

















































































































































































evening set	12100 Feb 12 21:14	11°  18'53	retrograde	12104 Nov 17 05:13	9°  14'13	
			opposition	12105 Jan 16 04:25	4°  18'28	-0°58'12
conjunction	12100 Feb 26 00:37	14°  07'19 0°26'31	min. Earth dist.	12105 Jan 17 05:25	4°  10'15	4.02959 AU
minimum elong	12100 Feb 26 00:38	14°  07'20 0°26'51		12105 Feb 25 03:22	30°  R 	
max. Earth dist.	12100 Feb 25 22:16	14°  06'04 6.49054 AU	direct	12105 Mar 16 22:08	29°  S  21'38	
morning rise	12100 Mar 11 02:20	16°  54'50		12105 Apr 05 14:34	0° 	
	12100 May 21 07:45	0° 		12105 Jul 04 12:14	15° 	
retrograde	12100 Jul 09 20:18	3°  Y32'29	evening set	12105 Jul 21 11:10	19°  S  01'03	
	12100 Aug 28 23:38	30°  R 				
opposition	12100 Sep 08 21:16	28°  X37'01 0°26'34	conjunction	12105 Aug 03 13:24	22°  S  11'01	-0°35'02
min. Earth dist.	12100 Sep 09 07:57	28°  X33'35 4.50826 AU	minimum elong	12105 Aug 03 13:25	22°  S  11'01	0°35'38
direct	12100 Nov 10 07:13	23°  X35'54	max. Earth dist.	12105 Aug 02 17:32	21°  S  58'59	5.96209 AU
	12101 Jan 19 03:51	0° 	morning rise	12105 Aug 16 17:01	25°  S  22'01	
evening set	12101 Mar 15 04:14	10°  Y40'11		12105 Sep 05 06:18	0° 	
max. Earth dist.	12101 Mar 26 23:22	13°  Y11'21 6.50355 AU	retrograde	12105 Dec 25 17:50	15°  R  52'53	
			opposition	12106 Feb 23 04:24	10°  R  54'25	-0°41'59
conjunction	12101 Mar 28 03:44	13°  Y26'33 0°08'51	min. Earth dist.	12106 Feb 23 05:17	10°  R  54'07	3.91544 AU
minimum elong	12101 Mar 28 03:44	13°  Y26'33 0°08'43	direct	12106 Apr 22 15:46	5°  R  59'13	
behind sun begin	12101 Mar 27 20:49	13°  Y22'52	evening set	12106 Aug 27 19:59	26°  R  11'13	
behind sun end	12101 Mar 28 10:39	13°  Y30'15				
morning rise	12101 Apr 10 01:10	16°  Y12'04	conjunction	12106 Sep 10 04:33	29°  R  27'26	-0°17'33
	12101 Jun 25 15:56	0°  S	minimum elong	12106 Sep 10 04:33	29°  R  27'27	0°17'40
retrograde	12101 Aug 08 18:24	2°  S50'31	max. Earth dist.	12106 Sep 10 21:21	29°  R  37'44	5.89585 AU
desc. node	12101 Sep 16 05:15	0°  S40'14		12106 Sep 12 09:39	0°  S	
	12101 Sep 22 06:57	30°  R  Y	morning rise	12106 Sep 23 15:27	2°  S  44'54	
opposition	12101 Oct 08 21:39	27°  Y56'44 -0°01'46	retrograde	12107 Feb 02 13:22	23°  S  38'55	
min. Earth dist.	12101 Oct 10 01:25	27°  Y47'51 4.47730 AU	opposition	12107 Apr 02 20:17	18°  S  37'14	-0°07'47
direct	12101 Dec 10 11:37	22°  Y55'50	min. Earth dist.	12107 Apr 01 20:25	18°  S  45'20	3.90584 AU
	12102 Feb 21 22:56	0°  S	direct	12107 May 30 19:00	13°  S  41'58	
evening set	12102 Apr 14 08:33	10°  S13'50	asc. node	12107 Jun 21 19:06	14°  S  31'29	
max. Earth dist.	12102 Apr 25 03:49	12°  S34'53 6.43007 AU		12107 Sep 19 03:18	0°  M	
			evening set	12107 Oct 05 03:08	3°  M  47'48	
conjunction	12102 Apr 27 04:57	13°  S01'43 -0°11'24				
minimum elong	12102 Apr 27 04:56	13°  S01'43 0°11'54	conjunction	12107 Oct 18 16:38	7°  M  04'02	0°07'16
behind sun begin	12102 Apr 26 23:23	12°  S58'42	minimum elong	12107 Oct 18 16:38	7°  M  04'02	0°07'42
behind sun end	12102 Apr 27 10:29	13°  S04'44	behind sun begin	12107 Oct 18 09:05	6°  M  59'29	
	12102 May 06 05:39	15°  S	behind sun end	12107 Oct 19 00:11	7°  M  08'34	
morning rise	12102 May 09 23:58	15°  S49'07	max. Earth dist.	12107 Oct 20 18:02	7°  M  33'51	5.94366 AU
	12102 Jul 26 01:04	0°  II	morning rise	12107 Nov 01 07:52	10°  M  21'00	
retrograde	12102 Sep 09 03:54	2°  II59'03		12107 Nov 21 02:38	15°  M	
	12102 Oct 24 18:47	30°  R  S		12108 Feb 19 13:11	0°  S 	
opposition	12102 Nov 09 02:21	28°  S05'42 -0°30'35	retrograde	12108 Mar 10 20:00	0°  S  40'40	
min. Earth dist.	12102 Nov 10 17:10	27°  S53'15 4.36532 AU		12108 Mar 30 22:29	30°  R  M	
direct	12103 Jan 10 05:50	23°  S05'27	min. Earth dist.	12108 May 07 17:11	25°  M  49'36	4.00550 AU
	12103 Mar 22 15:28	0°  II	opposition	12108 May 09 06:12	25°  M  37'02	0°28'48
evening set	12103 May 15 09:54	10°  II59'20	direct	12108 Jul 06 15:34	20°  M  40'06	
max. Earth dist.	12103 May 25 21:15	13°  II20'37 6.28703 AU		12108 Sep 25 15:55	0°  S 	
			evening set	12108 Nov 10 14:23	10°  S  40'23	
conjunction	12103 May 28 05:28	13°  II52'21 -0°29'03				
minimum elong	12103 May 28 05:27	13°  II52'20 0°29'51	conjunction	12108 Nov 24 04:41	13°  S  41'19	0°28'26
morning rise	12103 Jun 10 00:11	16°  II45'17	minimum elong	12108 Nov 24 04:40	13°  S  41'19	0°29'14
	12103 Aug 15 12:32	0°  S 	max. Earth dist.	12108 Nov 26 17:44	13°  S  49'53	6.08439 AU
retrograde	12103 Oct 12 18:56	4°  S  54'14	morning rise	12108 Dec 07 19:45	16°  S  42'18	
opposition	12103 Dec 12 08:31	0°  S  00'12 -0°52'20		12109 Feb 11 20:32	0°  S	
	12103 Dec 12 09:07	30°  R  II	retrograde	12109 Apr 14 06:45	5°  S  33'03	
min. Earth dist.	12103 Dec 13 22:13	29°  II48'00 4.20003 AU	min. Earth dist.	12109 Jun 11 15:05	0°  S  42'28	4.17183 AU
direct	12104 Feb 11 10:01	25°  II01'23	opposition	12109 Jun 13 04:39	0°  S  29'50	0°52'23
	12104 Apr 09 20:12	0°  S 		12109 Jun 16 21:35	30°  R  S 	
evening set	12104 Jun 16 06:26	13°  S  47'17	direct	12109 Aug 11 14:34	25°  S  40'55	
max. Earth dist.	12104 Jun 27 04:37	16°  S  20'36 6.11235 AU		12109 Oct 05 16:23	0°  S	
			evening set	12109 Dec 15 23:28	13°  S  59'42	
conjunction	12104 Jun 29 03:41	16°  S  48'14 -0°38'37				
minimum elong	12104 Jun 29 03:41	16°  S  48'14 0°39'27	conjunction	12109 Dec 29 11:00	17°  S  00'38	0°38'39
morning rise	12104 Jul 12 01:21	19°  S  49'45	minimum elong	12109 Dec 29 11:00	17°  S  00'38	0°39'30
	12104 Aug 27 08:40	0°  S	max. Earth dist.	12109 Dec 31 11:24	17°  S  27'44	6.26121 AU

morning rise	12110 Jan 11 22:16	20° $\text{J}$ 01'02	evening set	12115 May 19 18:17	15° $\text{II}$ 27'15	
	12110 Mar 01 04:43	0° $\approx$	max. Earth dist.	12115 May 30 04:48	17° $\text{II}$ 48'53	6.26238 AU
retrograde	12110 May 16 05:01	7° $\approx$ 55'54				
opposition	12110 Jul 15 14:25	2° $\approx$ 55'06 0°57'20	conjunction	12115 Jun 01 13:49	18° $\text{II}$ 21'16	-0°30'57
min. Earth dist.	12110 Jul 14 14:00	3° $\approx$ 03'10 4.34320 AU	minimum elong	12115 Jun 01 13:49	18° $\text{II}$ 21'15	0°31'46
	12110 Aug 08 06:19	30° $\text{R}$ $\text{J}$	morning rise	12115 Jun 14 08:53	21° $\text{II}$ 15'19	
direct	12110 Sep 14 08:45	27° $\text{J}$ 54'44		12115 Jul 25 03:09	0° $\text{J}$	
	12110 Oct 21 18:51	0° $\approx$	retrograde	12115 Oct 17 15:39	9° $\text{J}$ 34'55	
	12111 Jan 15 06:28	15° $\approx$	opposition	12115 Dec 17 02:25	4° $\text{J}$ 40'43	-0°54'16
evening set	12111 Jan 17 23:28	15° $\approx$ 34'59	min. Earth dist.	12115 Dec 18 16:08	4° $\text{J}$ 28'28	4.17275 AU
				12116 Feb 02 08:09	30° $\text{R}$ $\text{II}$	
conjunction	12111 Jan 31 06:48	18° $\approx$ 27'54 0°36'30	direct	12116 Feb 16 00:24	29° $\text{II}$ 42'06	
minimum elong	12111 Jan 31 06:49	18° $\approx$ 27'54 0°37'07		12116 Feb 29 15:46	0° $\text{J}$	
max. Earth dist.	12111 Feb 01 07:01	18° $\approx$ 41'02 6.41406 AU	evening set	12116 Jun 20 22:46	18° $\text{J}$ 37'00	
morning rise	12111 Feb 13 12:45	21° $\approx$ 19'57	max. Earth dist.	12116 Jul 01 23:56	21° $\text{J}$ 13'00	6.08487 AU
	12111 Mar 28 06:39	0° $\text{H}$				
retrograde	12111 Jun 15 08:05	8° $\text{H}$ 20'30	conjunction	12116 Jul 03 20:43	21° $\text{J}$ 39'27	-0°38'58
opposition	12111 Aug 15 04:38	3° $\text{H}$ 22'44 0°45'50	minimum elong	12116 Jul 03 20:43	21° $\text{J}$ 39'27	0°39'47
min. Earth dist.	12111 Aug 14 21:45	3° $\text{H}$ 24'59 4.46729 AU	morning rise	12116 Jul 16 19:04	24° $\text{J}$ 42'29	
	12111 Sep 12 20:37	30° $\text{R}$ $\approx$		12116 Aug 08 19:12	0° $\text{J}$	
direct	12111 Oct 16 00:22	28° $\approx$ 21'46	retrograde	12116 Nov 22 11:04	14° $\text{J}$ 19'08	
	12111 Nov 18 13:13	0° $\text{H}$	opposition	12117 Jan 21 07:50	9° $\text{J}$ 23'09	-0°57'20
evening set	12112 Feb 18 02:50	15° $\text{H}$ 32'05	min. Earth dist.	12117 Jan 22 05:52	9° $\text{J}$ 15'54	4.00455 AU
			direct	12117 Mar 21 19:34	4° $\text{J}$ 26'39	
conjunction	12112 Mar 02 05:37	18° $\text{H}$ 19'52 0°24'23		12117 Jun 16 07:14	15° $\text{J}$	
minimum elong	12112 Mar 02 05:37	18° $\text{H}$ 19'53 0°24'39	evening set	12117 Jul 26 13:23	24° $\text{J}$ 14'25	
max. Earth dist.	12112 Mar 01 23:58	18° $\text{H}$ 16'51 6.50093 AU				
morning rise	12112 Mar 15 06:33	21° $\text{H}$ 06'43	conjunction	12117 Aug 08 16:25	27° $\text{J}$ 25'46	-0°33'22
	12112 Apr 28 23:00	0° $\text{Y}$	minimum elong	12117 Aug 08 16:26	27° $\text{J}$ 25'46	0°33'53
retrograde	12112 Jul 13 22:02	7° $\text{Y}$ 41'36	max. Earth dist.	12117 Aug 08 00:17	27° $\text{J}$ 15'56	5.94194 AU
opposition	12112 Sep 12 23:49	2° $\text{Y}$ 46'27 0°22'56		12117 Aug 19 06:06	0° $\text{H}$	
min. Earth dist.	12112 Sep 13 13:32	2° $\text{Y}$ 42'03 4.51253 AU	morning rise	12117 Aug 21 21:17	0° $\text{H}$ 38'15	
	12112 Oct 05 22:24	30° $\text{R}$ $\text{H}$	retrograde	12117 Dec 31 04:46	21° $\text{H}$ 17'46	
direct	12112 Nov 14 12:23	27° $\text{H}$ 45'21	opposition	12118 Feb 28 14:36	16° $\text{H}$ 18'50	-0°38'02
	12112 Dec 24 06:10	0° $\text{Y}$	min. Earth dist.	12118 Feb 28 11:18	16° $\text{H}$ 19'56	3.90255 AU
evening set	12113 Mar 19 07:08	14° $\text{Y}$ 49'02	direct	12118 Apr 27 22:21	11° $\text{H}$ 23'45	
max. Earth dist.	12113 Mar 30 20:35	17° $\text{Y}$ 17'22 6.50117 AU		12118 Aug 26 09:28	0° $\text{J}$	
			evening set	12118 Sep 02 05:08	1° $\text{J}$ 39'19	
conjunction	12113 Apr 01 05:57	17° $\text{Y}$ 35'16 0°06'09				
minimum elong	12113 Apr 01 05:57	17° $\text{Y}$ 35'16 0°05'58	conjunction	12118 Sep 15 14:49	4° $\text{J}$ 56'15	-0°14'17
behind sun begin	12113 Mar 31 22:20	17° $\text{Y}$ 31'12	minimum elong	12118 Sep 15 14:50	4° $\text{J}$ 56'15	0°14'17
behind sun end	12113 Apr 01 13:34	17° $\text{Y}$ 39'19	behind sun begin	12118 Sep 15 10:56	4° $\text{J}$ 53'52	
morning rise	12113 Apr 14 03:03	20° $\text{Y}$ 20'43	behind sun end	12118 Sep 15 18:45	4° $\text{J}$ 58'39	
	12113 Jun 01 21:45	0° $\text{J}$	max. Earth dist.	12118 Sep 16 14:45	5° $\text{J}$ 10'55	5.89179 AU
desc. node	12113 Jul 30 09:04	6° $\text{J}$ 43'52	morning rise	12118 Sep 29 02:31	8° $\text{J}$ 14'18	
retrograde	12113 Aug 12 22:50	7° $\text{J}$ 00'55	retrograde	12119 Feb 08 01:29	29° $\text{J}$ 08'22	
opposition	12113 Oct 13 01:38	2° $\text{J}$ 07'14 -0°05'48	min. Earth dist.	12119 Apr 07 04:26	24° $\text{J}$ 15'11	3.91113 AU
min. Earth dist.	12113 Oct 14 07:54	1° $\text{J}$ 57'33 4.46829 AU	opposition	12119 Apr 08 06:40	24° $\text{J}$ 06'17	-0°02'20
	12113 Oct 30 04:58	30° $\text{R}$ $\text{Y}$	asc. node	12119 May 01 22:05	21° $\text{J}$ 07'50	
direct	12113 Dec 14 15:28	27° $\text{Y}$ 06'19	direct	12119 Jun 05 06:04	19° $\text{J}$ 10'52	
	12114 Jan 28 21:03	0° $\text{J}$		12119 Aug 31 05:24	0° $\text{H}$	
evening set	12114 Apr 18 12:11	14° $\text{J}$ 27'31	evening set	12119 Oct 10 13:11	9° $\text{H}$ 13'23	
	12114 Apr 20 23:56	15° $\text{J}$				
max. Earth dist.	12114 Apr 29 05:47	16° $\text{J}$ 48'06 6.41490 AU	conjunction	12119 Oct 24 03:04	12° $\text{H}$ 29'08	0°10'42
			minimum elong	12119 Oct 24 03:03	12° $\text{H}$ 29'08	0°11'13
conjunction	12114 May 01 08:29	17° $\text{J}$ 15'54 -0°14'03	behind sun begin	12119 Oct 23 20:55	12° $\text{H}$ 25'27	
minimum elong	12114 May 01 08:28	17° $\text{J}$ 15'53 0°14'36	behind sun end	12119 Oct 24 09:11	12° $\text{H}$ 32'48	
behind sun begin	12114 May 01 04:59	17° $\text{J}$ 13'59	max. Earth dist.	12119 Oct 26 08:42	13° $\text{H}$ 01'23	5.95748 AU
behind sun end	12114 May 01 11:58	17° $\text{J}$ 17'47		12119 Nov 03 14:24	15° $\text{H}$	
morning rise	12114 May 14 03:10	20° $\text{J}$ 03'46	morning rise	12119 Nov 06 18:38	15° $\text{H}$ 45'32	
	12114 Jul 02 03:53	0° $\text{II}$		12120 Jan 12 15:55	0° $\text{J}$	
retrograde	12114 Sep 13 13:16	7° $\text{II}$ 20'08	retrograde	12120 Mar 15 21:12	5° $\text{J}$ 56'49	
opposition	12114 Nov 13 11:30	2° $\text{II}$ 26'46 -0°34'08	min. Earth dist.	12120 May 12 18:20	1° $\text{J}$ 06'19	4.02620 AU
min. Earth dist.	12114 Nov 15 02:50	2° $\text{II}$ 14'09 4.34475 AU	opposition	12120 May 14 09:33	0° $\text{J}$ 53'01	0°33'10
	12114 Dec 03 09:54	30° $\text{R}$ $\text{J}$		12120 May 20 22:55	30° $\text{R}$ $\text{H}$	
direct	12115 Jan 14 11:25	27° $\text{J}$ 26'40	direct	12120 Jul 11 20:23	25° $\text{H}$ 55'47	
	12115 Feb 25 06:00	0° $\text{II}$		12120 Sep 01 02:30	0° $\text{J}$	

evening set	12120 Nov 15 18:48	15°♏12'14		retrograde	12126 Sep 18 04:36	11°♐51'15	
				opposition	12126 Nov 18 00:59	6°♐57'46	-0°37'39
conjunction	12120 Nov 29 08:44	18°♏20'53	0°30'38	min. Earth dist.	12126 Nov 19 17:11	6°♐44'51	4.32101 AU
minimum elong	12120 Nov 29 08:43	18°♏20'52	0°31'27	direct	12127 Jan 18 22:26	1°♐57'45	
max. Earth dist.	12120 Dec 01 20:31	18°♏55'31	6.10964 AU	evening set	12127 May 24 06:54	20°♐05'56	
morning rise	12120 Dec 12 23:27	21°♏29'30		max. Earth dist.	12127 Jun 03 18:57	22°♐29'14	6.23584 AU
	12121 Jan 20 21:33	0°♏					
retrograde	12121 Apr 18 22:54	10°♏26'40		conjunction	12127 Jun 06 02:47	23°♐01'06	-0°32'44
min. Earth dist.	12121 Jun 16 10:47	5°♏35'38	4.19876 AU	minimum elong	12127 Jun 06 02:46	23°♐01'06	0°33'33
opposition	12121 Jun 17 22:34	5°♏23'37	0°54'11	morning rise	12127 Jun 18 22:01	25°♐56'21	
direct	12121 Aug 16 14:21	0°♏24'22			12127 Jul 07 01:42	0°♏	
evening set	12121 Dec 20 18:47	18°♏44'42		retrograde	12127 Oct 22 15:59	14°♏27'02	
				opposition	12127 Dec 22 00:56	9°♏32'41	-0°55'54
conjunction	12122 Jan 03 05:54	21°♏44'18	0°39'02	min. Earth dist.	12127 Dec 23 13:14	9°♏20'53	4.14546 AU
minimum elong	12122 Jan 03 05:54	21°♏44'18	0°39'52	direct	12128 Feb 20 17:35	4°♏34'22	
max. Earth dist.	12122 Jan 05 04:53	22°♏10'27	6.28746 AU	evening set	12128 Jun 25 20:07	23°♏38'10	
morning rise	12122 Jan 16 16:17	24°♏43'15		max. Earth dist.	12128 Jul 07 00:06	26°♏16'47	6.05922 AU
	12122 Feb 10 05:24	0°♏					
retrograde	12122 May 20 11:56	12°♏28'09		conjunction	12128 Jul 08 18:32	26°♏41'59	-0°39'03
min. Earth dist.	12122 Jul 19 01:09	7°♏35'19	4.36665 AU	minimum elong	12128 Jul 08 18:32	26°♏41'59	0°39'51
opposition	12122 Jul 20 00:07	7°♏27'44	0°56'33	morning rise	12128 Jul 21 17:49	29°♏46'33	
direct	12122 Sep 18 22:07	2°♏27'15			12128 Jul 22 16:37	0°♏	
	12122 Dec 29 12:37	15°♏			12128 Oct 03 14:39	15°♏	
evening set	12123 Jan 22 10:49	20°♏01'11		retrograde	12128 Nov 27 21:06	19°♏34'32	
					12129 Jan 23 21:41	15°♏♏	
conjunction	12123 Feb 04 17:19	22°♏53'02	0°35'17	opposition	12129 Jan 26 15:42	14°♏38'12	-0°55'56
minimum elong	12123 Feb 04 17:20	22°♏53'03	0°35'52	min. Earth dist.	12129 Jan 27 10:07	14°♏32'06	3.98311 AU
max. Earth dist.	12123 Feb 05 12:13	23°♏03'15	6.43295 AU	direct	12129 Mar 26 22:44	9°♏41'58	
morning rise	12123 Feb 17 22:34	25°♏44'03			12129 May 24 15:47	15°♏	
	12123 Mar 10 05:33	0°♏		evening set	12129 Jul 31 19:13	29°♏36'23	
retrograde	12123 Jun 19 12:37	12°♏38'35			12129 Aug 02 10:10	0°♏	
opposition	12123 Aug 19 09:38	7°♏41'14	0°43'07				
min. Earth dist.	12123 Aug 19 06:40	7°♏42'11	4.48051 AU	conjunction	12129 Aug 13 23:22	2°♏48'55	-0°31'21
direct	12123 Oct 20 09:55	2°♏40'10		minimum elong	12129 Aug 13 23:23	2°♏48'55	0°31'49
evening set	12124 Feb 22 09:02	19°♏47'33		max. Earth dist.	12129 Aug 13 14:27	2°♏43'28	5.92727 AU
				morning rise	12129 Aug 27 05:08	6°♏02'34	
conjunction	12124 Mar 06 11:14	22°♏34'51	0°22'04	retrograde	12130 Jan 05 19:30	26°♏47'55	
minimum elong	12124 Mar 06 11:15	22°♏34'51	0°22'16	opposition	12130 Mar 06 03:13	21°♏48'33	-0°33'36
max. Earth dist.	12124 Mar 06 01:15	22°♏29'32	6.50754 AU	min. Earth dist.	12130 Mar 05 20:36	21°♏50'47	3.89668 AU
morning rise	12124 Mar 19 11:32	25°♏21'13		direct	12130 May 03 08:40	16°♏53'38	
	12124 Apr 10 21:40	0°♏			12130 Aug 08 08:31	0°♏	
retrograde	12124 Jul 18 00:14	11°♏54'38		evening set	12130 Sep 07 16:01	7°♏09'40	
opposition	12124 Sep 17 03:35	6°♏59'41	0°19'05				
min. Earth dist.	12124 Sep 17 19:28	6°♏54'36	4.51238 AU	conjunction	12130 Sep 21 02:24	10°♏26'47	-0°10'50
direct	12124 Nov 18 16:39	1°♏58'32		minimum elong	12130 Sep 21 02:25	10°♏26'47	0°10'46
evening set	12125 Mar 23 11:45	19°♏03'04		behind sun begin	12130 Sep 20 20:02	10°♏22'54	
max. Earth dist.	12125 Apr 03 22:32	21°♏30'12	6.49424 AU	behind sun end	12130 Sep 21 08:47	10°♏30'41	
				max. Earth dist.	12130 Sep 22 07:35	10°♏44'39	5.89532 AU
conjunction	12125 Apr 05 10:13	21°♏49'22	0°03'19	morning rise	12130 Oct 04 14:59	13°♏45'02	
minimum elong	12125 Apr 05 10:13	21°♏49'22	0°03'05		12130 Dec 20 17:22	0°♏	
behind sun begin	12125 Apr 05 02:15	21°♏45'07		retrograde	12131 Feb 13 09:19	4°♏35'23	
behind sun end	12125 Apr 05 18:10	21°♏53'37		asc. node	12131 Mar 13 00:09	3°♏19'48	
morning rise	12125 Apr 18 06:45	24°♏34'54			12131 Apr 10 08:02	30°♏♏	
	12125 May 14 08:38	0°♏		min. Earth dist.	12131 Apr 12 09:52	29°♏43'07	3.92386 AU
desc. node	12125 Jun 09 11:12	4°♏50'29		opposition	12131 Apr 13 15:54	29°♏32'56	0°03'07
retrograde	12125 Aug 17 05:44	11°♏18'19		direct	12131 Jun 10 15:00	24°♏37'21	
opposition	12125 Oct 17 08:29	6°♏24'45	-0°09'59		12131 Aug 08 09:13	0°♏	
min. Earth dist.	12125 Oct 18 17:01	6°♏14'21	4.45491 AU	evening set	12131 Oct 15 22:01	14°♏33'54	
direct	12125 Dec 18 21:50	1°♏23'54			12131 Oct 17 17:50	15°♏	
	12126 Apr 04 22:18	15°♏					
evening set	12126 Apr 22 19:01	18°♏49'31		conjunction	12131 Oct 29 12:01	17°♏48'44	0°14'01
max. Earth dist.	12126 May 03 09:01	21°♏08'48	6.39582 AU	minimum elong	12131 Oct 29 12:00	17°♏48'44	0°14'36
				behind sun begin	12131 Oct 29 08:34	17°♏46'41	
conjunction	12126 May 05 14:58	21°♏38'30	-0°16'44	behind sun end	12131 Oct 29 15:25	17°♏50'47	
minimum elong	12126 May 05 14:57	21°♏38'29	0°17'21	max. Earth dist.	12131 Oct 31 19:16	18°♏21'48	5.97785 AU
morning rise	12126 May 18 09:43	24°♏27'06		morning rise	12131 Nov 12 03:42	21°♏04'10	
	12126 Jun 13 10:15	0°♏			12131 Dec 21 16:19	0°♏	

retrograde	12132 Mar 20 19:36	11°♏04'48			12138 Mar 18 07:52	15°♏	
min. Earth dist.	12132 May 17 18:54	6°♏14'10	4.05162 AU	evening set	12138 Apr 27 02:46	23°♏14'47	
opposition	12132 May 19 09:58	6°♏00'55	0°37'09	max. Earth dist.	12138 May 07 16:58	25°♏34'51	6.37399 AU
direct	12132 Jul 17 01:29	1°♏03'23					
evening set	12132 Nov 20 19:37	20°♏10'44		conjunction	12138 May 09 22:43	26°♏04'35	-0°19'20
				minimum elong	12138 May 09 22:42	26°♏04'35	0°20'00
conjunction	12132 Dec 04 09:24	23°♏18'00	0°32'32	morning rise	12138 May 22 17:16	28°♏54'00	
minimum elong	12132 Dec 04 09:23	23°♏17'59	0°33'22		12138 May 27 17:38	0°♐	
max. Earth dist.	12132 Dec 06 21:38	23°♏52'39	6.13771 AU	retrograde	12138 Sep 22 21:05	16°♐26'53	
morning rise	12132 Dec 17 23:27	26°♏25'04		opposition	12138 Nov 22 16:03	11°♐33'24	-0°40'58
	12133 Jan 02 21:55	0°♑		min. Earth dist.	12138 Nov 24 08:36	11°♐20'22	4.29606 AU
retrograde	12133 Apr 23 11:20	15°♑10'17		direct	12139 Jan 23 10:04	6°♐33'39	
min. Earth dist.	12133 Jun 21 02:09	10°♑19'13	4.22670 AU	evening set	12139 May 28 21:11	24°♐49'43	
opposition	12133 Jun 22 12:53	10°♑07'36	0°55'33	max. Earth dist.	12139 Jun 08 09:22	27°♐14'01	6.20969 AU
direct	12133 Aug 21 08:56	5°♑08'11					
evening set	12133 Dec 25 10:39	23°♑20'15		conjunction	12139 Jun 10 17:07	27°♐46'02	-0°34'18
				minimum elong	12139 Jun 10 17:07	27°♐46'01	0°35'09
conjunction	12134 Jan 07 20:57	26°♑18'29	0°39'10		12139 Jun 20 10:30	0°♒	
minimum elong	12134 Jan 07 20:57	26°♑18'29	0°39'57	morning rise	12139 Jun 23 12:55	0°♒42'34	
max. Earth dist.	12134 Jan 09 14:47	26°♑41'39	6.31294 AU	retrograde	12139 Oct 27 18:22	19°♒24'18	
morning rise	12134 Jan 21 06:45	29°♑16'07		opposition	12139 Dec 27 01:20	14°♒29'41	-0°57'08
	12134 Jan 24 14:55	0°♓		min. Earth dist.	12139 Dec 28 11:11	14°♒18'39	4.12016 AU
	12134 Apr 19 19:55	15°♓		direct	12140 Feb 25 13:17	9°♒31'38	
retrograde	12134 May 24 17:31	16°♓51'56		evening set	12140 Jun 30 18:23	28°♒43'17	
	12134 Jun 28 11:36	15°♓			12140 Jul 06 03:42	0°♓	
min. Earth dist.	12134 Jul 23 11:21	11°♓58'23	4.38788 AU	max. Earth dist.	12140 Jul 12 04:37	1°♓26'20	6.03720 AU
opposition	12134 Jul 24 06:47	11°♓52'00	0°55'28				
direct	12134 Sep 23 09:35	6°♓51'22		conjunction	12140 Jul 13 17:35	1°♓48'24	-0°38'49
	12134 Dec 11 07:30	15°♓		minimum elong	12140 Jul 13 17:35	1°♓48'24	0°39'35
evening set	12135 Jan 26 19:12	24°♓20'06		morning rise	12140 Jul 26 17:28	4°♓54'15	
					12140 Sep 09 18:58	15°♓	
conjunction	12135 Feb 09 01:16	27°♓11'10	0°33'54	retrograde	12140 Dec 03 07:28	24°♓51'49	
minimum elong	12135 Feb 09 01:17	27°♓11'10	0°34'27	opposition	12141 Jan 31 23:50	19°♓55'05	-0°54'03
max. Earth dist.	12135 Feb 09 16:56	27°♓19'36	6.44855 AU	min. Earth dist.	12141 Feb 01 15:27	19°♓49'55	3.96666 AU
morning rise	12135 Feb 22 05:39	0°♔01'17			12141 Mar 29 04:12	15°♔	
	12135 Feb 22 03:14	0°♔		direct	12141 Apr 01 02:51	14°♓59'07	
retrograde	12135 Jun 23 13:27	16°♔51'10			12141 Apr 04 01:31	15°♓	
opposition	12135 Aug 23 12:24	11°♔54'17	0°40'16		12141 Jul 16 04:33	0°♕	
min. Earth dist.	12135 Aug 23 11:37	11°♔54'32	4.48974 AU	evening set	12141 Aug 06 00:54	4°♕57'59	
direct	12135 Oct 24 14:14	6°♔53'14					
evening set	12136 Feb 26 13:32	23°♔59'11		conjunction	12141 Aug 19 05:48	8°♕11'21	-0°29'04
				minimum elong	12141 Aug 19 05:49	8°♕11'21	0°29'29
conjunction	12136 Mar 10 15:06	26°♔46'10	0°19'42	max. Earth dist.	12141 Aug 19 01:17	8°♕08'35	5.91784 AU
minimum elong	12136 Mar 10 15:06	26°♔46'10	0°19'49	morning rise	12141 Sep 01 12:41	11°♕25'55	
max. Earth dist.	12136 Mar 10 00:14	26°♔38'14	6.50980 AU		12141 Dec 04 17:54	0°♖	
morning rise	12136 Mar 23 14:54	29°♔32'17		retrograde	12142 Jan 11 05:32	2°♖14'29	
	12136 Mar 25 19:17	0°♗			12142 Feb 17 19:36	30°♗	
retrograde	12136 Jul 22 04:28	16°♗05'51		opposition	12142 Mar 11 13:30	27°♗14'37	-0°28'55
opposition	12136 Sep 21 07:00	11°♗11'16	0°15'12	min. Earth dist.	12142 Mar 11 02:16	27°♗18'24	3.89553 AU
min. Earth dist.	12136 Sep 22 02:30	11°♗05'01	4.50766 AU	direct	12142 May 08 16:30	22°♗19'40	
direct	12136 Nov 22 21:48	6°♗10'09			12142 Jul 18 21:10	0°♘	
evening set	12137 Mar 27 16:01	23°♗17'00		evening set	12142 Sep 13 00:35	12°♘34'29	
max. Earth dist.	12137 Apr 07 22:14	25°♗42'07	6.48282 AU				
				conjunction	12142 Sep 26 11:36	15°♘51'34	-0°07'21
conjunction	12137 Apr 09 14:05	26°♗03'35	0°00'26	minimum elong	12142 Sep 26 11:36	15°♘51'34	0°07'13
minimum elong	12137 Apr 09 14:05	26°♗03'35	0°00'09	behind sun begin	12142 Sep 26 03:56	15°♘46'54	
behind sun begin	12137 Apr 09 06:11	25°♗59'21		behind sun end	12142 Sep 26 19:16	15°♘56'14	
behind sun end	12137 Apr 09 21:59	26°♗07'49		max. Earth dist.	12142 Sep 27 20:54	16°♘11'55	5.90238 AU
desc. node	12137 Apr 18 10:00	27°♗57'44		morning rise	12142 Oct 10 00:49	19°♘09'43	
morning rise	12137 Apr 22 10:22	28°♗49'27			12142 Nov 26 15:12	0°♙	
	12137 Apr 27 22:34	0°♚		asc. node	12143 Jan 22 08:29	8°♙42'16	
	12137 Aug 01 08:36	15°♚		retrograde	12143 Feb 18 14:12	9°♙55'11	
retrograde	12137 Aug 21 13:38	15°♚37'40		opposition	12143 Apr 18 21:57	4°♙52'21	0°08'27
	12137 Sep 10 18:49	15°♚		min. Earth dist.	12143 Apr 17 14:28	5°♙03'02	3.93812 AU
opposition	12137 Oct 21 15:58	10°♚44'11	-0°14'05		12143 Jun 10 03:48	30°♚	
min. Earth dist.	12137 Oct 23 01:34	10°♚33'26	4.43764 AU	direct	12143 Jun 15 23:07	29°♚56'29	
direct	12137 Dec 23 03:03	5°♚43'26			12143 Jun 21 18:36	0°♛	

	12143 Sep 30 15:16	15°♍		behind sun end	12149 Apr 14 03:49	0°♋26'02	
evening set	12143 Oct 21 03:29	19°♍46'48		morning rise	12149 Apr 26 15:47	3°♋07'55	
					12149 Jun 27 08:22	15°♋	
conjunction	12143 Nov 03 17:46	23°♍00'46	0°17'10	retrograde	12149 Aug 26 00:42	20°♋00'39	
minimum elong	12143 Nov 03 17:45	23°♍00'46	0°17'49	opposition	12149 Oct 26 01:41	15°♋07'21	-0°18'13
max. Earth dist.	12143 Nov 06 04:10	23°♍35'33	5.99782 AU		12149 Oct 27 00:42	15°♋	
morning rise	12143 Nov 17 09:19	26°♍15'10		min. Earth dist.	12149 Oct 27 13:10	14°♋56'01	4.42261 AU
	12143 Dec 03 12:00	0°♊		direct	12149 Dec 27 12:06	10°♋06'48	
retrograde	12144 Mar 25 16:16	16°♊05'41			12150 Feb 24 23:29	15°♋	
min. Earth dist.	12144 May 22 16:14	11°♊15'06	4.07507 AU	evening set	12150 May 01 11:50	27°♋42'51	
opposition	12144 May 24 07:22	11°♊01'52	0°40'48		12150 May 11 19:39	0°♊	
direct	12144 Jul 22 02:24	6°♊04'02		max. Earth dist.	12150 May 12 00:23	0°♊02'38	6.35602 AU
evening set	12144 Nov 25 18:19	25°♊03'25					
				conjunction	12150 May 14 07:32	0°♊33'16	-0°21'52
conjunction	12144 Dec 09 07:35	28°♊09'22	0°34'12	minimum elong	12150 May 14 07:31	0°♊33'15	0°22'34
minimum elong	12144 Dec 09 07:34	28°♊09'22	0°35'04	morning rise	12150 May 27 02:09	3°♊23'24	
max. Earth dist.	12144 Dec 11 17:03	28°♊42'16	6.16231 AU	retrograde	12150 Sep 27 13:41	21°♊03'42	
	12144 Dec 17 09:08	0°♋		opposition	12150 Nov 27 08:07	16°♊10'08	-0°44'05
morning rise	12144 Dec 22 21:18	1°♋15'09		min. Earth dist.	12150 Nov 28 23:19	15°♊57'31	4.27649 AU
retrograde	12145 Apr 27 21:53	19°♋49'59		direct	12151 Jan 27 22:22	11°♊10'38	
min. Earth dist.	12145 Jun 25 16:39	14°♋58'33	4.25034 AU	evening set	12151 Jun 02 11:19	29°♊32'35	
opposition	12145 Jun 27 01:30	14°♋47'34	0°56'34		12151 Jun 04 11:15	0°♋	
direct	12145 Aug 26 01:48	9°♋47'52		max. Earth dist.	12151 Jun 13 03:09	1°♋59'34	6.19022 AU
evening set	12145 Dec 30 01:21	27°♋53'17					
	12146 Jan 08 15:47	0°♌		conjunction	12151 Jun 15 07:31	2°♋29'46	-0°35'41
				minimum elong	12151 Jun 15 07:30	2°♋29'46	0°36'33
conjunction	12146 Jan 12 11:16	0°♌50'27	0°39'04	morning rise	12151 Jun 28 03:25	5°♋27'13	
minimum elong	12146 Jan 12 11:16	0°♌50'27	0°39'50	retrograde	12151 Nov 01 19:42	24°♋17'28	
max. Earth dist.	12146 Jan 14 02:39	1°♌12'10	6.33391 AU	opposition	12152 Jan 01 00:19	19°♋22'41	-0°57'59
morning rise	12146 Jan 25 20:12	3°♌46'54		min. Earth dist.	12152 Jan 02 08:53	19°♋12'04	4.10240 AU
	12146 Mar 23 03:06	15°♌		direct	12152 Mar 01 08:44	14°♋24'59	
retrograde	12146 May 28 23:08	21°♌15'12			12152 Jun 19 19:26	0°♌	
opposition	12146 Jul 28 13:30	16°♌15'44	0°54'05	evening set	12152 Jul 05 14:30	3°♌41'44	
min. Earth dist.	12146 Jul 27 20:21	16°♌21'22	4.40473 AU	max. Earth dist.	12152 Jul 17 03:35	6°♌27'05	6.02271 AU
	12146 Aug 07 06:55	15°♌					
direct	12146 Sep 27 19:37	11°♌15'03		conjunction	12152 Jul 18 14:06	6°♌47'44	-0°38'21
	12146 Nov 18 06:45	15°♌		minimum elong	12152 Jul 18 14:07	6°♌47'44	0°39'05
evening set	12147 Jan 31 04:03	28°♌39'50		morning rise	12152 Jul 31 14:51	9°♌54'36	
	12147 Feb 06 09:41	0°♍			12152 Aug 22 10:07	15°♌	
				retrograde	12152 Dec 08 10:51	29°♌58'45	
conjunction	12147 Feb 13 09:20	1°♍30'10	0°32'20	opposition	12153 Feb 06 03:39	25°♌01'38	-0°51'48
minimum elong	12147 Feb 13 09:21	1°♍30'11	0°32'49	min. Earth dist.	12153 Feb 06 15:11	24°♌57'49	3.95703 AU
max. Earth dist.	12147 Feb 13 19:24	1°♍35'35	6.46008 AU	direct	12153 Apr 06 02:30	20°♌05'55	
morning rise	12147 Feb 26 13:14	4°♍19'38			12153 Jun 27 23:24	0°♎	
retrograde	12147 Jun 27 18:05	21°♍06'07		evening set	12153 Aug 11 01:42	10°♎06'55	
opposition	12147 Aug 27 16:44	16°♍09'37	0°37'10				
min. Earth dist.	12147 Aug 27 19:26	16°♍08'44	4.49551 AU	conjunction	12153 Aug 24 07:22	13°♎20'50	-0°26'41
direct	12147 Oct 28 21:17	11°♍08'32		minimum elong	12153 Aug 24 07:23	13°♎20'51	0°27'01
evening set	12148 Mar 01 19:23	28°♍13'51		max. Earth dist.	12153 Aug 24 07:54	13°♎21'09	5.91410 AU
	12148 Mar 10 02:57	0°♎		morning rise	12153 Sep 06 15:00	16°♎35'57	
					12153 Nov 06 02:24	0°♎	
conjunction	12148 Mar 14 20:34	1°♎00'40	0°17'09	retrograde	12154 Jan 16 10:26	7°♎25'48	
minimum elong	12148 Mar 14 20:35	1°♎00'41	0°17'14	opposition	12154 Mar 16 17:40	2°♎25'31	-0°24'15
max. Earth dist.	12148 Mar 14 02:58	0°♎51'16	6.50957 AU	min. Earth dist.	12154 Mar 16 04:28	2°♎29'59	3.89808 AU
morning rise	12148 Mar 27 19:43	3°♎46'35			12154 Apr 04 14:18	30°♎	
retrograde	12148 Jul 26 08:37	20°♎20'55		direct	12154 May 13 20:35	27°♎30'32	
opposition	12148 Sep 25 12:10	15°♎26'36	0°11'08		12154 Jun 21 15:38	0°♎	
min. Earth dist.	12148 Sep 26 08:51	15°♎19'58	4.50181 AU	evening set	12154 Sep 18 02:47	17°♎43'13	
direct	12148 Nov 27 01:53	10°♎25'36					
desc. node	12149 Feb 23 01:06	20°♎03'43		conjunction	12154 Oct 01 14:31	21°♎00'12	-0°04'01
evening set	12149 Mar 31 22:14	27°♎34'55		minimum elong	12154 Oct 01 14:31	21°♎00'12	0°03'48
max. Earth dist.	12149 Apr 12 02:21	29°♎59'19	6.47197 AU	behind sun begin	12154 Oct 01 06:15	20°♎55'11	
	12149 Apr 12 03:37	0°♏		behind sun end	12154 Oct 01 22:48	21°♎05'13	
				max. Earth dist.	12154 Oct 03 04:16	21°♎23'12	5.91097 AU
conjunction	12149 Apr 13 19:51	0°♏21'45	-0°02'31	morning rise	12154 Oct 15 04:11	24°♎18'09	
minimum elong	12149 Apr 13 19:51	0°♏21'45	0°02'53		12154 Nov 08 07:03	0°♎	
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



























































































































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opposition	12155 Apr 23 21:01	9° $\mathbb{M}$ 55'28	0°13'24	minimum elong	12161 Apr 18 00:36	4° $\mathcal{B}$ 38'37	0°05'47
min. Earth dist.	12155 Apr 22 12:17	10° $\mathbb{M}$ 06'35	3.95186 AU	behind sun begin	12161 Apr 17 16:58	4° $\mathcal{B}$ 34'30	
direct	12155 Jun 20 22:58	4° $\mathbb{M}$ 59'26		behind sun end	12161 Apr 18 08:15	4° $\mathcal{B}$ 42'45	
	12155 Sep 12 15:51	15° $\mathbb{M}$		morning rise	12161 Apr 30 20:09	7° $\mathcal{B}$ 25'03	
evening set	12155 Oct 26 03:03	24° $\mathbb{M}$ 44'31			12161 Jun 06 16:38	15° $\mathcal{B}$	
				retrograde	12161 Aug 30 08:54	24° $\mathcal{B}$ 22'10	
conjunction	12155 Nov 08 17:17	27° $\mathbb{M}$ 57'42	0°20'02	opposition	12161 Oct 30 10:24	19° $\mathcal{B}$ 28'47	-0°22'13
minimum elong	12155 Nov 08 17:16	27° $\mathbb{M}$ 57'41	0°20'43	min. Earth dist.	12161 Oct 31 21:57	19° $\mathcal{B}$ 17'25	4.40724 AU
max. Earth dist.	12155 Nov 11 02:53	28° $\mathbb{M}$ 31'49	6.01512 AU		12161 Dec 13 02:23	15° $\mathcal{R}$ $\mathcal{B}$	
	12155 Nov 17 07:58	0° $\mathcal{A}$		direct	12161 Dec 31 18:00	14° $\mathcal{B}$ 28'16	
morning rise	12155 Nov 22 09:01	1° $\mathcal{A}$ 11'17			12162 Jan 19 12:32	15° $\mathcal{B}$	
retrograde	12156 Mar 30 06:14	20° $\mathcal{A}$ 53'20			12162 Apr 26 00:28	0° $\mathbb{I}$	
min. Earth dist.	12156 May 27 08:11	16° $\mathcal{A}$ 02'48	4.09418 AU	evening set	12162 May 05 19:55	2° $\mathbb{I}$ 08'59	
opposition	12156 May 28 23:05	15° $\mathcal{A}$ 49'38	0°44'00	max. Earth dist.	12162 May 16 08:31	4° $\mathbb{I}$ 29'22	6.33705 AU
direct	12156 Jul 26 21:00	10° $\mathcal{A}$ 51'32					
evening set	12156 Nov 30 12:01	29° $\mathcal{A}$ 45'03		conjunction	12162 May 18 15:28	5° $\mathbb{I}$ 00'03	-0°24'15
	12156 Dec 01 14:23	0° $\mathcal{B}$		minimum elong	12162 May 18 15:27	5° $\mathbb{I}$ 00'03	0°24'59
				morning rise	12162 May 31 10:00	7° $\mathbb{I}$ 50'54	
conjunction	12156 Dec 14 01:09	2° $\mathcal{B}$ 50'04	0°35'35	retrograde	12162 Oct 02 07:20	25° $\mathbb{I}$ 39'00	
minimum elong	12156 Dec 14 01:08	2° $\mathcal{B}$ 50'04	0°36'27	opposition	12162 Dec 01 23:30	20° $\mathbb{I}$ 45'18	-0°46'54
max. Earth dist.	12156 Dec 16 09:06	3° $\mathcal{B}$ 21'58	6.18176 AU	min. Earth dist.	12162 Dec 03 15:28	20° $\mathbb{I}$ 32'25	4.25483 AU
morning rise	12156 Dec 27 14:18	5° $\mathcal{B}$ 54'47		direct	12163 Feb 01 11:08	15° $\mathbb{I}$ 45'56	
retrograde	12157 May 02 07:21	24° $\mathcal{B}$ 21'34			12163 May 19 05:21	0° $\mathcal{E}$	
min. Earth dist.	12157 Jun 30 04:07	19° $\mathcal{B}$ 29'47	4.26844 AU	evening set	12163 Jun 07 00:55	4° $\mathcal{E}$ 14'31	
opposition	12157 Jul 01 10:50	19° $\mathcal{B}$ 19'32	0°57'15	max. Earth dist.	12163 Jun 17 17:02	6° $\mathcal{E}$ 42'26	6.16744 AU
direct	12157 Aug 30 14:52	14° $\mathcal{B}$ 19'43					
	12157 Dec 23 18:10	0° $\approx$		conjunction	12163 Jun 19 21:21	7° $\mathcal{E}$ 12'46	-0°36'48
evening set	12158 Jan 03 13:18	2° $\approx$ 20'25		minimum elong	12163 Jun 19 21:21	7° $\mathcal{E}$ 12'46	0°37'41
				morning rise	12163 Jul 02 17:49	10° $\mathcal{E}$ 11'23	
conjunction	12158 Jan 16 22:37	5° $\approx$ 16'45	0°38'45	retrograde	12163 Nov 06 19:18	29° $\mathcal{E}$ 11'35	
minimum elong	12158 Jan 16 22:37	5° $\approx$ 16'46	0°39'30	opposition	12164 Jan 05 23:40	24° $\mathcal{E}$ 16'29	-0°58'25
max. Earth dist.	12158 Jan 18 10:07	5° $\approx$ 36'16	6.34935 AU	min. Earth dist.	12164 Jan 07 05:19	24° $\mathcal{E}$ 06'47	4.08033 AU
morning rise	12158 Jan 30 07:05	8° $\approx$ 12'22		direct	12164 Mar 06 02:42	19° $\mathcal{E}$ 19'01	
	12158 Mar 03 16:36	15° $\approx$			12164 Jun 02 02:21	0° $\mathcal{Q}$	
retrograde	12158 Jun 02 02:56	25° $\approx$ 35'04		evening set	12164 Jul 10 11:35	8° $\mathcal{Q}$ 42'40	
opposition	12158 Aug 01 18:26	20° $\approx$ 35'57	0°52'30	max. Earth dist.	12164 Jul 22 05:55	11° $\mathcal{Q}$ 31'48	6.00343 AU
min. Earth dist.	12158 Aug 01 03:25	20° $\approx$ 40'53	4.41673 AU				
direct	12158 Oct 02 03:07	15° $\approx$ 35'10		conjunction	12164 Jul 23 11:55	11° $\mathcal{Q}$ 49'51	-0°37'34
	12159 Jan 21 10:58	0° $\mathcal{H}$		minimum elong	12164 Jul 23 11:56	11° $\mathcal{Q}$ 49'51	0°38'16
evening set	12159 Feb 04 11:28	2° $\mathcal{H}$ 57'23		morning rise	12164 Aug 05 13:25	14° $\mathcal{Q}$ 57'57	
					12164 Aug 05 16:51	15° $\mathcal{Q}$	
conjunction	12159 Feb 17 16:22	5° $\mathcal{H}$ 47'14	0°30'37		12164 Oct 15 22:10	0° $\mathcal{N}$	
minimum elong	12159 Feb 17 16:23	5° $\mathcal{H}$ 47'14	0°31'03	retrograde	12164 Dec 13 19:32	5° $\mathcal{N}$ 10'47	
max. Earth dist.	12159 Feb 18 00:13	5° $\mathcal{H}$ 51'27	6.46802 AU	opposition	12165 Feb 11 09:45	0° $\mathcal{N}$ 13'16	-0°49'07
morning rise	12159 Mar 02 19:28	8° $\mathcal{H}$ 36'08		min. Earth dist.	12165 Feb 11 19:02	0° $\mathcal{N}$ 10'10	3.94251 AU
retrograde	12159 Jul 01 20:36	25° $\mathcal{H}$ 20'05			12165 Feb 13 01:37	30° $\mathcal{R}$ $\mathcal{Q}$	
opposition	12159 Aug 31 20:12	20° $\mathcal{H}$ 23'54	0°33'57	direct	12165 Apr 11 06:14	25° $\mathcal{Q}$ 17'41	
min. Earth dist.	12159 Sep 01 00:39	20° $\mathcal{H}$ 22'27	4.49900 AU		12165 Jun 04 23:14	0° $\mathcal{N}$	
direct	12159 Nov 02 01:59	15° $\mathcal{H}$ 22'49		evening set	12165 Aug 16 05:42	15° $\mathcal{N}$ 22'47	
	12160 Feb 23 06:47	0° $\mathcal{Y}$					
evening set	12160 Mar 06 00:29	2° $\mathcal{Y}$ 27'47		conjunction	12165 Aug 29 12:22	18° $\mathcal{N}$ 37'33	-0°24'01
max. Earth dist.	12160 Mar 18 03:11	5° $\mathcal{Y}$ 02'46	6.50824 AU	minimum elong	12165 Aug 29 12:23	18° $\mathcal{N}$ 37'34	0°24'16
				max. Earth dist.	12165 Aug 29 18:21	18° $\mathcal{N}$ 41'13	5.90592 AU
conjunction	12160 Mar 19 01:00	5° $\mathcal{Y}$ 14'26	0°14'34	morning rise	12165 Sep 11 20:58	21° $\mathcal{N}$ 53'31	
minimum elong	12160 Mar 19 01:01	5° $\mathcal{Y}$ 14'26	0°14'35		12165 Oct 16 11:38	0° $\mathcal{A}$	
behind sun begin	12160 Mar 18 21:37	5° $\mathcal{Y}$ 12'38		retrograde	12166 Jan 21 18:56	12° $\mathcal{A}$ 46'00	
behind sun end	12160 Mar 19 04:24	5° $\mathcal{Y}$ 16'15		min. Earth dist.	12166 Mar 21 08:51	7° $\mathcal{A}$ 50'54	3.89747 AU
morning rise	12160 Mar 31 23:48	8° $\mathcal{Y}$ 00'14		opposition	12166 Mar 22 01:22	7° $\mathcal{A}$ 45'19	-0°19'13
retrograde	12160 Jul 30 14:37	24° $\mathcal{Y}$ 35'24		direct	12166 May 19 01:42	2° $\mathcal{A}$ 50'19	
opposition	12160 Sep 29 17:09	19° $\mathcal{Y}$ 41'12	0°07'04	evening set	12166 Sep 23 09:50	23° $\mathcal{A}$ 02'05	
min. Earth dist.	12160 Sep 30 16:34	19° $\mathcal{Y}$ 33'42	4.49558 AU				
direct	12160 Dec 01 07:55	14° $\mathcal{Y}$ 40'09		conjunction	12166 Oct 06 22:01	26° $\mathcal{A}$ 18'59	-0°00'26
desc. node	12161 Jan 01 07:54	16° $\mathcal{Y}$ 03'50		minimum elong	12166 Oct 06 22:02	26° $\mathcal{A}$ 19'00	0°00'08
	12161 Mar 27 10:01	0° $\mathcal{B}$		behind sun begin	12166 Oct 06 13:50	26° $\mathcal{A}$ 14'02	
evening set	12161 Apr 05 03:16	1° $\mathcal{B}$ 51'32		behind sun end	12166 Oct 07 06:15	26° $\mathcal{A}$ 23'58	
max. Earth dist.	12161 Apr 16 05:13	4° $\mathcal{B}$ 15'07	6.46096 AU	max. Earth dist.	12166 Oct 08 14:17	26° $\mathcal{A}$ 43'29	5.91776 AU

asc. node	12166 Oct 13 23:47	28°♊02'08		desc. node	12172 Nov 13 06:10	19°♏33'37	
morning rise	12166 Oct 20 12:28	29°♊36'55		direct	12172 Dec 05 10:28	18°♏49'33	
	12166 Oct 22 02:48	0°♌			12173 Mar 11 04:18	0°♏	
	12167 Jan 01 01:16	15°♌		evening set	12173 Apr 09 06:09	6°♏02'45	
retrograde	12167 Feb 28 15:30	20°♌12'22		max. Earth dist.	12173 Apr 20 04:05	8°♏24'34	6.45042 AU
min. Earth dist.	12167 Apr 27 13:41	15°♌21'00	3.96528 AU				
opposition	12167 Apr 29 00:34	15°♌09'09	0°18'27	conjunction	12173 Apr 22 02:59	8°♏50'03	-0°08'04
	12167 Apr 30 03:31	15°♌		minimum elong	12173 Apr 22 02:58	8°♏50'02	0°08'32
direct	12167 Jun 26 04:04	10°♌12'51		behind sun begin	12173 Apr 21 19:59	8°♏46'16	
	12167 Aug 20 14:40	15°♌		behind sun end	12173 Apr 22 09:56	8°♏53'49	
evening set	12167 Oct 31 07:11	29°♌52'35		morning rise	12173 May 04 22:19	11°♏36'47	
	12167 Oct 31 19:49	0°♍			12173 May 20 19:37	15°♏	
				retrograde	12173 Sep 03 17:44	28°♏38'38	
conjunction	12167 Nov 13 21:37	3°♍04'56	0°22'52	opposition	12173 Nov 03 17:18	23°♏45'16	-0°25'58
minimum elong	12167 Nov 13 21:36	3°♍04'56	0°23'36	min. Earth dist.	12173 Nov 05 07:21	23°♏33'05	4.39069 AU
max. Earth dist.	12167 Nov 16 08:59	3°♍39'58	6.03395 AU	direct	12174 Jan 04 23:51	18°♏44'48	
morning rise	12167 Nov 27 13:08	6°♍17'33			12174 Apr 09 15:05	0°♐	
retrograde	12168 Apr 04 01:58	25°♍50'17		evening set	12174 May 10 01:46	6°♐30'52	
min. Earth dist.	12168 Jun 01 04:55	20°♍59'35	4.11639 AU	max. Earth dist.	12174 May 20 12:43	8°♐50'59	6.31555 AU
opposition	12168 Jun 02 19:02	20°♍46'43	0°47'00				
direct	12168 Jul 31 21:01	15°♍48'24		conjunction	12174 May 22 21:23	9°♐22'45	-0°26'25
	12168 Nov 14 17:58	0°♑		minimum elong	12174 May 22 21:22	9°♐22'45	0°27'12
evening set	12168 Dec 05 09:38	4°♑34'41		morning rise	12174 Jun 04 15:59	12°♐14'30	
					12174 Sep 25 19:04	0°♑	
conjunction	12168 Dec 18 22:19	7°♑38'30	0°36'47	retrograde	12174 Oct 06 22:10	0°♑11'43	
minimum elong	12168 Dec 18 22:18	7°♑38'29	0°37'38		12174 Oct 18 01:26	30°♑♐	
max. Earth dist.	12168 Dec 21 05:15	8°♑09'38	6.20553 AU	opposition	12174 Dec 06 13:33	25°♐17'52	-0°49'24
morning rise	12169 Jan 01 10:59	10°♑41'55		min. Earth dist.	12174 Dec 08 04:36	25°♐05'15	4.22967 AU
retrograde	12169 May 06 16:11	28°♑58'49		direct	12175 Feb 05 19:59	20°♐18'42	
opposition	12169 Jul 05 22:34	23°♑57'08	0°57'36		12175 May 01 16:59	0°♑	
min. Earth dist.	12169 Jul 04 16:30	24°♑07'09	4.29199 AU	evening set	12175 Jun 11 13:52	8°♑55'31	
direct	12169 Sep 04 05:53	18°♑57'11		max. Earth dist.	12175 Jun 22 08:11	11°♑25'37	6.14059 AU
	12169 Dec 06 11:32	0°♒					
evening set	12170 Jan 08 03:02	6°♒51'13		conjunction	12175 Jun 24 10:40	11°♑55'04	-0°37'42
				minimum elong	12175 Jun 24 10:40	11°♑55'04	0°38'33
conjunction	12170 Jan 21 11:45	9°♒46'25	0°38'14	morning rise	12175 Jul 07 07:40	14°♑55'04	
minimum elong	12170 Jan 21 11:46	9°♒46'25	0°38'57		12175 Sep 20 09:01	0°♓	
max. Earth dist.	12170 Jan 22 20:11	10°♒04'10	6.37110 AU	retrograde	12175 Nov 11 22:09	4°♓07'07	
morning rise	12170 Feb 03 19:23	12°♒40'50			12176 Jan 04 19:17	30°♓♑	
	12170 Feb 14 14:16	15°♒		opposition	12176 Jan 10 23:12	29°♑11'46	-0°58'29
retrograde	12170 Jun 06 07:52	29°♒55'53		min. Earth dist.	12176 Jan 12 03:54	29°♑02'21	4.05385 AU
opposition	12170 Aug 06 00:22	24°♒57'14	0°50'37	direct	12176 Mar 10 22:24	24°♑14'32	
min. Earth dist.	12170 Aug 05 12:05	25°♒01'15	4.43512 AU		12176 May 11 21:42	0°♓	
direct	12170 Oct 06 13:22	19°♒56'25		evening set	12176 Jul 15 09:45	13°♓47'00	
	12171 Jan 04 07:07	0°♒			12176 Jul 20 11:16	15°♓	
evening set	12171 Feb 08 18:34	7°♒13'55		max. Earth dist.	12176 Jul 27 08:44	16°♓39'49	5.97994 AU
conjunction	12171 Feb 21 22:41	10°♒02'58	0°28'47	conjunction	12176 Jul 28 11:03	16°♓55'42	-0°36'32
minimum elong	12171 Feb 21 22:42	10°♒02'59	0°29'10	minimum elong	12176 Jul 28 11:04	16°♓55'42	0°37'12
max. Earth dist.	12171 Feb 22 01:52	10°♒04'40	6.48169 AU	morning rise	12176 Aug 10 13:35	20°♓05'22	
morning rise	12171 Mar 07 01:13	12°♒51'07			12176 Sep 23 02:58	0°♓	
retrograde	12171 Jul 05 22:23	29°♒31'05		retrograde	12176 Dec 19 05:39	10°♓28'26	
opposition	12171 Sep 04 22:57	24°♒35'10	0°30'37	opposition	12177 Feb 16 17:24	5°♓30'34	-0°46'03
min. Earth dist.	12171 Sep 05 06:05	24°♒32'52	4.50718 AU	min. Earth dist.	12177 Feb 16 22:46	5°♓28'46	3.92473 AU
direct	12171 Nov 06 06:51	19°♒34'04		direct	12177 Apr 16 08:29	0°♓35'11	
	12172 Feb 06 15:39	0°♓		evening set	12177 Aug 21 12:23	20°♓45'47	
evening set	12172 Mar 10 03:41	6°♓37'22					
max. Earth dist.	12172 Mar 22 03:50	9°♓10'56	6.51032 AU	conjunction	12177 Sep 03 19:56	24°♓01'31	-0°21'08
				minimum elong	12177 Sep 03 19:57	24°♓01'32	0°21'19
conjunction	12172 Mar 23 03:47	9°♓23'44	0°12'00	max. Earth dist.	12177 Sep 04 06:16	24°♓07'52	5.89567 AU
minimum elong	12172 Mar 23 03:48	9°♓23'44	0°11'57	morning rise	12177 Sep 17 05:45	27°♓18'30	
behind sun begin	12172 Mar 22 22:17	9°♓20'49			12177 Sep 28 09:04	0°♔	
behind sun end	12172 Mar 23 09:18	9°♓26'40		retrograde	12178 Jan 27 04:58	18°♔14'13	
morning rise	12172 Apr 05 01:50	12°♓09'13		opposition	12178 Mar 27 11:38	13°♔13'03	-0°14'00
retrograde	12172 Aug 03 16:20	28°♓44'33		min. Earth dist.	12178 Mar 26 15:15	13°♔19'57	3.89606 AU
opposition	12172 Oct 03 19:55	23°♓50'32	0°03'06	direct	12178 May 24 10:37	8°♔17'56	
min. Earth dist.	12172 Oct 04 21:09	23°♓42'28	4.49133 AU	asc. node	12178 Aug 21 16:05	19°♔39'00	

evening set	12178 Sep 28 19:50	28°♄28'52			12184 Jan 18 05:57	0°♑	
	12178 Oct 05 02:33	0°♄		evening set	12184 Mar 14 08:26	10°♑50'09	
				max. Earth dist.	12184 Mar 26 02:40	13°♑20'44	6.50793 AU
conjunction	12178 Oct 12 08:49	1°♄45'44	0°03'11				
minimum elong	12178 Oct 12 08:49	1°♄45'44	0°03'34	conjunction	12184 Mar 27 07:54	13°♑36'22	0°09'16
behind sun begin	12178 Oct 12 00:31	1°♄40'43		minimum elong	12184 Mar 27 07:54	13°♑36'22	0°09'09
behind sun end	12178 Oct 12 17:07	1°♄50'45		behind sun begin	12184 Mar 27 01:07	13°♑32'46	
max. Earth dist.	12178 Oct 14 06:46	2°♄13'37	5.92545 AU	behind sun end	12184 Mar 27 14:41	13°♑39'59	
morning rise	12178 Oct 25 23:36	5°♄03'25		morning rise	12184 Apr 09 05:37	16°♑21'47	
	12178 Dec 08 16:05	15°♄			12184 Jun 23 16:08	0°♄	
retrograde	12179 Mar 05 21:31	25°♄33'06		retrograde	12184 Aug 07 22:19	2°♄58'49	
min. Earth dist.	12179 May 02 18:16	20°♄41'50	3.98093 AU		12184 Sep 22 14:44	30°♄♑	
opposition	12179 May 04 06:16	20°♄29'36	0°23'21	desc. node	12184 Sep 24 12:40	29°♑46'25	
direct	12179 Jul 01 12:31	15°♄33'00		opposition	12184 Oct 08 01:22	28°♑04'56	-0°01'03
	12179 Oct 14 07:28	0°♄		min. Earth dist.	12184 Oct 09 05:13	27°♑56'01	4.48219 AU
evening set	12179 Nov 05 13:43	5°♄06'13		direct	12184 Dec 09 15:51	23°♑03'55	
					12185 Feb 20 08:46	0°♄	
conjunction	12179 Nov 19 04:07	8°♄17'31	0°25'32	evening set	12185 Apr 13 11:38	10°♄20'25	
minimum elong	12179 Nov 19 04:06	8°♄17'31	0°26'18	max. Earth dist.	12185 Apr 24 07:53	12°♄41'46	6.43509 AU
max. Earth dist.	12179 Nov 21 17:20	8°♄53'26	6.05575 AU				
morning rise	12179 Dec 02 19:29	11°♄28'59		conjunction	12185 Apr 26 08:20	13°♄08'12	-0°10'51
	12180 Mar 17 00:25	0°♄		minimum elong	12185 Apr 26 08:20	13°♄08'11	0°11'23
retrograde	12180 Apr 08 19:37	0°♄50'41		behind sun begin	12185 Apr 26 02:30	13°♄05'01	
	12180 May 01 12:06	30°♄♄		behind sun end	12185 Apr 26 14:10	13°♄11'21	
min. Earth dist.	12180 Jun 06 00:50	26°♄00'16	4.14183 AU		12185 May 04 21:21	15°♄	
opposition	12180 Jun 07 15:43	25°♄47'10	0°49'37	morning rise	12185 May 09 03:18	15°♄55'24	
direct	12180 Aug 05 20:41	20°♄48'31			12185 Jul 24 12:10	0°♄	
	12180 Oct 26 20:27	0°♄		retrograde	12185 Sep 08 04:30	3°♄03'33	
evening set	12180 Dec 10 07:58	9°♄26'19			12185 Oct 24 11:58	30°♄♄	
				opposition	12185 Nov 08 03:57	28°♄10'11	-0°29'47
conjunction	12180 Dec 23 20:05	12°♄28'43	0°37'43	min. Earth dist.	12185 Nov 09 18:31	27°♄57'50	4.37009 AU
minimum elong	12180 Dec 23 20:05	12°♄28'43	0°38'34	direct	12186 Jan 09 07:08	23°♄09'53	
max. Earth dist.	12180 Dec 25 23:59	12°♄57'58	6.23215 AU		12186 Mar 21 08:39	0°♄	
morning rise	12181 Jan 06 08:06	15°♄30'41		evening set	12186 May 14 12:10	11°♄02'37	
	12181 Mar 22 22:03	0°♄		max. Earth dist.	12186 May 24 22:15	13°♄23'05	6.29104 AU
retrograde	12181 May 11 03:05	3°♄36'50					
	12181 Jun 29 16:28	30°♄♄		conjunction	12186 May 27 07:40	13°♄55'28	-0°28'33
min. Earth dist.	12181 Jul 09 07:34	28°♄44'29	4.31720 AU	minimum elong	12186 May 27 07:39	13°♄55'27	0°29'22
opposition	12181 Jul 10 10:46	28°♄35'27	0°57'32	morning rise	12186 Jun 09 02:31	16°♄48'16	
direct	12181 Sep 08 24:00	23°♄35'16			12186 Aug 14 09:08	0°♄	
	12181 Nov 16 07:20	0°♄		retrograde	12186 Oct 11 20:17	4°♄55'43	
evening set	12182 Jan 12 16:43	11°♄22'07		opposition	12186 Dec 11 08:48	0°♄01'44	-0°51'44
					12186 Dec 11 14:08	30°♄♄	
conjunction	12182 Jan 26 00:49	14°♄16'10	0°37'27	min. Earth dist.	12186 Dec 12 23:59	29°♄49'03	4.20279 AU
minimum elong	12182 Jan 26 00:50	14°♄16'11	0°38'07	direct	12187 Feb 10 11:58	25°♄02'46	
max. Earth dist.	12182 Jan 27 05:59	14°♄32'03	6.39286 AU		12187 Apr 09 18:03	0°♄	
	12182 Jan 29 09:17	15°♄		evening set	12187 Jun 16 07:47	13°♄48'21	
morning rise	12182 Feb 08 07:39	17°♄09'24		max. Earth dist.	12187 Jun 27 04:52	16°♄20'57	6.11367 AU
	12182 Apr 16 23:33	0°♄					
retrograde	12182 Jun 10 11:02	4°♄17'00		conjunction	12187 Jun 29 05:11	16°♄49'18	-0°38'21
	12182 Aug 04 23:22	30°♄♄		minimum elong	12187 Jun 29 05:11	16°♄49'18	0°39'12
opposition	12182 Aug 10 06:18	29°♄18'42	0°48'24	morning rise	12187 Jul 12 02:47	19°♄50'45	
min. Earth dist.	12182 Aug 09 20:03	29°♄22'03	4.45209 AU		12187 Aug 27 08:24	0°♄	
direct	12182 Oct 10 22:12	24°♄17'48		retrograde	12187 Nov 17 04:48	9°♄14'34	
	12182 Dec 15 01:03	0°♄		opposition	12188 Jan 16 04:00	4°♄19'00	-0°58'06
evening set	12183 Feb 13 02:09	11°♄31'15		min. Earth dist.	12188 Jan 17 05:30	4°♄10'38	4.02947 AU
					12188 Feb 25 06:40	30°♄♄	
conjunction	12183 Feb 26 05:40	14°♄19'38	0°26'45	direct	12188 Mar 15 21:14	29°♄22'09	
minimum elong	12183 Feb 26 05:41	14°♄19'38	0°27'04		12188 Apr 04 11:51	0°♄	
max. Earth dist.	12183 Feb 26 04:55	14°♄19'14	6.49275 AU		12188 Jul 03 11:31	15°♄	
morning rise	12183 Mar 11 07:24	17°♄07'04		evening set	12188 Jul 20 12:50	19°♄02'30	
	12183 May 20 02:18	0°♑					
retrograde	12183 Jul 10 01:31	3°♑43'58		conjunction	12188 Aug 02 14:51	22°♄12'29	-0°35'09
	12183 Aug 30 17:40	30°♄♄		minimum elong	12188 Aug 02 14:52	22°♄12'30	0°35'45
opposition	12183 Sep 09 02:40	28°♄48'24	0°27'02	max. Earth dist.	12188 Aug 01 16:46	21°♄59'06	5.96055 AU
min. Earth dist.	12183 Sep 09 13:08	28°♄45'02	4.51175 AU	morning rise	12188 Aug 15 18:30	25°♄23'33	
direct	12183 Nov 10 13:27	23°♄47'17			12188 Sep 04 04:44	0°♄	



retrograde	12188 Dec 24 17:55	15° $\mathbb{M}$ 55'05		retrograde	12194 Jun 14 14:31	8° $\mathbb{X}$ 32'37	
opposition	12189 Feb 22 04:53	10° $\mathbb{M}$ 56'46	-0°42'27	opposition	12194 Aug 14 10:05	3° $\mathbb{X}$ 34'47	0°46'00
min. Earth dist.	12189 Feb 22 06:04	10° $\mathbb{M}$ 56'22	3.91272 AU	min. Earth dist.	12194 Aug 14 03:54	3° $\mathbb{X}$ 36'48	4.46583 AU
direct	12189 Apr 21 16:37	6° $\mathbb{M}$ 01'36			12194 Sep 14 06:11	30° $\mathbb{R}$ $\approx$	
evening set	12189 Aug 26 22:05	26° $\mathbb{M}$ 15'14		direct	12194 Oct 15 06:34	28° $\approx$ 33'48	
					12194 Nov 15 13:12	0° $\mathbb{X}$	
conjunction	12189 Sep 09 06:42	29° $\mathbb{M}$ 31'36	-0°17'59	evening set	12195 Feb 17 07:15	15° $\mathbb{X}$ 44'21	
minimum elong	12189 Sep 09 06:43	29° $\mathbb{M}$ 31'36	0°18'06				
max. Earth dist.	12189 Sep 10 00:33	29° $\mathbb{M}$ 42'33	5.89265 AU	conjunction	12195 Mar 02 10:14	18° $\mathbb{X}$ 32'15	0°24'37
	12189 Sep 11 04:58	0° $\mathbb{L}$		minimum elong	12195 Mar 02 10:14	18° $\mathbb{X}$ 32'15	0°24'53
morning rise	12189 Sep 22 17:16	2° $\mathbb{L}$ 49'07		max. Earth dist.	12195 Mar 02 05:04	18° $\mathbb{X}$ 29'30	6.49964 AU
retrograde	12190 Feb 01 17:29	23° $\mathbb{L}$ 44'32		morning rise	12195 Mar 15 11:21	21° $\mathbb{X}$ 19'13	
opposition	12190 Apr 01 22:44	18° $\mathbb{L}$ 42'58	-0°08'35		12195 Apr 27 23:40	0° $\mathbb{Y}$	
min. Earth dist.	12190 Mar 31 23:43	18° $\mathbb{L}$ 50'46	3.90261 AU	retrograde	12195 Jul 14 02:37	7° $\mathbb{Y}$ 54'40	
direct	12190 May 29 22:14	13° $\mathbb{L}$ 47'48		opposition	12195 Sep 13 05:17	2° $\mathbb{Y}$ 59'23	0°23'23
asc. node	12190 Jun 29 14:33	15° $\mathbb{L}$ 22'53		min. Earth dist.	12195 Sep 13 17:59	2° $\mathbb{Y}$ 55'19	4.51164 AU
	12190 Sep 17 18:27	0° $\mathbb{M}$			12195 Oct 08 05:26	30° $\mathbb{R}$ $\mathbb{X}$	
evening set	12190 Oct 04 05:58	3° $\mathbb{M}$ 54'47		direct	12195 Nov 14 16:34	27° $\mathbb{X}$ 58'15	
					12195 Dec 22 09:46	0° $\mathbb{Y}$	
conjunction	12190 Oct 17 19:17	7° $\mathbb{M}$ 11'06	0°06'42	evening set	12196 Mar 18 12:13	15° $\mathbb{Y}$ 02'08	
minimum elong	12190 Oct 17 19:17	7° $\mathbb{M}$ 11'06	0°07'08	max. Earth dist.	12196 Mar 30 03:31	17° $\mathbb{Y}$ 31'24	6.50091 AU
behind sun begin	12190 Oct 17 11:35	7° $\mathbb{M}$ 06'28					
behind sun end	12190 Oct 18 03:00	7° $\mathbb{M}$ 15'44		conjunction	12196 Mar 31 11:19	17° $\mathbb{Y}$ 48'27	0°06'33
max. Earth dist.	12190 Oct 19 21:16	7° $\mathbb{M}$ 41'17	5.94064 AU	minimum elong	12196 Mar 31 11:19	17° $\mathbb{Y}$ 48'27	0°06'21
morning rise	12190 Oct 31 10:30	10° $\mathbb{M}$ 28'11		behind sun begin	12196 Mar 31 03:47	17° $\mathbb{Y}$ 44'25	
	12190 Nov 19 16:23	15° $\mathbb{M}$		behind sun end	12196 Mar 31 18:51	17° $\mathbb{Y}$ 52'28	
	12191 Feb 16 16:17	0° $\mathbb{X}$		morning rise	12196 Apr 13 08:28	20° $\mathbb{Y}$ 33'58	
retrograde	12191 Mar 10 22:48	0° $\mathbb{X}$ 49'02			12196 May 30 20:51	0° $\mathbb{B}$	
	12191 Apr 02 02:37	30° $\mathbb{R}$ $\mathbb{M}$		desc. node	12196 Aug 06 18:46	7° $\mathbb{B}$ 11'30	
min. Earth dist.	12191 May 07 19:35	25° $\mathbb{M}$ 58'22	4.00301 AU	retrograde	12196 Aug 12 04:05	7° $\mathbb{B}$ 14'12	
opposition	12191 May 09 09:53	25° $\mathbb{M}$ 45'22	0°27'58	opposition	12196 Oct 12 06:57	2° $\mathbb{B}$ 20'30	-0°05'10
direct	12191 Jul 06 17:37	20° $\mathbb{M}$ 48'31		min. Earth dist.	12196 Oct 13 13:08	2° $\mathbb{B}$ 10'51	4.46872 AU
	12191 Sep 25 01:52	0° $\mathbb{X}$			12196 Oct 31 08:33	30° $\mathbb{R}$ $\mathbb{Y}$	
evening set	12191 Nov 10 17:34	10° $\mathbb{X}$ 13'17		direct	12196 Dec 13 21:06	27° $\mathbb{Y}$ 19'35	
					12197 Jan 26 05:55	0° $\mathbb{B}$	
conjunction	12191 Nov 24 07:40	13° $\mathbb{X}$ 23'15	0°27'56	evening set	12197 Apr 17 17:52	14° $\mathbb{B}$ 40'42	
minimum elong	12191 Nov 24 07:38	13° $\mathbb{X}$ 23'14	0°28'45		12197 Apr 19 05:25	15° $\mathbb{B}$	
max. Earth dist.	12191 Nov 26 19:53	13° $\mathbb{X}$ 58'22	6.08231 AU	max. Earth dist.	12197 Apr 28 10:23	17° $\mathbb{B}$ 00'42	6.41604 AU
morning rise	12191 Dec 07 22:42	16° $\mathbb{X}$ 33'18					
	12192 Feb 11 00:44	0° $\mathbb{B}$		conjunction	12197 Apr 30 14:11	17° $\mathbb{B}$ 29'04	-0°13'35
retrograde	12192 Apr 13 11:23	5° $\mathbb{B}$ 43'01		minimum elong	12197 Apr 30 14:10	17° $\mathbb{B}$ 29'04	0°14'09
min. Earth dist.	12192 Jun 10 20:17	0° $\mathbb{B}$ 52'09	4.16996 AU	behind sun begin	12197 Apr 30 10:13	17° $\mathbb{B}$ 26'55	
opposition	12192 Jun 12 09:19	0° $\mathbb{B}$ 39'41	0°51'48	behind sun end	12197 Apr 30 18:08	17° $\mathbb{B}$ 31'13	
	12192 Jun 17 07:37	30° $\mathbb{R}$ $\mathbb{X}$		morning rise	12197 May 13 09:12	20° $\mathbb{B}$ 17'00	
direct	12192 Aug 10 20:05	25° $\mathbb{X}$ 40'46			12197 Jun 30 04:44	0° $\mathbb{I}$	
	12192 Oct 03 17:36	0° $\mathbb{B}$		retrograde	12197 Sep 12 18:48	7° $\mathbb{I}$ 32'44	
evening set	12192 Dec 15 02:36	14° $\mathbb{B}$ 09'40		opposition	12197 Nov 12 16:18	2° $\mathbb{I}$ 39'20	-0°33'26
				min. Earth dist.	12197 Nov 14 07:45	2° $\mathbb{I}$ 26'41	4.34662 AU
conjunction	12192 Dec 28 14:18	17° $\mathbb{B}$ 10'41	0°38'22		12197 Dec 04 12:29	30° $\mathbb{R}$ $\mathbb{B}$	
minimum elong	12192 Dec 28 14:17	17° $\mathbb{B}$ 10'41	0°39'13	direct	12198 Jan 13 17:11	27° $\mathbb{B}$ 39'08	
max. Earth dist.	12192 Dec 30 16:42	17° $\mathbb{B}$ 38'55	6.25948 AU		12198 Feb 22 15:40	0° $\mathbb{I}$	
morning rise	12193 Jan 11 01:29	20° $\mathbb{B}$ 11'10		evening set	12198 May 18 23:48	15° $\mathbb{I}$ 39'17	
	12193 Feb 27 09:32	0° $\approx$		max. Earth dist.	12198 May 29 11:29	18° $\mathbb{I}$ 01'26	6.26506 AU
retrograde	12193 May 15 09:00	8° $\approx$ 06'55					
opposition	12193 Jul 14 19:25	3° $\approx$ 06'00	0°57'07	conjunction	12198 May 31 19:35	18° $\mathbb{I}$ 33'15	-0°30'31
min. Earth dist.	12193 Jul 13 17:46	3° $\approx$ 14'29	4.34158 AU	minimum elong	12198 May 31 19:34	18° $\mathbb{I}$ 33'14	0°31'21
	12193 Aug 09 04:58	30° $\mathbb{R}$ $\mathbb{B}$		morning rise	12198 Jun 13 14:33	21° $\mathbb{I}$ 27'11	
direct	12193 Sep 13 12:20	28° $\mathbb{B}$ 05'42			12198 Jul 23 09:35	0° $\mathbb{B}$	
	12193 Oct 19 04:55	0° $\approx$		retrograde	12198 Oct 16 18:52	9° $\mathbb{B}$ 45'17	
	12194 Jan 13 13:30	15° $\approx$		opposition	12198 Dec 16 06:09	4° $\mathbb{B}$ 51'09	-0°53'44
evening set	12194 Jan 17 03:16	15° $\approx$ 46'06		min. Earth dist.	12198 Dec 17 19:43	4° $\mathbb{B}$ 38'59	4.17630 AU
					12199 Feb 06 08:01	30° $\mathbb{R}$ $\mathbb{I}$	
conjunction	12194 Jan 30 10:35	18° $\approx$ 39'06	0°36'29	direct	12199 Feb 15 04:12	29° $\mathbb{I}$ 52'31	
minimum elong	12194 Jan 30 10:36	18° $\approx$ 39'06	0°37'06		12199 Feb 24 00:37	0° $\mathbb{B}$	
max. Earth dist.	12194 Jan 31 10:08	18° $\approx$ 51'53	6.41251 AU	evening set	12199 Jun 21 03:40	18° $\mathbb{B}$ 46'23	
morning rise	12194 Feb 12 16:45	21° $\approx$ 31'16		max. Earth dist.	12199 Jul 02 03:38	21° $\mathbb{B}$ 21'35	6.08897 AU
	12194 Mar 26 09:41	0° $\mathbb{X}$					

conjunction	12199 Jul 04 01:24	21°  48'35 -0°38'44	morning rise	12205 Jan 16 17:23	24°  46'58	
minimum elong	12199 Jul 04 01:24	21°  48'35 0°39'34		12205 Feb 09 22:39	0° 	
morning rise	12199 Jul 16 23:48	24°  51'26	retrograde	12205 May 20 16:18	12°  34'07	
	12199 Aug 08 08:21	0° 	min. Earth dist.	12205 Jul 19 05:12	7°  41'02	4.36135 AU
retrograde	12199 Nov 22 12:59	14°  25'56	opposition	12205 Jul 20 03:38	7°  33'38	0°56'25
opposition	12200 Jan 21 10:07	9°  29'59 -0°57'12	direct	12205 Sep 19 01:15	2°  33'10	
min. Earth dist.	12200 Jan 22 08:16	9°  22'40 4.00884 AU		12205 Dec 29 01:07	15° 	
direct	12200 Mar 21 23:17	4°  33'21	evening set	12206 Jan 22 13:22	20°  08'40	
	12200 Jun 15 23:22	15° 				
evening set	12200 Jul 26 16:36	24°  19'46	conjunction	12206 Feb 04 20:15	23°  00'52	0°35'18
			minimum elong	12206 Feb 04 20:15	23°  00'52	0°35'54
conjunction	12200 Aug 08 19:37	27°  30'51 -0°33'28	max. Earth dist.	12206 Feb 05 17:04	23°  12'08	6.42756 AU
minimum elong	12200 Aug 08 19:38	27°  30'52 0°34'00	morning rise	12206 Feb 18 01:34	25°  52'10	
max. Earth dist.	12200 Aug 08 04:20	27°  21'33 5.94618 AU		12206 Mar 09 16:15	0° 	
	12200 Aug 19 01:02	0° 	retrograde	12206 Jun 19 16:52	12°  48'47	
morning rise	12200 Aug 22 00:04	0°  42'59	opposition	12206 Aug 19 14:23	7°  51'24	0°43'21
retrograde	12200 Dec 31 06:23	21°  20'16	min. Earth dist.	12206 Aug 19 10:05	7°  52'48	4.47544 AU
opposition	12201 Feb 28 15:36	16°  21'28 -0°38'27	direct	12206 Oct 20 12:33	2°  50'26	
min. Earth dist.	12201 Feb 28 13:34	16°  22'09 3.90629 AU	evening set	12207 Feb 22 13:38	19°  59'22	
direct	12201 Apr 28 00:37	11°  26'24				
	12201 Aug 26 08:36	0° 	conjunction	12207 Mar 07 15:57	22°  46'54	0°22'19
evening set	12201 Sep 02 06:30	1°  40'37	minimum elong	12207 Mar 07 15:57	22°  46'55	0°22'31
			max. Earth dist.	12207 Mar 07 06:09	22°  41'41	6.50321 AU
conjunction	12201 Sep 15 15:47	4°  57'15 -0°14'44	morning rise	12207 Mar 20 16:32	25°  43'33	
minimum elong	12201 Sep 15 15:48	4°  57'15 0°14'44		12207 Apr 11 01:35	0° 	
behind sun begin	12201 Sep 15 12:24	4°  55'11	retrograde	12207 Jul 19 07:49	12°  48'31	
behind sun end	12201 Sep 15 19:12	4°  59'20	opposition	12207 Sep 18 09:42	7°  48'37	0°19'33
max. Earth dist.	12201 Sep 16 14:02	5°  10'53 5.89452 AU	min. Earth dist.	12207 Sep 19 01:48	7°  48'27	4.50917 AU
morning rise	12201 Sep 29 03:19	8°  15'03	direct	12207 Nov 19 23:01	2°  48'34	
retrograde	12202 Feb 08 00:23	29°  07'56	evening set	12208 Mar 23 17:43	19°  48'06	
min. Earth dist.	12202 Apr 07 04:11	24°  15'00 3.91266 AU	max. Earth dist.	12208 Apr 04 04:55	21°  45'31	6.49262 AU
opposition	12202 Apr 08 06:54	24°  05'57 -0°03'11				
asc. node	12202 May 10 16:38	20°  17'10	conjunction	12208 Apr 05 16:23	22°  48'34	0°03'42
direct	12202 Jun 05 05:44	19°  10'35	minimum elong	12208 Apr 05 16:24	22°  48'35	0°03'28
	12202 Aug 31 06:56	0° 	behind sun begin	12208 Apr 05 08:27	22°  48'20	
evening set	12202 Oct 10 13:16	9°  12'35	behind sun end	12208 Apr 06 00:20	22°  48'49	
			morning rise	12208 Apr 18 13:14	24°  48'18	
conjunction	12202 Oct 24 02:51	12°  28'12 0°10'06		12208 May 13 08:10	0° 	
minimum elong	12202 Oct 24 02:50	12°  28'12 0°10'37	desc. node	12208 Jun 17 17:19	6°  23'46	
behind sun begin	12202 Oct 23 20:24	12°  24'20	retrograde	12208 Aug 17 12:05	11°  34'13	
behind sun end	12202 Oct 24 09:16	12°  32'03	opposition	12208 Oct 17 14:51	6°  34'40 -0°09'22	
max. Earth dist.	12202 Oct 26 06:40	12°  35'23 5.95759 AU	min. Earth dist.	12208 Oct 18 21:51	6°  30'45	4.45544 AU
	12202 Nov 03 15:41	15° 	direct	12208 Dec 19 03:09	1°  39'56	
morning rise	12202 Nov 06 18:15	15°  44'31		12209 Apr 03 22:11	15° 	
	12203 Jan 12 17:31	0° 	evening set	12209 Apr 23 01:40	19°  48'28	
retrograde	12203 Mar 16 21:42	5°  56'17	max. Earth dist.	12209 May 03 18:39	21°  48'15	6.39894 AU
min. Earth dist.	12203 May 13 20:09	1°  50'26 4.02474 AU				
opposition	12203 May 15 10:15	0°  52'30 0°32'18	conjunction	12209 May 05 21:52	21°  48'25	-0°16'18
	12203 May 21 21:53	30° 	minimum elong	12209 May 05 21:51	21°  48'25	0°16'56
direct	12203 Jul 12 21:59	25°  55'19	morning rise	12209 May 18 16:33	24°  42'56	
	12203 Sep 02 03:51	0° 		12209 Jun 12 10:42	0° 	
evening set	12203 Nov 16 18:36	15°  57'14	retrograde	12209 Sep 18 09:26	12°  48'39	
			opposition	12209 Nov 18 06:20	7°  48'19 -0°37'00	
conjunction	12203 Nov 30 08:38	18°  57'21 0°30'07	min. Earth dist.	12209 Nov 19 21:58	6°  48'36	4.32701 AU
minimum elong	12203 Nov 30 08:37	18°  57'21 0°30'57	direct	12210 Jan 19 04:35	2°  48'12	
max. Earth dist.	12203 Dec 02 21:36	18°  56'21 6.10681 AU	evening set	12210 May 24 12:37	20°  48'18	
morning rise	12203 Dec 13 23:09	21°  57'43	max. Earth dist.	12210 Jun 04 00:16	22°  48'27	6.24451 AU
	12204 Jan 21 20:02	0° 				
retrograde	12204 Apr 19 00:58	10°  28'33	conjunction	12210 Jun 06 08:16	23°  48'22	-0°32'20
min. Earth dist.	12204 Jun 16 12:11	5°  37'41 4.19486 AU	minimum elong	12210 Jun 06 08:16	23°  48'21	0°33'11
opposition	12204 Jun 18 00:28	5°  32'51 0°53'38	morning rise	12210 Jun 19 03:36	26°  48'16	
direct	12204 Aug 16 14:53	0° 		12210 Jul 06 10:16	0° 	
evening set	12204 Dec 20 19:41	18°  47'55	retrograde	12210 Oct 22 17:33	14°  48'35	
			opposition	12210 Dec 22 03:30	9°  48'50 -0°55'25	
conjunction	12205 Jan 03 06:42	21°  47'42 0°38'47	min. Earth dist.	12210 Dec 23 15:01	9°  48'18	4.15644 AU
minimum elong	12205 Jan 03 06:42	21°  47'42 0°39'38	direct	12211 Feb 20 21:57	4°  48'29	
max. Earth dist.	12205 Jan 05 04:23	22°  48'13 6.28265 AU	evening set	12211 Jun 26 22:21	23°  48'13	

max. Earth dist.	12211 Jul 08 03:43	26° $\Omega$ 21'10	6.07168 AU	conjunction	12217 Jan 07 19:28	26° $\Xi$ 16'30	0°38'59
				minimum elong	12217 Jan 07 19:28	26° $\Xi$ 16'30	0°39'48
conjunction	12211 Jul 09 20:42	26° $\Omega$ 45'25	-0°38'53	max. Earth dist.	12217 Jan 09 15:16	26° $\Xi$ 40'50	6.30032 AU
minimum elong	12211 Jul 09 20:42	26° $\Omega$ 45'25	0°39'43	morning rise	12217 Jan 21 05:24	29° $\Xi$ 14'45	
morning rise	12211 Jul 22 19:31	29° $\Omega$ 49'16			12217 Jan 24 15:50	0° $\approx$	
	12211 Jul 23 13:45	0° $\Omega$			12217 Apr 19 11:07	15° $\approx$	
	12211 Oct 04 17:24	15° $\Omega$		retrograde	12217 May 24 21:04	16° $\approx$ 55'15	
retrograde	12211 Nov 28 18:26	19° $\Omega$ 31'35			12217 Jun 29 03:19	15° $\approx$	
	12212 Jan 24 10:45	15° $\approx$ $\Omega$		opposition	12217 Jul 24 09:04	11° $\approx$ 55'12	0°55'28
opposition	12212 Jan 27 13:42	14° $\Omega$ 35'18	-0°55'57	min. Earth dist.	12217 Jul 23 12:30	12° $\approx$ 01'58	4.37585 AU
min. Earth dist.	12212 Jan 28 09:27	14° $\Omega$ 28'48	3.99589 AU	direct	12217 Sep 23 09:33	6° $\approx$ 54'40	
direct	12212 Mar 26 23:04	9° $\Omega$ 39'00			12217 Dec 10 21:51	15° $\approx$	
	12212 May 25 01:25	15° $\Omega$		evening set	12218 Jan 26 21:32	24° $\approx$ 26'50	
evening set	12212 Jul 31 16:51	29° $\Omega$ 28'37					
	12212 Aug 02 20:42	0° $\approx$		conjunction	12218 Feb 09 03:44	27° $\approx$ 18'23	0°34'00
				minimum elong	12218 Feb 09 03:44	27° $\approx$ 18'23	0°34'33
conjunction	12212 Aug 13 20:27	2° $\approx$ 40'22	-0°31'37	max. Earth dist.	12218 Feb 09 19:31	27° $\approx$ 26'54	6.43798 AU
minimum elong	12212 Aug 13 20:28	2° $\approx$ 40'23	0°32'06		12218 Feb 21 15:41	0° $\approx$	
max. Earth dist.	12212 Aug 13 08:36	2° $\approx$ 33'10	5.93872 AU	morning rise	12218 Feb 22 08:38	0° $\approx$ 09'05	
morning rise	12212 Aug 27 01:54	5° $\approx$ 53'17		retrograde	12218 Jun 23 20:35	17° $\approx$ 02'17	
retrograde	12213 Jan 05 10:49	26° $\approx$ 33'34		opposition	12218 Aug 23 17:43	12° $\approx$ 05'13	0°40'34
opposition	12213 Mar 05 20:50	21° $\approx$ 34'21	-0°34'21	min. Earth dist.	12218 Aug 23 16:28	12° $\approx$ 05'38	4.48135 AU
min. Earth dist.	12213 Mar 05 14:41	21° $\approx$ 36'24	3.90540 AU	direct	12218 Oct 24 18:36	7° $\approx$ 04'10	
direct	12213 May 03 03:30	16° $\approx$ 39'19		evening set	12219 Feb 26 18:35	24° $\approx$ 12'10	
	12213 Aug 09 07:26	0° $\approx$					
evening set	12213 Sep 07 09:22	6° $\approx$ 52'25		conjunction	12219 Mar 11 20:33	26° $\approx$ 59'30	0°19'58
				minimum elong	12219 Mar 11 20:34	26° $\approx$ 59'30	0°20'05
conjunction	12213 Sep 20 19:19	10° $\approx$ 09'05	-0°11'31	max. Earth dist.	12219 Mar 11 08:36	26° $\approx$ 53'07	6.50429 AU
minimum elong	12213 Sep 20 19:20	10° $\approx$ 09'06	0°11'27	morning rise	12219 Mar 24 20:30	29° $\approx$ 45'53	
behind sun begin	12213 Sep 20 13:19	10° $\approx$ 05'26			12219 Mar 25 23:07	0° $\approx$	
behind sun end	12213 Sep 21 01:21	10° $\approx$ 12'46		retrograde	12219 Jul 23 10:17	16° $\approx$ 20'50	
max. Earth dist.	12213 Sep 21 21:35	10° $\approx$ 25'10	5.90029 AU	opposition	12219 Sep 22 13:31	11° $\approx$ 26'06	0°15'41
morning rise	12213 Oct 04 07:27	13° $\approx$ 26'53		min. Earth dist.	12219 Sep 23 06:36	11° $\approx$ 20'38	4.50545 AU
	12213 Dec 22 11:17	0° $\approx$		direct	12219 Nov 24 02:14	6° $\approx$ 25'03	
retrograde	12214 Feb 13 01:17	4° $\approx$ 16'02		evening set	12220 Mar 27 22:24	23° $\approx$ 32'06	
asc. node	12214 Mar 24 14:51	1° $\approx$ 46'35		max. Earth dist.	12220 Apr 08 07:10	25° $\approx$ 58'32	6.48419 AU
	12214 Apr 07 15:23	30° $\approx$ $\Omega$					
min. Earth dist.	12214 Apr 12 04:38	29° $\approx$ 23'06	3.92433 AU	conjunction	12220 Apr 09 20:34	26° $\approx$ 18'40	0°00'51
opposition	12214 Apr 13 08:20	29° $\approx$ 13'42	0°01'57	minimum elong	12220 Apr 09 20:35	26° $\approx$ 18'41	0°00'33
direct	12214 Jun 10 08:50	24° $\approx$ 18'07		behind sun begin	12220 Apr 09 12:36	26° $\approx$ 14'24	
	12214 Aug 09 23:19	0° $\approx$		behind sun end	12220 Apr 10 04:34	26° $\approx$ 22'58	
evening set	12214 Oct 15 14:02	14° $\approx$ 15'04		morning rise	12220 Apr 22 17:01	29° $\approx$ 04'33	
	12214 Oct 18 17:20	15° $\approx$		desc. node	12220 Apr 26 15:21	29° $\approx$ 54'55	
					12220 Apr 27 00:55	0° $\approx$	
conjunction	12214 Oct 29 04:01	17° $\approx$ 30'03	0°13'15		12220 Jul 29 00:21	15° $\approx$	
minimum elong	12214 Oct 29 04:00	17° $\approx$ 30'03	0°13'50	retrograde	12220 Aug 21 20:09	15° $\approx$ 51'50	
behind sun begin	12214 Oct 28 23:44	17° $\approx$ 27'30			12220 Sep 14 14:14	15° $\approx$ $\approx$	
behind sun end	12214 Oct 29 08:17	17° $\approx$ 32'36		opposition	12220 Oct 21 21:59	10° $\approx$ 58'21	-0°13'28
max. Earth dist.	12214 Oct 31 10:41	18° $\approx$ 02'47	5.97397 AU	min. Earth dist.	12220 Oct 23 07:15	10° $\approx$ 47'43	4.44247 AU
morning rise	12214 Nov 11 19:28	20° $\approx$ 45'36		direct	12220 Dec 23 10:20	5° $\approx$ 57'37	
	12214 Dec 22 18:21	0° $\approx$ $\approx$			12221 Mar 17 09:34	15° $\approx$	
retrograde	12215 Mar 21 15:19	10° $\approx$ 48'58		evening set	12221 Apr 27 08:26	23° $\approx$ 27'06	
min. Earth dist.	12215 May 18 14:02	5° $\approx$ 58'13	4.04407 AU	max. Earth dist.	12221 May 07 22:47	25° $\approx$ 47'02	6.38198 AU
opposition	12215 May 20 04:22	5° $\approx$ 45'14	0°36'10				
direct	12215 Jul 17 18:36	0° $\approx$ 47'49		conjunction	12221 May 10 04:21	26° $\approx$ 16'36	-0°18'53
evening set	12215 Nov 21 13:59	19° $\approx$ 58'14		minimum elong	12221 May 10 04:20	26° $\approx$ 16'36	0°19'34
				morning rise	12221 May 22 23:03	29° $\approx$ 05'44	
					12221 May 27 02:05	0° $\approx$	
conjunction	12215 Dec 05 03:39	23° $\approx$ 05'58	0°32'01	retrograde	12221 Sep 22 22:56	16° $\approx$ 35'17	
minimum elong	12215 Dec 05 03:39	23° $\approx$ 05'58	0°32'51	opposition	12221 Nov 22 19:16	11° $\approx$ 41'47	-0°40'17
max. Earth dist.	12215 Dec 07 13:58	23° $\approx$ 39'36	6.12717 AU	min. Earth dist.	12221 Nov 24 10:24	11° $\approx$ 29'12	4.30682 AU
morning rise	12215 Dec 18 18:03	26° $\approx$ 13'38		direct	12222 Jan 23 14:05	6° $\approx$ 42'00	
	12216 Jan 04 12:05	0° $\approx$		evening set	12222 May 28 24:00	24° $\approx$ 54'18	
retrograde	12216 Apr 23 10:14	15° $\approx$ 03'41		max. Earth dist.	12222 Jun 08 14:04	27° $\approx$ 19'13	6.22247 AU
min. Earth dist.	12216 Jun 21 00:36	10° $\approx$ 12'29	4.21452 AU				
opposition	12216 Jun 22 11:11	10° $\approx$ 00'54	0°55'05				
direct	12216 Aug 21 05:23	5° $\approx$ 01'31		conjunction	12222 Jun 10 19:55	27° $\approx$ 50'03	-0°33'55
evening set	12216 Dec 25 08:43	23° $\approx$ 17'36		minimum elong	12222 Jun 10 19:55	27° $\approx$ 50'03	0°34'47

	12222 Jun 20 06:48	0°☾		12227 Dec 18 20:06	0°☾	
morning rise	12222 Jun 23 15:21	0°☾45'57		morning rise	12227 Dec 23 16:53	1°☾06'35
retrograde	12222 Oct 27 16:49	19°☾22'20		retrograde	12228 Apr 27 23:46	19°☾46'45
opposition	12222 Dec 27 00:14	14°☾27'50 -0°56'41		min. Earth dist.	12228 Jun 25 15:55	14°☾55'26 4.23795 AU
min. Earth dist.	12222 Dec 28 11:08	14°☾16'29 4.13401 AU		opposition	12228 Jun 27 01:06	14°☾44'20 0°56'13
direct	12223 Feb 25 14:41	9°☾29'45		direct	12228 Aug 25 23:31	9°☾44'50
evening set	12223 Jul 01 16:54	28°☾36'29		evening set	12228 Dec 30 00:47	27°☾54'05
	12223 Jul 07 14:01	0°♏			12229 Jan 08 13:07	0°♏
max. Earth dist.	12223 Jul 13 00:11	1°♏17'21 6.05074 AU				
				conjunction	12229 Jan 12 10:50	0°♏51'49 0°38'57
conjunction	12223 Jul 14 15:41	1°♏40'51 -0°38'44		minimum elong	12229 Jan 12 10:50	0°♏51'49 0°39'45
minimum elong	12223 Jul 14 15:41	1°♏40'51 0°39'30		max. Earth dist.	12229 Jan 14 03:20	1°♏14'11 6.32279 AU
morning rise	12223 Jul 27 15:23	4°♏45'58		morning rise	12229 Jan 25 20:13	3°♏48'53
	12223 Sep 11 13:01	15°♏			12229 Mar 22 18:26	15°♏
retrograde	12223 Dec 03 22:33	24°♏37'41		retrograde	12229 May 29 02:33	21°♏21'03
opposition	12224 Feb 01 17:30	19°♏41'03 -0°54'12		opposition	12229 Jul 28 16:25	16°♏21'23 0°54'12
min. Earth dist.	12224 Feb 02 09:29	19°♏35'46 3.97853 AU		min. Earth dist.	12229 Jul 27 21:48	16°♏27'30 4.39593 AU
	12224 Mar 19 17:49	15°♏♏			12229 Aug 08 03:26	15°♏♏
direct	12224 Mar 31 21:55	14°♏44'58		direct	12229 Sep 27 20:25	11°♏20'44
	12224 Apr 13 03:17	15°♏			12229 Nov 17 13:57	15°♏
	12224 Jul 17 04:31	0°♐		evening set	12230 Jan 31 06:26	28°♏47'40
evening set	12224 Aug 05 18:41	4°♐39'54			12230 Feb 05 21:25	0°♐
conjunction	12224 Aug 18 23:14	7°♐52'39 -0°29'28		conjunction	12230 Feb 13 12:06	1°♐38'20 0°32'31
minimum elong	12224 Aug 18 23:15	7°♐52'40 0°29'53		minimum elong	12230 Feb 13 12:07	1°♐38'20 0°33'00
max. Earth dist.	12224 Aug 18 16:54	7°♐48'48 5.92681 AU		max. Earth dist.	12230 Feb 14 01:35	1°♐45'35 6.45439 AU
morning rise	12224 Sep 01 05:33	11°♐06'34		morning rise	12230 Feb 26 16:04	4°♐28'05
	12224 Dec 07 18:10	0°♑		retrograde	12230 Jun 27 22:10	21°♐16'02
retrograde	12225 Jan 10 20:28	1°♑51'45		opposition	12230 Aug 27 20:58	16°♐19'22 0°37'37
	12225 Feb 13 21:39	30°♐♐		min. Earth dist.	12230 Aug 27 21:46	16°♐19'07 4.49309 AU
opposition	12225 Mar 11 04:16	26°♐52'05 -0°29'51		direct	12230 Oct 29 00:07	11°♐18'20
min. Earth dist.	12225 Mar 10 19:47	26°♐54'56 3.90030 AU		evening set	12231 Mar 02 22:57	28°♐23'39
direct	12225 May 08 09:47	21°♐57'05			12231 Mar 10 12:09	0°♑
	12225 Jul 20 12:24	0°♑		max. Earth dist.	12231 Mar 15 07:10	1°♑01'25 6.51042 AU
evening set	12225 Sep 12 15:25	12°♑10'53				
				conjunction	12231 Mar 16 00:07	1°♑10'28 0°17'34
conjunction	12225 Sep 26 02:16	15°♑27'52 -0°08'08		minimum elong	12231 Mar 16 00:08	1°♑10'28 0°17'38
minimum elong	12225 Sep 26 02:16	15°♑27'51 0°07'59		morning rise	12231 Mar 28 23:35	3°♑56'25
behind sun begin	12225 Sep 25 18:48	15°♑23'19		retrograde	12231 Jul 27 13:14	20°♑30'00
behind sun end	12225 Sep 26 09:43	15°♑32'24		opposition	12231 Sep 26 15:54	15°♑35'30 0°11'51
max. Earth dist.	12225 Sep 27 09:52	15°♑47'10 5.90255 AU		min. Earth dist.	12231 Sep 27 12:24	15°♑28'56 4.50554 AU
morning rise	12225 Oct 09 15:06	18°♑45'52		direct	12231 Nov 28 06:28	10°♑34'23
	12225 Nov 28 03:47	0°♒		desc. node	12232 Mar 06 06:57	22°♑21'06
asc. node	12226 Feb 03 17:34	9°♒11'16		evening set	12232 Apr 01 00:50	27°♑41'57
retrograde	12226 Feb 18 06:20	9°♒32'22			12232 Apr 11 17:39	0°♒
min. Earth dist.	12226 Apr 17 07:02	4°♒40'02 3.93382 AU		max. Earth dist.	12232 Apr 12 06:25	0°♒06'53 6.47803 AU
opposition	12226 Apr 18 13:15	4°♒29'48 0°07'13				
	12226 May 30 17:32	30°♒♑		conjunction	12232 Apr 13 22:39	0°♒28'36 -0°01'57
direct	12226 Jun 15 13:05	29°♑34'05		minimum elong	12232 Apr 13 22:40	0°♒28'36 0°02'19
	12226 Jul 01 11:04	0°♒		behind sun begin	12232 Apr 13 14:41	0°♒24'19
	12226 Oct 01 18:52	15°♒		behind sun end	12232 Apr 14 06:40	0°♒32'54
evening set	12226 Oct 20 19:17	19°♒26'53		morning rise	12232 Apr 26 18:39	3°♒14'33
					12232 Jun 26 21:19	15°♒
conjunction	12226 Nov 03 09:21	22°♒41'13 0°16'24		retrograde	12232 Aug 26 00:24	20°♒04'51
minimum elong	12226 Nov 03 09:20	22°♒41'13 0°17'03		opposition	12232 Oct 26 02:53	15°♒11'22 -0°17'20
max. Earth dist.	12226 Nov 05 16:38	23°♒14'12 5.98947 AU			12232 Oct 27 14:24	15°♒♒
morning rise	12226 Nov 17 01:05	25°♒56'05		min. Earth dist.	12232 Oct 27 13:01	15°♒00'27 4.43030 AU
	12226 Dec 04 12:10	0°♓		direct	12232 Dec 27 12:55	10°♒10'39
retrograde	12227 Mar 26 11:20	15°♓51'09			12233 Feb 24 16:37	15°♒
min. Earth dist.	12227 May 23 11:17	11°♓00'37 4.06392 AU		evening set	12233 May 01 12:43	27°♒44'06
opposition	12227 May 25 02:12	10°♓47'26 0°39'54			12233 May 11 18:51	0°♓
direct	12227 Jul 22 19:34	5°♓49'45		max. Earth dist.	12233 May 12 01:58	0°♓03'57 6.36442 AU
evening set	12227 Nov 26 13:33	24°♓53'32				
				conjunction	12233 May 14 08:27	0°♓34'10 -0°21'16
conjunction	12227 Dec 10 03:07	28°♓00'10 0°33'44		minimum elong	12233 May 14 08:26	0°♓34'10 0°21'59
minimum elong	12227 Dec 10 03:06	28°♓00'10 0°34'37		morning rise	12233 May 27 03:00	3°♓23'56
max. Earth dist.	12227 Dec 12 13:23	28°♓33'38 6.14983 AU		retrograde	12233 Sep 27 12:19	21°♓00'54

opposition	12233 Nov 27 06:19	16° $\Pi$ 07'20	-0°43'15		12239 Dec 02 05:24	0° $\Xi$	
min. Earth dist.	12233 Nov 28 23:03	15° $\Pi$ 54'13	4.28467 AU				
direct	12234 Jan 27 22:42	11° $\Pi$ 07'38		conjunction	12239 Dec 15 03:32	2° $\Xi$ 56'49	0°35'13
evening set	12234 Jun 02 09:54	29° $\Pi$ 27'03		minimum elong	12239 Dec 15 03:32	2° $\Xi$ 56'48	0°36'05
	12234 Jun 04 19:33	0° $\Xi$		max. Earth dist.	12239 Dec 17 13:09	3° $\Xi$ 29'41	6.17521 AU
max. Earth dist.	12234 Jun 12 22:57	1° $\Xi$ 52'13	6.19731 AU	morning rise	12239 Dec 28 16:53	6° $\Xi$ 01'52	
				retrograde	12240 May 02 11:04	24° $\Xi$ 31'00	
conjunction	12234 Jun 15 06:00	2° $\Xi$ 23'55	-0°35'15	min. Earth dist.	12240 Jun 30 07:06	19° $\Xi$ 39'41	4.26365 AU
minimum elong	12234 Jun 15 05:59	2° $\Xi$ 23'55	0°36'08	opposition	12240 Jul 01 15:41	19° $\Xi$ 28'48	0°56'56
morning rise	12234 Jun 28 01:57	5° $\Xi$ 21'03		direct	12240 Aug 30 17:48	14° $\Xi$ 29'03	
retrograde	12234 Nov 01 13:26	24° $\Xi$ 08'17			12240 Dec 23 03:03	0° $\approx$	
opposition	12234 Dec 31 19:46	19° $\Xi$ 13'30	-0°57'35	evening set	12241 Jan 03 17:03	2° $\approx$ 30'38	
min. Earth dist.	12235 Jan 02 04:32	19° $\Xi$ 02'48	4.10771 AU				
direct	12235 Mar 02 04:35	14° $\Xi$ 15'35		conjunction	12241 Jan 17 02:30	5° $\approx$ 27'07	0°38'39
	12235 Jun 21 10:27	0° $\Omega$		minimum elong	12241 Jan 17 02:30	5° $\approx$ 27'07	0°39'25
evening set	12235 Jul 06 11:14	3° $\Omega$ 31'05		max. Earth dist.	12241 Jan 18 15:39	5° $\approx$ 47'33	6.34669 AU
max. Earth dist.	12235 Jul 17 23:14	6° $\Omega$ 15'36	6.02571 AU	morning rise	12241 Jan 30 11:01	8° $\approx$ 22'51	
					12241 Mar 02 23:05	15° $\approx$	
conjunction	12235 Jul 19 10:49	6° $\Omega$ 36'53	-0°38'19	retrograde	12241 Jun 02 09:02	25° $\approx$ 46'25	
minimum elong	12235 Jul 19 10:49	6° $\Omega$ 36'54	0°39'04	min. Earth dist.	12241 Aug 01 08:27	20° $\approx$ 52'18	4.41609 AU
morning rise	12235 Aug 01 11:18	9° $\Omega$ 43'31		opposition	12241 Aug 02 00:03	20° $\approx$ 47'11	0°52'33
	12235 Aug 24 02:25	15° $\Omega$		direct	12241 Oct 02 08:45	15° $\approx$ 46'27	
retrograde	12235 Dec 09 06:40	29° $\Omega$ 46'23			12242 Jan 20 18:00	0° $\text{H}$	
opposition	12236 Feb 06 22:10	24° $\Omega$ 49'24	-0°52'07	evening set	12242 Feb 04 15:39	3° $\text{H}$ 08'15	
min. Earth dist.	12236 Feb 07 12:13	24° $\Omega$ 44'44	3.95716 AU				
direct	12236 Apr 05 23:10	19° $\Omega$ 53'30		conjunction	12242 Feb 17 20:33	5° $\text{H}$ 58'04	0°30'48
	12236 Jun 28 18:36	0° $\text{P}$		minimum elong	12242 Feb 17 20:34	5° $\text{H}$ 58'05	0°31'13
evening set	12236 Aug 10 21:57	9° $\text{P}$ 55'17		max. Earth dist.	12242 Feb 18 04:52	6° $\text{H}$ 02'32	6.46926 AU
				morning rise	12242 Mar 02 23:56	8° $\text{H}$ 47'00	
conjunction	12236 Aug 24 03:34	13° $\text{P}$ 09'17	-0°27'06	retrograde	12242 Jul 02 01:21	25° $\text{H}$ 30'32	
minimum elong	12236 Aug 24 03:35	13° $\text{P}$ 09'17	0°27'26	opposition	12242 Sep 01 01:07	20° $\text{H}$ 34'11	0°34'22
max. Earth dist.	12236 Aug 24 02:24	13° $\text{P}$ 08'34	5.91136 AU	min. Earth dist.	12242 Sep 01 04:52	20° $\text{H}$ 32'59	4.50190 AU
morning rise	12236 Sep 06 11:02	16° $\text{P}$ 24'27		direct	12242 Nov 02 06:29	15° $\text{H}$ 33'06	
	12236 Nov 06 21:28	0° $\underline{\Delta}$			12243 Feb 22 16:41	0° $\text{Y}$	
retrograde	12237 Jan 16 06:59	7° $\underline{\Delta}$ 15'35		evening set	12243 Mar 07 03:58	2° $\text{Y}$ 36'47	
opposition	12237 Mar 16 13:34	2° $\underline{\Delta}$ 15'29	-0°25'08	max. Earth dist.	12243 Mar 19 09:15	5° $\text{Y}$ 12'56	6.51261 AU
min. Earth dist.	12237 Mar 16 01:03	2° $\underline{\Delta}$ 19'42	3.89289 AU				
	12237 Apr 03 00:02	30° $\text{R}$ $\text{P}$		conjunction	12243 Mar 20 04:44	5° $\text{Y}$ 23'20	0°14'59
direct	12237 May 13 15:20	27° $\text{P}$ 20'31		minimum elong	12243 Mar 20 04:45	5° $\text{Y}$ 23'20	0°15'00
	12237 Jun 22 19:22	0° $\underline{\Delta}$		behind sun begin	12243 Mar 20 01:53	5° $\text{Y}$ 21'49	
evening set	12237 Sep 18 00:27	17° $\underline{\Delta}$ 35'50		behind sun end	12243 Mar 20 07:37	5° $\text{Y}$ 24'51	
				morning rise	12243 Apr 02 03:27	8° $\text{Y}$ 08'58	
conjunction	12237 Oct 01 11:55	20° $\underline{\Delta}$ 53'05	-0°04'40	retrograde	12243 Jul 31 16:45	24° $\text{Y}$ 42'45	
minimum elong	12237 Oct 01 11:55	20° $\underline{\Delta}$ 53'05	0°04'27	opposition	12243 Sep 30 20:22	19° $\text{Y}$ 48'29	0°07'48
behind sun begin	12237 Oct 01 03:43	20° $\underline{\Delta}$ 48'06		min. Earth dist.	12243 Oct 01 18:48	19° $\text{Y}$ 41'18	4.50102 AU
behind sun end	12237 Oct 01 20:07	20° $\underline{\Delta}$ 58'04		direct	12243 Dec 02 10:47	14° $\text{Y}$ 47'28	
max. Earth dist.	12237 Oct 02 23:16	21° $\underline{\Delta}$ 14'40	5.90383 AU	desc. node	12244 Jan 12 23:42	17° $\text{Y}$ 14'03	
morning rise	12237 Oct 15 01:40	24° $\underline{\Delta}$ 11'23			12244 Mar 27 01:37	0° $\text{B}$	
	12237 Nov 08 15:10	0° $\text{M}$		evening set	12244 Apr 05 05:45	1° $\text{B}$ 57'04	
asc. node	12237 Dec 15 14:50	7° $\text{M}$ 44'04		max. Earth dist.	12244 Apr 16 07:02	4° $\text{B}$ 20'07	6.46697 AU
retrograde	12238 Feb 23 12:14	14° $\text{M}$ 55'03					
min. Earth dist.	12238 Apr 22 11:15	10° $\text{M}$ 03'19	3.94359 AU	conjunction	12244 Apr 18 03:04	4° $\text{B}$ 43'57	-0°04'48
opposition	12238 Apr 23 20:16	9° $\text{M}$ 52'06	0°12'25	minimum elong	12244 Apr 18 03:02	4° $\text{B}$ 43'56	0°05'14
direct	12238 Jun 20 21:30	4° $\text{M}$ 56'06		behind sun begin	12244 Apr 17 19:19	4° $\text{B}$ 39'47	
	12238 Sep 12 18:43	15° $\text{M}$		behind sun end	12244 Apr 18 10:46	4° $\text{B}$ 48'06	
evening set	12238 Oct 26 03:01	24° $\text{M}$ 44'20		morning rise	12244 Apr 30 22:48	7° $\text{B}$ 30'12	
					12244 Jun 06 09:53	15° $\text{B}$	
conjunction	12238 Nov 08 17:25	27° $\text{M}$ 57'57	0°19'26	retrograde	12244 Aug 30 11:03	24° $\text{B}$ 25'19	
minimum elong	12238 Nov 08 17:24	27° $\text{M}$ 57'56	0°20'07	opposition	12244 Oct 30 11:31	19° $\text{B}$ 31'56	-0°21'21
max. Earth dist.	12238 Nov 11 04:04	28° $\text{M}$ 32'47	6.00677 AU	min. Earth dist.	12244 Nov 01 00:13	19° $\text{B}$ 20'11	4.41321 AU
	12238 Nov 17 07:09	0° $\text{X}$			12244 Dec 14 01:57	15° $\text{R}$ $\text{B}$	
morning rise	12238 Nov 22 09:02	1° $\text{X}$ 11'55		direct	12244 Dec 31 20:37	14° $\text{B}$ 31'18	
retrograde	12239 Mar 31 10:33	20° $\text{X}$ 57'30			12245 Jan 18 15:44	15° $\text{B}$	
min. Earth dist.	12239 May 28 11:00	16° $\text{X}$ 06'53	4.08644 AU		12245 Apr 25 22:43	0° $\text{II}$	
opposition	12239 May 30 01:50	15° $\text{X}$ 53'45	0°43'18	evening set	12245 May 05 20:57	2° $\text{II}$ 10'22	
direct	12239 Jul 27 23:17	10° $\text{X}$ 55'44		max. Earth dist.	12245 May 16 08:26	4° $\text{II}$ 29'56	6.34248 AU
evening set	12239 Dec 01 14:25	29° $\text{X}$ 51'30					

conjunction	12245 May 18 16:40	5° $\Pi$ 01'16	-0°23'40	morning rise	12250 Nov 27 15:17	6° $\Sigma$ 24'16	
minimum elong	12245 May 18 16:40	5° $\Pi$ 01'16	0°24'25	retrograde	12251 Apr 05 04:09	25° $\Sigma$ 58'14	
morning rise	12245 May 31 11:15	7° $\Pi$ 51'56		min. Earth dist.	12251 Jun 02 07:04	21° $\Sigma$ 07'54	4.11360 AU
retrograde	12245 Oct 02 05:14	25° $\Pi$ 37'58		opposition	12251 Jun 03 22:40	20° $\Sigma$ 54'32	0°46'18
opposition	12245 Dec 01 22:20	20° $\Pi$ 44'18	-0°46'09	direct	12251 Aug 01 22:59	15° $\Sigma$ 56'14	
min. Earth dist.	12245 Dec 03 14:04	20° $\Pi$ 31'29	4.25929 AU		12251 Nov 15 05:55	0° $\Sigma$	
direct	12246 Feb 01 09:26	15° $\Pi$ 44'51		evening set	12251 Dec 06 12:20	4° $\Sigma$ 42'50	
	12246 May 19 08:38	0° $\Sigma$					
evening set	12246 Jun 07 00:52	4° $\Sigma$ 12'30		conjunction	12251 Dec 20 00:55	7° $\Sigma$ 46'41	0°36'25
max. Earth dist.	12246 Jun 17 16:22	6° $\Sigma$ 39'57	6.17048 AU	minimum elong	12251 Dec 20 00:55	7° $\Sigma$ 46'41	0°37'17
				max. Earth dist.	12251 Dec 22 07:33	8° $\Sigma$ 17'41	6.20339 AU
conjunction	12246 Jun 19 21:17	7° $\Sigma$ 10'38	-0°36'26	morning rise	12252 Jan 02 13:35	10° $\Sigma$ 50'11	
minimum elong	12246 Jun 19 21:17	7° $\Sigma$ 10'38	0°37'19	retrograde	12252 May 06 21:10	29° $\Sigma$ 07'59	
morning rise	12246 Jul 02 17:40	10° $\Sigma$ 09'05		min. Earth dist.	12252 Jul 04 21:31	24° $\Sigma$ 15'59	4.29026 AU
retrograde	12246 Nov 06 18:20	29° $\Sigma$ 08'04		opposition	12252 Jul 06 03:07	24° $\Sigma$ 06'08	0°57'16
opposition	12247 Jan 05 21:30	24° $\Sigma$ 13'05	-0°58'08	direct	12252 Sep 04 11:12	19° $\Sigma$ 06'10	
min. Earth dist.	12247 Jan 07 05:12	24° $\Sigma$ 02'43	4.08148 AU		12252 Dec 05 20:40	0° $\approx$	
direct	12247 Mar 07 02:17	19° $\Sigma$ 15'31		evening set	12253 Jan 08 05:55	7° $\approx$ 00'09	
	12247 Jun 03 08:00	0° $\Omega$					
evening set	12247 Jul 11 11:06	8° $\Omega$ 39'33		conjunction	12253 Jan 21 14:45	9° $\approx$ 55'26	0°38'08
max. Earth dist.	12247 Jul 23 03:31	11° $\Omega$ 27'34	6.00266 AU	minimum elong	12253 Jan 21 14:46	9° $\approx$ 55'26	0°38'52
				max. Earth dist.	12253 Jan 23 00:28	10° $\approx$ 13'53	6.36963 AU
conjunction	12247 Jul 24 11:28	11° $\Omega$ 46'46	-0°37'35	morning rise	12253 Feb 03 22:31	12° $\approx$ 49'57	
minimum elong	12247 Jul 24 11:29	11° $\Omega$ 46'47	0°38'17		12253 Feb 14 00:11	15° $\approx$	
morning rise	12247 Aug 06 12:54	14° $\Omega$ 54'54			12253 May 29 18:23	0° $\text{H}$	
	12247 Aug 06 21:27	15° $\Omega$		retrograde	12253 Jun 06 11:09	0° $\text{H}$ 05'41	
	12247 Oct 17 04:24	0° $\text{H}$			12253 Jun 14 03:58	30° $\text{H}$	
retrograde	12247 Dec 14 18:04	5° $\text{H}$ 07'54		opposition	12253 Aug 06 04:58	25° $\approx$ 06'50	0°50'41
opposition	12248 Feb 12 07:46	0° $\text{H}$ 10'36	-0°49'27	min. Earth dist.	12253 Aug 05 15:33	25° $\approx$ 11'13	4.43396 AU
min. Earth dist.	12248 Feb 12 17:26	0° $\text{H}$ 07'23	3.94006 AU	direct	12253 Oct 06 16:35	20° $\approx$ 06'00	
	12248 Feb 13 15:41	30° $\text{H}$			12254 Jan 03 14:26	0° $\text{H}$	
direct	12248 Apr 11 03:26	25° $\Omega$ 15'02		evening set	12254 Feb 08 22:06	7° $\text{H}$ 23'32	
	12248 Jun 05 04:05	0° $\text{H}$					
evening set	12248 Aug 16 05:58	15° $\text{H}$ 21'54		conjunction	12254 Feb 22 02:23	10° $\text{H}$ 12'39	0°28'57
				minimum elong	12254 Feb 22 02:24	10° $\text{H}$ 12'40	0°29'20
conjunction	12248 Aug 29 12:23	18° $\text{H}$ 36'47	-0°24'24	max. Earth dist.	12254 Feb 22 06:29	10° $\text{H}$ 14'51	6.48089 AU
minimum elong	12248 Aug 29 12:24	18° $\text{H}$ 36'47	0°24'39	morning rise	12254 Mar 07 04:59	13° $\text{H}$ 00'52	
max. Earth dist.	12248 Aug 29 16:12	18° $\text{H}$ 39'07	5.90213 AU	retrograde	12254 Jul 06 03:19	29° $\text{H}$ 41'12	
morning rise	12248 Sep 11 20:58	21° $\text{H}$ 52'53		opposition	12254 Sep 05 03:37	24° $\text{H}$ 45'14	0°31'01
	12248 Oct 16 11:44	0° $\Omega$		min. Earth dist.	12254 Sep 05 10:52	24° $\text{H}$ 42'54	4.50671 AU
retrograde	12249 Jan 21 18:29	12° $\Omega$ 47'02		direct	12254 Nov 06 12:02	19° $\text{H}$ 44'08	
min. Earth dist.	12249 Mar 21 08:58	7° $\Omega$ 52'02	3.89288 AU		12255 Feb 05 22:43	0° $\text{Y}$	
opposition	12249 Mar 22 01:27	7° $\Omega$ 46'27	-0°20'01	evening set	12255 Mar 11 07:48	6° $\text{Y}$ 47'25	
direct	12249 May 19 01:50	2° $\Omega$ 51'29		max. Earth dist.	12255 Mar 23 06:59	9° $\text{Y}$ 20'29	6.51019 AU
evening set	12249 Sep 23 11:02	23° $\Omega$ 05'12					
				conjunction	12255 Mar 24 07:56	9° $\text{Y}$ 33'49	0°12'22
conjunction	12249 Oct 06 23:16	26° $\Omega$ 22'19	-0°01'03	minimum elong	12255 Mar 24 07:56	9° $\text{Y}$ 33'49	0°12'19
minimum elong	12249 Oct 06 23:17	26° $\Omega$ 22'20	0°00'44	behind sun begin	12255 Mar 24 02:39	9° $\text{Y}$ 31'01	
behind sun begin	12249 Oct 06 14:55	26° $\Omega$ 17'15		behind sun end	12255 Mar 24 13:13	9° $\text{Y}$ 36'38	
behind sun end	12249 Oct 07 07:39	26° $\Omega$ 27'24		morning rise	12255 Apr 06 06:19	12° $\text{Y}$ 19'24	
max. Earth dist.	12249 Oct 08 16:59	26° $\Omega$ 47'43	5.91321 AU	retrograde	12255 Aug 04 21:28	28° $\text{Y}$ 54'48	
morning rise	12249 Oct 20 13:24	29° $\Omega$ 40'21		opposition	12255 Oct 05 00:25	24° $\text{Y}$ 00'42	0°03'45
	12249 Oct 21 21:59	0° $\text{H}$		min. Earth dist.	12255 Oct 06 01:38	23° $\text{Y}$ 52'38	4.49170 AU
asc. node	12249 Oct 23 20:08	0° $\text{H}$ 27'46		desc. node	12255 Nov 23 02:33	19° $\text{Y}$ 16'11	
	12249 Dec 31 15:06	15° $\text{H}$		direct	12255 Dec 06 14:54	18° $\text{Y}$ 59'38	
retrograde	12250 Feb 28 19:19	20° $\text{H}$ 17'44			12256 Mar 10 12:06	0° $\Sigma$	
min. Earth dist.	12250 Apr 27 16:37	15° $\text{H}$ 26'11	3.96114 AU	evening set	12256 Apr 09 10:28	6° $\Sigma$ 12'44	
opposition	12250 Apr 29 03:02	15° $\text{H}$ 14'30	0°17'33	max. Earth dist.	12256 Apr 20 09:59	8° $\Sigma$ 35'17	6.45139 AU
	12250 Apr 30 21:44	15° $\text{H}$					
direct	12250 Jun 26 06:55	10° $\text{H}$ 18'15		conjunction	12256 Apr 22 07:39	9° $\Sigma$ 00'06	-0°07'35
	12250 Aug 20 02:35	15° $\text{H}$		minimum elong	12256 Apr 22 07:38	9° $\Sigma$ 00'05	0°08'04
evening set	12250 Oct 31 09:27	29° $\text{H}$ 59'03		behind sun begin	12256 Apr 22 00:31	8° $\Sigma$ 56'15	
	12250 Oct 31 11:04	0° $\Sigma$		behind sun end	12256 Apr 22 14:45	9° $\Sigma$ 03'56	
				morning rise	12256 May 05 03:01	11° $\Sigma$ 46'50	
conjunction	12250 Nov 13 23:45	3° $\Sigma$ 11'31	0°22'18		12256 May 20 05:23	15° $\Sigma$	
minimum elong	12250 Nov 13 23:44	3° $\Sigma$ 11'30	0°23'03	retrograde	12256 Sep 03 20:45	28° $\Sigma$ 48'11	
max. Earth dist.	12250 Nov 16 12:08	3° $\Sigma$ 47'09	6.03040 AU	opposition	12256 Nov 03 21:04	23° $\Sigma$ 54'49	-0°25'15

min. Earth dist.	12256 Nov 05 10:19	23°♄42'54	4.39240 AU			12262 Oct 14 09:05	0°♄	
direct	12257 Jan 05 02:51	18°♄54'21		evening set		12262 Nov 05 13:03	5°♄05'09	
	12257 Apr 09 01:00	0°♄						
evening set	12257 May 10 06:26	6°♄40'05		conjunction		12262 Nov 19 03:15	8°♄16'28	0°24'57
max. Earth dist.	12257 May 20 17:09	9°♄00'02	6.31788 AU	minimum elong		12262 Nov 19 03:14	8°♄16'27	0°25'45
				max. Earth dist.		12262 Nov 21 14:56	8°♄51'31	6.05391 AU
conjunction	12257 May 23 02:00	9°♄31'55	-0°25'57	morning rise		12262 Dec 02 18:34	11°♄28'00	
minimum elong	12257 May 23 01:59	9°♄31'54	0°26'44			12263 Mar 17 23:09	0°♄	
morning rise	12257 Jun 04 20:46	12°♄23'36		retrograde		12263 Apr 09 21:04	0°♄51'06	
	12257 Sep 22 14:54	0°♄				12263 May 02 15:07	30°♄	
retrograde	12257 Oct 07 02:20	0°♄19'41		min. Earth dist.		12263 Jun 07 02:57	26°♄00'20	4.13882 AU
	12257 Oct 21 11:54	30°♄		opposition		12263 Jun 08 16:48	25°♄47'34	0°48'57
opposition	12257 Dec 06 16:36	25°♄25'53	-0°48'47	direct		12263 Aug 06 22:18	20°♄49'00	
min. Earth dist.	12257 Dec 08 08:29	25°♄13'00	4.23252 AU			12263 Oct 27 18:34	0°♄	
direct	12258 Feb 06 00:43	20°♄26'39		evening set		12263 Dec 11 07:41	9°♄27'39	
	12258 May 01 05:37	0°♄						
evening set	12258 Jun 11 17:52	9°♄02'47		conjunction		12263 Dec 24 19:58	12°♄30'16	0°37'22
max. Earth dist.	12258 Jun 22 12:00	11°♄32'38	6.14391 AU	minimum elong		12263 Dec 24 19:57	12°♄30'16	0°38'15
				max. Earth dist.		12263 Dec 27 01:24	13°♄00'24	6.22823 AU
conjunction	12258 Jun 24 14:46	12°♄02'13	-0°37'23	morning rise		12264 Jan 07 07:57	15°♄32'26	
minimum elong	12258 Jun 24 14:46	12°♄02'13	0°38'15			12264 Mar 22 13:58	0°♄	
morning rise	12258 Jul 07 11:40	15°♄02'03		retrograde		12264 May 11 04:39	3°♄40'33	
	12258 Sep 19 20:28	0°♄				12264 Jun 30 06:35	30°♄	
retrograde	12258 Nov 11 23:05	4°♄12'18		min. Earth dist.		12264 Jul 09 08:44	28°♄48'32	4.31273 AU
	12259 Jan 05 13:21	30°♄		opposition		12264 Jul 10 13:03	28°♄39'08	0°57'16
opposition	12259 Jan 11 00:57	29°♄17'04	-0°58'13	direct		12264 Sep 09 00:17	23°♄39'04	
min. Earth dist.	12259 Jan 12 05:18	29°♄07'47	4.05764 AU			12264 Nov 15 22:19	0°♄	
direct	12259 Mar 11 23:56	24°♄19'50		evening set		12265 Jan 12 17:58	11°♄27'10	
	12259 May 12 12:47	0°♄						
evening set	12259 Jul 16 12:43	13°♄51'16		conjunction		12265 Jan 26 02:06	14°♄21'27	0°37'24
	12259 Jul 21 07:16	15°♄		minimum elong		12265 Jan 26 02:07	14°♄21'27	0°38'05
max. Earth dist.	12259 Jul 28 10:17	16°♄43'07	5.98377 AU	max. Earth dist.		12265 Jan 27 06:33	14°♄36'58	6.38812 AU
						12265 Jan 29 00:47	15°♄	
conjunction	12259 Jul 29 13:44	16°♄59'41	-0°36'32	morning rise		12265 Feb 08 09:14	17°♄14'58	
minimum elong	12259 Jul 29 13:45	16°♄59'42	0°37'12			12265 Apr 16 07:16	0°♄	
morning rise	12259 Aug 11 16:11	20°♄09'07		retrograde		12265 Jun 10 16:07	4°♄24'35	
	12259 Sep 23 23:13	0°♄				12265 Aug 06 02:19	30°♄	
retrograde	12259 Dec 20 05:20	10°♄30'16		opposition		12265 Aug 10 10:01	29°♄26'14	0°48'33
opposition	12260 Feb 17 17:55	5°♄32'28	-0°46'20	min. Earth dist.		12265 Aug 10 00:24	29°♄29'22	4.44735 AU
min. Earth dist.	12260 Feb 17 23:43	5°♄30'32	3.92815 AU	direct		12265 Oct 11 02:11	24°♄25'21	
direct	12260 Apr 16 10:34	0°♄37'03				12265 Dec 14 07:16	0°♄	
evening set	12260 Aug 21 13:34	20°♄46'38		evening set		12266 Feb 13 05:03	11°♄40'09	
conjunction	12260 Sep 03 21:01	24°♄02'09	-0°21'30	conjunction		12266 Feb 26 08:51	14°♄28'48	0°26'57
minimum elong	12260 Sep 03 21:02	24°♄02'09	0°21'41	minimum elong		12266 Feb 26 08:51	14°♄28'49	0°27'17
max. Earth dist.	12260 Sep 04 08:04	24°♄08'55	5.89848 AU	max. Earth dist.		12266 Feb 26 08:53	14°♄28'50	6.48829 AU
morning rise	12260 Sep 17 06:21	27°♄18'49		morning rise		12266 Mar 11 10:50	17°♄16'32	
	12260 Sep 28 09:22	0°♄				12266 May 18 23:56	0°♄	
retrograde	12261 Jan 27 05:42	18°♄13'17		retrograde		12266 Jul 10 05:37	3°♄55'03	
opposition	12261 Mar 27 11:35	13°♄12'17	-0°14'47			12266 Sep 01 09:55	30°♄	
min. Earth dist.	12261 Mar 26 16:27	13°♄18'44	3.89793 AU	opposition		12266 Sep 09 07:21	28°♄59'26	0°27'29
direct	12261 May 24 11:46	8°♄17'15		min. Earth dist.		12266 Sep 09 16:34	28°♄56'28	4.50797 AU
asc. node	12261 Aug 31 06:54	21°♄45'19		direct		12266 Nov 10 16:20	23°♄58'21	
evening set	12261 Sep 28 19:38	28°♄27'32				12267 Jan 17 05:24	0°♄	
	12261 Oct 05 04:27	0°♄		evening set		12267 Mar 15 12:55	11°♄02'19	
				max. Earth dist.		12267 Mar 27 09:23	13°♄34'09	6.50534 AU
conjunction	12261 Oct 12 08:17	1°♄44'15	0°02'35					
minimum elong	12261 Oct 12 08:16	1°♄44'15	0°02'58	conjunction		12267 Mar 28 12:41	13°♄48'45	0°09'39
behind sun begin	12261 Oct 11 23:55	1°♄39'12		minimum elong		12267 Mar 28 12:41	13°♄48'45	0°09'31
behind sun end	12261 Oct 12 16:37	1°♄49'17		behind sun begin		12267 Mar 28 06:03	13°♄45'13	
max. Earth dist.	12261 Oct 14 05:20	2°♄11'35	5.92605 AU	behind sun end		12267 Mar 28 19:20	13°♄52'18	
morning rise	12261 Oct 25 22:57	5°♄01'50		morning rise		12267 Apr 10 10:30	16°♄34'21	
	12261 Dec 08 18:21	15°♄				12267 Jun 23 03:43	0°♄	
retrograde	12262 Mar 05 20:26	25°♄31'37		retrograde		12267 Aug 09 03:52	3°♄12'14	
min. Earth dist.	12262 May 02 17:36	20°♄40'39	3.98033 AU			12267 Sep 25 17:46	30°♄	
opposition	12262 May 04 06:16	20°♄28'12	0°22'25	desc. node		12267 Oct 03 19:30	29°♄00'11	
direct	12262 Jul 01 11:21	15°♄31'42		opposition		12267 Oct 09 06:46	28°♄18'23	-0°00'25

min. Earth dist.	12267 Oct 10 10:03	28° $\Upsilon$ 09'40	4.48115 AU	direct	12273 May 29 14:44	13° $\Omega$ 28'47	
direct	12267 Dec 10 21:10	23° $\Upsilon$ 17'30		asc. node	12273 Jul 11 22:17	16° $\Omega$ 32'26	
	12268 Feb 20 05:33	0° $\mathcal{B}$			12273 Sep 18 20:54	0° $\mathcal{M}$	
evening set	12268 Apr 13 17:18	10° $\mathcal{B}$ 34'20		evening set	12273 Oct 03 21:59	3° $\mathcal{M}$ 34'39	
max. Earth dist.	12268 Apr 24 13:18	12° $\mathcal{B}$ 55'35	6.43596 AU				
				conjunction	12273 Oct 17 11:01	6° $\mathcal{M}$ 50'49	0°05'54
conjunction	12268 Apr 26 14:01	13° $\mathcal{B}$ 22'09	-0°10'24	minimum elong	12273 Oct 17 11:00	6° $\mathcal{M}$ 50'49	0°06'21
minimum elong	12268 Apr 26 14:01	13° $\mathcal{B}$ 22'09	0°10'55	behind sun begin	12273 Oct 17 03:07	6° $\mathcal{M}$ 46'05	
behind sun begin	12268 Apr 26 07:58	13° $\mathcal{B}$ 18'52		behind sun end	12273 Oct 17 18:53	6° $\mathcal{M}$ 55'34	
behind sun end	12268 Apr 26 20:04	13° $\mathcal{B}$ 25'26		max. Earth dist.	12273 Oct 19 10:00	7° $\mathcal{M}$ 19'14	5.94070 AU
	12268 May 04 01:32	15° $\mathcal{B}$		morning rise	12273 Oct 31 01:56	10° $\mathcal{M}$ 07'48	
morning rise	12268 May 09 09:20	16° $\mathcal{B}$ 09'26			12273 Nov 20 19:07	15° $\mathcal{M}$	
	12268 Jul 22 23:24	0° $\Pi$			12274 Feb 21 09:12	0° $\mathcal{A}$	
retrograde	12268 Sep 08 10:18	3° $\Pi$ 17'04		retrograde	12274 Mar 10 16:22	0° $\mathcal{A}$ 29'49	
	12268 Oct 26 14:10	30° $\mathcal{R}$ $\mathcal{B}$			12274 Mar 27 21:03	30° $\mathcal{R}$ $\mathcal{M}$	
opposition	12268 Nov 08 09:01	28° $\mathcal{B}$ 23'44	-0°29'07	min. Earth dist.	12274 May 07 14:51	25° $\mathcal{M}$ 38'33	3.99898 AU
min. Earth dist.	12268 Nov 09 23:00	28° $\mathcal{B}$ 11'33	4.37324 AU	opposition	12274 May 09 03:06	25° $\mathcal{M}$ 26'14	0°26'51
direct	12269 Jan 09 13:05	23° $\mathcal{B}$ 23'27		direct	12274 Jul 06 11:29	20° $\mathcal{M}$ 29'26	
	12269 Mar 20 07:02	0° $\Pi$			12274 Sep 26 07:16	0° $\mathcal{A}$	
evening set	12269 May 14 17:33	11° $\Pi$ 15'10		evening set	12274 Nov 10 10:17	9° $\mathcal{A}$ 56'06	
max. Earth dist.	12269 May 25 05:50	13° $\Pi$ 36'39	6.29674 AU				
				conjunction	12274 Nov 24 00:32	13° $\mathcal{A}$ 06'26	0°27'18
conjunction	12269 May 27 13:16	14° $\Pi$ 07'52	-0°28'08	minimum elong	12274 Nov 24 00:31	13° $\mathcal{A}$ 06'26	0°28'07
minimum elong	12269 May 27 13:16	14° $\Pi$ 07'51	0°28'57	max. Earth dist.	12274 Nov 26 13:02	13° $\mathcal{A}$ 41'47	6.07481 AU
morning rise	12269 Jun 09 08:00	17° $\Pi$ 00'26		morning rise	12274 Dec 07 15:30	16° $\mathcal{A}$ 16'51	
	12269 Aug 13 10:47	0° $\mathcal{E}$			12275 Feb 12 04:56	0° $\mathcal{B}$	
retrograde	12269 Oct 11 22:02	5° $\mathcal{E}$ 05'12		retrograde	12275 Apr 14 08:23	5° $\mathcal{B}$ 30'27	
opposition	12269 Dec 11 11:57	0° $\mathcal{E}$ 11'17	-0°51'11	min. Earth dist.	12275 Jun 11 16:10	0° $\mathcal{B}$ 39'43	4.16005 AU
	12269 Dec 12 22:54	30° $\mathcal{R}$ $\Pi$		opposition	12275 Jun 13 05:27	0° $\mathcal{B}$ 27'11	0°51'10
min. Earth dist.	12269 Dec 13 02:10	29° $\Pi$ 58'57	4.21115 AU		12275 Jun 16 14:23	30° $\mathcal{R}$ $\mathcal{A}$	
direct	12270 Feb 10 15:40	25° $\Pi$ 12'24		direct	12275 Aug 11 13:55	25° $\mathcal{A}$ 28'24	
	12270 Apr 08 23:22	0° $\mathcal{E}$			12275 Oct 05 19:36	0° $\mathcal{B}$	
evening set	12270 Jun 16 11:12	13° $\mathcal{E}$ 54'55		evening set	12275 Dec 15 22:38	14° $\mathcal{B}$ 00'50	
max. Earth dist.	12270 Jun 27 07:57	16° $\mathcal{E}$ 27'01	6.12411 AU				
				conjunction	12275 Dec 29 10:20	17° $\mathcal{B}$ 02'24	0°38'05
conjunction	12270 Jun 29 08:17	16° $\mathcal{E}$ 55'19	-0°38'07	minimum elong	12275 Dec 29 10:20	17° $\mathcal{B}$ 02'24	0°38'58
minimum elong	12270 Jun 29 08:16	16° $\mathcal{E}$ 55'19	0°38'58	max. Earth dist.	12275 Dec 31 11:21	17° $\mathcal{B}$ 29'55	6.24801 AU
morning rise	12270 Jul 12 05:48	19° $\mathcal{E}$ 56'14		morning rise	12276 Jan 11 21:57	20° $\mathcal{B}$ 03'31	
	12270 Aug 27 03:21	0° $\mathcal{Q}$			12276 Feb 28 18:55	0° $\mathcal{A}$	
retrograde	12270 Nov 17 03:23	9° $\mathcal{Q}$ 15'15		retrograde	12276 May 15 10:40	8° $\mathcal{A}$ 03'57	
opposition	12271 Jan 16 03:36	4° $\mathcal{Q}$ 19'41	-0°57'56	opposition	12276 Jul 14 19:30	3° $\mathcal{A}$ 02'55	0°57'02
min. Earth dist.	12271 Jan 17 05:09	4° $\mathcal{Q}$ 11'17	4.04115 AU	min. Earth dist.	12276 Jul 13 18:12	3° $\mathcal{A}$ 11'18	4.32973 AU
	12271 Feb 25 11:14	30° $\mathcal{R}$ $\mathcal{E}$			12276 Aug 08 16:30	30° $\mathcal{R}$ $\mathcal{B}$	
direct	12271 Mar 16 23:29	29° $\mathcal{E}$ 22'41		direct	12276 Sep 13 11:14	28° $\mathcal{B}$ 02'40	
	12271 Apr 05 10:14	0° $\mathcal{Q}$			12276 Oct 19 13:25	0° $\mathcal{A}$	
	12271 Jul 04 16:31	15° $\mathcal{Q}$			12277 Jan 13 12:25	15° $\mathcal{A}$	
evening set	12271 Jul 21 12:03	18° $\mathcal{Q}$ 58'33		evening set	12277 Jan 17 02:58	15° $\mathcal{A}$ 46'40	
conjunction	12271 Aug 03 13:54	22° $\mathcal{Q}$ 07'51	-0°35'17	conjunction	12277 Jan 30 10:46	18° $\mathcal{A}$ 40'16	0°36'32
minimum elong	12271 Aug 03 13:55	22° $\mathcal{Q}$ 07'52	0°35'53	minimum elong	12277 Jan 30 10:47	18° $\mathcal{A}$ 40'16	0°37'10
max. Earth dist.	12271 Aug 02 16:24	21° $\mathcal{Q}$ 54'51	5.97237 AU	max. Earth dist.	12277 Jan 31 12:58	18° $\mathcal{A}$ 54'31	6.40131 AU
morning rise	12271 Aug 16 16:58	25° $\mathcal{Q}$ 18'08		morning rise	12277 Feb 12 17:09	21° $\mathcal{A}$ 33'00	
	12271 Sep 05 13:58	0° $\mathcal{M}$			12277 Mar 26 03:47	0° $\mathcal{H}$	
retrograde	12271 Dec 25 12:31	15° $\mathcal{M}$ 44'08		retrograde	12277 Jun 14 17:35	8° $\mathcal{H}$ 38'10	
opposition	12272 Feb 23 00:01	10° $\mathcal{M}$ 45'55	-0°42'58	opposition	12277 Aug 14 13:13	3° $\mathcal{H}$ 40'14	0°46'17
min. Earth dist.	12272 Feb 23 02:53	10° $\mathcal{M}$ 44'58	3.92328 AU	min. Earth dist.	12277 Aug 14 05:06	3° $\mathcal{H}$ 42'52	4.45614 AU
direct	12272 Apr 21 13:49	5° $\mathcal{M}$ 50'39			12277 Sep 15 09:20	30° $\mathcal{R}$ $\mathcal{A}$	
evening set	12272 Aug 26 16:51	26° $\mathcal{M}$ 00'21		direct	12277 Oct 15 06:55	28° $\mathcal{A}$ 39'20	
					12277 Nov 14 12:25	0° $\mathcal{H}$	
conjunction	12272 Sep 09 00:53	29° $\mathcal{M}$ 16'05	-0°18'34	evening set	12278 Feb 17 10:32	15° $\mathcal{H}$ 52'34	
minimum elong	12272 Sep 09 00:54	29° $\mathcal{M}$ 16'05	0°18'41				
max. Earth dist.	12272 Sep 09 15:16	29° $\mathcal{M}$ 24'54	5.90047 AU	conjunction	12278 Mar 02 13:41	18° $\mathcal{H}$ 40'51	0°24'53
	12272 Sep 12 00:34	0° $\mathcal{Q}$		minimum elong	12278 Mar 02 13:41	18° $\mathcal{H}$ 40'51	0°25'09
morning rise	12272 Sep 22 11:09	2° $\mathcal{Q}$ 33'02		max. Earth dist.	12278 Mar 02 09:33	18° $\mathcal{H}$ 38'38	6.49217 AU
retrograde	12273 Feb 01 08:05	23° $\mathcal{Q}$ 25'24		morning rise	12278 Mar 15 15:10	21° $\mathcal{H}$ 28'14	
opposition	12273 Apr 01 15:10	18° $\mathcal{Q}$ 23'59	-0°09'43		12278 Apr 27 05:43	0° $\mathcal{Y}$	
min. Earth dist.	12273 Mar 31 16:39	18° $\mathcal{Q}$ 31'36	3.90676 AU	retrograde	12278 Jul 14 09:25	8° $\mathcal{Y}$ 05'51	



opposition	12278 Sep 13 10:29	3°♄10'31	0°23'53			12283 Aug 19 21:18	0°♄	
min. Earth dist.	12278 Sep 13 22:48	3°♄06'34	4.50687 AU	morning rise		12283 Aug 21 18:25	0°♄27'14	
	12278 Oct 10 06:41	30°♄		retrograde		12283 Dec 30 19:10	20°♄59'49	
direct	12278 Nov 14 21:50	28°♄09'27		opposition		12284 Feb 28 06:37	16°♄01'11	-0°39'12
	12278 Dec 20 17:07	0°♄		min. Earth dist.		12284 Feb 28 05:20	16°♄01'37	3.91420 AU
evening set	12279 Mar 19 17:18	15°♄14'25		direct		12284 Apr 26 16:48	11°♄06'03	
max. Earth dist.	12279 Mar 31 09:56	17°♄44'28	6.49921 AU			12284 Aug 26 13:17	0°♄	
				evening set		12284 Aug 31 21:47	1°♄17'56	
conjunction	12279 Apr 01 16:35	18°♄00'54	0°06'57					
minimum elong	12279 Apr 01 16:36	18°♄00'54	0°06'45	conjunction		12284 Sep 14 06:43	4°♄34'12	-0°15'26
behind sun begin	12279 Apr 01 09:08	17°♄56'56		minimum elong		12284 Sep 14 06:44	4°♄34'12	0°15'27
behind sun end	12279 Apr 02 00:04	18°♄04'53		behind sun begin		12284 Sep 14 04:25	4°♄32'47	
morning rise	12279 Apr 14 14:02	20°♄46'35		behind sun end		12284 Sep 14 09:03	4°♄35'37	
	12279 May 30 21:32	0°♄		max. Earth dist.		12284 Sep 15 02:27	4°♄46'17	5.89851 AU
retrograde	12279 Aug 13 09:12	7°♄27'01		morning rise		12284 Sep 27 17:45	7°♄51'36	
desc. node	12279 Aug 16 02:23	7°♄26'19		retrograde		12285 Feb 06 14:48	28°♄43'42	
opposition	12279 Oct 13 12:19	2°♄33'14	-0°04'31	opposition		12285 Apr 06 21:12	23°♄41'54	-0°04'26
min. Earth dist.	12279 Oct 14 16:36	2°♄24'11	4.47038 AU	min. Earth dist.		12285 Apr 05 20:59	23°♄50'06	3.91206 AU
	12279 Nov 03 12:00	30°♄		asc. node		12285 May 22 10:14	19°♄02'40	
direct	12279 Dec 15 01:34	27°♄32'22		direct		12285 Jun 03 21:27	18°♄46'34	
	12280 Jan 25 14:39	0°♄				12285 Aug 31 17:47	0°♄	
evening set	12280 Apr 17 23:02	14°♄52'41		evening set		12285 Oct 09 03:36	8°♄49'33	
	12280 Apr 18 12:31	15°♄						
max. Earth dist.	12280 Apr 28 18:54	17°♄14'19	6.42106 AU	conjunction		12285 Oct 22 17:09	12°♄05'22	0°09'16
				minimum elong		12285 Oct 22 17:09	12°♄05'22	0°09'47
conjunction	12280 Apr 30 19:35	17°♄40'58	-0°13'07	behind sun begin		12285 Oct 22 10:20	12°♄01'16	
minimum elong	12280 Apr 30 19:35	17°♄40'57	0°13'42	behind sun end		12285 Oct 22 23:58	12°♄09'27	
behind sun begin	12280 Apr 30 15:15	17°♄38'36		max. Earth dist.		12285 Oct 24 20:13	12°♄36'07	5.95269 AU
behind sun end	12280 Apr 30 23:56	17°♄43'19				12285 Nov 03 19:46	15°♄	
morning rise	12280 May 13 14:32	20°♄28'43		morning rise		12285 Nov 05 08:21	15°♄21'52	
	12280 Jun 29 09:51	0°♄				12286 Jan 13 09:41	0°♄	
retrograde	12280 Sep 12 21:28	7°♄42'15		retrograde		12286 Mar 15 15:29	5°♄36'49	
opposition	12280 Nov 12 19:52	2°♄48'54	-0°32'45	min. Earth dist.		12286 May 12 13:18	0°♄45'59	4.01633 AU
min. Earth dist.	12280 Nov 14 10:40	2°♄36'29	4.35480 AU	opposition		12286 May 14 02:57	0°♄33'13	0°31'12
	12280 Dec 06 04:01	30°♄				12286 May 18 05:10	30°♄	
direct	12281 Jan 13 21:48	27°♄48'47		direct		12286 Jul 11 13:01	25°♄36'12	
	12281 Feb 21 10:24	0°♄				12286 Sep 02 20:58	0°♄	
evening set	12281 May 19 03:20	15°♄46'07		evening set		12286 Nov 15 11:39	14°♄56'41	
max. Earth dist.	12281 May 29 14:25	18°♄07'40	6.27572 AU					
				conjunction		12286 Nov 29 01:36	18°♄05'59	0°29'32
conjunction	12281 May 31 22:53	18°♄39'37	-0°30'05	minimum elong		12286 Nov 29 01:35	18°♄05'58	0°30'22
minimum elong	12281 May 31 22:52	18°♄39'36	0°30'56	max. Earth dist.		12286 Dec 01 12:40	18°♄40'19	6.09577 AU
morning rise	12281 Jun 13 17:55	21°♄33'07		morning rise		12286 Dec 12 16:28	21°♄15'19	
	12281 Jul 23 03:29	0°♄				12287 Jan 21 14:47	0°♄	
retrograde	12281 Oct 16 17:46	9°♄46'48		retrograde		12287 Apr 18 22:46	10°♄19'14	
opposition	12281 Dec 16 06:07	4°♄52'42	-0°53'11	min. Earth dist.		12287 Jun 16 09:10	5°♄28'22	4.18266 AU
min. Earth dist.	12281 Dec 17 19:19	4°♄40'39	4.18874 AU	opposition		12287 Jun 17 21:27	5°♄16'11	0°53'06
	12282 Feb 07 08:45	30°♄		direct		12287 Aug 16 10:16	0°♄17'10	
direct	12282 Feb 15 06:26	29°♄54'00		evening set		12287 Dec 20 16:33	18°♄42'44	
	12282 Feb 23 03:32	0°♄						
evening set	12282 Jun 21 03:20	18°♄43'33		conjunction		12288 Jan 03 03:58	21°♄43'10	0°38'35
max. Earth dist.	12282 Jul 02 04:08	21°♄18'43	6.10221 AU	minimum elong		12288 Jan 03 03:57	21°♄43'10	0°39'26
				max. Earth dist.		12288 Jan 05 04:09	22°♄10'06	6.27078 AU
conjunction	12282 Jul 04 01:01	21°♄45'07	-0°38'32	morning rise		12288 Jan 16 14:45	24°♄43'01	
minimum elong	12282 Jul 04 01:01	21°♄45'06	0°39'24			12288 Feb 10 02:01	0°♄	
morning rise	12282 Jul 16 22:56	24°♄47'13		retrograde		12288 May 19 18:20	12°♄34'34	
	12282 Aug 08 16:46	0°♄		min. Earth dist.		12288 Jul 18 04:32	7°♄41'55	4.35099 AU
retrograde	12282 Nov 22 07:48	14°♄15'58		opposition		12288 Jul 19 04:32	7°♄33'59	0°56'25
opposition	12283 Jan 21 05:19	9°♄20'10	-0°57'10	direct		12288 Sep 17 23:51	2°♄33'40	
min. Earth dist.	12283 Jan 22 04:56	9°♄12'23	4.02174 AU			12288 Dec 27 20:26	15°♄	
direct	12283 Mar 21 20:36	4°♄23'29		evening set		12289 Jan 21 13:57	20°♄11'52	
	12283 Jun 16 18:48	15°♄						
evening set	12283 Jul 26 11:44	24°♄05'24		conjunction		12289 Feb 03 20:54	23°♄04'27	0°35'26
				minimum elong		12289 Feb 03 20:55	23°♄04'27	0°36'02
conjunction	12283 Aug 08 14:13	27°♄15'46	-0°33'43	max. Earth dist.		12289 Feb 04 18:24	23°♄16'06	6.41965 AU
minimum elong	12283 Aug 08 14:14	27°♄15'46	0°34'16	morning rise		12289 Feb 17 02:42	25°♄56'12	
max. Earth dist.	12283 Aug 07 19:34	27°♄04'27	5.95722 AU			12289 Mar 08 08:45	0°♄	

retrograde	12289 Jun 18 21:23	12° $\text{K}$ 55'10			12295 Aug 03 18:29	0° $\text{M}$	
opposition	12289 Aug 18 17:30	7° $\text{K}$ 57'34	0°43'45				
min. Earth dist.	12289 Aug 18 12:26	7° $\text{K}$ 59'13	4.47051 AU	conjunction	12295 Aug 13 14:59	2° $\text{M}$ 23'53	-0°31'56
direct	12289 Oct 19 15:04	2° $\text{K}$ 56'34		minimum elong	12295 Aug 13 15:00	2° $\text{M}$ 23'54	0°32'25
evening set	12290 Feb 21 15:57	20° $\text{K}$ 06'16		max. Earth dist.	12295 Aug 13 01:51	2° $\text{M}$ 15'53	5.93800 AU
				morning rise	12295 Aug 26 20:07	5° $\text{M}$ 36'43	
conjunction	12290 Mar 06 18:36	22° $\text{K}$ 53'57	0°22'42	retrograde	12296 Jan 05 05:57	26° $\text{M}$ 17'34	
minimum elong	12290 Mar 06 18:37	22° $\text{K}$ 53'57	0°22'54	opposition	12296 Mar 04 14:17	21° $\text{M}$ 18'31	-0°35'10
max. Earth dist.	12290 Mar 06 11:58	22° $\text{K}$ 50'25	6.50166 AU	min. Earth dist.	12296 Mar 04 10:33	21° $\text{M}$ 19'46	3.90146 AU
morning rise	12290 Mar 19 19:17	25° $\text{K}$ 40'42		direct	12296 May 01 22:20	16° $\text{M}$ 23'27	
	12290 Apr 09 14:17	0° $\text{Y}$			12296 Aug 09 03:42	0° $\text{L}$	
retrograde	12290 Jul 18 09:40	12° $\text{Y}$ 15'39		evening set	12296 Sep 06 04:42	6° $\text{L}$ 38'57	
opposition	12290 Sep 17 12:48	7° $\text{Y}$ 20'32	0°20'15				
min. Earth dist.	12290 Sep 18 02:32	7° $\text{Y}$ 16'07	4.51092 AU	conjunction	12296 Sep 19 14:36	9° $\text{L}$ 55'55	-0°12'11
direct	12290 Nov 19 00:36	2° $\text{Y}$ 19'26		minimum elong	12296 Sep 19 14:37	9° $\text{L}$ 55'55	0°12'07
evening set	12291 Mar 23 20:00	19° $\text{Y}$ 23'43		behind sun begin	12296 Sep 19 08:59	9° $\text{L}$ 52'29	
max. Earth dist.	12291 Apr 04 09:07	21° $\text{Y}$ 51'59	6.49742 AU	behind sun end	12296 Sep 19 20:15	9° $\text{L}$ 59'21	
				max. Earth dist.	12296 Sep 20 16:04	10° $\text{L}$ 11'30	5.89365 AU
conjunction	12291 Apr 05 18:42	22° $\text{Y}$ 10'01	0°04'17	morning rise	12296 Oct 03 02:35	13° $\text{L}$ 13'59	
minimum elong	12291 Apr 05 18:43	22° $\text{Y}$ 10'01	0°04'02		12296 Dec 22 11:20	0° $\text{M}$	
behind sun begin	12291 Apr 05 10:49	22° $\text{Y}$ 05'49		retrograde	12297 Feb 11 23:00	4° $\text{M}$ 06'21	
behind sun end	12291 Apr 06 02:36	22° $\text{Y}$ 14'14		asc. node	12297 Apr 03 11:09	0° $\text{M}$ 14'41	
morning rise	12291 Apr 18 15:39	24° $\text{Y}$ 55'34			12297 Apr 05 07:28	30° $\text{R}$ $\text{L}$	
	12291 May 13 00:53	0° $\text{B}$		min. Earth dist.	12297 Apr 11 01:15	29° $\text{L}$ 13'35	3.91589 AU
desc. node	12291 Jun 29 08:29	8° $\text{B}$ 07'56		opposition	12297 Apr 12 04:56	29° $\text{L}$ 04'12	0°00'52
retrograde	12291 Aug 17 13:29	11° $\text{B}$ 37'25		direct	12297 Jun 09 03:23	24° $\text{L}$ 08'45	
opposition	12291 Oct 17 16:14	6° $\text{B}$ 43'45	-0°08'28		12297 Aug 09 15:29	0° $\text{M}$	
min. Earth dist.	12291 Oct 18 23:26	6° $\text{B}$ 33'46	4.46256 AU	evening set	12297 Oct 14 11:54	14° $\text{M}$ 09'17	
direct	12291 Dec 19 06:17	1° $\text{B}$ 42'52			12297 Oct 18 00:41	15° $\text{M}$	
	12292 Apr 02 21:12	15° $\text{B}$					
evening set	12292 Apr 22 02:17	19° $\text{B}$ 05'44		conjunction	12297 Oct 28 01:43	17° $\text{M}$ 24'42	0°12'33
max. Earth dist.	12292 May 02 18:18	21° $\text{B}$ 25'44	6.40750 AU	minimum elong	12297 Oct 28 01:42	17° $\text{M}$ 24'41	0°13'09
				behind sun begin	12297 Oct 27 20:49	17° $\text{M}$ 21'46	
conjunction	12292 May 04 22:29	21° $\text{B}$ 54'22	-0°15'39	behind sun end	12297 Oct 28 06:34	17° $\text{M}$ 27'36	
minimum elong	12292 May 04 22:28	21° $\text{B}$ 54'21	0°16'18	max. Earth dist.	12297 Oct 30 06:48	17° $\text{M}$ 56'34	5.96454 AU
morning rise	12292 May 17 17:20	24° $\text{B}$ 42'33		morning rise	12297 Nov 10 17:21	20° $\text{M}$ 40'45	
	12292 Jun 11 13:36	0° $\text{I}$			12297 Dec 21 22:49	0° $\text{J}$	
retrograde	12292 Sep 17 06:23	12° $\text{I}$ 01'52		retrograde	12298 Mar 20 15:43	10° $\text{J}$ 48'20	
opposition	12292 Nov 17 04:21	7° $\text{I}$ 08'24	-0°36'04	min. Earth dist.	12298 May 17 13:57	5° $\text{J}$ 57'46	4.03465 AU
min. Earth dist.	12292 Nov 18 19:35	6° $\text{I}$ 55'48	4.33611 AU	opposition	12298 May 19 04:53	5° $\text{J}$ 44'34	0°35'18
direct	12293 Jan 18 03:27	2° $\text{I}$ 08'17		direct	12298 Jul 16 18:03	0° $\text{J}$ 47'13	
evening set	12293 May 23 10:43	20° $\text{I}$ 11'32		evening set	12298 Nov 20 14:43	20° $\text{J}$ 00'50	
max. Earth dist.	12293 Jun 02 22:51	22° $\text{I}$ 34'19	6.25322 AU				
				conjunction	12298 Dec 04 04:36	23° $\text{J}$ 09'00	0°31'32
conjunction	12293 Jun 05 06:29	23° $\text{I}$ 05'58	-0°31'48	minimum elong	12298 Dec 04 04:36	23° $\text{J}$ 08'59	0°32'24
minimum elong	12293 Jun 05 06:29	23° $\text{I}$ 05'57	0°32'40	max. Earth dist.	12298 Dec 06 16:57	23° $\text{J}$ 43'53	6.11878 AU
morning rise	12293 Jun 18 01:34	26° $\text{I}$ 00'25		morning rise	12298 Dec 17 18:54	26° $\text{J}$ 17'03	
	12293 Jul 05 23:34	0° $\text{O}$			12299 Jan 03 06:04	0° $\text{Z}$	
retrograde	12293 Oct 21 12:33	14° $\text{O}$ 23'43		retrograde	12299 Apr 23 15:15	15° $\text{Z}$ 10'19	
opposition	12293 Dec 20 22:23	9° $\text{O}$ 29'27	-0°54'49	min. Earth dist.	12299 Jun 21 03:29	10° $\text{Z}$ 19'20	4.20773 AU
min. Earth dist.	12293 Dec 22 11:43	9° $\text{O}$ 17'21	4.16382 AU	opposition	12299 Jun 22 14:49	10° $\text{Z}$ 07'29	0°54'38
direct	12294 Feb 19 18:37	4° $\text{O}$ 30'56		direct	12299 Aug 21 08:06	5° $\text{Z}$ 08'14	
evening set	12294 Jun 25 18:10	23° $\text{O}$ 28'35		evening set	12299 Dec 25 11:38	23° $\text{Z}$ 25'57	
max. Earth dist.	12294 Jul 06 19:45	26° $\text{O}$ 05'09	6.07686 AU				
				conjunction	12300 Jan 07 22:19	26° $\text{Z}$ 25'05	0°38'48
conjunction	12294 Jul 08 16:16	26° $\text{O}$ 31'28	-0°38'42	minimum elong	12300 Jan 07 22:19	26° $\text{Z}$ 25'05	0°39'37
minimum elong	12294 Jul 08 16:16	26° $\text{O}$ 31'28	0°39'33	max. Earth dist.	12300 Jan 09 19:14	26° $\text{Z}$ 50'03	6.29551 AU
morning rise	12294 Jul 21 15:06	29° $\text{O}$ 35'02		morning rise	12300 Jan 21 08:32	29° $\text{Z}$ 23'36	
	12294 Jul 23 09:34	0° $\text{Q}$			12300 Jan 24 02:43	0° $\text{A}$	
	12294 Oct 05 05:37	15° $\text{Q}$			12300 Apr 18 00:56	15° $\text{A}$	
retrograde	12294 Nov 27 09:56	19° $\text{Q}$ 15'08		retrograde	12300 May 25 01:44	17° $\text{A}$ 05'43	
	12295 Jan 21 01:42	15° $\text{R}$ $\text{Q}$			12300 Jun 30 23:45	15° $\text{R}$ $\text{A}$	
opposition	12295 Jan 26 06:30	14° $\text{Q}$ 18'57	-0°56'02	opposition	12300 Jul 24 14:03	12° $\text{A}$ 05'28	0°55'25
min. Earth dist.	12295 Jan 27 02:56	14° $\text{Q}$ 12'12	3.99822 AU	min. Earth dist.	12300 Jul 23 16:13	12° $\text{A}$ 12'41	4.37332 AU
direct	12295 Mar 26 16:21	9° $\text{Q}$ 22'28		direct	12300 Sep 23 13:19	7° $\text{A}$ 04'58	
	12295 May 26 11:05	15° $\text{Q}$			12300 Dec 10 02:22	15° $\text{A}$	
evening set	12295 Jul 31 11:27	29° $\text{Q}$ 12'10		evening set	12301 Jan 27 01:05	24° $\text{A}$ 37'16	





























































































































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minimum elong	12301 Feb 09 07:32	27° $\approx$ 28'53	0°34'39	opposition	12307 Feb 01 13:41	19° $\Omega$ 33'30	-0°54'23
max. Earth dist.	12301 Feb 10 02:14	27° $\approx$ 38'59	6.43789 AU	min. Earth dist.	12307 Feb 02 07:57	19° $\Omega$ 27'27	3.97709 AU
	12301 Feb 20 23:50	0° $\mathbb{X}$			12307 Mar 17 18:24	15° $\mathbb{R}\Omega$	
morning rise	12301 Feb 22 12:23	0° $\mathbb{X}$ 19'36		direct	12307 Apr 01 19:44	14° $\Omega$ 37'19	
retrograde	12301 Jun 24 00:42	17° $\mathbb{X}$ 12'45			12307 Apr 16 19:34	15° $\Omega$	
opposition	12301 Aug 23 22:26	12° $\mathbb{X}$ 15'35	0°40'55		12307 Jul 18 13:50	0° $\mathbb{M}$	
min. Earth dist.	12301 Aug 23 19:45	12° $\mathbb{X}$ 16'27	4.48343 AU	evening set	12307 Aug 06 16:53	4° $\mathbb{M}$ 33'37	
direct	12301 Oct 24 22:25	7° $\mathbb{X}$ 14'36					
evening set	12302 Feb 26 22:03	24° $\mathbb{X}$ 21'29		conjunction	12307 Aug 19 21:23	7° $\mathbb{M}$ 46'31	-0°29'47
				minimum elong	12307 Aug 19 21:24	7° $\mathbb{M}$ 46'32	0°30'12
conjunction	12302 Mar 11 23:55	27° $\mathbb{X}$ 08'39	0°20'20	max. Earth dist.	12307 Aug 19 13:18	7° $\mathbb{M}$ 41'35	5.92322 AU
minimum elong	12302 Mar 11 23:55	27° $\mathbb{X}$ 08'39	0°20'27	morning rise	12307 Sep 02 03:39	11° $\mathbb{M}$ 00'34	
max. Earth dist.	12302 Mar 11 11:48	27° $\mathbb{X}$ 02'11	6.50825 AU		12307 Dec 09 10:11	0° $\Omega$	
morning rise	12302 Mar 25 00:07	29° $\mathbb{X}$ 54'57		retrograde	12308 Jan 11 18:41	1° $\Omega$ 47'13	
	12302 Mar 25 09:39	0° $\mathbb{Y}$			12308 Feb 14 02:29	30° $\mathbb{R}\mathbb{M}$	
retrograde	12302 Jul 23 14:21	16° $\mathbb{Y}$ 28'34		opposition	12308 Mar 11 02:05	26° $\mathbb{M}$ 47'45	-0°30'37
opposition	12302 Sep 22 16:51	11° $\mathbb{Y}$ 33'46	0°16'22	min. Earth dist.	12308 Mar 10 17:43	26° $\mathbb{M}$ 50'34	3.89522 AU
min. Earth dist.	12302 Sep 23 10:16	11° $\mathbb{Y}$ 28'11	4.51087 AU	direct	12308 May 08 06:15	21° $\mathbb{M}$ 52'48	
direct	12302 Nov 24 06:30	6° $\mathbb{Y}$ 32'40			12308 Jul 20 18:13	0° $\Omega$	
evening set	12303 Mar 29 00:28	23° $\mathbb{Y}$ 37'47		evening set	12308 Sep 12 15:07	12° $\Omega$ 09'04	
max. Earth dist.	12303 Apr 09 10:11	26° $\mathbb{Y}$ 04'28	6.49065 AU				
				conjunction	12308 Sep 26 01:42	15° $\Omega$ 26'13	-0°08'43
conjunction	12303 Apr 10 22:49	26° $\mathbb{Y}$ 24'10	0°01'26	minimum elong	12308 Sep 26 01:42	15° $\Omega$ 26'13	0°08'35
minimum elong	12303 Apr 10 22:50	26° $\mathbb{Y}$ 24'11	0°01'08	behind sun begin	12308 Sep 25 18:26	15° $\Omega$ 21'48	
behind sun begin	12303 Apr 10 14:50	26° $\mathbb{Y}$ 19'54		behind sun end	12308 Sep 26 08:57	15° $\Omega$ 30'39	
behind sun end	12303 Apr 11 06:50	26° $\mathbb{Y}$ 28'28		max. Earth dist.	12308 Sep 27 07:37	15° $\Omega$ 44'33	5.89664 AU
morning rise	12303 Apr 23 19:17	29° $\mathbb{Y}$ 09'49		morning rise	12308 Oct 09 14:33	18° $\Omega$ 44'30	
	12303 Apr 27 17:23	0° $\mathbb{Z}$			12308 Nov 28 03:43	0° $\mathbb{M}$	
desc. node	12303 May 09 07:07	2° $\mathbb{Z}$ 25'54		asc. node	12309 Feb 13 12:59	9° $\mathbb{M}$ 31'16	
	12303 Jul 29 07:36	15° $\mathbb{Z}$		retrograde	12309 Feb 18 06:31	9° $\mathbb{M}$ 33'33	
retrograde	12303 Aug 22 19:40	15° $\mathbb{Z}$ 54'56		min. Earth dist.	12309 Apr 17 07:23	4° $\mathbb{M}$ 41'21	3.92780 AU
	12303 Sep 16 08:09	15° $\mathbb{R}\mathbb{Z}$		opposition	12309 Apr 18 14:00	4° $\mathbb{M}$ 30'57	0°06'15
opposition	12303 Oct 22 22:49	11° $\mathbb{Z}$ 01'22	-0°12'33		12309 May 31 03:22	30° $\mathbb{R}\Omega$	
min. Earth dist.	12303 Oct 24 07:04	10° $\mathbb{Z}$ 51'03	4.44953 AU	direct	12309 Jun 15 13:57	29° $\Omega$ 35'16	
direct	12303 Dec 24 10:35	6° $\mathbb{Z}$ 00'33			12309 Jul 01 01:44	0° $\mathbb{M}$	
	12304 Mar 17 06:30	15° $\mathbb{Z}$			12309 Oct 01 15:12	15° $\mathbb{M}$	
evening set	12304 Apr 27 08:57	23° $\mathbb{Z}$ 27'53		evening set	12309 Oct 20 20:24	19° $\mathbb{M}$ 30'02	
max. Earth dist.	12304 May 07 23:44	25° $\mathbb{Z}$ 47'47	6.38902 AU				
				conjunction	12309 Nov 03 10:34	22° $\mathbb{M}$ 44'37	0°15'47
conjunction	12304 May 10 04:56	26° $\mathbb{Z}$ 17'08	-0°18'15	minimum elong	12309 Nov 03 10:33	22° $\mathbb{M}$ 44'37	0°16'26
minimum elong	12304 May 10 04:55	26° $\mathbb{Z}$ 17'07	0°18'56	max. Earth dist.	12309 Nov 05 19:33	23° $\mathbb{M}$ 18'40	5.98419 AU
morning rise	12304 May 22 23:37	29° $\mathbb{Z}$ 06'00		morning rise	12309 Nov 17 02:05	25° $\mathbb{M}$ 59'40	
	12304 May 27 02:24	0° $\mathbb{I}$			12309 Dec 04 06:26	0° $\mathbb{Z}$	
retrograde	12304 Sep 22 22:03	16° $\mathbb{I}$ 32'58		retrograde	12310 Mar 26 15:25	15° $\mathbb{Z}$ 56'46	
opposition	12304 Nov 22 17:37	11° $\mathbb{I}$ 39'31	-0°39'25	min. Earth dist.	12310 May 23 14:16	11° $\mathbb{Z}$ 06'09	4.05959 AU
min. Earth dist.	12304 Nov 24 10:24	11° $\mathbb{I}$ 26'25	4.31312 AU	opposition	12310 May 25 05:15	10° $\mathbb{Z}$ 52'57	0°39'06
direct	12305 Jan 23 14:10	6° $\mathbb{I}$ 39'34		direct	12310 Jul 22 22:34	5° $\mathbb{Z}$ 55'17	
evening set	12305 May 28 22:56	24° $\mathbb{I}$ 50'11		evening set	12310 Nov 26 15:47	24° $\mathbb{Z}$ 59'52	
max. Earth dist.	12305 Jun 08 10:08	27° $\mathbb{I}$ 13'19	6.22740 AU				
				conjunction	12310 Dec 10 05:14	28° $\mathbb{Z}$ 06'36	0°33'17
conjunction	12305 Jun 10 18:49	27° $\mathbb{I}$ 45'44	-0°33'26	minimum elong	12310 Dec 10 05:13	28° $\mathbb{Z}$ 06'36	0°34'10
minimum elong	12305 Jun 10 18:48	27° $\mathbb{I}$ 45'44	0°34'19	max. Earth dist.	12310 Dec 12 16:33	28° $\mathbb{Z}$ 40'40	6.14645 AU
	12305 Jun 20 13:39	0° $\mathbb{E}$			12310 Dec 18 10:55	0° $\mathbb{Z}$	
morning rise	12305 Jun 23 14:22	0° $\mathbb{E}$ 41'26		morning rise	12310 Dec 23 19:08	1° $\mathbb{Z}$ 13'11	
retrograde	12305 Oct 27 12:09	19° $\mathbb{E}$ 15'47		retrograde	12311 Apr 29 02:13	19° $\mathbb{Z}$ 54'29	
opposition	12305 Dec 26 20:32	14° $\mathbb{E}$ 21'17	-0°56'11	min. Earth dist.	12311 Jun 26 18:33	15° $\mathbb{Z}$ 03'26	4.23551 AU
min. Earth dist.	12305 Dec 28 07:37	14° $\mathbb{E}$ 09'52	4.13709 AU	opposition	12311 Jun 28 05:08	14° $\mathbb{Z}$ 51'51	0°55'45
direct	12306 Feb 25 11:00	9° $\mathbb{E}$ 23'01		direct	12311 Aug 27 02:12	9° $\mathbb{Z}$ 52'21	
evening set	12306 Jul 01 14:49	28° $\mathbb{E}$ 29'25		evening set	12311 Dec 31 03:19	28° $\mathbb{Z}$ 01'40	
	12306 Jul 07 23:59	0° $\Omega$			12312 Jan 09 01:57	0° $\approx$	
max. Earth dist.	12306 Jul 12 21:29	1° $\Omega$ 09'49	6.05171 AU				
				conjunction	12312 Jan 13 13:26	0° $\approx$ 59'27	0°38'46
conjunction	12306 Jul 14 13:38	1° $\Omega$ 33'43	-0°38'36	minimum elong	12312 Jan 13 13:26	0° $\approx$ 59'27	0°39'34
minimum elong	12306 Jul 14 13:38	1° $\Omega$ 33'43	0°39'24	max. Earth dist.	12312 Jan 15 06:51	1° $\approx$ 22'21	6.32121 AU
morning rise	12306 Jul 27 13:08	4° $\Omega$ 38'44		morning rise	12312 Jan 26 22:48	3° $\approx$ 56'35	
	12306 Sep 12 01:19	15° $\Omega$			12312 Mar 22 02:27	15° $\approx$	

retrograde	12312 May 29 07:22	21° $\approx$ 29'26			12318 Jun 21 05:54	0° $\Omega$	
opposition	12312 Jul 28 20:54	16° $\approx$ 29'37	0°54'08	evening set	12318 Jul 06 13:43	3° $\Omega$ 34'59	
min. Earth dist.	12312 Jul 28 02:12	16° $\approx$ 35'46	4.39495 AU	max. Earth dist.	12318 Jul 18 00:36	6° $\Omega$ 18'44	6.02886 AU
	12312 Aug 09 09:59	15° $\mathbb{R}$ $\approx$					
direct	12312 Sep 28 01:00	11° $\approx$ 29'00		conjunction	12318 Jul 19 13:14	6° $\Omega$ 40'38	-0°38'13
	12312 Nov 16 16:33	15° $\approx$		minimum elong	12318 Jul 19 13:15	6° $\Omega$ 40'38	0°38'58
evening set	12313 Jan 31 09:22	28° $\approx$ 55'43		morning rise	12318 Aug 01 13:39	9° $\Omega$ 47'05	
	12313 Feb 05 09:17	0° $\mathbb{X}$			12318 Aug 23 22:51	15° $\Omega$	
				retrograde	12318 Dec 09 06:06	29° $\Omega$ 48'16	
conjunction	12313 Feb 13 15:03	1° $\mathbb{X}$ 46'26	0°32'36	opposition	12319 Feb 06 22:26	24° $\Omega$ 51'26	-0°52'14
minimum elong	12313 Feb 13 15:04	1° $\mathbb{X}$ 46'27	0°33'06	min. Earth dist.	12319 Feb 07 12:07	24° $\Omega$ 46'54	3.96021 AU
max. Earth dist.	12313 Feb 14 04:19	1° $\mathbb{X}$ 53'34	6.45382 AU	direct	12319 Apr 06 23:15	19° $\Omega$ 55'34	
morning rise	12313 Feb 26 19:19	4° $\mathbb{X}$ 36'17			12319 Jun 29 16:50	0° $\mathbb{M}$	
retrograde	12313 Jun 28 02:27	21° $\mathbb{X}$ 24'37		evening set	12319 Aug 11 23:21	9° $\mathbb{M}$ 56'35	
opposition	12313 Aug 28 01:14	16° $\mathbb{X}$ 27'48	0°37'56				
min. Earth dist.	12313 Aug 28 01:44	16° $\mathbb{X}$ 27'38	4.49292 AU	conjunction	12319 Aug 25 04:37	13° $\mathbb{M}$ 10'20	-0°27'22
direct	12313 Oct 29 03:38	11° $\mathbb{X}$ 26'43		minimum elong	12319 Aug 25 04:38	13° $\mathbb{M}$ 10'21	0°27'42
evening set	12314 Mar 03 02:12	28° $\mathbb{X}$ 31'54		max. Earth dist.	12319 Aug 25 01:50	13° $\mathbb{M}$ 08'38	5.91394 AU
	12314 Mar 10 00:03	0° $\mathbb{Y}$		morning rise	12319 Sep 07 11:54	16° $\mathbb{M}$ 25'17	
					12319 Nov 07 21:24	0° $\mathbb{L}$	
conjunction	12314 Mar 16 03:42	1° $\mathbb{Y}$ 18'48	0°17'54	retrograde	12320 Jan 17 05:33	7° $\mathbb{L}$ 15'14	
minimum elong	12314 Mar 16 03:42	1° $\mathbb{Y}$ 18'48	0°17'58	opposition	12320 Mar 16 13:11	2° $\mathbb{L}$ 15'14	-0°25'48
max. Earth dist.	12314 Mar 15 12:38	1° $\mathbb{Y}$ 10'46	6.51073 AU	min. Earth dist.	12320 Mar 16 01:09	2° $\mathbb{L}$ 19'17	3.89460 AU
morning rise	12314 Mar 29 03:09	4° $\mathbb{Y}$ 04'46			12320 Apr 02 23:16	30° $\mathbb{R}$ $\mathbb{M}$	
retrograde	12314 Jul 27 16:33	20° $\mathbb{Y}$ 38'23		direct	12320 May 13 16:04	27° $\mathbb{M}$ 20'17	
opposition	12314 Sep 26 19:50	15° $\mathbb{Y}$ 43'51	0°12'27		12320 Jun 22 20:32	0° $\mathbb{L}$	
min. Earth dist.	12314 Sep 27 15:25	15° $\mathbb{Y}$ 37'34	4.50632 AU	evening set	12320 Sep 18 00:19	17° $\mathbb{L}$ 35'08	
direct	12314 Nov 28 09:30	10° $\mathbb{Y}$ 42'47					
desc. node	12315 Mar 17 05:08	24° $\mathbb{Y}$ 28'24		conjunction	12320 Oct 01 11:42	20° $\mathbb{L}$ 52'15	-0°05'13
evening set	12315 Apr 02 04:27	27° $\mathbb{Y}$ 50'06		minimum elong	12320 Oct 01 11:42	20° $\mathbb{L}$ 52'15	0°05'00
	12315 Apr 12 06:11	0° $\mathbb{B}$		behind sun begin	12320 Oct 01 03:35	20° $\mathbb{L}$ 47'19	
max. Earth dist.	12315 Apr 13 09:32	0° $\mathbb{B}$ 14'45	6.47927 AU	behind sun end	12320 Oct 01 19:50	20° $\mathbb{L}$ 57'11	
				max. Earth dist.	12320 Oct 02 23:55	21° $\mathbb{L}$ 14'22	5.90467 AU
conjunction	12315 Apr 15 02:20	0° $\mathbb{B}$ 36'46	-0°01'27	morning rise	12320 Oct 15 01:00	24° $\mathbb{L}$ 10'21	
minimum elong	12315 Apr 15 02:18	0° $\mathbb{B}$ 36'45	0°01'50		12320 Nov 08 16:16	0° $\mathbb{M}$	
behind sun begin	12315 Apr 14 18:18	0° $\mathbb{B}$ 32'27		asc. node	12320 Dec 25 01:20	9° $\mathbb{M}$ 22'46	
behind sun end	12315 Apr 15 10:18	0° $\mathbb{B}$ 41'03		retrograde	12321 Feb 23 13:21	14° $\mathbb{M}$ 53'57	
morning rise	12315 Apr 27 22:34	3° $\mathbb{B}$ 22'44		opposition	12321 Apr 23 20:12	9° $\mathbb{M}$ 51'06	0°11'30
	12315 Jun 27 04:51	15° $\mathbb{B}$		min. Earth dist.	12321 Apr 22 12:11	10° $\mathbb{M}$ 01'58	3.94342 AU
retrograde	12315 Aug 27 05:19	20° $\mathbb{B}$ 12'41		direct	12321 Jun 20 22:10	4° $\mathbb{M}$ 55'12	
opposition	12315 Oct 27 06:20	15° $\mathbb{B}$ 19'13	-0°16'35		12321 Sep 12 20:07	15° $\mathbb{M}$	
min. Earth dist.	12315 Oct 28 17:15	15° $\mathbb{B}$ 08'03	4.43196 AU	evening set	12321 Oct 26 02:16	24° $\mathbb{M}$ 43'24	
	12315 Oct 29 18:24	15° $\mathbb{R}$ $\mathbb{B}$					
direct	12315 Dec 28 17:14	10° $\mathbb{B}$ 18'28		conjunction	12321 Nov 08 16:25	27° $\mathbb{M}$ 57'00	0°18'50
	12316 Feb 24 23:20	15° $\mathbb{B}$		minimum elong	12321 Nov 08 16:24	27° $\mathbb{M}$ 56'59	0°19'32
evening set	12316 May 01 16:21	27° $\mathbb{B}$ 51'36		max. Earth dist.	12321 Nov 11 02:44	28° $\mathbb{M}$ 31'38	6.00544 AU
	12316 May 11 09:05	0° $\mathbb{I}$			12321 Nov 17 07:45	0° $\mathbb{J}$	
max. Earth dist.	12316 May 12 05:20	0° $\mathbb{I}$ 11'13	6.36651 AU	morning rise	12321 Nov 22 08:02	1° $\mathbb{J}$ 11'01	
				retrograde	12322 Mar 31 09:52	20° $\mathbb{J}$ 57'35	
conjunction	12316 May 14 12:19	0° $\mathbb{I}$ 41'41	-0°20'45	min. Earth dist.	12322 May 28 10:41	16° $\mathbb{J}$ 07'15	4.08420 AU
minimum elong	12316 May 14 12:18	0° $\mathbb{I}$ 41'41	0°21'29	opposition	12322 May 30 02:23	15° $\mathbb{J}$ 53'49	0°42'31
morning rise	12316 May 27 06:59	3° $\mathbb{I}$ 31'26		direct	12322 Jul 27 22:03	10° $\mathbb{J}$ 55'54	
retrograde	12316 Sep 27 13:57	21° $\mathbb{I}$ 07'29		evening set	12322 Dec 01 13:59	29° $\mathbb{J}$ 52'16	
opposition	12316 Nov 27 08:37	16° $\mathbb{I}$ 13'57	-0°42'34		12322 Dec 02 03:37	0° $\mathbb{Z}$	
min. Earth dist.	12316 Nov 29 00:24	16° $\mathbb{I}$ 01'09	4.28726 AU				
direct	12317 Jan 27 24:00	11° $\mathbb{I}$ 14'15		conjunction	12322 Dec 15 03:03	2° $\mathbb{Z}$ 57'42	0°34'47
evening set	12317 Jun 02 13:21	29° $\mathbb{I}$ 33'13		minimum elong	12322 Dec 15 03:02	2° $\mathbb{Z}$ 57'41	0°35'41
	12317 Jun 04 12:17	0° $\mathbb{O}$		max. Earth dist.	12322 Dec 17 11:49	3° $\mathbb{Z}$ 30'07	6.17218 AU
max. Earth dist.	12317 Jun 13 03:06	1° $\mathbb{O}$ 58'41	6.20028 AU	morning rise	12322 Dec 28 16:23	6° $\mathbb{Z}$ 02'52	
				retrograde	12323 May 03 13:42	24° $\mathbb{Z}$ 33'41	
conjunction	12317 Jun 15 09:29	2° $\mathbb{O}$ 30'00	-0°34'52	min. Earth dist.	12323 Jul 01 09:45	19° $\mathbb{Z}$ 42'01	4.26000 AU
minimum elong	12317 Jun 15 09:29	2° $\mathbb{O}$ 29'59	0°35'46	opposition	12323 Jul 02 17:32	19° $\mathbb{Z}$ 31'25	0°56'33
morning rise	12317 Jun 28 05:23	5° $\mathbb{O}$ 26'59		direct	12323 Aug 31 20:00	14° $\mathbb{Z}$ 31'43	
retrograde	12317 Nov 01 16:03	24° $\mathbb{O}$ 12'51			12323 Dec 23 21:14	0° $\mathbb{A}$	
opposition	12317 Dec 31 21:17	19° $\mathbb{O}$ 18'10	-0°57'11	evening set	12324 Jan 04 17:31	2° $\mathbb{A}$ 34'10	
min. Earth dist.	12318 Jan 02 07:16	19° $\mathbb{O}$ 07'05	4.11087 AU				
direct	12318 Mar 02 07:45	14° $\mathbb{O}$ 20'15		conjunction	12324 Jan 18 03:06	5° $\mathbb{A}$ 30'52	0°38'31

minimum elong	12324 Jan 18 03:06	5° $\approx$ 30'52	0°39'18	retrograde	12329 Nov 06 17:21	29° $\approx$ 11'25	
max. Earth dist.	12324 Jan 19 17:19	5° $\approx$ 51'53	6.34259 AU	opposition	12330 Jan 05 22:17	24° $\approx$ 16'30	-0°57'49
morning rise	12324 Jan 31 11:47	8° $\approx$ 26'51		min. Earth dist.	12330 Jan 07 04:59	24° $\approx$ 06'28	4.09117 AU
	12324 Mar 02 15:07	15° $\approx$		direct	12330 Mar 07 03:36	19° $\approx$ 18'54	
retrograde	12324 Jun 02 10:53	25° $\approx$ 52'10			12330 Jun 03 06:55	0° $\approx$	
min. Earth dist.	12324 Aug 01 10:14	20° $\approx$ 58'15	4.41192 AU	evening set	12330 Jul 11 12:10	8° $\approx$ 39'18	
opposition	12324 Aug 02 02:54	20° $\approx$ 52'47	0°52'35	max. Earth dist.	12330 Jul 23 03:50	11° $\approx$ 26'30	6.01346 AU
direct	12324 Oct 02 09:41	15° $\approx$ 52'05					
	12325 Jan 20 07:21	0° $\approx$		conjunction	12330 Jul 24 12:09	11° $\approx$ 45'53	-0°37'35
evening set	12325 Feb 04 17:35	3° $\approx$ 14'55		minimum elong	12330 Jul 24 12:10	11° $\approx$ 45'54	0°38'18
				morning rise	12330 Aug 06 13:20	14° $\approx$ 53'22	
conjunction	12325 Feb 17 22:42	6° $\approx$ 04'58	0°30'57		12330 Aug 07 00:28	15° $\approx$	
minimum elong	12325 Feb 17 22:43	6° $\approx$ 04'59	0°31'23		12330 Oct 17 15:07	0° $\approx$	
max. Earth dist.	12325 Feb 18 07:56	6° $\approx$ 09'55	6.46532 AU	retrograde	12330 Dec 14 13:38	5° $\approx$ 01'18	
morning rise	12325 Mar 03 02:14	8° $\approx$ 54'08		opposition	12331 Feb 12 04:43	0° $\approx$ 04'00	-0°49'45
retrograde	12325 Jul 02 05:54	25° $\approx$ 39'07			12331 Feb 12 16:46	30° $\approx$	
opposition	12325 Sep 01 04:58	20° $\approx$ 42'43	0°34'45	min. Earth dist.	12331 Feb 12 15:10	0° $\approx$ 00'32	3.95073 AU
min. Earth dist.	12325 Sep 01 08:45	20° $\approx$ 41'29	4.49835 AU	direct	12331 Apr 12 03:15	25° $\approx$ 08'17	
direct	12325 Nov 02 10:28	15° $\approx$ 41'39			12331 Jun 06 21:41	0° $\approx$	
	12326 Feb 22 01:55	0° $\approx$		evening set	12331 Aug 17 02:37	15° $\approx$ 11'05	
evening set	12326 Mar 07 07:29	2° $\approx$ 46'17					
				conjunction	12331 Aug 30 08:48	18° $\approx$ 25'21	-0°24'51
conjunction	12326 Mar 20 08:21	5° $\approx$ 33'00	0°15'20	minimum elong	12331 Aug 30 08:49	18° $\approx$ 25'22	0°25'07
minimum elong	12326 Mar 20 08:21	5° $\approx$ 33'00	0°15'21	max. Earth dist.	12331 Aug 30 12:27	18° $\approx$ 27'35	5.91151 AU
behind sun begin	12326 Mar 20 06:03	5° $\approx$ 31'47		morning rise	12331 Sep 12 16:46	21° $\approx$ 40'46	
behind sun end	12326 Mar 20 10:39	5° $\approx$ 34'13			12331 Oct 18 07:25	0° $\approx$	
max. Earth dist.	12326 Mar 19 12:09	5° $\approx$ 22'13	6.50964 AU	retrograde	12332 Jan 22 12:11	12° $\approx$ 30'49	
morning rise	12326 Apr 02 07:28	8° $\approx$ 18'52		opposition	12332 Mar 21 19:08	7° $\approx$ 30'25	-0°21'00
retrograde	12326 Jul 31 22:08	24° $\approx$ 53'36		min. Earth dist.	12332 Mar 21 04:34	7° $\approx$ 35'19	3.89969 AU
opposition	12326 Oct 01 00:53	19° $\approx$ 59'15	0°08'24	direct	12332 May 18 21:09	2° $\approx$ 35'26	
min. Earth dist.	12326 Oct 01 23:01	19° $\approx$ 52'10	4.49900 AU	evening set	12332 Sep 23 04:12	22° $\approx$ 46'50	
direct	12326 Dec 02 14:49	14° $\approx$ 58'12					
desc. node	12327 Jan 22 04:16	18° $\approx$ 31'01		conjunction	12332 Oct 06 15:57	26° $\approx$ 03'36	-0°01'50
	12327 Mar 27 08:41	0° $\approx$		minimum elong	12332 Oct 06 15:57	26° $\approx$ 03'36	0°01'31
evening set	12327 Apr 06 10:15	2° $\approx$ 08'25		behind sun begin	12332 Oct 06 07:35	25° $\approx$ 58'32	
max. Earth dist.	12327 Apr 17 13:49	4° $\approx$ 32'39	6.46633 AU	behind sun end	12332 Oct 07 00:20	26° $\approx$ 08'40	
				max. Earth dist.	12332 Oct 08 06:39	26° $\approx$ 27'09	5.91645 AU
conjunction	12327 Apr 19 07:57	4° $\approx$ 55'27	-0°04'20	morning rise	12332 Oct 20 05:53	29° $\approx$ 21'21	
minimum elong	12327 Apr 19 07:56	4° $\approx$ 55'26	0°04'46		12332 Oct 22 22:02	0° $\approx$	
behind sun begin	12327 Apr 19 00:08	4° $\approx$ 51'14		asc. node	12332 Nov 05 11:15	3° $\approx$ 13'07	
behind sun end	12327 Apr 19 15:44	4° $\approx$ 59'38			12333 Jan 02 07:22	15° $\approx$	
morning rise	12327 May 02 03:44	7° $\approx$ 41'47		retrograde	12333 Feb 28 10:54	19° $\approx$ 58'12	
	12327 Jun 06 14:42	15° $\approx$		min. Earth dist.	12333 Apr 27 09:48	15° $\approx$ 06'42	3.96062 AU
retrograde	12327 Aug 31 14:46	24° $\approx$ 36'53		opposition	12333 Apr 28 19:55	14° $\approx$ 55'07	0°16'22
opposition	12327 Oct 31 15:55	19° $\approx$ 43'31	-0°20'39		12333 Apr 28 05:31	15° $\approx$	
min. Earth dist.	12327 Nov 02 03:15	19° $\approx$ 32'13	4.41441 AU	direct	12333 Jun 25 22:58	9° $\approx$ 58'57	
	12327 Dec 19 08:30	15° $\approx$			12333 Aug 21 19:32	15° $\approx$	
direct	12328 Jan 01 23:57	14° $\approx$ 42'59		evening set	12333 Oct 31 01:55	29° $\approx$ 40'28	
	12328 Jan 15 17:37	15° $\approx$			12333 Nov 01 11:07	0° $\approx$	
	12328 Apr 25 06:32	0° $\approx$					
evening set	12328 May 06 02:03	2° $\approx$ 21'43		conjunction	12333 Nov 13 16:05	2° $\approx$ 53'04	0°21'35
max. Earth dist.	12328 May 16 14:18	4° $\approx$ 41'39	6.34574 AU	minimum elong	12333 Nov 13 16:04	2° $\approx$ 53'03	0°22'20
				max. Earth dist.	12333 Nov 16 01:57	3° $\approx$ 27'17	6.02629 AU
conjunction	12328 May 18 21:46	5° $\approx$ 12'33	-0°23'13	morning rise	12333 Nov 27 07:32	6° $\approx$ 06'00	
minimum elong	12328 May 18 21:46	5° $\approx$ 12'32	0°23'58	retrograde	12334 Apr 05 00:25	25° $\approx$ 42'49	
morning rise	12328 May 31 16:32	8° $\approx$ 03'08		min. Earth dist.	12334 Jun 02 03:45	20° $\approx$ 52'00	4.10641 AU
retrograde	12328 Oct 02 09:38	25° $\approx$ 47'35		opposition	12334 Jun 03 17:39	20° $\approx$ 39'11	0°45'29
opposition	12328 Dec 02 01:51	20° $\approx$ 53'58	-0°45'32	direct	12334 Aug 01 17:59	15° $\approx$ 41'00	
min. Earth dist.	12328 Dec 03 17:48	20° $\approx$ 41'05	4.26478 AU		12334 Nov 16 00:25	0° $\approx$	
direct	12329 Feb 01 14:54	15° $\approx$ 54'30		evening set	12334 Dec 06 06:50	4° $\approx$ 30'26	
	12329 May 18 21:38	0° $\approx$					
evening set	12329 Jun 07 04:50	4° $\approx$ 20'16		conjunction	12334 Dec 19 19:40	7° $\approx$ 34'47	0°36'01
max. Earth dist.	12329 Jun 17 20:55	6° $\approx$ 47'48	6.17815 AU	minimum elong	12334 Dec 19 19:39	7° $\approx$ 34'47	0°36'55
				max. Earth dist.	12334 Dec 22 03:13	8° $\approx$ 06'22	6.19394 AU
conjunction	12329 Jun 20 01:18	7° $\approx$ 18'05	-0°36'07	morning rise	12335 Jan 02 08:27	10° $\approx$ 38'48	
minimum elong	12329 Jun 20 01:17	7° $\approx$ 18'05	0°37'01	retrograde	12335 May 07 19:31	29° $\approx$ 00'49	
morning rise	12329 Jul 02 21:33	10° $\approx$ 16'11		min. Earth dist.	12335 Jul 05 18:43	24° $\approx$ 09'11	4.27967 AU

opposition	12335 Jul 07 01:21	23° $\text{♁}$ 58'59	0°57'01	direct	12341 Feb 06 02:32	20° $\text{♁}$ 31'28	
direct	12335 Sep 05 06:25	18° $\text{♁}$ 59'10			12341 May 01 01:20	0° $\text{♁}$	
	12335 Dec 07 03:51	0° $\text{♁}$		evening set	12341 Jun 11 19:08	9° $\text{♁}$ 03'58	
evening set	12336 Jan 09 03:56	6° $\text{♁}$ 56'37		max. Earth dist.	12341 Jun 22 12:35	11° $\text{♁}$ 33'05	6.15594 AU
conjunction	12336 Jan 22 12:55	9° $\text{♁}$ 52'26	0°38'06	conjunction	12341 Jun 24 15:42	12° $\text{♁}$ 02'48	-0°37'05
minimum elong	12336 Jan 22 12:56	9° $\text{♁}$ 52'26	0°38'51	minimum elong	12341 Jun 24 15:42	12° $\text{♁}$ 02'48	0°37'58
max. Earth dist.	12336 Jan 23 22:15	10° $\text{♁}$ 10'43	6.35882 AU	morning rise	12341 Jul 07 12:30	15° $\text{♁}$ 02'03	
morning rise	12336 Feb 04 21:04	12° $\text{♁}$ 47'32			12341 Sep 20 05:06	0° $\text{♁}$	
	12336 Feb 15 02:41	15° $\text{♁}$		retrograde	12341 Nov 11 19:15	4° $\text{♁}$ 07'05	
	12336 May 28 20:40	0° $\text{♁}$			12342 Jan 04 18:12	30° $\text{♁}$	
retrograde	12336 Jun 06 14:53	0° $\text{♁}$ 07'19		opposition	12342 Jan 10 21:56	29° $\text{♁}$ 11'53	-0°57'59
	12336 Jun 15 08:14	30° $\text{♁}$		min. Earth dist.	12342 Jan 12 02:55	29° $\text{♁}$ 02'24	4.07013 AU
opposition	12336 Aug 06 06:38	25° $\text{♁}$ 08'25	0°50'53	direct	12342 Mar 12 00:06	24° $\text{♁}$ 14'31	
min. Earth dist.	12336 Aug 05 17:27	25° $\text{♁}$ 12'44	4.42380 AU		12342 May 13 02:39	0° $\text{♁}$	
direct	12336 Oct 06 17:43	20° $\text{♁}$ 07'40		evening set	12342 Jul 16 09:25	13° $\text{♁}$ 41'27	
	12337 Jan 03 08:03	0° $\text{♁}$			12342 Jul 21 20:37	15° $\text{♁}$	
evening set	12337 Feb 08 23:30	7° $\text{♁}$ 28'09		max. Earth dist.	12342 Jul 28 06:45	16° $\text{♁}$ 32'40	5.99562 AU
conjunction	12337 Feb 22 04:10	10° $\text{♁}$ 17'46	0°29'12	conjunction	12342 Jul 29 10:16	16° $\text{♁}$ 49'14	-0°36'38
minimum elong	12337 Feb 22 04:10	10° $\text{♁}$ 17'47	0°29'35	minimum elong	12342 Jul 29 10:17	16° $\text{♁}$ 49'14	0°37'19
max. Earth dist.	12337 Feb 22 09:54	10° $\text{♁}$ 20'51	6.47214 AU	morning rise	12342 Aug 11 12:11	19° $\text{♁}$ 57'54	
morning rise	12337 Mar 07 07:06	13° $\text{♁}$ 06'28			12342 Sep 24 20:09	0° $\text{♁}$	
retrograde	12337 Jul 06 06:55	29° $\text{♁}$ 49'35		retrograde	12342 Dec 19 21:18	10° $\text{♁}$ 13'46	
opposition	12337 Sep 05 07:23	24° $\text{♁}$ 53'31	0°31'31	opposition	12343 Feb 17 10:28	5° $\text{♁}$ 16'07	-0°46'50
min. Earth dist.	12337 Sep 05 12:48	24° $\text{♁}$ 51'46	4.50007 AU	min. Earth dist.	12343 Feb 17 18:02	5° $\text{♁}$ 13'36	3.93812 AU
direct	12337 Nov 06 13:32	19° $\text{♁}$ 52'28		direct	12343 Apr 17 04:44	0° $\text{♁}$ 20'37	
	12338 Feb 05 06:08	0° $\text{♁}$		evening set	12343 Aug 22 06:14	20° $\text{♁}$ 26'49	
evening set	12338 Mar 11 11:43	6° $\text{♁}$ 57'34					
conjunction	12338 Mar 24 12:11	9° $\text{♁}$ 44'15	0°12'47	conjunction	12343 Sep 04 13:06	23° $\text{♁}$ 41'46	-0°22'05
minimum elong	12338 Mar 24 12:11	9° $\text{♁}$ 44'15	0°12'43	minimum elong	12343 Sep 04 13:07	23° $\text{♁}$ 41'46	0°22'17
behind sun begin	12338 Mar 24 07:10	9° $\text{♁}$ 41'34		max. Earth dist.	12343 Sep 04 20:12	23° $\text{♁}$ 46'06	5.90527 AU
behind sun end	12338 Mar 24 17:13	9° $\text{♁}$ 46'55		morning rise	12343 Sep 17 22:11	26° $\text{♁}$ 57'56	
max. Earth dist.	12338 Mar 23 13:54	9° $\text{♁}$ 32'20	6.50626 AU		12343 Sep 30 12:27	0° $\text{♁}$	
morning rise	12338 Apr 06 10:41	12° $\text{♁}$ 30'03		retrograde	12344 Jan 27 18:20	17° $\text{♁}$ 49'49	
retrograde	12338 Aug 05 02:29	29° $\text{♁}$ 06'27		min. Earth dist.	12344 Mar 26 07:19	12° $\text{♁}$ 55'12	3.90075 AU
opposition	12338 Oct 05 05:16	24° $\text{♁}$ 12'20	0°04'24	opposition	12344 Mar 27 01:45	12° $\text{♁}$ 48'59	-0°15'57
min. Earth dist.	12338 Oct 06 05:23	24° $\text{♁}$ 04'37	4.49074 AU	direct	12344 May 24 02:19	7° $\text{♁}$ 53'55	
desc. node	12338 Dec 02 03:47	19° $\text{♁}$ 13'21		asc. node	12344 Sep 14 00:58	24° $\text{♁}$ 37'39	
direct	12338 Dec 06 19:33	19° $\text{♁}$ 11'24		evening set	12344 Sep 28 10:02	28° $\text{♁}$ 03'47	
	12339 Mar 10 16:37	0° $\text{♁}$			12344 Oct 06 09:58	0° $\text{♁}$	
evening set	12339 Apr 10 15:19	6° $\text{♁}$ 24'31		conjunction	12344 Oct 11 22:23	1° $\text{♁}$ 20'25	0°01'43
max. Earth dist.	12339 Apr 21 15:10	8° $\text{♁}$ 47'15	6.45353 AU	minimum elong	12344 Oct 11 22:24	1° $\text{♁}$ 20'26	0°02'06
conjunction	12339 Apr 23 12:30	9° $\text{♁}$ 11'52	-0°07'06	behind sun begin	12344 Oct 11 14:02	1° $\text{♁}$ 15'22	
minimum elong	12339 Apr 23 12:30	9° $\text{♁}$ 11'51	0°07'36	behind sun end	12344 Oct 12 06:46	1° $\text{♁}$ 25'29	
behind sun begin	12339 Apr 23 05:15	9° $\text{♁}$ 07'57		max. Earth dist.	12344 Oct 13 16:48	1° $\text{♁}$ 46'10	5.92471 AU
behind sun end	12339 Apr 23 19:45	9° $\text{♁}$ 15'46		morning rise	12344 Oct 25 12:45	4° $\text{♁}$ 37'57	
morning rise	12339 May 06 08:12	11° $\text{♁}$ 58'37			12344 Dec 10 05:25	15° $\text{♁}$	
	12339 May 20 12:13	15° $\text{♁}$		retrograde	12345 Mar 05 12:42	25° $\text{♁}$ 09'26	
retrograde	12339 Sep 05 01:21	28° $\text{♁}$ 58'52		min. Earth dist.	12345 May 02 11:18	20° $\text{♁}$ 17'51	3.97494 AU
opposition	12339 Nov 05 01:06	24° $\text{♁}$ 05'28	-0°24'32	opposition	12345 May 03 21:51	20° $\text{♁}$ 06'07	0°21'12
min. Earth dist.	12339 Nov 06 13:34	23° $\text{♁}$ 53'47	4.39759 AU	direct	12345 Jul 01 03:23	15° $\text{♁}$ 09'41	
direct	12340 Jan 06 07:56	19° $\text{♁}$ 05'00			12345 Oct 15 12:32	0° $\text{♁}$	
	12340 Apr 08 09:55	0° $\text{♁}$		evening set	12345 Nov 05 04:32	4° $\text{♁}$ 45'35	
evening set	12340 May 10 10:18	6° $\text{♁}$ 48'54		conjunction	12345 Nov 18 18:51	7° $\text{♁}$ 57'21	0°24'15
max. Earth dist.	12340 May 20 23:11	9° $\text{♁}$ 09'46	6.32589 AU	minimum elong	12345 Nov 18 18:50	7° $\text{♁}$ 57'20	0°25'03
conjunction	12340 May 23 06:04	9° $\text{♁}$ 40'29	-0°25'29	max. Earth dist.	12345 Nov 21 06:56	8° $\text{♁}$ 32'41	6.04523 AU
minimum elong	12340 May 23 06:03	9° $\text{♁}$ 40'28	0°26'17	morning rise	12345 Dec 02 10:09	11° $\text{♁}$ 09'19	
morning rise	12340 Jun 05 00:41	12° $\text{♁}$ 31'50			12346 Mar 21 08:12	0° $\text{♁}$	
	12340 Sep 20 22:47	0° $\text{♁}$		retrograde	12346 Apr 09 16:57	0° $\text{♁}$ 36'44	
retrograde	12340 Oct 07 01:31	0° $\text{♁}$ 24'25			12346 Apr 28 22:57	30° $\text{♁}$	
	12340 Oct 23 04:46	30° $\text{♁}$		min. Earth dist.	12346 Jun 06 21:34	25° $\text{♁}$ 46'11	4.12809 AU
opposition	12340 Dec 06 17:39	25° $\text{♁}$ 30'40	-0°48'09	opposition	12346 Jun 08 11:53	25° $\text{♁}$ 33'16	0°48'13
min. Earth dist.	12340 Dec 08 08:40	25° $\text{♁}$ 18'05	4.24302 AU	direct	12346 Aug 06 15:00	20° $\text{♁}$ 34'52	
					12346 Oct 28 14:15	0° $\text{♁}$	

evening set	12346 Dec 11 02:55	9° $\text{S}$ 17'20			12351 Oct 27 02:32	30° $\text{R}$ $\text{S}$	
				opposition	12351 Nov 09 07:40	28° $\text{S}$ 20'39	-0°28'07
conjunction	12346 Dec 24 15:12	12° $\text{S}$ 20'31	0°37'03	min. Earth dist.	12351 Nov 10 21:43	28° $\text{S}$ 08'29	4.38287 AU
minimum elong	12346 Dec 24 15:11	12° $\text{S}$ 20'30	0°37'56	direct	12352 Jan 10 13:09	23° $\text{S}$ 20'16	
max. Earth dist.	12346 Dec 26 19:39	12° $\text{S}$ 50'10	6.21654 AU		12352 Mar 20 16:27	0° $\text{II}$	
morning rise	12347 Jan 07 03:34	15° $\text{S}$ 23'19		evening set	12352 May 14 15:57	11° $\text{II}$ 08'47	
	12347 Mar 24 04:02	0° $\approx$		max. Earth dist.	12352 May 25 02:18	13° $\text{II}$ 28'54	6.30670 AU
retrograde	12347 May 12 05:26	3° $\approx$ 36'07					
	12347 Jun 30 15:47	30° $\text{R}$ $\text{S}$		conjunction	12352 May 27 11:30	14° $\text{II}$ 01'02	-0°27'30
min. Earth dist.	12347 Jul 10 08:01	28° $\text{S}$ 44'01	4.30147 AU	minimum elong	12352 May 27 11:29	14° $\text{II}$ 01'02	0°28'21
opposition	12347 Jul 11 12:19	28° $\text{S}$ 34'37	0°57'08	morning rise	12352 Jun 09 06:21	16° $\text{II}$ 53'12	
direct	12347 Sep 09 22:37	23° $\text{S}$ 34'37			12352 Aug 14 08:45	0° $\text{S}$	
	12347 Nov 17 03:58	0° $\approx$		retrograde	12352 Oct 11 16:32	4° $\text{S}$ 54'03	
evening set	12348 Jan 13 16:46	11° $\approx$ 25'56		opposition	12352 Dec 11 06:57	0° $\text{S}$ 00'08	-0°50'24
					12352 Dec 11 07:21	30° $\text{R}$ $\text{II}$	
conjunction	12348 Jan 27 01:18	14° $\approx$ 20'45	0°37'27	min. Earth dist.	12352 Dec 12 22:01	29° $\text{II}$ 47'30	4.22030 AU
minimum elong	12348 Jan 27 01:19	14° $\approx$ 20'45	0°38'09	direct	12353 Feb 10 12:48	25° $\text{II}$ 01'00	
max. Earth dist.	12348 Jan 28 09:07	14° $\approx$ 38'08	6.37855 AU		12353 Apr 10 02:36	0° $\text{S}$	
	12348 Jan 30 01:08	15° $\approx$		evening set	12353 Jun 16 06:38	13° $\text{S}$ 40'49	
morning rise	12348 Feb 09 08:35	17° $\approx$ 14'45		max. Earth dist.	12353 Jun 27 02:43	16° $\text{S}$ 12'12	6.13158 AU
	12348 Apr 16 02:50	0° $\text{H}$					
retrograde	12348 Jun 10 17:39	4° $\text{H}$ 27'30		conjunction	12353 Jun 29 03:47	16° $\text{S}$ 40'53	-0°37'47
	12348 Aug 06 12:50	30° $\text{R}$ $\approx$		minimum elong	12353 Jun 29 03:47	16° $\text{S}$ 40'52	0°38'39
opposition	12348 Aug 10 12:00	29° $\approx$ 28'58	0°48'52	morning rise	12353 Jul 12 00:58	19° $\text{S}$ 41'22	
min. Earth dist.	12348 Aug 10 00:01	29° $\approx$ 32'53	4.44034 AU		12353 Aug 28 07:01	0° $\text{S}$	
direct	12348 Oct 11 01:42	24° $\approx$ 28'11		retrograde	12353 Nov 16 19:56	8° $\text{S}$ 57'17	
	12348 Dec 13 23:33	0° $\text{H}$		opposition	12354 Jan 15 19:46	4° $\text{S}$ 01'52	-0°57'46
evening set	12349 Feb 13 06:34	11° $\text{H}$ 44'28		min. Earth dist.	12354 Jan 16 23:21	3° $\text{S}$ 52'49	4.04609 AU
					12354 Feb 20 20:20	30° $\text{R}$ $\text{S}$	
conjunction	12349 Feb 26 10:27	14° $\text{H}$ 33'19	0°27'17	direct	12354 Mar 16 16:46	29° $\text{S}$ 04'46	
minimum elong	12349 Feb 26 10:28	14° $\text{H}$ 33'19	0°27'38		12354 Apr 09 11:17	0° $\text{S}$	
max. Earth dist.	12349 Feb 26 11:59	14° $\text{H}$ 34'08	6.48450 AU		12354 Jul 05 18:23	15° $\text{S}$	
morning rise	12349 Mar 11 12:46	17° $\text{H}$ 21'17		evening set	12354 Jul 21 05:43	18° $\text{S}$ 39'41	
	12349 May 18 11:01	0° $\text{Y}$		max. Earth dist.	12354 Aug 02 05:45	21° $\text{S}$ 33'23	5.97409 AU
retrograde	12349 Jul 10 09:37	4° $\text{Y}$ 00'39					
	12349 Sep 02 06:01	30° $\text{R}$ $\text{H}$		conjunction	12354 Aug 03 07:14	21° $\text{S}$ 48'48	-0°35'27
opposition	12349 Sep 09 10:20	29° $\text{H}$ 04'52	0°28'08	minimum elong	12354 Aug 03 07:15	21° $\text{S}$ 48'48	0°36'04
min. Earth dist.	12349 Sep 09 19:00	29° $\text{H}$ 02'04	4.50749 AU	morning rise	12354 Aug 16 10:18	24° $\text{S}$ 58'57	
direct	12349 Nov 10 19:58	24° $\text{H}$ 03'47			12354 Sep 06 16:36	0° $\text{H}$	
	12350 Jan 16 18:22	0° $\text{Y}$		retrograde	12354 Dec 25 03:18	15° $\text{H}$ 24'26	
evening set	12350 Mar 15 14:59	11° $\text{Y}$ 07'11		opposition	12355 Feb 22 15:34	10° $\text{H}$ 26'24	-0°43'38
				min. Earth dist.	12355 Feb 22 19:18	10° $\text{H}$ 25'09	3.92140 AU
conjunction	12350 Mar 28 14:52	13° $\text{Y}$ 53'34	0°10'12	direct	12355 Apr 22 05:15	5° $\text{H}$ 31'03	
minimum elong	12350 Mar 28 14:52	13° $\text{Y}$ 53'34	0°10'04	evening set	12355 Aug 27 10:28	25° $\text{H}$ 42'35	
behind sun begin	12350 Mar 28 08:27	13° $\text{Y}$ 50'09					
behind sun end	12350 Mar 28 21:18	13° $\text{Y}$ 56'59		conjunction	12355 Sep 09 18:27	28° $\text{H}$ 58'32	-0°19'12
max. Earth dist.	12350 Mar 27 12:48	13° $\text{Y}$ 39'38	6.50812 AU	minimum elong	12355 Sep 09 18:28	28° $\text{H}$ 58'33	0°19'19
morning rise	12350 Apr 10 12:53	16° $\text{Y}$ 39'06		max. Earth dist.	12355 Sep 10 07:34	29° $\text{H}$ 06'34	5.89534 AU
	12350 Jun 22 18:09	0° $\text{S}$			12355 Sep 13 22:37	0° $\text{S}$	
retrograde	12350 Aug 09 04:35	3° $\text{S}$ 15'37		morning rise	12355 Sep 23 04:26	2° $\text{S}$ 15'39	
	12350 Sep 26 06:12	30° $\text{R}$ $\text{Y}$		retrograde	12356 Feb 02 04:05	23° $\text{S}$ 10'51	
opposition	12350 Oct 09 08:25	28° $\text{Y}$ 21'34	0°00'29	opposition	12356 Apr 01 09:30	18° $\text{S}$ 09'37	-0°10'50
min. Earth dist.	12350 Oct 10 10:05	28° $\text{Y}$ 13'21	4.48689 AU	min. Earth dist.	12356 Mar 31 12:52	18° $\text{S}$ 16'36	3.89874 AU
desc. node	12350 Oct 15 12:39	27° $\text{Y}$ 34'20		direct	12356 May 29 09:34	13° $\text{S}$ 14'29	
direct	12350 Dec 10 22:35	23° $\text{Y}$ 20'36		asc. node	12356 Jul 24 02:44	18° $\text{S}$ 09'33	
	12351 Feb 20 01:29	0° $\text{S}$			12356 Sep 19 11:35	0° $\text{H}$	
evening set	12351 Apr 14 18:03	10° $\text{S}$ 35'08		evening set	12356 Oct 03 17:43	3° $\text{H}$ 24'05	
max. Earth dist.	12351 Apr 25 16:40	12° $\text{S}$ 57'28	6.44409 AU				
				conjunction	12356 Oct 17 06:48	6° $\text{H}$ 40'45	0°05'09
conjunction	12351 Apr 27 14:57	13° $\text{S}$ 22'40	-0°09'44	minimum elong	12356 Oct 17 06:47	6° $\text{H}$ 40'44	0°05'36
minimum elong	12351 Apr 27 14:57	13° $\text{S}$ 22'40	0°10'16	behind sun begin	12356 Oct 16 22:45	6° $\text{H}$ 35'53	
behind sun begin	12351 Apr 27 08:36	13° $\text{S}$ 19'14		behind sun end	12356 Oct 17 14:50	6° $\text{H}$ 45'35	
behind sun end	12351 Apr 27 21:17	13° $\text{S}$ 26'06		max. Earth dist.	12356 Oct 19 06:14	7° $\text{H}$ 09'29	5.93080 AU
	12351 May 05 01:47	15° $\text{S}$		morning rise	12356 Oct 30 21:41	9° $\text{H}$ 58'12	
morning rise	12351 May 10 10:09	16° $\text{S}$ 09'37			12356 Nov 21 06:20	15° $\text{H}$	
	12351 Jul 24 05:46	0° $\text{II}$			12357 Feb 22 21:15	0° $\text{S}$	
retrograde	12351 Sep 09 07:44	3° $\text{II}$ 14'02		retrograde	12357 Mar 10 15:47	0° $\text{S}$ 24'48	

	12357 Mar 26 08:20	30° 		retrograde	12362 Aug 13 10:45	7° 	31'07"
min. Earth dist.	12357 May 07 12:34	25°  33'54"	3.98844 AU	desc. node	12362 Aug 27 06:02	7° 	13'23"
opposition	12357 May 09 01:38	25°  21'19"	0°25'50"	opposition	12362 Oct 13 13:55	2° 	37'16" -0°03'39"
direct	12357 Jul 06 07:39	20°  12'44"		min. Earth dist.	12362 Oct 14 18:48	2° 	28'03" 4.47811 AU
	12357 Sep 26 11:20	0° 			12362 Nov 04 04:13	30° 	
evening set	12357 Nov 10 09:32	9°  55'12"		direct	12362 Dec 15 04:53	27° 	36'19"
					12363 Jan 25 03:40	0° 	
conjunction	12357 Nov 23 23:41	13°  06'01"	0°26'43"	evening set	12363 Apr 18 23:39	14° 	54'01"
minimum elong	12357 Nov 23 23:40	13°  06'01"	0°27'33"		12363 Apr 19 10:43	15° 	
max. Earth dist.	12357 Nov 26 11:38	13°  41'08"	6.06454 AU	max. Earth dist.	12363 Apr 29 18:11	17° 	14'40" 6.42922 AU
morning rise	12357 Dec 07 14:57	16°  17'00"					
	12358 Feb 11 22:40	0° 		conjunction	12363 May 01 20:12	17° 	41'59" -0°12'27"
retrograde	12358 Apr 14 11:03	5°  34'45"		minimum elong	12363 May 01 20:12	17° 	41'58" 0°13'03"
min. Earth dist.	12358 Jun 11 17:54	0°  34'07"	4.15097 AU	behind sun begin	12363 May 01 15:22	17° 	39'21"
opposition	12358 Jun 13 07:48	0°  31'21"	0°50'33"	behind sun end	12363 May 02 01:02	17° 	44'36"
	12358 Jun 17 05:01	30° 		morning rise	12363 May 14 15:19	20° 	29'26"
direct	12358 Aug 11 15:30	25°  32'38"			12363 Jun 30 11:37	0° 	
	12358 Oct 05 07:56	0° 		retrograde	12363 Sep 13 19:11	7° 	40'04"
evening set	12358 Dec 16 00:33	14°  30'7'38"		opposition	12363 Nov 13 18:27	2° 	46'37" -0°31'47"
				min. Earth dist.	12363 Nov 15 09:03	2° 	34'14" 4.36274 AU
conjunction	12358 Dec 29 12:32	17°  30'9'34"	0°37'48"		12363 Dec 06 18:05	30° 	
minimum elong	12358 Dec 29 12:32	17°  30'9'34"	0°38'41"	direct	12364 Jan 14 21:00	27° 	46'17"
max. Earth dist.	12358 Dec 31 16:44	17°  38'56"	6.24097 AU		12364 Feb 22 19:47	0° 	
morning rise	12359 Jan 12 00:06	20°  31'1'01"		evening set	12364 May 19 01:57	15° 	41'14"
	12359 Feb 28 02:59	0° 		max. Earth dist.	12364 May 29 13:23	18° 	02'40" 6.28277 AU
retrograde	12359 May 16 15:36	8°  13'49"					
min. Earth dist.	12359 Jul 14 21:02	3°  21'39"	4.32508 AU	conjunction	12364 May 31 21:40	18° 	34'27" -0°29'30"
opposition	12359 Jul 16 00:07	3°  12'41"	0°56'51"	minimum elong	12364 May 31 21:39	18° 	34'27" 0°30'22"
	12359 Aug 11 11:10	30° 		morning rise	12364 Jun 13 16:31	21° 	27'37"
direct	12359 Sep 14 14:22	28°  31'2'32"			12364 Jul 23 15:08	0° 	
	12359 Oct 19 01:51	0° 		retrograde	12364 Oct 16 13:54	9° 	38'28"
evening set	12360 Jan 13 20:15	15° 		opposition	12364 Dec 16 01:59	4° 	44'25" -0°52'30"
	12360 Jan 18 06:24	15° 		min. Earth dist.	12364 Dec 17 16:58	4° 	31'48" 4.19420 AU
conjunction	12360 Jan 31 14:06	18°  50'53"	0°36'32"		12365 Feb 02 19:20	30° 	
minimum elong	12360 Jan 31 14:07	18°  50'54"	0°37'11"	direct	12365 Feb 15 03:38	29° 	45'31"
max. Earth dist.	12360 Feb 01 16:54	19°  05'28"	6.39921 AU		12365 Feb 27 11:21	0° 	
morning rise	12360 Feb 13 20:48	21°  04'3'47"		evening set	12365 Jun 21 00:28	18° 	33'45"
	12360 Mar 25 07:55	0° 		max. Earth dist.	12365 Jul 01 21:34	21° 	06'41" 6.10541 AU
retrograde	12360 Jun 14 23:20	8°  49'31"		conjunction	12365 Jul 03 21:57	21° 	35'07" -0°38'16"
opposition	12360 Aug 14 18:17	3°  51'22"	0°46'30"	minimum elong	12365 Jul 03 21:57	21° 	35'07" 0°39'09"
min. Earth dist.	12360 Aug 14 09:38	3°  54'11"	4.45656 AU	morning rise	12365 Jul 16 19:58	24° 	37'04"
	12360 Sep 17 18:52	30° 			12365 Aug 09 08:26	0° 	
direct	12360 Oct 15 12:05	28°  00'50'27"		retrograde	12365 Nov 22 01:22	14° 	04'26"
	12360 Nov 12 11:34	0° 		opposition	12366 Jan 20 23:58	9° 	08'39" -0°57'07"
evening set	12361 Feb 17 13:57	16°  02'51"		min. Earth dist.	12366 Jan 22 00:15	9° 	00'40" 4.02222 AU
				direct	12366 Mar 21 15:37	4° 	11'47"
conjunction	12361 Mar 02 17:20	18°  05'1'04"	0°25'10"		12366 Jun 17 12:37	15° 	
minimum elong	12361 Mar 02 17:21	18°  05'1'05"	0°25'26"	evening set	12366 Jul 26 08:18	23° 	54'25"
max. Earth dist.	12361 Mar 02 15:51	18°  05'1'17"	6.49504 AU				
morning rise	12361 Mar 15 18:49	21°  04'38'21"		conjunction	12366 Aug 08 10:51	27° 	04'51" -0°33'55"
	12361 Apr 26 12:11	0° 		minimum elong	12366 Aug 08 10:52	27° 	04'52" 0°34'28"
retrograde	12361 Jul 14 11:30	8°  00'14'52"		max. Earth dist.	12366 Aug 07 15:28	26° 	05'30'5" 5.95505 AU
opposition	12361 Sep 13 14:10	3°  00'19'24"	0°24'29"		12366 Aug 20 11:43	0° 	
min. Earth dist.	12361 Sep 14 00:39	3°  00'16'01"	4.51182 AU	morning rise	12366 Aug 21 14:47	0° 	16'20"
	12361 Oct 11 23:01	30° 		retrograde	12366 Dec 30 17:03	20° 	49'59"
direct	12361 Nov 15 00:24	28°  00'18'19"		opposition	12367 Feb 28 02:31	15° 	51'31" -0°39'51"
	12361 Dec 19 08:46	0° 		min. Earth dist.	12367 Feb 28 03:25	15° 	51'13" 3.90950 AU
evening set	12362 Mar 19 19:49	15°  00'21'19"		direct	12367 Apr 27 13:54	10° 	56'19"
					12367 Aug 27 23:15	0° 	
conjunction	12362 Apr 01 19:06	18°  00'07'32"	0°07'28"	evening set	12367 Sep 01 19:42	1° 	10'47"
minimum elong	12362 Apr 01 19:07	18°  00'07'33"	0°07'16"				
behind sun begin	12362 Apr 01 11:47	18°  00'03'38"		conjunction	12367 Sep 15 04:35	4° 	27'21" -0°16'00"
behind sun end	12362 Apr 02 02:27	18°  00'11'27"		minimum elong	12367 Sep 15 04:35	4° 	27'21" 0°16'01"
max. Earth dist.	12362 Mar 31 13:28	17°  00'51'40"	6.50587 AU	behind sun begin	12367 Sep 15 04:04	4° 	27'01"
morning rise	12362 Apr 14 16:37	20°  00'52'59"		behind sun end	12367 Sep 15 05:07	4° 	27'40"
	12362 May 30 11:45	0° 		max. Earth dist.	12367 Sep 15 23:35	4° 	39'00" 5.89194 AU



morning rise	12367 Sep 28 15:33	7°♌45'03		direct	12373 Nov 19 05:01	2°♑28'00	
retrograde	12368 Feb 07 14:20	28°♌40'00		evening set	12374 Mar 23 23:15	19°♑31'56	
opposition	12368 Apr 06 20:03	23°♌38'20	-0°05'25				
min. Earth dist.	12368 Apr 05 19:21	23°♌46'42	3.90472 AU	conjunction	12374 Apr 05 22:14	22°♑18'16	0°04'44
asc. node	12368 Jun 01 18:29	18°♌43'31		minimum elong	12374 Apr 05 22:15	22°♑18'17	0°04'29
direct	12368 Jun 03 18:25	18°♌43'06		behind sun begin	12374 Apr 05 14:24	22°♑14'06	
	12368 Aug 31 20:43	0°♌		behind sun end	12374 Apr 06 06:06	22°♑22'28	
evening set	12368 Oct 09 03:46	8°♌49'01		max. Earth dist.	12374 Apr 04 13:18	22°♑00'36	6.49892 AU
				morning rise	12374 Apr 18 19:18	25°♑03'50	
conjunction	12368 Oct 22 17:05	12°♌05'07	0°08'36		12374 May 12 12:24	0°♌	
minimum elong	12368 Oct 22 17:05	12°♌05'07	0°09'08	desc. node	12374 Jul 08 22:39	9°♌25'23	
behind sun begin	12368 Oct 22 10:00	12°♌00'52		retrograde	12374 Aug 17 15:53	11°♌45'17	
behind sun end	12368 Oct 23 00:09	12°♌09'22		opposition	12374 Oct 17 19:22	6°♌51'36	-0°07'43
max. Earth dist.	12368 Oct 24 19:03	12°♌35'16	5.94537 AU	min. Earth dist.	12374 Oct 19 01:27	6°♌41'59	4.46450 AU
	12368 Nov 03 19:39	15°♌		direct	12374 Dec 19 08:05	1°♌50'44	
morning rise	12368 Nov 05 08:24	15°♌21'59			12375 Apr 03 09:49	15°♌	
	12369 Jan 13 05:20	0°♌		evening set	12375 Apr 23 05:34	19°♌13'13	
retrograde	12369 Mar 15 17:07	5°♌39'58		max. Earth dist.	12375 May 03 22:34	21°♌33'39	6.40985 AU
min. Earth dist.	12369 May 12 14:47	0°♌49'15	4.00978 AU				
opposition	12369 May 14 05:03	0°♌36'15	0°30'19	conjunction	12375 May 06 01:55	22°♌01'49	-0°15'07
	12369 May 18 16:09	30°♌		minimum elong	12375 May 06 01:54	22°♌01'49	0°15'46
direct	12369 Jul 11 14:45	25°♌39'16		behind sun begin	12375 May 06 00:13	22°♌00'53	
	12369 Sep 02 13:22	0°♌		behind sun end	12375 May 06 03:36	22°♌02'44	
evening set	12369 Nov 15 13:25	15°♌01'33		morning rise	12375 May 18 20:51	24°♌49'59	
					12375 Jun 12 02:59	0°♌	
conjunction	12369 Nov 29 03:33	18°♌11'07	0°29'00	retrograde	12375 Sep 18 09:49	12°♌08'26	
minimum elong	12369 Nov 29 03:32	18°♌11'06	0°29'51	opposition	12375 Nov 18 06:38	7°♌15'04	-0°35'19
max. Earth dist.	12369 Dec 01 16:53	18°♌46'49	6.09060 AU	min. Earth dist.	12375 Nov 19 22:52	7°♌02'10	4.33874 AU
morning rise	12369 Dec 12 18:15	21°♌20'39		direct	12376 Jan 19 06:45	2°♌14'56	
	12370 Jan 21 05:00	0°♌		evening set	12376 May 23 13:47	20°♌17'42	
retrograde	12370 Apr 19 03:31	10°♌26'26		max. Earth dist.	12376 Jun 03 00:10	22°♌39'27	6.25597 AU
min. Earth dist.	12370 Jun 16 12:32	5°♌35'39	4.17888 AU				
opposition	12370 Jun 18 01:28	5°♌23'15	0°52'31	conjunction	12376 Jun 05 09:35	23°♌12'04	-0°31'21
direct	12370 Aug 16 13:49	0°♌24'17		minimum elong	12376 Jun 05 09:34	23°♌12'04	0°32'13
evening set	12370 Dec 20 19:23	18°♌50'21		morning rise	12376 Jun 18 04:52	26°♌06'29	
					12376 Jul 05 15:57	0°♌	
conjunction	12371 Jan 03 06:39	21°♌50'52	0°38'18	retrograde	12376 Oct 21 13:14	14°♌28'31	
minimum elong	12371 Jan 03 06:39	21°♌50'52	0°39'10	opposition	12376 Dec 20 23:28	9°♌34'19	-0°54'17
max. Earth dist.	12371 Jan 05 07:15	22°♌18'02	6.26819 AU	min. Earth dist.	12376 Dec 22 12:10	9°♌22'24	4.16664 AU
morning rise	12371 Jan 16 17:40	24°♌50'52		direct	12377 Feb 19 19:20	4°♌35'44	
	12371 Feb 09 13:38	0°♌		evening set	12377 Jun 25 20:33	23°♌32'53	
retrograde	12371 May 20 22:19	12°♌43'21		max. Earth dist.	12377 Jul 06 22:58	26°♌09'48	6.07967 AU
min. Earth dist.	12371 Jul 19 08:24	7°♌50'44	4.34948 AU				
opposition	12371 Jul 20 09:08	7°♌42'33	0°56'14	conjunction	12377 Jul 08 18:42	26°♌35'40	-0°38'30
direct	12371 Sep 19 03:36	2°♌42'12		minimum elong	12377 Jul 08 18:42	26°♌35'40	0°39'21
	12371 Dec 28 06:46	15°♌		morning rise	12377 Jul 21 17:19	29°♌39'03	
evening set	12372 Jan 22 16:53	20°♌20'20			12377 Jul 23 04:59	0°♌	
					12377 Oct 04 22:53	15°♌	
conjunction	12372 Feb 05 00:05	23°♌12'59	0°35'26	retrograde	12377 Nov 27 11:16	19°♌17'42	
minimum elong	12372 Feb 05 00:06	23°♌12'59	0°36'03		12378 Jan 21 10:11	15°♌	
max. Earth dist.	12372 Feb 05 23:42	23°♌25'46	6.41911 AU	opposition	12378 Jan 26 06:52	14°♌21'39	-0°55'59
morning rise	12372 Feb 18 05:50	26°♌04'46		min. Earth dist.	12378 Jan 27 04:46	14°♌14'26	4.00078 AU
	12372 Mar 07 19:21	0°♌		direct	12378 Mar 26 18:16	9°♌25'10	
retrograde	12372 Jun 19 01:25	13°♌04'05			12378 May 26 06:39	15°♌	
opposition	12372 Aug 18 21:56	8°♌06'24	0°43'57	evening set	12378 Jul 31 12:58	29°♌14'16	
min. Earth dist.	12372 Aug 18 15:58	8°♌08'20	4.47068 AU		12378 Aug 03 16:31	0°♌	
direct	12372 Oct 19 18:29	3°♌05'28					
evening set	12373 Feb 21 19:15	20°♌14'50		conjunction	12378 Aug 13 16:20	2°♌25'50	-0°32'05
				minimum elong	12378 Aug 13 16:21	2°♌25'51	0°32'35
conjunction	12373 Mar 06 21:54	23°♌02'32	0°22'58	max. Earth dist.	12378 Aug 13 01:47	2°♌16'58	5.94010 AU
minimum elong	12373 Mar 06 21:55	23°♌02'32	0°23'10	morning rise	12378 Aug 26 21:21	5°♌38'30	
max. Earth dist.	12373 Mar 06 14:26	22°♌58'33	6.50237 AU	retrograde	12379 Jan 05 05:06	26°♌18'06	
morning rise	12373 Mar 19 22:55	25°♌49'21		opposition	12379 Mar 05 13:54	21°♌19'11	-0°35'41
	12373 Apr 09 00:53	0°♑		min. Earth dist.	12379 Mar 05 09:55	21°♌20'31	3.90302 AU
retrograde	12373 Jul 18 14:55	12°♑24'15		direct	12379 May 02 21:31	16°♌24'08	
opposition	12373 Sep 17 16:51	7°♑29'07	0°20'47		12379 Aug 10 03:32	0°♑	
min. Earth dist.	12373 Sep 18 07:16	7°♑24'29	4.51204 AU	evening set	12379 Sep 07 05:16	6°♑39'20	

conjunction	12379 Sep 20 14:49	9°♌56'07	-0°12'40	minimum elong	12385 Mar 11 03:08	27°♏16'31	0°20'46
minimum elong	12379 Sep 20 14:49	9°♌56'07	0°12'36	max. Earth dist.	12385 Mar 10 16:58	27°♏11'06	6.50548 AU
behind sun begin	12379 Sep 20 09:30	9°♌52'53			12385 Mar 23 21:46	0°♏	
behind sun end	12379 Sep 20 20:09	9°♌59'22		morning rise	12385 Mar 24 03:22	0°♏02'58	
max. Earth dist.	12379 Sep 21 14:28	10°♌10'37	5.89442 AU	retrograde	12385 Jul 22 18:01	16°♏37'30	
morning rise	12379 Oct 04 02:37	13°♌14'03		opposition	12385 Sep 21 20:49	11°♏42'38	0°16'56
	12379 Dec 23 11:22	0°♌		min. Earth dist.	12385 Sep 22 13:15	11°♏37'21	4.50876 AU
retrograde	12380 Feb 12 21:44	4°♌06'10		direct	12385 Nov 23 09:21	6°♏41'33	
	12380 Apr 05 07:00	30°♌♌		evening set	12386 Mar 28 04:37	23°♏47'17	
min. Earth dist.	12380 Apr 11 01:31	29°♌13'19	3.91568 AU	max. Earth dist.	12386 Apr 08 14:03	26°♏13'53	6.48940 AU
opposition	12380 Apr 12 04:50	29°♌04'03	-0°00'01				
asc. node	12380 Apr 12 09:36	29°♌02'26		conjunction	12386 Apr 10 03:04	26°♏33'48	0°01'53
direct	12380 Jun 09 04:16	24°♌08'37		minimum elong	12386 Apr 10 03:02	26°♏33'47	0°01'35
	12380 Aug 09 16:00	0°♌		behind sun begin	12386 Apr 09 19:02	26°♏29'30	
evening set	12380 Oct 14 11:32	14°♌09'09		behind sun end	12386 Apr 10 11:03	26°♏38'04	
	12380 Oct 18 00:33	15°♌		morning rise	12386 Apr 22 23:49	29°♏19'35	
					12386 Apr 26 03:35	0°♏	
conjunction	12380 Oct 28 01:19	17°♌24'33	0°11'56	desc. node	12386 May 17 20:04	4°♏30'14	
minimum elong	12380 Oct 28 01:18	17°♌24'32	0°12'33		12386 Jul 26 07:27	15°♏	
behind sun begin	12380 Oct 27 19:59	17°♌21'21		retrograde	12386 Aug 22 01:41	16°♏05'00	
behind sun end	12380 Oct 28 06:38	17°♌27'43			12386 Sep 17 17:42	15°♏♌	
max. Earth dist.	12380 Oct 30 07:22	17°♌57'00	5.96355 AU	opposition	12386 Oct 22 03:12	11°♏11'27	-0°11'52
morning rise	12380 Nov 10 16:36	20°♌40'32		min. Earth dist.	12386 Oct 23 11:53	11°♏00'59	4.44939 AU
	12380 Dec 21 22:12	0°♌♌		direct	12386 Dec 23 15:33	6°♏10'38	
retrograde	12381 Mar 20 17:28	10°♌♌48'52			12387 Mar 16 13:02	15°♏	
min. Earth dist.	12381 May 17 15:16	5°♌♌58'08	4.03291 AU	evening set	12387 Apr 27 13:36	23°♏38'06	
opposition	12381 May 19 05:42	5°♌♌45'06	0°34'27	max. Earth dist.	12387 May 08 04:55	25°♏58'15	6.39030 AU
direct	12381 Jul 16 18:59	0°♌♌47'51					
evening set	12381 Nov 20 14:35	20°♌♌01'46		conjunction	12387 May 10 09:51	26°♏27'24	-0°17'46
				minimum elong	12387 May 10 09:50	26°♏27'24	0°18'28
conjunction	12381 Dec 04 04:18	23°♌♌10'00	0°31'02	morning rise	12387 May 23 04:40	29°♏16'18	
minimum elong	12381 Dec 04 04:17	23°♌♌09'59	0°31'55		12387 May 26 12:34	0°♏♏	
max. Earth dist.	12381 Dec 06 16:25	23°♌♌44'46	6.11624 AU	retrograde	12387 Sep 23 00:57	16°♏♏42'32	
morning rise	12381 Dec 17 18:44	26°♌♌18'11		opposition	12387 Nov 22 21:18	11°♏♏49'07	-0°38'45
	12382 Jan 03 03:32	0°♏		min. Earth dist.	12387 Nov 24 12:28	11°♏♏36'31	4.31628 AU
retrograde	12382 Apr 23 15:36	15°♏♏12'45		direct	12388 Jan 23 16:46	6°♏♏49'14	
min. Earth dist.	12382 Jun 21 04:16	10°♏♏21'55	4.20470 AU	evening set	12388 May 28 03:32	24°♏♏58'59	
opposition	12382 Jun 22 16:26	10°♏♏09'47	0°54'06	max. Earth dist.	12388 Jun 07 16:30	27°♏♏22'57	6.23253 AU
direct	12382 Aug 21 08:11	5°♏♏10'34					
evening set	12382 Dec 25 12:09	23°♏♏28'57		conjunction	12388 Jun 09 23:26	27°♏♏54'21	-0°33'03
				minimum elong	12388 Jun 09 23:26	27°♏♏54'21	0°33'57
conjunction	12383 Jan 07 22:56	26°♏♏28'13	0°38'34		12388 Jun 19 03:22	0°♏♏	
minimum elong	12383 Jan 07 22:56	26°♏♏28'13	0°39'24	morning rise	12388 Jun 22 18:54	0°♏♏49'49	
max. Earth dist.	12383 Jan 09 20:15	26°♏♏53'26	6.29223 AU	retrograde	12388 Oct 26 14:57	19°♏♏21'43	
morning rise	12383 Jan 21 09:08	29°♏♏26'53		opposition	12388 Dec 25 22:39	14°♏♏27'20	-0°55'46
	12383 Jan 23 21:19	0°♏♏		min. Earth dist.	12388 Dec 27 10:22	14°♏♏15'43	4.14416 AU
	12383 Apr 17 10:16	15°♏♏		direct	12389 Feb 24 15:15	9°♏♏29'05	
retrograde	12383 May 25 05:12	17°♏♏10'28		evening set	12389 Jun 30 17:27	28°♏♏33'00	
	12383 Jul 01 20:21	15°♏♏♏			12389 Jul 06 20:48	0°♏♏	
opposition	12383 Jul 24 16:53	12°♏♏10'07	0°55'20	max. Earth dist.	12389 Jul 11 23:25	1°♏♏12'42	6.06030 AU
min. Earth dist.	12383 Jul 23 19:10	12°♏♏17'17	4.36991 AU				
direct	12383 Sep 23 15:56	7°♏♏09'39		conjunction	12389 Jul 13 16:04	1°♏♏36'50	-0°38'30
	12383 Dec 09 16:43	15°♏♏		minimum elong	12389 Jul 13 16:05	1°♏♏36'51	0°39'18
evening set	12384 Jan 27 02:40	24°♏♏42'37		morning rise	12389 Jul 26 15:24	4°♏♏41'24	
					12389 Sep 11 00:54	15°♏♏	
conjunction	12384 Feb 09 09:09	27°♏♏34'25	0°34'10	retrograde	12389 Dec 02 17:11	24°♏♏28'26	
minimum elong	12384 Feb 09 09:10	27°♏♏34'25	0°34'44	opposition	12390 Jan 31 12:38	19°♏♏32'02	-0°54'28
max. Earth dist.	12384 Feb 10 03:34	27°♏♏44'22	6.43442 AU	min. Earth dist.	12390 Feb 01 06:09	19°♏♏26'15	3.98672 AU
	12384 Feb 20 15:06	0°♏♏			12390 Mar 16 07:08	15°♏♏♏	
morning rise	12384 Feb 22 14:22	0°♏♏25'22		direct	12390 Mar 31 19:21	14°♏♏35'50	
retrograde	12384 Jun 23 04:27	17°♏♏19'52			12390 Apr 16 08:39	15°♏♏	
opposition	12384 Aug 23 01:58	12°♏♏22'31	0°41'12		12390 Jul 17 20:41	0°♏♏♏	
min. Earth dist.	12384 Aug 22 22:59	12°♏♏23'30	4.48018 AU	evening set	12390 Aug 05 15:58	4°♏♏28'31	
direct	12384 Oct 24 00:52	7°♏♏21'29					
evening set	12385 Feb 26 00:52	24°♏♏29'08		conjunction	12390 Aug 18 20:01	7°♏♏40'47	-0°30'05
				minimum elong	12390 Aug 18 20:02	7°♏♏40'48	0°30'31
conjunction	12385 Mar 11 03:07	27°♏♏16'31	0°20'38	max. Earth dist.	12390 Aug 18 10:41	7°♏♏35'06	5.93274 AU

morning rise	12390 Sep 01 01:54	10° $\mathbb{M}$ 54'11		minimum elong	12396 Feb 13 15:35	1° $\mathbb{H}$ 49'24	0°33'17
	12390 Dec 09 22:10	0° $\mathbb{A}$		max. Earth dist.	12396 Feb 14 06:15	1° $\mathbb{H}$ 57'19	6.44483 AU
retrograde	12391 Jan 10 12:45	1° $\mathbb{A}$ 36'34		morning rise	12396 Feb 26 20:04	4° $\mathbb{H}$ 39'42	
	12391 Feb 11 02:43	30° $\mathbb{R}$ $\mathbb{M}$		retrograde	12396 Jun 27 06:51	21° $\mathbb{H}$ 31'06	
opposition	12391 Mar 10 21:39	26° $\mathbb{M}$ 37'09	-0°31'23	opposition	12396 Aug 27 04:17	16° $\mathbb{H}$ 34'14	0°38'23
min. Earth dist.	12391 Mar 10 14:30	26° $\mathbb{M}$ 39'33	3.90326 AU	min. Earth dist.	12396 Aug 27 04:18	16° $\mathbb{H}$ 34'13	4.48535 AU
direct	12391 May 08 04:21	21° $\mathbb{M}$ 42'08		direct	12396 Oct 28 06:08	11° $\mathbb{H}$ 33'15	
	12391 Jul 21 14:39	0° $\mathbb{A}$		evening set	12397 Mar 02 05:14	28° $\mathbb{H}$ 40'29	
evening set	12391 Sep 12 10:13	11° $\mathbb{A}$ 55'31			12397 Mar 08 10:43	0° $\mathbb{Y}$	
conjunction	12391 Sep 25 20:32	15° $\mathbb{A}$ 12'15	-0°09'24	conjunction	12397 Mar 15 06:53	1° $\mathbb{Y}$ 27'42	0°18'17
minimum elong	12391 Sep 25 20:33	15° $\mathbb{A}$ 12'15	0°09'16	minimum elong	12397 Mar 15 06:53	1° $\mathbb{Y}$ 27'42	0°18'21
behind sun begin	12391 Sep 25 13:32	15° $\mathbb{A}$ 07'59		max. Earth dist.	12397 Mar 14 16:00	1° $\mathbb{Y}$ 19'45	6.50510 AU
behind sun end	12391 Sep 26 03:34	15° $\mathbb{A}$ 16'31		morning rise	12397 Mar 28 06:48	4° $\mathbb{Y}$ 14'02	
max. Earth dist.	12391 Sep 27 02:10	15° $\mathbb{A}$ 30'21	5.90227 AU	retrograde	12397 Jul 26 22:06	20° $\mathbb{Y}$ 49'16	
morning rise	12391 Oct 09 08:48	18° $\mathbb{A}$ 30'02		opposition	12397 Sep 26 00:17	15° $\mathbb{Y}$ 54'37	0°13'05
	12391 Nov 29 04:08	0° $\mathbb{M}$		min. Earth dist.	12397 Sep 26 18:59	15° $\mathbb{Y}$ 48'37	4.50308 AU
retrograde	12392 Feb 18 01:09	9° $\mathbb{M}$ 17'13		direct	12397 Nov 27 13:11	10° $\mathbb{Y}$ 53'34	
asc. node	12392 Feb 25 02:26	9° $\mathbb{M}$ 12'10		desc. node	12398 Mar 26 06:43	26° $\mathbb{Y}$ 43'52	
min. Earth dist.	12392 Apr 16 03:05	4° $\mathbb{M}$ 24'36	3.93029 AU	evening set	12398 Apr 01 08:51	28° $\mathbb{Y}$ 01'36	
opposition	12392 Apr 17 07:54	4° $\mathbb{M}$ 14'50	0°05'05		12398 Apr 10 13:22	0° $\mathbb{B}$	
	12392 May 25 10:24	30° $\mathbb{R}$ $\mathbb{A}$		max. Earth dist.	12398 Apr 12 17:01	0° $\mathbb{B}$ 27'51	6.47884 AU
direct	12392 Jun 14 08:46	29° $\mathbb{A}$ 19'15		conjunction	12398 Apr 14 07:05	0° $\mathbb{B}$ 48'23	-0°00'58
	12392 Jul 04 07:45	0° $\mathbb{M}$		minimum elong	12398 Apr 14 07:04	0° $\mathbb{B}$ 48'23	0°01'21
	12392 Oct 01 13:19	15° $\mathbb{M}$		behind sun begin	12398 Apr 13 23:04	0° $\mathbb{B}$ 44'05	
evening set	12392 Oct 19 13:39	19° $\mathbb{M}$ 13'30		behind sun end	12398 Apr 14 15:04	0° $\mathbb{B}$ 52'40	
conjunction	12392 Nov 02 03:28	22° $\mathbb{M}$ 28'00	0°15'01	morning rise	12398 Apr 27 03:21	3° $\mathbb{B}$ 34'26	
minimum elong	12392 Nov 02 03:27	22° $\mathbb{M}$ 28'00	0°15'40		12398 Jun 25 04:10	15° $\mathbb{B}$	
behind sun begin	12392 Nov 02 01:58	22° $\mathbb{M}$ 27'07		retrograde	12398 Aug 26 08:39	20° $\mathbb{B}$ 24'05	
behind sun end	12392 Nov 02 04:55	22° $\mathbb{M}$ 28'52		opposition	12398 Oct 26 10:36	15° $\mathbb{B}$ 30'34	-0°15'52
max. Earth dist.	12392 Nov 04 10:18	23° $\mathbb{M}$ 00'46	5.98312 AU	min. Earth dist.	12398 Oct 27 19:41	15° $\mathbb{B}$ 19'59	4.43453 AU
morning rise	12392 Nov 15 18:57	25° $\mathbb{M}$ 43'05			12398 Oct 30 10:21	15° $\mathbb{R}$ $\mathbb{B}$	
	12392 Dec 04 04:03	0° $\mathbb{X}$		direct	12398 Dec 27 20:27	10° $\mathbb{B}$ 29'55	
retrograde	12393 Mar 25 09:18	15° $\mathbb{X}$ 41'43			12399 Feb 22 21:14	15° $\mathbb{B}$	
min. Earth dist.	12393 May 22 08:58	10° $\mathbb{X}$ 51'13	4.05537 AU	evening set	12399 May 01 20:49	28° $\mathbb{B}$ 01'59	
opposition	12393 May 23 23:57	10° $\mathbb{X}$ 38'00	0°38'08		12399 May 10 19:02	0° $\mathbb{I}$	
direct	12393 Jul 21 15:33	5° $\mathbb{X}$ 40'28		max. Earth dist.	12399 May 12 10:51	0° $\mathbb{I}$ 22'02	6.37194 AU
evening set	12393 Nov 25 09:56	24° $\mathbb{X}$ 46'57		conjunction	12399 May 14 16:44	0° $\mathbb{I}$ 51'52	-0°20'16
conjunction	12393 Dec 08 23:26	27° $\mathbb{X}$ 54'01	0°32'47	minimum elong	12399 May 14 16:43	0° $\mathbb{I}$ 51'52	0°21'00
minimum elong	12393 Dec 08 23:25	27° $\mathbb{X}$ 54'01	0°33'41	morning rise	12399 May 27 11:33	3° $\mathbb{I}$ 41'26	
max. Earth dist.	12393 Dec 11 09:17	28° $\mathbb{X}$ 27'20	6.13962 AU	retrograde	12399 Sep 27 17:04	21° $\mathbb{I}$ 15'02	
	12393 Dec 18 02:41	0° $\mathbb{Z}$		opposition	12399 Nov 27 11:05	16° $\mathbb{I}$ 21'30	-0°41'52
morning rise	12393 Dec 22 13:22	1° $\mathbb{Z}$ 00'58		min. Earth dist.	12399 Nov 29 03:05	16° $\mathbb{I}$ 08'37	4.29523 AU
retrograde	12394 Apr 28 01:27	19° $\mathbb{Z}$ 45'52		direct	12400 Jan 28 04:44	11° $\mathbb{I}$ 21'44	
min. Earth dist.	12394 Jun 25 17:13	14° $\mathbb{Z}$ 54'28	4.22682 AU	evening set	12400 Jun 01 15:48	29° $\mathbb{I}$ 37'53	
opposition	12394 Jun 27 02:39	14° $\mathbb{Z}$ 43'16	0°55'20		12400 Jun 03 06:39	0° $\mathbb{E}$	
direct	12394 Aug 25 23:11	9° $\mathbb{Z}$ 43'54		max. Earth dist.	12400 Jun 12 05:44	2° $\mathbb{E}$ 03'06	6.21025 AU
evening set	12394 Dec 30 00:14	27° $\mathbb{Z}$ 56'12		conjunction	12400 Jun 14 11:57	2° $\mathbb{E}$ 34'14	-0°34'30
	12395 Jan 08 08:13	0° $\mathbb{A}$		minimum elong	12400 Jun 14 11:57	2° $\mathbb{E}$ 34'14	0°35'24
conjunction	12395 Jan 12 10:34	0° $\mathbb{A}$ 54'30	0°38'38	morning rise	12400 Jun 27 07:43	5° $\mathbb{E}$ 30'45	
minimum elong	12395 Jan 12 10:34	0° $\mathbb{A}$ 54'30	0°39'27	retrograde	12400 Oct 31 12:35	24° $\mathbb{E}$ 12'04	
max. Earth dist.	12395 Jan 14 04:50	1° $\mathbb{A}$ 17'54	6.31144 AU	opposition	12400 Dec 30 20:04	19° $\mathbb{E}$ 17'26	-0°56'47
morning rise	12395 Jan 25 20:13	3° $\mathbb{A}$ 52'09		min. Earth dist.	12401 Jan 01 05:18	19° $\mathbb{E}$ 06'37	4.12224 AU
	12395 Mar 22 06:29	15° $\mathbb{A}$		direct	12401 Mar 01 07:22	14° $\mathbb{E}$ 19'27	
retrograde	12395 May 29 07:36	21° $\mathbb{A}$ 28'56			12401 Jun 20 12:21	0° $\mathbb{Q}$	
opposition	12395 Jul 28 21:23	16° $\mathbb{A}$ 29'02	0°54'14	evening set	12401 Jul 05 12:41	3° $\mathbb{Q}$ 30'05	
min. Earth dist.	12395 Jul 28 01:29	16° $\mathbb{A}$ 35'35	4.38512 AU	max. Earth dist.	12401 Jul 16 22:36	6° $\mathbb{Q}$ 12'51	6.04054 AU
	12395 Aug 09 08:33	15° $\mathbb{R}$ $\mathbb{A}$		conjunction	12401 Jul 18 11:49	6° $\mathbb{Q}$ 35'03	-0°38'10
direct	12395 Sep 27 22:35	11° $\mathbb{A}$ 28'32		minimum elong	12401 Jul 18 11:49	6° $\mathbb{Q}$ 35'03	0°38'56
	12395 Nov 16 15:20	15° $\mathbb{A}$		morning rise	12401 Jul 31 11:55	9° $\mathbb{Q}$ 40'49	
evening set	12396 Jan 31 09:34	28° $\mathbb{A}$ 58'11			12401 Aug 23 09:37	15° $\mathbb{Q}$	
	12396 Feb 05 04:44	0° $\mathbb{H}$		retrograde	12401 Dec 08 00:04	29° $\mathbb{Q}$ 36'47	
conjunction	12396 Feb 13 15:34	1° $\mathbb{H}$ 49'23	0°32'47	opposition	12402 Feb 05 17:10	24° $\mathbb{Q}$ 39'58	-0°52'29

min. Earth dist.	12402 Feb 06 08:11	24°♎35'00	3.97090 AU	conjunction	12408 Feb 17 23:42	6°♎08'07	0°31'12
direct	12402 Apr 05 21:04	19°♎43'56		minimum elong	12408 Feb 17 23:43	6°♎08'08	0°31'39
	12402 Jun 29 14:34	0°♎		max. Earth dist.	12408 Feb 18 11:26	6°♎14'26	6.45929 AU
evening set	12402 Aug 10 17:55	9°♎41'05		morning rise	12408 Mar 02 03:31	8°♎57'37	
				retrograde	12408 Jul 01 08:00	25°♎44'25	
conjunction	12402 Aug 23 22:58	12°♎54'16	-0°27'48	opposition	12408 Aug 31 07:49	20°♎47'50	0°35'19
minimum elong	12402 Aug 23 22:59	12°♎54'16	0°28'09	min. Earth dist.	12408 Aug 31 09:20	20°♎47'21	4.49549 AU
max. Earth dist.	12402 Aug 23 19:26	12°♎52'06	5.92260 AU	direct	12408 Nov 01 11:25	15°♎46'50	
morning rise	12402 Sep 06 05:41	16°♎08'33			12409 Feb 20 17:25	0°♎	
	12402 Nov 08 07:16	0°♎		evening set	12409 Mar 06 09:38	2°♎51'46	
retrograde	12403 Jan 15 21:08	6°♎54'46					
opposition	12403 Mar 16 04:46	1°♎54'57	-0°26'47	conjunction	12409 Mar 19 10:44	5°♎38'32	0°15'50
min. Earth dist.	12403 Mar 15 18:39	1°♎58'21	3.90020 AU	minimum elong	12409 Mar 19 10:45	5°♎38'32	0°15'51
	12403 Mar 30 20:07	30°♎		behind sun begin	12409 Mar 19 09:42	5°♎37'59	
direct	12403 May 13 08:48	26°♎59'58		behind sun end	12409 Mar 19 11:47	5°♎39'06	
	12403 Jun 25 05:09	0°♎		max. Earth dist.	12409 Mar 18 17:34	5°♎29'22	6.51030 AU
evening set	12403 Sep 17 16:02	17°♎13'08		morning rise	12409 Apr 01 09:54	8°♎24'25	
				retrograde	12409 Jul 31 00:04	24°♎58'34	
conjunction	12403 Oct 01 02:55	20°♎29'59	-0°06'01	opposition	12409 Sep 30 03:15	20°♎04'08	0°09'15
minimum elong	12403 Oct 01 02:54	20°♎29'58	0°05'48	min. Earth dist.	12409 Oct 01 00:16	19°♎57'25	4.50299 AU
behind sun begin	12403 Sep 30 18:55	20°♎25'07		direct	12409 Dec 01 17:40	15°♎03'09	
behind sun end	12403 Oct 01 10:53	20°♎34'49		desc. node	12410 Feb 03 00:06	20°♎25'11	
max. Earth dist.	12403 Oct 02 11:25	20°♎49'49	5.90640 AU		12410 Mar 26 03:44	0°♎	
morning rise	12403 Oct 14 16:02	23°♎47'52		evening set	12410 Apr 05 11:53	2°♎11'38	
	12403 Nov 09 22:45	0°♎		max. Earth dist.	12410 Apr 16 15:24	4°♎35'40	6.47322 AU
asc. node	12404 Jan 07 00:59	11°♎03'04					
retrograde	12404 Feb 23 03:30	14°♎31'29		conjunction	12410 Apr 18 09:29	4°♎58'24	-0°03'40
min. Earth dist.	12404 Apr 21 04:03	9°♎39'29	3.94121 AU	minimum elong	12410 Apr 18 09:28	4°♎58'24	0°04'07
opposition	12404 Apr 22 11:38	9°♎28'46	0°10'14	behind sun begin	12410 Apr 18 01:36	4°♎54'10	
direct	12404 Jun 19 12:52	4°♎32'54		behind sun end	12410 Apr 18 17:21	5°♎02'38	
	12404 Sep 13 05:31	15°♎		morning rise	12410 May 01 05:30	7°♎44'32	
evening set	12404 Oct 24 17:38	24°♎22'26			12410 Jun 05 12:20	15°♎	
				retrograde	12410 Aug 30 14:53	24°♎36'59	
conjunction	12404 Nov 07 07:42	27°♎36'15	0°18'03	opposition	12410 Oct 30 15:57	19°♎43'30	-0°19'38
minimum elong	12404 Nov 07 07:41	27°♎36'15	0°18'45	min. Earth dist.	12410 Nov 01 03:02	19°♎32'17	4.42351 AU
max. Earth dist.	12404 Nov 09 16:00	28°♎09'46	5.99967 AU		12410 Dec 18 08:43	15°♎	
	12404 Nov 17 09:40	0°♎		direct	12411 Jan 01 01:35	14°♎42'51	
morning rise	12404 Nov 20 23:12	0°♎50'31			12411 Jan 14 19:24	15°♎	
retrograde	12405 Mar 30 05:39	20°♎40'34			12411 Apr 25 11:13	0°♎	
min. Earth dist.	12405 May 27 06:36	15°♎49'45	4.07555 AU	evening set	12411 May 06 01:12	2°♎18'27	
opposition	12405 May 28 20:44	15°♎36'51	0°41'36	max. Earth dist.	12411 May 16 14:35	4°♎38'37	6.35616 AU
direct	12405 Jul 26 16:20	10°♎39'02					
evening set	12405 Nov 30 08:02	29°♎38'40		conjunction	12411 May 18 21:06	5°♎08'54	-0°22'32
	12405 Dec 01 21:28	0°♎		minimum elong	12411 May 18 21:05	5°♎08'54	0°23'19
				morning rise	12411 May 31 15:42	7°♎59'02	
conjunction	12405 Dec 13 21:19	2°♎44'39	0°34'20	retrograde	12411 Oct 02 03:44	25°♎39'26	
minimum elong	12405 Dec 13 21:18	2°♎44'38	0°35'14	opposition	12411 Dec 01 21:54	20°♎45'48	-0°44'37
max. Earth dist.	12405 Dec 16 07:15	3°♎17'48	6.16166 AU	min. Earth dist.	12411 Dec 03 13:50	20°♎32'57	4.27550 AU
morning rise	12405 Dec 27 10:47	5°♎50'23		direct	12412 Feb 01 11:45	15°♎46'14	
retrograde	12406 May 02 11:46	24°♎25'44			12412 May 18 14:01	0°♎	
min. Earth dist.	12406 Jun 30 06:22	19°♎34'31	4.24896 AU	evening set	12412 Jun 06 01:08	4°♎08'40	
opposition	12406 Jul 01 15:28	19°♎23'28	0°56'13	max. Earth dist.	12412 Jun 16 15:14	6°♎34'45	6.18788 AU
direct	12406 Aug 30 14:55	14°♎23'56					
	12406 Dec 23 03:37	0°♎		conjunction	12412 Jun 18 21:21	7°♎06'00	-0°35'39
evening set	12407 Jan 03 15:23	2°♎29'55		minimum elong	12412 Jun 18 21:21	7°♎05'59	0°36'34
				morning rise	12412 Jul 01 17:34	10°♎03'38	
conjunction	12407 Jan 17 01:04	5°♎27'06	0°38'27	retrograde	12412 Nov 05 09:52	28°♎54'59	
minimum elong	12407 Jan 17 01:04	5°♎27'06	0°39'15	opposition	12413 Jan 04 14:48	24°♎00'08	-0°57'25
max. Earth dist.	12407 Jan 18 15:29	5°♎48'18	6.33222 AU	min. Earth dist.	12413 Jan 05 23:26	23°♎49'29	4.09868 AU
morning rise	12407 Jan 30 10:05	8°♎23'39		direct	12413 Mar 05 23:02	19°♎02'20	
	12407 Mar 02 18:03	15°♎			12413 Jun 03 10:31	0°♎	
retrograde	12407 Jun 02 14:10	25°♎52'45		evening set	12413 Jul 10 05:35	8°♎20'45	
min. Earth dist.	12407 Aug 01 11:26	20°♎58'51	4.40329 AU	max. Earth dist.	12413 Jul 21 19:38	11°♎06'46	6.01801 AU
opposition	12407 Aug 02 04:21	20°♎53'17	0°52'47				
direct	12407 Oct 02 10:45	15°♎52'42		conjunction	12413 Jul 23 05:34	11°♎27'06	-0°37'35
	12408 Jan 20 03:10	0°♎		minimum elong	12413 Jul 23 05:35	11°♎27'06	0°38'20
evening set	12408 Feb 04 18:17	3°♎17'43		morning rise	12413 Aug 05 06:25	14°♎34'15	

	12413 Aug 07 01:41	15°♏	retrograde	12419 Jun 06 19:02	0°♏19'29	
	12413 Oct 18 10:55	0°♏		12419 Jun 21 02:22	30°♏	
retrograde	12413 Dec 13 05:07	4°♏40'24	opposition	12419 Aug 06 12:05	25°♏20'22	0°50'58
	12414 Feb 08 17:14	30°♏	min. Earth dist.	12419 Aug 05 20:31	25°♏25'28	4.42212 AU
opposition	12414 Feb 10 19:34	29°♏43'19 -0°50'11	direct	12419 Oct 06 21:31	20°♏19'39	
min. Earth dist.	12414 Feb 11 08:04	29°♏39'10 3.95173 AU		12420 Jan 02 11:14	0°♏	
direct	12414 Apr 10 18:19	24°♏47'31	evening set	12420 Feb 09 03:40	7°♏39'47	
	12414 Jun 07 16:20	0°♏				
evening set	12414 Aug 15 19:16	14°♏51'02	conjunction	12420 Feb 22 08:18	10°♏29'21	0°29'24
			minimum elong	12420 Feb 22 08:19	10°♏29'21	0°29'47
conjunction	12414 Aug 29 01:08	18°♏05'19 -0°25'23	max. Earth dist.	12420 Feb 22 15:09	10°♏33'01	6.47338 AU
minimum elong	12414 Aug 29 01:09	18°♏05'20 0°25'39	morning rise	12420 Mar 06 11:27	13°♏18'02	
max. Earth dist.	12414 Aug 29 00:42	18°♏05'03 5.90865 AU		12420 Jul 03 05:40	0°♏	
morning rise	12414 Sep 11 09:07	21°♏20'51	retrograde	12420 Jul 05 12:15	0°♏00'29	
	12414 Oct 18 11:05	0°♏		12420 Jul 07 18:48	30°♏	
retrograde	12415 Jan 21 04:05	12°♏12'38	opposition	12420 Sep 04 12:17	25°♏04'15	0°31'59
opposition	12415 Mar 21 11:23	7°♏12'25 -0°22'05	min. Earth dist.	12420 Sep 04 17:30	25°♏02'34	4.50385 AU
min. Earth dist.	12415 Mar 20 21:21	7°♏17'09 3.89317 AU	direct	12420 Nov 05 19:40	20°♏03'10	
direct	12415 May 18 12:50	2°♏17'25		12421 Feb 03 13:34	0°♏	
evening set	12415 Sep 22 22:24	22°♏32'17	evening set	12421 Mar 10 15:05	7°♏06'26	
conjunction	12415 Oct 06 10:10	25°♏49'30 -0°02'38	conjunction	12421 Mar 23 15:37	9°♏52'54	0°13'14
minimum elong	12415 Oct 06 10:10	25°♏49'30 0°02'19	minimum elong	12421 Mar 23 15:38	9°♏52'55	0°13'10
behind sun begin	12415 Oct 06 01:49	25°♏44'25	behind sun begin	12421 Mar 23 10:55	9°♏50'25	
behind sun end	12415 Oct 06 18:32	25°♏54'34	behind sun end	12421 Mar 23 20:20	9°♏55'25	
max. Earth dist.	12415 Oct 07 23:46	26°♏12'26 5.90719 AU	max. Earth dist.	12421 Mar 22 18:02	9°♏41'23	6.51222 AU
morning rise	12415 Oct 19 23:55	29°♏07'40	morning rise	12421 Apr 05 14:17	12°♏38'32	
	12415 Oct 23 14:42	0°♏	retrograde	12421 Aug 04 03:56	29°♏12'46	
asc. node	12415 Nov 18 04:10	5°♏58'40	opposition	12421 Oct 04 07:57	24°♏18'29	0°05'12
	12416 Jan 03 05:06	15°♏	min. Earth dist.	12421 Oct 05 06:54	24°♏11'08	4.49841 AU
retrograde	12416 Feb 28 09:18	19°♏49'07	direct	12421 Dec 05 22:17	19°♏17'27	
	12416 Apr 25 23:39	15°♏	desc. node	12421 Dec 12 13:42	19°♏21'25	
min. Earth dist.	12416 Apr 26 07:43	14°♏57'16 3.94954 AU		12422 Mar 09 09:35	0°♏	
opposition	12416 Apr 27 16:34	14°♏46'06 0°15'13	evening set	12422 Apr 09 16:48	6°♏27'50	
direct	12416 Jun 24 19:18	9°♏50'02	max. Earth dist.	12422 Apr 20 18:38	8°♏51'17	6.46239 AU
	12416 Aug 21 11:03	15°♏				
evening set	12416 Oct 29 23:28	29°♏35'51	conjunction	12422 Apr 22 14:08	9°♏14'51	-0°06'28
	12416 Oct 31 16:22	0°♏	minimum elong	12422 Apr 22 14:08	9°♏14'51	0°06'58
			behind sun begin	12422 Apr 22 06:44	9°♏10'52	
conjunction	12416 Nov 12 13:49	2°♏49'05 0°20'54	behind sun end	12422 Apr 22 21:32	9°♏18'50	
minimum elong	12416 Nov 12 13:48	2°♏49'04 0°21'39	morning rise	12422 May 05 09:42	12°♏01'15	
max. Earth dist.	12416 Nov 15 01:30	3°♏24'27 6.01464 AU		12422 May 19 09:34	15°♏	
morning rise	12416 Nov 26 05:21	6°♏02'37	retrograde	12422 Sep 03 23:42	28°♏58'20	
retrograde	12417 Apr 04 01:51	25°♏44'15	opposition	12422 Nov 04 00:46	24°♏04'54	-0°23'33
min. Earth dist.	12417 Jun 01 03:18	20°♏53'53 4.09545 AU	min. Earth dist.	12422 Nov 05 13:32	23°♏53'09	4.40694 AU
opposition	12417 Jun 02 18:45	20°♏40'34 0°44'43	direct	12423 Jan 05 08:58	19°♏04'20	
direct	12417 Jul 31 16:41	15°♏42'29		12423 Apr 08 14:42	0°♏	
	12417 Nov 14 17:51	0°♏	evening set	12423 May 10 09:35	6°♏45'13	
evening set	12417 Dec 05 08:08	4°♏35'19	max. Earth dist.	12423 May 20 20:16	9°♏04'37	6.33487 AU
conjunction	12417 Dec 18 20:57	7°♏40'06 0°35'37	conjunction	12423 May 23 05:13	9°♏36'24	-0°24'50
minimum elong	12417 Dec 18 20:56	7°♏40'06 0°36'31	minimum elong	12423 May 23 05:12	9°♏36'24	0°25'39
max. Earth dist.	12417 Dec 21 04:42	8°♏11'51 6.18452 AU	morning rise	12423 Jun 05 00:00	12°♏27'25	
morning rise	12418 Jan 01 10:03	10°♏44'37		12423 Sep 23 15:15	0°♏	
retrograde	12418 May 07 00:44	29°♏09'58	retrograde	12423 Oct 06 21:46	0°♏16'37	
min. Earth dist.	12418 Jul 04 22:38	24°♏18'17 4.27240 AU		12423 Oct 20 03:59	30°♏	
opposition	12418 Jul 06 05:43	24°♏07'55 0°56'41	opposition	12423 Dec 06 14:00	25°♏22'50	-0°47'19
direct	12418 Sep 04 10:47	19°♏08'06	min. Earth dist.	12423 Dec 08 06:04	25°♏09'54	4.25072 AU
	12418 Dec 05 11:07	0°♏	direct	12424 Feb 06 00:50	20°♏23'22	
evening set	12419 Jan 08 07:18	7°♏07'04		12424 Apr 30 17:20	0°♏	
			evening set	12424 Jun 10 16:02	8°♏53'44	
conjunction	12419 Jan 21 16:33	10°♏03'09 0°38'01	max. Earth dist.	12424 Jun 21 08:40	11°♏22'05	6.16170 AU
minimum elong	12419 Jan 21 16:34	10°♏03'09 0°38'46				
max. Earth dist.	12419 Jan 23 05:30	10°♏23'26 6.35428 AU	conjunction	12424 Jun 23 12:46	11°♏52'19	-0°36'41
morning rise	12419 Feb 04 00:43	12°♏58'27	minimum elong	12424 Jun 23 12:46	11°♏52'19	0°37'35
	12419 Feb 13 09:45	15°♏	morning rise	12424 Jul 06 09:20	14°♏51'15	
	12419 May 23 11:31	0°♏		12424 Sep 20 11:30	0°♏	

retrograde	12424 Nov 10 13:36	3°♏53'52		min. Earth dist.	12430 Jul 09 11:40	28°♁54'51	4.29893 AU
	12425 Jan 01 19:20	30°♏		opposition	12430 Jul 10 17:22	28°♁44'59	0°56'49
opposition	12425 Jan 09 16:03	28°♁58'47	-0°57'41	direct	12430 Sep 09 02:40	23°♁45'02	
min. Earth dist.	12425 Jan 10 22:51	28°♁48'43	4.07330 AU		12430 Nov 15 07:00	0°♐	
direct	12425 Mar 10 18:52	24°♁01'16		evening set	12431 Jan 12 20:35	11°♐36'30	
	12425 May 13 05:36	0°♏					
evening set	12425 Jul 15 05:17	13°♏27'55		conjunction	12431 Jan 26 04:58	14°♐31'20	0°37'22
	12425 Jul 21 14:59	15°♏		minimum elong	12431 Jan 26 04:59	14°♐31'21	0°38'04
max. Earth dist.	12425 Jul 26 22:35	16°♏16'45	5.99573 AU	max. Earth dist.	12431 Jan 27 12:30	14°♐48'34	6.37734 AU
					12431 Jan 28 09:25	15°♐	
conjunction	12425 Jul 28 05:53	16°♏35'36	-0°36'41	morning rise	12431 Feb 08 12:30	17°♐25'26	
minimum elong	12425 Jul 28 05:54	16°♏35'36	0°37'23		12431 Apr 15 01:34	0°♐	
morning rise	12425 Aug 10 07:50	19°♏44'14		retrograde	12431 Jun 10 23:32	4°♐38'40	
	12425 Sep 24 18:02	0°♐			12431 Aug 08 03:59	30°♐	
retrograde	12425 Dec 18 15:07	10°♐00'14		opposition	12431 Aug 10 17:14	29°♐39'59	0°48'56
opposition	12426 Feb 16 04:43	5°♐02'43	-0°47'18	min. Earth dist.	12431 Aug 10 05:20	29°♐43'53	4.44023 AU
min. Earth dist.	12426 Feb 16 13:06	4°♐59'55	3.93497 AU	direct	12431 Oct 11 07:05	24°♐39'09	
direct	12426 Apr 15 22:58	0°♐07'07			12431 Dec 12 23:38	0°♐	
evening set	12426 Aug 21 02:42	20°♐15'35		evening set	12432 Feb 13 10:11	11°♐55'03	
conjunction	12426 Sep 03 09:39	23°♐30'49	-0°22'35	conjunction	12432 Feb 26 14:21	14°♐43'57	0°27'28
minimum elong	12426 Sep 03 09:40	23°♐30'49	0°22'47	minimum elong	12432 Feb 26 14:22	14°♐43'57	0°27'49
max. Earth dist.	12426 Sep 03 16:14	23°♐34'51	5.89945 AU	max. Earth dist.	12432 Feb 26 17:48	14°♐45'47	6.48527 AU
morning rise	12426 Sep 16 18:28	26°♐47'12		morning rise	12432 Mar 10 16:41	17°♐31'55	
	12426 Sep 30 02:22	0°♑			12432 May 16 09:36	0°♑	
retrograde	12427 Jan 26 17:29	17°♑41'59		retrograde	12432 Jul 09 12:54	4°♑11'10	
opposition	12427 Mar 26 22:52	12°♑41'20	-0°16'55		12432 Sep 02 19:33	30°♑	
min. Earth dist.	12427 Mar 26 06:07	12°♑46'59	3.89289 AU	opposition	12432 Sep 08 14:48	29°♑15'18	0°28'33
direct	12427 May 23 23:51	7°♑46'20		min. Earth dist.	12432 Sep 08 22:08	29°♑12'57	4.50896 AU
asc. node	12427 Sep 25 08:56	27°♑16'19		direct	12432 Nov 09 22:57	24°♑14'14	
evening set	12427 Sep 28 08:55	27°♑59'48			12433 Jan 14 20:23	0°♑	
	12427 Oct 06 14:56	0°♒		evening set	12433 Mar 14 18:46	11°♑17'06	
conjunction	12427 Oct 11 21:16	1°♒16'52	0°01'01	conjunction	12433 Mar 27 18:43	14°♑03'26	0°10'36
minimum elong	12427 Oct 11 21:18	1°♒16'53	0°01'25	minimum elong	12433 Mar 27 18:44	14°♑03'26	0°10'28
behind sun begin	12427 Oct 11 12:55	1°♒11'48		behind sun begin	12433 Mar 27 12:28	14°♑00'07	
behind sun end	12427 Oct 12 05:41	1°♒21'57		behind sun end	12433 Mar 28 00:59	14°♑06'46	
max. Earth dist.	12427 Oct 13 16:11	1°♒42'58	5.91589 AU	max. Earth dist.	12433 Mar 26 17:03	13°♑49'42	6.51014 AU
morning rise	12427 Oct 25 11:37	4°♒34'51		morning rise	12433 Apr 09 16:53	16°♑48'58	
	12427 Dec 10 07:32	15°♒			12433 Jun 20 17:08	0°♒	
retrograde	12428 Mar 04 14:12	25°♒10'09		retrograde	12433 Aug 08 08:56	3°♒24'53	
min. Earth dist.	12428 May 01 11:04	20°♒19'02	3.96641 AU		12433 Sep 26 16:33	30°♒	
opposition	12428 May 02 22:50	20°♒06'53	0°20'14	opposition	12433 Oct 08 12:08	28°♒30'53	0°01'09
direct	12428 Jun 30 02:03	15°♒10'37		min. Earth dist.	12433 Oct 09 14:35	28°♒22'25	4.48926 AU
	12428 Oct 14 08:11	0°♒		desc. node	12433 Oct 23 15:42	26°♒37'28	
evening set	12428 Nov 04 06:04	4°♒49'26		direct	12433 Dec 10 03:22	23°♒29'53	
					12434 Feb 18 07:19	0°♒	
conjunction	12428 Nov 17 20:13	8°♒01'31	0°23'39	evening set	12434 Apr 13 21:35	10°♒43'48	
minimum elong	12428 Nov 17 20:13	8°♒01'31	0°24'28	max. Earth dist.	12434 Apr 24 19:00	13°♒05'26	6.44666 AU
max. Earth dist.	12428 Nov 20 07:57	8°♒36'43	6.03771 AU				
morning rise	12428 Dec 01 11:42	11°♒13'53		conjunction	12434 Apr 26 18:34	13°♒31'17	-0°09'13
	12429 Mar 18 14:44	0°♒		minimum elong	12434 Apr 26 18:34	13°♒31'17	0°09'45
retrograde	12429 Apr 08 20:44	0°♒44'15		behind sun begin	12434 Apr 26 12:01	13°♒27'44	
	12429 Apr 30 00:21	30°♒		behind sun end	12434 Apr 27 01:07	13°♒34'50	
min. Earth dist.	12429 Jun 06 00:55	25°♒53'44	4.12207 AU		12434 May 03 13:43	15°♒	
opposition	12429 Jun 07 15:48	25°♒40'37	0°47'31	morning rise	12434 May 09 14:01	16°♒18'13	
direct	12429 Aug 05 18:43	20°♒42'13			12434 Jul 22 09:03	0°♒	
	12429 Oct 27 00:44	0°♒		retrograde	12434 Sep 08 10:06	3°♒21'45	
evening set	12429 Dec 10 06:01	9°♒26'05			12434 Oct 27 06:45	30°♒	
				opposition	12434 Nov 08 10:16	28°♒28'20	-0°27'21
conjunction	12429 Dec 23 18:30	12°♒29'29	0°36'41	min. Earth dist.	12434 Nov 09 23:52	28°♒16'17	4.38563 AU
minimum elong	12429 Dec 23 18:29	12°♒29'28	0°37'35	direct	12435 Jan 09 15:35	23°♒27'51	
max. Earth dist.	12429 Dec 26 01:50	13°♒00'48	6.21234 AU		12435 Mar 20 01:59	0°♒	
morning rise	12430 Jan 06 06:45	15°♒32'27		evening set	12435 May 14 19:05	11°♒15'47	
	12430 Mar 22 02:38	0°♒		max. Earth dist.	12435 May 25 06:40	13°♒36'26	6.30956 AU
retrograde	12430 May 11 10:23	3°♒46'37					
	12430 Jul 01 05:18	30°♒		conjunction	12435 May 27 14:53	14°♒08'00	-0°27'00

minimum elong	12435 May 27 14:52	14°♊08'00	0°27'52	max. Earth dist.	12440 Nov 25 13:29	13°♊43'56	6.06239 AU
morning rise	12435 Jun 09 09:39	17°♊00'04		morning rise	12440 Dec 06 15:13	16°♊19'02	
	12435 Aug 13 20:03	0°♊			12441 Feb 10 16:57	0°♊	
retrograde	12435 Oct 11 18:27	4°♊59'37		retrograde	12441 Apr 13 13:55	5°♊37'55	
opposition	12435 Dec 11 08:23	0°♊05'47	-0°49'46	min. Earth dist.	12441 Jun 10 20:00	0°♊47'16	4.14849 AU
	12435 Dec 12 02:19	30°♋♊		opposition	12441 Jun 12 10:01	0°♊34'28	0°49'56
min. Earth dist.	12435 Dec 13 00:18	29°♊52'54	4.22317 AU		12441 Jun 16 16:39	30°♋♊	
direct	12436 Feb 10 14:54	25°♊06'37		direct	12441 Aug 10 17:17	25°♊35'49	
	12436 Apr 08 15:01	0°♊			12441 Oct 04 00:36	0°♊	
evening set	12436 Jun 15 09:26	13°♊45'53		evening set	12441 Dec 15 01:42	14°♊11'15	
max. Earth dist.	12436 Jun 26 03:14	16°♊15'55	6.13418 AU				
				conjunction	12441 Dec 28 13:33	17°♊13'17	0°37'29
conjunction	12436 Jun 28 06:26	16°♊45'49	-0°37'29	minimum elong	12441 Dec 28 13:32	17°♊13'17	0°38'23
minimum elong	12436 Jun 28 06:25	16°♊45'48	0°38'22	max. Earth dist.	12441 Dec 30 17:11	17°♊42'21	6.23816 AU
morning rise	12436 Jul 11 03:45	19°♊46'12		morning rise	12442 Jan 11 01:20	20°♊14'54	
	12436 Aug 27 00:33	0°♋			12442 Feb 26 19:03	0°♋	
retrograde	12436 Nov 15 19:32	9°♋00'43		retrograde	12442 May 15 18:16	8°♋19'01	
opposition	12437 Jan 14 20:13	4°♋05'21	-0°57'33	min. Earth dist.	12442 Jul 13 23:50	3°♋26'48	4.32215 AU
min. Earth dist.	12437 Jan 15 23:38	3°♋56'21	4.04829 AU	opposition	12442 Jul 15 03:14	3°♋17'42	0°56'37
	12437 Feb 20 15:40	30°♋♊			12442 Aug 11 10:22	30°♋♊	
direct	12437 Mar 15 17:40	29°♊08'08		direct	12442 Sep 13 16:33	28°♊17'32	
	12437 Apr 07 18:50	0°♋			12442 Oct 17 07:24	0°♋	
	12437 Jul 04 15:04	15°♋			12443 Jan 12 11:46	15°♋	
evening set	12437 Jul 20 07:39	18°♋42'43		evening set	12443 Jan 17 08:11	16°♋02'46	
max. Earth dist.	12437 Aug 01 08:21	21°♋36'41	5.97587 AU				
				conjunction	12443 Jan 30 16:09	18°♋56'37	0°36'31
conjunction	12437 Aug 02 09:12	21°♋51'43	-0°35'29	minimum elong	12443 Jan 30 16:09	18°♋56'37	0°37'10
minimum elong	12437 Aug 02 09:13	21°♋51'43	0°36'07	max. Earth dist.	12443 Jan 31 20:39	19°♋12'08	6.39644 AU
morning rise	12437 Aug 15 11:55	25°♋01'40		morning rise	12443 Feb 12 22:48	21°♋49'39	
	12437 Sep 05 13:42	0°♌			12443 Mar 24 20:59	0°♌	
retrograde	12437 Dec 24 04:35	15°♌26'03		retrograde	12443 Jun 15 02:58	8°♌56'33	
opposition	12438 Feb 21 15:44	10°♌28'08	-0°43'58	opposition	12443 Aug 14 22:06	3°♌58'19	0°46'40
min. Earth dist.	12438 Feb 21 21:02	10°♌26'21	3.92257 AU	min. Earth dist.	12443 Aug 14 12:40	4°♌01'23	4.45399 AU
direct	12438 Apr 21 07:16	5°♌32'44			12443 Sep 19 09:25	30°♌♋	
evening set	12438 Aug 26 11:40	25°♌44'05		direct	12443 Oct 15 14:40	28°♌57'26	
					12443 Nov 11 02:41	0°♌	
conjunction	12438 Sep 08 19:26	28°♌59'55	-0°19'35	evening set	12444 Feb 17 16:53	16°♌10'21	
minimum elong	12438 Sep 08 19:27	28°♌59'56	0°19'42				
max. Earth dist.	12438 Sep 09 07:34	29°♌07'21	5.89572 AU	conjunction	12444 Mar 01 20:18	18°♌58'42	0°25'24
	12438 Sep 12 21:23	0°♍		minimum elong	12444 Mar 01 20:19	18°♌58'43	0°25'40
morning rise	12438 Sep 22 05:17	2°♍16'55		max. Earth dist.	12444 Mar 01 17:55	18°♌57'26	6.49274 AU
retrograde	12439 Feb 01 03:42	23°♍11'42		morning rise	12444 Mar 14 22:10	21°♌46'11	
opposition	12439 Apr 01 09:42	18°♍10'33	-0°11'37		12444 Apr 24 21:49	0°♎	
min. Earth dist.	12439 Mar 31 12:40	18°♍17'40	3.89844 AU	retrograde	12444 Jul 13 17:12	8°♎23'35	
direct	12439 May 29 08:53	13°♍15'27		opposition	12444 Sep 12 18:26	3°♎28'03	0°24'58
asc. node	12439 Aug 02 08:57	19°♍45'39		min. Earth dist.	12444 Sep 13 05:32	3°♎24'28	4.50988 AU
	12439 Sep 19 10:25	0°♎			12444 Oct 12 15:59	30°♎♌	
evening set	12439 Oct 03 18:26	3°♎25'13		direct	12444 Nov 14 04:44	28°♌26'55	
					12444 Dec 16 23:08	0°♎	
conjunction	12439 Oct 17 07:09	6°♎41'47	0°04'34	evening set	12445 Mar 18 23:39	15°♎30'29	
minimum elong	12439 Oct 17 07:08	6°♎41'47	0°05'01				
behind sun begin	12439 Oct 16 23:01	6°♎36'53		conjunction	12445 Mar 31 23:18	18°♎16'53	0°07'53
behind sun end	12439 Oct 17 15:16	6°♎46'41		minimum elong	12445 Mar 31 23:18	18°♎16'53	0°07'41
max. Earth dist.	12439 Oct 19 04:46	7°♎09'27	5.92976 AU	behind sun begin	12445 Mar 31 16:04	18°♎13'02	
morning rise	12439 Oct 30 21:56	9°♎59'13		behind sun end	12445 Apr 01 06:32	18°♎20'44	
	12439 Nov 21 04:32	15°♎		max. Earth dist.	12445 Mar 30 18:33	18°♎01'29	6.50445 AU
	12440 Feb 22 10:26	0°♏		morning rise	12445 Apr 13 20:57	21°♎02'27	
retrograde	12440 Mar 09 16:05	0°♏26'25			12445 May 28 18:37	0°♏	
	12440 Mar 25 20:58	30°♋♎		retrograde	12445 Aug 12 14:33	7°♏41'03	
min. Earth dist.	12440 May 06 14:00	25°♎35'24	3.98668 AU	desc. node	12445 Sep 04 01:25	6°♏54'51	
opposition	12440 May 08 02:48	25°♎22'54	0°24'58	opposition	12445 Oct 12 18:15	2°♏47'12	-0°02'59
direct	12440 Jul 05 09:34	20°♎26'16		min. Earth dist.	12445 Oct 13 21:47	2°♏38'23	4.47745 AU
	12440 Sep 25 08:43	0°♏			12445 Nov 04 21:39	30°♋♎	
evening set	12440 Nov 09 09:59	9°♏57'07		direct	12445 Dec 14 07:33	27°♎46'17	
					12446 Jan 22 19:07	0°♏	
conjunction	12440 Nov 23 00:13	13°♏08'02	0°26'11		12446 Apr 17 20:16	15°♏	
minimum elong	12440 Nov 23 00:12	13°♏08'01	0°27'01	evening set	12446 Apr 18 04:18	15°♏04'21	

max. Earth dist.	12446 Apr 29 00:15	17°♄25'44	6.42955 AU	behind sun begin	12451 Oct 22 04:39	11°♍48'46	
				behind sun end	12451 Oct 22 19:19	11°♍57'34	
conjunction	12446 May 01 01:02	17°♄52'23	-0°11'58	max. Earth dist.	12451 Oct 24 13:47	12°♍23'13	5.94703 AU
minimum elong	12446 May 01 01:01	17°♄52'22	0°12'35		12451 Nov 04 10:26	15°♍	
behind sun begin	12446 Apr 30 19:53	17°♄49'35		morning rise	12451 Nov 05 02:49	15°♍09'48	
behind sun end	12446 May 01 06:10	17°♄55'10			12452 Jan 14 05:09	0°♊	
morning rise	12446 May 13 20:15	20°♄39'54		retrograde	12452 Mar 14 13:57	5°♊28'00	
	12446 Jun 28 17:31	0°♊		min. Earth dist.	12452 May 11 11:46	0°♊37'01	4.00848 AU
retrograde	12446 Sep 13 00:35	7°♊50'19		opposition	12452 May 13 00:50	0°♊24'27	0°29'16
opposition	12446 Nov 12 22:42	2°♊57'00	-0°31'05		12452 May 16 01:01	30°♋♍	
min. Earth dist.	12446 Nov 14 13:46	2°♊44'29	4.36428 AU	direct	12452 Jul 10 10:33	25°♍27'36	
	12446 Dec 07 14:04	30°♋♄			12452 Sep 02 14:51	0°♊	
direct	12447 Jan 14 02:00	27°♄56'45		evening set	12452 Nov 14 08:15	14°♊50'35	
	12447 Feb 20 09:28	0°♊					
evening set	12447 May 19 06:52	15°♊51'28		conjunction	12452 Nov 27 22:10	18°♊00'17	0°28'24
max. Earth dist.	12447 May 29 17:26	18°♊12'21	6.28570 AU	minimum elong	12452 Nov 27 22:09	18°♊00'17	0°29'16
				max. Earth dist.	12452 Nov 30 09:56	18°♊35'06	6.08636 AU
conjunction	12447 Jun 01 02:37	18°♊44'38	-0°29'05	morning rise	12452 Dec 11 13:03	21°♊10'05	
minimum elong	12447 Jun 01 02:37	18°♊44'38	0°29'57		12453 Jan 20 19:16	0°♊	
morning rise	12447 Jun 13 21:41	21°♊37'46		retrograde	12453 Apr 18 00:29	10°♊18'30	
	12447 Jul 23 00:19	0°♄		min. Earth dist.	12453 Jun 15 09:47	5°♊27'48	4.17246 AU
retrograde	12447 Oct 16 16:31	9°♄47'12		opposition	12453 Jun 16 22:56	5°♊15'18	0°51'55
opposition	12447 Dec 16 05:04	4°♄53'15	-0°51'59	direct	12453 Aug 15 09:10	0°♊16'26	
min. Earth dist.	12447 Dec 17 18:45	4°♄41'03	4.19879 AU	evening set	12453 Dec 19 16:08	18°♊44'48	
	12448 Feb 07 15:33	30°♋♊					
direct	12448 Feb 15 06:28	29°♊54'24		conjunction	12454 Jan 02 03:37	21°♊45'43	0°38'03
	12448 Feb 22 22:01	0°♄		minimum elong	12454 Jan 02 03:37	21°♊45'43	0°38'56
evening set	12448 Jun 20 04:26	18°♄41'17		max. Earth dist.	12454 Jan 04 04:18	22°♊13'00	6.26029 AU
max. Earth dist.	12448 Jul 01 03:23	21°♄15'03	6.11165 AU	morning rise	12454 Jan 15 14:41	24°♊46'07	
					12454 Feb 08 18:37	0°♌	
conjunction	12448 Jul 03 01:57	21°♄42'24	-0°38'03	retrograde	12454 May 19 24:00	12°♌42'03	
minimum elong	12448 Jul 03 01:57	21°♄42'24	0°38'57	min. Earth dist.	12454 Jul 18 08:50	7°♌49'20	4.34085 AU
morning rise	12448 Jul 15 23:41	24°♄43'59		opposition	12454 Jul 19 09:21	7°♌41'14	0°56'10
	12448 Aug 08 00:27	0°♌		direct	12454 Sep 18 02:43	2°♌41'00	
retrograde	12448 Nov 21 02:57	14°♌08'21			12454 Dec 27 04:54	15°♌	
opposition	12449 Jan 20 01:08	9°♌12'43	-0°57'01	evening set	12455 Jan 21 16:34	20°♌21'42	
min. Earth dist.	12449 Jan 21 02:17	9°♌04'27	4.02983 AU				
direct	12449 Mar 20 18:38	4°♌15'54		conjunction	12455 Feb 03 23:53	23°♌14'47	0°35'32
	12449 Jun 16 09:41	15°♌		minimum elong	12455 Feb 03 23:54	23°♌14'47	0°36'10
evening set	12449 Jul 25 09:41	23°♌55'42		max. Earth dist.	12455 Feb 04 23:28	23°♌27'35	6.41041 AU
				morning rise	12455 Feb 17 06:03	26°♌07'04	
conjunction	12449 Aug 07 11:53	27°♌05'38	-0°34'04		12455 Mar 07 14:16	0°♎	
minimum elong	12449 Aug 07 11:54	27°♌05'38	0°34'38	retrograde	12455 Jun 19 04:51	13°♎09'30	
max. Earth dist.	12449 Aug 06 15:16	26°♌53'08	5.96330 AU	opposition	12455 Aug 19 00:37	8°♎11'40	0°44'18
	12449 Aug 19 12:03	0°♎		min. Earth dist.	12455 Aug 18 18:00	8°♎13'49	4.46275 AU
morning rise	12449 Aug 20 15:36	0°♎16'36		direct	12455 Oct 19 19:14	3°♎10'44	
retrograde	12449 Dec 29 13:24	20°♎46'15		evening set	12456 Feb 21 21:31	20°♎22'15	
opposition	12450 Feb 27 00:35	15°♎47'54	-0°40'23				
min. Earth dist.	12450 Feb 27 01:04	15°♎47'45	3.91761 AU	conjunction	12456 Mar 06 00:36	23°♎10'20	0°23'18
direct	12450 Apr 26 12:32	10°♎52'43		minimum elong	12456 Mar 06 00:37	23°♎10'21	0°23'30
	12450 Aug 27 07:56	0°♏		max. Earth dist.	12456 Mar 05 19:51	23°♎07'48	6.49590 AU
evening set	12450 Aug 31 17:37	1°♏04'09		morning rise	12456 Mar 19 01:45	25°♎57'29	
					12456 Apr 07 11:10	0°♐	
conjunction	12450 Sep 14 02:01	4°♏20'09	-0°16'34	retrograde	12456 Jul 17 19:12	12°♐34'21	
minimum elong	12450 Sep 14 02:02	4°♏20'09	0°16'34	opposition	12456 Sep 16 21:04	7°♐39'07	0°21'23
max. Earth dist.	12450 Sep 14 18:56	4°♏30'31	5.89879 AU	min. Earth dist.	12456 Sep 17 09:55	7°♐34'59	4.50749 AU
morning rise	12450 Sep 27 12:36	7°♏37'20		direct	12456 Nov 18 07:42	2°♐38'03	
retrograde	12451 Feb 06 08:42	28°♏29'35		evening set	12457 Mar 23 03:41	19°♐43'05	
opposition	12451 Apr 06 15:49	23°♏28'01	-0°06'28	max. Earth dist.	12457 Apr 03 18:14	22°♐12'08	6.49664 AU
min. Earth dist.	12451 Apr 05 16:29	23°♏35'55	3.90919 AU				
direct	12451 Jun 03 15:50	18°♏32'47		conjunction	12457 Apr 05 02:45	22°♐29'35	0°05'12
asc. node	12451 Jun 13 02:48	18°♏42'06		minimum elong	12457 Apr 05 02:44	22°♐29'35	0°04'56
	12451 Sep 01 13:22	0°♍		behind sun begin	12457 Apr 04 18:57	22°♐25'25	
evening set	12451 Oct 08 22:47	8°♍37'14		behind sun end	12457 Apr 05 10:32	22°♐33'44	
				morning rise	12457 Apr 18 00:07	25°♐15'19	
conjunction	12451 Oct 22 11:59	11°♍53'10	0°07'51		12457 May 10 18:13	0°♄	
minimum elong	12451 Oct 22 11:59	11°♍53'10	0°08'23	desc. node	12457 Jul 17 11:04	10°♄33'28	



retrograde	12457 Aug 16 22:17	11°♄57'10	min. Earth dist.	12463 Apr 10 19:49	28°♄53'06	3.91644 AU
opposition	12457 Oct 17 00:13	7°♄03'24 -0°07'00	asc. node	12463 Apr 24 15:47	27°♄02'53	
min. Earth dist.	12457 Oct 18 06:12	6°♄53'49 4.46471 AU	direct	12463 Jun 08 21:18	23°♄49'04	
direct	12457 Dec 18 13:33	2°♄02'31		12463 Aug 11 05:43	0°♄	
	12458 Apr 01 16:10	15°♄	evening set	12463 Oct 14 03:59	13°♄49'50	
evening set	12458 Apr 22 10:24	19°♄24'39		12463 Oct 19 01:04	15°♄	
max. Earth dist.	12458 May 03 04:36	21°♄45'37 6.41267 AU				
			conjunction	12463 Oct 27 17:24	17°♄05'14 0°11'08	
conjunction	12458 May 05 06:58	22°♄13'13 -0°14'37	minimum elong	12463 Oct 27 17:24	17°♄05'14 0°11'44	
minimum elong	12458 May 05 06:57	22°♄13'13 0°15'17	behind sun begin	12463 Oct 27 11:33	17°♄01'44	
behind sun begin	12458 May 05 04:20	22°♄11'47	behind sun end	12463 Oct 27 23:14	17°♄08'44	
behind sun end	12458 May 05 09:34	22°♄14'39	max. Earth dist.	12463 Oct 29 20:47	17°♄36'07 5.96057 AU	
morning rise	12458 May 18 01:59	25°♄01'19	morning rise	12463 Nov 10 08:42	20°♄21'21	
	12458 Jun 10 10:41	0°♄		12463 Dec 23 01:56	0°♄	
retrograde	12458 Sep 17 12:14	12°♄18'15	retrograde	12464 Mar 19 10:53	10°♄31'56	
opposition	12458 Nov 17 10:14	7°♄24'49 -0°34'36	min. Earth dist.	12464 May 16 09:28	5°♄41'17 4.02676 AU	
min. Earth dist.	12458 Nov 19 00:37	7°♄12'30 4.34425 AU	opposition	12464 May 17 23:50	5°♄28'17 0°33'24	
direct	12459 Jan 18 09:32	2°♄24'40	direct	12464 Jul 15 11:34	0°♄31'08	
evening set	12459 May 23 17:38	20°♄25'27	evening set	12464 Nov 19 08:31	19°♄47'39	
max. Earth dist.	12459 Jun 03 05:56	22°♄48'00 6.26379 AU				
			conjunction	12464 Dec 02 22:21	22°♄56'19 0°30'28	
conjunction	12459 Jun 05 13:27	23°♄19'30 -0°30'55	minimum elong	12464 Dec 02 22:20	22°♄56'19 0°31'21	
minimum elong	12459 Jun 05 13:26	23°♄19'30 0°31'49	max. Earth dist.	12464 Dec 05 09:29	23°♄30'37 6.10772 AU	
morning rise	12459 Jun 18 08:36	26°♄13'34	morning rise	12464 Dec 16 12:48	26°♄04'58	
	12459 Jul 05 07:33	0°♄		12465 Jan 02 20:35	0°♄	
retrograde	12459 Oct 21 14:27	14°♄32'03	retrograde	12465 Apr 22 15:13	15°♄03'44	
opposition	12459 Dec 21 00:28	9°♄37'53 -0°53'46	min. Earth dist.	12465 Jun 20 02:48	10°♄12'39 4.19474 AU	
min. Earth dist.	12459 Dec 22 14:00	9°♄25'43 4.17622 AU	opposition	12465 Jun 21 14:03	10°♄00'49 0°53'35	
direct	12460 Feb 19 22:54	4°♄39'14	direct	12465 Aug 20 05:03	5°♄01'45	
evening set	12460 Jun 24 21:40	23°♄32'57	evening set	12465 Dec 24 09:25	23°♄23'34	
max. Earth dist.	12460 Jul 05 22:43	26°♄08'42 6.09017 AU				
			conjunction	12466 Jan 06 20:26	26°♄23'24 0°38'23	
conjunction	12460 Jul 07 19:36	26°♄35'10 -0°38'20	minimum elong	12466 Jan 06 20:26	26°♄23'24 0°39'14	
minimum elong	12460 Jul 07 19:36	26°♄35'10 0°39'11	max. Earth dist.	12466 Jan 08 18:59	26°♄49'20 6.28184 AU	
morning rise	12460 Jul 20 18:03	29°♄37'59	morning rise	12466 Jan 20 06:57	29°♄22'39	
	12460 Jul 22 07:36	0°♄		12466 Jan 23 02:40	0°♄	
	12460 Oct 04 09:43	15°♄		12466 Apr 16 13:27	15°♄	
retrograde	12460 Nov 26 06:01	19°♄11'45	retrograde	12466 May 24 05:56	17°♄10'19	
	12461 Jan 19 13:05	15°♄		12466 Jun 30 20:54	15°♄	
opposition	12461 Jan 25 03:54	14°♄15'46 -0°55'59	opposition	12466 Jul 23 17:47	12°♄09'55 0°55'22	
min. Earth dist.	12461 Jan 26 01:23	14°♄08'41 4.01138 AU	min. Earth dist.	12466 Jul 22 18:29	12°♄17'37 4.36035 AU	
direct	12461 Mar 25 16:18	9°♄19'10	direct	12466 Sep 22 13:49	7°♄09'37	
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evening set	12461 Jul 30 10:12	29°♄04'27	evening set	12467 Jan 26 03:11	24°♄45'22	
	12461 Aug 03 06:10	0°♄				
			conjunction	12467 Feb 08 09:57	27°♄37'34 0°34'19	
conjunction	12461 Aug 12 13:10	2°♄15'23 -0°32'21	minimum elong	12467 Feb 08 09:58	27°♄37'35 0°34'53	
minimum elong	12461 Aug 12 13:11	2°♄15'23 0°32'52	max. Earth dist.	12467 Feb 09 06:29	27°♄48'41 6.42685 AU	
max. Earth dist.	12461 Aug 11 21:19	2°♄05'45 5.94970 AU		12467 Feb 19 09:30	0°♄	
morning rise	12461 Aug 25 17:46	5°♄27'24	morning rise	12467 Feb 21 15:20	0°♄28'56	
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opposition	12462 Mar 04 07:38	21°♄03'59 -0°36'26	opposition	12467 Aug 23 05:13	12°♄28'35 0°41'39	
min. Earth dist.	12462 Mar 04 05:24	21°♄04'44 3.91032 AU	min. Earth dist.	12467 Aug 23 01:12	12°♄29'54 4.47528 AU	
direct	12462 May 01 17:56	16°♄08'49	direct	12467 Oct 24 03:39	7°♄27'43	
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			conjunction	12468 Mar 10 05:46	27°♄23'54 0°21'03	
conjunction	12462 Sep 19 08:15	9°♄38'02 -0°13'22	minimum elong	12468 Mar 10 05:47	27°♄23'54 0°21'11	
minimum elong	12462 Sep 19 08:15	9°♄38'02 0°13'18	max. Earth dist.	12468 Mar 09 20:33	27°♄18'59 6.50375 AU	
behind sun begin	12462 Sep 19 03:27	9°♄35'06		12468 Mar 22 10:33	0°♄	
behind sun end	12462 Sep 19 13:03	9°♄40'58	morning rise	12468 Mar 23 06:25	0°♄10'32	
max. Earth dist.	12462 Sep 20 07:04	9°♄52'00 5.89871 AU	retrograde	12468 Jul 21 22:01	16°♄45'22	
morning rise	12462 Oct 02 19:32	12°♄55'33	opposition	12468 Sep 21 00:13	11°♄50'22 0°17'41	
	12462 Dec 24 09:07	0°♄	min. Earth dist.	12468 Sep 21 15:25	11°♄45'29 4.51039 AU	
retrograde	12463 Feb 11 15:03	3°♄46'21	direct	12468 Nov 22 12:23	6°♄49'19	
	12463 Apr 02 11:50	30°♄	evening set	12469 Mar 27 07:10	23°♄54'05	
opposition	12463 Apr 11 21:24	28°♄44'26 -0°01'14	max. Earth dist.	12469 Apr 07 19:50	26°♄22'12 6.49439 AU	






























































































































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minimum elong	12469 Apr 09 05:53	26° $\Upsilon$ 40'29	0°02'11	behind sun begin	12474 Sep 24 06:51	14° $\underline{\Delta}$ 50'41	
behind sun begin	12469 Apr 08 21:52	26° $\Upsilon$ 36'12		behind sun end	12474 Sep 24 20:17	14° $\underline{\Delta}$ 58'53	
behind sun end	12469 Apr 09 13:53	26° $\Upsilon$ 44'45		max. Earth dist.	12474 Sep 25 15:29	15° $\underline{\Delta}$ 10'40	5.89455 AU
morning rise	12469 Apr 22 02:36	29° $\Upsilon$ 26'06		morning rise	12474 Oct 08 01:55	18° $\underline{\Delta}$ 12'57	
	12469 Apr 24 18:13	0° $\mathcal{B}$			12474 Nov 29 04:12	0° $\mathcal{M}$	
desc. node	12469 May 29 10:12	7° $\mathcal{B}$ 01'57		retrograde	12475 Feb 16 19:51	9° $\mathcal{M}$ 04'01	
	12469 Jul 24 09:56	15° $\mathcal{B}$		asc. node	12475 Mar 08 03:25	8° $\mathcal{M}$ 26'36	
retrograde	12469 Aug 21 01:43	16° $\mathcal{B}$ 09'29		min. Earth dist.	12475 Apr 15 21:47	4° $\mathcal{M}$ 11'30	3.91972 AU
	12469 Sep 17 17:21	15° $\mathcal{R}\mathcal{B}$		opposition	12475 Apr 17 02:36	4° $\mathcal{M}$ 01'44	0°03'53
opposition	12469 Oct 21 04:46	11° $\mathcal{B}$ 15'51	-0°10'54		12475 May 22 04:01	30° $\mathcal{R}\underline{\Delta}$	
min. Earth dist.	12469 Oct 22 11:43	11° $\mathcal{B}$ 05'57	4.45734 AU	direct	12475 Jun 14 02:03	29° $\underline{\Delta}$ 06'10	
direct	12469 Dec 22 16:37	6° $\mathcal{B}$ 15'04			12475 Jul 07 01:48	0° $\mathcal{M}$	
	12470 Mar 15 07:47	15° $\mathcal{B}$			12475 Oct 02 01:50	15° $\mathcal{M}$	
evening set	12470 Apr 26 14:25	23° $\mathcal{B}$ 39'40		evening set	12475 Oct 19 10:00	19° $\mathcal{M}$ 04'57	
max. Earth dist.	12470 May 07 06:11	25° $\mathcal{B}$ 59'45	6.40045 AU				
				conjunction	12475 Nov 01 23:55	22° $\mathcal{M}$ 20'04	0°14'16
conjunction	12470 May 09 10:33	26° $\mathcal{B}$ 28'33	-0°17'05	minimum elong	12475 Nov 01 23:54	22° $\mathcal{M}$ 20'03	0°14'56
minimum elong	12470 May 09 10:32	26° $\mathcal{B}$ 28'32	0°17'48	behind sun begin	12475 Nov 01 20:55	22° $\mathcal{M}$ 18'16	
morning rise	12470 May 22 05:27	29° $\mathcal{B}$ 17'02		behind sun end	12475 Nov 02 02:53	22° $\mathcal{M}$ 21'50	
	12470 May 25 12:12	0° $\mathcal{I}$		max. Earth dist.	12475 Nov 04 06:26	22° $\mathcal{M}$ 52'45	5.97100 AU
retrograde	12470 Sep 21 23:31	16° $\mathcal{I}$ 39'25		morning rise	12475 Nov 15 15:22	25° $\mathcal{M}$ 35'44	
opposition	12470 Nov 21 19:26	11° $\mathcal{I}$ 45'56	-0°37'45		12475 Dec 04 11:58	0° $\mathcal{J}$	
min. Earth dist.	12470 Nov 23 11:33	11° $\mathcal{I}$ 33'03	4.32755 AU	retrograde	12476 Mar 24 11:08	15° $\mathcal{J}$ 39'44	
direct	12471 Jan 22 17:34	6° $\mathcal{I}$ 45'53		min. Earth dist.	12476 May 21 09:30	10° $\mathcal{J}$ 48'59	4.04290 AU
evening set	12471 May 28 01:08	24° $\mathcal{I}$ 51'53		opposition	12476 May 22 23:53	10° $\mathcal{J}$ 35'58	0°37'13
max. Earth dist.	12471 Jun 07 12:47	27° $\mathcal{I}$ 14'42	6.24375 AU	direct	12476 Jul 20 14:48	5° $\mathcal{J}$ 38'30	
				evening set	12476 Nov 24 10:17	24° $\mathcal{J}$ 49'08	
conjunction	12471 Jun 09 21:03	27° $\mathcal{I}$ 46'46	-0°32'29				
minimum elong	12471 Jun 09 21:02	27° $\mathcal{I}$ 46'46	0°33'24	conjunction	12476 Dec 07 23:59	27° $\mathcal{J}$ 56'49	0°32'16
	12471 Jun 19 14:56	0° $\mathcal{E}$		minimum elong	12476 Dec 07 23:58	27° $\mathcal{J}$ 56'49	0°33'11
morning rise	12471 Jun 22 16:24	0° $\mathcal{E}$ 41'43		max. Earth dist.	12476 Dec 10 12:20	28° $\mathcal{J}$ 31'38	6.12798 AU
retrograde	12471 Oct 26 06:28	19° $\mathcal{E}$ 09'02			12476 Dec 16 21:50	0° $\mathcal{Z}$	
opposition	12471 Dec 25 16:20	14° $\mathcal{E}$ 14'40	-0°55'07	morning rise	12476 Dec 21 14:07	1° $\mathcal{Z}$ 04'22	
min. Earth dist.	12471 Dec 27 04:21	14° $\mathcal{E}$ 02'58	4.15418 AU	retrograde	12477 Apr 27 04:54	19° $\mathcal{Z}$ 53'29	
direct	12472 Feb 24 09:36	9° $\mathcal{E}$ 16'13		min. Earth dist.	12477 Jun 24 18:57	15° $\mathcal{Z}$ 02'37	4.21704 AU
evening set	12472 Jun 29 11:54	28° $\mathcal{E}$ 17'07		opposition	12477 Jun 26 06:30	14° $\mathcal{Z}$ 50'43	0°54'52
	12472 Jul 06 18:23	0° $\mathcal{O}$		direct	12477 Aug 25 00:31	9° $\mathcal{Z}$ 51'23	
max. Earth dist.	12472 Jul 10 15:41	0° $\mathcal{O}$ 55'16	6.06793 AU	evening set	12477 Dec 29 03:54	28° $\mathcal{Z}$ 06'14	
					12478 Jan 06 17:27	0° $\approx$	
conjunction	12472 Jul 12 10:19	1° $\mathcal{O}$ 20'32	-0°38'19	conjunction	12478 Jan 11 14:17	1° $\approx$ 04'51	0°38'26
minimum elong	12472 Jul 12 10:19	1° $\mathcal{O}$ 20'32	0°39'08	minimum elong	12478 Jan 11 14:17	1° $\approx$ 04'51	0°39'16
morning rise	12472 Jul 25 09:25	4° $\mathcal{O}$ 24'38		max. Earth dist.	12478 Jan 13 09:37	1° $\approx$ 28'54	6.30423 AU
	12472 Sep 11 06:39	15° $\mathcal{O}$		morning rise	12478 Jan 25 00:08	4° $\approx$ 02'53	
retrograde	12472 Dec 01 08:52	24° $\mathcal{O}$ 08'36			12478 Mar 20 07:10	15° $\approx$	
opposition	12473 Jan 30 03:42	19° $\mathcal{O}$ 12'18	-0°54'36	retrograde	12478 May 28 14:46	21° $\approx$ 41'48	
min. Earth dist.	12473 Jan 30 23:45	19° $\mathcal{O}$ 05'41	3.99079 AU	min. Earth dist.	12478 Jul 27 07:06	16° $\approx$ 48'25	4.38078 AU
	12473 Mar 09 09:48	15° $\mathcal{R}\mathcal{O}$		opposition	12478 Jul 28 03:31	16° $\approx$ 41'42	0°54'10
direct	12473 Mar 30 13:04	14° $\mathcal{O}$ 15'52			12478 Aug 10 06:59	15° $\mathcal{R}\approx$	
	12473 Apr 20 13:31	15° $\mathcal{O}$		direct	12478 Sep 27 05:17	11° $\approx$ 41'12	
	12473 Jul 18 00:18	0° $\mathcal{M}$			12478 Nov 14 05:03	15° $\approx$	
evening set	12473 Aug 04 08:17	4° $\mathcal{M}$ 07'56		evening set	12479 Jan 30 14:30	29° $\approx$ 11'19	
					12479 Feb 03 09:11	0° $\mathcal{H}$	
conjunction	12473 Aug 17 12:18	7° $\mathcal{M}$ 20'07	-0°30'27				
minimum elong	12473 Aug 17 12:19	7° $\mathcal{M}$ 20'08	0°30'54	conjunction	12479 Feb 12 20:38	2° $\mathcal{H}$ 02'36	0°32'52
max. Earth dist.	12473 Aug 17 01:00	7° $\mathcal{M}$ 13'14	5.93286 AU	minimum elong	12479 Feb 12 20:39	2° $\mathcal{H}$ 02'37	0°33'23
morning rise	12473 Aug 30 17:52	10° $\mathcal{M}$ 33'25		max. Earth dist.	12479 Feb 13 13:58	2° $\mathcal{H}$ 11'57	6.44356 AU
	12473 Dec 12 05:38	0° $\underline{\Delta}$		morning rise	12479 Feb 26 01:17	4° $\mathcal{H}$ 53'00	
retrograde	12474 Jan 09 05:05	1° $\underline{\Delta}$ 16'05		retrograde	12479 Jun 27 11:20	21° $\mathcal{H}$ 44'28	
	12474 Feb 06 02:10	30° $\mathcal{R}\mathcal{M}$		opposition	12479 Aug 27 10:22	16° $\mathcal{H}$ 47'21	0°38'41
opposition	12474 Mar 09 12:55	26° $\mathcal{M}$ 16'53	-0°32'19	min. Earth dist.	12479 Aug 27 08:15	16° $\mathcal{H}$ 48'03	4.48712 AU
min. Earth dist.	12474 Mar 09 07:37	26° $\mathcal{M}$ 18'39	3.89932 AU	direct	12479 Oct 28 11:04	11° $\mathcal{H}$ 46'21	
direct	12474 May 06 18:55	21° $\mathcal{M}$ 21'49		evening set	12480 Mar 01 09:55	28° $\mathcal{H}$ 52'19	
	12474 Jul 21 22:15	0° $\underline{\Delta}$			12480 Mar 06 17:26	0° $\mathcal{Y}$	
evening set	12474 Sep 11 03:29	11° $\underline{\Delta}$ 37'46					
				conjunction	12480 Mar 14 11:42	1° $\mathcal{Y}$ 39'22	0°18'38
conjunction	12474 Sep 24 13:33	14° $\underline{\Delta}$ 54'47	-0°10'09				

minimum elong	12480 Mar 14 11:43	1° $\Upsilon$ 39'23	0°18'42	opposition	12486 Mar 15 00:07	1° $\Omega$ 44'19	-0°27'40
max. Earth dist.	12480 Mar 13 23:21	1° $\Upsilon$ 32'47	6.50978 AU	min. Earth dist.	12486 Mar 14 14:30	1° $\Omega$ 47'33	3.89313 AU
morning rise	12480 Mar 27 11:36	4° $\Upsilon$ 25'32			12486 Mar 28 05:30	30° $\mathbb{R}$ $\mathbb{M}$	
retrograde	12480 Jul 26 01:36	20° $\Upsilon$ 58'59		direct	12486 May 12 03:32	26° $\mathbb{M}$ 49'21	
opposition	12480 Sep 25 04:41	16° $\Upsilon$ 04'14	0°13'46		12486 Jun 25 06:46	0° $\Omega$	
min. Earth dist.	12480 Sep 25 22:42	15° $\Upsilon$ 58'28	4.51013 AU	evening set	12486 Sep 16 13:40	17° $\Omega$ 06'17	
direct	12480 Nov 26 18:33	11° $\Upsilon$ 03'11					
evening set	12481 Mar 31 12:05	28° $\Upsilon$ 08'37		conjunction	12486 Sep 30 00:39	20° $\Omega$ 23'35	-0°06'41
desc. node	12481 Apr 06 00:28	29° $\Upsilon$ 19'28		minimum elong	12486 Sep 30 00:39	20° $\Omega$ 23'35	0°06'27
	12481 Apr 09 03:54	0° $\mathcal{B}$		behind sun begin	12486 Sep 29 16:48	20° $\Omega$ 18'48	
max. Earth dist.	12481 Apr 11 19:32	0° $\mathcal{B}$ 34'15	6.48764 AU	behind sun end	12486 Sep 30 08:30	20° $\Omega$ 28'22	
				max. Earth dist.	12486 Oct 01 08:54	20° $\Omega$ 43'20	5.89734 AU
conjunction	12481 Apr 13 10:11	0° $\mathcal{B}$ 55'03	-0°00'23	morning rise	12486 Oct 13 13:36	23° $\Omega$ 41'55	
minimum elong	12481 Apr 13 10:10	0° $\mathcal{B}$ 55'03	0°00'46		12486 Nov 09 05:09	0° $\mathbb{M}$	
behind sun begin	12481 Apr 13 02:11	0° $\mathcal{B}$ 50'46		asc. node	12487 Jan 16 20:32	12° $\mathbb{M}$ 22'27	
behind sun end	12481 Apr 13 18:10	0° $\mathcal{B}$ 59'19		retrograde	12487 Feb 22 05:13	14° $\mathbb{M}$ 29'51	
morning rise	12481 Apr 26 06:40	3° $\mathcal{B}$ 40'48		min. Earth dist.	12487 Apr 21 04:43	9° $\mathbb{M}$ 37'39	3.93120 AU
	12481 Jun 23 19:24	15° $\mathcal{B}$		opposition	12487 Apr 22 11:19	9° $\mathbb{M}$ 27'15	0°09'12
retrograde	12481 Aug 25 10:04	20° $\mathcal{B}$ 27'22		direct	12487 Jun 19 12:27	4° $\mathbb{M}$ 31'32	
opposition	12481 Oct 25 12:06	15° $\mathcal{B}$ 33'47	-0°14'56		12487 Sep 13 04:14	15° $\mathbb{M}$	
min. Earth dist.	12481 Oct 26 21:23	15° $\mathcal{B}$ 23'08	4.44441 AU	evening set	12487 Oct 24 18:24	24° $\mathbb{M}$ 24'58	
	12481 Oct 29 21:52	15° $\mathcal{R}$ $\mathcal{B}$					
direct	12481 Dec 26 23:42	10° $\mathcal{B}$ 33'00		conjunction	12487 Nov 07 08:33	27° $\mathbb{M}$ 39'17	0°17'24
	12482 Feb 21 16:44	15° $\mathcal{B}$		minimum elong	12487 Nov 07 08:32	27° $\mathbb{M}$ 39'16	0°18'07
evening set	12482 Apr 30 21:22	28° $\mathcal{B}$ 01'51		max. Earth dist.	12487 Nov 09 18:40	28° $\mathbb{M}$ 13'57	5.98993 AU
	12482 May 09 20:25	0° $\mathbb{I}$			12487 Nov 17 04:52	0° $\mathcal{A}$	
max. Earth dist.	12482 May 11 12:10	0° $\mathbb{I}$ 21'56	6.38220 AU	morning rise	12487 Nov 21 00:05	0° $\mathcal{A}$ 54'02	
				retrograde	12488 Mar 29 08:54	20° $\mathcal{A}$ 47'59	
conjunction	12482 May 13 17:28	0° $\mathbb{I}$ 51'22	-0°19'36	min. Earth dist.	12488 May 26 08:16	15° $\mathcal{A}$ 57'43	4.06716 AU
minimum elong	12482 May 13 17:27	0° $\mathbb{I}$ 51'22	0°20'21	opposition	12488 May 28 00:12	15° $\mathcal{A}$ 44'13	0°40'48
morning rise	12482 May 26 12:07	3° $\mathbb{I}$ 40'30		direct	12488 Jul 25 17:35	10° $\mathcal{A}$ 46'31	
retrograde	12482 Sep 26 12:58	21° $\mathbb{I}$ 10'20		evening set	12488 Nov 29 11:30	29° $\mathcal{A}$ 48'33	
opposition	12482 Nov 26 08:48	16° $\mathbb{I}$ 16'48	-0°40'56		12488 Nov 30 07:34	0° $\mathcal{B}$	
min. Earth dist.	12482 Nov 28 00:55	16° $\mathbb{I}$ 03'54	4.30509 AU				
direct	12483 Jan 27 03:02	11° $\mathbb{I}$ 16'55		conjunction	12488 Dec 13 00:41	2° $\mathcal{B}$ 54'48	0°33'53
evening set	12483 Jun 01 13:48	29° $\mathbb{I}$ 30'08		minimum elong	12488 Dec 13 00:41	2° $\mathcal{B}$ 54'48	0°34'48
	12483 Jun 03 18:21	0° $\mathcal{E}$		max. Earth dist.	12488 Dec 15 10:48	3° $\mathcal{B}$ 28'07	6.15515 AU
max. Earth dist.	12483 Jun 12 01:46	1° $\mathcal{E}$ 53'59	6.21870 AU	morning rise	12488 Dec 26 14:22	6° $\mathcal{B}$ 00'53	
				retrograde	12489 May 01 17:53	24° $\mathcal{B}$ 38'28	
conjunction	12483 Jun 14 09:47	2° $\mathcal{E}$ 26'05	-0°33'59	min. Earth dist.	12489 Jun 29 11:51	19° $\mathcal{B}$ 47'07	4.24443 AU
minimum elong	12483 Jun 14 09:47	2° $\mathcal{E}$ 26'05	0°34'54	opposition	12489 Jun 30 21:11	19° $\mathcal{B}$ 35'59	0°55'47
morning rise	12483 Jun 27 05:32	5° $\mathcal{E}$ 22'14		direct	12489 Aug 29 21:09	14° $\mathcal{B}$ 36'25	
retrograde	12483 Oct 31 07:42	24° $\mathcal{E}$ 00'18			12489 Dec 21 07:56	0° $\mathcal{A}$	
opposition	12483 Dec 30 14:43	19° $\mathcal{E}$ 05'44	-0°56'16	evening set	12490 Jan 02 19:54	2° $\mathcal{A}$ 43'04	
min. Earth dist.	12484 Jan 01 02:04	18° $\mathcal{E}$ 54'13	4.12823 AU				
direct	12484 Feb 29 04:40	14° $\mathcal{E}$ 07'31		conjunction	12490 Jan 16 05:48	5° $\mathcal{A}$ 40'24	0°38'16
	12484 Jun 20 07:03	0° $\mathcal{Q}$		minimum elong	12490 Jan 16 05:48	5° $\mathcal{A}$ 40'25	0°39'05
evening set	12484 Jul 04 08:30	3° $\mathcal{Q}$ 16'50		max. Earth dist.	12490 Jan 17 23:12	6° $\mathcal{A}$ 03'15	6.32969 AU
max. Earth dist.	12484 Jul 15 16:29	5° $\mathcal{Q}$ 58'19	6.04352 AU	morning rise	12490 Jan 29 14:46	8° $\mathcal{A}$ 37'03	
					12490 Feb 28 19:39	15° $\mathcal{A}$	
conjunction	12484 Jul 17 07:41	6° $\mathcal{Q}$ 21'40	-0°38'03	retrograde	12490 Jun 01 18:48	26° $\mathcal{A}$ 06'51	
minimum elong	12484 Jul 17 07:41	6° $\mathcal{Q}$ 21'40	0°38'50	opposition	12490 Aug 01 10:29	21° $\mathcal{A}$ 07'11	0°52'43
morning rise	12484 Jul 30 07:32	9° $\mathcal{Q}$ 27'13		min. Earth dist.	12490 Jul 31 15:42	21° $\mathcal{A}$ 13'21	4.40242 AU
	12484 Aug 23 05:46	15° $\mathcal{Q}$		direct	12490 Oct 01 15:33	16° $\mathcal{A}$ 06'36	
retrograde	12484 Dec 06 18:13	29° $\mathcal{Q}$ 22'00			12491 Jan 18 05:41	0° $\mathcal{H}$	
opposition	12485 Feb 04 10:39	24° $\mathcal{Q}$ 25'25	-0°52'42	evening set	12491 Feb 03 23:01	3° $\mathcal{H}$ 31'12	
min. Earth dist.	12485 Feb 05 03:28	24° $\mathcal{Q}$ 19'51	3.97045 AU				
direct	12485 Apr 04 14:30	19° $\mathcal{Q}$ 29'19		conjunction	12491 Feb 17 04:24	6° $\mathcal{H}$ 21'35	0°31'17
	12485 Jun 29 12:19	0° $\mathbb{M}$		minimum elong	12491 Feb 17 04:25	6° $\mathcal{H}$ 21'35	0°31'43
evening set	12485 Aug 09 13:37	9° $\mathbb{M}$ 27'48		max. Earth dist.	12491 Feb 17 16:17	6° $\mathcal{H}$ 27'59	6.45981 AU
				morning rise	12491 Mar 02 08:23	9° $\mathcal{H}$ 11'06	
conjunction	12485 Aug 22 18:24	12° $\mathbb{M}$ 41'05	-0°28'11	retrograde	12491 Jul 01 14:24	25° $\mathcal{H}$ 57'45	
minimum elong	12485 Aug 22 18:25	12° $\mathbb{M}$ 41'06	0°28'32	opposition	12491 Aug 31 13:37	21° $\mathcal{H}$ 01'03	0°35'36
max. Earth dist.	12485 Aug 22 11:07	12° $\mathbb{M}$ 36'38	5.91866 AU	min. Earth dist.	12491 Aug 31 15:29	21° $\mathcal{H}$ 00'26	4.49699 AU
morning rise	12485 Sep 05 01:10	15° $\mathbb{M}$ 55'35		direct	12491 Nov 01 18:15	16° $\mathcal{H}$ 00'00	
	12485 Nov 08 04:50	0° $\Omega$			12492 Feb 19 21:43	0° $\Upsilon$	
retrograde	12486 Jan 14 16:15	6° $\Omega$ 43'56		evening set	12492 Mar 05 14:08	3° $\Upsilon$ 04'05	

conjunction	12492 Mar 18 15:22	5° $\Upsilon$ 50'49	0°16'09	morning rise	12497 Sep 10 10:40	21° $\mathfrak{M}$ 23'24	
minimum elong	12492 Mar 18 15:22	5° $\Upsilon$ 50'50	0°16'09		12497 Oct 17 07:56	0° $\underline{\mathfrak{A}}$	
max. Earth dist.	12492 Mar 17 22:14	5° $\Upsilon$ 41'42	6.51249 AU	retrograde	12498 Jan 20 06:29	12° $\underline{\mathfrak{A}}$ 15'01	
morning rise	12492 Mar 31 14:44	8° $\Upsilon$ 36'41		opposition	12498 Mar 20 12:32	7° $\underline{\mathfrak{A}}$ 14'52	-0°22'43
retrograde	12492 Jul 30 03:58	25° $\Upsilon$ 10'09		min. Earth dist.	12498 Mar 19 23:54	7° $\underline{\mathfrak{A}}$ 19'07	3.89256 AU
opposition	12492 Sep 29 07:51	20° $\Upsilon$ 15'36	0°09'50	direct	12498 May 17 15:16	2° $\underline{\mathfrak{A}}$ 19'53	
min. Earth dist.	12492 Sep 30 04:08	20° $\Upsilon$ 09'06	4.50568 AU	evening set	12498 Sep 22 00:06	22° $\underline{\mathfrak{A}}$ 35'05	
direct	12492 Nov 30 21:46	15° $\Upsilon$ 14'32					
desc. node	12493 Feb 11 11:44	22° $\Upsilon$ 06'49		conjunction	12498 Oct 05 11:40	25° $\underline{\mathfrak{A}}$ 52'16	-0°03'09
	12493 Mar 24 11:39	0° $\mathfrak{B}$		minimum elong	12498 Oct 05 11:40	25° $\underline{\mathfrak{A}}$ 52'16	0°02'50
evening set	12493 Apr 04 16:02	2° $\mathfrak{B}$ 22'08		behind sun begin	12498 Oct 05 03:19	25° $\underline{\mathfrak{A}}$ 47'12	
max. Earth dist.	12493 Apr 15 21:16	4° $\mathfrak{B}$ 46'56	6.47629 AU	behind sun end	12498 Oct 05 20:01	25° $\underline{\mathfrak{A}}$ 57'20	
				max. Earth dist.	12498 Oct 07 01:05	26° $\underline{\mathfrak{A}}$ 15'05	5.90580 AU
conjunction	12493 Apr 17 13:52	5° $\mathfrak{B}$ 08'51	-0°03'12	morning rise	12498 Oct 19 01:17	29° $\underline{\mathfrak{A}}$ 10'25	
minimum elong	12493 Apr 17 13:52	5° $\mathfrak{B}$ 08'51	0°03'40		12498 Oct 22 11:22	0° $\mathfrak{M}$	
behind sun begin	12493 Apr 17 05:57	5° $\mathfrak{B}$ 04'36		asc. node	12498 Nov 26 00:49	7° $\mathfrak{M}$ .58'12	
behind sun end	12493 Apr 17 21:47	5° $\mathfrak{B}$ 13'06			12499 Jan 01 22:29	15° $\mathfrak{M}$	
morning rise	12493 Apr 30 09:52	7° $\mathfrak{B}$ 54'53		retrograde	12499 Feb 27 10:39	19° $\mathfrak{M}$ .52'26	
	12493 Jun 03 19:58	15° $\mathfrak{B}$		min. Earth dist.	12499 Apr 26 08:47	15° $\mathfrak{M}$ 00'55	3.94769 AU
retrograde	12493 Aug 29 17:43	24° $\mathfrak{B}$ 46'15			12499 Apr 26 11:30	15° $\mathfrak{R}$ $\mathfrak{M}$	
opposition	12493 Oct 29 19:27	19° $\mathfrak{B}$ 52'46	-0°18'54	opposition	12499 Apr 27 18:28	14° $\mathfrak{M}$ .49'29	0°14'23
min. Earth dist.	12493 Oct 31 06:42	19° $\mathfrak{B}$ 41'30	4.42678 AU	direct	12499 Jun 24 19:49	9° $\mathfrak{M}$ .53'31	
	12493 Dec 21 21:25	15° $\mathfrak{R}$ $\mathfrak{B}$			12499 Aug 21 04:11	15° $\mathfrak{M}$	
direct	12493 Dec 31 05:40	14° $\mathfrak{B}$ 52'05		evening set	12499 Oct 30 01:13	29° $\mathfrak{M}$ .39'51	
	12494 Jan 09 13:53	15° $\mathfrak{B}$			12499 Oct 31 11:21	0° $\mathfrak{X}$	
	12494 Apr 23 23:11	0° $\mathfrak{I}$					
evening set	12494 May 05 04:56	2° $\mathfrak{I}$ 26'46		conjunction	12499 Nov 12 15:15	2° $\mathfrak{X}$ 53'04	0°20'21
max. Earth dist.	12494 May 15 16:42	4° $\mathfrak{I}$ 45'58	6.35939 AU	minimum elong	12499 Nov 12 15:14	2° $\mathfrak{X}$ 53'03	0°21'08
				max. Earth dist.	12499 Nov 15 01:30	3° $\mathfrak{X}$ 27'37	6.01239 AU
conjunction	12494 May 18 00:46	5° $\mathfrak{I}$ 17'06	-0°22'02	morning rise	12499 Nov 26 06:47	6° $\mathfrak{X}$ 06'41	
minimum elong	12494 May 18 00:45	5° $\mathfrak{I}$ 17'05	0°22'49	retrograde	12500 Apr 04 04:36	25° $\mathfrak{X}$ 49'32	
morning rise	12494 May 30 19:38	8° $\mathfrak{I}$ 07'10		min. Earth dist.	12500 Jun 01 06:42	20° $\mathfrak{X}$ 59'02	4.09296 AU
retrograde	12494 Oct 01 06:30	25° $\mathfrak{I}$ 46'17		opposition	12500 Jun 02 21:54	20° $\mathfrak{X}$ 45'46	0°44'01
opposition	12494 Dec 01 00:12	20° $\mathfrak{I}$ 52'38	-0°43'55	direct	12500 Jul 31 20:10	15° $\mathfrak{X}$ 47'44	
min. Earth dist.	12494 Dec 02 16:37	20° $\mathfrak{I}$ 39'36	4.27849 AU		12500 Nov 14 09:37	0° $\mathfrak{Z}$	
direct	12495 Jan 31 15:18	15° $\mathfrak{I}$ 52'54		evening set	12500 Dec 05 10:01	4° $\mathfrak{Z}$ 41'01	
	12495 May 18 05:53	0° $\mathfrak{E}$					
evening set	12495 Jun 06 04:15	4° $\mathfrak{E}$ 14'39		conjunction	12500 Dec 18 23:00	7° $\mathfrak{Z}$ 45'57	0°35'14
max. Earth dist.	12495 Jun 16 18:37	6° $\mathfrak{E}$ 40'45	6.19053 AU	minimum elong	12500 Dec 18 22:59	7° $\mathfrak{Z}$ 45'56	0°36'09
				max. Earth dist.	12500 Dec 21 08:44	8° $\mathfrak{Z}$ 18'50	6.18202 AU
conjunction	12495 Jun 19 00:41	7° $\mathfrak{E}$ 11'56	-0°35'17	morning rise	12501 Jan 01 11:57	10° $\mathfrak{Z}$ 50'33	
minimum elong	12495 Jun 19 00:41	7° $\mathfrak{E}$ 11'56	0°36'12	retrograde	12501 May 07 04:37	29° $\mathfrak{Z}$ 17'08	
morning rise	12495 Jul 01 20:45	10° $\mathfrak{E}$ 09'25		min. Earth dist.	12501 Jul 05 01:43	24° $\mathfrak{Z}$ 25'42	4.27000 AU
retrograde	12495 Nov 05 11:02	28° $\mathfrak{E}$ 59'21		opposition	12501 Jul 06 09:42	24° $\mathfrak{Z}$ 15'02	0°56'20
opposition	12496 Jan 04 15:53	24° $\mathfrak{E}$ 04'36	-0°57'02	direct	12501 Sep 04 13:39	19° $\mathfrak{Z}$ 15'19	
min. Earth dist.	12496 Jan 06 01:08	23° $\mathfrak{E}$ 53'45	4.10096 AU		12501 Dec 04 22:55	0° $\approx$	
direct	12496 Mar 05 00:16	19° $\mathfrak{E}$ 06'43		evening set	12502 Jan 08 10:05	7° $\approx$ 14'42	
	12496 Jun 02 05:05	0° $\Omega$					
evening set	12496 Jul 09 08:18	8° $\Omega$ 24'47		conjunction	12502 Jan 21 19:12	10° $\approx$ 10'51	0°37'53
max. Earth dist.	12496 Jul 20 19:56	11° $\Omega$ 09'21	6.01964 AU	minimum elong	12502 Jan 21 19:12	10° $\approx$ 10'51	0°38'39
				max. Earth dist.	12502 Jan 23 07:17	10° $\approx$ 30'40	6.35194 AU
conjunction	12496 Jul 22 08:02	11° $\Omega$ 30'58	-0°37'30	morning rise	12502 Feb 04 03:37	13° $\approx$ 06'19	
minimum elong	12496 Jul 22 08:02	11° $\Omega$ 30'59	0°38'15		12502 Feb 12 21:48	15° $\approx$	
morning rise	12496 Aug 04 08:55	14° $\Omega$ 38'02			12502 May 20 15:43	0° $\mathfrak{H}$	
	12496 Aug 05 21:51	15° $\Omega$		retrograde	12502 Jun 07 00:31	0° $\mathfrak{H}$ 28'29	
	12496 Oct 17 04:33	0° $\mathfrak{M}$			12502 Jun 24 06:33	30° $\mathfrak{R}$ $\approx$	
retrograde	12496 Dec 12 04:53	4° $\mathfrak{M}$ 43'10		opposition	12502 Aug 06 16:45	25° $\approx$ 29'15	0°51'00
	12497 Feb 08 02:31	30° $\mathfrak{R}$ $\Omega$		min. Earth dist.	12502 Aug 06 01:31	25° $\approx$ 34'14	4.41997 AU
opposition	12497 Feb 09 20:18	29° $\Omega$ 46'08	-0°50'20	direct	12502 Oct 07 02:08	20° $\approx$ 28'32	
min. Earth dist.	12497 Feb 10 08:53	29° $\Omega$ 41'57	3.95256 AU		12503 Jan 01 19:19	0° $\mathfrak{H}$	
direct	12497 Apr 09 19:43	24° $\Omega$ 50'14		evening set	12503 Feb 09 06:55	7° $\mathfrak{H}$ 49'03	
	12497 Jun 06 11:35	0° $\mathfrak{M}$					
evening set	12497 Aug 14 21:12	14° $\mathfrak{M}$ 53'48		conjunction	12503 Feb 22 11:51	10° $\mathfrak{H}$ 38'46	0°29'32
				minimum elong	12503 Feb 22 11:52	10° $\mathfrak{H}$ 38'46	0°29'56
conjunction	12497 Aug 28 03:04	18° $\mathfrak{M}$ 08'02	-0°25'39	max. Earth dist.	12503 Feb 22 20:31	10° $\mathfrak{H}$ 43'24	6.47153 AU
minimum elong	12497 Aug 28 03:05	18° $\mathfrak{M}$ 08'02	0°25'55	morning rise	12503 Mar 07 15:02	13° $\mathfrak{H}$ 27'34	
max. Earth dist.	12497 Aug 28 03:20	18° $\mathfrak{M}$ 08'12	5.90880 AU		12503 Jun 25 22:00	0° $\Upsilon$	

retrograde	12503 Jul 06 16:06	0°♈10'52			12508 Sep 24 10:34	0°♏	
	12503 Jul 17 10:48	30°♏		retrograde	12508 Dec 18 15:57	10°♏03'21	
opposition	12503 Sep 05 17:03	25°♏14'33	0°32'21	opposition	12509 Feb 16 05:24	5°♏05'56	-0°47'36
min. Earth dist.	12503 Sep 05 20:58	25°♏13'18	4.50239 AU	min. Earth dist.	12509 Feb 16 14:56	5°♏02'46	3.94198 AU
direct	12503 Nov 06 22:36	20°♏13'31		direct	12509 Apr 16 01:44	0°♏10'21	
	12504 Feb 03 19:06	0°♏		evening set	12509 Aug 21 03:25	20°♏16'03	
evening set	12504 Mar 10 19:17	7°♏17'10					
				conjunction	12509 Sep 03 09:57	23°♏30'48	-0°22'59
conjunction	12504 Mar 23 19:57	10°♏03'44	0°13'35	minimum elong	12509 Sep 03 09:58	23°♏30'48	0°23'11
minimum elong	12504 Mar 23 19:57	10°♏03'45	0°13'31	max. Earth dist.	12509 Sep 03 15:03	23°♏33'55	5.90614 AU
behind sun begin	12504 Mar 23 15:32	10°♏01'24		morning rise	12509 Sep 16 18:32	26°♏46'43	
behind sun end	12504 Mar 24 00:23	10°♏06'06			12509 Sep 30 03:38	0°♏	
max. Earth dist.	12504 Mar 22 22:42	9°♏52'24	6.51121 AU	retrograde	12510 Jan 26 14:07	17°♏38'19	
morning rise	12504 Apr 05 18:50	12°♏49'29		opposition	12510 Mar 26 21:00	12°♏37'45	-0°17'47
retrograde	12504 Aug 04 09:52	29°♏24'12		min. Earth dist.	12510 Mar 26 04:07	12°♏43'27	3.89844 AU
opposition	12504 Oct 04 12:53	24°♏29'57	0°05'48	direct	12510 May 23 22:05	7°♏42'44	
min. Earth dist.	12504 Oct 05 12:33	24°♏22'23	4.49781 AU	evening set	12510 Sep 28 06:46	27°♏54'10	
direct	12504 Dec 06 03:53	19°♏28'56		asc. node	12510 Oct 06 15:57	29°♏56'12	
desc. node	12504 Dec 21 10:10	19°♏49'49			12510 Oct 06 22:12	0°♏	
	12505 Mar 08 14:15	0°♏					
evening set	12505 Apr 09 21:43	6°♏39'38		conjunction	12510 Oct 11 18:41	1°♏10'52	0°00'20
max. Earth dist.	12505 Apr 20 22:45	9°♏02'41	6.46227 AU	minimum elong	12510 Oct 11 18:42	1°♏10'53	0°00'44
				behind sun begin	12510 Oct 11 10:21	1°♏05'49	
conjunction	12505 Apr 22 19:11	9°♏26'45	-0°06'00	behind sun end	12510 Oct 12 03:04	1°♏15'56	
minimum elong	12505 Apr 22 19:11	9°♏26'45	0°06'31	max. Earth dist.	12510 Oct 13 11:01	1°♏35'24	5.91943 AU
behind sun begin	12505 Apr 22 11:41	9°♏22'42		morning rise	12510 Oct 25 08:45	4°♏28'32	
behind sun end	12505 Apr 23 02:41	9°♏30'48			12510 Dec 10 17:36	15°♏	
morning rise	12505 May 05 15:02	12°♏13'15		retrograde	12511 Mar 05 10:28	25°♏02'52	
	12505 May 18 15:58	15°♏		min. Earth dist.	12511 May 02 09:42	20°♏11'24	3.96732 AU
retrograde	12505 Sep 04 04:23	29°♏10'24		opposition	12511 May 03 20:11	19°♏59'41	0°19'10
opposition	12505 Nov 04 05:28	24°♏16'59	-0°22'51	direct	12511 Jul 01 00:44	15°♏03'24	
min. Earth dist.	12505 Nov 05 17:27	24°♏05'28	4.40752 AU		12511 Oct 15 18:01	0°♏	
direct	12506 Jan 05 13:04	19°♏16'26		evening set	12511 Nov 05 02:25	4°♏42'00	
	12506 Apr 07 19:10	0°♏					
evening set	12506 May 10 14:49	6°♏57'26		conjunction	12511 Nov 18 16:37	7°♏54'07	0°23'01
max. Earth dist.	12506 May 21 03:30	9°♏17'51	6.33642 AU	minimum elong	12511 Nov 18 16:36	7°♏54'07	0°23'50
				max. Earth dist.	12511 Nov 21 04:35	8°♏29'29	6.03605 AU
conjunction	12506 May 23 10:45	9°♏48'40	-0°24'23	morning rise	12511 Dec 02 07:48	11°♏06'29	
minimum elong	12506 May 23 10:44	9°♏48'40	0°25'13		12512 Mar 20 00:28	0°♏	
morning rise	12506 Jun 05 05:28	12°♏39'39		retrograde	12512 Apr 08 20:03	0°♏38'22	
	12506 Sep 19 18:13	0°♏			12512 Apr 28 11:27	30°♏♏	
retrograde	12506 Oct 07 02:12	0°♏28'06		min. Earth dist.	12512 Jun 05 23:45	25°♏47'46	4.11813 AU
	12506 Oct 24 09:38	30°♏♏		opposition	12512 Jun 07 14:14	25°♏34'48	0°46'46
opposition	12506 Dec 06 18:07	25°♏34'29	-0°46'43	direct	12512 Aug 05 16:21	20°♏36'32	
min. Earth dist.	12506 Dec 08 10:18	25°♏21'33	4.25351 AU		12512 Oct 27 08:35	0°♏	
direct	12507 Feb 06 05:22	20°♏35'07		evening set	12512 Dec 10 03:35	9°♏21'47	
	12507 Apr 30 22:58	0°♏					
evening set	12507 Jun 11 21:13	9°♏04'51		conjunction	12512 Dec 23 15:58	12°♏25'26	0°36'19
max. Earth dist.	12507 Jun 22 12:41	11°♏32'29	6.16575 AU	minimum elong	12512 Dec 23 15:58	12°♏25'25	0°37'14
				max. Earth dist.	12512 Dec 25 21:51	12°♏55'57	6.20641 AU
conjunction	12507 Jun 24 17:48	12°♏03'17	-0°36'23	morning rise	12513 Jan 06 04:32	15°♏28'45	
minimum elong	12507 Jun 24 17:47	12°♏03'17	0°37'18		12513 Mar 22 06:39	0°♏	
morning rise	12507 Jul 07 14:30	15°♏02'04		retrograde	12513 May 11 11:07	3°♏45'46	
	12507 Sep 20 13:22	0°♏			12513 Jul 01 03:02	30°♏♏	
retrograde	12507 Nov 11 15:48	4°♏02'41		opposition	12513 Jul 10 17:48	28°♏44'01	0°56'35
	12508 Jan 04 01:58	30°♏♏		min. Earth dist.	12513 Jul 09 12:10	28°♏53'53	4.29178 AU
opposition	12508 Jan 10 18:48	29°♏07'42	-0°57'26	direct	12513 Sep 09 01:34	23°♏44'05	
min. Earth dist.	12508 Jan 12 00:51	28°♏57'52	4.07862 AU		12513 Nov 15 06:38	0°♏	
direct	12508 Mar 10 22:24	24°♏10'10		evening set	12514 Jan 12 20:21	11°♏37'48	
	12508 May 12 13:43	0°♏					
evening set	12508 Jul 15 08:46	13°♏35'03		conjunction	12514 Jan 26 05:07	14°♏33'03	0°37'21
	12508 Jul 21 06:52	15°♏		minimum elong	12514 Jan 26 05:07	14°♏33'03	0°38'04
max. Earth dist.	12508 Jul 27 03:31	16°♏24'28	6.00216 AU	max. Earth dist.	12514 Jan 27 14:11	14°♏51'09	6.36973 AU
					12514 Jan 28 06:21	15°♏	
conjunction	12508 Jul 28 09:20	16°♏42'23	-0°36'42	morning rise	12514 Feb 08 12:43	17°♏27'31	
minimum elong	12508 Jul 28 09:20	16°♏42'23	0°37'24		12514 Apr 14 16:38	0°♏	
morning rise	12508 Aug 10 10:51	19°♏50'35		retrograde	12514 Jun 11 02:51	4°♏43'37	

	12514 Aug 08 21:42	30° $\approx$		minimum elong	12519 Jun 29 09:39	16° $\approx$ 50'45	0°38'06
opposition	12514 Aug 10 20:02	29° $\approx$ 44'52	0°49'09	morning rise	12519 Jul 12 06:39	19° $\approx$ 50'39	
min. Earth dist.	12514 Aug 10 07:13	29° $\approx$ 49'03	4.43280 AU		12519 Aug 27 21:11	0° $\Omega$	
direct	12514 Oct 11 07:55	24° $\approx$ 44'07		retrograde	12519 Nov 16 19:24	9° $\Omega$ 01'03	
	12514 Dec 12 10:49	0° $\mathcal{H}$		opposition	12520 Jan 15 19:58	4° $\Omega$ 05'47	-0°57'21
evening set	12515 Feb 13 12:35	12° $\mathcal{H}$ 02'02		min. Earth dist.	12520 Jan 17 00:34	3° $\Omega$ 56'24	4.05807 AU
					12520 Feb 21 18:26	30° $\mathcal{R}\approx$	
conjunction	12515 Feb 26 16:50	14° $\mathcal{H}$ 51'15	0°27'43	direct	12520 Mar 15 19:37	29° $\approx$ 08'32	
minimum elong	12515 Feb 26 16:51	14° $\mathcal{H}$ 51'16	0°28'04		12520 Apr 07 18:45	0° $\Omega$	
max. Earth dist.	12515 Feb 26 19:51	14° $\mathcal{H}$ 52'52	6.47858 AU		12520 Jul 04 19:26	15° $\Omega$	
morning rise	12515 Mar 11 19:38	17° $\mathcal{H}$ 39'37		evening set	12520 Jul 20 07:36	18° $\Omega$ 39'38	
	12515 May 16 12:01	0° $\mathcal{Y}$		max. Earth dist.	12520 Aug 01 05:47	21° $\Omega$ 31'46	5.98536 AU
retrograde	12515 Jul 10 19:19	4° $\mathcal{Y}$ 21'04					
	12515 Sep 05 06:51	30° $\mathcal{R}\mathcal{H}$		conjunction	12520 Aug 02 08:46	21° $\Omega$ 48'03	-0°35'35
opposition	12515 Sep 09 19:26	29° $\mathcal{H}$ 25'05	0°29'04	minimum elong	12520 Aug 02 08:47	21° $\Omega$ 48'03	0°36'13
min. Earth dist.	12515 Sep 10 02:53	29° $\mathcal{H}$ 22'40	4.50356 AU	morning rise	12520 Aug 15 11:18	24° $\Omega$ 57'27	
direct	12515 Nov 11 03:04	24° $\mathcal{H}$ 23'58			12520 Sep 05 21:32	0° $\mathcal{H}$	
	12516 Jan 14 22:03	0° $\mathcal{Y}$		retrograde	12520 Dec 23 22:45	15° $\mathcal{H}$ 17'30	
evening set	12516 Mar 14 23:08	11° $\mathcal{Y}$ 28'13		opposition	12521 Feb 21 11:58	10° $\mathcal{H}$ 19'42	-0°44'26
				min. Earth dist.	12521 Feb 21 17:13	10° $\mathcal{H}$ 17'57	3.93086 AU
conjunction	12516 Mar 27 23:29	14° $\mathcal{Y}$ 14'50	0°11'01	direct	12521 Apr 21 04:10	5° $\mathcal{H}$ 24'16	
minimum elong	12516 Mar 27 23:30	14° $\mathcal{Y}$ 14'50	0°10'52	evening set	12521 Aug 26 08:00	25° $\mathcal{H}$ 32'48	
behind sun begin	12516 Mar 27 17:25	14° $\mathcal{Y}$ 11'36					
behind sun end	12516 Mar 28 05:35	14° $\mathcal{Y}$ 18'04		conjunction	12521 Sep 08 15:22	28° $\mathcal{H}$ 48'08	-0°20'08
max. Earth dist.	12516 Mar 26 23:38	14° $\mathcal{Y}$ 02'04	6.50650 AU	minimum elong	12521 Sep 08 15:23	28° $\mathcal{H}$ 48'09	0°20'15
morning rise	12516 Apr 09 21:50	17° $\mathcal{Y}$ 00'34		max. Earth dist.	12521 Sep 09 01:21	28° $\mathcal{H}$ 54'15	5.90186 AU
	12516 Jun 19 09:48	0° $\mathcal{B}$			12521 Sep 13 12:37	0° $\mathcal{B}$	
retrograde	12516 Aug 08 13:39	3° $\mathcal{B}$ 37'25		morning rise	12521 Sep 22 00:49	2° $\mathcal{B}$ 04'40	
	12516 Sep 28 14:47	30° $\mathcal{R}\mathcal{Y}$		retrograde	12522 Jan 31 21:26	22° $\mathcal{B}$ 57'15	
opposition	12516 Oct 08 17:22	28° $\mathcal{Y}$ 43'18	0°01'50	min. Earth dist.	12522 Mar 31 08:54	18° $\mathcal{B}$ 02'43	3.90149 AU
min. Earth dist.	12516 Oct 09 17:54	28° $\mathcal{Y}$ 35'27	4.48777 AU	opposition	12522 Apr 01 04:03	17° $\mathcal{B}$ 56'14	-0°12'41
desc. node	12516 Nov 01 19:35	25° $\mathcal{Y}$ 50'03		direct	12522 May 29 05:02	13° $\mathcal{B}$ 01'07	
direct	12516 Dec 10 06:48	23° $\mathcal{Y}$ 42'19		asc. node	12522 Aug 14 21:52	21° $\mathcal{B}$ 57'21	
	12517 Feb 17 05:59	0° $\mathcal{B}$			12522 Sep 20 06:08	0° $\mathcal{M}$	
evening set	12517 Apr 14 03:08	10° $\mathcal{B}$ 56'31		evening set	12522 Oct 03 12:34	3° $\mathcal{M}$ 10'14	
max. Earth dist.	12517 Apr 25 02:39	13° $\mathcal{B}$ 19'14	6.44755 AU				
				conjunction	12522 Oct 17 01:12	6° $\mathcal{M}$ 26'45	0°03'47
conjunction	12517 Apr 27 00:17	13° $\mathcal{B}$ 44'03	-0°08'43	minimum elong	12522 Oct 17 01:11	6° $\mathcal{M}$ 26'44	0°04'15
minimum elong	12517 Apr 27 00:17	13° $\mathcal{B}$ 44'03	0°09'17	behind sun begin	12522 Oct 16 16:57	6° $\mathcal{M}$ 21'46	
behind sun begin	12517 Apr 26 17:33	13° $\mathcal{B}$ 40'24		behind sun end	12522 Oct 17 09:25	6° $\mathcal{M}$ 31'42	
behind sun end	12517 Apr 27 07:00	13° $\mathcal{B}$ 47'41		max. Earth dist.	12522 Oct 18 22:29	6° $\mathcal{M}$ 54'12	5.92949 AU
	12517 May 02 19:57	15° $\mathcal{B}$		morning rise	12522 Oct 30 15:34	9° $\mathcal{M}$ 44'03	
morning rise	12517 May 09 19:50	16° $\mathcal{B}$ 30'59			12522 Nov 22 00:29	15° $\mathcal{M}$	
	12517 Jul 21 01:37	0° $\mathcal{H}$			12523 Feb 27 10:20	0° $\mathcal{X}$	
retrograde	12517 Sep 08 15:53	3° $\mathcal{H}$ 33'48		retrograde	12523 Mar 10 12:20	0° $\mathcal{X}$ 12'17	
	12517 Oct 29 03:08	30° $\mathcal{R}\mathcal{B}$			12523 Mar 21 12:33	30° $\mathcal{R}\mathcal{M}$	
opposition	12517 Nov 08 15:16	28° $\mathcal{B}$ 40'25	-0°26'37	min. Earth dist.	12523 May 07 10:09	25° $\mathcal{M}$ 21'03	3.98322 AU
min. Earth dist.	12517 Nov 10 04:50	28° $\mathcal{B}$ 28'23	4.38893 AU	opposition	12523 May 08 21:48	25° $\mathcal{M}$ 08'58	0°23'51
direct	12518 Jan 09 21:35	23° $\mathcal{B}$ 39'57		direct	12523 Jul 06 04:05	20° $\mathcal{M}$ 12'29	
	12518 Mar 19 03:26	0° $\mathcal{H}$			12523 Sep 27 05:09	0° $\mathcal{X}$	
evening set	12518 May 15 00:10	11° $\mathcal{H}$ 26'39		evening set	12523 Nov 10 04:44	9° $\mathcal{X}$ 45'02	
max. Earth dist.	12518 May 25 11:18	13° $\mathcal{H}$ 46'55	6.31509 AU				
				conjunction	12523 Nov 23 18:45	12° $\mathcal{X}$ 56'12	0°25'32
conjunction	12518 May 27 19:58	14° $\mathcal{H}$ 18'41	-0°26'33	minimum elong	12523 Nov 23 18:44	12° $\mathcal{X}$ 56'11	0°26'23
minimum elong	12518 May 27 19:57	14° $\mathcal{H}$ 18'40	0°27'25	max. Earth dist.	12523 Nov 26 06:11	13° $\mathcal{X}$ 31'04	6.05597 AU
morning rise	12518 Jun 09 14:55	17° $\mathcal{H}$ 10'34		morning rise	12523 Dec 07 09:57	16° $\mathcal{X}$ 07'35	
	12518 Aug 13 01:33	0° $\approx$			12524 Feb 12 11:21	0° $\mathcal{B}$	
retrograde	12518 Oct 11 20:24	5° $\approx$ 07'37		retrograde	12524 Apr 13 11:26	5° $\mathcal{B}$ 29'58	
opposition	12518 Dec 11 11:19	0° $\approx$ 13'46	-0°49'10	min. Earth dist.	12524 Jun 10 17:25	0° $\mathcal{B}$ 39'26	4.14007 AU
min. Earth dist.	12518 Dec 13 01:56	0° $\approx$ 01'18	4.23073 AU	opposition	12524 Jun 12 07:38	0° $\mathcal{B}$ 26'33	0°49'14
	12518 Dec 13 05:56	30° $\mathcal{R}\mathcal{H}$			12524 Jun 15 14:33	30° $\mathcal{R}\mathcal{X}$	
direct	12519 Feb 10 18:07	25° $\mathcal{H}$ 14'32		direct	12524 Aug 10 12:44	25° $\mathcal{X}$ 28'02	
	12519 Apr 08 23:59	0° $\approx$			12524 Oct 04 15:59	0° $\mathcal{B}$	
evening set	12519 Jun 16 12:38	13° $\approx$ 51'13		evening set	12524 Dec 14 22:58	14° $\mathcal{B}$ 06'34	
max. Earth dist.	12519 Jun 27 08:05	16° $\approx$ 21'51	6.14322 AU				
				conjunction	12524 Dec 28 11:05	17° $\mathcal{B}$ 09'07	0°37'10
conjunction	12519 Jun 29 09:39	16° $\approx$ 50'45	-0°37'12	minimum elong	12524 Dec 28 11:05	17° $\mathcal{B}$ 09'07	0°38'05

max. Earth dist.	12524 Dec 30 15:16	17°  38'34	6.22870 AU		12530 Feb 20 03:02	0° 	
morning rise	12525 Jan 10 22:58	20°  11'13		evening set	12530 May 19 06:44	15°  50'05	
	12525 Feb 26 21:34	0° 		max. Earth dist.	12530 May 29 18:19	18°  11'07	6.29774 AU
retrograde	12525 May 15 21:08	8°  19'24					
min. Earth dist.	12525 Jul 14 00:47	3°  27'14	4.31262 AU	conjunction	12530 Jun 01 02:27	18°  42'44	-0°28'28
opposition	12525 Jul 15 04:15	3°  18'07	0°56'28	minimum elong	12530 Jun 01 02:26	18°  42'43	0°29'21
	12525 Aug 11 12:45	30°  18'09		morning rise	12530 Jun 13 21:19	21°  35'17	
direct	12525 Sep 13 16:09	28°  18'09			12530 Jul 23 08:07	0° 	
	12525 Oct 17 03:18	0° 		retrograde	12530 Oct 16 12:45	9°  39'53	
	12526 Jan 12 06:05	15° 		opposition	12530 Dec 16 01:14	4°  45'54	-0°51'11
evening set	12526 Jan 17 08:52	16°  06'20		min. Earth dist.	12530 Dec 17 16:41	4°  33'08	4.21060 AU
					12531 Feb 03 10:39	30°  11'00	
conjunction	12526 Jan 30 16:56	19°  00'37	0°36'33	direct	12531 Feb 15 05:35	29°  46'49	
minimum elong	12526 Jan 30 16:57	19°  00'38	0°37'13		12531 Feb 27 00:01	0° 	
max. Earth dist.	12526 Jan 31 22:03	19°  16'30	6.38775 AU	evening set	12531 Jun 21 00:40	18°  29'48	
morning rise	12526 Feb 13 00:00	21°  54'09		max. Earth dist.	12531 Jul 01 20:27	21°  01'22	6.12188 AU
	12526 Mar 24 10:29	0° 					
retrograde	12526 Jun 15 07:15	9°  04'10		conjunction	12531 Jul 03 21:59	21°  30'22	-0°37'43
opposition	12526 Aug 15 01:43	4°  05'50	0°46'58	minimum elong	12531 Jul 03 21:59	21°  30'22	0°38'37
min. Earth dist.	12526 Aug 14 15:09	4°  09'17	4.44722 AU	morning rise	12531 Jul 16 19:37	24°  31'26	
	12526 Sep 21 04:30	30°  00'00			12531 Aug 09 20:30	0° 	
direct	12526 Oct 15 16:13	29°  05'05		retrograde	12531 Nov 21 17:05	13°  05'12	
	12526 Nov 09 11:17	0° 		opposition	12532 Jan 20 17:13	8°  55'49	-0°56'51
evening set	12527 Feb 17 19:53	16°  19'40		min. Earth dist.	12532 Jan 21 19:06	8°  47'19	4.03725 AU
				direct	12532 Mar 20 11:34	3°  58'45	
conjunction	12527 Mar 02 23:40	19°  08'18	0°25'43		12532 Jun 17 13:50	15° 	
minimum elong	12527 Mar 02 23:41	19°  08'19	0°26'00	evening set	12532 Jul 25 02:57	23°  03'35	
max. Earth dist.	12527 Mar 03 00:51	19°  08'56	6.48881 AU	max. Earth dist.	12532 Aug 06 05:56	26°  03'17	5.96706 AU
morning rise	12527 Mar 16 01:36	21°  05'00					
	12527 Apr 25 03:15	0° 		conjunction	12532 Aug 07 04:56	26°  04'12	-0°34'15
retrograde	12527 Jul 14 21:28	8°  34'29		minimum elong	12532 Aug 07 04:56	26°  04'13	0°34'49
opposition	12527 Sep 13 22:58	3°  38'52	0°25'35	morning rise	12532 Aug 20 08:19	29°  05'51	
min. Earth dist.	12527 Sep 14 07:59	3°  35'58	4.50920 AU		12532 Aug 20 13:33	0° 	
	12527 Oct 15 21:00	30°  00'00		retrograde	12532 Dec 29 04:59	20°  05'13	
direct	12527 Nov 15 08:00	28°  37'52		opposition	12533 Feb 26 15:36	15°  05'58	-0°41'04
	12527 Dec 16 01:42	0° 		min. Earth dist.	12533 Feb 26 18:46	15°  05'55	3.91688 AU
evening set	12528 Mar 19 03:39	15°  41'07		direct	12533 Apr 26 05:24	10°  03'36	
max. Earth dist.	12528 Mar 30 23:28	18°  01'23	6.50719 AU		12533 Aug 28 09:26	0° 	
				evening set	12533 Aug 31 10:18	0°  44'21	
conjunction	12528 Apr 01 03:17	18°  01'27	0°08'24				
minimum elong	12528 Apr 01 03:16	18°  01'27	0°08'12	conjunction	12533 Sep 13 18:42	4°  00'33	-0°17'13
behind sun begin	12528 Mar 31 20:11	18°  01'23	40	minimum elong	12533 Sep 13 18:43	4°  00'33	0°17'14
behind sun end	12528 Apr 01 10:22	18°  01'31	13	max. Earth dist.	12533 Sep 14 09:59	4°  09'55	5.89378 AU
morning rise	12528 Apr 14 01:12	21°  01'12	59	morning rise	12533 Sep 27 05:03	7°  01'54	
	12528 May 28 00:17	0° 		retrograde	12534 Feb 06 03:52	28°  01'52	
retrograde	12528 Aug 12 19:07	7°  50'19		min. Earth dist.	12534 Apr 05 11:19	23°  18'54	3.90044 AU
desc. node	12528 Sep 15 06:39	6°  09'44		opposition	12534 Apr 06 09:13	23°  11'29	-0°07'39
opposition	12528 Oct 12 21:51	2°  56'22	-0°02'07	direct	12534 Jun 03 08:14	18°  16'18	
min. Earth dist.	12528 Oct 14 01:07	2°  47'39	4.48340 AU	asc. node	12534 Jun 25 12:32	19°  06'36	
	12528 Nov 06 12:34	30°  00'00			12534 Sep 02 10:06	0° 	
direct	12528 Dec 14 12:23	27°  01'55	25	evening set	12534 Oct 08 18:10	8°  01'55	
	12529 Jan 21 13:17	0° 					
	12529 Apr 17 10:20	15°  00'00		conjunction	12534 Oct 22 07:13	11°  00'41	23
evening set	12529 Apr 18 07:01	15°  00'11	09	minimum elong	12534 Oct 22 07:12	11°  00'41	22
max. Earth dist.	12529 Apr 29 04:03	17°  00'32	50	behind sun begin	12534 Oct 21 23:38	11°  00'36	49
				behind sun end	12534 Oct 22 14:47	11°  00'45	56
conjunction	12529 May 01 03:52	17°  00'58	53	max. Earth dist.	12534 Oct 24 06:38	12°  00'10	04
minimum elong	12529 May 01 03:51	17°  00'58	52	morning rise	12534 Nov 04 22:16	14°  00'58	38
behind sun begin	12529 Apr 30 22:19	17°  00'55	52		12534 Nov 05 00:33	15°  00'00	
behind sun end	12529 May 01 09:23	18°  00'51	52		12535 Jan 14 20:24	0° 	
morning rise	12529 May 13 23:04	20°  00'46	03	retrograde	12535 Mar 15 12:20	5°  00'22	11
	12529 Jun 28 09:41	0° 		min. Earth dist.	12535 May 12 09:32	0°  00'27	31
retrograde	12529 Sep 12 23:11	7°  00'53	00	opposition	12535 May 13 23:08	0°  00'27	18
opposition	12529 Nov 12 23:07	2°  00'59	33		12535 May 16 06:04	30°  00'00	
min. Earth dist.	12529 Nov 14 12:42	2°  00'47	31	direct	12535 Jul 11 06:49	25°  00'12	50
	12529 Dec 08 00:45	30°  00'00			12535 Sep 04 00:36	0° 	
direct	12530 Jan 14 02:21	27°  00'59	11	evening set	12535 Nov 15 07:41	14°  00'27	43

conjunction	12535 Nov 28 21:49	18°♏00'06	0°27'49	retrograde	12541 Sep 17 12:56	12°♊19'14	
minimum elong	12535 Nov 28 21:48	18°♏00'05	0°28'41	opposition	12541 Nov 17 10:26	7°♊25'48	-0°33'39
max. Earth dist.	12535 Dec 01 10:21	18°♏35'29	6.07322 AU	min. Earth dist.	12541 Nov 19 02:03	7°♊13'05	4.35546 AU
morning rise	12535 Dec 12 12:45	21°♏10'33		direct	12542 Jan 18 12:15	2°♊25'32	
	12536 Jan 21 14:52	0°♏		evening set	12542 May 23 17:11	20°♊22'48	
retrograde	12536 Apr 18 05:51	10°♏24'12		max. Earth dist.	12542 Jun 03 03:54	22°♊44'07	6.27431 AU
min. Earth dist.	12536 Jun 15 13:07	5°♏33'24	4.16039 AU				
opposition	12536 Jun 17 02:20	5°♏20'52	0°51'18	conjunction	12542 Jun 05 13:01	23°♊16'26	-0°30'21
direct	12536 Aug 15 11:49	0°♏22'04		minimum elong	12542 Jun 05 13:00	23°♊16'25	0°31'15
evening set	12536 Dec 19 19:37	18°♏54'01		morning rise	12542 Jun 18 08:06	26°♊10'01	
					12542 Jul 05 14:35	0°♏	
conjunction	12537 Jan 02 07:16	21°♏55'26	0°37'45	retrograde	12542 Oct 21 08:39	14°♏24'33	
minimum elong	12537 Jan 02 07:16	21°♏55'26	0°38'38	opposition	12542 Dec 20 20:35	9°♏30'24	-0°53'03
max. Earth dist.	12537 Jan 04 10:17	22°♏24'04	6.25024 AU	min. Earth dist.	12542 Dec 22 10:25	9°♏18'08	4.18515 AU
morning rise	12537 Jan 15 18:37	24°♏56'22		direct	12543 Feb 19 19:17	4°♏31'35	
	12537 Feb 08 01:49	0°♏		evening set	12543 Jun 25 18:34	23°♏22'52	
retrograde	12537 May 20 05:34	12°♏55'33		max. Earth dist.	12543 Jul 06 17:43	25°♏57'16	6.09653 AU
opposition	12537 Jul 19 15:41	7°♏54'30	0°55'58				
min. Earth dist.	12537 Jul 18 13:03	8°♏03'20	4.33352 AU	conjunction	12543 Jul 08 16:21	26°♏24'45	-0°38'03
direct	12537 Sep 18 06:45	2°♏54'19		minimum elong	12543 Jul 08 16:21	26°♏24'45	0°38'56
	12537 Dec 26 05:57	15°♏		morning rise	12543 Jul 21 14:37	29°♏27'13	
evening set	12538 Jan 21 22:24	20°♏36'37			12543 Jul 23 22:41	0°♏	
					12543 Oct 06 15:16	15°♏	
conjunction	12538 Feb 04 05:52	23°♏29'54	0°35'30	retrograde	12543 Nov 27 00:44	18°♏58'33	
minimum elong	12538 Feb 04 05:53	23°♏29'54	0°36'08		12544 Jan 18 14:27	15°♏	
max. Earth dist.	12538 Feb 05 07:56	23°♏44'04	6.40637 AU	opposition	12544 Jan 25 21:45	14°♏02'42	-0°55'56
morning rise	12538 Feb 17 12:06	26°♏22'22		min. Earth dist.	12544 Jan 26 21:56	13°♏54'44	4.01419 AU
	12538 Mar 06 14:30	0°♏		direct	12544 Mar 25 12:42	9°♏05'55	
retrograde	12538 Jun 19 12:45	13°♏25'48			12544 May 27 00:10	15°♏	
opposition	12538 Aug 19 08:08	8°♏27'49	0°44'27	evening set	12544 Jul 30 05:36	28°♏51'12	
min. Earth dist.	12538 Aug 19 00:24	8°♏30'20	4.46197 AU		12544 Aug 03 23:24	0°♏	
direct	12538 Oct 20 03:04	3°♏26'58					
evening set	12539 Feb 22 03:45	20°♏37'56		conjunction	12544 Aug 12 08:34	2°♏02'09	-0°32'34
				minimum elong	12544 Aug 12 08:35	2°♏02'09	0°33'06
conjunction	12539 Mar 07 06:48	23°♏25'56	0°23'32	max. Earth dist.	12544 Aug 11 14:29	1°♏51'09	5.94868 AU
minimum elong	12539 Mar 07 06:48	23°♏25'57	0°23'43	morning rise	12544 Aug 25 12:56	5°♏14'08	
max. Earth dist.	12539 Mar 07 02:57	23°♏23'53	6.49830 AU	retrograde	12545 Jan 03 17:19	25°♏50'21	
morning rise	12539 Mar 20 08:12	26°♏13'03		opposition	12545 Mar 04 02:06	20°♏51'46	-0°37'08
	12539 Apr 07 11:20	0°♏		min. Earth dist.	12545 Mar 04 01:22	20°♏52'01	3.90557 AU
retrograde	12539 Jul 19 01:32	12°♏48'54		direct	12545 May 01 11:17	15°♏56'37	
opposition	12539 Sep 18 03:32	7°♏53'30	0°21'53		12545 Aug 10 17:40	0°♏	
min. Earth dist.	12539 Sep 18 15:21	7°♏49'42	4.51279 AU	evening set	12545 Sep 05 19:34	6°♏12'22	
direct	12539 Nov 19 14:20	2°♏52'25					
evening set	12540 Mar 23 08:42	19°♏55'21		conjunction	12545 Sep 19 04:43	9°♏29'08	-0°13'58
max. Earth dist.	12540 Apr 04 01:59	22°♏25'31	6.50449 AU	minimum elong	12545 Sep 19 04:43	9°♏29'08	0°13'54
				behind sun begin	12545 Sep 19 00:26	9°♏26'31	
conjunction	12540 Apr 05 07:58	22°♏41'35	0°05'40	behind sun end	12545 Sep 19 09:00	9°♏31'46	
minimum elong	12540 Apr 05 07:58	22°♏41'35	0°05'24	max. Earth dist.	12545 Sep 20 00:09	9°♏41'04	5.89069 AU
behind sun begin	12540 Apr 05 00:15	22°♏37'28		morning rise	12545 Oct 02 16:08	12°♏47'05	
behind sun end	12540 Apr 05 15:41	22°♏45'42			12545 Dec 24 22:02	0°♏	
morning rise	12540 Apr 18 05:13	25°♏27'01		retrograde	12546 Feb 11 13:19	3°♏41'54	
	12540 May 10 01:17	0°♏			12546 Apr 01 21:08	30°♏	
desc. node	12540 Jul 27 16:11	11°♏28'06		opposition	12546 Apr 11 19:29	28°♏40'08	-0°02'16
retrograde	12540 Aug 17 00:09	12°♏06'05		min. Earth dist.	12546 Apr 10 17:50	28°♏48'50	3.90619 AU
opposition	12540 Oct 17 03:52	7°♏12'17	-0°06'12	asc. node	12546 May 05 03:21	25°♏43'50	
min. Earth dist.	12540 Oct 18 08:34	7°♏03'07	4.47451 AU	direct	12546 Jun 08 18:17	23°♏44'50	
direct	12540 Dec 18 17:00	2°♏11'25			12546 Aug 11 10:33	0°♏	
	12541 Apr 01 06:38	15°♏		evening set	12546 Oct 14 03:50	13°♏50'03	
evening set	12541 Apr 22 13:12	19°♏30'20			12546 Oct 19 00:16	15°♏	
max. Earth dist.	12541 May 03 07:12	21°♏50'52	6.42364 AU				
				conjunction	12546 Oct 27 17:23	17°♏06'02	0°10'28
conjunction	12541 May 05 09:36	22°♏18'27	-0°14'00	minimum elong	12546 Oct 27 17:23	17°♏06'02	0°11'05
minimum elong	12541 May 05 09:36	22°♏18'27	0°14'41	behind sun begin	12546 Oct 27 11:10	17°♏02'19	
behind sun begin	12541 May 05 06:12	22°♏16'36		behind sun end	12546 Oct 27 23:35	17°♏09'46	
behind sun end	12541 May 05 13:00	22°♏20'18		max. Earth dist.	12546 Oct 29 21:15	17°♏37'19	5.94956 AU
morning rise	12541 May 18 04:41	25°♏06'07		morning rise	12546 Nov 10 08:35	20°♏22'41	
	12541 Jun 10 05:27	0°♏			12546 Dec 22 20:10	0°♏	



retrograde	12547 Mar 20 15:43	10°♄38'04			12553 Mar 14 13:06	15°♄	
min. Earth dist.	12547 May 17 12:41	5°♄47'17	4.01618 AU	evening set	12553 Apr 26 18:55	23°♄49'54	
opposition	12547 May 19 02:44	5°♄34'22	0°32'32	max. Earth dist.	12553 May 07 11:34	26°♄10'18	6.40408 AU
direct	12547 Jul 16 13:51	0°♄37'19					
evening set	12547 Nov 20 11:40	19°♄57'15		conjunction	12553 May 09 15:19	26°♄38'43	-0°16'35
				minimum elong	12553 May 09 15:19	26°♄38'43	0°17'19
conjunction	12547 Dec 04 01:36	23°♄06'22	0°29'57	morning rise	12553 May 22 10:10	29°♄27'05	
minimum elong	12547 Dec 04 01:35	23°♄06'22	0°30'52		12553 May 24 22:32	0°♄	
max. Earth dist.	12547 Dec 06 15:19	23°♄42'13	6.09857 AU	retrograde	12553 Sep 22 01:32	16°♄48'04	
morning rise	12547 Dec 17 16:12	26°♄15'28		opposition	12553 Nov 21 22:45	11°♄54'34	-0°37'03
	12548 Jan 03 04:16	0°♄		min. Earth dist.	12553 Nov 23 14:31	11°♄41'48	4.33109 AU
retrograde	12548 Apr 22 20:12	15°♄17'27		direct	12554 Jan 22 20:34	6°♄54'28	
min. Earth dist.	12548 Jun 20 06:38	10°♄26'53	4.18772 AU	evening set	12554 May 28 05:10	24°♄59'35	
opposition	12548 Jun 21 20:01	10°♄14'20	0°53'03	max. Earth dist.	12554 Jun 07 16:00	27°♄21'52	6.24693 AU
direct	12548 Aug 20 08:56	5°♄15'17					
evening set	12548 Dec 24 14:46	23°♄38'35		conjunction	12554 Jun 10 01:02	27°♄54'21	-0°32'04
				minimum elong	12554 Jun 10 01:01	27°♄54'20	0°32'59
conjunction	12549 Jan 07 01:46	26°♄38'36	0°38'07		12554 Jun 19 05:46	0°♄	
minimum elong	12549 Jan 07 01:46	26°♄38'36	0°38'58	morning rise	12554 Jun 22 20:30	0°♄49'12	
max. Earth dist.	12549 Jan 09 01:10	27°♄05'03	6.27723 AU	retrograde	12554 Oct 26 09:39	19°♄15'08	
morning rise	12549 Jan 20 12:26	29°♄38'04		opposition	12554 Dec 25 18:30	14°♄20'48	-0°54'38
	12549 Jan 22 04:09	0°♄		min. Earth dist.	12554 Dec 27 07:49	14°♄08'41	4.15668 AU
	12549 Apr 14 09:32	15°♄		direct	12555 Feb 24 13:42	9°♄22'14	
retrograde	12549 May 24 13:55	17°♄27'01		evening set	12555 Jun 30 15:14	28°♄22'44	
	12549 Jul 03 16:09	15°♄			12555 Jul 07 12:18	0°♄	
min. Earth dist.	12549 Jul 23 01:43	12°♄34'07	4.35789 AU	max. Earth dist.	12555 Jul 11 18:23	1°♄00'25	6.06966 AU
opposition	12549 Jul 24 01:09	12°♄26'22	0°55'09				
direct	12549 Sep 22 22:13	7°♄26'01		conjunction	12555 Jul 13 13:45	1°♄26'06	-0°38'08
	12549 Dec 07 06:54	15°♄		minimum elong	12555 Jul 13 13:46	1°♄26'06	0°38'57
evening set	12550 Jan 26 09:01	25°♄01'36		morning rise	12555 Jul 26 12:44	4°♄30'05	
					12555 Sep 11 23:31	15°♄	
conjunction	12550 Feb 08 15:53	27°♄53'51	0°34'18	retrograde	12555 Dec 02 10:26	24°♄13'00	
minimum elong	12550 Feb 08 15:53	27°♄53'52	0°34'53	opposition	12556 Jan 31 05:10	19°♄16'51	-0°54'34
max. Earth dist.	12550 Feb 09 14:19	28°♄05'59	6.42625 AU	min. Earth dist.	12556 Feb 01 01:40	19°♄10'05	3.99176 AU
	12550 Feb 18 09:16	0°♄			12556 Mar 10 15:01	15°♄	
morning rise	12550 Feb 21 21:22	0°♄45'15		direct	12556 Mar 30 14:16	14°♄20'24	
retrograde	12550 Jun 23 14:04	17°♄42'18			12556 Apr 19 13:11	15°♄	
opposition	12550 Aug 23 12:14	12°♄44'39	0°41'47		12556 Jul 17 19:15	0°♄	
min. Earth dist.	12550 Aug 23 06:41	12°♄46'28	4.47620 AU	evening set	12556 Aug 04 11:19	4°♄12'37	
direct	12550 Oct 24 09:40	7°♄43'43					
evening set	12551 Feb 26 09:04	24°♄51'28		conjunction	12556 Aug 17 15:02	7°♄24'42	-0°30'36
				minimum elong	12556 Aug 17 15:03	7°♄24'43	0°31'02
conjunction	12551 Mar 11 11:33	27°♄38'56	0°21'17	max. Earth dist.	12556 Aug 17 01:40	7°♄16'34	5.93293 AU
minimum elong	12551 Mar 11 11:34	27°♄38'56	0°21'24	morning rise	12556 Aug 30 20:35	10°♄37'57	
max. Earth dist.	12551 Mar 11 03:55	27°♄34'52	6.50593 AU		12556 Dec 11 11:50	0°♄	
	12551 Mar 22 12:08	0°♄		retrograde	12557 Jan 09 05:56	1°♄20'30	
morning rise	12551 Mar 24 12:13	0°♄25'30			12557 Feb 06 23:59	30°♄	
retrograde	12551 Jul 23 03:32	16°♄59'35		opposition	12557 Mar 09 14:43	26°♄21'23	-0°32'47
opposition	12551 Sep 22 06:18	12°♄04'28	0°18'08	min. Earth dist.	12557 Mar 09 09:25	26°♄23'10	3.89844 AU
min. Earth dist.	12551 Sep 22 21:20	11°♄59'39	4.51337 AU	direct	12557 May 06 21:06	21°♄26'19	
direct	12551 Nov 23 19:05	7°♄03'23			12557 Jul 21 15:21	0°♄	
evening set	12552 Mar 27 12:25	24°♄06'58		evening set	12557 Sep 11 06:16	11°♄42'56	
max. Earth dist.	12552 Apr 07 23:53	26°♄34'21	6.49783 AU				
				conjunction	12557 Sep 24 16:19	14°♄59'59	-0°10'35
conjunction	12552 Apr 09 11:07	26°♄53'15	0°02'55	minimum elong	12557 Sep 24 16:20	15°♄00'00	0°10'26
minimum elong	12552 Apr 09 11:07	26°♄53'15	0°02'35	behind sun begin	12557 Sep 24 09:48	14°♄56'01	
behind sun begin	12552 Apr 09 03:07	26°♄48'59		behind sun end	12557 Sep 24 22:52	15°♄03'59	
behind sun end	12552 Apr 09 19:06	26°♄57'31		max. Earth dist.	12557 Sep 25 18:53	15°♄16'16	5.89304 AU
morning rise	12552 Apr 22 08:09	29°♄38'49		morning rise	12557 Oct 08 04:20	18°♄18'07	
	12552 Apr 23 23:54	0°♄			12557 Nov 28 19:28	0°♄	
desc. node	12552 Jun 07 06:32	8°♄48'47		retrograde	12558 Feb 16 23:52	9°♄09'57	
	12552 Jul 22 07:52	15°♄		asc. node	12558 Mar 15 22:19	7°♄57'49	
retrograde	12552 Aug 21 07:02	16°♄21'02		min. Earth dist.	12558 Apr 16 01:46	4°♄17'09	3.91760 AU
	12552 Sep 20 04:59	15°♄		opposition	12558 Apr 17 05:29	4°♄07'45	0°03'08
opposition	12552 Oct 21 09:34	11°♄27'19	-0°10'13		12558 May 23 15:21	30°♄	
min. Earth dist.	12552 Oct 22 16:56	11°♄17'16	4.46095 AU	direct	12558 Jun 14 05:48	29°♄12'16	
direct	12552 Dec 22 22:26	6°♄26'25			12558 Jul 05 19:39	0°♄	

	12558 Oct 01 17:11	15°♄		behind sun begin	12564 Apr 13 07:58	1°♄05'00	
evening set	12558 Oct 19 13:00	19°♄11'51		behind sun end	12564 Apr 13 23:55	1°♄13'32	
				desc. node	12564 Apr 14 21:41	1°♄25'17	
conjunction	12558 Nov 02 02:47	22°♄27'02	0°13'44	morning rise	12564 Apr 26 12:27	3°♄55'04	
minimum elong	12558 Nov 02 02:46	22°♄27'02	0°14'25		12564 Jun 22 13:38	15°♄	
behind sun begin	12558 Nov 01 23:06	22°♄24'50		retrograde	12564 Aug 25 15:18	20°♄41'37	
behind sun end	12558 Nov 02 06:26	22°♄29'13		opposition	12564 Oct 25 17:31	15°♄48'04	-0°14'17
max. Earth dist.	12558 Nov 04 09:57	23°♄00'08	5.96845 AU	min. Earth dist.	12564 Oct 27 02:49	15°♄37'26	4.44489 AU
morning rise	12558 Nov 15 18:09	25°♄42'48			12564 Nov 01 00:31	15°♄♄	
	12558 Dec 04 02:05	0°♄♄		direct	12564 Dec 27 05:20	10°♄47'19	
retrograde	12559 Mar 25 14:20	15°♄48'01			12565 Feb 20 06:15	15°♄	
min. Earth dist.	12559 May 22 12:23	10°♄57'41	4.04031 AU	evening set	12565 May 01 03:22	28°♄16'15	
opposition	12559 May 24 03:59	10°♄44'16	0°36'29		12565 May 09 00:14	0°♄♄	
direct	12559 Jul 21 17:19	5°♄46'57		max. Earth dist.	12565 May 11 16:56	0°♄35'41	6.38312 AU
evening set	12559 Nov 25 13:39	24°♄58'13					
				conjunction	12565 May 13 23:26	1°♄05'46	-0°19'09
conjunction	12559 Dec 09 03:11	28°♄05'58	0°31'51	minimum elong	12565 May 13 23:26	1°♄05'46	0°19'55
minimum elong	12559 Dec 09 03:10	28°♄05'57	0°32'47	morning rise	12565 May 26 18:24	3°♄54'58	
max. Earth dist.	12559 Dec 11 14:40	28°♄40'18	6.12545 AU	retrograde	12565 Sep 26 18:47	21°♄24'23	
	12559 Dec 17 09:00	0°♄♄		opposition	12565 Nov 26 13:58	16°♄30'53	-0°40'19
morning rise	12559 Dec 22 17:23	1°♄13'38		min. Earth dist.	12565 Nov 28 06:11	16°♄17'57	4.30661 AU
retrograde	12560 Apr 27 10:25	20°♄04'06		direct	12566 Jan 27 09:02	11°♄30'58	
min. Earth dist.	12560 Jun 25 00:37	15°♄13'01	4.21467 AU	evening set	12566 Jun 01 19:41	29°♄43'59	
opposition	12560 Jun 26 11:44	15°♄01'15	0°54'24		12566 Jun 02 23:55	0°♄♄	
direct	12560 Aug 25 06:18	10°♄01'59		max. Earth dist.	12566 Jun 12 08:46	2°♄08'20	6.22105 AU
evening set	12560 Dec 29 07:45	28°♄17'13					
	12561 Jan 06 01:25	0°♄♄		conjunction	12566 Jun 14 15:56	2°♄39'56	-0°33'37
				minimum elong	12566 Jun 14 15:55	2°♄39'55	0°34'34
conjunction	12561 Jan 11 18:19	1°♄15'59	0°38'14	morning rise	12566 Jun 27 11:36	5°♄35'59	
minimum elong	12561 Jan 11 18:19	1°♄15'59	0°39'04	retrograde	12566 Oct 31 11:36	24°♄12'45	
max. Earth dist.	12561 Jan 13 15:45	1°♄41'12	6.30215 AU	opposition	12566 Dec 30 18:56	19°♄18'19	-0°55'53
morning rise	12561 Jan 25 04:09	4°♄14'07		min. Earth dist.	12567 Jan 01 06:02	19°♄06'54	4.13174 AU
	12561 Mar 19 08:30	15°♄		direct	12567 Mar 01 08:57	14°♄20'08	
retrograde	12561 May 28 19:11	21°♄54'02			12567 Jun 20 15:47	0°♄♄	
min. Earth dist.	12561 Jul 27 11:18	17°♄01'03	4.37906 AU	evening set	12567 Jul 05 13:55	3°♄28'26	
opposition	12561 Jul 28 09:07	16°♄53'52	0°54'03	max. Earth dist.	12567 Jul 16 20:40	6°♄09'05	6.04801 AU
	12561 Aug 12 04:33	15°♄♄					
direct	12561 Sep 27 09:23	11°♄53'27		conjunction	12567 Jul 18 12:50	6°♄33'00	-0°37'56
	12561 Nov 12 19:19	15°♄		minimum elong	12567 Jul 18 12:51	6°♄33'00	0°38'44
evening set	12562 Jan 30 19:01	29°♄23'48		morning rise	12567 Jul 31 12:42	9°♄38'19	
	12562 Feb 02 14:29	0°♄♄			12567 Aug 23 15:43	15°♄♄	
				retrograde	12567 Dec 07 19:44	29°♄30'43	
conjunction	12562 Feb 13 01:09	2°♄15'09	0°32'55	opposition	12568 Feb 05 13:25	24°♄34'09	-0°52'46
minimum elong	12562 Feb 13 01:09	2°♄15'10	0°33'26	min. Earth dist.	12568 Feb 06 05:58	24°♄28'40	3.97573 AU
max. Earth dist.	12562 Feb 13 18:03	2°♄24'17	6.44221 AU	direct	12568 Apr 04 18:36	19°♄37'58	
morning rise	12562 Feb 26 05:59	5°♄05'41			12568 Jun 29 01:38	0°♄♄	
retrograde	12562 Jun 27 18:18	21°♄57'52		evening set	12568 Aug 09 16:54	9°♄34'28	
opposition	12562 Aug 27 16:21	17°♄00'41	0°38'55				
min. Earth dist.	12562 Aug 27 14:48	17°♄01'12	4.48611 AU	conjunction	12568 Aug 22 21:34	12°♄47'23	-0°28'25
direct	12562 Oct 28 17:42	11°♄59'42		minimum elong	12568 Aug 22 21:36	12°♄47'23	0°28'47
evening set	12563 Mar 02 14:46	29°♄05'46		max. Earth dist.	12568 Aug 22 15:31	12°♄43'41	5.92439 AU
	12563 Mar 06 20:57	0°♄♄		morning rise	12568 Sep 05 03:51	16°♄01'24	
					12568 Nov 07 21:27	0°♄♄	
conjunction	12563 Mar 15 16:45	1°♄52'56	0°18'54	retrograde	12569 Jan 14 17:46	6°♄46'51	
minimum elong	12563 Mar 15 16:46	1°♄52'56	0°18'58	opposition	12569 Mar 15 01:07	1°♄47'17	-0°28'18
max. Earth dist.	12563 Mar 15 04:31	1°♄46'24	6.50906 AU	min. Earth dist.	12569 Mar 14 16:52	1°♄50'03	3.89861 AU
morning rise	12563 Mar 28 16:53	4°♄39'12			12569 Mar 28 15:53	30°♄♄	
retrograde	12563 Jul 27 06:57	21°♄13'04		direct	12569 May 12 06:40	26°♄52'15	
opposition	12563 Sep 26 10:26	16°♄18'13	0°14'16		12569 Jun 25 01:19	0°♄♄	
min. Earth dist.	12563 Sep 27 03:39	16°♄12'42	4.50976 AU	evening set	12569 Sep 16 14:19	17°♄06'55	
direct	12563 Nov 27 23:16	11°♄17'09					
evening set	12564 Mar 31 17:33	28°♄22'45		conjunction	12569 Sep 30 00:56	20°♄23'50	-0°07'15
	12564 Apr 08 07:11	0°♄♄		minimum elong	12569 Sep 30 00:56	20°♄23'50	0°07'01
max. Earth dist.	12564 Apr 12 02:51	0°♄49'18	6.48768 AU	behind sun begin	12569 Sep 29 17:13	20°♄19'09	
				behind sun end	12569 Sep 30 08:39	20°♄28'32	
conjunction	12564 Apr 13 15:56	1°♄09'16	0°00'03	max. Earth dist.	12569 Oct 01 08:01	20°♄42'50	5.90167 AU
minimum elong	12564 Apr 13 15:56	1°♄09'16	0°00'22	morning rise	12569 Oct 13 13:39	23°♄41'49	

	12569 Nov 09 06:00	0°♌		conjunction	12576 Apr 17 20:18	5°♏23'39	-0°02'44
asc. node	12570 Jan 26 15:20	13°♌18'52		minimum elong	12576 Apr 17 20:19	5°♏23'39	0°03'13
retrograde	12570 Feb 22 03:17	14°♌27'55		behind sun begin	12576 Apr 17 12:22	5°♏19'23	
min. Earth dist.	12570 Apr 21 03:55	9°♌35'50	3.93382 AU	behind sun end	12576 Apr 18 04:16	5°♏27'56	
opposition	12570 Apr 22 10:45	9°♌25'23	0°08'14	morning rise	12576 Apr 30 16:38	8°♏09'49	
direct	12570 Jun 19 11:11	4°♌29'40			12576 Jun 02 19:41	15°♏	
	12570 Sep 13 08:15	15°♌		retrograde	12576 Aug 29 23:46	25°♏01'13	
evening set	12570 Oct 24 17:16	24°♌22'09		opposition	12576 Oct 30 01:36	20°♏07'42	-0°18'13
				min. Earth dist.	12576 Oct 31 11:33	19°♏56'50	4.42805 AU
conjunction	12570 Nov 07 07:03	27°♌36'18	0°16'46	direct	12576 Dec 31 11:14	15°♏07'01	
minimum elong	12570 Nov 07 07:02	27°♌36'17	0°17'29		12577 Apr 23 02:23	0°♐	
max. Earth dist.	12570 Nov 09 14:35	28°♌09'26	5.99034 AU	evening set	12577 May 05 11:20	2°♐41'17	
	12570 Nov 17 08:24	0°♐		max. Earth dist.	12577 May 16 01:40	5°♐01'45	6.36284 AU
morning rise	12570 Nov 20 22:28	0°♐50'57					
retrograde	12571 Mar 30 08:27	20°♐45'26		conjunction	12577 May 18 07:25	5°♐31'33	-0°21'34
min. Earth dist.	12571 May 27 09:15	15°♐54'48	4.06530 AU	minimum elong	12577 May 18 07:24	5°♐31'33	0°22'22
opposition	12571 May 29 00:02	15°♐41'40	0°39'58	morning rise	12577 May 31 02:10	8°♐21'30	
direct	12571 Jul 26 18:07	10°♐44'00		retrograde	12577 Oct 01 11:06	25°♐58'59	
evening set	12571 Nov 30 10:12	29°♐46'40		opposition	12577 Dec 01 05:07	21°♐05'25	-0°43'17
	12571 Dec 01 09:34	0°♑		min. Earth dist.	12577 Dec 02 21:16	20°♐52'31	4.28409 AU
				direct	12578 Jan 31 21:00	16°♐05'45	
conjunction	12571 Dec 13 23:33	2°♑53'07	0°33'27		12578 May 17 14:12	0°♑	
minimum elong	12571 Dec 13 23:33	2°♑53'07	0°34'22	evening set	12578 Jun 06 09:37	4°♑25'40	
max. Earth dist.	12571 Dec 16 10:40	3°♑27'02	6.15133 AU	max. Earth dist.	12578 Jun 16 22:56	6°♑50'59	6.19781 AU
morning rise	12571 Dec 27 13:07	5°♑59'22					
retrograde	12572 May 01 19:31	24°♑39'04		conjunction	12578 Jun 19 05:52	7°♑22'36	-0°34'56
opposition	12572 Jun 30 22:29	19°♑36'35	0°55'23	minimum elong	12578 Jun 19 05:51	7°♑22'36	0°35'52
min. Earth dist.	12572 Jun 29 12:40	19°♑47'52	4.23917 AU	morning rise	12578 Jul 02 02:02	10°♑19'48	
direct	12572 Aug 29 20:52	14°♑37'07		retrograde	12578 Nov 05 12:37	29°♑06'28	
	12572 Dec 21 04:24	0°♒		opposition	12579 Jan 04 18:07	24°♑11'46	-0°56'40
evening set	12573 Jan 02 20:30	2°♒45'27		min. Earth dist.	12579 Jan 06 02:56	24°♑01'03	4.10937 AU
				direct	12579 Mar 06 03:57	19°♑13'48	
conjunction	12573 Jan 16 06:23	5°♒43'05	0°38'09		12579 Jun 02 21:39	0°♓	
minimum elong	12573 Jan 16 06:23	5°♒43'05	0°38'58	evening set	12579 Jul 10 10:53	8°♓29'02	
max. Earth dist.	12573 Jan 17 22:24	6°♒05'12	6.32338 AU	max. Earth dist.	12579 Jul 21 23:24	11°♓13'45	6.02852 AU
morning rise	12573 Jan 29 15:43	8°♒40'06					
	12573 Feb 28 13:28	15°♒		conjunction	12579 Jul 23 10:35	11°♓34'46	-0°37'26
retrograde	12573 Jun 01 23:37	26°♒12'33		minimum elong	12579 Jul 23 10:35	11°♓34'47	0°38'12
opposition	12573 Aug 01 13:52	21°♒12'48	0°52'46	morning rise	12579 Aug 05 11:01	14°♓41'16	
min. Earth dist.	12573 Jul 31 19:35	21°♒18'48	4.39571 AU		12579 Aug 06 18:33	15°♓	
direct	12573 Oct 01 18:16	16°♒12'13			12579 Oct 18 03:56	0°♐	
	12574 Jan 17 18:21	0°♐		retrograde	12579 Dec 13 04:04	4°♐42'19	
evening set	12574 Feb 04 01:42	3°♐38'46			12580 Feb 08 23:27	30°♐♓	
				opposition	12580 Feb 10 19:24	29°♓45'26	-0°50'32
conjunction	12574 Feb 17 07:28	6°♐29'31	0°31'26	min. Earth dist.	12580 Feb 11 09:30	29°♓40'46	3.96104 AU
minimum elong	12574 Feb 17 07:29	6°♐29'32	0°31'53	direct	12580 Apr 09 20:37	24°♓49'33	
max. Earth dist.	12574 Feb 17 21:18	6°♐36'58	6.45334 AU		12580 Jun 06 15:30	0°♐	
morning rise	12574 Mar 02 11:34	9°♐19'22		evening set	12580 Aug 14 20:27	14°♐50'07	
retrograde	12574 Jul 01 19:01	26°♐08'18					
opposition	12574 Aug 31 18:39	21°♐11'30	0°36'00	conjunction	12580 Aug 28 01:51	18°♐03'50	-0°26'01
min. Earth dist.	12574 Aug 31 18:57	21°♐11'24	4.49133 AU	minimum elong	12580 Aug 28 01:52	18°♐03'51	0°26'17
direct	12574 Nov 01 20:53	16°♐10'32		max. Earth dist.	12580 Aug 27 23:33	18°♐02'26	5.91584 AU
	12575 Feb 19 03:22	0°♑		morning rise	12580 Sep 10 09:14	21°♐18'44	
evening set	12575 Mar 06 19:02	3°♑16'10			12580 Oct 17 16:20	0°♑	
				retrograde	12581 Jan 20 01:36	12°♑07'20	
conjunction	12575 Mar 19 20:26	6°♑03'10	0°16'30	opposition	12581 Mar 20 09:05	7°♑07'21	-0°23'34
minimum elong	12575 Mar 19 20:27	6°♑03'10	0°16'30	min. Earth dist.	12581 Mar 19 20:37	7°♑11'33	3.89741 AU
max. Earth dist.	12575 Mar 19 04:10	5°♑54'28	6.50817 AU	direct	12581 May 17 12:02	2°♑12'22	
morning rise	12575 Apr 01 20:06	8°♑49'18		evening set	12581 Sep 21 20:47	22°♑26'11	
retrograde	12575 Jul 31 11:27	25°♑24'04					
opposition	12575 Sep 30 14:02	20°♑29'31	0°10'26	conjunction	12581 Oct 05 07:59	25°♑43'06	-0°03'51
min. Earth dist.	12575 Oct 01 10:27	20°♑22'59	4.50298 AU	minimum elong	12581 Oct 05 07:59	25°♑43'06	0°03'31
direct	12575 Dec 02 04:16	15°♑28'29		behind sun begin	12581 Oct 04 23:42	25°♑38'04	
desc. node	12576 Feb 21 23:25	23°♑58'33		behind sun end	12581 Oct 05 16:16	25°♑48'08	
	12576 Mar 23 13:51	0°♒		max. Earth dist.	12581 Oct 06 18:44	26°♑04'18	5.90787 AU
evening set	12576 Apr 04 22:19	2°♒36'49		morning rise	12581 Oct 18 21:18	29°♑01'01	
max. Earth dist.	12576 Apr 16 03:38	5°♒01'42	6.47546 AU		12581 Oct 22 23:03	0°♒	

asc. node	12581 Dec 07 12:55	10°♑15'14		opposition	12587 Oct 04 18:17	24°♑43'14	0°06'32
	12582 Jan 02 18:32	15°♑		min. Earth dist.	12587 Oct 05 15:32	24°♑36'25	4.50136 AU
retrograde	12582 Feb 27 06:26	19°♑42'53		direct	12587 Dec 06 08:01	19°♑42'14	
	12582 Apr 25 04:01	15°♑♑		desc. node	12588 Jan 01 09:25	20°♑41'44	
min. Earth dist.	12582 Apr 26 06:47	14°♑50'55	3.94658 AU		12588 Mar 06 17:32	0°♑	
opposition	12582 Apr 27 14:46	14°♑40'03	0°13'17	evening set	12588 Apr 09 02:34	6°♑51'21	
direct	12582 Jun 24 17:10	9°♑44'07		max. Earth dist.	12588 Apr 20 05:54	9°♑15'24	6.46911 AU
	12582 Aug 21 23:05	15°♑					
evening set	12582 Oct 29 21:16	29°♑31'18		conjunction	12588 Apr 22 00:05	9°♑38'13	-0°05'26
	12582 Oct 31 21:48	0°♑♑		minimum elong	12588 Apr 22 00:04	9°♑38'12	0°05'57
				behind sun begin	12588 Apr 21 16:28	9°♑34'07	
conjunction	12582 Nov 12 11:22	2°♑44'42	0°19'40	behind sun end	12588 Apr 22 07:41	9°♑42'18	
minimum elong	12582 Nov 12 11:21	2°♑44'42	0°20'27	morning rise	12588 May 04 19:56	12°♑24'26	
max. Earth dist.	12582 Nov 14 21:45	3°♑19'22	6.00838 AU		12588 May 17 00:09	15°♑	
morning rise	12582 Nov 26 02:38	5°♑58'27		retrograde	12588 Sep 03 07:32	29°♑18'47	
retrograde	12583 Apr 04 04:06	25°♑43'49		opposition	12588 Nov 03 08:41	24°♑25'19	-0°21'57
min. Earth dist.	12583 Jun 01 05:20	20°♑53'18	4.08660 AU	min. Earth dist.	12588 Nov 04 20:38	24°♑13'49	4.41717 AU
opposition	12583 Jun 02 20:13	20°♑40'10	0°43'12	direct	12589 Jan 04 18:13	19°♑24'42	
direct	12583 Jul 31 17:19	15°♑42'17			12589 Apr 06 09:49	0°♑	
	12583 Nov 14 14:06	0°♑		evening set	12589 May 09 17:19	7°♑02'12	
evening set	12583 Dec 05 08:00	4°♑37'58		max. Earth dist.	12589 May 20 05:02	9°♑21'44	6.34801 AU
conjunction	12583 Dec 18 20:53	7°♑43'16	0°34'49	conjunction	12589 May 22 13:05	9°♑52'55	-0°23'46
minimum elong	12583 Dec 18 20:52	7°♑43'16	0°35'45	minimum elong	12589 May 22 13:05	9°♑52'55	0°24'37
max. Earth dist.	12583 Dec 21 05:11	8°♑15'25	6.17383 AU	morning rise	12589 Jun 04 07:53	12°♑43'26	
morning rise	12584 Jan 01 10:10	10°♑48'21			12589 Sep 18 22:54	0°♑	
retrograde	12584 May 06 06:34	29°♑18'41		retrograde	12589 Oct 05 23:43	0°♑27'14	
min. Earth dist.	12584 Jul 04 02:54	24°♑27'13	4.26099 AU		12589 Oct 23 00:54	30°♑♑	
opposition	12584 Jul 05 10:58	24°♑16'31	0°56'01	opposition	12589 Dec 05 17:14	25°♑33'29	-0°45'51
direct	12584 Sep 03 13:10	19°♑16'52		min. Earth dist.	12589 Dec 07 08:48	25°♑20'44	4.26606 AU
	12584 Dec 03 16:40	0°♑		direct	12590 Feb 05 05:39	20°♑33'53	
evening set	12585 Jan 07 10:59	7°♑19'11			12590 Apr 30 05:37	0°♑	
				evening set	12590 Jun 10 19:52	8°♑59'17	
conjunction	12585 Jan 20 20:29	10°♑15'49	0°37'49	max. Earth dist.	12590 Jun 21 11:44	11°♑26'39	6.17795 AU
minimum elong	12585 Jan 20 20:29	10°♑15'49	0°38'35				
max. Earth dist.	12585 Jan 22 10:34	10°♑36'47	6.34312 AU	conjunction	12590 Jun 23 16:27	11°♑57'09	-0°35'56
morning rise	12585 Feb 03 04:58	13°♑11'44		minimum elong	12590 Jun 23 16:27	11°♑57'09	0°36'52
	12585 Feb 11 12:47	15°♑		morning rise	12590 Jul 06 12:48	14°♑55'17	
	12585 May 17 08:22	0°♑			12590 Sep 20 14:49	0°♑	
retrograde	12585 Jun 06 05:18	0°♑37'09		retrograde	12590 Nov 10 10:10	3°♑50'49	
	12585 Jun 25 23:13	30°♑			12591 Jan 01 07:10	30°♑♑	
opposition	12585 Aug 05 20:46	25°♑37'54	0°51'08	opposition	12591 Jan 09 13:23	28°♑55'51	-0°57'01
min. Earth dist.	12585 Aug 05 04:17	25°♑43'18	4.41223 AU	min. Earth dist.	12591 Jan 10 21:42	28°♑45'18	4.08905 AU
direct	12585 Oct 06 04:04	20°♑37'20		direct	12591 Mar 10 19:28	23°♑58'06	
	12585 Dec 31 01:13	0°♑			12591 May 13 16:32	0°♑	
evening set	12586 Feb 08 10:46	7°♑59'58		evening set	12591 Jul 15 03:51	13°♑19'41	
					12591 Jul 22 03:48	15°♑	
conjunction	12586 Feb 21 15:43	10°♑49'58	0°29'44	max. Earth dist.	12591 Jul 26 18:14	16°♑06'14	6.00948 AU
minimum elong	12586 Feb 21 15:44	10°♑49'58	0°30'08				
max. Earth dist.	12586 Feb 22 00:41	10°♑54'46	6.46575 AU	conjunction	12591 Jul 28 04:04	16°♑26'32	-0°36'41
morning rise	12586 Mar 06 19:19	13°♑39'07		minimum elong	12591 Jul 28 04:05	16°♑26'33	0°37'24
	12586 Jun 19 20:09	0°♑		morning rise	12591 Aug 10 05:28	19°♑34'18	
retrograde	12586 Jul 05 23:26	0°♑24'12			12591 Sep 25 14:58	0°♑	
	12586 Jul 22 00:08	30°♑		retrograde	12591 Dec 18 06:07	9°♑44'02	
opposition	12586 Sep 04 22:53	25°♑27'47	0°32'49	opposition	12592 Feb 15 21:06	4°♑46'45	-0°47'59
min. Earth dist.	12586 Sep 05 02:19	25°♑26'41	4.49929 AU	min. Earth dist.	12592 Feb 16 07:41	4°♑43'15	3.94518 AU
direct	12586 Nov 06 03:59	20°♑26'48			12592 Apr 05 08:49	30°♑♑	
	12587 Feb 01 19:07	0°♑		direct	12592 Apr 14 17:53	29°♑50'59	
evening set	12587 Mar 11 00:20	7°♑30'51			12592 Apr 24 03:48	0°♑	
max. Earth dist.	12587 Mar 23 06:54	10°♑07'42	6.51133 AU	evening set	12592 Aug 19 20:34	19°♑56'30	
conjunction	12587 Mar 24 01:19	10°♑17'32	0°14'00	conjunction	12592 Sep 02 02:55	23°♑11'11	-0°23'30
minimum elong	12587 Mar 24 01:19	10°♑17'32	0°13'55	minimum elong	12592 Sep 02 02:56	23°♑11'12	0°23'43
behind sun begin	12587 Mar 23 21:15	10°♑15'22		max. Earth dist.	12592 Sep 02 05:11	23°♑12'34	5.90490 AU
behind sun end	12587 Mar 24 05:24	10°♑19'42		morning rise	12592 Sep 15 11:12	26°♑27'03	
morning rise	12587 Apr 06 00:18	13°♑03'19			12592 Sep 30 05:17	0°♑	
retrograde	12587 Aug 04 14:05	29°♑37'37		retrograde	12593 Jan 25 07:53	17°♑19'57	

opposition	12593 Mar 25 13:51	12°♏19'32	-0°18'50			12598 May 13 14:27	0°♑	
min. Earth dist.	12593 Mar 24 23:26	12°♏24'24	3.89257 AU	retrograde		12598 Jul 10 02:48	4°♑40'40	
direct	12593 May 22 15:53	7°♏24'29				12598 Sep 07 03:55	30°♑♏	
evening set	12593 Sep 27 01:10	27°♏39'12		opposition		12598 Sep 09 03:48	29°♏44'34	0°29'23
	12593 Oct 06 16:43	0°♏		min. Earth dist.		12598 Sep 09 09:11	29°♏42'50	4.50651 AU
				direct		12598 Nov 10 10:42	24°♏43'36	
conjunction	12593 Oct 10 13:14	0°♏56'24	-0°00'28			12599 Jan 12 04:10	0°♑	
minimum elong	12593 Oct 10 13:14	0°♏56'24	0°00'04	evening set		12599 Mar 15 06:14	11°♑46'17	
behind sun begin	12593 Oct 10 05:23	0°♏51'38		max. Earth dist.		12599 Mar 27 07:13	14°♑20'14	6.51256 AU
behind sun end	12593 Oct 10 21:06	1°♏01'10						
max. Earth dist.	12593 Oct 12 05:06	1°♏20'42	5.90975 AU	conjunction		12599 Mar 28 06:28	14°♑32'40	0°11'22
asc. node	12593 Oct 18 08:04	2°♏50'11		minimum elong		12599 Mar 28 06:28	14°♑32'40	0°11'13
morning rise	12593 Oct 24 03:10	4°♏14'31		behind sun begin		12599 Mar 28 00:34	14°♑29'31	
	12593 Dec 10 12:03	15°♏		behind sun end		12599 Mar 28 12:23	14°♑35'48	
retrograde	12594 Mar 04 09:45	24°♏53'44		morning rise		12599 Apr 10 05:01	17°♑18'13	
min. Earth dist.	12594 May 01 07:24	20°♏02'11	3.95501 AU			12599 Jun 17 17:11	0°♑	
opposition	12594 May 02 17:16	19°♏50'42	0°18'04	retrograde		12599 Aug 08 20:37	3°♑52'53	
	12594 Jun 22 13:50	15°♏				12599 Sep 30 22:32	30°♑♑	
direct	12594 Jun 29 19:57	14°♏54'34		opposition		12599 Oct 08 23:43	28°♑58'43	0°02'29
	12594 Jul 07 02:40	15°♏		min. Earth dist.		12599 Oct 10 00:14	28°♑50'52	4.49636 AU
	12594 Oct 15 00:47	0°♑		desc. node		12599 Nov 10 22:42	25°♑15'17	
evening set	12594 Nov 04 00:54	4°♑38'12		direct		12599 Dec 10 14:39	23°♑57'43	
						12600 Feb 16 00:39	0°♑	
conjunction	12594 Nov 17 15:02	7°♑51'00	0°22'21	evening set		12600 Apr 14 08:06	11°♑08'55	
minimum elong	12594 Nov 17 15:01	7°♑50'59	0°23'11	max. Earth dist.		12600 Apr 25 08:19	13°♑31'38	6.45806 AU
max. Earth dist.	12594 Nov 20 01:55	8°♑25'50	6.02228 AU					
morning rise	12594 Dec 01 06:34	11°♑04'08		conjunction		12600 Apr 27 05:21	13°♑56'04	-0°08'11
	12595 Mar 19 07:19	0°♑		minimum elong		12600 Apr 27 05:20	13°♑56'03	0°08'45
retrograde	12595 Apr 08 22:46	0°♑41'54		behind sun begin		12600 Apr 26 22:26	13°♑52'20	
	12595 Apr 29 12:10	30°♑♑		behind sun end		12600 Apr 27 12:15	13°♑59'47	
min. Earth dist.	12595 Jun 06 01:11	25°♑51'33	4.10441 AU			12600 May 02 03:13	15°♑	
opposition	12595 Jun 07 16:34	25°♑38'15	0°46'02	morning rise		12600 May 10 00:52	16°♑42'36	
direct	12595 Aug 05 16:22	20°♑40'04				12600 Jul 20 03:10	0°♑	
	12595 Oct 26 22:31	0°♑		retrograde		12600 Sep 08 16:46	3°♑41'43	
evening set	12595 Dec 10 06:23	9°♑29'52				12600 Oct 30 07:28	30°♑♑	
				opposition		12600 Nov 08 18:01	28°♑48'16	-0°25'45
conjunction	12595 Dec 23 19:06	12°♑34'10	0°35'55	min. Earth dist.		12600 Nov 10 06:26	28°♑36'37	4.40065 AU
minimum elong	12595 Dec 23 19:06	12°♑34'10	0°36'51	direct		12601 Jan 10 00:12	23°♑47'45	
max. Earth dist.	12595 Dec 26 03:05	13°♑05'59	6.19411 AU			12601 Mar 18 14:59	0°♑	
morning rise	12596 Jan 06 07:46	15°♑38'06		evening set		12601 May 15 02:05	11°♑30'38	
	12596 Mar 19 23:58	0°♑		max. Earth dist.		12601 May 25 13:54	13°♑50'52	6.32710 AU
retrograde	12596 May 10 19:23	3°♑59'34						
	12596 Jul 02 03:47	30°♑♑		conjunction		12601 May 27 21:50	14°♑22'09	-0°25'58
min. Earth dist.	12596 Jul 08 17:47	29°♑07'52	4.28170 AU	minimum elong		12601 May 27 21:49	14°♑22'08	0°26'50
opposition	12596 Jul 10 00:20	28°♑57'42	0°56'14	morning rise		12601 Jun 09 16:35	17°♑13'29	
direct	12596 Sep 08 06:49	23°♑57'53				12601 Aug 13 01:48	0°♑	
	12596 Nov 13 00:34	0°♑		retrograde		12601 Oct 11 19:31	5°♑06'08	
evening set	12597 Jan 12 02:35	11°♑54'13		opposition		12601 Dec 11 10:02	0°♑12'19	-0°48'21
				min. Earth dist.		12601 Dec 13 02:30	29°♑59'15	4.24193 AU
conjunction	12597 Jan 25 11:24	14°♑49'48	0°37'13			12601 Dec 13 00:11	30°♑♑	
minimum elong	12597 Jan 25 11:24	14°♑49'49	0°37'56					
	12597 Jan 26 06:00	15°♑						
max. Earth dist.	12597 Jan 26 22:02	15°♑08'47	6.36251 AU					
morning rise	12597 Feb 07 19:22	17°♑44'41						
	12597 Apr 11 23:24	0°♑						
retrograde	12597 Jun 10 11:23	5°♑02'56						
opposition	12597 Aug 10 04:32	0°♑03'59	0°49'09					
min. Earth dist.	12597 Aug 09 14:12	0°♑08'41	4.42880 AU					
	12597 Aug 10 16:42	30°♑♑						
direct	12597 Oct 10 14:54	25°♑03'17						
	12597 Dec 09 15:16	0°♑						
evening set	12598 Feb 12 20:01	12°♑21'41						
conjunction	12598 Feb 26 00:31	15°♑10'59	0°27'50					
minimum elong	12598 Feb 26 00:32	15°♑11'00	0°28'10					
max. Earth dist.	12598 Feb 26 07:18	15°♑14'37	6.47817 AU					
morning rise	12598 Mar 11 03:15	17°♑59'22						