</i>										
date	29-Aug-07	time	6.90	12.54	18.35	24.45	30.62	36.97	43.53	50.54	50.54								
reaction time	0.192	interval		5.64	5.81	6.10	6.17	6.35	6.56	7.01		# of strides	12.54	11.91	12.52	13.57	24.45	26.09	1.64
		velocity	7.25	8.87	8.61	8.20	8.10	7.87	7.62	7.13	7.91		194.0	7.97	8.40	7.99	7.37	8.18	7.67
FINAL - 2006 European Championships (Göteborg, SWE)									<i>Behm (2006) - Championnats d'Europe Göteborg 2006... Le 400m avec ou sans obstacles</i>										
date	10-Aug-06	time		23.8		36.4		50.69		50.69		# of strides		23.80	12.60	14.29	23.80	26.89	3.09
reaction time		interval				12.60		14.29		NR				4.20	7.94	7.00	8.40	7.44	
		velocity		8.40		15.87		7.00		7.89									
FINAL - 2005 Seiko Super Grand Prix (Yokohama, JPN)									<i>Masaaki (2006) - time analysis in the 400m at the Seiko Super Grand Prix</i>										
date	19-Sep-05	time	12.73	24.89	37.53	44.32	51.45	51.45				# of strides	12.73	12.16	12.64	13.92	24.89	26.56	1.67
reaction time		interval		12.16	12.64	6.79	7.13						7.86	8.22	7.91	7.18	8.04	7.53	
		velocity	7.86	8.22	7.91	7.36	7.01	7.77											
Usovich, Sviatlana (BLR) (1980)																			
		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
FINAL - 2002 European Championships (Munich, GER)									<i>Graubner (2009) - http://www.fgs.uni-halle.de</i>										
date	08-Aug-02	time	12.91	24.96	38.19	52.10	52.10				# of strides	12.91	12.05	13.23	13.91	24.96	27.14	2.18	
reaction time	0.164	interval		12.05	13.23	13.91						7.75	8.30	7.56	7.19	8.01	7.37		
		velocity	7.75	8.30	7.56	7.19	7.68												
Vaičule, Gunta (LAT) (1995)																			
Repechage 3 - 2024 Olympic Games (Paris, FRA)									<i>Paris 2024 Olympic Games - Results Book (2024)</i>										
date	06-Aug-24	time	7.02	12.72	18.51	24.48	30.75	37.17	43.75	50.93	50.93								
reaction time	0.192	interval		5.70	5.79	5.97	6.27	6.42	6.58	7.18		# of strides	12.72	11.76	12.69	13.76	24.48	26.45	1.97
		velocity	7.12	8.77	8.64	8.38	7.97	7.79	7.60	6.96	7.85		196.0	7.86	8.50	7.88	7.27	8.17	7.56
Heat 4 - 2024 Olympic Games (Paris, FRA)									<i>Paris 2024 Olympic Games - Results Book (2024)</i>										
date	05-Aug-24	time	6.85	12.42	18.09	23.93	30.05	36.42	43.34	51.13	51.13								
reaction time	0.185	interval		5.57	5.67	5.84	6.12	6.37	6.92	7.79		# of strides	12.42	11.51	12.49	14.71	23.93	27.20	3.27
		velocity	7.30	8.98	8.82	8.56	8.17	7.85	7.23	6.42	7.82		8.05	8.69	8.01	6.80	8.36	7.35	
Heat 1 - 2023 World Athletics Championships (Budapest, HUN)									<i>Seiko Timing (2023) - world championship race analysis</i>										
date	20-Aug-23	time	12.69	24.29	37.06	51.36	51.36				# of strides	12.69	11.60	12.77	14.30	24.29	27.07	2.78	
reaction time	0.192	interval		11.60	12.77	14.30						7.88	8.62	7.83	6.99	8.23	7.39		
		velocity	7.88	8.62	7.83	6.99	7.79												
Semi-Final 1 - 2022 European Athletics Championships (Munich, GER)									<i>European Athletics (2022) - european athletics championships race analysis</i>										
date	16-Aug-22	time	12.68	24.29	37.06	51.25	51.25				# of strides	12.68	11.61	12.77	14.19	24.29	26.96	2.67	
reaction time	0.179	interval		11.61	12.77	14.19						7.89	8.61	7.83	7.05	8.23	7.42		
		velocity	7.89	8.61	7.83	7.05	7.80												
Heat 3 - 2022 European Athletics Championships (Munich, GER)									<i>European Athletics (2022) - european athletics championships race analysis</i>										
date	15-Aug-22	time	12.77	24.71	37.80	52.26	52.26				# of strides	12.77	11.94	13.09	14.46	24.71	27.55	2.84	
reaction time	0.249	interval		11.94	13.09	14.46						7.83	8.38	7.64	6.92	8.09	7.26		
		velocity	7.83	8.38	7.64	6.92	7.65												
Heat 4 - 2022 World Athletics Championships (Eugene, OR)									<i>Timing by Seiko (2022) - world athletics championships race analysis</i>										
date	17-Jul-22	time	12.85	25.10	38.18	52.21	52.21				# of strides	12.85	12.25	13.08	14.03	25.10	27.11	2.01	
reaction time	0.176	interval		12.25	13.08	14.03						7.78	8.16	7.65	7.13	7.97	7.38		
		velocity	7.78	8.16	7.65	7.13	7.66												
Vallabouy, Shereen (MAS) (1998)																			
Heat 6 - 2022 World Athletics Championships (Eugene, OR)									<i>Timing by Seiko (2022) - world athletics championships race analysis</i>										
date	17-Jul-22	time	12.56	25.14	38.67	53.57	53.57				# of strides	12.56	12.58	13.53	14.90	25.14	28.43	3.29	
reaction time	0.190	interval		12.58	13.53	14.90						7.96	7.95	7.39	6.71	7.96	7.03		
		velocity	7.96	7.95	7.39	6.71	7.47												
van den Broeck, Naomi (BEL) (1996)																			
Heat 3 - 2022 European Athletics Championships (Munich, GER)									<i>European Athletics (2022) - european athletics championships race analysis</i>										
date	15-Aug-22	time	12.73	25.06	38.20	52.80	52.80				# of strides	12.73	12.33	13.14	14.60	25.06	27.74	2.68	
reaction time	0.157	interval		12.33	13.14	14.60						7.86	8.11	7.61	6.85	7.98	7.21		
		velocity	7.86	8.11	7.61	6.85	7.58												
Heat 5 - 2022 World Athletics Championships (Eugene, OR)									<i>Timing by Seiko (2022) - world athletics championships race analysis</i>										
date	17-Jul-22	time	12.77	25.57	38.88	53.16	53.16				# of strides	12.77	12.80	13.31	14.28	25.57	27.59	2.02	
reaction time	0.111	interval		12.80	13.31	14.28						7.83	7.81	7.51	7.00	7.82	7.25		
		velocity	7.83	7.81	7.51	7.00	7.52												
National FINAL - 2019 Bislett Games (Oslo, NOR)									<i>Omega Timing (2019) - diamond league race analysis</i>										
date	13-Jun-19	time	12.7	25.3	39.4	54.48	54.48				# of strides	12.70	12.60	14.10	15.08	25.30	29.18	3.88	
reaction time	0.134	interval		12.6	14.1	15.1						7.87	7.94	7.09	6.63	7.91	6.85		
		velocity	7.87	7.94	7.09	6.63	7.34												
van der Walt, Zenéy (RSA) (2000)																			
Semi-Final 1 - 2023 World Athletics Championships (Budapest, HUN)									<i>Seiko Timing (2023) - world championship race analysis</i>										
date	21-Aug-23	time	12.61	24.39	37.42	51.54	51.54				# of strides	12.61	11.78	13.03	14.12	24.39	27.15	2.76	
reaction time	0.202	interval		11.78	13.03	14.12						7.93	8.49	7.67	7.08	8.20	7.37		
		velocity	7.93	8.49	7.67	7.08	7.76												
Heat 3 - 2023 World Athletics Championships (Budapest, HUN)									<i>Seiko Timing (2023) - world championship race analysis</i>										
date	20-Aug-23	time	12.49	24.14	37.20	51.76	51.76				# of strides								

reaction time	0.215	interval		11.65	13.06	14.56		# of strides	12.49	11.65	13.06	14.56	24.14	27.62	3.48			
		velocity	8.01	8.58	7.66	6.87	7.73	184.2	8.01	8.58	7.66	6.87	8.29	7.24				
FINAL - 2023 Herculis Meeting International d'Athlétisme (Monaco, MON)										<i>Omega Timing (2023) - diamond league race analysis</i>								
date	21-Jul-23	time	6.84	12.53	18.39	24.36	30.60	37.19	43.98	51.20	51.20	1 / 7						
reaction time	0.178	interval	5.69	5.86	5.97	6.24	6.59	6.79	7.22		# of strides	12.53	11.83	12.83	14.01	24.36	26.84	2.48
		velocity	7.31	8.79	8.53	8.38	8.01	7.59	7.36	6.93	7.81	7.98	8.45	7.79	7.14	8.21	7.45	
van der Zwaard, Tilly (NED) (1938)										<i>Müller (1965) - die leichtathletik-wettkampfe der XVIII olympischen sommerspielen Tokio 1964 - 400m lauf</i>								
date	17-Oct-64	time			25.8			55.2			4 / 6							
reaction time		interval						29.40			# of strides				25.80	29.40	3.60	
		velocity			7.75			6.80	7.25					7.75	6.80			
van Leur, Madelif (NED) (2007)										<i>Omega Timing (2024) - continental tour gold race analysis</i>								
National FINAL - 2024 FBK Games (Hengelo, NED)																		
date	07-Jul-24	time	6.96	12.67	18.59	24.71	31.10	37.84	45.13	53.04	53.04	6 / 1						
reaction time	0.195	interval	5.71	5.92	6.12	6.39	6.74	7.29	7.91	NU18R PB	# of strides	12.67	12.04	13.13	15.20	24.71	28.33	3.62
		velocity	7.18	8.76	8.45	8.17	7.82	7.42	6.86	6.32	7.54	7.89	8.31	7.62	6.58	8.09	7.06	
van Puyvelde, Margo (BEL) (1995)										<i>Omega Timing (2020) - diamond league race analysis</i>								
FINAL - 2020 Memorial Van Damme (Brussels, BEL)																		
date	04-Sep-20	time	7.2	13.2	19.4	25.9	32.6	39.5	46.6	54.32	54.32	8 / 8						
reaction time	0.182	interval	6.00	6.20	6.50	6.70	6.90	7.10	7.72		# of strides	13.20	12.70	13.60	14.82	25.90	28.42	2.52
		velocity	6.94	8.33	8.06	7.69	7.46	7.25	7.04	6.48	7.36	7.58	7.87	7.35	6.75	7.72	7.04	
Vandi, Elisabetta (ITA) (2000)										<i>Omega Timing (2019) - diamond league race analysis</i>								
National FINAL - 2019 Memorial van Damme (Brussels, BEL)																		
date	06-Sep-19	time	7.0	12.8	18.9	25.4	32.2	39.1	46.4	54.20	54.20	2 / 6						
reaction time	0.214	interval	5.8	6.1	6.5	6.8	6.9	7.3	7.8		# of strides	12.80	12.60	13.70	15.10	25.40	28.80	3.40
		velocity	7.14	8.62	8.20	7.69	7.35	7.25	6.85	6.41	7.38	7.81	7.94	7.30	6.62	7.87	6.94	
FINAL - 2018 IAAF World Junior Championships (Tampere, FIN)										<i>Koyama (2018) - research on athlete performance and technique- 2018 data book</i>								
date	12-Jul-18	time	6.93	13.00	19.23	25.73	32.32	39.07	45.96	53.40	53.40	2 / 7						
reaction time	0.181	interval	6.07	6.23	6.50	6.59	6.75	6.89	7.44		# of strides	13.00	12.73	13.34	14.33	25.73	27.67	1.94
		velocity	7.22	8.24	8.03	7.69	7.59	7.41	7.26	6.72	7.49	190.2	7.69	7.86	7.50	6.98	7.77	7.23
Vasilíou, Irini (GRE) (1990)										<i>Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Women's 400m</i>								
Semi-Final 2 - 2017 IAAF World Championships (London, GBR)																		
date	07-Aug-17	time	12.43		24.51		37.56	44.91	53.08	53.27	6 / 7							
reaction time	0.190	interval			12.08		13.05	7.35	8.17		# of strides	12.43	12.08	13.05	15.52	24.51	28.57	4.06
		velocity			8.05		7.66	6.80	6.12	7.51	190.4	8.05	8.28	7.66	6.44	8.16	7.00	
Veitia, Lisneidy (CUB) (1994)										<i>Yamamoto (2015) - race analysis of 15th World Championships 400m- focusing on men's semis and women's prelims</i>								
Heat 5 - 2015 IAAF World Championships (Beijing, CHN)																		
date	24-Aug-15	time	7.04	12.78	18.75	25.04	31.46	37.96	44.79	52.25	52.25	7 / 6						
reaction time	0.364	interval	5.74	5.97	6.29	6.42	6.50	6.83	7.46		# of strides	12.78	12.26	12.92	14.29	25.04	27.21	2.17
		velocity	7.10	8.71	8.38	7.95	7.79	7.69	7.32	6.70	7.66	7.82	8.16	7.74	7.00	7.99	7.35	
Veninga, Dominique (NED) (1997)										<i>Omega Timing (2024) - continental tour gold race analysis</i>								
National FINAL - 2024 FBK Games (Hengelo, NED)																		
date	07-Jul-24	time	7.00	12.65	18.55	24.71	31.23	38.19	45.71	54.12	54.12	1 / 5						
reaction time	0.209	interval	5.65	5.90	6.16	6.52	6.96	7.52	8.41		# of strides	12.65	12.06	13.48	15.93	24.71	29.41	4.70
		velocity	7.14	8.85	8.47	8.12	7.67	7.18	6.65	5.95	7.39	7.91	8.29	7.42	6.28	8.09	6.80	
Vervae, Imke (BEL) (1993)										<i>Seiko Timing (2023) - world championship race analysis</i>								
B Race - 2023 Memorial van Damme (Brussels, BEL)																		
date	08-Sep-23	time	6.76	12.39	18.21	24.34	30.84	37.62	44.64	52.00	52.00	6 / 2						
reaction time	0.157	interval	5.63	5.82	6.13	6.50	6.78	7.02	7.36		# of strides	12.39	11.95	13.28	14.38	24.34	27.66	3.32
		velocity	7.40	8.88	8.59	8.16	7.69	7.37	7.12	6.79	7.69	8.07	8.37	7.53	6.95	8.22	7.23	
National FINAL - 2022 Memorial van Damme (Brussels, BEL)										<i>Omega Timing (2022) - diamond league race analysis</i>								
date	02-Sep-22	time	6.84	12.53	18.54	24.88	31.53	38.50	45.69	53.00	53.00	4 / 6						
reaction time	0.160	interval	5.69	6.01	6.34	6.65	6.97	7.19	7.31		# of strides	12.53	12.35	13.62	14.50	24.88	28.12	3.24
		velocity	7.31	8.79	8.32	7.89	7.52	7.17	6.95	6.84	7.55	7.98	8.10	7.34	6.90	8.04	7.11	
National FINAL - 2019 Memorial van Damme (Brussels, BEL)										<i>Omega Timing (2019) - diamond league race analysis</i>								
date	06-Sep-19	time	6.8	12.6	18.6	24.9	31.5	38.5	45.7	53.22	53.22	7 / 2						
reaction time	0.143	interval	5.8	6.0	6.3	6.6	7.0	7.2	7.5	PB	# of strides	12.60	12.30	13.60	14.72	24.90	28.32	3.42
		velocity	7.35	8.62	8.33	7.94	7.58	7.14	6.94	6.65	7.52	7.94	8.13	7.35	6.79	8.03	7.06	
Veshkurova, Tatyana (RUS) (1981)										<i>Behm (2006) - Championnats d'Europe Göteborg 2006... Le 400m avec ou sans obstacles</i>								
FINAL - 2006 European Championships (Göteborg, SWE)																		
date	10-Aug-06	time			23.9		36.5		50.15	50.15	1 / 2							
reaction time		interval					12.60		13.65		# of strides		23.90	12.60	13.65	23.90	26.25	2.35
		velocity			8.37		15.87		7.33	7.98			4.18	7.94	7.33	8.37	7.62	
Viljoen, Marlie (RSA) (2000)										<i>Seiko Timing (2023) - world championship race analysis</i>								
Heat 6 - 2023 World Athletics Championships (Budapest, HUN)																		
date	20-Aug-23	time	12.70		24.99		38.40		53.73	53.73	4 / 8							
reaction time	0.189	interval			12.29		13.41		15.33		# of strides	12.70	12.29	13.41	15.33	24.99	28.74	3.75
		velocity			7.87		8.14		7.46	7.44		7.87	8.14	7.46	6.52	8.00	6.96	
Vondrová, Lada (CZE) (1999)										<i>Paris 2024 Olympic Games - Results Book (2024)</i>								
Repechage 4 - 2024 Olympic Games (Paris, FRA)																		

date	06-Aug-24	time	6.86	12.44	18.21	24.23	30.51	37.17	44.31	52.15	52.15	5 / 5							
reaction time	0.197	interval		5.58	5.77	6.02	6.28	6.66	7.14	7.84		# of strides	12.44	11.79	12.94	14.98	24.23	27.92	3.69
		velocity	7.29	8.96	8.67	8.31	7.96	7.51	7.00	6.38	7.67	198.7	8.04	8.48	7.73	6.68	8.25	7.16	
Heat 6 - 2024 Olympic Games (Paris, FRA)																			Paris 2024 Olympic Games - Results Book (2024)
date	05-Aug-24	time	6.80	12.43	18.24	24.33	30.63	37.21	44.20	51.80	51.80	6 / 5							
reaction time	0.179	interval		5.63	5.81	6.09	6.30	6.58	6.99	7.60		# of strides	12.43	11.90	12.88	14.59	24.33	27.47	3.14
		velocity	7.35	8.88	8.61	8.21	7.94	7.60	7.15	6.58	7.72	194.0	8.05	8.40	7.76	6.85	8.22	7.28	
Semi-Final 1 - 2023 World Athletics Championships (Budapest, HUN)																			Seiko Timing (2023) - world championship race analysis
date	21-Aug-23	time		12.39		24.02		37.07		51.50	51.50	3 / 7							
reaction time	0.196	interval				11.63		13.05		14.43		# of strides	12.39	11.63	13.05	14.43	24.02	27.48	3.46
		velocity		8.07		8.60		7.66		6.93	7.77	8.07	8.60	7.66	6.93	8.33	7.28		
Heat 6 - 2023 World Athletics Championships (Budapest, HUN)																			Seiko Timing (2023) - world championship race analysis
date	20-Aug-23	time		12.57		24.57		37.23		50.92	50.92	3 / 4							
reaction time	0.232	interval				12.00		12.66		13.69	PB	# of strides	12.57	12.00	12.66	13.69	24.57	26.35	1.78
		velocity		7.96		8.33		7.90		7.30	7.86	194.0	7.96	8.33	7.90	7.30	8.14	7.59	
Semi-Final 2 - 2022 European Athletics Championships (Munich, GER)																			European Athletics (2022) - european athletics championships race analysis
date	16-Aug-22	time		12.37		24.34		37.28		51.83	51.83	3 / 4							
reaction time	0.258	interval				11.97		12.94		14.55		# of strides	12.37	11.97	12.94	14.55	24.34	27.49	3.15
		velocity		8.08		8.35		7.73		6.87	7.72	196.0	8.08	8.35	7.73	6.87	8.22	7.28	
Semi-Final 3 - 2022 World Athletics Championships (Eugene, OR)																			Timing by Seiko (2022) - world athletics championships race analysis
date	20-Jul-22	time		12.23		24.12		36.85		51.47	51.47	1 / 6							
reaction time	0.199	interval				11.89		12.73		14.62		# of strides	12.23	11.89	12.73	14.62	24.12	27.35	3.23
		velocity		8.18		8.41		7.86		6.84	7.77	197.0	8.18	8.41	7.86	6.84	8.29	7.31	
FINAL - 2022 Meeting International Mohammed VI d'Athlétisme (Rabat, MAR)																			Omega Timing (2022) - diamond league race analysis
date	05-Jun-22	time	6.74	12.46	18.49	24.76	31.13	37.84	44.65	52.07	52.07	2 / 5							
reaction time	0.205	interval		5.72	6.03	6.27	6.37	6.71	6.81	7.42		# of strides	12.46	12.30	13.08	14.23	24.76	27.31	2.55
		velocity	7.42	8.74	8.29	7.97	7.85	7.45	7.34	6.74	7.68	8.03	8.13	7.65	7.03	8.08	7.32		
FINAL - 2020 Bauhaus Galan (Stockholm, SWE)																			Omega Timing (2020) - diamond league race analysis
date	23-Aug-20	time	6.9	12.7	18.9	25.2	31.5	38.1	45.0	52.44	52.44	5 / 5							
reaction time	0.251	interval		5.80	6.20	6.30	6.30	6.60	6.90	7.44		# of strides	12.70	12.50	12.90	14.34	25.20	27.24	2.04
		velocity	7.25	8.62	8.06	7.94	7.94	7.58	7.25	6.72	7.63	7.87	8.00	7.75	6.97	7.94	7.34		
Waithera, Ruth (KEN) (1958)																			Adams (1984) - 1984 olympic games - 200m & 400m
FINAL - 1984 Olympic Games (Los Angeles, CA)			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	06-Aug-84	time				25.1				51.56	51.56	4 / 8							
reaction time	0.334	interval								26.46		# of strides					25.10	26.46	1.36
		velocity				7.97				7.56	7.76						7.97	7.56	
Walli, Susanne (AUT) (1996)																			European Athletics (2022) - european athletics championships race analysis
Semi-Final 3 - 2022 European Athletics Championships (Munich, GER)			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	16-Aug-22	time		12.72		24.91		38.10		52.58	52.58	1 / 7							
reaction time	0.279	interval				12.19		13.19		14.48		# of strides	12.72	12.19	13.19	14.48	24.91	27.67	2.76
		velocity		7.86		8.20		7.58		6.91	7.61	197.0	7.86	8.20	7.58	6.91	8.03	7.23	
Heat 2 - 2022 European Athletics Championships (Munich, GER)																			European Athletics (2022) - european athletics championships race analysis
date	15-Aug-22	time		12.35		24.23		37.25		51.73	51.73	3 / 3							
reaction time	0.250	interval				11.88		13.02		14.48		# of strides	12.35	11.88	13.02	14.48	24.23	27.50	3.27
		velocity		8.10		8.42		7.68		6.91	7.73	194.0	8.10	8.42	7.68	6.91	8.25	7.27	
Wang Jiuxiang (CHN) (2001)																			Shandong Athletics Sport Science (2023)
FINAL - 2023 Chinese National Championships (Quzhou, CHN)			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Jul-23	time		13.29		26.16		40.31	47.73	55.60	55.60	3 / 8							
reaction time	0.253	interval				12.87		14.15	7.42	7.87		# of strides	13.29	12.87	14.15	15.29	26.16	29.44	3.28
		velocity		7.52		7.77		7.07	6.74	6.35	7.19	214.7	7.52	7.77	7.07	6.54	7.65	6.79	
Warren, Youlanda (USA) (1972)																			USATF Women's Sprint Development (1996)
FINAL - 1996 USA Olympic Trials (Atlanta, GA)			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	19-Jun-96	time		12.38		24.26		37.26	44.30	52.10	52.10	3 / 8							
reaction time		interval				11.88		13.00	7.04	7.80		# of strides	12.38	11.88	13.00	14.84	24.26	27.84	3.58
		velocity		8.08		8.42		7.69	7.10	6.41	7.68	8.08	8.42	7.69	6.74	8.24	7.18		
Semi-Final 1 - 1996 USA Olympic Trials (Atlanta, GA)																			USATF Women's Sprint Development (1996)
date	17-Jun-96	time		12.08		23.70		36.44	43.44	50.90	50.90	1 / 2							
reaction time		interval				11.62		12.74	7.00	7.46	PB	# of strides	12.08	11.62	12.74	14.46	23.70	27.20	3.50
		velocity		8.28		8.61		7.85	7.14	6.70	7.86	8.28	8.61	7.85	6.92	8.44	7.35		
Washington, Demetria (USA) (1979)																			USATF Women's Sprint Development (2004)
Semi-Final 2 - 2004 USA Olympic Trials (Sacramento, CA)			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	15-Jul-04	time		12.15		24.11	30.73	37.39	44.44	52.27	52.27	4 / 5							
reaction time		interval				11.96	6.62	6.66	7.05	7.83		# of strides	12.15	11.96	13.28	14.88	24.11	28.16	4.05
		velocity		8.23		8.36	7.55	7.51	7.09	6.39	7.65	192.7	8.23	8.36	7.53	6.72	8.30	7.10	
Heat 3 - 2004 USA Olympic Trials (Sacramento, CA)																			USATF Women's Sprint Development (2004)
date	12-Jul-04	time		12.08		23.79		37.07	44.24	52.13	52.13	7 / 1							
reaction time		interval				11.71		13.28	7.17	7.89		# of strides	12.08	11.71	13.28	15.06	23.79	28.34	4.55
		velocity		8.28		8.54		7.53	6.97	6.34	7.67	192.7	8.28	8.54	7.53	6.64	8.41	7.06	
FINAL - 2003 USATF National Championship (Palo Alto, CA)																			USATF Women's Sprint Development (2003)

date	21-Jun-03	time	24.12	37.25	44.11	51.54	51.54	5 / 2											
reaction time		interval		13.13	6.86	7.43		# of strides			13.13	14.29	24.12	27.42	3.30				
		velocity	8.29	7.62	7.29	6.73	7.76				7.62	7.00	8.29	7.29					
Semi-Final 1 - 2003 USATF National Championship (Palo Alto, CA)										<i>USATF Women's Sprint Development (2003)</i>									
date	20-Jun-03	time	24.54	37.56	44.39	51.91	51.91	5 / 1											
reaction time		interval		13.02	6.83	7.52		# of strides			13.02	14.35	24.54	27.37	2.83				
		velocity	8.15	7.68	7.32	6.65	7.71				7.68	6.97	8.15	7.31					
Watanabe, Suzuka (JPN) (2002)																			
FINAL - 2020 Shimane High School Championships (Izumo, JPN)										<i>Shimizu (2020) - shimane high school championships 2020 - biomechanics data analysis</i>									
date	11-Jul-20	time	13.36	27.00	41.91	58.26	58.26	7 / 1											
reaction time		interval		13.64	14.91	16.35		# of strides			13.36	13.64	14.91	16.35	27.00	31.26	4.26		
		velocity	7.49	7.33	6.71	6.12	6.87				7.49	7.33	6.71	6.12	7.41	6.40			
FINAL - 2019 Shimane High School Championships (Izumo, JPN)										<i>Shimizu (2019) - shimane high school championships 2019 - biomechanics data analysis</i>									
date	24-May-19	time	13.80	27.61	43.43	59.35	59.35	7 / 2											
reaction time		interval		13.81	15.82	15.92		# of strides			13.80	13.81	15.82	15.92	27.61	31.74	4.13		
		velocity	7.25	7.24	6.32	6.28	6.74				7.25	7.24	6.32	6.28	7.24	6.30			
FINAL - 2018 Shimane High School Championships (Izumo, JPN)										<i>Shimizu (2018) - shimane high school championships 2018 - biomechanics data analysis</i>									
date	25-May-18	time	14.00	28.32	43.65	60.17	60.17	5 / 2											
reaction time		interval		14.32	15.33	16.52		# of strides			14.00	14.32	15.33	16.52	28.32	31.85	3.53		
		velocity	7.14	6.98	6.52	6.05	6.65				7.14	6.98	6.52	6.05	7.06	6.28			
Weil, Martina (CHI) (1999)																			
Repechage 2 - 2024 Olympic Games (Paris, FRA)										<i>Paris 2024 Olympic Games - Results Book (2024)</i>									
date	06-Aug-24	time	6.68	12.21	17.81	23.72	29.98	36.58	43.73	51.79	51.79	3 / 6							
reaction time	0.178	interval		5.53	5.60	5.91	6.26	6.60	7.15	8.06		# of strides	12.21	11.51	12.86	15.21	23.72	28.07	4.35
		velocity	7.49	9.04	8.93	8.46	7.99	7.58	6.99	6.20	7.72	193.0	8.19	8.69	7.78	6.57	8.43	7.13	
Heat 3 - 2024 Olympic Games (Paris, FRA)										<i>Paris 2024 Olympic Games - Results Book (2024)</i>									
date	05-Aug-24	time	6.76	12.33	18.05	24.01	30.25	36.66	43.51	51.15	51.15	9 / 4							
reaction time	0.178	interval		5.57	5.72	5.96	6.24	6.41	6.85	7.64		# of strides	12.33	11.68	12.65	14.49	24.01	27.14	3.13
		velocity	7.40	8.98	8.74	8.39	8.01	7.80	7.30	6.54	7.82	8.11	8.56	7.91	6.90	8.33	7.37		
FINAL - 2023 Xiamen Diamond League (Xiamen, CHN)										<i>Omega Timing (2023) - diamond league race analysis</i>									
date	02-Sep-23	time	6.72	12.29	18.24	24.37	30.73	37.35	44.10	51.30	51.30	1 / 7							
reaction time	0.160	interval		5.57	5.95	6.13	6.36	6.62	6.75	7.20		# of strides	12.29	12.08	12.98	13.95	24.37	26.93	2.56
		velocity	7.44	8.98	8.40	8.16	7.86	7.55	7.41	6.94	7.80	8.14	8.28	7.70	7.17	8.21	7.43		
Heat 4 - 2023 World Athletics Championships (Budapest, HUN)										<i>Seiko Timing (2023) - world championship race analysis</i>									
date	20-Aug-23	time	12.50	24.30	37.42	51.35	51.35	3 / 4											
reaction time	0.159	interval		11.80	13.12	13.93		# of strides			12.50	11.80	13.12	13.93	24.30	27.05	2.75		
		velocity	8.00	8.47	7.62	7.18	7.79	187.2			8.00	8.47	7.62	7.18	8.23	7.39			
Wernli, Lena (SUI) (2001)																			
FINAL - 2024 Athletissima (Lausanne, SUI)										<i>Omega Timing (2024) - diamond league race analysis</i>									
date	22-Aug-24	time	6.96	12.90	19.05	25.30	31.79	38.63	45.66	53.33	53.33	6 / 2							
reaction time	0.143	interval		5.94	6.15	6.25	6.49	6.84	7.03	7.67		# of strides	12.90	12.40	13.33	14.70	25.30	28.03	2.73
		velocity	7.18	8.42	8.13	8.00	7.70	7.31	7.11	6.52	7.50	7.75	8.06	7.50	6.80	7.91	7.14		
B Race - 2021 Athletissima (Lausanne, SUI)										<i>Omega Timing (2021) - diamond league race analysis</i>									
date	26-Aug-21	time	7.1	13.0	19.6	26.2	32.9	40.1	47.5	55.49	55.49	2 / 7							
reaction time	0.151	interval		5.90	6.60	6.60	6.70	7.20	7.40	7.99		# of strides	13.00	13.20	13.90	15.39	26.20	29.29	3.09
		velocity	7.04	8.47	7.58	7.58	7.46	6.94	6.76	6.26	7.21	7.69	7.58	7.19	6.50	7.63	6.83		
Werro, Audrey (SUI) (2004)																			
B FINAL - 2021 Weltklasse (Zürich, SUI)										<i>Omega Timing (2021) - diamond league race analysis</i>									
date	09-Sep-21	time	7.2	12.9	18.8	25.2	32.0	39.1	46.4	53.88	53.88	8 / 8							
reaction time	0.160	interval		5.70	5.90	6.40	6.80	7.10	7.30	7.48		# of strides	12.90	12.30	13.90	14.78	25.20	28.68	3.48
		velocity	6.94	8.77	8.47	7.81	7.35	7.04	6.85	6.68	7.42	7.75	8.13	7.19	6.77	7.94	6.97		
Whitney, Kaylin (USA) (1998)																			
Semi-Final 3 - 2024 USA Olympic Trials (Eugene, OR)										<i>USATF and Karmarush (2024) - USA Olympic trials results and race analysis</i>									
date	22-Jun-24	time	12.45	24.02	37.05	51.79	51.79	1 / 7											
reaction time		interval		11.57	13.03	14.74		# of strides			12.45	11.57	13.03	14.74	24.02	27.77	3.75		
		velocity	8.03	8.64	7.67	6.78	7.72				8.03	8.64	7.67	6.78	8.33	7.20			
Heat 4 - 2024 USA Olympic Trials (Eugene, OR)										<i>USATF and Karmarush (2024) - USA Olympic trials results and race analysis</i>									
date	21-Jun-24	time	12.63	24.33	37.43	52.18	52.18	7 / 6											
reaction time		interval		11.70	13.10	14.75		# of strides			12.63	11.70	13.10	14.75	24.33	27.85	3.52		
		velocity	7.92	8.55	7.63	6.78	7.67	184.0			7.92	8.55	7.63	6.78	8.22	7.18			
FINAL - 2024 Xiamen Diamond League (Xiamen, CHN)										<i>Omega Timing (2024) - diamond league race analysis</i>									
date	20-Apr-24	time	6.98	12.68	18.47	24.48	30.82	37.56	44.68	52.47	52.47	2 / 6							
reaction time	0.256	interval		5.70	5.79	6.01	6.34	6.74	7.12	7.79		# of strides	12.68	11.80	13.08	14.91	24.48	27.99	3.51
		velocity	7.16	8.77	8.64	8.32	7.89	7.42	7.02	6.42	7.62	7.89	8.47	7.65	6.71	8.17	7.15		
B Race - 2023 Memorial van Damme (Brussels, BEL)										<i>Seiko Timing (2023) - world championship race analysis</i>									
date	08-Sep-23	time	7.03	12.87	18.86	25.06	31.56	38.20	44.99	52.11	52.11	3 / 3							
reaction time	0.215	interval		5.84	5.99	6.20	6.50	6.64	6.79	7.12		# of strides	12.87	12.19	13.14	13.91	25.06	27.05	1.99
		velocity	7.11	8.56	8.35	8.06	7.69	7.53	7.36	7.02	7.68	7.77	8.20	7.61	7.19	7.98	7.39		
FINAL - 2022 Herculis Meeting International d'Athlétisme (Monaco, MON)										<i>Omega Timing (2022) - diamond league race analysis</i>									

date	10-Aug-22	time	6.86	12.52	18.35	24.30	30.43	36.89	43.67	51.02	51.02	8 / 7							
reaction time	0.222	interval		5.66	5.83	5.95	6.13	6.46	6.78	7.35		# of strides	12.52	11.78	12.59	14.13	24.30	26.72	2.42
		velocity	7.29	8.83	8.58	8.40	8.16	7.74	7.37	6.80	7.84	185.2	7.99	8.49	7.94	7.08	8.23	7.49	
FINAL - 2021 Weltklasse (Zürich, SU)												<i>Omega Timing (2021) - diamond league race analysis</i>							
date	09-Sep-21	time	6.8	12.4	18.2	24.1	30.3	36.9	43.8	51.19	51.19	2 / 8							
reaction time	0.198	interval		5.60	5.80	5.90	6.20	6.60	6.90	7.39		# of strides	12.40	11.70	12.80	14.29	24.10	27.09	2.99
		velocity	7.35	8.93	8.62	8.47	8.06	7.58	7.25	6.77	7.81	8.06	8.55	7.81	7.00	8.30	7.38		
FINAL - 2021 Müller Grand Prix (Gateshead, GBR)												<i>Omega Timing (2021) - diamond league race analysis</i>							
date	23-May-21	time	7.2	12.9	18.7	24.8	31.1	38.0	45.3	52.84	52.84	7 / 4							
reaction time	0.162	interval		5.70	5.80	6.10	6.30	6.90	7.30	7.54		# of strides	12.90	11.90	13.20	14.84	24.80	28.04	3.24
		velocity	6.94	8.77	8.62	8.20	7.94	7.25	6.85	6.63	7.57	7.75	8.40	7.58	6.74	8.06	7.13		
Whittaker, Isabella (USA) (2002)																			
FINAL - 2024 USA Olympic Trials (Eugene, OR)												<i>USATF and Karmarush (2024) - USA Olympic trials results and race analysis</i>							
date	23-Jun-24	time		12.32		24.31		37.10		50.68	50.68	9 / 6							
reaction time		interval				11.99		12.79		13.58		# of strides	12.32	11.99	12.79	13.58	24.31	26.37	2.06
		velocity		8.12		8.34		7.82		7.36	7.89	8.12	8.34	7.82	7.36	8.23	7.58		
Semi-Final 3 - 2024 USA Olympic Trials (Eugene, OR)												<i>USATF and Karmarush (2024) - USA Olympic trials results and race analysis</i>							
date	22-Jun-24	time		12.35		23.96		36.73		50.48	50.48	5 / 2							
reaction time		interval				11.61		12.77		13.75		# of strides	12.35	11.61	12.77	13.75	23.96	26.52	2.56
		velocity		8.10		8.61		7.83		7.27	7.92	8.10	8.61	7.83	7.27	8.35	7.54		
Heat 2 - 2024 USA Olympic Trials (Eugene, OR)												<i>USATF and Karmarush (2024) - USA Olympic trials results and race analysis</i>							
date	21-Jun-24	time		12.32		24.18		37.17		51.18	51.18	9 / 2							
reaction time		interval				11.86		12.99		14.01		# of strides	12.32	11.86	12.99	14.01	24.18	27.00	2.82
		velocity		8.12		8.43		7.70		7.14	7.82	8.12	8.43	7.70	7.14	8.27	7.41		
Whyte, Madison (USA) (2004)																			
Semi-Final 2 - 2024 USA Olympic Trials (Eugene, OR)												<i>USATF and Karmarush (2024) - USA Olympic trials results and race analysis</i>							
date	22-Jun-24	time		12.39		24.01		36.93		51.49	51.49	3 / 5							
reaction time		interval				11.62		12.92		14.56	PB	# of strides	12.39	11.62	12.92	14.56	24.01	27.48	3.47
		velocity		8.07		8.61		7.74		6.87	7.77	8.07	8.61	7.74	6.87	8.33	7.28		
Heat 1 - 2024 USA Olympic Trials (Eugene, OR)												<i>USATF and Karmarush (2024) - USA Olympic trials results and race analysis</i>							
date	21-Jun-24	time		12.35		24.51		37.39		51.85	51.85	6 / 4							
reaction time		interval				12.16		12.88		14.46		# of strides	12.35	12.16	12.88	14.46	24.51	27.34	2.83
		velocity		8.10		8.22		7.76		6.92	7.71	8.10	8.22	7.76	6.92	8.16	7.32		
Whyte, Rosemarie (JAM) (1986)																			
FINAL - 2012 Olympic Games (London, GBR)												<i>Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016</i>							
date	05-Aug-12	time		12.1		23.9		36.9		50.8	50.79	3 / 7							
reaction time	0.184	interval				11.80		13.00		13.90		# of strides	12.10	11.80	13.00	13.90	23.90	26.90	3.00
		velocity		8.26		8.47		7.69		7.19	7.88	8.26	8.47	7.69	7.19	8.37	7.43		
FINAL - 2008 Olympic Games (Beijing, CHN)												<i>Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016</i>							
date	19-Aug-08	time		12.4		24.2		36.6		50.7	50.68	2 / 7							
reaction time	0.181	interval				11.80		12.40		14.10		# of strides	12.40	11.80	12.40	14.10	24.20	26.50	2.30
		velocity		8.06		8.47		8.06		7.09	7.89	8.06	8.47	8.06	7.09	8.26	7.55		
Wilkins, Bobby-Gaye (JAM) (1988)																			
FINAL - 2009 ISTAF (Berlin, GER)												<i>Graubner (2009) - http://www.fgs.uni-halle.de</i>							
date	14-Jun-09	time		12.74		24.75		37.63		52.23	52.23	/ 5							
reaction time	0.380	interval				12.01		12.88		14.60		# of strides	12.74	12.01	12.88	14.60	24.75	27.48	2.73
		velocity		7.85		8.33		7.76		6.85	7.66	7.85	8.33	7.76	6.85	8.08	7.28		
Williams, Alycia (USA) (1985)																			
FINAL - 2003 USATF National Junior Championship (Palo Alto, CA)												<i>USATF Women's Sprint Development (2003)</i>							
date	22-Jun-03	time				25.18		39.07		46.53	54.73	1 / 9							
reaction time		interval						13.89		7.46	8.20	# of strides			13.89	15.66	25.18	29.55	4.37
		velocity				7.94		7.20		6.70	6.10	7.31			7.20	6.39	7.94	6.77	
Williams, Hannah (GBR) (1998)																			
FINAL - 2022 Müller Birmingham Diamond League (Birmingham, GBR)												<i>Omega Timing (2022) - diamond league race analysis</i>							
date	21-May-22	time		6.6		12.2		18.3		24.7	31.4	6 / 5							
reaction time	0.152	interval				5.60		6.10		6.40	6.70	# of strides	12.20	12.50	13.70	15.32	24.70	29.02	4.32
		velocity		7.58		8.93		8.20		7.81	7.46	8.20	8.00	7.30	6.53	8.10	6.89		
B Race - 2021 Müller British Grand Prix (Gateshead, GBR)												<i>Omega Timing (2021) - diamond league race analysis</i>							
date	13-Jun-21	time		6.9		12.7		18.8		25.3	31.8	4 / 3							
reaction time	0.171	interval				5.80		6.10		6.50	6.70	# of strides	12.70	12.60	13.20	14.48	25.30	27.68	2.38
		velocity		7.25		8.62		8.20		7.69	7.46	7.87	7.94	7.58	6.91	7.91	7.23		
FINAL - 2021 Müller Grand Prix (Gateshead, GBR)												<i>Omega Timing (2021) - diamond league race analysis</i>							
date	23-May-21	time		7.2		12.7		18.5		24.6	31.0	8 / 5							
reaction time	0.163	interval				5.50		5.80		6.10	6.40	# of strides	12.70	11.90	13.30	15.45	24.60	28.75	4.15
		velocity		6.94		9.09		8.62		8.20	7.81	7.87	8.40	7.52	6.47	8.13	6.96		
Williams, Jodie (GBR) (1993)																			
National FINAL - 2024 London Athletics Meet (London, GBR)												<i>Omega Timing (2024) - diamond league race analysis</i>							
date	20-Jul-24	time		6.88		12.66		18.61		24.82	31.27	5 / 4							
reaction time	0.163	interval				5.78		5.95		6.21	6.45	# of strides	12.66	12.16	13.06	14.18	24.82	27.24	2.42
		velocity		7.27		8.65		8.40		8.05	7.75	7.90	8.22	7.66	7.05	8.06	7.34		

date	20-Apr-24	time	6.62	12.25	17.98	23.98	30.34	37.05	44.17	51.97	51.97	4 / 4							
reaction time	0.179	interval		5.63	5.73	6.00	6.36	6.71	7.12	7.80		# of strides	12.25	11.73	13.07	14.92	23.98	27.99	4.01
		velocity	7.55	8.88	8.73	8.33	7.86	7.45	7.02	6.41	7.70	194.0	8.16	8.53	7.65	6.70	8.34	7.15	
FINAL - 2023 Prefontaine Classic (Eugene, OR)												<i>Omega Timing (2023) - diamond league race analysis</i>							
date	17-Sep-23	time	6.69	12.35	18.16	24.25	30.41	36.86	43.67	51.07	51.07	7 / 5							
reaction time	0.190	interval		5.66	5.81	6.09	6.16	6.45	6.81	7.40		# of strides	12.35	11.90	12.61	14.21	24.25	26.82	2.57
		velocity	7.47	8.83	8.61	8.21	8.12	7.75	7.34	6.76	7.83	8.10	8.40	7.93	7.04	8.25	7.46		
FINAL - 2023 Xiamen Diamond League (Xiamen, CHN)												<i>Omega Timing (2023) - diamond league race analysis</i>							
date	02-Sep-23	time	6.65	12.27	18.07	24.07	30.22	36.68	43.44	50.95	50.95	4 / 4							
reaction time	0.198	interval		5.62	5.80	6.00	6.15	6.46	6.76	7.51		# of strides	12.27	11.80	12.61	14.27	24.07	26.88	2.81
		velocity	7.52	8.90	8.62	8.33	8.13	7.74	7.40	6.66	7.85	8.15	8.47	7.93	7.01	8.31	7.44		
FINAL - 2023 World Athletics Championships (Budapest, HUN)												<i>Seiko Timing (2023) - world championship race analysis</i>							
date	23-Aug-23	time		12.08		23.49		35.90		49.60	49.60	8 / 3							
reaction time	0.183	interval				11.41		12.41		13.70		# of strides	12.08	11.41	12.41	13.70	23.49	26.11	2.62
		velocity		8.28		8.76		8.06		7.30	8.06	190.5	8.28	8.76	8.06	7.30	8.51	7.66	
Semi-Final 3 - 2023 World Athletics Championships (Budapest, HUN)												<i>Seiko Timing (2023) - world championship race analysis</i>							
date	21-Aug-23	time		12.21		23.90		36.19		49.58	49.58	7 / 2							
reaction time	0.191	interval				11.69		12.29		13.39	NR PB	# of strides	12.21	11.69	12.29	13.39	23.90	25.68	1.78
		velocity		8.19		8.55		8.14		7.47	8.07	190.0	8.19	8.55	8.14	7.47	8.37	7.79	
Heat 3 - 2023 World Athletics Championships (Budapest, HUN)												<i>Seiko Timing (2023) - world championship race analysis</i>							
date	20-Aug-23	time		12.00		23.30		35.97		50.78	50.78	9 / 1							
reaction time	0.172	interval				11.30		12.67		14.81		# of strides	12.00	11.30	12.67	14.81	23.30	27.48	4.18
		velocity		8.33		8.85		7.89		6.75	7.88	189.5	8.33	8.85	7.89	6.75	8.58	7.28	
FINAL - 2023 Herculis Meeting International d'Athlétisme (Monaco, MON)												<i>Omega Timing (2023) - diamond league race analysis</i>							
date	21-Jul-23	time	6.52	11.89	17.41	23.18	29.26	35.70	42.53	50.00	50.00	7 / 5							
reaction time	0.185	interval		5.37	5.52	5.77	6.08	6.44	6.83	7.47		# of strides	11.89	11.29	12.52	14.30	23.18	26.82	3.64
		velocity	7.67	9.31	9.06	8.67	8.22	7.76	7.32	6.69	8.00	8.41	8.86	7.99	6.99	8.63	7.46		
FINAL - 2023 Doha Diamond League (Doha, QAT)												<i>Omega Timing (2023) - diamond league race analysis</i>							
date	05-May-23	time	6.74	12.40	18.40	24.63	30.95	37.58	44.52	52.05	52.05	4 / 4							
reaction time	0.184	interval		5.66	6.00	6.23	6.32	6.63	6.94	7.53		# of strides	12.40	12.23	12.95	14.47	24.63	27.42	2.79
		velocity	7.42	8.83	8.33	8.03	7.91	7.54	7.20	6.64	7.68	193.5	8.06	8.18	7.72	6.91	8.12	7.29	
FINAL - 2022 Weltklasse (Zürich, SU1)												<i>Omega Timing (2022) - diamond league race analysis</i>							
date	08-Sep-22	time	6.60	12.18	17.88	23.70	29.66	35.99	42.75	49.98	49.98	5 / 3							
reaction time	0.133	interval		5.58	5.70	5.82	5.96	6.33	6.76	7.23		# of strides	12.18	11.52	12.29	13.99	23.70	26.28	2.58
		velocity	7.58	8.96	8.77	8.59	8.39	7.90	7.40	6.92	8.00	193.5	8.21	8.68	8.14	7.15	8.44	7.61	
FINAL - 2022 Memorial van Damme (Brussels, BEL)												<i>Omega Timing (2022) - diamond league race analysis</i>							
date	02-Sep-22	time	6.65	12.17	17.72	23.51	29.53	35.99	42.83	50.15	50.15	4 / 2							
reaction time	0.169	interval		5.52	5.55	5.79	6.02	6.46	6.84	7.32		# of strides	12.17	11.34	12.48	14.16	23.51	26.64	3.13
		velocity	7.52	9.06	9.01	8.64	8.31	7.74	7.31	6.83	7.98	8.22	8.82	8.01	7.06	8.51	7.51		
FINAL - 2022 Athletissima (Lausanne, SU1)												<i>Omega Timing (2022) - diamond league race analysis</i>							
date	26-Aug-22	time	6.64	12.14	17.78	23.59	29.56	35.95	42.67	49.94	49.94	5 / 2							
reaction time	0.168	interval		5.50	5.64	5.81	5.97	6.39	6.72	7.27		# of strides	12.14	11.45	12.36	13.99	23.59	26.35	2.76
		velocity	7.53	9.09	8.87	8.61	8.38	7.82	7.44	6.88	8.01	197.0	8.24	8.73	8.09	7.15	8.48	7.59	
FINAL - 2022 Herculis Meeting International d'Athlétisme (Monaco, MON)												<i>Omega Timing (2022) - diamond league race analysis</i>							
date	10-Aug-22	time	6.79	12.37	18.05	23.90	29.90	36.22	42.93	50.10	50.10	5 / 3							
reaction time	0.189	interval		5.58	5.68	5.85	6.00	6.32	6.71	7.17		# of strides	12.37	11.53	12.32	13.88	23.90	26.20	2.30
		velocity	7.36	8.96	8.80	8.55	8.33	7.91	7.45	6.97	7.98	192.0	8.08	8.67	8.12	7.20	8.37	7.63	
FINAL - 2022 Commonwealth Games (Birmingham, GBR)												<i>Longines Timing (2022) - commonwealth games race analysis</i>							
date	07-Aug-22	time	6.6	12.3	18.2	24.1	30.0	36.2	42.8	49.90	49.90	6 / 1							
reaction time	0.169	interval		5.70	5.90	5.90	5.90	6.20	6.60	7.10		# of strides	12.30	11.80	12.10	13.70	24.10	25.80	1.70
		velocity	7.58	8.77	8.47	8.47	8.47	8.06	7.58	7.04	8.02	194.0	8.13	8.47	8.26	7.30	8.30	7.75	
Semi-Final 2 - 2022 Commonwealth Games (Birmingham, GBR)												<i>Longines Timing (2022) - commonwealth games race analysis</i>							
date	05-Aug-22	time	6.6	12.3	18.2	24.2	30.4	37.0	44.0	51.59	51.59	5 / 1							
reaction time	0.202	interval		5.70	5.90	6.00	6.20	6.60	7.00	7.59		# of strides	12.30	11.90	12.80	14.59	24.20	27.39	3.19
		velocity	7.58	8.77	8.47	8.33	8.06	7.58	7.14	6.59	7.75	195.0	8.13	8.40	7.81	6.85	8.26	7.30	
FINAL - 2022 World Athletics Championships (Eugene, OR)												<i>Timing by Seiko (2022) - world athletics championships race analysis</i>							
date	22-Jul-22	time		12.13		23.55		35.80		49.75	49.75	7 / 3							
reaction time	0.181	interval				11.42		12.25		13.95	NR PB	# of strides	12.13	11.42	12.25	13.95	23.55	26.20	2.65
		velocity		8.24		8.76		8.16		7.17	8.04	192.0	8.24	8.76	8.16	7.17	8.49	7.63	
Semi-Final 3 - 2022 World Athletics Championships (Eugene, OR)												<i>Timing by Seiko (2022) - world athletics championships race analysis</i>							
date	20-Jul-22	time		12.37		24.28		36.37		50.12	50.12	5 / 2							
reaction time	0.168	interval				11.91		12.09		13.75		# of strides	12.37	11.91	12.09	13.75	24.28	25.84	1.56
		velocity		8.08		8.40		8.27		7.27	7.98	193.0	8.08	8.40	8.27	7.27	8.24	7.74	
Heat 3 - 2022 World Athletics Championships (Eugene, OR)												<i>Timing by Seiko (2022) - world athletics championships race analysis</i>							
date	17-Jul-22	time		12.54		24.46		36.84		51.05	51.05	6 / 1							
reaction time	0.169	interval				11.92		12.38		14.21		# of strides	12.54	11.92	12.38	14.21	24.46	26.59	2.13
		velocity		7.97		8.39		8.08		7.04	7.84	194.7	7.97	8.39	8.08	7.04	8.18	7.52	
FINAL - 2022 Meeting International Mohammed VI d'Athlétisme (Rabat, MAR)												<i>Omega Timing (2022) - diamond league race analysis</i>							

velocity	7.39	9.09	8.64	8.39	8.13	7.75	7.36	6.78	7.88	192.5	8.15	8.51	7.94	7.06	8.33	7.47
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Heat 1 - 2024 Olympic Games (Paris, FRA)

Paris 2024 Olympic Games - Results Book (2024)

date	05-Aug-24	time	6.72	12.21	18.03	24.09	30.13	36.40	43.01	50.16	50.16	8 / 2							
reaction time	0.145	interval		5.49	5.82	6.06	6.04	6.27	6.61	7.15		# of strides	12.21	11.88	12.31	13.76	24.09	26.07	1.98
		velocity	7.44	9.11	8.59	8.25	8.28	7.97	7.56	6.99	7.97		190.0	8.19	8.42	8.12	7.27	8.30	7.67

FINAL - 2018 IAAF World Junior Championships (Tampere, FIN)

Koyama (2018) - research on athlete performance and technique- 2018 data book

date	12-Jul-18	time	6.94	12.76	18.90	25.31	31.86	38.53	45.47	53.23	53.23	1 / 6							
reaction time	0.163	interval		5.82	6.14	6.41	6.55	6.67	6.94	7.76		# of strides	12.76	12.55	13.22	14.70	25.31	27.92	2.61
		velocity	7.20	8.59	8.14	7.80	7.63	7.50	7.20	6.44	7.51		196.2	7.84	7.97	7.56	6.80	7.90	7.16

Williams-Darling, Tonique (BAH) (197)

date	19-Aug-05	time		12.0		23.3		35.5		49.30	49.30	1 / 2							
reaction time	0.275	interval				11.30		12.20		13.80		# of strides	12.00	11.30	12.20	13.80	23.30	26.00	2.70
		velocity		8.33		8.85		8.20		7.25	8.11		8.33	8.85	8.20	7.25	8.58	7.69	

FINAL - 2005 IAAF World Championships (Helsinki, FIN)

Butler (2013) - IAAF world championships statistics handbook- moscow 2013

date	10-Aug-05	time					35.7		49.55	49.55		6 / 1							
reaction time	0.162	interval							13.85			# of strides				13.85			
		velocity					8.40		7.22	8.07						7.22			

Semi-Final 3 - 2005 IAAF World Championships (Helsinki, FIN)

Butler (2013) - IAAF world championships statistics handbook- moscow 2013

date	08-Aug-05	time					35.5		49.69	49.69		4 / 1							
reaction time	0.176	interval							14.19			# of strides				14.19			
		velocity					8.45		7.05	8.05						7.05			

FINAL - 2004 Olympic Games (Athens, GRE)

Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016

date	24-Aug-04	time		12.0		23.4		35.5		49.4	49.41	4 / 1							
reaction time	0.268	interval				11.4		12.1		13.9		# of strides	12.00	11.40	12.10	13.90	23.40	26.00	2.60
		velocity		8.33		8.77		8.26		7.19	8.10		8.33	8.77	8.26	7.19	8.55	7.69	

FINAL - 2003 IAAF World Championships (Paris, FRA)

Bonvin (2003) - Compte-rendu 400m et relais 4x 400m

date	27-Aug-03	time			23.5		36.2		50.38	50.38		4 / 5							
reaction time	0.151	interval					12.70		14.18			# of strides			12.70	14.18	23.50	26.88	3.38
		velocity			8.51		7.87		7.05	7.94					7.87	7.05	8.51	7.44	

Williams-Mills, Novlene (JAM) (1982)

date	01-Sep-17	time		12.4		18.2		24.2		30.5	37.1	44.0	51.27	51.27	8 / 6							
reaction time	0.238	interval				5.80		6.00		6.30	6.60	6.90	7.27		# of strides	12.40	11.80	12.90	14.17	24.20	27.07	2.87
		velocity		8.06		8.62		8.33		7.94	7.58	7.25	6.88	7.80		202.0	8.06	8.47	7.75	7.06	8.26	7.39

FINAL - 2017 IAAF World Championships (London, GBR)

Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Women's 400m

date	09-Aug-17	time		12.16		23.75		36.54		43.51	51.21	51.48	51.48	3 / 7							
reaction time	0.272	interval				11.59		12.79		6.97	7.70			# of strides	12.16	11.59	12.79	14.67	23.75	27.46	3.71
		velocity		8.22		8.63		7.82		7.17	6.49	7.77			202.2	8.22	8.63	7.82	6.82	8.42	7.28

Semi-Final 2 - 2017 IAAF World Championships (London, GBR)

Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Women's 400m

date	07-Aug-17	time		12.12		23.75		36.43		43.11	50.40	50.67	50.67	9 / 3							
reaction time	0.266	interval				11.63		12.68		6.68	7.29			# of strides	12.12	11.63	12.68	13.97	23.75	26.65	2.90
		velocity		8.25		8.60		7.89		7.49	6.86	7.89			201.0	8.25	8.60	7.89	7.16	8.42	7.50

FINAL - 2017 Meeting de Paris (Paris, FRA)

Omega Timing (2017) - diamond league race analysis

date	01-Jul-17	time		12.6		18.4		24.4		30.7	37.3	44.0	51.03	51.03	4 / 1							
reaction time	0.236	interval				5.8		6.0		6.3	6.6	6.7	7.0		# of strides	12.60	11.80	12.90	13.73	24.40	26.63	2.23
		velocity		7.94		8.62		8.33		7.94	7.58	7.46	7.11	7.84		200.2	7.94	8.47	7.75	7.28	8.20	7.51

FINAL - 2015 IAAF World Championships (Beijing, CHN)

Kohei (2015) - 400m race analysis of male & female at major 2015 competitions

date	27-Aug-15	time		6.79		12.37		18.02		23.96	30.13	36.57	43.37	50.47	50.47	2 / 6							
reaction time	0.313	interval				5.58		5.65		5.94	6.17	6.44	6.80	7.10		# of strides	12.37	11.59	12.61	13.90	23.96	26.51	2.55
		velocity		7.36		8.96		8.85		8.42	8.10	7.76	7.35	7.04	7.93		8.08	8.63	7.93	7.19	8.35	7.54	

Heat 6 - 2015 IAAF World Championships (Beijing, CHN)

Yamamoto (2015) - race analysis of 15th World Championships 400m- focusing on men's semis and women's prelims

date	24-Aug-15	time		6.86		12.34		18.07		24.02	30.26	36.75	43.61	51.07	51.07	3 / 2							
reaction time	0.306	interval				5.48		5.73		5.95	6.24	6.49	6.86	7.46		# of strides	12.34	11.68	12.73	14.32	24.02	27.05	3.03
		velocity		7.29		9.12		8.73		8.40	8.01	7.70	7.29	6.70	7.83		8.10	8.56	7.86	6.98	8.33	7.39	

FINAL - 2013 IAAF World Championships (Moscow, RUS)(2013) - <http://speedendurance.com/2013/10/07/racing-400-meters-differences-in-elite-men-and-women/>

date	12-Aug-13	time			24.3		37.1		51.5	51.49		1 / 8							
reaction time	0.276	interval					12.80		14.40			# of strides			12.80	14.40	24.30	27.20	2.90
		velocity			8.23		7.81		6.94	7.77					7.81	6.94	8.23	7.35	

FINAL - 2012 Olympic Games (London, GBR)

Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016

date	05-Aug-12	time		12.2		24.1		36.6		50.1	50.11		2 / 5								
reaction time	0.258	interval				11.90		12.50		13.50		# of strides	12.20	11.90	12.50	13.50	24.10	26.00	1.90		
		velocity		8.20		8.40		8.00		7.41	7.98				192.0	8.20	8.40	8.00	7.41	8.30	7.69

FINAL - 2011 IAAF World Championships (Daegu, KOR)

Butler (2013) - IAAF world athletic results 2008-2011 full results

date	29-Aug-11	time			23.5		36.3		52.89	52.89		8 / 8							
reaction time	0.276	interval					12.80		16.59			# of strides			23.50	29.39	5.89		
		velocity			8.51		7.81		6.03	7.56					8.51	6.81			

FINAL - 2009 IAAF World Championships (Berlin, GER)

Graubner (2011) - biomechanical analysis of the sprint and hurdle events at the 2009 IAAF world championships in athletics

velocity	8.24	8.73	8.12	7.24	7.94	8.09	8.73	7.80	7.29	8.40	7.54
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FINAL - 2017 NCAA Championships (Eugene, OR)*USTFCCCA (2017) - NCAA DI outdoor championship history*

date	10-Jun-17	time	24.0	36.7	50.7	50.68	5 / 2										
reaction time		interval		12.70	14.00		# of strides		12.70	14.00	24.00	26.70	2.70				
		velocity	8.33	7.87	7.14	7.89	179.2		7.87	7.14	8.33	7.49					

FINAL - 2016 NCAA Championships (Eugene, OR)*USTFCCCA (2017) - NCAA DI outdoor championship history*

date	11-Jun-16	time	24.8	37.8	51.4	51.43	6 / 3										
reaction time		interval		13.00	13.60		# of strides		13.00	13.60	24.80	26.60	1.80				
		velocity	8.06	7.69	7.35	7.78			7.69	7.35	8.06	7.52					

Wineberg, Mary (USA) (1980)**FINAL - 2008 IAAF World Athletics Final (Stuttgart, GER)***Graubner (2009) - http://www.fgs.uni-halle.de*

date	14-Sep-08	time	12.31	24.12	37.22	51.65	51.65	1 / 6									
reaction time	0.263	interval		11.81	13.10	14.43		# of strides	12.31	11.81	13.10	14.43	24.12	27.53	3.41		
		velocity	8.12	8.47	7.63	6.93	7.74		8.12	8.47	7.63	6.93	8.29	7.26			

FINAL - 2008 USA Olympic Trials (Eugene, OR)*USATF Women's Sprint Development with HPC (2008)*

date	03-Jul-08	time	11.96	17.08	23.69	29.96	36.50	43.22	50.85	50.85	4 / 2						
reaction time		interval		5.12	6.61	6.27	6.54	6.72	7.63		# of strides	11.96	11.73	12.81	14.35	23.69	27.16
		velocity	8.36	9.77	7.56	7.97	7.65	7.44	6.55	7.87		8.36	8.53	7.81	6.97	8.44	7.36

Quarter-Final 1 - 2008 USA Olympic Trials (Eugene, OR)*USATF Women's Sprint Development with HPC (2008)*

date	29-Jun-08	time	19.03	25.55	31.45	37.96	44.29	51.46	51.46	8 / 1							
reaction time		interval		6.52	5.90	6.51	6.33	7.17		# of strides		12.41	13.50	25.55	25.91	0.36	
		velocity	7.88	7.67	8.47	7.68	7.90	6.97	7.77			8.06	7.41	7.83	7.72		

FINAL - 2007 IAAF World Athletics Final (Stuttgart, GER)*Graubner (2007) - http://www.fgs.uni-halle.de*

date	23-Sep-07	time	12.43	24.19	36.90	50.73	50.73	2 / 7									
reaction time	0.146	interval		11.76	12.71	13.83		# of strides	12.43	11.76	12.71	13.83	24.19	26.54	2.35		
		velocity	8.05	8.50	7.87	7.23	7.88		8.05	8.50	7.87	7.23	8.27	7.54			

FINAL - 2007 IAAF World Championships (Osaka, JPN)*Mochida (2008) - biomechanical analysis of the 400m final race at the 2007 world championships in athletics*

date	29-Aug-07	time	6.60	12.20	18.03	24.22	30.42	36.94	43.69	50.96	50.96	2 / 8						
reaction time	0.159	interval		5.60	5.83	6.19	6.20	6.52	6.75	7.27		# of strides	12.20	12.02	12.72	14.02	24.22	
		velocity	7.58	8.93	8.58	8.08	8.06	7.67	7.41	6.88	7.85		8.20	8.32	7.86	7.13	8.26	7.48

Danner, Mary (USA) (1980)**FINAL - 2006 USATF National Championship (Indianapolis, IN)***USATF Women's Sprint Development (2006)*

date	24-Jun-06	time	12.02	18.32	24.39	30.73	37.37	44.26	51.27	51.27	2 / 5						
reaction time		interval		6.30	6.07	6.34	6.64	6.89	7.01	PB	# of strides	12.02	12.37	12.98	13.90	24.39	26.88
		velocity	8.32	7.94	8.24	7.89	7.53	7.26	7.13	7.80		8.32	8.08	7.70	7.19	8.20	7.44

Semi-Final 1 - 2004 USA Olympic Trials (Sacramento, CA)*USATF Women's Sprint Development (2004)*

date	15-Jul-04	time	12.36	24.11	30.58	37.30	44.65	52.85	52.85	8 / 8							
reaction time		interval		11.75	6.47	6.72	7.35	8.20		# of strides	12.36	11.75	13.19	15.55	24.11	28.74	4.63
		velocity	8.09	8.51	7.73	7.44	6.80	6.10	7.57		8.09	8.51	7.58	6.43	8.30	6.96	

Heat 2 - 2004 USA Olympic Trials (Sacramento, CA)*USATF Women's Sprint Development (2004)*

date	12-Jul-04	time	12.19	23.92	37.15	44.06	51.88	51.88	5 / 3								
reaction time		interval		11.73	13.23	6.91	7.82		# of strides	12.19	11.73	13.23	14.73	23.92	27.96	4.04	
		velocity	8.20	8.53	7.56	7.24	6.39	7.71	181.2		8.20	8.53	7.56	6.79	8.36	7.15	

Wittstock, Estie (RSA) (1980)**FINAL - 2009 ISTAF (Berlin, GER)***Graubner (2009) - http://www.fgs.uni-halle.de*

date	14-Jun-09	time	12.72	25.08	38.47	53.39	53.39	1 / 8									
reaction time	0.199	interval		12.36	13.39	14.92		# of strides	12.72	12.36	13.39	14.92	25.08	28.31	3.23		
		velocity	7.86	8.09	7.47	6.70	7.49		7.86	8.09	7.47	6.70	7.97	7.06			

Woods, Shareese (USA) (1985)**Quarter-Final 2 - 2008 USA Olympic Trials (Eugene, OR)***USATF Women's Sprint Development with HPC (2008)*

date	29-Jun-08	time	12.94	19.21	25.55	31.77	38.08	44.60	51.60	51.60	8 / 2						
reaction time		interval		6.27	6.34	6.22	6.31	6.52	7.00	PB	# of strides	12.94	12.61	12.53	13.52	25.55	26.05
		velocity	7.73	7.97	7.89	8.04	7.92	7.67	7.14	7.75		7.73	7.93	7.98	7.40	7.83	7.68

Wright, Jessica (USA) (2000)**Heat 1 - 2024 USA Olympic Trials (Eugene, OR)***USATF and Karmarush (2024) - USA Olympic trials results and race analysis*

date	21-Jun-24	time	12.76	24.90	38.01	52.76	52.76	8 / 7									
reaction time		interval		12.14	13.11	14.75		# of strides	12.76	12.14	13.11	14.75	24.90	27.86	2.96		
		velocity	7.84	8.24	7.63	6.78	7.58		7.84	8.24	7.63	6.78	8.03	7.18			

Wyciszewicz, Patrycja (POL) (1994)**FINAL - 2020 Memorial Van Damme (Brussels, BEL)***Omega Timing (2020) - diamond league race analysis*

date	04-Sep-20	time	7.1	13.1	19.1	25.3	31.7	38.4	45.3	52.78	52.78	2 / 3						
reaction time	0.161	interval		6.00	6.00	6.20	6.40	6.70	6.90	7.48		# of strides	13.10	12.20	13.10	14.38	25.30	
		velocity	7.04	8.33	8.33	8.06	7.81	7.46	7.25	6.68	7.58		194.7	7.63	8.20	7.63	6.95	7.91

FINAL - 2018 Seiko Golden Grand Prix (Osaka, JPN)*Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition*

date	20-May-18	time	6.96	12.74	18.67	24.81	31.14	37.80	44.73	52.06	52.06	7 / 5						
reaction time	0.190	interval		5.78	5.93	6.14	6.33	6.66	6.93	7.33		# of strides	12.74	12.07	12.99	14.26	24.81	
		velocity	7.18	8.65	8.43	8.14	7.90	7.51	7.22	6.82	7.68		197.0	7.85	8.29	7.70	7.01	8.06

Heat 1 - 2015 IAAF World Championships (Beijing, CHN)*Yamamoto (2015) - race analysis of 15th World Championships 400m- focusing on men's semis and women's prelims*

date	24-Aug-15	time	6.82	12.50	18.25	24.32	30.66	37.17	44.01	51.31	51.31	9 / 4						
reaction time	0.190	interval		5.68	5.75	6.07	6.34	6.51	6.84	7.30	NUR / PB	# of strides	12.50	11.82	12.85	14.14	24.32	
													12.50	11.82	12.85	14.14	24.32	26.99

velocity	7.33	8.80	8.70	8.24	7.89	7.68	7.31	6.85	7.80		8.00	8.46	7.78	7.07	8.22	7.41
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Xiao Hongfan (CHN) (1983)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2001 Chinese National Games (Guangzhou, CHN)		<i>Wang (2012) - Research on the analysis of the speed distribution of China's outstanding female 400-meter runners</i>																
date	21-Nov-01	time	12.50		24.70		38.27		52.96	52.94	1							
reaction time		interval			12.20		13.57		14.69		# of strides	12.50	12.20	13.57	14.69	24.70	28.26	3.56
		velocity		8.00		8.20		7.37		6.81	7.56		8.00	8.20	7.37	6.81	8.10	7.08

Yada, Shizuka (JPN)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 China Perfure High School Championships (Okayama, JPN)		<i>(2016.06.20) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en</i>																
date	17-Jun-16	time	13.63		26.65		40.60		55.91	55.91	5	3						
reaction time		interval			13.02		13.95		15.31		# of strides	13.63	13.02	13.95	15.31	26.65	29.26	2.61
		velocity		7.34		7.68		7.17		6.53	7.15		7.34	7.68	7.17	6.53	7.50	6.84

Yajima, Aki (JPN) (2007)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Japanese National High School Championships (Fukuoka, JPN)		<i>Takashima (2024) - national high school sports festival - biomechanics data</i>																
date	28-Jul-24	time	13.93		27.03		40.54		56.10	56.10	4	5						
reaction time	0.200	interval			13.10		13.51		15.56		# of strides	13.93	13.10	13.51	15.56	27.03	29.07	2.04
		velocity		7.18		7.63		7.40		6.43	7.13		7.18	7.63	7.40	6.43	7.40	6.88

Yakushiji, Mana (JPN) (1995)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Division 1 Semi-Final 2 - 2017 Kanto Collegiate Championships (Yokohama, JPN)		<i>(2017) - tfdata-store.com/2017/06/02/post-835/</i>																
date	26-May-17	time	13.16		26.31		40.91		56.50	56.50	8	5						
reaction time		interval			13.15		14.60		15.59		# of strides	13.16	13.15	14.60	15.59	26.31	30.19	3.88
		velocity		7.60		7.60		6.85		6.41	7.08		7.60	7.60	6.85	6.41	7.60	6.62

Yamada, Hana (JPN) (1994)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 All Japan Corporate Championships (Osaka, JPN)		<i>(2017) - tfdata-store.com/2017/10/05/post-1097/</i>																
date	24-Sep-17	time					41.85		57.29	57.29	2	7						
reaction time	0.194	interval							15.44		# of strides				15.44			
		velocity					7.17		6.48	6.98					6.48			

Yamada, Miki (JPN) (1999)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
U19 FINAL - 2017 National Sports Festival (Matsuyama, JPN)		<i>(2017) - tfdata-store.com/2017/10/12/post-1100/</i>																
date	08-Oct-17	time	13.54		26.19		40.32		55.46	55.46	6	5						
reaction time	0.274	interval			12.65		14.13		15.14		# of strides	13.54	12.65	14.13	15.14	26.19	29.27	3.08
		velocity		7.39		7.91		7.08		6.61	7.21		7.39	7.91	7.08	6.61	7.64	6.83

U19 Semi-Final 2 - 2017 National Sports Festival (Matsuyama, JPN)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
U19 Semi-Final 2 - 2017 National Sports Festival (Matsuyama, JPN)		<i>(2017) - tfdata-store.com/2017/10/12/post-1100/</i>																
date	08-Oct-17	time	13.02		25.53		39.30		55.00	55.00	6	2						
reaction time	0.210	interval			12.51		13.77		15.70		# of strides	13.02	12.51	13.77	15.70	25.53	29.47	3.94
		velocity		7.68		7.99		7.26		6.37	7.27		7.68	7.99	7.26	6.37	7.83	6.79

Yamagata, Aiha (JPN) (2005)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
U20 FINAL - 2023 Japanese National Sports Festival (Kagoshima, JPN) (300m)		<i>Yamanaka (2024) - analysis of men's and women's 400m and 300m runs in the 2023 season</i>																
date	14-Oct-23	time	6.71	12.49	18.54	24.72	31.04	37.73		37.73	5	1						
reaction time	0.208	interval		5.78	6.05	6.18	6.32	6.69		PB	# of strides	12.49	12.23	13.01		24.72	25.24	100m-300m
		velocity		7.45	8.65	8.26	8.09	7.91	7.47	7.95		8.01	8.18	7.69		8.09	7.92	

Yamamoto, Mizuke (JPN)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Shimane High School Championships (Izumo, JPN)		<i>Shimizu (2024) - shimane high school championships 2024 - biomechanics data analysis</i>																
date	24-May-24	time	14.40		28.63		43.76		60.47	60.47	8	4						
reaction time		interval			14.23		15.13		16.71		# of strides	14.40	14.23	15.13	16.71	28.63	31.84	3.21
		velocity		6.94		7.03		6.61		5.98	6.61		6.94	7.03	6.61	5.98	6.99	6.28

FINAL - 2023 Shimane High School Championships (Izumo, JPN)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Shimane High School Championships (Izumo, JPN)		<i>Shimizu (2023) - shimane high school championships 2023 - biomechanics data analysis</i>																
date	26-May-23	time	15.00		30.32		46.12		64.24	64.24	1	7						
reaction time		interval			15.32		15.80		18.12		# of strides	15.00	15.32	15.80	18.12	30.32	33.92	3.60
		velocity		6.67		6.53		6.33		5.52	6.23		6.67	6.53	6.33	5.52	6.60	5.90

Yamamoto, Mizuki (JPN) (1993)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2011 Japanese National High School Championships (Okinawa, JPN)		<i>Abe (2011) - 64th high school championships: JAF scientific committee - biomechanics</i>																
date	03-Aug-11	time	13.69		27.20		40.70		55.42	55.42	7	4						
reaction time		interval			13.51		13.50		14.72	PB	# of strides	13.69	13.51	13.50	14.72	27.20	28.22	1.02
		velocity		7.30		7.40		7.41		6.79	7.22		7.30	7.40	7.41	6.79	7.35	7.09

Yamao, Mizuki (JPN)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Shimane High School Championships (Izumo, JPN)		<i>Shimizu (2022) - shimane high school championships 2022 - biomechanics data analysis</i>																
date	26-May-22	time	14.35		28.53		44.00		61.29	61.29	6	4						
reaction time		interval			14.18		15.47		17.29		# of strides	14.35	14.18	15.47	17.29	28.53	32.76	4.23
		velocity		6.97		7.05		6.46		5.78	6.53		6.97	7.05	6.46	5.78	7.01	6.11

Yamauchi, Soyo (JPN) (2004)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Japanese National High School Championships (Naruto, JPN)		<i>Kishima (2022) - national high school championships biomechanics data collection</i>																
date	03-Aug-22	time	13.28		26.16		40.01		55.26	55.26	9	3						
reaction time	0.224	interval			12.88		13.85		15.25		# of strides	13.28	12.88	13.85	15.25	26.16	29.10	2.94
		velocity		7.53		7.76		7.22		6.56	7.24		7.53	7.76	7.22	6.56	7.65	6.87

FINAL - 2021 Japanese U18 National Championships (Matsuyama, JPN) (300m)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Japanese U18 National Championships (Matsuyama, JPN) (300m)		<i>Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition</i>																
date	23-Oct-21	time	7.16	13.05	19.17	25.60	32.28	39.35		39.35	7	4						
reaction time	0.225	interval		5.89	6.12	6.43	6.68	7.07			# of strides	13.05	12.55	13.75		25.60		
		velocity		6.98	8.49	8.17	7.78	7.49	7.07	7.62		152.7	7.66	7.97	7.27		7.81	

Yang Huizhen (CHN) (1992)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Chinese National Games (Tianjin, CHN)		<i>Yang (2019) - analysis of the characteristics of Yang Huizhen's running speed in 400m</i>																

date	03-Sep-17	time	12.80	24.86	37.76	51.80	51.80	/ 1												
reaction time		interval		12.06	12.90	14.04	PB	# of strides	12.80	12.06	12.90	14.04	24.86	26.94	2.08					
		velocity	7.81	8.29	7.75	7.12	7.72	196.0	7.81	8.29	7.75	7.12	8.05	7.42						
FINAL - 2016 Chinese National Championships (Tianjin, CHN)									<i>Yang (2019) - analysis of the characteristics of Yang Huizhen's running speed in 400m</i>											
date	15-Sep-16	time		25.36	38.52	52.57	52.57	/ 1												
reaction time		interval			13.16	14.05		# of strides			13.16	14.05	25.36	27.21	1.85					
		velocity		7.89	7.60	7.12	7.61	189.0			7.60	7.12	7.89	7.35						
FINAL - 2016 Chinese National Grand Prix Final (Chongqing, CHN)									<i>Yang (2019) - analysis of the characteristics of Yang Huizhen's running speed in 400m</i>											
date	19-Jun-16	time		25.24	38.64	52.90	52.90	/ 1												
reaction time		interval			13.40	14.26		# of strides			13.40	14.26	25.24	27.66	2.42					
		velocity		7.92	7.46	7.01	7.56	195.0			7.46	7.01	7.92	7.23						
FINAL - 2016 Chinese National Grand Prix (Shaoxing, CHN)									<i>Yang (2019) - analysis of the characteristics of Yang Huizhen's running speed in 400m</i>											
date	16-Apr-16	time		25.52	38.72	52.77	52.77	/ 1												
reaction time		interval			13.20	14.05		# of strides			13.20	14.05	25.52	27.25	1.73					
		velocity		7.84	7.58	7.12	7.58	197.0			7.58	7.12	7.84	7.34						
FINAL - 2015 Asian Championships (Wuhan, CHN)									<i>Yang (2019) - analysis of the characteristics of Yang Huizhen's running speed in 400m</i>											
date	04-Jun-15	time		25.08	38.09	52.37	52.37	/ 1												
reaction time		interval			13.01	14.28	PB	# of strides			13.01	14.28	25.08	27.29	2.21					
		velocity		7.97	7.69	7.00	7.64	191.0			7.69	7.00	7.97	7.33						
Yang Qi (CHN) (2000)																				
			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
FINAL - 2023 Chinese National Championships (Quzhou, CHN)																				
date	23-Jul-23	time	13.33	26.86	40.91	48.04	55.37	55.37	1 / 7											
reaction time	0.231	interval		13.53	14.05	7.13	7.33		# of strides	13.33	13.53	14.05	14.46	26.86	28.51	1.65				
		velocity	7.50	7.39	7.12	7.01	6.82	7.22	199.0	7.50	7.39	7.12	6.92	7.45	7.02					
Yeargin, Nicole (GBR) (1997)																				
National FINAL - 2024 London Athletics Meet (London, GBR)																				
date	20-Jul-24	time	6.90	12.64	18.61	24.88	31.30	37.83	44.50	51.64	51.64	6 / 2								
reaction time	0.167	interval		5.74	5.97	6.27	6.42	6.53	6.67	7.14		# of strides	12.64	12.24	12.95	13.81	24.88	26.76	1.88	
		velocity	7.25	8.71	8.38	7.97	7.79	7.66	7.50	7.00	7.75	7.91	8.17	7.72	7.24	8.04	7.47			
Semi-Final 3 - 2022 European Athletics Championships (Munich, GER)																				
date	16-Aug-22	time	12.69		24.71		37.78		52.09	52.09	5 / 5									
reaction time	0.238	interval			12.02		13.07		14.31		# of strides	12.69	12.02	13.07	14.31	24.71	27.38	2.67		
		velocity	7.88		8.32		7.65		6.99	7.68	194.0	7.88	8.32	7.65	6.99	8.09	7.30			
Semi-Final 2 - 2022 Commonwealth Games (Birmingham, GBR)																				
date	05-Aug-22	time	6.7	12.5	18.4	24.6	31.1	37.8	44.7	52.24	52.24	9 / 5								
reaction time	0.153	interval		5.80	5.90	6.20	6.50	6.70	6.90	7.54		# of strides	12.50	12.10	13.20	14.44	24.60	27.64	3.04	
		velocity	7.46	8.62	8.47	8.06	7.69	7.46	7.25	6.63	7.66	200.2	8.00	8.26	7.58	6.93	8.13	7.24		
Semi-Final 2 - 2022 World Athletics Championships (Eugene, OR)																				
date	20-Jul-22	time		12.65		24.89		37.57		51.22	51.22	2 / 4								
reaction time	0.156	interval			12.24		12.68		13.65		# of strides	12.65	12.24	12.68	13.65	24.89	26.33	1.44		
		velocity		7.91		8.17		7.89		7.33	7.81	7.91	8.17	7.89	7.33	8.04	7.60			
Heat 2 - 2022 World Athletics Championships (Eugene, OR)																				
date	17-Jul-22	time		12.48		24.32		37.22		51.17	51.17	7 / 4								
reaction time	0.150	interval			11.84		12.90		13.95		# of strides	12.48	11.84	12.90	13.95	24.32	26.85	2.53		
		velocity		8.01		8.45		7.75		7.17	7.82	195.7	8.01	8.45	7.75	7.17	8.22	7.45		
FINAL - 2022 FBK Games (Hengelo, NED)																				
date	06-Jun-22	time	6.8	12.4	18.3	24.4	30.7	37.2	44.1	51.56	51.56	7 / 3								
reaction time	0.183	interval		5.60	5.90	6.10	6.30	6.50	6.90	7.46		# of strides	12.40	12.00	12.80	14.36	24.40	27.16	2.76	
		velocity	7.35	8.93	8.47	8.20	7.94	7.69	7.25	6.70	7.76	8.06	8.33	7.81	6.96	8.20	7.36			
FINAL - 2021 Müller British Grand Prix (Gateshead, GBR)																				
date	13-Jun-21	time	6.9	12.5	18.3	24.4	30.7	37.4	44.3	51.77	51.77	3 / 5								
reaction time	0.162	interval		5.60	5.80	6.10	6.30	6.70	6.90	7.47		# of strides	12.50	11.90	13.00	14.37	24.40	27.37	2.97	
		velocity	7.25	8.93	8.62	8.20	7.94	7.46	7.25	6.69	7.73	198.5	8.00	8.40	7.69	6.96	8.20	7.31		
Yefremova, Antonina (UKR) (1981)																				
FINAL - 2002 European Championships (Munich, GER)																				
date	08-Aug-02	time		13.00		24.97		37.75		52.02	52.02	/ 6								
reaction time	0.162	interval			11.97		12.78		14.27		# of strides	13.00	11.97	12.78	14.27	24.97	27.05	2.08		
		velocity		7.69		8.35		7.82		7.01	7.69	7.69	8.35	7.82	7.01	8.01	7.39			
Heat 2 - 2002 European Championships (Munich, GER)																				
date	07-Aug-02	time		13.12		24.94		37.72		51.96	51.96	/ 1								
reaction time	0.175	interval			11.82		12.78		14.24		# of strides	13.12	11.82	12.78	14.24	24.94	27.02	2.08		
		velocity		7.62		8.46		7.82		7.02	7.70	7.62	8.46	7.82	7.02	8.02	7.40			
Yoneda, Ryoha (JPN)																				
FINAL - 2017 Shimane High School Championships (Izumo, JPN)																				
date	26-May-17	time		14.15		28.00		43.35		60.10	60.10	5 / 3								
reaction time		interval			13.85		15.35		16.75		# of strides	14.15	13.85	15.35	16.75	28.00	32.10	4.10		
		velocity		7.07		7.22		6.51		5.97	6.66	7.07	7.22	6.51	5.97	7.14	6.23			
Yoshida, Kasumi (JPN) (1999)																				
FINAL - 2018 Japanese National Junior (U20) Championships (Nagano, JPN)																				
			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
<i>Ryutaro (2018) - research on athlete performance and technique- 2018 data book</i>																				

date	19-Oct-18	time	7.08	13.09	19.44	26.10	33.06	40.35	47.87	55.94	55.94	6 / 5							
reaction time	0.437	interval		6.01	6.35	6.66	6.96	7.29	7.52	8.07		# of strides	13.09	13.01	14.25	15.59	26.10	29.84	3.74
		velocity	7.06	8.32	7.87	7.51	7.18	6.86	6.65	6.20	7.15		7.64	7.69	7.02	6.41	7.66	6.70	
Division 1 Semi-Final 2 - 2017 Kanto Collegiate Championships (Yokohama, JPN)												<i>(2017) - tfdata-store.com/2017/06/02/post-835/</i>							
date	26-May-17	time		13.41		26.70		41.73		58.39	58.39	9 / 8							
reaction time		interval				13.29		15.03		16.66		# of strides	13.41	13.29	15.03	16.66	26.70	31.69	4.99
		velocity		7.46		7.52		6.65		6.00	6.85		223.7	7.46	7.52	6.65	6.00	7.49	6.31
Yoshida, Makiko (JPN) (1976)																			
50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place												0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential							
FINAL - 2005 Seiko Super Grand Prix (Yokohama, JPN)												<i>Masaaki (2006) - time analysis in the 400m at the Seiko Super Grand Prix</i>							
date	19-Sep-05	time		12.74		25.22		38.22	45.49	53.42	53.42	7 / 5							
reaction time		interval				12.48		13.00	7.27	7.93		# of strides	12.74	12.48	13.00	15.20	25.22	28.20	2.98
		velocity		7.85		8.01		7.69	6.88	6.31	7.49		7.85	8.01	7.69	6.58	7.93	7.09	
Yoshida, Sayumi (JPN) (1997)																			
FINAL - 2015 Japanese National High School Championships (Wakayama, CHN)												<i>Kohei (2015) - 400m race analysis of male & female at major 2015 competitions</i>							
date	29-Jul-15	time	7.34	13.44	19.72	26.35	33.26	40.39	47.94	55.97	55.97	/ 8							
reaction time		interval		6.10	6.28	6.63	6.91	7.13	7.55	8.03		# of strides	13.44	12.91	14.04	15.58	26.35	29.62	3.27
		velocity	6.81	8.20	7.96	7.54	7.24	7.01	6.62	6.23	7.15		7.44	7.75	7.12	6.42	7.59	6.75	
Yoshimi, Misaki (JPN) (1994)																			
Race B - 2016 Shizuoka International Meeting (Fukuroi, JPN)												<i>Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016</i>							
date	03-May-16	time	7.14	13.25	19.65	26.26	33.12	40.26	47.72	55.77	55.77	/ 1							
reaction time		interval		6.11	6.40	6.61	6.86	7.14	7.46	8.05		# of strides	13.25	13.01	14.00	15.51	26.26	29.51	3.25
		velocity	7.00	8.18	7.81	7.56	7.29	7.00	6.70	6.21	7.17		7.55	7.69	7.14	6.45	7.62	6.78	
Yoshinaka, Hinako (JPN) (2002)																			
FINAL - 2020 Japanese U20 National Championships (Hiroshima, JPN)												<i>Kobayashi (2002) - national high school and U20 national championships</i>							
date	23-Oct-20	time	7.27	13.44	19.79	26.45	33.31	40.36	47.81	56.08	56.08	3 / 2							
reaction time	0.182	interval		6.17	6.35	6.66	6.86	7.05	7.45	8.27		# of strides	13.44	13.01	13.91	15.72	26.45	29.63	3.18
		velocity	6.88	8.10	7.87	7.51	7.29	7.09	6.71	6.05	7.13		7.44	7.69	7.19	6.36	7.56	6.75	
FINAL - 2018 Japanese National Youth (U18) Championships (Nagano, JPN)												<i>Ryutaro (2018) - research on athlete performance and technique- 2018 data book</i>							
date	19-Oct-18	time	7.46	13.69	20.04	26.57	33.31	40.50	48.09	56.16	56.16	5 / 5							
reaction time	0.201	interval		6.23	6.35	6.53	6.74	7.19	7.59	8.07		# of strides	13.69	12.88	13.93	15.66	26.57	29.59	3.02
		velocity	6.70	8.03	7.87	7.66	7.42	6.95	6.59	6.20	7.12		7.30	7.76	7.18	6.39	7.53	6.76	
Yoshioka, Nana (JPN)																			
U20 FINAL - 2019 Japanese National U18/U20 Championships (Hiroshima, JPN)												<i>Kijima (2019) - research on athlete performance and technique- 2019 data book</i>							
date	18-Oct-19	time	7.41	14.02	20.67	27.43	34.24	41.05	47.94	55.14	55.14	3 / 3							
reaction time	0.197	interval		6.61	6.65	6.76	6.81	6.81	6.89	7.20		# of strides	14.02	13.41	13.62	14.09	27.43	27.71	0.28
		velocity	6.75	7.56	7.52	7.40	7.34	7.34	7.26	6.94	7.25		7.13	7.46	7.34	7.10	7.29	7.22	
Yoshioka, Rina (JPN) (2001)																			
FINAL - 2019 Japanese National High School Championships (Okinawa, JPN)												<i>Kota (2019) - 72nd high school championships: JAF scientific committee - biomechanics data collection</i>							
date	04-Aug-19	time	7.39	13.82	20.23	26.73	33.31	40.04	47.02	54.41	54.41	7 / 2							
reaction time		interval		6.43	6.41	6.50	6.58	6.73	6.98	7.39	PB	# of strides	13.82	12.91	13.31	14.37	26.73	27.68	0.95
		velocity	6.77	7.78	7.80	7.69	7.60	7.43	7.16	6.77	7.35		7.24	7.75	7.51	6.96	7.48	7.23	
FINAL - 2018 Japanese National Youth (U18) Championships (Nagano, JPN)												<i>Ryutaro (2018) - research on athlete performance and technique- 2018 data book</i>							
date	19-Oct-18	time	7.09	13.41	19.91	26.56	33.26	40.22	47.55	55.42	55.42	6 / 2							
reaction time	0.177	interval		6.32	6.50	6.65	6.70	6.96	7.33	7.87		# of strides	13.41	13.15	13.66	15.20	26.56	28.86	2.30
		velocity	7.05	7.91	7.69	7.52	7.46	7.18	6.82	6.35	7.22		7.46	7.60	7.32	6.58	7.53	6.93	
U20 FINAL - 2018 National Sports Festival (Fukui, JPN)												<i>Joshi (2018) - research on athlete performance and technique- 2018 data book</i>							
date	08-Oct-18	time	6.96	13.32	19.95	26.71	33.49	40.32	47.27	54.70	54.70	4 / 2							
reaction time	0.183	interval		6.36	6.63	6.76	6.78	6.83	6.95	7.43		# of strides	13.32	13.39	13.61	14.38	26.71	27.99	1.28
		velocity	7.18	7.86	7.54	7.40	7.37	7.32	7.19	6.73	7.31		7.51	7.47	7.35	6.95	7.49	7.15	
FINAL - 2018 Japanese National High School Championships (Nagoya, JPN)												<i>Kota (2018) - 71st high school championships: JAF scientific committee - biomechanics data collection</i>							
date	02-Aug-18	time	7.11	13.30	19.84	26.35	32.93	39.83	47.09	54.99	54.99	4 / 2							
reaction time		interval		6.19	6.54	6.51	6.58	6.90	7.26	7.90		# of strides	13.30	13.05	13.48	15.16	26.35	28.64	2.29
		velocity	7.03	8.08	7.65	7.68	7.60	7.25	6.89	6.33	7.27		7.52	7.66	7.42	6.60	7.59	6.98	
Young, Charokee (JAM) (2000)																			
Semi-Final 3 - 2023 World Athletics Championships (Budapest, HUN)												<i>Seiko Timing (2023) - world championship race analysis</i>							
date	21-Aug-23	time		12.62		24.34		37.49		51.40	51.40	3 / 6							
reaction time	0.207	interval				11.72		13.15		13.91		# of strides	12.62	11.72	13.15	13.91	24.34	27.06	2.72
		velocity		7.92		8.53		7.60		7.19	7.78		7.92	8.53	7.60	7.19	8.22	7.39	
Heat 6 - 2023 World Athletics Championships (Budapest, HUN)												<i>Seiko Timing (2023) - world championship race analysis</i>							
date	20-Aug-23	time		12.49		24.11		36.87		51.24	51.24	8 / 6							
reaction time	0.222	interval				11.62		12.76		14.37		# of strides	12.49	11.62	12.76	14.37	24.11	27.13	3.02
		velocity		8.01		8.61		7.84		6.96	7.81		194.7	8.01	8.61	7.84	6.96	8.30	7.37
Semi-Final 3 - 2022 World Athletics Championships (Eugene, OR)												<i>Timing by Seiko (2022) - world athletics championships race analysis</i>							
date	20-Jul-22	time		12.49		24.22		36.96		51.41	51.41	2 / 5							
reaction time	0.175	interval				11.73		12.74		14.45		# of strides	12.49	11.73	12.74	14.45	24.22	27.19	2.97
		velocity		8.01		8.53		7.85		6.92	7.78		196.0	8.01	8.53	7.85	6.92	8.26	7.36
Heat 3 - 2022 World Athletics Championships (Eugene, OR)												<i>Timing by Seiko (2022) - world athletics championships race analysis</i>							
date	17-Jul-22	time		12.70		24.80		37.57		51.84	51.84	4 / 4							
reaction time	0.199	interval				12.10		12.77		14.27		# of strides	12.70	12.10	12.77	14.27	24.80	27.04	2.24
		velocity		7.87		8.26		7.83		7.01	7.72		197.7	7.87	8.26	7.83	7.01	8.06	7.40

Young, Jessica (USA) (1987)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
FINAL - 2006 USATF National Junior Championship (Indianapolis, IN)		USATF Women's Sprint Development (2006)																	
date	24-Jun-06	time	12.71	18.82	25.22	31.65	38.41	45.61	53.39	53.39	5 / 4								
reaction time		interval		6.11	6.40	6.43	6.76	7.20	7.78	PB	# of strides	12.71	12.51	13.19	14.98	25.22	28.17	2.95	
		velocity	7.87	8.18	7.81	7.78	7.40	6.94	6.43	7.49		7.87	7.99	7.58	6.68	7.93	7.10		
Yoshimoto, Chika (JPN)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
FINAL - 2020 Shimane High School Championships (Izumo, JPN)		Shimizu (2020) - shimane high school championships 2020 - biomechanics data analysis																	
date	11-Jul-20	time	14.15		28.98		45.85		65.53	65.53	5 / 5								
reaction time		interval			14.83		16.87		19.68		# of strides	14.15	14.83	16.87	19.68	28.98	36.55	7.57	
		velocity	7.07		6.74		5.93		5.08	6.10		7.07	6.74	5.93	5.08	6.90	5.47		
Yuhara, Mizuki (JPN)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
FINAL - 2023 Japanese National High School Championships (Sapporo, JPN)		Takashima (2023) - national high school sports festival - biomechanics data																	
date	02-Aug-23	time	13.85		27.21		40.69		55.26	55.26	3 / 4								
reaction time	0.213	interval			13.36		13.48		14.57		# of strides	13.85	13.36	13.48	14.57	27.21	28.05	0.84	
		velocity	7.22		7.49		7.42		6.86	7.24		7.22	7.49	7.42	6.86	7.35	7.13		
Yuicai, Isokai (JPN)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
FINAL - 2023 Japanese National High School Championships (Sapporo, JPN)		Takashima (2023) - national high school sports festival - biomechanics data																	
date	02-Aug-23	time	13.30		26.84		41.14		55.94	55.94	8 / 7								
reaction time	0.262	interval			13.54		14.30		14.80		# of strides	13.30	13.54	14.30	14.80	26.84	29.10	2.26	
		velocity	7.52		7.39		6.99		6.76	7.15		7.52	7.39	6.99	6.76	7.45	6.87		
Yuki Ishikawa (JPN)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
FINAL - 2017 Shimane High School Championships (Izumo, JPN)		Shimizu (2018) - shimane high school championships 2018 - biomechanics data analysis																	
date	26-May-17	time	13.57		27.23		42.40		58.12	58.12	4 / 1								
reaction time		interval			13.66		15.17		15.72		# of strides	13.57	13.66	15.17	15.72	27.23	30.89	3.66	
		velocity	7.37		7.32		6.59		6.36	6.88		7.37	7.32	6.59	6.36	7.34	6.47		
Yukina, Murakami (JPN)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
FINAL - 2007 Japanese National High School Championships (Saga, JPN)		Hitorara (2007) - 60st high school championships: JAF scientific committee - biomechanics data collection																	
date	02-Aug-07	time	7.32	14.43	22.02	29.35	36.45	43.71	51.08	58.69	58.69								
reaction time		interval		7.11	7.59	7.33	7.10	7.26	7.37	7.61		# of strides	14.43	14.92	14.36	14.98	29.35	29.34	-0.01
		velocity	6.83	7.03	6.59	6.82	7.04	6.89	6.78	6.57	6.82		6.93	6.70	6.96	6.68	6.81	6.82	
Yuille, Aline (SUI) (2002)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
FINAL - 2024 Athletissima (Lausanne, SUI)		Omega Timing (2024) - diamond league race analysis																	
date	22-Aug-24	time	7.12	13.03	19.21	25.66	32.29	39.29	46.62	54.87	54.87	7 / 6							
reaction time	0.201	interval		5.91	6.18	6.45	6.63	7.00	7.33	8.25		# of strides	13.03	12.63	13.63	15.58	25.66	29.21	3.55
		velocity	7.02	8.46	8.09	7.75	7.54	7.14	6.82	6.06	7.29		7.67	7.92	7.34	6.42	7.79	6.85	
Yushchanka, Yulianna (BLR) (1984)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
FINAL - 2007 European Cup (Munich, GER)		Graubner (2007) - http://www.fgs.uni-halle.de																	
date	23-Jun-07	time	12.66		24.55		37.38		52.09	52.09		# of strides	12.66	11.89	12.83	14.71	24.55	27.54	2.99
reaction time	0.217	interval			11.89		12.83		14.71				7.90	8.41	7.79	6.80	8.15	7.26	
		velocity	7.90		8.41		7.79		6.80	7.68									
Yusuf-Oluokuju, Fatima (NGR) (1971)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
FINAL - 1996 Olympic Games (Atlanta, GA)		Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016																	
date	29-Jul-96	time			23.30		35.7		49.77	49.77	6 / 6								
reaction time	0.319	interval					12.40		14.07		# of strides			12.40	14.07	23.30	26.47	3.17	
		velocity			8.58		8.06		7.11	8.04				8.06	7.11	8.58	7.56		
Zakari, Joy Nakhumicha (KEN) (1986)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
Semi-Final 2 - 2009 IAAF World Championships (Berlin, GER)		Graubner (2009) - biomechanical analyses at the 12th IAAF world championships																	
date	16-Aug-09	time	12.58		24.66		37.90		52.69	52.69	2 / 7								
reaction time	0.183	interval			12.08		13.24		14.79		# of strides	12.58	12.08	13.24	14.79	24.66	28.03	3.37	
		velocity	7.95		8.28		7.55		6.76	7.59		7.95	8.28	7.55	6.76	8.11	7.14		
Zaytseva, Olga (RUS) (1984)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
FINAL - 2006 European Championships (Göteborg, SWE)		Behm (2006) - Championnats d'Europe Göteborg 2006... Le 400m avec ou sans obstacles																	
date	10-Aug-06	time			23.3		35.6		50.28	50.28		# of strides		23.30	12.30	14.68	23.30	26.98	3.68
reaction time		interval					12.30		14.68				4.29	8.13	6.81	8.58	7.41		
		velocity			8.58		16.26		6.81	7.96									
Zehrt, Monika (GDR) (1952)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
FINAL - 1972 Olympic Games (Munich, FRG)		Track & Field News (1979) - olympic track & field: complete results																	
date	07-Sep-72	time			24.2		36.8		51.08	51.08	7 / 1								
reaction time		interval					12.60		14.28	OR	# of strides			12.60	14.28	24.20	26.88	2.68	
		velocity			8.26		7.94		7.00	7.83				7.94	7.00	8.26	7.44		
FINAL - 1972 FRA vs. GDR (Colombes, FRA)		Hymans (2015) - progression of IAAF world records - 2015 edition																	
date	04-Jul-72	time			23.8				51.0	51.0		# of strides					23.80	27.20	3.40
reaction time		interval							27.2	=WR							8.40	7.35	
		velocity			8.40				7.35	7.84									
Zemlyak, Olha (UKR) (1990)		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
FINAL - 2017 Meeting de Paris (Paris, FRA)		Omega Timing (2017) - diamond league race analysis																	
date	01-Jul-17	time	12.5	18.2	24.2	30.7	37.6	44.9	52.93	52.93	2 / 6								
reaction time	0.196	interval		5.7	6.0	6.5	6.9	7.3	8.0	DV	# of strides	12.50	11.70	13.40	15.33	24.20	28.73	4.53	
		velocity	8.00	8.77	8.33	7.69	7.25	6.85	6.23	7.56		200.0	8.00	8.55	7.46	6.52	8.26	6.96	
FINAL - 2016 Olympic Games (Rio de Janeiro, BRA)		Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016																	

date	15-Aug-16	time	6.89	12.67	18.44	24.51	30.87	37.42	44.13	51.24	51.24	1 / 7							
reaction time	0.183	interval		5.78	5.77	6.07	6.36	6.55	6.71	7.11		# of strides	12.67	11.84	12.91	13.82	24.51	26.73	2.22
		velocity	7.26	8.65	8.67	8.24	7.86	7.63	7.45	7.03	7.81	192.0	7.89	8.45	7.75	7.24	8.16	7.48	
Heat 6 - 2015 IAAF World Championships (Beijing, CHN)											<i>Yamamoto (2015) - race analysis of 15th World Championships 400m- focusing on men's semis and women's prelims</i>								
date	24-Aug-15	time	6.89	12.59	18.44	24.56	30.90	37.51	44.46	52.00	52.00	9 / 5							
reaction time	0.197	interval		5.70	5.85	6.12	6.34	6.61	6.95	7.54		# of strides	12.59	11.97	12.95	14.49	24.56	27.44	2.88
		velocity	7.26	8.77	8.55	8.17	7.89	7.56	7.19	6.63	7.69	197.0	7.94	8.35	7.72	6.90	8.14	7.29	
Zhang Jialin (CHN) (2001)																			
FINAL - 2023 Chinese National Championships (Quzhou, CHN)																			
date	23-Jul-23	time		13.36		26.26		40.01	47.16	54.62	54.62	5 / 3							
reaction time	0.301	interval				12.90		13.75	7.15	7.46		# of strides	13.36	12.90	13.75	14.61	26.26	28.36	2.10
		velocity		7.49		7.75		7.27	6.99	6.70	7.32	197.0	7.49	7.75	7.27	6.84	7.62	7.05	
Zhou Li (CHN) (2003)																			
FINAL - 2024 Chinese National Championships (Quzhou, CHN)																			
date	16-Sep-24	time		14.18		25.52		39.49	47.01	54.85	54.85	1 / 6							
reaction time	0.188	interval				11.34		13.97	7.52	7.84		# of strides	14.18	11.34	13.97	15.36	25.52	29.33	3.81
		velocity		7.05		8.82		7.16	6.65	6.38	7.29	205.5	7.05	8.82	7.16	6.51	7.84	6.82	
FINAL - 2023 Chinese National Championships (Quzhou, CHN)																			
date	23-Jul-23	time		13.21		25.64		39.24	46.73	54.65	54.65	2 / 4							
reaction time	0.260	interval				12.43		13.60	7.49	7.92		# of strides	13.21	12.43	13.60	15.41	25.64	29.01	3.37
		velocity		7.57		8.05		7.35	6.68	6.31	7.32	210.0	7.57	8.05	7.35	6.49	7.80	6.89	
Žižalová, Tereza (CZE) (1981)																			
FINAL - 2001 European Cup (Bremen, GER)																			
date	23-Jun-01	time		13.28		25.84		39.42		54.06	54.06	/ 8							
reaction time		interval				12.56		13.58		14.64	PB	# of strides	13.28	12.56	13.58	14.64	25.84	28.22	2.38
		velocity		7.53		7.96		7.36		6.83	7.40	197.0	7.53	7.96	7.36	6.83	7.74	7.09	
Zuo Siyu (CHN) (2001)																			
FINAL - 2024 Chinese National Championships (Quzhou, CHN)																			
date	16-Sep-24	time		14.38		25.67		39.40	46.64	54.39	54.39	2 / 4							
reaction time	0.202	interval				11.29		13.73	7.24	7.75		# of strides	14.38	11.29	13.73	14.99	25.67	28.72	3.05
		velocity		6.95		8.86		7.28	6.91	6.45	7.35	207.5	6.95	8.86	7.28	6.67	7.79	6.96	
Zykina, Olesya (RUS) (1980)																			
FINAL - 2005 IAAF World Championships (Helsinki, FIN)																			
date	10-Aug-05	time						36.7		51.24	51.24	2 / 6							
reaction time	0.199	interval								14.54		# of strides				14.54			
		velocity						8.17		6.88	7.81	197.0				6.88			
FINAL - 2003 IAAF World Championships (Paris, FRA)																			
date	27-Aug-03	time				23.9		36.3		50.59	50.59	8 / 6							
reaction time	0.107	interval						12.40		14.29		# of strides			12.40	14.29	23.90	26.69	2.79
		velocity				8.37		8.06		7.00	7.91	197.0			8.06	7.00	8.37	7.49	
FINAL - 2002 European Championships (Munich, GER)																			
date	08-Aug-02	time				12.20		23.84		36.62	50.45	50.45	/ 1						
reaction time	0.131	interval						11.64		12.78	13.83		# of strides	12.20	11.64	12.78	13.83	23.84	26.61
		velocity				8.20		8.59		7.82	7.23	7.93	197.0	8.20	8.59	7.82	7.23	8.39	7.52
Heat 1 - 2002 European Championships (Munich, GER)																			
date	07-Aug-02	time				12.24		23.74		36.38	50.47	50.47	/ 1						
reaction time	0.134	interval						11.50		12.64	14.09		# of strides	12.24	11.50	12.64	14.09	23.74	26.73
		velocity				8.17		8.70		7.91	7.10	7.93	197.0	8.17	8.70	7.91	7.10	8.42	7.48
Zyuskova, Nina (URS) (1952)																			
FINAL - 1980 Olympic Games (Moscow, URS)																			
date	28-Jul-80	time						36.9		50.17	50.17	3 / 5							
reaction time		interval								13.27	PB	# of strides				13.27			
		velocity						8.13		7.54	7.97	197.0				7.54			