

direct	2100 Jan 15 20:38	2°821'45	conjunction	2108 May 01 17:12	11°829'37 -15°51'43
			minimum elong	2108 May 01 17:21	11°829'38 15°51'43
conjunction	2100 Apr 23 21:08	3°848'35 -16°26'31	max. Earth dist.	2108 May 02 20:25	11°831'10 50.23339 AU
minimum elong	2100 Apr 23 21:16	3°848'35 16°26'30	retrograde	2108 Aug 12 09:54	12°859'10
max. Earth dist.	2100 Apr 25 09:04	3°850'39 49.91294 AU	min. Earth dist.	2108 Nov 03 06:43	12°800'33 48.32252 AU
retrograde	2100 Aug 04 18:34	5°819'09	opposition	2108 Nov 04 06:56	11°859'25 -16°27'46
min. Earth dist.	2100 Oct 26 07:14	4°820'26 48.02503 AU	direct	2109 Jan 24 16:54	11°800'49
opposition	2100 Oct 27 16:00	4°818'53 -17°05'14			
direct	2101 Jan 17 00:15	3°819'54	conjunction	2109 May 02 22:33	12°826'42 -15°46'19
			minimum elong	2109 May 02 22:42	12°826'43 15°46'19
conjunction	2101 Apr 25 02:47	4°846'35 -16°23'04	max. Earth dist.	2109 May 03 23:32	12°828'08 50.25242 AU
minimum elong	2101 Apr 25 02:53	4°846'35 16°23'04	retrograde	2109 Aug 13 15:00	13°856'09
max. Earth dist.	2101 Apr 26 13:52	4°848'36 49.96588 AU	opposition	2109 Nov 05 11:34	12°856'25 -16°22'02
retrograde	2101 Aug 06 00:57	6°817'00	min. Earth dist.	2109 Nov 04 12:08	12°857'31 48.33840 AU
opposition	2101 Oct 28 20:59	5°816'48 -17°01'27	direct	2110 Jan 25 22:22	11°857'50
min. Earth dist.	2101 Oct 27 12:01	5°818'21 48.07587 AU			
direct	2102 Jan 18 02:45	4°817'52	conjunction	2110 May 04 03:44	13°823'37 -15°40'42
			minimum elong	2110 May 04 03:53	13°823'38 15°40'43
conjunction	2102 Apr 26 08:06	5°844'26 -16°19'20	max. Earth dist.	2110 May 05 04:10	13°825'01 50.26701 AU
minimum elong	2102 Apr 26 08:15	5°844'26 16°19'20	retrograde	2110 Aug 14 21:23	14°852'58
max. Earth dist.	2102 Apr 27 17:48	5°846'22 50.01589 AU	opposition	2110 Nov 06 16:12	13°853'15 -16°16'03
retrograde	2102 Aug 07 05:03	7°814'42	min. Earth dist.	2110 Nov 05 18:36	13°854'16 48.35013 AU
min. Earth dist.	2102 Oct 28 18:34	6°816'04 48.12380 AU	direct	2111 Jan 27 02:51	12°854'41
opposition	2102 Oct 30 02:05	6°814'35 -16°57'23			
direct	2103 Jan 19 08:27	5°815'43	conjunction	2111 May 05 09:00	14°820'24 -15°34'50
			minimum elong	2111 May 05 09:10	14°820'24 15°34'50
conjunction	2103 Apr 27 13:41	6°842'10 -16°15'20	max. Earth dist.	2111 May 06 08:30	14°821'44 50.27800 AU
minimum elong	2103 Apr 27 13:48	6°842'10 16°15'20		2111 Jun 04 11:12	15°8
max. Earth dist.	2103 Apr 28 23:31	6°844'07 50.06294 AU	retrograde	2111 Aug 16 04:01	15°849'38
retrograde	2103 Aug 08 06:39	8°812'19		2111 Oct 29 21:24	15°R8
min. Earth dist.	2103 Oct 30 00:19	7°813'42 48.16840 AU	opposition	2111 Nov 07 20:34	14°849'57 -16°09'49
opposition	2103 Oct 31 06:58	7°812'16 -16°53'03	min. Earth dist.	2111 Nov 06 22:54	14°850'58 48.35839 AU
direct	2104 Jan 20 16:41	6°813'28	direct	2112 Jan 28 04:48	13°851'24
				2112 Apr 22 23:25	15°8
conjunction	2104 Apr 27 19:07	7°839'49 -16°11'04			
minimum elong	2104 Apr 27 19:16	7°839'50 16°11'04	conjunction	2112 May 05 14:09	15°817'04 -15°28'43
max. Earth dist.	2104 Apr 29 02:54	7°841'39 50.10651 AU	minimum elong	2112 May 05 14:18	15°817'04 15°28'44
retrograde	2104 Aug 08 13:10	9°809'51	max. Earth dist.	2112 May 06 12:02	15°818'18 50.28559 AU
min. Earth dist.	2104 Oct 30 05:49	8°811'18 48.20921 AU	retrograde	2112 Aug 16 08:43	16°846'13
opposition	2104 Oct 31 11:51	8°809'53 -16°48'27	min. Earth dist.	2112 Nov 07 05:08	15°847'30 48.36349 AU
direct	2105 Jan 20 21:40	7°811'09	opposition	2112 Nov 08 01:07	15°846'34 -16°03'19
				2112 Dec 25 19:13	15°R8
conjunction	2105 Apr 29 00:42	8°837'25 -16°06'34	direct	2113 Jan 28 09:09	14°848'02
minimum elong	2105 Apr 29 00:49	8°837'25 16°06'33		2113 Mar 02 19:49	15°8
max. Earth dist.	2105 Apr 30 07:46	8°839'12 50.14577 AU			
retrograde	2105 Aug 09 19:58	10°807'21	conjunction	2113 May 06 19:24	16°813'39 -15°22'21
opposition	2105 Nov 01 16:40	9°807'27 -16°43'37	minimum elong	2113 May 06 19:35	16°813'40 15°22'21
min. Earth dist.	2105 Oct 31 12:53	9°808'45 48.24536 AU	max. Earth dist.	2113 May 07 17:23	16°814'54 50.29015 AU
direct	2106 Jan 22 02:23	8°808'46	retrograde	2113 Aug 17 09:45	17°842'45
			min. Earth dist.	2113 Nov 08 09:58	16°844'03 48.36545 AU
conjunction	2106 Apr 30 06:16	9°834'56 -16°01'50	opposition	2113 Nov 09 05:24	16°843'09 -15°56'34
minimum elong	2106 Apr 30 06:25	9°834'57 16°01'50	direct	2114 Jan 29 16:45	15°844'38
max. Earth dist.	2106 May 01 12:04	9°836'38 50.18029 AU			
retrograde	2106 Aug 11 02:08	11°804'44	conjunction	2114 May 08 00:27	17°810'14 -15°15'44
opposition	2106 Nov 02 21:27	10°804'55 -16°38'34	minimum elong	2114 May 08 00:36	17°810'15 15°15'45
min. Earth dist.	2106 Nov 01 18:02	10°806'12 48.27640 AU	max. Earth dist.	2114 May 08 20:28	17°811'22 50.29178 AU
direct	2107 Jan 23 05:32	9°806'16	retrograde	2114 Aug 18 15:20	18°839'17
			opposition	2114 Nov 10 09:48	17°839'44 -15°49'33
conjunction	2107 May 01 11:36	10°832'21 -15°56'53	min. Earth dist.	2114 Nov 09 14:51	17°840'37 48.36450 AU
minimum elong	2107 May 01 11:45	10°832'22 15°56'52	direct	2115 Jan 30 21:38	16°841'16
max. Earth dist.	2107 May 02 15:13	10°833'56 50.20946 AU			
retrograde	2107 Aug 12 07:29	12°802'02	conjunction	2115 May 09 05:33	18°806'51 -15°08'53
min. Earth dist.	2107 Nov 03 00:58	11°803'26 48.30210 AU	minimum elong	2115 May 09 05:44	18°806'51 15°08'52
opposition	2107 Nov 04 02:22	11°802'15 -16°33'17	max. Earth dist.	2115 May 10 01:14	18°807'58 50.29024 AU
direct	2108 Jan 24 09:30	10°803'38	retrograde	2115 Aug 19 22:06	19°835'52

opposition	2115 Nov 11 14:16	18° 8 36'22	-15°42'17	retrograde	2122 Aug 26 11:44	26° 8 12'40
min. Earth dist.	2115 Nov 10 21:10	18° 8 37'11	48.36010 AU	opposition	2122 Nov 17 20:30	25° 8 13'17 -14°45'11
direct	2116 Feb 01 01:56	17° 8 37'57		min. Earth dist.	2122 Nov 17 12:23	25° 8 13'40 48.19565 AU
				direct	2123 Feb 07 05:29	24° 8 14'47
conjunction	2116 May 09 10:50	19° 8 03'31	-15°01'46	evening set	2123 May 11 12:20	25° 8 32'56
minimum elong	2116 May 09 10:59	19° 8 03'32	15°01'46			
max. Earth dist.	2116 May 10 05:27	19° 8 04'34	50.28520 AU	conjunction	2123 May 16 23:38	25° 8 40'20 -14°05'59
retrograde	2116 Aug 20 04:27	20° 8 32'30		minimum elong	2123 May 16 23:49	25° 8 40'21 14°06'00
opposition	2116 Nov 11 18:25	19° 8 33'05	-15°34'47	max. Earth dist.	2123 May 17 08:55	25° 8 40'52 50.11246 AU
min. Earth dist.	2116 Nov 11 01:36	19° 8 33'52	48.35180 AU	morning rise	2123 May 22 11:36	25° 8 47'46
direct	2117 Feb 01 04:00	18° 8 34'41		retrograde	2123 Aug 27 12:59	27° 8 09'04
evening set	2117 May 08 21:32	19° 8 57'52		opposition	2123 Nov 19 00:42	26° 8 09'39 -14°36'07
				min. Earth dist.	2123 Nov 18 17:12	26° 8 10'00 48.15371 AU
conjunction	2117 May 10 16:04	20° 8 00'17	-14°54'26	direct	2124 Feb 08 12:41	25° 8 11'06
minimum elong	2117 May 10 16:16	20° 8 00'17	14°54'26	evening set	2124 May 11 07:34	26° 8 28'42
max. Earth dist.	2117 May 11 08:37	20° 8 01'13	50.27579 AU			
morning rise	2117 May 12 11:03	20° 8 02'42		conjunction	2124 May 17 04:48	26° 8 36'40 -13°57'08
retrograde	2117 Aug 21 10:37	21° 8 29'14		minimum elong	2124 May 17 05:00	26° 8 36'41 13°57'07
opposition	2117 Nov 12 22:53	20° 8 29'51	-15°27'03	max. Earth dist.	2124 May 17 12:05	26° 8 37'05 50.07024 AU
min. Earth dist.	2117 Nov 12 08:09	20° 8 30'33	48.33890 AU	morning rise	2124 May 23 02:52	26° 8 44'41
direct	2118 Feb 02 06:28	19° 8 31'29		retrograde	2124 Aug 27 16:32	28° 8 05'23
evening set	2118 May 09 04:00	20° 8 53'24		opposition	2124 Nov 19 04:47	27° 8 05'57 -14°26'49
				min. Earth dist.	2124 Nov 18 21:57	27° 8 06'16 48.10864 AU
conjunction	2118 May 11 21:21	20° 8 57'06	-14°46'53	direct	2125 Feb 08 18:25	26° 8 07'21
minimum elong	2118 May 11 21:31	20° 8 57'06	14°46'53	evening set	2125 May 12 03:11	27° 8 24'28
max. Earth dist.	2118 May 12 13:29	20° 8 58'00	50.26147 AU			
morning rise	2118 May 14 15:07	21° 8 00'48		conjunction	2125 May 18 10:03	27° 8 32'57 -13°48'02
retrograde	2118 Aug 22 12:52	22° 8 26'01		minimum elong	2125 May 18 10:14	27° 8 32'58 13°48'02
opposition	2118 Nov 14 03:17	21° 8 26'40	-15°19'07	max. Earth dist.	2125 May 18 16:53	27° 8 33'20 50.02488 AU
min. Earth dist.	2118 Nov 13 13:39	21° 8 27'19	48.32064 AU	morning rise	2125 May 24 17:42	27° 8 41'30
direct	2119 Feb 03 13:18	20° 8 28'18		retrograde	2125 Aug 28 21:43	29° 8 01'40
evening set	2119 May 09 16:27	21° 8 49'15		opposition	2125 Nov 20 09:06	28° 8 02'13 -14°17'15
				min. Earth dist.	2125 Nov 20 03:54	28° 8 02'28 48.06051 AU
conjunction	2119 May 13 02:38	21° 8 53'54	-14°39'08	direct	2126 Feb 09 23:39	27° 8 03'36
minimum elong	2119 May 13 02:49	21° 8 53'55	14°39'09	evening set	2126 May 12 23:14	28° 8 20'14
max. Earth dist.	2119 May 13 16:17	21° 8 54'41	50.24176 AU			
morning rise	2119 May 16 13:23	21° 8 58'35		conjunction	2126 May 19 15:06	28° 8 29'14 -13°38'41
retrograde	2119 Aug 23 17:06	23° 8 22'49		minimum elong	2126 May 19 15:18	28° 8 29'15 13°38'42
opposition	2119 Nov 15 07:38	22° 8 23'28	-15°10'57	max. Earth dist.	2126 May 19 21:11	28° 8 29'35 49.97678 AU
min. Earth dist.	2119 Nov 14 19:11	22° 8 24'03	48.29698 AU	morning rise	2126 May 26 07:48	28° 8 38'18
direct	2120 Feb 04 18:48	21° 8 25'05		retrograde	2126 Aug 30 03:50	29° 8 57'58
evening set	2120 May 09 07:29	22° 8 45'14		opposition	2126 Nov 21 13:18	28° 8 58'31 -14°07'26
				min. Earth dist.	2126 Nov 21 07:55	28° 8 58'46 48.00954 AU
conjunction	2120 May 13 08:02	22° 8 50'40	-14°31'10	direct	2127 Feb 11 02:26	27° 8 59'53
minimum elong	2120 May 13 08:12	22° 8 50'41	14°31'10	evening set	2127 May 13 19:40	29° 8 16'04
max. Earth dist.	2120 May 13 20:34	22° 8 51'23	50.21651 AU			
morning rise	2120 May 17 09:08	22° 8 56'10		conjunction	2127 May 20 20:17	29° 8 25'35 -13°29'06
retrograde	2120 Aug 23 22:32	24° 8 19'33		minimum elong	2127 May 20 20:27	29° 8 25'35 13°29'07
opposition	2120 Nov 15 12:02	23° 8 20'12	-15°02'35	max. Earth dist.	2127 May 21 00:36	29° 8 25'49 49.92567 AU
min. Earth dist.	2120 Nov 15 01:41	23° 8 20'41	48.26782 AU	morning rise	2127 May 27 21:50	29° 8 35'08
direct	2121 Feb 05 00:46	22° 8 21'47			2127 Jun 15 21:47	0° II
evening set	2121 May 10 00:13	23° 8 41'12		retrograde	2127 Aug 31 10:40	0° II 54'21
					2127 Nov 18 04:52	30° R 8
conjunction	2121 May 14 13:18	23° 8 47'21	-14°23'00	opposition	2127 Nov 22 17:34	29° 8 54'54 -13°57'22
minimum elong	2121 May 14 13:29	23° 8 47'22	14°23'00	min. Earth dist.	2127 Nov 22 13:59	29° 8 55'04 47.95552 AU
max. Earth dist.	2121 May 15 00:35	23° 8 47'59	50.18619 AU	direct	2128 Feb 12 04:37	28° 8 56'15
morning rise	2121 May 19 02:59	23° 8 53'33			2128 May 04 15:02	0° II
retrograde	2121 Aug 25 06:00	25° 8 16'10		evening set	2128 May 13 16:37	0° II 12'03
opposition	2121 Nov 16 16:10	24° 8 16'48	-14°54'00			
min. Earth dist.	2121 Nov 16 06:08	24° 8 17'16	48.23382 AU	conjunction	2128 May 21 01:41	0° II 22'02 -13°19'16
direct	2122 Feb 06 02:47	23° 8 18'21		minimum elong	2128 May 21 01:53	0° II 22'03 13°19'17
evening set	2122 May 10 17:51	24° 8 37'06		max. Earth dist.	2128 May 21 06:01	0° II 22'17 49.87132 AU
				morning rise	2128 May 28 11:38	0° II 32'04
conjunction	2122 May 15 18:27	24° 8 43'54	-14°14'37	retrograde	2128 Aug 31 13:40	1° II 50'52
minimum elong	2122 May 15 18:38	24° 8 43'55	14°14'36	opposition	2128 Nov 22 21:48	0° II 51'26 -13°47'04
max. Earth dist.	2122 May 16 03:49	24° 8 44'26	50.15125 AU	min. Earth dist.	2128 Nov 22 18:59	0° II 51'34 47.89780 AU
morning rise	2122 May 20 19:45	24° 8 50'44			2129 Jan 17 10:01	30° R 8

direct	2129 Feb 12 10:29	29° 8 52'46	morning rise	2135 Jun 07 06:17	7° II 13'55
	2129 Mar 10 07:18	0° II	retrograde	2135 Sep 08 01:15	8° II 30'12
evening set	2129 May 14 13:53	1° II 08'13	opposition	2135 Nov 30 04:20	7° II 30'35 -12°28'35
			min. Earth dist.	2135 Nov 30 10:50	7° II 30'16 47.36155 AU
conjunction	2129 May 22 06:57	1° II 18'40 -13°09'13	direct	2136 Feb 19 20:23	6° II 31'32
minimum elong	2129 May 22 07:08	1° II 18'40 13°09'12	evening set	2136 May 19 02:27	7° II 44'50
max. Earth dist.	2129 May 22 09:01	1° II 18'47 49.81300 AU			
morning rise	2129 May 30 01:03	1° II 29'09	conjunction	2136 May 28 21:55	7° II 58'09 -11°52'43
retrograde	2129 Sep 01 18:42	2° II 47'33	minimum elong	2136 May 28 22:06	7° II 58'10 11°52'43
opposition	2129 Nov 24 02:02	1° II 48'08 -13°36'31	max. Earth dist.	2136 May 28 15:08	7° II 57'46 49.27133 AU
min. Earth dist.	2129 Nov 24 00:20	1° II 48'13 47.83588 AU	morning rise	2136 Jun 07 18:32	8° II 11'34
direct	2130 Feb 13 14:54	0° II 49'27	retrograde	2136 Sep 08 08:01	9° II 27'33
evening set	2130 May 15 11:28	2° II 04'34	opposition	2136 Nov 30 08:43	8° II 27'53 -12°16'26
			min. Earth dist.	2136 Nov 30 15:09	8° II 27'34 47.26871 AU
conjunction	2130 May 23 12:28	2° II 15'27 -12°58'56	direct	2137 Feb 19 23:37	7° II 28'45
minimum elong	2130 May 23 12:40	2° II 15'27 12°58'57	evening set	2137 May 20 01:35	8° II 41'48
max. Earth dist.	2130 May 23 13:32	2° II 15'30 49.75001 AU			
morning rise	2130 May 31 14:29	2° II 26'24	conjunction	2137 May 30 03:28	8° II 55'31 -11°40'52
retrograde	2130 Sep 02 23:46	3° II 44'25	minimum elong	2137 May 30 03:41	8° II 55'31 11°40'51
opposition	2130 Nov 25 06:26	2° II 45'00 -13°25'45	max. Earth dist.	2137 May 29 18:59	8° II 55'02 49.17845 AU
min. Earth dist.	2130 Nov 25 06:45	2° II 44'59 47.76896 AU	morning rise	2137 Jun 09 06:43	9° II 09'18
direct	2131 Feb 14 20:41	1° II 46'18	retrograde	2137 Sep 09 15:44	10° II 25'00
evening set	2131 May 16 09:24	3° II 01'04	opposition	2137 Dec 01 13:16	9° II 25'17 -12°04'01
			min. Earth dist.	2137 Dec 01 21:22	9° II 24'53 47.17304 AU
conjunction	2131 May 24 17:57	3° II 12'23 -12°48'27	direct	2138 Feb 21 01:41	8° II 26'05
minimum elong	2131 May 24 18:09	3° II 12'24 12°48'26	evening set	2138 May 21 00:54	9° II 38'54
max. Earth dist.	2131 May 24 17:39	3° II 12'22 49.68202 AU			
morning rise	2131 Jun 02 03:30	3° II 23'46	conjunction	2138 May 31 09:15	9° II 53'00 -11°28'46
retrograde	2131 Sep 04 07:33	4° II 41'25	minimum elong	2138 May 31 09:26	9° II 53'00 11°28'46
opposition	2131 Nov 26 10:46	3° II 41'59 -13°14'47	max. Earth dist.	2138 May 31 00:54	9° II 52'31 49.08293 AU
min. Earth dist.	2131 Nov 26 11:34	3° II 41'57 47.69681 AU	morning rise	2138 Jun 10 18:42	10° II 07'09
direct	2132 Feb 15 22:58	2° II 43'14	retrograde	2138 Sep 10 19:52	11° II 22'35
evening set	2132 May 16 07:39	3° II 57'41	opposition	2138 Dec 02 17:48	10° II 22'49 -11°51'21
			min. Earth dist.	2138 Dec 03 02:16	10° II 22'25 47.07465 AU
conjunction	2132 May 24 23:33	4° II 09'26 -12°37'45	direct	2139 Feb 22 06:50	9° II 23'33
minimum elong	2132 May 24 23:45	4° II 09'26 12°37'45	evening set	2139 May 22 00:31	10° II 36'12
max. Earth dist.	2132 May 24 20:55	4° II 09'17 49.60866 AU			
morning rise	2132 Jun 02 16:39	4° II 21'14	conjunction	2139 Jun 01 14:55	10° II 50'39 -11°16'24
retrograde	2132 Sep 04 14:59	5° II 38'31	minimum elong	2139 Jun 01 15:08	10° II 50'39 11°16'24
opposition	2132 Nov 26 15:09	4° II 39'04 -13°03'35	max. Earth dist.	2139 Jun 01 04:37	10° II 50'03 48.98473 AU
min. Earth dist.	2132 Nov 26 18:15	4° II 38'55 47.61950 AU	morning rise	2139 Jun 12 06:44	11° II 05'10
direct	2133 Feb 16 00:38	3° II 40'15	retrograde	2139 Sep 12 01:26	12° II 20'22
evening set	2133 May 17 06:06	4° II 54'23	opposition	2139 Dec 03 22:26	11° II 20'34 -11°38'24
			min. Earth dist.	2139 Dec 04 07:45	11° II 20'07 46.97346 AU
conjunction	2133 May 26 05:14	5° II 06'32 -12°26'50	direct	2140 Feb 23 11:32	10° II 21'14
minimum elong	2133 May 26 05:26	5° II 06'33 12°26'49	evening set	2140 May 22 00:21	11° II 33'42
max. Earth dist.	2133 May 26 02:11	5° II 06'22 49.53039 AU			
morning rise	2133 Jun 04 05:23	5° II 18'45	conjunction	2140 Jun 01 20:56	11° II 48'30 -11°03'49
retrograde	2133 Sep 05 17:17	6° II 35'41	minimum elong	2140 Jun 01 21:08	11° II 48'31 11°03'48
opposition	2133 Nov 27 19:31	5° II 36'11 -12°52'09	max. Earth dist.	2140 Jun 01 09:58	11° II 47'53 48.88333 AU
min. Earth dist.	2133 Nov 27 23:19	5° II 36'00 47.53741 AU	morning rise	2140 Jun 12 18:48	12° II 03'24
direct	2134 Feb 17 07:47	4° II 37'18	retrograde	2140 Sep 12 04:50	13° II 18'23
evening set	2134 May 18 04:36	5° II 51'09	opposition	2140 Dec 04 03:05	12° II 18'33 -11°25'13
			min. Earth dist.	2140 Dec 04 14:09	12° II 18'01 46.86877 AU
conjunction	2134 May 27 10:35	6° II 03'42 -12°15'42	direct	2141 Feb 23 18:48	11° II 19'10
minimum elong	2134 May 27 10:46	6° II 03'42 12°15'42	evening set	2141 May 23 00:34	12° II 31'27
max. Earth dist.	2134 May 27 05:23	6° II 03'24 49.44772 AU			
morning rise	2134 Jun 05 17:48	6° II 16'19	conjunction	2141 Jun 03 03:01	12° II 46'37 -10°50'58
retrograde	2134 Sep 06 20:26	7° II 32'55	minimum elong	2141 Jun 03 03:13	12° II 46'38 10°50'58
opposition	2134 Nov 28 23:56	6° II 33'21 -12°40'30	max. Earth dist.	2141 Jun 02 14:59	12° II 45'56 48.77830 AU
min. Earth dist.	2134 Nov 29 04:44	6° II 33'07 47.45131 AU	morning rise	2141 Jun 14 06:44	13° II 01'52
direct	2135 Feb 18 14:18	5° II 34'23	retrograde	2141 Sep 13 12:13	14° II 16'39
evening set	2135 May 19 03:21	6° II 47'57	opposition	2141 Dec 05 07:49	13° II 16'47 -11°11'47
			min. Earth dist.	2141 Dec 05 19:16	13° II 16'14 46.76007 AU
conjunction	2135 May 28 16:14	7° II 00'54 -12°04'20	direct	2142 Feb 24 22:42	12° II 17'20
minimum elong	2135 May 28 16:26	7° II 00'55 12°04'19	evening set	2142 May 24 00:51	13° II 29'27
max. Earth dist.	2135 May 28 10:26	7° II 00'34 49.36114 AU			

conjunction	2142 Jun 04 09:01	13°II44'59 -10°37'54	direct	2149 Mar 03 09:46	19°II09'29	
minimum elong	2142 Jun 04 09:13	13°II44'59 10°37'54	evening set	2149 May 29 09:55	20°II20'51	
max. Earth dist.	2142 Jun 03 18:47	13°II44'10 48.66871 AU	max. Earth dist.	2149 Jun 10 07:06	20°II37'19	47.76951 AU
morning rise	2142 Jun 15 18:39	14°II00'36				
retrograde	2142 Sep 14 21:36	15°II15'11	conjunction	2149 Jun 11 06:50	20°II38'42	-9°00'01
opposition	2142 Dec 06 12:51	14°II15'16 -10°58'07	minimum elong	2149 Jun 11 07:00	20°II38'42	9°00'01
min. Earth dist.	2142 Dec 07 02:34	14°II14'36 46.64658 AU	morning rise	2149 Jun 24 05:14	20°II56'37	
direct	2143 Feb 26 00:08	13°II15'43	retrograde	2149 Sep 21 15:38	22°II10'08	
evening set	2143 May 25 01:31	14°II27'42	opposition	2149 Dec 13 00:53	21°II09'34	-9°15'41
			min. Earth dist.	2149 Dec 13 22:15	21°II08'32	45.72270 AU
conjunction	2143 Jun 05 15:28	14°II43'34 -10°24'37	direct	2150 Mar 04 15:03	20°II09'09	
minimum elong	2143 Jun 05 15:40	14°II43'35 10°24'37	evening set	2150 May 30 11:49	21°II20'29	
max. Earth dist.	2143 Jun 05 00:38	14°II42'43 48.55413 AU				
morning rise	2143 Jun 17 06:36	14°II59'32	conjunction	2150 Jun 12 13:37	21°II38'38	-8°45'03
retrograde	2143 Sep 16 02:23	16°II13'56	minimum elong	2150 Jun 12 13:48	21°II38'39	8°45'03
opposition	2143 Dec 07 17:44	15°II13'56 -10°44'13	max. Earth dist.	2150 Jun 11 13:31	21°II37'14	47.62673 AU
min. Earth dist.	2143 Dec 08 08:17	15°II13'14 46.52782 AU	morning rise	2150 Jun 25 16:41	21°II56'53	
direct	2144 Feb 27 06:28	14°II14'17	retrograde	2150 Sep 22 19:36	23°II10'20	
evening set	2144 May 25 02:33	15°II26'09	opposition	2150 Dec 14 06:32	22°II09'40	-9°00'01
			min. Earth dist.	2150 Dec 15 05:09	22°II08'34	45.57717 AU
conjunction	2144 Jun 05 21:52	15°II42'21 -10°11'06	direct	2151 Mar 05 22:49	21°II09'08	
minimum elong	2144 Jun 05 22:03	15°II42'22 10°11'06	evening set	2151 May 31 14:16	22°II20'27	
max. Earth dist.	2144 Jun 05 04:28	15°II41'21 48.43432 AU				
morning rise	2144 Jun 17 18:39	15°II58'39	conjunction	2151 Jun 13 20:40	22°II38'55	-8°29'49
retrograde	2144 Sep 16 07:25	17°II12'51	minimum elong	2151 Jun 13 20:50	22°II38'56	8°29'49
opposition	2144 Dec 07 22:49	16°II12'47 -10°30'05	max. Earth dist.	2151 Jun 12 19:39	22°II37'27	47.48138 AU
min. Earth dist.	2144 Dec 08 14:47	16°II12'01 46.40395 AU	morning rise	2151 Jun 27 04:22	22°II57'29	
direct	2145 Feb 27 12:36	15°II13'01	retrograde	2151 Sep 24 02:59	24°II10'53	
evening set	2145 May 26 03:30	16°II24'44	opposition	2151 Dec 15 12:01	23°II10'09	-8°44'04
max. Earth dist.	2145 Jun 06 09:57	16°II40'13 48.30936 AU	min. Earth dist.	2151 Dec 16 10:49	23°II09'02	45.42896 AU
			direct	2152 Mar 06 04:07	22°II09'30	
conjunction	2145 Jun 07 04:19	16°II41'17 -9°57'22	evening set	2152 May 31 17:00	23°II20'50	
minimum elong	2145 Jun 07 04:30	16°II41'18 9°57'22	max. Earth dist.	2152 Jun 13 00:59	23°II38'02	47.33299 AU
morning rise	2145 Jun 19 06:24	16°II57'55				
retrograde	2145 Sep 17 11:34	18°II11'57	conjunction	2152 Jun 14 03:53	23°II39'37	-8°14'20
opposition	2145 Dec 09 03:56	17°II11'47 -10°15'43	minimum elong	2152 Jun 14 04:04	23°II39'37	8°14'20
min. Earth dist.	2145 Dec 09 21:46	17°II10'55 46.27515 AU	morning rise	2152 Jun 27 16:10	23°II58'29	
direct	2146 Feb 28 20:00	16°II11'53	retrograde	2152 Sep 24 13:53	25°II11'52	
evening set	2146 May 27 04:48	17°II23'29	opposition	2152 Dec 15 17:53	24°II11'02	-8°27'51
			min. Earth dist.	2152 Dec 16 18:44	24°II09'50	45.27756 AU
conjunction	2146 Jun 08 10:47	17°II40'22 -9°43'23	direct	2153 Mar 07 05:54	23°II10'17	
minimum elong	2146 Jun 08 10:59	17°II40'22 9°43'23	evening set	2153 Jun 01 19:53	24°II21'39	
max. Earth dist.	2146 Jun 07 15:10	17°II39'13 48.17996 AU	max. Earth dist.	2153 Jun 14 08:07	24°II39'09	47.18112 AU
morning rise	2146 Jun 20 18:06	17°II57'19				
retrograde	2146 Sep 18 18:19	19°II11'12	conjunction	2153 Jun 15 11:14	24°II40'44	-7°58'36
opposition	2146 Dec 10 08:58	18°II10'56 -10°01'06	minimum elong	2153 Jun 15 11:24	24°II40'45	7°58'35
min. Earth dist.	2146 Dec 11 03:00	18°II10'04 46.14219 AU	morning rise	2153 Jun 29 03:41	24°II59'55	
direct	2147 Mar 02 00:44	17°II10'54	retrograde	2153 Sep 25 21:07	26°II13'17	
evening set	2147 May 28 06:13	18°II22'24	opposition	2153 Dec 16 23:44	25°II12'23	-8°11'22
			min. Earth dist.	2153 Dec 18 01:03	25°II11'09	45.12226 AU
conjunction	2147 Jun 09 17:19	18°II39'36 -9°29'11	direct	2154 Mar 08 11:36	24°II11'30	
minimum elong	2147 Jun 09 17:30	18°II39'36 9°29'11	evening set	2154 Jun 02 23:16	25°II22'55	
max. Earth dist.	2147 Jun 08 19:45	18°II38'21 48.04648 AU				
morning rise	2147 Jun 22 05:54	18°II56'53	conjunction	2154 Jun 16 18:43	25°II42'19	-7°42'37
retrograde	2147 Sep 20 02:34	20°II10'38	minimum elong	2154 Jun 16 18:53	25°II42'19	7°42'37
opposition	2147 Dec 11 14:16	19°II10'15 -9°46'14	max. Earth dist.	2154 Jun 15 13:11	25°II40'34	47.02506 AU
min. Earth dist.	2147 Dec 12 10:20	19°II09'17 46.00548 AU	morning rise	2154 Jun 30 15:34	26°II01'48	
direct	2148 Mar 02 04:12	18°II10'05	retrograde	2154 Sep 27 04:44	27°II15'09	
evening set	2148 May 28 07:55	19°II21'31	opposition	2154 Dec 18 05:47	26°II14'09	-7°54'37
max. Earth dist.	2148 Jun 09 02:29	19°II37'47 47.90951 AU	min. Earth dist.	2154 Dec 19 08:43	26°II12'50	44.96260 AU
			direct	2155 Mar 09 17:55	25°II13'08	
conjunction	2148 Jun 10 00:08	19°II39'02 -9°14'43	evening set	2155 Jun 04 02:49	26°II24'36	
minimum elong	2148 Jun 10 00:19	19°II39'03 9°14'42	max. Earth dist.	2155 Jun 16 19:59	26°II42'29	46.86417 AU
morning rise	2148 Jun 22 17:31	19°II56'39				
retrograde	2148 Sep 20 08:37	21°II10'15	conjunction	2155 Jun 18 02:32	26°II44'18	-7°26'23
opposition	2148 Dec 11 19:27	20°II09'47 -9°31'06	minimum elong	2155 Jun 18 02:42	26°II44'18	7°26'22
min. Earth dist.	2148 Dec 12 15:53	20°II08'47 45.86546 AU	morning rise	2155 Jul 02 03:22	27°II04'05	

retrograde	2155 Sep 28 09:19	28°II17'26	min. Earth dist.	2161 Dec 26 14:27	3°☾34'05	43.72283 AU
opposition	2155 Dec 19 12:06	27°II16'18 -7°37'38	direct	2162 Mar 16 20:17	2°☾33'24	
min. Earth dist.	2155 Dec 20 16:48	27°II14'53 44.79786 AU	evening set	2162 Jun 10 11:49	3°☾45'31	
direct	2156 Mar 10 03:23	26°II15'08	max. Earth dist.	2162 Jun 23 20:37	4°☾04'45	45.62025 AU
evening set	2156 Jun 04 06:49	27°II26'39				
max. Earth dist.	2156 Jun 17 02:15	27°II44'44 46.69834 AU	conjunction	2162 Jun 25 12:29	4°☾07'10 -5°25'46	
			minimum elong	2162 Jun 25 12:37	4°☾07'11 5°25'46	
conjunction	2156 Jun 18 10:28	27°II46'38 -7°09'55	morning rise	2162 Jul 10 14:08	4°☾28'54	
minimum elong	2156 Jun 18 10:38	27°II46'39 7°09'55	retrograde	2162 Oct 05 17:56	5°☾42'34	
morning rise	2156 Jul 02 15:17	28°II06'43	opposition	2162 Dec 26 11:15	4°☾40'17 -5°31'08	
retrograde	2156 Sep 28 16:17	29°II20'04	min. Earth dist.	2162 Dec 27 23:25	4°☾38'27 43.53386 AU	
opposition	2156 Dec 19 18:18	28°II18'48 -7°20'22	direct	2163 Mar 18 02:04	3°☾37'41	
min. Earth dist.	2156 Dec 20 23:33	28°II17'22 44.62825 AU	evening set	2163 Jun 11 17:40	4°☾49'58	
direct	2157 Mar 11 10:22	27°II17'27	max. Earth dist.	2163 Jun 25 05:39	5°☾09'28 45.43133 AU	
evening set	2157 Jun 05 11:02	28°II29'02				
max. Earth dist.	2157 Jun 18 08:11	28°II47'16 46.52761 AU	conjunction	2163 Jun 26 21:30	5°☾11'53 -5°07'28	
			minimum elong	2163 Jun 26 21:38	5°☾11'54 5°07'28	
conjunction	2157 Jun 19 18:30	28°II49'18 -6°53'12	morning rise	2163 Jul 12 02:01	5°☾33'53	
minimum elong	2157 Jun 19 18:39	28°II49'19 6°53'11	retrograde	2163 Oct 07 03:26	6°☾47'41	
morning rise	2157 Jul 04 03:11	29°II09'40	opposition	2163 Dec 27 18:37	5°☾45'15 -5°11'56	
	2157 Aug 14 15:41	0°☾	min. Earth dist.	2163 Dec 29 06:42	5°☾43'26 43.34274 AU	
retrograde	2157 Sep 30 01:19	0°☾23'02	direct	2164 Mar 18 08:20	4°☾42'27	
	2157 Nov 15 22:55	30°RII	evening set	2164 Jun 12 00:09	5°☾54'58	
opposition	2157 Dec 21 00:54	29°II21'37 -7°02'52	max. Earth dist.	2164 Jun 25 12:45	6°☾14'36 45.24007 AU	
min. Earth dist.	2157 Dec 22 08:21	29°II20'04 44.45407 AU				
direct	2158 Mar 12 15:22	28°II20'04	conjunction	2164 Jun 27 06:40	6°☾17'09 -4°48'55	
evening set	2158 Jun 06 15:14	29°II31'42	minimum elong	2164 Jun 27 06:46	6°☾17'09 4°48'54	
max. Earth dist.	2158 Jun 19 15:58	29°II50'12 46.35262 AU	morning rise	2164 Jul 12 14:07	6°☾39'24	
			retrograde	2164 Oct 07 14:44	7°☾53'22	
conjunction	2158 Jun 21 02:34	29°II52'15 -6°36'14	opposition	2164 Dec 28 02:11	6°☾50'47 -4°52'26	
minimum elong	2158 Jun 21 02:43	29°II52'16 6°36'14	min. Earth dist.	2164 Dec 29 15:48	6°☾48'53 43.14924 AU	
	2158 Jun 26 12:12	0°☾	direct	2165 Mar 19 14:20	5°☾47'49	
morning rise	2158 Jul 05 14:49	0°☾12'54	evening set	2165 Jun 13 06:51	7°☾00'35	
retrograde	2158 Oct 01 10:36	1°☾26'17	max. Earth dist.	2165 Jun 26 21:58	7°☾20'26 45.04601 AU	
opposition	2158 Dec 22 07:27	0°☾24'42 -6°45'05				
min. Earth dist.	2158 Dec 23 15:19	0°☾23'07 44.27583 AU	conjunction	2165 Jun 28 16:13	7°☾23'01 -4°30'05	
	2159 Jan 12 15:48	30°RII	minimum elong	2165 Jun 28 16:20	7°☾23'02 4°30'05	
direct	2159 Mar 13 21:03	29°II22'56	morning rise	2165 Jul 14 02:08	7°☾45'32	
	2159 May 12 02:14	0°☾	retrograde	2165 Oct 08 22:52	8°☾59'42	
evening set	2159 Jun 07 20:03	0°☾34'40	opposition	2165 Dec 29 10:04	7°☾56'58 -4°32'39	
max. Earth dist.	2159 Jun 20 21:53	0°☾53'18 46.17384 AU	min. Earth dist.	2165 Dec 31 00:51	7°☾55'00 42.95262 AU	
			direct	2166 Mar 21 00:03	6°☾53'48	
conjunction	2159 Jun 22 10:48	0°☾55'30 -6°19'01	evening set	2166 Jun 14 13:59	8°☾06'51	
minimum elong	2159 Jun 22 10:57	0°☾55'31 6°19'00	max. Earth dist.	2166 Jun 28 05:54	8°☾26'50 44.84860 AU	
morning rise	2159 Jul 07 02:47	1°☾16'25				
retrograde	2159 Oct 02 20:37	2°☾29'50	conjunction	2166 Jun 30 01:48	8°☾29'33 -4°10'59	
opposition	2159 Dec 23 14:05	1°☾28'04 -6°27'01	minimum elong	2166 Jun 30 01:54	8°☾29'33 4°10'59	
min. Earth dist.	2159 Dec 24 23:20	1°☾26'25 44.09426 AU	morning rise	2166 Jul 15 14:20	8°☾52'18	
direct	2160 Mar 14 02:35	0°☾26'05	retrograde	2166 Oct 10 08:26	10°☾06'41	
evening set	2160 Jun 08 01:00	1°☾37'56	opposition	2166 Dec 30 18:08	9°☾03'48 -4°12'35	
max. Earth dist.	2160 Jun 21 06:01	1°☾56'48 45.99181 AU	min. Earth dist.	2167 Jan 01 09:33	9°☾01'48 42.75234 AU	
			direct	2167 Mar 22 08:35	8°☾00'26	
conjunction	2160 Jun 22 19:21	1°☾59'03 -6°01'32	evening set	2167 Jun 15 21:43	9°☾13'46	
minimum elong	2160 Jun 22 19:29	1°☾59'03 6°01'32	max. Earth dist.	2167 Jun 29 14:12	9°☾33'53 44.64697 AU	
morning rise	2160 Jul 07 14:34	2°☾20'14				
retrograde	2160 Oct 03 02:17	3°☾33'42	conjunction	2167 Jul 01 11:55	9°☾36'43 -3°51'38	
opposition	2160 Dec 23 21:01	2°☾31'46 -6°08'41	minimum elong	2167 Jul 01 12:01	9°☾36'43 3°51'38	
min. Earth dist.	2160 Dec 25 07:22	2°☾30'03 43.90970 AU	morning rise	2167 Jul 17 02:43	9°☾59'44	
direct	2161 Mar 15 11:32	1°☾29'34	retrograde	2167 Oct 11 17:43	11°☾14'21	
evening set	2161 Jun 09 06:13	2°☾41'32	opposition	2168 Jan 01 02:28	10°☾11'17 -3°52'15	
max. Earth dist.	2161 Jun 22 13:24	3°☾00'36 45.80720 AU	min. Earth dist.	2168 Jan 02 20:11	10°☾09'09 42.54774 AU	
			direct	2168 Mar 22 16:24	9°☾07'42	
conjunction	2161 Jun 24 03:46	3°☾02'55 -5°43'47	evening set	2168 Jun 16 05:50	10°☾21'20	
minimum elong	2161 Jun 24 03:54	3°☾02'55 5°43'46	max. Earth dist.	2168 Jun 29 23:55	10°☾41'38 44.44103 AU	
morning rise	2161 Jul 09 02:17	3°☾24'23				
retrograde	2161 Oct 04 08:35	4°☾37'55	conjunction	2168 Jul 01 22:20	10°☾44'31 -3°32'00	
opposition	2161 Dec 25 03:59	3°☾35'48 -5°50'03	minimum elong	2168 Jul 01 22:25	10°☾44'32 3°32'00	

morning rise	2168 Jul 17 15:12	11°☾07'47	conjunction	2175 Jul 11 04:56	18°☾56'20 -1°07'19
retrograde	2168 Oct 12 04:51	12°☾22'38	minimum elong	2175 Jul 11 04:58	18°☾56'21 1°07'19
opposition	2169 Jan 01 11:01	11°☾19'24 -3°31'37	morning rise	2175 Jul 27 07:31	19°☾21'05
min. Earth dist.	2169 Jan 03 05:06	11°☾17'14 42.33881 AU	retrograde	2175 Oct 21 13:19	20°☾38'14
direct	2169 Mar 23 23:51	10°☾15'34	opposition	2176 Jan 10 05:33	19°☾33'24 -0°59'15
evening set	2169 Jun 17 14:18	11°☾29'31	min. Earth dist.	2176 Jan 12 06:25	19°☾30'49 40.79208 AU
max. Earth dist.	2169 Jul 01 07:41	11°☾49'53 44.23077 AU	direct	2176 Mar 31 15:38	18°☾27'39
			evening set	2176 Jun 25 13:56	19°☾44'31
conjunction	2169 Jul 03 08:40	11°☾52'56 -3°12'08	max. Earth dist.	2176 Jul 09 09:23	20°☾05'47 42.67923 AU
minimum elong	2169 Jul 03 08:45	11°☾52'57 3°12'08			
morning rise	2169 Jul 19 03:37	12°☾16'25	conjunction	2176 Jul 11 17:19	20°☾09'25 -0°45'35
retrograde	2169 Oct 13 18:32	13°☾31'33	minimum elong	2176 Jul 11 17:20	20°☾09'25 0°45'35
opposition	2170 Jan 02 19:50	12°☾28'05 -3°10'43	morning rise	2176 Jul 27 20:38	20°☾34'20
min. Earth dist.	2170 Jan 04 15:47	12°☾25'50 42.12589 AU	retrograde	2176 Oct 22 04:18	21°☾51'56
direct	2170 Mar 25 05:44	11°☾24'00	opposition	2177 Jan 10 16:14	20°☾46'53 -0°36'20
evening set	2170 Jun 18 23:05	12°☾38'18	min. Earth dist.	2177 Jan 12 17:49	20°☾44'15 40.56373 AU
max. Earth dist.	2170 Jul 02 18:09	12°☾58'51 44.01663 AU	direct	2177 Apr 02 01:34	19°☾40'52
			evening set	2177 Jun 27 02:07	20°☾58'16
conjunction	2170 Jul 04 19:30	13°☾01'57 -2°51'59	max. Earth dist.	2177 Jul 10 21:20	21°☾19'40 42.44988 AU
minimum elong	2170 Jul 04 19:34	13°☾01'57 2°51'59			
morning rise	2170 Jul 20 16:04	13°☾25'40	conjunction	2177 Jul 13 06:01	21°☾23'22 -0°23'36
retrograde	2170 Oct 15 04:18	14°☾41'03	minimum elong	2177 Jul 13 06:02	21°☾23'22 0°23'37
opposition	2171 Jan 04 04:47	13°☾37'23 -2°49'32	morning rise	2177 Jul 29 09:33	21°☾48'28
min. Earth dist.	2171 Jan 06 01:38	13°☾35'04 41.90934 AU	retrograde	2177 Oct 23 14:52	23°☾06'34
direct	2171 Mar 26 15:41	12°☾33'01	opposition	2178 Jan 12 03:18	22°☾01'16 -0°13'08
evening set	2171 Jun 20 08:26	13°☾47'40	min. Earth dist.	2178 Jan 14 06:29	21°☾58'32 40.33306 AU
max. Earth dist.	2171 Jul 04 03:23	14°☾08'20 43.79923 AU	direct	2178 Apr 03 13:47	20°☾54'59
			evening set	2178 Jun 28 15:06	22°☾12'58
conjunction	2171 Jul 06 06:26	14°☾11'33 -2°31'35	max. Earth dist.	2178 Jul 12 09:44	22°☾34'27 42.21799 AU
minimum elong	2171 Jul 06 06:30	14°☾11'33 2°31'36			
morning rise	2171 Jul 22 04:46	14°☾35'29	conjunction	2178 Jul 14 19:11	22°☾38'14 -0°01'23
retrograde	2171 Oct 16 13:55	15°☾51'09	minimum elong	2178 Jul 14 19:12	22°☾38'14 0°01'23
opposition	2172 Jan 05 13:57	14°☾47'15 -2°28'03	behind sun begin	2178 Jul 14 12:40	22°☾37'50
min. Earth dist.	2172 Jan 07 11:30	14°☾44'53 41.68990 AU	behind sun end	2178 Jul 15 01:43	22°☾38'38
direct	2172 Mar 27 02:53	13°☾42'37	morning rise	2178 Jul 30 22:54	23°☾03'30
evening set	2172 Jun 20 18:11	14°☾57'39	asc. node	2178 Aug 05 19:03	23°☾12'21
max. Earth dist.	2172 Jul 04 13:24	15°☾18'26 43.57888 AU	retrograde	2178 Oct 25 02:31	24°☾22'06
			opposition	2179 Jan 13 14:31	23°☾16'35 0°10'20
conjunction	2172 Jul 06 17:41	15°☾21'45 -2°10'55	min. Earth dist.	2179 Jan 15 18:01	23°☾13'49 40.09957 AU
minimum elong	2172 Jul 06 17:45	15°☾21'45 2°10'54	direct	2179 Apr 05 01:49	22°☾10'00
morning rise	2172 Jul 22 17:19	15°☾45'54	evening set	2179 Jun 30 04:51	23°☾28'36
retrograde	2172 Oct 16 22:56	17°☾01'53	max. Earth dist.	2179 Jul 13 21:01	23°☾50'04 41.98273 AU
opposition	2173 Jan 05 23:27	15°☾57'45 -2°06'17			
min. Earth dist.	2173 Jan 07 22:41	15°☾55'17 41.46793 AU	conjunction	2179 Jul 16 08:51	23°☾54'02 0°21'10
direct	2173 Mar 28 13:24	14°☾52'51	minimum elong	2179 Jul 16 08:50	23°☾54'01 0°21'10
evening set	2173 Jun 22 04:19	16°☾08'16	morning rise	2179 Aug 01 12:28	24°☾19'27
max. Earth dist.	2173 Jul 06 00:37	16°☾29'13 43.35644 AU	retrograde	2179 Oct 26 16:56	25°☾38'36
			opposition	2180 Jan 15 02:22	24°☾32'49 0°34'05
conjunction	2173 Jul 08 05:09	16°☾32'35 -1°49'59	min. Earth dist.	2180 Jan 17 08:04	24°☾29'55 39.86262 AU
minimum elong	2173 Jul 08 05:12	16°☾32'35 1°49'59	direct	2180 Apr 05 10:40	23°☾25'55
morning rise	2173 Jul 24 05:59	16°☾56'56	evening set	2180 Jun 30 19:04	24°☾45'09
retrograde	2173 Oct 18 09:57	18°☾13'17	max. Earth dist.	2180 Jul 14 10:45	25°☾06'43 41.74383 AU
opposition	2174 Jan 07 09:09	17°☾08'54 -1°44'14			
min. Earth dist.	2174 Jan 09 08:05	17°☾06'26 41.24415 AU	conjunction	2180 Jul 16 22:56	25°☾10'43 0°43'54
direct	2174 Mar 29 22:08	16°☾03'43	minimum elong	2180 Jul 16 22:55	25°☾10'43 0°43'54
evening set	2174 Jun 23 14:55	17°☾19'34	morning rise	2180 Aug 02 02:02	25°☾36'17
max. Earth dist.	2174 Jul 07 10:22	17°☾40'36 43.13222 AU	retrograde	2180 Oct 27 06:49	26°☾56'00
			opposition	2181 Jan 15 14:27	25°☾49'56 0°58'07
conjunction	2174 Jul 09 16:44	17°☾44'05 -1°28'47	min. Earth dist.	2181 Jan 17 20:35	25°☾47'00 39.62203 AU
minimum elong	2174 Jul 09 16:46	17°☾44'05 1°28'46	direct	2181 Apr 06 22:32	24°☾42'42
morning rise	2174 Jul 25 18:41	18°☾08'38	evening set	2181 Jul 02 10:04	26°☾02'36
retrograde	2174 Oct 19 23:48	19°☾25'23	max. Earth dist.	2181 Jul 15 22:45	26°☾24'07 41.50141 AU
opposition	2175 Jan 08 19:17	18°☾20'46 -1°21'53			
min. Earth dist.	2175 Jan 10 19:48	18°☾18'13 41.01887 AU	conjunction	2181 Jul 18 13:14	26°☾28'18 1°06'53
direct	2175 Mar 31 05:37	17°☾15'18	minimum elong	2181 Jul 18 13:13	26°☾28'18 1°06'53
evening set	2175 Jun 25 02:03	18°☾31'38	morning rise	2181 Aug 03 15:53	26°☾54'00
max. Earth dist.	2175 Jul 08 22:43	18°☾52'51 42.90648 AU	retrograde	2181 Oct 28 23:46	28°☾14'17

opposition	2182 Jan 17 02:55	27°☾07'56	1°22'24	direct	2188 Apr 15 18:07	4°♂05'57	
min. Earth dist.	2182 Jan 19 10:29	27°☾04'55	39.37825 AU	evening set	2188 Jul 12 13:04	5°♂31'36	
direct	2182 Apr 08 09:48	26°☾00'21		max. Earth dist.	2188 Jul 25 08:12	5°♂53'03	39.74626 AU
evening set	2182 Jul 04 01:25	27°☾20'55					
max. Earth dist.	2182 Jul 17 12:48	27°☾42'30	41.25572 AU	conjunction	2188 Jul 28 04:37	5°♂57'52	3°54'01
				minimum elong	2188 Jul 28 04:30	5°♂57'52	3°54'01
conjunction	2182 Jul 20 03:59	27°☾46'46	1°30'07	morning rise	2188 Aug 12 18:56	6°♂24'05	
minimum elong	2182 Jul 20 03:56	27°☾46'45	1°30'06	retrograde	2188 Nov 07 17:30	7°♂49'36	
morning rise	2182 Aug 05 05:36	28°☾12'34		opposition	2189 Jan 26 05:07	6°♂41'01	4°19'19
retrograde	2182 Oct 30 14:13	29°☾33'29		min. Earth dist.	2189 Jan 28 17:32	6°♂37'36	37.62380 AU
opposition	2183 Jan 18 15:50	28°☾26'48	1°46'57	direct	2189 Apr 17 10:15	5°♂30'50	
min. Earth dist.	2183 Jan 21 00:44	28°☾23'41	39.13147 AU	evening set	2189 Jul 14 09:43	6°♂57'32	
direct	2183 Apr 10 00:21	27°☾18'51		max. Earth dist.	2189 Jul 27 01:15	7°♂18'54	39.49262 AU
evening set	2183 Jul 05 17:41	28°☾40'09					
max. Earth dist.	2183 Jul 19 02:43	29°☾01'44	41.00740 AU	conjunction	2189 Jul 29 22:25	7°♂23'49	4°18'40
				minimum elong	2189 Jul 29 22:17	7°♂23'48	4°18'41
conjunction	2183 Jul 21 19:06	29°☾06'06	1°53'34	morning rise	2189 Aug 14 09:37	7°♂50'02	
minimum elong	2183 Jul 21 19:03	29°☾06'06	1°53'34	retrograde	2189 Nov 09 11:34	9°♂16'31	
morning rise	2183 Aug 06 19:42	29°☾32'01		opposition	2190 Jan 27 21:03	8°♂07'38	4°45'27
	2183 Aug 25 07:14	0°♂		min. Earth dist.	2190 Jan 30 10:59	8°♂04'06	37.37097 AU
retrograde	2183 Nov 01 05:20	0°♂53'34		direct	2190 Apr 19 02:14	6°♂57'05	
	2184 Jan 09 23:31	30°♂☾		evening set	2190 Jul 16 07:15	8°♂24'52	
opposition	2184 Jan 20 04:51	29°☾46'35	2°11'46	max. Earth dist.	2190 Jul 28 19:10	8°♂46'09	39.23817 AU
min. Earth dist.	2184 Jan 22 14:00	29°☾43'26	38.88249 AU				
direct	2184 Apr 10 14:17	28°☾38'15		conjunction	2190 Jul 31 16:39	8°♂51'08	4°43'29
evening set	2184 Jul 06 10:34	0°♂00'19		minimum elong	2190 Jul 31 16:30	8°♂51'08	4°43'29
	2184 Jul 06 05:45	0°♂		morning rise	2190 Aug 16 00:32	9°♂17'20	
max. Earth dist.	2184 Jul 19 16:43	0°♂21'51	40.75689 AU	retrograde	2190 Nov 11 04:51	10°♂44'49	
				opposition	2191 Jan 29 13:24	9°♂35'38	5°11'45
conjunction	2184 Jul 22 10:38	0°♂26'22	2°17'15	min. Earth dist.	2191 Feb 01 03:13	9°♂32'05	37.11706 AU
minimum elong	2184 Jul 22 10:34	0°♂26'22	2°17'14	direct	2191 Apr 20 18:29	8°♂24'42	
morning rise	2184 Aug 07 09:44	0°♂52'23		evening set	2191 Jul 18 05:56	9°♂53'37	
retrograde	2184 Nov 01 19:02	2°♂14'37		max. Earth dist.	2191 Jul 30 12:04	10°♂14'41	38.98211 AU
opposition	2185 Jan 20 18:33	1°♂07'18	2°36'49				
min. Earth dist.	2185 Jan 23 05:25	1°♂04'02	38.63184 AU	conjunction	2191 Aug 02 11:36	10°♂19'52	5°08'26
	2185 Apr 01 12:38	30°♂☾		minimum elong	2191 Aug 02 11:26	10°♂19'51	5°08'27
direct	2185 Apr 12 03:03	29°☾58'35		morning rise	2191 Aug 17 15:45	10°♂46'01	
	2185 Apr 22 14:32	0°♂		retrograde	2191 Nov 12 23:39	12°♂14'33	
evening set	2185 Jul 08 03:53	1°♂21'28		opposition	2192 Jan 31 06:22	11°♂05'02	5°38'14
max. Earth dist.	2185 Jul 21 08:43	1°♂43'04	40.50505 AU	min. Earth dist.	2192 Feb 02 22:04	11°♂01'21	36.86157 AU
				direct	2192 Apr 21 08:31	9°♂53'42	
conjunction	2185 Jul 24 02:23	1°♂47'35	2°41'09	evening set	2192 Jul 19 05:26	11°♂23'48	
minimum elong	2185 Jul 24 02:18	1°♂47'35	2°41'09	max. Earth dist.	2192 Jul 31 07:45	11°♂44'46	38.72429 AU
morning rise	2185 Aug 08 23:41	2°♂13'40					
retrograde	2185 Nov 03 10:29	3°♂36'40		conjunction	2192 Aug 03 07:10	11°♂49'59	5°33'32
opposition	2186 Jan 22 08:31	2°♂29'01	3°02'07	minimum elong	2192 Aug 03 06:59	11°♂49'58	5°33'31
min. Earth dist.	2186 Jan 24 19:07	2°♂25'45	38.38022 AU	morning rise	2192 Aug 18 07:03	12°♂16'04	
direct	2186 Apr 13 16:01	1°♂19'56		retrograde	2192 Nov 13 19:28	13°♂45'41	
evening set	2186 Jul 09 22:12	2°♂43'40		opposition	2193 Jan 31 23:57	12°♂35'49	6°04'53
max. Earth dist.	2186 Jul 22 23:04	3°♂05'10	40.25241 AU	min. Earth dist.	2193 Feb 03 15:51	12°♂32'06	36.60433 AU
				direct	2193 Apr 23 00:23	11°♂24'04	
conjunction	2186 Jul 25 18:36	3°♂09'51	3°05'15	evening set	2193 Jul 21 05:51	12°♂55'23	
minimum elong	2186 Jul 25 18:30	3°♂09'51	3°05'14	max. Earth dist.	2193 Aug 02 01:33	13°♂16'04	38.46476 AU
morning rise	2186 Aug 10 13:59	3°♂36'00					
retrograde	2186 Nov 05 05:00	4°♂59'47		conjunction	2193 Aug 05 02:57	13°♂21'28	5°58'45
opposition	2187 Jan 23 22:52	3°♂51'49	3°27'38	minimum elong	2193 Aug 05 02:45	13°♂21'27	5°58'45
min. Earth dist.	2187 Jan 26 10:43	3°♂48'28	38.12826 AU	morning rise	2193 Aug 19 22:28	13°♂47'27	
direct	2187 Apr 15 03:00	2°♂42'21			2193 Oct 10 00:34	15°♂	
evening set	2187 Jul 11 17:10	4°♂07'01		retrograde	2193 Nov 15 17:31	15°♂18'13	
max. Earth dist.	2187 Jul 24 16:11	4°♂28'33	39.99941 AU		2193 Dec 22 20:10	15°♂☾	
				opposition	2194 Feb 02 18:02	14°♂07'57	6°31'39
conjunction	2187 Jul 27 11:29	4°♂33'15	3°29'33	min. Earth dist.	2194 Feb 05 11:03	14°♂04'10	36.34571 AU
minimum elong	2187 Jul 27 11:23	4°♂33'15	3°29'33	direct	2194 Apr 24 16:02	12°♂55'46	
morning rise	2187 Aug 12 04:22	4°♂59'26		evening set	2194 Jul 23 07:14	14°♂28'22	
retrograde	2187 Nov 06 22:08	6°♂24'04		max. Earth dist.	2194 Aug 03 21:54	14°♂48'51	38.20376 AU
opposition	2188 Jan 25 13:50	5°♂15'47	3°53'22				
min. Earth dist.	2188 Jan 28 01:57	5°♂12'24	37.87606 AU	conjunction	2194 Aug 06 23:37	14°♂54'19	6°24'04

minimum elong	2194 Aug 06 23:25	14° Ω 54'18	6°24'03	min. Earth dist.	2201 Feb 17 12:26	25° Ω 28'27	34.54235 AU
	2194 Aug 10 04:06	15° Ω		direct	2201 May 06 11:22	24° Ω 17'06	
morning rise	2194 Aug 21 14:03	15° Ω 20'11		evening set	2201 Aug 06 23:08	26° Ω 00'31	
retrograde	2194 Nov 17 14:46	16° Ω 52'06		max. Earth dist.	2201 Aug 16 12:00	26° Ω 18'30	36.38940 AU
opposition	2195 Feb 04 12:36	15° Ω 41'27	6°58'33				
min. Earth dist.	2195 Feb 07 06:36	15° Ω 37'34	36.08594 AU	conjunction	2201 Aug 19 16:02	26° Ω 24'31	9°21'38
	2195 Mar 07 18:22	15° Ω		minimum elong	2201 Aug 19 15:43	26° Ω 24'30	9°21'38
direct	2195 Apr 26 12:13	14° Ω 28'48		morning rise	2201 Sep 01 06:47	26° Ω 48'24	
	2195 Jun 14 11:32	15° Ω		retrograde	2201 Nov 30 11:02	28° Ω 30'24	
evening set	2195 Jul 25 09:48	16° Ω 02'44		opposition	2202 Feb 16 16:16	27° Ω 16'53	10°07'19
max. Earth dist.	2195 Aug 05 18:08	16° Ω 22'56	37.94197 AU	min. Earth dist.	2202 Feb 19 12:18	27° Ω 12'42	34.29196 AU
				direct	2202 May 08 10:47	26° Ω 00'59	
conjunction	2195 Aug 08 20:45	16° Ω 28'32	6°49'27	evening set	2202 Aug 09 09:51	27° Ω 46'18	
minimum elong	2195 Aug 08 20:31	16° Ω 28'31	6°49'27	max. Earth dist.	2202 Aug 18 13:25	28° Ω 03'44	36.13743 AU
morning rise	2195 Aug 23 05:56	16° Ω 54'13					
retrograde	2195 Nov 19 14:01	18° Ω 27'21		conjunction	2202 Aug 21 17:40	28° Ω 09'50	9°46'39
opposition	2196 Feb 06 07:43	17° Ω 16'17	7°25'32	minimum elong	2202 Aug 21 17:21	28° Ω 09'49	9°46'39
min. Earth dist.	2196 Feb 09 01:42	17° Ω 12'23	35.82581 AU	morning rise	2202 Sep 02 23:33	28° Ω 33'15	
direct	2196 Apr 27 08:47	16° Ω 03'10			2202 Oct 29 13:26	0° Ω	
evening set	2196 Jul 26 13:12	17° Ω 38'30		retrograde	2202 Dec 02 15:18	0° Ω 17'01	
max. Earth dist.	2196 Aug 06 14:51	17° Ω 58'23	37.67981 AU		2203 Jan 05 23:52	30° Ω	
				opposition	2203 Feb 18 15:57	29° Ω 03'08	10°33'55
conjunction	2196 Aug 09 18:25	18° Ω 04'06	7°14'53	min. Earth dist.	2203 Feb 21 11:31	28° Ω 58'57	34.04341 AU
minimum elong	2196 Aug 09 18:11	18° Ω 04'05	7°14'53	direct	2203 May 10 10:44	27° Ω 46'48	
morning rise	2196 Aug 23 21:42	18° Ω 29'35		evening set	2203 Aug 11 21:53	29° Ω 34'05	
retrograde	2196 Nov 20 10:52	20° Ω 04'01		max. Earth dist.	2203 Aug 20 15:09	29° Ω 50'53	35.88679 AU
opposition	2197 Feb 07 03:33	18° Ω 52'31	7°52'34				
min. Earth dist.	2197 Feb 09 22:58	18° Ω 48'30	35.56587 AU	conjunction	2203 Aug 23 20:13	29° Ω 57'06	10°11'29
direct	2197 Apr 29 04:02	17° Ω 38'55		minimum elong	2203 Aug 23 19:53	29° Ω 57'04	10°11'29
evening set	2197 Jul 28 17:41	19° Ω 15'42			2203 Aug 25 08:06	0° Ω	
max. Earth dist.	2197 Aug 08 13:32	19° Ω 35'19	37.41828 AU	morning rise	2203 Sep 04 16:32	0° Ω 19'59	
				retrograde	2203 Dec 04 17:27	2° Ω 05'36	
conjunction	2197 Aug 11 16:40	19° Ω 41'03	7°40'21	opposition	2204 Feb 20 16:46	0° Ω 51'21	11°00'19
minimum elong	2197 Aug 11 16:24	19° Ω 41'02	7°40'21	min. Earth dist.	2204 Feb 23 13:42	0° Ω 47'03	33.79618 AU
morning rise	2197 Aug 25 13:38	20° Ω 06'18			2204 Mar 29 05:54	30° Ω	
retrograde	2197 Nov 22 07:28	21° Ω 42'05		direct	2204 May 11 09:40	29° Ω 34'34	
opposition	2198 Feb 08 23:51	20° Ω 30'11	8°19'37		2204 Jun 22 19:22	0° Ω	
min. Earth dist.	2198 Feb 11 18:35	20° Ω 26'10	35.30702 AU	evening set	2204 Aug 13 11:22	1° Ω 23'55	
direct	2198 May 01 00:29	19° Ω 16'05		max. Earth dist.	2204 Aug 21 18:56	1° Ω 40'05	35.63740 AU
evening set	2198 Jul 30 23:15	20° Ω 54'23					
max. Earth dist.	2198 Aug 10 10:57	21° Ω 13'35	37.15797 AU	conjunction	2204 Aug 24 23:24	1° Ω 46'20	10°36'05
				minimum elong	2204 Aug 24 23:04	1° Ω 46'18	10°36'05
conjunction	2198 Aug 13 15:26	21° Ω 19'29	8°05'47	morning rise	2204 Sep 05 09:26	2° Ω 08'37	
minimum elong	2198 Aug 13 15:11	21° Ω 19'28	8°05'47	retrograde	2204 Dec 05 20:34	3° Ω 56'10	
morning rise	2198 Aug 27 05:45	21° Ω 44'27		opposition	2205 Feb 21 18:16	2° Ω 41'31	11°26'30
retrograde	2198 Nov 24 06:39	23° Ω 21'40		min. Earth dist.	2205 Feb 24 14:32	2° Ω 37'14	33.55016 AU
opposition	2199 Feb 10 20:56	22° Ω 09'20	8°46'40	direct	2205 May 13 10:40	1° Ω 24'17	
min. Earth dist.	2199 Feb 13 16:36	22° Ω 05'14	35.04988 AU	evening set	2205 Aug 16 02:17	3° Ω 15'46	
direct	2199 May 02 18:16	20° Ω 54'45		max. Earth dist.	2205 Aug 23 21:27	3° Ω 31'06	35.38917 AU
evening set	2199 Aug 02 06:01	22° Ω 34'40					
max. Earth dist.	2199 Aug 12 11:32	22° Ω 53'35	36.89951 AU	conjunction	2205 Aug 27 03:22	3° Ω 37'32	11°00'25
				minimum elong	2205 Aug 27 03:00	3° Ω 37'30	11°00'25
conjunction	2199 Aug 15 15:04	22° Ω 59'27	8°31'10	morning rise	2205 Sep 07 02:36	3° Ω 59'09	
minimum elong	2199 Aug 15 14:47	22° Ω 59'26	8°31'10	retrograde	2205 Dec 08 01:25	5° Ω 48'43	
morning rise	2199 Aug 28 21:56	23° Ω 24'06		opposition	2206 Feb 23 20:31	4° Ω 33'39	11°52'23
retrograde	2199 Nov 26 05:53	25° Ω 02'49		min. Earth dist.	2206 Feb 26 17:53	4° Ω 29'16	33.30561 AU
opposition	2200 Feb 12 18:38	23° Ω 50'05	9°13'39	direct	2206 May 15 09:06	3° Ω 15'56	
min. Earth dist.	2200 Feb 15 13:56	23° Ω 46'00	34.79485 AU	evening set	2206 Aug 18 18:45	5° Ω 09'40	
direct	2200 May 04 14:43	22° Ω 35'03		max. Earth dist.	2206 Aug 26 03:10	5° Ω 24'15	35.14245 AU
evening set	2200 Aug 04 14:07	24° Ω 16'41					
max. Earth dist.	2200 Aug 14 10:46	24° Ω 35'06	36.64336 AU	conjunction	2206 Aug 29 08:12	5° Ω 30'40	11°24'26
				minimum elong	2206 Aug 29 07:51	5° Ω 30'38	11°24'27
conjunction	2200 Aug 17 15:12	24° Ω 41'05	8°56'28	morning rise	2206 Sep 08 19:40	5° Ω 51'33	
minimum elong	2200 Aug 17 14:55	24° Ω 41'04	8°56'28	retrograde	2206 Dec 10 05:41	7° Ω 43'13	
morning rise	2200 Aug 30 14:26	25° Ω 05'23		opposition	2207 Feb 25 23:39	6° Ω 27'44	12°17'56
retrograde	2200 Nov 28 08:50	26° Ω 45'42		min. Earth dist.	2207 Feb 28 20:40	6° Ω 23'20	33.06268 AU
opposition	2201 Feb 14 17:03	25° Ω 32'34	9°40'33	direct	2207 May 17 11:36	5° Ω 09'32	

evening set	2207 Aug 21 12:52	7° $\mathring{\text{M}}$ 05'35		opposition	2214 Mar 11 20:21	20° $\mathring{\text{M}}$ 41'22	15°01'17
max. Earth dist.	2207 Aug 28 07:37	7° $\mathring{\text{M}}$ 19'11	34.89767 AU	min. Earth dist.	2214 Mar 14 13:58	20° $\mathring{\text{M}}$ 37'00	31.46839 AU
				direct	2214 May 31 03:07	19° $\mathring{\text{M}}$ 19'54	
conjunction	2207 Aug 31 13:40	7° $\mathring{\text{M}}$ 25'45	11°48'06	evening set	2214 Sep 10 03:10	21° $\mathring{\text{M}}$ 36'09	
minimum elong	2207 Aug 31 13:17	7° $\mathring{\text{M}}$ 25'43	11°48'06	max. Earth dist.	2214 Sep 12 00:15	21° $\mathring{\text{M}}$ 40'12	33.29875 AU
morning rise	2207 Sep 10 12:48	7° $\mathring{\text{M}}$ 45'49					
retrograde	2207 Dec 12 13:25	9° $\mathring{\text{M}}$ 39'40		conjunction	2214 Sep 15 01:28	21° $\mathring{\text{M}}$ 46'48	14°17'34
opposition	2208 Feb 28 03:25	8° $\mathring{\text{M}}$ 23'45	12°43'05	minimum elong	2214 Sep 15 01:06	21° $\mathring{\text{M}}$ 46'46	14°17'35
min. Earth dist.	2208 Mar 02 00:34	8° $\mathring{\text{M}}$ 19'19	32.82215 AU	morning rise	2214 Sep 19 22:46	21° $\mathring{\text{M}}$ 57'22	
direct	2208 May 18 14:14	7° $\mathring{\text{M}}$ 05'03		retrograde	2214 Dec 27 07:48	24° $\mathring{\text{M}}$ 10'28	
evening set	2208 Aug 23 08:30	9° $\mathring{\text{M}}$ 03'31		opposition	2215 Mar 14 06:16	22° $\mathring{\text{M}}$ 51'41	15°21'28
max. Earth dist.	2208 Aug 29 14:52	9° $\mathring{\text{M}}$ 16'14	34.65542 AU	min. Earth dist.	2215 Mar 16 23:34	22° $\mathring{\text{M}}$ 47'19	31.26215 AU
				direct	2215 Jun 02 09:32	21° $\mathring{\text{M}}$ 29'48	
conjunction	2208 Sep 01 20:01	9° $\mathring{\text{M}}$ 22'47	12°11'19	evening set	2215 Sep 13 19:31	23° $\mathring{\text{M}}$ 50'04	
minimum elong	2208 Sep 01 19:39	9° $\mathring{\text{M}}$ 22'45	12°11'19	max. Earth dist.	2215 Sep 14 14:08	23° $\mathring{\text{M}}$ 51'46	33.09223 AU
morning rise	2208 Sep 11 05:41	9° $\mathring{\text{M}}$ 41'55					
retrograde	2208 Dec 13 19:45	11° $\mathring{\text{M}}$ 38'03		conjunction	2215 Sep 17 13:24	23° $\mathring{\text{M}}$ 58'15	14°35'46
opposition	2209 Mar 01 08:15	10° $\mathring{\text{M}}$ 21'41	13°07'46	minimum elong	2215 Sep 17 13:02	23° $\mathring{\text{M}}$ 58'13	14°35'46
min. Earth dist.	2209 Mar 04 05:37	10° $\mathring{\text{M}}$ 17'13	32.58457 AU	morning rise	2215 Sep 21 06:21	24° $\mathring{\text{M}}$ 06'20	
direct	2209 May 20 18:27	9° $\mathring{\text{M}}$ 02'30		retrograde	2215 Dec 29 19:06	26° $\mathring{\text{M}}$ 23'19	
evening set	2209 Aug 26 05:48	11° $\mathring{\text{M}}$ 03'31		opposition	2216 Mar 15 17:11	25° $\mathring{\text{M}}$ 04'10	15°40'38
max. Earth dist.	2209 Aug 31 21:46	11° $\mathring{\text{M}}$ 15'08	34.41669 AU	min. Earth dist.	2216 Mar 18 09:44	24° $\mathring{\text{M}}$ 59'49	31.06115 AU
				direct	2216 Jun 03 19:06	23° $\mathring{\text{M}}$ 41'54	
conjunction	2209 Sep 04 02:46	11° $\mathring{\text{M}}$ 21'44	12°34'02	max. Earth dist.	2216 Sep 16 02:54	26° $\mathring{\text{M}}$ 05'18	32.89117 AU
minimum elong	2209 Sep 04 02:22	11° $\mathring{\text{M}}$ 21'42	12°34'02	evening set	2216 Sep 17 01:19	26° $\mathring{\text{M}}$ 07'22	
morning rise	2209 Sep 12 22:09	11° $\mathring{\text{M}}$ 39'50					
retrograde	2209 Dec 16 05:02	13° $\mathring{\text{M}}$ 38'23		conjunction	2216 Sep 19 02:01	26° $\mathring{\text{M}}$ 11'50	14°52'59
opposition	2210 Mar 03 13:40	12° $\mathring{\text{M}}$ 21'34	13°31'54	minimum elong	2216 Sep 19 01:41	26° $\mathring{\text{M}}$ 11'48	14°52'59
min. Earth dist.	2210 Mar 06 09:58	12° $\mathring{\text{M}}$ 17'08	32.35092 AU	morning rise	2216 Sep 21 02:00	26° $\mathring{\text{M}}$ 16'15	
direct	2210 May 22 23:58	11° $\mathring{\text{M}}$ 01'53		retrograde	2216 Dec 31 09:42	28° $\mathring{\text{M}}$ 38'17	
evening set	2210 Aug 29 05:01	13° $\mathring{\text{M}}$ 05'34		opposition	2217 Mar 18 04:57	27° $\mathring{\text{M}}$ 18'46	15°58'44
max. Earth dist.	2210 Sep 03 05:57	13° $\mathring{\text{M}}$ 16'00	34.18204 AU	min. Earth dist.	2217 Mar 20 20:25	27° $\mathring{\text{M}}$ 14'29	30.86554 AU
				direct	2217 Jun 06 06:04	25° $\mathring{\text{M}}$ 56'06	
conjunction	2210 Sep 06 10:33	13° $\mathring{\text{M}}$ 22'38	12°56'12	max. Earth dist.	2217 Sep 18 17:59	28° $\mathring{\text{M}}$ 21'05	32.69543 AU
minimum elong	2210 Sep 06 10:11	13° $\mathring{\text{M}}$ 22'36	12°56'11				
morning rise	2210 Sep 14 14:32	13° $\mathring{\text{M}}$ 39'36		conjunction	2217 Sep 21 15:30	28° $\mathring{\text{M}}$ 27'31	15°09'08
retrograde	2210 Dec 18 13:48	15° $\mathring{\text{M}}$ 40'40		minimum elong	2217 Sep 21 15:09	28° $\mathring{\text{M}}$ 27'29	15°09'08
opposition	2211 Mar 05 20:01	14° $\mathring{\text{M}}$ 23'25	13°55'24		2217 Nov 05 09:04	0° $\mathring{\text{A}}$	
min. Earth dist.	2211 Mar 08 16:42	14° $\mathring{\text{M}}$ 18'56	32.12185 AU	retrograde	2218 Jan 02 23:03	0° $\mathring{\text{A}}$ 55'18	
direct	2211 May 25 05:56	13° $\mathring{\text{M}}$ 03'15			2218 Mar 05 10:01	30° $\mathring{\text{R}}$ $\mathring{\text{M}}$	
evening set	2211 Sep 01 06:31	15° $\mathring{\text{M}}$ 09'45		opposition	2218 Mar 20 17:44	29° $\mathring{\text{M}}$ 35'25	16°15'41
max. Earth dist.	2211 Sep 05 15:52	15° $\mathring{\text{M}}$ 18'57	33.95254 AU	min. Earth dist.	2218 Mar 23 09:05	29° $\mathring{\text{M}}$ 31'07	30.67514 AU
				direct	2218 Jun 08 17:41	28° $\mathring{\text{M}}$ 12'22	
conjunction	2211 Sep 08 19:06	15° $\mathring{\text{M}}$ 25'32	13°17'42		2218 Sep 03 18:18	0° $\mathring{\text{A}}$	
minimum elong	2211 Sep 08 18:42	15° $\mathring{\text{M}}$ 25'30	13°17'42	max. Earth dist.	2218 Sep 21 09:03	0° $\mathring{\text{A}}$ 38'47	32.50536 AU
morning rise	2211 Sep 16 06:16	15° $\mathring{\text{M}}$ 41'11					
retrograde	2211 Dec 21 00:24	17° $\mathring{\text{M}}$ 44'57		conjunction	2218 Sep 24 05:44	0° $\mathring{\text{A}}$ 45'12	15°24'10
opposition	2212 Mar 07 03:15	16° $\mathring{\text{M}}$ 27'17	14°18'11	minimum elong	2218 Sep 24 05:26	0° $\mathring{\text{A}}$ 45'10	15°24'09
min. Earth dist.	2212 Mar 09 22:10	16° $\mathring{\text{M}}$ 22'53	31.89818 AU	retrograde	2219 Jan 05 15:29	3° $\mathring{\text{A}}$ 14'17	
direct	2212 May 26 13:32	15° $\mathring{\text{M}}$ 06'39		opposition	2219 Mar 23 07:06	1° $\mathring{\text{A}}$ 54'02	16°31'24
evening set	2212 Sep 03 10:06	17° $\mathring{\text{M}}$ 16'10		min. Earth dist.	2219 Mar 25 20:40	1° $\mathring{\text{A}}$ 49'50	30.49041 AU
max. Earth dist.	2212 Sep 07 01:13	17° $\mathring{\text{M}}$ 23'51	33.72863 AU	direct	2219 Jun 11 07:22	0° $\mathring{\text{A}}$ 30'35	
				max. Earth dist.	2219 Sep 24 01:13	2° $\mathring{\text{A}}$ 58'25	32.32117 AU
conjunction	2212 Sep 10 04:19	17° $\mathring{\text{M}}$ 30'29	13°38'29				
minimum elong	2212 Sep 10 03:56	17° $\mathring{\text{M}}$ 30'27	13°38'28	conjunction	2219 Sep 26 20:50	3° $\mathring{\text{A}}$ 04'47	15°37'59
morning rise	2212 Sep 16 21:16	17° $\mathring{\text{M}}$ 44'40		minimum elong	2219 Sep 26 20:31	3° $\mathring{\text{A}}$ 04'45	15°37'59
retrograde	2212 Dec 22 09:18	19° $\mathring{\text{M}}$ 51'19		retrograde	2220 Jan 08 07:19	5° $\mathring{\text{A}}$ 35'08	
opposition	2213 Mar 09 11:27	18° $\mathring{\text{M}}$ 33'15	14°40'10	opposition	2220 Mar 24 21:37	4° $\mathring{\text{A}}$ 14'31	16°45'48
min. Earth dist.	2213 Mar 12 06:31	18° $\mathring{\text{M}}$ 28'49	31.68035 AU	min. Earth dist.	2220 Mar 27 11:02	4° $\mathring{\text{A}}$ 10'18	30.31175 AU
direct	2213 May 28 19:04	17° $\mathring{\text{M}}$ 12'11		direct	2220 Jun 12 21:05	2° $\mathring{\text{A}}$ 50'41	
evening set	2213 Sep 06 16:48	19° $\mathring{\text{M}}$ 24'55		max. Earth dist.	2220 Sep 25 18:44	5° $\mathring{\text{A}}$ 19'58	32.14371 AU
max. Earth dist.	2213 Sep 09 13:29	19° $\mathring{\text{M}}$ 31'02	33.51076 AU				
conjunction	2213 Sep 12 14:30	19° $\mathring{\text{M}}$ 37'33	13°58'27	conjunction	2220 Sep 28 12:20	5° $\mathring{\text{A}}$ 26'12	15°50'31
minimum elong	2213 Sep 12 14:07	19° $\mathring{\text{M}}$ 37'31	13°58'27	minimum elong	2220 Sep 28 12:04	5° $\mathring{\text{A}}$ 26'10	15°50'31
morning rise	2213 Sep 18 11:00	19° $\mathring{\text{M}}$ 50'05		retrograde	2221 Jan 10 00:30	7° $\mathring{\text{A}}$ 57'44	
retrograde	2213 Dec 24 19:08	21° $\mathring{\text{M}}$ 59'48		opposition	2221 Mar 27 12:45	6° $\mathring{\text{A}}$ 36'46	16°58'46
				min. Earth dist.	2221 Mar 29 23:49	6° $\mathring{\text{A}}$ 32'42	30.13986 AU

direct	2221 Jun 15 13:17	5° <u>♂</u> 12'34		conjunction	2229 Oct 21 09:21	27° <u>♂</u> 49'08	16°32'07
max. Earth dist.	2221 Sep 28 12:02	7° <u>♂</u> 43'10	31.97350 AU	minimum elong	2229 Oct 21 09:21	27° <u>♂</u> 49'08	16°32'07
					2229 Dec 23 19:13	0° <u>♂</u>	
conjunction	2221 Oct 01 04:37	7° <u>♂</u> 49'20	16°01'40	retrograde	2230 Feb 02 01:02	0° <u>♂</u> 28'52	
minimum elong	2221 Oct 01 04:20	7° <u>♂</u> 49'19	16°01'41		2230 Mar 15 18:28	30° <u>♂</u>	
retrograde	2222 Jan 12 16:47	10° <u>♂</u> 22'02		opposition	2230 Apr 19 12:35	29° <u>♂</u> 05'53	17°37'35
opposition	2222 Mar 30 04:36	9° <u>♂</u> 00'43	17°10'14	min. Earth dist.	2230 Apr 21 04:47	29° <u>♂</u> 03'03	29.00361 AU
min. Earth dist.	2222 Apr 01 15:10	8° <u>♂</u> 56'39	29.97559 AU	direct	2230 Jul 08 05:04	27° <u>♂</u> 39'51	
direct	2222 Jun 18 03:23	7° <u>♂</u> 36'09			2230 Oct 13 23:59	0° <u>♂</u>	
max. Earth dist.	2222 Oct 01 07:55	10° <u>♂</u> 08'11	31.81161 AU	max. Earth dist.	2230 Oct 22 12:08	0° <u>♂</u> 20'25	30.87546 AU
conjunction	2222 Oct 03 21:31	10° <u>♂</u> 14'08	16°11'22	conjunction	2230 Oct 24 05:53	0° <u>♂</u> 24'37	16°27'50
minimum elong	2222 Oct 03 21:18	10° <u>♂</u> 14'06	16°11'22	minimum elong	2230 Oct 24 05:57	0° <u>♂</u> 24'38	16°27'50
retrograde	2223 Jan 15 10:14	12° <u>♂</u> 47'54		retrograde	2231 Feb 04 21:32	3° <u>♂</u> 04'50	
opposition	2223 Apr 01 21:18	11° <u>♂</u> 26'16	17°20'05	opposition	2231 Apr 22 10:11	1° <u>♂</u> 41'44	17°32'14
min. Earth dist.	2223 Apr 04 05:21	11° <u>♂</u> 22'22	29.81966 AU	min. Earth dist.	2231 Apr 24 01:02	1° <u>♂</u> 39'00	28.92585 AU
direct	2223 Jun 20 20:25	10° <u>♂</u> 01'24		direct	2231 Jul 11 01:52	0° <u>♂</u> 15'39	
max. Earth dist.	2223 Oct 04 02:24	12° <u>♂</u> 34'38	31.65875 AU	max. Earth dist.	2231 Oct 25 11:36	2° <u>♂</u> 56'50	30.80361 AU
conjunction	2223 Oct 06 14:49	12° <u>♂</u> 40'29	16°19'30	conjunction	2231 Oct 27 02:26	3° <u>♂</u> 00'46	16°21'42
minimum elong	2223 Oct 06 14:36	12° <u>♂</u> 40'28	16°19'31	minimum elong	2231 Oct 27 02:32	3° <u>♂</u> 00'46	16°21'42
retrograde	2224 Jan 18 04:36	15° <u>♂</u> 15'20		retrograde	2232 Feb 07 19:19	5° <u>♂</u> 41'19	
opposition	2224 Apr 03 14:45	13° <u>♂</u> 53'24	17°28'14	opposition	2232 Apr 24 07:58	4° <u>♂</u> 18'08	17°24'51
min. Earth dist.	2224 Apr 05 21:11	13° <u>♂</u> 49'35	29.67313 AU	min. Earth dist.	2232 Apr 25 19:24	4° <u>♂</u> 15'37	28.85769 AU
direct	2224 Jun 22 11:22	12° <u>♂</u> 28'14		direct	2232 Jul 13 01:55	2° <u>♂</u> 51'59	
max. Earth dist.	2224 Oct 05 23:59	15° <u>♂</u> 02'50	31.51590 AU	max. Earth dist.	2232 Oct 27 10:45	5° <u>♂</u> 33'39	30.74176 AU
conjunction	2224 Oct 08 08:49	15° <u>♂</u> 08'24	16°26'00	conjunction	2232 Oct 28 23:10	5° <u>♂</u> 37'19	16°13'40
minimum elong	2224 Oct 08 08:40	15° <u>♂</u> 08'23	16°26'00	minimum elong	2232 Oct 28 23:18	5° <u>♂</u> 37'20	16°13'40
retrograde	2225 Jan 19 21:29	17° <u>♂</u> 44'14		retrograde	2233 Feb 09 15:44	8° <u>♂</u> 18'08	
opposition	2225 Apr 06 08:54	16° <u>♂</u> 22'03	17°34'35	opposition	2233 Apr 27 06:00	6° <u>♂</u> 54'50	17°15'26
min. Earth dist.	2225 Apr 08 12:53	16° <u>♂</u> 18'24	29.53648 AU	min. Earth dist.	2233 Apr 28 15:39	6° <u>♂</u> 52'28	28.79955 AU
direct	2225 Jun 25 05:12	14° <u>♂</u> 56'40		direct	2233 Jul 15 23:12	5° <u>♂</u> 28'39	
max. Earth dist.	2225 Oct 08 19:44	17° <u>♂</u> 32'22	31.38356 AU	max. Earth dist.	2233 Oct 30 11:05	8° <u>♂</u> 10'46	30.69050 AU
conjunction	2225 Oct 11 03:06	17° <u>♂</u> 37'49	16°30'48	conjunction	2233 Oct 31 19:52	8° <u>♂</u> 14'05	16°03'45
minimum elong	2225 Oct 11 02:57	17° <u>♂</u> 37'48	16°30'49	minimum elong	2233 Oct 31 20:02	8° <u>♂</u> 14'06	16°03'46
retrograde	2226 Jan 22 16:58	20° <u>♂</u> 14'35		retrograde	2234 Feb 12 12:47	10° <u>♂</u> 55'01	
opposition	2226 Apr 09 03:37	18° <u>♂</u> 52'12	17°39'04	opposition	2234 Apr 30 04:07	9° <u>♂</u> 31'39	17°03'59
min. Earth dist.	2226 Apr 11 05:11	18° <u>♂</u> 48'43	29.41015 AU	min. Earth dist.	2234 May 01 10:25	9° <u>♂</u> 29'30	28.75168 AU
direct	2226 Jun 27 22:13	17° <u>♂</u> 26'37		direct	2234 Jul 18 23:09	8° <u>♂</u> 05'26	
max. Earth dist.	2226 Oct 11 18:26	20° <u>♂</u> 03'36	31.26169 AU	max. Earth dist.	2234 Nov 02 09:54	10° <u>♂</u> 47'45	30.65009 AU
conjunction	2226 Oct 13 22:09	20° <u>♂</u> 08'43	16°33'51	conjunction	2234 Nov 03 16:26	10° <u>♂</u> 50'51	15°51'57
minimum elong	2226 Oct 13 22:03	20° <u>♂</u> 08'42	16°33'50	minimum elong	2234 Nov 03 16:38	10° <u>♂</u> 50'52	15°51'57
retrograde	2227 Jan 25 11:33	22° <u>♂</u> 46'21		retrograde	2235 Feb 15 10:15	13° <u>♂</u> 31'48	
opposition	2227 Apr 11 23:01	21° <u>♂</u> 23'48	17°41'38	opposition	2235 May 03 02:20	12° <u>♂</u> 08'21	16°50'30
min. Earth dist.	2227 Apr 13 22:53	21° <u>♂</u> 20'25	29.29384 AU	min. Earth dist.	2235 May 04 05:58	12° <u>♂</u> 06'24	28.71488 AU
direct	2227 Jun 30 15:42	19° <u>♂</u> 58'04		direct	2235 Jul 21 21:23	10° <u>♂</u> 42'08	
max. Earth dist.	2227 Oct 14 15:35	22° <u>♂</u> 36'02	31.15022 AU	max. Earth dist.	2235 Nov 05 10:47	13° <u>♂</u> 24'45	30.62138 AU
conjunction	2227 Oct 16 17:29	22° <u>♂</u> 41'00	16°35'06	conjunction	2235 Nov 06 12:57	13° <u>♂</u> 27'24	15°38'17
minimum elong	2227 Oct 16 17:24	22° <u>♂</u> 40'59	16°35'06	minimum elong	2235 Nov 06 13:12	13° <u>♂</u> 27'26	15°38'17
retrograde	2228 Jan 28 08:12	25° <u>♂</u> 19'26			2235 Dec 17 00:25	15° <u>♂</u>	
opposition	2228 Apr 13 19:02	23° <u>♂</u> 56'43	17°42'16	retrograde	2236 Feb 18 05:06	16° <u>♂</u> 08'17	
min. Earth dist.	2228 Apr 15 15:54	23° <u>♂</u> 53'33	29.18754 AU		2236 Apr 26 00:15	15° <u>♂</u>	
direct	2228 Jul 02 11:28	22° <u>♂</u> 30'52		opposition	2236 May 05 00:42	14° <u>♂</u> 44'48	16°34'59
max. Earth dist.	2228 Oct 16 14:38	25° <u>♂</u> 09'53	31.04875 AU	min. Earth dist.	2236 May 06 01:04	14° <u>♂</u> 43'05	28.68972 AU
				direct	2236 Jul 23 21:03	13° <u>♂</u> 18'38	
conjunction	2228 Oct 18 13:14	25° <u>♂</u> 14'32	16°34'32		2236 Oct 12 11:01	15° <u>♂</u>	
minimum elong	2228 Oct 18 13:13	25° <u>♂</u> 14'32	16°34'31	max. Earth dist.	2236 Nov 07 09:20	16° <u>♂</u> 01'15	30.60497 AU
retrograde	2229 Jan 30 03:30	27° <u>♂</u> 53'40					
opposition	2229 Apr 16 15:44	26° <u>♂</u> 30'49	17°40'55	conjunction	2236 Nov 08 09:01	16° <u>♂</u> 03'38	15°22'44
min. Earth dist.	2229 Apr 18 11:13	26° <u>♂</u> 27'45	29.09081 AU	minimum elong	2236 Nov 08 09:17	16° <u>♂</u> 03'40	15°22'43
direct	2229 Jul 05 07:42	25° <u>♂</u> 04'52		retrograde	2237 Feb 20 01:54	18° <u>♂</u> 44'21	
max. Earth dist.	2229 Oct 19 12:56	27° <u>♂</u> 44'41	30.95726 AU	opposition	2237 May 07 22:55	17° <u>♂</u> 20'53	16°17'27
				min. Earth dist.	2237 May 08 19:40	17° <u>♂</u> 19'25	28.67695 AU

direct	2237 Jul 26 18:51	15° \mathbb{M} 54'48		morning rise	2243 Dec 05 02:19	4° \mathbb{A} 20'38	
max. Earth dist.	2237 Nov 10 10:09	18° \mathbb{M} 37'33	30.60129 AU	retrograde	2244 Mar 09 12:10	6° \mathbb{A} 38'30	
				opposition	2244 May 26 05:09	5° \mathbb{A} 16'05	13°24'35
conjunction	2237 Nov 11 05:10	18° \mathbb{M} 39'28	15°05'22	min. Earth dist.	2244 May 26 04:24	5° \mathbb{A} 16'09	28.91770 AU
minimum elong	2237 Nov 11 05:28	18° \mathbb{M} 39'30	15°05'22	direct	2244 Aug 14 01:47	3° \mathbb{A} 51'42	
retrograde	2238 Feb 22 20:41	21° \mathbb{M} 19'56		evening set	2244 Nov 19 18:25	6° \mathbb{A} 10'22	
opposition	2238 May 10 20:58	19° \mathbb{M} 56'32	15°57'58				
min. Earth dist.	2238 May 11 14:58	19° \mathbb{M} 55'16	28.67659 AU	conjunction	2244 Nov 28 15:38	6° \mathbb{A} 31'25	12°18'34
direct	2238 Jul 29 17:06	18° \mathbb{M} 30'36		minimum elong	2244 Nov 28 16:01	6° \mathbb{A} 31'27	12°18'34
evening set	2238 Nov 11 07:27	21° \mathbb{M} 08'13		max. Earth dist.	2244 Nov 28 19:01	6° \mathbb{A} 31'45	30.90575 AU
max. Earth dist.	2238 Nov 13 08:25	21° \mathbb{M} 13'09	30.61039 AU	morning rise	2244 Dec 07 12:51	6° \mathbb{A} 52'29	
				retrograde	2245 Mar 12 05:19	9° \mathbb{A} 07'55	
conjunction	2238 Nov 14 00:55	21° \mathbb{M} 14'49	14°46'13	opposition	2245 May 29 01:09	7° \mathbb{A} 45'43	12°53'54
minimum elong	2238 Nov 14 01:14	21° \mathbb{M} 14'51	14°46'13	min. Earth dist.	2245 May 28 20:53	7° \mathbb{A} 46'01	28.99381 AU
morning rise	2238 Nov 16 18:58	21° \mathbb{M} 21'30		direct	2245 Aug 16 23:57	6° \mathbb{A} 21'38	
retrograde	2239 Feb 25 16:53	23° \mathbb{M} 54'58		evening set	2245 Nov 21 19:03	8° \mathbb{A} 37'45	
opposition	2239 May 13 18:55	22° \mathbb{M} 31'40	15°36'35				
min. Earth dist.	2239 May 14 08:45	22° \mathbb{M} 30'42	28.68872 AU	conjunction	2245 Dec 01 08:20	9° \mathbb{A} 00'17	11°49'22
direct	2239 Aug 01 14:56	21° \mathbb{M} 05'56		minimum elong	2245 Dec 01 08:44	9° \mathbb{A} 00'19	11°49'23
evening set	2239 Nov 12 13:09	23° \mathbb{M} 39'14		max. Earth dist.	2245 Dec 01 14:01	9° \mathbb{A} 00'50	30.99050 AU
				morning rise	2245 Dec 10 21:41	9° \mathbb{A} 22'49	
conjunction	2239 Nov 16 20:22	23° \mathbb{M} 49'38	14°25'22	retrograde	2246 Mar 14 23:06	11° \mathbb{A} 35'54	
minimum elong	2239 Nov 16 20:43	23° \mathbb{M} 49'40	14°25'22	opposition	2246 May 31 20:31	10° \mathbb{A} 13'54	12°22'00
max. Earth dist.	2239 Nov 16 08:20	23° \mathbb{M} 48'25	30.63184 AU	min. Earth dist.	2246 May 31 13:40	10° \mathbb{A} 14'22	29.07954 AU
morning rise	2239 Nov 21 04:03	24° \mathbb{M} 00'05		direct	2246 Aug 19 20:25	8° \mathbb{A} 50'05	
retrograde	2240 Feb 28 10:29	26° \mathbb{M} 29'22		evening set	2246 Nov 23 20:18	11° \mathbb{A} 03'47	
opposition	2240 May 15 16:52	25° \mathbb{M} 06'13	15°13'24				
min. Earth dist.	2240 May 16 04:20	25° \mathbb{M} 05'25	28.71275 AU	conjunction	2246 Dec 04 00:28	11° \mathbb{A} 27'37	11°19'07
direct	2240 Aug 03 12:41	23° \mathbb{M} 40'44		minimum elong	2246 Dec 04 00:51	11° \mathbb{A} 27'39	11°19'07
evening set	2240 Nov 13 03:55	26° \mathbb{M} 10'35		max. Earth dist.	2246 Dec 04 09:51	11° \mathbb{A} 28'32	31.08490 AU
				morning rise	2246 Dec 14 04:26	11° \mathbb{A} 51'27	
conjunction	2240 Nov 18 15:26	26° \mathbb{M} 23'48	14°02'53	retrograde	2247 Mar 17 13:45	14° \mathbb{A} 02'16	
minimum elong	2240 Nov 18 15:47	26° \mathbb{M} 23'51	14°02'53	opposition	2247 Jun 03 15:27	12° \mathbb{A} 40'29	11°49'02
max. Earth dist.	2240 Nov 18 05:58	26° \mathbb{M} 22'51	30.66524 AU	min. Earth dist.	2247 Jun 03 05:43	12° \mathbb{A} 41'08	29.17485 AU
morning rise	2240 Nov 24 03:22	26° \mathbb{M} 37'04		direct	2247 Aug 22 17:55	11° \mathbb{A} 16'58	
retrograde	2241 Mar 02 06:36	29° \mathbb{M} 03'04		evening set	2247 Nov 25 21:48	13° \mathbb{A} 28'16	
opposition	2241 May 18 14:16	27° \mathbb{M} 40'05	14°48'31				
min. Earth dist.	2241 May 18 21:34	27° \mathbb{M} 39'34	28.74825 AU	conjunction	2247 Dec 06 15:35	13° \mathbb{A} 53'18	10°47'54
direct	2241 Aug 06 10:04	26° \mathbb{M} 14'50		minimum elong	2247 Dec 06 15:59	13° \mathbb{A} 53'20	10°47'54
evening set	2241 Nov 14 22:39	28° \mathbb{M} 41'39		max. Earth dist.	2247 Dec 07 03:12	13° \mathbb{A} 54'26	31.18902 AU
				morning rise	2247 Dec 17 09:23	14° \mathbb{A} 18'19	
conjunction	2241 Nov 21 10:13	28° \mathbb{M} 57'13	13°38'52	retrograde	2248 Mar 19 05:19	16° \mathbb{A} 26'57	
minimum elong	2241 Nov 21 10:36	28° \mathbb{M} 57'15	13°38'52	opposition	2248 Jun 05 09:43	15° \mathbb{A} 05'22	11°15'03
max. Earth dist.	2241 Nov 21 04:30	28° \mathbb{M} 56'39	30.70980 AU	min. Earth dist.	2248 Jun 04 20:29	15° \mathbb{A} 06'15	29.28034 AU
morning rise	2241 Nov 27 22:05	29° \mathbb{M} 12'49		direct	2248 Aug 24 12:32	13° \mathbb{A} 42'10	
	2241 Dec 18 05:22	0° \mathbb{A}		evening set	2248 Nov 26 23:39	15° \mathbb{A} 51'10	
retrograde	2242 Mar 05 00:00	1° \mathbb{A} 35'54					
opposition	2242 May 21 11:38	0° \mathbb{A} 13'07	14°22'00	conjunction	2248 Dec 08 06:15	16° \mathbb{A} 17'15	10°15'47
min. Earth dist.	2242 May 21 17:00	0° \mathbb{A} 12'45	28.79455 AU	minimum elong	2248 Dec 08 06:37	16° \mathbb{A} 17'17	10°15'47
	2242 May 29 09:07	30° \mathbb{R} \mathbb{M}		max. Earth dist.	2248 Dec 08 22:05	16° \mathbb{A} 18'47	31.30337 AU
direct	2242 Aug 09 06:46	28° \mathbb{M} 48'09		morning rise	2248 Dec 19 12:32	16° \mathbb{A} 43'19	
	2242 Oct 15 10:37	0° \mathbb{A}		retrograde	2249 Mar 21 18:25	18° \mathbb{A} 49'51	
evening set	2242 Nov 16 19:53	1° \mathbb{A} 12'07		min. Earth dist.	2249 Jun 07 11:29	17° \mathbb{A} 29'33	29.39620 AU
				opposition	2249 Jun 08 03:12	17° \mathbb{A} 28'30	10°40'11
conjunction	2242 Nov 24 04:29	1° \mathbb{A} 29'43	13°13'25	direct	2249 Aug 27 08:35	16° \mathbb{A} 05'38	
minimum elong	2242 Nov 24 04:52	1° \mathbb{A} 29'45	13°13'24	evening set	2249 Nov 29 01:53	18° \mathbb{A} 12'25	
max. Earth dist.	2242 Nov 24 01:35	1° \mathbb{A} 29'26	30.76508 AU				
morning rise	2242 Dec 01 13:21	1° \mathbb{A} 47'22		conjunction	2249 Dec 10 20:03	18° \mathbb{A} 39'27	9°42'53
retrograde	2243 Mar 07 18:41	4° \mathbb{A} 07'46		minimum elong	2249 Dec 10 20:26	18° \mathbb{A} 39'29	9°42'53
opposition	2243 May 24 08:31	2° \mathbb{A} 45'10	13°54'00	max. Earth dist.	2249 Dec 11 13:57	18° \mathbb{A} 41'10	31.42817 AU
min. Earth dist.	2243 May 24 09:56	2° \mathbb{A} 45'04	28.85111 AU	morning rise	2249 Dec 22 14:09	19° \mathbb{A} 06'27	
direct	2243 Aug 12 05:48	1° \mathbb{A} 20'29		retrograde	2250 Mar 24 08:54	21° \mathbb{A} 10'58	
evening set	2243 Nov 18 18:35	3° \mathbb{A} 41'45		opposition	2250 Jun 10 20:01	19° \mathbb{A} 49'53	10°04'31
				min. Earth dist.	2250 Jun 10 00:09	19° \mathbb{A} 51'13	29.52269 AU
conjunction	2243 Nov 26 22:22	4° \mathbb{A} 01'10	12°46'37	direct	2250 Aug 30 02:15	18° \mathbb{A} 27'22	
minimum elong	2243 Nov 26 22:46	4° \mathbb{A} 01'13	12°46'37	evening set	2250 Dec 01 04:07	20° \mathbb{A} 32'03	
max. Earth dist.	2243 Nov 26 22:33	4° \mathbb{A} 01'12	30.83045 AU				

conjunction	2250 Dec 13 09:13	20° \nearrow 59'54	9°09'17	max. Earth dist.	2256 Dec 27 13:37	4° \searrow 29'59	32.55885 AU
minimum elong	2250 Dec 13 09:34	20° \nearrow 59'56	9°09'17	morning rise	2257 Jan 09 05:41	4° \searrow 57'34	
max. Earth dist.	2250 Dec 14 07:09	21° \nearrow 02'00	31.56335 AU	retrograde	2257 Apr 08 10:29	6° \searrow 50'17	
morning rise	2250 Dec 25 13:58	21° \nearrow 27'45		min. Earth dist.	2257 Jun 25 08:54	5° \searrow 33'53	30.66121 AU
retrograde	2251 Mar 26 19:03	23° \nearrow 30'20		opposition	2257 Jun 26 22:43	5° \searrow 31'27	5°41'52
opposition	2251 Jun 13 12:19	22° \nearrow 09'32	9°28'10	direct	2257 Sep 15 08:06	4° \searrow 11'49	
min. Earth dist.	2251 Jun 12 14:21	22° \nearrow 11'00	29.65952 AU	evening set	2257 Dec 14 00:07	6° \searrow 03'51	
direct	2251 Sep 01 19:14	20° \nearrow 47'26					
evening set	2251 Dec 03 06:44	22° \nearrow 50'03		conjunction	2257 Dec 28 09:51	6° \searrow 34'59	5°03'01
				minimum elong	2257 Dec 28 10:04	6° \searrow 35'00	5°03'02
conjunction	2251 Dec 15 21:37	23° \nearrow 18'39	8°35'06	max. Earth dist.	2257 Dec 30 01:00	6° \searrow 38'32	32.74845 AU
minimum elong	2251 Dec 15 21:58	23° \nearrow 18'41	8°35'06	morning rise	2258 Jan 11 19:15	7° \searrow 06'07	
max. Earth dist.	2251 Dec 16 21:44	23° \nearrow 20'56	31.70864 AU	retrograde	2258 Apr 10 17:55	8° \searrow 57'24	
morning rise	2251 Dec 28 12:19	23° \nearrow 47'13		min. Earth dist.	2258 Jun 27 18:52	7° \searrow 41'24	30.85142 AU
retrograde	2252 Mar 28 07:17	25° \nearrow 47'59		opposition	2258 Jun 29 10:02	7° \searrow 38'53	5°03'42
min. Earth dist.	2252 Jun 14 01:48	24° \nearrow 29'13	29.80628 AU	direct	2258 Sep 17 22:15	6° \searrow 19'39	
opposition	2252 Jun 15 03:44	24° \nearrow 27'30	8°51'15	evening set	2258 Dec 16 03:07	8° \searrow 10'09	
direct	2252 Sep 03 11:08	23° \nearrow 05'47					
evening set	2252 Dec 04 09:16	25° \nearrow 06'27		conjunction	2258 Dec 30 17:16	8° \searrow 41'26	4°27'20
				minimum elong	2258 Dec 30 17:26	8° \searrow 41'27	4°27'20
conjunction	2252 Dec 17 09:19	25° \nearrow 35'41	8°00'25	max. Earth dist.	2259 Jan 01 09:20	8° \searrow 45'03	32.94333 AU
minimum elong	2252 Dec 17 09:38	25° \nearrow 35'43	8°00'25	morning rise	2259 Jan 14 07:26	9° \searrow 12'43	
max. Earth dist.	2252 Dec 18 12:49	25° \nearrow 38'17	31.86322 AU	retrograde	2259 Apr 13 02:03	11° \searrow 02'40	
morning rise	2252 Dec 30 09:06	26° \nearrow 04'54		min. Earth dist.	2259 Jun 30 02:15	9° \searrow 47'08	31.04723 AU
retrograde	2253 Mar 30 17:55	28° \nearrow 03'55		opposition	2259 Jul 01 20:30	9° \searrow 44'27	4°25'37
opposition	2253 Jun 17 18:37	26° \nearrow 43'45	8°13'53	direct	2259 Sep 20 09:35	8° \searrow 25'35	
min. Earth dist.	2253 Jun 16 14:51	26° \nearrow 45'35	29.96220 AU	evening set	2259 Dec 18 05:54	10° \searrow 14'37	
direct	2253 Sep 06 00:53	25° \nearrow 22'28					
evening set	2253 Dec 06 12:07	27° \nearrow 21'15		conjunction	2260 Jan 02 00:06	10° \searrow 46'00	3°51'43
				minimum elong	2260 Jan 02 00:16	10° \searrow 46'01	3°51'43
conjunction	2253 Dec 19 20:24	27° \nearrow 51'02	7°25'21	max. Earth dist.	2260 Jan 03 19:11	10° \searrow 49'51	33.14357 AU
minimum elong	2253 Dec 19 20:42	27° \nearrow 51'03	7°25'21	morning rise	2260 Jan 16 18:09	11° \searrow 17'23	
max. Earth dist.	2253 Dec 21 02:18	27° \nearrow 53'50	32.02639 AU	retrograde	2260 Apr 14 06:00	13° \searrow 06'02	
morning rise	2254 Jan 02 04:22	28° \nearrow 20'47		min. Earth dist.	2260 Jul 01 11:00	11° \searrow 50'51	31.24877 AU
	2254 Feb 27 22:14	0° \searrow		opposition	2260 Jul 03 06:16	11° \searrow 48'07	3°47'41
retrograde	2254 Apr 02 04:21	0° \searrow 18'07		direct	2260 Sep 21 21:06	10° \searrow 29'38	
	2254 May 06 14:23	30° \nearrow		evening set	2260 Dec 19 08:35	12° \searrow 17'15	
min. Earth dist.	2254 Jun 19 01:32	29° \nearrow 00'20	30.12632 AU				
opposition	2254 Jun 20 08:34	28° \nearrow 58'18	7°36'09	conjunction	2261 Jan 03 06:02	12° \searrow 48'41	3°16'16
direct	2254 Sep 08 16:54	27° \nearrow 37'26		minimum elong	2261 Jan 03 06:09	12° \searrow 48'41	3°16'15
evening set	2254 Dec 08 15:05	29° \nearrow 34'25		max. Earth dist.	2261 Jan 05 02:23	12° \searrow 52'37	33.34953 AU
	2254 Dec 20 04:36	0° \searrow		morning rise	2261 Jan 18 03:31	13° \searrow 20'06	
				retrograde	2261 Apr 16 11:04	15° \searrow 07'32	
conjunction	2254 Dec 22 06:45	0° \searrow 04'40	6°50'00	min. Earth dist.	2261 Jul 03 16:41	13° \searrow 52'50	31.45633 AU
minimum elong	2254 Dec 22 07:01	0° \searrow 04'41	6°50'00	opposition	2261 Jul 05 15:05	13° \searrow 49'54	3°09'59
max. Earth dist.	2254 Dec 23 14:56	0° \searrow 07'39	32.19715 AU	direct	2261 Sep 24 07:12	12° \searrow 31'48	
morning rise	2255 Jan 04 22:17	0° \searrow 34'53		evening set	2261 Dec 21 11:11	14° \searrow 18'06	
retrograde	2255 Apr 04 15:25	2° \searrow 30'37					
opposition	2255 Jun 22 22:07	1° \searrow 11'07	6°58'11	conjunction	2262 Jan 05 11:17	14° \searrow 49'31	2°41'00
min. Earth dist.	2255 Jun 21 12:59	1° \searrow 13'16	30.29810 AU	minimum elong	2262 Jan 05 11:24	14° \searrow 49'31	2°41'00
	2255 Aug 17 14:30	30° \nearrow		max. Earth dist.	2262 Jan 07 10:16	14° \searrow 53'39	33.56132 AU
direct	2255 Sep 11 05:22	29° \nearrow 50'41		morning rise	2262 Jan 20 11:30	15° \searrow 20'55	
	2255 Oct 05 11:43	0° \searrow		retrograde	2262 Apr 18 15:10	17° \searrow 07'13	
evening set	2255 Dec 10 17:58	1° \searrow 45'56		min. Earth dist.	2262 Jul 05 23:27	15° \searrow 52'54	31.67025 AU
				opposition	2262 Jul 07 23:18	15° \searrow 49'54	2°32'32
conjunction	2255 Dec 24 16:27	2° \searrow 16'33	6°14'26	direct	2262 Sep 26 14:47	14° \searrow 32'12	
minimum elong	2255 Dec 24 16:42	2° \searrow 16'34	6°14'26	evening set	2262 Dec 23 13:39	16° \searrow 17'16	
max. Earth dist.	2255 Dec 26 03:23	2° \searrow 19'46	32.37495 AU				
morning rise	2256 Jan 07 14:34	2° \searrow 47'09		conjunction	2263 Jan 07 15:55	16° \searrow 48'35	2°06'00
retrograde	2256 Apr 06 00:17	4° \searrow 41'20		minimum elong	2263 Jan 07 16:00	16° \searrow 48'35	2°06'00
min. Earth dist.	2256 Jun 22 23:31	3° \searrow 24'28	30.47654 AU	max. Earth dist.	2263 Jan 09 16:58	16° \searrow 52'52	33.77938 AU
opposition	2256 Jun 24 10:52	3° \searrow 22'11	6°20'03	morning rise	2263 Jan 22 18:14	17° \searrow 19'56	
direct	2256 Sep 12 19:45	2° \searrow 02'09		retrograde	2263 Apr 20 19:05	19° \searrow 05'09	
evening set	2256 Dec 11 21:08	3° \searrow 55'46		min. Earth dist.	2263 Jul 08 04:10	17° \searrow 51'20	31.89041 AU
				opposition	2263 Jul 10 06:44	17° \searrow 48'11	1°55'25
conjunction	2256 Dec 26 01:25	4° \searrow 26'40	5°38'45	direct	2263 Sep 28 23:32	16° \searrow 30'53	
minimum elong	2256 Dec 26 01:39	4° \searrow 26'42	5°38'45	evening set	2263 Dec 25 15:58	18° \searrow 14'47	

conjunction	2264 Jan 09 19:41	18°346'00 1°31'19		2270 Jan 20 23:50	0°00'
minimum elong	2264 Jan 09 19:45	18°346'00 1°31'19	max. Earth dist.	2270 Jan 22 18:12	0°03'30 35.43480 AU
max. Earth dist.	2264 Jan 11 22:26	18°350'23 34.00328 AU	morning rise	2270 Feb 04 09:39	0°28'18
morning rise	2264 Jan 24 23:45	19°317'13	retrograde	2270 May 03 08:48	2°07'41
retrograde	2264 Apr 22 00:54	21°301'28	min. Earth dist.	2270 Jul 21 02:55	0°56'48 33.55805 AU
min. Earth dist.	2264 Jul 09 08:57	19°348'05 32.11661 AU	opposition	2270 Jul 23 16:09	0°53'08 -2°11'19
opposition	2264 Jul 11 13:34	19°344'50 1°18'41		2270 Sep 02 20:01	30°08'
direct	2264 Sep 30 04:20	18°327'58	direct	2270 Oct 12 13:26	29°338'44
evening set	2264 Dec 26 18:10	20°310'46		2270 Nov 19 20:24	0°00'
			evening set	2271 Jan 07 05:46	1°16'09
conjunction	2265 Jan 10 23:04	20°341'49 0°56'59	conjunction	2271 Jan 22 06:27	1°45'28 -2°19'31
minimum elong	2265 Jan 10 23:06	20°341'49 0°56'59	minimum elong	2271 Jan 22 06:22	1°45'27 2°19'31
max. Earth dist.	2265 Jan 13 04:20	20°346'24 34.23270 AU	max. Earth dist.	2271 Jan 24 18:53	1°50'25 35.68133 AU
morning rise	2265 Jan 26 04:03	21°312'53	morning rise	2271 Feb 06 07:54	2°14'49
retrograde	2265 Apr 24 03:26	22°356'11	retrograde	2271 May 05 09:13	3°53'33
min. Earth dist.	2265 Jul 11 13:28	21°343'14 32.34800 AU	min. Earth dist.	2271 Jul 23 04:23	2°42'59 33.80611 AU
opposition	2265 Jul 13 19:27	21°339'55 0°42'23	opposition	2271 Jul 25 18:31	2°39'17 -2°44'18
direct	2265 Oct 02 11:01	20°323'29	direct	2271 Oct 14 14:14	1°25'14
evening set	2265 Dec 28 20:26	22°305'17	evening set	2272 Jan 09 06:59	3°01'54
conjunction	2266 Jan 13 01:40	22°336'07 0°23'03	conjunction	2272 Jan 24 05:41	3°30'48 -2°50'25
minimum elong	2266 Jan 13 01:40	22°336'07 0°23'04	minimum elong	2272 Jan 24 05:35	3°30'47 2°50'25
max. Earth dist.	2266 Jan 15 07:42	22°340'43 34.46675 AU	max. Earth dist.	2272 Jan 26 19:45	3°35'51 35.92924 AU
morning rise	2266 Jan 28 07:22	23°307'00	morning rise	2272 Feb 08 04:54	3°59'46
retrograde	2266 Apr 26 07:51	24°349'25	retrograde	2272 May 06 07:35	5°37'52
min. Earth dist.	2266 Jul 13 16:24	23°336'57 32.58404 AU	min. Earth dist.	2272 Jul 24 05:13	4°27'36 34.05556 AU
opposition	2266 Jul 16 00:51	23°333'30 0°06'34	opposition	2272 Jul 26 20:06	4°23'53 -3°16'39
desc. node	2266 Sep 21 21:26	22°319'56	direct	2272 Oct 15 17:33	3°10'09
direct	2266 Oct 04 16:31	22°317'30	evening set	2273 Jan 10 08:17	4°46'06
evening set	2266 Dec 30 22:21	23°358'20			
conjunction	2267 Jan 15 03:42	24°328'56 -0°10'31	conjunction	2273 Jan 25 04:17	5°14'35 -3°20'44
minimum elong	2267 Jan 15 03:41	24°328'56 0°10'31	minimum elong	2273 Jan 25 04:10	5°14'35 3°20'45
behind sun begin	2267 Jan 14 22:40	24°328'32	max. Earth dist.	2273 Jan 27 18:28	5°19'36 36.17859 AU
behind sun end	2267 Jan 15 08:42	24°329'20	morning rise	2273 Feb 09 01:10	5°43'07
max. Earth dist.	2267 Jan 17 12:25	24°333'44 34.70476 AU	retrograde	2273 May 08 08:14	7°20'38
morning rise	2267 Jan 30 09:19	24°359'34	min. Earth dist.	2273 Jul 26 04:17	6°10'43 34.30701 AU
retrograde	2267 Apr 28 09:19	26°341'11	opposition	2273 Jul 28 20:56	6°06'55 -3°48'21
min. Earth dist.	2267 Jul 15 20:44	25°329'05 32.82378 AU	direct	2273 Oct 17 17:22	4°53'30
opposition	2267 Jul 18 05:45	25°325'37 -0°28'45	evening set	2274 Jan 12 09:13	6°28'49
direct	2267 Oct 06 23:47	24°310'03	conjunction	2274 Jan 27 02:25	6°56'51 -3°50'28
evening set	2268 Jan 02 00:24	25°349'58	minimum elong	2274 Jan 27 02:17	6°56'51 3°50'27
conjunction	2268 Jan 17 05:11	26°320'17 -0°43'31	max. Earth dist.	2274 Jan 29 18:50	7°02'00 36.42993 AU
minimum elong	2268 Jan 17 05:09	26°320'17 0°43'30	morning rise	2274 Feb 10 20:16	7°24'57
max. Earth dist.	2268 Jan 19 14:17	26°325'05 34.94597 AU	retrograde	2274 May 10 05:53	9°01'55
morning rise	2268 Feb 01 10:29	26°350'39	min. Earth dist.	2274 Jul 28 04:29	7°52'16 34.56070 AU
retrograde	2268 Apr 29 11:37	28°331'29	opposition	2274 Jul 30 21:23	7°48'28 -4°19'23
min. Earth dist.	2268 Jul 16 22:23	27°319'52 33.06655 AU	direct	2274 Oct 19 18:45	6°35'24
opposition	2268 Jul 19 09:46	27°316'16 -1°03'31	evening set	2275 Jan 14 09:57	8°10'06
direct	2268 Oct 08 04:38	26°301'06	conjunction	2275 Jan 28 23:47	8°37'41 -4°19'34
evening set	2269 Jan 03 02:17	27°340'09	minimum elong	2275 Jan 28 23:39	8°37'40 4°19'35
conjunction	2269 Jan 18 06:10	28°310'10 -1°16'03	max. Earth dist.	2275 Jan 31 16:33	8°42'49 36.68361 AU
minimum elong	2269 Jan 18 06:07	28°310'10 1°16'03	morning rise	2275 Feb 12 14:29	9°05'19
max. Earth dist.	2269 Jan 20 17:05	28°315'05 35.18949 AU	retrograde	2275 May 12 02:52	10°41'47
morning rise	2269 Feb 02 10:36	28°340'14	min. Earth dist.	2275 Jul 30 01:55	9°32'33 34.81691 AU
	2269 Mar 24 21:15	0°00'	opposition	2275 Aug 01 21:11	9°28'38 -4°49'43
retrograde	2269 May 01 10:03	0°20'20	direct	2275 Oct 21 19:27	8°15'55
	2269 Jun 09 05:20	30°08'	evening set	2276 Jan 16 10:35	9°50'04
min. Earth dist.	2269 Jul 19 01:48	29°309'02 33.31153 AU	conjunction	2276 Jan 30 20:50	10°17'10 -4°48'03
opposition	2269 Jul 21 13:21	29°305'27 -1°37'43	minimum elong	2276 Jan 30 20:40	10°17'09 4°48'02
direct	2269 Oct 10 09:15	27°350'41	max. Earth dist.	2276 Feb 02 15:25	10°22'25 36.93958 AU
evening set	2270 Jan 05 04:02	29°328'54	morning rise	2276 Feb 14 07:58	10°44'19
conjunction	2270 Jan 20 06:36	29°358'35 -1°48'03	retrograde	2276 May 12 22:15	12°20'21
minimum elong	2270 Jan 20 06:32	29°358'34 1°48'03	min. Earth dist.	2276 Jul 31 00:56	11°11'26 35.07551 AU

opposition	2276 Aug 02 20:26	11°07'31 -5°19'22	evening set	2283 Jan 28 11:06	20°59'02
direct	2276 Oct 22 20:09	9°55'09			
evening set	2277 Jan 17 10:59	11°28'48	conjunction	2283 Feb 10 11:48	21°22'23 -7°49'33
			minimum elong	2283 Feb 10 11:35	21°22'23 7°49'33
conjunction	2277 Jan 31 17:24	11°55'24 -5°15'53	max. Earth dist.	2283 Feb 13 10:24	21°27'42 38.75478 AU
minimum elong	2277 Jan 31 17:14	11°55'24 5°15'54	morning rise	2283 Feb 23 13:32	21°45'49
max. Earth dist.	2277 Feb 03 12:44	12°00'41 37.19772 AU	retrograde	2283 May 24 13:50	23°19'50
morning rise	2277 Feb 15 00:35	12°22'04	min. Earth dist.	2283 Aug 12 02:14	22°13'09 36.90258 AU
retrograde	2277 May 14 17:41	13°57'43	opposition	2283 Aug 15 01:31	22°09'10 -8°27'28
min. Earth dist.	2277 Aug 01 22:03	12°49'11 35.33593 AU	direct	2283 Nov 04 02:21	20°59'16
opposition	2277 Aug 04 19:03	12°45'12 -5°48'20	evening set	2284 Jan 30 10:38	22°30'28
direct	2277 Oct 24 19:49	11°33'13			
evening set	2278 Jan 19 11:18	13°06'25	conjunction	2284 Feb 12 05:35	22°53'14 -8°12'57
			minimum elong	2284 Feb 12 05:23	22°53'13 8°12'56
conjunction	2278 Feb 02 13:20	13°32'30 -5°43'06	max. Earth dist.	2284 Feb 15 04:24	22°58'32 39.01026 AU
minimum elong	2278 Feb 02 13:10	13°32'29 5°43'05	morning rise	2284 Feb 25 01:20	23°16'04
max. Earth dist.	2278 Feb 05 09:22	13°37'47 37.45725 AU	retrograde	2284 May 25 06:02	24°49'54
morning rise	2278 Feb 16 16:26	13°58'40	min. Earth dist.	2284 Aug 12 21:03	23°43'28 37.15917 AU
	2278 Mar 27 00:15	15°	opposition	2284 Aug 15 20:44	23°39'28 -8°51'37
retrograde	2278 May 16 14:58	15°33'58	direct	2284 Nov 04 23:12	22°29'51
	2278 Jul 08 11:12	15°	evening set	2285 Jan 31 10:02	24°00'47
min. Earth dist.	2278 Aug 03 19:31	14°25'47 35.59778 AU			
opposition	2278 Aug 06 17:21	14°21'46 -6°16'35	conjunction	2285 Feb 12 22:45	24°22'57 -8°35'44
direct	2278 Oct 26 16:40	13°10'10	minimum elong	2285 Feb 12 22:32	24°22'56 8°35'45
evening set	2279 Jan 21 11:25	14°42'57	max. Earth dist.	2285 Feb 15 21:13	24°28'11 39.26410 AU
	2279 Jan 30 18:38	15°	morning rise	2285 Feb 25 12:34	24°45'12
			retrograde	2285 May 27 00:42	26°18'51
conjunction	2279 Feb 04 09:05	15°08'31 -6°09'39	min. Earth dist.	2285 Aug 14 15:35	25°12'39 37.41462 AU
minimum elong	2279 Feb 04 08:54	15°08'30 6°09'40	opposition	2285 Aug 17 15:42	25°08'39 -9°15'06
max. Earth dist.	2279 Feb 07 06:40	15°13'53 37.71782 AU	direct	2285 Nov 06 16:53	23°59'18
morning rise	2279 Feb 18 07:31	15°34'09	evening set	2286 Feb 02 09:01	25°30'00
retrograde	2279 May 18 11:13	17°09'10			
min. Earth dist.	2279 Aug 05 16:59	16°01'18 35.86022 AU	conjunction	2286 Feb 14 15:32	25°51'34 -8°57'54
opposition	2279 Aug 08 15:06	15°57'17 -6°44'08	minimum elong	2286 Feb 14 15:20	25°51'33 8°57'54
	2279 Sep 26 00:58	15°	max. Earth dist.	2286 Feb 17 15:26	25°56'52 39.51697 AU
direct	2279 Oct 28 14:16	14°46'04	morning rise	2286 Feb 26 22:49	26°13'12
	2279 Nov 29 08:00	15°	retrograde	2286 May 28 18:10	27°46'41
evening set	2280 Jan 23 11:31	16°18'28	min. Earth dist.	2286 Aug 16 10:16	26°40'42 37.66925 AU
			opposition	2286 Aug 19 10:10	26°36'43 -9°37'54
conjunction	2280 Feb 06 04:13	16°43'30 -6°35'35	direct	2286 Nov 08 10:47	25°27'39
minimum elong	2280 Feb 06 04:02	16°43'30 6°35'34	evening set	2287 Feb 04 08:04	26°58'08
max. Earth dist.	2280 Feb 09 01:24	16°48'49 37.97854 AU			
morning rise	2280 Feb 19 22:01	17°08'37	conjunction	2287 Feb 16 07:52	27°19'06 -9°19'25
retrograde	2280 May 19 09:30	18°43'20	minimum elong	2287 Feb 16 07:39	27°19'05 9°19'26
min. Earth dist.	2280 Aug 06 12:58	17°35'50 36.12264 AU	max. Earth dist.	2287 Feb 19 07:12	27°24'19 39.76936 AU
opposition	2280 Aug 09 12:22	17°31'47 -7°10'59	morning rise	2287 Feb 28 08:39	27°40'07
direct	2280 Oct 29 09:23	16°20'55	retrograde	2287 May 30 12:48	29°13'28
evening set	2281 Jan 24 11:30	17°53'00	min. Earth dist.	2287 Aug 18 02:47	28°07'47 37.92370 AU
			opposition	2287 Aug 21 04:10	28°03'45 -10°00'01
conjunction	2281 Feb 06 23:14	18°17'29 -7°00'52	direct	2287 Nov 10 02:46	26°54'57
minimum elong	2281 Feb 06 23:02	18°17'29 7°00'52	evening set	2288 Feb 06 06:48	28°25'16
max. Earth dist.	2281 Feb 09 21:46	18°22'51 38.23867 AU			
morning rise	2281 Feb 20 11:51	18°42'03	conjunction	2288 Feb 17 23:55	28°45'37 -9°40'19
retrograde	2281 May 21 03:53	20°16'31	minimum elong	2288 Feb 17 23:42	28°45'36 9°40'19
min. Earth dist.	2281 Aug 08 10:33	19°09'16 36.38415 AU	max. Earth dist.	2288 Feb 21 00:34	28°50'54 40.02151 AU
opposition	2281 Aug 11 09:06	19°05'17 -7°37'10	morning rise	2288 Feb 29 17:54	29°06'01
direct	2281 Oct 31 06:36	17°54'46		2288 Apr 04 12:34	0°
evening set	2282 Jan 26 11:28	19°26'33	retrograde	2288 May 31 03:01	0°39'16
				2288 Jul 29 03:29	30°
conjunction	2282 Feb 08 17:46	19°50'28 -7°25'31	min. Earth dist.	2288 Aug 18 21:07	29°33'46 38.17789 AU
minimum elong	2282 Feb 08 17:34	19°50'27 7°25'30	opposition	2288 Aug 21 21:50	29°29'47 -10°21'27
max. Earth dist.	2282 Feb 11 15:42	19°55'45 38.49762 AU	direct	2288 Nov 10 22:00	28°21'16
morning rise	2282 Feb 22 01:01	20°14'28	evening set	2289 Feb 07 05:32	29°51'28
retrograde	2282 May 22 21:02	21°48'42		2289 Feb 12 04:58	0°
min. Earth dist.	2282 Aug 10 05:38	20°41'47 36.64422 AU			
opposition	2282 Aug 13 05:27	20°37'45 -8°02'39	conjunction	2289 Feb 18 15:37	0°11'10 -10°00'35
direct	2282 Nov 02 05:00	19°27'33	minimum elong	2289 Feb 18 15:24	0°11'10 10°00'35

max. Earth dist.	2289 Feb 21 16:09	0° $\mathbf{\text{H}}$ 16'25	40.27343 AU	direct	2295 Nov 21 16:43	8° $\mathbf{\text{H}}$ 02'02	
morning rise	2289 Mar 02 02:28	0° $\mathbf{\text{H}}$ 30'57		evening set	2296 Feb 19 18:18	9° $\mathbf{\text{H}}$ 32'02	
retrograde	2289 Jun 01 16:29	2° $\mathbf{\text{H}}$ 04'07					
min. Earth dist.	2289 Aug 20 12:59	0° $\mathbf{\text{H}}$ 58'56	38.43163 AU	conjunction	2296 Feb 28 21:03	9° $\mathbf{\text{H}}$ 47'10	-12°05'55
opposition	2289 Aug 23 14:49	0° $\mathbf{\text{H}}$ 54'54	-10°42'14	minimum elong	2296 Feb 28 20:51	9° $\mathbf{\text{H}}$ 47'09	12°05'55
	2289 Oct 11 03:04	30° $\mathbf{\text{R}}$		max. Earth dist.	2296 Mar 02 21:24	9° $\mathbf{\text{H}}$ 52'11	41.99088 AU
direct	2289 Nov 12 17:14	29° $\mathbf{\text{R}}$ 46'40		morning rise	2296 Mar 09 00:14	10° $\mathbf{\text{H}}$ 02'20	
	2289 Dec 14 12:12	0° $\mathbf{\text{H}}$		retrograde	2296 Jun 10 21:17	11° $\mathbf{\text{H}}$ 35'42	
evening set	2290 Feb 09 04:07	1° $\mathbf{\text{H}}$ 16'46		min. Earth dist.	2296 Aug 30 05:16	10° $\mathbf{\text{H}}$ 31'59	40.15532 AU
				opposition	2296 Sep 02 05:31	10° $\mathbf{\text{H}}$ 28'09	-12°50'14
conjunction	2290 Feb 20 06:54	1° $\mathbf{\text{H}}$ 35'51	-10°20'14	direct	2296 Nov 22 09:44	9° $\mathbf{\text{H}}$ 21'46	
minimum elong	2290 Feb 20 06:42	1° $\mathbf{\text{H}}$ 35'50	10°20'14	evening set	2297 Feb 20 16:33	10° $\mathbf{\text{H}}$ 51'48	
max. Earth dist.	2290 Feb 23 07:47	1° $\mathbf{\text{H}}$ 41'05	40.52470 AU				
morning rise	2290 Mar 03 10:38	1° $\mathbf{\text{H}}$ 54'59		conjunction	2297 Mar 01 10:17	11° $\mathbf{\text{H}}$ 06'14	-12°21'36
retrograde	2290 Jun 03 07:47	3° $\mathbf{\text{H}}$ 28'08		minimum elong	2297 Mar 01 10:05	11° $\mathbf{\text{H}}$ 06'14	12°21'36
min. Earth dist.	2290 Aug 22 06:03	2° $\mathbf{\text{H}}$ 23'10	38.68471 AU	max. Earth dist.	2297 Mar 04 09:41	11° $\mathbf{\text{H}}$ 11'10	42.22435 AU
opposition	2290 Aug 25 07:47	2° $\mathbf{\text{H}}$ 19'09	-11°02'21	morning rise	2297 Mar 10 04:37	11° $\mathbf{\text{H}}$ 20'43	
direct	2290 Nov 14 10:24	1° $\mathbf{\text{H}}$ 11'13		retrograde	2297 Jun 12 11:41	12° $\mathbf{\text{H}}$ 54'11	
evening set	2291 Feb 11 02:26	2° $\mathbf{\text{H}}$ 41'14		min. Earth dist.	2297 Aug 31 19:42	11° $\mathbf{\text{H}}$ 50'38	40.38953 AU
				opposition	2297 Sep 03 19:52	11° $\mathbf{\text{H}}$ 46'49	-13°06'11
conjunction	2291 Feb 21 21:55	2° $\mathbf{\text{H}}$ 59'41	-10°39'17	direct	2297 Nov 23 23:18	10° $\mathbf{\text{H}}$ 40'39	
minimum elong	2291 Feb 21 21:41	2° $\mathbf{\text{H}}$ 59'40	10°39'17	evening set	2298 Feb 22 14:40	12° $\mathbf{\text{H}}$ 10'46	
max. Earth dist.	2291 Feb 24 23:35	3° $\mathbf{\text{H}}$ 04'57	40.77508 AU				
morning rise	2291 Mar 04 18:01	3° $\mathbf{\text{H}}$ 18'11		conjunction	2298 Mar 02 23:19	12° $\mathbf{\text{H}}$ 24'29	-12°36'45
retrograde	2291 Jun 04 22:01	4° $\mathbf{\text{H}}$ 51'19		minimum elong	2298 Mar 02 23:08	12° $\mathbf{\text{H}}$ 24'29	12°36'46
min. Earth dist.	2291 Aug 23 22:35	3° $\mathbf{\text{H}}$ 46'36	38.93642 AU	max. Earth dist.	2298 Mar 05 23:38	12° $\mathbf{\text{H}}$ 29'27	42.45529 AU
opposition	2291 Aug 27 00:15	3° $\mathbf{\text{H}}$ 42'36	-11°21'50	morning rise	2298 Mar 11 08:21	12° $\mathbf{\text{H}}$ 38'16	
direct	2291 Nov 16 03:52	2° $\mathbf{\text{H}}$ 34'57		retrograde	2298 Jun 14 00:44	14° $\mathbf{\text{H}}$ 11'51	
evening set	2292 Feb 13 00:57	4° $\mathbf{\text{H}}$ 04'55		min. Earth dist.	2298 Sep 02 10:34	13° $\mathbf{\text{H}}$ 08'26	40.62137 AU
				opposition	2298 Sep 05 09:56	13° $\mathbf{\text{H}}$ 04'40	-13°21'34
conjunction	2292 Feb 23 12:37	4° $\mathbf{\text{H}}$ 22'43	-10°57'44	direct	2298 Nov 25 13:39	11° $\mathbf{\text{H}}$ 58'43	
minimum elong	2292 Feb 23 12:25	4° $\mathbf{\text{H}}$ 22'42	10°57'44	evening set	2299 Feb 24 12:49	13° $\mathbf{\text{H}}$ 28'55	
max. Earth dist.	2292 Feb 26 13:24	4° $\mathbf{\text{H}}$ 27'53	41.02380 AU				
morning rise	2292 Mar 05 01:08	4° $\mathbf{\text{H}}$ 40'35		conjunction	2299 Mar 04 11:50	13° $\mathbf{\text{H}}$ 41'57	-12°51'22
retrograde	2292 Jun 05 15:33	6° $\mathbf{\text{H}}$ 13'43		minimum elong	2299 Mar 04 11:39	13° $\mathbf{\text{H}}$ 41'56	12°51'22
min. Earth dist.	2292 Aug 24 14:11	5° $\mathbf{\text{H}}$ 09'16	39.18632 AU	max. Earth dist.	2299 Mar 07 11:07	13° $\mathbf{\text{H}}$ 46'49	42.68426 AU
opposition	2292 Aug 27 16:16	5° $\mathbf{\text{H}}$ 05'16	-11°40'42	morning rise	2299 Mar 12 11:19	13° $\mathbf{\text{H}}$ 55'00	
direct	2292 Nov 16 17:32	3° $\mathbf{\text{H}}$ 57'54		retrograde	2299 Jun 15 15:18	15° $\mathbf{\text{H}}$ 28'43	
evening set	2293 Feb 13 23:17	5° $\mathbf{\text{H}}$ 27'51		min. Earth dist.	2299 Sep 03 23:21	14° $\mathbf{\text{H}}$ 25'33	40.85151 AU
				opposition	2299 Sep 06 23:38	14° $\mathbf{\text{H}}$ 21'45	-13°36'23
conjunction	2293 Feb 24 03:12	5° $\mathbf{\text{H}}$ 45'00	-11°15'37	direct	2299 Nov 27 01:08	13° $\mathbf{\text{H}}$ 16'01	
minimum elong	2293 Feb 24 02:59	5° $\mathbf{\text{H}}$ 44'59	11°15'36	evening set	2300 Feb 26 10:59	14° $\mathbf{\text{H}}$ 46'22	
max. Earth dist.	2293 Feb 27 04:53	5° $\mathbf{\text{H}}$ 50'12	41.27028 AU				
morning rise	2293 Mar 06 07:44	6° $\mathbf{\text{H}}$ 02'12		conjunction	2300 Mar 06 00:17	14° $\mathbf{\text{H}}$ 58'40	-13°05'26
retrograde	2293 Jun 07 07:08	7° $\mathbf{\text{H}}$ 35'23		minimum elong	2300 Mar 06 00:06	14° $\mathbf{\text{H}}$ 58'39	13°05'27
min. Earth dist.	2293 Aug 26 07:16	6° $\mathbf{\text{H}}$ 31'05	39.43354 AU	max. Earth dist.	2300 Mar 09 00:22	15° $\mathbf{\text{H}}$ 03'33	42.91161 AU
opposition	2293 Aug 29 08:07	6° $\mathbf{\text{H}}$ 27'11	-11°58'57	morning rise	2300 Mar 13 13:56	15° $\mathbf{\text{H}}$ 10'58	
direct	2293 Nov 18 08:38	5° $\mathbf{\text{H}}$ 20'05		retrograde	2300 Jun 17 03:43	16° $\mathbf{\text{H}}$ 44'53	
evening set	2294 Feb 15 21:40	6° $\mathbf{\text{H}}$ 50'01		min. Earth dist.	2300 Sep 05 13:47	15° $\mathbf{\text{H}}$ 41'51	41.08013 AU
				opposition	2300 Sep 08 12:58	15° $\mathbf{\text{H}}$ 38'07	-13°50'37
conjunction	2294 Feb 25 17:20	7° $\mathbf{\text{H}}$ 06'31	-11°32'55	direct	2300 Nov 28 13:54	14° $\mathbf{\text{H}}$ 32'37	
minimum elong	2294 Feb 25 17:08	7° $\mathbf{\text{H}}$ 06'30	11°32'56	evening set	2301 Feb 28 09:25	16° $\mathbf{\text{H}}$ 03'10	
max. Earth dist.	2294 Feb 28 17:56	7° $\mathbf{\text{H}}$ 11'36	41.51388 AU				
morning rise	2294 Mar 07 13:39	7° $\mathbf{\text{H}}$ 23'03		conjunction	2301 Mar 07 12:27	16° $\mathbf{\text{H}}$ 14'42	-13°18'58
retrograde	2294 Jun 08 21:29	8° $\mathbf{\text{H}}$ 56'16		minimum elong	2301 Mar 07 12:17	16° $\mathbf{\text{H}}$ 14'41	13°18'58
min. Earth dist.	2294 Aug 27 21:59	7° $\mathbf{\text{H}}$ 52'14	39.67760 AU	max. Earth dist.	2301 Mar 10 12:17	16° $\mathbf{\text{H}}$ 19'33	43.13764 AU
opposition	2294 Aug 30 23:34	7° $\mathbf{\text{H}}$ 48'18	-12°16'37	morning rise	2301 Mar 14 15:44	16° $\mathbf{\text{H}}$ 26'15	
direct	2294 Nov 19 23:40	6° $\mathbf{\text{H}}$ 41'28		retrograde	2301 Jun 18 13:02	18° $\mathbf{\text{H}}$ 00'24	
evening set	2295 Feb 17 19:59	8° $\mathbf{\text{H}}$ 11'26		min. Earth dist.	2301 Sep 07 02:00	16° $\mathbf{\text{H}}$ 57'36	41.30720 AU
				opposition	2301 Sep 10 01:57	16° $\mathbf{\text{H}}$ 53'51	-14°04'18
conjunction	2295 Feb 27 07:19	8° $\mathbf{\text{H}}$ 27'15	-11°49'41	direct	2301 Nov 30 05:13	15° $\mathbf{\text{H}}$ 48'35	
minimum elong	2295 Feb 27 07:07	8° $\mathbf{\text{H}}$ 27'14	11°49'41	evening set	2302 Mar 02 07:44	17° $\mathbf{\text{H}}$ 19'21	
max. Earth dist.	2295 Mar 02 07:53	8° $\mathbf{\text{H}}$ 32'18	41.75406 AU				
morning rise	2295 Mar 08 19:19	8° $\mathbf{\text{H}}$ 43'06		conjunction	2302 Mar 09 00:07	17° $\mathbf{\text{H}}$ 30'07	-13°31'59
retrograde	2295 Jun 10 09:44	10° $\mathbf{\text{H}}$ 16'24		minimum elong	2302 Mar 08 23:56	17° $\mathbf{\text{H}}$ 30'06	13°31'59
min. Earth dist.	2295 Aug 29 14:29	9° $\mathbf{\text{H}}$ 12'30	39.91823 AU	max. Earth dist.	2302 Mar 11 23:33	17° $\mathbf{\text{H}}$ 34'56	43.36203 AU
opposition	2295 Sep 01 14:48	9° $\mathbf{\text{H}}$ 08'38	-12°33'42	morning rise	2302 Mar 15 16:47	17° $\mathbf{\text{H}}$ 40'55	

retrograde	2302 Jun 20 00:32	19° ✕ 15'20		minimum elong	2309 Mar 17 05:44	26° ✕ 02'52	14°49'31
min. Earth dist.	2302 Sep 08 15:21	18° ✕ 12'43	41.53266 AU	morning rise	2309 Mar 19 14:42	26° ✕ 06'34	
opposition	2302 Sep 11 14:53	18° ✕ 08'59	-14°17'26	max. Earth dist.	2309 Mar 20 01:24	26° ✕ 07'16	44.85252 AU
direct	2302 Dec 01 19:06	17° ✕ 03'58		retrograde	2309 Jun 28 07:17	27° ✕ 44'44	
evening set	2303 Mar 04 06:34	18° ✕ 35'01		min. Earth dist.	2309 Sep 17 05:54	26° ✕ 43'11	43.02226 AU
				opposition	2309 Sep 20 01:22	26° ✕ 39'45	-15°35'25
conjunction	2303 Mar 10 11:52	18° ✕ 44'59	-13°44'28	direct	2309 Dec 10 05:47	25° ✕ 36'09	
minimum elong	2303 Mar 10 11:43	18° ✕ 44'58	13°44'28	evening set	2310 Mar 17 20:39	27° ✕ 12'27	
max. Earth dist.	2303 Mar 13 12:02	18° ✕ 49'49	43.58471 AU				
morning rise	2303 Mar 16 17:18	18° ✕ 54'59		conjunction	2310 Mar 18 15:58	27° ✕ 13'42	-14°58'49
retrograde	2303 Jun 21 12:21	20° ✕ 29'42		minimum elong	2310 Mar 18 15:51	27° ✕ 13'42	14°58'49
min. Earth dist.	2303 Sep 10 04:26	19° ✕ 27'16	41.75597 AU	morning rise	2310 Mar 19 11:04	27° ✕ 14'56	
opposition	2303 Sep 13 03:21	19° ✕ 23'36	-14°30'02	max. Earth dist.	2310 Mar 21 12:07	27° ✕ 18'07	45.05009 AU
direct	2303 Dec 03 08:09	18° ✕ 18'49		retrograde	2310 Jun 29 18:22	28° ✕ 55'06	
evening set	2304 Mar 05 05:46	19° ✕ 50'11		min. Earth dist.	2310 Sep 18 18:11	27° ✕ 53'37	43.21970 AU
				opposition	2310 Sep 21 12:14	27° ✕ 50'16	-15°44'42
conjunction	2304 Mar 10 23:14	19° ✕ 59'19	-13°56'28	direct	2310 Dec 11 16:23	26° ✕ 46'49	
minimum elong	2304 Mar 10 23:04	19° ✕ 59'18	13°56'28				
max. Earth dist.	2304 Mar 13 22:07	20° ✕ 04'02	43.80506 AU	conjunction	2311 Mar 20 01:57	28° ✕ 23'53	-15°07'41
morning rise	2304 Mar 16 16:50	20° ✕ 08'28		minimum elong	2311 Mar 20 01:51	28° ✕ 23'53	15°07'41
retrograde	2304 Jun 22 02:28	21° ✕ 43'34		max. Earth dist.	2311 Mar 22 21:02	28° ✕ 28'12	45.24474 AU
min. Earth dist.	2304 Sep 10 16:22	20° ✕ 41'21	41.97670 AU		2311 Jun 10 14:46	0° ∇	
opposition	2304 Sep 13 15:37	20° ✕ 37'41	-14°42'07	retrograde	2311 Jul 01 04:20	0° ∇ 04'49	
direct	2304 Dec 03 18:13	19° ✕ 33'08			2311 Jul 21 19:44	30° ℞ ✕	
evening set	2305 Mar 07 05:34	21° ✕ 04'52		min. Earth dist.	2311 Sep 20 03:59	29° ✕ 03'30	43.41444 AU
				opposition	2311 Sep 22 22:39	29° ✕ 00'08	-15°53'32
conjunction	2305 Mar 12 10:33	21° ✕ 13'09	-14°07'58	direct	2311 Dec 13 01:39	27° ✕ 56'51	
minimum elong	2305 Mar 12 10:25	21° ✕ 13'08	14°07'58				
max. Earth dist.	2305 Mar 15 09:54	21° ✕ 17'52	44.02241 AU	conjunction	2312 Mar 20 11:42	29° ✕ 33'28	-15°16'06
morning rise	2305 Mar 17 15:37	21° ✕ 21'25		minimum elong	2312 Mar 20 11:36	29° ✕ 33'27	15°16'05
retrograde	2305 Jun 23 14:20	22° ✕ 56'55		max. Earth dist.	2312 Mar 23 06:34	29° ✕ 37'45	45.43681 AU
min. Earth dist.	2305 Sep 12 06:02	21° ✕ 54'50	42.19405 AU		2312 Apr 06 22:15	0° ∇	
opposition	2305 Sep 15 03:38	21° ✕ 51'15	-14°53'42	retrograde	2312 Jul 01 12:55	1° ∇ 13'57	
direct	2305 Dec 05 05:15	20° ✕ 46'56		min. Earth dist.	2312 Sep 20 15:33	0° ∇ 12'43	43.60674 AU
evening set	2306 Mar 09 06:22	22° ✕ 19'06		opposition	2312 Sep 23 09:01	0° ∇ 09'25	-16°01'55
					2312 Oct 01 04:09	30° ℞ ✕	
conjunction	2306 Mar 13 21:42	22° ✕ 26'27	-14°19'01	direct	2312 Dec 13 12:39	29° ✕ 06'18	
minimum elong	2306 Mar 13 21:33	22° ✕ 26'27	14°19'01		2313 Feb 21 05:14	0° ∇	
max. Earth dist.	2306 Mar 16 19:50	22° ✕ 31'05	44.23627 AU				
morning rise	2306 Mar 18 13:01	22° ✕ 33'48		conjunction	2313 Mar 21 21:19	0° ∇ 42'29	-15°24'05
retrograde	2306 Jun 25 01:08	24° ✕ 09'45		minimum elong	2313 Mar 21 21:14	0° ∇ 42'29	15°24'05
min. Earth dist.	2306 Sep 13 17:36	23° ✕ 07'52	42.40753 AU	max. Earth dist.	2313 Mar 24 16:15	0° ∇ 46'46	45.62666 AU
opposition	2306 Sep 16 15:25	23° ✕ 04'17	-15°04'48	retrograde	2313 Jul 02 19:52	2° ∇ 22'34	
direct	2306 Dec 06 16:36	22° ✕ 00'10		min. Earth dist.	2313 Sep 22 01:33	1° ∇ 21'30	43.79662 AU
evening set	2307 Mar 11 08:17	23° ✕ 32'53		opposition	2313 Sep 24 18:58	1° ∇ 18'12	-16°09'50
				direct	2313 Dec 15 00:51	0° ∇ 15'16	
conjunction	2307 Mar 15 08:33	23° ✕ 39'13	-14°29'37				
minimum elong	2307 Mar 15 08:25	23° ✕ 39'12	14°29'37	conjunction	2314 Mar 23 06:37	1° ∇ 51'02	-15°31'37
max. Earth dist.	2307 Mar 18 06:00	23° ✕ 43'46	44.44594 AU	minimum elong	2314 Mar 23 06:32	1° ∇ 51'02	15°31'37
morning rise	2307 Mar 19 08:49	23° ✕ 45'32		max. Earth dist.	2314 Mar 26 00:22	1° ∇ 55'13	45.81419 AU
retrograde	2307 Jun 26 11:08	25° ✕ 22'02		retrograde	2314 Jul 04 06:33	3° ∇ 30'43	
min. Earth dist.	2307 Sep 15 06:46	24° ✕ 20'15	42.61672 AU	min. Earth dist.	2314 Sep 23 11:40	2° ∇ 29'49	43.98424 AU
opposition	2307 Sep 18 03:09	24° ✕ 16'45	-15°15'28	opposition	2314 Sep 26 04:54	2° ∇ 26'32	-16°17'18
direct	2307 Dec 08 05:11	23° ✕ 12'50		direct	2314 Dec 16 10:06	1° ∇ 23'48	
evening set	2308 Mar 12 12:33	24° ✕ 46'13					
				conjunction	2315 Mar 24 15:51	2° ∇ 59'10	-15°38'45
conjunction	2308 Mar 15 19:26	24° ✕ 51'22	-14°39'47	minimum elong	2315 Mar 24 15:46	2° ∇ 59'10	15°38'45
minimum elong	2308 Mar 15 19:18	24° ✕ 51'21	14°39'46	max. Earth dist.	2315 Mar 27 10:15	3° ∇ 03'23	45.99928 AU
morning rise	2308 Mar 19 02:10	24° ✕ 56'31		retrograde	2315 Jul 05 16:39	4° ∇ 38'29	
max. Earth dist.	2308 Mar 18 16:40	24° ✕ 55'54	44.65134 AU	min. Earth dist.	2315 Sep 24 22:39	3° ∇ 37'42	44.16902 AU
retrograde	2308 Jun 26 19:01	26° ✕ 33'43		opposition	2315 Sep 27 14:38	3° ∇ 34'30	-16°24'21
min. Earth dist.	2308 Sep 15 18:35	25° ✕ 32'03	42.82142 AU	direct	2315 Dec 17 19:46	2° ∇ 31'57	
opposition	2308 Sep 18 14:17	25° ✕ 28'35	-15°25'40				
direct	2308 Dec 08 19:30	24° ✕ 24'50		conjunction	2316 Mar 25 00:58	4° ∇ 06'57	-15°45'28
evening set	2309 Mar 14 20:52	25° ✕ 59'10		minimum elong	2316 Mar 25 00:54	4° ∇ 06'57	15°45'27
				max. Earth dist.	2316 Mar 27 17:51	4° ∇ 11'03	46.18149 AU
conjunction	2309 Mar 17 05:50	26° ✕ 02'52	-14°49'31	retrograde	2316 Jul 06 04:15	5° ∇ 45'54	

min. Earth dist.	2316 Sep 25 07:44	4°♈45'18	44.35062 AU	conjunction	2325 Apr 04 04:35	14°♈00'01	-16°29'35
opposition	2316 Sep 27 23:55	4°♈42'07	-16°30'58	minimum elong	2325 Apr 04 04:34	14°♈00'01	16°29'35
direct	2316 Dec 18 02:11	3°♈39'46		max. Earth dist.	2325 Apr 06 14:55	14°♈03'35	47.63129 AU
				retrograde	2325 Jul 16 01:47	15°♈35'51	
conjunction	2317 Mar 26 09:57	5°♈14'25	-15°51'47	min. Earth dist.	2325 Oct 05 21:29	14°♈36'01	45.78979 AU
minimum elong	2317 Mar 26 09:52	5°♈14'25	15°51'47	opposition	2325 Oct 08 05:02	14°♈33'18	-17°13'55
max. Earth dist.	2317 Mar 29 02:33	5°♈18'28	46.36012 AU	direct	2325 Dec 28 12:51	13°♈32'13	
retrograde	2317 Jul 07 13:33	6°♈53'01					
min. Earth dist.	2317 Sep 26 19:04	5°♈52'30	44.52837 AU	conjunction	2326 Apr 05 11:59	15°♈03'45	-16°32'43
opposition	2317 Sep 29 09:19	5°♈49'25	-16°37'12	minimum elong	2326 Apr 05 11:59	15°♈03'45	16°32'43
direct	2317 Dec 19 10:23	4°♈47'16		max. Earth dist.	2326 Apr 07 20:46	15°♈07'13	47.77452 AU
				retrograde	2326 Jul 17 12:12	16°♈39'16	
conjunction	2318 Mar 27 18:47	6°♈21'34	-15°57'44	min. Earth dist.	2326 Oct 07 05:03	15°♈39'35	45.93218 AU
minimum elong	2318 Mar 27 18:44	6°♈21'33	15°57'44	opposition	2326 Oct 09 12:44	15°♈36'52	-17°16'51
max. Earth dist.	2318 Mar 30 10:45	6°♈25'34	46.53471 AU	direct	2326 Dec 29 18:41	14°♈35'55	
retrograde	2318 Jul 08 19:18	7°♈59'49					
min. Earth dist.	2318 Sep 28 04:28	6°♈59'28	44.70156 AU	conjunction	2327 Apr 06 19:29	16°♈07'09	-16°35'30
opposition	2318 Sep 30 18:27	6°♈56'24	-16°43'03	minimum elong	2327 Apr 06 19:29	16°♈07'09	16°35'29
direct	2318 Dec 20 22:17	5°♈54'25		max. Earth dist.	2327 Apr 09 04:21	16°♈10'36	47.91493 AU
				retrograde	2327 Jul 18 21:48	17°♈42'22	
conjunction	2319 Mar 29 03:31	7°♈28'22	-16°03'20	min. Earth dist.	2327 Oct 08 14:19	16°♈42'44	46.07159 AU
minimum elong	2319 Mar 29 03:27	7°♈28'22	16°03'20	opposition	2327 Oct 10 20:16	16°♈40'06	-17°19'26
max. Earth dist.	2319 Mar 31 17:37	7°♈32'15	46.70451 AU	direct	2327 Dec 31 00:22	15°♈39'17	
retrograde	2319 Jul 10 04:01	9°♈06'17					
min. Earth dist.	2319 Sep 29 14:41	8°♈06'02	44.86989 AU	conjunction	2328 Apr 07 02:56	17°♈10'15	-16°37'56
opposition	2319 Oct 02 03:26	8°♈03'01	-16°48'32	minimum elong	2328 Apr 07 02:56	17°♈10'15	16°37'57
direct	2319 Dec 22 08:22	7°♈01'12		max. Earth dist.	2328 Apr 09 11:00	17°♈13'38	48.05237 AU
				retrograde	2328 Jul 19 03:26	18°♈45'10	
conjunction	2320 Mar 29 12:18	8°♈34'48	-16°08'35	min. Earth dist.	2328 Oct 08 21:35	17°♈45'40	46.20760 AU
minimum elong	2320 Mar 29 12:16	8°♈34'48	16°08'35	opposition	2328 Oct 11 03:34	17°♈43'03	-17°21'41
max. Earth dist.	2320 Apr 01 02:21	8°♈38'40	46.86934 AU	direct	2328 Dec 31 07:46	16°♈42'22	
retrograde	2320 Jul 10 12:42	10°♈12'22					
min. Earth dist.	2320 Sep 30 01:05	9°♈12'09	45.03300 AU	conjunction	2329 Apr 08 10:04	18°♈13'03	-16°40'03
opposition	2320 Oct 02 12:14	9°♈09'14	-16°53'40	minimum elong	2329 Apr 08 10:05	18°♈13'03	16°40'02
direct	2320 Dec 22 18:19	8°♈07'33		max. Earth dist.	2329 Apr 10 16:41	18°♈16'21	48.18610 AU
				retrograde	2329 Jul 20 09:21	19°♈47'43	
conjunction	2321 Mar 30 20:38	9°♈40'47	-16°13'29	min. Earth dist.	2329 Oct 10 06:20	18°♈48'16	46.33975 AU
minimum elong	2321 Mar 30 20:35	9°♈40'47	16°13'29	opposition	2329 Oct 12 10:53	18°♈45'43	-17°23'35
max. Earth dist.	2321 Apr 02 08:45	9°♈44'30	47.02926 AU	direct	2330 Jan 01 15:50	17°♈45'11	
retrograde	2321 Jul 11 23:04	11°♈17'59					
min. Earth dist.	2321 Oct 01 09:38	10°♈17'54	45.19147 AU	conjunction	2330 Apr 09 17:24	19°♈15'36	-16°41'51
opposition	2321 Oct 03 20:44	10°♈14'59	-16°58'27	minimum elong	2330 Apr 09 17:25	19°♈15'36	16°41'51
direct	2321 Dec 24 00:56	9°♈13'26		max. Earth dist.	2330 Apr 11 23:59	19°♈18'54	48.31572 AU
				retrograde	2330 Jul 21 14:44	20°♈50'00	
conjunction	2322 Apr 01 04:52	10°♈46'18	-16°18'03	min. Earth dist.	2330 Oct 11 14:46	19°♈50'37	46.46730 AU
minimum elong	2322 Apr 01 04:50	10°♈46'18	16°18'03	opposition	2330 Oct 13 18:01	19°♈48'08	-17°25'11
max. Earth dist.	2322 Apr 03 16:42	10°♈49'59	47.18479 AU	direct	2331 Jan 03 01:27	18°♈47'43	
retrograde	2322 Jul 13 07:26	12°♈23'08					
min. Earth dist.	2322 Oct 02 19:55	11°♈23'04	45.34588 AU	conjunction	2331 Apr 11 00:30	20°♈17'53	-16°43'21
opposition	2322 Oct 05 05:12	11°♈20'15	-17°02'53	minimum elong	2331 Apr 11 00:33	20°♈17'53	16°43'20
direct	2322 Dec 25 08:20	10°♈18'48		max. Earth dist.	2331 Apr 13 04:55	20°♈21'02	48.44058 AU
				retrograde	2331 Jul 22 23:35	21°♈52'01	
conjunction	2323 Apr 02 12:55	11°♈51'20	-16°22'15	min. Earth dist.	2331 Oct 12 22:21	20°♈52'43	46.58987 AU
minimum elong	2323 Apr 02 12:52	11°♈51'20	16°22'15	opposition	2331 Oct 15 01:04	20°♈50'16	-17°26'29
max. Earth dist.	2323 Apr 05 00:06	11°♈54'58	47.33674 AU	direct	2332 Jan 04 07:41	19°♈49'58	
retrograde	2323 Jul 14 12:57	13°♈27'48					
min. Earth dist.	2323 Oct 04 03:57	12°♈27'51	45.49679 AU	conjunction	2332 Apr 11 07:40	21°♈19'52	-16°44'34
opposition	2323 Oct 06 13:18	12°♈25'02	-17°06'56	minimum elong	2332 Apr 11 07:41	21°♈19'52	16°44'34
direct	2323 Dec 26 17:01	11°♈23'42		max. Earth dist.	2332 Apr 13 11:26	21°♈22'57	48.56024 AU
				retrograde	2332 Jul 23 07:36	22°♈53'43	
conjunction	2324 Apr 02 20:46	12°♈55'53	-16°26'06	min. Earth dist.	2332 Oct 13 07:23	21°♈54'25	46.70716 AU
minimum elong	2324 Apr 02 20:46	12°♈55'53	16°26'06	opposition	2332 Oct 15 07:55	21°♈52'05	-17°27'30
max. Earth dist.	2324 Apr 05 06:44	12°♈59'27	47.48539 AU	direct	2333 Jan 04 13:49	20°♈51'52	
retrograde	2324 Jul 14 20:03	14°♈32'02					
min. Earth dist.	2324 Oct 04 12:54	13°♈32'08	45.64473 AU	conjunction	2333 Apr 12 14:38	22°♈21'30	-16°45'30
opposition	2324 Oct 06 21:13	13°♈29'22	-17°10'37	minimum elong	2333 Apr 12 14:41	22°♈21'30	16°45'30
direct	2324 Dec 27 02:08	12°♈28'10		max. Earth dist.	2333 Apr 14 17:07	22°♈24'31	48.67498 AU

retrograde	2333 Jul 24 14:10	23°♈55'04		retrograde	2341 Aug 01 13:28	1°♏55'52	
min. Earth dist.	2333 Oct 14 14:11	22°♈55'51 46.81962 AU		min. Earth dist.	2341 Oct 22 21:55	0°♏57'09 47.59654 AU	
opposition	2333 Oct 16 14:34	22°♈53'32 -17°28'13		opposition	2341 Oct 24 15:30	0°♏55'10 -17°22'54	
direct	2334 Jan 05 19:19	21°♈53'24			2341 Dec 25 12:51	30°♏♈	
				direct	2342 Jan 13 23:44	29°♈55'50	
conjunction	2334 Apr 13 21:11	23°♈22'47 -16°46'09			2342 Feb 02 05:02	0°♏	
minimum elong	2334 Apr 13 21:13	23°♈22'47 16°46'09					
max. Earth dist.	2334 Apr 15 22:16	23°♈25'42 48.78512 AU		conjunction	2342 Apr 21 23:31	1°♏23'36 -16°40'34	
retrograde	2334 Jul 25 20:05	24°♈56'05		minimum elong	2342 Apr 21 23:38	1°♏23'37 16°40'33	
min. Earth dist.	2334 Oct 15 22:29	23°♈56'52 46.92790 AU		max. Earth dist.	2342 Apr 23 18:38	1°♏26'07 49.54963 AU	
opposition	2334 Oct 17 21:15	23°♈54'37 -17°28'39		retrograde	2342 Aug 02 21:06	2°♏55'15	
direct	2335 Jan 07 02:22	22°♈54'35		min. Earth dist.	2342 Oct 24 05:45	1°♏56'31 47.67767 AU	
				opposition	2342 Oct 25 21:19	1°♏54'38 -17°20'55	
conjunction	2335 Apr 15 03:56	24°♈23'42 -16°46'31		direct	2343 Jan 15 05:34	0°♏55'24	
minimum elong	2335 Apr 15 04:00	24°♈23'43 16°46'31					
max. Earth dist.	2335 Apr 17 05:07	24°♈26'38 48.89143 AU		conjunction	2343 Apr 23 05:43	2°♏23'01 -16°38'36	
retrograde	2335 Jul 26 23:28	25°♈56'46		minimum elong	2343 Apr 23 05:48	2°♏23'01 16°38'36	
min. Earth dist.	2335 Oct 17 05:29	24°♈57'36 47.03246 AU		max. Earth dist.	2343 Apr 24 23:15	2°♏25'26 49.62865 AU	
opposition	2335 Oct 19 03:30	24°♈55'23 -17°28'46		retrograde	2343 Aug 04 05:14	3°♏54'27	
direct	2336 Jan 08 12:05	23°♈55'25		min. Earth dist.	2343 Oct 25 11:42	2°♏55'48 47.75367 AU	
				opposition	2343 Oct 27 02:49	2°♏53'57 -17°18'41	
conjunction	2336 Apr 15 10:24	25°♈24'19 -16°46'34		direct	2344 Jan 16 08:25	1°♏54'47	
minimum elong	2336 Apr 15 10:27	25°♈24'19 16°46'34					
max. Earth dist.	2336 Apr 17 09:41	25°♈27'07 48.99441 AU		conjunction	2344 Apr 23 11:46	3°♏22'14 -16°36'23	
retrograde	2336 Jul 27 07:38	26°♈57'07		minimum elong	2344 Apr 23 11:53	3°♏22'14 16°36'23	
min. Earth dist.	2336 Oct 17 11:59	25°♈58'02 47.13396 AU		max. Earth dist.	2344 Apr 25 03:30	3°♏24'32 49.70229 AU	
opposition	2336 Oct 19 09:45	25°♈55'50 -17°28'34		retrograde	2344 Aug 04 11:34	4°♏53'28	
direct	2337 Jan 08 18:00	24°♈55'58		min. Earth dist.	2344 Oct 25 19:28	3°♏54'48 47.82429 AU	
				opposition	2344 Oct 27 08:30	3°♏53'03 -17°16'12	
conjunction	2337 Apr 16 16:44	26°♈24'39 -16°46'19		direct	2345 Jan 16 12:31	2°♏53'56	
minimum elong	2337 Apr 16 16:49	26°♈24'39 16°46'19					
max. Earth dist.	2337 Apr 18 16:10	26°♈27'26 49.09439 AU		conjunction	2345 Apr 24 17:41	4°♏21'12 -16°33'57	
retrograde	2337 Jul 28 16:18	27°♈57'14		minimum elong	2345 Apr 24 17:47	4°♏21'12 16°33'57	
min. Earth dist.	2337 Oct 18 19:48	26°♈58'10 47.23250 AU		max. Earth dist.	2345 Apr 26 08:58	4°♏23'29 49.77072 AU	
opposition	2337 Oct 20 15:58	26°♈56'03 -17°28'03		retrograde	2345 Aug 05 13:15	5°♏52'15	
direct	2338 Jan 09 22:56	25°♈56'17		min. Earth dist.	2345 Oct 27 01:46	4°♏53'35 47.88967 AU	
				opposition	2345 Oct 28 13:56	4°♏51'52 -17°13'29	
conjunction	2338 Apr 17 23:03	27°♈24'45 -16°45'45		direct	2346 Jan 17 21:35	3°♏52'49	
minimum elong	2338 Apr 17 23:07	27°♈24'45 16°45'44					
max. Earth dist.	2338 Apr 19 21:34	27°♈27'29 49.19177 AU		conjunction	2346 Apr 25 23:27	5°♏19'53 -16°31'15	
retrograde	2338 Jul 29 22:14	28°♈57'07		minimum elong	2346 Apr 25 23:35	5°♏19'54 16°31'16	
min. Earth dist.	2338 Oct 20 01:24	27°♈58'10 47.32834 AU		max. Earth dist.	2346 Apr 27 12:32	5°♏22'02 49.83430 AU	
opposition	2338 Oct 21 21:56	27°♈56'03 -17°27'13		retrograde	2346 Aug 06 18:05	6°♏50'44	
direct	2339 Jan 11 03:16	26°♈56'23		min. Earth dist.	2346 Oct 28 07:56	5°♏52'05 47.95060 AU	
				opposition	2346 Oct 29 19:15	5°♏50'24 -17°10'30	
conjunction	2339 Apr 19 05:11	28°♈24'39 -16°44'53		direct	2347 Jan 19 04:37	4°♏51'23	
minimum elong	2339 Apr 19 05:15	28°♈24'40 16°44'53					
max. Earth dist.	2339 Apr 21 02:30	28°♈27'19 49.28631 AU		conjunction	2347 Apr 27 05:14	6°♏18'17 -16°28'19	
retrograde	2339 Jul 31 03:15	29°♈56'49		minimum elong	2347 Apr 27 05:19	6°♏18'17 16°28'19	
min. Earth dist.	2339 Oct 21 08:59	28°♈57'55 47.42127 AU		max. Earth dist.	2347 Apr 28 18:06	6°♏20'25 49.89359 AU	
opposition	2339 Oct 23 04:00	28°♈55'52 -17°26'04		retrograde	2347 Aug 08 00:40	7°♏48'56	
direct	2340 Jan 12 09:28	27°♈56'19		min. Earth dist.	2347 Oct 29 15:02	6°♏50'14 48.00742 AU	
				opposition	2347 Oct 31 00:33	6°♏48'39 -17°07'15	
conjunction	2340 Apr 19 11:27	29°♈24'26 -16°43'43		direct	2348 Jan 20 10:44	5°♏49'40	
minimum elong	2340 Apr 19 11:32	29°♈24'26 16°43'42					
max. Earth dist.	2340 Apr 21 08:52	29°♈27'05 49.37785 AU		conjunction	2348 Apr 27 10:54	7°♏16'24 -16°25'07	
	2340 May 15 10:49	0°♏		minimum elong	2348 Apr 27 11:02	7°♏16'24 16°25'07	
retrograde	2340 Jul 31 06:13	0°♏56'24		max. Earth dist.	2348 Apr 28 22:33	7°♏18'27 49.94920 AU	
	2340 Oct 19 12:45	30°♏♈		retrograde	2348 Aug 08 07:09	8°♏46'52	
min. Earth dist.	2340 Oct 21 15:28	29°♈57'35 47.51078 AU		min. Earth dist.	2348 Oct 29 19:51	7°♏48'13 48.06073 AU	
opposition	2340 Oct 23 09:42	29°♈55'34 -17°24'38		opposition	2348 Oct 31 05:29	7°♏46'38 -17°03'44	
direct	2341 Jan 12 18:14	28°♈56'08		direct	2349 Jan 20 14:07	6°♏47'41	
	2341 Apr 03 08:31	0°♏					
conjunction	2341 Apr 20 17:30	0°♏24'04 -16°42'16		conjunction	2349 Apr 28 16:23	8°♏14'16 -16°21'39	
minimum elong	2341 Apr 20 17:34	0°♏24'04 16°42'17		minimum elong	2349 Apr 28 16:30	8°♏14'16 16°21'38	
max. Earth dist.	2341 Apr 22 12:56	0°♏26'37 49.46584 AU		max. Earth dist.	2349 Apr 30 02:43	8°♏16'14 50.00146 AU	
				retrograde	2349 Aug 09 12:34	9°♏44'34	

min. Earth dist.	2349 Oct 31 02:37	8°8'45"54	48.11093 AU	max. Earth dist.	2357 May 07 13:43	15°8'55"20	50.28928 AU
opposition	2349 Nov 01 10:40	8°8'44"23	-16°59'57	retrograde	2357 Aug 17 05:11	17°8'23"19	
direct	2350 Jan 21 18:21	7°8'45"29		min. Earth dist.	2357 Nov 08 02:30	16°8'24"45	48.37496 AU
				opposition	2357 Nov 09 01:10	16°8'23"41	-16°20'23
conjunction	2350 Apr 29 21:51	9°8'11"56	-16°17'55	direct	2358 Jan 29 12:34	15°8'25"13	
minimum elong	2350 Apr 29 21:59	9°8'11"57	16°17'55				
max. Earth dist.	2350 May 01 08:22	9°8'13"55	50.05080 AU	conjunction	2358 May 07 17:13	16°8'51"00	-15°39'08
retrograde	2350 Aug 10 14:46	10°8'42"06		minimum elong	2358 May 07 17:21	16°8'51"01	15°39'08
min. Earth dist.	2350 Nov 01 08:03	9°8'43"28	48.15803 AU	max. Earth dist.	2358 May 08 17:21	16°8'52"23	50.30368 AU
opposition	2350 Nov 02 15:38	9°8'41"59	-16°55'53	retrograde	2358 Aug 18 12:32	18°8'20"20	
direct	2351 Jan 23 01:25	8°8'43"08		min. Earth dist.	2358 Nov 09 07:15	17°8'21"48	48.38602 AU
				opposition	2358 Nov 10 05:42	17°8'20"45	-16°14'24
conjunction	2351 May 01 03:16	10°8'09"28	-16°13'54	direct	2359 Jan 30 15:11	16°8'22"16	
minimum elong	2351 May 01 03:24	10°8'09"29	16°13'54				
max. Earth dist.	2351 May 02 11:49	10°8'11"21	50.09713 AU	conjunction	2359 May 08 22:28	17°8'47"59	-15°33'17
retrograde	2351 Aug 11 20:29	11°8'39"30		minimum elong	2359 May 08 22:39	17°8'47"59	15°33'17
opposition	2351 Nov 03 20:27	10°8'39"28	-16°51'32	max. Earth dist.	2359 May 09 21:03	17°8'49"15	50.31349 AU
min. Earth dist.	2351 Nov 02 13:31	10°8'40"55	48.20212 AU	retrograde	2359 Aug 19 17:48	19°8'17"12	
direct	2352 Jan 24 06:23	9°8'40"41		opposition	2359 Nov 11 10:09	18°8'17"37	-16°08'10
				min. Earth dist.	2359 Nov 10 13:45	18°8'18"34	48.39292 AU
conjunction	2352 May 01 08:48	11°8'06"56	-16°09'39	direct	2360 Jan 31 18:33	17°8'19"09	
minimum elong	2352 May 01 08:56	11°8'06"56	16°09'39				
max. Earth dist.	2352 May 02 17:10	11°8'08"47	50.14021 AU	conjunction	2360 May 09 03:46	18°8'44"47	-15°27'11
retrograde	2352 Aug 12 02:23	12°8'36"51		minimum elong	2360 May 09 03:55	18°8'44"47	15°27'11
min. Earth dist.	2352 Nov 02 20:11	11°8'38"17	48.24267 AU	max. Earth dist.	2360 May 10 02:13	18°8'46"03	50.31952 AU
opposition	2352 Nov 04 01:23	11°8'36"55	-16°46'56	retrograde	2360 Aug 19 19:19	20°8'13"53	
direct	2353 Jan 24 12:12	10°8'38"13		opposition	2360 Nov 11 14:32	19°8'14"20	-16°01'42
				min. Earth dist.	2360 Nov 10 18:34	19°8'15"16	48.39615 AU
conjunction	2353 May 02 14:06	12°8'04"22	-16°05'07	direct	2361 Feb 01 00:46	18°8'15"51	
minimum elong	2353 May 02 14:15	12°8'04"22	16°05'07				
max. Earth dist.	2353 May 03 21:15	12°8'06"09	50.17972 AU	conjunction	2361 May 10 08:41	19°8'41"26	-15°20'50
retrograde	2353 Aug 13 09:50	13°8'34"11		minimum elong	2361 May 10 08:51	19°8'41"26	15°20'51
min. Earth dist.	2353 Nov 04 01:07	12°8'35"42	48.27929 AU	max. Earth dist.	2361 May 11 05:11	19°8'42"36	50.32218 AU
opposition	2353 Nov 05 06:10	12°8'34"20	-16°42'05	retrograde	2361 Aug 20 23:18	21°8'10"27	
direct	2354 Jan 25 14:33	11°8'35"42		opposition	2361 Nov 12 18:59	20°8'10"54	-15°54'59
				min. Earth dist.	2361 Nov 11 23:42	20°8'11"48	48.39630 AU
conjunction	2354 May 03 19:32	13°8'01"48	-16°00'22	direct	2362 Feb 02 06:14	19°8'12"26	
minimum elong	2354 May 03 19:40	13°8'01"48	16°00'23				
max. Earth dist.	2354 May 05 01:01	13°8'03"29	50.21487 AU	conjunction	2362 May 11 13:50	20°8'37"57	-15°14'15
retrograde	2354 Aug 14 16:47	14°8'31"32		minimum elong	2362 May 11 14:00	20°8'37"58	15°14'15
min. Earth dist.	2354 Nov 05 08:12	13°8'33"01	48.31132 AU	max. Earth dist.	2362 May 12 10:13	20°8'39"07	50.32185 AU
opposition	2354 Nov 06 11:01	13°8'31"46	-16°36'59	retrograde	2362 Aug 22 03:22	22°8'06"55	
direct	2355 Jan 26 16:47	12°8'33"12		opposition	2362 Nov 13 23:20	21°8'07"23	-15°48'00
				min. Earth dist.	2362 Nov 13 05:29	21°8'08"13	48.39347 AU
conjunction	2355 May 05 01:08	13°8'59"13	-15°55'23	direct	2363 Feb 03 12:45	20°8'08"56	
minimum elong	2355 May 05 01:18	13°8'59"14	15°55'22				
max. Earth dist.	2355 May 06 06:02	14°8'00"52	50.24516 AU	conjunction	2363 May 12 18:57	21°8'34"24	-15°07'24
	2355 Jun 22 19:18	15°8'		minimum elong	2363 May 12 19:07	21°8'34"25	15°07'25
retrograde	2355 Aug 15 19:20	15°8'28"52		max. Earth dist.	2363 May 13 14:15	21°8'35"30	50.31877 AU
	2355 Oct 09 19:18	15°8'8'		retrograde	2363 Aug 23 10:26	23°8'03"18	
opposition	2355 Nov 07 15:46	14°8'29"09	-16°31'40	min. Earth dist.	2363 Nov 14 09:44	22°8'04"39	48.38775 AU
min. Earth dist.	2355 Nov 06 13:49	14°8'30"22	48.33797 AU	opposition	2363 Nov 15 03:37	22°8'03"49	-15°40'45
direct	2356 Jan 28 00:04	13°8'30"38		direct	2364 Feb 04 15:41	21°8'05"22	
conjunction	2356 May 05 06:33	14°8'56"36	-15°50'11	conjunction	2364 May 12 23:59	22°8'30"49	-15°00'19
minimum elong	2356 May 05 06:42	14°8'56"36	15°50'11	minimum elong	2364 May 13 00:09	22°8'30"50	15°00'18
max. Earth dist.	2356 May 06 08:52	14°8'58"06	50.26995 AU	max. Earth dist.	2364 May 13 17:51	22°8'31"50	50.31258 AU
	2356 May 07 18:15	15°8'		retrograde	2364 Aug 23 18:17	23°8'59"40	
retrograde	2356 Aug 15 23:20	16°8'26"08		opposition	2364 Nov 15 07:57	23°8'00"13	-15°33'15
opposition	2356 Nov 07 20:26	15°8'26"29	-16°26'08	min. Earth dist.	2364 Nov 14 15:53	23°8'00"58	48.37886 AU
min. Earth dist.	2356 Nov 06 19:50	15°8'27"38	48.35916 AU	direct	2365 Feb 04 16:37	22°8'01"47	
	2356 Dec 02 06:25	15°8'8'		evening set	2365 May 12 05:23	23°8'24"32	
direct	2357 Jan 28 06:35	14°8'28"00					
	2357 Mar 24 22:07	15°8'		conjunction	2365 May 14 05:08	23°8'27"14	-14°52'59
				minimum elong	2365 May 14 05:18	23°8'27"15	14°53'00
conjunction	2357 May 06 12:00	15°8'53"52	-15°44'46	max. Earth dist.	2365 May 14 22:52	23°8'28"14	50.30315 AU
minimum elong	2357 May 06 12:10	15°8'53"53	15°44'46	morning rise	2365 May 16 05:17	23°8'29"57	

retrograde	2365 Aug 24 21:28	24° 8 56'03		2372 May 19 05:23	0° II
opposition	2365 Nov 16 12:10	23° 8 56'38 -15°25'31			
min. Earth dist.	2365 Nov 15 20:38	23° 8 57'21 48.36630 AU	conjunction	2372 May 20 17:29	0° II 02'02 -13°55'33
direct	2366 Feb 05 21:50	22° 8 58'14	minimum elong	2372 May 20 17:41	0° II 02'03 13°55'33
evening set	2366 May 12 13:19	24° 8 19'47	max. Earth dist.	2372 May 21 01:36	0° II 02'30 50.10629 AU
			morning rise	2372 May 26 17:13	0° II 10'08
conjunction	2366 May 15 10:07	24° 8 23'40 -14°45'25	retrograde	2372 Aug 31 04:25	1° II 30'41
minimum elong	2366 May 15 10:18	24° 8 23'41 14°45'24	opposition	2372 Nov 22 17:56	0° II 31'18 -14°25'08
max. Earth dist.	2366 May 16 01:41	24° 8 24'33 50.28976 AU	min. Earth dist.	2372 Nov 22 11:40	0° II 31'36 48.14450 AU
morning rise	2366 May 18 07:25	24° 8 27'35		2372 Dec 22 01:41	30° R 8
retrograde	2366 Aug 26 00:58	25° 8 52'28	direct	2373 Feb 12 08:56	29° 8 32'46
opposition	2366 Nov 17 16:30	24° 8 53'05 -15°17'32		2373 Apr 04 15:24	0° II
min. Earth dist.	2366 Nov 17 02:16	24° 8 53'45 48.34949 AU	evening set	2373 May 15 14:20	0° II 49'43
direct	2367 Feb 07 03:20	23° 8 54'42			
evening set	2367 May 13 02:21	25° 8 15'20	conjunction	2373 May 21 22:36	0° II 58'17 -13°46'27
			minimum elong	2373 May 21 22:47	0° II 58'18 13°46'26
conjunction	2367 May 16 15:29	25° 8 20'09 -14°37'38	max. Earth dist.	2373 May 22 05:34	0° II 58'41 50.06109 AU
minimum elong	2367 May 16 15:39	25° 8 20'09 14°37'38	morning rise	2373 May 28 07:40	1° II 06'55
max. Earth dist.	2367 May 17 06:20	25° 8 20'59 50.27162 AU	retrograde	2373 Sep 01 10:52	2° II 26'57
morning rise	2367 May 20 05:06	25° 8 24'59	opposition	2373 Nov 23 22:03	1° II 27'33 -14°15'35
retrograde	2367 Aug 27 04:56	26° 8 48'55	min. Earth dist.	2373 Nov 23 15:45	1° II 27'51 48.09642 AU
opposition	2367 Nov 18 20:45	25° 8 49'33 -15°09'21	direct	2374 Feb 13 12:05	0° II 29'00
min. Earth dist.	2367 Nov 18 08:31	25° 8 50'08 48.32758 AU	evening set	2374 May 16 10:22	1° II 45'29
direct	2368 Feb 08 10:00	24° 8 51'10			
evening set	2368 May 12 17:53	26° 8 11'03	conjunction	2374 May 23 03:38	1° II 54'34 -13°37'07
			minimum elong	2374 May 23 03:50	1° II 54'35 13°37'07
conjunction	2368 May 16 20:47	26° 8 16'37 -14°29'38	max. Earth dist.	2374 May 23 09:09	1° II 54'53 50.01281 AU
minimum elong	2368 May 16 20:58	26° 8 16'38 14°29'38	morning rise	2374 May 29 21:50	2° II 03'42
max. Earth dist.	2368 May 17 09:50	26° 8 17'21 50.24839 AU	retrograde	2374 Sep 02 18:50	3° II 23'15
morning rise	2368 May 21 00:15	26° 8 22'14	opposition	2374 Nov 25 02:21	2° II 23'52 -14°05'46
retrograde	2368 Aug 27 11:56	27° 8 45'21	min. Earth dist.	2374 Nov 24 21:48	2° II 24'04 48.04540 AU
opposition	2368 Nov 19 01:01	26° 8 46'01 -15°00'57	direct	2375 Feb 14 13:11	1° II 25'17
min. Earth dist.	2368 Nov 18 13:11	26° 8 46'34 48.30038 AU	evening set	2375 May 17 07:00	2° II 41'21
direct	2369 Feb 08 13:05	25° 8 47'37			
evening set	2369 May 13 10:34	27° 8 06'48	conjunction	2375 May 24 08:57	2° II 50'55 -13°27'32
			minimum elong	2375 May 24 09:08	2° II 50'56 13°27'31
conjunction	2369 May 18 01:51	27° 8 13'04 -14°21'27	max. Earth dist.	2375 May 24 14:26	2° II 51'14 49.96175 AU
minimum elong	2369 May 18 02:01	27° 8 13'04 14°21'27	morning rise	2375 May 31 11:43	3° II 00'33
max. Earth dist.	2369 May 18 13:02	27° 8 13'42 50.21975 AU	retrograde	2375 Sep 03 22:48	4° II 19'38
morning rise	2369 May 22 17:46	27° 8 19'22	opposition	2375 Nov 26 06:25	3° II 20'15 -13°55'43
retrograde	2369 Aug 28 18:02	28° 8 41'46	min. Earth dist.	2375 Nov 26 02:06	3° II 20'27 47.99144 AU
opposition	2369 Nov 20 05:26	27° 8 42'25 -14°52'20	direct	2376 Feb 15 17:23	2° II 21'40
min. Earth dist.	2369 Nov 19 19:53	27° 8 42'52 48.26797 AU	evening set	2376 May 17 03:56	3° II 37'21
direct	2370 Feb 09 15:57	26° 8 44'00			
evening set	2370 May 14 04:36	28° 8 02'32	conjunction	2376 May 24 14:06	3° II 47'23 -13°17'42
			minimum elong	2376 May 24 14:17	3° II 47'24 13°17'43
conjunction	2370 May 19 07:09	28° 8 09'27 -14°13'02	max. Earth dist.	2376 May 24 17:36	3° II 47'35 49.90775 AU
minimum elong	2370 May 19 07:21	28° 8 09'28 14°13'02	morning rise	2376 Jun 01 01:16	3° II 57'29
max. Earth dist.	2370 May 19 17:56	28° 8 10'03 50.18623 AU	retrograde	2376 Sep 04 02:44	5° II 16'09
morning rise	2370 May 24 10:22	28° 8 16'23	opposition	2376 Nov 26 10:42	4° II 16'47 -13°45'24
retrograde	2370 Aug 29 20:52	29° 8 38'07	min. Earth dist.	2376 Nov 26 07:29	4° II 16'56 47.93450 AU
opposition	2370 Nov 21 09:33	28° 8 38'46 -14°43'30	direct	2377 Feb 15 22:20	3° II 18'12
min. Earth dist.	2370 Nov 21 00:39	28° 8 39'11 48.23079 AU	evening set	2377 May 18 00:58	4° II 33'31
direct	2371 Feb 10 21:26	27° 8 40'18			
evening set	2371 May 14 23:17	28° 8 58'16	conjunction	2377 May 25 19:16	4° II 44'01 -13°07'39
			minimum elong	2377 May 25 19:29	4° II 44'02 13°07'38
conjunction	2371 May 20 12:18	29° 8 05'46 -14°04'24	max. Earth dist.	2377 May 25 22:29	4° II 44'12 49.85044 AU
minimum elong	2371 May 20 12:28	29° 8 05'47 14°04'24	morning rise	2377 Jun 02 14:32	4° II 54'34
max. Earth dist.	2371 May 20 20:42	29° 8 06'15 50.14824 AU	retrograde	2377 Sep 05 05:44	6° II 12'52
morning rise	2371 May 26 02:03	29° 8 13'18	opposition	2377 Nov 27 15:03	5° II 13'30 -13°34'51
	2371 Jul 02 13:38	0° II	min. Earth dist.	2377 Nov 27 13:21	5° II 13'35 47.87390 AU
retrograde	2371 Aug 31 00:51	0° II 34'25	direct	2378 Feb 17 05:46	4° II 14'54
	2371 Oct 30 15:27	30° R 8	evening set	2378 May 18 22:40	5° II 29'53
opposition	2371 Nov 22 13:46	29° 8 35'03 -14°34'26			
min. Earth dist.	2371 Nov 22 05:59	29° 8 35'25 48.18952 AU	conjunction	2378 May 27 00:40	5° II 40'49 -12°57'21
direct	2372 Feb 12 02:42	28° 8 36'33	minimum elong	2378 May 27 00:51	5° II 40'50 12°57'22
evening set	2372 May 14 18:32	29° 8 53'59	max. Earth dist.	2378 May 27 02:25	5° II 40'55 49.78934 AU

morning rise	2378 Jun 04 03:40	5°II51'50	conjunction	2385 Jun 02 15:45	12°II21'07 -11°39'16
retrograde	2378 Sep 06 13:21	7°II09'45	minimum elong	2385 Jun 02 15:58	12°II21'07 11°39'16
opposition	2378 Nov 28 19:13	6°II10'24 -13°24'04	max. Earth dist.	2385 Jun 02 08:14	12°II20'41 49.22344 AU
min. Earth dist.	2378 Nov 28 17:59	6°II10'28 47.80911 AU	morning rise	2385 Jun 12 19:36	12°II34'56
direct	2379 Feb 18 08:48	5°II11'47	retrograde	2385 Sep 13 03:17	13°II50'29
evening set	2379 May 19 20:37	6°II26'27	opposition	2385 Dec 05 02:16	12°II50'48 -12°02'21
			min. Earth dist.	2385 Dec 05 09:57	12°II50'26 47.21695 AU
conjunction	2379 May 28 06:11	6°II37'49 -12°46'50	direct	2386 Feb 24 15:16	11°II51'39
minimum elong	2379 May 28 06:23	6°II37'49 12°46'50	evening set	2386 May 24 12:35	13°II04'20
max. Earth dist.	2379 May 28 06:00	6°II37'48 49.72348 AU			
morning rise	2379 Jun 05 16:54	6°II49'15	conjunction	2386 Jun 03 21:25	13°II18'26 -11°27'12
retrograde	2379 Sep 07 21:02	8°II06'49	minimum elong	2386 Jun 03 21:37	13°II18'26 11°27'12
opposition	2379 Nov 29 23:42	7°II07'28 -13°13'04	max. Earth dist.	2386 Jun 03 11:50	13°II17'53 49.12624 AU
min. Earth dist.	2379 Nov 30 00:52	7°II07'24 47.73929 AU	morning rise	2386 Jun 14 07:41	13°II32'37
direct	2380 Feb 19 10:31	6°II08'48	retrograde	2386 Sep 14 08:45	14°II47'54
evening set	2380 May 19 18:51	7°II23'09	opposition	2386 Dec 06 06:46	13°II48'10 -11°49'43
			min. Earth dist.	2386 Dec 06 15:36	13°II47'44 47.11685 AU
conjunction	2380 May 28 11:47	7°II34'56 -12°36'07	direct	2387 Feb 25 19:38	12°II48'55
minimum elong	2380 May 28 11:58	7°II34'57 12°36'07	evening set	2387 May 25 12:11	14°II01'24
max. Earth dist.	2380 May 28 10:54	7°II34'53 49.65241 AU			
morning rise	2380 Jun 06 05:42	7°II46'48	conjunction	2387 Jun 05 03:20	14°II15'51 -11°14'53
retrograde	2380 Sep 08 01:26	9°II03'59	minimum elong	2387 Jun 05 03:31	14°II15'52 11°14'54
opposition	2380 Nov 30 04:02	8°II04'37 -13°01'51	max. Earth dist.	2387 Jun 04 17:24	14°II15'17 49.02608 AU
min. Earth dist.	2380 Nov 30 05:56	8°II04'32 47.66398 AU	morning rise	2387 Jun 15 19:42	14°II30'24
direct	2381 Feb 19 15:31	7°II05'54	retrograde	2387 Sep 15 11:10	15°II45'27
evening set	2381 May 20 17:23	8°II19'57	opposition	2387 Dec 07 11:27	14°II45'39 -11°36'49
			min. Earth dist.	2387 Dec 07 21:30	14°II45'11 47.01376 AU
conjunction	2381 May 29 17:17	8°II32'09 -12°25'11	direct	2388 Feb 27 03:23	13°II46'21
minimum elong	2381 May 29 17:30	8°II32'09 12°25'11	evening set	2388 May 25 12:04	14°II58'38
max. Earth dist.	2381 May 29 13:45	8°II31'57 49.57595 AU			
morning rise	2381 Jun 07 18:27	8°II44'24	conjunction	2388 Jun 05 09:06	15°II13'27 -11°02'20
retrograde	2381 Sep 09 05:33	10°II01'15	minimum elong	2388 Jun 05 09:18	15°II13'28 11°02'19
opposition	2381 Dec 01 08:30	9°II01'50 -12°50'24	max. Earth dist.	2388 Jun 04 22:02	15°II12'49 48.92312 AU
min. Earth dist.	2381 Dec 01 11:51	9°II01'40 47.58346 AU	morning rise	2388 Jun 16 07:27	15°II28'22
direct	2382 Feb 20 20:45	8°II03'02	retrograde	2388 Sep 15 17:32	16°II43'12
evening set	2382 May 21 15:55	9°II16'47	opposition	2388 Dec 07 16:02	15°II43'22 -11°23'40
			min. Earth dist.	2388 Dec 08 02:11	15°II42'53 46.90774 AU
conjunction	2382 May 30 22:54	9°II29'23 -12°14'03	direct	2389 Feb 27 07:45	14°II43'59
minimum elong	2382 May 30 23:05	9°II29'23 12°14'02	evening set	2389 May 26 12:05	15°II56'07
max. Earth dist.	2382 May 30 18:41	9°II29'08 49.49429 AU			
morning rise	2382 Jun 09 07:00	9°II42'02	conjunction	2389 Jun 06 15:01	16°II11'18 -10°49'32
retrograde	2382 Sep 10 08:27	10°II58'33	minimum elong	2389 Jun 06 15:12	16°II11'18 10°49'32
opposition	2382 Dec 02 12:58	9°II59'04 -12°38'45	max. Earth dist.	2389 Jun 06 02:23	16°II10'34 48.81694 AU
min. Earth dist.	2382 Dec 02 18:07	9°II58'49 47.49787 AU	morning rise	2389 Jun 17 19:22	16°II26'34
direct	2383 Feb 22 03:47	9°II00'11	retrograde	2389 Sep 17 01:57	17°II41'13
evening set	2383 May 22 14:56	10°II13'38	opposition	2389 Dec 08 20:51	16°II41'21 -11°10'16
			min. Earth dist.	2389 Dec 09 09:06	16°II40'46 46.79838 AU
conjunction	2383 Jun 01 04:33	10°II26'37 -12°02'41	direct	2390 Feb 28 09:45	15°II41'54
minimum elong	2383 Jun 01 04:45	10°II26'37 12°02'41	evening set	2390 May 27 12:22	16°II53'53
max. Earth dist.	2383 May 31 22:49	10°II26'17 49.40800 AU			
morning rise	2383 Jun 10 19:22	10°II39'40	conjunction	2390 Jun 07 21:08	17°II09'25 -10°36'29
retrograde	2383 Sep 11 13:52	11°II55'50	minimum elong	2390 Jun 07 21:20	17°II09'26 10°36'28
opposition	2383 Dec 03 17:13	10°II56'18 -12°26'52	max. Earth dist.	2390 Jun 07 08:11	17°II08'41 48.70717 AU
min. Earth dist.	2383 Dec 03 22:45	10°II56'02 47.40793 AU	morning rise	2390 Jun 19 07:07	17°II25'03
direct	2384 Feb 23 08:54	9°II57'19	retrograde	2390 Sep 18 07:48	18°II39'31
evening set	2384 May 22 13:59	11°II10'29	opposition	2390 Dec 10 01:37	17°II39'37 -10°56'37
			min. Earth dist.	2390 Dec 10 14:22	17°II39'00 46.68491 AU
conjunction	2384 Jun 01 10:11	11°II23'51 -11°51'06	direct	2391 Mar 01 14:44	16°II40'06
minimum elong	2384 Jun 01 10:22	11°II23'51 11°51'05	evening set	2391 May 28 13:09	17°II51'59
max. Earth dist.	2384 Jun 01 02:40	11°II23'25 49.31747 AU	max. Earth dist.	2391 Jun 08 11:49	18°II06'58 48.59291 AU
morning rise	2384 Jun 11 07:43	11°II37'18			
retrograde	2384 Sep 11 21:48	12°II53'09	conjunction	2391 Jun 09 03:22	18°II07'52 -10°23'12
opposition	2384 Dec 03 21:47	11°II53'32 -12°14'44	minimum elong	2391 Jun 09 03:33	18°II07'52 10°23'12
min. Earth dist.	2384 Dec 04 05:15	11°II53'11 47.31414 AU	morning rise	2391 Jun 20 19:06	18°II23'50
direct	2385 Feb 23 11:27	10°II54'28	retrograde	2391 Sep 19 13:50	19°II38'07
evening set	2385 May 23 13:03	12°II07'22	opposition	2391 Dec 11 06:29	18°II38'11 -10°42'44
			min. Earth dist.	2391 Dec 11 20:55	18°II37'29 46.56676 AU

direct	2392 Mar 01 19:34	17° Π 38'35	retrograde	2398 Sep 26 07:05	26° Π 34'53
evening set	2392 May 28 14:00	18° Π 50'22	opposition	2398 Dec 17 19:02	25° Π 34'15 -8°58'46
			min. Earth dist.	2398 Dec 18 16:57	25° Π 33'11 45.61229 AU
conjunction	2392 Jun 09 09:50	19° Π 06'35 -10°09'42	direct	2399 Mar 09 11:59	24° Π 33'45
minimum elong	2392 Jun 09 10:02	19° Π 06'36 10°09'42	evening set	2399 Jun 04 01:42	25° Π 44'58
max. Earth dist.	2392 Jun 08 17:31	19° Π 05'39 48.47361 AU	max. Earth dist.	2399 Jun 16 06:39	26° Π 01'56 47.51593 AU
morning rise	2392 Jun 21 06:57	19° Π 22'53			
retrograde	2392 Sep 19 17:46	20° Π 37'02	conjunction	2399 Jun 17 08:16	26° Π 03'26 -8°28'39
opposition	2392 Dec 11 11:37	19° Π 37'01 -10°28'37	minimum elong	2399 Jun 17 08:26	26° Π 03'27 8°28'38
min. Earth dist.	2392 Dec 12 03:44	19° Π 36'15 46.44336 AU	morning rise	2399 Jun 30 16:14	26° Π 21'59
direct	2393 Mar 03 02:59	18° Π 37'21	retrograde	2399 Sep 27 15:37	27° Π 35'18
evening set	2393 May 29 15:00	19° Π 49'00	opposition	2399 Dec 19 00:37	26° Π 34'34 -8°42'51
			min. Earth dist.	2399 Dec 20 00:21	26° Π 33'24 45.46301 AU
conjunction	2393 Jun 10 16:06	20° Π 05'33 -9°55'59	direct	2400 Mar 09 15:47	25° Π 33'56
minimum elong	2393 Jun 10 16:17	20° Π 05'33 9°55'59	evening set	2400 Jun 04 04:14	26° Π 45'08
max. Earth dist.	2393 Jun 09 22:02	20° Π 04'30 48.34923 AU			
morning rise	2393 Jun 22 18:35	20° Π 22'11	conjunction	2400 Jun 17 15:23	27° Π 03'54 -8°13'13
retrograde	2393 Sep 20 23:49	21° Π 36'11	minimum elong	2400 Jun 17 15:33	27° Π 03'55 8°13'13
opposition	2393 Dec 12 16:42	20° Π 36'06 -10°14'16	max. Earth dist.	2400 Jun 16 13:41	27° Π 02'24 47.36686 AU
min. Earth dist.	2393 Dec 13 09:23	20° Π 35'18 46.31493 AU	morning rise	2400 Jul 01 03:41	27° Π 22'46
direct	2394 Mar 04 08:38	19° Π 36'18	retrograde	2400 Sep 27 23:06	28° Π 36'02
evening set	2394 May 30 16:19	20° Π 47'50	opposition	2400 Dec 19 06:18	27° Π 35'12 -8°26'41
			min. Earth dist.	2400 Dec 20 05:58	27° Π 34'03 45.31123 AU
conjunction	2394 Jun 11 22:39	21° Π 04'43 -9°42'02	direct	2401 Mar 10 20:42	26° Π 34'26
minimum elong	2394 Jun 11 22:50	21° Π 04'44 9°42'03	evening set	2401 Jun 05 07:02	27° Π 45'39
max. Earth dist.	2394 Jun 11 02:35	21° Π 03'34 48.21976 AU			
morning rise	2394 Jun 24 06:26	21° Π 21'42	conjunction	2401 Jun 18 22:23	28° Π 04'44 -7°57'30
retrograde	2394 Sep 22 08:13	22° Π 35'33	minimum elong	2401 Jun 18 22:33	28° Π 04'44 7°57'30
opposition	2394 Dec 13 21:51	21° Π 35'22 -9°59'41	max. Earth dist.	2401 Jun 17 18:40	28° Π 03'06 47.21514 AU
min. Earth dist.	2394 Dec 14 16:46	21° Π 34'27 46.18170 AU	morning rise	2401 Jul 02 15:12	28° Π 23'54
direct	2395 Mar 05 12:08	20° Π 35'26	retrograde	2401 Sep 29 08:22	29° Π 37'08
evening set	2395 May 31 17:49	21° Π 46'52	opposition	2401 Dec 20 12:12	28° Π 36'12 -8°10'13
max. Earth dist.	2395 Jun 12 08:53	22° Π 02'54 48.08585 AU	min. Earth dist.	2401 Dec 21 13:18	28° Π 34'59 45.15666 AU
			direct	2402 Mar 12 00:41	27° Π 35'19
conjunction	2395 Jun 13 05:20	22° Π 04'05 -9°27'51	evening set	2402 Jun 06 10:11	28° Π 46'35
minimum elong	2395 Jun 13 05:31	22° Π 04'06 9°27'51	max. Earth dist.	2402 Jun 19 01:52	29° Π 04'18 47.06016 AU
morning rise	2395 Jun 25 18:05	22° Π 21'23			
retrograde	2395 Sep 23 16:06	23° Π 35'05	conjunction	2402 Jun 20 05:56	29° Π 05'57 -7°41'33
opposition	2395 Dec 15 03:01	22° Π 34'48 -9°44'51	minimum elong	2402 Jun 20 06:06	29° Π 05'58 7°41'33
min. Earth dist.	2395 Dec 15 22:19	22° Π 33'52 46.04423 AU	morning rise	2402 Jul 04 02:49	29° Π 25'25
direct	2396 Mar 05 15:39	21° Π 34'44		2402 Jul 30 23:43	0° \mathfrak{G}
evening set	2396 May 31 19:29	22° Π 46'06	retrograde	2402 Sep 30 14:05	0° \mathfrak{G} 38'38
				2402 Dec 02 05:20	30° \mathfrak{R} Π
conjunction	2396 Jun 13 11:48	23° Π 03'37 -9°13'26	opposition	2402 Dec 21 18:07	29° Π 37'37 -7°53'30
minimum elong	2396 Jun 13 12:00	23° Π 03'38 9°13'26	min. Earth dist.	2402 Dec 22 20:39	29° Π 36'19 44.99846 AU
max. Earth dist.	2396 Jun 12 13:07	23° Π 02'18 47.94795 AU	direct	2403 Mar 13 08:36	28° Π 36'36
morning rise	2396 Jun 26 05:40	23° Π 21'15	evening set	2403 Jun 07 13:52	29° Π 47'55
retrograde	2396 Sep 23 23:26	24° Π 34'49		2403 Jun 16 05:03	0° \mathfrak{G}
opposition	2396 Dec 15 08:17	23° Π 34'25 -9°29'45	max. Earth dist.	2403 Jun 20 07:45	0° \mathfrak{G} 05'50 46.90130 AU
min. Earth dist.	2396 Dec 16 04:59	23° Π 33'25 45.90321 AU			
direct	2397 Mar 06 20:04	22° Π 34'12	conjunction	2403 Jun 21 13:37	0° \mathfrak{G} 07'35 -7°25'20
evening set	2397 Jun 01 21:14	23° Π 45'30	minimum elong	2403 Jun 21 13:46	0° \mathfrak{G} 07'36 7°25'20
			morning rise	2403 Jul 05 14:38	0° \mathfrak{G} 27'22
conjunction	2397 Jun 14 18:33	24° Π 03'20 -8°58'46	retrograde	2403 Oct 01 20:39	1° \mathfrak{G} 40'35
minimum elong	2397 Jun 14 18:44	24° Π 03'21 8°58'45	opposition	2403 Dec 23 00:14	0° \mathfrak{G} 39'27 -7°36'31
max. Earth dist.	2397 Jun 13 19:32	24° Π 02'00 47.80668 AU	min. Earth dist.	2403 Dec 24 03:25	0° \mathfrak{G} 38'07 44.83607 AU
morning rise	2397 Jun 27 17:07	24° Π 21'17		2404 Jan 28 09:34	30° \mathfrak{R} Π
retrograde	2397 Sep 25 01:39	25° Π 34'44	direct	2404 Mar 13 15:25	29° Π 38'17
opposition	2397 Dec 16 13:38	24° Π 34'13 -9°14'23		2404 Apr 27 08:07	0° \mathfrak{G}
min. Earth dist.	2397 Dec 17 11:23	24° Π 33'10 45.75905 AU	evening set	2404 Jun 07 17:40	0° \mathfrak{G} 49'40
direct	2398 Mar 08 05:02	23° Π 33'52			
evening set	2398 Jun 02 23:19	24° Π 45'07	conjunction	2404 Jun 21 21:22	1° \mathfrak{G} 09'38 -7°08'53
max. Earth dist.	2398 Jun 15 01:07	25° Π 01'51 47.66266 AU	minimum elong	2404 Jun 21 21:31	1° \mathfrak{G} 09'38 7°08'53
			max. Earth dist.	2404 Jun 20 13:36	1° \mathfrak{G} 07'45 46.73773 AU
conjunction	2398 Jun 16 01:18	25° Π 03'16 -8°43'50	morning rise	2404 Jul 06 02:19	1° \mathfrak{G} 29'41
minimum elong	2398 Jun 16 01:28	25° Π 03'16 8°43'50	retrograde	2404 Oct 02 04:11	2° \mathfrak{G} 42'56
morning rise	2398 Jun 29 04:38	25° Π 21'31	opposition	2404 Dec 23 06:39	1° \mathfrak{G} 41'41 -7°19'17

min. Earth dist.	2404 Dec 24 12:05	1°☾40'14	44.66884 AU	morning rise	2411 Jul 15 13:09	8°☾56'13	
direct	2405 Mar 14 21:43	0°☾40'21		retrograde	2411 Oct 10 17:13	10°☾09'59	
evening set	2405 Jun 08 21:47	1°☾51'48		opposition	2411 Dec 31 06:48	9°☾07'37	-5°11'05
max. Earth dist.	2405 Jun 21 21:02	2°☾10'07	46.56943 AU	min. Earth dist.	2412 Jan 01 19:25	9°☾05'47	43.38731 AU
				direct	2412 Mar 21 18:37	8°☾04'55	
conjunction	2405 Jun 23 05:25	2°☾12'03	-6°52'11	evening set	2412 Jun 15 10:55	9°☾17'22	
minimum elong	2405 Jun 23 05:34	2°☾12'03	6°52'11	max. Earth dist.	2412 Jun 29 00:53	9°☾37'03	45.28435 AU
morning rise	2405 Jul 07 14:04	2°☾32'24					
retrograde	2405 Oct 03 13:23	3°☾45'40		conjunction	2412 Jun 30 17:34	9°☾39'31	-4°48'09
opposition	2405 Dec 24 13:01	2°☾44'16	-7°01'47	minimum elong	2412 Jun 30 17:40	9°☾39'32	4°48'09
min. Earth dist.	2405 Dec 25 18:54	2°☾42'47	44.49683 AU	morning rise	2412 Jul 16 00:51	10°☾01'45	
direct	2406 Mar 16 02:50	1°☾42'45		retrograde	2412 Oct 11 02:02	11°☾15'41	
evening set	2406 Jun 10 02:17	2°☾54'17		opposition	2412 Dec 31 14:27	10°☾13'10	-4°51'39
max. Earth dist.	2406 Jun 23 02:28	3°☾12'44	46.39636 AU	min. Earth dist.	2413 Jan 02 03:40	10°☾11'18	43.19332 AU
				direct	2413 Mar 23 03:21	9°☾10'17	
conjunction	2406 Jun 24 13:30	3°☾14'49	-6°35'14	evening set	2413 Jun 16 17:39	10°☾22'59	
minimum elong	2406 Jun 24 13:38	3°☾14'50	6°35'14	max. Earth dist.	2413 Jun 30 08:34	10°☾42'49	45.09026 AU
morning rise	2406 Jul 09 02:01	3°☾35'27					
retrograde	2406 Oct 04 23:31	4°☾48'45		conjunction	2413 Jul 02 02:51	10°☾45'24	-4°29'22
opposition	2406 Dec 25 19:39	3°☾47'12	-6°44'02	minimum elong	2413 Jul 02 02:58	10°☾45'25	4°29'23
min. Earth dist.	2406 Dec 27 03:25	3°☾45'38	44.32032 AU	morning rise	2413 Jul 17 12:56	11°☾07'54	
direct	2407 Mar 17 07:25	2°☾45'29		retrograde	2413 Oct 12 11:42	12°☾22'01	
evening set	2407 Jun 11 06:58	3°☾57'07		opposition	2414 Jan 01 22:09	11°☾19'22	-4°31'55
max. Earth dist.	2407 Jun 24 10:20	4°☾15'49	46.21887 AU	min. Earth dist.	2414 Jan 03 11:59	11°☾17'27	42.99699 AU
				direct	2414 Mar 24 11:03	10°☾16'18	
conjunction	2407 Jun 25 21:54	4°☾17'56	-6°18'03	evening set	2414 Jun 18 00:45	11°☾29'16	
minimum elong	2407 Jun 25 22:03	4°☾17'57	6°18'03	max. Earth dist.	2414 Jul 01 17:00	11°☾49'16	44.89325 AU
morning rise	2407 Jul 10 13:46	4°☾38'50					
retrograde	2407 Oct 06 05:25	5°☾52'11		conjunction	2414 Jul 03 12:34	11°☾51'57	-4°10'19
opposition	2407 Dec 27 02:19	4°☾50'28	-6°26'00	minimum elong	2414 Jul 03 12:40	11°☾51'57	4°10'18
min. Earth dist.	2407 Dec 28 11:11	4°☾48'50	44.13963 AU	morning rise	2414 Jul 19 01:03	12°☾14'42	
direct	2408 Mar 17 16:25	3°☾48'34		retrograde	2414 Oct 13 18:52	13°☾29'02	
evening set	2408 Jun 11 12:02	5°☾00'19		opposition	2415 Jan 03 06:16	12°☾26'14	-4°11'53
max. Earth dist.	2408 Jun 24 17:07	5°☾19'10	46.03765 AU	min. Earth dist.	2415 Jan 04 22:02	12°☾24'13	42.79744 AU
				direct	2415 Mar 25 20:24	11°☾22'59	
conjunction	2408 Jun 26 06:16	5°☾21'24	-6°00'36	evening set	2415 Jun 19 08:22	12°☾36'14	
minimum elong	2408 Jun 26 06:24	5°☾21'25	6°00'35	max. Earth dist.	2415 Jul 03 02:20	12°☾56'25	44.69275 AU
morning rise	2408 Jul 11 01:38	5°☾42'35					
retrograde	2408 Oct 06 12:11	6°☾55'59		conjunction	2415 Jul 04 22:34	12°☾59'10	-3°51'00
opposition	2408 Dec 27 09:08	5°☾54'06	-6°07'42	minimum elong	2415 Jul 04 22:40	12°☾59'10	3°51'00
min. Earth dist.	2408 Dec 28 18:31	5°☾52'26	43.95560 AU	morning rise	2415 Jul 20 13:18	13°☾22'09	
direct	2409 Mar 19 00:49	4°☾52'00		retrograde	2415 Oct 15 05:11	14°☾36'45	
evening set	2409 Jun 12 17:09	6°☾03'52		opposition	2416 Jan 04 14:25	13°☾33'47	-3°51'35
max. Earth dist.	2409 Jun 26 00:15	6°☾22'55	45.85310 AU	min. Earth dist.	2416 Jan 06 06:35	13°☾31'44	42.59407 AU
				direct	2416 Mar 26 03:36	12°☾30'18	
conjunction	2409 Jun 27 14:43	6°☾25'14	-5°42'53	evening set	2416 Jun 19 16:32	13°☾43'53	
minimum elong	2409 Jun 27 14:51	6°☾25'15	5°42'53	max. Earth dist.	2416 Jul 03 09:58	14°☾04'08	44.48801 AU
morning rise	2409 Jul 12 13:19	6°☾46'41					
retrograde	2409 Oct 07 20:19	8°☾00'11		conjunction	2416 Jul 05 08:47	14°☾07'03	-3°31'25
opposition	2409 Dec 28 16:16	6°☾58'09	-5°49'07	minimum elong	2416 Jul 05 08:53	14°☾07'03	3°31'24
min. Earth dist.	2409 Dec 30 03:30	6°☾56'23	43.76855 AU	morning rise	2416 Jul 21 01:44	14°☾30'17	
direct	2410 Mar 20 07:32	5°☾55'50		retrograde	2416 Oct 15 18:20	15°☾45'07	
evening set	2410 Jun 13 22:45	7°☾07'52		opposition	2417 Jan 04 23:04	14°☾41'59	-3°31'01
max. Earth dist.	2410 Jun 27 08:48	7°☾27'09	45.66588 AU	min. Earth dist.	2417 Jan 06 17:22	14°☾39'49	42.38642 AU
				direct	2417 Mar 27 08:03	13°☾38'16	
conjunction	2410 Jun 28 23:33	7°☾29'30	-5°24'54	evening set	2417 Jun 21 00:49	14°☾52'09	
minimum elong	2410 Jun 28 23:40	7°☾29'31	5°24'54	max. Earth dist.	2417 Jul 04 19:57	15°☾12'36	44.27882 AU
morning rise	2410 Jul 14 01:09	7°☾51'13					
retrograde	2410 Oct 09 05:23	9°☾04'50		conjunction	2417 Jul 06 19:17	15°☾15'34	-3°11'35
opposition	2410 Dec 29 23:19	8°☾02'38	-5°30'15	minimum elong	2417 Jul 06 19:22	15°☾15'34	3°11'35
min. Earth dist.	2410 Dec 31 10:26	8°☾00'52	43.57902 AU	morning rise	2417 Jul 22 14:03	15°☾39'01	
direct	2411 Mar 21 13:49	7°☾00'07		retrograde	2417 Oct 17 04:39	16°☾54'07	
evening set	2411 Jun 15 04:49	8°☾12'21		opposition	2418 Jan 06 07:54	15°☾50'46	-3°10'09
max. Earth dist.	2411 Jun 28 15:41	8°☾31'46	45.47622 AU	min. Earth dist.	2418 Jan 08 03:04	15°☾48'33	42.17420 AU
				direct	2418 Mar 28 17:54	14°☾46'48	
conjunction	2411 Jun 30 08:28	8°☾34'14	-5°06'40	evening set	2418 Jun 22 09:52	16°☾01'01	
minimum elong	2411 Jun 30 08:35	8°☾34'15	5°06'41	max. Earth dist.	2418 Jul 06 04:31	16°☾21'33	44.06522 AU

conjunction	2418 Jul 08 06:03	16°☾24'39 -2°51'29	evening set	2425 Jun 30 12:36	24°☾19'46	
minimum elong	2418 Jul 08 06:08	16°☾24'40 2°51'29	max. Earth dist.	2425 Jul 14 08:07	24°☾41'09	42.48681 AU
morning rise	2418 Jul 24 02:46	16°☾48'21				
retrograde	2418 Oct 18 15:49	18°☾03'42	conjunction	2425 Jul 16 16:24	24°☾44'49 -0°23'29	
opposition	2419 Jan 07 16:48	17°☾00'07 -2°49'01	minimum elong	2425 Jul 16 16:25	24°☾44'49 0°23'29	
min. Earth dist.	2419 Jan 09 13:08	16°☾57'50 41.95786 AU	morning rise	2425 Aug 01 19:59	25°☾09'53	
direct	2419 Mar 30 04:03	15°☾55'53	retrograde	2425 Oct 26 23:46	26°☾27'51	
evening set	2419 Jun 23 19:14	17°☾10'27	opposition	2426 Jan 15 15:04	25°☾22'32 -0°13'03	
max. Earth dist.	2419 Jul 07 14:21	17°☾31'06 43.84744 AU	min. Earth dist.	2426 Jan 17 17:10	25°☾19'51 40.36937 AU	
			direct	2426 Apr 07 02:50	24°☾16'14	
conjunction	2419 Jul 09 17:10	17°☾34'18 -2°31'08	evening set	2426 Jul 02 01:33	25°☾34'03	
minimum elong	2419 Jul 09 17:14	17°☾34'19 2°31'08	max. Earth dist.	2426 Jul 15 19:27	25°☾55'28 42.25398 AU	
morning rise	2419 Jul 25 15:21	17°☾58'13				
retrograde	2419 Oct 20 00:56	19°☾13'51	conjunction	2426 Jul 18 05:32	25°☾59'16 -0°01'20	
opposition	2420 Jan 09 02:08	18°☾10'01 -2°27'35	minimum elong	2426 Jul 18 05:32	25°☾59'16 0°01'21	
min. Earth dist.	2420 Jan 11 00:19	18°☾07'38 41.73769 AU	behind sun begin	2426 Jul 17 23:00	25°☾58'52	
direct	2420 Mar 30 15:11	17°☾05'30	behind sun end	2426 Jul 18 12:03	25°☾59'40	
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minimum elong	2420 Jul 10 04:20	18°☾44'30 2°10'31	min. Earth dist.	2427 Jan 19 06:28	26°☾34'39 40.13547 AU	
morning rise	2420 Jul 26 03:52	19°☾08'37	direct	2427 Apr 08 11:35	25°☾30'52	
retrograde	2420 Oct 20 10:22	20°☾24'33	evening set	2427 Jul 03 15:02	26°☾49'19	
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min. Earth dist.	2421 Jan 11 09:45	19°☾18'04 41.51445 AU				
direct	2421 Apr 01 01:23	18°☾15'39	conjunction	2427 Jul 19 19:06	27°☾14'42 0°21'10	
evening set	2421 Jun 25 15:04	19°☾30'57	minimum elong	2427 Jul 19 19:06	27°☾14'42 0°21'11	
max. Earth dist.	2421 Jul 09 10:07	19°☾51'49 43.40209 AU	morning rise	2427 Aug 04 22:35	27°☾40'06	
			retrograde	2427 Oct 30 03:00	28°☾59'09	
conjunction	2421 Jul 11 15:41	19°☾55'14 -1°49'38	opposition	2428 Jan 18 13:58	27°☾53'22 0°34'03	
minimum elong	2421 Jul 11 15:44	19°☾55'14 1°49'38	min. Earth dist.	2428 Jan 20 18:20	27°☾50'32 39.89892 AU	
morning rise	2421 Jul 27 16:34	20°☾19'34	direct	2428 Apr 08 22:45	26°☾46'30	
retrograde	2421 Oct 21 22:33	21°☾35'50	evening set	2428 Jul 04 05:10	28°☾05'36	
opposition	2422 Jan 10 21:15	20°☾31'30 -1°43'53	max. Earth dist.	2428 Jul 17 20:16	28°☾27'06 41.78064 AU	
min. Earth dist.	2422 Jan 12 21:17	20°☾28'59 41.28874 AU				
direct	2422 Apr 02 09:01	19°☾26'22	conjunction	2428 Jul 20 08:46	28°☾31'08 0°43'50	
evening set	2422 Jun 27 01:39	20°☾42'05	minimum elong	2428 Jul 20 08:45	28°☾31'08 0°43'50	
max. Earth dist.	2422 Jul 10 22:06	21°☾03'09 43.17568 AU	morning rise	2428 Aug 05 12:01	28°☾56'40	
				2428 Sep 24 05:48	0°♂	
conjunction	2422 Jul 13 03:32	21°☾06'34 -1°28'29	retrograde	2428 Oct 30 20:09	0°♂16'18	
minimum elong	2422 Jul 13 03:34	21°☾06'35 1°28'29		2428 Dec 06 14:19	30°♂☾	
morning rise	2422 Jul 29 05:17	21°☾31'05	opposition	2429 Jan 19 02:03	29°☾10'16 0°58'00	
retrograde	2422 Oct 23 11:16	22°☾47'44	min. Earth dist.	2429 Jan 21 07:59	29°☾07'21 39.65934 AU	
opposition	2423 Jan 12 07:15	21°☾43'08 -1°21'36	direct	2429 Apr 10 08:31	28°☾03'06	
min. Earth dist.	2423 Jan 14 07:28	21°☾40'36 41.06099 AU	evening set	2429 Jul 05 19:53	29°☾22'52	
direct	2423 Apr 03 18:11	20°☾37'42	max. Earth dist.	2429 Jul 19 10:03	29°☾44'28 41.53910 AU	
evening set	2423 Jun 28 12:53	21°☾53'53				
max. Earth dist.	2423 Jul 12 08:11	22°☾15'00 42.94746 AU	conjunction	2429 Jul 21 23:09	29°☾48'33 1°06'45	
			minimum elong	2429 Jul 21 23:07	29°☾48'33 1°06'46	
conjunction	2423 Jul 14 15:28	22°☾18'34 -1°07'05		2429 Jul 29 02:10	0°♂	
minimum elong	2423 Jul 14 15:30	22°☾18'34 1°07'04	morning rise	2429 Aug 07 01:37	0°♂14'13	
morning rise	2423 Jul 30 18:09	22°☾43'16	retrograde	2429 Nov 01 11:00	1°♂34'28	
retrograde	2423 Oct 25 01:12	24°☾00'18	opposition	2430 Jan 20 14:26	0°♂28'09 1°22'14	
opposition	2424 Jan 13 17:29	22°☾55'27 -0°59'02	min. Earth dist.	2430 Jan 22 21:39	0°♂25'09 39.41639 AU	
min. Earth dist.	2424 Jan 15 18:33	22°☾52'52 40.83182 AU		2430 Feb 11 19:59	30°♂☾	
direct	2424 Apr 04 02:51	21°☾49'43	direct	2430 Apr 11 21:53	29°☾20'39	
evening set	2424 Jun 29 00:30	23°☾06'25		2430 Jun 08 21:02	0°♂	
max. Earth dist.	2424 Jul 12 20:10	23°☾27'40 42.71776 AU	evening set	2430 Jul 07 11:25	0°♂41'09	
			max. Earth dist.	2430 Jul 20 23:04	1°♂02'43 41.29437 AU	
conjunction	2424 Jul 15 03:52	23°☾31'17 -0°45'25				
minimum elong	2424 Jul 15 03:53	23°☾31'17 0°45'25	conjunction	2430 Jul 23 13:48	1°♂06'57 1°29'55	
morning rise	2424 Jul 31 06:58	23°☾56'10	minimum elong	2430 Jul 23 13:46	1°♂06'57 1°29'54	
retrograde	2424 Oct 25 11:54	25°☾13'39	morning rise	2430 Aug 08 15:33	1°♂32'45	
opposition	2425 Jan 14 04:11	24°☾08'33 -0°36'11	retrograde	2430 Nov 03 01:49	2°♂53'37	
min. Earth dist.	2425 Jan 16 06:16	24°☾05'54 40.60129 AU	opposition	2431 Jan 22 03:10	1°♂47'01 1°46'43	
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

























































































































direct	2431 Apr 13 11:17	0°Ω39'09		retrograde	2437 Nov 12 20:07	12°Ω36'10	
evening set	2431 Jul 09 03:32	2°Ω00'23		opposition	2438 Jan 31 07:51	11°Ω27'17	4°44'44
max. Earth dist.	2431 Jul 22 12:31	2°Ω21'56	41.04650 AU	min. Earth dist.	2438 Feb 02 20:18	11°Ω23'50	37.40771 AU
				direct	2438 Apr 22 13:34	10°Ω16'46	
conjunction	2431 Jul 25 04:52	2°Ω26'19	1°53'19	evening set	2438 Jul 19 16:27	11°Ω44'21	
minimum elong	2431 Jul 25 04:49	2°Ω26'18	1°53'19	max. Earth dist.	2438 Aug 01 04:02	12°Ω05'35	39.27530 AU
morning rise	2431 Aug 10 05:22	2°Ω52'12					
retrograde	2431 Nov 04 14:21	4°Ω13'44		conjunction	2438 Aug 04 01:52	12°Ω10'36	4°42'47
opposition	2432 Jan 23 16:21	3°Ω06'50	2°11'28	minimum elong	2438 Aug 04 01:43	12°Ω10'35	4°42'47
min. Earth dist.	2432 Jan 26 01:59	3°Ω03'39	38.92176 AU	morning rise	2438 Aug 19 09:54	12°Ω36'46	
direct	2432 Apr 14 00:51	1°Ω58'37		retrograde	2438 Nov 14 13:51	14°Ω04'07	
evening set	2432 Jul 09 20:14	3°Ω20'36		opposition	2439 Feb 02 00:14	12°Ω54'55	5°10'58
max. Earth dist.	2432 Jul 23 03:49	3°Ω42'12	40.79630 AU	min. Earth dist.	2439 Feb 04 14:19	12°Ω51'21	37.15475 AU
				direct	2439 Apr 24 03:36	11°Ω44'01	
conjunction	2432 Jul 25 20:18	3°Ω46'37	2°16'56	evening set	2439 Jul 21 14:47	13°Ω12'44	
minimum elong	2432 Jul 25 20:14	3°Ω46'37	2°16'55	max. Earth dist.	2439 Aug 02 23:10	13°Ω33'55	39.02063 AU
morning rise	2432 Aug 10 19:22	4°Ω12'36					
retrograde	2432 Nov 05 04:43	5°Ω34'50		conjunction	2439 Aug 05 20:39	13°Ω38'57	5°07'40
opposition	2433 Jan 24 05:48	4°Ω27'36	2°36'27	minimum elong	2439 Aug 05 20:29	13°Ω38'56	5°07'40
min. Earth dist.	2433 Jan 26 15:20	4°Ω24'25	38.67113 AU	morning rise	2439 Aug 21 00:49	14°Ω05'04	
direct	2433 Apr 15 13:23	3°Ω19'00			2439 Sep 26 12:23	15°Ω	
evening set	2433 Jul 11 13:39	4°Ω41'47		retrograde	2439 Nov 16 08:23	15°Ω33'28	
max. Earth dist.	2433 Jul 24 17:29	5°Ω03'19	40.54424 AU		2440 Jan 07 06:21	15°RΩ	
				opposition	2440 Feb 03 17:03	14°Ω23'57	5°37'22
conjunction	2433 Jul 27 12:00	5°Ω07'54	2°40'46	min. Earth dist.	2440 Feb 06 07:10	14°Ω20'22	36.90090 AU
minimum elong	2433 Jul 27 11:55	5°Ω07'53	2°40'47	direct	2440 Apr 24 18:47	13°Ω12'39	
morning rise	2433 Aug 12 09:28	5°Ω33'58		evening set	2440 Jul 22 14:16	14°Ω42'33	
retrograde	2433 Nov 06 22:00	6°Ω56'56			2440 Aug 01 16:28	15°Ω	
opposition	2434 Jan 25 19:45	5°Ω49'21	3°01'41	max. Earth dist.	2440 Aug 03 16:29	15°Ω03'29	38.76477 AU
min. Earth dist.	2434 Jan 28 06:53	5°Ω46'04	38.41912 AU				
direct	2434 Apr 16 23:59	4°Ω40'22		conjunction	2440 Aug 06 15:56	15°Ω08'42	5°32'41
evening set	2434 Jul 13 07:47	6°Ω04'01		minimum elong	2440 Aug 06 15:46	15°Ω08'41	5°32'41
max. Earth dist.	2434 Jul 26 10:01	6°Ω25'34	40.29094 AU	morning rise	2440 Aug 21 16:09	15°Ω34'46	
				retrograde	2440 Nov 17 06:06	17°Ω04'15	
conjunction	2434 Jul 29 04:22	6°Ω30'10	3°04'48	opposition	2441 Feb 04 10:28	15°Ω54'23	6°03'55
minimum elong	2434 Jul 29 04:16	6°Ω30'10	3°04'48	min. Earth dist.	2441 Feb 07 01:53	15°Ω50'42	36.64587 AU
morning rise	2434 Aug 13 23:38	6°Ω56'18			2441 Mar 20 19:00	15°RΩ	
retrograde	2434 Nov 08 14:53	8°Ω20'02		direct	2441 Apr 26 09:37	14°Ω42'42	
opposition	2435 Jan 27 10:02	7°Ω12'08	3°27'08		2441 Jun 01 19:34	15°Ω	
min. Earth dist.	2435 Jan 29 21:25	7°Ω08'48	38.16626 AU	evening set	2441 Jul 24 14:31	16°Ω13'49	
direct	2435 Apr 18 14:45	6°Ω02'45		max. Earth dist.	2441 Aug 05 12:09	16°Ω34'36	38.50731 AU
evening set	2435 Jul 15 02:50	7°Ω27'18					
max. Earth dist.	2435 Jul 28 01:19	7°Ω48'46	40.03712 AU	conjunction	2441 Aug 08 11:57	16°Ω39'52	5°57'49
				minimum elong	2441 Aug 08 11:45	16°Ω39'52	5°57'49
conjunction	2435 Jul 30 20:59	7°Ω53'30	3°29'02	morning rise	2441 Aug 23 07:31	17°Ω05'50	
minimum elong	2435 Jul 30 20:52	7°Ω53'30	3°29'03	retrograde	2441 Nov 19 03:09	18°Ω36'28	
morning rise	2435 Aug 15 14:04	8°Ω19'40		opposition	2442 Feb 06 04:35	17°Ω26'14	6°30'37
retrograde	2435 Nov 10 10:31	9°Ω44'13		min. Earth dist.	2442 Feb 08 20:59	17°Ω22'29	36.38918 AU
opposition	2436 Jan 29 00:51	8°Ω35'59	3°52'48	direct	2442 Apr 28 04:23	16°Ω14'07	
min. Earth dist.	2436 Jan 31 12:32	8°Ω32'37	37.91330 AU	evening set	2442 Jul 26 16:03	17°Ω46'32	
direct	2436 Apr 19 05:35	7°Ω26'12		max. Earth dist.	2442 Aug 07 07:24	18°Ω07'03	38.24829 AU
evening set	2436 Jul 15 22:21	8°Ω51'43					
max. Earth dist.	2436 Jul 28 18:00	9°Ω13'10	39.78310 AU	conjunction	2442 Aug 10 08:30	18°Ω12'28	6°23'03
				minimum elong	2442 Aug 10 08:18	18°Ω12'27	6°23'03
conjunction	2436 Jul 31 14:01	9°Ω17'57	3°53'28	morning rise	2442 Aug 24 23:17	18°Ω38'18	
minimum elong	2436 Jul 31 13:54	9°Ω17'57	3°53'27	retrograde	2442 Nov 21 02:10	20°Ω10'06	
morning rise	2436 Aug 16 04:18	9°Ω44'08		opposition	2443 Feb 07 23:03	18°Ω59'30	6°57'25
retrograde	2436 Nov 11 03:51	11°Ω09'35		min. Earth dist.	2443 Feb 10 15:43	18°Ω55'42	36.13116 AU
opposition	2437 Jan 29 16:16	10°Ω01'00	4°18'41	direct	2443 Apr 29 23:24	17°Ω46'56	
min. Earth dist.	2437 Feb 01 05:02	9°Ω57'34	37.66040 AU	evening set	2443 Jul 28 18:28	19°Ω20'42	
direct	2437 Apr 20 21:17	8°Ω50'51		max. Earth dist.	2443 Aug 09 03:26	19°Ω40'55	37.98782 AU
evening set	2437 Jul 17 18:54	10°Ω17'23					
max. Earth dist.	2437 Jul 30 11:26	10°Ω38'46	39.52931 AU	conjunction	2443 Aug 12 05:42	19°Ω46'28	6°48'22
				minimum elong	2443 Aug 12 05:28	19°Ω46'27	6°48'21
conjunction	2437 Aug 02 07:38	10°Ω43'37	4°18'03	morning rise	2443 Aug 26 15:05	20°Ω12'09	
minimum elong	2437 Aug 02 07:30	10°Ω43'37	4°18'02	retrograde	2443 Nov 22 22:24	21°Ω45'11	
morning rise	2437 Aug 17 19:00	11°Ω09'49		opposition	2444 Feb 09 18:22	20°Ω34'11	7°24'19

min. Earth dist.	2444 Feb 12 12:40	20°Ω30'15	35.87210 AU	evening set	2450 Aug 11 17:54	1°Π03'43	
direct	2444 Apr 30 18:08	19°Ω21'10		max. Earth dist.	2450 Aug 20 21:47	1°Π21'09	36.17732 AU
evening set	2444 Jul 29 21:43	20°Ω56'19					
max. Earth dist.	2444 Aug 10 01:02	21°Ω16'17	37.72660 AU	conjunction	2450 Aug 24 02:23	1°Π27'16	9°45'13
				minimum elong	2450 Aug 24 02:04	1°Π27'15	9°45'14
conjunction	2444 Aug 13 03:14	21°Ω21'54	7°13'44	morning rise	2450 Sep 05 08:50	1°Π50'42	
minimum elong	2444 Aug 13 03:00	21°Ω21'53	7°13'44	retrograde	2450 Dec 04 23:52	3°Π34'20	
morning rise	2444 Aug 27 06:50	21°Ω47'22		opposition	2451 Feb 21 02:14	2°Π20'32	10°32'21
retrograde	2444 Nov 23 19:00	23°Ω21'42		min. Earth dist.	2451 Feb 23 22:30	2°Π16'18	34.08274 AU
opposition	2445 Feb 10 14:03	22°Ω10'18	7°51'17	direct	2451 May 12 19:46	1°Π04'19	
min. Earth dist.	2445 Feb 13 08:01	22°Ω06'22	35.61263 AU	evening set	2451 Aug 14 05:50	2°Π51'24	
direct	2445 May 02 14:09	20°Ω56'49		max. Earth dist.	2451 Aug 23 00:53	3°Π08'18	35.92613 AU
evening set	2445 Aug 01 02:13	22°Ω33'25					
max. Earth dist.	2445 Aug 11 21:33	22°Ω53'00	37.46509 AU	conjunction	2451 Aug 26 04:45	3°Π14'26	10°10'00
				minimum elong	2451 Aug 26 04:25	3°Π14'24	10°10'00
conjunction	2445 Aug 15 01:28	22°Ω58'47	7°39'07	morning rise	2451 Sep 07 01:39	3°Π37'20	
minimum elong	2445 Aug 15 01:12	22°Ω58'46	7°39'07	retrograde	2451 Dec 07 02:41	5°Π22'49	
morning rise	2445 Aug 28 22:55	23°Ω24'01		opposition	2452 Feb 23 02:49	4°Π08'39	10°58'42
retrograde	2445 Nov 25 17:29	24°Ω59'43		min. Earth dist.	2452 Feb 25 22:20	4°Π04'26	33.83513 AU
opposition	2446 Feb 12 10:20	23°Ω47'54	8°18'16	direct	2452 May 13 19:49	2°Π51'59	
min. Earth dist.	2446 Feb 15 05:42	23°Ω43'51	35.35344 AU	evening set	2452 Aug 15 18:59	4°Π41'07	
direct	2446 May 04 07:12	22°Ω33'56		max. Earth dist.	2452 Aug 24 02:33	4°Π57'17	35.67654 AU
evening set	2446 Aug 03 07:46	24°Ω12'04					
max. Earth dist.	2446 Aug 13 21:13	24°Ω31'22	37.20405 AU	conjunction	2452 Aug 27 07:42	5°Π03'34	10°34'33
				minimum elong	2452 Aug 27 07:22	5°Π03'32	10°34'34
conjunction	2446 Aug 17 00:27	24°Ω37'10	8°04'31	morning rise	2452 Sep 07 18:36	5°Π25'53	
minimum elong	2446 Aug 17 00:11	24°Ω37'08	8°04'31	retrograde	2452 Dec 08 06:33	7°Π13'19	
morning rise	2446 Aug 30 15:01	25°Ω02'08		opposition	2453 Feb 24 04:15	5°Π58'45	11°24'49
retrograde	2446 Nov 27 15:56	26°Ω39'15		min. Earth dist.	2453 Feb 27 00:59	5°Π54'26	33.58914 AU
opposition	2447 Feb 14 07:21	25°Ω27'01	8°45'16	direct	2453 May 15 17:26	4°Π41'38	
min. Earth dist.	2447 Feb 17 02:27	25°Ω22'58	35.09512 AU	evening set	2453 Aug 18 09:49	6°Π32'54	
direct	2447 May 06 03:18	24°Ω12'35		max. Earth dist.	2453 Aug 26 07:22	6°Π48'24	35.42834 AU
evening set	2447 Aug 05 14:29	25°Ω52'20					
max. Earth dist.	2447 Aug 15 19:25	26°Ω11'11	36.94423 AU	conjunction	2453 Aug 29 11:45	6°Π54'41	10°58'51
				minimum elong	2453 Aug 29 11:23	6°Π54'40	10°58'50
conjunction	2447 Aug 18 23:45	26°Ω17'06	8°29'51	morning rise	2453 Sep 09 11:39	7°Π16'21	
minimum elong	2447 Aug 18 23:28	26°Ω17'05	8°29'51	retrograde	2453 Dec 10 09:35	9°Π05'47	
morning rise	2447 Sep 01 07:14	26°Ω41'45		opposition	2454 Feb 26 06:23	7°Π50'49	11°50'40
retrograde	2447 Nov 29 18:00	28°Ω20'23		min. Earth dist.	2454 Mar 01 02:52	7°Π46'29	33.34447 AU
opposition	2448 Feb 16 05:00	27°Ω07'44	9°12'12	direct	2454 May 17 19:09	6°Π33'14	
min. Earth dist.	2448 Feb 19 00:23	27°Ω03'39	34.83857 AU	evening set	2454 Aug 21 02:15	8°Π26'43	
direct	2448 May 06 23:29	25°Ω52'50		max. Earth dist.	2454 Aug 28 10:46	8°Π41'19	35.18154 AU
evening set	2448 Aug 06 22:16	27°Ω34'17					
max. Earth dist.	2448 Aug 16 20:05	27°Ω52'46	36.68622 AU	conjunction	2454 Aug 31 16:27	8°Π47'46	11°22'50
				minimum elong	2454 Aug 31 16:05	8°Π47'45	11°22'50
conjunction	2448 Aug 19 23:58	27°Ω58'42	8°55'07	morning rise	2454 Sep 11 04:56	9°Π08'42	
minimum elong	2448 Aug 19 23:40	27°Ω58'41	8°55'07	retrograde	2454 Dec 12 16:21	11°Π00'13	
morning rise	2448 Sep 01 23:32	28°Ω23'00		opposition	2455 Feb 28 09:24	9°Π44'49	12°16'10
	2448 Nov 16 00:05	0°Π		min. Earth dist.	2455 Mar 03 06:14	9°Π40'27	33.10143 AU
retrograde	2448 Nov 30 19:24	0°Π03'13		direct	2455 May 19 20:06	8°Π26'45	
	2448 Dec 15 15:00	30°RΩ		evening set	2455 Aug 23 20:03	10°Π22'33	
opposition	2449 Feb 17 03:24	28°Ω50'10	9°39'04	max. Earth dist.	2455 Aug 30 16:54	10°Π36'19	34.93631 AU
min. Earth dist.	2449 Feb 19 23:12	28°Ω46'01	34.58419 AU				
direct	2449 May 08 22:09	27°Ω34'49		conjunction	2455 Sep 02 21:56	10°Π42'47	11°46'27
evening set	2449 Aug 09 07:27	29°Ω18'02		minimum elong	2455 Sep 02 21:34	10°Π42'45	11°46'26
max. Earth dist.	2449 Aug 18 20:37	29°Ω36'02	36.43068 AU	morning rise	2455 Sep 12 21:54	11°Π02'54	
				retrograde	2455 Dec 14 21:33	12°Π56'36	
conjunction	2449 Aug 22 00:43	29°Ω42'03	9°20'15	opposition	2456 Mar 01 13:19	11°Π40'45	12°41'17
minimum elong	2449 Aug 22 00:24	29°Ω42'02	9°20'14	min. Earth dist.	2456 Mar 04 10:34	11°Π36'19	32.86022 AU
	2449 Aug 31 12:05	0°Π		direct	2456 May 20 22:50	10°Π22'11	
morning rise	2449 Sep 03 16:06	0°Π05'56		evening set	2456 Aug 25 15:41	12°Π20'23	
retrograde	2449 Dec 02 22:34	1°Π47'50		max. Earth dist.	2456 Aug 31 22:47	12°Π33'09	34.69338 AU
opposition	2450 Feb 19 02:24	0°Π34'23	10°05'47				
min. Earth dist.	2450 Feb 21 21:31	0°Π30'16	34.33234 AU	conjunction	2456 Sep 04 04:05	12°Π39'42	12°09'39
	2450 Mar 15 06:03	30°RΩ		minimum elong	2456 Sep 04 03:43	12°Π39'40	12°09'39
direct	2450 May 10 21:14	29°Ω18'36		morning rise	2456 Sep 13 14:54	12°Π58'54	
	2450 Jul 05 02:04	0°Π		retrograde	2456 Dec 16 06:18	14°Π54'52	

opposition	2457 Mar 03 17:46	13° \mathring{M} 38'34	13°05'56	minimum elong	2463 Sep 19 20:24	27° \mathring{M} 12'15	14°34'16
min. Earth dist.	2457 Mar 06 14:23	13° \mathring{M} 34'09	32.62167 AU	morning rise	2463 Sep 23 16:29	27° \mathring{M} 20'37	
direct	2457 May 23 03:49	12° \mathring{M} 19'29		retrograde	2464 Jan 01 03:53	29° \mathring{M} 37'09	
evening set	2457 Aug 28 12:53	14° \mathring{M} 20'12		opposition	2464 Mar 18 01:49	28° \mathring{M} 17'57	15°39'01
max. Earth dist.	2457 Sep 03 05:50	14° \mathring{M} 31'53	34.45320 AU	min. Earth dist.	2464 Mar 20 17:44	28° \mathring{M} 13'39	31.08406 AU
				direct	2464 Jun 06 04:13	26° \mathring{M} 55'40	
conjunction	2457 Sep 06 11:08	14° \mathring{M} 38'30	12°32'21	max. Earth dist.	2464 Sep 18 11:05	29° \mathring{M} 18'53	32.91414 AU
minimum elong	2457 Sep 06 10:45	14° \mathring{M} 38'28	12°32'21	evening set	2464 Sep 19 03:48	29° \mathring{M} 20'25	
morning rise	2457 Sep 15 07:42	14° \mathring{M} 56'41					
retrograde	2457 Dec 18 14:25	16° \mathring{M} 55'01		conjunction	2464 Sep 21 09:21	29° \mathring{M} 25'19	14°51'30
opposition	2458 Mar 05 23:17	15° \mathring{M} 38'15	13°30'04	minimum elong	2464 Sep 21 09:00	29° \mathring{M} 25'17	14°51'31
min. Earth dist.	2458 Mar 08 20:36	15° \mathring{M} 33'46	32.38628 AU	morning rise	2464 Sep 23 14:09	29° \mathring{M} 30'10	
direct	2458 May 25 09:19	14° \mathring{M} 18'40			2464 Oct 07 06:39	0° \mathring{A}	
evening set	2458 Aug 31 12:08	16° \mathring{M} 22'02		retrograde	2465 Jan 02 16:30	1° \mathring{A} 51'35	
max. Earth dist.	2458 Sep 05 14:33	16° \mathring{M} 32'35	34.21669 AU	opposition	2465 Mar 20 13:22	0° \mathring{A} 32'02	15°57'08
				min. Earth dist.	2465 Mar 23 05:14	0° \mathring{A} 27'43	30.88826 AU
conjunction	2458 Sep 08 18:51	16° \mathring{M} 39'11	12°54'31		2465 Apr 09 19:27	30° \mathring{R} \mathring{M}	
minimum elong	2458 Sep 08 18:28	16° \mathring{M} 39'09	12°54'32	direct	2465 Jun 08 14:12	29° \mathring{M} 09'23	
morning rise	2458 Sep 17 00:01	16° \mathring{M} 56'13			2465 Aug 05 07:20	0° \mathring{A}	
retrograde	2458 Dec 20 23:20	18° \mathring{M} 57'03		max. Earth dist.	2465 Sep 21 01:17	1° \mathring{A} 34'08	32.71865 AU
opposition	2459 Mar 08 05:27	17° \mathring{M} 39'50	13°53'35				
min. Earth dist.	2459 Mar 11 01:20	17° \mathring{M} 35'24	32.15497 AU	conjunction	2465 Sep 23 22:40	1° \mathring{A} 40'33	15°07'40
direct	2459 May 27 16:23	16° \mathring{M} 19'44		minimum elong	2465 Sep 23 22:19	1° \mathring{A} 40'31	15°07'39
evening set	2459 Sep 03 13:13	18° \mathring{M} 25'53		retrograde	2466 Jan 05 08:33	4° \mathring{A} 08'11	
max. Earth dist.	2459 Sep 07 22:52	18° \mathring{M} 35'05	33.98462 AU	opposition	2466 Mar 23 01:49	2° \mathring{A} 48'17	16°14'05
				min. Earth dist.	2466 Mar 25 15:54	2° \mathring{A} 44'04	30.69828 AU
conjunction	2459 Sep 11 03:16	18° \mathring{M} 41'46	13°16'03	direct	2466 Jun 11 02:45	1° \mathring{A} 25'16	
minimum elong	2459 Sep 11 02:53	18° \mathring{M} 41'44	13°16'03	max. Earth dist.	2466 Sep 23 16:22	3° \mathring{A} 51'30	32.52892 AU
morning rise	2459 Sep 18 15:57	18° \mathring{M} 57'31					
retrograde	2459 Dec 23 07:28	21° \mathring{M} 01'01		conjunction	2466 Sep 26 12:50	3° \mathring{A} 57'53	15°22'42
opposition	2460 Mar 09 12:39	19° \mathring{M} 43'21	14°16'24	minimum elong	2466 Sep 26 12:31	3° \mathring{A} 57'52	15°22'42
min. Earth dist.	2460 Mar 12 08:48	19° \mathring{M} 38'52	31.92868 AU	retrograde	2467 Jan 08 00:04	6° \mathring{A} 26'51	
direct	2460 May 28 21:13	18° \mathring{M} 22'45		opposition	2467 Mar 25 15:19	5° \mathring{A} 06'37	16°29'48
evening set	2460 Sep 05 16:38	20° \mathring{M} 31'51		min. Earth dist.	2467 Mar 28 05:26	5° \mathring{A} 02'23	30.51406 AU
max. Earth dist.	2460 Sep 09 10:03	20° \mathring{M} 39'43	33.75802 AU	direct	2467 Jun 13 15:17	3° \mathring{A} 43'15	
				max. Earth dist.	2467 Sep 26 09:01	6° \mathring{A} 11'00	32.34542 AU
conjunction	2460 Sep 12 12:24	20° \mathring{M} 46'17	13°36'52				
minimum elong	2460 Sep 12 12:01	20° \mathring{M} 46'15	13°36'52	conjunction	2467 Sep 29 03:43	6° \mathring{A} 17'16	15°36'32
morning rise	2460 Sep 19 06:48	21° \mathring{M} 00'36		minimum elong	2467 Sep 29 03:25	6° \mathring{A} 17'14	15°36'31
retrograde	2460 Dec 24 16:19	23° \mathring{M} 06'55		retrograde	2468 Jan 10 16:28	8° \mathring{A} 47'31	
opposition	2461 Mar 11 20:39	21° \mathring{M} 48'49	14°38'26	opposition	2468 Mar 27 05:32	7° \mathring{A} 26'57	16°44'13
min. Earth dist.	2461 Mar 14 15:16	21° \mathring{M} 44'25	31.70806 AU	min. Earth dist.	2468 Mar 29 17:29	7° \mathring{A} 22'50	30.33597 AU
direct	2461 May 31 04:33	20° \mathring{M} 27'46		direct	2468 Jun 15 06:11	6° \mathring{A} 03'13	
evening set	2461 Sep 08 22:52	22° \mathring{M} 40'03		max. Earth dist.	2468 Sep 28 01:09	8° \mathring{A} 32'19	32.16835 AU
max. Earth dist.	2461 Sep 11 19:53	22° \mathring{M} 46'11	33.53748 AU				
				conjunction	2468 Sep 30 19:13	8° \mathring{A} 38'35	15°49'05
conjunction	2461 Sep 14 22:22	22° \mathring{M} 52'49	13°56'54	minimum elong	2468 Sep 30 18:56	8° \mathring{A} 38'33	15°49'05
minimum elong	2461 Sep 14 21:59	22° \mathring{M} 52'47	13°56'53	retrograde	2469 Jan 12 08:19	11° \mathring{A} 10'03	
morning rise	2461 Sep 20 20:44	23° \mathring{M} 05'29		opposition	2469 Mar 29 20:37	9° \mathring{A} 49'08	16°57'13
retrograde	2461 Dec 27 03:39	25° \mathring{M} 14'51		min. Earth dist.	2469 Apr 01 08:19	9° \mathring{A} 45'02	30.16444 AU
opposition	2462 Mar 14 05:22	23° \mathring{M} 56'22	14°59'36	direct	2469 Jun 17 19:18	8° \mathring{A} 25'03	
min. Earth dist.	2462 Mar 16 23:30	23° \mathring{M} 51'58	31.49376 AU	max. Earth dist.	2469 Sep 30 20:04	10° \mathring{A} 55'38	31.99833 AU
direct	2462 Jun 02 10:04	22° \mathring{M} 34'52					
evening set	2462 Sep 12 08:55	24° \mathring{M} 50'38		conjunction	2469 Oct 03 11:32	11° \mathring{A} 01'42	16°00'17
max. Earth dist.	2462 Sep 14 08:57	24° \mathring{M} 54'57	33.32336 AU	minimum elong	2469 Oct 03 11:16	11° \mathring{A} 01'40	16°00'16
				retrograde	2470 Jan 15 01:15	13° \mathring{A} 34'19	
conjunction	2462 Sep 17 09:19	25° \mathring{M} 01'28	14°16'03	opposition	2470 Apr 01 12:20	12° \mathring{A} 13'05	17°08'44
minimum elong	2462 Sep 17 08:57	25° \mathring{M} 01'26	14°16'03	min. Earth dist.	2470 Apr 03 22:00	12° \mathring{A} 09'05	29.99994 AU
morning rise	2462 Sep 22 08:39	25° \mathring{M} 12'12		direct	2470 Jun 20 11:12	10° \mathring{A} 48'39	
retrograde	2462 Dec 29 13:57	27° \mathring{M} 24'55		max. Earth dist.	2470 Oct 03 13:37	13° \mathring{A} 20'28	31.83598 AU
opposition	2463 Mar 16 15:12	26° \mathring{M} 06'03	15°19'49				
min. Earth dist.	2463 Mar 19 08:23	26° \mathring{M} 01'41	31.28574 AU	conjunction	2470 Oct 06 04:21	13° \mathring{A} 26'30	16°10'02
direct	2463 Jun 04 18:40	24° \mathring{M} 44'10		minimum elong	2470 Oct 06 04:07	13° \mathring{A} 26'29	16°10'02
evening set	2463 Sep 16 00:11	27° \mathring{M} 03'53		retrograde	2471 Jan 17 18:40	16° \mathring{A} 00'13	
max. Earth dist.	2463 Sep 16 20:49	27° \mathring{M} 05'45	33.11570 AU	opposition	2471 Apr 04 04:56	14° \mathring{A} 38'40	17°18'39
				min. Earth dist.	2471 Apr 06 13:24	14° \mathring{A} 34'45	29.84345 AU
conjunction	2463 Sep 19 20:46	27° \mathring{M} 12'17	14°34'17	direct	2471 Jun 23 01:29	13° \mathring{A} 13'55	

max. Earth dist.	2471 Oct 06 10:13	15° <u>♄</u> 47'06	31.68222 AU	max. Earth dist.	2479 Oct 27 17:35	6° <u>♄</u> 07'04	30.82268 AU
conjunction	2471 Oct 08 21:39	15° <u>♄</u> 52'53	16°18'15	conjunction	2479 Oct 29 08:43	6° <u>♄</u> 11'00	16°21'14
minimum elong	2471 Oct 08 21:27	15° <u>♄</u> 52'51	16°18'14	minimum elong	2479 Oct 29 08:48	6° <u>♄</u> 11'01	16°21'13
retrograde	2472 Jan 20 10:30	18° <u>♄</u> 27'38		retrograde	2480 Feb 10 02:08	8° <u>♄</u> 51'28	
opposition	2472 Apr 05 22:18	17° <u>♄</u> 05'47	17°26'54	opposition	2480 Apr 26 14:31	7° <u>♄</u> 28'17	17°24'21
min. Earth dist.	2472 Apr 08 04:41	17° <u>♄</u> 01'59	29.69561 AU	min. Earth dist.	2480 Apr 28 02:34	7° <u>♄</u> 25'45	28.87704 AU
direct	2472 Jun 24 18:52	15° <u>♄</u> 40'43		direct	2480 Jul 15 07:04	6° <u>♄</u> 02'11	
max. Earth dist.	2472 Oct 08 05:20	18° <u>♄</u> 15'03	31.53793 AU	max. Earth dist.	2480 Oct 29 17:57	8° <u>♄</u> 43'50	30.76139 AU
conjunction	2472 Oct 10 15:27	18° <u>♄</u> 20'44	16°24'51	conjunction	2480 Oct 31 05:33	8° <u>♄</u> 47'26	16°13'17
minimum elong	2472 Oct 10 15:18	18° <u>♄</u> 20'43	16°24'52	minimum elong	2480 Oct 31 05:41	8° <u>♄</u> 47'26	16°13'17
retrograde	2473 Jan 22 05:19	20° <u>♄</u> 56'28		retrograde	2481 Feb 11 23:21	11° <u>♄</u> 28'08	
opposition	2473 Apr 08 16:07	19° <u>♄</u> 34'20	17°33'22	opposition	2481 Apr 29 12:22	10° <u>♄</u> 04'55	17°15'03
min. Earth dist.	2473 Apr 10 20:10	19° <u>♄</u> 30'41	29.55749 AU	min. Earth dist.	2481 Apr 30 21:26	10° <u>♄</u> 02'34	28.81911 AU
direct	2473 Jun 27 11:12	18° <u>♄</u> 08'59		direct	2481 Jul 18 06:33	8° <u>♄</u> 38'47	
max. Earth dist.	2473 Oct 11 03:19	20° <u>♄</u> 44'38	31.40386 AU	max. Earth dist.	2481 Nov 01 16:32	11° <u>♄</u> 20'45	30.71010 AU
conjunction	2473 Oct 13 10:00	20° <u>♄</u> 50'00	16°29'46	conjunction	2481 Nov 03 02:21	11° <u>♄</u> 24'10	16°03'29
minimum elong	2473 Oct 13 09:51	20° <u>♄</u> 49'59	16°29'46	minimum elong	2481 Nov 03 02:30	11° <u>♄</u> 24'11	16°03'29
retrograde	2474 Jan 24 22:59	23° <u>♄</u> 26'39		retrograde	2482 Feb 14 21:04	14° <u>♄</u> 05'02	
opposition	2474 Apr 11 10:52	22° <u>♄</u> 04'16	17°37'59	opposition	2482 May 02 10:35	12° <u>♄</u> 41'45	17°03'42
min. Earth dist.	2474 Apr 13 13:10	22° <u>♄</u> 00'44	29.42949 AU	min. Earth dist.	2482 May 03 17:15	12° <u>♄</u> 39'35	28.77115 AU
direct	2474 Jun 30 03:57	20° <u>♄</u> 38'43		direct	2482 Jul 21 04:11	11° <u>♄</u> 15'37	
max. Earth dist.	2474 Oct 14 00:07	23° <u>♄</u> 15'25	31.28062 AU				
conjunction	2474 Oct 16 04:45	23° <u>♄</u> 20'37	16°32'56	conjunction	2482 Nov 05 23:07	14° <u>♄</u> 01'00	15°51'48
minimum elong	2474 Oct 16 04:40	23° <u>♄</u> 20'37	16°32'57	minimum elong	2482 Nov 05 23:19	14° <u>♄</u> 01'01	15°51'48
retrograde	2475 Jan 27 18:51	25° <u>♄</u> 58'07		max. Earth dist.	2482 Nov 04 17:19	13° <u>♄</u> 57'59	30.66921 AU
opposition	2475 Apr 14 06:06	24° <u>♄</u> 35'33	17°40'41		2482 Nov 30 18:59	15° <u>♄</u>	
min. Earth dist.	2475 Apr 16 05:14	24° <u>♄</u> 32'14	29.31212 AU	retrograde	2483 Feb 17 16:16	16° <u>♄</u> 41'55	
direct	2475 Jul 02 23:38	23° <u>♄</u> 09'49		opposition	2483 May 05 08:57	15° <u>♄</u> 18'35	16°50'22
max. Earth dist.	2475 Oct 16 22:44	25° <u>♄</u> 47'39	31.16821 AU	min. Earth dist.	2483 May 06 12:52	15° <u>♄</u> 16'37	28.73335 AU
					2483 May 16 10:14	15° <u>♄</u>	
conjunction	2475 Oct 19 00:09	25° <u>♄</u> 52'33	16°34'18	direct	2483 Jul 24 03:48	13° <u>♄</u> 52'29	
minimum elong	2475 Oct 19 00:05	25° <u>♄</u> 52'33	16°34'18		2483 Sep 26 16:27	15° <u>♄</u>	
retrograde	2476 Jan 30 13:46	28° <u>♄</u> 30'50		conjunction	2483 Nov 08 19:38	16° <u>♄</u> 37'44	15°38'16
opposition	2476 Apr 16 02:01	27° <u>♄</u> 08'06	17°41'25	minimum elong	2483 Nov 08 19:51	16° <u>♄</u> 37'46	15°38'17
min. Earth dist.	2476 Apr 17 23:42	27° <u>♄</u> 04'53	29.20524 AU	max. Earth dist.	2483 Nov 07 15:52	16° <u>♄</u> 34'56	30.63915 AU
direct	2476 Jul 04 18:32	25° <u>♄</u> 42'15		retrograde	2484 Feb 20 13:15	19° <u>♄</u> 18'36	
max. Earth dist.	2476 Oct 18 20:51	28° <u>♄</u> 21'02	31.06661 AU	opposition	2484 May 07 07:07	17° <u>♄</u> 55'14	16°35'00
				min. Earth dist.	2484 May 08 07:48	17° <u>♄</u> 53'30	28.70656 AU
conjunction	2476 Oct 20 19:44	28° <u>♄</u> 25'42	16°33'49	direct	2484 Jul 26 01:38	16° <u>♄</u> 29'10	
minimum elong	2476 Oct 20 19:44	28° <u>♄</u> 25'42	16°33'49				
	2476 Dec 01 20:21	0° <u>♄</u>		conjunction	2484 Nov 10 16:04	19° <u>♄</u> 14'12	15°22'53
retrograde	2477 Feb 01 11:07	1° <u>♄</u> 04'41		minimum elong	2484 Nov 10 16:20	19° <u>♄</u> 14'14	15°22'53
	2477 Apr 08 02:27	30° <u>♄</u>		max. Earth dist.	2484 Nov 09 16:44	19° <u>♄</u> 11'51	30.62055 AU
opposition	2477 Apr 18 22:20	29° <u>♄</u> 41'49	17°40'10	retrograde	2485 Feb 22 08:20	21° <u>♄</u> 54'54	
min. Earth dist.	2477 Apr 20 16:39	29° <u>♄</u> 38'50	29.10855 AU	opposition	2485 May 10 05:26	20° <u>♄</u> 31'33	16°17'41
direct	2477 Jul 07 15:16	28° <u>♄</u> 15'52		min. Earth dist.	2485 May 11 03:36	20° <u>♄</u> 29'59	28.69113 AU
	2477 Sep 28 02:14	0° <u>♄</u>		direct	2485 Jul 28 23:49	19° <u>♄</u> 05'34	
max. Earth dist.	2477 Oct 21 19:30	0° <u>♄</u> 55'31	30.97520 AU				
conjunction	2477 Oct 23 15:52	0° <u>♄</u> 59'57	16°31'29	conjunction	2485 Nov 13 12:05	21° <u>♄</u> 50'15	15°05'42
minimum elong	2477 Oct 23 15:51	0° <u>♄</u> 59'57	16°31'29	minimum elong	2485 Nov 13 12:21	21° <u>♄</u> 50'16	15°05'42
retrograde	2478 Feb 04 07:38	3° <u>♄</u> 39'31		max. Earth dist.	2485 Nov 12 15:15	21° <u>♄</u> 48'08	30.61400 AU
opposition	2478 Apr 21 19:19	2° <u>♄</u> 16'32	17°36'55	retrograde	2486 Feb 25 04:19	24° <u>♄</u> 30'42	
min. Earth dist.	2478 Apr 23 12:19	2° <u>♄</u> 13'39	29.02171 AU	opposition	2486 May 13 03:30	23° <u>♄</u> 07'24	15°58'24
direct	2478 Jul 10 11:21	0° <u>♄</u> 50'31		min. Earth dist.	2486 May 13 21:29	23° <u>♄</u> 06'08	28.68785 AU
max. Earth dist.	2478 Oct 24 18:58	3° <u>♄</u> 30'58	30.89401 AU	direct	2486 Jul 31 22:19	21° <u>♄</u> 41'31	
				evening set	2486 Nov 13 15:44	24° <u>♄</u> 19'17	
conjunction	2478 Oct 26 12:15	3° <u>♄</u> 35'07	16°27'18	conjunction	2486 Nov 16 08:01	24° <u>♄</u> 25'47	14°46'44
minimum elong	2478 Oct 26 12:19	3° <u>♄</u> 35'07	16°27'18	minimum elong	2486 Nov 16 08:20	24° <u>♄</u> 25'49	14°46'44
retrograde	2479 Feb 07 05:20	6° <u>♄</u> 15'10		max. Earth dist.	2486 Nov 15 15:36	24° <u>♄</u> 24'08	30.61995 AU
opposition	2479 Apr 24 16:42	4° <u>♄</u> 52'06	17°31'39	morning rise	2486 Nov 19 00:53	24° <u>♄</u> 32'20	
min. Earth dist.	2479 Apr 26 06:25	4° <u>♄</u> 49'26	28.94454 AU	retrograde	2487 Feb 27 22:13	27° <u>♄</u> 05'56	
direct	2479 Jul 13 10:27	3° <u>♄</u> 26'02		opposition	2487 May 16 01:38	25° <u>♄</u> 42'42	15°37'13

min. Earth dist.	2487 May 16 17:07	25° 11 41'37	28.69695 AU	conjunction	2493 Dec 03 15:43	12° 17 12'05	11°50'47
direct	2487 Aug 03 20:14	24° 11 17'00		minimum elong	2493 Dec 03 16:07	12° 17 12'08	11°50'48
evening set	2487 Nov 14 21:08	26° 11 50'26		max. Earth dist.	2493 Dec 03 21:45	12° 17 12'41	30.98840 AU
				morning rise	2493 Dec 13 04:17	12° 17 34'34	
conjunction	2487 Nov 19 03:22	27° 11 00'44	14°26'03	retrograde	2494 Mar 17 05:20	14° 17 47'44	
minimum elong	2487 Nov 19 03:42	27° 11 00'46	14°26'04	opposition	2494 Jun 03 02:56	13° 17 25'46	12°23'34
max. Earth dist.	2487 Nov 18 13:48	26° 11 59'22	30.63863 AU	min. Earth dist.	2494 Jun 02 20:42	13° 17 26'11	29.07705 AU
morning rise	2487 Nov 23 10:05	27° 11 11'05		direct	2494 Aug 22 03:53	12° 17 01'57	
retrograde	2488 Mar 01 18:34	29° 11 40'29		evening set	2494 Nov 26 04:19	14° 17 15'47	
opposition	2488 May 17 23:19	28° 11 17'23	15°14'13				
min. Earth dist.	2488 May 18 10:24	28° 11 16'36	28.71836 AU	conjunction	2494 Dec 06 07:48	14° 17 39'34	11°20'37
direct	2488 Aug 05 17:50	26° 11 51'54		minimum elong	2494 Dec 06 08:11	14° 17 39'37	11°20'37
evening set	2488 Nov 15 11:52	29° 11 21'54		max. Earth dist.	2494 Dec 06 15:42	14° 17 40'21	31.08165 AU
				morning rise	2494 Dec 16 11:19	15° 17 03'22	
conjunction	2488 Nov 20 22:36	29° 11 35'01	14°03'44	retrograde	2495 Mar 19 22:05	17° 17 14'16	
minimum elong	2488 Nov 20 22:58	29° 11 35'04	14°03'44	opposition	2495 Jun 05 21:51	15° 17 52'29	11°50'41
max. Earth dist.	2488 Nov 20 12:53	29° 11 34'03	30.66947 AU	min. Earth dist.	2495 Jun 05 12:16	15° 17 53'09	29.17120 AU
morning rise	2488 Nov 26 09:44	29° 11 48'12		direct	2495 Aug 24 23:32	14° 17 28'58	
	2488 Dec 01 07:56	0° 17		evening set	2495 Nov 28 05:51	16° 17 40'25	
retrograde	2489 Mar 04 12:22	2° 17 14'18					
opposition	2489 May 20 20:47	0° 17 51'21	14°49'30	conjunction	2495 Dec 08 23:15	17° 17 05'24	10°49'29
min. Earth dist.	2489 May 21 05:44	0° 17 50'43	28.75162 AU	minimum elong	2495 Dec 08 23:39	17° 17 05'26	10°49'30
	2489 Jun 22 19:19	30° 17 11		max. Earth dist.	2495 Dec 09 11:11	17° 17 06'34	31.18426 AU
direct	2489 Aug 08 15:06	29° 17 26'07		morning rise	2495 Dec 19 16:22	17° 17 30'22	
	2489 Sep 22 20:36	0° 17		retrograde	2496 Mar 21 11:57	19° 17 39'05	
evening set	2489 Nov 17 06:44	1° 17 53'04		opposition	2496 Jun 07 16:10	18° 17 17'30	11°16'49
				min. Earth dist.	2496 Jun 07 04:26	18° 17 18'18	29.27469 AU
conjunction	2489 Nov 23 17:23	2° 17 08'33	13°39'51	direct	2496 Aug 26 20:12	16° 17 54'16	
minimum elong	2489 Nov 23 17:45	2° 17 08'35	13°39'52	evening set	2496 Nov 29 07:55	19° 17 03'25	
max. Earth dist.	2489 Nov 23 10:50	2° 17 07'53	30.71215 AU				
morning rise	2489 Nov 30 04:21	2° 17 24'04		conjunction	2496 Dec 10 13:53	19° 17 29'27	10°17'28
retrograde	2490 Mar 07 07:34	4° 17 47'15		minimum elong	2496 Dec 10 14:15	19° 17 29'30	10°17'27
opposition	2490 May 23 18:00	3° 17 24'29	14°23'08	max. Earth dist.	2496 Dec 11 03:43	19° 17 30'48	31.29634 AU
min. Earth dist.	2490 May 23 22:57	3° 17 24'08	28.79616 AU	morning rise	2496 Dec 21 19:46	19° 17 55'29	
direct	2490 Aug 11 14:20	1° 17 59'31		retrograde	2497 Mar 24 02:28	22° 17 02'04	
evening set	2490 Nov 19 03:43	4° 17 23'38		opposition	2497 Jun 10 09:35	20° 17 40'43	10°42'03
				min. Earth dist.	2497 Jun 09 17:53	20° 17 41'46	29.38798 AU
conjunction	2490 Nov 26 11:39	4° 17 41'10	13°14'32	direct	2497 Aug 29 14:55	19° 17 17'47	
minimum elong	2490 Nov 26 12:02	4° 17 41'12	13°14'31	evening set	2497 Dec 01 10:04	21° 17 24'42	
max. Earth dist.	2490 Nov 26 08:16	4° 17 40'49	30.76583 AU				
morning rise	2490 Dec 03 19:50	4° 17 58'44		conjunction	2497 Dec 13 03:55	21° 17 51'41	9°44'40
retrograde	2491 Mar 10 01:41	7° 17 19'14		minimum elong	2497 Dec 13 04:17	21° 17 51'43	9°44'41
opposition	2491 May 26 15:01	5° 17 56'39	13°55'15	max. Earth dist.	2497 Dec 13 21:46	21° 17 53'24	31.41825 AU
min. Earth dist.	2491 May 26 17:37	5° 17 56'28	28.85152 AU	morning rise	2497 Dec 24 21:25	22° 17 18'39	
direct	2491 Aug 14 10:31	4° 17 31'58		retrograde	2498 Mar 26 13:31	24° 17 23'13	
evening set	2491 Nov 21 02:31	6° 17 53'23		min. Earth dist.	2498 Jun 12 08:51	23° 17 03'17	29.51145 AU
				opposition	2498 Jun 13 02:39	23° 17 02'05	10°06'30
conjunction	2491 Nov 29 05:34	7° 17 12'44	12°47'50	direct	2498 Sep 01 08:45	21° 17 39'29	
minimum elong	2491 Nov 29 05:57	7° 17 12'46	12°47'51	evening set	2498 Dec 03 12:26	23° 17 44'16	
max. Earth dist.	2491 Nov 29 05:39	7° 17 12'44	30.83019 AU				
morning rise	2491 Dec 07 08:42	7° 17 32'07		conjunction	2498 Dec 15 16:58	24° 17 12'05	9°11'10
retrograde	2492 Mar 11 19:36	9° 17 50'04		minimum elong	2498 Dec 15 17:19	24° 17 12'07	9°11'10
opposition	2492 May 28 11:21	8° 17 27'41	13°25'57	max. Earth dist.	2498 Dec 16 13:11	24° 17 14'01	31.55046 AU
min. Earth dist.	2492 May 28 10:33	8° 17 27'45	28.91703 AU	morning rise	2498 Dec 27 21:19	24° 17 39'53	
direct	2492 Aug 16 09:12	7° 17 03'18		retrograde	2499 Mar 29 02:24	26° 17 42'31	
evening set	2492 Nov 22 02:20	9° 17 22'06		opposition	2499 Jun 15 18:49	25° 17 21'39	9°30'15
				min. Earth dist.	2499 Jun 14 20:50	25° 17 23'07	29.64534 AU
conjunction	2492 Nov 30 22:54	9° 17 43'05	12°19'54	direct	2499 Sep 04 01:42	23° 17 59'24	
minimum elong	2492 Nov 30 23:18	9° 17 43'08	12°19'53	evening set	2499 Dec 05 14:56	26° 17 02'08	
max. Earth dist.	2492 Dec 01 01:14	9° 17 43'19	30.90447 AU				
morning rise	2492 Dec 09 19:36	10° 17 04'06		conjunction	2499 Dec 18 05:31	26° 17 30'41	8°37'04
retrograde	2493 Mar 14 14:17	12° 17 19'37		minimum elong	2499 Dec 18 05:51	26° 17 30'43	8°37'05
opposition	2493 May 31 07:24	10° 17 57'26	12°55'21	max. Earth dist.	2499 Dec 19 05:16	26° 17 32'57	31.69285 AU
min. Earth dist.	2493 May 31 03:51	10° 17 57'41	28.99239 AU	morning rise	2499 Dec 30 19:48	26° 17 59'14	
direct	2493 Aug 19 06:11	9° 17 33'20		retrograde	2500 Mar 31 13:26	29° 17 00'01	
evening set	2493 Nov 24 03:00	11° 17 49'38		min. Earth dist.	2500 Jun 17 10:10	27° 17 41'03	29.78955 AU
				opposition	2500 Jun 18 10:16	27° 17 39'27	8°53'25

direct	2500 Sep 06 16:20	26°  17'36		minimum elong	2507 Jan 03 01:27	11°  53'43	4°29'28
evening set	2500 Dec 07 17:38	28°  18'22		max. Earth dist.	2507 Jan 04 18:15	11°  57'24	32.92563 AU
				morning rise	2507 Jan 17 15:09	12°  25'00	
conjunction	2500 Dec 20 17:19	28°  47'34	8°02'27	retrograde	2507 Apr 16 08:02	14°  15'04	
minimum elong	2500 Dec 20 17:38	28°  47'36	8°02'27	min. Earth dist.	2507 Jul 03 10:06	12°  59'30	31.03016 AU
max. Earth dist.	2500 Dec 21 19:49	28°  50'04	31.84525 AU	opposition	2507 Jul 05 03:07	12°  56'53	4°27'54
morning rise	2501 Jan 02 16:39	29°  16'45		direct	2507 Sep 23 16:51	11°  38'02	
	2501 Jan 23 03:23	0°  3		evening set	2507 Dec 21 14:11	13°  27'16	
retrograde	2501 Apr 03 00:46	1°  315'47					
	2501 Jun 18 05:19	30°  R 		conjunction	2508 Jan 05 08:13	13°  58'41	3°53'51
min. Earth dist.	2501 Jun 19 21:15	29°  57'22	29.94343 AU	minimum elong	2508 Jan 05 08:23	13°  58'42	3°53'52
opposition	2501 Jun 21 00:58	29°  55'32	8°16'06	max. Earth dist.	2508 Jan 07 02:12	14°  02'26	33.12686 AU
direct	2501 Sep 09 08:57	28°  34'06		morning rise	2508 Jan 20 02:11	14°  30'05	
	2501 Nov 24 07:45	0°  3		retrograde	2508 Apr 17 14:19	16°  18'51	
evening set	2501 Dec 09 20:21	0°  333'01		min. Earth dist.	2508 Jul 04 16:46	15°  03'46	31.23230 AU
				opposition	2508 Jul 06 12:38	15°  00'59	3°49'58
conjunction	2501 Dec 23 04:15	1°  302'46	7°27'26	direct	2508 Sep 25 03:52	13°  342'31	
minimum elong	2501 Dec 23 04:33	1°  302'48	7°27'27	evening set	2508 Dec 22 17:01	15°  30'21	
max. Earth dist.	2501 Dec 24 09:24	1°  305'30	32.00675 AU				
morning rise	2502 Jan 05 11:58	1°  332'30		conjunction	2509 Jan 06 14:23	16°  301'48	3°18'23
retrograde	2502 Apr 05 12:37	3°  329'52		minimum elong	2509 Jan 06 14:31	16°  301'48	3°18'23
min. Earth dist.	2502 Jun 22 08:58	2°  311'56	30.10648 AU	max. Earth dist.	2509 Jan 08 10:46	16°  305'44	33.33305 AU
opposition	2502 Jun 23 15:09	2°  309'58	7°38'25	morning rise	2509 Jan 21 11:45	16°  333'14	
direct	2502 Sep 11 22:03	0°  348'58		retrograde	2509 Apr 19 18:48	18°  320'47	
evening set	2502 Dec 11 23:10	2°  346'05		min. Earth dist.	2509 Jul 07 00:40	17°  306'03	31.43989 AU
				opposition	2509 Jul 08 21:44	17°  303'13	3°12'15
conjunction	2502 Dec 25 14:41	3°  316'19	6°52'07	direct	2509 Sep 27 12:50	15°  345'07	
minimum elong	2502 Dec 25 14:57	3°  316'20	6°52'06	evening set	2509 Dec 24 19:33	17°  331'37	
max. Earth dist.	2502 Dec 26 22:55	3°  319'18	32.17685 AU				
morning rise	2503 Jan 08 05:46	3°  346'30		conjunction	2510 Jan 08 19:43	18°  303'02	2°43'08
retrograde	2503 Apr 07 22:12	5°  342'17		minimum elong	2510 Jan 08 19:49	18°  303'02	2°43'08
min. Earth dist.	2503 Jun 24 19:49	4°  324'52	30.27773 AU	max. Earth dist.	2510 Jan 10 18:05	18°  307'07	33.54464 AU
opposition	2503 Jun 26 04:31	4°  322'44	7°00'28	morning rise	2510 Jan 23 19:47	18°  334'28	
direct	2503 Sep 14 12:51	3°  302'11		retrograde	2510 Apr 21 22:52	20°  320'51	
evening set	2503 Dec 14 02:07	4°  357'35		min. Earth dist.	2510 Jul 09 06:17	19°  306'34	31.65312 AU
				opposition	2510 Jul 11 05:59	19°  303'35	2°34'48
conjunction	2503 Dec 28 00:14	5°  328'12	6°16'34	direct	2510 Sep 29 22:32	17°  345'52	
minimum elong	2503 Dec 28 00:29	5°  328'13	6°16'34	evening set	2510 Dec 26 22:10	19°  331'05	
max. Earth dist.	2503 Dec 29 10:04	5°  331'19	32.35452 AU				
morning rise	2504 Jan 10 22:16	5°  358'47		conjunction	2511 Jan 11 00:20	20°  302'26	2°08'08
retrograde	2504 Apr 09 09:38	7°  353'02		minimum elong	2511 Jan 11 00:25	20°  302'26	2°08'07
min. Earth dist.	2504 Jun 26 05:45	6°  336'08	30.45652 AU	max. Earth dist.	2511 Jan 13 00:28	20°  306'38	33.76178 AU
opposition	2504 Jun 27 17:12	6°  333'50	6°22'21	morning rise	2511 Jan 26 02:42	20°  333'47	
direct	2504 Sep 16 02:02	5°  313'44		retrograde	2511 Apr 24 04:37	22°  319'05	
evening set	2504 Dec 15 05:05	7°  307'30		min. Earth dist.	2511 Jul 11 11:41	21°  305'13	31.87250 AU
				opposition	2511 Jul 13 13:31	21°  302'07	1°57'41
conjunction	2504 Dec 29 09:20	7°  338'25	5°40'54	direct	2511 Oct 02 04:06	19°  344'47	
minimum elong	2504 Dec 29 09:34	7°  338'26	5°40'53	evening set	2511 Dec 29 00:27	21°  328'50	
max. Earth dist.	2504 Dec 30 22:22	7°  341'48	32.53901 AU				
morning rise	2505 Jan 12 13:12	8°  309'18		conjunction	2512 Jan 13 04:22	22°  300'04	1°33'26
retrograde	2505 Apr 11 18:08	10°  302'06		minimum elong	2512 Jan 13 04:26	22°  300'04	1°33'26
min. Earth dist.	2505 Jun 28 16:15	8°  345'38	30.64185 AU	max. Earth dist.	2512 Jan 15 07:10	22°  304'27	33.98485 AU
opposition	2505 Jun 30 05:10	8°  343'15	5°44'10	morning rise	2512 Jan 28 08:15	22°  331'18	
direct	2505 Sep 18 16:35	7°  323'35		retrograde	2512 Apr 25 07:26	24°  315'35	
evening set	2505 Dec 17 08:16	9°  315'48		min. Earth dist.	2512 Jul 12 16:47	23°  302'07	32.09770 AU
				opposition	2512 Jul 14 20:18	22°  358'56	1°20'56
conjunction	2505 Dec 31 17:38	9°  346'56	5°05'10	direct	2512 Oct 03 12:17	21°  342'00	
minimum elong	2505 Dec 31 17:51	9°  346'57	5°05'11	evening set	2512 Dec 30 02:50	23°  324'56	
max. Earth dist.	2506 Jan 02 07:41	9°  350'24	32.72958 AU				
morning rise	2506 Jan 15 02:58	10°  318'04		conjunction	2513 Jan 14 07:36	23°  356'00	0°59'05
retrograde	2506 Apr 14 03:03	12°  309'28		minimum elong	2513 Jan 14 07:38	23°  356'00	0°59'04
min. Earth dist.	2506 Jul 01 00:24	10°  353'32	30.83327 AU	max. Earth dist.	2513 Jan 16 11:21	24°  300'26	34.21343 AU
opposition	2506 Jul 02 16:28	10°  350'58	5°06'00	morning rise	2513 Jan 29 12:44	24°  327'05	
direct	2506 Sep 21 04:18	9°  331'42		retrograde	2513 Apr 27 12:38	26°  310'24	
evening set	2506 Dec 19 11:09	11°  322'24		min. Earth dist.	2513 Jul 14 20:07	24°  357'26	32.32858 AU
				opposition	2513 Jul 17 02:21	24°  354'06	0°44'37
conjunction	2507 Jan 03 01:16	11°  353'43	4°29'28	direct	2513 Oct 05 18:34	23°  337'35	

evening set	2514 Jan 01 04:58	25° $\overline{3}$ 19'28		conjunction	2520 Jan 27 14:47	6° \approx 45'21	-2°48'27
				minimum elong	2520 Jan 27 14:42	6° \approx 45'20	2°48'27
conjunction	2514 Jan 16 10:24	25° $\overline{3}$ 50'20	0°25'08	max. Earth dist.	2520 Jan 30 03:38	6° \approx 50'18	35.91527 AU
minimum elong	2514 Jan 16 10:25	25° $\overline{3}$ 50'20	0°25'09	morning rise	2520 Feb 11 14:18	7° \approx 14'20	
max. Earth dist.	2514 Jan 18 17:04	25° $\overline{3}$ 54'59	34.44717 AU	retrograde	2520 May 09 19:19	8° \approx 52'29	
morning rise	2514 Jan 31 15:58	26° $\overline{3}$ 21'13		min. Earth dist.	2520 Jul 27 12:22	7° \approx 42'17	34.04183 AU
retrograde	2514 Apr 29 15:07	28° $\overline{3}$ 03'38		opposition	2520 Jul 30 03:32	7° \approx 38'33	-3°14'35
min. Earth dist.	2514 Jul 17 00:49	26° $\overline{3}$ 51'04	32.56445 AU	direct	2520 Oct 18 22:56	6° \approx 24'50	
opposition	2514 Jul 19 07:56	26° $\overline{3}$ 47'41	0°08'47	evening set	2521 Jan 13 17:18	8° \approx 00'57	
direct	2514 Oct 08 01:54	25° $\overline{3}$ 31'36					
desc. node	2514 Oct 18 01:11	25° $\overline{3}$ 33'05		conjunction	2521 Jan 28 13:38	8° \approx 29'28	-3°18'48
evening set	2515 Jan 03 07:00	27° $\overline{3}$ 12'30		minimum elong	2521 Jan 28 13:31	8° \approx 29'28	3°18'49
				max. Earth dist.	2521 Jan 31 04:22	8° \approx 34'32	36.16487 AU
conjunction	2515 Jan 18 12:23	27° $\overline{3}$ 43'08	-0°08'27	morning rise	2521 Feb 12 10:30	8° \approx 58'02	
minimum elong	2515 Jan 18 12:22	27° $\overline{3}$ 43'08	0°08'28	retrograde	2521 May 11 17:22	10° \approx 35'37	
behind sun begin	2515 Jan 18 06:46	27° $\overline{3}$ 42'41		min. Earth dist.	2521 Jul 29 13:35	9° \approx 25'41	34.29293 AU
behind sun end	2515 Jan 18 17:58	27° $\overline{3}$ 43'35		opposition	2521 Aug 01 04:41	9° \approx 21'58	-3°46'19
max. Earth dist.	2515 Jan 20 19:47	27° $\overline{3}$ 47'48	34.68539 AU	direct	2521 Oct 21 01:03	8° \approx 08'36	
morning rise	2515 Feb 02 18:10	28° $\overline{3}$ 13'47		evening set	2522 Jan 15 18:27	9° \approx 44'03	
retrograde	2515 May 01 17:42	29° $\overline{3}$ 55'22					
min. Earth dist.	2515 Jul 19 02:53	28° $\overline{3}$ 43'17	32.80460 AU	conjunction	2522 Jan 30 11:47	10° \approx 12'08	-3°48'34
opposition	2515 Jul 21 12:42	28° $\overline{3}$ 39'46	-0°26'33	minimum elong	2522 Jan 30 11:40	10° \approx 12'07	3°48'34
direct	2515 Oct 10 07:13	27° $\overline{3}$ 24'06		max. Earth dist.	2522 Feb 02 02:34	10° \approx 17'09	36.41554 AU
evening set	2516 Jan 05 09:01	29° $\overline{3}$ 04'05		morning rise	2522 Feb 14 05:55	10° \approx 40'16	
				retrograde	2522 May 13 15:01	12° \approx 17'18	
conjunction	2516 Jan 20 13:59	29° $\overline{3}$ 34'26	-0°41'28	min. Earth dist.	2522 Jul 31 11:56	11° \approx 07'45	34.54551 AU
minimum elong	2516 Jan 20 13:57	29° $\overline{3}$ 34'26	0°41'27	opposition	2522 Aug 03 05:11	11° \approx 03'56	-4°17'23
max. Earth dist.	2516 Jan 22 23:32	29° $\overline{3}$ 39'16	34.92715 AU	direct	2522 Oct 23 03:00	9° \approx 50'53	
	2516 Feb 02 08:30	0° \approx		evening set	2523 Jan 17 19:16	11° \approx 25'44	
morning rise	2516 Feb 04 19:20	0° \approx 04'49					
retrograde	2516 May 02 17:09	1° \approx 45'38		conjunction	2523 Feb 01 09:23	11° \approx 53'21	-4°17'42
min. Earth dist.	2516 Jul 20 06:39	0° \approx 33'55	33.04818 AU	minimum elong	2523 Feb 01 09:14	11° \approx 53'20	4°17'43
opposition	2516 Jul 22 16:50	0° \approx 30'23	-1°01'21	max. Earth dist.	2523 Feb 04 02:04	11° \approx 58'30	36.66764 AU
	2516 Aug 13 05:39	30° \overline{R} $\overline{3}$		morning rise	2523 Feb 16 00:18	12° \approx 21'02	
direct	2516 Oct 11 12:34	29° $\overline{3}$ 15'09		retrograde	2523 May 15 10:48	13° \approx 57'34	
	2516 Dec 06 15:22	0° \approx		min. Earth dist.	2523 Aug 02 11:45	12° \approx 48'18	34.79994 AU
evening set	2517 Jan 06 10:57	0° \approx 54'16		opposition	2523 Aug 05 05:10	12° \approx 44'29	-4°47'47
				direct	2523 Oct 25 04:53	11° \approx 31'47	
conjunction	2517 Jan 21 15:02	1° \approx 24'18	-1°14'01	evening set	2524 Jan 19 19:59	13° \approx 06'04	
minimum elong	2517 Jan 21 14:59	1° \approx 24'18	1°14'01				
max. Earth dist.	2517 Jan 24 01:26	1° \approx 29'10	35.17182 AU	conjunction	2524 Feb 03 06:33	13° \approx 33'12	-4°46'14
morning rise	2517 Feb 05 19:30	1° \approx 54'23		minimum elong	2524 Feb 03 06:24	13° \approx 33'12	4°46'13
retrograde	2517 May 04 17:04	3° \approx 34'28		max. Earth dist.	2524 Feb 05 23:52	13° \approx 38'22	36.92169 AU
min. Earth dist.	2517 Jul 22 08:21	2° \approx 23'11	33.29431 AU	morning rise	2524 Feb 17 17:50	14° \approx 00'24	
opposition	2517 Jul 24 20:23	2° \approx 19'35	-1°35'34		2524 Mar 25 04:32	15° \approx	
direct	2517 Oct 13 17:11	1° \approx 04'44		retrograde	2524 May 16 06:20	15° \approx 36'30	
evening set	2518 Jan 08 12:46	2° \approx 43'02			2524 Jul 09 20:58	15° \overline{R} \approx	
				min. Earth dist.	2524 Aug 03 09:07	14° \approx 27'36	35.05634 AU
conjunction	2518 Jan 23 15:23	3° \approx 12'45	-1°46'03	opposition	2524 Aug 06 04:15	14° \approx 23'42	-5°17'29
minimum elong	2518 Jan 23 15:19	3° \approx 12'44	1°46'02	direct	2524 Oct 26 05:34	13° \approx 11'21	
max. Earth dist.	2518 Jan 26 02:51	3° \approx 17'39	35.41839 AU	evening set	2525 Jan 20 20:35	14° \approx 45'08	
morning rise	2518 Feb 07 18:39	3° \approx 42'29			2525 Jan 28 20:45	15° \approx	
retrograde	2518 May 06 18:09	5° \approx 21'54					
min. Earth dist.	2518 Jul 24 10:35	4° \approx 10'59	33.54240 AU	conjunction	2525 Feb 04 03:08	15° \approx 11'46	-5°14'07
opposition	2518 Jul 26 23:30	4° \approx 07'21	-2°09'12	minimum elong	2525 Feb 04 02:58	15° \approx 11'45	5°14'07
direct	2518 Oct 15 18:56	2° \approx 52'54		max. Earth dist.	2525 Feb 06 21:21	15° \approx 16'58	37.17760 AU
evening set	2519 Jan 10 14:26	4° \approx 30'26		morning rise	2525 Feb 18 10:40	15° \approx 38'29	
				retrograde	2525 May 18 03:30	17° \approx 14'11	
conjunction	2519 Jan 25 15:27	4° \approx 59'46	-2°17'32	min. Earth dist.	2525 Aug 05 07:08	16° \approx 05'37	35.31485 AU
minimum elong	2519 Jan 25 15:22	4° \approx 59'45	2°17'32	opposition	2525 Aug 08 03:08	16° \approx 01'41	-5°46'29
max. Earth dist.	2519 Jan 28 04:23	5° \approx 04'46	35.66643 AU		2525 Sep 30 10:06	15° \overline{R} \approx	
morning rise	2519 Feb 09 16:53	5° \approx 29'09		direct	2525 Oct 28 03:22	14° \approx 49'42	
retrograde	2519 May 08 17:38	7° \approx 07'55			2525 Nov 24 04:47	15° \approx	
min. Earth dist.	2519 Jul 26 12:08	5° \approx 57'21	33.79162 AU	evening set	2526 Jan 22 20:45	16° \approx 23'00	
opposition	2519 Jul 29 01:47	5° \approx 53'41	-2°42'12				
direct	2519 Oct 17 22:26	4° \approx 39'36		conjunction	2526 Feb 05 23:14	16° \approx 49'08	-5°41'22
evening set	2520 Jan 12 16:04	6° \approx 16'24		minimum elong	2526 Feb 05 23:04	16° \approx 49'07	5°41'21

max. Earth dist.	2526 Feb 08 19:09	16° \approx 54'25	37.43538 AU	conjunction	2533 Feb 16 08:48	27° \approx 40'22	-8°34'13
morning rise	2526 Feb 20 02:24	17° \approx 15'20		minimum elong	2533 Feb 16 08:35	27° \approx 40'21	8°34'13
retrograde	2526 May 20 00:05	18° \approx 50'41		max. Earth dist.	2533 Feb 19 07:43	27° \approx 45'38	39.24113 AU
min. Earth dist.	2526 Aug 07 04:43	17° \approx 42'27	35.57491 AU	morning rise	2533 Feb 28 22:47	28° \approx 02'39	
opposition	2526 Aug 10 01:25	17° \approx 38'30	-6°14'47	retrograde	2533 May 30 09:47	29° \approx 36'17	
direct	2526 Oct 30 01:16	16° \approx 26'52		min. Earth dist.	2533 Aug 18 00:59	28° \approx 30'00	37.39131 AU
evening set	2527 Jan 24 21:01	17° \approx 59'45		opposition	2533 Aug 21 00:03	28° \approx 26'04	-9°13'31
				direct	2533 Nov 10 01:37	27° \approx 16'40	
conjunction	2527 Feb 07 18:51	18° \approx 25'22	-6°07'58	evening set	2534 Feb 05 18:41	28° \approx 47'24	
minimum elong	2527 Feb 07 18:40	18° \approx 25'21	6°07'58				
max. Earth dist.	2527 Feb 10 14:42	18° \approx 30'36	37.69442 AU	conjunction	2534 Feb 18 01:29	29° \approx 09'01	-8°56'24
morning rise	2527 Feb 21 17:43	18° \approx 51'02		minimum elong	2534 Feb 18 01:17	29° \approx 09'00	8°56'25
retrograde	2527 May 21 22:34	20° \approx 26'04		max. Earth dist.	2534 Feb 20 23:45	29° \approx 14'11	39.49364 AU
min. Earth dist.	2527 Aug 09 00:51	19° \approx 18'12	35.83621 AU	morning rise	2534 Mar 02 09:16	29° \approx 30'41	
opposition	2527 Aug 11 23:05	19° \approx 14'12	-6°42'23		2534 Mar 19 22:28	0° \approx	
direct	2527 Oct 31 20:15	18° \approx 02'55		retrograde	2534 Jun 01 04:14	1° \approx 04'09	
evening set	2528 Jan 26 21:00	19° \approx 35'26			2534 Aug 18 08:32	30° \approx	
				min. Earth dist.	2534 Aug 19 18:19	29° \approx 58'08	37.64536 AU
conjunction	2528 Feb 09 14:11	20° \approx 00'31	-6°33'56	opposition	2534 Aug 22 18:36	29° \approx 54'09	-9°36'22
minimum elong	2528 Feb 09 14:00	20° \approx 00'30	6°33'55	direct	2534 Nov 11 18:50	28° \approx 45'00	
max. Earth dist.	2528 Feb 12 11:45	20° \approx 05'51	37.95420 AU		2535 Jan 29 14:16	0° \approx	
morning rise	2528 Feb 23 08:10	20° \approx 25'39		evening set	2535 Feb 07 17:38	0° \approx 15'31	
retrograde	2528 May 22 17:24	22° \approx 00'24					
min. Earth dist.	2528 Aug 09 22:38	20° \approx 52'48	36.09788 AU	conjunction	2535 Feb 19 17:59	0° \approx 36'31	-9°17'58
opposition	2528 Aug 12 20:24	20° \approx 48'50	-7°09'17	minimum elong	2535 Feb 19 17:46	0° \approx 36'30	9°17'58
direct	2528 Nov 01 18:23	19° \approx 37'55		max. Earth dist.	2535 Feb 22 17:34	0° \approx 41'45	39.74506 AU
evening set	2529 Jan 27 20:57	21° \approx 10'05		morning rise	2535 Mar 03 19:11	0° \approx 57'35	
				retrograde	2535 Jun 02 19:30	2° \approx 30'54	
conjunction	2529 Feb 10 08:57	21° \approx 34'36	-6°59'15	min. Earth dist.	2535 Aug 21 13:03	1° \approx 25'03	37.89863 AU
minimum elong	2529 Feb 10 08:45	21° \approx 34'35	6°59'15	opposition	2535 Aug 24 12:36	1° \approx 21'07	-9°58'32
max. Earth dist.	2529 Feb 13 06:08	21° \approx 39'53	38.21401 AU	direct	2535 Nov 13 14:12	0° \approx 12'14	
morning rise	2529 Feb 23 21:53	21° \approx 59'12		evening set	2536 Feb 09 16:32	1° \approx 42'34	
retrograde	2529 May 24 12:02	23° \approx 33'40					
min. Earth dist.	2529 Aug 11 17:56	22° \approx 26'27	36.35932 AU	conjunction	2536 Feb 21 10:03	2° \approx 02'57	-9°38'55
opposition	2529 Aug 14 17:12	22° \approx 22'25	-7°35'29	minimum elong	2536 Feb 21 09:51	2° \approx 02'56	9°38'55
direct	2529 Nov 03 16:38	21° \approx 11'50		max. Earth dist.	2536 Feb 24 09:24	2° \approx 08'08	39.99603 AU
evening set	2530 Jan 29 20:48	22° \approx 43'41		morning rise	2536 Mar 04 04:23	2° \approx 23'23	
				retrograde	2536 Jun 03 10:14	3° \approx 56'35	
conjunction	2530 Feb 12 03:28	23° \approx 07'39	-7°23'55	min. Earth dist.	2536 Aug 22 05:17	2° \approx 51'02	38.15154 AU
minimum elong	2530 Feb 12 03:16	23° \approx 07'39	7°23'56	opposition	2536 Aug 25 06:08	2° \approx 47'02	-10°20'01
max. Earth dist.	2530 Feb 15 01:41	23° \approx 12'58	38.47310 AU	direct	2536 Nov 14 09:07	1° \approx 38'25	
morning rise	2530 Feb 25 11:06	23° \approx 31'41		evening set	2537 Feb 10 15:07	3° \approx 08'37	
retrograde	2530 May 26 05:44	25° \approx 05'56					
min. Earth dist.	2530 Aug 13 14:57	23° \approx 58'57	36.61992 AU	conjunction	2537 Feb 22 01:35	3° \approx 28'22	-9°59'14
opposition	2530 Aug 16 13:42	23° \approx 54'58	-8°01'00	minimum elong	2537 Feb 22 01:22	3° \approx 28'21	9°59'13
direct	2530 Nov 05 14:07	22° \approx 44'43		max. Earth dist.	2537 Feb 25 01:36	3° \approx 33'35	40.24665 AU
evening set	2531 Jan 31 20:28	24° \approx 16'16		morning rise	2537 Mar 05 12:59	3° \approx 48'11	
				retrograde	2537 Jun 05 01:26	5° \approx 21'18	
conjunction	2531 Feb 13 21:38	24° \approx 39'39	-7°47'59	min. Earth dist.	2537 Aug 23 22:39	4° \approx 15'59	38.40434 AU
minimum elong	2531 Feb 13 21:25	24° \approx 39'38	7°47'58	opposition	2537 Aug 26 23:29	4° \approx 12'00	-10°40'51
max. Earth dist.	2531 Feb 16 19:58	24° \approx 44'57	38.73100 AU	direct	2537 Nov 16 02:53	3° \approx 03'40	
morning rise	2531 Feb 26 23:34	25° \approx 03'07		evening set	2538 Feb 12 13:38	4° \approx 33'46	
retrograde	2531 May 27 22:05	26° \approx 37'08					
min. Earth dist.	2531 Aug 15 10:13	25° \approx 30'27	36.87887 AU	conjunction	2538 Feb 23 17:00	4° \approx 52'53	-10°18'55
opposition	2531 Aug 18 09:35	25° \approx 26'27	-8°25'51	minimum elong	2538 Feb 23 16:47	4° \approx 52'52	10°18'55
direct	2531 Nov 07 11:48	24° \approx 16'30		max. Earth dist.	2538 Feb 26 17:53	4° \approx 58'07	40.49722 AU
evening set	2532 Feb 02 20:11	25° \approx 47'46		morning rise	2538 Mar 06 21:01	5° \approx 12'03	
				retrograde	2538 Jun 06 15:35	6° \approx 45'09	
conjunction	2532 Feb 15 15:22	26° \approx 10'34	-8°11'24	min. Earth dist.	2538 Aug 25 15:00	5° \approx 40'05	38.65678 AU
minimum elong	2532 Feb 15 15:10	26° \approx 10'33	8°11'24	opposition	2538 Aug 28 16:15	5° \approx 36'06	-11°01'00
max. Earth dist.	2532 Feb 18 13:17	26° \approx 15'48	38.98698 AU	direct	2538 Nov 17 20:52	4° \approx 28'04	
morning rise	2532 Feb 28 11:37	26° \approx 33'27		evening set	2539 Feb 14 12:05	5° \approx 58'04	
retrograde	2532 May 28 16:25	28° \approx 07'16					
min. Earth dist.	2532 Aug 16 05:33	27° \approx 00'48	37.13602 AU	conjunction	2539 Feb 25 07:53	6° \approx 16'33	-10°37'59
opposition	2532 Aug 19 05:00	26° \approx 56'49	-8°50'01	minimum elong	2539 Feb 25 07:41	6° \approx 16'32	10°37'59
direct	2532 Nov 08 06:37	25° \approx 47'10		max. Earth dist.	2539 Feb 28 08:13	6° \approx 21'44	40.74728 AU
evening set	2533 Feb 03 19:32	27° \approx 18'09		morning rise	2539 Mar 08 04:35	6° \approx 35'06	

retrograde	2539 Jun 08 09:24	8° H 08'11		minimum elong	2546 Mar 06 09:03	15° H 42'18	12°35'28
min. Earth dist.	2539 Aug 27 06:46	7° H 03'25	38.90866 AU	max. Earth dist.	2546 Mar 09 08:21	15° H 47'12	42.44053 AU
opposition	2539 Aug 30 08:43	6° H 59'25	-11°20'31	morning rise	2546 Mar 14 19:03	15° H 56'09	
direct	2539 Nov 19 10:48	5° H 51'40		retrograde	2546 Jun 17 13:02	17° H 29'46	
evening set	2540 Feb 16 10:22	7° H 21'38		min. Earth dist.	2546 Sep 05 18:21	16° H 26'28	40.60693 AU
				opposition	2546 Sep 08 18:32	16° H 22'40	-13°20'13
conjunction	2540 Feb 26 22:41	7° H 39'29	-10°56'28	direct	2546 Nov 28 19:50	15° H 16'45	
minimum elong	2540 Feb 26 22:28	7° H 39'28	10°56'28	evening set	2547 Feb 27 22:03	16° H 47'02	
max. Earth dist.	2540 Mar 01 00:15	7° H 44'43	40.99644 AU				
morning rise	2540 Mar 08 11:37	7° H 57'23		conjunction	2547 Mar 07 22:01	17° H 00'07	-12°50'05
retrograde	2540 Jun 09 01:07	9° H 30'30		minimum elong	2547 Mar 07 21:50	17° H 00'06	12°50'05
min. Earth dist.	2540 Aug 27 23:41	8° H 25'55	39.15925 AU	max. Earth dist.	2547 Mar 10 21:51	17° H 05'01	42.67030 AU
opposition	2540 Aug 31 00:44	8° H 21'59	-11°39'23	morning rise	2547 Mar 15 22:22	17° H 13'14	
direct	2540 Nov 20 01:58	7° H 14'33		retrograde	2547 Jun 19 01:54	18° H 46'59	
evening set	2541 Feb 17 08:45	8° H 44'31		min. Earth dist.	2547 Sep 07 09:31	17° H 43'46	40.83752 AU
				opposition	2547 Sep 10 08:23	17° H 40'03	-13°35'03
conjunction	2541 Feb 27 13:03	9° H 01'43	-11°14'21	direct	2547 Nov 30 09:10	16° H 34'21	
minimum elong	2541 Feb 27 12:51	9° H 01'42	11°14'20	evening set	2548 Feb 29 20:22	18° H 04'45	
max. Earth dist.	2541 Mar 02 13:48	9° H 06'51	41.24418 AU				
morning rise	2541 Mar 09 18:04	9° H 18'57		conjunction	2548 Mar 08 10:28	18° H 17'06	-13°04'10
retrograde	2541 Jun 10 16:10	10° H 52'06		minimum elong	2548 Mar 08 10:17	18° H 17'05	13°04'10
min. Earth dist.	2541 Aug 29 14:22	9° H 47'51	39.40813 AU	max. Earth dist.	2548 Mar 11 09:47	18° H 21'57	42.89790 AU
opposition	2541 Sep 01 16:29	9° H 43'53	-11°57'39	morning rise	2548 Mar 16 00:51	18° H 29'28	
direct	2541 Nov 21 16:52	8° H 36'44		retrograde	2548 Jun 19 11:27	20° H 03'23	
evening set	2542 Feb 19 06:51	10° H 06'43		min. Earth dist.	2548 Sep 07 21:59	19° H 00'24	41.06606 AU
				opposition	2548 Sep 10 21:40	18° H 56'39	-13°49'20
conjunction	2542 Mar 01 03:08	10° H 23'15	-11°31'39	direct	2548 Dec 01 00:45	17° H 51'09	
minimum elong	2542 Mar 01 02:56	10° H 23'14	11°31'40	evening set	2549 Mar 02 18:39	19° H 21'43	
max. Earth dist.	2542 Mar 04 04:25	10° H 28'24	41.48974 AU				
morning rise	2542 Mar 11 00:07	10° H 39'50		conjunction	2549 Mar 09 22:34	19° H 33'19	-13°17'44
retrograde	2542 Jun 12 05:03	12° H 13'04		minimum elong	2549 Mar 09 22:24	19° H 33'19	13°17'44
min. Earth dist.	2542 Aug 31 07:10	11° H 08'59	39.65457 AU	max. Earth dist.	2549 Mar 12 21:45	19° H 38'08	43.12364 AU
opposition	2542 Sep 03 08:05	11° H 05'05	-12°15'18	morning rise	2549 Mar 17 02:52	19° H 44'57	
direct	2542 Nov 23 09:56	9° H 58'14		retrograde	2549 Jun 20 22:12	21° H 19'03	
evening set	2543 Feb 21 05:14	11° H 28'15		min. Earth dist.	2549 Sep 09 11:45	20° H 16'14	41.29300 AU
				opposition	2549 Sep 12 10:56	20° H 12'31	-14°03'02
conjunction	2543 Mar 02 17:12	11° H 44'08	-11°48'24	direct	2549 Dec 02 15:19	19° H 07'14	
minimum elong	2543 Mar 02 17:00	11° H 44'07	11°48'24	evening set	2550 Mar 04 17:03	20° H 37'59	
max. Earth dist.	2543 Mar 05 18:04	11° H 49'13	41.73261 AU				
morning rise	2543 Mar 12 05:40	12° H 00'02		conjunction	2550 Mar 11 10:29	20° H 48'50	-13°30'47
retrograde	2543 Jun 13 16:54	13° H 33'20		minimum elong	2550 Mar 11 10:18	20° H 48'49	13°30'46
min. Earth dist.	2543 Sep 01 22:02	12° H 29'31	39.89782 AU	max. Earth dist.	2550 Mar 14 10:16	20° H 53'40	43.34790 AU
opposition	2543 Sep 04 23:01	12° H 25'37	-12°32'22	morning rise	2550 Mar 18 04:03	20° H 59'41	
direct	2543 Nov 25 03:03	11° H 19'02		retrograde	2550 Jun 22 08:42	22° H 34'02	
evening set	2544 Feb 23 03:33	12° H 49'06		min. Earth dist.	2550 Sep 11 00:50	21° H 31'23	41.51815 AU
				opposition	2550 Sep 13 23:48	21° H 27'41	-14°16'12
conjunction	2544 Mar 03 06:52	13° H 04'17	-12°04'37	direct	2550 Dec 04 05:59	20° H 22'38	
minimum elong	2544 Mar 03 06:39	13° H 04'17	12°04'37	evening set	2551 Mar 06 15:51	21° H 53'38	
max. Earth dist.	2544 Mar 06 06:48	13° H 09'17	41.97202 AU				
morning rise	2544 Mar 12 10:50	13° H 19'31		conjunction	2551 Mar 12 22:07	22° H 03'41	-13°43'18
retrograde	2544 Jun 14 07:30	14° H 52'56		minimum elong	2551 Mar 12 21:58	22° H 03'40	13°43'18
min. Earth dist.	2544 Sep 02 13:24	13° H 49'17	40.13762 AU	max. Earth dist.	2551 Mar 15 20:52	22° H 08'25	43.57037 AU
opposition	2544 Sep 05 13:56	13° H 45'26	-12°48'53	morning rise	2551 Mar 19 04:36	22° H 13'45	
direct	2544 Nov 25 17:32	12° H 39'05		retrograde	2551 Jun 23 22:32	23° H 48'23	
evening set	2545 Feb 24 01:40	14° H 09'12		min. Earth dist.	2551 Sep 12 12:56	22° H 45'57	41.74149 AU
				opposition	2551 Sep 15 12:15	22° H 42'15	-14°28'49
conjunction	2545 Mar 04 20:15	14° H 23'42	-12°20'18	direct	2551 Dec 05 16:53	21° H 37'25	
minimum elong	2545 Mar 04 20:04	14° H 23'41	12°20'18	evening set	2552 Mar 07 14:56	23° H 08'43	
max. Earth dist.	2545 Mar 07 20:44	14° H 28'43	42.20794 AU				
morning rise	2545 Mar 13 15:13	14° H 38'15		conjunction	2552 Mar 13 09:37	23° H 17'56	-13°55'19
retrograde	2545 Jun 15 21:00	16° H 11'45		minimum elong	2552 Mar 13 09:28	23° H 17'55	13°55'18
min. Earth dist.	2545 Sep 04 04:48	15° H 08'15	40.37377 AU	max. Earth dist.	2552 Mar 16 09:11	23° H 22'42	43.79080 AU
opposition	2545 Sep 07 04:27	15° H 04'28	-13°04'50	morning rise	2552 Mar 19 04:25	23° H 27'10	
direct	2545 Nov 27 08:35	13° H 58'20		retrograde	2552 Jun 24 11:19	25° H 02'09	
evening set	2546 Feb 25 23:57	15° H 28'31		min. Earth dist.	2552 Sep 13 02:33	23° H 59'51	41.96247 AU
				opposition	2552 Sep 16 00:38	23° H 56'13	-14°40'56
conjunction	2546 Mar 06 09:15	15° H 42'19	-12°35'27	direct	2552 Dec 06 04:04	22° H 51'37	

evening set	2553 Mar 09 14:34	24° $\mathbf{\text{H}}$ 23'17	retrograde	2559 Jul 03 13:57	3° $\mathbf{\text{P}}$ 23'34
			min. Earth dist.	2559 Sep 22 14:55	2° $\mathbf{\text{P}}$ 22'13 43.40460 AU
conjunction	2553 Mar 14 20:44	24° $\mathbf{\text{H}}$ 31'38 -14°06'50	opposition	2559 Sep 25 08:04	2° $\mathbf{\text{P}}$ 18'56 -15°52'26
minimum elong	2553 Mar 14 20:36	24° $\mathbf{\text{H}}$ 31'38 14°06'51	direct	2559 Dec 15 11:16	1° $\mathbf{\text{P}}$ 15'41
max. Earth dist.	2553 Mar 17 19:17	24° $\mathbf{\text{H}}$ 36'19 44.00879 AU			
morning rise	2553 Mar 20 02:59	24° $\mathbf{\text{H}}$ 40'00	conjunction	2560 Mar 22 22:23	2° $\mathbf{\text{P}}$ 52'23 -15°15'03
retrograde	2553 Jun 25 23:50	26° $\mathbf{\text{H}}$ 15'22	minimum elong	2560 Mar 22 22:18	2° $\mathbf{\text{P}}$ 52'23 15°15'03
min. Earth dist.	2553 Sep 14 14:05	25° $\mathbf{\text{H}}$ 13'17 42.18064 AU	max. Earth dist.	2560 Mar 25 16:49	2° $\mathbf{\text{P}}$ 56'39 45.42646 AU
opposition	2553 Sep 17 12:42	25° $\mathbf{\text{H}}$ 09'40 -14°52'31	retrograde	2560 Jul 03 21:00	4° $\mathbf{\text{P}}$ 32'55
direct	2553 Dec 07 14:21	24° $\mathbf{\text{H}}$ 05'17	min. Earth dist.	2560 Sep 23 01:03	3° $\mathbf{\text{P}}$ 31'44 43.59527 AU
evening set	2554 Mar 11 15:00	25° $\mathbf{\text{H}}$ 37'22	opposition	2560 Sep 25 18:20	3° $\mathbf{\text{P}}$ 28'26 -16°00'52
			direct	2560 Dec 15 23:29	2° $\mathbf{\text{P}}$ 25'21
conjunction	2554 Mar 16 07:49	25° $\mathbf{\text{H}}$ 44'49 -14°17'53			
minimum elong	2554 Mar 16 07:40	25° $\mathbf{\text{H}}$ 44'48 14°17'53	conjunction	2561 Mar 24 07:46	4° $\mathbf{\text{P}}$ 01'37 -15°23'05
max. Earth dist.	2554 Mar 19 06:05	25° $\mathbf{\text{H}}$ 49'27 44.22362 AU	minimum elong	2561 Mar 24 07:39	4° $\mathbf{\text{P}}$ 01'36 15°23'05
morning rise	2554 Mar 21 00:40	25° $\mathbf{\text{H}}$ 52'15	max. Earth dist.	2561 Mar 27 01:12	4° $\mathbf{\text{P}}$ 05'48 45.61452 AU
retrograde	2554 Jun 27 09:58	27° $\mathbf{\text{H}}$ 28'05	retrograde	2561 Jul 05 06:39	5° $\mathbf{\text{P}}$ 41'45
min. Earth dist.	2554 Sep 16 03:28	26° $\mathbf{\text{H}}$ 26'08 42.39545 AU	min. Earth dist.	2561 Sep 24 11:43	4° $\mathbf{\text{P}}$ 40'40 43.78351 AU
opposition	2554 Sep 19 00:36	26° $\mathbf{\text{H}}$ 22'35 -15°03'38	opposition	2561 Sep 27 04:34	4° $\mathbf{\text{P}}$ 37'25 -16°08'50
direct	2554 Dec 09 02:58	25° $\mathbf{\text{H}}$ 18'26	direct	2561 Dec 17 10:23	3° $\mathbf{\text{P}}$ 34'30
evening set	2555 Mar 13 16:54	26° $\mathbf{\text{H}}$ 51'03			
conjunction	2555 Mar 17 18:52	26° $\mathbf{\text{H}}$ 57'29 -14°28'29	conjunction	2562 Mar 25 17:16	5° $\mathbf{\text{P}}$ 10'20 -15°30'41
minimum elong	2555 Mar 17 18:44	26° $\mathbf{\text{H}}$ 57'28 14°28'30	minimum elong	2562 Mar 25 17:12	5° $\mathbf{\text{P}}$ 10'20 15°30'41
morning rise	2555 Mar 21 20:46	27° $\mathbf{\text{H}}$ 03'55	max. Earth dist.	2562 Mar 28 11:26	5° $\mathbf{\text{P}}$ 14'33 45.80029 AU
max. Earth dist.	2555 Mar 20 16:54	27° $\mathbf{\text{H}}$ 02'05 44.43481 AU	retrograde	2562 Jul 06 16:24	6° $\mathbf{\text{P}}$ 50'04
retrograde	2555 Jun 28 18:21	28° $\mathbf{\text{H}}$ 40'17	min. Earth dist.	2562 Sep 25 22:26	5° $\mathbf{\text{P}}$ 49'07 43.96929 AU
min. Earth dist.	2555 Sep 17 15:31	27° $\mathbf{\text{H}}$ 38'30 42.60603 AU	opposition	2562 Sep 28 14:22	5° $\mathbf{\text{P}}$ 45'54 -16°16'22
opposition	2555 Sep 20 12:09	27° $\mathbf{\text{H}}$ 34'59 -15°14'17	direct	2562 Dec 18 21:08	4° $\mathbf{\text{P}}$ 43'10
direct	2555 Dec 10 17:11	26° $\mathbf{\text{H}}$ 31'03			
evening set	2556 Mar 14 20:35	28° $\mathbf{\text{H}}$ 04'19	conjunction	2563 Mar 27 02:28	6° $\mathbf{\text{P}}$ 18'36 -15°37'51
conjunction	2556 Mar 18 05:33	28° $\mathbf{\text{H}}$ 09'37 -14°38'39	minimum elong	2563 Mar 27 02:22	6° $\mathbf{\text{P}}$ 18'35 15°37'51
minimum elong	2556 Mar 18 05:25	28° $\mathbf{\text{H}}$ 09'37 14°38'38	max. Earth dist.	2563 Mar 29 19:10	6° $\mathbf{\text{P}}$ 22'42 45.98378 AU
morning rise	2556 Mar 21 14:27	28° $\mathbf{\text{H}}$ 14'55	retrograde	2563 Jul 08 05:05	7° $\mathbf{\text{P}}$ 57'57
max. Earth dist.	2556 Mar 21 01:49	28° $\mathbf{\text{H}}$ 14'05 44.64156 AU	min. Earth dist.	2563 Sep 27 07:35	6° $\mathbf{\text{P}}$ 57'11 44.15270 AU
retrograde	2556 Jun 29 06:38	29° $\mathbf{\text{H}}$ 51'58	opposition	2563 Sep 30 00:01	6° $\mathbf{\text{P}}$ 53'57 -16°23'27
min. Earth dist.	2556 Sep 18 03:24	28° $\mathbf{\text{H}}$ 50'20 42.81214 AU	direct	2563 Dec 20 03:35	5° $\mathbf{\text{P}}$ 51'24
opposition	2556 Sep 20 23:31	28° $\mathbf{\text{H}}$ 46'52 -15°24'28	conjunction	2564 Mar 27 11:28	7° $\mathbf{\text{P}}$ 26'27 -15°44'37
direct	2556 Dec 11 03:53	27° $\mathbf{\text{H}}$ 43'07	minimum elong	2564 Mar 27 11:24	7° $\mathbf{\text{P}}$ 26'27 15°44'37
evening set	2557 Mar 17 04:14	29° $\mathbf{\text{H}}$ 17'18	max. Earth dist.	2564 Mar 30 04:24	7° $\mathbf{\text{P}}$ 30'33 46.16469 AU
conjunction	2557 Mar 19 16:13	29° $\mathbf{\text{H}}$ 21'12 -14°48'23	retrograde	2564 Jul 08 14:17	9° $\mathbf{\text{P}}$ 05'25
minimum elong	2557 Mar 19 16:05	29° $\mathbf{\text{H}}$ 21'12 14°48'23	min. Earth dist.	2564 Sep 27 18:43	8° $\mathbf{\text{P}}$ 04'45 44.33339 AU
morning rise	2557 Mar 22 04:02	29° $\mathbf{\text{H}}$ 25'06	opposition	2564 Sep 30 09:32	8° $\mathbf{\text{P}}$ 01'37 -16°30'07
max. Earth dist.	2557 Mar 22 12:41	29° $\mathbf{\text{H}}$ 25'40 44.84380 AU	direct	2564 Dec 20 11:57	6° $\mathbf{\text{P}}$ 59'15
	2557 Apr 14 03:39	0° $\mathbf{\text{P}}$	conjunction	2565 Mar 28 20:25	8° $\mathbf{\text{P}}$ 33'55 -15°50'58
retrograde	2557 Jun 30 17:27	1° $\mathbf{\text{P}}$ 03'06	minimum elong	2565 Mar 28 20:20	8° $\mathbf{\text{P}}$ 33'55 15°50'58
min. Earth dist.	2557 Sep 19 16:15	0° $\mathbf{\text{P}}$ 01'33 43.01359 AU	max. Earth dist.	2565 Mar 31 12:48	8° $\mathbf{\text{P}}$ 37'58 46.34293 AU
	2557 Sep 20 22:38	30° $\mathbf{\text{R}}$ $\mathbf{\text{H}}$	retrograde	2565 Jul 09 20:37	10° $\mathbf{\text{P}}$ 12'32
opposition	2557 Sep 22 10:43	29° $\mathbf{\text{H}}$ 58'10 -15°34'14	min. Earth dist.	2565 Sep 29 03:48	9° $\mathbf{\text{P}}$ 12'02 44.51100 AU
direct	2557 Dec 12 15:29	28° $\mathbf{\text{H}}$ 54'36	opposition	2565 Oct 01 18:46	9° $\mathbf{\text{P}}$ 08'54 -16°36'22
	2558 Feb 28 00:08	0° $\mathbf{\text{P}}$	direct	2565 Dec 21 22:38	8° $\mathbf{\text{P}}$ 06'42
evening set	2558 Mar 19 23:31	0° $\mathbf{\text{P}}$ 30'28	conjunction	2566 Mar 30 05:04	9° $\mathbf{\text{P}}$ 41'02 -15°56'56
conjunction	2558 Mar 21 02:25	0° $\mathbf{\text{P}}$ 32'12 -14°57'42	minimum elong	2566 Mar 30 05:01	9° $\mathbf{\text{P}}$ 41'02 15°56'56
minimum elong	2558 Mar 21 02:19	0° $\mathbf{\text{P}}$ 32'12 14°57'41	max. Earth dist.	2566 Apr 01 20:17	9° $\mathbf{\text{P}}$ 45'00 46.51777 AU
morning rise	2558 Mar 22 05:08	0° $\mathbf{\text{P}}$ 33'56	retrograde	2566 Jul 11 04:27	11° $\mathbf{\text{P}}$ 19'17
max. Earth dist.	2558 Mar 23 21:21	0° $\mathbf{\text{P}}$ 36'32 45.04170 AU	min. Earth dist.	2566 Sep 30 14:10	10° $\mathbf{\text{P}}$ 18'54 44.68501 AU
retrograde	2558 Jul 02 04:41	2° $\mathbf{\text{P}}$ 13'38	opposition	2566 Oct 03 03:59	10° $\mathbf{\text{P}}$ 15'50 -16°42'13
min. Earth dist.	2558 Sep 21 02:47	1° $\mathbf{\text{P}}$ 12'14 43.21088 AU	direct	2566 Dec 23 08:56	9° $\mathbf{\text{P}}$ 13'49
opposition	2558 Sep 23 21:33	1° $\mathbf{\text{P}}$ 08'51 -15°43'33	conjunction	2567 Mar 31 13:56	10° $\mathbf{\text{P}}$ 47'47 -16°02'31
direct	2558 Dec 14 00:35	0° $\mathbf{\text{P}}$ 05'26	minimum elong	2567 Mar 31 13:52	10° $\mathbf{\text{P}}$ 47'47 16°02'30
conjunction	2559 Mar 22 12:30	1° $\mathbf{\text{P}}$ 42'36 -15°06'35	max. Earth dist.	2567 Apr 03 05:07	10° $\mathbf{\text{P}}$ 51'44 46.68870 AU
minimum elong	2559 Mar 22 12:23	1° $\mathbf{\text{P}}$ 42'35 15°06'36	retrograde	2567 Jul 12 11:50	12° $\mathbf{\text{P}}$ 25'42
max. Earth dist.	2559 Mar 25 07:17	1° $\mathbf{\text{P}}$ 46'54 45.23564 AU	min. Earth dist.	2567 Oct 02 00:18	11° $\mathbf{\text{P}}$ 25'24 44.85458 AU
			opposition	2567 Oct 04 12:47	11° $\mathbf{\text{P}}$ 22'24 -16°47'42

direct	2567 Dec 24 19:50	10° Υ 20'33		minimum elong	2576 Apr 09 13:00	20° Υ 28'35	16°37'11
				max. Earth dist.	2576 Apr 11 20:33	20° Υ 31'57	48.04248 AU
conjunction	2568 Mar 31 22:29	11° Υ 54'09	-16°07'45	retrograde	2576 Jul 21 11:15	22° Υ 03'28	
minimum elong	2568 Mar 31 22:27	11° Υ 54'09	16°07'46	min. Earth dist.	2576 Oct 11 07:29	21° Υ 03'54	46.19819 AU
max. Earth dist.	2568 Apr 03 11:41	11° Υ 57'58	46.85508 AU	opposition	2576 Oct 13 13:04	21° Υ 01'18	-17°20'55
retrograde	2568 Jul 12 22:43	13° Υ 31'43		direct	2577 Jan 02 18:27	20° Υ 00'35	
min. Earth dist.	2568 Oct 02 09:25	12° Υ 31'32	45.01944 AU				
opposition	2568 Oct 04 21:35	12° Υ 28'34	-16°52'49	conjunction	2577 Apr 10 20:11	21° Υ 31'16	-16°39'18
direct	2568 Dec 25 03:22	11° Υ 26'51		minimum elong	2577 Apr 10 20:13	21° Υ 31'16	16°39'18
				max. Earth dist.	2577 Apr 13 03:55	21° Υ 34'38	48.17751 AU
conjunction	2569 Apr 02 06:50	13° Υ 00'06	-16°12'39	retrograde	2577 Jul 22 16:25	23° Υ 05'54	
minimum elong	2569 Apr 02 06:47	13° Υ 00'06	16°12'38	min. Earth dist.	2577 Oct 12 15:26	22° Υ 06'27	46.33178 AU
max. Earth dist.	2569 Apr 04 19:46	13° Υ 03'53	47.01656 AU	opposition	2577 Oct 14 20:19	22° Υ 03'53	-17°22'48
retrograde	2569 Jul 14 08:45	14° Υ 37'18		direct	2578 Jan 04 03:57	21° Υ 03'20	
min. Earth dist.	2569 Oct 03 20:06	13° Υ 37'08	45.17934 AU				
opposition	2569 Oct 06 06:21	13° Υ 34'16	-16°57'36	conjunction	2578 Apr 12 03:19	22° Υ 33'45	-16°41'05
direct	2569 Dec 26 10:39	12° Υ 32'41		minimum elong	2578 Apr 12 03:19	22° Υ 33'45	16°41'05
				max. Earth dist.	2578 Apr 14 09:11	22° Υ 37'00	48.30901 AU
conjunction	2570 Apr 03 15:09	14° Υ 05'34	-16°17'12	retrograde	2578 Jul 24 01:10	24° Υ 08'09	
minimum elong	2570 Apr 03 15:07	14° Υ 05'34	16°17'13	min. Earth dist.	2578 Oct 13 23:06	23° Υ 08'49	46.46164 AU
max. Earth dist.	2570 Apr 06 02:53	14° Υ 09'15	47.17341 AU	opposition	2578 Oct 16 03:22	23° Υ 06'17	-17°24'23
retrograde	2570 Jul 15 16:26	15° Υ 42'23		direct	2579 Jan 05 10:39	22° Υ 05'53	
min. Earth dist.	2570 Oct 05 04:26	14° Υ 42'19	45.33466 AU				
opposition	2570 Oct 07 14:35	14° Υ 39'28	-17°02'01	conjunction	2579 Apr 13 10:31	23° Υ 36'04	-16°42'33
direct	2570 Dec 27 17:57	13° Υ 37'59		minimum elong	2579 Apr 13 10:33	23° Υ 36'04	16°42'34
				max. Earth dist.	2579 Apr 15 16:15	23° Υ 39'17	48.43633 AU
conjunction	2571 Apr 04 23:10	15° Υ 10'31	-16°21'25	retrograde	2579 Jul 25 10:15	25° Υ 10'13	
minimum elong	2571 Apr 04 23:08	15° Υ 10'30	16°21'25	min. Earth dist.	2579 Oct 15 08:11	24° Υ 10'56	46.58687 AU
max. Earth dist.	2571 Apr 07 09:39	15° Υ 14'06	47.32592 AU	opposition	2579 Oct 17 10:27	24° Υ 08'31	-17°25'39
retrograde	2571 Jul 16 22:51	16° Υ 46'58		direct	2580 Jan 06 16:44	23° Υ 08'15	
min. Earth dist.	2571 Oct 06 14:04	15° Υ 46'56	45.48605 AU				
opposition	2571 Oct 08 22:50	15° Υ 44'09	-17°06'05	conjunction	2580 Apr 13 17:31	24° Υ 38'12	-16°43'45
direct	2571 Dec 29 03:43	14° Υ 42'47		minimum elong	2580 Apr 13 17:33	24° Υ 38'12	16°43'44
				max. Earth dist.	2580 Apr 15 21:33	24° Υ 41'19	48.55889 AU
conjunction	2572 Apr 05 07:03	16° Υ 14'57	-16°25'17	retrograde	2580 Jul 25 19:23	26° Υ 12'06	
minimum elong	2572 Apr 05 07:02	16° Υ 14'56	16°25'18	min. Earth dist.	2580 Oct 15 15:13	25° Υ 12'56	46.70700 AU
max. Earth dist.	2572 Apr 07 17:48	16° Υ 18'33	47.47484 AU	opposition	2580 Oct 17 17:18	25° Υ 10'31	-17°26'37
retrograde	2572 Jul 17 03:31	17° Υ 51'03		direct	2581 Jan 06 20:35	24° Υ 10'22	
min. Earth dist.	2572 Oct 06 22:41	16° Υ 51'06	45.63395 AU				
opposition	2572 Oct 09 06:45	16° Υ 48'21	-17°09'47	conjunction	2581 Apr 15 00:28	25° Υ 40'05	-16°44'39
direct	2572 Dec 29 14:57	15° Υ 47'05		minimum elong	2581 Apr 15 00:30	25° Υ 40'05	16°44'40
				max. Earth dist.	2581 Apr 17 03:04	25° Υ 43'06	48.67619 AU
conjunction	2573 Apr 06 14:41	17° Υ 18'55	-16°28'48	retrograde	2581 Jul 27 01:17	27° Υ 13'44	
minimum elong	2573 Apr 06 14:41	17° Υ 18'55	16°28'47	min. Earth dist.	2581 Oct 17 00:12	26° Υ 14'34	46.82190 AU
max. Earth dist.	2573 Apr 08 23:46	17° Υ 22'24	47.62073 AU	opposition	2581 Oct 19 00:13	26° Υ 12'16	-17°27'19
retrograde	2573 Jul 18 13:01	18° Υ 54'41		direct	2582 Jan 08 03:43	25° Υ 12'13	
min. Earth dist.	2573 Oct 08 06:25	17° Υ 54'51	45.77911 AU				
opposition	2573 Oct 10 14:33	17° Υ 52'06	-17°13'07	conjunction	2582 Apr 16 07:23	26° Υ 41'41	-16°45'17
direct	2573 Dec 30 21:51	16° Υ 50'58		minimum elong	2582 Apr 16 07:25	26° Υ 41'41	16°45'17
				max. Earth dist.	2582 Apr 18 09:34	26° Υ 44'40	48.78844 AU
conjunction	2574 Apr 07 22:15	18° Υ 22'28	-16°31'57	retrograde	2582 Jul 28 03:43	28° Υ 15'03	
minimum elong	2574 Apr 07 22:14	18° Υ 22'28	16°31'57	min. Earth dist.	2582 Oct 18 07:36	27° Υ 15'57	46.93166 AU
max. Earth dist.	2574 Apr 10 07:38	18° Υ 25'57	47.76391 AU	opposition	2582 Oct 20 06:49	27° Υ 13'41	-17°27'44
retrograde	2574 Jul 19 21:41	19° Υ 57'56		direct	2583 Jan 09 14:03	26° Υ 13'43	
min. Earth dist.	2574 Oct 09 15:45	18° Υ 58'08	45.92152 AU				
opposition	2574 Oct 11 22:17	18° Υ 55'28	-17°16'04	conjunction	2583 Apr 17 14:02	27° Υ 42'56	-16°45'38
direct	2575 Jan 01 05:04	17° Υ 54'28		minimum elong	2583 Apr 17 14:04	27° Υ 42'56	16°45'39
				max. Earth dist.	2583 Apr 19 14:01	27° Υ 45'47	48.89585 AU
conjunction	2575 Apr 09 05:46	19° Υ 25'40	-16°34'45	retrograde	2583 Jul 29 10:32	29° Υ 16'03	
minimum elong	2575 Apr 09 05:47	19° Υ 25'40	16°34'44	min. Earth dist.	2583 Oct 19 14:46	28° Υ 16'59	47.03700 AU
max. Earth dist.	2575 Apr 11 14:16	19° Υ 29'06	47.90458 AU	opposition	2583 Oct 21 13:11	28° Υ 14'45	-17°27'51
retrograde	2575 Jul 21 04:39	21° Υ 00'50		direct	2584 Jan 10 21:38	27° Υ 14'52	
min. Earth dist.	2575 Oct 10 22:42	20° Υ 01'11	46.06125 AU				
opposition	2575 Oct 13 05:34	19° Υ 58'31	-17°18'40	conjunction	2584 Apr 17 20:37	28° Υ 43'50	-16°45'43
direct	2576 Jan 02 11:15	18° Υ 57'39		minimum elong	2584 Apr 17 20:41	28° Υ 43'50	16°45'42
				max. Earth dist.	2584 Apr 19 20:39	28° Υ 46'40	48.99911 AU
conjunction	2576 Apr 09 13:01	20° Υ 28'35	-16°37'11		2584 Jun 19 18:47	0° \mathcal{B}	

retrograde	2584 Jul 29 17:43	0°♄16'41		max. Earth dist.	2592 Apr 27 14:36	6°♄43'39	49.70547 AU
	2584 Sep 08 07:20	30°♄17'37		retrograde	2592 Aug 06 17:24	8°♄12'28	
min. Earth dist.	2584 Oct 19 22:48	29°♄17'37	47.13840 AU	min. Earth dist.	2592 Oct 28 04:34	7°♄13'48	47.82780 AU
opposition	2584 Oct 21 19:34	29°♄15'29	-17°27'41	opposition	2592 Oct 29 18:15	7°♄12'01	-17°15'31
direct	2585 Jan 11 04:57	28°♄15'40		direct	2593 Jan 19 02:05	6°♄12'55	
conjunction	2585 Apr 19 02:54	29°♄44'22	-16°45'29	conjunction	2593 Apr 27 03:37	7°♄40'08	-16°33'18
minimum elong	2585 Apr 19 02:57	29°♄44'23	16°45'29	minimum elong	2593 Apr 27 03:43	7°♄40'09	16°33'17
max. Earth dist.	2585 Apr 21 01:45	29°♄47'08	49.09890 AU	max. Earth dist.	2593 Apr 28 17:56	7°♄42'22	49.77485 AU
	2585 Apr 30 04:44	0°♄		retrograde	2593 Aug 07 22:34	9°♄11'09	
retrograde	2585 Jul 31 01:14	1°♄16'59		min. Earth dist.	2593 Oct 29 11:23	8°♄12'30	47.89407 AU
min. Earth dist.	2585 Oct 21 04:46	0°♄18'00	47.23648 AU	opposition	2593 Oct 30 23:51	8°♄10'47	-17°12'48
opposition	2585 Oct 23 01:44	0°♄15'51	-17°27'12	direct	2594 Jan 20 08:49	7°♄11'43	
	2585 Nov 06 01:15	30°♄16'07		conjunction	2594 Apr 28 09:37	8°♄38'47	-16°30'37
direct	2586 Jan 12 08:58	29°♄16'07		minimum elong	2594 Apr 28 09:43	8°♄38'47	16°30'37
	2586 Mar 18 07:47	0°♄		max. Earth dist.	2594 Apr 29 23:35	8°♄40'59	49.83887 AU
conjunction	2586 Apr 20 09:12	0°♄44'36	-16°44'57	retrograde	2594 Aug 09 04:03	10°♄09'37	
minimum elong	2586 Apr 20 09:17	0°♄44'36	16°44'57	min. Earth dist.	2594 Oct 30 18:41	9°♄10'56	47.95502 AU
max. Earth dist.	2586 Apr 22 07:05	0°♄47'18	49.19544 AU	opposition	2594 Nov 01 05:09	9°♄09'18	-17°09'50
retrograde	2586 Aug 01 07:56	2°♄16'58		direct	2595 Jan 21 15:52	8°♄10'18	
min. Earth dist.	2586 Oct 22 12:26	1°♄18'00	47.33149 AU	conjunction	2595 Apr 29 15:24	9°♄37'11	-16°27'42
opposition	2586 Oct 24 07:49	1°♄15'55	-17°26'24	minimum elong	2595 Apr 29 15:31	9°♄37'12	16°27'42
direct	2587 Jan 13 13:22	0°♄16'16		max. Earth dist.	2595 May 01 03:37	9°♄39'17	49.89803 AU
conjunction	2587 Apr 21 15:33	1°♄44'33	-16°44'08	retrograde	2595 Aug 10 11:06	11°♄07'50	
minimum elong	2587 Apr 21 15:37	1°♄44'33	16°44'08	min. Earth dist.	2595 Nov 01 00:02	10°♄09'12	48.01136 AU
max. Earth dist.	2587 Apr 23 13:22	1°♄47'14	49.28911 AU	opposition	2595 Nov 02 10:22	10°♄07'35	-17°06'37
retrograde	2587 Aug 02 11:01	3°♄16'40		direct	2596 Jan 22 19:39	9°♄08'37	
min. Earth dist.	2587 Oct 23 18:42	2°♄17'47	47.42342 AU	conjunction	2596 Apr 29 20:53	10°♄35'21	-16°24'32
opposition	2587 Oct 25 13:43	2°♄15'44	-17°25'18	minimum elong	2596 Apr 29 20:59	10°♄35'21	16°24'33
direct	2588 Jan 14 21:04	1°♄16'10		max. Earth dist.	2596 May 01 07:55	10°♄37'22	49.95274 AU
conjunction	2588 Apr 21 21:29	2°♄44'14	-16°43'00	retrograde	2596 Aug 10 17:29	12°♄05'50	
minimum elong	2588 Apr 21 21:35	2°♄44'14	16°43'00	min. Earth dist.	2596 Nov 01 07:09	11°♄07'09	48.06368 AU
max. Earth dist.	2588 Apr 23 17:36	2°♄46'49	49.37976 AU	opposition	2596 Nov 02 15:37	11°♄05'37	-17°03'09
retrograde	2588 Aug 02 16:41	4°♄16'10		direct	2597 Jan 22 23:15	10°♄06'42	
min. Earth dist.	2588 Oct 24 01:14	3°♄17'20	47.51235 AU	conjunction	2597 May 01 02:31	11°♄33'17	-16°21'07
opposition	2588 Oct 25 19:38	3°♄15'19	-17°23'54	minimum elong	2597 May 01 02:38	11°♄33'18	16°21'06
direct	2589 Jan 15 03:44	2°♄15'51		max. Earth dist.	2597 May 02 13:24	11°♄35'18	50.00391 AU
conjunction	2589 Apr 23 03:38	3°♄43'43	-16°41'35	retrograde	2597 Aug 11 20:06	13°♄03'36	
minimum elong	2589 Apr 23 03:42	3°♄43'44	16°41'35	opposition	2597 Nov 03 20:35	12°♄03'27	-16°59'25
max. Earth dist.	2589 Apr 24 23:49	3°♄46'18	49.46725 AU	min. Earth dist.	2597 Nov 02 12:22	12°♄04'57	48.11253 AU
retrograde	2589 Aug 03 22:53	5°♄15'28		direct	2598 Jan 24 05:16	11°♄04'33	
min. Earth dist.	2589 Oct 25 08:38	4°♄16'40	47.59780 AU	conjunction	2598 May 02 07:55	12°♄31'01	-16°17'25
opposition	2589 Oct 27 01:27	4°♄14'43	-17°22'12	minimum elong	2598 May 02 08:01	12°♄31'02	16°17'26
direct	2590 Jan 16 11:11	3°♄15'21		max. Earth dist.	2598 May 03 16:57	12°♄32'55	50.05185 AU
conjunction	2590 Apr 24 09:40	4°♄43'03	-16°39'54	retrograde	2598 Aug 13 01:03	14°♄01'11	
minimum elong	2590 Apr 24 09:46	4°♄43'03	16°39'54	min. Earth dist.	2598 Nov 03 18:16	13°♄02'34	48.15838 AU
max. Earth dist.	2590 Apr 26 04:22	4°♄45'32	49.55120 AU	opposition	2598 Nov 05 01:35	13°♄01'06	-16°55'24
retrograde	2590 Aug 05 07:41	6°♄14'36		direct	2599 Jan 25 10:59	12°♄02'16	
min. Earth dist.	2590 Oct 26 14:26	5°♄15'54	47.67931 AU	conjunction	2599 May 03 13:24	13°♄28'36	-16°13'28
opposition	2590 Oct 28 07:05	5°♄13'58	-17°20'14	minimum elong	2599 May 03 13:33	13°♄28'37	16°13'27
direct	2591 Jan 17 14:29	4°♄14'42		max. Earth dist.	2599 May 04 22:32	13°♄30'30	50.09683 AU
conjunction	2591 Apr 25 15:42	5°♄42'14	-16°37'56	retrograde	2599 Aug 14 05:14	14°♄58'38	
minimum elong	2591 Apr 25 15:47	5°♄42'15	16°37'56	min. Earth dist.	2599 Nov 05 00:21	14°♄00'02	48.20123 AU
max. Earth dist.	2591 Apr 27 09:05	5°♄44'39	49.63074 AU	opposition	2599 Nov 06 06:25	13°♄58'37	-16°51'06
retrograde	2591 Aug 06 14:31	7°♄13'37		direct	2600 Jan 26 18:39	12°♄59'50	
min. Earth dist.	2591 Oct 27 22:17	6°♄14'54	47.75618 AU	conjunction	2600 May 04 18:43	14°♄26'04	-16°09'14
opposition	2591 Oct 29 12:42	6°♄13'05	-17°18'00	minimum elong	2600 May 04 18:50	14°♄26'05	16°09'14
direct	2592 Jan 18 18:25	5°♄13'53		max. Earth dist.	2600 May 06 02:30	14°♄27'54	50.13909 AU
conjunction	2592 Apr 25 21:49	6°♄41'17	-16°35'44		2600 May 30 01:53	15°♄	
minimum elong	2592 Apr 25 21:56	6°♄41'17	16°35'44	retrograde	2600 Aug 15 13:35	15°♄55'59	

	2600 Nov 03 22:59	15° 8
min. Earth dist.	2600 Nov 06 05:02	14° 8 57'28 48.24127 AU
opposition	2600 Nov 07 11:14	14° 8 56'03 -16°46'32
direct	2601 Jan 27 21:14	13° 8 57'20
	2601 Apr 18 16:02	15° 8
conjunction	2601 May 05 23:54	15° 8 23'29 -16°04'45
minimum elong	2601 May 06 00:04	15° 8 23'29 16°04'45
max. Earth dist.	2601 May 07 06:50	15° 8 25'15 50.17831 AU
retrograde	2601 Aug 16 21:28	16° 8 53'17
min. Earth dist.	2601 Nov 07 11:52	15° 8 54'45 48.27812 AU
opposition	2601 Nov 08 16:09	15° 8 53'25 -16°41'42
	2602 Jan 07 02:53	15° 8