

retrograde	14100 Mar 28 02:02	6°33'03		conjunction	14105 Dec 26 05:02	17°32'14	0°11'59
opposition	14100 Jun 15 06:53	5°31'03	0°05'22	minimum elong	14105 Dec 26 05:02	17°32'14	0°13'02
min. Earth dist.	14100 Jun 14 19:48	5°31'20	28.89458 AU	behind sun begin	14105 Dec 26 01:10	17°32'54	
direct	14100 Sep 01 11:21	3°34'34		behind sun end	14105 Dec 26 08:54	17°32'35	
evening set	14100 Nov 28 10:18	5°34'04		max. Earth dist.	14105 Dec 26 14:00	17°32'04	30.94078 AU
				morning rise	14106 Jan 11 08:01	18°30'09	
conjunction	14100 Dec 14 11:08	6°31'34	0°05'40	retrograde	14106 Apr 11 06:40	20°30'35	
minimum elong	14100 Dec 14 11:08	6°31'34	0°06'43	opposition	14106 Jun 29 03:02	18°33'16	0°13'30
behind sun begin	14100 Dec 14 05:01	6°31'01		min. Earth dist.	14106 Jun 28 18:09	18°33'53	28.94492 AU
behind sun end	14100 Dec 14 17:14	6°31'07		direct	14106 Sep 15 13:12	17°31'20	
max. Earth dist.	14100 Dec 14 23:39	6°31'44	30.89961 AU	evening set	14106 Dec 12 16:07	19°30'19	
morning rise	14100 Dec 30 13:17	6°35'23					
retrograde	14101 Mar 30 14:34	8°34'30		conjunction	14106 Dec 28 18:04	19°34'20	0°13'12
opposition	14101 Jun 17 18:26	7°32'04	0°06'46	minimum elong	14106 Dec 28 18:04	19°34'20	0°14'13
min. Earth dist.	14101 Jun 17 07:08	7°32'52	28.90450 AU	behind sun begin	14106 Dec 28 15:03	19°34'50	
direct	14101 Sep 03 23:36	6°30'06		behind sun end	14106 Dec 28 21:05	19°34'22	
evening set	14101 Nov 30 23:30	7°35'19		max. Earth dist.	14106 Dec 29 03:18	19°34'57	30.94911 AU
				morning rise	14107 Jan 13 21:01	20°31'00	
conjunction	14101 Dec 17 00:25	8°31'07	0°06'57	retrograde	14107 Apr 13 18:10	22°31'49	
minimum elong	14101 Dec 17 00:24	8°31'07	0°08'01	opposition	14107 Jul 01 14:09	20°35'01	0°14'47
behind sun begin	14101 Dec 16 18:34	8°30'35		min. Earth dist.	14107 Jul 01 06:25	20°35'33	28.95375 AU
behind sun end	14101 Dec 17 06:15	8°31'38		direct	14107 Sep 18 00:47	19°32'51	
max. Earth dist.	14101 Dec 17 11:20	8°32'07	30.90903 AU	evening set	14107 Dec 15 04:53	21°32'01	
morning rise	14102 Jan 02 02:52	9°30'03					
retrograde	14102 Apr 02 03:26	11°30'38		conjunction	14107 Dec 31 07:01	21°35'48	0°14'23
opposition	14102 Jun 20 05:54	9°33'34	0°08'09	minimum elong	14107 Dec 31 07:00	21°35'48	0°15'25
min. Earth dist.	14102 Jun 19 19:52	9°34'17	28.91349 AU	behind sun begin	14107 Dec 31 05:25	21°35'40	
direct	14102 Sep 06 09:56	8°31'35		behind sun end	14107 Dec 31 08:36	21°35'57	
evening set	14102 Dec 03 12:30	10°30'49		max. Earth dist.	14107 Dec 31 15:46	21°35'37	30.95856 AU
				morning rise	14108 Jan 16 10:05	22°31'41	
conjunction	14102 Dec 19 13:47	10°34'37	0°08'14	retrograde	14108 Apr 15 05:56	24°32'53	
minimum elong	14102 Dec 19 13:47	10°34'37	0°09'17	opposition	14108 Jul 03 01:06	23°30'37	0°16'03
behind sun begin	14102 Dec 19 08:18	10°34'07		min. Earth dist.	14108 Jul 02 16:30	23°30'44	28.96376 AU
behind sun end	14102 Dec 19 19:17	10°34'06		direct	14108 Sep 19 12:51	21°33'26	
max. Earth dist.	14102 Dec 20 01:04	10°34'39	30.91753 AU	evening set	14108 Dec 16 17:37	23°33'36	
morning rise	14103 Jan 04 16:13	11°32'13					
retrograde	14103 Apr 04 15:56	13°31'20		conjunction	14109 Jan 01 19:51	24°30'23	0°15'33
opposition	14103 Jun 22 17:20	11°35'59	0°09'31	minimum elong	14109 Jan 01 19:51	24°30'23	0°16'33
min. Earth dist.	14103 Jun 22 07:34	11°35'40	28.92152 AU	max. Earth dist.	14109 Jan 02 04:12	24°31'09	30.96913 AU
direct	14103 Sep 08 23:44	10°32'58		morning rise	14109 Jan 17 23:02	24°34'15	
evening set	14103 Dec 06 01:27	12°32'41		retrograde	14109 Apr 17 16:18	26°34'21	
				opposition	14109 Jul 05 12:14	25°31'08	0°17'18
conjunction	14103 Dec 22 02:46	12°35'59	0°09'30	min. Earth dist.	14109 Jul 05 04:45	25°31'40	28.97501 AU
minimum elong	14103 Dec 22 02:46	12°35'59	0°10'33	direct	14109 Sep 21 23:03	23°35'27	
behind sun begin	14103 Dec 21 21:42	12°35'32		evening set	14109 Dec 19 06:25	25°34'07	
behind sun end	14103 Dec 22 07:50	13°30'26					
max. Earth dist.	14103 Dec 22 12:22	13°30'52	30.92535 AU	conjunction	14110 Jan 04 08:54	26°32'24	0°16'42
morning rise	14104 Jan 07 05:30	13°33'54		minimum elong	14110 Jan 04 08:54	26°32'24	0°17'42
retrograde	14104 Apr 06 05:52	15°32'36		max. Earth dist.	14110 Jan 04 17:29	26°32'34	30.98101 AU
opposition	14104 Jun 24 04:43	14°30'15	0°10'51	morning rise	14110 Jan 20 12:04	26°35'45	
min. Earth dist.	14104 Jun 23 19:17	14°30'55	28.92921 AU	retrograde	14110 Apr 20 04:01	28°35'44	
direct	14104 Sep 10 12:09	12°34'12		opposition	14110 Jul 07 23:00	27°30'36	0°18'30
evening set	14104 Dec 07 14:20	14°33'24		min. Earth dist.	14110 Jul 07 15:03	27°31'10	28.98731 AU
				direct	14110 Sep 24 10:12	26°30'26	
conjunction	14104 Dec 23 15:59	15°31'42	0°10'45	evening set	14110 Dec 21 19:21	28°30'38	
minimum elong	14104 Dec 23 15:59	15°31'42	0°11'47				
behind sun begin	14104 Dec 23 11:27	15°31'34		conjunction	14111 Jan 06 21:48	28°33'23	0°17'50
behind sun end	14104 Dec 23 20:32	15°31'36		minimum elong	14111 Jan 06 21:48	28°33'23	0°18'48
max. Earth dist.	14104 Dec 24 02:10	15°31'58	30.93292 AU	max. Earth dist.	14111 Jan 07 05:15	28°33'04	30.99375 AU
morning rise	14105 Jan 08 18:42	15°35'07		morning rise	14111 Jan 23 01:08	29°31'14	
retrograde	14105 Apr 08 16:50	17°34'41			14111 Feb 15 08:36	0°00'00	
opposition	14105 Jun 26 15:55	16°32'21	0°12'11	retrograde	14111 Apr 22 15:41	1°00'08	
min. Earth dist.	14105 Jun 26 07:22	16°32'57	28.93682 AU		14111 Jun 30 21:23	30°00'00	
direct	14105 Sep 13 00:34	14°35'15		opposition	14111 Jul 10 10:00	29°34'05	0°19'42
evening set	14105 Dec 10 03:16	16°35'27		min. Earth dist.	14111 Jul 10 03:03	29°34'34	29.00040 AU

direct	14111 Sep 26 19:58	28°31'56"		morning rise	14118 Feb 07 20:08	14°45'25"	
	14111 Dec 17 17:52	0°00'			14118 Feb 14 15:25	15°00'	
evening set	14111 Dec 24 08:02	0°14'10"		retrograde	14118 May 08 02:28	16°40'31"	
				opposition	14118 Jul 25 13:41	15°16'46"	0°27'02"
conjunction	14112 Jan 09 10:46	0°49'55"	0°18'56"	min. Earth dist.	14118 Jul 25 11:38	15°16'55"	29.07205 AU
minimum elong	14112 Jan 09 10:46	0°49'55"	0°19'54"		14118 Aug 04 14:38	15°00'	
max. Earth dist.	14112 Jan 09 18:47	0°50'39"	31.00691 AU	direct	14118 Oct 12 08:01	13°52'29"	
morning rise	14112 Jan 25 13:58	1°25'45"			14118 Dec 17 04:53	15°00'	
retrograde	14112 Apr 24 02:55	3°21'34"		evening set	14119 Jan 09 02:25	15°46'43"	
opposition	14112 Jul 11 20:57	1°57'36"	0°20'51"				
min. Earth dist.	14112 Jul 11 14:19	1°58'04"	29.01339 AU	conjunction	14119 Jan 25 05:39	16°22'24"	0°25'41"
direct	14112 Sep 28 08:45	0°33'28"		minimum elong	14119 Jan 25 05:39	16°22'24"	0°26'29"
evening set	14112 Dec 25 21:08	2°27'43"		max. Earth dist.	14119 Jan 25 08:12	16°22'38"	31.07610 AU
				morning rise	14119 Feb 10 08:49	16°58'06"	
conjunction	14113 Jan 10 23:47	3°03'28"	0°20'00"	retrograde	14119 May 10 13:33	18°53'04"	
minimum elong	14113 Jan 10 23:47	3°03'28"	0°20'56"	opposition	14119 Jul 28 00:11	17°29'21"	0°27'56"
max. Earth dist.	14113 Jan 11 05:55	3°04'02"	31.01967 AU	min. Earth dist.	14119 Jul 27 21:45	17°29'31"	29.08034 AU
morning rise	14113 Jan 27 03:11	3°39'17"		direct	14119 Oct 14 19:30	16°05'01"	
retrograde	14113 Apr 26 16:11	5°35'00"		evening set	14120 Jan 11 14:59	17°59'15"	
opposition	14113 Jul 14 07:47	4°11'06"	0°21'58"				
min. Earth dist.	14113 Jul 14 01:46	4°11'32"	29.02580 AU	conjunction	14120 Jan 27 18:05	18°34'55"	0°26'30"
direct	14113 Sep 30 19:55	2°46'58"		minimum elong	14120 Jan 27 18:05	18°34'55"	0°27'17"
evening set	14113 Dec 28 10:09	4°41'15"		max. Earth dist.	14120 Jan 27 19:33	18°35'03"	31.08469 AU
				morning rise	14120 Feb 12 21:19	19°10'36"	
conjunction	14114 Jan 13 13:04	5°16'59"	0°21'02"	retrograde	14120 May 11 23:58	21°05'28"	
minimum elong	14114 Jan 13 13:04	5°16'59"	0°21'58"	opposition	14120 Jul 29 10:46	19°41'46"	0°28'47"
max. Earth dist.	14114 Jan 13 19:19	5°17'34"	31.03142 AU	min. Earth dist.	14120 Jul 29 09:11	19°41'53"	29.08943 AU
morning rise	14114 Jan 29 16:18	5°52'47"		direct	14120 Oct 16 05:21	18°17'25"	
retrograde	14114 Apr 29 03:23	7°48'24"		evening set	14121 Jan 13 03:30	20°11'39"	
opposition	14114 Jul 16 18:47	6°24'34"	0°23'04"				
min. Earth dist.	14114 Jul 16 14:00	6°24'54"	29.03688 AU	conjunction	14121 Jan 29 06:48	20°47'18"	0°27'17"
direct	14114 Oct 03 08:01	5°00'25"		minimum elong	14121 Jan 29 06:48	20°47'18"	0°28'02"
evening set	14114 Dec 30 23:11	6°54'42"		max. Earth dist.	14121 Jan 29 08:57	20°47'30"	31.09422 AU
				morning rise	14121 Feb 14 09:49	21°22'58"	
conjunction	14115 Jan 16 02:02	7°30'25"	0°22'02"	retrograde	14121 May 14 09:52	23°17'44"	
minimum elong	14115 Jan 16 02:02	7°30'25"	0°22'56"	opposition	14121 Jul 31 21:08	21°54'05"	0°29'35"
max. Earth dist.	14115 Jan 16 06:33	7°30'50"	31.04193 AU	min. Earth dist.	14121 Jul 31 19:36	21°54'11"	29.09944 AU
morning rise	14115 Feb 01 05:24	8°06'12"		direct	14121 Oct 18 17:27	20°29'43"	
retrograde	14115 May 01 17:07	10°01'42"		evening set	14122 Jan 15 16:12	22°23'59"	
opposition	14115 Jul 19 05:35	8°37'53"	0°24'07"				
min. Earth dist.	14115 Jul 19 00:50	8°38'13"	29.04680 AU	conjunction	14122 Jan 31 19:20	22°59'37"	0°28'01"
direct	14115 Oct 05 20:55	7°13'42"		minimum elong	14122 Jan 31 19:20	22°59'37"	0°28'45"
evening set	14116 Jan 02 12:06	9°07'59"		max. Earth dist.	14122 Jan 31 19:59	22°59'40"	31.10485 AU
				morning rise	14122 Feb 16 22:26	23°35'15"	
conjunction	14116 Jan 18 15:06	9°43'43"	0°23'00"	retrograde	14122 May 16 22:07	25°29'56"	
minimum elong	14116 Jan 18 15:06	9°43'43"	0°23'53"	opposition	14122 Aug 03 07:35	24°06'20"	0°30'21"
max. Earth dist.	14116 Jan 18 19:28	9°44'06"	31.05125 AU	min. Earth dist.	14122 Aug 03 06:06	24°06'27"	29.11070 AU
morning rise	14116 Feb 03 18:21	10°19'28"		direct	14122 Oct 21 03:38	22°41'59"	
retrograde	14116 May 03 04:14	12°14'50"		evening set	14123 Jan 18 04:35	24°36'17"	
opposition	14116 Jul 20 16:27	10°51'03"	0°25'08"				
min. Earth dist.	14116 Jul 20 13:19	10°51'16"	29.05570 AU	conjunction	14123 Feb 03 07:51	25°11'55"	0°28'43"
direct	14116 Oct 07 08:54	9°26'50"		minimum elong	14123 Feb 03 07:51	25°11'55"	0°29'25"
evening set	14117 Jan 04 00:53	11°21'06"		max. Earth dist.	14123 Feb 03 09:15	25°12'02"	31.11655 AU
				morning rise	14123 Feb 19 10:40	25°47'32"	
conjunction	14117 Jan 20 03:59	11°56'48"	0°23'56"	retrograde	14123 May 19 08:37	27°42'08"	
minimum elong	14117 Jan 20 03:59	11°56'48"	0°24'47"	opposition	14123 Aug 05 18:03	26°18'38"	0°31'05"
max. Earth dist.	14117 Jan 20 07:21	11°57'07"	31.05988 AU	min. Earth dist.	14123 Aug 05 17:25	26°18'41"	29.12275 AU
morning rise	14117 Feb 05 07:18	12°32'33"		direct	14123 Oct 23 14:42	24°54'18"	
retrograde	14117 May 05 16:11	14°27'47"		evening set	14124 Jan 20 17:10	26°48'39"	
opposition	14117 Jul 23 03:05	13°04'00"	0°26'06"				
min. Earth dist.	14117 Jul 22 23:32	13°04'15"	29.06398 AU	conjunction	14124 Feb 05 20:17	27°24'16"	0°29'22"
direct	14117 Oct 09 21:33	11°39'45"		minimum elong	14124 Feb 05 20:17	27°24'16"	0°30'03"
evening set	14118 Jan 06 13:46	13°34'00"		max. Earth dist.	14124 Feb 05 20:22	27°24'16"	31.12900 AU
				morning rise	14124 Feb 21 23:11	27°59'52"	
conjunction	14118 Jan 22 16:51	14°09'42"	0°24'50"	retrograde	14124 May 20 22:19	29°54'24"	
minimum elong	14118 Jan 22 16:51	14°09'42"	0°25'40"	opposition	14124 Aug 07 04:21	28°30'59"	0°31'45"
max. Earth dist.	14118 Jan 22 19:24	14°09'56"	31.06792 AU	min. Earth dist.	14124 Aug 07 03:31	28°31'02"	29.13531 AU

direct	14124 Oct 25 03:18	27° \approx 06'41		minimum elong	14131 Feb 21 11:18	12° \mathbb{H} 49'33	0°33'07
evening set	14125 Jan 22 05:41	29° \approx 01'04		max. Earth dist.	14131 Feb 21 06:07	12° \mathbb{H} 49'04	31.19557 AU
				morning rise	14131 Mar 09 13:11	13° \mathbb{H} 24'59	
conjunction	14125 Feb 07 08:52	29° \approx 36'41	0°29'59	retrograde	14131 Jun 06 01:09	15° \mathbb{H} 18'46	
minimum elong	14125 Feb 07 08:53	29° \approx 36'41	0°30'37	opposition	14131 Aug 23 04:48	13° \mathbb{H} 55'36	0°35'06
max. Earth dist.	14125 Feb 07 08:59	29° \approx 36'41	31.14135 AU	min. Earth dist.	14131 Aug 23 08:42	13° \mathbb{H} 55'20	29.19923 AU
	14125 Feb 17 20:55	0° \mathbb{H}		direct	14131 Nov 10 10:30	12° \mathbb{H} 31'09	
morning rise	14125 Feb 23 11:33	0° \mathbb{H} 12'16		evening set	14132 Feb 07 20:46	14° \mathbb{H} 25'30	
retrograde	14125 May 23 09:17	2° \mathbb{H} 06'43					
opposition	14125 Aug 09 14:51	0° \mathbb{H} 43'23	0°32'23	conjunction	14132 Feb 23 23:28	15° \mathbb{H} 00'59	0°32'59
min. Earth dist.	14125 Aug 09 15:40	0° \mathbb{H} 43'19	29.14740 AU	minimum elong	14132 Feb 23 23:29	15° \mathbb{H} 00'59	0°33'22
	14125 Sep 05 18:57	30° \mathbb{R} \approx		max. Earth dist.	14132 Feb 23 18:56	15° \mathbb{H} 00'34	31.20271 AU
direct	14125 Oct 27 15:02	29° \approx 19'07		morning rise	14132 Mar 11 01:02	15° \mathbb{H} 36'23	
	14125 Dec 17 03:19	0° \mathbb{H}		retrograde	14132 Jun 07 10:12	17° \mathbb{H} 30'03	
evening set	14126 Jan 24 18:21	1° \mathbb{H} 13'32		opposition	14132 Aug 24 14:57	16° \mathbb{H} 06'53	0°35'23
				min. Earth dist.	14132 Aug 24 19:46	16° \mathbb{H} 06'33	29.20660 AU
conjunction	14126 Feb 09 21:27	1° \mathbb{H} 49'08	0°30'33	direct	14132 Nov 11 21:49	14° \mathbb{H} 42'24	
minimum elong	14126 Feb 09 21:27	1° \mathbb{H} 49'08	0°31'09	evening set	14133 Feb 09 08:58	16° \mathbb{H} 36'44	
max. Earth dist.	14126 Feb 09 20:25	1° \mathbb{H} 49'02	31.15303 AU				
morning rise	14126 Feb 26 00:02	2° \mathbb{H} 24'41		conjunction	14133 Feb 25 11:26	17° \mathbb{H} 12'11	0°33'14
retrograde	14126 May 25 21:24	4° \mathbb{H} 19'03		minimum elong	14133 Feb 25 11:26	17° \mathbb{H} 12'11	0°33'34
opposition	14126 Aug 12 01:09	2° \mathbb{H} 55'47	0°32'57	max. Earth dist.	14133 Feb 25 05:40	17° \mathbb{H} 11'40	31.21047 AU
min. Earth dist.	14126 Aug 12 01:41	2° \mathbb{H} 55'45	29.15851 AU	morning rise	14133 Mar 13 12:59	17° \mathbb{H} 47'34	
direct	14126 Oct 30 03:30	1° \mathbb{H} 31'32		retrograde	14133 Jun 09 22:13	19° \mathbb{H} 41'08	
evening set	14127 Jan 27 07:00	3° \mathbb{H} 25'58		opposition	14133 Aug 27 01:03	18° \mathbb{H} 17'59	0°35'37
				min. Earth dist.	14133 Aug 27 05:18	18° \mathbb{H} 17'41	29.21479 AU
conjunction	14127 Feb 12 10:00	4° \mathbb{H} 01'33	0°31'04	direct	14133 Nov 14 10:01	16° \mathbb{H} 53'29	
minimum elong	14127 Feb 12 10:00	4° \mathbb{H} 01'33	0°31'38	evening set	14134 Feb 11 21:02	18° \mathbb{H} 47'49	
max. Earth dist.	14127 Feb 12 07:59	4° \mathbb{H} 01'22	31.16348 AU				
morning rise	14127 Feb 28 12:25	4° \mathbb{H} 37'05		conjunction	14134 Feb 27 23:26	19° \mathbb{H} 23'15	0°33'25
retrograde	14127 May 28 08:31	6° \mathbb{H} 31'21		minimum elong	14134 Feb 27 23:27	19° \mathbb{H} 23'15	0°33'43
opposition	14127 Aug 14 11:42	5° \mathbb{H} 08'07	0°33'29	max. Earth dist.	14134 Feb 27 18:06	19° \mathbb{H} 22'46	31.21907 AU
min. Earth dist.	14127 Aug 14 13:49	5° \mathbb{H} 07'58	29.16846 AU	morning rise	14134 Mar 16 00:38	19° \mathbb{H} 58'36	
direct	14127 Nov 01 14:16	3° \mathbb{H} 43'51		retrograde	14134 Jun 12 08:06	21° \mathbb{H} 52'05	
evening set	14128 Jan 29 19:21	5° \mathbb{H} 38'17		opposition	14134 Aug 29 11:15	20° \mathbb{H} 28'58	0°35'48
				min. Earth dist.	14134 Aug 29 16:39	20° \mathbb{H} 28'36	29.22399 AU
conjunction	14128 Feb 14 22:24	6° \mathbb{H} 13'51	0°31'33	direct	14134 Nov 16 21:08	19° \mathbb{H} 04'29	
minimum elong	14128 Feb 14 22:24	6° \mathbb{H} 13'51	0°32'04	evening set	14135 Feb 14 09:03	20° \mathbb{H} 58'50	
max. Earth dist.	14128 Feb 14 20:04	6° \mathbb{H} 13'38	31.17287 AU				
morning rise	14128 Mar 02 00:39	6° \mathbb{H} 49'21		conjunction	14135 Mar 02 11:19	21° \mathbb{H} 34'15	0°33'34
retrograde	14128 May 29 19:39	8° \mathbb{H} 43'30		minimum elong	14135 Mar 02 11:19	21° \mathbb{H} 34'15	0°33'50
opposition	14128 Aug 15 22:03	7° \mathbb{H} 20'19	0°33'58	max. Earth dist.	14135 Mar 02 05:27	21° \mathbb{H} 33'43	31.22894 AU
min. Earth dist.	14128 Aug 16 00:09	7° \mathbb{H} 20'10	29.17716 AU	morning rise	14135 Mar 18 12:23	22° \mathbb{H} 09'35	
direct	14128 Nov 03 02:30	5° \mathbb{H} 56'01		retrograde	14135 Jun 14 19:58	24° \mathbb{H} 02'59	
evening set	14129 Jan 31 07:59	7° \mathbb{H} 50'25		opposition	14135 Aug 31 21:20	22° \mathbb{H} 39'57	0°35'56
				min. Earth dist.	14135 Sep 01 01:52	22° \mathbb{H} 39'38	29.23431 AU
conjunction	14129 Feb 16 10:49	8° \mathbb{H} 25'58	0°31'59	direct	14135 Nov 19 09:15	21° \mathbb{H} 15'29	
minimum elong	14129 Feb 16 10:49	8° \mathbb{H} 25'58	0°32'28	evening set	14136 Feb 16 20:58	23° \mathbb{H} 09'52	
max. Earth dist.	14129 Feb 16 06:56	8° \mathbb{H} 25'37	31.18106 AU				
morning rise	14129 Mar 04 13:02	9° \mathbb{H} 01'28		conjunction	14136 Mar 03 23:05	23° \mathbb{H} 45'16	0°33'40
retrograde	14129 Jun 01 05:10	10° \mathbb{H} 55'30		minimum elong	14136 Mar 03 23:05	23° \mathbb{H} 45'16	0°33'53
opposition	14129 Aug 18 08:19	9° \mathbb{H} 32'19	0°34'24	max. Earth dist.	14136 Mar 03 16:49	23° \mathbb{H} 44'42	31.23961 AU
min. Earth dist.	14129 Aug 18 11:38	9° \mathbb{H} 32'05	29.18500 AU	morning rise	14136 Mar 19 23:58	24° \mathbb{H} 20'35	
direct	14129 Nov 05 12:45	8° \mathbb{H} 07'58		retrograde	14136 Jun 16 07:09	26° \mathbb{H} 13'57	
evening set	14130 Feb 02 20:21	10° \mathbb{H} 02'21		opposition	14136 Sep 02 07:35	24° \mathbb{H} 50'59	0°36'00
				min. Earth dist.	14136 Sep 02 13:23	24° \mathbb{H} 50'35	29.24525 AU
conjunction	14130 Feb 18 23:17	10° \mathbb{H} 37'53	0°32'22	direct	14136 Nov 20 19:46	23° \mathbb{H} 26'35	
minimum elong	14130 Feb 18 23:17	10° \mathbb{H} 37'53	0°32'49	evening set	14137 Feb 18 09:01	25° \mathbb{H} 21'00	
max. Earth dist.	14130 Feb 18 19:44	10° \mathbb{H} 37'33	31.18853 AU				
morning rise	14130 Mar 07 01:12	11° \mathbb{H} 13'21		conjunction	14137 Mar 06 11:04	25° \mathbb{H} 56'24	0°33'43
retrograde	14130 Jun 03 13:57	13° \mathbb{H} 07'15		minimum elong	14137 Mar 06 11:04	25° \mathbb{H} 56'24	0°33'54
opposition	14130 Aug 20 18:35	11° \mathbb{H} 44'05	0°34'47	max. Earth dist.	14137 Mar 06 04:47	25° \mathbb{H} 55'49	31.25063 AU
min. Earth dist.	14130 Aug 20 22:20	11° \mathbb{H} 43'49	29.19213 AU	morning rise	14137 Mar 22 11:41	26° \mathbb{H} 31'41	
direct	14130 Nov 08 00:37	10° \mathbb{H} 19'41		retrograde	14137 Jun 18 18:10	28° \mathbb{H} 25'00	
evening set	14131 Feb 05 08:39	12° \mathbb{H} 14'03		opposition	14137 Sep 04 17:37	27° \mathbb{H} 02'08	0°36'01
				min. Earth dist.	14137 Sep 04 23:20	27° \mathbb{H} 01'44	29.25602 AU
conjunction	14131 Feb 21 11:17	12° \mathbb{H} 49'33	0°32'42	direct	14137 Nov 23 07:45	25° \mathbb{H} 37'47	

evening set	14138 Feb 20 21:14	27° \mathbf{K} 32'15		max. Earth dist.	14144 Mar 21 10:23	11° \mathbf{Y} 13'51	31.29973 AU
				morning rise	14144 Apr 06 20:16	11° \mathbf{Y} 50'00	
conjunction	14138 Mar 08 22:58	28° \mathbf{K} 07'38 0°33'43		retrograde	14144 Jul 03 17:47	13° \mathbf{Y} 42'53	
minimum elong	14138 Mar 08 22:58	28° \mathbf{K} 07'38 0°33'51		opposition	14144 Sep 19 17:23	12° \mathbf{Y} 20'15 0°34'43	
max. Earth dist.	14138 Mar 08 15:18	28° \mathbf{K} 06'56 31.26107 AU		min. Earth dist.	14144 Sep 20 02:45	12° \mathbf{Y} 19'36 29.30180 AU	
morning rise	14138 Mar 24 23:26	28° \mathbf{K} 42'55		direct	14144 Dec 08 12:59	10° \mathbf{Y} 55'51	
	14138 May 05 01:27	0° \mathbf{Y}		evening set	14145 Mar 08 08:17	12° \mathbf{Y} 50'22	
retrograde	14138 Jun 21 04:18	0° \mathbf{Y} 36'11					
	14138 Aug 08 11:00	30° \mathbf{K}		conjunction	14145 Mar 24 08:44	13° \mathbf{Y} 25'37 0°32'20	
opposition	14138 Sep 07 03:57	29° \mathbf{K} 13'24 0°35'59		minimum elong	14145 Mar 24 08:44	13° \mathbf{Y} 25'37 0°32'12	
min. Earth dist.	14138 Sep 07 10:41	29° \mathbf{K} 12'55 29.26612 AU		max. Earth dist.	14145 Mar 23 21:21	13° \mathbf{Y} 24'34 31.30364 AU	
direct	14138 Nov 25 17:32	27° \mathbf{K} 49'04		morning rise	14145 Apr 09 07:26	14° \mathbf{Y} 00'43	
evening set	14139 Feb 23 09:07	29° \mathbf{K} 43'34		retrograde	14145 Jul 06 04:52	15° \mathbf{Y} 53'32	
	14139 Mar 02 21:40	0° \mathbf{Y}		opposition	14145 Sep 22 03:34	14° \mathbf{Y} 30'54 0°34'20	
				min. Earth dist.	14145 Sep 22 14:00	14° \mathbf{Y} 30'10 29.30599 AU	
conjunction	14139 Mar 11 10:49	0° \mathbf{Y} 18'56 0°33'40		direct	14145 Dec 11 00:33	13° \mathbf{Y} 06'29	
minimum elong	14139 Mar 11 10:49	0° \mathbf{Y} 18'56 0°33'46		evening set	14146 Mar 10 19:51	15° \mathbf{Y} 00'59	
max. Earth dist.	14139 Mar 11 03:33	0° \mathbf{Y} 18'16 31.27055 AU					
morning rise	14139 Mar 27 10:54	0° \mathbf{Y} 54'12		conjunction	14146 Mar 26 20:08	15° \mathbf{Y} 36'13 0°31'58	
retrograde	14139 Jun 23 13:12	2° \mathbf{Y} 47'25		minimum elong	14146 Mar 26 20:08	15° \mathbf{Y} 36'13 0°31'46	
opposition	14139 Sep 09 14:17	1° \mathbf{Y} 24'42 0°35'54		max. Earth dist.	14146 Mar 26 09:09	15° \mathbf{Y} 35'12 31.30815 AU	
min. Earth dist.	14139 Sep 09 21:35	1° \mathbf{Y} 24'12 29.27492 AU		morning rise	14146 Apr 11 18:30	16° \mathbf{Y} 11'18	
direct	14139 Nov 28 04:54	0° \mathbf{Y} 00'25		retrograde	14146 Jul 08 15:11	18° \mathbf{Y} 04'03	
evening set	14140 Feb 25 21:15	1° \mathbf{Y} 54'56		opposition	14146 Sep 24 13:49	16° \mathbf{Y} 41'25 0°33'53	
				min. Earth dist.	14146 Sep 24 23:40	16° \mathbf{Y} 40'44 29.31081 AU	
conjunction	14140 Mar 12 22:37	2° \mathbf{Y} 30'17 0°33'33		direct	14146 Dec 13 13:34	15° \mathbf{Y} 17'01	
minimum elong	14140 Mar 12 22:37	2° \mathbf{Y} 30'17 0°33'37		evening set	14147 Mar 13 07:17	17° \mathbf{Y} 11'30	
max. Earth dist.	14140 Mar 12 13:28	2° \mathbf{Y} 29'26 31.27872 AU					
morning rise	14140 Mar 28 22:38	3° \mathbf{Y} 05'31		conjunction	14147 Mar 29 07:13	17° \mathbf{Y} 46'43 0°31'32	
retrograde	14140 Jun 25 00:36	4° \mathbf{Y} 58'41		minimum elong	14147 Mar 29 07:13	17° \mathbf{Y} 46'43 0°31'19	
opposition	14140 Sep 11 00:26	3° \mathbf{Y} 36'01 0°35'46		max. Earth dist.	14147 Mar 28 19:24	17° \mathbf{Y} 45'37 31.31343 AU	
min. Earth dist.	14140 Sep 11 08:03	3° \mathbf{Y} 35'29 29.28247 AU		morning rise	14147 Apr 14 05:25	18° \mathbf{Y} 21'47	
direct	14140 Nov 29 14:09	2° \mathbf{Y} 11'43		retrograde	14147 Jul 11 00:58	20° \mathbf{Y} 14'29	
evening set	14141 Feb 27 09:12	4° \mathbf{Y} 06'15		opposition	14147 Sep 27 00:06	18° \mathbf{Y} 51'53 0°33'24	
				min. Earth dist.	14147 Sep 27 10:19	18° \mathbf{Y} 51'11 29.31663 AU	
conjunction	14141 Mar 15 10:34	4° \mathbf{Y} 41'35 0°33'24		direct	14147 Dec 15 23:28	17° \mathbf{Y} 27'29	
minimum elong	14141 Mar 15 10:34	4° \mathbf{Y} 41'35 0°33'26		evening set	14148 Mar 14 18:42	19° \mathbf{Y} 22'00	
max. Earth dist.	14141 Mar 15 01:40	4° \mathbf{Y} 40'46 31.28551 AU					
morning rise	14141 Mar 31 10:11	5° \mathbf{Y} 16'49		conjunction	14148 Mar 30 18:34	19° \mathbf{Y} 57'11 0°31'04	
retrograde	14141 Jun 27 09:26	7° \mathbf{Y} 09'55		minimum elong	14148 Mar 30 18:34	19° \mathbf{Y} 57'11 0°30'48	
opposition	14141 Sep 13 10:49	5° \mathbf{Y} 47'16 0°35'35		max. Earth dist.	14148 Mar 30 07:42	19° \mathbf{Y} 56'11 31.31962 AU	
min. Earth dist.	14141 Sep 13 19:42	5° \mathbf{Y} 46'39 29.28856 AU		morning rise	14148 Apr 15 16:23	20° \mathbf{Y} 32'14	
direct	14141 Dec 02 01:18	4° \mathbf{Y} 22'58		retrograde	14148 Jul 12 09:44	22° \mathbf{Y} 24'54	
evening set	14142 Mar 01 21:11	6° \mathbf{Y} 17'30		opposition	14148 Sep 28 10:15	21° \mathbf{Y} 02'22 0°32'52	
				min. Earth dist.	14148 Sep 28 20:44	21° \mathbf{Y} 01'38 29.32299 AU	
conjunction	14142 Mar 17 22:11	6° \mathbf{Y} 52'49 0°33'13		direct	14148 Dec 17 11:03	19° \mathbf{Y} 38'00	
minimum elong	14142 Mar 17 22:11	6° \mathbf{Y} 52'49 0°33'11		evening set	14149 Mar 17 06:18	21° \mathbf{Y} 32'32	
max. Earth dist.	14142 Mar 17 11:47	6° \mathbf{Y} 51'51 31.29106 AU					
morning rise	14142 Apr 02 21:41	7° \mathbf{Y} 28'00		conjunction	14149 Apr 02 05:47	22° \mathbf{Y} 07'43 0°30'32	
retrograde	14142 Jun 29 20:57	9° \mathbf{Y} 21'03		minimum elong	14149 Apr 02 05:47	22° \mathbf{Y} 07'43 0°30'15	
opposition	14142 Sep 15 20:57	7° \mathbf{Y} 58'25 0°35'20		max. Earth dist.	14149 Apr 01 17:32	22° \mathbf{Y} 06'35 31.32616 AU	
min. Earth dist.	14142 Sep 16 05:34	7° \mathbf{Y} 57'49 29.29359 AU		morning rise	14149 Apr 18 03:29	22° \mathbf{Y} 42'45	
direct	14142 Dec 04 13:28	6° \mathbf{Y} 34'05		retrograde	14149 Jul 14 21:05	24° \mathbf{Y} 35'23	
evening set	14143 Mar 04 08:57	8° \mathbf{Y} 28'37		opposition	14149 Sep 30 20:31	23° \mathbf{Y} 12'54 0°32'18	
				min. Earth dist.	14149 Oct 01 06:51	23° \mathbf{Y} 12'11 29.32950 AU	
conjunction	14143 Mar 20 09:51	9° \mathbf{Y} 03'55 0°32'58		direct	14149 Dec 19 20:30	21° \mathbf{Y} 48'34	
minimum elong	14143 Mar 20 09:51	9° \mathbf{Y} 03'55 0°32'55		evening set	14150 Mar 19 17:41	23° \mathbf{Y} 43'08	
max. Earth dist.	14143 Mar 19 23:34	9° \mathbf{Y} 02'58 31.29560 AU					
morning rise	14143 Apr 05 08:59	9° \mathbf{Y} 39'05		conjunction	14150 Apr 04 17:02	24° \mathbf{Y} 18'17 0°29'59	
retrograde	14143 Jul 02 06:26	11° \mathbf{Y} 32'03		minimum elong	14150 Apr 04 17:02	24° \mathbf{Y} 18'17 0°29'38	
opposition	14143 Sep 18 07:15	10° \mathbf{Y} 09'25 0°35'03		max. Earth dist.	14150 Apr 04 05:27	24° \mathbf{Y} 17'13 31.33235 AU	
min. Earth dist.	14143 Sep 18 17:19	10° \mathbf{Y} 08'43 29.29785 AU		morning rise	14150 Apr 20 14:16	24° \mathbf{Y} 53'19	
direct	14143 Dec 07 00:16	8° \mathbf{Y} 45'04		retrograde	14150 Jul 17 05:18	26° \mathbf{Y} 45'56	
evening set	14144 Mar 05 20:35	10° \mathbf{Y} 39'35		opposition	14150 Oct 03 06:58	25° \mathbf{Y} 23'31 0°31'40	
				min. Earth dist.	14150 Oct 03 18:25	25° \mathbf{Y} 22'43 29.33531 AU	
conjunction	14144 Mar 21 21:17	11° \mathbf{Y} 14'51 0°32'41		direct	14150 Dec 22 07:22	23° \mathbf{Y} 59'13	
minimum elong	14144 Mar 21 21:17	11° \mathbf{Y} 14'51 0°32'34		evening set	14151 Mar 22 05:15	25° \mathbf{Y} 53'47	

conjunction	14151 Apr 07 04:12	26° Υ 28'56	0°29'22	retrograde	14157 Aug 01 05:07	11° \mathcal{S} 59'25	
minimum elong	14151 Apr 07 04:13	26° Υ 28'56	0°29'00	opposition	14157 Oct 18 08:14	10° \mathcal{S} 37'02	0°26'05
max. Earth dist.	14151 Apr 06 15:20	26° Υ 27'45	31.33775 AU	min. Earth dist.	14157 Oct 18 22:04	10° \mathcal{S} 36'05	29.34126 AU
morning rise	14151 Apr 23 01:18	27° Υ 03'56		direct	14158 Jan 06 16:39	9° \mathcal{S} 12'39	
retrograde	14151 Jul 19 16:22	28° Υ 56'32		evening set	14158 Apr 06 12:10	11° \mathcal{S} 07'13	
opposition	14151 Oct 05 17:16	27° Υ 34'10	0°30'59				
min. Earth dist.	14151 Oct 06 04:20	27° Υ 33'24	29.34013 AU	conjunction	14158 Apr 22 09:16	11° \mathcal{S} 42'16	0°24'02
direct	14151 Dec 24 18:19	26° Υ 09'53		minimum elong	14158 Apr 22 09:16	11° \mathcal{S} 42'16	0°23'24
evening set	14152 Mar 23 16:40	28° Υ 04'28		max. Earth dist.	14158 Apr 21 17:57	11° \mathcal{S} 40'51	31.34036 AU
				morning rise	14158 May 08 04:25	12° \mathcal{S} 17'08	
conjunction	14152 Apr 08 15:29	28° Υ 39'36	0°28'43	retrograde	14158 Aug 03 16:06	14° \mathcal{S} 09'34	
minimum elong	14152 Apr 08 15:29	28° Υ 39'36	0°28'18	opposition	14158 Oct 20 18:45	12° \mathcal{S} 47'10	0°25'08
max. Earth dist.	14152 Apr 08 02:38	28° Υ 38'25	31.34178 AU	min. Earth dist.	14158 Oct 21 07:52	12° \mathcal{S} 46'15	29.33997 AU
morning rise	14152 Apr 24 12:12	29° Υ 14'35		direct	14159 Jan 09 02:40	11° \mathcal{S} 22'46	
	14152 May 16 18:32	0° \mathcal{S}		evening set	14159 Apr 08 23:02	13° \mathcal{S} 17'21	
retrograde	14152 Jul 21 02:00	1° \mathcal{S} 07'11					
	14152 Sep 27 22:15	30° $\mathcal{R}\Upsilon$		conjunction	14159 Apr 24 20:00	13° \mathcal{S} 52'22	0°23'08
opposition	14152 Oct 07 03:51	29° Υ 44'49	0°30'16	minimum elong	14159 Apr 24 20:01	13° \mathcal{S} 52'22	0°22'30
min. Earth dist.	14152 Oct 07 16:26	29° Υ 43'57	29.34345 AU	max. Earth dist.	14159 Apr 24 05:48	13° \mathcal{S} 51'03	31.33941 AU
direct	14152 Dec 26 04:26	28° Υ 20'33		morning rise	14159 May 10 14:43	14° \mathcal{S} 27'14	
	14153 Mar 19 01:27	0° \mathcal{S}			14159 May 26 07:20	15° \mathcal{S}	
evening set	14153 Mar 26 04:12	0° \mathcal{S} 15'09		retrograde	14159 Aug 05 23:46	16° \mathcal{S} 19'39	
					14159 Oct 21 13:36	15° $\mathcal{R}\mathcal{S}$	
conjunction	14153 Apr 11 02:43	0° \mathcal{S} 50'16	0°28'02	opposition	14159 Oct 23 05:18	14° \mathcal{S} 57'16	0°24'09
minimum elong	14153 Apr 11 02:43	0° \mathcal{S} 50'16	0°27'35	min. Earth dist.	14159 Oct 23 19:01	14° \mathcal{S} 56'19	29.33950 AU
max. Earth dist.	14153 Apr 10 13:07	0° \mathcal{S} 49'00	31.34437 AU	direct	14160 Jan 11 13:26	13° \mathcal{S} 32'54	
morning rise	14153 Apr 26 23:12	1° \mathcal{S} 25'13			14160 Mar 28 07:57	15° \mathcal{S}	
retrograde	14153 Jul 23 13:14	3° \mathcal{S} 17'47		evening set	14160 Apr 10 09:58	15° \mathcal{S} 27'29	
opposition	14153 Oct 09 14:13	1° \mathcal{S} 55'27	0°29'31				
min. Earth dist.	14153 Oct 10 02:19	1° \mathcal{S} 54'37	29.34520 AU	conjunction	14160 Apr 26 06:35	16° \mathcal{S} 02'30	0°22'12
direct	14153 Dec 28 17:09	0° \mathcal{S} 31'10		minimum elong	14160 Apr 26 06:35	16° \mathcal{S} 02'30	0°21'30
evening set	14154 Mar 28 15:40	2° \mathcal{S} 25'46		max. Earth dist.	14160 Apr 25 15:45	16° \mathcal{S} 01'07	31.33951 AU
				morning rise	14160 May 12 01:10	16° \mathcal{S} 37'21	
conjunction	14154 Apr 13 13:53	3° \mathcal{S} 00'52	0°27'18	retrograde	14160 Aug 07 10:21	18° \mathcal{S} 29'47	
minimum elong	14154 Apr 13 13:53	3° \mathcal{S} 00'52	0°26'49	opposition	14160 Oct 24 15:47	17° \mathcal{S} 07'26	0°23'08
max. Earth dist.	14154 Apr 12 23:31	2° \mathcal{S} 59'33	31.34535 AU	min. Earth dist.	14160 Oct 25 04:27	17° \mathcal{S} 06'33	29.33994 AU
morning rise	14154 Apr 29 10:04	3° \mathcal{S} 35'49		direct	14161 Jan 12 23:49	15° \mathcal{S} 43'05	
retrograde	14154 Jul 26 00:27	5° \mathcal{S} 28'21		evening set	14161 Apr 12 20:52	17° \mathcal{S} 37'42	
opposition	14154 Oct 12 00:51	4° \mathcal{S} 06'00	0°28'43				
min. Earth dist.	14154 Oct 12 14:07	4° \mathcal{S} 05'05	29.34557 AU	conjunction	14161 Apr 28 17:15	18° \mathcal{S} 12'42	0°21'14
direct	14154 Dec 31 04:32	2° \mathcal{S} 41'43		minimum elong	14161 Apr 28 17:15	18° \mathcal{S} 12'42	0°20'31
evening set	14155 Mar 31 02:47	4° \mathcal{S} 36'19		max. Earth dist.	14161 Apr 28 03:01	18° \mathcal{S} 11'24	31.34020 AU
max. Earth dist.	14155 Apr 15 10:43	5° \mathcal{S} 10'06	31.34512 AU	morning rise	14161 May 14 11:26	18° \mathcal{S} 47'33	
				retrograde	14161 Aug 09 19:54	20° \mathcal{S} 40'02	
conjunction	14155 Apr 16 00:51	5° \mathcal{S} 11'24	0°26'32	opposition	14161 Oct 27 02:28	19° \mathcal{S} 17'43	0°22'05
minimum elong	14155 Apr 16 00:51	5° \mathcal{S} 11'24	0°26'02	min. Earth dist.	14161 Oct 27 16:09	19° \mathcal{S} 16'46	29.34084 AU
morning rise	14155 May 01 20:43	5° \mathcal{S} 46'19		direct	14162 Jan 15 08:36	17° \mathcal{S} 53'24	
retrograde	14155 Jul 28 10:33	7° \mathcal{S} 38'49		evening set	14162 Apr 15 07:46	19° \mathcal{S} 48'04	
opposition	14155 Oct 14 11:20	6° \mathcal{S} 16'28	0°27'52				
min. Earth dist.	14155 Oct 15 00:25	6° \mathcal{S} 15'34	29.34467 AU	conjunction	14162 May 01 03:51	20° \mathcal{S} 23'03	0°20'14
direct	14156 Jan 02 17:53	4° \mathcal{S} 52'09		minimum elong	14162 May 01 03:51	20° \mathcal{S} 23'03	0°19'29
evening set	14156 Apr 01 14:06	6° \mathcal{S} 46'45		max. Earth dist.	14162 Apr 30 13:36	20° \mathcal{S} 21'44	31.34123 AU
				morning rise	14162 May 16 21:49	20° \mathcal{S} 57'54	
conjunction	14156 Apr 17 11:47	7° \mathcal{S} 21'48	0°25'44	retrograde	14162 Aug 12 07:11	22° \mathcal{S} 50'24	
minimum elong	14156 Apr 17 11:47	7° \mathcal{S} 21'48	0°25'11	opposition	14162 Oct 29 13:07	21° \mathcal{S} 28'08	0°21'00
max. Earth dist.	14156 Apr 16 20:30	7° \mathcal{S} 20'24	31.34380 AU	min. Earth dist.	14162 Oct 30 01:52	21° \mathcal{S} 27'15	29.34170 AU
morning rise	14156 May 03 07:30	7° \mathcal{S} 56'43		direct	14163 Jan 17 20:58	20° \mathcal{S} 03'52	
retrograde	14156 Jul 29 20:38	9° \mathcal{S} 49'11		evening set	14163 Apr 17 18:36	21° \mathcal{S} 58'33	
opposition	14156 Oct 15 21:43	8° \mathcal{S} 26'49	0°27'00				
min. Earth dist.	14156 Oct 16 11:20	8° \mathcal{S} 25'52	29.34311 AU	conjunction	14163 May 03 14:21	22° \mathcal{S} 33'32	0°19'12
direct	14157 Jan 04 04:17	7° \mathcal{S} 02'27		minimum elong	14163 May 03 14:21	22° \mathcal{S} 33'32	0°18'26
evening set	14157 Apr 04 01:10	8° \mathcal{S} 57'02		max. Earth dist.	14163 May 02 23:41	22° \mathcal{S} 32'11	31.34179 AU
				morning rise	14163 May 19 08:04	23° \mathcal{S} 08'22	
conjunction	14157 Apr 19 22:44	9° \mathcal{S} 32'06	0°24'54	retrograde	14163 Aug 14 19:04	25° \mathcal{S} 00'56	
minimum elong	14157 Apr 19 22:44	9° \mathcal{S} 32'06	0°24'19	opposition	14163 Oct 31 23:58	23° \mathcal{S} 38'40	0°19'53
max. Earth dist.	14157 Apr 19 08:25	9° \mathcal{S} 30'46	31.34203 AU	min. Earth dist.	14163 Nov 01 13:38	23° \mathcal{S} 37'44	29.34197 AU
morning rise	14157 May 05 18:01	10° \mathcal{S} 06'59		direct	14164 Jan 20 07:54	22° \mathcal{S} 14'27	

evening set	14164 Apr 19 05:31	24° 8 09'10		retrograde	14169 Aug 27 07:05	8° II 04'21	
max. Earth dist.	14164 May 04 10:51	24° 8 42'49	31.34156 AU	opposition	14169 Nov 13 17:31	6° II 41'59	0°12'40
				min. Earth dist.	14169 Nov 14 07:13	6° II 41'02	29.31837 AU
conjunction	14164 May 05 01:05	24° 8 44'08	0°18'09	direct	14170 Feb 02 06:30	5° II 17'39	
minimum elong	14164 May 05 01:05	24° 8 44'08	0°17'21	evening set	14170 May 02 22:23	7° II 12'18	
morning rise	14164 May 20 18:27	25° 8 18'57					
retrograde	14164 Aug 16 05:22	27° 8 11'32		conjunction	14170 May 18 16:13	7° II 47'13	0°11'21
opposition	14164 Nov 02 10:41	25° 8 49'18	0°18'44	minimum elong	14170 May 18 16:14	7° II 47'13	0°10'25
min. Earth dist.	14164 Nov 03 00:10	25° 8 48'22	29.34107 AU	behind sun begin	14170 May 18 11:08	7° II 46'45	
direct	14165 Jan 21 20:49	24° 8 25'05		behind sun end	14170 May 18 21:19	7° II 47'40	
evening set	14165 Apr 21 16:36	26° 8 19'50		max. Earth dist.	14170 May 18 01:15	7° II 45'49	31.31511 AU
				morning rise	14170 Jun 03 08:02	8° II 21'57	
conjunction	14165 May 07 11:44	26° 8 54'47	0°17'04	retrograde	14170 Aug 29 16:23	10° II 14'36	
minimum elong	14165 May 07 11:44	26° 8 54'47	0°16'15	opposition	14170 Nov 16 04:40	8° II 52'11	0°11'23
max. Earth dist.	14165 May 06 20:20	26° 8 53'22	31.34005 AU	min. Earth dist.	14170 Nov 16 19:05	8° II 51'12	29.31230 AU
morning rise	14165 May 23 04:55	27° 8 29'35		direct	14171 Feb 04 15:56	7° II 27'50	
retrograde	14165 Aug 18 16:30	29° 8 22'12		evening set	14171 May 05 08:50	9° II 22'28	
opposition	14165 Nov 04 21:40	27° 8 59'58	0°17'34	max. Earth dist.	14171 May 20 11:54	9° II 56'00	31.30941 AU
min. Earth dist.	14165 Nov 05 11:31	27° 8 59'01	29.33898 AU				
direct	14166 Jan 24 07:23	26° 8 35'46		conjunction	14171 May 21 02:25	9° II 57'21	0°10'10
evening set	14166 Apr 24 03:20	28° 8 30'30		minimum elong	14171 May 21 02:25	9° II 57'21	0°09'13
				behind sun begin	14171 May 20 20:57	9° II 56'52	
conjunction	14166 May 09 22:20	29° 8 05'27	0°15'58	behind sun end	14171 May 21 07:53	9° II 57'50	
minimum elong	14166 May 09 22:20	29° 8 05'27	0°15'07	morning rise	14171 Jun 05 18:01	10° II 32'06	
behind sun begin	14166 May 09 20:06	29° 8 05'15		retrograde	14171 Sep 01 02:50	12° II 24'46	
behind sun end	14166 May 10 00:34	29° 8 05'39		opposition	14171 Nov 18 15:41	11° II 02'19	0°10'06
max. Earth dist.	14166 May 09 07:51	29° 8 04'07	31.33720 AU	min. Earth dist.	14171 Nov 19 04:43	11° II 01'26	29.30696 AU
morning rise	14166 May 25 15:05	29° 8 40'14		direct	14172 Feb 07 04:20	9° II 37'58	
	14166 Jun 03 21:30	0° II		evening set	14172 May 06 19:26	11° II 32'36	
retrograde	14166 Aug 21 02:04	1° II 32'51					
opposition	14166 Nov 07 08:42	0° II 10'37	0°16'22	conjunction	14172 May 22 12:40	12° II 07'29	0°08'57
min. Earth dist.	14166 Nov 07 22:56	0° II 09'38	29.33537 AU	minimum elong	14172 May 22 12:40	12° II 07'29	0°07'59
	14166 Nov 13 20:03	30° 8 8		behind sun begin	14172 May 22 06:53	12° II 06'58	
direct	14167 Jan 26 20:48	28° 8 46'24		behind sun end	14172 May 22 18:28	12° II 08'00	
	14167 Apr 06 15:39	0° II		max. Earth dist.	14172 May 21 22:04	12° II 06'08	31.30453 AU
evening set	14167 Apr 26 14:18	0° II 41'08		morning rise	14172 Jun 07 04:03	12° II 42'13	
				retrograde	14172 Sep 02 14:16	14° II 34'57	
conjunction	14167 May 12 08:51	1° II 16'04	0°14'50	opposition	14172 Nov 20 02:45	13° II 12'30	0°08'48
minimum elong	14167 May 12 08:51	1° II 16'04	0°13'59	min. Earth dist.	14172 Nov 20 16:05	13° II 11'35	29.30265 AU
behind sun begin	14167 May 12 05:34	1° II 15'46		direct	14173 Feb 08 14:26	11° II 48'10	
behind sun end	14167 May 12 12:08	1° II 16'21		evening set	14173 May 09 05:54	13° II 42'50	
max. Earth dist.	14167 May 11 17:05	1° II 14'36	31.33300 AU				
morning rise	14167 May 28 01:32	1° II 50'51		conjunction	14173 May 24 22:59	14° II 17'42	0°07'44
retrograde	14167 Aug 23 13:20	3° II 43'28		minimum elong	14173 May 24 22:59	14° II 17'42	0°06'46
opposition	14167 Nov 09 19:31	2° II 21'11	0°15'09	behind sun begin	14173 May 24 16:57	14° II 17'10	
min. Earth dist.	14167 Nov 10 09:21	2° II 20'15	29.33059 AU	behind sun end	14173 May 25 05:01	14° II 18'15	
direct	14168 Jan 29 07:52	0° II 56'57		max. Earth dist.	14173 May 24 09:32	14° II 16'28	31.30071 AU
evening set	14168 Apr 28 01:02	2° II 51'39		morning rise	14173 Jun 09 14:03	14° II 52'26	
				retrograde	14173 Sep 05 00:40	16° II 45'14	
conjunction	14168 May 13 19:30	3° II 26'35	0°13'42	opposition	14173 Nov 22 13:59	15° II 22'48	0°07'28
minimum elong	14168 May 13 19:30	3° II 26'35	0°12'48	min. Earth dist.	14173 Nov 23 02:32	15° II 21'57	29.29907 AU
behind sun begin	14168 May 13 15:27	3° II 26'13		direct	14174 Feb 11 02:43	13° II 58'31	
behind sun end	14168 May 13 23:33	3° II 26'56		evening set	14174 May 11 16:21	15° II 53'14	
max. Earth dist.	14168 May 13 04:28	3° II 25'12	31.32760 AU				
morning rise	14168 May 29 11:46	4° II 01'21		conjunction	14174 May 27 09:01	16° II 28'06	0°06'30
retrograde	14168 Aug 24 21:01	5° II 53'58		minimum elong	14174 May 27 09:01	16° II 28'06	0°05'30
opposition	14168 Nov 11 06:36	4° II 31'39	0°13'55	behind sun begin	14174 May 27 02:47	16° II 27'32	
min. Earth dist.	14168 Nov 11 21:20	4° II 30'39	29.32470 AU	behind sun end	14174 May 27 15:15	16° II 28'39	
direct	14169 Jan 30 19:28	3° II 07'23		max. Earth dist.	14174 May 26 19:02	16° II 26'48	31.29742 AU
evening set	14169 Apr 30 11:48	5° II 02'03		morning rise	14174 Jun 11 23:59	17° II 02'49	
				retrograde	14174 Sep 07 12:36	18° II 55'43	
conjunction	14169 May 16 05:52	5° II 36'58	0°12'32	opposition	14174 Nov 25 01:16	17° II 33'19	0°06'08
minimum elong	14169 May 16 05:51	5° II 36'58	0°11'37	min. Earth dist.	14174 Nov 25 13:38	17° II 32'28	29.29595 AU
behind sun begin	14169 May 16 01:14	5° II 36'33		direct	14175 Feb 13 12:59	16° II 09'05	
behind sun end	14169 May 16 10:28	5° II 37'23		evening set	14175 May 14 02:48	18° II 03'50	
max. Earth dist.	14169 May 15 14:13	5° II 35'31	31.32147 AU				
morning rise	14169 May 31 22:00	6° II 11'43		conjunction	14175 May 29 19:22	18° II 38'42	0°05'15

minimum elong	14175 May 29 19:22	18°II38'42	0°04'15	retrograde	14180 Sep 20 03:20	2°☾02'28	
behind sun begin	14175 May 29 13:01	18°II38'08		opposition	14180 Dec 07 22:35	0°☾40'04	-0°02'00
behind sun end	14175 May 30 01:44	18°II39'16		min. Earth dist.	14180 Dec 08 10:21	0°☾39'16	29.25937 AU
max. Earth dist.	14175 May 29 06:45	18°II37'32	31.29421 AU		14181 Jan 02 10:31	30°☾II	
morning rise	14175 Jun 14 09:58	19°II13'25		direct	14181 Feb 26 09:54	29°II15'58	
retrograde	14175 Sep 09 22:55	21°II06'24			14181 Apr 20 05:08	0°☾	
opposition	14175 Nov 27 12:32	19°II44'02	0°04'48	evening set	14181 May 26 18:42	1°☾10'49	
min. Earth dist.	14175 Nov 28 01:08	19°II43'10	29.29252 AU				
direct	14176 Feb 16 01:56	18°II19'52		conjunction	14181 Jun 11 09:37	1°☾45'40	-0°02'31
evening set	14176 May 15 13:31	20°II14'39		minimum elong	14181 Jun 11 09:37	1°☾45'40	0°03'34
				behind sun begin	14181 Jun 11 03:13	1°☾45'06	
conjunction	14176 May 31 05:41	20°II49'31	0°03'59	behind sun end	14181 Jun 11 16:01	1°☾46'14	
minimum elong	14176 May 31 05:40	20°II49'31	0°02'57	max. Earth dist.	14181 Jun 10 20:21	1°☾44'26	31.25427 AU
behind sun begin	14176 May 30 23:14	20°II48'57		morning rise	14181 Jun 26 23:07	2°☾20'24	
behind sun end	14176 May 31 12:06	20°II50'06		retrograde	14181 Sep 22 14:55	4°☾13'50	
max. Earth dist.	14176 May 30 16:04	20°II48'16	31.29054 AU	opposition	14181 Dec 10 10:26	2°☾51'22	-0°03'21
morning rise	14176 Jun 15 20:12	21°II24'15		min. Earth dist.	14181 Dec 10 22:39	2°☾50'32	29.24920 AU
retrograde	14176 Sep 11 11:17	23°II17'19		direct	14182 Feb 28 19:53	1°☾27'14	
opposition	14176 Nov 28 23:58	21°II54'58	0°03'27	evening set	14182 May 29 04:59	3°☾22'04	
min. Earth dist.	14176 Nov 29 11:50	21°II54'10	29.28846 AU				
direct	14177 Feb 17 12:59	20°II30'51		conjunction	14182 Jun 13 19:48	3°☾56'54	-0°03'46
evening set	14177 May 18 00:04	22°II25'41		minimum elong	14182 Jun 13 19:49	3°☾56'54	0°04'50
				behind sun begin	14182 Jun 13 13:31	3°☾56'21	
conjunction	14177 Jun 02 16:03	23°II00'32	0°02'42	behind sun end	14182 Jun 14 02:06	3°☾57'28	
minimum elong	14177 Jun 02 16:04	23°II00'32	0°01'40	max. Earth dist.	14182 Jun 13 07:46	3°☾55'47	31.24390 AU
behind sun begin	14177 Jun 02 09:36	22°II59'58		morning rise	14182 Jun 29 09:03	4°☾31'38	
behind sun end	14177 Jun 02 22:31	23°II01'07		retrograde	14182 Sep 25 01:04	6°☾25'08	
max. Earth dist.	14177 Jun 02 03:22	22°II59'22	31.28586 AU	opposition	14182 Dec 12 22:12	5°☾02'35	-0°04'42
morning rise	14177 Jun 18 06:12	23°II35'16		min. Earth dist.	14182 Dec 13 09:39	5°☾01'48	29.23870 AU
retrograde	14177 Sep 13 19:54	25°II28'26		direct	14183 Mar 03 08:11	3°☾38'25	
opposition	14177 Dec 01 11:39	24°II06'06	0°02'05	evening set	14183 May 31 15:31	5°☾33'14	
min. Earth dist.	14177 Dec 02 00:21	24°II05'14	29.28321 AU				
direct	14178 Feb 20 00:30	22°II42'01		conjunction	14183 Jun 16 05:58	6°☾08'03	-0°05'01
evening set	14178 May 20 10:47	24°II36'52		minimum elong	14183 Jun 16 05:58	6°☾08'03	0°06'04
				behind sun begin	14183 Jun 15 23:49	6°☾07'30	
conjunction	14178 Jun 05 02:27	25°II11'44	0°01'23	behind sun end	14183 Jun 16 12:06	6°☾08'36	
minimum elong	14178 Jun 05 02:26	25°II11'44	0°00'20	max. Earth dist.	14183 Jun 15 17:27	6°☾06'54	31.23356 AU
behind sun begin	14178 Jun 04 20:00	25°II11'09		morning rise	14183 Jul 01 19:10	6°☾42'47	
behind sun end	14178 Jun 05 08:51	25°II12'18		retrograde	14183 Sep 27 13:21	8°☾36'20	
max. Earth dist.	14178 Jun 04 13:09	25°II10'30	31.28007 AU	opposition	14183 Dec 15 09:52	7°☾13'44	-0°06'02
morning rise	14178 Jun 20 16:29	25°II46'28		min. Earth dist.	14183 Dec 15 20:53	7°☾12'59	29.22875 AU
retrograde	14178 Sep 16 06:52	27°II39'42		direct	14184 Mar 04 19:15	5°☾49'33	
opposition	14178 Dec 03 23:12	26°II17'22	0°00'44	evening set	14184 Jun 02 01:54	7°☾44'21	
min. Earth dist.	14178 Dec 04 10:55	26°II16'34	29.27672 AU				
direct	14179 Feb 22 11:31	24°II53'17		conjunction	14184 Jun 17 16:17	8°☾19'10	-0°06'16
evening set	14179 May 22 21:23	26°II48'09		minimum elong	14184 Jun 17 16:17	8°☾19'10	0°07'20
				behind sun begin	14184 Jun 17 10:22	8°☾18'39	
conjunction	14179 Jun 07 12:50	27°II23'01	0°00'04	behind sun end	14184 Jun 17 22:12	8°☾19'42	
minimum elong	14179 Jun 07 12:50	27°II23'01	0°00'58	max. Earth dist.	14184 Jun 17 05:27	8°☾18'10	31.22394 AU
behind sun begin	14179 Jun 07 06:23	27°II22'27		morning rise	14184 Jul 03 05:10	8°☾53'54	
behind sun end	14179 Jun 07 19:17	27°II23'36		retrograde	14184 Sep 29 00:18	10°☾47'31	
max. Earth dist.	14179 Jun 06 23:49	27°II21'49	31.27279 AU	opposition	14184 Dec 16 21:47	9°☾24'52	-0°07'22
morning rise	14179 Jun 23 02:39	27°II57'45		min. Earth dist.	14184 Dec 17 08:29	9°☾24'08	29.21955 AU
desc. node	14179 Jul 06 15:46	28°II26'29		direct	14185 Mar 07 08:49	8°☾00'41	
retrograde	14179 Sep 18 16:55	29°II51'04		evening set	14185 Jun 04 12:19	9°☾55'29	
opposition	14179 Dec 06 11:00	28°II28'43	-0°00'38				
min. Earth dist.	14179 Dec 06 23:45	28°II27'51	29.26875 AU	conjunction	14185 Jun 20 02:20	10°☾30'19	-0°07'30
direct	14180 Feb 24 21:00	27°II04'38		minimum elong	14185 Jun 20 02:19	10°☾30'19	0°08'33
evening set	14180 May 24 08:03	28°II59'30		behind sun begin	14185 Jun 19 20:41	10°☾29'48	
				behind sun end	14185 Jun 20 07:57	10°☾30'49	
conjunction	14180 Jun 08 23:16	29°II34'21	-0°01'14	max. Earth dist.	14185 Jun 19 15:06	10°☾29'16	31.21529 AU
minimum elong	14180 Jun 08 23:17	29°II34'21	0°02'17	morning rise	14185 Jul 05 15:11	11°☾05'02	
behind sun begin	14180 Jun 08 16:50	29°II33'47		retrograde	14185 Oct 01 12:33	12°☾58'45	
behind sun end	14180 Jun 09 05:44	29°II34'56		opposition	14185 Dec 19 09:40	11°☾36'04	-0°08'42
max. Earth dist.	14180 Jun 08 10:25	29°II33'10	31.26416 AU	min. Earth dist.	14185 Dec 19 19:01	11°☾35'26	29.21135 AU
	14180 Jun 20 10:00	0°☾		direct	14186 Mar 09 20:03	10°☾11'54	
morning rise	14180 Jun 24 12:54	0°☾09'06		evening set	14186 Jun 06 22:40	12°☾06'43	

conjunction	14186 Jun 22 12:36	12°☾41'33	-0°08'44	opposition	14192 Jan 02 10:35	24°☾46'24	-0°16'19
minimum elong	14186 Jun 22 12:36	12°☾41'33	0°09'48	min. Earth dist.	14192 Jan 02 18:24	24°☾45'52	29.16021 AU
behind sun begin	14186 Jun 22 07:19	12°☾41'04		direct	14192 Mar 22 16:00	23°☾22'23	
behind sun end	14186 Jun 22 17:54	12°☾42'01		evening set	14192 Jun 19 14:03	25°☾17'17	
max. Earth dist.	14186 Jun 22 02:45	12°☾40'38	31.20740 AU				
morning rise	14186 Jul 08 01:12	13°☾16'17		conjunction	14192 Jul 05 02:47	25°☾52'08	-0°15'48
retrograde	14186 Oct 03 22:06	15°☾10'05		minimum elong	14192 Jul 05 02:47	25°☾52'08	0°16'48
opposition	14186 Dec 21 21:38	13°☾47'24	-0°10'00	max. Earth dist.	14192 Jul 04 17:51	25°☾51'18	31.15432 AU
min. Earth dist.	14186 Dec 22 07:23	13°☾46'44	29.20376 AU	morning rise	14192 Jul 20 14:53	26°☾26'55	
direct	14187 Mar 12 07:57	12°☾23'16		retrograde	14192 Oct 16 19:03	28°☾21'24	
evening set	14187 Jun 09 09:05	14°☾18'05		opposition	14193 Jan 03 23:04	26°☾58'33	-0°17'31
				min. Earth dist.	14193 Jan 04 06:43	26°☾58'02	29.14824 AU
conjunction	14187 Jun 24 22:46	14°☾52'55	-0°09'57	direct	14193 Mar 25 03:08	25°☾34'31	
minimum elong	14187 Jun 24 22:46	14°☾52'55	0°11'00	evening set	14193 Jun 22 00:30	27°☾29'25	
behind sun begin	14187 Jun 24 17:54	14°☾52'29					
behind sun end	14187 Jun 25 03:39	14°☾53'21		conjunction	14193 Jul 07 13:16	28°☾04'16	-0°16'55
max. Earth dist.	14187 Jun 24 12:54	14°☾52'00	31.20006 AU	minimum elong	14193 Jul 07 13:16	28°☾04'16	0°17'53
morning rise	14187 Jul 10 11:22	15°☾27'40		max. Earth dist.	14193 Jul 07 05:44	28°☾03'34	31.14172 AU
retrograde	14187 Oct 06 09:55	17°☾21'34		morning rise	14193 Jul 23 01:08	28°☾39'03	
opposition	14187 Dec 24 09:34	15°☾58'52	-0°11'18		14193 Sep 03 22:46	0°♂	
min. Earth dist.	14187 Dec 24 17:57	15°☾58'18	29.19636 AU	retrograde	14193 Oct 19 06:32	0°♂33'38	
direct	14188 Mar 13 19:50	14°☾34'46			14193 Dec 05 06:10	30°☾	
evening set	14188 Jun 10 19:36	16°☾29'37		opposition	14194 Jan 06 11:36	29°☾10'42	-0°18'41
				min. Earth dist.	14194 Jan 06 19:15	29°☾10'11	29.13512 AU
conjunction	14188 Jun 26 09:06	17°☾04'27	-0°11'09	direct	14194 Mar 27 16:39	27°☾46'39	
minimum elong	14188 Jun 26 09:06	17°☾04'27	0°12'12	evening set	14194 Jun 24 11:08	29°☾41'32	
behind sun begin	14188 Jun 26 04:44	17°☾04'04			14194 Jul 02 17:51	0°♂	
behind sun end	14188 Jun 26 13:28	17°☾04'51					
max. Earth dist.	14188 Jun 25 23:48	17°☾03'36	31.19249 AU	conjunction	14194 Jul 09 23:38	0°♂16'23	-0°17'59
morning rise	14188 Jul 11 21:30	17°☾39'13		minimum elong	14194 Jul 09 23:38	0°♂16'23	0°18'58
retrograde	14188 Oct 07 20:27	19°☾33'14		max. Earth dist.	14194 Jul 09 15:33	0°♂15'38	31.12840 AU
opposition	14188 Dec 25 21:45	18°☾10'32	-0°12'35	morning rise	14194 Jul 25 11:36	0°♂51'11	
min. Earth dist.	14188 Dec 26 06:52	18°☾09'54	29.18867 AU	retrograde	14194 Oct 21 19:14	2°♂45'50	
direct	14189 Mar 16 06:02	16°☾46'28		opposition	14195 Jan 08 23:54	1°♂22'50	-0°19'50
evening set	14189 Jun 13 06:08	18°☾41'20		min. Earth dist.	14195 Jan 09 06:25	1°♂22'23	29.12171 AU
					14195 Mar 21 11:02	30°☾	
conjunction	14189 Jun 28 19:28	19°☾16'10	-0°12'21	direct	14195 Mar 30 04:07	29°☾58'45	
minimum elong	14189 Jun 28 19:28	19°☾16'10	0°13'22		14195 Apr 07 20:17	0°♂	
behind sun begin	14189 Jun 28 15:44	19°☾15'50		evening set	14195 Jun 26 21:34	1°♂53'37	
behind sun end	14189 Jun 28 23:12	19°☾16'30					
max. Earth dist.	14189 Jun 28 10:45	19°☾15'21	31.18457 AU	conjunction	14195 Jul 12 10:04	2°♂28'28	-0°19'03
morning rise	14189 Jul 14 07:44	19°☾50'56		minimum elong	14195 Jul 12 10:04	2°♂28'28	0°19'59
retrograde	14189 Oct 10 07:10	21°☾45'04		max. Earth dist.	14195 Jul 12 03:17	2°♂27'50	31.11495 AU
opposition	14189 Dec 28 09:57	20°☾22'21	-0°13'51	morning rise	14195 Jul 27 21:53	3°♂03'17	
min. Earth dist.	14189 Dec 28 17:50	20°☾21'49	29.18030 AU	retrograde	14195 Oct 24 05:30	4°♂58'01	
direct	14190 Mar 18 18:16	18°☾58'19		opposition	14196 Jan 11 12:25	3°♂34'56	-0°20'57
evening set	14190 Jun 15 16:39	20°☾53'11		min. Earth dist.	14196 Jan 11 19:11	3°♂34'28	29.10851 AU
				direct	14196 Mar 31 16:56	2°♂10'50	
conjunction	14190 Jul 01 05:44	21°☾28'02	-0°13'31	evening set	14196 Jun 28 08:04	4°♂05'41	
minimum elong	14190 Jul 01 05:44	21°☾28'02	0°14'33				
behind sun begin	14190 Jul 01 02:51	21°☾27'46		conjunction	14196 Jul 13 20:21	4°♂40'32	-0°20'05
behind sun end	14190 Jul 01 08:38	21°☾28'17		minimum elong	14196 Jul 13 20:21	4°♂40'32	0°21'01
max. Earth dist.	14190 Jun 30 20:39	21°☾27'11	31.17569 AU	max. Earth dist.	14196 Jul 13 13:54	4°♂39'56	31.10220 AU
morning rise	14190 Jul 16 17:59	22°☾02'48		morning rise	14196 Jul 29 08:10	5°♂15'21	
retrograde	14190 Oct 12 19:03	23°☾57'04		retrograde	14196 Oct 25 17:56	7°♂10'11	
opposition	14190 Dec 30 22:21	22°☾34'19	-0°15'06	opposition	14197 Jan 13 00:49	5°♂47'03	-0°22'02
min. Earth dist.	14190 Dec 31 06:41	22°☾33'45	29.17096 AU	min. Earth dist.	14197 Jan 13 05:47	5°♂46'42	29.09626 AU
direct	14191 Mar 21 03:52	21°☾10'18		direct	14197 Apr 03 05:39	4°♂22'56	
evening set	14191 Jun 18 03:15	23°☾05'11		evening set	14197 Jun 30 18:34	6°♂17'47	
conjunction	14191 Jul 03 16:19	23°☾40'02	-0°14'40	conjunction	14197 Jul 16 06:44	6°♂52'39	-0°21'05
minimum elong	14191 Jul 03 16:19	23°☾40'02	0°15'40	minimum elong	14197 Jul 16 06:44	6°♂52'39	0°21'59
behind sun begin	14191 Jul 03 14:42	23°☾39'53		max. Earth dist.	14197 Jul 16 01:10	6°♂52'08	31.09049 AU
behind sun end	14191 Jul 03 17:55	23°☾40'11		morning rise	14197 Jul 31 18:29	7°♂27'30	
max. Earth dist.	14191 Jul 03 08:14	23°☾39'17	31.16570 AU	retrograde	14197 Oct 28 04:43	9°♂22'27	
morning rise	14191 Jul 19 04:20	24°☾14'49		opposition	14198 Jan 15 13:26	7°♂59'15	-0°23'05
retrograde	14191 Oct 15 05:55	26°☾09'11		min. Earth dist.	14198 Jan 15 18:37	7°♂58'54	29.08525 AU

direct	14198 Apr 05 16:26	6°♊35'10		minimum elong	14204 Aug 01 08:45	22°♊22'06	0°27'55
evening set	14198 Jul 03 04:54	8°♊30'01		max. Earth dist.	14204 Aug 01 07:16	22°♊21'58	31.02431 AU
				morning rise	14204 Aug 16 20:32	22°♊57'03	
conjunction	14198 Jul 18 17:03	9°♊04'53 -0°22'03		retrograde	14204 Nov 13 17:05	24°♊52'53	
minimum elong	14198 Jul 18 17:03	9°♊04'53 0°22'57		opposition	14205 Feb 01 06:36	23°♊29'28	-0°29'28
max. Earth dist.	14198 Jul 18 12:38	9°♊04'29 31.08012 AU		min. Earth dist.	14205 Feb 01 08:18	23°♊29'22	29.01876 AU
morning rise	14198 Aug 03 04:47	9°♊39'45		direct	14205 Apr 22 00:50	22°♊05'34	
retrograde	14198 Oct 30 15:09	11°♊34'49		evening set	14205 Jul 19 07:56	24°♊00'28	
opposition	14199 Jan 18 01:54	10°♊11'36 -0°24'07					
min. Earth dist.	14199 Jan 18 05:24	10°♊11'22 29.07531 AU		conjunction	14205 Aug 03 19:37	24°♊35'24	-0°27'53
direct	14199 Apr 08 04:41	8°♊47'33		minimum elong	14205 Aug 03 19:38	24°♊35'24	0°28'35
evening set	14199 Jul 05 15:29	10°♊42'25		max. Earth dist.	14205 Aug 03 18:05	24°♊35'15	31.01283 AU
				morning rise	14205 Aug 19 07:33	25°♊10'22	
conjunction	14199 Jul 21 03:27	11°♊17'18 -0°22'59		retrograde	14205 Nov 16 06:57	27°♊06'17	
minimum elong	14199 Jul 21 03:27	11°♊17'18 0°23'50		opposition	14206 Feb 03 19:31	25°♊42'47	-0°30'13
max. Earth dist.	14199 Jul 20 23:00	11°♊16'53 31.07061 AU		min. Earth dist.	14206 Feb 03 19:52	25°♊42'46	29.00678 AU
morning rise	14199 Aug 05 15:15	11°♊52'10		direct	14206 Apr 24 14:16	24°♊18'51	
retrograde	14199 Nov 02 02:51	13°♊47'23		evening set	14206 Jul 21 18:43	26°♊13'43	
opposition	14200 Jan 20 14:25	12°♊24'08 -0°25'06					
min. Earth dist.	14200 Jan 20 17:58	12°♊23'54 29.06622 AU		conjunction	14206 Aug 06 06:25	26°♊48'39	-0°28'34
direct	14200 Apr 10 13:48	11°♊00'07		minimum elong	14206 Aug 06 06:25	26°♊48'39	0°29'15
evening set	14200 Jul 08 02:00	12°♊55'00		max. Earth dist.	14206 Aug 06 05:19	26°♊48'33	31.00042 AU
				morning rise	14206 Aug 21 18:27	27°♊23'38	
conjunction	14200 Jul 23 14:02	13°♊29'54 -0°23'54		retrograde	14206 Nov 18 18:07	29°♊19'38	
minimum elong	14200 Jul 23 14:02	13°♊29'54 0°24'45		opposition	14207 Feb 06 08:32	27°♊56'03	-0°30'55
max. Earth dist.	14200 Jul 23 11:08	13°♊29'38 31.06179 AU		min. Earth dist.	14207 Feb 06 09:32	27°♊55'59	28.99418 AU
morning rise	14200 Aug 08 01:42	14°♊04'47		direct	14207 Apr 27 02:08	26°♊32'04	
	14200 Sep 04 01:56	15°♊		evening set	14207 Jul 24 05:29	28°♊26'53	
retrograde	14200 Nov 04 14:09	16°♊00'08					
	14201 Jan 08 20:19	15°♊		conjunction	14207 Aug 08 17:16	29°♊01'50	-0°29'12
opposition	14201 Jan 23 03:07	14°♊36'53 -0°26'03		minimum elong	14207 Aug 08 17:16	29°♊01'50	0°29'50
min. Earth dist.	14201 Jan 23 05:42	14°♊36'42 29.05748 AU		max. Earth dist.	14207 Aug 08 17:07	29°♊01'49	30.98782 AU
direct	14201 Apr 13 01:38	13°♊12'54		morning rise	14207 Aug 24 05:19	29°♊36'50	
	14201 Jul 06 23:19	15°♊			14207 Sep 03 22:15	0°♊	
evening set	14201 Jul 10 12:38	15°♊07'48		retrograde	14207 Nov 21 05:11	1°♊32'54	
				opposition	14208 Feb 08 21:20	0°♊09'13	-0°31'34
conjunction	14201 Jul 26 00:24	15°♊42'41 -0°24'46		min. Earth dist.	14208 Feb 08 20:47	0°♊09'15	28.98165 AU
minimum elong	14201 Jul 26 00:25	15°♊42'41 0°25'35			14208 Feb 14 12:00	30°♊	
max. Earth dist.	14201 Jul 25 21:07	15°♊42'23 31.05315 AU		direct	14208 Apr 28 15:24	28°♊45'12	
morning rise	14201 Aug 10 12:15	16°♊17'36			14208 Jul 06 16:57	0°♊	
retrograde	14201 Nov 07 03:34	18°♊13'05		evening set	14208 Jul 25 16:22	0°♊39'59	
opposition	14202 Jan 25 15:56	16°♊49'49 -0°26'58					
min. Earth dist.	14202 Jan 25 18:05	16°♊49'40 29.04887 AU		conjunction	14208 Aug 10 04:01	1°♊14'57	-0°29'48
direct	14202 Apr 15 12:13	15°♊25'52		minimum elong	14208 Aug 10 04:01	1°♊14'57	0°30'25
evening set	14202 Jul 12 23:18	17°♊20'47		max. Earth dist.	14208 Aug 10 03:53	1°♊14'56	30.97560 AU
				morning rise	14208 Aug 25 16:15	1°♊49'58	
conjunction	14202 Jul 28 11:11	17°♊55'41 -0°25'36		retrograde	14208 Nov 22 17:11	3°♊46'08	
minimum elong	14202 Jul 28 11:11	17°♊55'41 0°26'24		opposition	14209 Feb 10 10:24	2°♊22'21	-0°32'11
max. Earth dist.	14202 Jul 28 09:26	17°♊55'31 31.04430 AU		min. Earth dist.	14209 Feb 10 09:45	2°♊22'24	28.97002 AU
morning rise	14202 Aug 12 22:53	18°♊30'36		direct	14209 May 01 01:54	0°♊58'20	
retrograde	14202 Nov 09 15:33	20°♊26'13		evening set	14209 Jul 28 02:58	2°♊53'05	
opposition	14203 Jan 28 04:41	19°♊02'55 -0°27'50					
min. Earth dist.	14203 Jan 28 06:50	19°♊02'46 29.03973 AU		conjunction	14209 Aug 12 14:48	3°♊28'03	-0°30'21
direct	14203 Apr 18 00:28	17°♊39'00		minimum elong	14209 Aug 12 14:48	3°♊28'03	0°30'54
evening set	14203 Jul 15 10:13	19°♊33'55		max. Earth dist.	14209 Aug 12 16:27	3°♊28'12	30.96452 AU
				morning rise	14209 Aug 28 03:00	4°♊03'05	
conjunction	14203 Jul 30 21:55	20°♊08'50 -0°26'24		retrograde	14209 Nov 25 04:17	5°♊59'21	
minimum elong	14203 Jul 30 21:55	20°♊08'50 0°27'10		opposition	14210 Feb 12 23:23	4°♊35'31	-0°32'45
max. Earth dist.	14203 Jul 30 19:30	20°♊08'37 31.03485 AU		min. Earth dist.	14210 Feb 12 21:25	4°♊35'39	28.95953 AU
morning rise	14203 Aug 15 09:48	20°♊43'47		direct	14210 May 03 14:29	3°♊11'30	
retrograde	14203 Nov 12 05:07	22°♊39'31		evening set	14210 Jul 30 13:54	5°♊06'15	
opposition	14204 Jan 30 17:32	21°♊16'10 -0°28'40					
min. Earth dist.	14204 Jan 30 18:43	21°♊16'05 29.02983 AU		conjunction	14210 Aug 15 01:36	5°♊41'13	-0°30'51
direct	14204 Apr 19 11:26	19°♊52'15		minimum elong	14210 Aug 15 01:36	5°♊41'13	0°31'24
evening set	14204 Jul 16 21:00	21°♊47'10		max. Earth dist.	14210 Aug 15 03:01	5°♊41'21	30.95473 AU
				morning rise	14210 Aug 30 14:05	6°♊16'17	
conjunction	14204 Aug 01 08:45	22°♊22'06 -0°27'10		retrograde	14210 Nov 27 17:15	8°♊12'40	

opposition	14211 Feb 15 12:14	6° <u>17</u> 48'47	-0°33'16	max. Earth dist.	14217 Aug 30 12:51	21° <u>17</u> 19'37	30.90230 AU
min. Earth dist.	14211 Feb 15 09:38	6° <u>17</u> 48'58	28.95046 AU	morning rise	14217 Sep 14 21:20	21° <u>17</u> 54'22	
direct	14211 May 06 00:38	5° <u>17</u> 24'47		retrograde	14217 Dec 13 13:53	23° <u>17</u> 51'37	
evening set	14211 Aug 02 00:42	7° <u>17</u> 19'32		opposition	14218 Mar 03 08:37	22° <u>17</u> 27'35	-0°35'25
				min. Earth dist.	14218 Mar 03 03:13	22° <u>17</u> 27'58	28.89775 AU
conjunction	14211 Aug 17 12:37	7° <u>17</u> 54'32	-0°31'19	direct	14218 May 21 13:25	21° <u>17</u> 03'52	
minimum elong	14211 Aug 17 12:37	7° <u>17</u> 54'32	0°31'49	evening set	14218 Aug 17 06:53	22° <u>17</u> 58'39	
max. Earth dist.	14211 Aug 17 15:52	7° <u>17</u> 54'51	30.94620 AU				
morning rise	14211 Sep 02 01:04	8° <u>17</u> 29'37		conjunction	14218 Sep 01 19:28	23° <u>17</u> 33'47	-0°33'11
retrograde	14211 Nov 30 05:01	10° <u>17</u> 26'07		minimum elong	14218 Sep 01 19:28	23° <u>17</u> 33'47	0°33'25
opposition	14212 Feb 18 01:17	9° <u>17</u> 02'14	-0°33'44	max. Earth dist.	14218 Sep 02 01:38	23° <u>17</u> 34'22	30.89267 AU
min. Earth dist.	14212 Feb 17 22:14	9° <u>17</u> 02'26	28.94242 AU	morning rise	14218 Sep 17 09:03	24° <u>17</u> 09'02	
direct	14212 May 07 12:18	7° <u>17</u> 38'17		retrograde	14218 Dec 16 00:55	26° <u>17</u> 06'20	
evening set	14212 Aug 03 11:36	9° <u>17</u> 33'03		opposition	14219 Mar 05 21:41	24° <u>17</u> 42'14	-0°35'31
				min. Earth dist.	14219 Mar 05 15:33	24° <u>17</u> 42'40	28.88763 AU
conjunction	14212 Aug 18 23:26	10° <u>17</u> 08'03	-0°31'44	direct	14219 May 24 02:53	23° <u>17</u> 18'29	
minimum elong	14212 Aug 18 23:26	10° <u>17</u> 08'03	0°32'12	evening set	14219 Aug 19 18:21	25° <u>17</u> 13'14	
max. Earth dist.	14212 Aug 19 02:31	10° <u>17</u> 08'21	30.93872 AU				
morning rise	14212 Sep 03 12:08	10° <u>17</u> 43'09		conjunction	14219 Sep 04 06:54	25° <u>17</u> 48'22	-0°33'15
retrograde	14212 Dec 01 19:08	12° <u>17</u> 39'48		minimum elong	14219 Sep 04 06:54	25° <u>17</u> 48'22	0°33'26
opposition	14213 Feb 19 14:22	11° <u>17</u> 15'54	-0°34'09	max. Earth dist.	14219 Sep 04 12:24	25° <u>17</u> 48'53	30.88237 AU
min. Earth dist.	14213 Feb 19 10:00	11° <u>17</u> 16'12	28.93535 AU	morning rise	14219 Sep 19 20:52	26° <u>17</u> 23'38	
direct	14213 May 09 22:46	9° <u>17</u> 52'00		retrograde	14219 Dec 18 13:12	28° <u>17</u> 21'00	
evening set	14213 Aug 05 22:33	11° <u>17</u> 46'47		opposition	14220 Mar 07 10:58	26° <u>17</u> 56'49	-0°35'34
				min. Earth dist.	14220 Mar 07 04:36	26° <u>17</u> 57'15	28.87732 AU
conjunction	14213 Aug 21 10:33	12° <u>17</u> 21'49	-0°32'06	direct	14220 May 25 13:46	25° <u>17</u> 33'01	
minimum elong	14213 Aug 21 10:33	12° <u>17</u> 21'49	0°32'31	evening set	14220 Aug 21 05:31	27° <u>17</u> 27'43	
max. Earth dist.	14213 Aug 21 14:55	12° <u>17</u> 22'13	30.93186 AU				
morning rise	14213 Sep 05 23:18	12° <u>17</u> 56'56		conjunction	14220 Sep 05 18:21	28° <u>17</u> 02'52	-0°33'16
retrograde	14213 Dec 04 08:05	14° <u>17</u> 53'43		minimum elong	14220 Sep 05 18:22	28° <u>17</u> 02'52	0°33'25
opposition	14214 Feb 22 03:32	13° <u>17</u> 29'48	-0°34'30	max. Earth dist.	14220 Sep 06 01:34	28° <u>17</u> 03'33	30.87210 AU
min. Earth dist.	14214 Feb 21 23:27	13° <u>17</u> 30'05	28.92871 AU	morning rise	14220 Sep 21 08:22	28° <u>17</u> 38'09	
direct	14214 May 12 11:32	12° <u>17</u> 05'58			14220 Nov 03 05:19	0° <u>17</u>	
evening set	14214 Aug 08 09:37	14° <u>17</u> 00'47		retrograde	14220 Dec 20 00:15	0° <u>17</u> 35'34	
					14221 Feb 06 14:44	30° <u>17</u>	
conjunction	14214 Aug 23 21:40	14° <u>17</u> 35'50	-0°32'25	opposition	14221 Mar 10 00:13	29° <u>17</u> 11'18	-0°35'33
minimum elong	14214 Aug 23 21:41	14° <u>17</u> 35'50	0°32'49	min. Earth dist.	14221 Mar 09 17:28	29° <u>17</u> 11'46	28.86732 AU
max. Earth dist.	14214 Aug 24 02:13	14° <u>17</u> 36'15	30.92537 AU	direct	14221 May 28 01:43	27° <u>17</u> 47'28	
morning rise	14214 Sep 08 10:39	15° <u>17</u> 10'59		evening set	14221 Aug 23 16:54	29° <u>17</u> 42'07	
retrograde	14214 Dec 06 23:08	17° <u>17</u> 07'53			14221 Aug 31 15:46	0° <u>17</u>	
opposition	14215 Feb 24 16:38	15° <u>17</u> 43'58	-0°34'49				
min. Earth dist.	14215 Feb 24 11:10	15° <u>17</u> 44'21	28.92210 AU	conjunction	14221 Sep 08 05:46	0° <u>17</u> 17'17	-0°33'14
direct	14215 May 15 00:29	14° <u>17</u> 20'11		minimum elong	14221 Sep 08 05:46	0° <u>17</u> 17'17	0°33'20
evening set	14215 Aug 10 20:53	16° <u>17</u> 15'01		max. Earth dist.	14221 Sep 08 12:43	0° <u>17</u> 17'56	30.86262 AU
				morning rise	14221 Sep 23 20:09	0° <u>17</u> 52'35	
conjunction	14215 Aug 26 08:58	16° <u>17</u> 50'05	-0°32'41	retrograde	14221 Dec 22 14:01	2° <u>17</u> 50'04	
minimum elong	14215 Aug 26 08:58	16° <u>17</u> 50'05	0°33'01	opposition	14222 Mar 12 13:15	1° <u>17</u> 25'43	-0°35'29
max. Earth dist.	14215 Aug 26 13:52	16° <u>17</u> 50'33	30.91845 AU	min. Earth dist.	14222 Mar 12 05:19	1° <u>17</u> 26'15	28.85844 AU
morning rise	14215 Sep 10 22:05	17° <u>17</u> 25'16		direct	14222 May 30 12:40	0° <u>17</u> 01'51	
retrograde	14215 Dec 09 11:25	19° <u>17</u> 22'18		evening set	14222 Aug 26 04:10	1° <u>17</u> 56'29	
opposition	14216 Feb 27 05:55	17° <u>17</u> 58'22	-0°35'04				
min. Earth dist.	14216 Feb 27 01:15	17° <u>17</u> 58'41	28.91494 AU	conjunction	14222 Sep 10 17:19	2° <u>17</u> 31'39	-0°33'09
direct	14216 May 16 12:07	16° <u>17</u> 34'37		minimum elong	14222 Sep 10 17:19	2° <u>17</u> 31'39	0°33'13
evening set	14216 Aug 12 08:11	18° <u>17</u> 29'28		max. Earth dist.	14222 Sep 11 01:34	2° <u>17</u> 32'26	30.85422 AU
				morning rise	14222 Sep 26 07:50	3° <u>17</u> 06'59	
conjunction	14216 Aug 27 20:26	19° <u>17</u> 04'33	-0°32'54	retrograde	14222 Dec 25 02:07	5° <u>17</u> 04'31	
minimum elong	14216 Aug 27 20:27	19° <u>17</u> 04'33	0°33'13	opposition	14223 Mar 15 02:27	3° <u>17</u> 40'06	-0°35'22
max. Earth dist.	14216 Aug 28 02:01	19° <u>17</u> 05'05	30.91094 AU	min. Earth dist.	14223 Mar 14 18:35	3° <u>17</u> 40'39	28.85068 AU
morning rise	14216 Sep 12 09:39	19° <u>17</u> 39'45		direct	14223 Jun 02 01:11	2° <u>17</u> 16'14	
retrograde	14216 Dec 11 00:22	21° <u>17</u> 36'54		evening set	14223 Aug 28 15:31	4° <u>17</u> 10'50	
opposition	14217 Feb 28 19:11	20° <u>17</u> 12'56	-0°35'16				
min. Earth dist.	14217 Feb 28 13:17	20° <u>17</u> 13'20	28.90687 AU	conjunction	14223 Sep 13 04:48	4° <u>17</u> 46'02	-0°33'01
direct	14217 May 19 01:50	18° <u>17</u> 49'13		minimum elong	14223 Sep 13 04:48	4° <u>17</u> 46'02	0°33'02
evening set	14217 Aug 14 19:32	20° <u>17</u> 44'02		max. Earth dist.	14223 Sep 13 13:22	4° <u>17</u> 46'50	30.84718 AU
				morning rise	14223 Sep 28 19:35	5° <u>17</u> 21'22	
conjunction	14217 Aug 30 07:49	21° <u>17</u> 19'09	-0°33'04	retrograde	14223 Dec 27 16:21	7° <u>17</u> 18'59	
minimum elong	14217 Aug 30 07:49	21° <u>17</u> 19'09	0°33'19	opposition	14224 Mar 16 15:29	5° <u>17</u> 54'31	-0°35'12

min. Earth dist.	14224 Mar 16 05:58	5° <u>0</u> 55'11	28.84425 AU	morning rise	14230 Oct 14 08:46	21° <u>0</u> 5'23	
direct	14224 Jun 03 13:21	4° <u>0</u> 30'40		retrograde	14231 Jan 12 12:47	23° <u>0</u> 3'29	
evening set	14224 Aug 30 02:57	6° <u>0</u> 25'15		opposition	14231 Apr 02 11:53	21° <u>0</u> 38'52	-0°32'30
				min. Earth dist.	14231 Apr 02 00:39	21° <u>0</u> 39'38	28.81152 AU
conjunction	14224 Sep 14 16:24	7° <u>0</u> 00'28	-0°32'50	direct	14231 Jun 20 02:33	20° <u>0</u> 15'08	
minimum elong	14224 Sep 14 16:24	7° <u>0</u> 00'28	0°32'50	evening set	14231 Sep 15 13:06	22° <u>0</u> 09'40	
max. Earth dist.	14224 Sep 15 01:39	7° <u>0</u> 01'20	30.84133 AU				
morning rise	14224 Sep 30 07:26	7° <u>0</u> 35'50		conjunction	14231 Oct 01 04:11	22° <u>0</u> 45'01	-0°30'10
retrograde	14224 Dec 29 05:12	9° <u>0</u> 33'32		minimum elong	14231 Oct 01 04:11	22° <u>0</u> 45'01	0°29'51
opposition	14225 Mar 19 04:45	8° <u>0</u> 09'02	-0°34'59	max. Earth dist.	14231 Oct 01 15:44	22° <u>0</u> 46'06	30.80803 AU
min. Earth dist.	14225 Mar 18 19:40	8° <u>0</u> 09'39	28.83904 AU	morning rise	14231 Oct 16 21:05	23° <u>0</u> 20'34	
direct	14225 Jun 06 00:47	6° <u>0</u> 45'12		retrograde	14232 Jan 15 00:19	25° <u>0</u> 18'42	
evening set	14225 Sep 01 14:18	8° <u>0</u> 39'46		opposition	14232 Apr 04 01:05	23° <u>0</u> 54'01	-0°31'55
				min. Earth dist.	14232 Apr 03 14:20	23° <u>0</u> 54'46	28.80485 AU
conjunction	14225 Sep 17 04:03	9° <u>0</u> 15'00	-0°32'36	direct	14232 Jun 21 14:56	22° <u>0</u> 30'16	
minimum elong	14225 Sep 17 04:03	9° <u>0</u> 15'00	0°32'32	evening set	14232 Sep 17 00:59	24° <u>0</u> 24'45	
max. Earth dist.	14225 Sep 17 14:21	9° <u>0</u> 15'58	30.83669 AU				
morning rise	14225 Oct 02 19:19	9° <u>0</u> 50'24		conjunction	14232 Oct 02 16:18	25° <u>0</u> 00'07	-0°29'36
retrograde	14225 Dec 31 19:22	11° <u>0</u> 48'10		minimum elong	14232 Oct 02 16:18	25° <u>0</u> 00'07	0°29'16
opposition	14226 Mar 21 17:51	10° <u>0</u> 23'39	-0°34'42	max. Earth dist.	14232 Oct 03 03:47	25° <u>0</u> 01'12	30.80152 AU
min. Earth dist.	14226 Mar 21 07:19	10° <u>0</u> 24'22	28.83472 AU	morning rise	14232 Oct 18 09:33	25° <u>0</u> 35'41	
direct	14226 Jun 08 14:43	8° <u>0</u> 59'51		retrograde	14233 Jan 16 14:17	27° <u>0</u> 33'50	
evening set	14226 Sep 04 01:59	10° <u>0</u> 54'25		opposition	14233 Apr 06 14:04	26° <u>0</u> 09'06	-0°31'17
				min. Earth dist.	14233 Apr 06 02:02	26° <u>0</u> 09'56	28.79853 AU
conjunction	14226 Sep 19 15:48	11° <u>0</u> 29'40	-0°32'19	direct	14233 Jun 24 02:44	24° <u>0</u> 45'18	
minimum elong	14226 Sep 19 15:48	11° <u>0</u> 29'41	0°32'13	evening set	14233 Sep 19 12:48	26° <u>0</u> 39'45	
max. Earth dist.	14226 Sep 20 01:49	11° <u>0</u> 30'37	30.83264 AU				
morning rise	14226 Oct 05 07:26	12° <u>0</u> 05'06		conjunction	14233 Oct 05 04:22	27° <u>0</u> 15'08	-0°28'59
retrograde	14227 Jan 03 09:31	14° <u>0</u> 02'57		minimum elong	14233 Oct 05 04:22	27° <u>0</u> 15'08	0°28'36
opposition	14227 Mar 24 06:59	12° <u>0</u> 38'25	-0°34'22	max. Earth dist.	14233 Oct 05 16:21	27° <u>0</u> 16'16	30.79544 AU
min. Earth dist.	14227 Mar 23 20:55	12° <u>0</u> 39'07	28.83094 AU	morning rise	14233 Oct 20 21:57	27° <u>0</u> 50'44	
direct	14227 Jun 11 02:22	11° <u>0</u> 14'40		retrograde	14234 Jan 19 02:56	29° <u>0</u> 48'54	
evening set	14227 Sep 06 13:37	13° <u>0</u> 09'15		opposition	14234 Apr 09 03:07	28° <u>0</u> 24'06	-0°30'37
				min. Earth dist.	14234 Apr 08 15:44	28° <u>0</u> 24'54	28.79298 AU
conjunction	14227 Sep 22 03:48	13° <u>0</u> 44'31	-0°31'59	direct	14234 Jun 26 14:20	27° <u>0</u> 00'17	
minimum elong	14227 Sep 22 03:48	13° <u>0</u> 44'31	0°31'50	evening set	14234 Sep 22 00:39	28° <u>0</u> 54'42	
max. Earth dist.	14227 Sep 22 15:04	13° <u>0</u> 45'35	30.82893 AU				
morning rise	14227 Oct 07 19:32	14° <u>0</u> 19'58		conjunction	14234 Oct 07 16:34	29° <u>0</u> 30'06	-0°28'20
retrograde	14228 Jan 05 21:35	16° <u>0</u> 17'53		minimum elong	14234 Oct 07 16:34	29° <u>0</u> 30'06	0°27'55
opposition	14228 Mar 25 20:11	14° <u>0</u> 53'22	-0°33'59	max. Earth dist.	14234 Oct 08 05:24	29° <u>0</u> 31'19	30.79051 AU
min. Earth dist.	14228 Mar 25 09:17	14° <u>0</u> 54'07	28.82709 AU		14234 Oct 20 20:47	0° <u>0</u> 00'00	
direct	14228 Jun 12 15:42	13° <u>0</u> 29'39		morning rise	14234 Oct 23 10:22	0° <u>0</u> 05'43	
evening set	14228 Sep 08 01:25	15° <u>0</u> 24'14		retrograde	14235 Jan 21 17:17	2° <u>0</u> 03'54	
				opposition	14235 Apr 11 15:50	0° <u>0</u> 39'03	-0°29'53
conjunction	14228 Sep 23 15:38	15° <u>0</u> 59'31	-0°31'36	min. Earth dist.	14235 Apr 11 03:01	0° <u>0</u> 39'57	28.78865 AU
minimum elong	14228 Sep 23 15:38	15° <u>0</u> 59'31	0°31'26		14235 May 05 23:51	30° <u>0</u> 00'00	
max. Earth dist.	14228 Sep 24 02:06	16° <u>0</u> 00'30	30.82491 AU	direct	14235 Jun 29 04:32	29° <u>0</u> 15'13	
morning rise	14228 Oct 09 07:48	16° <u>0</u> 35'00			14235 Aug 20 05:43	0° <u>0</u> 00'00	
retrograde	14229 Jan 07 11:06	18° <u>0</u> 33'00		evening set	14235 Sep 24 12:38	1° <u>0</u> 09'38	
opposition	14229 Mar 28 09:32	17° <u>0</u> 08'28	-0°33'32				
min. Earth dist.	14229 Mar 27 22:44	17° <u>0</u> 09'13	28.82285 AU	conjunction	14235 Oct 10 04:40	1° <u>0</u> 45'03	-0°27'38
direct	14229 Jun 15 02:49	15° <u>0</u> 44'46		minimum elong	14235 Oct 10 04:40	1° <u>0</u> 45'03	0°27'10
evening set	14229 Sep 10 13:16	17° <u>0</u> 39'20		max. Earth dist.	14235 Oct 10 17:20	1° <u>0</u> 46'15	30.78688 AU
				morning rise	14235 Oct 25 22:52	2° <u>0</u> 20'41	
conjunction	14229 Sep 26 03:54	18° <u>0</u> 14'39	-0°31'10	retrograde	14236 Jan 24 07:22	4° <u>0</u> 18'54	
minimum elong	14229 Sep 26 03:54	18° <u>0</u> 14'39	0°30'57	opposition	14236 Apr 13 04:49	2° <u>0</u> 54'01	-0°29'07
max. Earth dist.	14229 Sep 26 15:32	18° <u>0</u> 15'45	30.82017 AU	min. Earth dist.	14236 Apr 12 16:18	2° <u>0</u> 54'53	28.78588 AU
morning rise	14229 Oct 11 20:10	18° <u>0</u> 50'09		direct	14236 Jun 30 16:25	1° <u>0</u> 30'11	
retrograde	14230 Jan 09 22:59	20° <u>0</u> 48'13		evening set	14236 Sep 26 00:19	3° <u>0</u> 24'34	
opposition	14230 Mar 30 22:42	19° <u>0</u> 23'39	-0°33'03				
min. Earth dist.	14230 Mar 30 12:00	19° <u>0</u> 24'24	28.81760 AU	conjunction	14236 Oct 11 16:49	4° <u>0</u> 00'01	-0°26'54
direct	14230 Jun 17 15:06	17° <u>0</u> 59'57		minimum elong	14236 Oct 11 16:49	4° <u>0</u> 00'01	0°26'25
evening set	14230 Sep 13 01:17	19° <u>0</u> 54'31		max. Earth dist.	14236 Oct 12 06:55	4° <u>0</u> 01'21	30.78489 AU
				morning rise	14236 Oct 27 11:11	4° <u>0</u> 35'40	
conjunction	14230 Sep 28 16:03	20° <u>0</u> 29'50	-0°30'41	retrograde	14237 Jan 25 19:38	6° <u>0</u> 33'54	
minimum elong	14230 Sep 28 16:03	20° <u>0</u> 29'50	0°30'26	opposition	14237 Apr 15 17:37	5° <u>0</u> 09'01	-0°28'18
max. Earth dist.	14230 Sep 29 02:45	20° <u>0</u> 30'51	30.81452 AU	min. Earth dist.	14237 Apr 15 03:58	5° <u>0</u> 09'58	28.78457 AU

direct	14237 Jul 03 05:41	3°M.45'12		minimum elong	14243 Oct 28 08:36	19°M.47'06	0°19'53
evening set	14237 Sep 28 12:25	5°M.39'35		max. Earth dist.	14243 Oct 28 23:14	19°M.48'29	30.79088 AU
				morning rise	14243 Nov 13 05:10	20°M.22'53	
conjunction	14237 Oct 14 05:02	6°M.15'03 -0°26'07		retrograde	14244 Feb 11 15:04	22°M.21'09	
minimum elong	14237 Oct 14 05:02	6°M.15'03 0°25'35		opposition	14244 May 01 11:13	20°M.56'17	-0°21'26
max. Earth dist.	14237 Oct 14 18:32	6°M.16'19 30.78435 AU		min. Earth dist.	14244 Apr 30 21:00	20°M.57'16	28.79077 AU
morning rise	14237 Oct 29 23:54	6°M.50'44		direct	14244 Jul 18 17:37	19°M.32'30	
retrograde	14238 Jan 28 09:58	8°M.48'58		evening set	14244 Oct 14 02:27	21°M.26'48	
opposition	14238 Apr 18 06:22	7°M.24'05 -0°27'26					
min. Earth dist.	14238 Apr 17 16:40	7°M.25'02 28.78476 AU		conjunction	14244 Oct 29 21:11	22°M.02'22	-0°19'36
direct	14238 Jul 05 17:19	6°M.00'18		minimum elong	14244 Oct 29 21:11	22°M.02'22	0°18'50
evening set	14238 Oct 01 00:23	7°M.54'40		max. Earth dist.	14244 Oct 30 11:13	22°M.03'42	30.79040 AU
				morning rise	14244 Nov 14 18:12	22°M.38'11	
conjunction	14238 Oct 16 17:28	8°M.30'10 -0°25'18		retrograde	14245 Feb 13 04:21	24°M.36'24	
minimum elong	14238 Oct 16 17:28	8°M.30'10 0°24'45		opposition	14245 May 03 23:58	23°M.11'29	-0°20'18
max. Earth dist.	14238 Oct 17 08:27	8°M.31'35 30.78506 AU		min. Earth dist.	14245 May 03 10:40	23°M.12'25	28.79034 AU
morning rise	14238 Nov 01 12:28	9°M.05'52		direct	14245 Jul 21 05:15	21°M.47'40	
retrograde	14239 Jan 30 22:20	11°M.04'08		evening set	14245 Oct 16 14:48	23°M.41'54	
opposition	14239 Apr 20 19:11	9°M.39'16 -0°26'32					
min. Earth dist.	14239 Apr 20 05:17	9°M.40'14 28.78589 AU		conjunction	14245 Nov 01 10:01	24°M.17'30	-0°18'32
direct	14239 Jul 08 06:05	8°M.15'31		minimum elong	14245 Nov 01 10:01	24°M.17'30	0°17'45
evening set	14239 Oct 03 12:30	10°M.09'54		max. Earth dist.	14245 Nov 02 00:58	24°M.18'54	30.79012 AU
				morning rise	14245 Nov 17 07:13	24°M.53'19	
conjunction	14239 Oct 19 05:43	10°M.45'24 -0°24'26		retrograde	14246 Feb 15 17:17	26°M.51'29	
minimum elong	14239 Oct 19 05:43	10°M.45'24 0°23'50		opposition	14246 May 06 12:19	25°M.26'31	-0°19'09
max. Earth dist.	14239 Oct 19 20:03	10°M.46'45 30.78665 AU		min. Earth dist.	14246 May 05 22:16	25°M.27'30	28.79026 AU
morning rise	14239 Nov 04 01:10	11°M.21'08		direct	14246 Jul 23 18:58	24°M.02'40	
retrograde	14240 Feb 02 11:42	13°M.19'26		evening set	14246 Oct 19 03:19	25°M.56'53	
opposition	14240 Apr 22 08:02	11°M.54'35 -0°25'36					
min. Earth dist.	14240 Apr 21 17:36	11°M.55'35 28.78774 AU		conjunction	14246 Nov 03 22:39	26°M.32'29	-0°17'27
direct	14240 Jul 09 17:25	10°M.30'51		minimum elong	14246 Nov 03 22:39	26°M.32'29	0°16'38
evening set	14240 Oct 05 00:44	12°M.25'14		max. Earth dist.	14246 Nov 04 12:41	26°M.33'48	30.79045 AU
				morning rise	14246 Nov 19 20:18	27°M.08'19	
conjunction	14240 Oct 20 18:20	13°M.00'46 -0°23'32		retrograde	14247 Feb 18 07:49	29°M.06'26	
minimum elong	14240 Oct 20 18:20	13°M.00'46 0°22'55		min. Earth dist.	14247 May 08 10:59	27°M.42'24	28.79117 AU
max. Earth dist.	14240 Oct 21 09:31	13°M.02'12 30.78849 AU		opposition	14247 May 09 00:50	27°M.41'26	-0°17'58
morning rise	14240 Nov 05 13:58	13°M.36'31		direct	14247 Jul 26 07:09	26°M.17'33	
	14240 Dec 19 13:10	15°M.		evening set	14247 Oct 21 15:31	28°M.11'44	
retrograde	14241 Feb 03 22:57	15°M.34'50					
	14241 Mar 23 20:15	15°R.M.		conjunction	14247 Nov 06 11:19	28°M.47'22	-0°16'20
opposition	14241 Apr 24 20:54	14°M.10'00 -0°24'36		minimum elong	14247 Nov 06 11:19	28°M.47'22	0°15'29
min. Earth dist.	14241 Apr 24 07:10	14°M.10'58 28.78953 AU		behind sun begin	14247 Nov 06 09:40	28°M.47'13	
direct	14241 Jul 12 04:57	12°M.46'18		behind sun end	14247 Nov 06 12:57	28°M.47'31	
evening set	14241 Oct 07 13:07	14°M.40'40		max. Earth dist.	14247 Nov 07 02:45	28°M.48'49	30.79187 AU
	14241 Oct 16 03:52	15°M.		morning rise	14247 Nov 22 09:04	29°M.23'12	
conjunction	14241 Oct 23 07:00	15°M.16'13 -0°22'36			14247 Dec 09 17:42	0°♂	
minimum elong	14241 Oct 23 06:59	15°M.16'13 0°21'56		retrograde	14248 Feb 20 19:51	1°♂21'17	
max. Earth dist.	14241 Oct 23 21:35	15°M.17'35 30.79013 AU			14248 May 08 08:11	30°R.M.	
morning rise	14241 Nov 08 03:01	15°M.51'59		opposition	14248 May 10 13:16	29°M.56'17	-0°16'46
retrograde	14242 Feb 06 13:23	17°M.50'18		min. Earth dist.	14248 May 09 23:09	29°M.57'17	28.79321 AU
opposition	14242 Apr 27 09:41	16°M.25'29 -0°23'35		direct	14248 Jul 27 20:31	28°M.32'24	
min. Earth dist.	14242 Apr 26 19:10	16°M.26'30 28.79078 AU			14248 Oct 10 18:49	0°♂	
direct	14242 Jul 14 16:15	15°M.01'46		evening set	14248 Oct 23 03:59	0°♂26'34	
evening set	14242 Oct 10 01:38	16°M.56'08					
conjunction	14242 Oct 25 19:46	17°M.31'41 -0°21'38		conjunction	14248 Nov 07 23:57	1°♂02'12	-0°15'12
minimum elong	14242 Oct 25 19:47	17°M.31'41 0°20'56		minimum elong	14248 Nov 07 23:57	1°♂02'12	0°14'20
max. Earth dist.	14242 Oct 26 10:15	17°M.33'03 30.79084 AU		behind sun begin	14248 Nov 07 20:59	1°♂01'56	
morning rise	14242 Nov 10 16:05	18°M.07'28		behind sun end	14248 Nov 08 02:55	1°♂02'28	
retrograde	14243 Feb 09 01:16	20°M.05'47		max. Earth dist.	14248 Nov 08 14:40	1°♂03'35	30.79470 AU
opposition	14243 Apr 29 22:31	18°M.40'56 -0°22'31		morning rise	14248 Nov 23 22:11	1°♂38'03	
min. Earth dist.	14243 Apr 29 09:12	18°M.41'52 28.79109 AU		retrograde	14249 Feb 22 09:21	3°♂36'06	
direct	14243 Jul 17 03:56	17°M.17'12		min. Earth dist.	14249 May 12 10:56	2°♂12'08	28.79682 AU
evening set	14243 Oct 12 14:04	19°M.11'32		opposition	14249 May 13 01:33	2°♂11'07	-0°15'32
				direct	14249 Jul 30 07:54	0°♂47'13	
				evening set	14249 Oct 25 16:23	2°♂41'23	
conjunction	14243 Oct 28 08:36	19°M.47'06 -0°20'38		conjunction	14249 Nov 10 12:47	3°♂17'03	-0°14'02

minimum elong	14249 Nov 10 12:47	3°♂17'03	0°13'09	min. Earth dist.	14255 May 26 13:11	15°♂43'00	28.83496 AU
behind sun begin	14249 Nov 10 08:57	3°♂16'42		direct	14255 Aug 13 05:43	14°♂18'17	
behind sun end	14249 Nov 10 16:37	3°♂17'23		evening set	14255 Nov 08 20:40	16°♂12'33	
max. Earth dist.	14249 Nov 11 04:29	3°♂18'31	30.79893 AU				
morning rise	14249 Nov 26 11:11	3°♂52'55		conjunction	14255 Nov 24 18:41	16°♂48'16	-0°06'41
retrograde	14250 Feb 24 20:41	5°♂50'56		minimum elong	14255 Nov 24 18:42	16°♂48'16	0°05'42
opposition	14250 May 15 13:55	4°♂25'59	-0°14'16	behind sun begin	14255 Nov 24 12:26	16°♂47'43	
min. Earth dist.	14250 May 14 23:43	4°♂26'59	28.80172 AU	behind sun end	14255 Nov 25 00:57	16°♂48'50	
direct	14250 Aug 01 19:34	3°♂02'07		max. Earth dist.	14255 Nov 25 08:19	16°♂49'33	30.83741 AU
evening set	14250 Oct 28 04:52	4°♂56'17		morning rise	14255 Dec 10 18:50	17°♂24'13	
				retrograde	14256 Mar 10 05:15	19°♂22'02	
conjunction	14250 Nov 13 01:31	5°♂31'57	-0°12'51	opposition	14256 May 28 15:17	17°♂57'21	-0°06'20
minimum elong	14250 Nov 13 01:30	5°♂31'57	0°11'57	min. Earth dist.	14256 May 28 02:15	17°♂58'16	28.83988 AU
behind sun begin	14250 Nov 12 21:02	5°♂31'33		direct	14256 Aug 14 18:17	16°♂33'34	
behind sun end	14250 Nov 13 05:59	5°♂32'22		evening set	14256 Nov 10 09:29	18°♂27'48	
max. Earth dist.	14250 Nov 13 16:47	5°♂33'24	30.80457 AU				
morning rise	14250 Nov 29 00:15	6°♂07'50		conjunction	14256 Nov 26 07:59	19°♂03'33	-0°05'25
retrograde	14251 Feb 27 10:55	8°♂05'50		minimum elong	14256 Nov 26 07:59	19°♂03'33	0°04'25
min. Earth dist.	14251 May 17 10:53	6°♂42'01	28.80791 AU	behind sun begin	14256 Nov 26 01:34	19°♂02'59	
opposition	14251 May 18 02:04	6°♂40'57	-0°13'00	behind sun end	14256 Nov 26 14:24	19°♂04'08	
direct	14251 Aug 04 06:24	5°♂17'06		max. Earth dist.	14256 Nov 26 22:18	19°♂04'53	30.84192 AU
evening set	14251 Oct 30 17:27	7°♂11'18		morning rise	14256 Dec 12 08:13	19°♂39'29	
				retrograde	14257 Mar 12 17:04	21°♂37'13	
conjunction	14251 Nov 15 14:22	7°♂46'59	-0°11'39	opposition	14257 May 31 03:15	20°♂12'32	-0°04'58
minimum elong	14251 Nov 15 14:22	7°♂46'59	0°10'43	min. Earth dist.	14257 May 30 14:34	20°♂13'25	28.84403 AU
behind sun begin	14251 Nov 15 09:22	7°♂46'32		direct	14257 Aug 17 07:55	18°♂48'41	
behind sun end	14251 Nov 15 19:22	7°♂47'26		evening set	14257 Nov 12 22:25	20°♂42'54	
max. Earth dist.	14251 Nov 16 05:56	7°♂48'27	30.81121 AU				
morning rise	14251 Dec 01 13:22	8°♂22'53		conjunction	14257 Nov 28 21:03	21°♂18'39	-0°04'09
retrograde	14252 Feb 29 22:13	10°♂20'52		minimum elong	14257 Nov 28 21:04	21°♂18'39	0°03'07
opposition	14252 May 19 14:26	8°♂56'03	-0°11'41	behind sun begin	14257 Nov 28 14:34	21°♂18'04	
min. Earth dist.	14252 May 19 00:18	8°♂57'02	28.81496 AU	behind sun end	14257 Nov 29 03:34	21°♂19'14	
direct	14252 Aug 05 17:20	7°♂32'15		max. Earth dist.	14257 Nov 29 10:01	21°♂19'51	30.84599 AU
evening set	14252 Nov 01 06:01	9°♂26'28		morning rise	14257 Dec 14 21:43	21°♂54'35	
				retrograde	14258 Mar 15 07:00	23°♂52'12	
conjunction	14252 Nov 17 03:19	10°♂02'10	-0°10'26	opposition	14258 Jun 02 15:11	22°♂27'30	-0°03'36
minimum elong	14252 Nov 17 03:19	10°♂02'10	0°09'29	min. Earth dist.	14258 Jun 02 02:33	22°♂28'23	28.84809 AU
behind sun begin	14252 Nov 16 21:54	10°♂01'41		direct	14258 Aug 19 19:59	21°♂03'36	
behind sun end	14252 Nov 17 08:44	10°♂02'39		evening set	14258 Nov 15 11:07	22°♂57'47	
max. Earth dist.	14252 Nov 17 19:02	10°♂03'38	30.81856 AU				
morning rise	14252 Dec 03 02:34	10°♂38'05		conjunction	14258 Dec 01 10:08	23°♂33'32	-0°02'51
retrograde	14253 Mar 03 11:46	12°♂36'03		minimum elong	14258 Dec 01 10:08	23°♂33'32	0°01'49
min. Earth dist.	14253 May 21 11:46	11°♂12'20	28.82226 AU	behind sun begin	14258 Dec 01 03:35	23°♂32'57	
opposition	14253 May 22 02:37	11°♂11'17	-0°10'22	behind sun end	14258 Dec 01 16:40	23°♂34'08	
direct	14253 Aug 08 05:45	9°♂47'31		max. Earth dist.	14258 Dec 01 23:47	23°♂34'49	30.85004 AU
evening set	14253 Nov 03 18:57	11°♂41'47		morning rise	14258 Dec 17 10:51	24°♂09'29	
				retrograde	14259 Mar 17 18:44	26°♂06'59	
conjunction	14253 Nov 19 16:25	12°♂17'29	-0°09'12	opposition	14259 Jun 05 03:04	24°♂42'16	-0°02'13
minimum elong	14253 Nov 19 16:25	12°♂17'29	0°08'14	min. Earth dist.	14259 Jun 04 15:11	24°♂43'06	28.85235 AU
behind sun begin	14253 Nov 19 10:39	12°♂16'58		direct	14259 Aug 22 09:03	23°♂18'20	
behind sun end	14253 Nov 19 22:11	12°♂18'01		evening set	14259 Nov 17 23:54	25°♂12'28	
max. Earth dist.	14253 Nov 20 07:14	12°♂18'53	30.82564 AU				
morning rise	14253 Dec 05 16:01	12°♂53'25		conjunction	14259 Dec 03 23:05	25°♂48'13	-0°01'32
retrograde	14254 Mar 06 00:52	14°♂51'21		minimum elong	14259 Dec 03 23:07	25°♂48'13	0°00'29
opposition	14254 May 24 14:48	13°♂26'39	-0°09'02	behind sun begin	14259 Dec 03 16:36	25°♂47'38	
min. Earth dist.	14254 May 24 01:19	13°♂27'36	28.82912 AU	behind sun end	14259 Dec 04 05:38	25°♂48'48	
direct	14254 Aug 10 16:01	12°♂02'53		max. Earth dist.	14259 Dec 04 12:00	25°♂49'25	30.85476 AU
evening set	14254 Nov 06 07:48	13°♂57'10		morning rise	14259 Dec 20 00:09	26°♂24'09	
				retrograde	14260 Mar 19 08:10	28°♂21'33	
conjunction	14254 Nov 22 05:43	14°♂32'54	-0°07'57	opposition	14260 Jun 06 14:47	26°♂56'50	-0°00'51
minimum elong	14254 Nov 22 05:43	14°♂32'54	0°06'58	min. Earth dist.	14260 Jun 06 02:06	26°♂57'43	28.85752 AU
behind sun begin	14254 Nov 21 23:40	14°♂32'21		direct	14260 Aug 23 21:07	25°♂32'50	
behind sun end	14254 Nov 22 11:45	14°♂33'26		evening set	14260 Nov 19 12:35	27°♂26'57	
max. Earth dist.	14254 Nov 22 20:50	14°♂34'18	30.83207 AU				
morning rise	14254 Dec 08 05:25	15°♂08'49		conjunction	14260 Dec 05 12:05	28°♂02'42	-0°00'12
retrograde	14255 Mar 08 14:21	17°♂06'43		minimum elong	14260 Dec 05 12:05	28°♂02'42	0°00'51
opposition	14255 May 27 03:01	15°♂42'02	-0°07'41	behind sun begin	14260 Dec 05 05:33	28°♂02'07	

behind sun end	14260 Dec 05 18:37	28° 2 03'17		retrograde	14266 Apr 02 08:41	11° 3 46'52	
max. Earth dist.	14260 Dec 06 01:11	28° 2 03'55	30.86035 AU	opposition	14266 Jun 20 12:14	10° 3 22'26	0°07'20
morning rise	14260 Dec 21 13:20	28° 2 38'39		min. Earth dist.	14266 Jun 20 01:20	10° 3 23'12	28.91079 AU
	14261 Feb 02 13:02	0° 3		direct	14266 Sep 06 18:30	8° 3 58'26	
asc. node	14261 Feb 04 07:37	0° 3 02'33		evening set	14266 Dec 03 17:36	10° 3 52'38	
retrograde	14261 Mar 21 18:17	0° 3 35'56					
	14261 May 09 04:19	30° 2 2		conjunction	14266 Dec 19 18:25	11° 3 28'24	0°07'28
opposition	14261 Jun 09 02:34	29° 2 11'13	0°00'32	minimum elong	14266 Dec 19 18:25	11° 3 28'24	0°08'31
min. Earth dist.	14261 Jun 08 14:56	29° 2 12'02	28.86372 AU	behind sun begin	14266 Dec 19 12:43	11° 3 27'53	
direct	14261 Aug 26 08:17	27° 2 47'12		behind sun end	14266 Dec 20 00:08	11° 3 28'55	
evening set	14261 Nov 22 01:21	29° 2 41'17		max. Earth dist.	14266 Dec 20 05:27	11° 3 29'25	30.91567 AU
	14261 Nov 30 11:37	0° 3		morning rise	14267 Jan 04 20:47	12° 3 04'20	
				retrograde	14267 Apr 04 23:03	14° 3 01'10	
conjunction	14261 Dec 08 01:11	0° 3 17'02	0°01'07	opposition	14267 Jun 22 23:46	12° 3 36'47	0°08'40
minimum elong	14261 Dec 08 01:09	0° 3 17'02	0°02'10	min. Earth dist.	14267 Jun 22 13:11	12° 3 37'31	28.92046 AU
behind sun begin	14261 Dec 07 18:37	0° 3 16'27		direct	14267 Sep 09 06:18	11° 3 12'47	
behind sun end	14261 Dec 08 07:42	0° 3 17'38		evening set	14267 Dec 06 06:35	13° 3 07'00	
max. Earth dist.	14261 Dec 08 14:16	0° 3 18'15	30.86723 AU				
morning rise	14261 Dec 24 02:34	0° 3 52'58		conjunction	14267 Dec 22 07:45	13° 3 42'47	0°08'42
retrograde	14262 Mar 24 06:43	2° 3 50'10		minimum elong	14267 Dec 22 07:45	13° 3 42'47	0°09'45
opposition	14262 Jun 11 14:01	1° 3 25'28	0°01'54	behind sun begin	14267 Dec 22 02:24	13° 3 42'18	
min. Earth dist.	14262 Jun 11 01:28	1° 3 26'21	28.87119 AU	behind sun end	14267 Dec 22 13:06	13° 3 43'16	
direct	14262 Aug 28 20:07	0° 3 01'26		max. Earth dist.	14267 Dec 22 19:02	13° 3 43'49	30.92476 AU
evening set	14262 Nov 24 14:10	1° 3 55'31		morning rise	14268 Jan 07 10:06	14° 3 18'42	
				retrograde	14268 Apr 06 11:18	16° 3 15'27	
conjunction	14262 Dec 10 14:07	2° 3 31'17	0°02'25	opposition	14268 Jun 24 11:14	14° 3 51'06	0°09'59
minimum elong	14262 Dec 10 14:07	2° 3 31'17	0°03'28	min. Earth dist.	14268 Jun 24 01:51	14° 3 51'45	28.92904 AU
behind sun begin	14262 Dec 10 07:37	2° 3 30'42		direct	14268 Sep 10 19:16	13° 3 27'06	
behind sun end	14262 Dec 10 20:37	2° 3 31'52		evening set	14268 Dec 07 19:35	15° 3 21'18	
max. Earth dist.	14262 Dec 11 02:44	2° 3 32'27	30.87534 AU				
morning rise	14262 Dec 26 15:47	3° 3 07'12		conjunction	14268 Dec 23 20:54	15° 3 57'05	0°09'55
retrograde	14263 Mar 26 18:36	5° 3 04'20		minimum elong	14268 Dec 23 20:54	15° 3 57'05	0°10'58
opposition	14263 Jun 14 01:44	3° 3 39'40	0°03'16	behind sun begin	14268 Dec 23 16:00	15° 3 56'39	
min. Earth dist.	14263 Jun 13 14:09	3° 3 40'29	28.88003 AU	behind sun end	14268 Dec 24 01:48	15° 3 57'31	
direct	14263 Aug 31 05:45	2° 3 15'37		max. Earth dist.	14268 Dec 24 06:45	15° 3 57'59	30.93297 AU
evening set	14263 Nov 27 02:43	4° 3 09'43		morning rise	14269 Jan 08 23:32	16° 3 33'00	
				retrograde	14269 Apr 09 00:42	18° 3 29'38	
conjunction	14263 Dec 13 03:05	4° 3 45'29	0°03'41	opposition	14269 Jun 26 22:32	17° 3 05'19	0°11'17
minimum elong	14263 Dec 13 03:04	4° 3 45'29	0°04'44	min. Earth dist.	14269 Jun 26 12:54	17° 3 06'00	28.93677 AU
behind sun begin	14263 Dec 12 20:40	4° 3 44'54		direct	14269 Sep 13 07:42	15° 3 41'17	
behind sun end	14263 Dec 13 09:27	4° 3 46'03		evening set	14269 Dec 10 08:37	17° 3 35'29	
max. Earth dist.	14263 Dec 13 16:22	4° 3 46'43	30.88482 AU				
morning rise	14263 Dec 29 04:49	5° 3 21'25		conjunction	14269 Dec 26 10:08	18° 3 11'16	0°11'07
retrograde	14264 Mar 28 06:53	7° 3 18'27		minimum elong	14269 Dec 26 10:08	18° 3 11'16	0°12'09
opposition	14264 Jun 15 13:16	5° 3 53'52	0°04'38	behind sun begin	14269 Dec 26 05:46	18° 3 10'52	
min. Earth dist.	14264 Jun 15 01:06	5° 3 54'43	28.88991 AU	behind sun end	14269 Dec 26 14:30	18° 3 11'39	
direct	14264 Sep 01 18:52	4° 3 29'50		max. Earth dist.	14269 Dec 26 19:40	18° 3 12'08	30.94028 AU
evening set	14264 Nov 28 15:41	6° 3 23'57		morning rise	14270 Jan 11 12:48	18° 3 47'10	
				retrograde	14270 Apr 11 10:56	20° 3 43'41	
conjunction	14264 Dec 14 16:05	6° 3 59'43	0°04'57	opposition	14270 Jun 29 09:47	19° 3 19'23	0°12'34
minimum elong	14264 Dec 14 16:05	6° 3 59'43	0°06'01	min. Earth dist.	14270 Jun 29 01:40	19° 3 19'57	28.94389 AU
behind sun begin	14264 Dec 14 09:52	6° 3 59'10		direct	14270 Sep 15 18:59	17° 3 55'19	
behind sun end	14264 Dec 14 22:19	7° 3 00'17		evening set	14270 Dec 12 21:29	19° 3 49'29	
max. Earth dist.	14264 Dec 15 04:08	7° 3 00'50	30.89510 AU				
morning rise	14264 Dec 30 18:11	7° 3 35'39		conjunction	14270 Dec 28 23:13	20° 3 25'16	0°12'19
retrograde	14265 Mar 30 20:38	9° 3 32'38		minimum elong	14270 Dec 28 23:13	20° 3 25'16	0°13'20
opposition	14265 Jun 18 00:44	8° 3 08'07	0°05'59	behind sun begin	14270 Dec 28 19:33	20° 3 24'56	
min. Earth dist.	14265 Jun 17 13:22	8° 3 08'54	28.90048 AU	behind sun end	14270 Dec 29 02:53	20° 3 25'36	
direct	14265 Sep 04 05:49	6° 3 44'06		max. Earth dist.	14270 Dec 29 08:18	20° 3 26'06	30.94742 AU
evening set	14265 Dec 01 04:34	8° 3 38'15		morning rise	14271 Jan 14 02:00	21° 3 01'10	
				retrograde	14271 Apr 13 23:26	22° 3 57'33	
conjunction	14265 Dec 17 05:23	9° 3 14'02	0°06'13	opposition	14271 Jul 01 20:53	21° 3 33'17	0°13'50
minimum elong	14265 Dec 17 05:22	9° 3 14'02	0°07'16	min. Earth dist.	14271 Jul 01 12:11	21° 3 33'53	28.95101 AU
behind sun begin	14265 Dec 16 23:22	9° 3 13'30		direct	14271 Sep 18 06:48	20° 3 09'10	
behind sun end	14265 Dec 17 11:22	9° 3 14'34		evening set	14271 Dec 15 10:15	22° 3 03'19	
max. Earth dist.	14265 Dec 17 18:03	9° 3 15'13	30.90564 AU				
morning rise	14266 Jan 02 07:27	9° 3 49'57		conjunction	14271 Dec 31 12:05	22° 3 39'06	0°13'29

minimum elong	14271 Dec 31 12:05	22°33'06	0°14'29	minimum elong	14278 Jan 13 17:24	5°59'27	0°20'55
behind sun begin	14271 Dec 31 09:18	22°38'51		max. Earth dist.	14278 Jan 13 23:57	6°00'03	31.01905 AU
behind sun end	14271 Dec 31 14:51	22°39'20		morning rise	14278 Jan 29 20:41	6°35'15	
max. Earth dist.	14271 Dec 31 20:29	22°39'52	30.95465 AU	retrograde	14278 Apr 29 10:36	8°30'55	
morning rise	14272 Jan 16 15:02	23°31'59		opposition	14278 Jul 17 01:10	7°06'59	0°21'57
retrograde	14272 Apr 15 10:08	25°31'16		min. Earth dist.	14278 Jul 16 18:34	7°07'26	29.02569 AU
opposition	14272 Jul 03 08:03	23°34'59	0°15'04	direct	14278 Oct 03 15:38	5°42'48	
min. Earth dist.	14272 Jul 03 00:37	23°34'31	28.95858 AU	evening set	14278 Dec 31 03:38	7°37'03	
direct	14272 Sep 19 16:16	22°32'50					
evening set	14272 Dec 16 23:01	24°31'58		conjunction	14279 Jan 16 06:23	8°12'47	0°21'00
				minimum elong	14279 Jan 16 06:23	8°12'47	0°21'54
conjunction	14273 Jan 02 01:08	24°35'24	0°14'37	max. Earth dist.	14279 Jan 16 12:41	8°13'22	31.03208 AU
minimum elong	14273 Jan 02 01:08	24°35'24	0°15'37	morning rise	14279 Feb 01 09:34	8°48'34	
behind sun begin	14273 Jan 01 23:59	24°35'38		retrograde	14279 May 01 21:58	10°44'09	
behind sun end	14273 Jan 02 02:17	24°35'50		opposition	14279 Jul 19 12:07	9°20'17	0°23'00
max. Earth dist.	14273 Jan 02 09:55	24°35'33	30.96258 AU	min. Earth dist.	14279 Jul 19 07:08	9°20'38	29.03847 AU
morning rise	14273 Jan 18 04:04	25°32'37		direct	14279 Oct 06 02:52	7°56'07	
retrograde	14273 Apr 17 20:47	27°32'46		evening set	14280 Jan 02 16:25	9°50'23	
opposition	14273 Jul 05 18:52	26°30'31	0°16'17				
min. Earth dist.	14273 Jul 05 11:00	26°30'05	28.96689 AU	conjunction	14280 Jan 18 19:17	10°26'06	0°21'57
direct	14273 Sep 22 05:21	24°36'19		minimum elong	14280 Jan 18 19:17	10°26'06	0°22'49
evening set	14273 Dec 19 11:53	26°30'28		max. Earth dist.	14280 Jan 19 00:46	10°26'36	31.04447 AU
				morning rise	14280 Feb 03 22:32	11°01'52	
conjunction	14274 Jan 04 13:59	27°30'13	0°15'45	retrograde	14280 May 03 11:05	12°57'20	
minimum elong	14274 Jan 04 13:59	27°30'13	0°16'43	opposition	14280 Jul 20 22:54	11°33'31	0°24'00
max. Earth dist.	14274 Jan 04 21:30	27°30'55	30.97142 AU	min. Earth dist.	14280 Jul 20 17:41	11°33'53	29.05025 AU
morning rise	14274 Jan 20 17:08	27°34'20		direct	14280 Oct 07 15:18	10°09'22	
retrograde	14274 Apr 20 08:54	29°38'08		evening set	14281 Jan 04 05:26	12°03'37	
opposition	14274 Jul 08 05:51	28°31'55	0°17'28				
min. Earth dist.	14274 Jul 07 22:33	28°31'25	28.97643 AU	conjunction	14281 Jan 20 08:18	12°39'20	0°22'53
direct	14274 Sep 24 15:31	26°34'41		minimum elong	14281 Jan 20 08:18	12°39'20	0°23'44
evening set	14274 Dec 22 00:25	28°34'50		max. Earth dist.	14281 Jan 20 12:35	12°39'43	31.05561 AU
				morning rise	14281 Feb 05 11:34	13°15'05	
conjunction	14275 Jan 07 02:49	29°31'35	0°16'51		14281 Apr 10 20:27	15°	
minimum elong	14275 Jan 07 02:48	29°31'35	0°17'50	retrograde	14281 May 05 21:23	15°10'26	
max. Earth dist.	14275 Jan 07 11:14	29°32'21	30.98156 AU		14281 May 31 02:39	15°	
morning rise	14275 Jan 23 05:50	29°35'25		opposition	14281 Jul 23 09:40	13°46'40	0°24'58
	14275 Jan 25 08:22	0°		min. Earth dist.	14281 Jul 23 06:08	13°46'55	29.06090 AU
retrograde	14275 Apr 22 19:55	1°51'22		direct	14281 Oct 10 01:20	12°22'28	
opposition	14275 Jul 10 16:47	0°27'12	0°18'38	evening set	14282 Jan 06 18:15	14°16'43	
min. Earth dist.	14275 Jul 10 09:32	0°27'43	28.98720 AU				
	14275 Jul 27 03:21	30°		conjunction	14282 Jan 22 21:19	14°52'25	0°23'46
direct	14275 Sep 27 03:18	29°30'25		minimum elong	14282 Jan 22 21:19	14°52'25	0°24'35
	14275 Nov 26 00:48	0°		max. Earth dist.	14282 Jan 23 01:27	14°52'48	31.06578 AU
evening set	14275 Dec 24 13:12	0°57'08			14282 Jan 26 06:43	15°	
				morning rise	14282 Feb 08 00:28	15°28'09	
conjunction	14276 Jan 09 15:35	1°32'52	0°17'56	retrograde	14282 May 08 07:42	17°23'22	
minimum elong	14276 Jan 09 15:35	1°32'52	0°18'52	opposition	14282 Jul 25 20:22	15°59'38	0°25'54
max. Earth dist.	14276 Jan 09 22:43	1°33'32	30.99311 AU	min. Earth dist.	14282 Jul 25 16:48	15°59'53	29.07052 AU
morning rise	14276 Jan 25 18:50	2°08'42			14282 Sep 03 06:16	15°	
retrograde	14276 Apr 24 09:38	4°04'33		direct	14282 Oct 12 14:02	14°35'24	
opposition	14276 Jul 12 03:35	2°40'26	0°19'46		14282 Nov 20 04:35	15°	
min. Earth dist.	14276 Jul 11 20:18	2°40'57	28.99941 AU	evening set	14283 Jan 09 06:59	16°29'38	
direct	14276 Sep 28 14:49	1°16'13					
evening set	14276 Dec 26 01:54	3°10'24		conjunction	14283 Jan 25 09:55	17°05'19	0°24'37
				minimum elong	14283 Jan 25 09:55	17°05'19	0°25'26
conjunction	14277 Jan 11 04:33	3°46'09	0°18'59	max. Earth dist.	14283 Jan 25 12:26	17°05'33	31.07506 AU
minimum elong	14277 Jan 11 04:33	3°46'09	0°19'55	morning rise	14283 Feb 10 13:10	17°41'02	
max. Earth dist.	14277 Jan 11 12:23	3°46'52	31.00578 AU	retrograde	14283 May 10 18:55	19°36'07	
morning rise	14277 Jan 27 07:42	4°21'57		opposition	14283 Jul 28 07:04	18°12'24	0°26'48
retrograde	14277 Apr 26 21:31	6°17'43		min. Earth dist.	14283 Jul 28 04:25	18°12'35	29.07963 AU
opposition	14277 Jul 14 14:29	4°53'41	0°20'53	direct	14283 Oct 14 23:52	16°48'08	
min. Earth dist.	14277 Jul 14 08:12	4°54'08	29.01241 AU	evening set	14284 Jan 11 19:36	18°42'21	
direct	14277 Oct 01 03:40	3°29'30					
evening set	14277 Dec 28 14:45	5°23'43		conjunction	14284 Jan 27 22:45	19°18'01	0°25'26
				minimum elong	14284 Jan 27 22:46	19°18'01	0°26'12
conjunction	14278 Jan 13 17:23	5°59'27	0°20'00	max. Earth dist.	14284 Jan 28 01:44	19°18'17	31.08397 AU

morning rise	14284 Feb 13 01:49	19° \approx 53'42	direct	14290 Oct 30 08:23	2° \times 13'50	
retrograde	14284 May 12 05:05	21° \approx 48'40	evening set	14291 Jan 27 11:12	4° \times 08'10	
opposition	14284 Jul 29 17:32	20° \approx 24'58 0°27'39				
min. Earth dist.	14284 Jul 29 15:26	20° \approx 25'07 29.08841 AU	conjunction	14291 Feb 12 14:17	4° \times 43'45 0°30'02	
direct	14284 Oct 16 11:37	19° \approx 00'39	minimum elong	14291 Feb 12 14:18	4° \times 43'45 0°30'35	
evening set	14285 Jan 13 08:21	20° \approx 54'52	max. Earth dist.	14291 Feb 12 14:13	4° \times 43'45 31.16143 AU	
			morning rise	14291 Feb 28 16:45	5° \times 19'18	
conjunction	14285 Jan 29 11:24	21° \approx 30'31 0°26'13	retrograde	14291 May 28 12:56	7° \times 13'37	
minimum elong	14285 Jan 29 11:24	21° \approx 30'31 0°26'58	opposition	14291 Aug 14 18:24	5° \times 50'23 0°32'23	
max. Earth dist.	14285 Jan 29 12:45	21° \approx 30'38 31.09287 AU	min. Earth dist.	14291 Aug 14 18:47	5° \times 50'21 29.16765 AU	
morning rise	14285 Feb 14 14:35	22° \approx 06'11	direct	14291 Nov 01 20:28	4° \times 26'10	
retrograde	14285 May 14 17:29	24° \approx 01'01	evening set	14292 Jan 29 23:54	6° \times 20'32	
opposition	14285 Aug 01 04:00	22° \approx 37'21 0°28'27				
min. Earth dist.	14285 Aug 01 02:03	22° \approx 37'29 29.09751 AU	conjunction	14292 Feb 15 02:47	6° \times 56'06 0°30'31	
direct	14285 Oct 18 23:04	21° \approx 13'00	minimum elong	14292 Feb 15 02:47	6° \times 56'06 0°31'01	
evening set	14286 Jan 15 20:50	23° \approx 07'13	max. Earth dist.	14292 Feb 15 00:56	6° \times 55'56 31.17350 AU	
			morning rise	14292 Mar 02 05:14	7° \times 31'38	
conjunction	14286 Feb 01 00:00	23° \approx 42'51 0°26'57	retrograde	14292 May 30 00:13	9° \times 25'53	
minimum elong	14286 Feb 01 00:00	23° \approx 42'51 0°27'39	opposition	14292 Aug 16 04:46	8° \times 02'43 0°32'52	
max. Earth dist.	14286 Feb 01 02:01	23° \approx 43'02 31.10209 AU	min. Earth dist.	14292 Aug 16 06:13	8° \times 02'37 29.17925 AU	
morning rise	14286 Feb 17 02:56	24° \approx 18'29	direct	14292 Nov 03 05:21	6° \times 38'30	
retrograde	14286 May 17 04:01	26° \approx 13'13	evening set	14293 Jan 31 12:27	8° \times 32'55	
opposition	14286 Aug 03 14:29	24° \approx 49'34 0°29'13				
min. Earth dist.	14286 Aug 03 13:28	24° \approx 49'38 29.10709 AU	conjunction	14293 Feb 16 15:27	9° \times 08'28 0°30'57	
direct	14286 Oct 21 11:31	23° \approx 25'12	minimum elong	14293 Feb 16 15:27	9° \times 08'28 0°31'26	
evening set	14287 Jan 18 09:24	25° \approx 19'25	max. Earth dist.	14293 Feb 16 13:44	9° \times 08'18 31.18438 AU	
			morning rise	14293 Mar 04 17:36	9° \times 43'59	
conjunction	14287 Feb 03 12:27	25° \approx 55'02 0°27'39	retrograde	14293 Jun 01 09:57	11° \times 38'08	
minimum elong	14287 Feb 03 12:27	25° \approx 55'02 0°28'21	opposition	14293 Aug 18 15:14	10° \times 15'01 0°33'18	
max. Earth dist.	14287 Feb 03 13:20	25° \approx 55'07 31.11223 AU	min. Earth dist.	14293 Aug 18 17:30	10° \times 14'51 29.18935 AU	
morning rise	14287 Feb 19 15:26	26° \approx 30'39	direct	14293 Nov 05 16:43	8° \times 50'48	
retrograde	14287 May 19 16:32	28° \approx 25'17	evening set	14294 Feb 03 01:02	10° \times 45'13	
opposition	14287 Aug 06 00:49	27° \approx 01'40 0°29'56				
min. Earth dist.	14287 Aug 05 23:08	27° \approx 01'47 29.11778 AU	conjunction	14294 Feb 19 03:46	11° \times 20'45 0°31'21	
direct	14287 Oct 23 23:17	25° \approx 37'18	minimum elong	14294 Feb 19 03:46	11° \times 20'45 0°31'46	
evening set	14288 Jan 20 21:47	27° \approx 31'33	max. Earth dist.	14294 Feb 19 00:06	11° \times 20'24 31.19382 AU	
			morning rise	14294 Mar 07 05:55	11° \times 56'14	
conjunction	14288 Feb 06 00:55	28° \approx 07'09 0°28'19	retrograde	14294 Jun 03 21:19	13° \times 50'18	
minimum elong	14288 Feb 06 00:55	28° \approx 07'09 0°28'57	opposition	14294 Aug 21 01:37	12° \times 27'12 0°33'42	
max. Earth dist.	14288 Feb 06 01:55	28° \approx 07'15 31.12339 AU	min. Earth dist.	14294 Aug 21 04:14	12° \times 27'01 29.19817 AU	
morning rise	14288 Feb 22 03:44	28° \approx 42'45	direct	14294 Nov 08 03:58	11° \times 02'58	
	14288 Apr 03 03:22	0° \times	evening set	14295 Feb 05 13:25	12° \times 57'23	
retrograde	14288 May 21 03:35	0° \times 37'17				
	14288 Jul 09 05:56	30° \times	conjunction	14295 Feb 21 16:13	13° \times 32'53 0°31'41	
opposition	14288 Aug 07 11:20	29° \approx 13'45 0°30'37	minimum elong	14295 Feb 21 16:14	13° \times 32'53 0°32'06	
min. Earth dist.	14288 Aug 07 10:51	29° \approx 13'47 29.12951 AU	max. Earth dist.	14295 Feb 21 12:49	13° \times 32'35 31.20197 AU	
direct	14288 Oct 25 10:32	27° \approx 49'25	morning rise	14295 Mar 09 18:03	14° \times 08'21	
evening set	14289 Jan 22 10:18	29° \approx 43'41	retrograde	14295 Jun 06 07:03	16° \times 02'18	
	14289 Jan 29 21:20	0° \times	opposition	14295 Aug 23 11:59	14° \times 39'13 0°34'02	
conjunction	14289 Feb 07 13:26	0° \times 19'17 0°28'56	min. Earth dist.	14295 Aug 23 16:00	14° \times 38'57 29.20577 AU	
minimum elong	14289 Feb 07 13:26	0° \times 19'17 0°29'33	direct	14295 Nov 10 15:49	13° \times 14'57	
max. Earth dist.	14289 Feb 07 13:57	0° \times 19'20 31.13569 AU	evening set	14296 Feb 08 01:47	15° \times 09'21	
morning rise	14289 Feb 23 16:11	0° \times 54'51				
retrograde	14289 May 23 16:33	2° \times 49'18	conjunction	14296 Feb 24 04:25	15° \times 44'50 0°31'59	
opposition	14289 Aug 09 21:32	1° \times 25'52 0°31'15	minimum elong	14296 Feb 24 04:26	15° \times 44'50 0°32'21	
min. Earth dist.	14289 Aug 09 20:31	1° \times 25'56 29.14211 AU	max. Earth dist.	14296 Feb 23 23:30	15° \times 44'23 31.20919 AU	
direct	14289 Oct 27 22:46	0° \times 01'34	morning rise	14296 Mar 11 06:16	16° \times 20'16	
evening set	14290 Jan 24 22:52	1° \times 55'53	retrograde	14296 Jun 07 19:01	18° \times 14'06	
			opposition	14296 Aug 24 22:12	16° \times 51'02 0°34'19	
conjunction	14290 Feb 10 01:53	2° \times 31'28 0°29'30	min. Earth dist.	14296 Aug 25 01:54	16° \times 50'46 29.21258 AU	
minimum elong	14290 Feb 10 01:54	2° \times 31'28 0°30'05	direct	14296 Nov 12 03:34	15° \times 26'42	
max. Earth dist.	14290 Feb 10 01:43	2° \times 31'27 31.14853 AU	evening set	14297 Feb 09 14:05	17° \times 21'05	
morning rise	14290 Feb 26 04:33	3° \times 07'02				
retrograde	14290 May 26 02:45	5° \times 01'25	conjunction	14297 Feb 25 16:41	17° \times 56'33 0°32'14	
opposition	14290 Aug 12 08:01	3° \times 38'05 0°31'50	minimum elong	14297 Feb 25 16:41	17° \times 56'33 0°32'34	
min. Earth dist.	14290 Aug 12 08:23	3° \times 38'03 29.15511 AU	max. Earth dist.	14297 Feb 25 11:33	17° \times 56'05 31.21563 AU	
			morning rise	14297 Mar 13 18:14	18° \times 31'57	

retrograde	14297 Jun 10 05:35	20° ✕ 25'40		evening set	14304 Feb 27 02:04	2° ♀ 38'51	
opposition	14297 Aug 27 08:26	19° ✕ 02'35	0°34'34				
min. Earth dist.	14297 Aug 27 13:39	19° ✕ 02'14	29.21891 AU	conjunction	14304 Mar 14 03:44	3° ♀ 14'13	0°32'42
direct	14297 Nov 14 15:43	17° ✕ 38'13		minimum elong	14304 Mar 14 03:44	3° ♀ 14'13	0°32'44
evening set	14298 Feb 12 02:15	19° ✕ 32'34		max. Earth dist.	14304 Mar 13 20:29	3° ♀ 13'33	31.27280 AU
				morning rise	14304 Mar 30 03:49	3° ♀ 49'27	
conjunction	14298 Feb 28 04:43	20° ✕ 08'01	0°32'27	retrograde	14304 Jun 26 05:25	5° ♀ 42'39	
minimum elong	14298 Feb 28 04:43	20° ✕ 08'01	0°32'43	opposition	14304 Sep 12 07:37	4° ♀ 19'53	0°34'51
max. Earth dist.	14298 Feb 27 23:04	20° ✕ 07'30	31.22201 AU	min. Earth dist.	14304 Sep 12 15:12	4° ♀ 19'21	29.27722 AU
morning rise	14298 Mar 16 06:08	20° ✕ 43'23		direct	14304 Nov 30 20:47	2° ♀ 55'33	
retrograde	14298 Jun 12 17:31	22° ✕ 36'59		evening set	14305 Feb 28 14:10	4° ♀ 50'01	
opposition	14298 Aug 29 18:34	21° ✕ 13'54	0°34'45				
min. Earth dist.	14298 Aug 29 23:10	21° ✕ 13'35	29.22534 AU	conjunction	14305 Mar 16 15:30	5° ♀ 25'20	0°32'34
direct	14298 Nov 17 04:59	19° ✕ 49'29		minimum elong	14305 Mar 16 15:31	5° ♀ 25'20	0°32'35
evening set	14299 Feb 14 14:13	21° ✕ 43'49		max. Earth dist.	14305 Mar 16 06:47	5° ♀ 24'32	31.28110 AU
				morning rise	14305 Apr 01 15:28	6° ♀ 00'34	
conjunction	14299 Mar 02 16:31	22° ✕ 19'15	0°32'36	retrograde	14305 Jun 28 17:16	7° ♀ 53'43	
minimum elong	14299 Mar 02 16:31	22° ✕ 19'15	0°32'52	opposition	14305 Sep 14 17:45	6° ♀ 31'00	0°34'42
max. Earth dist.	14299 Mar 02 10:19	22° ✕ 18'41	31.22863 AU	min. Earth dist.	14305 Sep 15 01:01	6° ♀ 30'30	29.28490 AU
morning rise	14299 Mar 18 17:46	22° ✕ 54'36		direct	14305 Dec 03 07:56	5° ♀ 06'41	
retrograde	14299 Jun 15 03:10	24° ✕ 48'06		evening set	14306 Mar 03 02:08	7° ♀ 01'11	
opposition	14299 Sep 01 04:51	23° ✕ 25'01	0°34'54				
min. Earth dist.	14299 Sep 01 10:31	23° ✕ 24'37	29.23241 AU	conjunction	14306 Mar 19 03:20	7° ♀ 36'30	0°32'24
direct	14299 Nov 19 15:24	22° ✕ 00'34		minimum elong	14306 Mar 19 03:21	7° ♀ 36'30	0°32'21
evening set	14300 Feb 17 02:12	23° ✕ 54'53		max. Earth dist.	14306 Mar 18 18:18	7° ♀ 35'40	31.28805 AU
				morning rise	14306 Apr 04 02:57	8° ♀ 11'42	
conjunction	14300 Mar 05 04:29	24° ✕ 30'18	0°32'43	retrograde	14306 Jul 01 04:01	10° ♀ 04'48	
minimum elong	14300 Mar 05 04:29	24° ✕ 30'18	0°32'55	opposition	14306 Sep 17 04:09	8° ♀ 42'07	0°34'29
max. Earth dist.	14300 Mar 04 22:42	24° ✕ 29'46	31.23613 AU	min. Earth dist.	14306 Sep 17 12:59	8° ♀ 41'31	29.29126 AU
morning rise	14300 Mar 21 05:28	25° ✕ 05'37		direct	14306 Dec 05 19:40	7° ♀ 17'49	
retrograde	14300 Jun 17 12:59	26° ✕ 59'00		evening set	14307 Mar 05 13:54	9° ♀ 12'19	
opposition	14300 Sep 03 14:51	25° ✕ 35'58	0°35'00				
min. Earth dist.	14300 Sep 03 20:09	25° ✕ 35'36	29.24032 AU	conjunction	14307 Mar 21 14:57	9° ♀ 47'37	0°32'11
direct	14300 Nov 22 03:39	24° ✕ 11'31		minimum elong	14307 Mar 21 14:57	9° ♀ 47'37	0°32'07
evening set	14301 Feb 19 14:18	26° ✕ 05'50		max. Earth dist.	14307 Mar 21 05:12	9° ♀ 46'43	31.29382 AU
				morning rise	14307 Apr 06 14:23	10° ♀ 22'48	
conjunction	14301 Mar 07 16:18	26° ✕ 41'14	0°32'47	retrograde	14307 Jul 03 15:58	12° ♀ 15'50	
minimum elong	14301 Mar 07 16:18	26° ✕ 41'14	0°32'58	opposition	14307 Sep 19 14:22	10° ♀ 53'11	0°34'13
max. Earth dist.	14301 Mar 07 09:17	26° ✕ 40'36	31.24456 AU	min. Earth dist.	14307 Sep 19 22:52	10° ♀ 52'36	29.29629 AU
morning rise	14301 Mar 23 17:12	27° ✕ 16'32		direct	14307 Dec 08 09:00	9° ♀ 28'52	
retrograde	14301 Jun 19 23:52	29° ✕ 09'51		evening set	14308 Mar 07 01:51	11° ♀ 23'23	
opposition	14301 Sep 06 01:03	27° ✕ 46'52	0°35'02				
min. Earth dist.	14301 Sep 06 06:45	27° ✕ 46'28	29.24930 AU	conjunction	14308 Mar 23 02:39	11° ♀ 58'40	0°31'55
direct	14301 Nov 24 12:53	26° ✕ 22'26		minimum elong	14308 Mar 23 02:39	11° ♀ 58'40	0°31'48
evening set	14302 Feb 22 02:06	28° ✕ 16'47		max. Earth dist.	14308 Mar 22 15:55	11° ♀ 57'41	31.29823 AU
				morning rise	14308 Apr 08 01:51	12° ♀ 33'50	
conjunction	14302 Mar 10 04:06	28° ✕ 52'10	0°32'48	retrograde	14308 Jul 05 01:44	14° ♀ 26'48	
minimum elong	14302 Mar 10 04:06	28° ✕ 52'10	0°32'56	opposition	14308 Sep 21 00:33	13° ♀ 04'09	0°33'55
max. Earth dist.	14302 Mar 09 21:54	28° ✕ 51'35	31.25389 AU	min. Earth dist.	14308 Sep 21 10:27	13° ♀ 03'28	29.30026 AU
morning rise	14302 Mar 26 04:36	29° ✕ 27'27		direct	14308 Dec 09 19:31	11° ♀ 39'49	
	14302 Apr 10 19:51	0° ♀		evening set	14309 Mar 09 13:35	13° ♀ 34'20	
retrograde	14302 Jun 22 08:48	1° ♀ 20'42					
	14302 Sep 07 03:34	30° ♂		conjunction	14309 Mar 25 14:18	14° ♀ 09'36	0°31'37
opposition	14302 Sep 08 11:15	29° ✕ 57'48	0°35'02	minimum elong	14309 Mar 25 14:18	14° ♀ 09'36	0°31'28
min. Earth dist.	14302 Sep 08 17:23	29° ✕ 57'22	29.25879 AU	max. Earth dist.	14309 Mar 25 03:45	14° ♀ 08'38	31.30178 AU
direct	14302 Nov 27 00:01	28° ✕ 33'24		morning rise	14309 Apr 10 13:11	14° ♀ 44'44	
	14303 Feb 11 07:36	0° ♀		retrograde	14309 Jul 07 11:34	16° ♀ 37'37	
evening set	14303 Feb 24 14:08	0° ♀ 27'47		opposition	14309 Sep 23 10:45	15° ♀ 15'00	0°33'34
				min. Earth dist.	14309 Sep 23 20:35	15° ♀ 14'19	29.30338 AU
conjunction	14303 Mar 12 15:48	1° ♀ 03'08	0°32'46	direct	14309 Dec 12 08:22	13° ♀ 50'38	
minimum elong	14303 Mar 12 15:49	1° ♀ 03'08	0°32'53	evening set	14310 Mar 12 01:12	15° ♀ 45'07	
max. Earth dist.	14303 Mar 12 08:08	1° ♀ 02'26	31.26355 AU				
morning rise	14303 Mar 28 16:16	1° ♀ 38'25		conjunction	14310 Mar 28 01:32	16° ♀ 20'22	0°31'16
retrograde	14303 Jun 24 19:51	3° ♀ 31'38		minimum elong	14310 Mar 28 01:33	16° ♀ 20'22	0°31'04
opposition	14303 Sep 10 21:18	2° ♀ 08'48	0°34'58	max. Earth dist.	14310 Mar 27 13:42	16° ♀ 19'17	31.30471 AU
min. Earth dist.	14303 Sep 11 03:31	2° ♀ 08'22	29.26841 AU	morning rise	14310 Apr 13 00:17	16° ♀ 55'29	
direct	14303 Nov 29 10:01	0° ♀ 44'26		retrograde	14310 Jul 09 22:16	18° ♀ 48'18	

opposition	14310 Sep 25 20:58	17° Υ 25'40	0°33'10	conjunction	14317 Apr 12 07:46	1° \mathcal{B} 33'34	0°27'36
min. Earth dist.	14310 Sep 26 07:10	17° Υ 24'58	29.30633 AU	minimum elong	14317 Apr 12 07:46	1° \mathcal{B} 33'34	0°27'09
direct	14310 Dec 14 18:19	16° Υ 01'17		max. Earth dist.	14317 Apr 11 18:57	1° \mathcal{B} 32'23	31.33856 AU
evening set	14311 Mar 14 12:38	17° Υ 55'45		morning rise	14317 Apr 28 04:34	2° \mathcal{B} 08'33	
				retrograde	14317 Jul 24 20:07	4° \mathcal{B} 01'09	
conjunction	14311 Mar 30 12:56	18° Υ 30'59	0°30'52	opposition	14317 Oct 10 20:43	2° \mathcal{B} 38'45	0°29'05
minimum elong	14311 Mar 30 12:56	18° Υ 30'59	0°30'39	min. Earth dist.	14317 Oct 11 08:35	2° \mathcal{B} 37'56	29.34104 AU
max. Earth dist.	14311 Mar 30 01:57	18° Υ 29'58	31.30768 AU	direct	14317 Dec 29 22:11	1° \mathcal{B} 14'28	
morning rise	14311 Apr 15 11:16	19° Υ 06'04		evening set	14318 Mar 29 20:15	3° \mathcal{B} 09'03	
retrograde	14311 Jul 12 06:09	20° Υ 58'49					
opposition	14311 Sep 28 07:04	19° Υ 36'11	0°32'43	conjunction	14318 Apr 14 18:49	3° \mathcal{B} 44'09	0°26'55
min. Earth dist.	14311 Sep 28 17:42	19° Υ 35'27	29.30947 AU	minimum elong	14318 Apr 14 18:50	3° \mathcal{B} 44'09	0°26'25
direct	14311 Dec 17 06:02	18° Υ 11'46		max. Earth dist.	14318 Apr 14 06:22	3° \mathcal{B} 43'01	31.34286 AU
evening set	14312 Mar 16 00:12	20° Υ 06'14		morning rise	14318 Apr 30 15:16	4° \mathcal{B} 19'07	
max. Earth dist.	14312 Mar 31 11:55	20° Υ 40'19	31.31119 AU	retrograde	14318 Jul 27 06:34	6° \mathcal{B} 11'42	
				opposition	14318 Oct 13 07:13	4° \mathcal{B} 49'20	0°28'19
conjunction	14312 Apr 01 00:07	20° Υ 41'26	0°30'26	min. Earth dist.	14318 Oct 13 19:04	4° \mathcal{B} 48'31	29.34459 AU
minimum elong	14312 Apr 01 00:07	20° Υ 41'26	0°30'09	direct	14319 Jan 01 11:24	3° \mathcal{B} 25'04	
morning rise	14312 Apr 16 22:22	21° Υ 16'31		evening set	14319 Apr 01 07:44	5° \mathcal{B} 19'39	
retrograde	14312 Jul 13 15:56	23° Υ 09'12					
opposition	14312 Sep 29 17:13	21° Υ 46'35	0°32'13	conjunction	14319 Apr 17 05:55	5° \mathcal{B} 54'45	0°26'11
min. Earth dist.	14312 Sep 30 03:21	21° Υ 45'53	29.31346 AU	minimum elong	14319 Apr 17 05:55	5° \mathcal{B} 54'45	0°25'40
direct	14312 Dec 18 15:57	20° Υ 22'09		max. Earth dist.	14319 Apr 16 15:56	5° \mathcal{B} 53'28	31.34572 AU
evening set	14313 Mar 18 11:32	22° Υ 16'36		morning rise	14319 May 03 02:12	6° \mathcal{B} 29'41	
				retrograde	14319 Jul 29 17:49	8° \mathcal{B} 22'14	
conjunction	14313 Apr 03 11:21	22° Υ 51'48	0°29'57	opposition	14319 Oct 15 17:36	6° \mathcal{B} 59'53	0°27'31
minimum elong	14313 Apr 03 11:21	22° Υ 51'48	0°29'39	min. Earth dist.	14319 Oct 16 05:58	6° \mathcal{B} 59'02	29.34684 AU
max. Earth dist.	14313 Apr 03 00:07	22° Υ 50'46	31.31558 AU	direct	14320 Jan 03 22:02	5° \mathcal{B} 35'37	
morning rise	14313 Apr 19 09:08	23° Υ 26'51		evening set	14320 Apr 02 19:03	7° \mathcal{B} 30'13	
retrograde	14313 Jul 16 00:36	25° Υ 19'30					
opposition	14313 Oct 02 03:30	23° Υ 56'55	0°31'41	conjunction	14320 Apr 18 17:08	8° \mathcal{B} 05'18	0°25'25
min. Earth dist.	14313 Oct 02 14:26	23° Υ 56'09	29.31836 AU	minimum elong	14320 Apr 18 17:08	8° \mathcal{B} 05'18	0°24'51
direct	14313 Dec 21 01:43	22° Υ 32'30		max. Earth dist.	14320 Apr 18 03:42	8° \mathcal{B} 04'03	31.34719 AU
evening set	14314 Mar 20 22:56	24° Υ 26'58		morning rise	14320 May 04 12:59	8° \mathcal{B} 40'13	
				retrograde	14320 Jul 31 02:06	10° \mathcal{B} 32'44	
conjunction	14314 Apr 05 22:24	25° Υ 02'09	0°29'26	opposition	14320 Oct 17 04:12	9° \mathcal{B} 10'24	0°26'40
minimum elong	14314 Apr 05 22:24	25° Υ 02'09	0°29'05	min. Earth dist.	14320 Oct 17 17:18	9° \mathcal{B} 09'30	29.34752 AU
max. Earth dist.	14314 Apr 05 10:26	25° Υ 01'02	31.32109 AU	direct	14321 Jan 05 10:10	7° \mathcal{B} 46'08	
morning rise	14314 Apr 21 20:04	25° Υ 37'11		evening set	14321 Apr 05 06:23	9° \mathcal{B} 40'42	
retrograde	14314 Jul 18 11:46	27° Υ 29'48					
opposition	14314 Oct 04 13:39	26° Υ 07'16	0°31'06	conjunction	14321 Apr 21 04:02	10° \mathcal{B} 15'46	0°24'37
min. Earth dist.	14314 Oct 04 23:38	26° Υ 06'34	29.32423 AU	minimum elong	14321 Apr 21 04:02	10° \mathcal{B} 15'46	0°24'02
direct	14314 Dec 23 12:12	24° Υ 42'53		max. Earth dist.	14321 Apr 20 13:09	10° \mathcal{B} 14'24	31.34730 AU
evening set	14315 Mar 23 10:08	26° Υ 37'23		morning rise	14321 May 06 23:45	10° \mathcal{B} 50'41	
				retrograde	14321 Aug 02 12:09	12° \mathcal{B} 43'10	
conjunction	14315 Apr 08 09:27	27° Υ 12'32	0°28'52	opposition	14321 Oct 19 14:41	11° \mathcal{B} 20'50	0°25'48
minimum elong	14315 Apr 08 09:27	27° Υ 12'32	0°28'29	min. Earth dist.	14321 Oct 20 03:30	11° \mathcal{B} 19'57	29.34708 AU
max. Earth dist.	14315 Apr 07 21:43	27° Υ 11'27	31.32715 AU	direct	14322 Jan 07 20:36	9° \mathcal{B} 56'31	
morning rise	14315 Apr 24 06:47	27° Υ 47'34		evening set	14322 Apr 07 17:30	11° \mathcal{B} 51'05	
retrograde	14315 Jul 20 22:05	29° Υ 40'11					
opposition	14315 Oct 06 24:00	28° Υ 17'41	0°30'28	conjunction	14322 Apr 23 15:01	12° \mathcal{B} 26'09	0°23'47
min. Earth dist.	14315 Oct 07 11:12	28° Υ 16'55	29.33038 AU	minimum elong	14322 Apr 23 15:01	12° \mathcal{B} 26'09	0°23'09
direct	14315 Dec 25 23:24	26° Υ 53'21		max. Earth dist.	14322 Apr 23 00:49	12° \mathcal{B} 24'50	31.34634 AU
evening set	14316 Mar 24 21:32	28° Υ 47'52		morning rise	14322 May 09 10:19	13° \mathcal{B} 01'02	
				retrograde	14322 Aug 04 20:44	14° \mathcal{B} 53'30	
conjunction	14316 Apr 09 20:36	29° Υ 23'01	0°28'15	opposition	14322 Oct 22 01:15	13° \mathcal{B} 31'08	0°24'53
minimum elong	14316 Apr 09 20:36	29° Υ 23'01	0°27'50	min. Earth dist.	14322 Oct 22 15:11	13° \mathcal{B} 30'11	29.34579 AU
max. Earth dist.	14316 Apr 09 08:34	29° Υ 21'54	31.33325 AU	direct	14323 Jan 10 06:45	12° \mathcal{B} 06'49	
morning rise	14316 Apr 25 17:41	29° Υ 58'01		evening set	14323 Apr 10 04:33	14° \mathcal{B} 01'21	
	14316 Apr 26 15:44	0° \mathcal{B}		max. Earth dist.	14323 Apr 25 10:48	14° \mathcal{B} 35'01	31.34491 AU
retrograde	14316 Jul 22 09:32	1° \mathcal{B} 50'37					
opposition	14316 Oct 08 10:12	0° \mathcal{B} 28'11	0°29'48	conjunction	14323 Apr 26 01:43	14° \mathcal{B} 36'24	0°22'55
min. Earth dist.	14316 Oct 08 20:55	0° \mathcal{B} 27'27	29.33613 AU	minimum elong	14323 Apr 26 01:44	14° \mathcal{B} 36'24	0°22'16
	14316 Oct 25 18:46	30° \mathcal{R} Υ			14323 May 06 17:05	15° \mathcal{B}	
direct	14316 Dec 27 11:58	29° Υ 03'52		morning rise	14323 May 11 20:54	15° \mathcal{B} 11'17	
	14317 Feb 25 20:25	0° \mathcal{B}		retrograde	14323 Aug 07 07:18	17° \mathcal{B} 03'43	
evening set	14317 Mar 27 09:03	0° \mathcal{B} 58'26		opposition	14323 Oct 24 11:42	15° \mathcal{B} 41'20	0°23'57

min. Earth dist.	14323 Oct 25 00:42	15° 8 40'27	29.34423 AU	conjunction	14330 May 11 04:07	29° 8 48'41	0°16'01
	14323 Nov 19 15:42	15° 8		minimum elong	14330 May 11 04:07	29° 8 48'41	0°15'10
direct	14324 Jan 12 17:52	14° 8 16'59		behind sun begin	14330 May 11 01:57	29° 8 48'30	
	14324 Mar 05 05:34	15° 8		behind sun end	14330 May 11 06:17	29° 8 48'53	
evening set	14324 Apr 11 15:34	16° 8 11'32		max. Earth dist.	14330 May 10 13:10	29° 8 47'18	31.34368 AU
					14330 May 16 05:48	0° II	
conjunction	14324 Apr 27 12:30	16° 8 46'33	0°22'01	morning rise	14330 May 26 21:22	0° II 23'30	
minimum elong	14324 Apr 27 12:31	16° 8 46'33	0°21'19	retrograde	14330 Aug 22 08:37	2° II 16'07	
max. Earth dist.	14324 Apr 26 21:50	16° 8 45'12	31.34332 AU	opposition	14330 Nov 08 14:37	0° II 53'56	0°16'27
morning rise	14324 May 13 07:18	17° 8 21'25		min. Earth dist.	14330 Nov 09 03:43	0° II 53'02	29.34310 AU
retrograde	14324 Aug 08 17:09	19° 8 13'51			14330 Dec 14 05:31	30° 8	
opposition	14324 Oct 25 22:18	17° 8 51'27	0°22'58	direct	14331 Jan 28 01:23	29° 8 29'47	
min. Earth dist.	14324 Oct 26 12:12	17° 8 50'30	29.34295 AU		14331 Mar 12 14:45	0° II	
direct	14325 Jan 14 04:52	16° 8 27'05		evening set	14331 Apr 27 19:48	1° II 24'31	
evening set	14325 Apr 14 02:32	18° 8 21'39					
				conjunction	14331 May 13 14:50	1° II 59'29	0°14'56
conjunction	14325 Apr 29 23:11	18° 8 56'39	0°21'06	minimum elong	14331 May 13 14:50	1° II 59'29	0°14'03
minimum elong	14325 Apr 29 23:12	18° 8 56'39	0°20'23	behind sun begin	14331 May 13 11:37	1° II 59'12	
max. Earth dist.	14325 Apr 29 08:47	18° 8 55'19	31.34245 AU	behind sun end	14331 May 13 18:04	1° II 59'46	
morning rise	14325 May 15 17:43	19° 8 31'30		max. Earth dist.	14331 May 13 00:31	1° II 58'10	31.34183 AU
retrograde	14325 Aug 11 04:11	21° 8 23'56		morning rise	14331 May 29 07:41	2° II 34'17	
opposition	14325 Oct 28 08:54	20° 8 01'33	0°21'57	retrograde	14331 Aug 24 17:58	4° II 26'56	
min. Earth dist.	14325 Oct 28 21:42	20° 8 00'41	29.34242 AU	opposition	14331 Nov 11 01:44	3° II 04'45	0°15'16
direct	14326 Jan 16 17:07	18° 8 37'12		min. Earth dist.	14331 Nov 11 16:00	3° II 03'47	29.34051 AU
evening set	14326 Apr 16 13:21	20° 8 31'47		direct	14332 Jan 30 11:36	1° II 40'37	
				evening set	14332 Apr 29 06:48	3° II 35'22	
conjunction	14326 May 02 09:40	21° 8 06'47	0°20'08	max. Earth dist.	14332 May 14 10:18	4° II 08'54	31.33852 AU
minimum elong	14326 May 02 09:40	21° 8 06'47	0°19'23				
max. Earth dist.	14326 May 01 19:00	21° 8 05'26	31.34235 AU	conjunction	14332 May 15 01:27	4° II 10'18	0°13'49
morning rise	14326 May 18 03:57	21° 8 41'37		minimum elong	14332 May 15 01:27	4° II 10'18	0°12'55
retrograde	14326 Aug 13 14:49	23° 8 34'05		behind sun begin	14332 May 14 21:28	4° II 09'57	
opposition	14326 Oct 30 19:36	22° 8 11'44	0°20'55	behind sun end	14332 May 15 05:25	4° II 10'40	
min. Earth dist.	14326 Oct 31 08:55	22° 8 10'49	29.34280 AU	morning rise	14332 May 30 18:07	4° II 45'06	
direct	14327 Jan 19 02:59	20° 8 47'25		retrograde	14332 Aug 26 04:11	6° II 37'47	
evening set	14327 Apr 19 00:10	22° 8 42'02		opposition	14332 Nov 12 12:40	5° II 15'35	0°14'04
				min. Earth dist.	14332 Nov 13 02:07	5° II 14'40	29.33637 AU
conjunction	14327 May 04 20:21	23° 8 17'01	0°19'09	direct	14333 Jan 31 23:02	3° II 51'26	
minimum elong	14327 May 04 20:21	23° 8 17'01	0°18'23	evening set	14333 May 01 17:42	5° II 46'10	
max. Earth dist.	14327 May 04 06:39	23° 8 15'46	31.34305 AU				
morning rise	14327 May 20 14:18	23° 8 51'51		conjunction	14333 May 17 12:06	6° II 21'06	0°12'41
retrograde	14327 Aug 16 01:35	25° 8 44'21		minimum elong	14333 May 17 12:06	6° II 21'06	0°11'47
opposition	14327 Nov 02 06:08	24° 8 22'03	0°19'50	behind sun begin	14333 May 17 07:32	6° II 20'42	
min. Earth dist.	14327 Nov 02 19:07	24° 8 21'09	29.34354 AU	behind sun end	14333 May 17 16:39	6° II 21'31	
direct	14328 Jan 21 16:07	22° 8 57'47		max. Earth dist.	14333 May 16 20:52	6° II 19'42	31.33359 AU
evening set	14328 Apr 20 11:12	24° 8 52'27		morning rise	14333 Jun 02 04:27	6° II 55'54	
				retrograde	14333 Aug 28 13:51	8° II 48'36	
conjunction	14328 May 06 06:56	25° 8 27'25	0°18'08	opposition	14333 Nov 14 23:54	7° II 26'22	0°12'51
minimum elong	14328 May 06 06:56	25° 8 27'25	0°17'20	min. Earth dist.	14333 Nov 15 14:27	7° II 25'22	29.33081 AU
max. Earth dist.	14328 May 05 16:11	25° 8 26'04	31.34383 AU	direct	14334 Feb 03 09:37	6° II 02'11	
morning rise	14328 May 22 00:45	26° 8 02'15		evening set	14334 May 04 04:22	7° II 56'54	
retrograde	14328 Aug 17 13:37	27° 8 54'47					
opposition	14328 Nov 03 16:54	26° 8 32'32	0°18'44	conjunction	14334 May 19 22:32	8° II 31'49	0°11'33
min. Earth dist.	14328 Nov 04 05:54	26° 8 31'38	29.34426 AU	minimum elong	14334 May 19 22:32	8° II 31'49	0°10'36
direct	14329 Jan 23 02:57	25° 8 08'19		behind sun begin	14334 May 19 17:30	8° II 31'23	
evening set	14329 Apr 22 21:58	27° 8 03'01		behind sun end	14334 May 20 03:33	8° II 32'16	
				max. Earth dist.	14334 May 19 07:27	8° II 30'26	31.32746 AU
conjunction	14329 May 08 17:34	27° 8 37'59	0°17'05	morning rise	14334 Jun 04 14:40	9° II 06'36	
minimum elong	14329 May 08 17:35	27° 8 37'59	0°16'16	retrograde	14334 Aug 31 00:18	10° II 59'18	
max. Earth dist.	14329 May 08 03:49	27° 8 36'43	31.34420 AU	opposition	14334 Nov 17 10:56	9° II 37'02	0°11'37
morning rise	14329 May 24 10:55	28° 8 12'48		min. Earth dist.	14334 Nov 18 00:45	9° II 36'05	29.32401 AU
	14329 Aug 02 01:57	0° II		direct	14335 Feb 05 21:33	8° II 12'48	
retrograde	14329 Aug 19 22:10	0° II 05'23		evening set	14335 May 06 15:10	10° II 07'30	
	14329 Sep 06 22:38	30° 8					
opposition	14329 Nov 06 03:49	28° 8 43'10	0°17'36	conjunction	14335 May 22 09:00	10° II 42'24	0°10'23
min. Earth dist.	14329 Nov 06 17:22	28° 8 42'14	29.34417 AU	minimum elong	14335 May 22 08:59	10° II 42'24	0°09'27
direct	14330 Jan 25 14:52	27° 8 19'00		behind sun begin	14335 May 22 03:35	10° II 41'55	
evening set	14330 Apr 25 08:58	29° 8 13'44		behind sun end	14335 May 22 14:24	10° II 42'53	

max. Earth dist.	14335 May 21 17:20	10°II40'57	31.32023 AU	conjunction	14341 Jun 03 22:36	23°II44'39	0°03'12
morning rise	14335 Jun 07 00:56	11°II17'10		minimum elong	14341 Jun 03 22:37	23°II44'39	0°02'10
retrograde	14335 Sep 02 11:03	13°II09'53		behind sun begin	14341 Jun 03 16:10	23°II44'05	
opposition	14335 Nov 19 21:57	11°II47'32	0°10'22	behind sun end	14341 Jun 04 05:04	23°II45'14	
min. Earth dist.	14335 Nov 20 12:23	11°II46'33	29.31660 AU	max. Earth dist.	14341 Jun 03 09:23	23°II43'26	31.28460 AU
direct	14336 Feb 08 08:06	10°II23'16		morning rise	14341 Jun 19 13:09	24°II19'24	
evening set	14336 May 08 01:47	12°II17'57		retrograde	14341 Sep 15 01:36	26°II12'25	
				opposition	14341 Dec 02 17:21	24°II50'00	0°02'37
conjunction	14336 May 23 19:27	12°II52'50	0°09'13	min. Earth dist.	14341 Dec 03 05:00	24°II49'13	29.28228 AU
minimum elong	14336 May 23 19:27	12°II52'50	0°08'15	direct	14342 Feb 21 05:53	23°II25'48	
behind sun begin	14336 May 23 13:43	12°II52'20		evening set	14342 May 21 16:51	25°II20'34	
behind sun end	14336 May 24 01:11	12°II53'21					
max. Earth dist.	14336 May 23 04:55	12°II51'30	31.31272 AU	conjunction	14342 Jun 06 08:51	25°II55'26	0°01'56
morning rise	14336 Jun 08 11:03	13°II27'35		minimum elong	14342 Jun 06 08:51	25°II55'26	0°00'53
retrograde	14336 Sep 03 21:34	15°II20'18		behind sun begin	14342 Jun 06 02:24	25°II54'52	
opposition	14336 Nov 21 09:06	13°II57'54	0°09'06	behind sun end	14342 Jun 06 15:18	25°II56'01	
min. Earth dist.	14336 Nov 21 23:00	13°II56'57	29.30911 AU	max. Earth dist.	14342 Jun 05 19:51	25°II54'14	31.27966 AU
direct	14337 Feb 09 21:50	12°II33'36		morning rise	14342 Jun 21 23:09	26°II30'11	
evening set	14337 May 10 12:21	14°II28'15		retrograde	14342 Sep 17 11:52	28°II23'19	
				opposition	14342 Dec 05 04:56	27°II00'54	0°01'18
conjunction	14337 May 26 05:34	15°II03'08	0°08'02	min. Earth dist.	14342 Dec 05 17:27	27°II00'03	29.27706 AU
minimum elong	14337 May 26 05:33	15°II03'08	0°07'04	direct	14343 Feb 23 15:41	25°II36'45	
behind sun begin	14337 May 25 23:34	15°II02'36		evening set	14343 May 24 03:28	27°II31'33	
behind sun end	14337 May 26 11:33	15°II03'40					
max. Earth dist.	14337 May 25 14:23	15°II01'44	31.30550 AU	conjunction	14343 Jun 08 19:14	28°II06'25	0°00'39
morning rise	14337 Jun 10 21:02	15°II37'52		minimum elong	14343 Jun 08 19:15	28°II06'25	0°00'23
retrograde	14337 Sep 06 09:15	17°II30'37		behind sun begin	14343 Jun 08 12:50	28°II05'50	
opposition	14337 Nov 23 20:17	16°II08'10	0°07'50	behind sun end	14343 Jun 09 01:40	28°II06'59	
min. Earth dist.	14337 Nov 24 09:35	16°II07'16	29.30238 AU	max. Earth dist.	14343 Jun 08 06:37	28°II05'15	31.27402 AU
direct	14338 Feb 12 09:05	14°II43'51		morning rise	14343 Jun 24 09:19	28°II41'09	
evening set	14338 May 12 22:47	16°II38'30			14343 Aug 05 06:13	0°☾	
				retrograde	14343 Sep 19 22:46	0°☾34'22	
conjunction	14338 May 28 15:54	17°II13'23	0°06'51		14343 Nov 06 09:22	30°R II	
minimum elong	14338 May 28 15:54	17°II13'23	0°05'51	desc. node	14343 Dec 03 19:51	29°II18'17	
behind sun begin	14338 May 28 09:43	17°II12'50		opposition	14343 Dec 07 16:21	29°II11'59	-0°00'01
behind sun end	14338 May 28 22:05	17°II13'56		min. Earth dist.	14343 Dec 08 04:04	29°II11'11	29.27082 AU
max. Earth dist.	14338 May 28 02:13	17°II12'07	31.29919 AU	direct	14344 Feb 26 02:52	27°II47'51	
morning rise	14338 Jun 13 06:59	17°II48'06		evening set	14344 May 25 14:13	29°II42'41	
retrograde	14338 Sep 08 18:07	19°II40'54			14344 Jun 02 09:53	0°☾	
opposition	14338 Nov 26 07:26	18°II18'26	0°06'33				
min. Earth dist.	14338 Nov 26 20:46	18°II17'32	29.29652 AU	conjunction	14344 Jun 10 05:39	0°☾17'33	-0°00'37
direct	14339 Feb 14 21:06	16°II54'07		minimum elong	14344 Jun 10 05:39	0°☾17'33	0°01'41
evening set	14339 May 15 09:22	18°II48'48		behind sun begin	14344 Jun 09 23:11	0°☾16'58	
max. Earth dist.	14339 May 30 11:49	19°II22'21	31.29389 AU	behind sun end	14344 Jun 10 12:06	0°☾18'07	
				max. Earth dist.	14344 Jun 09 16:24	0°☾16'19	31.26718 AU
conjunction	14339 May 31 02:06	19°II23'40	0°05'39	morning rise	14344 Jun 25 19:34	0°☾52'17	
minimum elong	14339 May 31 02:05	19°II23'40	0°04'38	retrograde	14344 Sep 21 10:34	2°☾45'36	
behind sun begin	14339 May 30 19:46	19°II23'06		opposition	14344 Dec 01 04:07	1°☾23'12	-0°01'20
behind sun end	14339 May 31 08:25	19°II24'14		min. Earth dist.	14344 Dec 09 16:22	1°☾22'22	29.26345 AU
morning rise	14339 Jun 15 17:08	19°II58'24			14345 Feb 20 02:59	30°R II	
retrograde	14339 Sep 11 05:13	21°II51'15		direct	14345 Feb 27 13:03	29°II59'05	
opposition	14339 Nov 28 18:36	20°II28'48	0°05'15		14345 Mar 07 02:09	0°☾	
min. Earth dist.	14339 Nov 29 06:51	20°II27'57	29.29156 AU	evening set	14345 May 28 00:40	1°☾53'57	
direct	14340 Feb 17 08:13	19°II04'30					
evening set	14340 May 16 19:49	20°II59'12		conjunction	14345 Jun 12 16:00	2°☾28'48	-0°01'53
				minimum elong	14345 Jun 12 16:00	2°☾28'48	0°02'55
conjunction	14340 Jun 01 12:23	21°II34'04	0°04'26	behind sun begin	14345 Jun 12 09:34	2°☾28'14	
minimum elong	14340 Jun 01 12:23	21°II34'04	0°03'24	behind sun end	14345 Jun 12 22:26	2°☾29'23	
behind sun begin	14340 Jun 01 05:58	21°II33'30		max. Earth dist.	14345 Jun 12 03:47	2°☾27'40	31.25913 AU
behind sun end	14340 Jun 01 18:48	21°II34'39		morning rise	14345 Jun 28 05:36	3°☾03'32	
max. Earth dist.	14340 May 31 23:17	21°II32'52	31.28910 AU	retrograde	14345 Sep 23 22:01	4°☾56'57	
morning rise	14340 Jun 17 03:02	22°II08'48		opposition	14345 Dec 11 15:52	3°☾34'31	-0°02'39
retrograde	14340 Sep 12 14:54	24°II01'44		min. Earth dist.	14345 Dec 12 03:48	3°☾33'42	29.25465 AU
opposition	14340 Nov 30 06:00	22°II39'18	0°03'56	direct	14346 Mar 02 02:35	2°☾10'24	
min. Earth dist.	14340 Nov 30 18:56	22°II38'25	29.28692 AU	evening set	14346 May 30 11:23	4°☾05'16	
direct	14341 Feb 18 18:45	21°II15'04					
evening set	14341 May 19 06:23	23°II09'48		conjunction	14346 Jun 15 02:21	4°☾40'07	-0°03'07

minimum elong	14346 Jun 15 02:20	4°☾40'07 0°04'10	min. Earth dist.	14351 Dec 26 00:26	16°☾41'23 29.19472 AU
behind sun begin	14346 Jun 14 19:58	4°☾39'33	direct	14352 Mar 15 00:24	15°☾17'51
behind sun end	14346 Jun 15 08:41	4°☾40'41	evening set	14352 Jun 12 01:50	17°☾12'40
max. Earth dist.	14346 Jun 14 13:05	4°☾38'54 31.24976 AU			
morning rise	14346 Jun 30 15:56	5°☾14'52	conjunction	14352 Jun 27 15:39	17°☾47'31 -0°10'19
retrograde	14346 Sep 26 10:31	7°☾08'20	minimum elong	14352 Jun 27 15:39	17°☾47'31 0°11'21
opposition	14346 Dec 14 03:28	5°☾45'51 -0°03'58	behind sun begin	14352 Jun 27 10:55	17°☾47'05
min. Earth dist.	14346 Dec 14 15:10	5°☾45'03 29.24477 AU	behind sun end	14352 Jun 27 20:23	17°☾47'57
direct	14347 Mar 04 13:53	4°☾21'43	max. Earth dist.	14352 Jun 27 06:15	17°☾46'39 31.19084 AU
evening set	14347 Jun 01 21:52	6°☾16'35	morning rise	14352 Jul 13 04:14	18°☾22'16
			retrograde	14352 Oct 09 00:29	20°☾16'11
conjunction	14347 Jun 17 12:47	6°☾51'26 -0°04'20	opposition	14352 Dec 27 02:39	18°☾53'26 -0°11'40
minimum elong	14347 Jun 17 12:46	6°☾51'26 0°05'23	min. Earth dist.	14352 Dec 27 11:01	18°☾52'52 29.18717 AU
behind sun begin	14347 Jun 17 06:32	6°☾50'53	direct	14353 Mar 17 11:21	17°☾29'17
behind sun end	14347 Jun 17 19:00	6°☾52'00	evening set	14353 Jun 14 12:12	19°☾24'07
max. Earth dist.	14347 Jun 17 00:41	6°☾50'19 31.23934 AU			
morning rise	14347 Jul 03 02:03	7°☾26'10	conjunction	14353 Jun 30 01:43	19°☾58'57 -0°11'29
retrograde	14347 Sep 28 20:00	9°☾19'42	minimum elong	14353 Jun 30 01:42	19°☾58'57 0°12'29
opposition	14347 Dec 16 15:17	7°☾57'10 -0°05'16	behind sun begin	14353 Jun 29 21:29	19°☾58'34
min. Earth dist.	14347 Dec 17 03:16	7°☾56'21 29.23391 AU	behind sun end	14353 Jun 30 05:56	19°☾59'20
direct	14348 Mar 06 02:26	6°☾33'00	max. Earth dist.	14353 Jun 29 16:13	19°☾58'05 31.18358 AU
evening set	14348 Jun 03 08:22	8°☾27'51	morning rise	14353 Jul 15 14:16	20°☾33'43
			retrograde	14353 Oct 11 12:29	22°☾27'46
conjunction	14348 Jun 18 22:53	9°☾02'41 -0°05'33	opposition	14353 Dec 29 14:47	21°☾05'00 -0°12'54
minimum elong	14348 Jun 18 22:53	9°☾02'41 0°06'36	min. Earth dist.	14353 Dec 29 23:15	21°☾04'25 29.18014 AU
behind sun begin	14348 Jun 18 16:50	9°☾02'09	direct	14354 Mar 19 21:30	19°☾40'53
behind sun end	14348 Jun 19 04:56	9°☾03'14	evening set	14354 Jun 16 22:36	21°☾35'44
max. Earth dist.	14348 Jun 18 10:17	9°☾01'31 31.22837 AU			
morning rise	14348 Jul 04 12:09	9°☾37'26	conjunction	14354 Jul 02 12:06	22°☾10'35 -0°12'38
retrograde	14348 Sep 30 07:40	11°☾31'00	minimum elong	14354 Jul 02 12:06	22°☾10'35 0°13'38
opposition	14348 Dec 18 03:03	10°☾08'24 -0°06'34	behind sun begin	14354 Jul 02 08:32	22°☾10'15
min. Earth dist.	14348 Dec 18 13:52	10°☾07'40 29.22295 AU	behind sun end	14354 Jul 02 15:39	22°☾10'54
direct	14349 Mar 08 15:04	8°☾44'12	max. Earth dist.	14354 Jul 02 04:03	22°☾09'50 31.17655 AU
evening set	14349 Jun 05 18:44	10°☾39'02	morning rise	14354 Jul 18 00:25	22°☾45'21
			retrograde	14354 Oct 13 23:51	24°☾39'30
conjunction	14349 Jun 21 09:09	11°☾13'53 -0°06'45	opposition	14355 Jan 01 02:48	23°☾16'44 -0°14'08
minimum elong	14349 Jun 21 09:08	11°☾13'53 0°07'48	min. Earth dist.	14355 Jan 01 10:45	23°☾16'11 29.17294 AU
behind sun begin	14349 Jun 21 03:19	11°☾13'22	direct	14355 Mar 22 09:47	21°☾52'39
behind sun end	14349 Jun 21 14:57	11°☾14'24	evening set	14355 Jun 19 09:17	23°☾47'32
max. Earth dist.	14349 Jun 20 21:49	11°☾12'50 31.21751 AU			
morning rise	14349 Jul 06 22:07	11°☾48'37	conjunction	14355 Jul 04 22:25	24°☾22'23 -0°13'46
retrograde	14349 Oct 02 17:55	13°☾42'16	minimum elong	14355 Jul 04 22:26	24°☾22'23 0°14'46
opposition	14349 Dec 20 14:58	12°☾19'36 -0°07'52	behind sun begin	14355 Jul 04 19:44	24°☾22'08
min. Earth dist.	14349 Dec 21 02:09	12°☾18'50 29.21251 AU	behind sun end	14355 Jul 05 01:08	24°☾22'37
direct	14350 Mar 11 02:43	10°☾55'23	max. Earth dist.	14355 Jul 04 13:37	24°☾21'34 31.16917 AU
evening set	14350 Jun 08 05:02	12°☾50'12	morning rise	14355 Jul 20 10:48	24°☾57'09
			retrograde	14355 Oct 16 12:58	26°☾51'26
conjunction	14350 Jun 23 19:12	13°☾25'02 -0°07'57	opposition	14356 Jan 03 15:04	25°☾28'39 -0°15'20
minimum elong	14350 Jun 23 19:12	13°☾25'02 0°09'00	min. Earth dist.	14356 Jan 03 22:32	25°☾28'08 29.16531 AU
behind sun begin	14350 Jun 23 13:41	13°☾24'32	direct	14356 Mar 23 20:18	24°☾04'35
behind sun end	14350 Jun 24 00:43	13°☾25'32	evening set	14356 Jun 20 19:47	25°☾59'30
max. Earth dist.	14350 Jun 23 08:13	13°☾24'01 31.20761 AU			
morning rise	14350 Jul 09 08:08	13°☾59'47	conjunction	14356 Jul 06 08:54	26°☾34'21 -0°14'52
retrograde	14350 Oct 05 03:53	15°☾53'30	minimum elong	14356 Jul 06 08:53	26°☾34'21 0°15'52
opposition	14350 Dec 23 02:45	14°☾30'47 -0°09'09	behind sun begin	14356 Jul 06 07:40	26°☾34'14
min. Earth dist.	14350 Dec 23 12:12	14°☾30'08 29.20308 AU	behind sun end	14356 Jul 06 10:07	26°☾34'28
direct	14351 Mar 13 14:33	13°☾06'34	max. Earth dist.	14356 Jul 06 01:23	26°☾33'39 31.16103 AU
evening set	14351 Jun 10 15:28	15°☾01'23	morning rise	14356 Jul 21 20:58	27°☾09'08
			retrograde	14356 Oct 17 23:55	29°☾03'31
conjunction	14351 Jun 26 05:25	15°☾36'13 -0°09'08	opposition	14357 Jan 05 03:33	27°☾40'43 -0°16'31
minimum elong	14351 Jun 26 05:25	15°☾36'13 0°10'10	min. Earth dist.	14357 Jan 05 11:14	27°☾40'12 29.15665 AU
behind sun begin	14351 Jun 26 00:14	15°☾35'45	direct	14357 Mar 26 08:53	26°☾16'42
behind sun end	14351 Jun 26 10:35	15°☾36'41	evening set	14357 Jun 23 06:32	28°☾11'37
max. Earth dist.	14351 Jun 25 18:57	15°☾35'15 31.19866 AU			
morning rise	14351 Jul 11 18:10	16°☾10'58	conjunction	14357 Jul 08 19:21	28°☾46'28 -0°15'58
retrograde	14351 Oct 07 13:42	18°☾04'47	minimum elong	14357 Jul 08 19:21	28°☾46'28 0°16'56
opposition	14351 Dec 25 14:40	16°☾42'03 -0°10'25	max. Earth dist.	14357 Jul 08 11:11	28°☾45'42 31.15189 AU

morning rise	14357 Jul 24 07:30	29° $\mathring{\text{O}}$ 21'15	direct	14364 Apr 10 19:28	11° $\mathring{\text{O}}$ 42'36	
	14357 Aug 11 17:40	0° $\mathring{\text{O}}$	evening set	14364 Jul 08 08:38	13° $\mathring{\text{O}}$ 37'28	
retrograde	14357 Oct 20 13:14	1° $\mathring{\text{O}}$ 15'45				
	14358 Jan 03 07:55	30° $\mathring{\text{R}}$ $\mathring{\text{E}}$	conjunction	14364 Jul 23 20:38	14° $\mathring{\text{O}}$ 12'21	-0°22'52
opposition	14358 Jan 07 15:54	29° $\mathring{\text{E}}$ 52'55 -0°17'40	minimum elong	14364 Jul 23 20:38	14° $\mathring{\text{O}}$ 12'21	0°23'42
min. Earth dist.	14358 Jan 07 22:38	29° $\mathring{\text{E}}$ 52'27 29.14692 AU	max. Earth dist.	14364 Jul 23 15:57	14° $\mathring{\text{O}}$ 11'55	31.07006 AU
direct	14358 Mar 28 21:29	28° $\mathring{\text{E}}$ 28'53	morning rise	14364 Aug 08 08:32	14° $\mathring{\text{O}}$ 47'13	
	14358 Jun 14 14:54	0° $\mathring{\text{O}}$		14364 Aug 14 04:48	15° $\mathring{\text{O}}$	
evening set	14358 Jun 25 17:09	0° $\mathring{\text{O}}$ 23'49	retrograde	14364 Nov 04 21:09	16° $\mathring{\text{O}}$ 42'27	
			opposition	14365 Jan 23 07:40	15° $\mathring{\text{O}}$ 19'12	-0°24'57
conjunction	14358 Jul 11 05:57	0° $\mathring{\text{O}}$ 58'41 -0°17'02	min. Earth dist.	14365 Jan 23 10:51	15° $\mathring{\text{O}}$ 18'59	29.06535 AU
minimum elong	14358 Jul 11 05:57	0° $\mathring{\text{O}}$ 58'41 0°18'00		14365 Feb 04 02:44	15° $\mathring{\text{R}}$ $\mathring{\text{O}}$	
max. Earth dist.	14358 Jul 10 22:34	0° $\mathring{\text{O}}$ 58'00 31.14141 AU	direct	14365 Apr 13 05:19	13° $\mathring{\text{O}}$ 55'09	
morning rise	14358 Jul 26 17:56	1° $\mathring{\text{O}}$ 33'29		14365 Jun 16 12:44	15° $\mathring{\text{O}}$	
retrograde	14358 Oct 23 00:24	3° $\mathring{\text{O}}$ 28'05	evening set	14365 Jul 10 19:09	15° $\mathring{\text{O}}$ 50'03	
opposition	14359 Jan 10 04:28	2° $\mathring{\text{O}}$ 05'11 -0°18'48				
min. Earth dist.	14359 Jan 10 12:00	2° $\mathring{\text{O}}$ 04'40 29.13577 AU	conjunction	14365 Jul 26 07:14	16° $\mathring{\text{O}}$ 24'57	-0°23'44
direct	14359 Mar 31 09:44	0° $\mathring{\text{O}}$ 41'10	minimum elong	14365 Jul 26 07:14	16° $\mathring{\text{O}}$ 24'57	0°24'32
evening set	14359 Jun 28 03:53	2° $\mathring{\text{O}}$ 36'05	max. Earth dist.	14365 Jul 26 04:14	16° $\mathring{\text{O}}$ 24'40	31.06065 AU
			morning rise	14365 Aug 10 19:00	16° $\mathring{\text{O}}$ 59'50	
conjunction	14359 Jul 13 16:30	3° $\mathring{\text{O}}$ 10'56 -0°18'05	retrograde	14365 Nov 07 08:50	18° $\mathring{\text{O}}$ 55'12	
minimum elong	14359 Jul 13 16:30	3° $\mathring{\text{O}}$ 10'56 0°19'01	opposition	14366 Jan 25 20:20	17° $\mathring{\text{O}}$ 31'55	-0°25'51
max. Earth dist.	14359 Jul 13 09:05	3° $\mathring{\text{O}}$ 10'15 31.12971 AU	min. Earth dist.	14366 Jan 25 23:23	17° $\mathring{\text{O}}$ 31'43	29.05625 AU
morning rise	14359 Jul 29 04:29	3° $\mathring{\text{O}}$ 45'45	direct	14366 Apr 15 17:37	16° $\mathring{\text{O}}$ 07'56	
retrograde	14359 Oct 25 11:26	5° $\mathring{\text{O}}$ 40'26	evening set	14366 Jul 13 05:49	18° $\mathring{\text{O}}$ 02'51	
opposition	14360 Jan 12 16:50	4° $\mathring{\text{O}}$ 17'29 -0°19'54				
min. Earth dist.	14360 Jan 12 23:03	4° $\mathring{\text{O}}$ 17'03 29.12347 AU	conjunction	14366 Jul 28 17:45	18° $\mathring{\text{O}}$ 37'45	-0°24'34
direct	14360 Apr 01 22:23	2° $\mathring{\text{O}}$ 53'26	minimum elong	14366 Jul 28 17:45	18° $\mathring{\text{O}}$ 37'45	0°25'21
evening set	14360 Jun 29 14:32	4° $\mathring{\text{O}}$ 48'20	max. Earth dist.	14366 Jul 28 14:32	18° $\mathring{\text{O}}$ 37'27	31.05188 AU
			morning rise	14366 Aug 13 05:41	19° $\mathring{\text{O}}$ 12'40	
conjunction	14360 Jul 15 03:01	5° $\mathring{\text{O}}$ 23'12 -0°19'06	retrograde	14366 Nov 09 23:23	21° $\mathring{\text{O}}$ 08'09	
minimum elong	14360 Jul 15 03:01	5° $\mathring{\text{O}}$ 23'12 0°20'01	opposition	14367 Jan 28 09:01	19° $\mathring{\text{O}}$ 44'52	-0°26'43
max. Earth dist.	14360 Jul 14 19:49	5° $\mathring{\text{O}}$ 22'32 31.11702 AU	min. Earth dist.	14367 Jan 28 10:47	19° $\mathring{\text{O}}$ 44'45	29.04759 AU
morning rise	14360 Jul 30 14:57	5° $\mathring{\text{O}}$ 58'02	direct	14367 Apr 18 06:18	18° $\mathring{\text{O}}$ 20'55	
retrograde	14360 Oct 26 21:59	7° $\mathring{\text{O}}$ 52'47	evening set	14367 Jul 15 16:30	20° $\mathring{\text{O}}$ 15'52	
opposition	14361 Jan 14 05:29	6° $\mathring{\text{O}}$ 29'45 -0°20'59				
min. Earth dist.	14361 Jan 14 12:11	6° $\mathring{\text{O}}$ 29'18 29.11065 AU	conjunction	14367 Jul 31 04:26	20° $\mathring{\text{O}}$ 50'47	-0°25'21
direct	14361 Apr 04 09:14	5° $\mathring{\text{O}}$ 05'42	minimum elong	14367 Jul 31 04:26	20° $\mathring{\text{O}}$ 50'47	0°26'06
evening set	14361 Jul 02 00:57	7° $\mathring{\text{O}}$ 00'34	max. Earth dist.	14367 Jul 31 02:20	20° $\mathring{\text{O}}$ 50'35	31.04313 AU
			morning rise	14367 Aug 15 16:15	21° $\mathring{\text{O}}$ 25'42	
conjunction	14361 Jul 17 13:24	7° $\mathring{\text{O}}$ 35'26 -0°20'05	retrograde	14367 Nov 12 11:21	23° $\mathring{\text{O}}$ 21'20	
minimum elong	14361 Jul 17 13:24	7° $\mathring{\text{O}}$ 35'26 0°20'59	opposition	14368 Jan 30 21:56	21° $\mathring{\text{O}}$ 58'02	-0°27'33
max. Earth dist.	14361 Jul 17 07:19	7° $\mathring{\text{O}}$ 34'52 31.10422 AU	min. Earth dist.	14368 Jan 31 00:14	21° $\mathring{\text{O}}$ 57'52	29.03879 AU
morning rise	14361 Aug 02 01:15	8° $\mathring{\text{O}}$ 10'16	direct	14368 Apr 19 18:14	20° $\mathring{\text{O}}$ 34'07	
retrograde	14361 Oct 29 08:49	10° $\mathring{\text{O}}$ 05'07	evening set	14368 Jul 17 03:20	22° $\mathring{\text{O}}$ 29'05	
opposition	14362 Jan 16 17:57	8° $\mathring{\text{O}}$ 42'01 -0°22'01				
min. Earth dist.	14362 Jan 16 23:14	8° $\mathring{\text{O}}$ 41'39 29.09793 AU	conjunction	14368 Aug 01 15:11	23° $\mathring{\text{O}}$ 04'01	-0°26'07
direct	14362 Apr 06 21:04	7° $\mathring{\text{O}}$ 17'56	minimum elong	14368 Aug 01 15:11	23° $\mathring{\text{O}}$ 04'01	0°26'50
evening set	14362 Jul 04 11:34	9° $\mathring{\text{O}}$ 12'47	max. Earth dist.	14368 Aug 01 13:22	23° $\mathring{\text{O}}$ 03'50	31.03424 AU
			morning rise	14368 Aug 17 03:05	23° $\mathring{\text{O}}$ 38'57	
conjunction	14362 Jul 19 23:47	9° $\mathring{\text{O}}$ 47'39 -0°21'03	retrograde	14368 Nov 13 23:42	25° $\mathring{\text{O}}$ 34'43	
minimum elong	14362 Jul 19 23:47	9° $\mathring{\text{O}}$ 47'39 0°21'55	opposition	14369 Feb 01 10:49	24° $\mathring{\text{O}}$ 11'23	-0°28'20
max. Earth dist.	14362 Jul 19 17:37	9° $\mathring{\text{O}}$ 47'05 31.09179 AU	min. Earth dist.	14369 Feb 01 11:39	24° $\mathring{\text{O}}$ 11'20	29.02959 AU
morning rise	14362 Aug 04 11:43	10° $\mathring{\text{O}}$ 22'30	direct	14369 Apr 22 07:05	22° $\mathring{\text{O}}$ 47'31	
retrograde	14362 Oct 31 20:35	12° $\mathring{\text{O}}$ 17'28	evening set	14369 Jul 19 14:09	24° $\mathring{\text{O}}$ 42'29	
opposition	14363 Jan 19 06:23	10° $\mathring{\text{O}}$ 54'18 -0°23'02				
min. Earth dist.	14363 Jan 19 11:34	10° $\mathring{\text{O}}$ 53'56 29.08606 AU	conjunction	14369 Aug 04 01:56	25° $\mathring{\text{O}}$ 17'25	-0°26'50
direct	14363 Apr 09 07:28	9° $\mathring{\text{O}}$ 30'12	minimum elong	14369 Aug 04 01:56	25° $\mathring{\text{O}}$ 17'25	0°27'31
evening set	14363 Jul 06 22:05	11° $\mathring{\text{O}}$ 25'04	max. Earth dist.	14369 Aug 04 00:15	25° $\mathring{\text{O}}$ 17'16	31.02457 AU
			morning rise	14369 Aug 19 13:54	25° $\mathring{\text{O}}$ 52'23	
conjunction	14363 Jul 22 10:21	11° $\mathring{\text{O}}$ 59'56 -0°21'58	retrograde	14369 Nov 16 11:49	27° $\mathring{\text{O}}$ 48'16	
minimum elong	14363 Jul 22 10:21	11° $\mathring{\text{O}}$ 59'56 0°22'49	opposition	14370 Feb 03 23:54	26° $\mathring{\text{O}}$ 24'53	-0°29'05
max. Earth dist.	14363 Jul 22 05:57	11° $\mathring{\text{O}}$ 59'32 31.08039 AU	min. Earth dist.	14370 Feb 04 01:24	26° $\mathring{\text{O}}$ 24'47	29.01951 AU
morning rise	14363 Aug 06 22:06	12° $\mathring{\text{O}}$ 34'48	direct	14370 Apr 24 18:50	25° $\mathring{\text{O}}$ 01'02	
retrograde	14363 Nov 03 07:56	14° $\mathring{\text{O}}$ 29'53	evening set	14370 Jul 22 01:06	26° $\mathring{\text{O}}$ 55'59	
opposition	14364 Jan 21 19:00	13° $\mathring{\text{O}}$ 06'40 -0°24'00				
min. Earth dist.	14364 Jan 21 23:10	13° $\mathring{\text{O}}$ 06'23 29.07513 AU	conjunction	14370 Aug 06 12:57	27° $\mathring{\text{O}}$ 30'57	-0°27'30

minimum elong	14370 Aug 06 12:57	27°03'57"	0°28'09"	morning rise	14376 Sep 03 19:00	11°00'26"28	
max. Earth dist.	14370 Aug 06 12:00	27°03'51"	31.01395 AU	retrograde	14376 Dec 02 00:07	13°00'22"58	
morning rise	14370 Aug 22 00:54	28°00'55"6		opposition	14377 Feb 19 18:57	11°00'59"01	-0°33'01"
	14370 Nov 08 06:12	0°00'00"		min. Earth dist.	14377 Feb 19 16:37	11°00'59"11	28.93571 AU
retrograde	14370 Nov 18 23:31	0°00'01"54		direct	14377 May 10 06:04	10°00'35"00	
	14370 Nov 29 17:47	30°00'00"		evening set	14377 Aug 06 05:20	12°00'29"46	
opposition	14371 Feb 06 12:45	28°00'38"29	-0°29'46"				
min. Earth dist.	14371 Feb 06 13:11	28°00'38"27	29.00820 AU	conjunction	14377 Aug 21 17:20	13°00'04"46	-0°31'03"
direct	14371 Apr 27 07:49	27°00'14"37		minimum elong	14377 Aug 21 17:21	13°00'04"46	0°31'28"
evening set	14371 Jul 24 12:12	29°00'09"33		max. Earth dist.	14377 Aug 21 20:25	13°00'05"04	30.93115 AU
				morning rise	14377 Sep 06 06:05	13°00'39"53	
conjunction	14371 Aug 08 23:55	29°00'44"31	-0°28'08"	retrograde	14377 Dec 04 13:34	15°00'36"29	
minimum elong	14371 Aug 08 23:55	29°00'44"31	0°28'46"	opposition	14378 Feb 22 07:52	14°00'12"30	-0°33'24"
max. Earth dist.	14371 Aug 08 22:24	29°00'44"22	31.00205 AU	min. Earth dist.	14378 Feb 22 03:45	14°00'12"47	28.92701 AU
	14371 Aug 15 19:26	0°00'00"		direct	14378 May 12 19:05	12°00'48"31	
morning rise	14371 Aug 24 12:03	0°00'19"31		evening set	14378 Aug 08 16:22	14°00'43"17	
retrograde	14371 Nov 21 11:06	2°00'15"35					
opposition	14372 Feb 09 01:55	0°00'52"05	-0°30'26"	conjunction	14378 Aug 24 04:23	15°00'18"19	-0°31'23"
min. Earth dist.	14372 Feb 09 02:39	0°00'52"02	28.99583 AU	minimum elong	14378 Aug 24 04:23	15°00'18"19	0°31'45"
	14372 Mar 14 04:57	30°00'00"		max. Earth dist.	14378 Aug 24 07:53	15°00'18"39	30.92292 AU
direct	14372 Apr 28 18:47	29°00'28"11		morning rise	14378 Sep 08 17:17	15°00'53"27	
	14372 Jun 11 18:08	0°00'00"		retrograde	14378 Dec 07 02:36	17°00'50"11	
evening set	14372 Jul 25 22:58	1°00'23"04		opposition	14379 Feb 24 20:54	16°00'26"10	-0°33'43"
				min. Earth dist.	14379 Feb 24 17:07	16°00'26"26	28.91930 AU
conjunction	14372 Aug 10 10:51	1°00'58"02	-0°28'44"	direct	14379 May 15 06:50	15°00'02"14	
minimum elong	14372 Aug 10 10:52	1°00'58"03	0°29'20"	evening set	14379 Aug 11 03:20	16°00'57"01	
max. Earth dist.	14372 Aug 10 10:48	1°00'58"02	30.98923 AU				
morning rise	14372 Aug 25 22:55	2°00'33"03		conjunction	14379 Aug 26 15:32	17°00'32"04	-0°31'40"
retrograde	14372 Nov 22 21:38	4°00'29"13		minimum elong	14379 Aug 26 15:32	17°00'32"04	0°32'00"
opposition	14373 Feb 10 15:00	3°00'05"36	-0°31'02"	max. Earth dist.	14379 Aug 26 20:16	17°00'32"31	30.91563 AU
min. Earth dist.	14373 Feb 10 15:03	3°00'05"36	28.98262 AU	morning rise	14379 Sep 11 04:30	18°00'07"13	
direct	14373 May 01 07:16	1°00'41"40		retrograde	14379 Dec 09 15:08	20°00'04"05	
evening set	14373 Jul 28 09:58	3°00'36"30		opposition	14380 Feb 27 09:59	18°00'40"04	-0°34'00"
				min. Earth dist.	14380 Feb 27 04:43	18°00'40"26	28.91221 AU
conjunction	14373 Aug 12 21:43	4°00'11"29	-0°29'17"	direct	14380 May 16 19:52	17°00'16"11	
minimum elong	14373 Aug 12 21:43	4°00'11"29	0°29'51"	evening set	14380 Aug 12 14:25	19°00'10"59	
max. Earth dist.	14373 Aug 12 21:07	4°00'11"25	30.97598 AU				
morning rise	14373 Aug 28 10:04	4°00'46"31		conjunction	14380 Aug 28 02:34	19°00'46"03	-0°31'54"
retrograde	14373 Nov 25 10:49	6°00'42"44		minimum elong	14380 Aug 28 02:34	19°00'46"03	0°32'12"
opposition	14374 Feb 13 03:53	5°00'19"01	-0°31'36"	max. Earth dist.	14380 Aug 28 07:05	19°00'46"28	30.90872 AU
min. Earth dist.	14374 Feb 13 03:17	5°00'19"03	28.96953 AU	morning rise	14380 Sep 12 15:50	20°00'21"14	
direct	14374 May 03 17:37	3°00'55"02		retrograde	14380 Dec 11 03:31	22°00'18"14	
evening set	14374 Jul 30 20:46	5°00'49"50		opposition	14381 Feb 28 23:16	20°00'54"12	-0°34'13"
				min. Earth dist.	14381 Feb 28 18:12	20°00'54"33	28.90544 AU
conjunction	14374 Aug 15 08:42	6°00'24"49	-0°29'48"	direct	14381 May 19 06:29	19°00'30"22	
minimum elong	14374 Aug 15 08:42	6°00'24"49	0°30'19"	evening set	14381 Aug 15 01:36	21°00'25"10	
max. Earth dist.	14374 Aug 15 09:44	6°00'24"55	30.96304 AU				
morning rise	14374 Aug 30 21:00	6°00'59"52		conjunction	14381 Aug 30 14:01	22°00'00"16	-0°32'05"
retrograde	14374 Nov 27 22:05	8°00'56"10		minimum elong	14381 Aug 30 14:01	22°00'00"16	0°32'21"
opposition	14375 Feb 15 16:55	7°00'32"21	-0°32'07"	max. Earth dist.	14381 Aug 30 20:00	22°00'00"50	30.90183 AU
min. Earth dist.	14375 Feb 15 16:00	7°00'32"25	28.95698 AU	morning rise	14381 Sep 15 03:18	22°00'35"29	
direct	14375 May 06 06:28	6°00'08"20		retrograde	14381 Dec 13 14:51	24°00'32"36	
evening set	14375 Aug 02 07:40	8°00'03"06		opposition	14382 Mar 03 12:20	23°00'08"34	-0°34'24"
				min. Earth dist.	14382 Mar 03 06:42	23°00'08"57	28.89830 AU
conjunction	14375 Aug 17 19:29	8°00'38"05	-0°30'15"	direct	14382 May 21 18:34	21°00'44"46	
minimum elong	14375 Aug 17 19:29	8°00'38"05	0°30'44"	evening set	14382 Aug 17 13:04	23°00'39"35	
max. Earth dist.	14375 Aug 17 20:31	8°00'38"11	30.95109 AU				
morning rise	14375 Sep 02 07:59	9°00'13"09		conjunction	14382 Sep 02 01:25	24°00'14"42	-0°32'14"
retrograde	14375 Nov 30 12:13	11°00'09"33		minimum elong	14382 Sep 02 01:25	24°00'14"42	0°32'26"
opposition	14376 Feb 18 05:52	9°00'45"39	-0°32'36"	max. Earth dist.	14382 Sep 02 06:34	24°00'15"11	30.89441 AU
min. Earth dist.	14376 Feb 18 03:24	9°00'45"49	28.94568 AU	morning rise	14382 Sep 17 15:03	24°00'49"56	
direct	14376 May 07 18:31	8°00'21"37		retrograde	14382 Dec 16 04:57	26°00'47"10	
evening set	14376 Aug 03 18:32	10°00'16"23		opposition	14383 Mar 06 01:38	25°00'23"06	-0°34'31"
				min. Earth dist.	14383 Mar 05 19:41	25°00'23"31	28.89054 AU
conjunction	14376 Aug 19 06:28	10°00'51"23	-0°30'41"	direct	14383 May 24 04:48	23°00'59"20	
minimum elong	14376 Aug 19 06:28	10°00'51"23	0°31'08"	evening set	14383 Aug 20 00:21	25°00'54"09	
max. Earth dist.	14376 Aug 19 08:52	10°00'51"37	30.94038 AU				

conjunction	14383 Sep 04 12:58	26° <u>0</u> 29'16	-0°32'19	retrograde	14390 Jan 01 00:01	12° <u>0</u> 29'31	
minimum elong	14383 Sep 04 12:58	26° <u>0</u> 29'16	0°32'29	opposition	14390 Mar 21 21:53	11° <u>0</u> 04'59	-0°33'54
max. Earth dist.	14383 Sep 04 19:19	26° <u>0</u> 29'52	30.88608 AU	min. Earth dist.	14390 Mar 21 12:43	11° <u>0</u> 05'37	28.83272 AU
morning rise	14383 Sep 20 02:36	27° <u>0</u> 04'32		direct	14390 Jun 08 19:58	9° <u>0</u> 41'08	
retrograde	14383 Dec 18 16:26	29° <u>0</u> 01'52		evening set	14390 Sep 04 08:01	11° <u>0</u> 35'43	
opposition	14384 Mar 07 15:01	27° <u>0</u> 37'45	-0°34'35				
min. Earth dist.	14384 Mar 07 09:07	27° <u>0</u> 38'10	28.88169 AU	conjunction	14390 Sep 19 21:52	12° <u>0</u> 10'58	-0°31'35
direct	14384 May 25 17:39	26° <u>0</u> 13'59		minimum elong	14390 Sep 19 21:52	12° <u>0</u> 10'58	0°31'28
evening set	14384 Aug 21 11:50	28° <u>0</u> 08'47		max. Earth dist.	14390 Sep 20 08:16	12° <u>0</u> 11'57	30.83035 AU
				morning rise	14390 Oct 05 13:08	12° <u>0</u> 46'22	
conjunction	14384 Sep 06 00:30	28° <u>0</u> 43'55	-0°32'21	retrograde	14391 Jan 03 12:10	14° <u>0</u> 44'07	
minimum elong	14384 Sep 06 00:30	28° <u>0</u> 43'55	0°32'30	opposition	14391 Mar 24 10:59	13° <u>0</u> 19'34	-0°33'36
max. Earth dist.	14384 Sep 06 06:17	28° <u>0</u> 44'28	30.87693 AU	min. Earth dist.	14391 Mar 24 00:51	13° <u>0</u> 20'16	28.82856 AU
morning rise	14384 Sep 21 14:29	29° <u>0</u> 19'12		direct	14391 Jun 11 09:14	11° <u>0</u> 55'44	
	14384 Oct 10 20:55	0° <u>0</u>		evening set	14391 Sep 06 19:32	13° <u>0</u> 50'19	
retrograde	14384 Dec 20 06:47	1° <u>0</u> 16'36					
	14385 Mar 05 13:56	30° <u>0</u> 8'00		conjunction	14391 Sep 22 09:24	14° <u>0</u> 25'34	-0°31'17
opposition	14385 Mar 10 04:13	29° <u>0</u> 52'25	-0°34'35	minimum elong	14391 Sep 22 09:24	14° <u>0</u> 25'34	0°31'08
min. Earth dist.	14385 Mar 09 21:21	29° <u>0</u> 52'53	28.87222 AU	max. Earth dist.	14391 Sep 22 19:23	14° <u>0</u> 26'31	30.82682 AU
direct	14385 May 28 05:18	28° <u>0</u> 28'37		morning rise	14391 Oct 08 01:04	15° <u>0</u> 01'00	
	14385 Aug 13 04:19	0° <u>0</u>		retrograde	14392 Jan 06 01:52	16° <u>0</u> 58'50	
evening set	14385 Aug 23 23:08	0° <u>0</u> 23'23		opposition	14392 Mar 26 00:11	15° <u>0</u> 34'16	-0°33'15
				min. Earth dist.	14392 Mar 25 13:31	15° <u>0</u> 35'00	28.82558 AU
conjunction	14385 Sep 08 12:02	0° <u>0</u> 58'32	-0°32'21	direct	14392 Jun 12 20:01	14° <u>0</u> 10'28	
minimum elong	14385 Sep 08 12:03	0° <u>0</u> 58'32	0°32'27	evening set	14392 Sep 08 07:05	16° <u>0</u> 05'02	
max. Earth dist.	14385 Sep 08 18:46	0° <u>0</u> 59'10	30.86718 AU				
morning rise	14385 Sep 24 02:12	1° <u>0</u> 33'50		conjunction	14392 Sep 23 21:18	16° <u>0</u> 40'19	-0°30'56
retrograde	14385 Dec 22 18:40	3° <u>0</u> 31'18		minimum elong	14392 Sep 23 21:19	16° <u>0</u> 40'19	0°30'45
opposition	14386 Mar 12 17:29	2° <u>0</u> 07'02	-0°34'33	max. Earth dist.	14392 Sep 24 08:47	16° <u>0</u> 41'24	30.82417 AU
min. Earth dist.	14386 Mar 12 11:10	2° <u>0</u> 07'28	28.86243 AU	morning rise	14392 Oct 09 13:06	17° <u>0</u> 15'47	
direct	14386 May 30 16:39	0° <u>0</u> 43'12		retrograde	14393 Jan 07 12:56	19° <u>0</u> 13'40	
evening set	14386 Aug 26 10:30	2° <u>0</u> 37'55		opposition	14393 Mar 28 13:19	17° <u>0</u> 49'07	-0°32'51
				min. Earth dist.	14393 Mar 28 02:34	17° <u>0</u> 49'52	28.82318 AU
conjunction	14386 Sep 10 23:32	3° <u>0</u> 13'05	-0°32'17	direct	14393 Jun 15 08:13	16° <u>0</u> 25'22	
minimum elong	14386 Sep 10 23:33	3° <u>0</u> 13'05	0°32'20	evening set	14393 Sep 10 18:51	18° <u>0</u> 19'56	
max. Earth dist.	14386 Sep 11 06:40	3° <u>0</u> 13'45	30.85761 AU				
morning rise	14386 Sep 26 13:55	3° <u>0</u> 48'24		conjunction	14393 Sep 26 09:13	18° <u>0</u> 55'13	-0°30'32
retrograde	14386 Dec 25 08:50	5° <u>0</u> 45'55		minimum elong	14393 Sep 26 09:13	18° <u>0</u> 55'13	0°30'19
opposition	14387 Mar 15 06:30	4° <u>0</u> 21'33	-0°34'28	max. Earth dist.	14393 Sep 26 20:10	18° <u>0</u> 56'15	30.82199 AU
min. Earth dist.	14387 Mar 14 22:37	4° <u>0</u> 22'06	28.85314 AU	morning rise	14393 Oct 12 01:25	19° <u>0</u> 30'42	
direct	14387 Jun 02 06:38	2° <u>0</u> 57'42		retrograde	14394 Jan 10 03:12	21° <u>0</u> 28'41	
evening set	14387 Aug 28 21:54	4° <u>0</u> 52'22		opposition	14394 Mar 31 02:25	20° <u>0</u> 04'07	-0°32'24
				min. Earth dist.	14394 Mar 30 14:50	20° <u>0</u> 04'56	28.82098 AU
conjunction	14387 Sep 13 11:02	5° <u>0</u> 27'34	-0°32'11	direct	14394 Jun 17 19:02	18° <u>0</u> 40'24	
minimum elong	14387 Sep 13 11:02	5° <u>0</u> 27'34	0°32'12	evening set	14394 Sep 13 06:41	20° <u>0</u> 34'58	
max. Earth dist.	14387 Sep 13 18:36	5° <u>0</u> 28'16	30.84872 AU				
morning rise	14387 Sep 29 01:40	6° <u>0</u> 02'54		conjunction	14394 Sep 28 21:17	21° <u>0</u> 10'17	-0°30'06
retrograde	14387 Dec 27 22:39	8° <u>0</u> 00'28		minimum elong	14394 Sep 28 21:17	21° <u>0</u> 10'17	0°29'49
opposition	14388 Mar 16 19:47	6° <u>0</u> 36'02	-0°34'20	max. Earth dist.	14394 Sep 29 09:01	21° <u>0</u> 11'24	30.81949 AU
min. Earth dist.	14388 Mar 16 12:10	6° <u>0</u> 36'33	28.84494 AU	morning rise	14394 Oct 14 13:38	21° <u>0</u> 45'48	
direct	14388 Jun 03 19:09	5° <u>0</u> 12'10		retrograde	14395 Jan 12 15:27	23° <u>0</u> 43'51	
evening set	14388 Aug 30 09:07	7° <u>0</u> 06'48		opposition	14395 Apr 02 15:39	22° <u>0</u> 19'17	-0°31'53
				min. Earth dist.	14395 Apr 02 04:52	22° <u>0</u> 20'02	28.81823 AU
conjunction	14388 Sep 14 22:32	7° <u>0</u> 42'00	-0°32'02	direct	14395 Jun 20 06:09	20° <u>0</u> 55'35	
minimum elong	14388 Sep 14 22:33	7° <u>0</u> 42'00	0°32'00	evening set	14395 Sep 15 18:40	22° <u>0</u> 50'10	
max. Earth dist.	14388 Sep 15 07:24	7° <u>0</u> 42'50	30.84122 AU				
morning rise	14388 Sep 30 13:20	8° <u>0</u> 17'22		conjunction	14395 Oct 01 09:31	23° <u>0</u> 25'29	-0°29'36
retrograde	14388 Dec 29 11:14	10° <u>0</u> 14'59		minimum elong	14395 Oct 01 09:31	23° <u>0</u> 25'29	0°29'17
opposition	14389 Mar 19 08:51	8° <u>0</u> 50'30	-0°34'08	max. Earth dist.	14395 Oct 01 21:08	23° <u>0</u> 26'35	30.81645 AU
min. Earth dist.	14389 Mar 18 23:36	8° <u>0</u> 51'08	28.83808 AU	morning rise	14395 Oct 17 02:10	24° <u>0</u> 01'01	
direct	14389 Jun 06 08:47	7° <u>0</u> 26'37		retrograde	14396 Jan 15 06:10	25° <u>0</u> 59'07	
evening set	14389 Sep 01 20:37	9° <u>0</u> 21'14		opposition	14396 Apr 04 04:52	24° <u>0</u> 34'32	-0°31'20
				min. Earth dist.	14396 Apr 03 17:01	24° <u>0</u> 35'22	28.81468 AU
conjunction	14389 Sep 17 10:06	9° <u>0</u> 56'27	-0°31'50	direct	14396 Jun 21 19:35	23° <u>0</u> 10'50	
minimum elong	14389 Sep 17 10:06	9° <u>0</u> 56'27	0°31'46	evening set	14396 Sep 17 06:39	25° <u>0</u> 05'24	
max. Earth dist.	14389 Sep 17 18:49	9° <u>0</u> 57'16	30.83506 AU				
morning rise	14389 Oct 03 01:16	10° <u>0</u> 31'50		conjunction	14396 Oct 02 21:42	25° <u>0</u> 40'45	-0°29'04

minimum elong	14396 Oct 02 21:42	25° <u>♄</u> 40'45	0°28'42	morning rise	14402 Nov 01 17:56	9° <u>♄</u> 47'08	
max. Earth dist.	14396 Oct 03 09:09	25° <u>♄</u> 41'50	30.81233 AU	retrograde	14403 Jan 31 01:56	11° <u>♄</u> 45'21	
morning rise	14396 Oct 18 14:42	26° <u>♄</u> 16'18		opposition	14403 Apr 20 23:50	10° <u>♄</u> 20'30	-0°26'12
retrograde	14397 Jan 16 19:52	28° <u>♄</u> 14'27		min. Earth dist.	14403 Apr 20 10:01	10° <u>♄</u> 21'28	28.78861 AU
opposition	14397 Apr 06 18:12	26° <u>♄</u> 49'49	-0°30'44	direct	14403 Jul 08 10:14	8° <u>♄</u> 56'43	
min. Earth dist.	14397 Apr 06 07:18	26° <u>♄</u> 50'34	28.81012 AU	evening set	14403 Oct 03 18:27	10° <u>♄</u> 51'05	
direct	14397 Jun 24 07:47	25° <u>♄</u> 26'06					
evening set	14397 Sep 19 18:38	27° <u>♄</u> 20'38		conjunction	14403 Oct 19 11:29	11° <u>♄</u> 26'34	-0°24'09
				minimum elong	14403 Oct 19 11:29	11° <u>♄</u> 26'34	0°23'33
conjunction	14397 Oct 05 10:05	27° <u>♄</u> 56'00	-0°28'29	max. Earth dist.	14403 Oct 20 01:49	11° <u>♄</u> 27'55	30.78849 AU
minimum elong	14397 Oct 05 10:05	27° <u>♄</u> 56'00	0°28'06	morning rise	14403 Nov 04 06:31	12° <u>♄</u> 02'16	
max. Earth dist.	14397 Oct 05 22:04	27° <u>♄</u> 57'08	30.80745 AU	retrograde	14404 Feb 02 13:34	14° <u>♄</u> 00'31	
morning rise	14397 Oct 21 03:18	28° <u>♄</u> 31'35		opposition	14404 Apr 22 12:46	12° <u>♄</u> 35'41	-0°25'18
	14397 Dec 07 14:09	0° <u>♄</u>		min. Earth dist.	14404 Apr 21 23:24	12° <u>♄</u> 36'37	28.78906 AU
retrograde	14398 Jan 19 09:12	0° <u>♄</u> 29'44		direct	14404 Jul 09 21:06	11° <u>♄</u> 11'55	
	14398 Mar 04 08:17	30° <u>♄</u>		evening set	14404 Oct 05 06:29	13° <u>♄</u> 06'17	
opposition	14398 Apr 09 07:07	29° <u>♄</u> 05'03	-0°30'05				
min. Earth dist.	14398 Apr 08 19:11	29° <u>♄</u> 05'53	28.80489 AU	conjunction	14404 Oct 20 23:50	13° <u>♄</u> 41'47	-0°23'17
direct	14398 Jun 26 21:35	27° <u>♄</u> 41'19		minimum elong	14404 Oct 20 23:50	13° <u>♄</u> 41'47	0°22'38
evening set	14398 Sep 22 06:43	29° <u>♄</u> 35'48		max. Earth dist.	14404 Oct 21 14:19	13° <u>♄</u> 43'09	30.78960 AU
	14398 Oct 03 00:32	0° <u>♄</u>		morning rise	14404 Nov 05 19:15	14° <u>♄</u> 17'31	
					14404 Nov 25 22:57	15° <u>♄</u>	
conjunction	14398 Oct 07 22:16	0° <u>♄</u> 11'11	-0°27'52	retrograde	14405 Feb 04 03:24	16° <u>♄</u> 15'47	
minimum elong	14398 Oct 07 22:16	0° <u>♄</u> 11'12	0°27'26		14405 Apr 19 15:24	15° <u>♄</u>	
max. Earth dist.	14398 Oct 08 09:41	0° <u>♄</u> 12'16	30.80213 AU	min. Earth dist.	14405 Apr 24 10:59	14° <u>♄</u> 51'59	28.79055 AU
morning rise	14398 Oct 23 15:55	0° <u>♄</u> 46'47		opposition	14405 Apr 25 01:31	14° <u>♄</u> 50'58	-0°24'22
retrograde	14399 Jan 21 22:54	2° <u>♄</u> 44'57		direct	14405 Jul 12 09:42	13° <u>♄</u> 27'14	
opposition	14399 Apr 11 20:17	1° <u>♄</u> 20'12	-0°29'24		14405 Sep 27 19:23	15° <u>♄</u>	
min. Earth dist.	14399 Apr 11 08:51	1° <u>♄</u> 21'00	28.79973 AU	evening set	14405 Oct 07 18:47	15° <u>♄</u> 21'37	
	14399 Jun 14 21:21	30° <u>♄</u>					
direct	14399 Jun 29 09:35	29° <u>♄</u> 56'27		conjunction	14405 Oct 23 12:21	15° <u>♄</u> 57'08	-0°22'24
	14399 Jul 13 18:45	0° <u>♄</u>		minimum elong	14405 Oct 23 12:21	15° <u>♄</u> 57'08	0°21'43
evening set	14399 Sep 24 18:28	1° <u>♄</u> 50'53		max. Earth dist.	14405 Oct 24 02:55	15° <u>♄</u> 58'30	30.79135 AU
				morning rise	14405 Nov 08 08:05	16° <u>♄</u> 32'52	
conjunction	14399 Oct 10 10:27	2° <u>♄</u> 26'18	-0°27'12	retrograde	14406 Feb 06 16:21	18° <u>♄</u> 31'11	
minimum elong	14399 Oct 10 10:27	2° <u>♄</u> 26'18	0°26'44	opposition	14406 Apr 27 14:18	17° <u>♄</u> 06'22	-0°23'23
max. Earth dist.	14399 Oct 10 23:20	2° <u>♄</u> 27'31	30.79718 AU	min. Earth dist.	14406 Apr 27 00:43	17° <u>♄</u> 07'19	28.79256 AU
morning rise	14399 Oct 26 04:14	3° <u>♄</u> 01'55		direct	14406 Jul 14 20:21	15° <u>♄</u> 42'40	
retrograde	14400 Jan 24 11:51	5° <u>♄</u> 00'05		evening set	14406 Oct 10 07:04	17° <u>♄</u> 37'04	
opposition	14400 Apr 13 09:17	3° <u>♄</u> 35'18	-0°28'40				
min. Earth dist.	14400 Apr 12 21:01	3° <u>♄</u> 36'09	28.79510 AU	conjunction	14406 Oct 26 01:01	18° <u>♄</u> 12'36	-0°21'28
direct	14400 Jun 30 23:43	2° <u>♄</u> 11'31		minimum elong	14406 Oct 26 01:02	18° <u>♄</u> 12'36	0°20'45
evening set	14400 Sep 26 06:31	4° <u>♄</u> 05'56		max. Earth dist.	14406 Oct 26 16:06	18° <u>♄</u> 14'01	30.79348 AU
				morning rise	14406 Nov 10 20:58	18° <u>♄</u> 48'22	
conjunction	14400 Oct 11 22:36	4° <u>♄</u> 41'21	-0°26'30	retrograde	14407 Feb 09 06:25	20° <u>♄</u> 46'40	
minimum elong	14400 Oct 11 22:37	4° <u>♄</u> 41'21	0°25'59	opposition	14407 Apr 30 03:04	19° <u>♄</u> 21'54	-0°22'22
max. Earth dist.	14400 Oct 12 10:53	4° <u>♄</u> 42'31	30.79309 AU	min. Earth dist.	14407 Apr 29 12:32	19° <u>♄</u> 22'54	28.79454 AU
morning rise	14400 Oct 27 16:52	5° <u>♄</u> 17'00		direct	14407 Jul 17 09:25	17° <u>♄</u> 58'12	
retrograde	14401 Jan 26 01:07	7° <u>♄</u> 15'11		evening set	14407 Oct 12 19:29	19° <u>♄</u> 52'36	
opposition	14401 Apr 15 22:09	5° <u>♄</u> 50'21	-0°27'53				
min. Earth dist.	14401 Apr 15 09:37	5° <u>♄</u> 51'13	28.79168 AU	conjunction	14407 Oct 28 13:35	20° <u>♄</u> 28'09	-0°20'30
direct	14401 Jul 03 10:59	4° <u>♄</u> 26'33		minimum elong	14407 Oct 28 13:35	20° <u>♄</u> 28'09	0°19'46
evening set	14401 Sep 28 18:25	6° <u>♄</u> 20'57		max. Earth dist.	14407 Oct 29 03:49	20° <u>♄</u> 29'30	30.79518 AU
				morning rise	14407 Nov 13 09:57	21° <u>♄</u> 03'56	
conjunction	14401 Oct 14 10:57	6° <u>♄</u> 56'23	-0°25'45	retrograde	14408 Feb 11 21:02	23° <u>♄</u> 02'15	
minimum elong	14401 Oct 14 10:57	6° <u>♄</u> 56'23	0°25'13	opposition	14408 May 01 16:02	21° <u>♄</u> 37'28	-0°21'19
max. Earth dist.	14401 Oct 15 00:39	6° <u>♄</u> 57'41	30.79020 AU	min. Earth dist.	14408 May 01 02:25	21° <u>♄</u> 38'25	28.79596 AU
morning rise	14401 Oct 30 05:22	7° <u>♄</u> 32'03		direct	14408 Jul 18 21:44	20° <u>♄</u> 13'47	
retrograde	14402 Jan 28 11:57	9° <u>♄</u> 30'15		evening set	14408 Oct 14 07:58	22° <u>♄</u> 08'09	
opposition	14402 Apr 18 11:02	8° <u>♄</u> 05'24	-0°27'04				
min. Earth dist.	14402 Apr 17 22:15	8° <u>♄</u> 06'17	28.78941 AU	conjunction	14408 Oct 30 02:32	22° <u>♄</u> 43'44	-0°19'30
direct	14402 Jul 05 23:35	6° <u>♄</u> 41'36		minimum elong	14408 Oct 30 02:32	22° <u>♄</u> 43'44	0°18'44
evening set	14402 Oct 01 06:26	8° <u>♄</u> 35'59		max. Earth dist.	14408 Oct 30 17:33	22° <u>♄</u> 45'09	30.79614 AU
				morning rise	14408 Nov 14 23:04	23° <u>♄</u> 19'31	
conjunction	14402 Oct 16 23:06	9° <u>♄</u> 11'27	-0°24'58	retrograde	14409 Feb 13 10:39	25° <u>♄</u> 17'49	
minimum elong	14402 Oct 16 23:06	9° <u>♄</u> 11'27	0°24'23	opposition	14409 May 04 04:39	23° <u>♄</u> 53'01	-0°20'14
max. Earth dist.	14402 Oct 17 12:22	9° <u>♄</u> 12'42	30.78869 AU	min. Earth dist.	14409 May 03 14:48	23° <u>♄</u> 53'58	28.79637 AU

direct	14409 Jul 21 12:12	22° \mathcal{M} 29'18	morning rise	14414 Nov 29 05:24	6° \mathcal{A} 50'06	
evening set	14409 Oct 16 20:35	24° \mathcal{M} 23'38	retrograde	14415 Feb 27 13:13	8° \mathcal{A} 48'03	
			opposition	14415 May 18 07:26	7° \mathcal{A} 23'04	-0°13'12
conjunction	14409 Nov 01 15:18	24° \mathcal{M} 59'14 -0°18'29	min. Earth dist.	14415 May 17 17:53	7° \mathcal{A} 24'01	28.80061 AU
minimum elong	14409 Nov 01 15:18	24° \mathcal{M} 59'14 0°17'42	direct	14415 Aug 04 11:39	5° \mathcal{A} 59'07	
max. Earth dist.	14409 Nov 02 05:00	25° \mathcal{M} 00'31 30.79617 AU	evening set	14415 Oct 30 22:58	7° \mathcal{A} 53'16	
morning rise	14409 Nov 17 12:19	25° \mathcal{M} 35'02				
retrograde	14410 Feb 16 00:02	27° \mathcal{M} 33'17	conjunction	14415 Nov 15 19:39	8° \mathcal{A} 28'55	-0°11'52
opposition	14410 May 06 17:22	26° \mathcal{M} 08'26 -0°19'07	minimum elong	14415 Nov 15 19:39	8° \mathcal{A} 28'55	0°10'57
min. Earth dist.	14410 May 06 03:54	26° \mathcal{M} 09'22 28.79607 AU	behind sun begin	14415 Nov 15 14:45	8° \mathcal{A} 28'28	
direct	14410 Jul 23 23:52	24° \mathcal{M} 44'40	behind sun end	14415 Nov 16 00:34	8° \mathcal{A} 29'22	
evening set	14410 Oct 19 08:56	26° \mathcal{M} 38'58	max. Earth dist.	14415 Nov 16 10:57	8° \mathcal{A} 30'21	30.80269 AU
			morning rise	14415 Dec 01 18:18	9° \mathcal{A} 04'47	
conjunction	14410 Nov 04 04:06	27° \mathcal{M} 14'34 -0°17'26	retrograde	14416 Mar 01 02:32	11° \mathcal{A} 02'42	
minimum elong	14410 Nov 04 04:06	27° \mathcal{M} 14'34 0°16'36	opposition	14416 May 19 19:36	9° \mathcal{A} 37'45	-0°11'57
max. Earth dist.	14410 Nov 04 18:46	27° \mathcal{M} 15'57 30.79557 AU	min. Earth dist.	14416 May 19 04:51	9° \mathcal{A} 38'47	28.80534 AU
morning rise	14410 Nov 20 01:14	27° \mathcal{M} 50'24	direct	14416 Aug 06 00:18	8° \mathcal{A} 13'49	
retrograde	14411 Feb 18 11:52	29° \mathcal{M} 48'34	evening set	14416 Nov 01 11:33	10° \mathcal{A} 07'58	
opposition	14411 May 09 05:59	28° \mathcal{M} 23'41 -0°17'59				
min. Earth dist.	14411 May 08 16:40	28° \mathcal{M} 24'37 28.79535 AU	conjunction	14416 Nov 17 08:25	10° \mathcal{A} 43'38	-0°10'42
direct	14411 Jul 26 13:41	26° \mathcal{M} 59'52	minimum elong	14416 Nov 17 08:25	10° \mathcal{A} 43'38	0°09'45
evening set	14411 Oct 21 21:25	28° \mathcal{M} 54'07	behind sun begin	14416 Nov 17 03:04	10° \mathcal{A} 43'09	
			behind sun end	14416 Nov 17 13:45	10° \mathcal{A} 44'07	
conjunction	14411 Nov 06 16:46	29° \mathcal{M} 29'44 -0°16'22	max. Earth dist.	14416 Nov 17 23:08	10° \mathcal{A} 45'01	30.80813 AU
minimum elong	14411 Nov 06 16:47	29° \mathcal{M} 29'44 0°15'32	morning rise	14416 Dec 03 07:28	11° \mathcal{A} 19'31	
behind sun begin	14411 Nov 06 15:11	29° \mathcal{M} 29'35	retrograde	14417 Mar 03 16:17	13° \mathcal{A} 17'24	
behind sun end	14411 Nov 06 18:22	29° \mathcal{M} 29'52	opposition	14417 May 22 07:45	11° \mathcal{A} 52'30	-0°10'41
max. Earth dist.	14411 Nov 07 06:33	29° \mathcal{M} 31'01 30.79507 AU	min. Earth dist.	14417 May 21 17:43	11° \mathcal{A} 53'28	28.81152 AU
	14411 Nov 20 02:22	0° \mathcal{A}	direct	14417 Aug 08 11:34	10° \mathcal{A} 28'35	
morning rise	14411 Nov 22 14:22	0° \mathcal{A} 05'33	evening set	14417 Nov 04 00:02	12° \mathcal{A} 22'45	
retrograde	14412 Feb 21 01:55	2° \mathcal{A} 03'40				
opposition	14412 May 10 18:25	0° \mathcal{A} 38'44 -0°16'49	conjunction	14417 Nov 19 21:21	12° \mathcal{A} 58'26	-0°09'30
min. Earth dist.	14412 May 10 04:32	0° \mathcal{A} 39'42 28.79513 AU	minimum elong	14417 Nov 19 21:22	12° \mathcal{A} 58'26	0°08'33
	14412 Jun 03 18:31	30° $\mathcal{R}\mathcal{M}$	behind sun begin	14417 Nov 19 15:41	12° \mathcal{A} 57'56	
direct	14412 Jul 28 01:31	29° \mathcal{M} 14'52	behind sun end	14417 Nov 20 03:03	12° \mathcal{A} 58'57	
	14412 Sep 18 07:42	0° \mathcal{A}	max. Earth dist.	14417 Nov 20 13:07	12° \mathcal{A} 59'55	30.81490 AU
evening set	14412 Oct 23 09:47	1° \mathcal{A} 09'04	morning rise	14417 Dec 05 20:32	13° \mathcal{A} 34'20	
			retrograde	14418 Mar 06 05:42	15° \mathcal{A} 32'12	
conjunction	14412 Nov 08 05:33	1° \mathcal{A} 44'42 -0°15'16	opposition	14418 May 24 19:52	14° \mathcal{A} 07'21	-0°09'23
minimum elong	14412 Nov 08 05:33	1° \mathcal{A} 44'42 0°14'23	min. Earth dist.	14418 May 24 05:21	14° \mathcal{A} 08'22	28.81864 AU
behind sun begin	14412 Nov 08 02:37	1° \mathcal{A} 44'26	direct	14418 Aug 11 01:02	12° \mathcal{A} 43'28	
behind sun end	14412 Nov 08 08:29	1° \mathcal{A} 44'57	evening set	14418 Nov 06 12:39	14° \mathcal{A} 37'40	
max. Earth dist.	14412 Nov 08 20:09	1° \mathcal{A} 46'04 30.79510 AU				
morning rise	14412 Nov 24 03:21	2° \mathcal{A} 20'32	conjunction	14418 Nov 22 10:04	15° \mathcal{A} 13'22	-0°08'18
retrograde	14413 Feb 22 12:35	4° \mathcal{A} 18'35	minimum elong	14418 Nov 22 10:04	15° \mathcal{A} 13'22	0°07'19
opposition	14413 May 13 06:53	2° \mathcal{A} 53'37 -0°15'38	behind sun begin	14418 Nov 22 04:06	15° \mathcal{A} 12'50	
min. Earth dist.	14413 May 12 17:39	2° \mathcal{A} 54'33 28.79563 AU	behind sun end	14418 Nov 22 16:03	15° \mathcal{A} 13'55	
direct	14413 Jul 30 13:26	1° \mathcal{A} 29'43	max. Earth dist.	14418 Nov 23 00:46	15° \mathcal{A} 14'45	30.82238 AU
evening set	14413 Oct 25 22:15	3° \mathcal{A} 23'53	morning rise	14418 Dec 08 09:40	15° \mathcal{A} 49'17	
			retrograde	14419 Mar 08 19:44	17° \mathcal{A} 47'08	
conjunction	14413 Nov 10 18:16	3° \mathcal{A} 59'31 -0°14'09	opposition	14419 May 27 08:06	16° \mathcal{A} 22'21	-0°08'05
minimum elong	14413 Nov 10 18:16	3° \mathcal{A} 59'31 0°13'16	min. Earth dist.	14419 May 26 17:59	16° \mathcal{A} 23'20	28.82635 AU
behind sun begin	14413 Nov 10 14:31	3° \mathcal{A} 59'10	direct	14419 Aug 13 11:52	14° \mathcal{A} 58'30	
behind sun end	14413 Nov 10 22:02	3° \mathcal{A} 59'51	evening set	14419 Nov 09 01:20	16° \mathcal{A} 52'44	
max. Earth dist.	14413 Nov 11 08:44	4° \mathcal{A} 00'52 30.79624 AU				
morning rise	14413 Nov 26 16:24	4° \mathcal{A} 35'22	conjunction	14419 Nov 24 23:12	17° \mathcal{A} 28'27	-0°07'05
retrograde	14414 Feb 25 01:17	6° \mathcal{A} 33'21	minimum elong	14419 Nov 24 23:12	17° \mathcal{A} 28'27	0°06'06
opposition	14414 May 15 19:02	5° \mathcal{A} 08'22 -0°14'26	behind sun begin	14419 Nov 24 17:00	17° \mathcal{A} 27'54	
min. Earth dist.	14414 May 15 04:44	5° \mathcal{A} 09'22 28.79739 AU	behind sun end	14419 Nov 25 05:24	17° \mathcal{A} 29'01	
direct	14414 Aug 02 01:27	3° \mathcal{A} 44'26	max. Earth dist.	14419 Nov 25 14:44	17° \mathcal{A} 29'55	30.83000 AU
evening set	14414 Oct 28 10:42	5° \mathcal{A} 38'35	morning rise	14419 Dec 10 22:53	18° \mathcal{A} 04'22	
			retrograde	14420 Mar 10 08:59	20° \mathcal{A} 02'11	
conjunction	14414 Nov 13 06:59	6° \mathcal{A} 14'14 -0°13'01	opposition	14420 May 28 20:12	18° \mathcal{A} 37'28	-0°06'46
minimum elong	14414 Nov 13 06:59	6° \mathcal{A} 14'14 0°12'06	min. Earth dist.	14420 May 28 06:33	18° \mathcal{A} 38'25	28.83377 AU
behind sun begin	14414 Nov 13 02:35	6° \mathcal{A} 13'50	direct	14420 Aug 15 01:31	17° \mathcal{A} 13'39	
behind sun end	14414 Nov 13 11:23	6° \mathcal{A} 14'38	evening set	14420 Nov 10 14:15	19° \mathcal{A} 07'54	
max. Earth dist.	14414 Nov 13 21:39	6° \mathcal{A} 15'37 30.79863 AU				

conjunction	14420 Nov 26 12:18	19° \nearrow 43'38	-0°05'51	behind sun end	14425 Dec 08 12:12	0° \searrow 58'46	
minimum elong	14420 Nov 26 12:18	19° \nearrow 43'38	0°04'50	max. Earth dist.	14425 Dec 08 18:07	0° \searrow 59'20	30.86468 AU
behind sun begin	14420 Nov 26 05:56	19° \nearrow 43'03		morning rise	14425 Dec 24 06:53	1° \searrow 34'07	
behind sun end	14420 Nov 26 18:40	19° \nearrow 44'12		retrograde	14426 Mar 24 10:34	3° \searrow 31'24	
max. Earth dist.	14420 Nov 27 02:20	19° \nearrow 44'57	30.83715 AU	opposition	14426 Jun 11 19:35	2° \searrow 06'44	0°01'14
morning rise	14420 Dec 12 12:23	20° \nearrow 19'33		min. Earth dist.	14426 Jun 11 07:57	2° \searrow 07'33	28.86800 AU
retrograde	14421 Mar 12 23:46	22° \nearrow 17'19		direct	14426 Aug 28 23:40	0° \searrow 42'43	
opposition	14421 May 31 08:19	20° \nearrow 52'38	-0°05'27	evening set	14426 Nov 24 18:46	2° \searrow 36'49	
min. Earth dist.	14421 May 30 18:36	20° \nearrow 53'35	28.84050 AU				
direct	14421 Aug 17 13:37	19° \nearrow 28'49		conjunction	14426 Dec 10 18:32	3° \searrow 12'34	0°01'46
evening set	14421 Nov 13 03:07	21° \nearrow 23'04		minimum elong	14426 Dec 10 18:32	3° \searrow 12'34	0°02'49
				behind sun begin	14426 Dec 10 12:01	3° \searrow 11'59	
conjunction	14421 Nov 29 01:31	21° \nearrow 58'49	-0°04'37	behind sun end	14426 Dec 11 01:04	3° \searrow 13'10	
minimum elong	14421 Nov 29 01:30	21° \nearrow 58'48	0°03'36	max. Earth dist.	14426 Dec 11 07:54	3° \searrow 13'49	30.87139 AU
behind sun begin	14421 Nov 28 19:02	21° \nearrow 58'13		morning rise	14426 Dec 26 19:49	3° \searrow 48'30	
behind sun end	14421 Nov 29 07:59	21° \nearrow 59'23		retrograde	14427 Mar 26 22:34	5° \searrow 45'41	
max. Earth dist.	14421 Nov 29 15:47	22° \nearrow 00'09	30.84331 AU	opposition	14427 Jun 14 07:10	4° \searrow 21'01	0°02'34
morning rise	14421 Dec 15 01:41	22° \nearrow 34'45		min. Earth dist.	14427 Jun 13 18:59	4° \searrow 21'53	28.87524 AU
retrograde	14422 Mar 15 10:31	24° \nearrow 32'26		direct	14427 Aug 31 12:27	2° \searrow 56'59	
opposition	14422 Jun 02 20:23	23° \nearrow 07'46	-0°04'07	evening set	14427 Nov 27 07:35	4° \searrow 51'04	
min. Earth dist.	14422 Jun 02 07:51	23° \nearrow 08'39	28.84620 AU				
direct	14422 Aug 20 01:49	21° \nearrow 43'57		conjunction	14427 Dec 13 07:27	5° \searrow 26'49	0°03'01
evening set	14422 Nov 15 15:58	23° \nearrow 38'10		minimum elong	14427 Dec 13 07:26	5° \searrow 26'49	0°04'03
				behind sun begin	14427 Dec 13 00:59	5° \searrow 26'14	
conjunction	14422 Dec 01 14:37	24° \nearrow 13'54	-0°03'22	behind sun end	14427 Dec 13 13:54	5° \searrow 27'24	
minimum elong	14422 Dec 01 14:37	24° \nearrow 13'54	0°02'20	max. Earth dist.	14427 Dec 13 19:43	5° \searrow 27'57	30.87932 AU
behind sun begin	14422 Dec 01 08:05	24° \nearrow 13'19		morning rise	14427 Dec 29 09:05	6° \searrow 02'44	
behind sun end	14422 Dec 01 21:08	24° \nearrow 14'30		retrograde	14428 Mar 28 12:01	7° \searrow 59'50	
max. Earth dist.	14422 Dec 02 04:04	24° \nearrow 15'10	30.84880 AU	opposition	14428 Jun 15 18:41	6° \searrow 35'11	0°03'53
morning rise	14422 Dec 17 15:07	24° \nearrow 49'51		min. Earth dist.	14428 Jun 15 06:51	6° \searrow 36'01	28.88394 AU
retrograde	14423 Mar 17 23:20	26° \nearrow 47'26		direct	14428 Sep 01 23:11	5° \searrow 11'07	
opposition	14423 Jun 05 08:20	25° \nearrow 22'47	-0°02'47	evening set	14428 Nov 28 20:15	7° \searrow 05'13	
min. Earth dist.	14423 Jun 04 19:14	25° \nearrow 23'42	28.85141 AU				
direct	14423 Aug 22 13:51	23° \nearrow 58'55		conjunction	14428 Dec 14 20:31	7° \searrow 40'58	0°04'15
evening set	14423 Nov 18 04:41	25° \nearrow 53'06		minimum elong	14428 Dec 14 20:32	7° \searrow 40'58	0°05'19
				behind sun begin	14428 Dec 14 14:12	7° \searrow 40'24	
conjunction	14423 Dec 04 03:37	26° \nearrow 28'51	-0°02'05	behind sun end	14428 Dec 15 02:51	7° \searrow 41'32	
minimum elong	14423 Dec 04 03:36	26° \nearrow 28'51	0°01'04	max. Earth dist.	14428 Dec 15 09:48	7° \searrow 42'12	30.88863 AU
behind sun begin	14423 Dec 03 21:04	26° \nearrow 28'16		morning rise	14428 Dec 30 22:11	8° \searrow 16'53	
behind sun end	14423 Dec 04 10:08	26° \nearrow 29'26		retrograde	14429 Mar 31 00:44	10° \searrow 13'52	
max. Earth dist.	14423 Dec 04 16:51	26° \nearrow 30'05	30.85381 AU	opposition	14429 Jun 18 06:12	8° \searrow 49'16	0°05'13
morning rise	14423 Dec 20 04:21	27° \nearrow 04'47		min. Earth dist.	14429 Jun 17 18:32	8° \searrow 50'05	28.89384 AU
retrograde	14424 Mar 19 10:59	29° \nearrow 02'18		direct	14429 Sep 04 12:54	7° \searrow 25'13	
opposition	14424 Jun 06 20:17	27° \nearrow 37'38	-0°01'27	evening set	14429 Dec 01 09:03	9° \searrow 19'19	
min. Earth dist.	14424 Jun 06 08:30	27° \nearrow 38'27	28.85644 AU				
direct	14424 Aug 23 23:54	26° \nearrow 13'43		conjunction	14429 Dec 17 09:24	9° \searrow 55'04	0°05'29
evening set	14424 Nov 19 17:26	28° \nearrow 07'52		minimum elong	14429 Dec 17 09:24	9° \searrow 55'04	0°06'31
				behind sun begin	14429 Dec 17 03:15	9° \searrow 54'31	
conjunction	14424 Dec 05 16:42	28° \nearrow 43'37	-0°00'47	behind sun end	14429 Dec 17 15:32	9° \searrow 55'37	
minimum elong	14424 Dec 05 16:43	28° \nearrow 43'37	0°00'16	max. Earth dist.	14429 Dec 17 21:30	9° \searrow 56'11	30.89922 AU
behind sun begin	14424 Dec 05 10:14	28° \nearrow 43'02		morning rise	14430 Jan 02 11:22	10° \searrow 30'58	
behind sun end	14424 Dec 05 23:11	28° \nearrow 44'12		retrograde	14430 Apr 02 14:35	12° \searrow 27'54	
max. Earth dist.	14424 Dec 06 06:00	28° \nearrow 44'51	30.85901 AU	opposition	14430 Jun 20 17:38	11° \searrow 03'21	0°06'32
morning rise	14424 Dec 21 17:38	29° \nearrow 19'33		min. Earth dist.	14430 Jun 20 05:38	11° \searrow 04'12	28.90496 AU
	14425 Jan 10 00:54	0° \searrow		direct	14430 Sep 07 00:46	9° \searrow 39'19	
retrograde	14425 Mar 21 22:39	1° \searrow 16'56		evening set	14430 Dec 03 21:49	11° \searrow 33'26	
	14425 Jun 04 17:27	30° \nwarrow					
opposition	14425 Jun 09 07:50	29° \nearrow 52'16	-0°00'06	conjunction	14430 Dec 19 22:29	12° \searrow 09'11	0°06'42
min. Earth dist.	14425 Jun 08 19:18	29° \nearrow 53'09	28.86180 AU	minimum elong	14430 Dec 19 22:29	12° \searrow 09'11	0°07'45
asc. node	14425 Jul 09 18:34	29° \nearrow 04'09		behind sun begin	14430 Dec 19 16:35	12° \searrow 08'40	
direct	14425 Aug 26 12:50	28° \nearrow 28'18		behind sun end	14430 Dec 20 04:23	12° \searrow 09'43	
	14425 Nov 11 19:15	0° \searrow		max. Earth dist.	14430 Dec 20 11:11	12° \searrow 10'22	30.91071 AU
evening set	14425 Nov 22 06:17	0° \searrow 22'26		morning rise	14431 Jan 05 00:30	12° \searrow 45'06	
				retrograde	14431 Apr 05 02:12	14° \searrow 41'57	
conjunction	14425 Dec 08 05:40	0° \searrow 58'11	0°00'30	opposition	14431 Jun 23 05:08	13° \searrow 17'29	0°07'50
minimum elong	14425 Dec 08 05:40	0° \searrow 58'11	0°01'32	min. Earth dist.	14431 Jun 22 18:12	13° \searrow 18'15	28.91671 AU
behind sun begin	14425 Dec 07 23:07	0° \searrow 57'36		direct	14431 Sep 09 12:34	11° \searrow 53'29	

evening set	14431 Dec 06 10:40	13° $\overline{3}$ 47'37		morning rise	14437 Jan 18 08:19	26° $\overline{3}$ 09'56	
				retrograde	14437 Apr 18 03:10	28° $\overline{3}$ 06'12	
conjunction	14431 Dec 22 11:32	14° $\overline{3}$ 23'23	0°07'55	opposition	14437 Jul 06 01:04	26° $\overline{3}$ 42'01	0°15'19
minimum elong	14431 Dec 22 11:32	14° $\overline{3}$ 23'23	0°08'57	min. Earth dist.	14437 Jul 05 17:21	26° $\overline{3}$ 42'33	28.97360 AU
behind sun begin	14431 Dec 22 05:56	14° $\overline{3}$ 22'53		direct	14437 Sep 22 08:52	25° $\overline{3}$ 17'55	
behind sun end	14431 Dec 22 17:07	14° $\overline{3}$ 23'53		evening set	14437 Dec 19 16:23	27° $\overline{3}$ 12'04	
max. Earth dist.	14431 Dec 22 23:19	14° $\overline{3}$ 24'28	30.92263 AU				
morning rise	14432 Jan 07 13:47	14° $\overline{3}$ 59'17		conjunction	14438 Jan 04 18:25	27° $\overline{3}$ 47'49	0°14'51
retrograde	14432 Apr 06 16:00	16° $\overline{3}$ 56'03		minimum elong	14438 Jan 04 18:25	27° $\overline{3}$ 47'49	0°15'49
opposition	14432 Jun 24 16:32	15° $\overline{3}$ 31'41	0°09'08	behind sun begin	14438 Jan 04 17:55	27° $\overline{3}$ 47'46	
min. Earth dist.	14432 Jun 24 05:16	15° $\overline{3}$ 32'28	28.92845 AU	behind sun end	14438 Jan 04 18:55	27° $\overline{3}$ 47'52	
direct	14432 Sep 11 00:36	14° $\overline{3}$ 07'41		max. Earth dist.	14438 Jan 05 03:08	27° $\overline{3}$ 48'37	30.97736 AU
evening set	14432 Dec 07 23:47	16° $\overline{3}$ 01'51		morning rise	14438 Jan 20 21:13	28° $\overline{3}$ 23'40	
					14438 Mar 16 22:53	0° \approx	
conjunction	14432 Dec 24 00:48	16° $\overline{3}$ 37'37	0°09'07	retrograde	14438 Apr 20 15:01	0° \approx 19'49	
minimum elong	14432 Dec 24 00:48	16° $\overline{3}$ 37'37	0°10'09		14438 May 25 20:34	30° \overline{R} $\overline{3}$	
behind sun begin	14432 Dec 23 19:35	16° $\overline{3}$ 37'09		opposition	14438 Jul 08 12:07	28° $\overline{3}$ 55'39	0°16'29
behind sun end	14432 Dec 24 06:01	16° $\overline{3}$ 38'05		min. Earth dist.	14438 Jul 08 04:51	28° $\overline{3}$ 56'09	28.98132 AU
max. Earth dist.	14432 Dec 24 12:05	16° $\overline{3}$ 38'40	30.93394 AU	direct	14438 Sep 24 22:34	27° $\overline{3}$ 31'30	
morning rise	14433 Jan 09 03:09	17° $\overline{3}$ 13'32		evening set	14438 Dec 22 05:14	29° $\overline{3}$ 25'39	
retrograde	14433 Apr 09 03:45	19° $\overline{3}$ 10'13			14439 Jan 06 16:14	0° \approx	
opposition	14433 Jun 27 03:57	17° $\overline{3}$ 45'55	0°10'25				
min. Earth dist.	14433 Jun 26 18:23	17° $\overline{3}$ 46'35	28.93938 AU	conjunction	14439 Jan 07 07:15	0° \approx 01'24	0°15'55
direct	14433 Sep 13 10:52	16° $\overline{3}$ 21'56		minimum elong	14439 Jan 07 07:15	0° \approx 01'24	0°16'54
evening set	14433 Dec 10 12:48	18° $\overline{3}$ 16'07		max. Earth dist.	14439 Jan 07 14:33	0° \approx 02'04	30.98541 AU
				morning rise	14439 Jan 23 10:18	0° \approx 37'14	
conjunction	14433 Dec 26 14:05	18° $\overline{3}$ 51'53	0°10'18	retrograde	14439 Apr 23 04:00	2° \approx 33'16	
minimum elong	14433 Dec 26 14:05	18° $\overline{3}$ 51'53	0°11'18	opposition	14439 Jul 10 23:02	1° \approx 09'06	0°17'38
behind sun begin	14433 Dec 26 09:20	18° $\overline{3}$ 51'27		min. Earth dist.	14439 Jul 10 15:35	1° \approx 09'38	28.98978 AU
behind sun end	14433 Dec 26 18:51	18° $\overline{3}$ 52'18			14439 Aug 28 02:28	30° \overline{R} $\overline{3}$	
max. Earth dist.	14433 Dec 27 00:49	18° $\overline{3}$ 52'52	30.94438 AU	direct	14439 Sep 27 10:21	29° $\overline{3}$ 44'56	
morning rise	14434 Jan 11 16:31	19° $\overline{3}$ 27'47			14439 Oct 27 08:51	0° \approx	
retrograde	14434 Apr 11 15:31	21° $\overline{3}$ 24'22		evening set	14439 Dec 24 17:53	1° \approx 39'05	
opposition	14434 Jun 29 15:20	20° $\overline{3}$ 00'07	0°11'40				
min. Earth dist.	14434 Jun 29 05:22	20° $\overline{3}$ 00'49	28.94918 AU	conjunction	14440 Jan 09 20:10	2° \approx 14'49	0°16'59
direct	14434 Sep 15 23:32	18° $\overline{3}$ 36'08		minimum elong	14440 Jan 09 20:11	2° \approx 14'49	0°17'55
evening set	14434 Dec 13 01:44	20° $\overline{3}$ 30'18		max. Earth dist.	14440 Jan 10 04:01	2° \approx 15'32	30.99419 AU
				morning rise	14440 Jan 25 23:10	2° \approx 50'38	
conjunction	14434 Dec 29 03:06	21° $\overline{3}$ 06'04	0°11'28	retrograde	14440 Apr 24 15:17	4° \approx 46'33	
minimum elong	14434 Dec 29 03:06	21° $\overline{3}$ 06'04	0°12'29	opposition	14440 Jul 12 10:01	3° \approx 22'26	0°18'45
behind sun begin	14434 Dec 28 22:55	21° $\overline{3}$ 05'42		min. Earth dist.	14440 Jul 12 03:32	3° \approx 22'53	28.99904 AU
behind sun end	14434 Dec 29 07:18	21° $\overline{3}$ 06'27		direct	14440 Sep 28 22:26	1° \approx 58'14	
max. Earth dist.	14434 Dec 29 12:31	21° $\overline{3}$ 06'56	30.95359 AU	evening set	14440 Dec 26 06:39	3° \approx 52'23	
morning rise	14435 Jan 14 05:45	21° $\overline{3}$ 41'58					
retrograde	14435 Apr 14 02:59	23° $\overline{3}$ 38'28		conjunction	14441 Jan 11 09:00	4° \approx 28'07	0°18'01
opposition	14435 Jul 02 02:48	22° $\overline{3}$ 14'14	0°12'55	minimum elong	14441 Jan 11 09:00	4° \approx 28'07	0°18'56
min. Earth dist.	14435 Jul 01 18:14	22° $\overline{3}$ 14'50	28.95795 AU	max. Earth dist.	14441 Jan 11 15:58	4° \approx 28'45	31.00406 AU
direct	14435 Sep 18 09:52	20° $\overline{3}$ 50'13		morning rise	14441 Jan 27 12:07	5° \approx 03'55	
evening set	14435 Dec 15 14:39	22° $\overline{3}$ 44'23		retrograde	14441 Apr 27 04:53	6° \approx 59'43	
				opposition	14441 Jul 14 20:42	5° \approx 35'38	0°19'50
conjunction	14435 Dec 31 16:22	23° $\overline{3}$ 20'09	0°12'37	min. Earth dist.	14441 Jul 14 13:33	5° \approx 36'09	29.00949 AU
minimum elong	14435 Dec 31 16:22	23° $\overline{3}$ 20'09	0°13'36	direct	14441 Oct 01 10:58	4° \approx 11'27	
behind sun begin	14435 Dec 31 12:52	23° $\overline{3}$ 19'50		evening set	14441 Dec 28 19:21	6° \approx 05'36	
behind sun end	14435 Dec 31 19:51	23° $\overline{3}$ 20'28					
max. Earth dist.	14436 Jan 01 01:59	23° $\overline{3}$ 21'02	30.96196 AU	conjunction	14442 Jan 13 21:49	6° \approx 41'20	0°19'01
morning rise	14436 Jan 16 19:01	23° $\overline{3}$ 56'01		minimum elong	14442 Jan 13 21:49	6° \approx 41'20	0°19'54
retrograde	14436 Apr 15 14:31	25° $\overline{3}$ 52'24		max. Earth dist.	14442 Jan 14 04:47	6° \approx 41'58	31.01505 AU
opposition	14436 Jul 03 13:53	24° $\overline{3}$ 28'13	0°14'08	morning rise	14442 Jan 30 00:55	7° \approx 17'07	
min. Earth dist.	14436 Jul 03 05:23	24° $\overline{3}$ 28'48	28.96589 AU	retrograde	14442 Apr 29 16:04	9° \approx 12'50	
direct	14436 Sep 19 22:06	23° $\overline{3}$ 04'09		opposition	14442 Jul 17 07:39	7° \approx 48'49	0°20'53
evening set	14436 Dec 17 03:41	24° $\overline{3}$ 58'19		min. Earth dist.	14442 Jul 17 01:42	7° \approx 49'14	29.02110 AU
				direct	14442 Oct 03 21:30	6° \approx 24'39	
conjunction	14437 Jan 02 05:25	25° $\overline{3}$ 34'04	0°13'44	evening set	14442 Dec 31 07:53	8° \approx 18'48	
minimum elong	14437 Jan 02 05:25	25° $\overline{3}$ 34'04	0°14'44				
behind sun begin	14437 Jan 02 02:54	25° $\overline{3}$ 33'51		conjunction	14443 Jan 16 10:32	8° \approx 54'32	0°19'59
behind sun end	14437 Jan 02 07:55	25° $\overline{3}$ 34'17		minimum elong	14443 Jan 16 10:32	8° \approx 54'32	0°20'52
max. Earth dist.	14437 Jan 02 13:26	25° $\overline{3}$ 34'48	30.96971 AU	max. Earth dist.	14443 Jan 16 17:23	8° \approx 55'09	31.02725 AU

morning rise	14443 Feb 01 13:40	9° \approx 30'19	direct	14449 Oct 19 05:12	21° \approx 55'51	
retrograde	14443 May 02 03:09	11° \approx 25'56	evening set	14450 Jan 16 01:29	23° \approx 50'03	
opposition	14443 Jul 19 18:23	10° \approx 02'00 0°21'55				
min. Earth dist.	14443 Jul 19 11:50	10° \approx 02'27 29.03356 AU	conjunction	14450 Feb 01 04:28	24° \approx 25'41 0°25'53	
direct	14443 Oct 06 09:42	8° \approx 37'51	minimum elong	14450 Feb 01 04:28	24° \approx 25'41 0°26'35	
evening set	14444 Jan 02 20:45	10° \approx 32'02	max. Earth dist.	14450 Feb 01 05:51	24° \approx 25'48 31.10074 AU	
			morning rise	14450 Feb 17 07:30	25° \approx 01'20	
conjunction	14444 Jan 18 23:22	11° \approx 07'45 0°20'56	retrograde	14450 May 17 11:53	26° \approx 56'09	
minimum elong	14444 Jan 18 23:22	11° \approx 07'45 0°21'47	opposition	14450 Aug 03 21:04	25° \approx 32'30 0°28'04	
max. Earth dist.	14444 Jan 19 05:11	11° \approx 08'17 31.03989 AU	min. Earth dist.	14450 Aug 03 19:03	25° \approx 32'38 29.10477 AU	
morning rise	14444 Feb 04 02:36	11° \approx 43'32	direct	14450 Oct 21 18:11	24° \approx 08'11	
retrograde	14444 May 03 14:24	13° \approx 39'03	evening set	14451 Jan 18 13:55	26° \approx 02'22	
opposition	14444 Jul 21 05:07	12° \approx 15'13 0°22'54				
min. Earth dist.	14444 Jul 20 23:56	12° \approx 15'34 29.04630 AU	conjunction	14451 Feb 03 16:57	26° \approx 37'59 0°26'35	
direct	14444 Oct 07 19:01	10° \approx 51'04	minimum elong	14451 Feb 03 16:57	26° \approx 37'59 0°27'15	
evening set	14445 Jan 04 09:34	12° \approx 45'18	max. Earth dist.	14451 Feb 03 18:11	26° \approx 38'06 31.10872 AU	
			morning rise	14451 Feb 19 19:53	27° \approx 13'37	
conjunction	14445 Jan 20 12:25	13° \approx 21'00 0°21'51	retrograde	14451 May 19 22:16	29° \approx 08'19	
minimum elong	14445 Jan 20 12:25	13° \approx 21'00 0°22'41	opposition	14451 Aug 06 07:36	27° \approx 44'40 0°28'47	
max. Earth dist.	14445 Jan 20 18:21	13° \approx 21'33 31.05244 AU	min. Earth dist.	14451 Aug 06 07:02	27° \approx 44'42 29.11294 AU	
morning rise	14445 Feb 05 15:30	13° \approx 56'46	direct	14451 Oct 24 05:25	26° \approx 20'18	
	14445 Mar 09 15:56	15° \approx	evening set	14452 Jan 21 02:24	28° \approx 14'28	
retrograde	14445 May 06 01:30	15° \approx 52'12				
	14445 Jul 04 09:08	15° \approx	conjunction	14452 Feb 06 05:30	28° \approx 50'05 0°27'14	
opposition	14445 Jul 23 15:53	14° \approx 28'26 0°23'52	minimum elong	14452 Feb 06 05:30	28° \approx 50'05 0°27'52	
min. Earth dist.	14445 Jul 23 10:52	14° \approx 28'47 29.05843 AU	max. Earth dist.	14452 Feb 06 06:26	28° \approx 50'10 31.11719 AU	
direct	14445 Oct 10 06:24	13° \approx 04'18	morning rise	14452 Feb 22 08:22	29° \approx 25'41	
evening set	14446 Jan 06 22:27	14° \approx 58'33		14452 Mar 09 19:34	0° \approx	
	14446 Jan 07 14:32	15° \approx	retrograde	14452 May 21 09:10	1° \approx 20'15	
				14452 Aug 05 17:39	30° \approx	
conjunction	14446 Jan 23 01:10	15° \approx 34'14 0°22'44	opposition	14452 Aug 07 17:47	29° \approx 56'38 0°29'28	
minimum elong	14446 Jan 23 01:10	15° \approx 34'14 0°23'32	min. Earth dist.	14452 Aug 07 16:37	29° \approx 56'43 29.12170 AU	
max. Earth dist.	14446 Jan 23 05:19	15° \approx 34'37 31.06409 AU	direct	14452 Oct 25 17:50	28° \approx 32'14	
morning rise	14446 Feb 08 04:22	16° \approx 09'59		14453 Jan 10 01:39	0° \approx	
retrograde	14446 May 08 13:01	18° \approx 05'19	evening set	14453 Jan 22 14:56	0° \approx 26'24	
opposition	14446 Jul 26 02:43	16° \approx 41'36 0°24'47				
min. Earth dist.	14446 Jul 25 22:39	16° \approx 41'53 29.06964 AU	conjunction	14453 Feb 07 17:54	1° \approx 02'00 0°27'51	
direct	14446 Oct 12 17:00	15° \approx 17'27	minimum elong	14453 Feb 07 17:55	1° \approx 02'00 0°28'27	
evening set	14447 Jan 09 11:14	17° \approx 11'42	max. Earth dist.	14453 Feb 07 17:58	1° \approx 02'00 31.12635 AU	
			morning rise	14453 Feb 23 20:44	1° \approx 37'35	
conjunction	14447 Jan 25 14:11	17° \approx 47'23 0°23'34	retrograde	14453 May 23 19:57	3° \approx 32'03	
minimum elong	14447 Jan 25 14:11	17° \approx 47'23 0°24'22	opposition	14453 Aug 10 04:14	2° \approx 08'28 0°30'06	
max. Earth dist.	14447 Jan 25 18:38	17° \approx 47'47 31.07466 AU	min. Earth dist.	14453 Aug 10 04:00	2° \approx 08'29 29.13152 AU	
morning rise	14447 Feb 10 17:12	18° \approx 23'06	direct	14453 Oct 28 03:26	0° \approx 44'04	
retrograde	14447 May 10 23:35	20° \approx 18'20	evening set	14454 Jan 25 03:06	2° \approx 38'14	
opposition	14447 Jul 28 13:26	18° \approx 54'38 0°25'40				
min. Earth dist.	14447 Jul 28 10:14	18° \approx 54'52 29.07958 AU	conjunction	14454 Feb 10 06:11	3° \approx 13'49 0°28'26	
direct	14447 Oct 15 05:36	17° \approx 30'28	minimum elong	14454 Feb 10 06:11	3° \approx 13'49 0°29'00	
evening set	14448 Jan 12 00:06	19° \approx 24'42	max. Earth dist.	14454 Feb 10 06:49	3° \approx 13'52 31.13676 AU	
			morning rise	14454 Feb 26 08:47	3° \approx 49'23	
conjunction	14448 Jan 28 02:59	20° \approx 00'22 0°24'23	retrograde	14454 May 26 06:02	5° \approx 43'45	
minimum elong	14448 Jan 28 02:59	20° \approx 00'22 0°25'08	opposition	14454 Aug 12 14:34	4° \approx 20'14 0°30'42	
max. Earth dist.	14448 Jan 28 05:29	20° \approx 00'36 31.08414 AU	min. Earth dist.	14454 Aug 12 14:00	4° \approx 20'16 29.14245 AU	
morning rise	14448 Feb 13 06:10	20° \approx 36'04	direct	14454 Oct 30 14:35	2° \approx 55'51	
retrograde	14448 May 12 12:10	22° \approx 31'10	evening set	14455 Jan 27 15:32	4° \approx 50'03	
opposition	14448 Jul 30 00:04	21° \approx 07'29 0°26'30				
min. Earth dist.	14448 Jul 29 21:04	21° \approx 07'42 29.08857 AU	conjunction	14455 Feb 12 18:27	5° \approx 25'37 0°28'58	
direct	14448 Oct 16 16:54	19° \approx 43'16	minimum elong	14455 Feb 12 18:27	5° \approx 25'37 0°29'30	
evening set	14449 Jan 13 12:49	21° \approx 37'29	max. Earth dist.	14455 Feb 12 17:49	5° \approx 25'33 31.14833 AU	
			morning rise	14455 Feb 28 21:06	6° \approx 01'10	
conjunction	14449 Jan 29 15:51	22° \approx 13'08 0°25'09	retrograde	14455 May 28 16:55	7° \approx 55'28	
minimum elong	14449 Jan 29 15:51	22° \approx 13'08 0°25'53	opposition	14455 Aug 15 00:49	6° \approx 32'01 0°31'14	
max. Earth dist.	14449 Jan 29 18:27	22° \approx 13'23 31.09263 AU	min. Earth dist.	14455 Aug 15 00:45	6° \approx 32'02 29.15460 AU	
morning rise	14449 Feb 14 18:49	22° \approx 48'49	direct	14455 Nov 02 00:15	5° \approx 07'41	
retrograde	14449 May 14 22:53	24° \approx 43'47	evening set	14456 Jan 30 03:49	7° \approx 01'55	
opposition	14449 Aug 01 10:38	23° \approx 20'07 0°27'18				
min. Earth dist.	14449 Aug 01 09:01	23° \approx 20'14 29.09675 AU	conjunction	14456 Feb 15 06:53	7° \approx 37'28 0°29'27	

minimum elong	14456 Feb 15 06:53	7° ✕ 37'28	0°29'57	evening set	14463 Feb 14 18:16	22° ✕ 25'31	
max. Earth dist.	14456 Feb 15 06:59	7° ✕ 37'29	31.16081 AU				
morning rise	14456 Mar 02 09:17	8° ✕ 13'00		conjunction	14463 Mar 02 20:44	23° ✕ 00'58	0°31'39
retrograde	14456 May 30 02:55	10° ✕ 07'15		minimum elong	14463 Mar 02 20:45	23° ✕ 00'58	0°31'54
opposition	14456 Aug 16 11:07	8° ✕ 43'54	0°31'44	max. Earth dist.	14463 Mar 02 15:42	23° ✕ 00'30	31.22950 AU
min. Earth dist.	14456 Aug 16 11:46	8° ✕ 43'52	29.16717 AU	morning rise	14463 Mar 18 22:03	23° ✕ 36'20	
direct	14456 Nov 03 11:35	7° ✕ 19'36		retrograde	14463 Jun 15 09:13	25° ✕ 29'57	
evening set	14457 Jan 31 16:18	9° ✕ 13'54		opposition	14463 Sep 01 11:02	24° ✕ 06'55	0°33'53
				min. Earth dist.	14463 Sep 01 15:51	24° ✕ 06'35	29.23292 AU
conjunction	14457 Feb 16 19:07	9° ✕ 49'26	0°29'54	direct	14463 Nov 19 21:06	22° ✕ 42'35	
minimum elong	14457 Feb 16 19:08	9° ✕ 49'26	0°30'22	evening set	14464 Feb 17 06:30	24° ✕ 36'54	
max. Earth dist.	14457 Feb 16 17:34	9° ✕ 49'17	31.17341 AU				
morning rise	14457 Mar 04 21:32	10° ✕ 24'57		conjunction	14464 Mar 04 08:42	25° ✕ 12'20	0°31'47
retrograde	14457 Jun 01 15:16	12° ✕ 19'08		minimum elong	14464 Mar 04 08:42	25° ✕ 12'20	0°31'59
opposition	14457 Aug 18 21:22	10° ✕ 55'53	0°32'11	max. Earth dist.	14464 Mar 04 02:11	25° ✕ 11'44	31.23624 AU
min. Earth dist.	14457 Aug 18 22:02	10° ✕ 55'50	29.17965 AU	morning rise	14464 Mar 20 09:58	25° ✕ 47'41	
direct	14457 Nov 05 21:35	9° ✕ 31'37		retrograde	14464 Jun 16 18:56	27° ✕ 41'11	
evening set	14458 Feb 03 04:41	11° ✕ 25'58		opposition	14464 Sep 02 21:13	26° ✕ 18'10	0°34'00
				min. Earth dist.	14464 Sep 03 02:31	26° ✕ 17'47	29.23982 AU
conjunction	14458 Feb 19 07:33	12° ✕ 01'29	0°30'19	direct	14464 Nov 21 07:15	24° ✕ 53'47	
minimum elong	14458 Feb 19 07:33	12° ✕ 01'29	0°30'44	evening set	14465 Feb 18 18:23	26° ✕ 48'04	
max. Earth dist.	14458 Feb 19 06:09	12° ✕ 01'22	31.18546 AU				
morning rise	14458 Mar 07 09:39	12° ✕ 36'59		conjunction	14465 Mar 06 20:36	27° ✕ 23'29	0°31'52
retrograde	14458 Jun 04 02:04	14° ✕ 31'07		minimum elong	14465 Mar 06 20:37	27° ✕ 23'29	0°32'02
opposition	14458 Aug 21 07:47	13° ✕ 07'56	0°32'36	max. Earth dist.	14465 Mar 06 14:56	27° ✕ 22'58	31.24323 AU
min. Earth dist.	14458 Aug 21 09:55	13° ✕ 07'47	29.19127 AU	morning rise	14465 Mar 22 21:29	27° ✕ 58'48	
direct	14458 Nov 08 09:17	11° ✕ 43'42		retrograde	14465 Jun 19 03:20	29° ✕ 52'12	
evening set	14459 Feb 05 17:04	13° ✕ 38'04		opposition	14465 Sep 05 07:23	28° ✕ 29'12	0°34'04
				min. Earth dist.	14465 Sep 05 13:12	28° ✕ 28'47	29.24710 AU
conjunction	14459 Feb 21 19:48	14° ✕ 13'35	0°30'40	direct	14465 Nov 23 18:14	27° ✕ 04'47	
minimum elong	14459 Feb 21 19:48	14° ✕ 13'35	0°31'03	evening set	14466 Feb 21 06:24	28° ✕ 59'04	
max. Earth dist.	14459 Feb 21 16:58	14° ✕ 13'19	31.19659 AU				
morning rise	14459 Mar 09 21:53	14° ✕ 49'03		conjunction	14466 Mar 09 08:19	29° ✕ 34'27	0°31'55
retrograde	14459 Jun 06 15:12	16° ✕ 43'06		minimum elong	14466 Mar 09 08:19	29° ✕ 34'27	0°32'02
opposition	14459 Aug 23 18:04	15° ✕ 19'59	0°32'57	max. Earth dist.	14466 Mar 09 01:20	29° ✕ 33'49	31.25100 AU
min. Earth dist.	14459 Aug 23 20:01	15° ✕ 19'50	29.20172 AU		14466 Mar 20 21:41	0° °	
direct	14459 Nov 10 22:24	13° ✕ 55'45		morning rise	14466 Mar 25 09:10	0° ° 09'45	
evening set	14460 Feb 08 05:34	15° ✕ 50'08		retrograde	14466 Jun 21 14:45	2° ° 03'04	
				opposition	14466 Sep 07 17:26	0° ° 40'05	0°34'05
conjunction	14460 Feb 24 08:15	16° ✕ 25'38	0°30'59	min. Earth dist.	14466 Sep 07 22:45	0° ° 39'43	29.25542 AU
minimum elong	14460 Feb 24 08:15	16° ✕ 25'38	0°31'20		14466 Oct 02 17:30	30° ° 11'41	
max. Earth dist.	14460 Feb 24 04:49	16° ✕ 25'19	31.20631 AU	direct	14466 Nov 26 03:55	29° ✕ 15'40	
morning rise	14460 Mar 11 10:06	17° ✕ 01'05			14467 Jan 18 06:19	0° °	
retrograde	14460 Jun 08 01:34	18° ✕ 55'02		evening set	14467 Feb 23 18:11	1° ° 09'57	
opposition	14460 Aug 25 04:24	17° ✕ 31'57	0°33'16				
min. Earth dist.	14460 Aug 25 08:08	17° ✕ 31'42	29.21087 AU	conjunction	14467 Mar 11 20:07	1° ° 45'19	0°31'54
direct	14460 Nov 12 09:41	16° ✕ 07'43		minimum elong	14467 Mar 11 20:07	1° ° 45'19	0°31'59
evening set	14461 Feb 09 17:56	18° ✕ 02'06		max. Earth dist.	14467 Mar 11 13:45	1° ° 44'44	31.25975 AU
				morning rise	14467 Mar 27 20:38	2° ° 20'36	
conjunction	14461 Feb 25 20:34	18° ✕ 37'35	0°31'15	retrograde	14467 Jun 24 00:10	4° ° 13'51	
minimum elong	14461 Feb 25 20:34	18° ✕ 37'35	0°31'34	opposition	14467 Sep 10 03:40	2° ° 50'54	0°34'03
max. Earth dist.	14461 Feb 25 16:29	18° ✕ 37'12	31.21493 AU	min. Earth dist.	14467 Sep 10 10:01	2° ° 50'28	29.26459 AU
morning rise	14461 Mar 13 22:15	19° ✕ 13'00		direct	14467 Nov 28 15:17	1° ° 26'31	
retrograde	14461 Jun 10 12:47	21° ✕ 06'51		evening set	14468 Feb 26 06:10	3° ° 20'50	
opposition	14461 Aug 27 14:39	19° ✕ 43'48	0°33'31				
min. Earth dist.	14461 Aug 27 18:05	19° ✕ 43'34	29.21888 AU	conjunction	14468 Mar 13 07:51	3° ° 56'10	0°31'51
direct	14461 Nov 14 22:25	18° ✕ 19'32		minimum elong	14468 Mar 13 07:51	3° ° 56'10	0°31'53
evening set	14462 Feb 12 06:08	20° ✕ 13'54		max. Earth dist.	14468 Mar 13 00:34	3° ° 55'30	31.26939 AU
				morning rise	14468 Mar 29 08:15	4° ° 31'25	
conjunction	14462 Feb 28 08:34	20° ✕ 49'22	0°31'28	retrograde	14468 Jun 25 12:14	6° ° 24'37	
minimum elong	14462 Feb 28 08:34	20° ✕ 49'22	0°31'45	opposition	14468 Sep 11 13:39	5° ° 01'45	0°33'58
max. Earth dist.	14462 Feb 28 03:19	20° ✕ 48'53	31.22248 AU	min. Earth dist.	14468 Sep 11 19:25	5° ° 01'21	29.27441 AU
morning rise	14462 Mar 16 10:09	21° ✕ 24'46		direct	14468 Nov 30 03:20	3° ° 37'23	
retrograde	14462 Jun 13 00:03	23° ✕ 18'30		evening set	14469 Feb 27 18:06	5° ° 31'45	
opposition	14462 Aug 30 00:59	21° ✕ 55'28	0°33'44				
min. Earth dist.	14462 Aug 30 05:40	21° ✕ 55'08	29.22616 AU	conjunction	14469 Mar 15 19:38	6° ° 07'05	0°31'45
direct	14462 Nov 17 09:02	20° ✕ 31'10		minimum elong	14469 Mar 15 19:38	6° ° 07'05	0°31'45

max. Earth dist.	14469 Mar 15 12:15	6° Υ 06'24	31.27923 AU	conjunction	14476 Mar 31 05:00	21° Υ 23'56	0°29'47
morning rise	14469 Mar 31 19:44	6° Υ 42'18		minimum elong	14476 Mar 31 05:01	21° Υ 23'56	0°29'30
retrograde	14469 Jun 27 22:41	8° Υ 35'28		max. Earth dist.	14476 Mar 30 17:37	21° Υ 22'53	31.31930 AU
opposition	14469 Sep 13 23:58	7° Υ 12'40	0°33'50	morning rise	14476 Apr 16 03:21	21° Υ 59'02	
min. Earth dist.	14469 Sep 14 07:11	7° Υ 12'10	29.28422 AU	retrograde	14476 Jul 12 21:25	23° Υ 51'48	
direct	14469 Dec 02 13:49	5° Υ 48'21		opposition	14476 Sep 28 23:44	22° Υ 29'14	0°31'33
evening set	14470 Mar 02 05:52	7° Υ 42'45		min. Earth dist.	14476 Sep 29 10:50	22° Υ 28'28	29.32040 AU
				direct	14476 Dec 17 19:38	21° Υ 04'54	
				evening set	14477 Mar 17 16:20	22° Υ 59'21	
conjunction	14470 Mar 18 07:16	8° Υ 18'04	0°31'36				
minimum elong	14470 Mar 18 07:16	8° Υ 18'04	0°31'34				
max. Earth dist.	14470 Mar 17 23:33	8° Υ 17'21	31.28881 AU	conjunction	14477 Apr 02 16:15	23° Υ 34'33	0°29'20
morning rise	14470 Apr 03 07:09	8° Υ 53'16		minimum elong	14477 Apr 02 16:16	23° Υ 34'33	0°29'01
retrograde	14470 Jun 30 10:09	10° Υ 46'23		max. Earth dist.	14477 Apr 02 04:05	23° Υ 33'26	31.32128 AU
opposition	14470 Sep 16 10:10	9° Υ 23'40	0°33'39	morning rise	14477 Apr 18 14:27	24° Υ 09'37	
min. Earth dist.	14470 Sep 16 17:04	9° Υ 23'11	29.29329 AU	retrograde	14477 Jul 15 08:40	26° Υ 02'20	
direct	14470 Dec 05 02:25	7° Υ 59'23		opposition	14477 Oct 01 09:54	24° Υ 39'46	0°31'02
evening set	14471 Mar 04 17:53	9° Υ 53'49		min. Earth dist.	14477 Oct 01 20:11	24° Υ 39'03	29.32246 AU
				direct	14477 Dec 20 07:40	23° Υ 15'24	
				evening set	14478 Mar 20 03:37	25° Υ 09'50	
conjunction	14471 Mar 20 19:01	10° Υ 29'07	0°31'25				
minimum elong	14471 Mar 20 19:02	10° Υ 29'07	0°31'20				
max. Earth dist.	14471 Mar 20 10:03	10° Υ 28'18	31.29725 AU	conjunction	14478 Apr 05 03:21	25° Υ 45'01	0°28'50
morning rise	14471 Apr 05 18:44	11° Υ 04'19		minimum elong	14478 Apr 05 03:21	25° Υ 45'01	0°28'29
retrograde	14471 Jul 02 21:44	12° Υ 57'23		max. Earth dist.	14478 Apr 04 15:20	25° Υ 43'55	31.32349 AU
opposition	14471 Sep 18 20:23	11° Υ 34'43	0°33'25	morning rise	14478 Apr 21 01:14	26° Υ 20'04	
min. Earth dist.	14471 Sep 19 04:36	11° Υ 34'09	29.30118 AU	retrograde	14478 Jul 17 18:28	28° Υ 12'45	
direct	14471 Dec 07 12:58	10° Υ 10'27		opposition	14478 Oct 03 20:14	26° Υ 50'10	0°30'29
evening set	14472 Mar 06 05:49	12° Υ 04'54		min. Earth dist.	14478 Oct 04 07:34	26° Υ 49'23	29.32509 AU
				direct	14478 Dec 22 17:56	25° Υ 25'47	
				evening set	14479 Mar 22 15:01	27° Υ 20'14	
conjunction	14472 Mar 22 06:53	12° Υ 40'12	0°31'10				
minimum elong	14472 Mar 22 06:54	12° Υ 40'12	0°31'03				
max. Earth dist.	14472 Mar 21 21:57	12° Υ 39'23	31.30439 AU	conjunction	14479 Apr 07 14:33	27° Υ 55'24	0°28'18
morning rise	14472 Apr 07 06:14	13° Υ 15'22		minimum elong	14479 Apr 07 14:34	27° Υ 55'24	0°27'55
retrograde	14472 Jul 04 07:13	15° Υ 08'23		max. Earth dist.	14479 Apr 07 02:41	27° Υ 54'19	31.32659 AU
opposition	14472 Sep 20 06:44	13° Υ 45'47	0°33'08	morning rise	14479 Apr 23 12:10	28° Υ 30'26	
min. Earth dist.	14472 Sep 20 15:15	13° Υ 45'11	29.30747 AU		14479 Jun 12 23:35	0° \mathcal{B}	
direct	14472 Dec 09 01:15	12° Υ 21'32		retrograde	14479 Jul 20 05:30	0° \mathcal{B} 23'03	
evening set	14473 Mar 08 17:42	14° Υ 15'59			14479 Aug 27 05:01	30° $\mathcal{R}\Upsilon$	
				opposition	14479 Oct 06 06:19	29° Υ 00'30	0°29'54
conjunction	14473 Mar 24 18:24	14° Υ 51'16	0°30'53	min. Earth dist.	14479 Oct 06 16:50	28° Υ 59'47	29.32856 AU
minimum elong	14473 Mar 24 18:24	14° Υ 51'16	0°30'44	direct	14479 Dec 25 06:54	27° Υ 36'08	
max. Earth dist.	14473 Mar 24 07:46	14° Υ 50'17	31.30994 AU	evening set	14480 Mar 24 02:28	29° Υ 30'36	
morning rise	14473 Apr 09 17:37	15° Υ 26'25			14480 Apr 06 11:23	0° \mathcal{B}	
retrograde	14473 Jul 06 17:18	17° Υ 19'23					
opposition	14473 Sep 22 17:02	15° Υ 56'48	0°32'48	conjunction	14480 Apr 09 01:40	0° \mathcal{B} 05'46	0°27'44
min. Earth dist.	14473 Sep 23 02:09	15° Υ 56'10	29.31237 AU	minimum elong	14480 Apr 09 01:41	0° \mathcal{B} 05'46	0°27'19
direct	14473 Dec 11 11:22	14° Υ 32'33		max. Earth dist.	14480 Apr 08 13:08	0° \mathcal{B} 04'36	31.33050 AU
evening set	14474 Mar 11 05:24	16° Υ 27'00		morning rise	14480 Apr 24 23:04	0° \mathcal{B} 40'46	
				retrograde	14480 Jul 21 17:29	2° \mathcal{B} 33'23	
conjunction	14474 Mar 27 06:05	17° Υ 02'16	0°30'34	opposition	14480 Oct 07 16:39	1° \mathcal{B} 10'52	0°29'16
minimum elong	14474 Mar 27 06:05	17° Υ 02'16	0°30'22	min. Earth dist.	14480 Oct 08 03:46	1° \mathcal{B} 10'06	29.33293 AU
max. Earth dist.	14474 Mar 26 19:56	17° Υ 01'20	31.31411 AU		14480 Nov 27 12:29	30° $\mathcal{R}\Upsilon$	
morning rise	14474 Apr 12 04:53	17° Υ 37'24		direct	14480 Dec 26 17:58	29° Υ 46'32	
retrograde	14474 Jul 09 01:42	19° Υ 30'18			14481 Jan 24 13:30	0° \mathcal{B}	
opposition	14474 Sep 25 03:18	18° Υ 07'44	0°32'26	evening set	14481 Mar 26 13:36	1° \mathcal{B} 41'01	
min. Earth dist.	14474 Sep 25 13:22	18° Υ 07'03	29.31588 AU				
direct	14474 Dec 13 22:14	16° Υ 43'28		conjunction	14481 Apr 11 12:41	2° \mathcal{B} 16'10	0°27'07
evening set	14475 Mar 13 17:10	18° Υ 37'55		minimum elong	14481 Apr 11 12:41	2° \mathcal{B} 16'10	0°26'40
				max. Earth dist.	14481 Apr 11 00:56	2° \mathcal{B} 15'05	31.33511 AU
conjunction	14475 Mar 29 17:31	19° Υ 13'10	0°30'12	morning rise	14481 Apr 27 09:41	2° \mathcal{B} 51'09	
minimum elong	14475 Mar 29 17:31	19° Υ 13'10	0°29'57	retrograde	14481 Jul 24 02:30	4° \mathcal{B} 43'45	
max. Earth dist.	14475 Mar 29 05:45	19° Υ 12'05	31.31716 AU	opposition	14481 Oct 10 02:58	3° \mathcal{B} 21'18	0°28'35
morning rise	14475 Apr 14 16:16	19° Υ 48'17		min. Earth dist.	14481 Oct 10 14:01	3° \mathcal{B} 20'32	29.33753 AU
retrograde	14475 Jul 11 12:47	21° Υ 41'07		direct	14481 Dec 29 06:16	1° \mathcal{B} 57'00	
opposition	14475 Sep 27 13:29	20° Υ 18'34	0°32'00	evening set	14482 Mar 29 01:00	3° \mathcal{B} 51'31	
min. Earth dist.	14475 Sep 27 23:19	20° Υ 17'53	29.31846 AU				
direct	14475 Dec 16 08:04	18° Υ 54'15		conjunction	14482 Apr 13 23:40	4° \mathcal{B} 26'38	0°26'28
evening set	14476 Mar 15 04:46	20° Υ 48'43		minimum elong	14482 Apr 13 23:41	4° \mathcal{B} 26'38	0°25'59

max. Earth dist.	14482 Apr 13 10:40	4°8'25"27	31.33971 AU	retrograde	14488 Aug 08 00:16	19°8'56"54	
morning rise	14482 Apr 29 20:33	5°8'01"37		opposition	14488 Oct 25 04:14	18°8'34"31	0°22'46
retrograde	14482 Jul 26 13:01	6°8'54"12		min. Earth dist.	14488 Oct 25 17:33	18°8'33"37	29.34395 AU
opposition	14482 Oct 12 13:13	5°8'31"48	0°27'52	direct	14489 Jan 13 11:26	17°8'10"11	
min. Earth dist.	14482 Oct 13 00:32	5°8'31"01	29.34199 AU	evening set	14489 Apr 13 07:30	19°8'04"42	
direct	14482 Dec 31 16:17	4°8'07"32					
evening set	14483 Mar 31 12:16	6°8'02"04		conjunction	14489 Apr 29 04:23	19°8'39"43	0°20'55
				minimum elong	14489 Apr 29 04:23	19°8'39"43	0°20'12
conjunction	14483 Apr 16 10:53	6°8'37"12	0°25'47	max. Earth dist.	14489 Apr 28 13:05	19°8'38"19	31.34244 AU
minimum elong	14483 Apr 16 10:53	6°8'37"12	0°25'14	morning rise	14489 May 14 23:17	20°8'14"35	
max. Earth dist.	14483 Apr 15 22:36	6°8'36"04	31.34372 AU	retrograde	14489 Aug 10 11:44	22°8'07"02	
morning rise	14483 May 02 07:19	7°8'12"09		opposition	14489 Oct 27 14:51	20°8'44"37	0°21'48
retrograde	14483 Jul 28 21:46	9°8'04"44		min. Earth dist.	14489 Oct 28 04:39	20°8'43"40	29.34125 AU
opposition	14483 Oct 14 23:42	7°8'42"22	0°27'06	direct	14490 Jan 15 22:43	19°8'20"14	
min. Earth dist.	14483 Oct 15 11:55	7°8'41"31	29.34545 AU	evening set	14490 Apr 15 18:19	21°8'14"45	
direct	14484 Jan 03 03:25	6°8'18"07					
evening set	14484 Apr 01 23:43	8°8'12"40		conjunction	14490 May 01 15:04	21°8'49"45	0°20'00
				minimum elong	14490 May 01 15:04	21°8'49"45	0°19'16
conjunction	14484 Apr 17 21:52	8°8'47"46	0°25'03	max. Earth dist.	14490 May 01 00:46	21°8'48"26	31.33982 AU
minimum elong	14484 Apr 17 21:53	8°8'47"46	0°24'29	morning rise	14490 May 17 09:36	22°8'24"36	
max. Earth dist.	14484 Apr 17 08:08	8°8'46"30	31.34662 AU	retrograde	14490 Aug 12 20:32	24°8'17"02	
morning rise	14484 May 03 18:11	9°8'22"43		opposition	14490 Oct 30 01:18	22°8'54"36	0°20'48
retrograde	14484 Jul 30 08:44	11°8'15"17		min. Earth dist.	14490 Oct 30 14:51	22°8'53"40	29.33883 AU
opposition	14484 Oct 16 10:06	9°8'52"56	0°26'18	direct	14491 Jan 18 11:17	21°8'30"12	
min. Earth dist.	14484 Oct 16 21:56	9°8'52"07	29.34774 AU	evening set	14491 Apr 18 05:17	23°8'24"43	
direct	14485 Jan 04 13:39	8°8'28"41		max. Earth dist.	14491 May 03 10:24	23°8'58"19	31.33782 AU
evening set	14485 Apr 04 10:59	10°8'23"15					
				conjunction	14491 May 04 01:36	23°8'59"43	0°19'04
conjunction	14485 Apr 20 09:01	10°8'58"20	0°24'17	minimum elong	14491 May 04 01:36	23°8'59"43	0°18'17
minimum elong	14485 Apr 20 09:01	10°8'58"20	0°23'41	morning rise	14491 May 19 20:00	24°8'34"33	
max. Earth dist.	14485 Apr 19 19:34	10°8'57"06	31.34817 AU	retrograde	14491 Aug 15 07:11	26°8'26"58	
morning rise	14485 May 06 04:53	11°8'33"17		opposition	14491 Nov 01 11:54	25°8'04"33	0°19'47
retrograde	14485 Aug 01 17:02	13°8'25"49		min. Earth dist.	14491 Nov 02 01:02	25°8'03"39	29.33736 AU
opposition	14485 Oct 18 20:44	12°8'03"29	0°25'28	direct	14492 Jan 20 21:48	23°8'40"10	
min. Earth dist.	14485 Oct 19 09:53	12°8'02"35	29.34864 AU	evening set	14492 Apr 19 16:00	25°8'34"42	
direct	14486 Jan 07 00:30	10°8'39"13					
evening set	14486 Apr 06 22:11	12°8'33"47		conjunction	14492 May 05 12:12	26°8'09"41	0°18'06
				minimum elong	14492 May 05 12:12	26°8'09"41	0°17'18
conjunction	14486 Apr 22 19:53	13°8'08"51	0°23'30	max. Earth dist.	14492 May 04 22:22	26°8'08"25	31.33678 AU
minimum elong	14486 Apr 22 19:54	13°8'08"51	0°22'52	morning rise	14492 May 21 06:08	26°8'44"31	
max. Earth dist.	14486 Apr 22 05:33	13°8'07"32	31.34844 AU	retrograde	14492 Aug 16 15:56	28°8'36"58	
morning rise	14486 May 08 15:37	13°8'43"46		opposition	14492 Nov 02 22:37	27°8'14"34	0°18'43
	14486 Jun 18 03:22	15°8'		min. Earth dist.	14492 Nov 03 12:03	27°8'13"38	29.33677 AU
retrograde	14486 Aug 04 03:48	15°8'36"17		direct	14493 Jan 22 09:01	25°8'50"13	
	14486 Sep 21 16:58	15°8'		evening set	14493 Apr 22 02:52	27°8'44"47	
opposition	14486 Oct 21 07:12	14°8'13"57	0°24'36				
min. Earth dist.	14486 Oct 21 19:46	14°8'13"05	29.34816 AU	conjunction	14493 May 07 22:38	28°8'19"46	0°17'06
direct	14487 Jan 09 11:58	12°8'49"40		minimum elong	14493 May 07 22:38	28°8'19"46	0°16'16
evening set	14487 Apr 09 09:27	14°8'44"13		max. Earth dist.	14493 May 07 08:04	28°8'18"25	31.33673 AU
	14487 Apr 16 14:30	15°8'		morning rise	14493 May 23 16:28	28°8'54"35	
					14493 Jun 26 04:32	0°8'11"47	
conjunction	14487 Apr 25 06:56	15°8'19"16	0°22'40	retrograde	14493 Aug 19 03:04	0°8'11"47	
minimum elong	14487 Apr 25 06:56	15°8'19"16	0°22'00		14493 Oct 14 05:59	30°8'11"47	
max. Earth dist.	14487 Apr 24 16:17	15°8'17"55	31.34727 AU	opposition	14493 Nov 05 09:12	29°8'24"43	0°17'38
morning rise	14487 May 11 02:19	15°8'54"10		min. Earth dist.	14493 Nov 05 21:39	29°8'23"52	29.33701 AU
retrograde	14487 Aug 06 13:37	17°8'46"40		direct	14494 Jan 24 19:01	28°8'00"25	
opposition	14487 Oct 23 17:43	16°8'24"18	0°23'42	evening set	14494 Apr 24 13:32	29°8'55"02	
min. Earth dist.	14487 Oct 24 07:39	16°8'23"21	29.34649 AU		14494 Apr 26 20:14	0°8'11"47	
direct	14488 Jan 11 22:05	14°8'59"59					
	14488 Jan 11 00:10	15°8'		conjunction	14494 May 10 09:10	0°8'11"47	0°16'05
	14488 Jan 12 20:06	15°8'		minimum elong	14494 May 10 09:10	0°8'11"47	0°15'14
evening set	14488 Apr 10 20:34	16°8'54"32		behind sun begin	14494 May 10 07:05	0°8'11"47	
				behind sun end	14494 May 10 11:15	0°8'11"47	
conjunction	14488 Apr 26 17:49	17°8'29"34	0°21'48	max. Earth dist.	14494 May 09 19:23	0°8'11"47	31.33706 AU
minimum elong	14488 Apr 26 17:49	17°8'29"34	0°21'07	morning rise	14494 May 26 02:37	1°8'11"47	
max. Earth dist.	14488 Apr 26 03:15	17°8'28"13	31.34519 AU	retrograde	14494 Aug 21 11:34	2°8'11"47	
morning rise	14488 May 12 12:56	18°8'04"27		opposition	14494 Nov 07 20:03	1°8'11"47	0°16'32

min. Earth dist.	14494 Nov 08 09:29	1°II34'09	29.33732 AU	behind sun begin	14500 May 23 18:53	13°II33'44	
direct	14495 Jan 27 05:15	0°II10'49		behind sun end	14500 May 24 06:12	13°II34'44	
evening set	14495 Apr 27 00:27	2°II05'28		morning rise	14500 Jun 08 16:33	14°II09'00	
				retrograde	14500 Sep 04 05:26	16°II01'47	
conjunction	14495 May 12 19:43	2°II40'26	0°15'02	opposition	14500 Nov 21 14:06	14°II39'30	0°09'25
minimum elong	14495 May 12 19:43	2°II40'26	0°14'09	min. Earth dist.	14500 Nov 22 03:44	14°II38'34	29.31873 AU
behind sun begin	14495 May 12 16:34	2°II40'10		direct	14501 Feb 10 01:45	13°II15'18	
behind sun end	14495 May 12 22:52	2°II40'43		evening set	14501 May 10 17:22	15°II10'02	
max. Earth dist.	14495 May 12 05:30	2°II39'08	31.33727 AU				
morning rise	14495 May 28 12:59	3°II15'15		conjunction	14501 May 26 11:05	15°II44'56	0°08'21
retrograde	14495 Aug 23 22:27	5°II07'51		minimum elong	14501 May 26 11:05	15°II44'56	0°07'22
opposition	14495 Nov 10 06:45	3°II45'35	0°15'24	behind sun begin	14501 May 26 05:09	15°II44'25	
min. Earth dist.	14495 Nov 10 19:20	3°II44'44	29.33718 AU	behind sun end	14501 May 26 17:00	15°II45'28	
direct	14496 Jan 29 15:42	2°II21'23		max. Earth dist.	14501 May 25 20:46	15°II43'37	31.31513 AU
evening set	14496 Apr 28 11:22	4°II16'05		morning rise	14501 Jun 11 02:42	16°II19'42	
				retrograde	14501 Sep 06 14:46	18°II12'29	
conjunction	14496 May 14 06:21	4°II51'03	0°13'57	opposition	14501 Nov 24 01:16	16°II50'09	0°08'11
minimum elong	14496 May 14 06:21	4°II51'03	0°13'04	min. Earth dist.	14501 Nov 24 15:28	16°II49'10	29.31166 AU
behind sun begin	14496 May 14 02:27	4°II50'42		direct	14502 Feb 12 14:28	15°II25'55	
behind sun end	14496 May 14 10:14	4°II51'23		evening set	14502 May 13 04:01	17°II20'37	
max. Earth dist.	14496 May 13 16:02	4°II49'43	31.33666 AU				
morning rise	14496 May 29 23:18	5°II25'51		conjunction	14502 May 28 21:20	17°II55'30	0°07'12
retrograde	14496 Aug 25 08:58	7°II18'31		minimum elong	14502 May 28 21:21	17°II55'30	0°06'12
opposition	14496 Nov 11 17:50	5°II56'17	0°14'14	behind sun begin	14502 May 28 15:13	17°II54'58	
min. Earth dist.	14496 Nov 12 07:31	5°II55'20	29.33616 AU	behind sun end	14502 May 29 03:29	17°II56'03	
direct	14497 Jan 31 00:54	4°II32'06		max. Earth dist.	14502 May 28 06:20	17°II54'07	31.30800 AU
evening set	14497 Apr 30 22:06	6°II26'50		morning rise	14502 Jun 13 12:55	18°II30'15	
				retrograde	14502 Sep 09 01:26	20°II23'03	
conjunction	14497 May 16 16:50	7°II01'47	0°12'52	opposition	14502 Nov 26 12:22	19°II00'40	0°06'56
minimum elong	14497 May 16 16:51	7°II01'47	0°11'57	min. Earth dist.	14502 Nov 27 01:26	18°II59'46	29.30454 AU
behind sun begin	14497 May 16 12:22	7°II01'23		direct	14503 Feb 15 01:56	17°II36'23	
behind sun end	14497 May 16 21:19	7°II02'10		evening set	14503 May 15 14:34	19°II31'04	
max. Earth dist.	14497 May 16 02:50	7°II00'29	31.33508 AU				
morning rise	14497 Jun 01 09:30	7°II36'35		conjunction	14503 May 31 07:43	20°II05'57	0°06'02
retrograde	14497 Aug 27 20:09	9°II29'17		minimum elong	14503 May 31 07:42	20°II05'57	0°05'01
opposition	14497 Nov 14 04:50	8°II07'04	0°13'04	behind sun begin	14503 May 31 01:25	20°II05'24	
min. Earth dist.	14497 Nov 14 17:56	8°II06'10	29.33385 AU	behind sun end	14503 May 31 14:00	20°II06'31	
direct	14498 Feb 02 14:14	6°II42'55		max. Earth dist.	14503 May 30 17:38	20°II04'39	31.30096 AU
evening set	14498 May 03 09:04	8°II37'40		morning rise	14503 Jun 15 22:53	20°II40'42	
				retrograde	14503 Sep 11 09:27	22°II33'31	
conjunction	14498 May 19 03:26	9°II12'36	0°11'46	opposition	14503 Nov 28 23:37	21°II11'05	0°05'41
minimum elong	14498 May 19 03:26	9°II12'36	0°10'50	min. Earth dist.	14503 Nov 29 13:18	21°II10'09	29.29789 AU
behind sun begin	14498 May 18 22:29	9°II12'09		direct	14504 Feb 17 12:42	19°II46'48	
behind sun end	14498 May 19 08:22	9°II13'02		evening set	14504 May 17 01:10	21°II41'28	
max. Earth dist.	14498 May 18 12:26	9°II11'13	31.33206 AU				
morning rise	14498 Jun 03 19:55	9°II47'23		conjunction	14504 Jun 01 17:58	22°II16'21	0°04'51
retrograde	14498 Aug 30 08:34	11°II40'08		minimum elong	14504 Jun 01 17:58	22°II16'21	0°03'51
opposition	14498 Nov 16 15:48	10°II17'54	0°11'52	behind sun begin	14504 Jun 01 11:35	22°II15'47	
min. Earth dist.	14498 Nov 17 05:33	10°II16'58	29.33021 AU	behind sun end	14504 Jun 02 00:22	22°II16'55	
direct	14499 Feb 05 01:20	8°II53'45		max. Earth dist.	14504 Jun 01 04:03	22°II15'03	31.29483 AU
evening set	14499 May 05 19:54	10°II48'31		morning rise	14504 Jun 17 09:00	22°II51'05	
				retrograde	14504 Sep 12 19:58	24°II43'57	
conjunction	14499 May 21 14:09	11°II23'26	0°10'38	opposition	14504 Nov 30 10:53	23°II21'30	0°04'25
minimum elong	14499 May 21 14:09	11°II23'26	0°09'41	min. Earth dist.	14504 Nov 30 23:03	23°II20'40	29.29216 AU
behind sun begin	14499 May 21 08:49	11°II22'58		direct	14505 Feb 18 23:30	21°II57'13	
behind sun end	14499 May 21 19:29	11°II23'55		evening set	14505 May 19 11:32	23°II51'54	
max. Earth dist.	14499 May 20 23:50	11°II22'07	31.32767 AU				
morning rise	14499 Jun 06 06:15	11°II58'13		conjunction	14505 Jun 04 04:07	24°II26'46	0°03'40
retrograde	14499 Sep 01 17:51	13°II50'59		minimum elong	14505 Jun 04 04:06	24°II26'46	0°02'38
opposition	14499 Nov 19 02:57	12°II28'44	0°10'39	behind sun begin	14505 Jun 03 21:38	24°II26'11	
min. Earth dist.	14499 Nov 19 16:47	12°II27'47	29.32501 AU	behind sun end	14505 Jun 04 10:33	24°II27'20	
direct	14500 Feb 07 13:59	11°II04'34		max. Earth dist.	14505 Jun 03 14:35	24°II25'31	31.28950 AU
evening set	14500 May 08 06:45	12°II59'20		morning rise	14505 Jun 19 18:54	25°II01'30	
max. Earth dist.	14500 May 23 09:05	13°II32'48	31.32189 AU	retrograde	14505 Sep 15 06:19	26°II54'27	
				opposition	14505 Dec 02 22:16	25°II32'00	0°03'08
conjunction	14500 May 24 00:33	13°II34'14	0°09'30	min. Earth dist.	14505 Dec 03 10:59	25°II31'07	29.28725 AU
minimum elong	14500 May 24 00:32	13°II34'14	0°08'33	direct	14506 Feb 21 08:49	24°II07'44	

evening set	14506 May 21 22:01	26°II02'26		minimum elong	14511 Jun 17 18:13	7°☾32'38	0°04'44
				behind sun begin	14511 Jun 17 11:55	7°☾32'04	
conjunction	14506 Jun 06 14:24	26°II37'18	0°02'27	behind sun end	14511 Jun 18 00:32	7°☾33'12	
minimum elong	14506 Jun 06 14:24	26°II37'18	0°01'25	max. Earth dist.	14511 Jun 17 05:28	7°☾31'27	31.25415 AU
behind sun begin	14506 Jun 06 07:57	26°II36'43		morning rise	14511 Jul 03 07:52	8°☾07'23	
behind sun end	14506 Jun 06 20:52	26°II37'53		retrograde	14511 Sep 29 02:46	10°☾00'51	
max. Earth dist.	14506 Jun 06 01:46	26°II36'08	31.28489 AU	opposition	14511 Dec 16 19:50	8°☾38'26	-0°04'34
morning rise	14506 Jun 22 04:58	27°II12'02		min. Earth dist.	14511 Dec 17 06:59	8°☾37'40	29.24947 AU
retrograde	14506 Sep 17 17:08	29°II05'03		direct	14512 Mar 06 07:38	7°☾14'21	
opposition	14506 Dec 05 09:29	27°II42'37	0°01'51	evening set	14512 Jun 03 13:52	9°☾09'14	
min. Earth dist.	14506 Dec 05 21:16	27°II41'49	29.28264 AU				
direct	14507 Feb 23 21:15	26°II18'24		conjunction	14512 Jun 19 04:45	9°☾44'06	-0°04'52
evening set	14507 May 24 08:41	28°II13'09		minimum elong	14512 Jun 19 04:44	9°☾44'06	0°05'54
max. Earth dist.	14507 Jun 08 11:28	28°II46'47	31.28028 AU	behind sun begin	14512 Jun 18 22:35	9°☾43'32	
				behind sun end	14512 Jun 19 10:54	9°☾44'39	
conjunction	14507 Jun 09 00:42	28°II48'00	0°01'12	max. Earth dist.	14512 Jun 18 16:31	9°☾42'58	31.24423 AU
minimum elong	14507 Jun 09 00:41	28°II48'01	0°00'10	morning rise	14512 Jul 04 18:06	10°☾18'51	
behind sun begin	14507 Jun 08 18:18	28°II47'26		retrograde	14512 Sep 30 11:41	12°☾12'24	
behind sun end	14507 Jun 09 07:04	28°II48'35		opposition	14512 Dec 18 07:50	10°☾49'56	-0°05'50
morning rise	14507 Jun 24 15:08	29°II22'45		min. Earth dist.	14512 Dec 18 19:52	10°☾49'06	29.23893 AU
	14507 Jul 12 10:50	0°☾		direct	14513 Mar 08 18:54	9°☾25'50	
retrograde	14507 Sep 20 05:43	1°☾15'52		evening set	14513 Jun 06 00:22	11°☾20'42	
	14507 Dec 03 20:44	30°☾					
opposition	14507 Dec 07 21:01	29°II53'26	0°00'34	conjunction	14513 Jun 21 15:01	11°☾55'34	-0°06'03
min. Earth dist.	14507 Dec 08 08:58	29°II52'37	29.27799 AU	minimum elong	14513 Jun 21 15:01	11°☾55'34	0°07'06
direct	14508 Feb 26 07:24	28°II29'16		behind sun begin	14513 Jun 21 09:04	11°☾55'02	
	14508 May 14 12:05	0°☾		behind sun end	14513 Jun 21 20:59	11°☾56'06	
evening set	14508 May 25 19:07	0°☾24'03		max. Earth dist.	14513 Jun 21 02:48	11°☾54'26	31.23321 AU
desc. node	14508 Jun 07 13:48	0°☾52'26		morning rise	14513 Jul 07 04:19	12°☾30'19	
				retrograde	14513 Oct 02 22:28	14°☾23'56	
conjunction	14508 Jun 10 11:00	0°☾58'54	-0°00'03	opposition	14513 Dec 20 19:37	13°☾01'24	-0°07'06
minimum elong	14508 Jun 10 11:00	0°☾58'54	0°01'05	min. Earth dist.	14513 Dec 21 06:29	13°☾00'40	29.22735 AU
behind sun begin	14508 Jun 10 04:33	0°☾58'20		direct	14514 Mar 11 06:21	11°☾37'17	
behind sun end	14508 Jun 10 17:27	0°☾59'29		evening set	14514 Jun 08 10:57	13°☾32'08	
max. Earth dist.	14508 Jun 09 22:59	0°☾57'48	31.27533 AU				
morning rise	14508 Jun 26 01:05	1°☾33'38		conjunction	14514 Jun 24 01:23	14°☾06'59	-0°07'13
retrograde	14508 Sep 21 15:51	3°☾26'51		minimum elong	14514 Jun 24 01:22	14°☾06'59	0°08'14
opposition	14508 Dec 09 08:41	2°☾04'27	-0°00'43	behind sun begin	14514 Jun 23 19:39	14°☾06'29	
min. Earth dist.	14508 Dec 09 20:28	2°☾03'39	29.27260 AU	behind sun end	14514 Jun 24 07:05	14°☾07'30	
direct	14509 Feb 27 19:37	0°☾40'19		max. Earth dist.	14514 Jun 23 13:14	14°☾05'52	31.22129 AU
evening set	14509 May 28 05:51	2°☾35'08		morning rise	14514 Jul 09 14:31	14°☾41'45	
				retrograde	14514 Oct 05 08:40	16°☾35'26	
conjunction	14509 Jun 12 21:17	3°☾09'59	-0°01'17	opposition	14514 Dec 23 07:26	15°☾12'50	-0°08'20
minimum elong	14509 Jun 12 21:18	3°☾10'00	0°02'20	min. Earth dist.	14514 Dec 23 18:57	15°☾12'03	29.21539 AU
behind sun begin	14509 Jun 12 14:51	3°☾09'25		direct	14515 Mar 13 16:19	13°☾48'40	
behind sun end	14509 Jun 13 03:45	3°☾10'34		evening set	14515 Jun 10 21:24	15°☾43'31	
max. Earth dist.	14509 Jun 12 08:21	3°☾08'48	31.26954 AU				
morning rise	14509 Jun 28 11:21	3°☾44'44		conjunction	14515 Jun 26 11:42	16°☾18'21	-0°08'22
retrograde	14509 Sep 24 04:36	5°☾38'02		minimum elong	14515 Jun 26 11:42	16°☾18'21	0°09'24
opposition	14509 Dec 11 20:15	4°☾15'38	-0°02'00	behind sun begin	14515 Jun 26 06:17	16°☾17'52	
min. Earth dist.	14509 Dec 12 07:42	4°☾14'51	29.26634 AU	behind sun end	14515 Jun 26 17:06	16°☾18'50	
direct	14510 Mar 02 07:04	2°☾51'32		max. Earth dist.	14515 Jun 26 00:42	16°☾17'20	31.20943 AU
evening set	14510 May 30 16:26	4°☾46'23		morning rise	14515 Jul 12 00:37	16°☾53'07	
				retrograde	14515 Oct 07 19:04	18°☾46'52	
conjunction	14510 Jun 15 07:51	5°☾21'15	-0°02'29	opposition	14515 Dec 25 19:21	17°☾24'12	-0°09'34
minimum elong	14510 Jun 15 07:50	5°☾21'15	0°03'32	min. Earth dist.	14515 Dec 26 05:35	17°☾23'30	29.20371 AU
behind sun begin	14510 Jun 15 01:26	5°☾20'41		direct	14516 Mar 15 05:01	16°☾00'01	
behind sun end	14510 Jun 15 14:15	5°☾21'49		evening set	14516 Jun 12 07:49	17°☾54'50	
max. Earth dist.	14510 Jun 14 19:55	5°☾20'09	31.26255 AU				
morning rise	14510 Jun 30 21:32	5°☾55'59		conjunction	14516 Jun 27 21:45	18°☾29'41	-0°09'31
retrograde	14510 Sep 26 15:10	7°☾49'23		minimum elong	14516 Jun 27 21:45	18°☾29'41	0°10'31
opposition	14510 Dec 14 08:05	6°☾26'59	-0°03'17	behind sun begin	14516 Jun 27 16:42	18°☾29'14	
min. Earth dist.	14510 Dec 14 20:12	6°☾26'09	29.25861 AU	behind sun end	14516 Jun 28 02:48	18°☾30'08	
direct	14511 Mar 04 19:50	5°☾02'54		max. Earth dist.	14516 Jun 27 10:32	18°☾28'39	31.19815 AU
evening set	14511 Jun 02 03:12	6°☾57'47		morning rise	14516 Jul 13 10:38	19°☾04'26	
				retrograde	14516 Oct 09 07:23	20°☾58'18	
conjunction	14511 Jun 17 18:13	7°☾32'38	-0°03'41	opposition	14516 Dec 27 07:22	19°☾35'34	-0°10'48

min. Earth dist.	14516 Dec 27 17:13	19°☾34'53	29.19305 AU	conjunction	14522 Jul 11 11:37	1°♊39'52	-0°16'05
direct	14517 Mar 17 14:36	18°☾11'22		minimum elong	14522 Jul 11 11:37	1°♊39'52	0°17'00
evening set	14517 Jun 14 18:09	20°☾06'12		max. Earth dist.	14522 Jul 11 03:59	1°♊39'09	31.14473 AU
				morning rise	14522 Jul 26 23:48	2°♊14'40	
conjunction	14517 Jun 30 08:05	20°☾41'03	-0°10'39	retrograde	14522 Oct 23 04:55	4°♊09'10	
minimum elong	14517 Jun 30 08:04	20°☾41'03	0°11'40	opposition	14523 Jan 10 08:10	2°♊46'18	-0°17'46
behind sun begin	14517 Jun 30 03:28	20°☾40'38		min. Earth dist.	14523 Jan 10 14:45	2°♊45'51	29.13991 AU
behind sun end	14517 Jun 30 12:41	20°☾41'28		direct	14523 Mar 31 14:42	1°♊22'15	
max. Earth dist.	14517 Jun 29 22:31	20°☾40'10	31.18799 AU	evening set	14523 Jun 28 09:22	3°♊17'12	
morning rise	14517 Jul 15 20:41	21°☾15'48					
retrograde	14517 Oct 11 17:37	23°☾09'45		conjunction	14523 Jul 13 22:08	3°♊52'04	-0°17'06
opposition	14517 Dec 29 19:14	21°☾46'59	-0°12'00	minimum elong	14523 Jul 13 22:09	3°♊52'04	0°18'02
min. Earth dist.	14517 Dec 30 04:28	21°☾46'21	29.18334 AU	max. Earth dist.	14523 Jul 13 14:28	3°♊51'21	31.13472 AU
direct	14518 Mar 20 02:32	20°☾22'48		morning rise	14523 Jul 29 10:16	4°♊26'53	
evening set	14518 Jun 17 04:40	22°☾17'40		retrograde	14523 Oct 25 15:40	6°♊21'29	
				opposition	14524 Jan 12 20:47	4°♊58'35	-0°18'51
conjunction	14518 Jul 02 18:15	22°☾52'30	-0°11'46	min. Earth dist.	14524 Jan 13 04:03	4°♊58'05	29.12943 AU
minimum elong	14518 Jul 02 18:15	22°☾52'30	0°12'46	direct	14524 Apr 02 01:09	3°♊34'32	
behind sun begin	14518 Jul 02 14:10	22°☾52'08		evening set	14524 Jun 29 19:55	5°♊29'28	
behind sun end	14518 Jul 02 22:20	22°☾52'52					
max. Earth dist.	14518 Jul 02 08:15	22°☾51'35	31.17883 AU	conjunction	14524 Jul 15 08:40	6°♊04'20	-0°18'06
morning rise	14518 Jul 18 06:55	23°☾27'16		minimum elong	14524 Jul 15 08:40	6°♊04'20	0°19'00
retrograde	14518 Oct 14 07:10	25°☾21'19		max. Earth dist.	14524 Jul 15 01:55	6°♊03'43	31.12367 AU
opposition	14519 Jan 01 07:14	23°☾58'32	-0°13'12	morning rise	14524 Jul 30 20:39	6°♊39'10	
min. Earth dist.	14519 Jan 01 15:34	23°☾57'58	29.17459 AU	retrograde	14524 Oct 27 02:12	8°♊33'53	
direct	14519 Mar 22 14:15	22°☾34'22		opposition	14525 Jan 14 09:18	7°♊10'55	-0°19'54
evening set	14519 Jun 19 15:01	24°☾29'15		min. Earth dist.	14525 Jan 14 15:36	7°♊10'29	29.11770 AU
				direct	14525 Apr 04 13:44	5°♊46'51	
conjunction	14519 Jul 05 04:34	25°☾04'06	-0°12'52	evening set	14525 Jul 02 06:42	7°♊41'47	
minimum elong	14519 Jul 05 04:34	25°☾04'06	0°13'52				
behind sun begin	14519 Jul 05 01:09	25°☾03'48		conjunction	14525 Jul 17 19:12	8°♊16'39	-0°19'04
behind sun end	14519 Jul 05 07:58	25°☾04'24		minimum elong	14525 Jul 17 19:12	8°♊16'39	0°19'58
max. Earth dist.	14519 Jul 04 20:10	25°☾03'20	31.17029 AU	max. Earth dist.	14525 Jul 17 11:46	8°♊15'57	31.11141 AU
morning rise	14519 Jul 20 16:57	25°☾38'52		morning rise	14525 Aug 02 07:17	8°♊51'29	
retrograde	14519 Oct 16 18:21	27°☾33'02		retrograde	14525 Oct 29 14:31	10°♊46'17	
opposition	14520 Jan 03 19:25	26°☾10'14	-0°14'22	opposition	14526 Jan 16 21:44	9°♊23'15	-0°20'56
min. Earth dist.	14520 Jan 04 03:56	26°☾09'39	29.16621 AU	min. Earth dist.	14526 Jan 17 04:08	9°♊22'48	29.10504 AU
direct	14520 Mar 24 02:56	24°☾46'07		direct	14526 Apr 06 23:30	7°♊59'09	
evening set	14520 Jun 21 01:33	26°☾41'01		evening set	14526 Jul 04 17:17	9°♊54'04	
conjunction	14520 Jul 06 14:48	27°☾15'52	-0°13'58	conjunction	14526 Jul 20 05:52	10°♊28'56	-0°20'01
minimum elong	14520 Jul 06 14:48	27°☾15'52	0°14'56	minimum elong	14526 Jul 20 05:52	10°♊28'56	0°20'52
behind sun begin	14520 Jul 06 12:16	27°☾15'38		max. Earth dist.	14526 Jul 19 23:48	10°♊28'22	31.09838 AU
behind sun end	14520 Jul 06 17:20	27°☾16'05		morning rise	14526 Aug 04 17:46	11°♊03'47	
max. Earth dist.	14520 Jul 06 06:10	27°☾15'04	31.16211 AU	retrograde	14526 Nov 01 01:12	12°♊58'40	
morning rise	14520 Jul 22 03:13	27°☾50'39		opposition	14527 Jan 19 10:17	11°♊35'32	-0°21'55
retrograde	14520 Oct 18 06:38	29°☾44'55		min. Earth dist.	14527 Jan 19 16:14	11°♊35'08	29.09173 AU
opposition	14521 Jan 05 07:34	28°☾22'06	-0°15'31	direct	14527 Apr 09 12:10	10°♊11'26	
min. Earth dist.	14521 Jan 05 14:41	28°☾21'37	29.15801 AU	evening set	14527 Jul 07 03:54	12°♊06'18	
direct	14521 Mar 26 14:29	26°☾58'00					
evening set	14521 Jun 23 11:58	28°☾52'56		conjunction	14527 Jul 22 16:11	12°♊41'11	-0°20'56
				minimum elong	14527 Jul 22 16:11	12°♊41'11	0°21'47
conjunction	14521 Jul 09 01:09	29°☾27'47	-0°15'02	max. Earth dist.	14527 Jul 22 09:42	12°♊40'34	31.08513 AU
minimum elong	14521 Jul 09 01:09	29°☾27'47	0°16'00	morning rise	14527 Aug 07 04:13	13°♊16'02	
behind sun begin	14521 Jul 09 00:15	29°☾27'42			14527 Oct 08 21:48	15°♊	
behind sun end	14521 Jul 09 02:02	29°☾27'52		retrograde	14527 Nov 03 14:44	15°♊11'01	
max. Earth dist.	14521 Jul 08 17:20	29°☾27'04	31.15368 AU		14527 Nov 29 17:34	15°♊	
	14521 Jul 23 09:18	0°♊		opposition	14528 Jan 21 22:51	13°♊47'48	-0°22'53
morning rise	14521 Jul 24 13:24	0°♊02'35		min. Earth dist.	14528 Jan 22 03:50	13°♊47'27	29.07874 AU
retrograde	14521 Oct 20 16:57	1°♊56'58		direct	14528 Apr 10 23:49	12°♊23'39	
opposition	14522 Jan 07 19:57	0°♊34'08	-0°16'39	evening set	14528 Jul 08 14:24	14°♊18'31	
min. Earth dist.	14522 Jan 08 03:46	0°♊33'36	29.14936 AU				
	14522 Jan 29 06:27	30°♊		conjunction	14528 Jul 24 02:44	14°♊53'24	-0°21'49
direct	14522 Mar 29 02:23	29°☾10'04		minimum elong	14528 Jul 24 02:44	14°♊53'24	0°22'38
	14522 May 24 03:53	0°♊		max. Earth dist.	14528 Jul 23 21:59	14°♊52'58	31.07243 AU
evening set	14522 Jun 25 22:37	1°♊05'00			14528 Jul 27 00:33	15°♊	
				morning rise	14528 Aug 08 14:34	15°♊28'16	

retrograde	14528 Nov 05 02:06	17°02'21"		direct	14535 Apr 27 08:47	27°05'23"	
opposition	14529 Jan 23 11:28	16°00'04"	-0°23'49"	evening set	14535 Jul 24 17:08	29°04'48"	22
min. Earth dist.	14529 Jan 23 16:20	15°05'44"	29.06659 AU		14535 Jul 29 22:07	0°00'	
	14529 Mar 05 03:09	15°08'00"					
direct	14529 Apr 13 12:18	14°03'55"		conjunction	14535 Aug 09 05:05	0°00'23"	19 -0°27'05"
	14529 May 21 19:11	15°00'00"		minimum elong	14535 Aug 09 05:05	0°00'23"	19 0°27'42"
evening set	14529 Jul 11 00:56	16°03'04"	47	max. Earth dist.	14535 Aug 09 04:51	0°00'23"	18 31.00843 AU
				morning rise	14535 Aug 24 17:03	0°00'58"	19
conjunction	14529 Jul 26 13:06	17°05'40"	-0°22'41"	retrograde	14535 Nov 21 13:26	2°00'54"	20
minimum elong	14529 Jul 26 13:06	17°05'40"	0°23'28"	opposition	14536 Feb 09 04:52	1°00'30"	55 -0°29'18"
max. Earth dist.	14529 Jul 26 08:26	17°05'14"	31.06095 AU	min. Earth dist.	14536 Feb 09 05:16	1°00'30"	53 29.00386 AU
morning rise	14529 Aug 11 01:04	17°04'03"	33	direct	14536 Apr 28 21:35	0°00'07"	03
retrograde	14529 Nov 07 14:59	19°03'54"	45	evening set	14536 Jul 26 04:15	2°00'02"	02
opposition	14530 Jan 25 23:59	18°01'25"	-0°24'43"				
min. Earth dist.	14530 Jan 26 03:07	18°01'12"	29.05571 AU	conjunction	14536 Aug 10 16:02	2°00'37"	00 -0°27'41"
direct	14530 Apr 16 00:03	16°04'8"	17	minimum elong	14536 Aug 10 16:02	2°00'37"	00 0°28'15"
evening set	14530 Jul 13 11:30	18°04'31"	10	max. Earth dist.	14536 Aug 10 15:02	2°00'36"	54 30.99893 AU
				morning rise	14536 Aug 26 04:15	3°00'12"	01
conjunction	14530 Jul 28 23:37	19°01'8"	04 -0°23'30"	retrograde	14536 Nov 23 03:29	5°00'08"	09
minimum elong	14530 Jul 28 23:37	19°01'8"	04 0°24'15"	opposition	14537 Feb 10 17:52	3°00'44"	40 -0°29'55"
max. Earth dist.	14530 Jul 28 20:04	19°01'74"	31.05059 AU	min. Earth dist.	14537 Feb 10 17:43	3°00'44"	41 28.99388 AU
morning rise	14530 Aug 13 11:30	19°05'25"	58	direct	14537 May 01 08:32	2°00'20"	48
retrograde	14530 Nov 10 02:11	21°04'8"	17	evening set	14537 Jul 28 15:12	4°00'15"	47
opposition	14531 Jan 28 12:38	20°02'45"	-0°25'35"				
min. Earth dist.	14531 Jan 28 15:59	20°02'42"	29.04597 AU	conjunction	14537 Aug 13 03:09	4°00'50"	46 -0°28'14"
direct	14531 Apr 18 12:19	19°00'05"	51	minimum elong	14537 Aug 13 03:09	4°00'50"	46 0°28'48"
evening set	14531 Jul 15 22:07	20°05'54"	44	max. Earth dist.	14537 Aug 13 03:19	4°00'50"	46 30.98827 AU
				morning rise	14537 Aug 28 15:19	5°00'25"	47
conjunction	14531 Jul 31 10:10	21°03'03"	39 -0°24'17"	retrograde	14537 Nov 25 15:04	7°00'22"	01
minimum elong	14531 Jul 31 10:10	21°03'03"	39 0°25'02"	opposition	14538 Feb 13 07:01	5°00'58"	28 -0°30'29"
max. Earth dist.	14531 Jul 31 07:22	21°03'02"	31.04148 AU	min. Earth dist.	14538 Feb 13 07:14	5°00'58"	27 28.98260 AU
morning rise	14531 Aug 15 22:05	22°05'34"	34	direct	14538 May 03 20:39	4°00'34"	36
retrograde	14531 Nov 12 15:16	24°01'01"	01	evening set	14538 Jul 31 02:15	6°00'29"	32
opposition	14532 Jan 31 01:18	22°03'73"	-0°26'24"				
min. Earth dist.	14532 Jan 31 02:54	22°03'73"	29.03724 AU	conjunction	14538 Aug 15 14:08	7°00'04"	31 -0°28'45"
direct	14532 Apr 20 00:56	21°01'37"	37	minimum elong	14538 Aug 15 14:08	7°00'04"	31 0°29'15"
evening set	14532 Jul 17 08:42	23°08'32"	32	max. Earth dist.	14538 Aug 15 13:56	7°00'04"	30 30.97660 AU
				morning rise	14538 Aug 31 02:30	7°00'39"	34
conjunction	14532 Aug 01 20:38	23°04'32"	28 -0°25'03"	retrograde	14538 Nov 28 04:47	9°00'35"	52
minimum elong	14532 Aug 01 20:38	23°04'32"	28 0°25'44"	opposition	14539 Feb 15 20:00	8°00'12"	14 -0°31'01"
max. Earth dist.	14532 Aug 01 18:14	23°04'31"	31.03307 AU	min. Earth dist.	14539 Feb 15 18:59	8°00'12"	18 28.97053 AU
morning rise	14532 Aug 17 08:38	24°01'8"	24	direct	14539 May 06 09:04	6°00'48"	19
retrograde	14532 Nov 14 02:16	26°01'40"	00	evening set	14539 Aug 02 13:14	8°00'43"	13
opposition	14533 Feb 01 14:10	24°05'03"	-0°27'11"				
min. Earth dist.	14533 Feb 01 16:07	24°05'02"	29.02916 AU	conjunction	14539 Aug 18 01:10	9°00'18"	12 -0°29'14"
direct	14533 Apr 22 11:23	23°02'63"	39	minimum elong	14539 Aug 18 01:10	9°00'18"	12 0°29'42"
evening set	14533 Jul 19 19:23	25°02'13"	35	max. Earth dist.	14539 Aug 18 01:48	9°00'18"	16 30.96429 AU
				morning rise	14539 Sep 02 13:35	9°00'53"	16
conjunction	14533 Aug 04 07:25	25°05'63"	-0°25'46"	retrograde	14539 Nov 30 17:13	11°00'49"	38
minimum elong	14533 Aug 04 07:25	25°05'63"	0°26'27"	opposition	14540 Feb 18 09:13	10°00'25"	53 -0°31'30"
max. Earth dist.	14533 Aug 04 06:18	25°05'62"	31.02514 AU	min. Earth dist.	14540 Feb 18 08:35	10°00'25"	56 28.95830 AU
morning rise	14533 Aug 19 19:21	26°03'12"	29	direct	14540 May 07 22:24	9°00'01"	57
retrograde	14533 Nov 16 13:05	28°02'71"	13	evening set	14540 Aug 04 00:03	10°00'56"	47
opposition	14534 Feb 04 02:49	27°03'50"	-0°27'56"				
min. Earth dist.	14534 Feb 04 03:39	27°03'46"	29.02115 AU	conjunction	14540 Aug 19 12:04	11°00'31"	48 -0°29'39"
direct	14534 Apr 24 23:34	25°03'95"	54	minimum elong	14540 Aug 19 12:04	11°00'31"	48 0°30'04"
evening set	14534 Jul 22 06:22	27°03'45"	52	max. Earth dist.	14540 Aug 19 13:26	11°00'31"	55 30.95231 AU
				morning rise	14540 Sep 04 00:37	12°00'06"	52
conjunction	14534 Aug 06 18:11	28°09'49"	-0°26'27"	retrograde	14540 Dec 02 06:36	14°00'03"	19
minimum elong	14534 Aug 06 18:12	28°09'49"	0°27'05"	opposition	14541 Feb 19 22:12	12°00'39"	28 -0°31'56"
max. Earth dist.	14534 Aug 06 16:33	28°09'40"	31.01704 AU	min. Earth dist.	14541 Feb 19 19:51	12°00'39"	38 28.94660 AU
morning rise	14534 Aug 22 06:18	28°04'44"	48	direct	14541 May 10 12:02	11°00'15"	30
	14534 Sep 30 00:09	0°00'00"		evening set	14541 Aug 06 11:06	13°00'10"	19
retrograde	14534 Nov 19 02:04	0°00'40"	40				
	14535 Jan 10 08:14	30°08'00"		conjunction	14541 Aug 21 23:04	13°00'45"	19 -0°30'02"
opposition	14535 Feb 06 15:48	29°01'71"	-0°28'38"	minimum elong	14541 Aug 21 23:04	13°00'45"	19 0°30'26"
min. Earth dist.	14535 Feb 06 16:36	29°01'71"	29.01293 AU	max. Earth dist.	14541 Aug 22 00:46	13°00'45"	29 30.94101 AU

morning rise	14541 Sep 06 11:47	14° \mathring{M} 20'25	conjunction	14548 Sep 06 05:43	29° \mathring{M} 23'11	-0°31'27
retrograde	14541 Dec 04 17:50	16° \mathring{M} 16'57	minimum elong	14548 Sep 06 05:43	29° \mathring{M} 23'11	0°31'33
opposition	14542 Feb 22 11:12	14° \mathring{M} 53'02 -0°32'19	max. Earth dist.	14548 Sep 06 11:55	29° \mathring{M} 23'46	30.88698 AU
min. Earth dist.	14542 Feb 22 09:07	14° \mathring{M} 53'10 28.93596 AU	morning rise	14548 Sep 21 19:30	29° \mathring{M} 58'27	
direct	14542 May 12 23:17	13° \mathring{M} 29'02		14548 Sep 22 12:17	0° \mathring{A}	
evening set	14542 Aug 08 22:03	15° \mathring{M} 23'50	retrograde	14548 Dec 20 11:33	1° \mathring{A} 55'47	
			opposition	14549 Mar 10 07:33	0° \mathring{A} 31'41 -0°33'37	
conjunction	14542 Aug 24 10:11	15° \mathring{M} 58'51 -0°30'23	min. Earth dist.	14549 Mar 10 01:48	0° \mathring{A} 32'05 28.88319 AU	
minimum elong	14542 Aug 24 10:12	15° \mathring{M} 58'51 0°30'44		14549 Mar 29 23:08	30° \mathring{R} \mathring{M}	
max. Earth dist.	14542 Aug 24 13:25	15° \mathring{M} 59'09 30.93099 AU	direct	14549 May 28 09:44	29° \mathring{M} 07'57	
morning rise	14542 Sep 08 22:55	16° \mathring{M} 33'58		14549 Jul 24 00:46	0° \mathring{A}	
retrograde	14542 Dec 07 05:24	18° \mathring{M} 30'35	evening set	14549 Aug 24 04:37	1° \mathring{A} 02'46	
opposition	14543 Feb 25 00:15	17° \mathring{M} 06'37 -0°32'39				
min. Earth dist.	14543 Feb 24 20:38	17° \mathring{M} 06'52 28.92648 AU	conjunction	14549 Sep 08 17:25	1° \mathring{A} 37'55 -0°31'27	
direct	14543 May 15 12:32	15° \mathring{M} 42'38	minimum elong	14549 Sep 08 17:25	1° \mathring{A} 37'55 0°31'32	
evening set	14543 Aug 11 09:02	17° \mathring{M} 37'25	max. Earth dist.	14549 Sep 08 23:45	1° \mathring{A} 38'31 30.87886 AU	
			morning rise	14549 Sep 24 07:23	2° \mathring{A} 13'12	
conjunction	14543 Aug 26 21:05	18° \mathring{M} 12'27 -0°30'40	retrograde	14549 Dec 23 01:49	4° \mathring{A} 10'38	
minimum elong	14543 Aug 26 21:05	18° \mathring{M} 12'27 0°31'00	opposition	14550 Mar 12 20:41	2° \mathring{A} 46'29 -0°33'36	
max. Earth dist.	14543 Aug 27 00:08	18° \mathring{M} 12'44 30.92213 AU	min. Earth dist.	14550 Mar 12 13:43	2° \mathring{A} 46'58 28.87446 AU	
morning rise	14543 Sep 11 10:06	18° \mathring{M} 47'35	direct	14550 May 30 23:15	1° \mathring{A} 22'44	
retrograde	14543 Dec 09 18:28	20° \mathring{M} 44'19	evening set	14550 Aug 26 16:13	3° \mathring{A} 17'33	
opposition	14544 Feb 27 13:27	19° \mathring{M} 20'18 -0°32'56				
min. Earth dist.	14544 Feb 27 09:29	19° \mathring{M} 20'35 28.91829 AU	conjunction	14550 Sep 11 05:05	3° \mathring{A} 52'43 -0°31'25	
direct	14544 May 16 22:44	17° \mathring{M} 56'22	minimum elong	14550 Sep 11 05:06	3° \mathring{A} 52'43 0°31'26	
evening set	14544 Aug 12 20:01	19° \mathring{M} 51'08	max. Earth dist.	14550 Sep 11 11:14	3° \mathring{A} 53'18 30.86961 AU	
			morning rise	14550 Sep 26 19:20	4° \mathring{A} 28'02	
conjunction	14544 Aug 28 08:19	20° \mathring{M} 26'11 -0°30'55	retrograde	14550 Dec 25 14:12	6° \mathring{A} 25'32	
minimum elong	14544 Aug 28 08:19	20° \mathring{M} 26'11 0°31'12	opposition	14551 Mar 15 10:08	5° \mathring{A} 01'19 -0°33'32	
max. Earth dist.	14544 Aug 28 13:08	20° \mathring{M} 26'38 30.91441 AU	min. Earth dist.	14551 Mar 15 03:54	5° \mathring{A} 01'45 28.86485 AU	
morning rise	14544 Sep 12 21:20	21° \mathring{M} 01'21	direct	14551 Jun 02 11:09	3° \mathring{A} 37'33	
retrograde	14544 Dec 11 05:37	22° \mathring{M} 58'12	evening set	14551 Aug 29 03:33	5° \mathring{A} 32'19	
opposition	14545 Mar 01 02:28	21° \mathring{M} 34'10 -0°33'11				
min. Earth dist.	14545 Feb 28 21:45	21° \mathring{M} 34'29 28.91094 AU	conjunction	14551 Sep 13 16:43	6° \mathring{A} 07'30 -0°31'20	
direct	14545 May 19 11:21	20° \mathring{M} 10'15	minimum elong	14551 Sep 13 16:43	6° \mathring{A} 07'31 0°31'20	
evening set	14545 Aug 15 07:12	22° \mathring{M} 05'02	max. Earth dist.	14551 Sep 14 00:00	6° \mathring{A} 08'12 30.85977 AU	
			morning rise	14551 Sep 29 07:05	6° \mathring{A} 42'50	
conjunction	14545 Aug 30 19:28	22° \mathring{M} 40'06 -0°31'07	retrograde	14551 Dec 28 03:05	8° \mathring{A} 40'23	
minimum elong	14545 Aug 30 19:28	22° \mathring{M} 40'06 0°31'23	opposition	14552 Mar 16 23:21	7° \mathring{A} 16'06 -0°33'25	
max. Earth dist.	14545 Aug 30 23:50	22° \mathring{M} 40'31 30.90749 AU	min. Earth dist.	14552 Mar 16 15:59	7° \mathring{A} 16'36 28.85480 AU	
morning rise	14545 Sep 15 08:50	23° \mathring{M} 15'18	direct	14552 Jun 04 01:32	5° \mathring{A} 52'18	
retrograde	14545 Dec 13 19:25	25° \mathring{M} 12'16	evening set	14552 Aug 30 15:06	7° \mathring{A} 47'01	
opposition	14546 Mar 03 15:37	23° \mathring{M} 48'13 -0°33'22				
min. Earth dist.	14546 Mar 03 10:08	23° \mathring{M} 48'36 28.90428 AU	conjunction	14552 Sep 15 04:17	8° \mathring{A} 22'13 -0°31'12	
direct	14546 May 21 21:36	22° \mathring{M} 24'21	minimum elong	14552 Sep 15 04:17	8° \mathring{A} 22'13 0°31'09	
evening set	14546 Aug 17 18:20	24° \mathring{M} 19'09	max. Earth dist.	14552 Sep 15 11:06	8° \mathring{A} 22'52 30.84980 AU	
			morning rise	14552 Sep 30 19:02	8° \mathring{A} 57'35	
conjunction	14546 Sep 02 06:48	24° \mathring{M} 54'15 -0°31'17	retrograde	14552 Dec 29 16:17	10° \mathring{A} 55'10	
minimum elong	14546 Sep 02 06:48	24° \mathring{M} 54'15 0°31'28	opposition	14553 Mar 19 12:27	9° \mathring{A} 30'47 -0°33'15	
max. Earth dist.	14546 Sep 02 12:39	24° \mathring{M} 54'48 30.90084 AU	min. Earth dist.	14553 Mar 19 05:08	9° \mathring{A} 31'18 28.84519 AU	
morning rise	14546 Sep 17 20:10	25° \mathring{M} 29'27	direct	14553 Jun 06 12:51	8° \mathring{A} 06'57	
retrograde	14546 Dec 16 07:18	27° \mathring{M} 26'33	evening set	14553 Sep 02 02:28	10° \mathring{A} 01'38	
opposition	14547 Mar 06 04:54	26° \mathring{M} 02'30 -0°33'30				
min. Earth dist.	14547 Mar 05 23:35	26° \mathring{M} 02'52 28.89764 AU	conjunction	14553 Sep 17 16:01	10° \mathring{A} 36'52 -0°31'01	
direct	14547 May 24 08:58	24° \mathring{M} 38'41	minimum elong	14553 Sep 17 16:01	10° \mathring{A} 36'52 0°30'57	
evening set	14547 Aug 20 05:43	26° \mathring{M} 33'30	max. Earth dist.	14553 Sep 18 00:27	10° \mathring{A} 37'39 30.84052 AU	
			morning rise	14553 Oct 03 06:50	11° \mathring{A} 12'14	
conjunction	14547 Sep 04 18:11	27° \mathring{M} 08'37 -0°31'23	retrograde	14554 Jan 01 02:47	13° \mathring{A} 09'52	
minimum elong	14547 Sep 04 18:11	27° \mathring{M} 08'37 0°31'33	opposition	14554 Mar 22 01:35	11° \mathring{A} 45'25 -0°33'02	
max. Earth dist.	14547 Sep 04 23:48	27° \mathring{M} 09'08 30.89423 AU	min. Earth dist.	14554 Mar 21 17:24	11° \mathring{A} 45'59 28.83638 AU	
morning rise	14547 Sep 20 07:50	27° \mathring{M} 43'51	direct	14554 Jun 09 02:11	10° \mathring{A} 21'34	
retrograde	14547 Dec 18 22:03	29° \mathring{M} 41'04	evening set	14554 Sep 04 13:56	12° \mathring{A} 16'13	
opposition	14548 Mar 07 18:08	28° \mathring{M} 17'00 -0°33'35				
min. Earth dist.	14548 Mar 07 11:39	28° \mathring{M} 17'27 28.89084 AU	conjunction	14554 Sep 20 03:28	12° \mathring{A} 51'27 -0°30'48	
direct	14548 May 25 20:49	26° \mathring{M} 53'14	minimum elong	14554 Sep 20 03:28	12° \mathring{A} 51'27 0°30'40	
evening set	14548 Aug 21 17:04	28° \mathring{M} 48'03	max. Earth dist.	14554 Sep 20 11:33	12° \mathring{A} 52'12 30.83238 AU	
			morning rise	14554 Oct 05 18:41	13° \mathring{A} 26'51	

retrograde	14555 Jan 03 15:34	15° <u>♂</u> 24'33		minimum elong	14561 Oct 05 14:47	28° <u>♂</u> 35'21	0°27'34
opposition	14555 Mar 24 14:43	14° <u>♂</u> 00'02 -0°32'46		max. Earth dist.	14561 Oct 06 02:05	28° <u>♂</u> 36'25	30.80621 AU
min. Earth dist.	14555 Mar 24 05:40	14° <u>♂</u> 00'39 28.82901 AU		morning rise	14561 Oct 21 07:51	29° <u>♂</u> 10'55	
direct	14555 Jun 11 12:43	12° <u>♂</u> 36'10			14561 Nov 13 20:38	0° <u>♂</u>	
evening set	14555 Sep 07 01:20	14° <u>♂</u> 30'47		retrograde	14562 Jan 19 13:42	1° <u>♂</u> 09'02	
					14562 Mar 30 23:55	30° <u>♂</u>	
conjunction	14555 Sep 22 15:12	15° <u>♂</u> 06'02 -0°30'32		opposition	14562 Apr 09 10:36	29° <u>♂</u> 44'23	-0°29'32
minimum elong	14555 Sep 22 15:12	15° <u>♂</u> 06'02 0°30'23		min. Earth dist.	14562 Apr 08 23:20	29° <u>♂</u> 45'10	28.80472 AU
max. Earth dist.	14555 Sep 23 00:57	15° <u>♂</u> 06'57 30.82566 AU		direct	14562 Jun 27 01:36	28° <u>♂</u> 20'38	
morning rise	14555 Oct 08 06:31	15° <u>♂</u> 41'27			14562 Sep 15 12:59	0° <u>♂</u>	
retrograde	14556 Jan 06 03:13	17° <u>♂</u> 39'13		evening set	14562 Sep 22 11:35	0° <u>♂</u> 15'11	
opposition	14556 Mar 26 03:51	16° <u>♂</u> 14'39 -0°32'27					
min. Earth dist.	14556 Mar 25 18:40	16° <u>♂</u> 15'17 28.82303 AU		conjunction	14562 Oct 08 03:04	0° <u>♂</u> 50'34	-0°27'22
direct	14556 Jun 13 00:01	14° <u>♂</u> 50'48		minimum elong	14562 Oct 08 03:04	0° <u>♂</u> 50'34	0°26'56
evening set	14556 Sep 08 12:49	16° <u>♂</u> 45'23		max. Earth dist.	14562 Oct 08 15:27	0° <u>♂</u> 51'45	30.80262 AU
				morning rise	14562 Oct 23 20:15	1° <u>♂</u> 26'09	
conjunction	14556 Sep 24 02:50	17° <u>♂</u> 20'39 -0°30'13		retrograde	14563 Jan 22 01:30	3° <u>♂</u> 24'18	
minimum elong	14556 Sep 24 02:50	17° <u>♂</u> 20'39 0°30'00		opposition	14563 Apr 11 23:48	1° <u>♂</u> 59'37	-0°28'53
max. Earth dist.	14556 Sep 24 12:35	17° <u>♂</u> 21'34 30.82050 AU		min. Earth dist.	14563 Apr 11 12:07	2° <u>♂</u> 00'25	28.80064 AU
morning rise	14556 Oct 09 18:32	17° <u>♂</u> 56'06		direct	14563 Jun 29 15:20	0° <u>♂</u> 35'52	
retrograde	14557 Jan 07 17:01	19° <u>♂</u> 53'55		evening set	14563 Sep 24 23:42	2° <u>♂</u> 30'22	
opposition	14557 Mar 28 16:54	18° <u>♂</u> 29'20 -0°32'06					
min. Earth dist.	14557 Mar 28 06:19	18° <u>♂</u> 30'04 28.81851 AU		conjunction	14563 Oct 10 15:18	3° <u>♂</u> 05'46	-0°26'45
direct	14557 Jun 15 11:45	17° <u>♂</u> 05'29		minimum elong	14563 Oct 10 15:18	3° <u>♂</u> 05'46	0°26'17
evening set	14557 Sep 11 00:24	19° <u>♂</u> 00'04		max. Earth dist.	14563 Oct 11 02:42	3° <u>♂</u> 06'50	30.79832 AU
				morning rise	14563 Oct 26 08:58	3° <u>♂</u> 41'22	
conjunction	14557 Sep 26 14:38	19° <u>♂</u> 35'21 -0°29'51		retrograde	14564 Jan 24 15:07	5° <u>♂</u> 39'31	
minimum elong	14557 Sep 26 14:38	19° <u>♂</u> 35'21 0°29'37		opposition	14564 Apr 13 12:51	4° <u>♂</u> 14'47	-0°28'12
max. Earth dist.	14557 Sep 27 01:18	19° <u>♂</u> 36'21 30.81648 AU		min. Earth dist.	14564 Apr 13 00:58	4° <u>♂</u> 15'36	28.79618 AU
morning rise	14557 Oct 12 06:32	20° <u>♂</u> 10'49		direct	14564 Jul 01 02:46	2° <u>♂</u> 51'00	
retrograde	14558 Jan 10 05:39	22° <u>♂</u> 08'42		evening set	14564 Sep 26 11:36	4° <u>♂</u> 45'27	
opposition	14558 Mar 31 05:59	20° <u>♂</u> 44'06 -0°31'41					
min. Earth dist.	14558 Mar 30 19:50	20° <u>♂</u> 44'48 28.81506 AU		conjunction	14564 Oct 12 03:37	5° <u>♂</u> 20'53	-0°26'05
direct	14558 Jun 17 23:27	19° <u>♂</u> 20'16		minimum elong	14564 Oct 12 03:38	5° <u>♂</u> 20'53	0°25'34
evening set	14558 Sep 13 12:02	21° <u>♂</u> 14'51		max. Earth dist.	14564 Oct 12 16:14	5° <u>♂</u> 22'04	30.79374 AU
				morning rise	14564 Oct 27 21:28	5° <u>♂</u> 56'30	
conjunction	14558 Sep 29 02:31	21° <u>♂</u> 50'09 -0°29'27		retrograde	14565 Jan 26 02:38	7° <u>♂</u> 54'39	
minimum elong	14558 Sep 29 02:31	21° <u>♂</u> 50'09 0°29'09		opposition	14565 Apr 16 01:52	6° <u>♂</u> 29'51	-0°27'28
max. Earth dist.	14558 Sep 29 13:42	21° <u>♂</u> 51'13 30.81362 AU		min. Earth dist.	14565 Apr 15 14:13	6° <u>♂</u> 30'40	28.79165 AU
morning rise	14558 Oct 14 18:41	22° <u>♂</u> 25'38		direct	14565 Jul 03 15:04	5° <u>♂</u> 06'03	
retrograde	14559 Jan 12 19:53	24° <u>♂</u> 23'36		evening set	14565 Sep 28 23:37	7° <u>♂</u> 00'28	
opposition	14559 Apr 02 19:05	22° <u>♂</u> 58'59 -0°31'13					
min. Earth dist.	14559 Apr 02 07:26	22° <u>♂</u> 59'48 28.81250 AU		conjunction	14565 Oct 14 15:48	7° <u>♂</u> 35'54	-0°25'23
direct	14559 Jun 20 11:45	21° <u>♂</u> 35'11		minimum elong	14565 Oct 14 15:48	7° <u>♂</u> 35'54	0°24'50
evening set	14559 Sep 15 23:44	23° <u>♂</u> 29'46		max. Earth dist.	14565 Oct 15 04:04	7° <u>♂</u> 37'03	30.78955 AU
				morning rise	14565 Oct 30 10:01	8° <u>♂</u> 11'32	
conjunction	14559 Oct 01 14:21	24° <u>♂</u> 05'06 -0°29'00		retrograde	14566 Jan 28 15:41	10° <u>♂</u> 09'42	
minimum elong	14559 Oct 01 14:22	24° <u>♂</u> 05'06 0°28'41		opposition	14566 Apr 18 14:41	8° <u>♂</u> 44'51	-0°26'41
max. Earth dist.	14559 Oct 02 01:38	24° <u>♂</u> 06'09 30.81124 AU		min. Earth dist.	14566 Apr 18 02:00	8° <u>♂</u> 45'44	28.78789 AU
morning rise	14559 Oct 17 06:51	24° <u>♂</u> 40'36		direct	14566 Jul 06 02:53	7° <u>♂</u> 21'01	
retrograde	14560 Jan 15 09:33	26° <u>♂</u> 38'38		evening set	14566 Oct 01 11:36	9° <u>♂</u> 15'24	
opposition	14560 Apr 04 08:22	25° <u>♂</u> 14'01 -0°30'42					
min. Earth dist.	14560 Apr 03 21:27	25° <u>♂</u> 14'46 28.81031 AU		conjunction	14566 Oct 17 04:04	9° <u>♂</u> 50'51	-0°24'38
direct	14560 Jun 21 23:39	23° <u>♂</u> 50'15		minimum elong	14566 Oct 17 04:04	9° <u>♂</u> 50'51	0°24'03
evening set	14560 Sep 17 11:35	25° <u>♂</u> 44'50		max. Earth dist.	14566 Oct 17 17:12	9° <u>♂</u> 52'05	30.78622 AU
				morning rise	14566 Nov 01 22:31	10° <u>♂</u> 26'31	
conjunction	14560 Oct 03 02:35	26° <u>♂</u> 20'10 -0°28'30		retrograde	14567 Jan 31 03:32	12° <u>♂</u> 24'41	
minimum elong	14560 Oct 03 02:35	26° <u>♂</u> 20'10 0°28'08		opposition	14567 Apr 21 03:39	10° <u>♂</u> 59'48	-0°25'52
max. Earth dist.	14560 Oct 03 14:48	26° <u>♂</u> 21'20 30.80902 AU		min. Earth dist.	14567 Apr 20 15:23	11° <u>♂</u> 00'40	28.78526 AU
morning rise	14560 Oct 18 19:15	26° <u>♂</u> 55'42		direct	14567 Jul 08 14:11	9° <u>♂</u> 35'58	
retrograde	14561 Jan 16 23:53	28° <u>♂</u> 53'47		evening set	14567 Oct 03 23:27	11° <u>♂</u> 30'20	
opposition	14561 Apr 06 21:20	27° <u>♂</u> 29'09 -0°30'09					
min. Earth dist.	14561 Apr 06 09:33	27° <u>♂</u> 29'58 28.80783 AU		conjunction	14567 Oct 19 16:15	12° <u>♂</u> 05'47	-0°23'51
direct	14561 Jun 24 13:52	26° <u>♂</u> 05'25		minimum elong	14567 Oct 19 16:15	12° <u>♂</u> 05'47	0°23'15
evening set	14561 Sep 19 23:43	27° <u>♂</u> 59'59		max. Earth dist.	14567 Oct 20 05:48	12° <u>♂</u> 07'04	30.78437 AU
				morning rise	14567 Nov 04 11:01	12° <u>♂</u> 41'28	
conjunction	14561 Oct 05 14:47	28° <u>♂</u> 35'21 -0°27'57		retrograde	14568 Feb 02 17:21	14° <u>♂</u> 39'39	

opposition	14568 Apr 22 16:24	13° 11 14'46	-0°25'01	conjunction	14574 Nov 04 08:05	27° 11 52'53	-0°17'26
min. Earth dist.	14568 Apr 22 02:38	13° 11 15'43	28.78408 AU	minimum elong	14574 Nov 04 08:05	27° 11 52'53	0°16'37
direct	14568 Jul 10 01:56	11° 11 50'54		max. Earth dist.	14574 Nov 04 22:29	27° 11 54'14	30.80041 AU
evening set	14568 Oct 05 11:36	13° 11 45'17		morning rise	14574 Nov 20 05:00	28° 11 28'42	
					14575 Jan 08 23:01	0° 11 27	
conjunction	14568 Oct 21 04:35	14° 11 20'45	-0°23'03	retrograde	14575 Feb 18 16:12	0° 11 26'56	
minimum elong	14568 Oct 21 04:35	14° 11 20'45	0°22'23		14575 Apr 01 07:21	30° 11 00	
max. Earth dist.	14568 Oct 21 18:15	14° 11 22'03	30.78387 AU	opposition	14575 May 09 09:39	29° 11 02'11	-0°18'00
morning rise	14568 Nov 05 23:43	14° 11 56'27		min. Earth dist.	14575 May 08 19:22	29° 11 03'11	28.80153 AU
	14568 Nov 07 14:10	15° 11		direct	14575 Jul 26 16:54	27° 11 38'30	
retrograde	14569 Feb 04 06:44	16° 11 54'40		evening set	14575 Oct 22 01:50	29° 11 32'51	
opposition	14569 Apr 25 05:07	15° 11 29'46	-0°24'07		14575 Nov 03 03:44	0° 11 27	
min. Earth dist.	14569 Apr 24 16:00	15° 11 30'41	28.78440 AU				
	14569 May 13 09:47	15° 11 00		conjunction	14575 Nov 06 20:57	0° 11 08'27	-0°16'24
direct	14569 Jul 12 13:43	14° 11 05'56		minimum elong	14575 Nov 06 20:57	0° 11 08'27	0°15'34
	14569 Sep 08 03:56	15° 11		behind sun begin	14575 Nov 06 19:24	0° 11 08'19	
evening set	14569 Oct 07 23:37	16° 11 00'18		behind sun end	14575 Nov 06 22:30	0° 11 08'36	
				max. Earth dist.	14575 Nov 07 11:36	0° 11 09'50	30.80209 AU
conjunction	14569 Oct 23 17:01	16° 11 35'48	-0°22'11	morning rise	14575 Nov 22 18:08	0° 11 44'17	
minimum elong	14569 Oct 23 17:02	16° 11 35'48	0°21'32	retrograde	14576 Feb 21 03:47	2° 11 42'29	
max. Earth dist.	14569 Oct 24 07:47	16° 11 37'11	30.78495 AU	opposition	14576 May 10 22:26	1° 11 17'42	-0°16'52
morning rise	14569 Nov 08 12:21	17° 11 11'31		min. Earth dist.	14576 May 10 09:14	1° 11 18'37	28.80279 AU
retrograde	14570 Feb 06 21:19	19° 11 09'44			14576 Jul 09 06:33	30° 11 00	
opposition	14570 Apr 27 17:49	17° 11 44'51	-0°23'11	direct	14576 Jul 28 04:19	29° 11 53'59	
min. Earth dist.	14570 Apr 27 03:29	17° 11 45'51	28.78607 AU		14576 Aug 15 21:37	0° 11 27	
direct	14570 Jul 15 03:35	16° 11 21'03		evening set	14576 Oct 23 14:25	1° 11 48'17	
evening set	14570 Oct 10 11:43	18° 11 15'26					
				conjunction	14576 Nov 08 09:52	2° 11 23'54	-0°15'20
conjunction	14570 Oct 26 05:15	18° 11 50'57	-0°21'18	minimum elong	14576 Nov 08 09:52	2° 11 23'54	0°14'28
minimum elong	14570 Oct 26 05:15	18° 11 50'57	0°20'36	behind sun begin	14576 Nov 08 07:00	2° 11 23'38	
max. Earth dist.	14570 Oct 26 19:32	18° 11 52'18	30.78726 AU	behind sun end	14576 Nov 08 12:44	2° 11 24'09	
morning rise	14570 Nov 11 01:01	19° 11 26'41		max. Earth dist.	14576 Nov 09 00:09	2° 11 25'14	30.80315 AU
retrograde	14571 Feb 09 11:04	21° 11 24'56		morning rise	14576 Nov 24 07:22	2° 11 59'44	
opposition	14571 Apr 30 06:43	20° 11 00'05	-0°22'13	retrograde	14577 Feb 22 17:04	4° 11 57'52	
min. Earth dist.	14571 Apr 29 16:42	20° 11 01'03	28.78899 AU	opposition	14577 May 13 10:48	3° 11 33'03	-0°15'44
direct	14571 Jul 17 14:51	18° 11 36'19		min. Earth dist.	14577 May 12 20:44	3° 11 34'02	28.80361 AU
evening set	14571 Oct 12 23:52	20° 11 30'42		direct	14577 Jul 30 16:19	2° 11 09'17	
				evening set	14577 Oct 26 02:59	4° 11 03'32	
conjunction	14571 Oct 28 17:52	21° 11 06'15	-0°20'23				
minimum elong	14571 Oct 28 17:53	21° 11 06'15	0°19'40	conjunction	14577 Nov 10 22:39	4° 11 39'09	-0°14'15
max. Earth dist.	14571 Oct 29 09:27	21° 11 07'43	30.79058 AU	minimum elong	14577 Nov 10 22:39	4° 11 39'10	0°13'23
morning rise	14571 Nov 13 13:48	21° 11 42'00		behind sun begin	14577 Nov 10 18:58	4° 11 38'49	
retrograde	14572 Feb 12 00:09	23° 11 40'16		behind sun end	14577 Nov 11 02:21	4° 11 39'30	
opposition	14572 May 01 19:21	22° 11 15'27	-0°21'13	max. Earth dist.	14577 Nov 11 12:40	4° 11 40'28	30.80390 AU
min. Earth dist.	14572 May 01 04:55	22° 11 16'27	28.79254 AU	morning rise	14577 Nov 26 20:29	5° 11 15'00	
direct	14572 Jul 19 04:15	20° 11 51'44		retrograde	14578 Feb 25 04:56	7° 11 13'05	
evening set	14572 Oct 14 12:19	22° 11 46'08		opposition	14578 May 15 23:24	5° 11 48'13	-0°14'33
				min. Earth dist.	14578 May 15 10:20	5° 11 49'08	28.80456 AU
conjunction	14572 Oct 30 06:27	23° 11 21'41	-0°19'26	direct	14578 Aug 02 04:15	4° 11 24'24	
minimum elong	14572 Oct 30 06:27	23° 11 21'41	0°18'40	evening set	14578 Oct 28 15:17	6° 11 18'36	
max. Earth dist.	14572 Oct 30 20:57	23° 11 23'03	30.79431 AU				
morning rise	14572 Nov 15 02:51	23° 11 57'28		conjunction	14578 Nov 13 11:22	6° 11 54'14	-0°13'10
retrograde	14573 Feb 13 15:18	25° 11 55'45		minimum elong	14578 Nov 13 11:22	6° 11 54'14	0°12'15
opposition	14573 May 04 08:07	24° 11 30'58	-0°20'10	behind sun begin	14578 Nov 13 07:03	6° 11 53'50	
min. Earth dist.	14573 May 03 17:43	24° 11 31'58	28.79626 AU	behind sun end	14578 Nov 13 15:42	6° 11 54'37	
direct	14573 Jul 21 16:15	23° 11 07'17		max. Earth dist.	14578 Nov 14 02:09	6° 11 55'37	30.80516 AU
evening set	14573 Oct 17 00:43	25° 11 01'40		morning rise	14578 Nov 29 09:24	7° 11 30'05	
				retrograde	14579 Feb 27 18:01	9° 11 28'05	
conjunction	14573 Nov 01 19:15	25° 11 37'16	-0°18'27	opposition	14579 May 18 11:46	8° 11 03'12	-0°13'22
minimum elong	14573 Nov 01 19:16	25° 11 37'16	0°17'39	min. Earth dist.	14579 May 17 21:44	8° 11 04'10	28.80612 AU
max. Earth dist.	14573 Nov 02 10:39	25° 11 38'43	30.79770 AU	direct	14579 Aug 04 17:34	6° 11 39'19	
morning rise	14573 Nov 17 15:46	26° 11 13'03		evening set	14579 Oct 31 03:52	8° 11 33'30	
retrograde	14574 Feb 16 03:02	28° 11 11'20					
opposition	14574 May 06 20:54	26° 11 46'34	-0°19'06	conjunction	14579 Nov 16 00:06	9° 11 09'08	-0°12'02
min. Earth dist.	14574 May 06 07:04	26° 11 47'32	28.79929 AU	minimum elong	14579 Nov 16 00:06	9° 11 09'08	0°11'07
direct	14574 Jul 24 05:02	25° 11 22'54		behind sun begin	14579 Nov 15 19:16	9° 11 08'42	
evening set	14574 Oct 19 13:20	27° 11 17'17		behind sun end	14579 Nov 16 04:56	9° 11 09'35	

max. Earth dist.	14579 Nov 16 14:10	9°♊10'27	30.80718 AU	conjunction	14585 Nov 29 05:24	22°♊38'01	-0°05'02
morning rise	14579 Dec 01 22:33	9°♊45'00		minimum elong	14585 Nov 29 05:23	22°♊38'01	0°04'01
retrograde	14580 Mar 01 07:18	11°♊42'56		behind sun begin	14585 Nov 28 22:57	22°♊37'26	
min. Earth dist.	14580 May 19 10:37	10°♊18'58	28.80880 AU	behind sun end	14585 Nov 29 11:50	22°♊38'36	
opposition	14580 May 20 00:03	10°♊18'01	-0°12'09	max. Earth dist.	14585 Nov 29 19:59	22°♊39'23	30.84355 AU
direct	14580 Aug 06 04:36	8°♊54'07		morning rise	14585 Dec 15 05:20	23°♊13'56	
evening set	14580 Nov 01 16:17	10°♊48'16		retrograde	14586 Mar 15 14:00	25°♊11'37	
				min. Earth dist.	14586 Jun 02 10:51	23°♊47'57	28.84736 AU
conjunction	14580 Nov 17 13:00	11°♊23'55	-0°10'54	opposition	14586 Jun 03 00:51	23°♊46'58	-0°04'35
minimum elong	14580 Nov 17 13:00	11°♊23'55	0°09'58	direct	14586 Aug 20 05:06	22°♊23'10	
behind sun begin	14580 Nov 17 07:44	11°♊23'27		evening set	14586 Nov 15 20:08	24°♊17'23	
behind sun end	14580 Nov 17 18:16	11°♊24'24					
max. Earth dist.	14580 Nov 18 04:12	11°♊25'21	30.81042 AU	conjunction	14586 Dec 01 18:24	24°♊53'07	-0°03'49
morning rise	14580 Dec 03 11:34	11°♊59'47		minimum elong	14586 Dec 01 18:24	24°♊53'07	0°02'48
retrograde	14581 Mar 03 20:20	13°♊57'40		behind sun begin	14586 Dec 01 11:53	24°♊52'31	
opposition	14581 May 22 12:15	12°♊32'45	-0°10'56	behind sun end	14586 Dec 02 00:55	24°♊53'42	
min. Earth dist.	14581 May 21 22:15	12°♊33'44	28.81262 AU	max. Earth dist.	14586 Dec 02 08:24	24°♊54'25	30.85075 AU
direct	14581 Aug 08 18:26	11°♊08'50		morning rise	14586 Dec 17 18:37	25°♊29'02	
evening set	14581 Nov 04 04:47	13°♊02'58		retrograde	14587 Mar 18 01:29	27°♊26'42	
				opposition	14587 Jun 05 13:04	26°♊02'05	-0°03'17
conjunction	14581 Nov 20 01:36	13°♊38'38	-0°09'45	min. Earth dist.	14587 Jun 05 00:30	26°♊02'57	28.85417 AU
minimum elong	14581 Nov 20 01:36	13°♊38'38	0°08'48	direct	14587 Aug 22 16:21	24°♊38'16	
behind sun begin	14581 Nov 19 19:59	13°♊38'08		evening set	14587 Nov 18 09:02	26°♊32'30	
behind sun end	14581 Nov 20 07:13	13°♊39'09					
max. Earth dist.	14581 Nov 20 15:51	13°♊39'58	30.81495 AU	conjunction	14587 Dec 04 07:42	27°♊08'14	-0°02'35
morning rise	14581 Dec 06 00:36	14°♊14'30		minimum elong	14587 Dec 04 07:42	27°♊08'14	0°01'34
retrograde	14582 Mar 06 11:01	16°♊12'21		behind sun begin	14587 Dec 04 01:10	27°♊07'39	
min. Earth dist.	14582 May 24 10:18	14°♊48'26	28.81789 AU	behind sun end	14587 Dec 04 14:14	27°♊08'49	
opposition	14582 May 25 00:28	14°♊47'27	-0°09'41	max. Earth dist.	14587 Dec 04 21:40	27°♊09'32	30.85710 AU
direct	14582 Aug 11 06:28	13°♊23'32		morning rise	14587 Dec 20 08:04	27°♊44'09	
evening set	14582 Nov 06 17:15	15°♊17'40		retrograde	14588 Mar 19 14:14	29°♊41'44	
				min. Earth dist.	14588 Jun 06 11:59	28°♊18'03	28.85993 AU
conjunction	14582 Nov 22 14:30	15°♊53'21	-0°08'36	opposition	14588 Jun 07 00:55	28°♊17'09	-0°01'59
minimum elong	14582 Nov 22 14:30	15°♊53'21	0°07'37	direct	14588 Aug 24 04:43	26°♊53'19	
behind sun begin	14582 Nov 22 08:35	15°♊52'49		evening set	14588 Nov 19 22:02	28°♊47'32	
behind sun end	14582 Nov 22 20:24	15°♊53'53					
max. Earth dist.	14582 Nov 23 05:57	15°♊54'48	30.82084 AU	conjunction	14588 Dec 05 20:48	29°♊23'16	-0°01'20
morning rise	14582 Dec 08 13:36	16°♊29'14		minimum elong	14588 Dec 05 20:50	29°♊23'16	0°00'18
retrograde	14583 Mar 08 22:40	18°♊27'01		behind sun begin	14588 Dec 05 14:20	29°♊22'41	
opposition	14583 May 27 12:39	17°♊02'10	-0°08'26	behind sun end	14588 Dec 06 03:19	29°♊23'51	
min. Earth dist.	14583 May 26 22:43	17°♊03'09	28.82437 AU	max. Earth dist.	14588 Dec 06 09:29	29°♊24'27	30.86243 AU
direct	14583 Aug 13 19:03	15°♊38'17		morning rise	14588 Dec 21 21:33	29°♊59'12	
evening set	14583 Nov 09 05:50	17°♊32'26			14588 Dec 22 06:20	0°♊	
				retrograde	14589 Mar 22 03:08	1°♊56'42	
conjunction	14583 Nov 25 03:19	18°♊08'07	-0°07'25	opposition	14589 Jun 09 12:55	0°♊32'06	-0°00'41
minimum elong	14583 Nov 25 03:18	18°♊08'07	0°06'26	min. Earth dist.	14589 Jun 09 01:08	0°♊32'56	28.86498 AU
behind sun begin	14583 Nov 24 21:10	18°♊07'34			14589 Jun 29 03:05	30°♊	
behind sun end	14583 Nov 25 09:26	18°♊08'40		direct	14589 Aug 26 15:20	29°♊08'13	
max. Earth dist.	14583 Nov 25 17:59	18°♊09'30	30.82797 AU		14589 Oct 22 03:45	0°♊	
morning rise	14583 Dec 11 02:50	18°♊44'01		evening set	14589 Nov 22 10:40	1°♊02'25	
retrograde	14584 Mar 10 12:32	20°♊41'46					
min. Earth dist.	14584 May 28 10:17	19°♊18'00	28.83189 AU	conjunction	14589 Dec 08 09:53	1°♊38'09	-0°00'04
opposition	14584 May 29 00:44	19°♊16'59	-0°07'09	minimum elong	14589 Dec 08 09:53	1°♊38'09	0°00'58
direct	14584 Aug 15 06:38	17°♊53'07		behind sun begin	14589 Dec 08 03:21	1°♊37'34	
evening set	14584 Nov 10 18:32	19°♊47'18		behind sun end	14589 Dec 08 16:24	1°♊38'45	
				max. Earth dist.	14589 Dec 08 23:13	1°♊39'24	30.86726 AU
conjunction	14584 Nov 26 16:19	20°♊23'00	-0°06'14	morning rise	14589 Dec 24 10:40	2°♊14'05	
minimum elong	14584 Nov 26 16:19	20°♊23'00	0°05'14	asc. node	14590 Jan 07 18:30	2°♊44'33	
behind sun begin	14584 Nov 26 09:59	20°♊22'26		retrograde	14590 Mar 24 15:49	4°♊11'29	
behind sun end	14584 Nov 26 22:38	20°♊23'34		opposition	14590 Jun 12 00:43	2°♊46'53	0°00'37
max. Earth dist.	14584 Nov 27 07:28	20°♊24'25	30.83567 AU	min. Earth dist.	14590 Jun 11 12:46	2°♊47'43	28.86966 AU
morning rise	14584 Dec 12 15:59	20°♊58'55		direct	14590 Aug 29 05:30	1°♊22'57	
retrograde	14585 Mar 13 00:33	22°♊56'38		evening set	14590 Nov 24 23:31	3°♊17'07	
opposition	14585 May 31 12:47	21°♊31'55	-0°05'52				
min. Earth dist.	14585 May 30 23:28	21°♊32'51	28.83972 AU	conjunction	14590 Dec 10 22:49	3°♊52'52	0°01'10
direct	14585 Aug 17 17:33	20°♊08'06		minimum elong	14590 Dec 10 22:50	3°♊52'52	0°02'13
evening set	14585 Nov 13 07:20	22°♊02'18		behind sun begin	14590 Dec 10 16:18	3°♊52'16	

behind sun end	14590 Dec 11 05:22	3°35'27		evening set	14596 Dec 08 03:37	16°34'57	
max. Earth dist.	14590 Dec 11 10:48	3°35'58	30.87207 AU				
morning rise	14590 Dec 27 00:00	4°32'47		conjunction	14596 Dec 24 04:30	17°31'42	0°08'18
retrograde	14591 Mar 27 05:58	6°32'04		minimum elong	14596 Dec 24 04:29	17°31'42	0°09'19
opposition	14591 Jun 14 12:23	5°30'27	0°01'55	behind sun begin	14596 Dec 23 23:00	17°31'12	
min. Earth dist.	14591 Jun 14 00:44	5°30'26	28.87475 AU	behind sun end	14596 Dec 24 09:58	17°31'11	
direct	14591 Aug 31 17:50	3°33'28		max. Earth dist.	14596 Dec 24 16:36	17°31'49	30.92151 AU
evening set	14591 Nov 27 12:10	5°33'37		morning rise	14597 Jan 09 06:36	17°35'35	
				retrograde	14597 Apr 09 06:27	19°35'01	
conjunction	14591 Dec 13 11:54	6°30'22	0°02'23	opposition	14597 Jun 27 09:00	18°32'55	0°09'32
minimum elong	14591 Dec 13 11:54	6°30'22	0°03'26	min. Earth dist.	14597 Jun 26 21:45	18°32'39	28.92742 AU
behind sun begin	14591 Dec 13 05:24	6°30'47		direct	14597 Sep 13 16:37	17°30'14	
behind sun end	14591 Dec 13 18:24	6°30'57		evening set	14597 Dec 10 16:24	18°35'55	
max. Earth dist.	14591 Dec 14 00:45	6°30'33	30.87739 AU				
morning rise	14591 Dec 29 13:08	6°34'16		conjunction	14597 Dec 26 17:18	19°33'40	0°09'28
retrograde	14592 Mar 28 17:08	8°34'07		minimum elong	14597 Dec 26 17:18	19°33'40	0°10'29
opposition	14592 Jun 16 00:01	7°31'50	0°03'12	behind sun begin	14597 Dec 26 12:12	19°33'13	
min. Earth dist.	14592 Jun 15 12:47	7°31'37	28.88041 AU	behind sun end	14597 Dec 26 22:24	19°33'20	
direct	14592 Sep 02 06:30	5°35'48		max. Earth dist.	14597 Dec 27 04:23	19°33'24	30.93331 AU
evening set	14592 Nov 29 00:57	7°34'55		morning rise	14598 Jan 11 19:39	20°30'73	
				retrograde	14598 Apr 11 18:27	22°30'41	
conjunction	14592 Dec 15 00:48	8°32'14	0°03'35	opposition	14598 Jun 29 20:28	20°33'50	0°10'46
minimum elong	14592 Dec 15 00:47	8°32'14	0°04'38	min. Earth dist.	14598 Jun 29 10:23	20°34'03	28.93930 AU
behind sun begin	14592 Dec 14 18:23	8°32'05		direct	14598 Sep 16 02:37	19°31'54	
behind sun end	14592 Dec 15 07:11	8°32'21		evening set	14598 Dec 13 05:15	21°30'56	
max. Earth dist.	14592 Dec 15 12:38	8°32'46	30.88360 AU				
morning rise	14592 Dec 31 02:19	8°35'34		conjunction	14598 Dec 29 06:30	21°34'54	0°10'36
retrograde	14593 Mar 31 07:08	10°35'43		minimum elong	14598 Dec 29 06:30	21°34'54	0°11'36
opposition	14593 Jun 18 11:26	9°33'01	0°04'29	behind sun begin	14598 Dec 29 01:52	21°34'16	
min. Earth dist.	14593 Jun 17 23:43	9°33'50	28.88722 AU	behind sun end	14598 Dec 29 11:07	21°34'05	
direct	14593 Sep 04 19:03	8°30'57		max. Earth dist.	14598 Dec 29 17:59	21°34'44	30.94497 AU
evening set	14593 Dec 01 13:36	10°30'03		morning rise	14599 Jan 14 08:49	22°32'33	
				retrograde	14599 Apr 14 06:18	24°31'06	
conjunction	14593 Dec 17 13:44	10°33'58	0°04'47	opposition	14599 Jul 02 07:41	22°35'49	0°11'58
minimum elong	14593 Dec 17 13:44	10°33'58	0°05'49	min. Earth dist.	14599 Jul 01 21:48	22°35'31	28.95057 AU
behind sun begin	14593 Dec 17 07:28	10°33'15		direct	14599 Sep 18 15:34	21°32'47	
behind sun end	14593 Dec 17 19:59	10°33'22		evening set	14599 Dec 15 18:18	23°32'56	
max. Earth dist.	14593 Dec 18 02:12	10°33'58	30.89098 AU				
morning rise	14594 Jan 02 15:20	11°31'43		conjunction	14599 Dec 31 19:35	23°35'41	0°11'44
retrograde	14594 Apr 02 18:54	13°30'40		minimum elong	14599 Dec 31 19:35	23°35'41	0°12'43
opposition	14594 Jun 20 23:00	11°34'04	0°05'46	behind sun begin	14599 Dec 31 15:32	23°35'19	
min. Earth dist.	14594 Jun 20 12:08	11°34'50	28.89534 AU	behind sun end	14599 Dec 31 23:39	24°30'03	
direct	14594 Sep 07 06:55	10°32'00		max. Earth dist.	14600 Jan 01 05:10	24°30'34	30.95581 AU
evening set	14594 Dec 04 02:08	12°31'40		morning rise	14600 Jan 16 22:12	24°33'53	
				retrograde	14600 Apr 16 19:50	26°33'20	
conjunction	14594 Dec 20 02:32	12°34'49	0°05'58	opposition	14600 Jul 04 19:00	25°30'74	0°13'10
minimum elong	14594 Dec 20 02:31	12°34'49	0°07'00	min. Earth dist.	14600 Jul 04 09:48	25°30'82	28.96094 AU
behind sun begin	14594 Dec 19 20:28	12°34'16		direct	14600 Sep 21 02:55	23°34'43	
behind sun end	14594 Dec 20 08:34	12°35'21		evening set	14600 Dec 18 07:12	25°33'52	
max. Earth dist.	14594 Dec 20 14:37	12°35'56	30.89991 AU				
morning rise	14595 Jan 05 04:22	13°32'54		conjunction	14601 Jan 03 08:48	26°31'37	0°12'50
retrograde	14595 Apr 05 07:18	15°32'23		minimum elong	14601 Jan 03 08:48	26°31'37	0°13'48
opposition	14595 Jun 23 10:22	13°35'01	0°07'02	behind sun begin	14601 Jan 03 05:27	26°31'19	
min. Earth dist.	14595 Jun 22 22:32	13°35'51	28.90493 AU	behind sun end	14601 Jan 03 12:09	26°31'55	
direct	14595 Sep 09 18:57	12°33'56		max. Earth dist.	14601 Jan 03 18:42	26°31'43	30.96558 AU
evening set	14595 Dec 06 14:55	14°32'00		morning rise	14601 Jan 19 11:19	26°34'28	
				retrograde	14601 Apr 19 07:09	28°34'49	
conjunction	14595 Dec 22 15:28	15°30'45	0°07'09	opposition	14601 Jul 07 06:13	27°32'37	0°14'21
minimum elong	14595 Dec 22 15:28	15°30'45	0°08'10	min. Earth dist.	14601 Jul 06 21:55	27°32'21	28.97019 AU
behind sun begin	14595 Dec 22 09:40	15°30'14		direct	14601 Sep 23 15:18	25°35'73	
behind sun end	14595 Dec 22 21:16	15°30'47		evening set	14601 Dec 20 20:09	27°35'41	
max. Earth dist.	14595 Dec 23 03:21	15°30'45	30.91011 AU				
morning rise	14596 Jan 07 17:30	15°33'40		conjunction	14602 Jan 05 21:47	28°32'25	0°13'55
retrograde	14596 Apr 06 18:00	17°33'26		minimum elong	14602 Jan 05 21:47	28°32'25	0°14'53
opposition	14596 Jun 24 21:44	16°31'56	0°08'17	behind sun begin	14602 Jan 05 19:26	28°32'13	
min. Earth dist.	14596 Jun 24 11:03	16°31'24	28.91577 AU	behind sun end	14602 Jan 06 00:08	28°32'38	
direct	14596 Sep 11 05:14	14°34'52		max. Earth dist.	14602 Jan 06 06:07	28°32'81	30.97457 AU