Table A.1. Observational circumstances of the NEAs and MCs that make up this survey.

NEA	Orbit	Telescope	Date	UT start	Airmass	r (A.U.)	Δ (A.U.)	α(°)	m_V	#	Total exp. time (s)	Solar analogue
(433) Eros	AMO	NOT (vis)	18/07/04	04:13	1.560	1.546	1.522	38.7	14.1	2	600†	5,7,8
(1036) Ganymed	AMO-ACO	NOT (vis)	26/01/04	02:25	1.547	3.339	2.505	10.4	14.6	3	900	1,4
(1627) Ivar	AMO	NOT (vis)	15/01/04	22:19	1.090	2.222	1.550	22.3	16.5	1	900	1,3,7
		TNG (nir)	15/01/04	22:48	1.139	2.222	1.550	22.3	16.5	2(2x90)	720	2,3,4,6
(1864) Daedalus	APO	NOT (vis)	16/01/04	06:14	1.070	2.190	1.388	18.8	18.2	1	1220	1,3,6
		TNG (nir)	16/01/04	06:43	1.120	2.190	1.388	18.8	18.2	6(1x90)	1080	2,3,4,7
(1866) Sisyphus	APO	TNG (nir)	22/06/03	21:09	1.060	2.171	1.638	26.5	17.0	4(1x90)	720	6,7,8,9
(1951) Lick	MC	NOT (vis)	25/08/03	21:24	1.368	1.312	0.743	50.1	16.5	1	1200	7,9
		TNG (nir)	22/06/03	23:44	1.150	1.309	0.742	50.7	16.5	2(3x90)	1080	6,7,8,9
(1980) Tezcatlipoca	AMO	TNG (nir)	02/12/06	23:53	1.215	1.338	0.366	13.7	13.2	4(1x90)	720	3,4,9
(2212) Hephaistos	APO	TNG (nir)	03/12/06	00:24	1.464	2.022	1.193	19.8	16.8	8(1x90)	1440	3,4,9
(3102) Krok	AMO	NOT (vis)	25/08/03	20:45	1.410	1.235	0.715	54.9	17.3	1	1200	7,9
(3103) Eger	APO	TNG (nir)	03/12/06	04:53	1.565	1.120	0.573	61.6	16.6	6(1x90)	1080	3,4,9
(3122) Florence	AMO	NOT (vis)	16/01/04	03:46	1.072	1.756	0.839	16.9	15.9	1	900	1,3,6
		TNG (nir)	16/01/04	04:43	1.125	1.756	0.839	16.9	15.9	2(1x90)	360	2,3,4,6
(3200) Phaethon	APO	NOT (vis)	20/12/04	23:39	1.138	1.458	0.613	30.9	15.7	3	900†	1,3
		TNG (nir)	11/12/04	21:59	1.020	1.559	0.632	19.3	15.5	10(1x60)	1200	2,8,9
(3752) Camillo	APO	NOT (vis)	13/07/05	00:38	1.108	1.822	1.101	29.3	18.3	2	1200	6,7,9
		TNG (nir)	23/06/03	23:25	1.260	1.714	1.440	36.3	18.9	6(3x90)	3240	6,7,8,9
(3908) Nyx	AMO	NOT (vis)	20/12/04	22:31	1.019	1.195	0.260	31.8	16.2	3	900†	1,3
(5143) Heracles	APO	TNG (nir)	29/08/02	22:31	1.276	2.459	1.458	3.9	17.1	36(1x50)	3600	7,9
(5626) 1991 FE	AMO	TNG (nir)	03/12/06	03:52	1.287	1.411	0.797	42.7	16.6	10(1x90)	1800	3,4,9
(5641) McCleese	MC	TNG (nir)	03/12/06	02:01	1.414	1.930	1.115	21.8	15.4	6(1x90)	1080	3,4,9
(5653) Camarillo	AMO	NOT (vis)	20/12/04	00:44	1.061	1.348	0.395	19.5	15.0	3	720†	1,3
(5660) 1974 MA	APO	NOT (vis)	12/07/05	03:44	1.208	1.317	0.418	37.4	15.9	2	1200	7,8,9
		TNG (nir)	07/07/05	04:40	1.252	1.378	0.507	36.6	16.4	4(1x90)	720	8,9
(5751) Zao	AMO	NOT (vis)	25/01/04	20:14	1.184	1.535	1.189	39.9	17.7	3	1800	1,4
(6050) Miwablock	AMO	NOT (vis)	17/07/04	23:55	1.880	1.683	0.678	8.4	16.3	3	1260†	5,7,8
(6456) Golombek	AMO	NOT (vis)	13/07/05	04:10	1.397	1.300	0.361	33.0	15.6	2	1200	6,7,9
		TNG (nir)	07/07/05	04:14	1.475	1.301	0.375	35.1	15.8	4(1x90)	720	8,9
(6611) 1993 VW	APO	TNG (nir)	24/06/03	01:56	1.270	1.936	0.986	15.0	18.7	6(3x90)	3240	6,7,8,9
(6909) Levison	MC-ACO	NOT (vis)	24/08/03	22:40	1.356	1.828	0.923	20.1	16.2	1	900	7,9
		TNG (nir)	24/08/03	22:22	1.360	1.828	0.923	20.0	16.2	2(1x90)	360	2,6,8,9
(8373) Stephengould	MC-ACO	NOT (vis)	15/01/04	03:53	1.621	1.558	0.674	24.3	15.0	1	600	2,3,4
		TNG (nir)	15/01/04	02:44	1.366	1.558	0.674	24.3	15.0	2(1x90)	360	2,3,4,6
(10150) 1994 PN	AMO	NOT (vis)	12/07/05	00:04	1.090	1.558	0.774	34.3	17.6	1	900	7,8,9
		TNG (nir)	09/07/05	01:56	1.379	1.579	0.789	33.3	17.7	14(1x90)	2520	5,7,8
(13553) 1992 JE	AMO	NOT (vis)	11/07/05	22:45	1.083	1.204	0.260	39.5	15.0	2	1200	7,8,9
		TNG (nir)	06/07/05	01:46	1.490	1.218	0.267	36.8	15.1	4(1x90)	720	6
(14222) 1999 WS_1	MC-ACO	TNG (nir)	01/07/04	22:02	1.377	1.916	1.335	30.2	16.9	6(3x90)	3240	6,7,8
(21088) 1992 BL_2	AMO	NOT (vis)	17/07/04	02:23	1.196	1.300	0.597	49.2	15.7	1	900†	6,8,9
		TNG (nir)	02/07/04	05:28	1.036	1.307	0.639	49.6	15.9	2(2x60)	480	6,7,8
(25143) Itokawa	APO	NOT (vis)	16/01/04	02:17	1.007	1.366	0.392	10.8	18.5	1	1800	1,3,6

Table A.1. continued.

NEA	Orbit	Telescope	Date	UT start	Airmass	r (A.U.)	Δ (A.U.)	$\alpha(^\circ)$	m_V	#	Total exp. time (s)	Solar analogue
		TNG (nir)	16/01/04	03:03	1.018	1.366	0.392	10.7	18.5	10(1x90)	1800	2,3,4,6
(30825) 1990 TG_1	APO	NOT (vis)	13/07/05	03:11	1.517	1.293	0.790	51.8	16.7	3	1800	6,7,9
		TNG (nir)	10/07/05	03:25	1.488	1.263	0.786	53.6	16.6	6(1x90)	1080	7,8,9
(53435) 1999 VM_{40}	AMO	TNG (nir)	03/12/06	05:30	1.032	1.358	0.674	43.5	16.2	6(1x90)	1080	3,4,9
(54789) 2001 MZ_7	AMO	NOT (vis)	08/12/02	06:16	1.191	1.318	0.869	48.4	17.2	1	1200†	1
		TNG (nir)	09/12/02	05:10	1.313	1.315	0.862	48.5	17.2	3(3x60)	1080	1,3
(65803) Didymos	APO	NOT (vis)	16/01/04	00:27	1.041	1.280	0.330	22.8	17.6	1	1500	1,3,6
		TNG (nir)	16/01/04	01:05	1.105	1.280	0.331	22.8	17.6	4(2x90)	1440	2,3,4,6
(65996) 1998 MX_5	AMO-ACO	NOT (vis)	25/08/03	05:08	1.132	1.156	0.285	53.0	18.0	1	1200	7,9
		TNG (nir)	24/06/03	03:10	1.269	1.258	0.287	28.9	17.6	1(3x90)+2(1x90)	900	6,7,8,9
(66008) 1998 QH_2	APO	TNG (nir)	25/08/03	01:06	1.010	1.793	0.884	20.3	18.0	2(3x90)	1080	2,6,8,9
(66251) 1999 GJ_2	AMO	TNG (nir)	23/06/03	02:45	1.140	1.373	0.422	27.1	17.0	2(2x90)	720	6,7,8,9
(68278) 2001 FC_7	AMO	NOT (vis)	26/08/03	02:54	1.267	1.272	0.290	22.8	17.3	1	1200	7,9
		TNG (nir)	26/08/03	03:24	1.270	1.272	0.290	22.8	17.3	2(3x90)	1080	8,9
(68346) 2001 KZ_{66}	APO	NOT (vis)	15/01/04	23:36	1.463	1.409	0.567	33.1	17.9	2	1800	1,3,6
		TNG (nir)	16/01/04	00:08	1.530	1.409	0.567	33.1	17.9	2(3x90)+2(2x90)	1800	2,3,4,6
(68950) 2002 QF_{15}	APO	NOT (vis)	26/08/03	03:40	1.225	1.277	0.644	51.5	17.9	1	1500	7,9
		TNG (nir)	26/08/03	05:07	1.240	1.277	0.643	51.5	17.9	4(1x90)	720	8,9
(85867) 1999 BY_9	AMO	NOT (vis)	16/01/04	02:59	1.036	1.441	0.481	14.9	18.1	1	1800	1,3,6
		TNG (nir)	16/01/04	04:03	1.088	1.441	0.481	14.8	18.1	6(1x90)	1080	2,3,4,6
(85989) 1999 JD_6	ATE	NOT (vis)	12/07/05	23:53	1.056	1.236	0.277	33.7	16.2	1	600	6,7,9
		TNG (nir)	07/07/05	02:17	1.156	1.272	0.302	28.6	16.3	2(1x90)	360	8,9
(88188) 2000 XH_{44}	AMO	NOT (vis)	16/01/04	05:14	1.058	1.369	0.440	24.2	16.0	1	900	1,3,6
		TNG (nir)	16/01/04	05:42	1.105	1.368	0.440	24.2	16.0	2(1x90)	360	2,3,4,6
(102528) 1999 US_3	MC-ACO	NOT (vis)	25/08/03	00:35	1.097	2.994	2.138	12.2	18.5	1	1500	7,9
		TNG (nir)	25/08/03	23:06	1.040	2.995	2.138	12.2	18.5	4(3x90)	2160	8,9
(108519) 2001 LF	AMO	NOT (vis)	12/07/05	00:50	1.189	1.215	0.240	30.9	16.5	2	1200	7,8,9
		TNG (nir)	08/07/05	02:08	1.459	1.207	0.221	28.1	16.3	4(1x90)	720	5,7,8
(137427) 1999 TF_{211}	APO-ACO	NOT (vis)	15/01/04	20:39	1.760	1.262	0.996	50.0	17.4	1	600	1,3,6
		TNG (nir)	15/01/04	20:03	1.546	1.262	0.996	50.0	17.4	6(1x90)	1080	2,3,4,6
(138846) 2000 VJ_{61}	APO	NOT (vis)	15/01/04	22:46	1.049	1.654	0.857	28.0	17.8	1	1800	1,3,6
		TNG (nir)	15/01/04	23:17	1.104	1.654	0.857	28.0	17.8	4(3x90)	2160	2,3,4,6
(141018) 2001 WC_{47}	AMO	NOT (vis)	28/03/07	22:09	1.165	1.078	0.334	67.4	18.9	3	3000	3,4,5,6
		TNG (nir)	29/03/07	23:39	1.560	1.076	0.334	67.7	18.9	6(1x90)	1080	3,4,5
(141761) 2002 MC	AMO	TNG (nir)	29/08/02	04:11	1.298	1.339	0.387	27.1	17.1	4(2x60)	960	7,9
(142561) 2002 TX_{68}	AMO	NOT (vis)	17/07/04	21:46	1.469	1.206	0.263	39.1	17.3	3	1800†	5,7,8
(143624) 2003 HM_{16}	APO	NOT (vis)	24/08/03	21:45	1.174	1.187	0.562	58.2	17.0	2	1200	7,9
		TNG (nir)	24/08/03	20:51	1.170	1.187	0.562	58.2	17.0	2(1x90)	360	2,6,8,9
(143637) 2003 LP_6	APO	TNG (nir)	24/06/03	04:10	1.540	1.054	0.627	69.1	17.8	4(1x90)	720	6,7,8,9
(154347) 2002 XK_4	APO	NOT (vis)	09/12/02	05:59	1.056	1.277	0.712	50.1	17.5	1	1500	1
		TNG (nir)	09/12/02	05:59	1.056	1.277	0.712	50.1	17.5	4(3x60)	1440	1,3
(159635) 2002 CZ_{46}	APO	NOT (vis)	25/08/03	01:33	1.119	1.527	0.535	12.6	18.3	1	1500	7,9

Table A.1. continued.

NEA	Orbit	Telescope	Date	UT start	Airmass	r (A.U.)	Δ (A.U.)	$\alpha(^\circ)$	m_V	#	Total exp. time (s)	Solar analogue
		TNG (nir)	25/08/03	00:13	1.090	1.527	0.536	12.6	18.3	4(3x90)	2160	2,6,8,9
(159857) 2004 LJ_1	APO	NOT (vis)	16/07/04	22:11	1.223	1.290	0.489	46.4	16.3	2	2100†	6,8,9
		TNG (nir)	02/07/04	01:00	1.028	1.415	0.563	36.2	16.5	4(1x60)+2(3x60)	1200	6,7,8
(162483) 2000 PJ_5	ATE	NOT (vis)	13/07/05	04:49	1.063	1.183	0.274	47.1	16.8	1	600	6,7,9
		TNG (nir)	10/07/05	01:46	1.435	1.178	0.305	51.4	17.2	4(1x90)	720	7,8,9
1998 YQ_{11}	AMO	NOT (vis)	15/01/04	21:25	1.085	1.236	0.442	46.3	17.8	1	1200	1,3,6
		TNG (nir)	15/01/04	22:17	1.145	1.235	0.442	46.3	17.8	6(1x90)	1080	2,3,4,6
2000 UT_{16}	AMO	NOT (vis)	18/07/04	01:15	1.037	1.378	0.567	40.5	17.7	3	1440†	5,7,8
2002 EX_{12}	APO[4]	NOT (vis)	12/07/05	22:26	1.277	1.287	0.339	32.4	13.2	2	1200	6,7,9
2002 NW_{16}	AMO	NOT (vis)	08/12/02	19:36	1.205	1.143	0.273	49.0	17.4	1	1500†	1
		TNG (nir)	29/08/02	04:50	1.134	1.107	0.294	63.4	17.9	4(2x60)	960	7,9
2002 NX_{18}	AMO	NOT (vis)	07/12/02	21:00	1.219	1.180	0.263	37.5	16.4	1	600	1
		TNG (nir)	29/08/02	21:51	1.474	1.313	0.358	27.5	17.0	24(1x50)	2400	7,9
2002 OA_{22}	ATE	NOT (vis)	24/08/03	23:24	1.108	1.150	0.161	28.2	17.0	2	2100	7,9
		TNG (nir)	24/08/03	22:42	1.120	1.150	0.161	28.2	17.0	2(1x90)	360	2,6,8,9
2002 PZ_{39}	APO	TNG (nir)	30/08/02	01:09	1.268	1.227	0.218	2.4	16.4	12(1x50)	1200	7,9
2002 QZ_6	AMO	TNG (nir)	30/08/02	01:53	1.075	1.107	0.143	44.5	17.4	20(1x50)	2000	7,9
2003 FT_3	AMO	TNG (nir)	23/06/03	22:56	1.120	1.144	0.219	49.6	17.3	2(2x90)	720	6,7,8,9
2003 GA	AMO	NOT (vis)	26/08/03	00:39	1.082	1.173	0.171	16.9	18.6	1	1800	7,9
		TNG (nir)	26/08/03	00:39	1.082	1.173	0.171	16.9	18.6	2(3x90)	1080	8,9
2003 QZ_{30}	APO	NOT (vis)	16/01/04	05:43	1.512	1.196	0.373	47.6	17.5	1	1200	1,3,6
		TNG (nir)	16/01/04	05:57	1.560	1.196	0.373	47.6	17.5	2(3x90)	1080	2,3,4,6
2003 UB_5	AMO	NOT (vis)	16/01/04	04:32	1.051	1.183	0.244	31.6	18.0	1	1800	1,3,6
		TNG (nir)	16/01/04	05:02	1.070	1.183	0.244	31.6	18.0	6(1x90)	1080	2,3,4,6
2003 WW_{87}	AMO	NOT (vis)	14/01/04	20:19	1.259	1.249	0.932	51.1	19.2	2	2050	2,3,4
2003 YG_{118}	APO	NOT (vis)	16/01/04	01:21	1.015	1.686	0.722	10.1	18.2	2	2000	1,3,6
		TNG (nir)	16/01/04	02:03	1.042	1.686	0.722	10.1	18.2	6(2x90)	2160	2,3,4,6
2003 YM_{137}	APO-ACO	NOT (vis)	25/01/04	23:07	1.048	1.264	0.289	13.1	17.3	3	1200	1,4
2004 JR_1	AMO-ACO	NOT (vis)	17/07/04	00:12	1.115	1.173	0.217	39.9	16.2	1	900†	6,8,9
2004 LU_3	AMO	NOT (vis)	18/07/04	03:18	1.709	1.084	0.164	61.7	16.8	2	830	5,7,8
		TNG (nir)	02/07/04	02:30	1.411	1.162	0.208	41.8	16.9	3(2x60)+2(1x80)	1040	6,7,8
2004 OB	APO	NOT (vis)	21/12/04	01:33	1.272	1.092	0.131	31.9	16.0	2	1800	1,3

Notes. [(1)]. Type of orbits include Amors (AMO), Atens (ATE), Apollo (APO), Mars crossers (MC) and asteroids in cometary orbits (ACO). [(2)]. The column # is the number of exposures in the case of visible observations and the number of individual exposures of 90s (1x90) taken in position A and B (#AB) in the case of near-infrared observations. [(3)]. We use in the case of visible observations, a second-order blocking filter at 475 nm. Objects marked with † were also observed without this blocking filter to have spectra also below 475 nm. [(4)]. Solar analogue stars used are: (1) Hyades 64; (2) SA 93-101; (3) SA 98-978; (4) SA 102-1081; (5) SA 107-684; (6) SA 107-998; (7) SA 110-361; (8) SA 112-1333; (9) SA 115-271. [(5)]. Asteroid 2002 EX_{12} showed cometary activity just a month after being observed (Warner et al. 2005).