

evening set	14100 Feb 21 09:01	16° $\mathbf{\text{H}}$ 52'29		max. Earth dist.	14107 Mar 13 09:06	3° $\mathbf{\text{Y}}$ 37'19	31.49708 AU
max. Earth dist.	14100 Feb 23 03:55	16° $\mathbf{\text{H}}$ 56'27	32.64281 AU				
conjunction	14100 Feb 25 08:34	17° $\mathbf{\text{H}}$ 01'18	14°32'19	conjunction	14107 Mar 15 05:17	3° $\mathbf{\text{Y}}$ 41'36	15°30'44
minimum elong	14100 Feb 25 08:25	17° $\mathbf{\text{H}}$ 01'17	14°32'41	minimum elong	14107 Mar 15 05:21	3° $\mathbf{\text{Y}}$ 41'37	15°30'46
morning rise	14100 Mar 01 07:47	17° $\mathbf{\text{H}}$ 10'04		retrograde	14107 Jun 28 10:42	6° $\mathbf{\text{Y}}$ 18'37	
retrograde	14100 Jun 10 11:59	19° $\mathbf{\text{H}}$ 30'36		opposition	14107 Sep 13 09:14	4° $\mathbf{\text{Y}}$ 56'02	16°34'36
opposition	14100 Aug 26 22:59	18° $\mathbf{\text{H}}$ 09'55	15°35'22	min. Earth dist.	14107 Sep 14 24:00	4° $\mathbf{\text{Y}}$ 53'18	29.50748 AU
min. Earth dist.	14100 Aug 28 21:29	18° $\mathbf{\text{H}}$ 06'45	30.61813 AU	direct	14107 Nov 30 23:42	3° $\mathbf{\text{Y}}$ 31'35	
direct	14100 Nov 13 21:47	16° $\mathbf{\text{H}}$ 47'40		max. Earth dist.	14108 Mar 15 06:23	6° $\mathbf{\text{Y}}$ 06'40	31.36448 AU
evening set	14101 Feb 24 23:43	19° $\mathbf{\text{H}}$ 11'57		conjunction	14108 Mar 17 00:26	6° $\mathbf{\text{Y}}$ 10'45	15°33'15
max. Earth dist.	14101 Feb 25 18:46	19° $\mathbf{\text{H}}$ 13'44	32.45802 AU	minimum elong	14108 Mar 17 00:30	6° $\mathbf{\text{Y}}$ 10'46	15°33'16
				retrograde	14108 Jun 30 04:22	8° $\mathbf{\text{Y}}$ 48'34	
conjunction	14101 Feb 27 23:02	19° $\mathbf{\text{H}}$ 18'35	14°44'36	opposition	14108 Sep 15 02:54	7° $\mathbf{\text{Y}}$ 25'43	16°36'42
minimum elong	14101 Feb 27 22:56	19° $\mathbf{\text{H}}$ 18'35	14°44'54	min. Earth dist.	14108 Sep 16 16:59	7° $\mathbf{\text{Y}}$ 23'02	29.37999 AU
morning rise	14101 Mar 02 22:08	19° $\mathbf{\text{H}}$ 25'12		direct	14108 Dec 02 16:57	6° $\mathbf{\text{Y}}$ 01'01	
retrograde	14101 Jun 13 03:43	21° $\mathbf{\text{H}}$ 49'11		max. Earth dist.	14109 Mar 18 03:54	8° $\mathbf{\text{Y}}$ 37'07	31.24161 AU
opposition	14101 Aug 29 12:00	20° $\mathbf{\text{H}}$ 28'13	15°48'06				
min. Earth dist.	14101 Aug 31 10:30	20° $\mathbf{\text{H}}$ 25'01	30.43883 AU	conjunction	14109 Mar 19 19:57	8° $\mathbf{\text{Y}}$ 41'02	15°34'08
direct	14101 Nov 16 08:12	19° $\mathbf{\text{H}}$ 05'38		minimum elong	14109 Mar 19 20:03	8° $\mathbf{\text{Y}}$ 41'03	15°34'05
evening set	14102 Mar 01 01:13	21° $\mathbf{\text{H}}$ 34'27		retrograde	14109 Jul 03 00:49	11° $\mathbf{\text{Y}}$ 19'34	
max. Earth dist.	14102 Feb 28 12:19	21° $\mathbf{\text{H}}$ 33'14	32.28023 AU	opposition	14109 Sep 17 21:03	9° $\mathbf{\text{Y}}$ 56'30	16°37'00
				min. Earth dist.	14109 Sep 19 08:13	9° $\mathbf{\text{Y}}$ 54'01	29.26224 AU
conjunction	14102 Mar 02 14:25	21° $\mathbf{\text{H}}$ 37'56	14°55'40	direct	14109 Dec 05 12:11	8° $\mathbf{\text{Y}}$ 31'33	
minimum elong	14102 Mar 02 14:19	21° $\mathbf{\text{H}}$ 37'56	14°55'56	max. Earth dist.	14110 Mar 21 01:42	11° $\mathbf{\text{Y}}$ 08'37	31.12897 AU
morning rise	14102 Mar 04 03:24	21° $\mathbf{\text{H}}$ 41'24					
retrograde	14102 Jun 15 20:21	24° $\mathbf{\text{H}}$ 09'45		conjunction	14110 Mar 22 15:49	11° $\mathbf{\text{Y}}$ 12'21	15°33'20
opposition	14102 Sep 01 01:42	22° $\mathbf{\text{H}}$ 48'31	15°59'32	minimum elong	14110 Mar 22 15:57	11° $\mathbf{\text{Y}}$ 12'22	15°33'14
min. Earth dist.	14102 Sep 02 22:29	22° $\mathbf{\text{H}}$ 45'26	30.26616 AU	retrograde	14110 Jul 05 20:18	13° $\mathbf{\text{Y}}$ 51'31	
direct	14102 Nov 18 20:57	21° $\mathbf{\text{H}}$ 25'37		opposition	14110 Sep 20 15:47	12° $\mathbf{\text{Y}}$ 28'16	16°35'26
max. Earth dist.	14103 Mar 03 04:24	23° $\mathbf{\text{H}}$ 54'31	32.10921 AU	min. Earth dist.	14110 Sep 22 01:53	12° $\mathbf{\text{Y}}$ 25'51	29.15492 AU
				direct	14110 Dec 08 06:41	11° $\mathbf{\text{Y}}$ 03'08	
conjunction	14103 Mar 05 06:26	23° $\mathbf{\text{H}}$ 59'15	15°05'27	max. Earth dist.	14111 Mar 24 00:56	13° $\mathbf{\text{Y}}$ 41'09	31.02755 AU
minimum elong	14103 Mar 05 06:22	23° $\mathbf{\text{H}}$ 59'15	15°05'40				
retrograde	14103 Jun 18 12:36	26° $\mathbf{\text{H}}$ 32'16		conjunction	14111 Mar 25 12:04	13° $\mathbf{\text{Y}}$ 44'37	15°30'46
opposition	14103 Sep 03 16:18	25° $\mathbf{\text{H}}$ 10'44	16°09'35	minimum elong	14111 Mar 25 12:15	13° $\mathbf{\text{Y}}$ 44'38	15°30'37
min. Earth dist.	14103 Sep 05 12:39	25° $\mathbf{\text{H}}$ 07'40	30.10019 AU	retrograde	14111 Jul 08 16:51	16° $\mathbf{\text{Y}}$ 24'20	
direct	14103 Nov 21 08:52	23° $\mathbf{\text{H}}$ 47'32		opposition	14111 Sep 23 10:51	15° $\mathbf{\text{Y}}$ 00'56	16°31'59
max. Earth dist.	14104 Mar 04 23:26	26° $\mathbf{\text{H}}$ 17'52	31.94506 AU	min. Earth dist.	14111 Sep 24 17:46	14° $\mathbf{\text{Y}}$ 58'45	29.05865 AU
				direct	14111 Dec 11 03:29	13° $\mathbf{\text{Y}}$ 35'39	
conjunction	14104 Mar 06 23:13	26° $\mathbf{\text{H}}$ 22'25	15°13'55	max. Earth dist.	14112 Mar 25 23:10	16° $\mathbf{\text{Y}}$ 14'27	30.93755 AU
minimum elong	14104 Mar 06 23:10	26° $\mathbf{\text{H}}$ 22'24	15°14'06				
retrograde	14104 Jun 20 04:18	28° $\mathbf{\text{H}}$ 56'32		conjunction	14112 Mar 27 08:35	16° $\mathbf{\text{Y}}$ 17'45	15°26'25
opposition	14104 Sep 05 07:37	27° $\mathbf{\text{H}}$ 34'45	16°18'11	minimum elong	14112 Mar 27 08:47	16° $\mathbf{\text{Y}}$ 17'46	15°26'14
min. Earth dist.	14104 Sep 07 02:40	27° $\mathbf{\text{H}}$ 31'45	29.94082 AU	retrograde	14112 Jul 10 13:11	18° $\mathbf{\text{Y}}$ 57'58	
direct	14104 Nov 22 23:46	26° $\mathbf{\text{H}}$ 11'13		opposition	14112 Sep 25 06:24	17° $\mathbf{\text{Y}}$ 34'29	16°26'35
max. Earth dist.	14105 Mar 07 17:06	28° $\mathbf{\text{H}}$ 42'44	31.78800 AU	min. Earth dist.	14112 Sep 26 12:01	17° $\mathbf{\text{Y}}$ 32'23	28.97359 AU
				direct	14112 Dec 12 21:44	16° $\mathbf{\text{Y}}$ 09'06	
conjunction	14105 Mar 09 16:40	28° $\mathbf{\text{H}}$ 47'18	15°21'00	max. Earth dist.	14113 Mar 28 23:34	18° $\mathbf{\text{Y}}$ 48'44	30.85900 AU
minimum elong	14105 Mar 09 16:40	28° $\mathbf{\text{H}}$ 47'18	15°21'07				
	14105 Apr 11 13:29	0° $\mathbf{\text{Y}}$		conjunction	14113 Mar 30 05:35	18° $\mathbf{\text{Y}}$ 51'43	15°20'17
retrograde	14105 Jun 22 22:59	1° $\mathbf{\text{Y}}$ 22'27		minimum elong	14113 Mar 30 05:49	18° $\mathbf{\text{Y}}$ 51'45	15°20'02
opposition	14105 Sep 07 23:26	0° $\mathbf{\text{Y}}$ 00'24	16°25'16	retrograde	14113 Jul 13 10:27	21° $\mathbf{\text{Y}}$ 32'20	
	14105 Sep 08 05:04	30° $\mathbf{\text{R}}$ $\mathbf{\text{H}}$		opposition	14113 Sep 28 02:08	20° $\mathbf{\text{Y}}$ 08'48	16°19'16
min. Earth dist.	14105 Sep 09 17:15	29° $\mathbf{\text{H}}$ 57'29	29.78861 AU	min. Earth dist.	14113 Sep 29 05:07	20° $\mathbf{\text{Y}}$ 06'52	28.89938 AU
direct	14105 Nov 25 13:57	28° $\mathbf{\text{H}}$ 36'33		direct	14113 Dec 15 18:45	18° $\mathbf{\text{Y}}$ 43'21	
	14106 Feb 07 05:23	0° $\mathbf{\text{Y}}$		max. Earth dist.	14114 Mar 31 22:00	21° $\mathbf{\text{Y}}$ 23'33	30.79141 AU
max. Earth dist.	14106 Mar 10 13:32	1° $\mathbf{\text{Y}}$ 09'22	31.63842 AU				
				conjunction	14114 Apr 02 02:44	21° $\mathbf{\text{Y}}$ 26'25	15°12'22
conjunction	14106 Mar 12 10:53	1° $\mathbf{\text{Y}}$ 13'44	15°26'37	minimum elong	14114 Apr 02 03:00	21° $\mathbf{\text{Y}}$ 26'26	15°12'06
minimum elong	14106 Mar 12 10:53	1° $\mathbf{\text{Y}}$ 13'44	15°26'43	retrograde	14114 Jul 16 07:15	24° $\mathbf{\text{Y}}$ 07'20	
retrograde	14106 Jun 25 15:28	3° $\mathbf{\text{Y}}$ 49'52		opposition	14114 Sep 30 22:20	22° $\mathbf{\text{Y}}$ 43'46	16°10'01
opposition	14106 Sep 10 16:07	2° $\mathbf{\text{Y}}$ 27'32	16°30'46	min. Earth dist.	14114 Oct 01 23:36	22° $\mathbf{\text{Y}}$ 41'58	28.83582 AU
min. Earth dist.	14106 Sep 12 09:02	2° $\mathbf{\text{Y}}$ 24'40	29.64388 AU	direct	14114 Dec 18 13:52	21° $\mathbf{\text{Y}}$ 18'18	
direct	14106 Nov 28 05:12	1° $\mathbf{\text{Y}}$ 03'24		max. Earth dist.	14115 Apr 03 22:44	23° $\mathbf{\text{Y}}$ 59'09	30.73446 AU

conjunction	14115 Apr 05 00:03	24° Υ 01'41	15°02'41	min. Earth dist.	14121 Oct 19 08:47	10° δ 51'01	28.67264 AU
minimum elong	14115 Apr 05 00:20	24° Υ 01'42	15°02'21	direct	14122 Jan 05 18:49	9° δ 26'31	
retrograde	14115 Jul 19 02:50	26° Υ 42'49		evening set	14122 Apr 15 10:08	11° δ 50'33	
opposition	14115 Oct 03 18:47	25° Υ 19'15	15°58'52				
min. Earth dist.	14115 Oct 04 18:00	25° Υ 17'36	28.78230 AU	conjunction	14122 Apr 23 04:13	12° δ 09'00	13°07'47
direct	14115 Dec 21 11:12	23° Υ 53'46		minimum elong	14122 Apr 23 04:40	12° δ 09'03	13°07'10
evening set	14116 Apr 04 14:51	26° Υ 31'54		max. Earth dist.	14122 Apr 22 19:09	12° δ 08'06	30.62511 AU
				morning rise	14122 Apr 30 22:40	12° δ 27'30	
conjunction	14116 Apr 06 21:29	26° Υ 37'21	14°51'16	retrograde	14122 Aug 05 19:27	14° δ 48'41	
minimum elong	14116 Apr 06 21:48	26° Υ 37'23	14°50'54	opposition	14122 Oct 21 17:57	13° δ 25'27	13°50'25
max. Earth dist.	14116 Apr 05 21:16	26° Υ 34'56	30.68780 AU	min. Earth dist.	14122 Oct 22 01:20	13° δ 24'55	28.69212 AU
morning rise	14116 Apr 09 04:46	26° Υ 42'52		direct	14123 Jan 08 18:17	12° δ 00'19	
retrograde	14116 Jul 21 00:13	29° Υ 18'35		evening set	14123 Apr 17 13:41	14° δ 22'15	
opposition	14116 Oct 05 15:13	27° Υ 55'02	15°45'51				
min. Earth dist.	14116 Oct 06 12:14	27° Υ 53'32	28.73882 AU	conjunction	14123 Apr 26 00:06	14° δ 42'15	12°45'06
direct	14116 Dec 23 07:22	26° Υ 29'32		minimum elong	14123 Apr 26 00:32	14° δ 42'18	12°44'26
evening set	14117 Apr 06 05:50	29° Υ 04'42		max. Earth dist.	14123 Apr 25 17:38	14° δ 41'37	30.65374 AU
					14123 May 03 11:30	15° δ	
conjunction	14117 Apr 09 19:10	29° Υ 13'14	14°38'07	morning rise	14123 May 04 10:50	15° δ 02'18	
minimum elong	14117 Apr 09 19:30	29° Υ 13'16	14°37'41	retrograde	14123 Aug 08 13:35	17° δ 21'22	
max. Earth dist.	14117 Apr 08 22:09	29° Υ 11'08	30.65124 AU	opposition	14123 Oct 24 13:47	15° δ 58'16	13°25'22
morning rise	14117 Apr 13 09:05	29° Υ 21'48		min. Earth dist.	14123 Oct 24 19:12	15° δ 57'53	28.72371 AU
	14117 Apr 29 13:48	0° δ			14123 Dec 01 14:45	15° δ	
retrograde	14117 Jul 23 19:14	1° δ 54'27		direct	14124 Jan 11 14:23	14° δ 33'17	
opposition	14117 Oct 08 11:58	0° δ 30'55	15°31'00		14124 Feb 20 13:49	15° δ	
min. Earth dist.	14117 Oct 09 07:34	0° δ 29'32	28.70507 AU	evening set	14124 Apr 18 18:01	16° δ 53'10	
	14117 Oct 27 00:58	30° κ Υ					
direct	14117 Dec 26 03:49	29° Υ 05'27		conjunction	14124 Apr 27 19:49	17° δ 14'37	12°21'00
	14118 Feb 21 19:34	0° δ		minimum elong	14124 Apr 27 20:16	17° δ 14'40	12°20'18
evening set	14118 Apr 08 02:55	1° δ 38'10		max. Earth dist.	14124 Apr 27 16:46	17° δ 14'19	30.69474 AU
				morning rise	14124 May 06 21:44	17° δ 36'07	
conjunction	14118 Apr 12 16:30	1° δ 49'07	14°23'17	retrograde	14124 Aug 10 08:20	19° δ 53'06	
minimum elong	14118 Apr 12 16:53	1° δ 49'09	14°22'50	opposition	14124 Oct 26 09:04	18° δ 30'11	12°58'50
max. Earth dist.	14118 Apr 11 20:55	1° δ 47'09	30.62483 AU	min. Earth dist.	14124 Oct 26 11:22	18° δ 30'01	28.76735 AU
morning rise	14118 Apr 17 06:43	2° δ 00'07		direct	14125 Jan 13 12:49	17° δ 05'24	
retrograde	14118 Jul 26 15:28	4° δ 30'14		evening set	14125 Apr 20 22:36	19° δ 23'15	
opposition	14118 Oct 11 08:36	3° δ 06'44	15°14'20				
min. Earth dist.	14118 Oct 12 01:20	3° δ 05'33	28.68134 AU	conjunction	14125 Apr 30 14:59	19° δ 46'04	11°55'34
direct	14118 Dec 29 02:00	1° δ 41'18		minimum elong	14125 Apr 30 15:24	19° δ 46'06	11°54'50
evening set	14119 Apr 10 02:47	4° δ 11'45		max. Earth dist.	14125 Apr 30 13:54	19° δ 45'57	30.74779 AU
				morning rise	14125 May 10 07:32	20° δ 08'53	
conjunction	14119 Apr 15 13:54	4° δ 24'49	14°06'48	retrograde	14125 Aug 13 03:07	22° δ 23'51	
minimum elong	14119 Apr 15 14:17	4° δ 24'52	14°06'17	opposition	14125 Oct 29 04:09	21° δ 01'08	12°30'54
max. Earth dist.	14119 Apr 14 21:22	4° δ 23'10	30.60865 AU	min. Earth dist.	14125 Oct 29 04:00	21° δ 01'09	28.82294 AU
morning rise	14119 Apr 21 01:29	4° δ 37'57		direct	14126 Jan 16 09:08	19° δ 36'36	
retrograde	14119 Jul 29 09:48	7° δ 05'44		evening set	14126 Apr 23 03:25	21° δ 52'27	
opposition	14119 Oct 14 05:15	5° δ 42'16	14°55'54				
min. Earth dist.	14119 Oct 14 20:45	5° δ 41'10	28.66777 AU	conjunction	14126 May 03 09:40	22° δ 16'31	11°28'54
direct	14119 Dec 31 23:16	4° δ 16'52		minimum elong	14126 May 03 10:06	22° δ 16'34	11°28'08
evening set	14120 Apr 11 04:18	6° δ 45'09		max. Earth dist.	14126 May 03 12:14	22° δ 16'46	30.81251 AU
				morning rise	14126 May 13 15:45	22° δ 40'35	
conjunction	14120 Apr 17 10:56	7° δ 00'09	13°48'41	retrograde	14126 Aug 15 19:01	24° δ 53'32	
minimum elong	14120 Apr 17 11:20	7° δ 00'12	13°48'09	opposition	14126 Oct 31 22:53	23° δ 31'05	12°01'42
max. Earth dist.	14120 Apr 16 20:19	6° δ 58'42	30.60312 AU	min. Earth dist.	14126 Oct 31 20:28	23° δ 31'15	28.88966 AU
morning rise	14120 Apr 23 18:05	7° δ 15'13		direct	14127 Jan 19 06:11	22° δ 06'49	
retrograde	14120 Jul 31 06:03	9° δ 40'44		evening set	14127 Apr 25 08:39	24° δ 20'41	
opposition	14120 Oct 16 01:38	8° δ 17'20	14°35'44				
min. Earth dist.	14120 Oct 16 13:52	8° δ 16'28	28.66472 AU	conjunction	14127 May 06 03:47	24° δ 45'54	11°01'06
direct	14121 Jan 02 21:27	6° δ 52'00		minimum elong	14127 May 06 04:12	24° δ 45'56	11°00'18
evening set	14121 Apr 13 06:46	9° δ 18'09		max. Earth dist.	14127 May 06 07:48	24° δ 46'17	30.88809 AU
				morning rise	14127 May 16 22:56	25° δ 11'06	
conjunction	14121 Apr 20 07:47	9° δ 34'56	13°29'00	retrograde	14127 Aug 18 12:52	27° δ 22'06	
minimum elong	14121 Apr 20 08:11	9° δ 34'58	13°28'25	opposition	14127 Nov 03 17:02	25° δ 59'53	11°31'20
max. Earth dist.	14121 Apr 19 19:54	9° δ 33'45	30.60834 AU	min. Earth dist.	14127 Nov 03 11:53	26° δ 00'15	28.96707 AU
morning rise	14121 Apr 27 09:11	9° δ 51'47		direct	14128 Jan 22 01:25	24° δ 35'54	
retrograde	14121 Aug 03 00:09	12° δ 15'07		evening set	14128 Apr 26 14:03	26° δ 47'49	
opposition	14121 Oct 18 21:55	10° δ 51'47	14°13'53				

conjunction	14128 May 07 21:35	27° 8 14'06	10°32'16	retrograde	14134 Sep 03 09:54	14° II 00'42	
minimum elong	14128 May 07 22:01	27° 8 14'08	10°31'26	opposition	14134 Nov 20 09:54	12° II 40'18	7°35'09
max. Earth dist.	14128 May 08 05:05	27° 8 14'49	30.97388 AU	min. Earth dist.	14134 Nov 19 14:24	12° II 41'37	29.76499 AU
morning rise	14128 May 19 04:44	27° 8 40'21		direct	14135 Feb 08 06:33	11° II 18'17	
retrograde	14128 Aug 20 03:51	29° 8 49'24		evening set	14135 May 11 07:04	13° II 17'30	
opposition	14128 Nov 05 10:56	28° 8 27'28	10°59'55				
min. Earth dist.	14128 Nov 05 04:22	28° 8 27'55	29.05423 AU	conjunction	14135 May 25 07:21	13° II 48'38	6°49'42
direct	14129 Jan 23 20:50	27° 8 03'45		minimum elong	14135 May 25 07:38	13° II 48'39	6°48'43
evening set	14129 Apr 28 19:51	29° 8 13'45		max. Earth dist.	14135 May 26 05:49	13° II 50'43	31.82453 AU
				morning rise	14135 Jun 08 06:33	14° II 19'41	
conjunction	14129 May 10 14:41	29° 8 40'59	10°02'30	retrograde	14135 Sep 05 20:27	16° II 16'24	
minimum elong	14129 May 10 15:04	29° 8 41'01	10°01'39	opposition	14135 Nov 22 23:19	14° II 56'18	6°59'13
max. Earth dist.	14129 May 10 23:20	29° 8 41'49	31.06918 AU	min. Earth dist.	14135 Nov 22 01:31	14° II 57'45	29.91470 AU
	14129 May 18 19:51	0° II		direct	14136 Feb 10 23:21	13° II 34'36	
morning rise	14129 May 22 09:17	0° II 08'11		evening set	14136 May 12 12:54	15° II 32'13	
retrograde	14129 Aug 22 19:08	2° II 15'20					
opposition	14129 Nov 08 04:11	0° II 53'40	10°27'33	conjunction	14136 May 26 19:28	16° II 03'43	6°15'58
min. Earth dist.	14129 Nov 07 18:33	0° II 54'19	29.15079 AU	minimum elong	14136 May 26 19:44	16° II 03'45	6°14'58
	14129 Dec 13 13:11	30° R 8		max. Earth dist.	14136 May 27 19:24	16° II 05'56	31.98148 AU
direct	14130 Jan 26 15:53	29° 8 30'14		morning rise	14136 Jun 10 01:10	16° II 35'08	
	14130 Mar 10 10:00	0° II		retrograde	14136 Sep 07 08:34	18° II 30'20	
evening set	14130 May 01 01:38	1° II 38'20		min. Earth dist.	14136 Nov 23 11:45	17° II 12'10	30.07398 AU
				opposition	14136 Nov 24 12:12	17° II 10'33	6°22'59
conjunction	14130 May 13 07:19	2° II 06'26	9°31'55	direct	14137 Feb 12 14:16	15° II 49'12	
minimum elong	14130 May 13 07:43	2° II 06'28	9°31'02	evening set	14137 May 14 18:30	17° II 45'18	
max. Earth dist.	14130 May 13 19:05	2° II 07'34	31.17351 AU				
morning rise	14130 May 25 12:25	2° II 34'29		conjunction	14137 May 29 06:58	18° II 17'06	5°42'01
retrograde	14130 Aug 25 07:38	4° II 39'48		minimum elong	14137 May 29 07:12	18° II 17'08	5°41'01
opposition	14130 Nov 10 21:06	3° II 18'22	9°54'21	max. Earth dist.	14137 May 30 10:07	18° II 19'36	32.14764 AU
min. Earth dist.	14130 Nov 10 10:21	3° II 19'06	29.25629 AU	morning rise	14137 Jun 12 18:10	18° II 48'49	
direct	14131 Jan 29 09:52	1° II 55'13		retrograde	14137 Sep 09 17:21	20° II 42'34	
evening set	14131 May 03 07:32	4° II 01'27		min. Earth dist.	14137 Nov 25 22:28	19° II 24'51	30.24230 AU
				opposition	14137 Nov 27 00:27	19° II 23'08	5°46'34
conjunction	14131 May 15 23:04	4° II 30'20	9°00'36	direct	14138 Feb 15 05:28	18° II 02'11	
minimum elong	14131 May 15 23:26	4° II 30'22	8°59'42	evening set	14138 May 17 00:13	19° II 56'50	
max. Earth dist.	14131 May 16 12:09	4° II 31'35	31.28665 AU				
morning rise	14131 May 28 14:07	4° II 59'09		conjunction	14138 May 31 17:36	20° II 28'52	5°07'55
retrograde	14131 Aug 27 22:06	7° II 02'38		minimum elong	14138 May 31 17:49	20° II 28'53	5°06'53
opposition	14131 Nov 13 13:13	5° II 41'29	9°20'25	max. Earth dist.	14138 Jun 01 21:52	20° II 31'27	32.32249 AU
min. Earth dist.	14131 Nov 12 23:27	5° II 42'25	29.37045 AU	morning rise	14138 Jun 15 10:01	21° II 00'48	
direct	14132 Feb 01 03:46	4° II 18'36		retrograde	14138 Sep 12 02:58	22° II 53'11	
evening set	14132 May 04 13:30	6° II 23'01		min. Earth dist.	14138 Nov 28 06:56	21° II 36'02	30.41928 AU
				opposition	14138 Nov 29 11:56	21° II 34'07	5°10'03
conjunction	14132 May 17 14:21	6° II 52'34	8°28'37	direct	14139 Feb 17 18:20	20° II 13'35	
minimum elong	14132 May 17 14:43	6° II 52'36	8°27'42	evening set	14139 May 19 05:36	22° II 06'50	
max. Earth dist.	14132 May 18 05:55	6° II 54'03	31.40814 AU				
morning rise	14132 May 30 14:30	7° II 22'05		conjunction	14139 Jun 03 03:37	22° II 39'02	4°33'45
retrograde	14132 Aug 29 09:38	9° II 23'47		minimum elong	14139 Jun 03 03:49	22° II 39'03	4°32'43
opposition	14132 Nov 15 04:44	8° II 02'53	8°45'51	max. Earth dist.	14139 Jun 04 10:56	22° II 41'53	32.50524 AU
min. Earth dist.	14132 Nov 14 13:55	8° II 03'53	29.49318 AU	morning rise	14139 Jun 18 00:19	23° II 11'09	
direct	14133 Feb 02 20:28	6° II 40'17		retrograde	14139 Sep 14 09:36	25° II 02'13	
evening set	14133 May 06 19:32	8° II 42'54		opposition	14139 Dec 01 22:53	23° II 43'32	4°33'32
				min. Earth dist.	14139 Nov 30 17:03	23° II 45'29	30.60386 AU
conjunction	14133 May 20 04:52	9° II 13'04	7°56'06	direct	14140 Feb 20 06:39	22° II 23'25	
minimum elong	14133 May 20 05:12	9° II 13'06	7°55'09	evening set	14140 May 20 11:12	24° II 15'20	
max. Earth dist.	14133 May 20 22:23	9° II 14'44	31.53820 AU				
morning rise	14133 Jun 02 13:24	9° II 43'10		conjunction	14140 Jun 04 12:56	24° II 47'39	3°59'35
retrograde	14133 Aug 31 22:00	11° II 43'09		minimum elong	14140 Jun 04 13:06	24° II 47'40	3°58'32
opposition	14133 Nov 17 19:36	10° II 22'30	8°10'44	max. Earth dist.	14140 Jun 05 21:02	24° II 50'32	32.69500 AU
min. Earth dist.	14133 Nov 17 02:01	10° II 23'41	29.62453 AU	morning rise	14140 Jun 19 13:31	25° II 19'51	
direct	14134 Feb 05 15:06	9° II 00'11		retrograde	14140 Sep 15 17:55	27° II 09'40	
evening set	14134 May 09 01:19	11° II 01'04		min. Earth dist.	14140 Dec 02 00:29	25° II 53'30	30.79521 AU
				opposition	14140 Dec 03 08:57	25° II 51'23	3°57'05
conjunction	14134 May 22 18:24	11° II 31'45	7°23'06	direct	14141 Feb 21 17:51	24° II 31'40	
minimum elong	14134 May 22 18:43	11° II 31'47	7°22'07	evening set	14141 May 22 16:41	26° II 22'19	
max. Earth dist.	14134 May 23 14:03	11° II 33'36	31.67680 AU				
morning rise	14134 Jun 05 10:43	12° II 02'22		conjunction	14141 Jun 06 21:41	26° II 54'40	3°25'30

minimum elong	14141 Jun 06 21:49	26° Π 54'41	3°24'28	morning rise	14147 Jul 04 22:43	9° \mathfrak{C} 33'22	
max. Earth dist.	14141 Jun 08 07:59	26° Π 57'45	32.89084 AU	desc. node	14147 Aug 25 14:00	10° \mathfrak{C} 56'38	
morning rise	14141 Jun 22 01:24	27° Π 26'56		retrograde	14147 Sep 30 05:21	11° \mathfrak{C} 15'49	
retrograde	14141 Sep 17 23:36	29° Π 15'34		min. Earth dist.	14147 Dec 16 20:06	10° \mathfrak{C} 02'30	32.27613 AU
min. Earth dist.	14141 Dec 04 09:33	27° Π 59'48	30.99264 AU	opposition	14147 Dec 18 14:23	9° \mathfrak{C} 59'52	-0°10'43
opposition	14141 Dec 05 18:43	27° Π 57'39	3°20'46	direct	14148 Mar 08 12:29	8° \mathfrak{C} 42'43	
direct	14142 Feb 24 04:03	26° Π 38'21		evening set	14148 Jun 05 02:25	10° \mathfrak{C} 25'42	
evening set	14142 May 24 21:55	28° Π 27'45					
conjunction	14142 Jun 09 05:34	29° Π 00'06	2°51'34	conjunction	14148 Jun 20 14:53	10° \mathfrak{C} 57'01	-0°26'08
minimum elong	14142 Jun 09 05:41	29° Π 00'07	2°50'31	minimum elong	14148 Jun 20 14:52	10° \mathfrak{C} 57'01	0°27'12
max. Earth dist.	14142 Jun 10 17:04	29° Π 03'16	33.09221 AU	max. Earth dist.	14148 Jun 22 10:46	11° \mathfrak{C} 00'44	34.39226 AU
morning rise	14142 Jun 24 11:54	29° Π 32'21		morning rise	14148 Jul 06 02:00	11° \mathfrak{C} 28'13	
	14142 Jul 08 06:10	0° \mathfrak{C}		retrograde	14148 Oct 01 05:31	13° \mathfrak{C} 09'49	
retrograde	14142 Sep 20 05:58	1° \mathfrak{C} 19'51		min. Earth dist.	14148 Dec 18 00:33	11° \mathfrak{C} 56'50	32.50641 AU
min. Earth dist.	14142 Dec 06 16:29	0° \mathfrak{C} 04'33	31.19529 AU	opposition	14148 Dec 19 19:22	11° \mathfrak{C} 54'11	-0°44'29
opposition	14142 Dec 08 03:39	0° \mathfrak{C} 02'18	2°44'41	direct	14149 Mar 10 19:33	10° \mathfrak{C} 37'23	
	14142 Dec 09 15:36	30° \mathfrak{K} Π		evening set	14149 Jun 07 06:26	12° \mathfrak{C} 19'29	
direct	14143 Feb 26 15:00	28° Π 43'23		conjunction	14149 Jun 22 18:00	12° \mathfrak{C} 50'30	-0°57'42
	14143 May 11 03:39	0° \mathfrak{C}		minimum elong	14149 Jun 22 17:58	12° \mathfrak{C} 50'29	0°58'44
evening set	14143 May 27 03:13	0° \mathfrak{C} 31'37		max. Earth dist.	14149 Jun 24 14:36	12° \mathfrak{C} 54'15	34.62491 AU
conjunction	14143 Jun 11 12:53	1° \mathfrak{C} 03'54	2°17'50	morning rise	14149 Jul 08 04:19	13° \mathfrak{C} 21'24	
minimum elong	14143 Jun 11 12:58	1° \mathfrak{C} 03'55	2°16'48	retrograde	14149 Oct 03 06:45	15° \mathfrak{C} 02'12	
max. Earth dist.	14143 Jun 13 01:35	1° \mathfrak{C} 07'08	33.29826 AU	min. Earth dist.	14149 Dec 20 02:37	13° \mathfrak{C} 49'41	32.74161 AU
morning rise	14143 Jun 26 21:21	1° \mathfrak{C} 36'05		opposition	14149 Dec 21 23:42	13° \mathfrak{C} 46'55	-1°17'43
retrograde	14143 Sep 22 12:36	3° \mathfrak{C} 22'30		direct	14150 Mar 13 01:21	12° \mathfrak{C} 30'30	
min. Earth dist.	14143 Dec 08 23:33	2° \mathfrak{C} 07'36	31.40278 AU	evening set	14150 Jun 09 10:07	14° \mathfrak{C} 11'46	
opposition	14143 Dec 10 11:54	2° \mathfrak{C} 05'18	2°08'52	conjunction	14150 Jun 24 20:22	14° \mathfrak{C} 42'26	-1°28'46
direct	14144 Feb 28 22:53	0° \mathfrak{C} 46'45		minimum elong	14150 Jun 24 20:19	14° \mathfrak{C} 42'25	1°29'49
evening set	14144 May 28 08:17	2° \mathfrak{C} 33'51		max. Earth dist.	14150 Jun 26 18:35	14° \mathfrak{C} 46'17	34.86205 AU
conjunction	14144 Jun 12 19:39	3° \mathfrak{C} 06'01	1°44'22	morning rise	14150 Jul 10 05:28	15° \mathfrak{C} 13'00	
minimum elong	14144 Jun 12 19:43	3° \mathfrak{C} 06'02	1°43'18	retrograde	14150 Oct 05 07:57	16° \mathfrak{C} 53'05	
max. Earth dist.	14144 Jun 14 10:01	3° \mathfrak{C} 09'23	33.50871 AU	min. Earth dist.	14150 Dec 22 05:30	15° \mathfrak{C} 40'58	32.98138 AU
morning rise	14144 Jun 28 05:32	3° \mathfrak{C} 38'06		opposition	14150 Dec 24 03:30	15° \mathfrak{C} 38'09	-1°50'23
retrograde	14144 Sep 23 17:18	5° \mathfrak{C} 23'27		direct	14151 Mar 15 04:56	14° \mathfrak{C} 22'07	
min. Earth dist.	14144 Dec 10 06:12	4° \mathfrak{C} 08'56	31.61446 AU	evening set	14151 Jun 11 13:39	16° \mathfrak{C} 02'37	
opposition	14144 Dec 11 19:33	4° \mathfrak{C} 06'35	1°33'22	conjunction	14151 Jun 26 22:20	16° \mathfrak{C} 32'55	-1°59'20
direct	14145 Mar 02 09:56	2° \mathfrak{C} 48'24		minimum elong	14151 Jun 26 22:16	16° \mathfrak{C} 32'55	2°00'22
evening set	14145 May 30 13:14	4° \mathfrak{C} 34'24		max. Earth dist.	14151 Jun 28 21:57	16° \mathfrak{C} 36'52	35.10326 AU
conjunction	14145 Jun 15 01:27	5° \mathfrak{C} 06'25	1°11'11	morning rise	14151 Jul 12 05:42	17° \mathfrak{C} 03'08	
minimum elong	14145 Jun 15 01:29	5° \mathfrak{C} 06'25	1°10'08	retrograde	14151 Oct 07 08:43	18° \mathfrak{C} 42'32	
max. Earth dist.	14145 Jun 16 16:11	5° \mathfrak{C} 09'46	33.72308 AU	min. Earth dist.	14151 Dec 24 07:24	17° \mathfrak{C} 30'49	33.22476 AU
morning rise	14145 Jun 30 12:30	5° \mathfrak{C} 38'20		opposition	14151 Dec 26 06:28	17° \mathfrak{C} 27'57	-2°22'27
retrograde	14145 Sep 25 23:51	7° \mathfrak{C} 22'40		direct	14152 Mar 16 09:30	16° \mathfrak{C} 12'19	
min. Earth dist.	14145 Dec 12 11:15	6° \mathfrak{C} 08'35	31.83047 AU	evening set	14152 Jun 12 17:12	17° \mathfrak{C} 52'06	
opposition	14145 Dec 14 02:32	6° \mathfrak{C} 06'07	0°58'14	conjunction	14152 Jun 27 23:39	18° \mathfrak{C} 22'01	-2°29'21
direct	14146 Mar 04 19:19	4° \mathfrak{C} 48'16		minimum elong	14152 Jun 27 23:34	18° \mathfrak{C} 22'01	2°30'23
evening set	14146 Jun 01 17:49	6° \mathfrak{C} 33'13		max. Earth dist.	14152 Jun 29 23:39	18° \mathfrak{C} 25'58	35.34752 AU
conjunction	14146 Jun 17 06:44	7° \mathfrak{C} 05'02	0°38'22	morning rise	14152 Jul 13 05:06	18° \mathfrak{C} 51'51	
minimum elong	14146 Jun 17 06:45	7° \mathfrak{C} 05'03	0°37'18	retrograde	14152 Oct 08 11:11	20° \mathfrak{C} 30'37	
max. Earth dist.	14146 Jun 18 23:49	7° \mathfrak{C} 08'34	33.94163 AU	min. Earth dist.	14152 Dec 25 08:32	19° \mathfrak{C} 19'20	33.47118 AU
morning rise	14146 Jul 02 18:09	7° \mathfrak{C} 36'45		opposition	14152 Dec 27 09:05	19° \mathfrak{C} 16'24	-2°53'55
retrograde	14146 Sep 28 02:40	9° \mathfrak{C} 20'08		direct	14153 Mar 18 11:31	18° \mathfrak{C} 01'10	
min. Earth dist.	14146 Dec 14 17:07	8° \mathfrak{C} 06'21	32.05089 AU	evening set	14153 Jun 14 20:18	19° \mathfrak{C} 40'17	
opposition	14146 Dec 16 08:51	8° \mathfrak{C} 03'52	0°23'32	conjunction	14153 Jun 30 00:27	20° \mathfrak{C} 09'47	-2°58'48
direct	14147 Mar 07 04:45	6° \mathfrak{C} 46'22		minimum elong	14153 Jun 30 00:21	20° \mathfrak{C} 09'46	2°59'50
evening set	14147 Jun 03 22:13	8° \mathfrak{C} 30'19		max. Earth dist.	14153 Jul 02 02:13	20° \mathfrak{C} 13'51	35.59420 AU
conjunction	14147 Jun 19 11:03	9° \mathfrak{C} 01'53	0°05'59	morning rise	14153 Jul 15 03:19	20° \mathfrak{C} 39'12	
minimum elong	14147 Jun 19 11:03	9° \mathfrak{C} 01'53	0°04'55	retrograde	14153 Oct 10 10:12	22° \mathfrak{C} 17'23	
behind sun begin	14147 Jun 19 04:48	9° \mathfrak{C} 01'23		min. Earth dist.	14153 Dec 27 10:44	21° \mathfrak{C} 06'27	33.71964 AU
behind sun end	14147 Jun 19 17:19	9° \mathfrak{C} 02'24		opposition	14153 Dec 29 11:14	21° \mathfrak{C} 03'32	-3°24'45
max. Earth dist.	14147 Jun 21 04:32	9° \mathfrak{C} 05'26	34.16461 AU	direct	14154 Mar 20 15:46	19° \mathfrak{C} 48'41	
				evening set	14154 Jun 16 23:28	21° \mathfrak{C} 27'10	

conjunction	14154 Jul 02 00:40	21°☾56'14 -3°27'41	retrograde	14160 Oct 21 17:29	4°♊08'11	
minimum elong	14154 Jul 02 00:33	21°☾56'14 3°28'43	min. Earth dist.	14161 Jan 08 05:42	2°♊59'31	35.47952 AU
max. Earth dist.	14154 Jul 04 02:01	22°☾00'15 35.84248 AU	opposition	14161 Jan 10 10:21	2°♊56'28	-6°42'11
morning rise	14154 Jul 17 00:56	22°☾25'14	direct	14161 Apr 01 23:22	1°♊43'59	
retrograde	14154 Oct 12 10:18	24°☾02'51	evening set	14161 Jun 29 14:00	3°♊18'51	
min. Earth dist.	14154 Dec 29 10:29	22°☾52'21 33.96959 AU				
opposition	14154 Dec 31 12:38	22°☾49'21 -3°54'57	conjunction	14161 Jul 13 11:14	3°♊44'25	-6°32'58
direct	14155 Mar 22 19:17	21°☾34'53	minimum elong	14161 Jul 13 11:05	3°♊44'24	6°33'55
evening set	14155 Jun 19 02:16	23°☾12'46	max. Earth dist.	14161 Jul 15 16:28	3°♊48'32	37.59487 AU
			morning rise	14161 Jul 27 07:51	4°♊09'56	
conjunction	14155 Jul 04 00:28	23°☾41'24 -3°55'59	retrograde	14161 Oct 23 14:22	5°♊44'31	
minimum elong	14155 Jul 04 00:21	23°☾41'23 3°57'00	min. Earth dist.	14162 Jan 10 01:39	4°♊36'14	35.73462 AU
max. Earth dist.	14155 Jul 06 03:22	23°☾45'30 36.09169 AU	opposition	14162 Jan 12 08:06	4°♊33'06	-7°07'39
morning rise	14155 Jul 18 21:34	24°☾09'56	direct	14162 Apr 03 22:41	3°♊20'56	
retrograde	14155 Oct 14 08:09	25°☾47'03	evening set	14162 Jul 01 14:58	4°♊55'25	
min. Earth dist.	14155 Dec 31 12:00	24°☾36'50 34.22026 AU				
opposition	14156 Jan 02 13:43	24°☾33'53 -4°24'29	conjunction	14162 Jul 15 07:16	5°♊20'27	-6°56'55
direct	14156 Mar 23 22:26	23°☾19'47	minimum elong	14162 Jul 15 07:06	5°♊20'26	6°57'51
evening set	14156 Jun 20 05:00	24°☾57'05	max. Earth dist.	14162 Jul 17 14:07	5°♊24'39	37.84893 AU
			morning rise	14162 Jul 28 22:51	5°♊45'25	
conjunction	14156 Jul 04 23:42	25°☾25'14 -4°23'41	retrograde	14162 Oct 25 08:22	7°♊19'42	
minimum elong	14156 Jul 04 23:34	25°☾25'14 4°24'41	min. Earth dist.	14163 Jan 11 23:13	6°♊11'41	35.99108 AU
max. Earth dist.	14156 Jul 07 02:15	25°☾29'17 36.34129 AU	opposition	14163 Jan 14 05:24	6°♊08'34	-7°32'26
morning rise	14156 Jul 19 17:26	25°☾53'19	direct	14163 Apr 05 21:27	4°♊56'45	
retrograde	14156 Oct 15 05:11	27°☾29'56	evening set	14163 Jul 03 15:44	6°♊30'53	
min. Earth dist.	14157 Jan 01 11:01	26°☾20'07 34.47113 AU				
opposition	14157 Jan 03 14:02	26°☾17'06 -4°53'22	conjunction	14163 Jul 17 02:47	6°♊55'21	-7°20'14
direct	14157 Mar 26 00:48	25°☾03'20	minimum elong	14163 Jul 17 02:37	6°♊55'21	7°21'09
evening set	14157 Jun 22 07:26	26°☾40'06	max. Earth dist.	14163 Jul 19 09:39	6°♊59'33	38.10413 AU
			morning rise	14163 Jul 30 13:11	7°♊19'47	
conjunction	14157 Jul 06 22:22	27°☾07'46 -4°50'47	retrograde	14163 Oct 27 00:59	8°♊53'47	
minimum elong	14157 Jul 06 22:14	27°☾07'45 4°51'46	min. Earth dist.	14164 Jan 13 18:42	7°♊46'08	36.24829 AU
max. Earth dist.	14157 Jul 09 01:37	27°☾11'50 36.59089 AU	opposition	14164 Jan 16 02:07	7°♊42'58	-7°56'31
morning rise	14157 Jul 21 12:27	27°☾35'21	direct	14164 Apr 06 20:39	6°♊31'29	
retrograde	14157 Oct 17 02:32	29°☾11'31	evening set	14164 Jul 04 16:17	8°♊05'18	
min. Earth dist.	14158 Jan 03 10:58	28°☾01'58 34.72227 AU				
opposition	14158 Jan 05 14:02	27°☾58'58 -5°21'35	conjunction	14164 Jul 17 21:48	8°♊29'13	-7°42'54
direct	14158 Mar 28 00:39	26°☾45'32	minimum elong	14164 Jul 17 21:38	8°♊29'12	7°43'48
evening set	14158 Jun 24 09:22	28°☾21'46	max. Earth dist.	14164 Jul 20 05:14	8°♊33'25	38.35967 AU
			morning rise	14164 Jul 31 02:51	8°♊53'04	
conjunction	14158 Jul 08 20:25	28°☾48'56 -5°17'16	retrograde	14164 Oct 27 19:44	10°♊26'50	
minimum elong	14158 Jul 08 20:16	28°☾48'55 5°18'14	min. Earth dist.	14165 Jan 14 14:54	9°♊19'29	36.50581 AU
max. Earth dist.	14158 Jul 11 00:19	28°☾53'02 36.84074 AU	opposition	14165 Jan 16 22:33	9°♊16'20	-8°19'55
morning rise	14158 Jul 23 06:26	29°☾16'01	direct	14165 Apr 08 16:36	8°♊05'11	
	14158 Aug 17 20:35	0°♊	evening set	14165 Jul 06 16:34	9°♊38'42	
retrograde	14158 Oct 18 23:40	0°♊51'44				
	14158 Dec 23 17:20	30°♊☾	conjunction	14165 Jul 19 16:33	10°♊02'03	-8°04'57
min. Earth dist.	14159 Jan 05 09:49	29°☾42'29 34.97366 AU	minimum elong	14165 Jul 19 16:24	10°♊02'02	8°05'50
opposition	14159 Jan 07 13:21	29°☾39'28 -5°49'08	max. Earth dist.	14165 Jul 22 00:42	10°♊06'16	38.61522 AU
direct	14159 Mar 30 00:27	28°☾26'21	morning rise	14165 Aug 01 15:52	10°♊25'20	
	14159 Jun 25 07:52	0°♊	retrograde	14165 Oct 29 13:30	11°♊58'54	
evening set	14159 Jun 26 11:16	0°♊02'05	min. Earth dist.	14166 Jan 16 10:58	10°♊51'49	36.76285 AU
			opposition	14166 Jan 18 18:33	10°♊48'41	-8°42'38
conjunction	14159 Jul 10 17:52	0°♊28'44 -5°43'08	direct	14166 Apr 10 13:03	9°♊37'52	
minimum elong	14159 Jul 10 17:43	0°♊28'43 5°44'06	evening set	14166 Jul 08 16:42	11°♊11'07	
max. Earth dist.	14159 Jul 12 21:46	0°♊32'48 37.09094 AU				
morning rise	14159 Jul 24 23:48	0°♊55'19	conjunction	14166 Jul 21 10:41	11°♊33'52	-8°26'22
retrograde	14159 Oct 20 21:34	2°♊30'37	minimum elong	14166 Jul 21 10:31	11°♊33'51	8°27'13
min. Earth dist.	14160 Jan 07 07:17	1°♊21'41 35.22597 AU	max. Earth dist.	14166 Jul 23 18:13	11°♊38'01	38.86991 AU
opposition	14160 Jan 09 11:59	1°♊18'37 -6°16'00	morning rise	14166 Aug 03 04:22	11°♊56'36	
direct	14160 Mar 30 22:29	0°♊05'49	retrograde	14166 Oct 31 09:31	13°♊29'57	
evening set	14160 Jun 27 12:45	1°♊41'06	min. Earth dist.	14167 Jan 18 05:39	12°♊23'12	37.01893 AU
			opposition	14167 Jan 20 14:06	12°♊20'02	-9°04'41
conjunction	14160 Jul 11 14:56	2°♊07'12 -6°08'22	direct	14167 Apr 12 07:37	11°♊09'32	
minimum elong	14160 Jul 11 14:47	2°♊07'12 6°09'19	evening set	14167 Jul 10 16:37	12°♊42'31	
max. Earth dist.	14160 Jul 13 20:29	2°♊11'22 37.34222 AU				
morning rise	14160 Jul 25 16:12	2°♊33'16	conjunction	14167 Jul 23 04:44	13°♊04'42	-8°47'10

minimum elong	14167 Jul 23 04:34	13°04'41	8°48'01	morning rise	14173 Aug 11 04:06	22°06'22	
max. Earth dist.	14167 Jul 25 13:20	13°08'54	39.12321 AU	retrograde	14173 Nov 10 01:49	23°03'42	
morning rise	14167 Aug 04 16:18	13°02'51		min. Earth dist.	14174 Jan 28 10:27	22°03'34	38.75982 AU
	14167 Nov 01 07:45	15°00'		opposition	14174 Jan 30 19:26	22°03'28	-11°21'09
retrograde	14167 Nov 02 03:02	15°00'01		direct	14174 Apr 22 19:03	21°02'15	
	14167 Nov 02 22:12	15°00'		evening set	14174 Jul 22 09:26	22°05'31	
min. Earth dist.	14168 Jan 20 01:46	13°05'28	37.27324 AU				
opposition	14168 Jan 22 09:12	13°05'22	-9°26'05	conjunction	14174 Aug 01 22:54	23°01'13	-10°56'07
direct	14168 Apr 13 04:02	12°04'10		minimum elong	14174 Aug 01 22:46	23°01'13	10°56'50
evening set	14168 Jul 11 16:31	14°02'56		max. Earth dist.	14174 Aug 04 07:55	23°01'53	40.84524 AU
				morning rise	14174 Aug 12 12:08	23°02'29	
conjunction	14168 Jul 23 22:18	14°03'43	-9°07'21	retrograde	14174 Nov 11 16:14	25°00'14	
minimum elong	14168 Jul 23 22:08	14°03'43	9°08'10	min. Earth dist.	14175 Jan 30 03:34	23°05'50	39.00417 AU
max. Earth dist.	14168 Jul 26 05:45	14°03'37	39.37459 AU	opposition	14175 Feb 01 11:49	23°05'47	-11°38'07
morning rise	14168 Aug 05 03:45	14°05'05		direct	14175 Apr 24 12:25	22°04'26	
	14168 Aug 07 10:01	15°00'		evening set	14175 Jul 24 07:31	24°01'02	
retrograde	14168 Nov 02 20:52	16°02'03					
min. Earth dist.	14169 Jan 20 19:34	15°02'49	37.52546 AU	conjunction	14175 Aug 03 13:41	24°03'42	-11°12'11
opposition	14169 Jan 23 03:56	15°01'41	-9°46'50	minimum elong	14175 Aug 03 13:33	24°03'42	11°12'53
	14169 Feb 07 02:38	15°00'		max. Earth dist.	14175 Aug 05 22:09	24°03'25	41.08737 AU
direct	14169 Apr 14 23:31	14°09'45		morning rise	14175 Aug 13 19:41	24°05'14	
	14169 Jun 17 13:01	15°00'		retrograde	14175 Nov 13 05:14	26°02'40	
evening set	14169 Jul 13 15:55	15°04'18		min. Earth dist.	14176 Jan 31 18:23	25°01'25	39.24765 AU
				opposition	14176 Feb 03 03:36	25°01'20	-11°54'28
conjunction	14169 Jul 25 15:25	16°03'17	-9°26'58	direct	14176 Apr 25 05:44	24°08'16	
minimum elong	14169 Jul 25 15:15	16°03'17	9°27'47	evening set	14176 Jul 25 05:18	25°03'49	
max. Earth dist.	14169 Jul 27 23:26	16°07'24	39.62365 AU				
morning rise	14169 Aug 06 14:34	16°02'41		conjunction	14176 Aug 04 04:09	25°05'35	-11°27'40
retrograde	14169 Nov 04 11:19	17°05'05		minimum elong	14176 Aug 04 04:02	25°05'35	11°28'20
min. Earth dist.	14170 Jan 22 14:58	16°05'01	37.77542 AU	max. Earth dist.	14176 Aug 06 12:53	26°00'35	41.32841 AU
opposition	14170 Jan 24 22:26	16°04'56	-10°06'58	morning rise	14176 Aug 14 02:57	26°01'32	
direct	14170 Apr 16 20:06	15°03'17		retrograde	14176 Nov 13 18:53	27°04'38	
evening set	14170 Jul 15 15:14	17°01'36		min. Earth dist.	14177 Feb 01 10:34	26°04'14	39.48997 AU
				opposition	14177 Feb 03 19:24	26°03'10	-12°10'13
conjunction	14170 Jul 27 08:13	17°03'10	-9°45'58	direct	14177 Apr 26 22:32	25°03'02	
minimum elong	14170 Jul 27 08:04	17°03'05	9°46'46	evening set	14177 Jul 27 02:50	27°01'55	
max. Earth dist.	14170 Jul 29 15:57	17°03'04	39.87059 AU				
morning rise	14170 Aug 08 00:47	17°05'22		conjunction	14177 Aug 05 18:17	27°01'05	-11°42'35
retrograde	14170 Nov 06 01:18	19°02'40		minimum elong	14177 Aug 05 18:10	27°01'04	11°43'15
min. Earth dist.	14171 Jan 24 08:21	18°01'12	38.02323 AU	max. Earth dist.	14177 Aug 08 03:26	27°02'06	41.56806 AU
opposition	14171 Jan 26 16:10	18°01'07	-10°26'27	morning rise	14177 Aug 15 09:32	27°03'14	
direct	14171 Apr 18 16:36	17°05'42		retrograde	14177 Nov 15 08:48	29°06'32	
evening set	14171 Jul 17 14:14	18°03'50		min. Earth dist.	14178 Feb 03 02:09	28°02'23	39.73039 AU
				opposition	14178 Feb 05 10:47	27°05'21	-12°25'23
conjunction	14171 Jul 29 00:29	18°05'37	-10°04'24	direct	14178 Apr 28 14:40	26°05'14	
minimum elong	14171 Jul 29 00:19	18°05'37	10°05'11	evening set	14178 Jul 29 00:24	28°02'32	
max. Earth dist.	14171 Jul 31 07:57	19°01'39	40.11557 AU				
morning rise	14171 Aug 09 10:35	19°01'24		conjunction	14178 Aug 07 08:10	28°03'55	-11°56'58
retrograde	14171 Nov 07 18:19	20°04'56		minimum elong	14178 Aug 07 08:03	28°03'55	11°57'37
min. Earth dist.	14172 Jan 26 01:35	19°04'18	38.26959 AU	max. Earth dist.	14178 Aug 09 16:23	28°04'51	41.80552 AU
opposition	14172 Jan 28 09:40	19°04'14	-10°45'19	morning rise	14178 Aug 16 15:59	28°05'42	
direct	14172 Apr 19 09:09	18°03'20			14178 Oct 01 04:17	0°00'	
evening set	14172 Jul 18 12:51	20°04'00		retrograde	14178 Nov 17 01:05	0°00'26	
					14179 Jan 04 09:04	30°00'	
conjunction	14172 Jul 29 16:22	20°02'31	-10°22'14	min. Earth dist.	14179 Feb 04 16:44	29°02'25	39.96849 AU
minimum elong	14172 Jul 29 16:13	20°02'31	10°22'59	opposition	14179 Feb 07 01:43	29°01'53	-12°39'58
max. Earth dist.	14172 Aug 01 00:48	20°02'16	40.35939 AU	direct	14179 Apr 30 03:12	28°01'24	
morning rise	14172 Aug 09 19:30	20°04'22		evening set	14179 Jul 30 21:45	29°04'41	
retrograde	14172 Nov 08 09:01	22°01'48					
min. Earth dist.	14173 Jan 26 19:04	21°09'22	38.51491 AU	conjunction	14179 Aug 08 21:57	29°05'07	-12°10'49
opposition	14173 Jan 29 02:45	21°06'19	-11°03'33	minimum elong	14179 Aug 08 21:50	29°05'06	12°11'27
direct	14173 Apr 21 03:33	19°05'25			14179 Aug 09 10:44	0°00'	
evening set	14173 Jul 20 11:23	21°02'12		max. Earth dist.	14179 Aug 11 06:46	0°00'03	42.04031 AU
				morning rise	14179 Aug 17 22:00	0°00'14	
conjunction	14173 Jul 31 07:48	21°04'47	-10°39'28	retrograde	14179 Nov 18 14:51	1°00'46	
minimum elong	14173 Jul 31 07:39	21°04'47	10°40'13	min. Earth dist.	14180 Feb 06 08:59	0°00'42	40.20345 AU
max. Earth dist.	14173 Aug 02 15:29	21°05'14	40.60253 AU	opposition	14180 Feb 08 16:34	0°00'39	-12°54'01

	14180 Mar 13 02:30	30° κ 8 Ω	max. Earth dist.	14186 Aug 19 19:56	9° η 03'26	43.59142 AU
direct	14180 Apr 30 18:16	29° Ω 32'52	morning rise	14186 Aug 24 03:41	9° η 10'22	
	14180 Jun 16 22:14	0° η	retrograde	14186 Nov 27 03:08	10° η 43'12	
evening set	14180 Jul 31 19:05	1° η 04'18	min. Earth dist.	14187 Feb 15 09:59	9° η 40'38	41.75602 AU
			opposition	14187 Feb 17 15:27	9° η 37'52	-14°17'55
conjunction	14180 Aug 09 11:17	1° η 18'39 -12°24'10	direct	14187 May 10 21:04	8° η 32'28	
minimum elong	14180 Aug 09 11:12	1° η 18'38 12°24'47	evening set	14187 Aug 12 19:56	10° η 04'08	
max. Earth dist.	14180 Aug 11 18:41	1° η 22'28 42.27179 AU				
morning rise	14180 Aug 18 03:30	1° η 32'59	conjunction	14187 Aug 19 00:59	10° η 14'04	-13°43'55
retrograde	14180 Nov 19 04:08	3° η 05'23	minimum elong	14187 Aug 19 00:57	10° η 14'04	13°44'22
min. Earth dist.	14181 Feb 06 22:55	2° η 01'54 40.43486 AU	max. Earth dist.	14187 Aug 21 06:46	10° η 17'39	43.80346 AU
opposition	14181 Feb 09 07:02	1° η 58'57 -13°07'32	morning rise	14187 Aug 25 06:03	10° η 23'59	
direct	14181 May 02 08:54	0° η 52'17	retrograde	14187 Nov 28 12:08	11° η 56'58	
evening set	14181 Aug 02 16:10	2° η 23'45	min. Earth dist.	14188 Feb 16 21:48	10° η 54'37	41.96837 AU
			opposition	14188 Feb 19 03:47	10° η 51'50	-14°27'51
conjunction	14181 Aug 11 00:30	2° η 37'28 -12°37'01	direct	14188 May 11 10:57	9° η 46'39	
minimum elong	14181 Aug 11 00:24	2° η 37'28 12°37'36	evening set	14188 Aug 13 16:10	11° η 18'27	
max. Earth dist.	14181 Aug 13 07:58	2° η 41'17 42.49953 AU				
morning rise	14181 Aug 19 08:49	2° η 51'11	conjunction	14188 Aug 19 12:01	11° η 27'44	-13°53'22
retrograde	14181 Nov 20 15:59	4° η 23'39	minimum elong	14188 Aug 19 11:59	11° η 27'43	13°53'49
min. Earth dist.	14182 Feb 08 14:28	3° η 20'17 40.66252 AU	max. Earth dist.	14188 Aug 21 17:28	11° η 31'16	44.01329 AU
opposition	14182 Feb 10 21:20	3° η 17'24 -13°20'33	morning rise	14188 Aug 25 07:59	11° η 36'59	
direct	14182 May 04 00:09	2° η 10'59	retrograde	14188 Nov 28 23:25	13° η 10'09	
evening set	14182 Aug 04 13:11	3° η 42'26	min. Earth dist.	14189 Feb 17 10:28	12° η 07'58	42.17850 AU
			opposition	14189 Feb 19 16:02	12° η 05'13	-14°37'19
conjunction	14182 Aug 12 13:21	3° η 55'32 -12°49'23	direct	14189 May 12 23:41	11° η 00'16	
minimum elong	14182 Aug 12 13:17	3° η 55'32 12°49'57	evening set	14189 Aug 15 12:38	12° η 32'14	
max. Earth dist.	14182 Aug 14 20:18	3° η 59'17 42.72364 AU				
morning rise	14182 Aug 20 13:29	4° η 08'37	conjunction	14189 Aug 20 23:02	12° η 40'50	-14°02'22
retrograde	14182 Nov 22 01:55	5° η 41'08	minimum elong	14189 Aug 20 23:01	12° η 40'50	14°02'47
min. Earth dist.	14183 Feb 10 04:24	4° η 37'57 40.88637 AU	max. Earth dist.	14189 Aug 23 04:55	12° η 44'24	44.22077 AU
opposition	14183 Feb 12 11:07	4° η 35'05 -13°33'02	morning rise	14189 Aug 26 09:29	12° η 49'27	
direct	14183 May 05 17:06	3° η 28'52	retrograde	14189 Nov 30 09:34	14° η 22'49	
evening set	14183 Aug 06 09:57	5° η 00'19	min. Earth dist.	14190 Feb 18 23:05	13° η 20'47	42.38579 AU
			opposition	14190 Feb 21 03:55	13° η 18'05	-14°46'18
conjunction	14183 Aug 14 01:49	5° η 12'47 -13°01'16	direct	14190 May 14 13:05	12° η 13'22	
minimum elong	14183 Aug 14 01:44	5° η 12'47 13°01'48	evening set	14190 Aug 17 09:07	13° η 45'31	
max. Earth dist.	14183 Aug 16 07:46	5° η 16'27 42.94417 AU				
morning rise	14183 Aug 21 17:47	5° η 25'15	conjunction	14190 Aug 22 09:40	13° η 53'26	-14°10'56
retrograde	14183 Nov 23 14:48	6° η 57'49	minimum elong	14190 Aug 22 09:39	13° η 53'26	14°11'20
min. Earth dist.	14184 Feb 11 18:04	5° η 54'47 41.10714 AU	max. Earth dist.	14190 Aug 24 14:03	13° η 56'53	44.42522 AU
opposition	14184 Feb 14 00:36	5° η 51'56 -13°45'02	morning rise	14190 Aug 27 10:20	14° η 01'22	
direct	14184 May 06 07:05	4° η 45'55	retrograde	14190 Dec 01 23:03	15° η 34'58	
evening set	14184 Aug 07 06:36	6° η 17'24	min. Earth dist.	14191 Feb 20 10:34	14° η 33'10	42.58984 AU
			opposition	14191 Feb 22 15:35	14° η 30'28	-14°54'50
conjunction	14184 Aug 14 14:06	6° η 29'13 -13°12'40	direct	14191 May 15 22:19	13° η 25'58	
minimum elong	14184 Aug 14 14:02	6° η 29'13 13°13'11	evening set	14191 Aug 19 05:55	14° η 58'22	
max. Earth dist.	14184 Aug 16 20:51	6° η 32'56 43.16199 AU				
morning rise	14184 Aug 21 21:33	6° η 41'04	conjunction	14191 Aug 23 20:19	15° η 05'34	-14°19'04
retrograde	14184 Nov 24 03:25	8° η 13'42	minimum elong	14191 Aug 23 20:19	15° η 05'34	14°19'26
min. Earth dist.	14185 Feb 12 08:15	7° η 10'47 41.32534 AU	max. Earth dist.	14191 Aug 26 01:05	15° η 09'01	44.62605 AU
opposition	14185 Feb 14 13:55	7° η 07'59 -13°56'30	morning rise	14191 Aug 28 10:48	15° η 12'48	
direct	14185 May 07 20:25	6° η 02'10	retrograde	14191 Dec 03 10:47	16° η 46'40	
evening set	14185 Aug 09 03:03	7° η 33'41	min. Earth dist.	14192 Feb 21 23:48	15° η 44'58	42.78990 AU
			opposition	14192 Feb 24 03:05	15° η 42'22	-15°02'56
conjunction	14185 Aug 16 01:50	7° η 44'52 -13°23'34	direct	14192 May 16 08:46	14° η 38'06	
minimum elong	14185 Aug 16 01:46	7° η 44'52 13°24'03	evening set	14192 Aug 20 03:13	16° η 10'45	
max. Earth dist.	14185 Aug 18 07:31	7° η 48'29 43.37764 AU				
morning rise	14185 Aug 23 00:41	7° η 56'05	conjunction	14192 Aug 24 06:45	16° η 17'14	-14°26'48
retrograde	14185 Nov 25 16:50	9° η 28'48	minimum elong	14192 Aug 24 06:44	16° η 17'14	14°27'09
min. Earth dist.	14186 Feb 13 20:12	8° η 26'07 41.54161 AU	max. Earth dist.	14192 Aug 26 10:10	16° η 20'35	44.82282 AU
opposition	14186 Feb 16 02:51	8° η 23'17 -14°07'28	morning rise	14192 Aug 28 10:21	16° η 23'43	
direct	14186 May 09 07:45	7° η 17'40	retrograde	14192 Dec 03 19:29	17° η 57'54	
evening set	14186 Aug 10 23:27	8° η 49'14	min. Earth dist.	14193 Feb 22 10:52	16° η 56'23	42.98556 AU
			opposition	14193 Feb 24 14:23	16° η 53'47	-15°10'37
conjunction	14186 Aug 17 13:33	8° η 59'48 -13°33'59	direct	14193 May 17 20:40	15° η 49'43	
minimum elong	14186 Aug 17 13:30	8° η 59'48 13°34'28	evening set	14193 Aug 22 00:54	17° η 22'41	

conjunction	14193 Aug 25 16:53	17° 17 28'24	-14°34'08	min. Earth dist.	14201 Mar 05 01:01	26° 17 08'08	44.41326 AU
minimum elong	14193 Aug 25 16:54	17° 17 28'24	14°34'28	opposition	14201 Mar 07 00:22	26° 17 05'47	-15°57'41
max. Earth dist.	14193 Aug 27 19:32	17° 17 31'41	45.01494 AU	direct	14201 May 28 11:36	25° 17 03'06	
morning rise	14193 Aug 29 08:59	17° 17 34'07					
retrograde	14193 Dec 05 04:13	19° 19 08'39		conjunction	14201 Sep 04 18:27	26° 19 38'19	-15°18'56
min. Earth dist.	14194 Feb 23 23:27	18° 18 07'14	43.17655 AU	minimum elong	14201 Sep 04 18:31	26° 19 38'19	15°19'07
opposition	14194 Feb 26 01:36	18° 18 04'42	-15°17'55	max. Earth dist.	14201 Sep 06 18:06	26° 19 41'19	46.42258 AU
direct	14194 May 19 09:44	17° 17 00'50		retrograde	14201 Dec 15 05:54	28° 19 15'25	
evening set	14194 Aug 23 23:46	18° 18 34'10		min. Earth dist.	14202 Mar 06 11:46	27° 19 14'57	44.57877 AU
				opposition	14202 Mar 08 09:45	27° 19 12'41	-16°01'46
				direct	14202 May 29 20:57	26° 19 10'11	
conjunction	14194 Aug 27 03:02	18° 18 39'02	-14°41'05				
minimum elong	14194 Aug 27 03:02	18° 18 39'02	14°41'24	conjunction	14202 Sep 06 02:50	27° 19 45'01	-15°22'49
max. Earth dist.	14194 Aug 29 05:21	18° 18 42'17	45.20248 AU	minimum elong	14202 Sep 06 02:55	27° 19 45'01	15°22'58
morning rise	14194 Aug 30 06:19	18° 18 43'54		max. Earth dist.	14202 Sep 08 01:03	27° 19 47'55	46.58584 AU
retrograde	14194 Dec 06 12:42	20° 20 18'51		retrograde	14202 Dec 16 15:44	29° 20 21'46	
min. Earth dist.	14195 Feb 25 10:59	19° 19 17'32	43.36279 AU	min. Earth dist.	14203 Mar 07 20:22	28° 20 21'29	44.74084 AU
opposition	14195 Feb 27 12:15	19° 19 15'03	-15°24'48	opposition	14203 Mar 09 18:42	28° 20 19'12	-16°05'29
direct	14195 May 20 23:09	18° 18 11'21		direct	14203 May 31 03:39	27° 19 16'53	
evening set	14195 Aug 26 00:07	19° 19 45'12					
conjunction	14195 Aug 28 12:44	19° 19 49'06	-14°47'40	conjunction	14203 Sep 07 11:10	28° 20 51'22	-15°26'21
minimum elong	14195 Aug 28 12:46	19° 19 49'06	14°47'58	minimum elong	14203 Sep 07 11:14	28° 20 51'22	15°26'30
morning rise	14195 Aug 31 01:28	19° 19 53'00		max. Earth dist.	14203 Sep 09 09:02	28° 20 54'13	46.74530 AU
max. Earth dist.	14195 Aug 30 13:31	19° 19 52'14	45.38559 AU		14203 Oct 28 10:56	0° 00	
retrograde	14195 Dec 08 00:11	21° 21 28'29		retrograde	14203 Dec 17 23:23	0° 00 27'47	
min. Earth dist.	14196 Feb 26 21:37	20° 20 27'18	43.54503 AU		14204 Feb 07 22:31	30° 00 11'11	
opposition	14196 Feb 28 22:51	20° 20 24'50	-15°31'18	min. Earth dist.	14204 Mar 08 07:13	29° 00 27'33	44.89889 AU
direct	14196 May 21 08:47	19° 19 21'18		opposition	14204 Mar 10 03:49	29° 00 25'22	-16°08'51
evening set	14196 Aug 27 03:44	20° 20 55'51		direct	14204 May 31 12:07	28° 00 23'13	
conjunction	14196 Aug 28 22:11	20° 20 58'34	-14°53'52	conjunction	14204 Sep 07 19:17	29° 00 57'20	-15°29'34
minimum elong	14196 Aug 28 22:12	20° 20 58'34	14°54'08	minimum elong	14204 Sep 07 19:23	29° 00 57'21	15°29'40
morning rise	14196 Aug 30 16:41	21° 21 01'17			14204 Sep 09 14:04	0° 00	
max. Earth dist.	14196 Aug 30 23:30	21° 21 01'44	45.56500 AU	max. Earth dist.	14204 Sep 09 16:31	0° 00 00'09	46.90059 AU
retrograde	14196 Dec 08 10:17	22° 22 37'33		retrograde	14204 Dec 18 04:29	1° 00 33'25	
min. Earth dist.	14197 Feb 27 09:22	21° 21 36'26	43.72384 AU	min. Earth dist.	14205 Mar 09 16:27	0° 00 33'19	45.05227 AU
opposition	14197 Mar 01 09:17	21° 21 34'02	-15°37'24	opposition	14205 Mar 11 12:40	0° 00 31'09	-16°11'53
direct	14197 May 22 18:35	20° 20 30'39			14205 Apr 08 06:43	30° 00 11'11	
conjunction	14197 Aug 30 07:25	22° 22 07'29	-14°59'39	direct	14205 Jun 01 22:32	29° 00 29'09	
minimum elong	14197 Aug 30 07:28	22° 22 07'29	14°59'55		14205 Jul 24 19:00	0° 00	
max. Earth dist.	14197 Sep 01 07:37	22° 22 10'33	45.74151 AU	conjunction	14205 Sep 09 03:20	1° 00 02'55	-15°32'27
retrograde	14197 Dec 09 19:52	23° 23 46'02		minimum elong	14205 Sep 09 03:25	1° 00 02'55	15°32'33
min. Earth dist.	14198 Feb 28 18:46	22° 22 45'05	43.89994 AU	max. Earth dist.	14205 Sep 10 22:54	1° 00 05'37	47.05104 AU
opposition	14198 Mar 02 19:17	22° 22 42'40	-15°43'05	retrograde	14205 Dec 19 12:59	2° 00 38'40	
direct	14198 May 24 02:38	21° 21 39'27		min. Earth dist.	14206 Mar 11 02:03	1° 00 38'38	45.20083 AU
conjunction	14198 Aug 31 16:26	23° 23 15'52	-15°05'04	opposition	14206 Mar 12 21:22	1° 00 36'31	-16°14'37
minimum elong	14198 Aug 31 16:28	23° 23 15'52	15°05'17	direct	14206 Jun 03 07:55	0° 00 34'39	
max. Earth dist.	14198 Sep 02 16:36	23° 23 18'56	45.91543 AU	conjunction	14206 Sep 10 11:20	2° 00 08'03	-15°35'02
retrograde	14198 Dec 11 03:53	24° 24 54'02		minimum elong	14206 Sep 10 11:27	2° 00 08'04	15°35'07
min. Earth dist.	14199 Mar 02 05:47	23° 23 53'10	44.07359 AU	max. Earth dist.	14206 Sep 12 06:55	2° 00 10'45	47.19660 AU
opposition	14199 Mar 04 05:14	23° 23 50'49	-15°48'21	retrograde	14206 Dec 20 20:30	3° 00 43'29	
direct	14199 May 25 12:25	22° 22 47'46		min. Earth dist.	14207 Mar 12 12:05	2° 00 43'28	45.34431 AU
conjunction	14199 Sep 02 01:20	24° 24 23'46	-15°10'04	opposition	14207 Mar 14 05:54	2° 00 41'26	-16°17'01
minimum elong	14199 Sep 02 01:24	24° 24 23'46	15°10'17	direct	14207 Jun 04 18:40	1° 00 39'41	
max. Earth dist.	14199 Sep 04 01:32	24° 24 26'49	46.08705 AU	conjunction	14207 Sep 11 18:57	3° 00 12'43	-15°37'19
retrograde	14199 Dec 12 09:31	26° 26 01'34		minimum elong	14207 Sep 11 19:03	3° 00 12'43	15°37'22
min. Earth dist.	14200 Mar 03 15:23	25° 25 00'51	44.24467 AU	max. Earth dist.	14207 Sep 13 12:42	3° 00 15'17	47.33745 AU
opposition	14200 Mar 05 14:48	24° 24 58'30	-15°53'13	retrograde	14207 Dec 22 06:11	4° 00 47'48	
direct	14200 May 27 01:36	23° 23 55'38		min. Earth dist.	14208 Mar 12 20:12	3° 00 47'53	45.48337 AU
conjunction	14200 Sep 03 09:57	25° 25 31'14	-15°14'41	opposition	14208 Mar 14 14:09	3° 00 45'51	-16°19'07
minimum elong	14200 Sep 03 10:00	25° 25 31'15	15°14'52	direct	14208 Jun 05 00:58	2° 00 44'13	
max. Earth dist.	14200 Sep 05 08:54	25° 25 34'12	46.25616 AU	conjunction	14208 Sep 12 02:28	4° 00 16'54	-15°39'18
retrograde	14200 Dec 13 19:39	27° 27 08'41		minimum elong	14208 Sep 12 02:36	4° 00 16'54	15°39'20

max. Earth dist.	14208 Sep 13 20:13	4° <u>♂</u> 19'27	47.47418 AU	opposition	14217 Mar 24 10:31	13° <u>♂</u> 10'26	-16°23'15
retrograde	14208 Dec 22 14:22	5° <u>♂</u> 51'39		direct	14217 Jun 14 23:10	12° <u>♂</u> 10'04	
min. Earth dist.	14209 Mar 14 06:06	4° <u>♂</u> 51'45	45.61874 AU				
opposition	14209 Mar 15 22:26	4° <u>♂</u> 49'48	-16°20'52	conjunction	14217 Sep 21 16:09	13° <u>♂</u> 40'16	-15°42'52
direct	14209 Jun 06 07:44	3° <u>♂</u> 48'17		minimum elong	14217 Sep 21 16:20	13° <u>♂</u> 40'17	15°42'43
				max. Earth dist.	14217 Sep 23 03:21	13° <u>♂</u> 42'23	48.56389 AU
conjunction	14209 Sep 13 09:45	5° <u>♂</u> 20'37	-15°40'57	retrograde	14218 Jan 01 04:00	15° <u>♂</u> 12'48	
minimum elong	14209 Sep 13 09:52	5° <u>♂</u> 20'38	15°40'57	min. Earth dist.	14218 Mar 24 06:34	14° <u>♂</u> 13'45	46.69253 AU
max. Earth dist.	14209 Sep 15 03:04	5° <u>♂</u> 23'09	47.60768 AU	opposition	14218 Mar 25 17:33	14° <u>♂</u> 12'05	-16°22'14
retrograde	14209 Dec 23 18:37	6° <u>♂</u> 55'04		direct	14218 Jun 16 05:06	13° <u>♂</u> 11'49	
min. Earth dist.	14210 Mar 15 13:45	5° <u>♂</u> 55'17	45.75092 AU				
opposition	14210 Mar 17 06:22	5° <u>♂</u> 53'19	-16°22'18	conjunction	14218 Sep 22 22:43	14° <u>♂</u> 41'47	-15°41'51
direct	14210 Jun 07 17:26	4° <u>♂</u> 51'55		minimum elong	14218 Sep 22 22:53	14° <u>♂</u> 41'48	15°41'42
				max. Earth dist.	14218 Sep 24 09:26	14° <u>♂</u> 43'51	48.66404 AU
conjunction	14210 Sep 14 16:54	6° <u>♂</u> 23'56	-15°42'16	retrograde	14219 Jan 02 13:18	16° <u>♂</u> 14'04	
minimum elong	14210 Sep 14 17:03	6° <u>♂</u> 23'57	15°42'16	min. Earth dist.	14219 Mar 25 15:35	15° <u>♂</u> 15'00	46.78987 AU
max. Earth dist.	14210 Sep 16 09:04	6° <u>♂</u> 26'23	47.73819 AU	opposition	14219 Mar 27 00:24	15° <u>♂</u> 13'27	-16°20'58
retrograde	14210 Dec 25 01:10	7° <u>♂</u> 58'05		direct	14219 Jun 17 10:06	14° <u>♂</u> 13'16	
min. Earth dist.	14211 Mar 16 22:11	6° <u>♂</u> 58'23	45.88039 AU				
opposition	14211 Mar 18 14:06	6° <u>♂</u> 56'27	-16°23'23	conjunction	14219 Sep 24 05:05	15° <u>♂</u> 42'59	-15°40'36
direct	14211 Jun 09 02:27	5° <u>♂</u> 55'12		minimum elong	14219 Sep 24 05:17	15° <u>♂</u> 42'59	15°40'25
				max. Earth dist.	14219 Sep 25 14:42	15° <u>♂</u> 44'59	48.75912 AU
conjunction	14211 Sep 16 00:03	7° <u>♂</u> 26'55	-15°43'16	retrograde	14220 Jan 03 17:27	17° <u>♂</u> 15'01	
minimum elong	14211 Sep 16 00:11	7° <u>♂</u> 26'56	15°43'14	min. Earth dist.	14220 Mar 25 22:17	16° <u>♂</u> 16'01	46.88227 AU
max. Earth dist.	14211 Sep 17 16:45	7° <u>♂</u> 29'24	47.86611 AU	opposition	14220 Mar 27 07:07	16° <u>♂</u> 14'28	-16°19'27
retrograde	14211 Dec 26 08:27	9° <u>♂</u> 00'48		direct	14220 Jun 17 16:14	15° <u>♂</u> 14'21	
min. Earth dist.	14212 Mar 17 06:47	8° <u>♂</u> 01'11	46.00706 AU				
opposition	14212 Mar 18 21:49	7° <u>♂</u> 59'18	-16°24'09	conjunction	14220 Sep 24 11:06	16° <u>♂</u> 43'49	-15°39'06
direct	14212 Jun 09 11:49	6° <u>♂</u> 58'11		minimum elong	14220 Sep 24 11:15	16° <u>♂</u> 43'49	15°38'54
				max. Earth dist.	14220 Sep 25 19:20	16° <u>♂</u> 45'43	48.84953 AU
conjunction	14212 Sep 16 06:48	8° <u>♂</u> 29'37	-15°43'56	retrograde	14221 Jan 03 21:22	18° <u>♂</u> 15'36	
minimum elong	14212 Sep 16 06:56	8° <u>♂</u> 29'38	15°43'54	min. Earth dist.	14221 Mar 27 06:19	17° <u>♂</u> 16'36	46.97048 AU
max. Earth dist.	14212 Sep 17 22:08	8° <u>♂</u> 32'00	47.99135 AU	opposition	14221 Mar 28 13:51	17° <u>♂</u> 15'06	-16°17'40
retrograde	14212 Dec 26 17:56	10° <u>♂</u> 03'16		direct	14221 Jun 18 23:55	16° <u>♂</u> 15'04	
min. Earth dist.	14213 Mar 18 13:56	9° <u>♂</u> 03'48	46.13098 AU				
opposition	14213 Mar 20 05:24	9° <u>♂</u> 01'54	-16°24'34	conjunction	14221 Sep 25 17:13	17° <u>♂</u> 44'17	-15°37'19
direct	14213 Jun 10 17:23	8° <u>♂</u> 00'56		minimum elong	14221 Sep 25 17:25	17° <u>♂</u> 44'17	15°37'07
				max. Earth dist.	14221 Sep 27 01:48	17° <u>♂</u> 46'13	48.93612 AU
conjunction	14213 Sep 17 13:39	9° <u>♂</u> 32'06	-15°44'18	retrograde	14222 Jan 05 01:00	19° <u>♂</u> 15'51	
minimum elong	14213 Sep 17 13:47	9° <u>♂</u> 32'07	15°44'14	opposition	14222 Mar 29 20:14	18° <u>♂</u> 15'24	-16°15'37
max. Earth dist.	14213 Sep 19 05:01	9° <u>♂</u> 34'29	48.11362 AU	min. Earth dist.	14222 Mar 28 13:31	18° <u>♂</u> 16'51	47.05499 AU
retrograde	14213 Dec 28 01:21	11° <u>♂</u> 05'30		direct	14222 Jun 20 09:42	17° <u>♂</u> 15'26	
min. Earth dist.	14214 Mar 19 23:00	10° <u>♂</u> 06'06	46.25175 AU				
opposition	14214 Mar 21 12:50	10° <u>♂</u> 04'17	-16°24'41	conjunction	14222 Sep 26 23:06	18° <u>♂</u> 44'24	-15°35'16
direct	14214 Jun 11 22:52	9° <u>♂</u> 03'29		minimum elong	14222 Sep 26 23:16	18° <u>♂</u> 44'24	15°35'02
				max. Earth dist.	14222 Sep 28 06:01	18° <u>♂</u> 46'14	49.01936 AU
conjunction	14214 Sep 18 20:25	10° <u>♂</u> 34'25	-15°44'21	retrograde	14223 Jan 06 08:38	20° <u>♂</u> 15'45	
minimum elong	14214 Sep 18 20:34	10° <u>♂</u> 34'25	15°44'17	min. Earth dist.	14223 Mar 29 19:44	19° <u>♂</u> 16'50	47.13637 AU
max. Earth dist.	14214 Sep 20 11:05	10° <u>♂</u> 36'44	48.23268 AU	opposition	14223 Mar 31 02:35	19° <u>♂</u> 15'22	-16°13'16
retrograde	14214 Dec 29 06:09	12° <u>♂</u> 07'34		direct	14223 Jun 21 15:46	18° <u>♂</u> 15'29	
min. Earth dist.	14215 Mar 21 06:17	11° <u>♂</u> 08'18	46.36882 AU				
opposition	14215 Mar 22 20:04	11° <u>♂</u> 06'30	-16°24'29	conjunction	14223 Sep 28 04:53	19° <u>♂</u> 44'13	-15°32'57
direct	14215 Jun 13 05:17	10° <u>♂</u> 05'51		minimum elong	14223 Sep 28 05:05	19° <u>♂</u> 44'14	15°32'42
				max. Earth dist.	14223 Sep 29 11:54	19° <u>♂</u> 46'03	49.09948 AU
conjunction	14215 Sep 20 02:58	11° <u>♂</u> 36'33	-15°44'07	retrograde	14224 Jan 07 15:52	21° <u>♂</u> 15'23	
minimum elong	14215 Sep 20 03:07	11° <u>♂</u> 36'33	15°44'00	min. Earth dist.	14224 Mar 30 03:37	20° <u>♂</u> 16'27	47.21463 AU
max. Earth dist.	14215 Sep 21 16:18	11° <u>♂</u> 38'47	48.34770 AU	opposition	14224 Mar 31 08:56	20° <u>♂</u> 15'04	-16°10'39
retrograde	14215 Dec 30 12:49	13° <u>♂</u> 09'30		direct	14224 Jun 21 21:43	19° <u>♂</u> 15'16	
min. Earth dist.	14216 Mar 21 14:45	12° <u>♂</u> 10'18	46.48173 AU				
opposition	14216 Mar 23 03:21	12° <u>♂</u> 08'33	-16°24'00	conjunction	14224 Sep 28 10:39	20° <u>♂</u> 43'48	-15°30'21
direct	14216 Jun 13 13:00	11° <u>♂</u> 08'03		minimum elong	14224 Sep 28 10:50	20° <u>♂</u> 43'49	15°30'05
				max. Earth dist.	14224 Sep 29 16:58	20° <u>♂</u> 45'35	49.17676 AU
conjunction	14216 Sep 20 09:41	12° <u>♂</u> 38'30	-15°43'37	retrograde	14225 Jan 07 21:46	22° <u>♂</u> 14'46	
minimum elong	14216 Sep 20 09:50	12° <u>♂</u> 38'31	15°43'30	min. Earth dist.	14225 Mar 31 09:25	21° <u>♂</u> 15'56	47.28988 AU
max. Earth dist.	14216 Sep 21 22:59	12° <u>♂</u> 40'45	48.45831 AU	opposition	14225 Apr 01 15:04	21° <u>♂</u> 14'32	-16°07'44
retrograde	14216 Dec 30 18:19	14° <u>♂</u> 11'15		direct	14225 Jun 23 01:29	20° <u>♂</u> 14'49	
min. Earth dist.	14217 Mar 22 23:11	13° <u>♂</u> 12'07	46.58974 AU				

conjunction	14225 Sep 29 16:13	21° <u>♂</u> 43'10	-15°27'29	conjunction	14233 Oct 07 11:58	29° <u>♂</u> 33'07	-14°56'04
minimum elong	14225 Sep 29 16:25	21° <u>♂</u> 43'11	15°27'13	minimum elong	14233 Oct 07 12:11	29° <u>♂</u> 33'08	14°55'38
max. Earth dist.	14225 Sep 30 21:28	21° <u>♂</u> 44'53	49.25085 AU	max. Earth dist.	14233 Oct 08 10:03	29° <u>♂</u> 34'24	49.68526 AU
retrograde	14226 Jan 09 03:18	23° <u>♂</u> 13'58		morning rise	14233 Oct 09 01:09	29° <u>♂</u> 35'16	
opposition	14226 Apr 02 21:16	22° <u>♂</u> 13'49	-16°04'33		14233 Oct 27 02:36	0° <u>♂</u>	
min. Earth dist.	14226 Apr 01 16:55	22° <u>♂</u> 15'09	47.36189 AU	retrograde	14234 Jan 17 00:03	1° <u>♂</u> 02'49	
direct	14226 Jun 24 06:27	21° <u>♂</u> 14'12		opposition	14234 Apr 10 19:36	0° <u>♂</u> 03'10	-15°30'33
				min. Earth dist.	14234 Apr 09 23:18	0° <u>♂</u> 04'07	47.77290 AU
conjunction	14226 Sep 30 21:57	22° <u>♂</u> 42'23	-15°24'22		14234 Apr 13 15:23	30° <u>♂</u>	
minimum elong	14226 Sep 30 22:09	22° <u>♂</u> 42'23	15°24'03	direct	14234 Jul 02 08:33	29° <u>♂</u> 04'05	
max. Earth dist.	14226 Oct 02 03:18	22° <u>♂</u> 44'06	49.32154 AU		14234 Sep 15 19:57	0° <u>♂</u>	
retrograde	14227 Jan 10 06:35	24° <u>♂</u> 13'01		evening set	14234 Oct 06 11:29	0° <u>♂</u> 27'58	
min. Earth dist.	14227 Apr 02 23:35	23° <u>♂</u> 14'16	47.43006 AU				
opposition	14227 Apr 04 03:09	23° <u>♂</u> 12'58	-16°01'07	conjunction	14234 Oct 08 17:07	0° <u>♂</u> 31'04	-14°51'06
direct	14227 Jun 25 15:15	22° <u>♂</u> 13'27		minimum elong	14234 Oct 08 17:22	0° <u>♂</u> 31'05	14°50'40
				morning rise	14234 Oct 10 23:17	0° <u>♂</u> 34'12	
conjunction	14227 Oct 02 03:29	23° <u>♂</u> 41'28	-15°21'00	max. Earth dist.	14234 Oct 09 14:26	0° <u>♂</u> 32'18	49.71967 AU
minimum elong	14227 Oct 02 03:41	23° <u>♂</u> 41'29	15°20'41	retrograde	14235 Jan 18 05:54	2° <u>♂</u> 00'38	
max. Earth dist.	14227 Oct 03 06:58	23° <u>♂</u> 43'05	49.38829 AU	min. Earth dist.	14235 Apr 11 04:13	1° <u>♂</u> 01'59	47.80493 AU
retrograde	14228 Jan 11 14:00	25° <u>♂</u> 11'58		opposition	14235 Apr 12 00:48	1° <u>♂</u> 01'02	-15°25'15
min. Earth dist.	14228 Apr 03 06:03	24° <u>♂</u> 13'17	47.49411 AU	direct	14235 Jul 03 10:58	0° <u>♂</u> 02'00	
opposition	14228 Apr 04 09:10	24° <u>♂</u> 12'01	-15°57'26	evening set	14235 Oct 07 03:08	1° <u>♂</u> 25'00	
direct	14228 Jun 25 21:19	23° <u>♂</u> 12'36					
				conjunction	14235 Oct 09 22:09	1° <u>♂</u> 28'52	-14°45'54
conjunction	14228 Oct 02 09:00	24° <u>♂</u> 40'27	-15°17'23	minimum elong	14235 Oct 09 22:22	1° <u>♂</u> 28'53	14°45'27
minimum elong	14228 Oct 02 09:13	24° <u>♂</u> 40'28	15°17'02	max. Earth dist.	14235 Oct 10 18:19	1° <u>♂</u> 30'02	49.75097 AU
max. Earth dist.	14228 Oct 03 12:17	24° <u>♂</u> 42'03	49.45047 AU	morning rise	14235 Oct 12 17:41	1° <u>♂</u> 32'46	
retrograde	14229 Jan 11 22:17	26° <u>♂</u> 10'50		retrograde	14236 Jan 19 10:47	2° <u>♂</u> 58'19	
opposition	14229 Apr 05 15:14	25° <u>♂</u> 10'57	-15°53'30	min. Earth dist.	14236 Apr 11 10:55	1° <u>♂</u> 59'39	47.83408 AU
min. Earth dist.	14229 Apr 04 14:06	25° <u>♂</u> 12'08	47.55325 AU	opposition	14236 Apr 12 06:15	1° <u>♂</u> 58'45	-15°19'41
direct	14229 Jun 27 02:24	24° <u>♂</u> 11'38		direct	14236 Jul 03 13:39	0° <u>♂</u> 59'47	
				evening set	14236 Oct 06 20:38	2° <u>♂</u> 22'01	
conjunction	14229 Oct 03 14:38	25° <u>♂</u> 39'20	-15°13'33				
minimum elong	14229 Oct 03 14:50	25° <u>♂</u> 39'21	15°13'13	conjunction	14236 Oct 10 03:06	2° <u>♂</u> 26'33	-14°40'27
max. Earth dist.	14229 Oct 04 16:33	25° <u>♂</u> 40'51	49.50765 AU	minimum elong	14236 Oct 10 03:20	2° <u>♂</u> 26'33	14°40'00
retrograde	14230 Jan 13 03:48	27° <u>♂</u> 09'34		max. Earth dist.	14236 Oct 10 23:38	2° <u>♂</u> 27'44	49.77953 AU
opposition	14230 Apr 06 20:56	26° <u>♂</u> 09'46	-15°49'22	morning rise	14236 Oct 13 10:08	2° <u>♂</u> 31'06	
min. Earth dist.	14230 Apr 05 19:58	26° <u>♂</u> 10'56	47.60706 AU	retrograde	14237 Jan 19 12:59	3° <u>♂</u> 55'54	
direct	14230 Jun 28 06:10	25° <u>♂</u> 10'31		opposition	14237 Apr 13 11:32	2° <u>♂</u> 56'23	-15°13'51
				min. Earth dist.	14237 Apr 12 16:32	2° <u>♂</u> 57'16	47.86025 AU
conjunction	14230 Oct 04 20:09	26° <u>♂</u> 38'05	-15°09'31	direct	14237 Jul 04 21:40	1° <u>♂</u> 57'28	
minimum elong	14230 Oct 04 20:22	26° <u>♂</u> 38'06	15°09'08	evening set	14237 Oct 07 15:12	3° <u>♂</u> 19'00	
max. Earth dist.	14230 Oct 05 20:19	26° <u>♂</u> 39'29	49.55932 AU				
retrograde	14231 Jan 14 08:08	28° <u>♂</u> 08'11		conjunction	14237 Oct 11 08:03	3° <u>♂</u> 24'08	-14°34'45
min. Earth dist.	14231 Apr 07 03:41	27° <u>♂</u> 09'30	47.65544 AU	minimum elong	14237 Oct 11 08:17	3° <u>♂</u> 24'09	14°34'16
opposition	14231 Apr 08 02:49	27° <u>♂</u> 08'25	-15°45'00	max. Earth dist.	14237 Oct 12 02:57	3° <u>♂</u> 25'13	49.80516 AU
direct	14231 Jun 29 12:07	26° <u>♂</u> 09'14		morning rise	14237 Oct 15 01:30	3° <u>♂</u> 29'18	
				retrograde	14238 Jan 20 18:24	4° <u>♂</u> 53'25	
conjunction	14231 Oct 06 01:34	27° <u>♂</u> 36'39	-15°05'15	opposition	14238 Apr 14 16:39	3° <u>♂</u> 53'57	-15°07'47
minimum elong	14231 Oct 06 01:46	27° <u>♂</u> 36'39	15°04'52	min. Earth dist.	14238 Apr 13 22:01	3° <u>♂</u> 54'49	47.88347 AU
max. Earth dist.	14231 Oct 07 01:37	27° <u>♂</u> 38'03	49.60576 AU	direct	14238 Jul 06 04:19	2° <u>♂</u> 55'05	
retrograde	14232 Jan 15 10:31	29° <u>♂</u> 06'36		evening set	14238 Oct 08 10:33	4° <u>♂</u> 16'01	
min. Earth dist.	14232 Apr 07 10:14	28° <u>♂</u> 07'55	47.69866 AU				
opposition	14232 Apr 08 08:29	28° <u>♂</u> 06'53	-15°40'26	conjunction	14238 Oct 12 13:04	4° <u>♂</u> 21'41	-14°28'49
direct	14232 Jun 29 20:55	27° <u>♂</u> 07'43		minimum elong	14238 Oct 12 13:18	4° <u>♂</u> 21'41	14°28'20
				max. Earth dist.	14238 Oct 13 07:58	4° <u>♂</u> 22'46	49.82754 AU
conjunction	14232 Oct 06 06:47	28° <u>♂</u> 34'59	-15°00'46	morning rise	14238 Oct 16 16:12	4° <u>♂</u> 27'24	
minimum elong	14232 Oct 06 07:01	28° <u>♂</u> 35'00	15°00'22	retrograde	14239 Jan 22 02:14	5° <u>♂</u> 50'54	
max. Earth dist.	14232 Oct 07 04:56	28° <u>♂</u> 36'17	49.64752 AU	opposition	14239 Apr 15 21:56	4° <u>♂</u> 51'30	-15°01'28
	14232 Dec 25 10:36	0° <u>♂</u>		min. Earth dist.	14239 Apr 15 04:56	4° <u>♂</u> 52'17	47.90315 AU
retrograde	14233 Jan 15 17:18	0° <u>♂</u> 04'48		direct	14239 Jul 07 09:53	3° <u>♂</u> 52'41	
	14233 Feb 06 06:31	30° <u>♂</u>		evening set	14239 Oct 09 06:27	5° <u>♂</u> 13'01	
opposition	14233 Apr 09 14:03	29° <u>♂</u> 05'07	-15°35'37				
min. Earth dist.	14233 Apr 08 16:09	29° <u>♂</u> 06'09	47.73767 AU	conjunction	14239 Oct 13 17:56	5° <u>♂</u> 19'12	-14°22'39
direct	14233 Jul 01 02:36	28° <u>♂</u> 06'00		minimum elong	14239 Oct 13 18:11	5° <u>♂</u> 19'13	14°22'07
evening set	14233 Oct 05 23:14	29° <u>♂</u> 31'00		max. Earth dist.	14239 Oct 14 11:50	5° <u>♂</u> 20'14	49.84632 AU
				morning rise	14239 Oct 18 06:05	5° <u>♂</u> 25'25	

retrograde	14240 Jan 23 09:24	6°M.48'21		minimum elong	14246 Oct 20 04:53	11°M.59'40	13°33'03
min. Earth dist.	14240 Apr 15 09:56	5°M.49'48	47.91887 AU	max. Earth dist.	14246 Oct 20 15:47	12°M.00'18	49.84381 AU
opposition	14240 Apr 16 03:05	5°M.49'00	-14°54'55	morning rise	14246 Oct 26 22:20	12°M.08'54	
direct	14240 Jul 07 12:21	4°M.50'15		retrograde	14247 Jan 29 16:46	13°M.28'23	
evening set	14240 Oct 09 02:50	6°M.10'02		opposition	14247 Apr 23 14:38	12°M.29'05	-14°03'12
				min. Earth dist.	14247 Apr 23 04:50	12°M.29'32	47.89321 AU
conjunction	14240 Oct 13 22:54	6°M.16'42	-14°16'16	direct	14247 Jul 14 23:45	11°M.30'24	
minimum elong	14240 Oct 13 23:08	6°M.16'43	14°15'45	evening set	14247 Oct 14 09:42	12°M.46'50	
max. Earth dist.	14240 Oct 14 15:18	6°M.17'39	49.86074 AU				
morning rise	14240 Oct 18 19:40	6°M.23'24		conjunction	14247 Oct 21 09:16	12°M.56'25	-13°25'49
retrograde	14241 Jan 23 14:17	7°M.45'48		minimum elong	14247 Oct 21 09:30	12°M.56'25	13°25'11
opposition	14241 Apr 17 08:21	6°M.46'29	-14°48'09	max. Earth dist.	14247 Oct 21 18:48	12°M.56'57	49.82701 AU
min. Earth dist.	14241 Apr 16 17:09	6°M.47'12	47.93003 AU	morning rise	14247 Oct 28 09:47	13°M.06'02	
direct	14241 Jul 08 15:56	5°M.47'47		retrograde	14248 Jan 30 21:23	14°M.25'07	
evening set	14241 Oct 09 23:47	7°M.07'02		opposition	14248 Apr 23 19:36	13°M.25'49	-13°54'54
				min. Earth dist.	14248 Apr 23 10:15	13°M.26'16	47.87382 AU
conjunction	14241 Oct 15 04:02	7°M.14'10	-14°09'40	direct	14248 Jul 15 05:34	12°M.27'09	
minimum elong	14241 Oct 15 04:16	7°M.14'11	14°09'07	evening set	14248 Oct 14 07:48	13°M.43'13	
max. Earth dist.	14241 Oct 15 20:13	7°M.15'06	49.87031 AU				
morning rise	14241 Oct 20 08:57	7°M.21'20		conjunction	14248 Oct 21 14:06	13°M.53'09	-13°17'43
retrograde	14242 Jan 24 15:44	8°M.43'12		minimum elong	14248 Oct 21 14:20	13°M.53'10	13°17'04
opposition	14242 Apr 18 13:31	7°M.43'55	-14°41'11	max. Earth dist.	14248 Oct 21 23:38	13°M.53'42	49.80718 AU
min. Earth dist.	14242 Apr 17 23:09	7°M.44'35	47.93587 AU	morning rise	14248 Oct 28 21:18	14°M.03'10	
direct	14242 Jul 09 22:51	6°M.45'14			14248 Dec 15 16:50	15°M.	
evening set	14242 Oct 10 21:02	8°M.03'58		retrograde	14249 Jan 31 03:52	15°M.21'52	
					14249 Mar 19 13:52	15°R.M.	
conjunction	14242 Oct 16 09:02	8°M.11'33	-14°02'53	opposition	14249 Apr 25 00:33	14°M.22'35	-13°46'23
minimum elong	14242 Oct 16 09:15	8°M.11'34	14°02'19	min. Earth dist.	14249 Apr 24 16:31	14°M.22'58	47.85137 AU
max. Earth dist.	14242 Oct 16 22:51	8°M.12'21	49.87449 AU	direct	14249 Jul 16 11:23	13°M.23'56	
morning rise	14242 Oct 21 21:47	8°M.19'10		evening set	14249 Oct 15 06:09	14°M.39'37	
retrograde	14243 Jan 25 20:56	9°M.40'31					
opposition	14243 Apr 19 18:34	8°M.41'14	-14°34'01	conjunction	14249 Oct 22 18:53	14°M.49'56	-13°09'24
min. Earth dist.	14243 Apr 19 05:05	8°M.41'52	47.93636 AU	minimum elong	14249 Oct 22 19:07	14°M.49'57	13°08'45
direct	14243 Jul 11 04:37	7°M.42'34		max. Earth dist.	14249 Oct 23 03:36	14°M.50'26	49.78446 AU
evening set	14243 Oct 11 18:29	9°M.00'49		morning rise	14249 Oct 30 08:34	15°M.00'19	
					14249 Oct 30 03:03	15°M.	
conjunction	14243 Oct 17 14:05	9°M.08'48	-13°55'54	retrograde	14250 Feb 01 11:31	16°M.18'40	
minimum elong	14243 Oct 17 14:20	9°M.08'49	13°55'19	opposition	14250 Apr 26 05:24	15°M.19'25	-13°37'37
max. Earth dist.	14243 Oct 18 03:28	9°M.09'34	49.87334 AU	min. Earth dist.	14250 Apr 25 21:05	15°M.19'48	47.82580 AU
morning rise	14243 Oct 23 10:28	9°M.16'51			14250 May 13 23:53	15°R.M.	
retrograde	14244 Jan 27 02:43	10°M.37'42		direct	14250 Jul 17 13:25	14°M.20'47	
opposition	14244 Apr 19 23:47	9°M.38'25	-14°26'39		14250 Sep 17 22:23	15°M.	
min. Earth dist.	14244 Apr 19 12:06	9°M.38'58	47.93167 AU	evening set	14250 Oct 16 04:33	15°M.36'08	
direct	14244 Jul 11 11:25	8°M.39'44					
evening set	14244 Oct 11 16:03	9°M.57'30		conjunction	14250 Oct 23 23:39	15°M.46'49	-13°00'51
				minimum elong	14250 Oct 23 23:54	15°M.46'50	13°00'10
conjunction	14244 Oct 17 18:53	10°M.05'53	-13°48'42	max. Earth dist.	14250 Oct 24 07:04	15°M.47'14	49.75833 AU
minimum elong	14244 Oct 17 19:07	10°M.05'54	13°48'07	morning rise	14250 Oct 31 19:51	15°M.57'33	
max. Earth dist.	14244 Oct 18 07:15	10°M.06'36	49.86751 AU	retrograde	14251 Feb 02 17:00	17°M.15'34	
morning rise	14244 Oct 23 22:29	10°M.14'21		opposition	14251 Apr 27 10:19	16°M.16'21	-13°28'37
retrograde	14245 Jan 27 08:48	11°M.34'43		min. Earth dist.	14251 Apr 27 03:45	16°M.16'39	47.79674 AU
opposition	14245 Apr 21 04:47	10°M.35'26	-14°19'03	direct	14251 Jul 18 16:11	15°M.17'45	
min. Earth dist.	14245 Apr 20 17:04	10°M.35'58	47.92256 AU	evening set	14251 Oct 17 03:10	16°M.32'47	
direct	14245 Jul 12 14:51	9°M.36'45					
evening set	14245 Oct 12 13:48	10°M.54'02		conjunction	14251 Oct 25 04:36	16°M.43'50	-12°52'05
				minimum elong	14251 Oct 25 04:50	16°M.43'50	12°51'24
conjunction	14245 Oct 18 23:44	11°M.02'50	-13°41'18	max. Earth dist.	14251 Oct 25 12:06	16°M.44'15	49.72858 AU
minimum elong	14245 Oct 18 23:59	11°M.02'51	13°40'42	morning rise	14251 Nov 02 06:58	16°M.54'55	
max. Earth dist.	14245 Oct 19 10:43	11°M.03'28	49.85741 AU	retrograde	14252 Feb 03 18:44	18°M.12'37	
morning rise	14245 Oct 25 10:35	11°M.11'41		opposition	14252 Apr 27 15:16	17°M.13'26	-13°19'25
retrograde	14246 Jan 28 14:26	12°M.31'36		min. Earth dist.	14252 Apr 27 09:12	17°M.13'43	47.76364 AU
opposition	14246 Apr 22 09:43	11°M.32'18	-14°11'14	direct	14252 Jul 18 22:16	16°M.14'52	
min. Earth dist.	14246 Apr 21 23:39	11°M.32'46	47.90962 AU	evening set	14252 Oct 17 01:58	17°M.29'36	
direct	14246 Jul 13 17:13	10°M.33'37					
evening set	14246 Oct 13 11:45	11°M.50'28		conjunction	14252 Oct 25 09:24	17°M.40'59	-12°43'07
				minimum elong	14252 Oct 25 09:39	17°M.41'00	12°42'24
conjunction	14246 Oct 20 04:39	11°M.59'40	-13°33'40	max. Earth dist.	14252 Oct 25 14:49	17°M.41'18	49.69451 AU

morning rise	14252 Nov 02 18:00	17° ℓ 52'26	conjunction	14259 Nov 01 20:43	24° ℓ 22'12	-11°34'46
retrograde	14253 Feb 03 23:56	19° ℓ 09'50	minimum elong	14259 Nov 01 20:56	24° ℓ 22'13	11°33'58
opposition	14253 Apr 28 20:16	18° ℓ 10'39 -13°09'59	max. Earth dist.	14259 Nov 01 19:20	24° ℓ 22'07	49.31623 AU
min. Earth dist.	14253 Apr 28 15:08	18° ℓ 10'54 47.72596 AU	morning rise	14259 Nov 11 21:15	24° ℓ 35'57	
direct	14253 Jul 20 03:56	17° ℓ 12'06	retrograde	14260 Feb 11 14:55	25° ℓ 51'19	
evening set	14253 Oct 18 00:58	18° ℓ 26'33	opposition	14260 May 05 07:09	24° ℓ 51'52	-11°58'19
			min. Earth dist.	14260 May 05 08:31	24° ℓ 51'49	47.32323 AU
conjunction	14253 Oct 26 14:33	18° ℓ 38'16 -12°33'56	direct	14260 Jul 26 14:31	23° ℓ 53'01	
minimum elong	14253 Oct 26 14:47	18° ℓ 38'17 12°33'14	evening set	14260 Oct 22 21:04	25° ℓ 05'29	
max. Earth dist.	14253 Oct 26 19:22	18° ℓ 38'32 49.65534 AU				
morning rise	14253 Nov 04 05:11	18° ℓ 50'04	conjunction	14260 Nov 02 01:39	25° ℓ 19'27	-11°24'08
retrograde	14254 Feb 05 06:07	20° ℓ 07'10	minimum elong	14260 Nov 02 01:52	25° ℓ 19'28	11°23'21
opposition	14254 Apr 30 01:12	19° ℓ 08'00 -13°00'22	max. Earth dist.	14260 Nov 01 23:04	25° ℓ 19'19	49.24665 AU
min. Earth dist.	14254 Apr 29 22:04	19° ℓ 08'09 47.68285 AU	morning rise	14260 Nov 12 07:40	25° ℓ 33'31	
direct	14254 Jul 21 10:22	18° ℓ 09'26	retrograde	14261 Feb 11 21:49	26° ℓ 48'39	
evening set	14254 Oct 19 00:19	19° ℓ 23'35	opposition	14261 May 06 12:17	25° ℓ 49'09	-11°47'11
			min. Earth dist.	14261 May 06 15:18	25° ℓ 49'01	47.25094 AU
conjunction	14254 Oct 27 19:41	19° ℓ 35'38 -12°24'35	direct	14261 Jul 27 16:58	24° ℓ 50'15	
minimum elong	14254 Oct 27 19:56	19° ℓ 35'39 12°23'51	evening set	14261 Oct 23 20:58	26° ℓ 02'30	
max. Earth dist.	14254 Oct 27 23:07	19° ℓ 35'50 49.61078 AU				
morning rise	14254 Nov 05 16:10	19° ℓ 47'47	conjunction	14261 Nov 03 06:53	26° ℓ 16'47	-11°13'18
retrograde	14255 Feb 06 13:10	21° ℓ 04'34	minimum elong	14261 Nov 03 07:06	26° ℓ 16'48	11°12'28
opposition	14255 May 01 06:11	20° ℓ 05'23 -12°50'33	max. Earth dist.	14261 Nov 03 04:30	26° ℓ 16'39	49.17420 AU
min. Earth dist.	14255 May 01 03:18	20° ℓ 05'31 47.63420 AU	morning rise	14261 Nov 13 18:01	26° ℓ 31'09	
direct	14255 Jul 22 13:41	19° ℓ 06'48	retrograde	14262 Feb 13 00:45	27° ℓ 46'03	
evening set	14255 Oct 19 23:26	20° ℓ 20'38	opposition	14262 May 07 17:11	26° ℓ 46'31	-11°35'48
			min. Earth dist.	14262 May 07 20:17	26° ℓ 46'23	47.17560 AU
conjunction	14255 Oct 29 00:36	20° ℓ 33'02 -12°15'02	direct	14262 Jul 28 22:07	25° ℓ 47'35	
minimum elong	14255 Oct 29 00:49	20° ℓ 33'02 12°14'17	evening set	14262 Oct 24 21:04	26° ℓ 59'38	
max. Earth dist.	14255 Oct 29 02:10	20° ℓ 33'07 49.56063 AU				
morning rise	14255 Nov 07 03:00	20° ℓ 45'30	conjunction	14262 Nov 04 11:59	27° ℓ 14'13	-11°02'13
retrograde	14256 Feb 07 20:20	22° ℓ 01'59	minimum elong	14262 Nov 04 12:12	27° ℓ 14'14	11°01'25
opposition	14256 May 01 11:20	21° ℓ 02'46 -12°40'32	max. Earth dist.	14262 Nov 04 07:47	27° ℓ 13'58	49.09867 AU
min. Earth dist.	14256 May 01 10:25	21° ℓ 02'48 47.58024 AU	morning rise	14262 Nov 15 04:24	27° ℓ 28'53	
direct	14256 Jul 22 15:15	20° ℓ 04'08	retrograde	14263 Feb 14 05:17	28° ℓ 43'35	
evening set	14256 Oct 19 22:48	21° ℓ 17'40	opposition	14263 May 08 22:19	27° ℓ 44'02	-11°24'12
			min. Earth dist.	14263 May 09 02:11	27° ℓ 43'51	47.09712 AU
conjunction	14256 Oct 29 05:43	21° ℓ 30'24 -12°05'17	direct	14263 Jul 30 03:13	26° ℓ 45'03	
minimum elong	14256 Oct 29 05:57	21° ℓ 30'24 12°04'32	evening set	14263 Oct 25 21:03	27° ℓ 56'55	
max. Earth dist.	14256 Oct 29 07:14	21° ℓ 30'29 49.50554 AU				
morning rise	14256 Nov 07 13:43	21° ℓ 43'11	conjunction	14263 Nov 05 17:08	28° ℓ 11'48	-10°50'56
retrograde	14257 Feb 07 23:00	22° ℓ 59'22	minimum elong	14263 Nov 05 17:22	28° ℓ 11'49	10°50'05
opposition	14257 May 02 16:14	22° ℓ 00'06 -12°30'19	max. Earth dist.	14263 Nov 05 12:52	28° ℓ 11'34	49.01965 AU
min. Earth dist.	14257 May 02 15:47	22° ℓ 00'07 47.52154 AU	morning rise	14263 Nov 16 14:37	28° ℓ 26'47	
direct	14257 Jul 23 20:39	21° ℓ 01'24	retrograde	14264 Feb 15 10:32	29° ℓ 41'19	
evening set	14257 Oct 20 22:17	22° ℓ 14'40	opposition	14264 May 09 03:35	28° ℓ 41'43	-11°12'22
			min. Earth dist.	14264 May 09 08:56	28° ℓ 41'28	47.01484 AU
conjunction	14257 Oct 30 10:40	22° ℓ 27'42 -11°55'19	direct	14264 Jul 30 09:48	27° ℓ 42'43	
minimum elong	14257 Oct 30 10:53	22° ℓ 27'43 11°54'33	evening set	14264 Oct 25 21:31	28° ℓ 54'25	
max. Earth dist.	14257 Oct 30 10:16	22° ℓ 27'40 49.44607 AU				
morning rise	14257 Nov 09 00:21	22° ℓ 40'48	conjunction	14264 Nov 05 22:31	29° ℓ 09'36	-10°39'25
retrograde	14258 Feb 09 02:36	23° ℓ 56'42	minimum elong	14264 Nov 05 22:43	29° ℓ 09'37	10°38'35
opposition	14258 May 03 21:13	22° ℓ 57'22 -12°19'53	max. Earth dist.	14264 Nov 05 17:09	29° ℓ 09'17	48.93670 AU
min. Earth dist.	14258 May 03 21:37	22° ℓ 57'21 47.45888 AU	morning rise	14264 Nov 17 00:56	29° ℓ 24'53	
direct	14258 Jul 25 02:51	21° ℓ 58'38		14264 Dec 14 14:33	0° ♊	
evening set	14258 Oct 21 21:44	23° ℓ 11'37	retrograde	14265 Feb 15 17:45	0° ♊ 39'15	
				14265 Apr 21 20:16	30° ♈ ℓ	
conjunction	14258 Oct 31 15:42	23° ℓ 24'57 -11°45'09	opposition	14265 May 10 08:42	29° ℓ 39'38	-11°00'19
minimum elong	14258 Oct 31 15:56	23° ℓ 24'58 11°44'23	min. Earth dist.	14265 May 10 14:15	29° ℓ 39'22	46.92828 AU
max. Earth dist.	14258 Oct 31 15:06	23° ℓ 24'55 49.38273 AU	direct	14265 Jul 31 13:57	28° ℓ 40'35	
morning rise	14258 Nov 10 10:53	23° ℓ 38'23	evening set	14265 Oct 26 22:07	29° ℓ 52'07	
retrograde	14259 Feb 10 07:02	24° ℓ 54'01		14265 Nov 01 15:53	0° ♊	
opposition	14259 May 05 02:11	23° ℓ 54'38 -12°09'13				
min. Earth dist.	14259 May 05 03:54	23° ℓ 54'33 47.39257 AU	conjunction	14265 Nov 07 03:59	0° ♊ 07'36	-10°27'42
direct	14259 Jul 26 10:56	22° ℓ 55'49	minimum elong	14265 Nov 07 04:12	0° ♊ 07'37	10°26'50
evening set	14259 Oct 22 21:27	24° ℓ 08'32	max. Earth dist.	14265 Nov 06 20:46	0° ♊ 07'11	48.84894 AU
			morning rise	14265 Nov 18 11:27	0° ♊ 23'12	

retrograde	14266 Feb 17 02:00	1°♄37'24		conjunction	14272 Nov 13 19:44	6°♄57'58	-8°59'54
opposition	14266 May 11 14:06	0°♄37'44	-10°48'04	minimum elong	14272 Nov 13 19:55	6°♄57'59	8°58'58
min. Earth dist.	14266 May 11 21:44	0°♄37'23	46.83668 AU	max. Earth dist.	14272 Nov 13 05:44	6°♄57'09	48.10600 AU
	14266 Jun 16 21:36	30°♄		morning rise	14272 Nov 26 11:02	7°♄15'33	
direct	14266 Aug 01 16:30	29°♄38'38		retrograde	14273 Feb 23 17:38	8°♄28'52	
	14266 Sep 15 15:31	0°♄		opposition	14273 May 18 04:24	7°♄28'38	-9°16'08
evening set	14266 Oct 27 22:52	0°♄50'02		min. Earth dist.	14273 May 18 17:35	7°♄28'01	46.07100 AU
				direct	14273 Aug 08 04:55	6°♄28'55	
conjunction	14266 Nov 08 09:37	1°♄05'49	-10°15'48	evening set	14273 Nov 02 07:56	7°♄39'34	
minimum elong	14266 Nov 08 09:49	1°♄05'49	10°14'55	max. Earth dist.	14273 Nov 14 11:46	7°♄56'29	47.98659 AU
max. Earth dist.	14266 Nov 08 02:05	1°♄05'23	48.75599 AU				
morning rise	14266 Nov 19 21:43	1°♄21'41		conjunction	14273 Nov 15 01:47	7°♄57'18	-8°46'27
retrograde	14267 Feb 18 06:14	2°♄35'44		minimum elong	14273 Nov 15 01:58	7°♄57'19	8°45'32
opposition	14267 May 12 19:25	1°♄36'01	-10°35'36	morning rise	14273 Nov 27 21:13	8°♄15'10	
min. Earth dist.	14267 May 13 03:35	1°♄35'38	46.73966 AU	retrograde	14274 Feb 24 22:27	9°♄28'26	
direct	14267 Aug 02 21:25	0°♄36'50		opposition	14274 May 19 10:14	8°♄28'07	-9°02'03
evening set	14267 Oct 28 23:53	1°♄48'06		min. Earth dist.	14274 May 20 00:28	8°♄27'26	45.94893 AU
				direct	14274 Aug 09 12:32	7°♄28'19	
conjunction	14267 Nov 09 15:11	2°♄04'10	-10°03'41	evening set	14274 Nov 03 09:56	8°♄38'55	
minimum elong	14267 Nov 09 15:24	2°♄04'11	10°02'48				
max. Earth dist.	14267 Nov 09 05:27	2°♄03'36	48.65781 AU	conjunction	14274 Nov 16 07:47	8°♄56'55	-8°32'46
morning rise	14267 Nov 21 08:09	2°♄20'20		minimum elong	14274 Nov 16 07:58	8°♄56'56	8°31'49
retrograde	14268 Feb 19 11:40	3°♄34'14		max. Earth dist.	14274 Nov 15 16:56	8°♄56'03	47.86450 AU
opposition	14268 May 13 00:51	2°♄34'25	-10°22'56	morning rise	14274 Nov 29 07:19	9°♄15'04	
min. Earth dist.	14268 May 13 10:13	2°♄33'59	46.63771 AU	retrograde	14275 Feb 26 06:05	10°♄28'17	
direct	14268 Aug 03 02:48	1°♄35'10		opposition	14275 May 20 16:00	9°♄27'54	-8°47'43
evening set	14268 Oct 29 00:44	2°♄46'17		min. Earth dist.	14275 May 21 06:05	9°♄27'14	45.82404 AU
				direct	14275 Aug 10 18:07	8°♄28'01	
conjunction	14268 Nov 09 20:47	3°♄02'38	-9°51'22	evening set	14275 Nov 04 12:08	9°♄38'35	
minimum elong	14268 Nov 09 20:59	3°♄02'39	9°50'29				
max. Earth dist.	14268 Nov 09 10:34	3°♄02'03	48.55476 AU	conjunction	14275 Nov 17 13:57	9°♄56'52	-8°18'52
morning rise	14268 Nov 21 18:21	3°♄19'06		minimum elong	14275 Nov 17 14:08	9°♄56'53	8°17'55
retrograde	14269 Feb 19 15:58	4°♄32'51		max. Earth dist.	14275 Nov 16 21:43	9°♄55'55	47.73923 AU
opposition	14269 May 14 06:20	3°♄32'58	-10°10'02	morning rise	14275 Nov 30 17:37	10°♄15'17	
min. Earth dist.	14269 May 14 17:08	3°♄32'27	46.53111 AU	retrograde	14276 Feb 27 16:00	11°♄28'29	
direct	14269 Aug 04 11:16	2°♄33'37		opposition	14276 May 20 22:06	10°♄28'01	-8°33'08
evening set	14269 Oct 30 02:00	3°♄44'36		min. Earth dist.	14276 May 21 14:00	10°♄27'16	45.69581 AU
				direct	14276 Aug 10 21:21	9°♄28'03	
conjunction	14269 Nov 11 02:31	4°♄01'14	-9°38'50	evening set	14276 Nov 04 14:30	10°♄38'37	
minimum elong	14269 Nov 11 02:44	4°♄01'15	9°37'57				
max. Earth dist.	14269 Nov 10 15:20	4°♄00'35	48.44756 AU	conjunction	14276 Nov 17 20:22	10°♄57'10	-8°04'44
morning rise	14269 Nov 23 04:37	4°♄17'59		minimum elong	14276 Nov 17 20:33	10°♄57'11	8°03'46
retrograde	14270 Feb 21 00:06	5°♄31'36		max. Earth dist.	14276 Nov 17 04:11	10°♄56'13	47.61035 AU
opposition	14270 May 15 11:36	4°♄31'38	-9°56'55	morning rise	14276 Dec 01 03:49	11°♄15'51	
min. Earth dist.	14270 May 15 22:24	4°♄31'07	46.42070 AU	retrograde	14277 Feb 27 23:43	12°♄29'02	
direct	14270 Aug 05 15:32	3°♄32'11		opposition	14277 May 22 04:11	11°♄28'29	-8°18'20
evening set	14270 Oct 31 03:18	4°♄43'03		min. Earth dist.	14277 May 22 20:22	11°♄27'43	45.56347 AU
				direct	14277 Aug 12 00:52	10°♄28'26	
conjunction	14270 Nov 12 08:13	4°♄59'58	-9°26'05	evening set	14277 Nov 05 17:26	11°♄39'00	
minimum elong	14270 Nov 12 08:24	4°♄59'59	9°25'11	max. Earth dist.	14277 Nov 18 08:28	11°♄56'44	47.47695 AU
max. Earth dist.	14270 Nov 11 19:38	4°♄59'14	48.33665 AU				
morning rise	14270 Nov 24 14:52	5°♄17'00		conjunction	14277 Nov 19 02:56	11°♄57'49	-7°50'22
retrograde	14271 Feb 22 08:46	6°♄30'30		minimum elong	14277 Nov 19 03:06	11°♄57'50	7°49'25
opposition	14271 May 16 17:12	5°♄30'26	-9°43'34	morning rise	14277 Dec 02 14:22	12°♄16'46	
min. Earth dist.	14271 May 17 05:44	5°♄29'51	46.30695 AU	retrograde	14278 Mar 01 07:22	13°♄29'56	
direct	14271 Aug 06 17:46	4°♄30'54		opposition	14278 May 23 10:20	12°♄29'17	-8°03'19
evening set	14271 Nov 01 04:33	5°♄41'40		min. Earth dist.	14278 May 24 04:05	12°♄28'27	45.42642 AU
				direct	14278 Aug 13 05:49	11°♄29'07	
conjunction	14271 Nov 13 13:56	5°♄58'52	-9°13'07	evening set	14278 Nov 06 20:25	12°♄39'41	
minimum elong	14271 Nov 13 14:08	5°♄58'53	9°12'12				
max. Earth dist.	14271 Nov 13 01:37	5°♄58'09	48.22271 AU	conjunction	14278 Nov 20 09:47	12°♄58'46	-7°35'49
morning rise	14271 Nov 26 00:47	6°♄16'11		minimum elong	14278 Nov 20 09:57	12°♄58'47	7°34'50
retrograde	14272 Feb 23 13:01	7°♄29'35		max. Earth dist.	14278 Nov 19 14:39	12°♄57'38	47.33847 AU
opposition	14272 May 16 22:48	6°♄29'26	-9°29'58	morning rise	14278 Dec 04 00:49	13°♄17'59	
min. Earth dist.	14272 May 17 11:09	6°♄28'51	46.19026 AU	retrograde	14279 Mar 02 10:46	14°♄31'08	
direct	14272 Aug 06 23:27	5°♄29'48		opposition	14279 May 24 16:49	13°♄30'23	-7°48'04
evening set	14272 Nov 01 06:15	6°♄40'30		min. Earth dist.	14279 May 25 11:54	13°♄29'28	45.28411 AU

direct	14279 Aug 14 15:15	12°♂30'04	retrograde	14286 Mar 09 17:31	21°♂46'59
evening set	14279 Nov 07 23:34	13°♂40'39	opposition	14286 May 31 16:21	20°♂45'12 -5°54'40
			min. Earth dist.	14286 Jun 01 17:25	20°♂43'58 44.17577 AU
conjunction	14279 Nov 21 16:30	13°♂59'59 -7°21'02	direct	14286 Aug 21 11:39	19°♂43'47
minimum elong	14279 Nov 21 16:39	14°♂00'00 7°20'04	evening set	14286 Nov 14 04:14	20°♂54'50
max. Earth dist.	14279 Nov 20 20:03	13°♂58'46 47.19493 AU			
morning rise	14279 Dec 05 11:12	14°♂19'27	conjunction	14286 Nov 28 19:44	21°♂15'55 -5°31'14
retrograde	14280 Mar 02 17:58	15°♂32'36	minimum elong	14286 Nov 28 19:51	21°♂15'55 5°30'14
opposition	14280 May 24 23:17	14°♂31'43 -7°32'35	max. Earth dist.	14286 Nov 27 17:39	21°♂14'20 46.08263 AU
min. Earth dist.	14280 May 25 18:45	14°♂30'46 45.13685 AU	morning rise	14286 Dec 13 12:53	21°♂37'08
direct	14280 Aug 14 22:22	13°♂31'15	retrograde	14287 Mar 11 03:44	22°♂50'43
evening set	14280 Nov 08 03:01	14°♂41'50	opposition	14287 Jun 01 23:43	21°♂48'49 -5°37'28
			min. Earth dist.	14287 Jun 03 00:33	21°♂47'36 44.00579 AU
conjunction	14280 Nov 21 23:27	15°♂01'26 -7°06'03	direct	14287 Aug 22 16:11	20°♂47'16
minimum elong	14280 Nov 21 23:37	15°♂01'26 7°05'04	evening set	14287 Nov 15 09:23	21°♂58'29
max. Earth dist.	14280 Nov 21 01:21	15°♂00'07 47.04644 AU	max. Earth dist.	14287 Nov 28 23:34	22°♂18'07 45.91222 AU
morning rise	14280 Dec 05 21:46	15°♂21'09			
retrograde	14281 Mar 04 03:41	16°♂34'19	conjunction	14287 Nov 30 03:29	22°♂19'48 -5°14'36
opposition	14281 May 26 05:51	15°♂33'16 -7°16'53	minimum elong	14287 Nov 30 03:37	22°♂19'49 5°13'34
min. Earth dist.	14281 May 27 03:23	15°♂32'13 44.98500 AU	morning rise	14287 Dec 14 23:35	22°♂41'16
direct	14281 Aug 16 03:06	14°♂32'39	retrograde	14288 Mar 11 14:25	23°♂55'00
evening set	14281 Nov 09 06:36	15°♂43'14	opposition	14288 Jun 02 07:21	22°♂52'59 -5°20'00
max. Earth dist.	14281 Nov 22 08:20	16°♂01'46 46.89372 AU	min. Earth dist.	14288 Jun 03 09:37	22°♂51'41 43.83284 AU
			direct	14288 Aug 22 20:57	21°♂51'18
conjunction	14281 Nov 23 06:35	16°♂03'05 -6°50'50	evening set	14288 Nov 15 14:54	23°♂02'42
minimum elong	14281 Nov 23 06:44	16°♂03'06 6°49'50	max. Earth dist.	14288 Nov 29 07:43	23°♂22'33 45.73837 AU
morning rise	14281 Dec 07 08:13	16°♂23'04			
retrograde	14282 Mar 05 10:41	17°♂36'14	conjunction	14288 Nov 30 11:50	23°♂24'16 -4°57'44
opposition	14282 May 27 12:28	16°♂35'02 -7°00'56	minimum elong	14288 Nov 30 11:56	23°♂24'16 4°56'43
min. Earth dist.	14282 May 28 09:59	16°♂34'00 44.82916 AU	morning rise	14288 Dec 15 10:25	23°♂45'59
direct	14282 Aug 17 09:11	15°♂34'15	retrograde	14289 Mar 12 20:22	24°♂59'53
evening set	14282 Nov 10 10:28	16°♂44'53	opposition	14289 Jun 03 15:02	23°♂57'44 -5°02'18
			min. Earth dist.	14289 Jun 04 18:16	23°♂56'23 43.65608 AU
conjunction	14282 Nov 24 13:34	17°♂04'59 -6°35'23	direct	14289 Aug 24 06:31	22°♂55'54
minimum elong	14282 Nov 24 13:43	17°♂05'00 6°34'23	evening set	14289 Nov 16 20:58	24°♂07'31
max. Earth dist.	14282 Nov 23 13:28	17°♂03'33 46.73725 AU			
morning rise	14282 Dec 08 18:40	17°♂25'13	conjunction	14289 Dec 01 20:20	24°♂29'19 -4°40'38
retrograde	14283 Mar 06 18:30	18°♂38'24	minimum elong	14289 Dec 01 20:26	24°♂29'19 4°39'35
opposition	14283 May 28 19:14	17°♂37'03 -6°44'45	max. Earth dist.	14289 Nov 30 14:44	24°♂27'30 45.56048 AU
min. Earth dist.	14283 May 29 17:57	17°♂35'57 44.66998 AU	morning rise	14289 Dec 16 21:32	24°♂51'16
direct	14283 Aug 18 14:26	16°♂36'06	retrograde	14290 Mar 14 04:26	26°♂05'22
evening set	14283 Nov 11 14:26	17°♂46'48	opposition	14290 Jun 04 22:58	25°♂03'04 -4°44'21
			min. Earth dist.	14290 Jun 06 02:50	25°♂01'41 43.47498 AU
conjunction	14283 Nov 25 20:54	18°♂07'09 -6°19'42	direct	14290 Aug 25 15:22	24°♂01'04
minimum elong	14283 Nov 25 21:02	18°♂07'10 6°18'41	evening set	14290 Nov 18 03:14	25°♂12'53
max. Earth dist.	14283 Nov 24 20:48	18°♂05'43 46.57758 AU	max. Earth dist.	14290 Dec 01 21:46	25°♂33'00 45.37773 AU
morning rise	14283 Dec 10 05:04	18°♂27'38			
retrograde	14284 Mar 06 23:58	19°♂40'53	conjunction	14290 Dec 03 04:59	25°♂34'56 -4°23'18
opposition	14284 May 29 02:11	18°♂39'23 -6°28'19	minimum elong	14290 Dec 03 05:05	25°♂34'56 4°22'16
min. Earth dist.	14284 May 30 01:42	18°♂38'14 44.50782 AU	morning rise	14290 Dec 18 08:33	25°♂57'06
direct	14284 Aug 18 23:02	17°♂38'16	retrograde	14291 Mar 15 14:51	27°♂11'25
evening set	14284 Nov 11 18:45	18°♂49'04	opposition	14291 Jun 06 07:16	26°♂08'57 -4°26'09
max. Earth dist.	14284 Nov 25 03:11	19°♂08'09 46.41525 AU	min. Earth dist.	14291 Jun 07 13:11	26°♂07'27 43.28897 AU
			direct	14291 Aug 26 22:39	25°♂06'46
conjunction	14284 Nov 26 04:16	19°♂09'39 -6°03'47	evening set	14291 Nov 19 09:50	26°♂18'47
minimum elong	14284 Nov 26 04:24	19°♂09'40 6°02'47	max. Earth dist.	14291 Dec 03 06:17	26°♂39'06 45.19025 AU
morning rise	14284 Dec 10 15:37	19°♂30'23			
retrograde	14285 Mar 08 07:45	20°♂43'43	conjunction	14291 Dec 04 13:58	26°♂41'03 -4°05'45
opposition	14285 May 30 09:11	19°♂42'04 -6°11'37	minimum elong	14291 Dec 04 14:04	26°♂41'03 4°04'42
min. Earth dist.	14285 May 31 08:40	19°♂40'55 44.34310 AU	morning rise	14291 Dec 19 19:44	27°♂03'27
direct	14285 Aug 20 05:53	18°♂40'49	retrograde	14292 Mar 16 01:01	28°♂17'58
evening set	14285 Nov 12 23:24	19°♂51'43	opposition	14292 Jun 06 15:33	27°♂15'18 -4°07'43
max. Earth dist.	14285 Nov 26 09:36	20°♂10'58 46.25018 AU	min. Earth dist.	14292 Jun 07 21:32	27°♂13'49 43.09828 AU
			direct	14292 Aug 27 05:27	26°♂12'55
conjunction	14285 Nov 27 11:53	20°♂12'33 -5°47'38	evening set	14292 Nov 19 16:48	27°♂25'09
minimum elong	14285 Nov 27 12:01	20°♂12'33 5°46'37			
morning rise	14285 Dec 12 02:15	20°♂33'32	conjunction	14292 Dec 04 22:59	27°♂47'38 -3°47'58

minimum elong	14292 Dec 04 23:04	27° 7 47'39	3°46'55	morning rise	14298 Dec 28 03:25	5° 3 00'50	
max. Earth dist.	14292 Dec 03 13:05	27° 7 45'32	44.99815 AU	retrograde	14299 Mar 25 02:27	6° 3 17'14	
morning rise	14292 Dec 20 07:04	28° 7 10'16		opposition	14299 Jun 15 07:23	5° 3 13'00	-1°51'34
retrograde	14293 Mar 17 13:19	29° 7 24'59		min. Earth dist.	14299 Jun 16 18:33	5° 3 11'12	41.67470 AU
opposition	14293 Jun 08 00:08	28° 7 22'07	-3°49'03	direct	14299 Sep 04 15:30	4° 3 08'56	
min. Earth dist.	14293 Jun 09 07:52	28° 7 20'31	42.90333 AU	evening set	14299 Nov 28 03:04	5° 3 23'19	
direct	14293 Aug 28 11:02	27° 7 19'29		max. Earth dist.	14299 Dec 12 05:31	5° 3 44'45	43.56984 AU
evening set	14293 Nov 21 00:01	28° 7 31'58					
max. Earth dist.	14293 Dec 04 22:23	28° 7 52'34	44.80195 AU	conjunction	14299 Dec 13 20:21	5° 3 47'14	-1°36'50
				minimum elong	14299 Dec 13 20:23	5° 3 47'14	1°35'47
conjunction	14293 Dec 06 08:22	28° 7 54'40	-3°29'57	morning rise	14299 Dec 29 15:19	6° 3 11'17	
minimum elong	14293 Dec 06 08:27	28° 7 54'41	3°28'54	retrograde	14300 Mar 26 14:13	7° 3 28'03	
morning rise	14293 Dec 21 18:17	29° 7 17'30		opposition	14300 Jun 16 17:25	6° 3 23'37	-1°31'04
	14294 Jan 23 03:46	0° 3		min. Earth dist.	14300 Jun 18 05:14	6° 3 21'46	41.46280 AU
retrograde	14294 Mar 18 21:47	0° 3 32'26		direct	14300 Sep 06 00:57	5° 3 19'19	
	14294 May 13 19:05	30° 8 7		evening set	14300 Nov 29 13:05	6° 3 34'07	
opposition	14294 Jun 09 08:44	29° 7 29'21	-3°30'07	max. Earth dist.	14300 Dec 13 15:50	6° 3 55'41	43.35688 AU
min. Earth dist.	14294 Jun 10 17:08	29° 7 27'43	42.70461 AU				
direct	14294 Aug 29 20:37	28° 7 26'29		conjunction	14300 Dec 15 07:25	6° 3 58'14	-1°17'09
evening set	14294 Nov 22 07:39	29° 7 39'13		minimum elong	14300 Dec 15 07:27	6° 3 58'14	1°16'05
max. Earth dist.	14294 Dec 06 06:23	29° 7 59'55	44.60244 AU	morning rise	14300 Dec 31 03:14	7° 3 22'29	
	14294 Dec 06 07:39	0° 3		retrograde	14301 Mar 28 00:52	8° 3 39'40	
				opposition	14301 Jun 18 03:51	7° 3 35'01	-1°10'20
conjunction	14294 Dec 07 17:46	0° 3 02'08	-3°11'42	min. Earth dist.	14301 Jun 19 17:11	7° 3 33'05	41.24804 AU
minimum elong	14294 Dec 07 17:50	0° 3 02'08	3°10'39	direct	14301 Sep 07 11:48	6° 3 30'29	
morning rise	14294 Dec 23 05:40	0° 3 25'11		evening set	14301 Nov 30 23:46	7° 3 45'45	
retrograde	14295 Mar 20 07:07	1° 3 40'21		max. Earth dist.	14301 Dec 15 02:41	8° 3 07'26	43.14082 AU
opposition	14295 Jun 10 17:35	0° 3 37'02	-3°10'55				
min. Earth dist.	14295 Jun 12 02:23	0° 3 35'22	42.50302 AU	conjunction	14301 Dec 16 18:53	8° 3 10'03	-0°57'15
	14295 Jul 13 08:14	30° 8 7		minimum elong	14301 Dec 16 18:55	8° 3 10'03	0°56'12
direct	14295 Aug 31 05:14	29° 7 33'55		morning rise	14302 Jan 01 15:26	8° 3 34'28	
	14295 Oct 18 03:05	0° 3		retrograde	14302 Mar 29 12:44	9° 3 52'05	
evening set	14295 Nov 23 15:25	0° 3 46'55		opposition	14302 Jun 19 14:23	8° 3 47'14	-0°49'21
max. Earth dist.	14295 Dec 07 15:04	1° 3 07'46	44.40005 AU	min. Earth dist.	14302 Jun 21 03:48	8° 3 45'17	41.02991 AU
				direct	14302 Sep 08 21:46	7° 3 42'27	
conjunction	14295 Dec 09 03:18	1° 3 10'03	-2°53'12	evening set	14302 Dec 02 11:02	8° 3 58'11	
minimum elong	14295 Dec 09 03:22	1° 3 10'03	2°52'10	max. Earth dist.	14302 Dec 16 12:20	9° 3 19'55	42.92093 AU
morning rise	14295 Dec 24 16:52	1° 3 33'19					
retrograde	14296 Mar 20 15:05	2° 3 48'45		conjunction	14302 Dec 18 06:38	9° 3 22'39	-0°37'07
opposition	14296 Jun 11 02:48	1° 3 45'11	-2°51'28	minimum elong	14302 Dec 18 06:39	9° 3 22'39	0°36'03
min. Earth dist.	14296 Jun 12 12:55	1° 3 43'27	42.29885 AU	morning rise	14303 Jan 03 03:48	9° 3 47'15	
direct	14296 Aug 31 15:57	0° 3 41'50		retrograde	14303 Mar 31 03:15	11° 3 05'21	
evening set	14296 Nov 23 23:42	1° 3 55'07		opposition	14303 Jun 21 01:32	10° 3 00'15	-0°28'07
max. Earth dist.	14296 Dec 08 01:06	2° 3 16'10	44.19544 AU	min. Earth dist.	14303 Jun 22 16:51	9° 3 58'11	40.80791 AU
				direct	14303 Sep 10 05:49	8° 3 55'12	
conjunction	14296 Dec 09 13:15	2° 3 18'27	-2°34'29	evening set	14303 Dec 03 22:30	10° 3 11'26	
minimum elong	14296 Dec 09 13:18	2° 3 18'27	2°33'25	max. Earth dist.	14303 Dec 18 00:23	10° 3 33'18	42.69710 AU
morning rise	14296 Dec 25 04:21	2° 3 41'55					
retrograde	14297 Mar 22 02:19	3° 3 57'38		conjunction	14303 Dec 19 18:43	10° 3 36'04	-0°16'46
opposition	14297 Jun 12 11:56	2° 3 53'51	-2°31'46	minimum elong	14303 Dec 19 18:43	10° 3 36'04	0°15'43
min. Earth dist.	14297 Jun 13 21:41	2° 3 52'08	42.09266 AU	behind sun begin	14303 Dec 19 17:47	10° 3 36'01	
direct	14297 Sep 01 23:57	1° 3 50'15		behind sun end	14303 Dec 19 19:39	10° 3 36'08	
evening set	14297 Nov 25 08:29	3° 3 03'53		morning rise	14304 Jan 04 16:09	11° 3 00'49	
max. Earth dist.	14297 Dec 09 09:26	3° 3 25'00	43.98878 AU	retrograde	14304 Mar 31 17:15	12° 3 19'23	
				opposition	14304 Jun 21 12:52	11° 3 14'02	-0°06'39
conjunction	14297 Dec 10 23:20	3° 3 27'24	-2°15'30	min. Earth dist.	14304 Jun 23 04:27	11° 3 11'57	40.58198 AU
minimum elong	14297 Dec 10 23:24	3° 3 27'25	2°14'27	direct	14304 Sep 10 15:45	10° 3 08'42	
morning rise	14297 Dec 26 15:59	3° 3 51'04		asc. node	14304 Oct 12 17:05	10° 3 21'11	
retrograde	14298 Mar 23 15:50	5° 3 07'07		evening set	14304 Dec 04 10:46	11° 3 25'27	
opposition	14298 Jun 13 21:33	4° 3 03'06	-2°11'47	max. Earth dist.	14304 Dec 18 10:44	11° 3 47'20	42.46950 AU
min. Earth dist.	14298 Jun 15 08:45	4° 3 01'19	41.88464 AU				
direct	14298 Sep 03 05:27	2° 3 59'16		conjunction	14304 Dec 20 07:06	11° 3 50'15	0°03'56
evening set	14298 Nov 26 17:25	4° 3 13'15		minimum elong	14304 Dec 20 07:05	11° 3 50'15	0°04'59
max. Earth dist.	14298 Dec 10 20:11	4° 3 34'35	43.78025 AU	behind sun begin	14304 Dec 20 00:48	11° 3 49'52	
				behind sun end	14304 Dec 20 13:23	11° 3 50'38	
conjunction	14298 Dec 12 09:42	4° 3 36'58	-1°56'17	morning rise	14305 Jan 05 04:54	12° 3 15'10	
minimum elong	14298 Dec 12 09:45	4° 3 36'59	1°55'13	retrograde	14305 Apr 02 08:03	13° 3 34'13	

opposition	14305 Jun 23 00:20	12°328'36	0°15'05	minimum elong	14311 Dec 30 07:05	20°353'04	2°34'56
min. Earth dist.	14305 Jun 24 17:12	12°326'27	40.35265 AU	morning rise	14312 Jan 15 00:20	21°318'50	
direct	14305 Sep 12 01:19	11°322'58		retrograde	14312 Apr 11 15:20	22°342'16	
evening set	14305 Dec 05 23:24	12°340'15		opposition	14312 Jul 01 18:49	21°334'38	2°53'39
max. Earth dist.	14305 Dec 19 22:55	13°302'14	42.23850 AU	min. Earth dist.	14312 Jul 03 15:05	21°332'12	38.69402 AU
				direct	14312 Sep 20 13:49	20°326'48	
conjunction	14305 Dec 21 19:53	13°305'13	0°24'41	evening set	14312 Dec 15 07:57	21°348'53	
minimum elong	14305 Dec 21 19:53	13°305'13	0°25'44	max. Earth dist.	14312 Dec 28 20:54	22°311'11	40.57241 AU
morning rise	14306 Jan 06 17:34	13°330'16					
retrograde	14306 Apr 03 18:53	14°349'51		conjunction	14312 Dec 30 22:36	22°314'38	2°56'07
opposition	14306 Jun 24 12:17	13°343'56	0°37'03	minimum elong	14312 Dec 30 22:32	22°314'37	2°57'07
min. Earth dist.	14306 Jun 26 06:09	13°341'43	40.12029 AU	morning rise	14313 Jan 15 14:09	22°340'28	
direct	14306 Sep 13 15:05	12°338'00		retrograde	14313 Apr 13 05:32	24°304'42	
evening set	14306 Dec 07 12:28	13°355'51		opposition	14313 Jul 03 09:17	22°356'46	3°17'09
max. Earth dist.	14306 Dec 21 11:16	14°317'55	42.00491 AU	min. Earth dist.	14313 Jul 05 07:05	22°354'14	38.45225 AU
				direct	14313 Sep 22 04:29	21°348'38	
conjunction	14306 Dec 23 08:45	14°320'57	0°45'42	evening set	14313 Dec 17 01:41	23°311'33	
minimum elong	14306 Dec 23 08:44	14°320'57	0°46'45	max. Earth dist.	14313 Dec 30 12:53	23°333'53	40.32895 AU
morning rise	14307 Jan 08 06:16	14°346'09					
retrograde	14307 Apr 05 07:25	16°306'17		conjunction	14314 Jan 01 14:36	23°337'22	3°18'30
opposition	14307 Jun 26 00:26	15°300'05	0°59'15	minimum elong	14314 Jan 01 14:31	23°337'22	3°19'31
min. Earth dist.	14307 Jun 27 18:12	14°357'51	39.88573 AU	morning rise	14314 Jan 17 04:13	24°303'16	
direct	14307 Sep 15 03:36	13°353'49		retrograde	14314 Apr 14 21:47	25°328'19	
evening set	14307 Dec 09 02:13	15°312'17		opposition	14314 Jul 05 00:13	24°320'06	3°40'50
max. Earth dist.	14307 Dec 22 23:10	15°334'22	41.76915 AU	min. Earth dist.	14314 Jul 06 21:51	24°317'34	38.20833 AU
				direct	14314 Sep 23 17:58	23°311'37	
conjunction	14307 Dec 24 22:04	15°337'31	1°06'56	evening set	14314 Dec 18 20:11	24°335'25	
minimum elong	14307 Dec 24 22:02	15°337'31	1°07'59	max. Earth dist.	14315 Jan 01 03:06	24°357'39	40.08287 AU
morning rise	14308 Jan 09 19:11	16°302'51					
retrograde	14308 Apr 05 21:52	17°323'34		conjunction	14315 Jan 03 06:52	25°301'17	3°41'02
opposition	14308 Jun 26 13:00	16°317'04	1°21'41	minimum elong	14315 Jan 03 06:46	25°301'17	3°42'02
min. Earth dist.	14308 Jun 28 08:20	16°314'44	39.64945 AU	morning rise	14315 Jan 18 18:26	25°327'14	
direct	14308 Sep 15 13:30	15°310'30		retrograde	14315 Apr 16 16:40	26°353'09	
evening set	14308 Dec 09 16:24	16°329'35		opposition	14315 Jul 06 15:46	25°344'36	4°04'43
max. Earth dist.	14308 Dec 23 13:18	16°351'48	41.53192 AU	min. Earth dist.	14315 Jul 08 15:12	25°341'57	37.96177 AU
				direct	14315 Sep 25 05:48	24°335'46	
conjunction	14308 Dec 25 11:50	16°354'56	1°28'23	evening set	14315 Dec 20 15:23	26°300'28	
minimum elong	14308 Dec 25 11:48	16°354'56	1°29'26	max. Earth dist.	14316 Jan 02 20:05	26°322'42	39.83397 AU
morning rise	14309 Jan 10 08:13	17°320'24					
retrograde	14309 Apr 07 12:50	18°341'44		conjunction	14316 Jan 04 23:55	26°326'22	4°03'44
opposition	14309 Jun 28 01:50	17°334'57	1°44'21	minimum elong	14316 Jan 04 23:49	26°326'22	4°04'44
min. Earth dist.	14309 Jun 29 20:40	17°332'38	39.41189 AU	morning rise	14316 Jan 20 08:55	26°352'20	
direct	14309 Sep 17 01:17	16°328'03		retrograde	14316 Apr 17 11:15	28°319'08	
evening set	14309 Dec 11 07:24	17°347'50		opposition	14316 Jul 07 07:36	27°310'14	4°28'46
max. Earth dist.	14309 Dec 25 01:43	18°310'02	41.29349 AU	min. Earth dist.	14316 Jul 09 07:18	27°307'34	37.71244 AU
				direct	14316 Sep 25 21:03	26°301'01	
conjunction	14309 Dec 27 01:50	18°313'18	1°50'02	evening set	14316 Dec 21 11:34	27°326'40	
minimum elong	14309 Dec 27 01:47	18°313'18	1°51'04	max. Earth dist.	14317 Jan 03 11:46	27°348'45	39.58246 AU
morning rise	14310 Jan 11 21:29	18°338'52					
retrograde	14310 Apr 09 07:17	20°300'52		conjunction	14317 Jan 05 17:20	27°352'35	4°26'35
opposition	14310 Jun 29 15:03	18°353'47	2°07'14	minimum elong	14317 Jan 05 17:13	27°352'34	4°27'33
min. Earth dist.	14310 Jul 01 10:53	18°351'25	39.17346 AU	morning rise	14317 Jan 20 23:48	28°318'33	
direct	14310 Sep 18 11:00	17°346'34		retrograde	14317 Apr 19 08:26	29°346'15	
evening set	14310 Dec 12 22:51	19°307'05		opposition	14317 Jul 08 23:56	28°336'59	4°52'59
max. Earth dist.	14310 Dec 26 16:32	19°329'23	41.05414 AU	min. Earth dist.	14317 Jul 11 00:31	28°334'15	37.46079 AU
				direct	14317 Sep 27 12:00	27°327'22	
conjunction	14310 Dec 28 16:23	19°332'39	2°11'53	evening set	14317 Dec 23 08:21	28°354'00	
minimum elong	14310 Dec 28 16:19	19°332'39	2°12'54	max. Earth dist.	14318 Jan 05 05:05	29°316'00	39.32855 AU
morning rise	14311 Jan 13 10:46	19°358'19					
retrograde	14311 Apr 10 23:20	21°321'01		conjunction	14318 Jan 07 11:16	29°319'54	4°49'33
opposition	14311 Jul 01 04:46	20°313'39	2°30'20	minimum elong	14318 Jan 07 11:09	29°319'54	4°50'32
min. Earth dist.	14311 Jul 03 00:53	20°311'15	38.93418 AU	morning rise	14318 Jan 22 14:36	29°345'52	
direct	14311 Sep 20 00:20	19°306'08			14318 Jan 31 03:14	0°≈	
evening set	14311 Dec 14 14:58	20°327'24		retrograde	14318 Apr 21 02:35	1°≈14'30	
max. Earth dist.	14311 Dec 28 06:31	20°349'43	40.81400 AU	opposition	14318 Jul 10 16:45	0°≈04'52	5°17'22
				min. Earth dist.	14318 Jul 12 18:25	0°≈02'02	37.20719 AU
conjunction	14311 Dec 30 07:09	20°353'04	2°33'55		14318 Jul 14 06:26	30°R3	

direct	14318 Sep 29 04:42	28°35'50		morning rise	14325 Feb 01 04:13	10°31'39	
	14318 Dec 11 13:33	0°		retrograde	14325 May 02 07:53	12°08'27	
evening set	14318 Dec 25 05:59	0°22'29		opposition	14325 Jul 21 04:55	10°56'11	8°10'21
max. Earth dist.	14319 Jan 06 23:06	0°44'24	39.07318 AU	min. Earth dist.	14325 Jul 23 08:45	10°53'06	35.42975 AU
				direct	14325 Oct 09 07:46	9°43'17	
conjunction	14319 Jan 09 05:38	0°48'22	5°12'39	evening set	14326 Jan 06 14:31	11°19'48	
minimum elong	14319 Jan 09 05:30	0°48'21	5°13'36	max. Earth dist.	14326 Jan 17 20:49	11°40'26	37.28542 AU
morning rise	14319 Jan 24 05:41	1°14'18					
retrograde	14319 Apr 22 20:48	2°43'54		conjunction	14326 Jan 20 05:44	11°44'49	7°55'48
opposition	14319 Jul 12 09:58	1°33'53	5°41'52	minimum elong	14326 Jan 20 05:32	11°44'48	7°56'39
min. Earth dist.	14319 Jul 14 11:23	1°31'04	36.95255 AU	morning rise	14326 Feb 02 20:49	12°09'52	
direct	14319 Sep 30 22:19	0°23'25		retrograde	14326 May 04 07:03	13°48'04	
evening set	14319 Dec 27 04:21	1°52'09		opposition	14326 Jul 23 02:05	12°35'27	8°35'07
max. Earth dist.	14320 Jan 08 16:29	2°13'53	38.81677 AU	min. Earth dist.	14326 Jul 25 05:30	12°32'22	35.17802 AU
				direct	14326 Oct 11 04:26	11°22'09	
conjunction	14320 Jan 11 00:23	2°17'59	5°35'51	evening set	14327 Jan 08 19:58	13°00'11	
minimum elong	14320 Jan 11 00:15	2°17'58	5°36'48	max. Earth dist.	14327 Jan 19 18:25	13°20'25	37.03150 AU
morning rise	14320 Jan 25 20:53	2°43'52					
retrograde	14320 Apr 23 15:44	4°14'32		conjunction	14327 Jan 22 04:56	13°24'58	8°19'02
opposition	14320 Jul 13 03:49	3°04'06	6°06'28	minimum elong	14327 Jan 22 04:45	13°24'57	8°19'52
min. Earth dist.	14320 Jul 15 06:36	3°01'11	36.69734 AU	morning rise	14327 Feb 04 13:52	13°49'46	
direct	14320 Oct 01 14:06	1°53'14			14327 Mar 20 22:43	15°	
evening set	14320 Dec 28 03:38	3°23'05		retrograde	14327 May 06 07:23	15°29'27	
max. Earth dist.	14321 Jan 09 12:39	3°44'46	38.56008 AU		14327 Jun 22 15:42	15°R	
				opposition	14327 Jul 25 00:07	14°16'27	8°59'50
conjunction	14321 Jan 11 19:54	3°48'50	5°59'07	min. Earth dist.	14327 Jul 27 05:01	14°13'16	34.92606 AU
minimum elong	14321 Jan 11 19:45	3°48'50	6°00'02	direct	14327 Oct 12 22:16	13°02'44	
morning rise	14321 Jan 26 12:17	4°14'39		evening set	14328 Jan 11 02:23	14°42'20	
retrograde	14321 Apr 25 11:26	5°46'24			14328 Jan 20 13:44	15°	
opposition	14321 Jul 14 21:57	4°35'36	6°31'10	max. Earth dist.	14328 Jan 21 18:51	15°02'17	36.77722 AU
min. Earth dist.	14321 Jul 17 00:04	4°32'42	36.44219 AU				
direct	14321 Oct 03 06:39	3°24'17		conjunction	14328 Jan 24 04:54	15°06'50	8°42'12
evening set	14321 Dec 30 03:57	4°55'21		minimum elong	14328 Jan 24 04:42	15°06'49	8°43'01
max. Earth dist.	14322 Jan 11 07:10	5°16'48	38.30363 AU	morning rise	14328 Feb 06 07:02	15°31'20	
				retrograde	14328 May 07 07:43	17°12'33	
conjunction	14322 Jan 13 15:47	5°21'00	6°22'26	opposition	14328 Jul 25 22:44	15°59'09	9°24'28
minimum elong	14322 Jan 13 15:38	5°21'00	6°23'22	min. Earth dist.	14328 Jul 28 03:14	15°55'58	34.67370 AU
morning rise	14322 Jan 28 04:00	5°46'43			14328 Sep 10 21:55	15°R	
retrograde	14322 Apr 27 10:16	7°19'38		direct	14328 Oct 13 19:48	14°44'59	
opposition	14322 Jul 16 16:50	6°08'27	6°55'56		14328 Nov 15 07:30	15°	
min. Earth dist.	14322 Jul 18 19:50	6°05'28	36.18774 AU	evening set	14329 Jan 12 10:13	16°26'13	
direct	14322 Oct 04 22:25	4°56'44		max. Earth dist.	14329 Jan 22 17:54	16°45'40	36.52261 AU
evening set	14323 Jan 01 04:51	6°29'02					
max. Earth dist.	14323 Jan 13 04:13	6°50'23	38.04787 AU	conjunction	14329 Jan 25 05:31	16°50'23	9°05'15
				minimum elong	14329 Jan 25 05:19	16°50'22	9°06'03
conjunction	14323 Jan 15 12:15	6°54'35	6°45'48	morning rise	14329 Feb 07 00:42	17°14'34	
minimum elong	14323 Jan 15 12:05	6°54'34	6°46'41	retrograde	14329 May 09 11:13	18°57'20	
morning rise	14323 Jan 29 19:36	7°20'10		opposition	14329 Jul 27 21:55	17°43'31	9°48'59
retrograde	14323 Apr 29 08:48	8°54'19		min. Earth dist.	14329 Jul 30 03:21	17°40'15	34.42138 AU
opposition	14323 Jul 18 12:20	7°42'45	7°20'44	direct	14329 Oct 15 16:05	16°28'52	
min. Earth dist.	14323 Jul 20 15:11	7°39'46	35.93414 AU	evening set	14330 Jan 14 18:57	18°11'48	
direct	14323 Oct 06 17:25	6°30'38		max. Earth dist.	14330 Jan 24 19:34	18°30'52	36.26810 AU
evening set	14324 Jan 03 07:04	8°04'17					
max. Earth dist.	14324 Jan 15 00:41	8°25'24	37.79316 AU	conjunction	14330 Jan 27 06:54	18°35'36	9°28'10
				minimum elong	14330 Jan 27 06:40	18°35'35	9°28'56
conjunction	14324 Jan 17 09:21	8°29'41	7°09'09	morning rise	14330 Feb 08 18:22	18°59'25	
minimum elong	14324 Jan 17 09:10	8°29'40	7°10'03	retrograde	14330 May 11 13:46	20°43'48	
morning rise	14324 Jan 31 11:48	8°55'07		opposition	14330 Jul 29 21:53	19°29'32	10°13'21
retrograde	14324 Apr 30 09:47	10°30'33		min. Earth dist.	14330 Aug 01 03:33	19°26'14	34.16952 AU
opposition	14324 Jul 19 08:13	9°18'38	7°45'33	direct	14330 Oct 17 15:19	18°14'25	
min. Earth dist.	14324 Jul 21 11:01	9°15'38	35.68167 AU	evening set	14331 Jan 17 04:50	19°59'05	
direct	14324 Oct 07 12:05	8°06'07		max. Earth dist.	14331 Jan 26 20:49	20°17'39	36.01450 AU
evening set	14325 Jan 04 10:14	9°41'10					
max. Earth dist.	14325 Jan 15 22:07	10°02'02	37.53911 AU	conjunction	14331 Jan 29 08:38	20°22'28	9°50'52
				minimum elong	14331 Jan 29 08:26	20°22'27	9°51'37
conjunction	14325 Jan 18 07:15	10°06'24	7°32'29	morning rise	14331 Feb 10 12:09	20°45'52	
minimum elong	14325 Jan 18 07:04	10°06'23	7°33'22	retrograde	14331 May 13 18:30	22°31'55	

opposition	14331 Jul 31 22:27	21° \approx 17'13	10°37'31	direct	14337 Oct 30 00:00	1° \approx 21'54	
min. Earth dist.	14331 Aug 03 03:51	21° \approx 13'55	33.91902 AU	evening set	14338 Feb 02 14:07	3° \approx 20'56	
direct	14331 Oct 19 14:47	20° \approx 01'36		max. Earth dist.	14338 Feb 09 09:04	3° \approx 34'54	34.31857 AU
evening set	14332 Jan 19 15:56	21° \approx 48'05					
max. Earth dist.	14332 Jan 28 23:13	22° \approx 06'07	35.76233 AU	conjunction	14338 Feb 11 19:08	3° \approx 39'53	12°20'14
				minimum elong	14338 Feb 11 18:54	3° \approx 39'52	12°20'48
conjunction	14332 Jan 31 11:21	22° \approx 11'01	10°13'21	morning rise	14338 Feb 20 23:40	3° \approx 58'49	
minimum elong	14332 Jan 31 11:07	22° \approx 10'59	10°14'05	retrograde	14338 May 27 13:33	5° \approx 58'42	
morning rise	14332 Feb 12 06:19	22° \approx 33'56		opposition	14338 Aug 13 22:52	4° \approx 41'03	13°16'07
retrograde	14332 May 14 22:11	24° \approx 21'43		min. Earth dist.	14338 Aug 16 02:22	4° \approx 37'43	32.25387 AU
opposition	14332 Aug 01 23:40	23° \approx 06'34	11°01'25	direct	14338 Nov 01 04:39	3° \approx 22'12	
min. Earth dist.	14332 Aug 04 05:49	23° \approx 03'11	33.67043 AU	evening set	14339 Feb 05 10:38	5° \approx 23'39	
direct	14332 Oct 20 16:07	21° \approx 50'27		max. Earth dist.	14339 Feb 11 17:41	5° \approx 36'43	34.09157 AU
evening set	14333 Jan 21 04:24	23° \approx 38'49					
max. Earth dist.	14333 Jan 30 03:24	23° \approx 56'21	35.51254 AU	conjunction	14339 Feb 14 03:18	5° \approx 41'43	12°39'34
				minimum elong	14339 Feb 14 03:06	5° \approx 41'42	12°40'05
conjunction	14333 Feb 01 14:46	24° \approx 01'14	10°35'33	morning rise	14339 Feb 22 19:22	5° \approx 59'45	
minimum elong	14333 Feb 01 14:33	24° \approx 01'13	10°36'15	retrograde	14339 May 29 23:15	8° \approx 01'55	
morning rise	14333 Feb 13 00:37	24° \approx 23'37		opposition	14339 Aug 16 05:43	6° \approx 43'54	13°36'35
retrograde	14333 May 17 03:58	26° \approx 13'13		min. Earth dist.	14339 Aug 18 09:38	6° \approx 40'30	32.03125 AU
opposition	14333 Aug 04 01:34	24° \approx 57'37	11°25'00	direct	14339 Nov 03 10:33	5° \approx 24'38	
min. Earth dist.	14333 Aug 06 06:34	24° \approx 54'17	33.42461 AU	evening set	14340 Feb 08 09:04	7° \approx 28'33	
direct	14333 Oct 22 18:21	23° \approx 41'00		max. Earth dist.	14340 Feb 14 03:15	7° \approx 40'37	33.86807 AU
evening set	14334 Jan 23 17:58	25° \approx 31'20					
max. Earth dist.	14334 Feb 01 06:42	25° \approx 48'12	35.26568 AU	conjunction	14340 Feb 16 12:27	7° \approx 45'38	12°58'13
				minimum elong	14340 Feb 16 12:13	7° \approx 45'37	12°58'43
conjunction	14334 Feb 03 18:46	25° \approx 53'10	10°57'24	morning rise	14340 Feb 24 15:17	8° \approx 02'41	
minimum elong	14334 Feb 03 18:32	25° \approx 53'09	10°58'04	retrograde	14340 May 31 10:57	10° \approx 07'14	
morning rise	14334 Feb 14 19:09	26° \approx 14'59		opposition	14340 Aug 17 13:06	8° \approx 48'50	13°56'21
retrograde	14334 May 19 07:58	28° \approx 06'29		min. Earth dist.	14340 Aug 19 15:57	8° \approx 45'29	31.81204 AU
opposition	14334 Aug 06 04:20	26° \approx 50'26	11°48'13	direct	14340 Nov 04 17:57	7° \approx 29'07	
min. Earth dist.	14334 Aug 08 10:02	26° \approx 47'02	33.18221 AU	evening set	14341 Feb 10 08:59	9° \approx 35'36	
direct	14334 Oct 24 18:13	25° \approx 33'21		max. Earth dist.	14341 Feb 15 12:53	9° \approx 46'32	33.64791 AU
evening set	14335 Jan 26 08:54	27° \approx 25'42					
max. Earth dist.	14335 Feb 03 13:05	27° \approx 42'01	35.02261 AU	conjunction	14341 Feb 17 22:28	9° \approx 51'38	13°16'11
				minimum elong	14341 Feb 17 22:17	9° \approx 51'37	13°16'39
conjunction	14335 Feb 05 23:41	27° \approx 46'55	11°18'51	morning rise	14341 Feb 25 11:29	10° \approx 07'36	
minimum elong	14335 Feb 05 23:28	27° \approx 46'54	11°19'30	retrograde	14341 Jun 02 21:52	12° \approx 14'36	
morning rise	14335 Feb 16 13:49	28° \approx 08'06		opposition	14341 Aug 19 21:37	10° \approx 55'48	14°15'21
	14335 May 11 09:48	0° \approx		min. Earth dist.	14341 Aug 22 01:08	10° \approx 52'23	31.59634 AU
retrograde	14335 May 21 12:19	0° \approx 01'34		direct	14341 Nov 07 00:17	9° \approx 35'40	
	14335 May 31 17:31	30° \approx		evening set	14342 Feb 13 10:32	11° \approx 44'47	
opposition	14335 Aug 08 07:45	28° \approx 45'05	12°11'00	max. Earth dist.	14342 Feb 18 00:58	11° \approx 54'37	33.43164 AU
min. Earth dist.	14335 Aug 10 12:07	28° \approx 41'45	32.94384 AU				
direct	14335 Oct 26 20:40	27° \approx 27'32		conjunction	14342 Feb 20 09:11	11° \approx 59'38	13°33'22
evening set	14336 Jan 29 01:09	29° \approx 22'02		minimum elong	14342 Feb 20 08:58	11° \approx 59'37	13°33'47
max. Earth dist.	14336 Feb 05 17:58	29° \approx 37'33	34.78377 AU	morning rise	14342 Feb 27 07:16	12° \approx 14'26	
				retrograde	14342 Jun 05 10:21	14° \approx 23'58	
conjunction	14336 Feb 08 05:14	29° \approx 42'33	11°39'50	opposition	14342 Aug 22 06:45	13° \approx 04'47	14°33'29
minimum elong	14336 Feb 08 05:00	29° \approx 42'32	11°40'28	min. Earth dist.	14342 Aug 24 08:52	13° \approx 01'26	31.38466 AU
	14336 Feb 16 20:22	0° \approx		direct	14342 Nov 09 09:02	11° \approx 44'12	
morning rise	14336 Feb 18 08:54	0° \approx 03'03		evening set	14343 Feb 16 13:49	13° \approx 56'04	
retrograde	14336 May 22 19:51	1° \approx 58'34		max. Earth dist.	14343 Feb 20 11:57	14° \approx 04'31	33.21975 AU
opposition	14336 Aug 09 12:01	0° \approx 41'41	12°33'16				
min. Earth dist.	14336 Aug 11 16:30	0° \approx 38'19	32.70982 AU	conjunction	14343 Feb 22 20:40	14° \approx 09'38	13°49'42
	14336 Sep 07 00:32	30° \approx		minimum elong	14343 Feb 22 20:30	14° \approx 09'37	13°50'06
direct	14336 Oct 27 21:02	29° \approx 23'41		morning rise	14343 Mar 01 03:06	14° \approx 23'09	
	14336 Dec 16 12:58	0° \approx		retrograde	14343 Jun 07 22:17	16° \approx 35'18	
evening set	14337 Jan 30 18:52	1° \approx 20'25		opposition	14343 Aug 24 16:41	15° \approx 15'43	14°50'42
max. Earth dist.	14337 Feb 07 01:57	1° \approx 35'15	34.54912 AU	min. Earth dist.	14343 Aug 26 19:07	15° \approx 12'20	31.17773 AU
				direct	14343 Nov 11 15:49	13° \approx 54'41	
conjunction	14337 Feb 09 11:51	1° \approx 40'11	12°00'19	evening set	14344 Feb 19 19:08	16° \approx 09'25	
minimum elong	14337 Feb 09 11:39	1° \approx 40'10	12°00'54	max. Earth dist.	14344 Feb 23 02:09	16° \approx 16'34	33.01301 AU
morning rise	14337 Feb 19 04:10	1° \approx 59'56					
retrograde	14337 May 25 02:51	3° \approx 57'35		conjunction	14344 Feb 25 09:03	16° \approx 21'33	14°05'06
opposition	14337 Aug 11 17:01	2° \approx 40'19	12°55'00	minimum elong	14344 Feb 25 08:53	16° \approx 21'32	14°05'28
min. Earth dist.	14337 Aug 13 20:59	2° \approx 36'58	32.47986 AU	morning rise	14344 Mar 01 22:29	16° \approx 33'40	

retrograde	14344 Jun 09 09:45	18° ♂ 48'32		retrograde	14351 Jun 27 04:08	5° ♂ 12'44	
opposition	14344 Aug 26 03:24	17° ♂ 28'34	15°06'54	opposition	14351 Sep 12 03:46	3° ♂ 50'37	16°24'33
min. Earth dist.	14344 Aug 28 04:32	17° ♂ 25'15	30.97609 AU	min. Earth dist.	14351 Sep 13 20:01	3° ♂ 47'49	29.77107 AU
direct	14344 Nov 13 02:09	16° ♂ 07'06		direct	14351 Nov 29 20:45	2° ♂ 26'48	
evening set	14345 Feb 22 02:38	18° ♂ 24'50		max. Earth dist.	14352 Mar 13 17:10	4° ♂ 59'46	31.62322 AU
max. Earth dist.	14345 Feb 24 15:03	18° ♂ 30'21	32.81211 AU				
conjunction	14345 Feb 26 22:02	18° ♂ 35'23	14°19'31	conjunction	14352 Mar 15 13:54	5° ♂ 04'04	15°25'46
minimum elong	14345 Feb 26 21:54	18° ♂ 35'22	14°19'50	minimum elong	14352 Mar 15 13:54	5° ♂ 04'04	15°25'47
morning rise	14345 Mar 03 17:07	18° ♂ 45'55		retrograde	14352 Jun 28 22:11	7° ♂ 40'22	
retrograde	14345 Jun 11 23:54	21° ♂ 03'39		opposition	14352 Sep 13 20:32	6° ♂ 18'01	16°29'42
opposition	14345 Aug 28 14:48	19° ♂ 43'18	15°22'00	min. Earth dist.	14352 Sep 15 12:29	6° ♂ 15'14	29.63065 AU
min. Earth dist.	14345 Aug 30 15:14	19° ♂ 40'01	30.78070 AU	direct	14352 Dec 01 11:41	4° ♂ 53'56	
direct	14345 Nov 15 11:07	18° ♂ 21'25		max. Earth dist.	14353 Mar 16 14:33	7° ♂ 28'10	31.48585 AU
evening set	14346 Feb 25 13:04	20° ♂ 42'21		conjunction	14353 Mar 18 08:45	7° ♂ 32'15	15°29'33
max. Earth dist.	14346 Feb 27 06:58	20° ♂ 46'12	32.61787 AU	minimum elong	14353 Mar 18 08:49	7° ♂ 32'16	15°29'30
conjunction	14346 Mar 01 11:53	20° ♂ 51'05	14°32'51	retrograde	14353 Jul 01 17:17	10° ♂ 09'26	
minimum elong	14346 Mar 01 11:44	20° ♂ 51'04	14°33'07	opposition	14353 Sep 16 13:51	8° ♂ 46'53	16°33'11
morning rise	14346 Mar 05 10:22	20° ♂ 59'49		min. Earth dist.	14353 Sep 18 03:49	8° ♂ 44'13	29.49776 AU
retrograde	14346 Jun 14 13:13	23° ♂ 20'37		direct	14353 Dec 04 05:30	7° ♂ 22'33	
opposition	14346 Aug 31 03:10	21° ♂ 59'54	15°35'54	max. Earth dist.	14354 Mar 19 10:10	9° ♂ 57'45	31.35650 AU
min. Earth dist.	14346 Sep 02 02:34	21° ♂ 56'40	30.59224 AU	conjunction	14354 Mar 21 04:00	10° ♂ 01'49	15°31'46
direct	14346 Nov 17 21:20	20° ♂ 37'37		minimum elong	14354 Mar 21 04:04	10° ♂ 01'50	15°31'42
evening set	14347 Mar 01 03:42	23° ♂ 02'05		retrograde	14354 Jul 04 13:18	12° ♂ 39'49	
max. Earth dist.	14347 Mar 01 22:13	23° ♂ 03'48	32.43129 AU	opposition	14354 Sep 19 07:46	11° ♂ 17'02	16°34'58
conjunction	14347 Mar 04 02:12	23° ♂ 08'38	14°45'00	min. Earth dist.	14354 Sep 20 20:40	11° ♂ 14'26	29.37292 AU
minimum elong	14347 Mar 04 02:06	23° ♂ 08'38	14°45'14	direct	14354 Dec 06 21:34	9° ♂ 52'27	
morning rise	14347 Mar 07 00:29	23° ♂ 15'11		max. Earth dist.	14355 Mar 22 08:47	12° ♂ 28'45	31.23554 AU
retrograde	14347 Jun 17 05:33	25° ♂ 39'24		conjunction	14355 Mar 23 23:48	12° ♂ 32'35	15°32'22
opposition	14347 Sep 02 16:10	24° ♂ 18'21	15°48'30	minimum elong	14355 Mar 23 23:55	12° ♂ 32'35	15°32'15
min. Earth dist.	14347 Sep 04 13:49	24° ♂ 15'13	30.41161 AU	retrograde	14355 Jul 07 07:02	15° ♂ 11'17	
direct	14347 Nov 20 10:21	22° ♂ 55'41		opposition	14355 Sep 22 02:13	13° ♂ 48'18	16°35'00
evening set	14348 Mar 04 05:09	25° ♂ 24'39		min. Earth dist.	14355 Sep 23 13:31	13° ♂ 45'48	29.25626 AU
max. Earth dist.	14348 Mar 03 15:15	25° ♂ 23'20	32.25279 AU	direct	14355 Dec 09 16:02	12° ♂ 23'29	
conjunction	14348 Mar 05 17:34	25° ♂ 28'03	14°55'54	max. Earth dist.	14356 Mar 24 05:43	15° ♂ 00'37	31.12343 AU
minimum elong	14348 Mar 05 17:28	25° ♂ 28'03	14°56'06	conjunction	14356 Mar 25 19:57	15° ♂ 04'23	15°31'20
morning rise	14348 Mar 07 05:47	25° ♂ 31'27		minimum elong	14356 Mar 25 20:05	15° ♂ 04'23	15°31'10
retrograde	14348 Jun 18 20:46	28° ♂ 00'01		retrograde	14356 Jul 09 02:52	17° ♂ 43'42	
opposition	14348 Sep 04 05:58	26° ♂ 38'39	15°59'45	opposition	14356 Sep 23 20:55	16° ♂ 20'32	16°33'13
min. Earth dist.	14348 Sep 06 03:03	26° ♂ 35'33	30.23911 AU	min. Earth dist.	14356 Sep 25 06:25	16° ♂ 18'09	29.14854 AU
direct	14348 Nov 21 23:29	25° ♂ 15'40		direct	14356 Dec 11 10:40	14° ♂ 55'29	
max. Earth dist.	14349 Mar 06 08:57	27° ♂ 44'45	32.08296 AU	max. Earth dist.	14357 Mar 27 05:18	17° ♂ 33'34	31.02069 AU
conjunction	14349 Mar 08 09:36	27° ♂ 49'20	15°05'29	conjunction	14357 Mar 28 16:35	17° ♂ 37'03	15°28'35
minimum elong	14349 Mar 08 09:33	27° ♂ 49'20	15°05'38	minimum elong	14357 Mar 28 16:46	17° ♂ 37'04	15°28'22
	14349 May 16 01:05	0° ♂		retrograde	14357 Jul 11 21:29	20° ♂ 16'54	
retrograde	14349 Jun 21 14:53	0° ♂ 22'28		opposition	14357 Sep 26 16:16	18° ♂ 53'34	16°29'36
	14349 Jul 28 23:24	30° ♂		min. Earth dist.	14357 Sep 28 00:27	18° ♂ 51'16	29.05021 AU
opposition	14349 Sep 06 20:29	29° ♂ 00'50	16°09'32	direct	14357 Dec 14 05:27	17° ♂ 28'20	
min. Earth dist.	14349 Sep 08 15:13	28° ♂ 57'53	30.07504 AU	max. Earth dist.	14358 Mar 30 03:27	20° ♂ 07'07	30.92818 AU
direct	14349 Nov 24 14:08	27° ♂ 37'32		conjunction	14358 Mar 31 13:07	20° ♂ 10'27	15°24'06
	14350 Mar 05 14:52	0° ♂		minimum elong	14358 Mar 31 13:19	20° ♂ 10'28	15°23'51
max. Earth dist.	14350 Mar 09 02:44	0° ♂ 07'58	31.92154 AU	retrograde	14358 Jul 14 17:53	22° ♂ 50'45	
conjunction	14350 Mar 11 02:13	0° ♂ 12'29	15°13'41	opposition	14358 Sep 29 11:47	21° ♂ 27'15	16°24'04
minimum elong	14350 Mar 11 02:10	0° ♂ 12'28	15°13'48	min. Earth dist.	14358 Sep 30 17:08	21° ♂ 25'10	28.96222 AU
retrograde	14350 Jun 24 08:41	2° ♂ 46'44		direct	14358 Dec 17 01:32	20° ♂ 01'51	
opposition	14350 Sep 09 11:53	1° ♂ 24'51	16°17'49	max. Earth dist.	14359 Apr 02 03:20	22° ♂ 41'24	30.84648 AU
min. Earth dist.	14350 Sep 11 06:19	1° ♂ 21'54	29.91913 AU	conjunction	14359 Apr 03 10:08	22° ♂ 44'27	15°17'51
direct	14350 Nov 27 03:53	0° ♂ 01'17		minimum elong	14359 Apr 03 10:22	22° ♂ 44'29	15°17'33
max. Earth dist.	14351 Mar 11 22:31	2° ♂ 33'06	31.76845 AU	retrograde	14359 Jul 17 12:37	25° ♂ 25'06	
conjunction	14351 Mar 13 19:44	2° ♂ 37'26	15°20'27	opposition	14359 Oct 02 07:37	24° ♂ 01'29	16°16'37
minimum elong	14351 Mar 13 19:44	2° ♂ 37'26	15°20'31	min. Earth dist.	14359 Oct 03 11:39	23° ♂ 59'29	28.88516 AU

direct	14359 Dec 19 21:50	22° Υ 35'59		morning rise	14366 Apr 28 01:53	11° \mathcal{B} 07'10	
max. Earth dist.	14360 Apr 04 02:47	25° Υ 16'08	30.77649 AU	retrograde	14366 Aug 04 12:29	13° \mathcal{B} 32'22	
				opposition	14366 Oct 20 06:39	12° \mathcal{B} 09'01	14°31'16
conjunction	14360 Apr 05 07:15	25° Υ 18'57	15°09'48	min. Earth dist.	14366 Oct 20 18:31	12° \mathcal{B} 08'10	28.66429 AU
minimum elong	14360 Apr 05 07:30	25° Υ 18'59	15°09'28	direct	14367 Jan 07 03:48	10° \mathcal{B} 43'48	
retrograde	14360 Jul 19 09:47	27° Υ 59'53		evening set	14367 Apr 17 06:51	13° \mathcal{B} 09'33	
opposition	14360 Oct 04 03:40	26° Υ 36'12	16°07'13				
min. Earth dist.	14360 Oct 05 04:19	26° Υ 34'26	28.81968 AU	conjunction	14367 Apr 24 11:32	13° \mathcal{B} 26'43	13°24'43
direct	14360 Dec 21 19:41	25° Υ 10'37		minimum elong	14367 Apr 24 11:56	13° \mathcal{B} 26'46	13°24'04
evening set	14361 Apr 07 16:30	27° Υ 52'43		max. Earth dist.	14367 Apr 24 00:03	13° \mathcal{B} 25'35	30.61015 AU
max. Earth dist.	14361 Apr 07 02:35	27° Υ 51'20	30.71843 AU	morning rise	14367 May 01 16:41	13° \mathcal{B} 43'55	
					14367 Jun 05 01:06	15° \mathcal{B}	
conjunction	14361 Apr 08 04:27	27° Υ 53'54	14°59'57	retrograde	14367 Aug 07 08:14	16° \mathcal{B} 06'57	
minimum elong	14361 Apr 08 04:44	27° Υ 53'56	14°59'33		14367 Oct 13 10:35	15° \mathcal{R} \mathcal{B}	
evening rise	14361 Apr 08 17:01	27° Υ 55'09		opposition	14367 Oct 23 02:49	14° \mathcal{B} 43'42	14°09'10
	14361 Jun 07 10:58	0° \mathcal{B}		min. Earth dist.	14367 Oct 23 12:10	14° \mathcal{B} 43'03	28.67510 AU
retrograde	14361 Jul 22 05:44	0° \mathcal{B} 35'01		direct	14368 Jan 10 00:59	13° \mathcal{B} 18'35	
	14361 Sep 06 14:23	30° \mathcal{R} Υ			14368 Mar 31 01:42	15° \mathcal{B}	
opposition	14361 Oct 07 00:04	29° Υ 11'19	15°55'52	evening set	14368 Apr 18 10:34	15° \mathcal{B} 42'16	
min. Earth dist.	14361 Oct 07 23:16	29° Υ 09'40	28.76603 AU				
direct	14361 Dec 24 15:15	27° Υ 45'44		conjunction	14368 Apr 26 08:14	16° \mathcal{B} 01'04	13°03'17
	14362 Mar 29 19:13	0° \mathcal{B}		minimum elong	14368 Apr 26 08:40	16° \mathcal{B} 01'07	13°02'37
evening set	14362 Apr 08 10:42	0° \mathcal{B} 22'56		max. Earth dist.	14368 Apr 26 00:12	16° \mathcal{B} 00'16	30.62907 AU
max. Earth dist.	14362 Apr 10 02:58	0° \mathcal{B} 26'57	30.67259 AU	morning rise	14368 May 04 06:10	16° \mathcal{B} 19'54	
				retrograde	14368 Aug 09 01:57	18° \mathcal{B} 40'47	
conjunction	14362 Apr 11 01:44	0° \mathcal{B} 29'13	14°48'18	opposition	14368 Oct 24 22:58	17° \mathcal{B} 17'39	13°45'30
minimum elong	14362 Apr 11 02:03	0° \mathcal{B} 29'15	14°47'53	min. Earth dist.	14368 Oct 25 06:47	17° \mathcal{B} 17'06	28.69600 AU
morning rise	14362 Apr 13 17:23	0° \mathcal{B} 35'34		direct	14369 Jan 11 22:04	15° \mathcal{B} 52'39	
retrograde	14362 Jul 25 03:24	3° \mathcal{B} 10'26		evening set	14369 Apr 20 14:41	18° \mathcal{B} 14'15	
opposition	14362 Oct 09 20:22	1° \mathcal{B} 46'46	15°42'36				
min. Earth dist.	14362 Oct 10 16:24	1° \mathcal{B} 45'21	28.72405 AU	conjunction	14369 Apr 29 04:14	18° \mathcal{B} 34'34	12°40'27
direct	14362 Dec 27 13:57	0° \mathcal{B} 21'13		minimum elong	14369 Apr 29 04:39	18° \mathcal{B} 34'36	12°39'44
evening set	14363 Apr 10 03:39	2° \mathcal{B} 55'43		max. Earth dist.	14369 Apr 28 21:39	18° \mathcal{B} 33'54	30.65843 AU
				morning rise	14369 May 07 18:06	18° \mathcal{B} 54'54	
conjunction	14363 Apr 13 23:00	3° \mathcal{B} 04'50	14°34'54	retrograde	14369 Aug 11 20:40	21° \mathcal{B} 13'41	
minimum elong	14363 Apr 13 23:20	3° \mathcal{B} 04'52	14°34'25	opposition	14369 Oct 27 18:39	19° \mathcal{B} 50'40	13°20'19
max. Earth dist.	14363 Apr 13 02:12	3° \mathcal{B} 02'45	30.63840 AU	min. Earth dist.	14369 Oct 27 23:15	19° \mathcal{B} 50'20	28.72740 AU
morning rise	14363 Apr 17 18:56	3° \mathcal{B} 14'00		direct	14370 Jan 14 18:50	18° \mathcal{B} 25'46	
retrograde	14363 Jul 27 23:49	5° \mathcal{B} 46'04		evening set	14370 Apr 22 19:08	20° \mathcal{B} 45'18	
opposition	14363 Oct 12 16:58	4° \mathcal{B} 22'27	15°27'27				
min. Earth dist.	14363 Oct 13 11:29	4° \mathcal{B} 21'08	28.69334 AU	conjunction	14370 May 01 23:58	21° \mathcal{B} 07'02	12°16'14
direct	14363 Dec 30 10:30	2° \mathcal{B} 56'57		minimum elong	14370 May 02 00:25	21° \mathcal{B} 07'04	12°15'30
evening set	14364 Apr 11 01:46	5° \mathcal{B} 29'08		max. Earth dist.	14370 May 01 20:46	21° \mathcal{B} 06'43	30.69843 AU
				morning rise	14370 May 11 04:53	21° \mathcal{B} 28'47	
conjunction	14364 Apr 15 20:25	5° \mathcal{B} 40'34	14°19'47	retrograde	14370 Aug 14 11:48	23° \mathcal{B} 45'28	
minimum elong	14364 Apr 15 20:48	5° \mathcal{B} 40'36	14°19'16	opposition	14370 Oct 30 14:02	22° \mathcal{B} 22'34	12°53'42
max. Earth dist.	14364 Apr 15 02:52	5° \mathcal{B} 38'49	30.61545 AU	min. Earth dist.	14370 Oct 30 17:15	22° \mathcal{B} 22'21	28.76958 AU
morning rise	14364 Apr 20 15:38	5° \mathcal{B} 52'04		direct	14371 Jan 17 15:49	20° \mathcal{B} 57'49	
retrograde	14364 Jul 29 20:23	8° \mathcal{B} 21'42		evening set	14371 Apr 24 23:59	23° \mathcal{B} 15'17	
opposition	14364 Oct 14 13:28	6° \mathcal{B} 58'11	15°10'28				
min. Earth dist.	14364 Oct 15 05:21	6° \mathcal{B} 57'03	28.67327 AU	conjunction	14371 May 04 19:04	23° \mathcal{B} 38'20	11°50'44
direct	14365 Jan 01 08:53	5° \mathcal{B} 32'46		minimum elong	14371 May 04 19:29	23° \mathcal{B} 38'22	11°49'57
evening set	14365 Apr 13 02:05	8° \mathcal{B} 02'45		max. Earth dist.	14371 May 04 17:51	23° \mathcal{B} 38'13	30.74962 AU
				morning rise	14371 May 14 14:15	24° \mathcal{B} 01'24	
conjunction	14365 Apr 18 17:38	8° \mathcal{B} 16'16	14°03'01	retrograde	14371 Aug 17 05:34	26° \mathcal{B} 16'00	
minimum elong	14365 Apr 18 18:01	8° \mathcal{B} 16'18	14°02'27	opposition	14371 Nov 02 08:56	24° \mathcal{B} 53'15	12°25'43
max. Earth dist.	14365 Apr 18 01:28	8° \mathcal{B} 14'39	30.60321 AU	min. Earth dist.	14371 Nov 02 08:37	24° \mathcal{B} 53'16	28.82300 AU
morning rise	14365 Apr 24 09:45	8° \mathcal{B} 29'50		direct	14372 Jan 20 12:57	23° \mathcal{B} 28'40	
retrograde	14365 Aug 01 18:06	10° \mathcal{B} 57'13		evening set	14372 Apr 26 04:58	25° \mathcal{B} 44'06	
opposition	14365 Oct 17 10:07	9° \mathcal{B} 33'46	14°51'44				
min. Earth dist.	14365 Oct 17 23:59	9° \mathcal{B} 32'47	28.66373 AU	conjunction	14372 May 06 13:43	26° \mathcal{B} 08'22	11°24'01
direct	14366 Jan 04 05:40	8° \mathcal{B} 08'27		minimum elong	14372 May 06 14:09	26° \mathcal{B} 08'24	11°23'12
evening set	14366 Apr 15 03:56	10° \mathcal{B} 36'18		max. Earth dist.	14372 May 06 15:40	26° \mathcal{B} 08'33	30.81217 AU
				morning rise	14372 May 16 22:23	26° \mathcal{B} 32'38	
conjunction	14366 Apr 21 14:42	10° \mathcal{B} 51'43	13°44'38	retrograde	14372 Aug 18 20:46	28° \mathcal{B} 45'13	
minimum elong	14366 Apr 21 15:07	10° \mathcal{B} 51'46	13°44'03	opposition	14372 Nov 04 03:32	27° \mathcal{B} 22'39	11°56'27
max. Earth dist.	14366 Apr 21 02:00	10° \mathcal{B} 50'27	30.60152 AU	min. Earth dist.	14372 Nov 04 01:34	27° \mathcal{B} 22'47	28.88812 AU

direct	14373 Jan 22 07:44	25° 8 58'16		minimum elong	14379 May 24 07:59	13° II 01'13	7°49'30
evening set	14373 Apr 28 10:18	28° 8 11'41		max. Earth dist.	14379 May 25 03:03	13° II 03'01	31.55823 AU
				morning rise	14379 Jun 06 17:41	13° II 31'25	
conjunction	14373 May 09 07:47	28° 8 37'05	10°56'09	retrograde	14379 Sep 05 02:35	15° II 31'12	
minimum elong	14373 May 09 08:11	28° 8 37'07	10°55'18	opposition	14379 Nov 21 23:09	14° II 10'41	8°04'40
max. Earth dist.	14373 May 09 12:28	28° 8 37'32	30.88673 AU	min. Earth dist.	14379 Nov 21 05:11	14° II 11'53	29.64638 AU
morning rise	14373 May 20 05:05	29° 8 02'29		direct	14380 Feb 09 18:49	12° II 48'31	
	14373 Jun 15 13:57	0° II		evening set	14380 May 12 02:52	14° II 49'15	
retrograde	14373 Aug 21 13:10	1° II 13'04					
	14373 Nov 01 07:36	30° R 8		conjunction	14380 May 25 21:20	15° II 20'03	7°17'24
opposition	14373 Nov 06 21:36	29° 8 50'43	11°26'00	minimum elong	14380 May 25 21:38	15° II 20'04	7°16'25
min. Earth dist.	14373 Nov 06 16:03	29° 8 51'07	28.96511 AU	max. Earth dist.	14380 May 26 17:32	15° II 21'57	31.70106 AU
direct	14374 Jan 25 05:28	28° 8 26'35		morning rise	14380 Jun 08 15:02	15° II 50'46	
	14374 Apr 13 12:36	0° II		retrograde	14380 Sep 06 15:31	17° II 48'57	
evening set	14374 Apr 30 15:33	0° II 38'03		opposition	14380 Nov 23 13:19	16° II 28'44	7°29'02
				min. Earth dist.	14380 Nov 22 16:29	16° II 30'08	29.79025 AU
conjunction	14374 May 12 01:08	1° II 04'30	10°27'14	direct	14381 Feb 11 10:29	15° II 06'55	
minimum elong	14374 May 12 01:34	1° II 04'32	10°26'22	evening set	14381 May 14 08:53	17° II 06'01	
max. Earth dist.	14374 May 12 08:26	1° II 05'12	30.97300 AU				
morning rise	14374 May 23 10:32	1° II 30'56		conjunction	14381 May 28 10:27	17° II 37'14	6°43'59
retrograde	14374 Aug 24 05:00	3° II 39'36		minimum elong	14381 May 28 10:43	17° II 37'16	6°42'59
opposition	14374 Nov 09 15:15	2° II 17'30	10°54'28	max. Earth dist.	14381 May 29 09:19	17° II 39'22	31.85130 AU
min. Earth dist.	14374 Nov 09 07:41	2° II 18'01	29.05377 AU	morning rise	14381 Jun 11 10:58	18° II 08'24	
direct	14375 Jan 28 00:08	0° II 53'39		retrograde	14381 Sep 09 00:23	20° II 05'00	
evening set	14375 May 02 21:09	3° II 03'13		min. Earth dist.	14381 Nov 25 05:20	18° II 46'33	29.94169 AU
				opposition	14381 Nov 26 03:00	18° II 45'06	6°53'05
conjunction	14375 May 14 18:07	3° II 30'36	9°57'21	direct	14382 Feb 14 01:00	17° II 23'36	
minimum elong	14375 May 14 18:31	3° II 30'39	9°56'28	evening set	14382 May 16 14:48	19° II 21'06	
max. Earth dist.	14375 May 15 04:26	3° II 31'36	31.07064 AU				
morning rise	14375 May 26 14:37	3° II 57'58		conjunction	14382 May 30 22:37	19° II 52'41	6°10'16
retrograde	14375 Aug 26 20:02	6° II 04'45		minimum elong	14382 May 30 22:53	19° II 52'43	6°09'15
opposition	14375 Nov 12 08:11	4° II 42'57	10°21'59	max. Earth dist.	14382 May 31 22:48	19° II 54'56	32.00895 AU
min. Earth dist.	14375 Nov 11 21:58	4° II 43'39	29.15329 AU	morning rise	14382 Jun 14 05:26	20° II 24'12	
direct	14376 Jan 30 19:59	3° II 19'25		retrograde	14382 Sep 11 10:14	22° II 19'17	
evening set	14376 May 04 02:58	5° II 27'08		opposition	14382 Nov 28 15:47	20° II 59'41	6°16'54
				min. Earth dist.	14382 Nov 27 15:24	21° II 01'18	30.10056 AU
conjunction	14376 May 16 10:26	5° II 55'23	9°26'38	direct	14383 Feb 16 16:39	19° II 38'31	
minimum elong	14376 May 16 10:49	5° II 55'25	9°25'44	evening set	14383 May 18 20:42	21° II 34'28	
max. Earth dist.	14376 May 16 22:25	5° II 56'32	31.17868 AU				
morning rise	14376 May 28 17:33	6° II 23'36		conjunction	14383 Jun 02 10:09	22° II 06'21	5°36'21
retrograde	14376 Aug 28 12:07	8° II 28'33		minimum elong	14383 Jun 02 10:23	22° II 06'22	5°35'20
opposition	14376 Nov 14 00:47	7° II 07'04	9°48'38	max. Earth dist.	14383 Jun 03 12:31	22° II 08'46	32.17382 AU
min. Earth dist.	14376 Nov 13 12:18	7° II 07'55	29.26312 AU	morning rise	14383 Jun 16 22:32	22° II 38'07	
direct	14377 Feb 01 13:58	5° II 43'52		retrograde	14383 Sep 13 19:16	24° II 31'45	
evening set	14377 May 06 08:40	7° II 49'46		min. Earth dist.	14383 Nov 30 02:13	23° II 14'08	30.26717 AU
				opposition	14383 Dec 01 03:55	23° II 12'27	5°40'33
conjunction	14377 May 19 02:06	8° II 18'47	8°55'11	direct	14384 Feb 19 04:40	21° II 51'36	
minimum elong	14377 May 19 02:28	8° II 18'49	8°54'16	evening set	14384 May 20 02:26	23° II 46'05	
max. Earth dist.	14377 May 19 17:21	8° II 20'14	31.29646 AU				
morning rise	14377 May 31 18:47	8° II 47'45		conjunction	14384 Jun 03 20:54	24° II 18'10	5°02'19
retrograde	14377 Aug 31 01:40	10° II 50'56		minimum elong	14384 Jun 03 21:07	24° II 18'11	5°01'17
opposition	14377 Nov 16 16:53	9° II 29'46	9°14'34	max. Earth dist.	14384 Jun 05 01:25	24° II 20'46	32.34646 AU
min. Earth dist.	14377 Nov 16 02:39	9° II 30'44	29.38226 AU	morning rise	14384 Jun 18 14:08	24° II 50'10	
direct	14378 Feb 04 09:06	8° II 06'55		retrograde	14384 Sep 15 03:58	26° II 42'23	
evening set	14378 May 08 14:44	10° II 11'03		min. Earth dist.	14384 Dec 01 11:19	25° II 25'14	30.44173 AU
				opposition	14384 Dec 02 15:25	25° II 23'23	5°04'06
conjunction	14378 May 21 17:07	10° II 40'44	8°23'06	direct	14385 Feb 20 19:21	24° II 02'54	
minimum elong	14378 May 21 17:28	10° II 40'46	8°22'09	evening set	14385 May 22 07:59	25° II 55'57	
max. Earth dist.	14378 May 22 09:29	10° II 42'18	31.42318 AU				
morning rise	14378 Jun 03 18:59	11° II 10'23		conjunction	14385 Jun 06 06:40	26° II 28'11	4°28'13
retrograde	14378 Sep 02 15:37	13° II 11'51		minimum elong	14385 Jun 06 06:51	26° II 28'12	4°27'11
opposition	14378 Nov 19 08:12	11° II 51'00	8°39'52	max. Earth dist.	14385 Jun 07 12:48	26° II 30'55	32.52694 AU
min. Earth dist.	14378 Nov 18 15:17	11° II 52'08	29.51028 AU	morning rise	14385 Jun 21 04:19	27° II 00'19	
direct	14379 Feb 07 01:55	10° II 28'29		retrograde	14385 Sep 17 13:58	28° II 51'13	
evening set	14379 May 10 20:43	12° II 30'54		min. Earth dist.	14385 Dec 03 19:59	27° II 34'31	30.62463 AU
				opposition	14385 Dec 05 02:16	27° II 32'33	4°27'40
conjunction	14379 May 24 07:40	13° II 01'11	7°50'29	direct	14386 Feb 23 07:49	26° II 12'25	

evening set	14386 May 24 13:24	28°II04'07		max. Earth dist.	14392 Jun 22 02:15	10°☾55'29	33.97617 AU
				morning rise	14392 Jul 05 20:52	11°☾23'39	
conjunction	14386 Jun 08 15:59	28°II36'28 3°54'07		retrograde	14392 Oct 01 03:34	13°☾06'56	
minimum elong	14386 Jun 08 16:09	28°II36'28 3°53'04		min. Earth dist.	14392 Dec 17 18:47	11°☾53'20	32.08653 AU
max. Earth dist.	14386 Jun 10 00:52	28°II39'25 32.71550 AU		opposition	14392 Dec 19 11:26	11°☾50'48	0°18'13
morning rise	14386 Jun 23 17:10	29°II08'41		direct	14393 Mar 10 04:35	10°☾33'25	
	14386 Jul 19 23:39	0°☾		evening set	14393 Jun 07 00:38	12°☾17'18	
retrograde	14386 Sep 19 21:14	0°☾58'19					
	14386 Nov 24 12:13	30°☾II		conjunction	14393 Jun 22 13:41	12°☾48'52	0°00'57
min. Earth dist.	14386 Dec 06 04:31	29°II42'03 30.81541 AU		minimum elong	14393 Jun 22 13:41	12°☾48'52	0°00'05
opposition	14386 Dec 07 12:16	29°II40'00 3°51'17		behind sun begin	14393 Jun 22 07:39	12°☾48'23	
direct	14387 Feb 25 21:13	28°II20'16		behind sun end	14393 Jun 22 19:44	12°☾49'21	
	14387 May 21 14:41	0°☾		max. Earth dist.	14393 Jun 24 08:06	12°☾52'29	34.20084 AU
evening set	14387 May 26 18:54	0°☾10'42		desc. node	14393 Jul 03 13:11	13°☾11'16	
				morning rise	14393 Jul 08 01:18	13°☾20'19	
conjunction	14387 Jun 11 00:28	0°☾43'04 3°20'06		retrograde	14393 Oct 03 06:07	15°☾02'43	
minimum elong	14387 Jun 11 00:36	0°☾43'04 3°19'03		min. Earth dist.	14393 Dec 19 23:31	13°☾49'30	32.31245 AU
max. Earth dist.	14387 Jun 12 10:15	0°☾46'04 32.91151 AU		opposition	14393 Dec 21 17:05	13°☾46'55	-0°15'55
morning rise	14387 Jun 26 04:56	1°☾15'20		direct	14394 Mar 12 13:08	12°☾29'54	
retrograde	14387 Sep 22 05:11	3°☾03'45		evening set	14394 Jun 09 05:07	14°☾12'50	
min. Earth dist.	14387 Dec 08 11:16	1°☾48'01 31.01365 AU					
opposition	14387 Dec 09 21:40	1°☾45'48 3°15'02		conjunction	14394 Jun 24 17:33	14°☾44'07	-0°30'58
direct	14388 Feb 28 07:41	0°☾26'28		minimum elong	14394 Jun 24 17:31	14°☾44'07	0°32'00
evening set	14388 May 28 00:03	2°☾15'41		max. Earth dist.	14394 Jun 26 12:08	14°☾47'43	34.42817 AU
				morning rise	14394 Jul 10 04:51	15°☾15'18	
conjunction	14388 Jun 12 08:19	2°☾48'02 2°46'13		retrograde	14394 Oct 05 10:26	16°☾56'51	
minimum elong	14388 Jun 12 08:26	2°☾48'03 2°45'10		min. Earth dist.	14394 Dec 22 02:53	15°☾44'01	32.54137 AU
max. Earth dist.	14388 Jun 13 20:57	2°☾51'17 33.11428 AU		opposition	14394 Dec 23 21:53	15°☾41'22	-0°49'33
morning rise	14388 Jun 27 15:08	3°☾20'17		direct	14395 Mar 14 19:10	14°☾24'40	
retrograde	14388 Sep 23 10:20	5°☾07'34		evening set	14395 Jun 11 09:12	16°☾06'44	
min. Earth dist.	14388 Dec 09 19:26	3°☾52'16 31.21837 AU					
opposition	14388 Dec 11 06:34	3°☾50'00 2°39'01		conjunction	14395 Jun 26 20:53	16°☾37'42	-1°02'25
direct	14389 Mar 01 19:50	2°☾31'05		minimum elong	14395 Jun 26 20:51	16°☾37'42	1°03'27
evening set	14389 May 30 05:18	4°☾19'08		max. Earth dist.	14395 Jun 28 17:25	16°☾41'27	34.65832 AU
				morning rise	14395 Jul 12 07:08	17°☾08'34	
conjunction	14389 Jun 14 15:26	4°☾51'25 2°12'33		retrograde	14395 Oct 07 11:44	18°☾49'19	
minimum elong	14389 Jun 14 15:31	4°☾51'25 2°11'30		min. Earth dist.	14395 Dec 24 07:04	17°☾36'47	32.77325 AU
max. Earth dist.	14389 Jun 16 04:33	4°☾54'41 33.32298 AU		opposition	14395 Dec 26 02:17	17°☾34'07	-1°22'40
morning rise	14389 Jun 30 00:22	5°☾23'36		direct	14396 Mar 16 02:43	16°☾17'46	
retrograde	14389 Sep 25 17:14	7°☾09'48		evening set	14396 Jun 12 13:03	17°☾58'59	
min. Earth dist.	14389 Dec 12 01:01	5°☾55'01 31.42886 AU					
opposition	14389 Dec 13 14:38	5°☾52'37 2°03'16		conjunction	14396 Jun 27 23:14	18°☾29'36	-1°33'23
direct	14390 Mar 04 05:54	4°☾34'05		minimum elong	14396 Jun 27 23:10	18°☾29'36	1°34'25
evening set	14390 Jun 01 10:16	6°☾21'02		max. Earth dist.	14396 Jun 29 19:55	18°☾33'20	34.89149 AU
				morning rise	14396 Jul 13 08:18	19°☾00'08	
conjunction	14390 Jun 16 21:57	6°☾53'12 1°39'09		retrograde	14396 Oct 08 13:20	20°☾40'07	
minimum elong	14390 Jun 16 22:01	6°☾53'12 1°38'05		min. Earth dist.	14396 Dec 25 08:24	19°☾28'01	33.00866 AU
max. Earth dist.	14390 Jun 18 13:15	6°☾56'38 33.53669 AU		opposition	14396 Dec 27 05:57	19°☾25'14	-1°55'13
morning rise	14390 Jul 02 08:16	7°☾25'16		direct	14397 Mar 18 08:04	18°☾09'12	
retrograde	14390 Sep 27 20:03	9°☾10'27		evening set	14397 Jun 14 16:36	19°☾49'38	
min. Earth dist.	14390 Dec 14 08:19	7°☾56'02 31.64421 AU					
opposition	14390 Dec 15 22:16	7°☾53'38 1°27'51		conjunction	14397 Jun 30 01:07	20°☾19'53	-2°03'50
direct	14391 Mar 06 14:24	6°☾35'30		minimum elong	14397 Jun 30 01:03	20°☾19'53	2°04'52
evening set	14391 Jun 03 15:17	8°☾21'22		max. Earth dist.	14397 Jul 02 00:03	20°☾23'47	35.12820 AU
				morning rise	14397 Jul 15 08:22	20°☾50'03	
conjunction	14391 Jun 19 03:53	8°☾53'23 1°06'03		retrograde	14397 Oct 10 11:44	22°☾29'21	
minimum elong	14391 Jun 19 03:55	8°☾53'23 1°05'00		min. Earth dist.	14397 Dec 27 11:14	21°☾17'33	33.24798 AU
max. Earth dist.	14391 Jun 20 19:47	8°☾56'50 33.75470 AU		opposition	14397 Dec 29 09:04	21°☾14'46	-2°27'10
morning rise	14391 Jul 04 15:08	9°☾25'17		direct	14398 Mar 20 13:37	19°☾59'06	
retrograde	14391 Sep 29 23:28	11°☾09'29		evening set	14398 Jun 16 19:56	21°☾38'47	
min. Earth dist.	14391 Dec 16 13:14	9°☾55'32 31.86356 AU					
opposition	14391 Dec 18 05:02	9°☾53'02 0°52'49		conjunction	14398 Jul 02 02:18	22°☾08'39	-2°33'45
direct	14392 Mar 07 23:06	8°☾35'17		minimum elong	14398 Jul 02 02:13	22°☾08'39	2°34'46
evening set	14392 Jun 04 20:10	10°☾20'08		max. Earth dist.	14398 Jul 04 01:38	22°☾12'33	35.36879 AU
				morning rise	14398 Jul 17 07:31	22°☾38'26	
conjunction	14392 Jun 20 09:08	10°☾51'56 0°33'19		retrograde	14398 Oct 12 11:02	24°☾17'04	
minimum elong	14392 Jun 20 09:09	10°☾51'57 0°32'16		min. Earth dist.	14398 Dec 29 11:34	23°☾05'44	33.49112 AU

opposition	14398 Dec 31 11:26	23°☾02'50 -2°58'31	conjunction	14405 Jul 13 19:38	4°♊13'42 -5°46'39
direct	14399 Mar 22 17:42	21°☾47'32	minimum elong	14405 Jul 13 19:30	4°♊13'42 5°47'35
evening set	14399 Jun 18 23:06	23°☾26'32	max. Earth dist.	14405 Jul 16 00:05	4°♊17'49 37.12001 AU
			morning rise	14405 Jul 28 00:59	4°♊40'14
conjunction	14399 Jul 04 02:56	23°☾56'00 -3°03'06	retrograde	14405 Oct 23 22:43	6°♊15'32
minimum elong	14399 Jul 04 02:50	23°☾55'59 3°04'06	min. Earth dist.	14406 Jan 10 08:38	5°♊06'44 35.25592 AU
max. Earth dist.	14399 Jul 06 03:44	23°☾59'59 35.61289 AU	opposition	14406 Jan 12 13:27	5°♊03'40 -6°19'37
morning rise	14399 Jul 19 05:42	24°☾25'22	direct	14406 Apr 04 03:41	3°♊50'57
retrograde	14399 Oct 14 10:27	26°☾03'26	evening set	14406 Jul 01 15:08	5°♊26'17
min. Earth dist.	14399 Dec 31 12:45	24°☾52'27 33.73790 AU			
opposition	14400 Jan 02 13:20	24°☾49'32 -3°29'14	conjunction	14406 Jul 15 16:43	5°♊52'20 -6°11'45
direct	14400 Mar 23 19:09	23°☾34'37	minimum elong	14406 Jul 15 16:34	5°♊52'20 6°12'40
evening set	14400 Jun 20 01:58	25°☾13'00	max. Earth dist.	14406 Jul 17 21:35	5°♊56'27 37.37221 AU
			morning rise	14406 Jul 29 17:36	6°♊18'21
conjunction	14400 Jul 05 03:03	25°☾42'01 -3°31'53	retrograde	14406 Oct 25 17:52	7°♊53'17
minimum elong	14400 Jul 05 02:57	25°☾42'00 3°32'52	min. Earth dist.	14407 Jan 12 07:03	6°♊44'43 35.50956 AU
max. Earth dist.	14400 Jul 07 05:03	25°☾46'04 35.86029 AU	opposition	14407 Jan 14 11:47	6°♊41'40 -6°45'40
morning rise	14400 Jul 20 02:56	26°☾10'58	direct	14407 Apr 06 02:29	5°♊29'16
retrograde	14400 Oct 15 09:32	27°☾48'29	evening set	14407 Jul 03 16:28	7°♊04'09
min. Earth dist.	14401 Jan 01 13:00	26°☾37'55 33.98758 AU			
opposition	14401 Jan 03 14:40	26°☾34'56 -3°59'18	conjunction	14407 Jul 17 13:19	7°♊29'40 -6°36'14
direct	14401 Mar 25 21:47	25°☾20'25	minimum elong	14407 Jul 17 13:10	7°♊29'39 6°37'08
evening set	14401 Jun 22 04:37	26°☾58'13	max. Earth dist.	14407 Jul 19 18:43	7°♊33'48 37.62393 AU
			morning rise	14407 Jul 31 09:17	7°♊55'08
conjunction	14401 Jul 07 02:24	27°☾26'47 -4°00'03	retrograde	14407 Oct 27 12:53	9°♊29'43
minimum elong	14401 Jul 07 02:17	27°☾26'46 4°01'02	min. Earth dist.	14408 Jan 14 04:29	8°♊21'25 35.76270 AU
max. Earth dist.	14401 Jul 09 04:46	27°☾30'50 36.11008 AU	opposition	14408 Jan 16 09:28	8°♊18'22 -7°11'02
morning rise	14401 Jul 21 23:19	27°☾55'16	direct	14408 Apr 07 01:13	7°♊06'14
retrograde	14401 Oct 17 10:58	29°☾32'18	evening set	14408 Jul 04 17:37	8°♊40'43
min. Earth dist.	14402 Jan 03 12:30	28°☾22'08 34.23963 AU			
opposition	14402 Jan 05 15:28	28°☾19'07 -4°28'43	conjunction	14408 Jul 18 09:15	9°♊05'41 -7°00'06
direct	14402 Mar 27 21:08	27°☾04'59	minimum elong	14408 Jul 18 09:05	9°♊05'40 7°00'58
evening set	14402 Jun 24 07:03	28°☾42'14	max. Earth dist.	14408 Jul 20 14:28	9°♊09'46 37.87535 AU
			morning rise	14408 Aug 01 00:22	9°♊30'35
conjunction	14402 Jul 09 01:31	29°☾10'19 -4°27'37	retrograde	14408 Oct 28 09:39	11°♊04'50
minimum elong	14402 Jul 09 01:23	29°☾10'19 4°28'35	min. Earth dist.	14409 Jan 15 00:33	9°♊56'50 36.01612 AU
max. Earth dist.	14402 Jul 11 05:26	29°☾14'28 36.36169 AU	opposition	14409 Jan 17 06:43	9°♊53'44 -7°35'43
morning rise	14402 Jul 23 18:50	29°☾38'21	direct	14409 Apr 08 21:09	8°♊41'53
	14402 Aug 04 16:17	0°♊	evening set	14409 Jul 06 18:10	10°♊15'59
retrograde	14402 Oct 19 08:28	1°♊14'55			
min. Earth dist.	14403 Jan 05 12:56	0°♊05'04 34.49308 AU	conjunction	14409 Jul 20 04:42	10°♊40'22 -7°23'19
opposition	14403 Jan 07 15:38	0°♊02'04 -4°57'27	minimum elong	14409 Jul 20 04:32	10°♊40'22 7°24'11
	14403 Jan 09 02:43	30°♋☾	max. Earth dist.	14409 Jul 22 11:29	10°♊44'33 38.12720 AU
direct	14403 Mar 29 22:43	28°☾48'19	morning rise	14409 Aug 02 14:27	11°♊04'44
	14403 Jun 12 11:04	0°♊	retrograde	14409 Oct 30 03:55	12°♊38'40
evening set	14403 Jun 26 09:30	0°♊25'04	min. Earth dist.	14410 Jan 16 21:40	11°♊30'53 36.27011 AU
			opposition	14410 Jan 19 03:30	11°♊27'49 -7°59'42
conjunction	14403 Jul 11 00:02	0°♊52'40 -4°54'35	direct	14410 Apr 10 19:59	10°♊16'16
minimum elong	14403 Jul 10 23:54	0°♊52'39 4°55'32	evening set	14410 Jul 08 18:47	11°♊50'01
max. Earth dist.	14403 Jul 13 03:25	0°♊56'45 36.61428 AU			
morning rise	14403 Jul 25 13:45	1°♊20'12	conjunction	14410 Jul 21 23:41	12°♊13'50 -7°45'54
retrograde	14403 Oct 21 07:05	2°♊56'20	minimum elong	14410 Jul 21 23:31	12°♊13'50 7°46'44
min. Earth dist.	14404 Jan 07 11:08	1°♊46'54 34.74736 AU	max. Earth dist.	14410 Jul 24 05:56	12°♊17'57 38.37984 AU
opposition	14404 Jan 09 15:23	1°♊43'49 -5°25'31	morning rise	14410 Aug 04 04:06	12°♊37'38
direct	14404 Mar 31 00:35	0°♊30'26	retrograde	14410 Oct 31 22:57	14°♊11'17
evening set	14404 Jun 27 11:30	2°♊06'42	min. Earth dist.	14411 Jan 18 16:07	13°♊03'51 36.52505 AU
			opposition	14411 Jan 20 23:34	13°♊00'42 -8°23'00
conjunction	14404 Jul 11 22:03	2°♊33'48 -5°20'55	direct	14411 Apr 12 17:27	11°♊49'27
minimum elong	14404 Jul 11 21:54	2°♊33'47 5°21'52	evening set	14411 Jul 10 19:00	13°♊22'54
max. Earth dist.	14404 Jul 14 02:55	2°♊37'58 36.86719 AU			
morning rise	14404 Jul 26 07:39	3°♊00'50	conjunction	14411 Jul 23 18:19	13°♊46'09 -8°07'51
retrograde	14404 Oct 22 03:16	4°♊36'33	minimum elong	14411 Jul 23 18:09	13°♊46'09 8°08'41
min. Earth dist.	14405 Jan 08 11:04	3°♊27'23 35.00181 AU	max. Earth dist.	14411 Jul 26 02:02	13°♊50'20 38.63334 AU
opposition	14405 Jan 10 14:49	3°♊24'22 -5°52'54	morning rise	14411 Aug 05 17:03	14°♊09'22
direct	14405 Apr 02 02:42	2°♊11'20		14411 Sep 06 01:36	15°♊
evening set	14405 Jun 29 13:28	3°♊47'07	retrograde	14411 Nov 02 16:13	15°♊42'47
				14412 Jan 01 23:03	15°♋♊

min. Earth dist.	14412 Jan 20 12:21	14°♊35'37	36.78086 AU	conjunction	14418 Aug 02 17:37	24°♊05'59	-10°24'05
opposition	14412 Jan 22 19:31	14°♊32'30	-8°45'37	minimum elong	14418 Aug 02 17:28	24°♊05'58	10°24'47
direct	14412 Apr 13 14:43	13°♊21'34		max. Earth dist.	14418 Aug 05 01:43	24°♊10'01	40.39388 AU
evening set	14412 Jul 11 18:55	14°♊54'44		morning rise	14418 Aug 13 20:14	24°♊25'06	
	14412 Jul 14 18:33	15°♊		retrograde	14418 Nov 12 11:20	25°♊57'37	
				min. Earth dist.	14419 Jan 30 19:41	24°♊52'21	38.54986 AU
conjunction	14412 Jul 24 12:21	15°♊17'24	-8°29'09	opposition	14419 Feb 02 03:20	24°♊49'19	-11°05'24
minimum elong	14412 Jul 24 12:11	15°♊17'24	8°29'57	direct	14419 Apr 25 03:21	23°♊40'34	
max. Earth dist.	14412 Jul 26 20:09	15°♊21'35	38.88758 AU	evening set	14419 Jul 24 13:27	25°♊12'29	
morning rise	14412 Aug 06 05:13	15°♊40'03					
retrograde	14412 Nov 03 07:55	17°♊13'16		conjunction	14419 Aug 04 09:21	25°♊31'01	-10°41'13
min. Earth dist.	14413 Jan 21 06:37	16°♊06'26	37.03705 AU	minimum elong	14419 Aug 04 09:12	25°♊31'01	10°41'54
opposition	14413 Jan 23 14:54	16°♊03'16	-9°07'32	max. Earth dist.	14419 Aug 06 17:14	25°♊35'02	40.63691 AU
	14413 Mar 22 15:30	15°♋♊		morning rise	14419 Aug 15 04:56	25°♊49'33	
direct	14413 Apr 15 12:14	14°♊52'40		retrograde	14419 Nov 14 00:36	27°♊21'59	
	14413 May 08 21:22	15°♊		min. Earth dist.	14420 Feb 01 12:24	26°♊16'56	38.79336 AU
evening set	14413 Jul 13 18:43	16°♊25'35		opposition	14420 Feb 03 20:06	26°♊13'54	-11°22'53
				direct	14420 Apr 25 22:32	25°♊05'25	
conjunction	14413 Jul 26 06:03	16°♊47'41	-8°49'49	evening set	14420 Jul 25 11:42	26°♊37'12	
minimum elong	14413 Jul 26 05:54	16°♊47'41	8°50'38				
max. Earth dist.	14413 Jul 28 14:12	16°♊51'52	39.14187 AU	conjunction	14420 Aug 05 00:25	26°♊55'08	-10°57'46
morning rise	14413 Aug 07 17:05	17°♊09'45		minimum elong	14420 Aug 05 00:18	26°♊55'07	10°58'26
retrograde	14413 Nov 05 01:38	18°♊42'49		max. Earth dist.	14420 Aug 07 07:41	26°♊59'04	40.87729 AU
min. Earth dist.	14414 Jan 23 01:25	17°♊36'16	37.29325 AU	morning rise	14420 Aug 15 13:06	27°♊13'03	
opposition	14414 Jan 25 09:52	17°♊33'07	-9°28'47	retrograde	14420 Nov 14 17:32	28°♊45'25	
direct	14414 Apr 17 06:47	16°♊22'50		min. Earth dist.	14421 Feb 02 04:35	27°♊40'35	39.03472 AU
evening set	14414 Jul 15 18:15	17°♊55'32		opposition	14421 Feb 04 12:33	27°♊37'34	-11°39'47
				direct	14421 Apr 27 13:21	26°♊29'19	
conjunction	14414 Jul 27 23:32	18°♊17'03	-9°09'52	evening set	14421 Jul 27 09:44	28°♊00'58	
minimum elong	14414 Jul 27 23:22	18°♊17'03	9°10'38				
max. Earth dist.	14414 Jul 30 08:23	18°♊21'15	39.39581 AU	conjunction	14421 Aug 06 15:22	28°♊18'18	-11°13'46
morning rise	14414 Aug 09 04:14	18°♊38'33		minimum elong	14421 Aug 06 15:14	28°♊18'17	11°14'25
retrograde	14414 Nov 06 18:39	20°♊11'28		max. Earth dist.	14421 Aug 08 23:33	28°♊22'17	41.11581 AU
min. Earth dist.	14415 Jan 24 20:21	19°♊05'11	37.54853 AU	morning rise	14421 Aug 16 20:43	28°♊35'37	
opposition	14415 Jan 27 04:29	19°♊02'04	-9°49'22		14421 Oct 22 08:52	0°♐	
direct	14415 Apr 19 01:30	17°♊52'07		retrograde	14421 Nov 16 08:00	0°♐07'55	
evening set	14415 Jul 17 17:42	19°♊24'38			14421 Dec 11 15:43	30°♋♊	
				min. Earth dist.	14422 Feb 03 21:17	29°♊03'15	39.27437 AU
conjunction	14415 Jul 29 16:26	19°♊45'33	-9°29'18	opposition	14422 Feb 06 04:28	29°♊00'17	-11°56'05
minimum elong	14415 Jul 29 16:17	19°♊45'33	9°30'04	direct	14422 Apr 29 05:36	27°♊52'17	
max. Earth dist.	14415 Aug 01 00:31	19°♊49'40	39.64850 AU	evening set	14422 Jul 29 07:41	29°♊23'51	
morning rise	14415 Aug 10 14:58	20°♊06'28					
retrograde	14415 Nov 08 13:17	21°♊39'15		conjunction	14422 Aug 08 05:50	29°♊40'33	-11°29'12
min. Earth dist.	14416 Jan 26 13:42	20°♊33'18	37.80244 AU	minimum elong	14422 Aug 08 05:43	29°♊40'33	11°29'50
opposition	14416 Jan 28 22:44	20°♊30'09	-10°09'19	max. Earth dist.	14422 Aug 10 13:05	29°♊44'27	41.35296 AU
direct	14416 Apr 19 18:29	19°♊20'32		morning rise	14422 Aug 18 03:55	29°♊57'17	
evening set	14416 Jul 18 16:53	20°♊52'53			14422 Aug 19 19:10	0°♐	
				retrograde	14422 Nov 17 23:19	1°♐29'32	
conjunction	14416 Jul 30 09:14	21°♊13'13	-9°48'09	min. Earth dist.	14423 Feb 05 11:42	0°♐25'08	39.51284 AU
minimum elong	14416 Jul 30 09:05	21°♊13'12	9°48'53	opposition	14423 Feb 07 20:03	0°♐22'07	-12°11'46
max. Earth dist.	14416 Aug 01 18:19	21°♊17'22	39.89945 AU		14423 Feb 25 07:30	30°♋♊	
morning rise	14416 Aug 11 01:10	21°♊33'32		direct	14423 Apr 30 20:28	29°♊14'22	
retrograde	14416 Nov 09 05:14	23°♊06'13			14423 Jul 01 13:09	0°♐	
min. Earth dist.	14417 Jan 27 08:49	22°♊00'28	38.05428 AU	evening set	14423 Jul 31 05:11	0°♐45'52	
opposition	14417 Jan 29 16:44	21°♊57'24	-10°28'37				
direct	14417 Apr 21 13:50	20°♊48'05		conjunction	14423 Aug 09 19:58	1°♐01'59	-11°44'04
evening set	14417 Jul 20 15:55	22°♊20'17		minimum elong	14423 Aug 09 19:50	1°♐01'58	11°44'40
				max. Earth dist.	14423 Aug 12 04:15	1°♐05'55	41.58898 AU
conjunction	14417 Aug 01 01:31	22°♊40'02	-10°06'24	morning rise	14423 Aug 19 10:37	1°♐18'05	
minimum elong	14417 Aug 01 01:22	22°♊40'01	10°07'08	retrograde	14423 Nov 19 12:09	2°♐50'20	
max. Earth dist.	14417 Aug 03 09:26	22°♊44'05	40.14811 AU	min. Earth dist.	14424 Feb 07 03:51	1°♐46'07	39.75021 AU
morning rise	14417 Aug 12 10:52	22°♊59'45		opposition	14424 Feb 09 11:27	1°♐43'08	-12°26'52
retrograde	14417 Nov 10 21:00	24°♊32'21		direct	14424 May 01 13:17	0°♐35'39	
min. Earth dist.	14418 Jan 29 01:35	23°♊26'54	38.30350 AU	evening set	14424 Aug 01 02:41	2°♐07'06	
opposition	14418 Jan 31 10:12	23°♊23'47	-10°47'19				
direct	14418 Apr 23 08:45	22°♊14'46		conjunction	14424 Aug 10 09:49	2°♐22'37	-11°58'23
evening set	14418 Jul 22 14:47	23°♊46'50		minimum elong	14424 Aug 10 09:43	2°♐22'36	11°58'58

max. Earth dist.	14424 Aug 12 17:41	2° \mathring{M} 26'30	41.82401 AU	conjunction	14431 Aug 20 03:22	11° \mathring{M} 27'36	-13°24'09
morning rise	14424 Aug 19 16:50	2° \mathring{M} 38'06		minimum elong	14431 Aug 20 03:19	11° \mathring{M} 27'36	13°24'35
retrograde	14424 Nov 19 23:44	4° \mathring{M} 10'22		max. Earth dist.	14431 Aug 22 08:57	11° \mathring{M} 31'13	43.40042 AU
min. Earth dist.	14425 Feb 07 18:05	3° \mathring{M} 06'25	39.98630 AU	morning rise	14431 Aug 27 01:47	11° \mathring{M} 38'47	
opposition	14425 Feb 10 02:21	3° \mathring{M} 03'25	-12°41'23	retrograde	14431 Nov 29 14:06	13° \mathring{M} 11'30	
direct	14425 May 03 06:02	1° \mathring{M} 56'11		min. Earth dist.	14432 Feb 17 22:13	12° \mathring{M} 08'48	41.56307 AU
evening set	14425 Aug 02 23:49	3° \mathring{M} 27'37		opposition	14432 Feb 20 03:12	12° \mathring{M} 06'03	-14°08'01
				direct	14432 May 12 11:23	11° \mathring{M} 00'29	
conjunction	14425 Aug 11 23:16	3° \mathring{M} 42'30	-12°12'09	evening set	14432 Aug 14 01:24	12° \mathring{M} 32'06	
minimum elong	14425 Aug 11 23:10	3° \mathring{M} 42'30	12°12'42				
max. Earth dist.	14425 Aug 14 07:01	3° \mathring{M} 46'22	42.05754 AU	conjunction	14432 Aug 20 15:02	12° \mathring{M} 42'38	-13°34'31
morning rise	14425 Aug 20 22:45	3° \mathring{M} 57'23		minimum elong	14432 Aug 20 14:59	12° \mathring{M} 42'37	13°34'57
retrograde	14425 Nov 21 12:54	5° \mathring{M} 29'41		max. Earth dist.	14432 Aug 22 19:22	12° \mathring{M} 46'08	43.61110 AU
min. Earth dist.	14426 Feb 09 09:02	4° \mathring{M} 25'57	40.22079 AU	morning rise	14432 Aug 27 04:46	12° \mathring{M} 53'10	
opposition	14426 Feb 11 17:03	4° \mathring{M} 22'58	-12°55'20	retrograde	14432 Nov 30 02:59	14° \mathring{M} 26'00	
direct	14426 May 04 21:29	3° \mathring{M} 16'01		min. Earth dist.	14433 Feb 18 10:55	13° \mathring{M} 23'27	41.77367 AU
evening set	14426 Aug 04 20:55	4° \mathring{M} 47'26		opposition	14433 Feb 20 15:54	13° \mathring{M} 20'43	-14°18'26
				direct	14433 May 13 23:34	12° \mathring{M} 15'20	
conjunction	14426 Aug 13 12:37	5° \mathring{M} 01'42	-12°25'23	evening set	14433 Aug 15 21:44	13° \mathring{M} 47'01	
minimum elong	14426 Aug 13 12:32	5° \mathring{M} 01'42	12°25'55				
max. Earth dist.	14426 Aug 15 20:54	5° \mathring{M} 05'35	42.28923 AU	conjunction	14433 Aug 22 02:29	13° \mathring{M} 56'54	-13°44'26
morning rise	14426 Aug 22 04:11	5° \mathring{M} 15'59		minimum elong	14433 Aug 22 02:27	13° \mathring{M} 56'54	13°44'49
retrograde	14426 Nov 23 01:24	6° \mathring{M} 48'20		max. Earth dist.	14433 Aug 24 07:37	14° \mathring{M} 00'27	43.81869 AU
min. Earth dist.	14427 Feb 10 23:54	5° \mathring{M} 44'47	40.45295 AU	morning rise	14433 Aug 28 07:14	14° \mathring{M} 06'48	
opposition	14427 Feb 13 07:18	5° \mathring{M} 41'51	-13°08'43	retrograde	14433 Dec 01 14:52	15° \mathring{M} 39'46	
direct	14427 May 06 13:10	4° \mathring{M} 35'09		min. Earth dist.	14434 Feb 20 00:28	14° \mathring{M} 37'18	41.98132 AU
evening set	14427 Aug 06 17:57	6° \mathring{M} 06'34		opposition	14434 Feb 22 04:19	14° \mathring{M} 34'38	-14°28'22
				direct	14434 May 15 11:42	13° \mathring{M} 29'26	
conjunction	14427 Aug 15 01:35	6° \mathring{M} 20'14	-12°38'06	evening set	14434 Aug 17 18:09	15° \mathring{M} 01'14	
minimum elong	14427 Aug 15 01:29	6° \mathring{M} 20'14	12°38'36				
max. Earth dist.	14427 Aug 17 08:35	6° \mathring{M} 24'01	42.51842 AU	conjunction	14434 Aug 23 13:34	15° \mathring{M} 10'28	-13°53'52
morning rise	14427 Aug 23 09:17	6° \mathring{M} 33'54		minimum elong	14434 Aug 23 13:31	15° \mathring{M} 10'28	13°54'15
retrograde	14427 Nov 24 17:14	8° \mathring{M} 06'18		max. Earth dist.	14434 Aug 25 17:30	15° \mathring{M} 13'55	44.02377 AU
min. Earth dist.	14428 Feb 12 13:32	7° \mathring{M} 03'00	40.68247 AU	morning rise	14434 Aug 29 09:03	15° \mathring{M} 19'42	
opposition	14428 Feb 14 21:26	7° \mathring{M} 00'04	-13°21'35	retrograde	14434 Dec 03 03:06	16° \mathring{M} 52'49	
direct	14428 May 07 00:41	5° \mathring{M} 53'37		min. Earth dist.	14435 Feb 21 11:35	15° \mathring{M} 50'34	42.18671 AU
evening set	14428 Aug 07 14:40	7° \mathring{M} 25'04		opposition	14435 Feb 23 16:17	15° \mathring{M} 47'52	-14°37'49
				direct	14435 May 16 21:58	14° \mathring{M} 42'52	
conjunction	14428 Aug 15 14:21	7° \mathring{M} 38'06	-12°50'19	evening set	14435 Aug 19 14:29	16° \mathring{M} 14'49	
minimum elong	14428 Aug 15 14:16	7° \mathring{M} 38'06	12°50'49				
max. Earth dist.	14428 Aug 17 21:59	7° \mathring{M} 41'54	42.74462 AU	conjunction	14435 Aug 25 00:28	16° \mathring{M} 23'24	-14°02'52
morning rise	14428 Aug 23 13:59	7° \mathring{M} 51'10		minimum elong	14435 Aug 25 00:27	16° \mathring{M} 23'23	14°03'12
retrograde	14428 Nov 25 06:07	9° \mathring{M} 23'38		max. Earth dist.	14435 Aug 27 04:49	16° \mathring{M} 26'51	44.22679 AU
min. Earth dist.	14429 Feb 13 05:05	8° \mathring{M} 20'27	40.90863 AU	morning rise	14435 Aug 30 10:33	16° \mathring{M} 31'57	
opposition	14429 Feb 15 11:24	8° \mathring{M} 17'37	-13°33'55	retrograde	14435 Dec 04 12:07	18° \mathring{M} 05'17	
direct	14429 May 08 14:40	7° \mathring{M} 11'25		min. Earth dist.	14436 Feb 23 00:34	17° \mathring{M} 03'09	42.39019 AU
evening set	14429 Aug 09 11:35	8° \mathring{M} 42'53		opposition	14436 Feb 25 04:17	17° \mathring{M} 00'30	-14°46'47
				direct	14436 May 17 11:11	15° \mathring{M} 55'44	
conjunction	14429 Aug 17 02:56	8° \mathring{M} 55'18	-13°02'03	evening set	14436 Aug 20 10:54	17° \mathring{M} 27'51	
minimum elong	14429 Aug 17 02:52	8° \mathring{M} 55'18	13°02'31				
max. Earth dist.	14429 Aug 19 09:15	8° \mathring{M} 59'00	42.96730 AU	conjunction	14436 Aug 25 11:03	17° \mathring{M} 35'44	-14°11'23
morning rise	14429 Aug 24 18:18	9° \mathring{M} 07'44		minimum elong	14436 Aug 25 11:01	17° \mathring{M} 35'44	14°11'43
retrograde	14429 Nov 26 17:22	10° \mathring{M} 40'17		max. Earth dist.	14436 Aug 27 15:19	17° \mathring{M} 39'11	44.42805 AU
min. Earth dist.	14430 Feb 14 18:07	9° \mathring{M} 37'19	41.13092 AU	morning rise	14436 Aug 30 11:13	17° \mathring{M} 43'38	
opposition	14430 Feb 17 00:47	9° \mathring{M} 34'28	-13°45'46	retrograde	14436 Dec 04 19:51	19° \mathring{M} 17'11	
direct	14430 May 10 05:04	8° \mathring{M} 28'30		min. Earth dist.	14437 Feb 23 11:51	18° \mathring{M} 15'15	42.59159 AU
evening set	14430 Aug 11 08:17	10° \mathring{M} 00'01		opposition	14437 Feb 25 15:51	18° \mathring{M} 12'36	-14°55'17
				direct	14437 May 19 01:34	17° \mathring{M} 08'02	
conjunction	14430 Aug 18 15:19	10° \mathring{M} 11'49	-13°13'20	evening set	14437 Aug 22 07:31	18° \mathring{M} 40'24	
minimum elong	14430 Aug 18 15:15	10° \mathring{M} 11'49	13°13'48				
max. Earth dist.	14430 Aug 20 21:15	10° \mathring{M} 15'28	43.18588 AU	conjunction	14437 Aug 26 21:26	18° \mathring{M} 47'35	-14°19'28
morning rise	14430 Aug 25 22:24	10° \mathring{M} 23'37		minimum elong	14437 Aug 26 21:26	18° \mathring{M} 47'35	14°19'46
retrograde	14430 Nov 28 04:20	11° \mathring{M} 56'16		max. Earth dist.	14437 Aug 29 00:56	18° \mathring{M} 50'57	44.62715 AU
min. Earth dist.	14431 Feb 16 08:43	10° \mathring{M} 53'25	41.34909 AU	morning rise	14437 Aug 31 11:30	18° \mathring{M} 54'47	
opposition	14431 Feb 18 14:12	10° \mathring{M} 50'38	-13°57'08	retrograde	14437 Dec 06 07:32	20° \mathring{M} 28'36	
direct	14431 May 11 19:47	9° \mathring{M} 44'52		min. Earth dist.	14438 Feb 24 23:17	19° \mathring{M} 26'51	42.79084 AU
evening set	14431 Aug 13 04:55	11° \mathring{M} 16'26		opposition	14438 Feb 27 03:06	19° \mathring{M} 24'13	-15°03'18

direct	14438 May 20 12:53	18° <u>19</u> '53	opposition	14445 Mar 07 05:01	27° <u>19</u> '33'01 -15°47'52
evening set	14438 Aug 24 04:32	19° <u>19</u> '52'31	direct	14445 May 28 15:26	26° <u>19</u> '30'00
conjunction	14438 Aug 28 07:47	19° <u>19</u> '58'58 -14°27'06	conjunction	14445 Sep 05 02:23	28° <u>19</u> '05'59 -15°09'37
minimum elong	14438 Aug 28 07:46	19° <u>19</u> '58'58 14°27'24	minimum elong	14445 Sep 05 02:27	28° <u>19</u> '06'00 15°09'46
max. Earth dist.	14438 Aug 30 11:48	20° <u>19</u> '02'22 44.82391 AU	max. Earth dist.	14445 Sep 07 01:36	28° <u>19</u> '08'59 46.09626 AU
morning rise	14438 Sep 01 11:04	20° <u>19</u> '05'26	retrograde	14445 Dec 15 14:00	29° <u>19</u> '43'45
retrograde	14438 Dec 07 17:58	21° <u>19</u> '39'34	min. Earth dist.	14446 Mar 06 16:53	28° <u>19</u> '42'59 44.25232 AU
min. Earth dist.	14439 Feb 26 11:33	20° <u>19</u> '37'59 42.98731 AU	opposition	14446 Mar 08 14:39	28° <u>19</u> '40'42 -15°52'43
opposition	14439 Feb 28 14:17	20° <u>19</u> '35'24 -15°10'53	direct	14446 May 30 00:41	27° <u>19</u> '37'50
direct	14439 May 22 00:46	19° <u>19</u> '31'18			
evening set	14439 Aug 26 01:57	21° <u>19</u> '04'15	conjunction	14446 Sep 06 11:08	29° <u>19</u> '13'24 -15°14'12
			minimum elong	14446 Sep 06 11:12	29° <u>19</u> '13'24 15°14'19
conjunction	14439 Aug 29 17:40	21° <u>19</u> '09'56 -14°34'19	max. Earth dist.	14446 Sep 08 09:31	29° <u>19</u> '16'19 46.26229 AU
minimum elong	14439 Aug 29 17:41	21° <u>19</u> '09'56 14°34'36		14446 Oct 08 13:29	0° <u>19</u> '
max. Earth dist.	14439 Aug 31 20:19	21° <u>19</u> '13'13 45.01779 AU	retrograde	14446 Dec 16 21:03	0° <u>19</u> '50'45
morning rise	14439 Sep 02 09:31	21° <u>19</u> '15'38		14447 Feb 27 16:49	30° <u>19</u> '
retrograde	14439 Dec 09 06:27	22° <u>19</u> '50'07	min. Earth dist.	14447 Mar 08 01:48	29° <u>19</u> '50'07 44.41763 AU
min. Earth dist.	14440 Feb 27 22:03	21° <u>19</u> '48'45 43.18067 AU	opposition	14447 Mar 10 00:05	29° <u>19</u> '47'50 -15°57'10
opposition	14440 Mar 01 01:14	21° <u>19</u> '46'10 -15°18'02	direct	14447 May 31 09:49	28° <u>19</u> '45'06
direct	14440 May 22 08:42	20° <u>19</u> '42'17		14447 Aug 25 06:35	0° <u>19</u> '
evening set	14440 Aug 27 00:17	22° <u>19</u> '15'37			
			conjunction	14447 Sep 07 19:29	0° <u>19</u> '20'16 -15°18'26
conjunction	14440 Aug 30 03:37	22° <u>19</u> '20'29 -14°41'08	minimum elong	14447 Sep 07 19:33	0° <u>19</u> '20'16 15°18'33
minimum elong	14440 Aug 30 03:37	22° <u>19</u> '20'29 14°41'23	max. Earth dist.	14447 Sep 09 17:25	0° <u>19</u> '23'09 46.42555 AU
max. Earth dist.	14440 Sep 01 06:29	22° <u>19</u> '23'46 45.20824 AU	retrograde	14447 Dec 18 04:23	1° <u>19</u> '57'15
morning rise	14440 Sep 02 07:00	22° <u>19</u> '25'21	min. Earth dist.	14448 Mar 08 11:58	0° <u>19</u> '56'42 44.58045 AU
retrograde	14440 Dec 09 17:13	24° <u>19</u> '00'16	opposition	14448 Mar 10 09:31	0° <u>19</u> '54'27 -16°01'13
min. Earth dist.	14441 Feb 28 10:29	22° <u>19</u> '59'00 43.37034 AU		14448 May 04 23:26	30° <u>19</u> '
opposition	14441 Mar 02 12:02	22° <u>19</u> '56'30 -15°24'46	direct	14448 May 31 19:32	29° <u>19</u> '51'53
direct	14441 May 23 17:56	21° <u>19</u> '52'50		14448 Jun 27 08:25	0° <u>19</u> '
evening set	14441 Aug 29 00:17	23° <u>19</u> '26'41			
			conjunction	14448 Sep 08 03:55	1° <u>19</u> '26'39 -15°22'17
conjunction	14441 Aug 31 13:21	23° <u>19</u> '30'36 -14°47'34	minimum elong	14448 Sep 08 04:00	1° <u>19</u> '26'39 15°22'21
minimum elong	14441 Aug 31 13:23	23° <u>19</u> '30'37 14°47'48	max. Earth dist.	14448 Sep 10 02:11	1° <u>19</u> '29'32 46.58649 AU
morning rise	14441 Sep 03 02:31	23° <u>19</u> '34'32	retrograde	14448 Dec 18 10:49	3° <u>19</u> '03'17
max. Earth dist.	14441 Sep 02 15:13	23° <u>19</u> '33'49 45.39483 AU	min. Earth dist.	14449 Mar 09 21:29	2° <u>19</u> '02'51 44.74067 AU
retrograde	14441 Dec 11 00:40	25° <u>19</u> '10'00	opposition	14449 Mar 11 18:33	2° <u>19</u> '00'37 -16°04'53
min. Earth dist.	14442 Mar 01 21:03	24° <u>19</u> '08'53 43.55564 AU	direct	14449 Jun 02 07:06	0° <u>19</u> '58'13
opposition	14442 Mar 03 22:30	24° <u>19</u> '06'25 -15°31'06			
direct	14442 May 25 05:28	23° <u>19</u> '02'56	conjunction	14449 Sep 09 12:00	2° <u>19</u> '32'36 -15°25'45
evening set	14442 Aug 31 03:19	24° <u>19</u> '37'28	minimum elong	14449 Sep 09 12:04	2° <u>19</u> '32'36 15°25'50
			max. Earth dist.	14449 Sep 11 08:50	2° <u>19</u> '35'24 46.74487 AU
conjunction	14442 Sep 01 22:54	24° <u>19</u> '40'16 -14°53'37	retrograde	14449 Dec 19 20:57	4° <u>19</u> '08'54
minimum elong	14442 Sep 01 22:55	24° <u>19</u> '40'16 14°53'48	min. Earth dist.	14450 Mar 11 06:15	3° <u>19</u> '08'37 44.89825 AU
morning rise	14442 Sep 03 18:34	24° <u>19</u> '43'04	opposition	14450 Mar 13 03:28	3° <u>19</u> '06'24 -16°08'11
max. Earth dist.	14442 Sep 03 23:29	24° <u>19</u> '43'23 45.57680 AU	direct	14450 Jun 03 15:32	2° <u>19</u> '04'10
retrograde	14442 Dec 12 08:56	26° <u>19</u> '19'16			
min. Earth dist.	14443 Mar 03 08:30	25° <u>19</u> '18'15 43.73632 AU	conjunction	14450 Sep 10 20:03	3° <u>19</u> '38'12 -15°28'53
opposition	14443 Mar 05 08:54	25° <u>19</u> '15'50 -15°37'04	minimum elong	14450 Sep 10 20:10	3° <u>19</u> '38'12 15°28'55
direct	14443 May 26 18:05	24° <u>19</u> '12'32	max. Earth dist.	14450 Sep 12 17:26	3° <u>19</u> '41'01 46.90037 AU
evening set	14443 Sep 02 20:03	25° <u>19</u> '48'38	retrograde	14450 Dec 21 06:44	5° <u>19</u> '14'11
			min. Earth dist.	14451 Mar 12 16:33	4° <u>19</u> '13'59 45.05267 AU
conjunction	14443 Sep 03 08:24	25° <u>19</u> '49'25 -14°59'18	opposition	14451 Mar 14 12:17	4° <u>19</u> '11'51 -16°11'07
minimum elong	14443 Sep 03 08:27	25° <u>19</u> '49'25 14°59'30	direct	14451 Jun 04 23:11	3° <u>19</u> '09'47
evening rise	14443 Sep 03 20:53	25° <u>19</u> '50'13			
max. Earth dist.	14443 Sep 05 09:03	25° <u>19</u> '52'32 45.75420 AU	conjunction	14451 Sep 12 03:58	4° <u>19</u> '43'29 -15°31'39
retrograde	14443 Dec 13 17:22	27° <u>19</u> '28'00	minimum elong	14451 Sep 12 04:02	4° <u>19</u> '43'30 15°31'41
min. Earth dist.	14444 Mar 03 19:51	26° <u>19</u> '27'04 43.91225 AU	max. Earth dist.	14451 Sep 14 00:09	4° <u>19</u> '46'13 47.05273 AU
opposition	14444 Mar 05 19:06	26° <u>19</u> '24'43 -15°42'39	retrograde	14451 Dec 22 15:09	6° <u>19</u> '19'10
direct	14444 May 27 06:57	25° <u>19</u> '21'34	min. Earth dist.	14452 Mar 13 00:50	5° <u>19</u> '19'08 45.20361 AU
			opposition	14452 Mar 14 20:54	5° <u>19</u> '17'00 -16°13'42
conjunction	14444 Sep 03 17:24	26° <u>19</u> '58'00 -15°04'38	direct	14452 Jun 05 05:41	4° <u>19</u> '15'07
minimum elong	14444 Sep 03 17:26	26° <u>19</u> '58'00 15°04'48			
max. Earth dist.	14444 Sep 05 16:19	27° <u>19</u> '00'59 45.92717 AU	conjunction	14452 Sep 12 11:40	5° <u>19</u> '48'30 -15°34'06
retrograde	14444 Dec 14 04:59	28° <u>19</u> '36'11	minimum elong	14452 Sep 12 11:47	5° <u>19</u> '48'30 15°34'06
min. Earth dist.	14445 Mar 05 05:34	27° <u>19</u> '35'22 44.08407 AU	max. Earth dist.	14452 Sep 14 07:08	5° <u>19</u> '51'11 47.20122 AU

retrograde	14452 Dec 22 21:58	7° <u>♁</u> 23'53		direct	14461 Jun 15 09:57	13° <u>♁</u> 48'11	
min. Earth dist.	14453 Mar 14 11:02	6° <u>♁</u> 23'56	45.35047 AU				
opposition	14453 Mar 16 05:31	6° <u>♁</u> 21'52	-16°15'57	conjunction	14461 Sep 22 04:10	15° <u>♁</u> 18'51	-15°42'47
direct	14453 Jun 06 15:06	5° <u>♁</u> 20'10		minimum elong	14461 Sep 22 04:20	15° <u>♁</u> 18'51	15°42'36
				max. Earth dist.	14461 Sep 23 16:40	15° <u>♁</u> 21'02	48.33663 AU
conjunction	14453 Sep 13 19:32	6° <u>♁</u> 53'14	-15°36'14	retrograde	14462 Jan 01 16:27	16° <u>♁</u> 51'44	
minimum elong	14453 Sep 13 19:38	6° <u>♁</u> 53'15	15°36'13	min. Earth dist.	14462 Mar 24 14:37	15° <u>♁</u> 52'28	46.46922 AU
max. Earth dist.	14453 Sep 15 14:42	6° <u>♁</u> 55'54	47.34540 AU	opposition	14462 Mar 26 03:03	15° <u>♁</u> 50'44	-16°22'36
retrograde	14453 Dec 24 03:17	8° <u>♁</u> 28'20		direct	14462 Jun 16 14:12	14° <u>♁</u> 50'09	
min. Earth dist.	14454 Mar 15 20:07	7° <u>♁</u> 28'30	45.49249 AU				
opposition	14454 Mar 17 13:44	7° <u>♁</u> 26'29	-16°17'54	conjunction	14462 Sep 23 10:40	16° <u>♁</u> 20'33	-15°42'15
direct	14454 Jun 08 02:15	6° <u>♁</u> 24'56		minimum elong	14462 Sep 23 10:48	16° <u>♁</u> 20'34	15°42'04
				max. Earth dist.	14462 Sep 24 22:43	16° <u>♁</u> 22'43	48.44533 AU
conjunction	14454 Sep 15 03:10	7° <u>♁</u> 57'42	-15°38'05	retrograde	14463 Jan 02 22:24	17° <u>♁</u> 53'13	
minimum elong	14454 Sep 15 03:17	7° <u>♁</u> 57'43	15°38'03	min. Earth dist.	14463 Mar 25 23:23	16° <u>♁</u> 53'59	46.57626 AU
max. Earth dist.	14454 Sep 16 20:18	8° <u>♁</u> 00'14	47.48457 AU	opposition	14463 Mar 27 10:15	16° <u>♁</u> 52'20	-16°21'48
retrograde	14454 Dec 25 12:57	9° <u>♁</u> 32'31		direct	14463 Jun 17 19:59	15° <u>♁</u> 51'52	
min. Earth dist.	14455 Mar 17 04:57	8° <u>♁</u> 32'47	45.62943 AU				
opposition	14455 Mar 18 22:02	8° <u>♁</u> 30'48	-16°19'33	conjunction	14463 Sep 24 17:00	17° <u>♁</u> 22'02	-15°41'25
direct	14455 Jun 09 10:10	7° <u>♁</u> 29'24		minimum elong	14463 Sep 24 17:11	17° <u>♁</u> 22'02	15°41'13
				max. Earth dist.	14463 Sep 26 04:59	17° <u>♁</u> 24'11	48.55080 AU
conjunction	14455 Sep 16 10:40	9° <u>♁</u> 01'51	-15°39'38	retrograde	14464 Jan 04 01:18	18° <u>♁</u> 54'28	
minimum elong	14455 Sep 16 10:47	9° <u>♁</u> 01'51	15°39'35	min. Earth dist.	14464 Mar 26 06:34	17° <u>♁</u> 55'20	46.67964 AU
max. Earth dist.	14455 Sep 18 03:42	9° <u>♁</u> 04'21	47.61852 AU	opposition	14464 Mar 27 17:12	17° <u>♁</u> 53'41	-16°20'42
retrograde	14455 Dec 26 21:28	10° <u>♁</u> 36'23		direct	14464 Jun 18 04:20	16° <u>♁</u> 53'21	
min. Earth dist.	14456 Mar 17 15:01	9° <u>♁</u> 36'40	45.76104 AU				
opposition	14456 Mar 19 06:14	9° <u>♁</u> 34'47	-16°20'54	conjunction	14464 Sep 24 23:17	18° <u>♁</u> 23'17	-15°40'19
direct	14456 Jun 09 18:44	8° <u>♁</u> 33'30		minimum elong	14464 Sep 24 23:26	18° <u>♁</u> 23'18	15°40'06
				max. Earth dist.	14464 Sep 26 09:31	18° <u>♁</u> 25'20	48.65238 AU
conjunction	14456 Sep 16 18:00	10° <u>♁</u> 05'38	-15°40'55	retrograde	14465 Jan 04 07:49	19° <u>♁</u> 55'30	
minimum elong	14456 Sep 16 18:08	10° <u>♁</u> 05'38	15°40'51	opposition	14465 Mar 28 24:00	18° <u>♁</u> 54'50	-16°19'20
max. Earth dist.	14456 Sep 18 09:32	10° <u>♁</u> 08'02	47.74753 AU	min. Earth dist.	14465 Mar 27 14:10	18° <u>♁</u> 56'27	46.77900 AU
retrograde	14456 Dec 27 05:10	11° <u>♁</u> 39'52		direct	14465 Jun 19 11:54	17° <u>♁</u> 54'37	
min. Earth dist.	14457 Mar 18 22:45	10° <u>♁</u> 40'15	45.88788 AU				
opposition	14457 Mar 20 13:59	10° <u>♁</u> 38'22	-16°21'58	conjunction	14465 Sep 26 05:41	19° <u>♁</u> 24'19	-15°38'57
direct	14457 Jun 11 00:09	9° <u>♁</u> 37'12		minimum elong	14465 Sep 26 05:53	19° <u>♁</u> 24'20	15°38'43
				max. Earth dist.	14465 Sep 27 15:56	19° <u>♁</u> 26'22	48.74957 AU
conjunction	14457 Sep 18 01:09	11° <u>♁</u> 09'01	-15°41'54	retrograde	14466 Jan 05 14:18	20° <u>♁</u> 56'21	
minimum elong	14457 Sep 18 01:17	11° <u>♁</u> 09'01	15°41'48	min. Earth dist.	14466 Mar 28 22:43	19° <u>♁</u> 57'18	46.87349 AU
max. Earth dist.	14457 Sep 19 15:56	11° <u>♁</u> 11'22	47.87196 AU	opposition	14466 Mar 30 06:48	19° <u>♁</u> 55'47	-16°17'42
retrograde	14457 Dec 28 11:28	12° <u>♁</u> 42'57		direct	14466 Jun 20 20:32	18° <u>♁</u> 55'40	
min. Earth dist.	14458 Mar 20 08:02	11° <u>♁</u> 43'21	46.01057 AU				
opposition	14458 Mar 21 21:47	11° <u>♁</u> 41'32	-16°22'43	conjunction	14466 Sep 27 11:52	20° <u>♁</u> 25'08	-15°37'21
direct	14458 Jun 12 06:40	10° <u>♁</u> 40'29		minimum elong	14466 Sep 27 12:02	20° <u>♁</u> 25'08	15°37'05
				max. Earth dist.	14466 Sep 28 20:16	20° <u>♁</u> 27'03	48.84178 AU
conjunction	14458 Sep 19 08:08	12° <u>♁</u> 12'00	-15°42'35	retrograde	14467 Jan 06 22:28	21° <u>♁</u> 56'56	
minimum elong	14458 Sep 19 08:16	12° <u>♁</u> 12'00	15°42'28	min. Earth dist.	14467 Mar 30 05:27	20° <u>♁</u> 57'58	46.96278 AU
max. Earth dist.	14458 Sep 20 22:49	12° <u>♁</u> 14'21	47.99269 AU	opposition	14467 Mar 31 13:26	20° <u>♁</u> 56'27	-16°15'49
retrograde	14458 Dec 29 15:25	13° <u>♁</u> 45'39		direct	14467 Jun 22 01:42	19° <u>♁</u> 56'26	
min. Earth dist.	14459 Mar 21 15:47	12° <u>♁</u> 46'08	46.12965 AU				
opposition	14459 Mar 23 05:16	12° <u>♁</u> 44'20	-16°23'10	conjunction	14467 Sep 28 18:03	21° <u>♁</u> 25'40	-15°35'30
direct	14459 Jun 13 16:53	11° <u>♁</u> 43'23		minimum elong	14467 Sep 28 18:15	21° <u>♁</u> 25'41	15°35'13
				max. Earth dist.	14467 Sep 30 01:33	21° <u>♁</u> 27'32	48.92865 AU
conjunction	14459 Sep 20 14:53	13° <u>♁</u> 14'36	-15°42'57	retrograde	14468 Jan 08 05:54	22° <u>♁</u> 57'15	
minimum elong	14459 Sep 20 15:01	13° <u>♁</u> 14'36	15°42'49	opposition	14468 Mar 31 20:09	21° <u>♁</u> 56'50	-16°13'42
max. Earth dist.	14459 Sep 22 04:07	13° <u>♁</u> 16'51	48.11018 AU	min. Earth dist.	14468 Mar 30 14:08	21° <u>♁</u> 58'15	47.04679 AU
retrograde	14459 Dec 30 22:33	14° <u>♁</u> 47'59		direct	14468 Jun 22 06:16	20° <u>♁</u> 56'54	
min. Earth dist.	14460 Mar 21 23:30	13° <u>♁</u> 48'34	46.24582 AU				
opposition	14460 Mar 23 12:45	13° <u>♁</u> 46'46	-16°23'18	conjunction	14468 Sep 29 00:06	22° <u>♁</u> 25'54	-15°33'24
direct	14460 Jun 14 01:46	12° <u>♁</u> 45'57		minimum elong	14468 Sep 29 00:17	22° <u>♁</u> 25'55	15°33'06
				max. Earth dist.	14468 Sep 30 06:57	22° <u>♁</u> 27'43	49.01051 AU
conjunction	14460 Sep 20 21:35	14° <u>♁</u> 16'52	-15°43'02	retrograde	14469 Jan 08 09:19	23° <u>♁</u> 57'15	
minimum elong	14460 Sep 20 21:43	14° <u>♁</u> 16'53	15°42'53	min. Earth dist.	14469 Mar 31 20:52	22° <u>♁</u> 58'18	47.12577 AU
max. Earth dist.	14460 Sep 22 11:24	14° <u>♁</u> 19'09	48.22482 AU	opposition	14469 Apr 02 02:32	22° <u>♁</u> 56'54	-16°11'20
retrograde	14460 Dec 31 06:57	15° <u>♁</u> 50'01		direct	14469 Jun 23 13:27	21° <u>♁</u> 57'01	
min. Earth dist.	14461 Mar 23 08:07	14° <u>♁</u> 50'37	46.35900 AU				
opposition	14461 Mar 24 20:06	14° <u>♁</u> 48'54	-16°23'06	conjunction	14469 Sep 30 05:57	23° <u>♁</u> 25'47	-15°31'05

minimum elong	14469 Sep 30 06:09	23° <u>♂</u> 25'48	15°30'46	conjunction	14477 Oct 08 01:53	1° <u>♂</u> 17'24	-15°03'01
max. Earth dist.	14469 Oct 01 11:04	23° <u>♂</u> 27'30	49.08764 AU	minimum elong	14477 Oct 08 02:05	1° <u>♂</u> 17'25	15°02'34
retrograde	14470 Jan 09 14:21	24° <u>♂</u> 56'56		max. Earth dist.	14477 Oct 09 02:00	1° <u>♂</u> 18'48	49.58677 AU
min. Earth dist.	14470 Apr 02 04:04	23° <u>♂</u> 57'58	47.20054 AU	retrograde	14478 Jan 17 15:38	2° <u>♂</u> 47'24	
opposition	14470 Apr 03 08:44	23° <u>♂</u> 56'37	-16°08'42	min. Earth dist.	14478 Apr 10 09:25	1° <u>♂</u> 48'47	47.68131 AU
direct	14470 Jun 24 21:08	22° <u>♂</u> 56'48		opposition	14478 Apr 11 07:50	1° <u>♂</u> 47'44	-15°38'03
				direct	14478 Jul 02 17:32	0° <u>♂</u> 48'37	
conjunction	14470 Oct 01 11:48	24° <u>♂</u> 25'21	-15°28'29	evening set	14478 Oct 08 06:18	2° <u>♂</u> 14'32	
minimum elong	14470 Oct 01 12:00	24° <u>♂</u> 25'21	15°28'09				
max. Earth dist.	14470 Oct 02 17:17	24° <u>♂</u> 27'05	49.16089 AU	conjunction	14478 Oct 09 07:21	2° <u>♂</u> 15'59	-14°58'25
retrograde	14471 Jan 10 19:50	25° <u>♂</u> 56'18		minimum elong	14478 Oct 09 07:34	2° <u>♂</u> 16'00	14°57'57
min. Earth dist.	14471 Apr 03 11:25	24° <u>♂</u> 57'21	47.27163 AU	morning rise	14478 Oct 10 08:53	2° <u>♂</u> 17'28	
opposition	14471 Apr 04 14:59	24° <u>♂</u> 56'03	-16°05'49	max. Earth dist.	14478 Oct 10 06:43	2° <u>♂</u> 17'20	49.63218 AU
direct	14471 Jun 26 05:49	23° <u>♂</u> 56'17		retrograde	14479 Jan 18 19:40	3° <u>♂</u> 45'52	
				opposition	14479 Apr 12 13:29	2° <u>♂</u> 46'16	-15°33'06
conjunction	14471 Oct 02 17:17	25° <u>♂</u> 24'38	-15°25'38	min. Earth dist.	14479 Apr 11 15:24	2° <u>♂</u> 47'18	47.72326 AU
minimum elong	14471 Oct 02 17:29	25° <u>♂</u> 24'39	15°25'18	direct	14479 Jul 03 21:19	1° <u>♂</u> 47'13	
max. Earth dist.	14471 Oct 03 21:25	25° <u>♂</u> 26'17	49.23092 AU	evening set	14479 Oct 08 14:27	3° <u>♂</u> 11'46	
retrograde	14472 Jan 12 04:12	26° <u>♂</u> 55'24					
opposition	14472 Apr 04 21:03	25° <u>♂</u> 55'13	-16°02'39	conjunction	14479 Oct 10 12:32	3° <u>♂</u> 14'27	-14°53'36
min. Earth dist.	14472 Apr 03 17:06	25° <u>♂</u> 56'32	47.33970 AU	minimum elong	14479 Oct 10 12:45	3° <u>♂</u> 14'28	14°53'07
direct	14472 Jun 26 10:02	24° <u>♂</u> 55'32		max. Earth dist.	14479 Oct 11 09:53	3° <u>♂</u> 15'41	49.67220 AU
				morning rise	14479 Oct 12 11:07	3° <u>♂</u> 17'09	
conjunction	14472 Oct 02 22:54	26° <u>♂</u> 23'42	-15°22'31	retrograde	14480 Jan 20 00:03	4° <u>♂</u> 44'13	
minimum elong	14472 Oct 02 23:06	26° <u>♂</u> 23'43	15°22'09	opposition	14480 Apr 12 19:12	3° <u>♂</u> 44'39	-15°27'57
max. Earth dist.	14472 Oct 04 02:42	26° <u>♂</u> 25'20	49.29796 AU	min. Earth dist.	14480 Apr 11 22:32	3° <u>♂</u> 45'37	47.75989 AU
retrograde	14473 Jan 12 10:24	27° <u>♂</u> 54'18		direct	14480 Jul 04 04:12	2° <u>♂</u> 45'39	
min. Earth dist.	14473 Apr 05 00:38	26° <u>♂</u> 55'26	47.40490 AU	evening set	14480 Oct 08 05:19	4° <u>♂</u> 09'14	
opposition	14473 Apr 06 03:00	26° <u>♂</u> 54'12	-15°59'12				
direct	14473 Jun 27 14:11	25° <u>♂</u> 54'36		conjunction	14480 Oct 10 17:56	4° <u>♂</u> 12'44	-14°48'34
				minimum elong	14480 Oct 10 18:10	4° <u>♂</u> 12'45	14°48'05
conjunction	14473 Oct 04 04:27	27° <u>♂</u> 22'36	-15°19'08	max. Earth dist.	14480 Oct 11 15:11	4° <u>♂</u> 13'58	49.70693 AU
minimum elong	14473 Oct 04 04:39	27° <u>♂</u> 22'37	15°18'46	morning rise	14480 Oct 13 07:05	4° <u>♂</u> 16'17	
max. Earth dist.	14473 Oct 05 08:05	27° <u>♂</u> 24'13	49.36233 AU	retrograde	14481 Jan 20 02:58	5° <u>♂</u> 42'23	
retrograde	14474 Jan 13 13:06	28° <u>♂</u> 53'03		min. Earth dist.	14481 Apr 13 05:22	4° <u>♂</u> 43'44	47.79126 AU
min. Earth dist.	14474 Apr 06 06:19	27° <u>♂</u> 54'16	47.46717 AU	opposition	14481 Apr 14 00:36	4° <u>♂</u> 42'51	-15°22'35
opposition	14474 Apr 07 08:48	27° <u>♂</u> 53'01	-15°55'29	direct	14481 Jul 05 13:40	3° <u>♂</u> 43'52	
direct	14474 Jun 28 20:15	26° <u>♂</u> 53'31		evening set	14481 Oct 08 22:22	5° <u>♂</u> 06'36	
conjunction	14474 Oct 05 09:43	28° <u>♂</u> 21'23	-15°15'29	conjunction	14481 Oct 11 23:05	5° <u>♂</u> 10'49	-14°43'20
minimum elong	14474 Oct 05 09:56	28° <u>♂</u> 21'24	15°15'04	minimum elong	14481 Oct 11 23:18	5° <u>♂</u> 10'50	14°42'49
max. Earth dist.	14474 Oct 06 11:52	28° <u>♂</u> 22'55	49.42369 AU	max. Earth dist.	14481 Oct 12 18:30	5° <u>♂</u> 11'56	49.73685 AU
retrograde	14475 Jan 14 18:03	29° <u>♂</u> 51'43		morning rise	14481 Oct 15 00:20	5° <u>♂</u> 15'03	
opposition	14475 Apr 08 14:41	28° <u>♂</u> 51'46	-15°51'30	retrograde	14482 Jan 21 10:40	6° <u>♂</u> 40'19	
min. Earth dist.	14475 Apr 07 12:54	28° <u>♂</u> 52'59	47.52645 AU	min. Earth dist.	14482 Apr 14 10:48	5° <u>♂</u> 41'42	47.81815 AU
direct	14475 Jun 30 02:39	27° <u>♂</u> 52'22		opposition	14482 Apr 15 05:58	5° <u>♂</u> 40'48	-15°17'00
				direct	14482 Jul 06 18:51	4° <u>♂</u> 41'50	
conjunction	14475 Oct 06 15:11	29° <u>♂</u> 20'06	-15°11'34	evening set	14482 Oct 09 16:38	6° <u>♂</u> 03'51	
minimum elong	14475 Oct 06 15:23	29° <u>♂</u> 20'07	15°11'10				
max. Earth dist.	14475 Oct 07 17:40	29° <u>♂</u> 21'39	49.48192 AU	conjunction	14482 Oct 13 04:05	6° <u>♂</u> 08'39	-14°37'52
	14475 Nov 05 03:20	0° <u>♂</u>		minimum elong	14482 Oct 13 04:18	6° <u>♂</u> 08'40	14°37'21
retrograde	14476 Jan 15 23:25	0° <u>♂</u> 50'19		max. Earth dist.	14482 Oct 13 23:00	6° <u>♂</u> 09'45	49.76246 AU
	14476 Mar 31 07:48	30° <u>♂</u>		morning rise	14482 Oct 16 16:06	6° <u>♂</u> 13'30	
opposition	14476 Apr 08 20:29	29° <u>♂</u> 50'28	-15°47'16	retrograde	14483 Jan 22 17:46	7° <u>♂</u> 38'02	
min. Earth dist.	14476 Apr 07 19:57	29° <u>♂</u> 51'37	47.58225 AU	opposition	14483 Apr 16 11:25	6° <u>♂</u> 38'32	-15°11'11
direct	14476 Jun 30 10:17	28° <u>♂</u> 51'10		min. Earth dist.	14483 Apr 15 18:04	6° <u>♂</u> 39'20	47.84112 AU
	14476 Sep 23 07:43	0° <u>♂</u>		direct	14483 Jul 07 23:06	5° <u>♂</u> 39'36	
				evening set	14483 Oct 10 11:54	7° <u>♂</u> 00'54	
conjunction	14476 Oct 06 20:28	0° <u>♂</u> 18'46	-15°07'25				
minimum elong	14476 Oct 06 20:42	0° <u>♂</u> 18'47	15°06'59	conjunction	14483 Oct 14 09:08	7° <u>♂</u> 06'17	-14°32'10
max. Earth dist.	14476 Oct 07 21:27	0° <u>♂</u> 20'13	49.53655 AU	minimum elong	14483 Oct 14 09:22	7° <u>♂</u> 06'17	14°31'37
retrograde	14477 Jan 16 07:38	1° <u>♂</u> 48'53		max. Earth dist.	14483 Oct 15 03:48	7° <u>♂</u> 07'21	49.78463 AU
min. Earth dist.	14477 Apr 09 01:41	0° <u>♂</u> 50'16	47.63412 AU	morning rise	14483 Oct 18 06:58	7° <u>♂</u> 11'41	
opposition	14477 Apr 10 02:10	0° <u>♂</u> 49'08	-15°42'46	retrograde	14484 Jan 23 21:00	8° <u>♂</u> 35'32	
	14477 May 31 14:58	30° <u>♂</u>		opposition	14484 Apr 16 16:37	7° <u>♂</u> 36'03	-15°05'07
direct	14477 Jul 01 14:46	29° <u>♂</u> 49'56		min. Earth dist.	14484 Apr 15 23:02	7° <u>♂</u> 36'52	47.86073 AU
	14477 Aug 01 00:36	0° <u>♂</u>		direct	14484 Jul 08 03:15	6° <u>♂</u> 37'08	

evening set	14484 Oct 10 07:36	7° \mathbb{M} .57'49		retrograde	14491 Jan 30 06:47	15° \mathbb{M} .15'59	
					14491 Mar 11 12:31	15° \mathbb{R} \mathbb{M} .	
conjunction	14484 Oct 14 14:01	8° \mathbb{M} .03'43	-14°26'14	opposition	14491 Apr 24 04:40	14° \mathbb{M} .16'45	-14°15'57
minimum elong	14484 Oct 14 14:14	8° \mathbb{M} .03'44	14°25'41	min. Earth dist.	14491 Apr 23 17:39	14° \mathbb{M} .17'16	47.90078 AU
max. Earth dist.	14484 Oct 15 07:04	8° \mathbb{M} .04'42	49.80356 AU	direct	14491 Jul 15 15:40	13° \mathbb{M} .18'08	
morning rise	14484 Oct 18 21:04	8° \mathbb{M} .09'39		evening set	14491 Oct 15 12:01	14° \mathbb{M} .35'23	
retrograde	14485 Jan 24 00:41	9° \mathbb{M} .32'53					
opposition	14485 Apr 17 21:54	8° \mathbb{M} .33'25	-14°58'47	conjunction	14491 Oct 22 00:40	14° \mathbb{M} .44'21	-13°38'16
min. Earth dist.	14485 Apr 17 05:17	8° \mathbb{M} .34'11	47.87728 AU	minimum elong	14491 Oct 22 00:54	14° \mathbb{M} .44'22	13°37'37
direct	14485 Jul 09 07:51	7° \mathbb{M} .34'31		max. Earth dist.	14491 Oct 22 11:30	14° \mathbb{M} .44'59	49.83637 AU
evening set	14485 Oct 11 03:53	8° \mathbb{M} .54'37		morning rise	14491 Oct 28 14:12	14° \mathbb{M} .53'23	
					14491 Nov 02 10:50	15° \mathbb{M} .	
conjunction	14485 Oct 15 19:02	9° \mathbb{M} .01'01	-14°20'04	retrograde	14492 Jan 31 14:02	16° \mathbb{M} .13'14	
minimum elong	14485 Oct 15 19:16	9° \mathbb{M} .01'02	14°19'29	opposition	14492 Apr 24 09:44	15° \mathbb{M} .14'02	-14°08'04
max. Earth dist.	14485 Oct 16 12:28	9° \mathbb{M} .02'01	49.81944 AU	min. Earth dist.	14492 Apr 23 23:14	15° \mathbb{M} .14'31	47.88788 AU
morning rise	14485 Oct 20 10:49	9° \mathbb{M} .07'27			14492 May 07 03:36	15° \mathbb{R} \mathbb{M} .	
retrograde	14486 Jan 25 03:58	10° \mathbb{M} .30'06		direct	14492 Jul 15 20:35	14° \mathbb{M} .15'25	
min. Earth dist.	14486 Apr 18 11:19	9° \mathbb{M} .31'23	47.89062 AU		14492 Sep 20 15:52	15° \mathbb{M} .	
opposition	14486 Apr 19 03:00	9° \mathbb{M} .30'40	-14°52'14	evening set	14492 Oct 15 10:05	15° \mathbb{M} .32'15	
direct	14486 Jul 10 15:20	8° \mathbb{M} .31'48					
evening set	14486 Oct 12 00:31	9° \mathbb{M} .51'22		conjunction	14492 Oct 22 05:41	15° \mathbb{M} .41'36	-13°30'35
				minimum elong	14492 Oct 22 05:54	15° \mathbb{M} .41'37	13°29'55
conjunction	14486 Oct 16 23:54	9° \mathbb{M} .58'13	-14°13'39	max. Earth dist.	14492 Oct 22 15:30	15° \mathbb{M} .42'10	49.82178 AU
minimum elong	14486 Oct 17 00:07	9° \mathbb{M} .58'14	14°13'04	morning rise	14492 Oct 29 02:07	15° \mathbb{M} .51'01	
max. Earth dist.	14486 Oct 17 15:54	9° \mathbb{M} .59'08	49.83231 AU	retrograde	14493 Jan 31 22:02	17° \mathbb{M} .10'28	
morning rise	14486 Oct 21 23:57	10° \mathbb{M} .05'07		opposition	14493 Apr 25 14:53	16° \mathbb{M} .11'15	-13°59'59
retrograde	14487 Jan 26 10:37	11° \mathbb{M} .27'15		min. Earth dist.	14493 Apr 25 06:32	16° \mathbb{M} .11'38	47.86957 AU
opposition	14487 Apr 20 08:10	10° \mathbb{M} .27'51	-14°45'25	direct	14493 Jul 17 00:26	15° \mathbb{M} .12'38	
min. Earth dist.	14487 Apr 19 16:23	10° \mathbb{M} .28'35	47.90090 AU	evening set	14493 Oct 16 08:28	16° \mathbb{M} .29'03	
direct	14487 Jul 11 20:21	9° \mathbb{M} .29'03					
evening set	14487 Oct 12 21:18	10° \mathbb{M} .48'05		conjunction	14493 Oct 23 10:39	16° \mathbb{M} .38'47	-13°22'43
				minimum elong	14493 Oct 23 10:53	16° \mathbb{M} .38'48	13°22'03
conjunction	14487 Oct 18 04:42	10° \mathbb{M} .55'24	-14°07'00	max. Earth dist.	14493 Oct 23 19:49	16° \mathbb{M} .39'19	49.80218 AU
minimum elong	14487 Oct 18 04:57	10° \mathbb{M} .55'24	14°06'24	morning rise	14493 Oct 30 13:40	16° \mathbb{M} .48'34	
max. Earth dist.	14487 Oct 18 20:12	10° \mathbb{M} .56'17	49.84180 AU	retrograde	14494 Feb 02 01:31	18° \mathbb{M} .07'36	
morning rise	14487 Oct 23 12:52	11° \mathbb{M} .02'45		opposition	14494 Apr 26 19:44	17° \mathbb{M} .08'23	-13°51'43
retrograde	14488 Jan 27 17:59	12° \mathbb{M} .24'23		min. Earth dist.	14494 Apr 26 11:28	17° \mathbb{M} .08'46	47.84647 AU
opposition	14488 Apr 20 13:25	11° \mathbb{M} .25'02	-14°38'23	direct	14494 Jul 18 04:09	16° \mathbb{M} .09'45	
min. Earth dist.	14488 Apr 19 23:22	11° \mathbb{M} .25'41	47.90761 AU	evening set	14494 Oct 17 06:49	17° \mathbb{M} .25'47	
direct	14488 Jul 12 00:05	10° \mathbb{M} .26'17					
evening set	14488 Oct 12 18:37	11° \mathbb{M} .44'50		conjunction	14494 Oct 24 15:27	17° \mathbb{M} .35'53	-13°14'38
				minimum elong	14494 Oct 24 15:41	17° \mathbb{M} .35'54	13°13'56
conjunction	14488 Oct 18 09:42	11° \mathbb{M} .52'35	-14°00'07	max. Earth dist.	14494 Oct 24 22:48	17° \mathbb{M} .36'18	49.77815 AU
minimum elong	14488 Oct 18 09:55	11° \mathbb{M} .52'36	13°59'31	morning rise	14494 Nov 01 01:05	17° \mathbb{M} .46'02	
max. Earth dist.	14488 Oct 19 00:44	11° \mathbb{M} .53'27	49.84764 AU	retrograde	14495 Feb 03 04:59	19° \mathbb{M} .04'40	
morning rise	14488 Oct 24 01:28	12° \mathbb{M} .00'22		opposition	14495 Apr 28 00:48	18° \mathbb{M} .05'26	-13°43'12
retrograde	14489 Jan 27 22:46	13° \mathbb{M} .21'31		min. Earth dist.	14495 Apr 27 17:47	18° \mathbb{M} .05'46	47.81945 AU
opposition	14489 Apr 21 18:20	12° \mathbb{M} .22'14	-14°31'06	direct	14495 Jul 19 08:19	17° \mathbb{M} .06'47	
min. Earth dist.	14489 Apr 21 04:28	12° \mathbb{M} .22'52	47.91024 AU	evening set	14495 Oct 18 05:09	18° \mathbb{M} .22'27	
direct	14489 Jul 13 02:44	11° \mathbb{M} .23'31					
evening set	14489 Oct 13 16:10	12° \mathbb{M} .41'38		conjunction	14495 Oct 25 20:16	18° \mathbb{M} .32'54	-13°06'21
				minimum elong	14495 Oct 25 20:30	18° \mathbb{M} .32'55	13°05'39
conjunction	14489 Oct 19 14:39	12° \mathbb{M} .49'49	-13°53'02	max. Earth dist.	14495 Oct 26 03:59	18° \mathbb{M} .33'21	49.75042 AU
minimum elong	14489 Oct 19 14:53	12° \mathbb{M} .49'49	13°52'25	morning rise	14495 Nov 02 12:15	18° \mathbb{M} .43'25	
max. Earth dist.	14489 Oct 20 03:45	12° \mathbb{M} .50'34	49.84903 AU	retrograde	14496 Feb 04 07:24	20° \mathbb{M} .01'41	
morning rise	14489 Oct 25 13:59	12° \mathbb{M} .58'01		opposition	14496 Apr 28 05:47	19° \mathbb{M} .02'26	-13°34'28
retrograde	14490 Jan 29 04:06	14° \mathbb{M} .18'44		min. Earth dist.	14496 Apr 27 23:37	19° \mathbb{M} .02'43	47.78883 AU
opposition	14490 Apr 22 23:30	13° \mathbb{M} .19'29	-14°23'38	direct	14496 Jul 19 16:03	18° \mathbb{M} .03'46	
min. Earth dist.	14490 Apr 22 11:14	13° \mathbb{M} .20'03	47.90823 AU	evening set	14496 Oct 18 03:51	19° \mathbb{M} .19'04	
direct	14490 Jul 14 07:24	12° \mathbb{M} .20'49					
evening set	14490 Oct 14 13:52	13° \mathbb{M} .38'30		conjunction	14496 Oct 26 01:05	19° \mathbb{M} .29'52	-12°57'49
				minimum elong	14496 Oct 26 01:19	19° \mathbb{M} .29'53	12°57'06
conjunction	14490 Oct 20 19:39	13° \mathbb{M} .47'04	-13°45'45	max. Earth dist.	14496 Oct 26 07:20	19° \mathbb{M} .30'14	49.71947 AU
minimum elong	14490 Oct 20 19:52	13° \mathbb{M} .47'05	13°45'06	morning rise	14496 Nov 02 23:21	19° \mathbb{M} .40'44	
max. Earth dist.	14490 Oct 21 08:32	13° \mathbb{M} .47'49	49.84540 AU	retrograde	14497 Feb 04 13:28	20° \mathbb{M} .58'39	
morning rise	14490 Oct 27 02:09	13° \mathbb{M} .55'42		opposition	14497 Apr 29 10:32	19° \mathbb{M} .59'23	-13°25'30
	14490 Dec 21 21:49	15° \mathbb{M} .		min. Earth dist.	14497 Apr 29 04:22	19° \mathbb{M} .59'41	47.75519 AU

direct	14497 Jul 20 21:12	19° ℓ 00'43		retrograde	14504 Feb 13 05:21	27° ℓ 38'53	
evening set	14497 Oct 19 02:27	20° ℓ 15'40		opposition	14504 May 06 21:28	26° ℓ 39'33	-12°16'20
				min. Earth dist.	14504 May 06 21:34	26° ℓ 39'32	47.42063 AU
conjunction	14497 Oct 27 05:56	20° ℓ 26'49	-12°49'04	direct	14504 Jul 28 04:18	25° ℓ 40'47	
minimum elong	14497 Oct 27 06:09	20° ℓ 26'50	12°48'21	evening set	14504 Oct 24 21:09	26° ℓ 53'43	
max. Earth dist.	14497 Oct 27 11:35	20° ℓ 27'09	49.68541 AU				
morning rise	14497 Nov 04 10:27	20° ℓ 38'03		conjunction	14504 Nov 03 16:45	27° ℓ 07'11	-11°41'42
retrograde	14498 Feb 05 20:55	21° ℓ 55'37		minimum elong	14504 Nov 03 16:58	27° ℓ 07'12	11°40'54
opposition	14498 Apr 30 15:32	20° ℓ 56'21	-13°16'18	max. Earth dist.	14504 Nov 03 15:05	27° ℓ 07'05	49.34503 AU
min. Earth dist.	14498 Apr 30 10:56	20° ℓ 56'34	47.71849 AU	morning rise	14504 Nov 13 13:44	27° ℓ 20'44	
direct	14498 Jul 22 01:37	19° ℓ 57'41		retrograde	14505 Feb 13 10:38	28° ℓ 36'18	
evening set	14498 Oct 20 01:11	21° ℓ 12'18		opposition	14505 May 08 02:27	27° ℓ 36'55	-12°05'37
				min. Earth dist.	14505 May 08 04:22	27° ℓ 36'49	47.35407 AU
conjunction	14498 Oct 28 10:40	21° ℓ 23'48	-12°40'05	direct	14505 Jul 29 07:38	26° ℓ 38'05	
minimum elong	14498 Oct 28 10:55	21° ℓ 23'49	12°39'20	evening set	14505 Oct 25 20:54	27° ℓ 50'46	
max. Earth dist.	14498 Oct 28 16:14	21° ℓ 24'07	49.64851 AU				
morning rise	14498 Nov 05 21:09	21° ℓ 35'22		conjunction	14505 Nov 04 21:58	28° ℓ 04'33	-11°31'16
retrograde	14499 Feb 07 03:10	22° ℓ 52'37		minimum elong	14505 Nov 04 22:11	28° ℓ 04'34	11°30'26
opposition	14499 May 01 20:26	21° ℓ 53'21	-13°06'51	max. Earth dist.	14505 Nov 04 20:17	28° ℓ 04'27	49.27733 AU
min. Earth dist.	14499 May 01 15:32	21° ℓ 53'34	47.67879 AU	morning rise	14505 Nov 15 00:12	28° ℓ 18'24	
direct	14499 Jul 23 03:06	20° ℓ 54'40		retrograde	14506 Feb 14 12:52	29° ℓ 33'43	
evening set	14499 Oct 21 00:04	22° ℓ 08'59		opposition	14506 May 09 07:30	28° ℓ 34'15	-11°54'41
				min. Earth dist.	14506 May 09 10:20	28° ℓ 34'07	47.28278 AU
conjunction	14499 Oct 29 15:27	22° ℓ 20'50	-12°30'53	direct	14506 Jul 30 14:52	27° ℓ 35'22	
minimum elong	14499 Oct 29 15:40	22° ℓ 20'50	12°30'08	evening set	14506 Oct 26 20:44	28° ℓ 47'49	
max. Earth dist.	14499 Oct 29 19:22	22° ℓ 21'03	49.60848 AU				
morning rise	14499 Nov 07 08:02	22° ℓ 32'44		conjunction	14506 Nov 06 02:55	29° ℓ 01'53	-11°20'37
retrograde	14500 Feb 08 08:52	23° ℓ 49'41		minimum elong	14506 Nov 06 03:07	29° ℓ 01'54	11°19'48
opposition	14500 May 03 01:24	22° ℓ 50'24	-12°57'11	max. Earth dist.	14506 Nov 05 23:36	29° ℓ 01'42	49.20539 AU
min. Earth dist.	14500 May 02 21:51	22° ℓ 50'34	47.63593 AU	morning rise	14506 Nov 16 10:29	29° ℓ 16'03	
direct	14500 Jul 24 05:58	21° ℓ 51'44			14506 Dec 21 23:45	0° ♊	
evening set	14500 Oct 21 23:05	23° ℓ 05'45		retrograde	14507 Feb 15 18:14	0° ♊ 31'07	
					14507 Apr 14 01:30	30° ♈ ℓ	
conjunction	14500 Oct 30 20:26	23° ℓ 17'56	-12°21'27	opposition	14507 May 10 12:34	29° ℓ 31'36	-11°43'32
minimum elong	14500 Oct 30 20:41	23° ℓ 17'57	12°20'41	min. Earth dist.	14507 May 10 15:40	29° ℓ 31'27	47.20765 AU
max. Earth dist.	14500 Oct 31 00:30	23° ℓ 18'10	49.56503 AU	direct	14507 Jul 31 20:04	28° ℓ 32'39	
morning rise	14500 Nov 08 18:51	23° ℓ 30'10		evening set	14507 Oct 27 20:38	29° ℓ 44'52	
retrograde	14501 Feb 09 10:17	24° ℓ 46'50					
opposition	14501 May 04 06:21	23° ℓ 47'34	-12°47'17	conjunction	14507 Nov 07 08:04	29° ℓ 59'14	-11°09'46
min. Earth dist.	14501 May 04 03:41	23° ℓ 47'41	47.58920 AU	minimum elong	14507 Nov 07 08:17	29° ℓ 59'15	11°08'55
direct	14501 Jul 25 13:52	22° ℓ 48'53		max. Earth dist.	14507 Nov 07 04:07	29° ℓ 59'01	49.12970 AU
evening set	14501 Oct 22 22:24	24° ℓ 02'38			14507 Nov 07 21:17	0° ♊	
				morning rise	14507 Nov 17 20:53	0° ♊ 13'43	
conjunction	14501 Nov 01 01:22	24° ℓ 15'08	-12°11'48	retrograde	14508 Feb 17 00:55	1° ♊ 28'33	
minimum elong	14501 Nov 01 01:35	24° ℓ 15'09	12°11'01	opposition	14508 May 10 17:39	0° ♊ 28'59	-11°32'10
max. Earth dist.	14501 Nov 01 03:40	24° ℓ 15'16	49.51752 AU	min. Earth dist.	14508 May 10 22:21	0° ♊ 28'46	47.12908 AU
morning rise	14501 Nov 10 05:32	24° ℓ 27'43			14508 Jun 06 17:12	30° ♈ ℓ	
retrograde	14502 Feb 10 15:49	25° ℓ 44'06		direct	14508 Aug 01 01:36	29° ℓ 29'58	
opposition	14502 May 05 11:15	24° ℓ 44'49	-12°37'10		14508 Sep 23 20:12	0° ♊	
min. Earth dist.	14502 May 05 09:06	24° ℓ 44'55	47.53816 AU	evening set	14508 Oct 27 20:44	0° ♊ 41'58	
direct	14502 Jul 26 19:58	23° ℓ 46'08					
evening set	14502 Oct 23 21:47	24° ℓ 59'37		conjunction	14508 Nov 07 13:17	0° ♊ 56'39	-10°58'41
				minimum elong	14508 Nov 07 13:30	0° ♊ 56'40	10°57'50
conjunction	14502 Nov 02 06:28	25° ℓ 12'26	-12°01'58	max. Earth dist.	14508 Nov 07 09:07	0° ♊ 56'25	49.05096 AU
minimum elong	14502 Nov 02 06:42	25° ℓ 12'27	12°01'10	morning rise	14508 Nov 18 07:07	1° ♊ 11'26	
max. Earth dist.	14502 Nov 02 07:49	25° ℓ 12'31	49.46521 AU	retrograde	14509 Feb 17 07:31	2° ♊ 26'03	
morning rise	14502 Nov 11 16:23	25° ℓ 25'21		opposition	14509 May 11 22:41	1° ♊ 26'26	-11°20'33
retrograde	14503 Feb 12 00:03	26° ℓ 41'28		min. Earth dist.	14509 May 12 03:07	1° ♊ 26'14	47.04748 AU
opposition	14503 May 06 16:25	25° ℓ 42'10	-12°26'51	direct	14509 Aug 02 04:18	0° ♊ 27'22	
min. Earth dist.	14503 May 06 16:22	25° ℓ 42'10	47.48207 AU	evening set	14509 Oct 28 20:58	1° ♊ 39'11	
direct	14503 Jul 28 00:44	24° ℓ 43'27					
evening set	14503 Oct 24 21:22	25° ℓ 56'39		conjunction	14509 Nov 08 18:24	1° ♊ 54'10	-10°47'23
				minimum elong	14509 Nov 08 18:37	1° ♊ 54'11	10°46'30
conjunction	14503 Nov 03 11:35	26° ℓ 09'48	-11°51'55	max. Earth dist.	14509 Nov 08 12:35	1° ♊ 53'50	48.96919 AU
minimum elong	14503 Nov 03 11:48	26° ℓ 09'49	11°51'07	morning rise	14509 Nov 19 17:23	2° ♊ 09'15	
max. Earth dist.	14503 Nov 03 12:06	26° ℓ 09'50	49.40782 AU	retrograde	14510 Feb 18 14:00	3° ♊ 23'41	
morning rise	14503 Nov 13 02:56	26° ℓ 23'02		opposition	14510 May 13 03:51	2° ♊ 24'02	-11°08'41

min. Earth dist.	14510 May 13 09:34	2°♂23'46	46.96308 AU	morning rise	14516 Nov 27 17:21	9°♂00'31	
direct	14510 Aug 03 06:38	1°♂24'55		retrograde	14517 Feb 25 05:53	10°♂14'05	
evening set	14510 Oct 29 21:13	2°♂36'35		opposition	14517 May 19 17:57	9°♂14'05	-9°39'19
				min. Earth dist.	14517 May 20 05:55	9°♂13'31	46.26847 AU
conjunction	14510 Nov 09 23:45	2°♂51'52	-10°35'50	direct	14517 Aug 09 19:55	8°♂14'36	
minimum elong	14510 Nov 09 23:56	2°♂51'52	10°34'58	evening set	14517 Nov 04 04:51	9°♂25'27	
max. Earth dist.	14510 Nov 09 18:14	2°♂51'32	48.88469 AU				
morning rise	14510 Nov 21 03:34	3°♂07'14		conjunction	14517 Nov 16 15:25	9°♂42'45	-9°09'00
retrograde	14511 Feb 19 16:46	4°♂21'31		minimum elong	14517 Nov 16 15:36	9°♂42'45	9°08'04
opposition	14511 May 14 09:06	3°♂21'49	-10°56'36	max. Earth dist.	14517 Nov 16 01:50	9°♂41'57	48.18391 AU
min. Earth dist.	14511 May 14 15:14	3°♂21'32	46.87580 AU	morning rise	14517 Nov 29 03:36	10°♂00'09	
direct	14511 Aug 04 13:50	2°♂22'40		retrograde	14518 Feb 26 12:17	11°♂13'36	
evening set	14511 Oct 30 21:43	3°♂34'11		opposition	14518 May 20 23:42	10°♂13'30	-9°25'41
				min. Earth dist.	14518 May 21 13:32	10°♂12'51	46.14996 AU
conjunction	14511 Nov 11 04:57	3°♂49'46	-10°24'04	direct	14518 Aug 11 03:32	9°♂13'54	
minimum elong	14511 Nov 11 05:10	3°♂49'46	10°23'11	evening set	14518 Nov 05 06:39	10°♂24'39	
max. Earth dist.	14511 Nov 10 22:06	3°♂49'22	48.79736 AU				
morning rise	14511 Nov 22 13:45	4°♂05'26		conjunction	14518 Nov 17 21:27	10°♂42'12	-8°55'45
retrograde	14512 Feb 20 22:22	5°♂19'35		minimum elong	14518 Nov 17 21:38	10°♂42'13	8°54'48
opposition	14512 May 14 14:22	4°♂19'51	-10°44'16	max. Earth dist.	14518 Nov 17 07:25	10°♂41'23	48.06467 AU
min. Earth dist.	14512 May 14 20:49	4°♂19'33	46.78555 AU	morning rise	14518 Nov 30 13:47	10°♂59'53	
direct	14512 Aug 04 20:05	3°♂20'40		retrograde	14519 Feb 27 20:27	12°♂13'14	
evening set	14512 Oct 30 22:23	4°♂32'04		opposition	14519 May 22 05:26	11°♂13'01	-9°11'50
				min. Earth dist.	14519 May 22 19:11	11°♂12'22	46.02740 AU
conjunction	14512 Nov 11 10:28	4°♂47'56	-10°12'05	direct	14519 Aug 12 07:45	10°♂13'17	
minimum elong	14512 Nov 11 10:40	4°♂47'57	10°11'11	evening set	14519 Nov 06 08:32	11°♂23'57	
max. Earth dist.	14512 Nov 11 02:51	4°♂47'30	48.70663 AU	max. Earth dist.	14519 Nov 18 11:30	11°♂40'52	47.94151 AU
morning rise	14512 Nov 23 00:04	5°♂03'54					
retrograde	14513 Feb 21 07:01	6°♂17'56		conjunction	14519 Nov 19 03:22	11°♂41'47	-8°42'18
opposition	14513 May 15 19:40	5°♂18'11	-10°31'42	minimum elong	14519 Nov 19 03:33	11°♂41'48	8°41'21
min. Earth dist.	14513 May 16 03:58	5°♂17'47	46.69166 AU	morning rise	14519 Dec 02 00:03	11°♂59'44	
direct	14513 Aug 06 00:56	4°♂18'58		retrograde	14520 Feb 29 05:28	13°♂13'00	
evening set	14513 Oct 31 23:20	5°♂30'14		opposition	14520 May 22 11:20	12°♂12'40	-8°57'44
				min. Earth dist.	14520 May 23 02:41	12°♂11'56	45.90130 AU
conjunction	14513 Nov 12 16:06	5°♂46'24	-9°59'52	direct	14520 Aug 12 09:36	11°♂12'48	
minimum elong	14513 Nov 12 16:18	5°♂46'25	9°58'58	evening set	14520 Nov 06 10:36	12°♂23'24	
max. Earth dist.	14513 Nov 12 07:56	5°♂45'56	48.61211 AU				
morning rise	14513 Nov 24 10:17	6°♂02'40		conjunction	14520 Nov 19 09:38	12°♂41'30	-8°28'37
retrograde	14514 Feb 22 14:24	7°♂16'35		minimum elong	14520 Nov 19 09:49	12°♂41'31	8°27'39
opposition	14514 May 17 01:03	6°♂16'48	-10°18'55	max. Earth dist.	14520 Nov 18 17:58	12°♂40'35	47.81499 AU
min. Earth dist.	14514 May 17 09:22	6°♂16'24	46.59354 AU	morning rise	14520 Dec 02 10:12	12°♂59'43	
direct	14514 Aug 07 03:45	5°♂17'33		retrograde	14521 Mar 01 09:40	14°♂12'54	
evening set	14514 Nov 02 00:23	6°♂28'43		opposition	14521 May 23 17:05	13°♂12'27	-8°43'24
				min. Earth dist.	14521 May 24 08:45	13°♂11'42	45.77195 AU
conjunction	14514 Nov 13 21:37	6°♂45'10	-9°47'27	direct	14521 Aug 13 16:45	12°♂12'28	
minimum elong	14514 Nov 13 21:49	6°♂45'11	9°46'32	evening set	14521 Nov 07 12:59	13°♂23'01	
max. Earth dist.	14514 Nov 13 11:25	6°♂44'35	48.51289 AU				
morning rise	14514 Nov 25 20:34	7°♂01'44		conjunction	14521 Nov 20 15:50	13°♂41'23	-8°14'42
retrograde	14515 Feb 23 21:29	8°♂15'31		minimum elong	14521 Nov 20 16:00	13°♂41'24	8°13'45
opposition	14515 May 18 06:43	7°♂15'41	-10°05'56	max. Earth dist.	14521 Nov 19 22:42	13°♂40'23	47.68553 AU
min. Earth dist.	14515 May 18 16:56	7°♂15'13	46.49053 AU	morning rise	14521 Dec 03 20:29	13°♂59'52	
direct	14515 Aug 08 06:53	6°♂16'23		retrograde	14522 Mar 02 14:12	15°♂12'59	
evening set	14515 Nov 03 01:42	7°♂27'27		opposition	14522 May 24 23:05	14°♂12'26	-8°28'49
				min. Earth dist.	14522 May 25 15:11	14°♂11'39	45.63986 AU
conjunction	14515 Nov 15 03:36	7°♂44'11	-9°34'50	direct	14522 Aug 14 23:38	13°♂12'20	
minimum elong	14515 Nov 15 03:47	7°♂44'12	9°33'56	evening set	14522 Nov 08 15:16	14°♂22'51	
max. Earth dist.	14515 Nov 14 17:08	7°♂43'35	48.40850 AU				
morning rise	14515 Nov 27 06:55	8°♂01'02		conjunction	14522 Nov 21 22:04	14°♂41'29	-8°00'33
retrograde	14516 Feb 25 00:19	9°♂14'42		minimum elong	14522 Nov 21 22:14	14°♂41'29	7°59'35
opposition	14516 May 18 12:17	8°♂14'48	-9°52'44	max. Earth dist.	14522 Nov 21 04:26	14°♂40'26	47.55319 AU
min. Earth dist.	14516 May 18 23:30	8°♂14'16	46.38210 AU	morning rise	14522 Dec 05 06:34	15°♂00'14	
direct	14516 Aug 08 13:59	7°♂15'25		retrograde	14523 Mar 03 20:49	16°♂13'20	
evening set	14516 Nov 03 03:19	8°♂26'23		opposition	14523 May 26 05:20	15°♂12'39	-8°14'00
				min. Earth dist.	14523 May 26 22:47	15°♂11'49	45.50492 AU
conjunction	14516 Nov 15 09:29	8°♂43'24	-9°22'01	direct	14523 Aug 16 06:59	14°♂12'27	
minimum elong	14516 Nov 15 09:40	8°♂43'25	9°21'05	evening set	14523 Nov 09 17:59	15°♂22'57	
max. Earth dist.	14516 Nov 14 20:54	8°♂42'40	48.29881 AU	max. Earth dist.	14523 Nov 22 10:37	15°♂40'47	47.41816 AU

conjunction	14523 Nov 23 04:35	15°♂41'51	-7°46'10	evening set	14530 Nov 15 20:09	22°♂34'15	
minimum elong	14523 Nov 23 04:44	15°♂41'52	7°45'12	max. Earth dist.	14530 Nov 29 04:55	22°♂53'23	46.35802 AU
morning rise	14523 Dec 06 16:50	16°♂00'52					
retrograde	14524 Mar 04 05:11	17°♂13'58		conjunction	14530 Nov 30 06:29	22°♂54'55	-5°59'13
opposition	14524 May 26 11:25	16°♂13'12	-7°58'56	minimum elong	14530 Nov 30 06:37	22°♂54'56	5°58'13
min. Earth dist.	14524 May 27 04:36	16°♂12'22	45.36713 AU	morning rise	14530 Dec 14 18:27	23°♂15'44	
direct	14524 Aug 16 11:43	15°♂12'53		retrograde	14531 Mar 12 13:43	24°♂29'10	
evening set	14524 Nov 09 20:59	16°♂23'24		opposition	14531 Jun 03 10:56	23°♂27'32	-6°06'51
				min. Earth dist.	14531 Jun 04 11:38	23°♂26'20	44.28360 AU
conjunction	14524 Nov 23 11:11	16°♂42'34	-7°31'33	direct	14531 Aug 24 04:13	22°♂26'15	
minimum elong	14524 Nov 23 11:21	16°♂42'34	7°30'34	evening set	14531 Nov 17 00:58	23°♂37'16	
max. Earth dist.	14524 Nov 22 15:30	16°♂41'24	47.27996 AU	max. Earth dist.	14531 Nov 30 10:52	23°♂56'32	46.18904 AU
morning rise	14524 Dec 07 03:17	17°♂01'51					
retrograde	14525 Mar 05 14:22	18°♂14'57		conjunction	14531 Dec 01 14:06	23°♂58'11	-5°43'03
opposition	14525 May 27 17:51	17°♂14'06	-7°43'37	minimum elong	14531 Dec 01 14:14	23°♂58'12	5°42'01
min. Earth dist.	14525 May 28 12:48	17°♂13'11	45.22601 AU	morning rise	14531 Dec 16 05:11	24°♂19'14	
direct	14525 Aug 17 15:19	16°♂13'41		retrograde	14532 Mar 12 20:18	25°♂32'46	
evening set	14525 Nov 11 00:05	17°♂24'15		opposition	14532 Jun 03 18:06	24°♂30'58	-5°49'53
				min. Earth dist.	14532 Jun 04 19:41	24°♂29'42	44.11205 AU
conjunction	14525 Nov 24 18:00	17°♂43'40	-7°16'43	direct	14532 Aug 24 11:45	23°♂29'30	
minimum elong	14525 Nov 24 18:09	17°♂43'40	7°15'43	evening set	14532 Nov 17 05:54	24°♂40'38	
max. Earth dist.	14525 Nov 23 22:23	17°♂42'30	47.13808 AU				
morning rise	14525 Dec 08 13:31	18°♂03'12		conjunction	14532 Dec 01 21:59	25°♂01'48	-5°26'38
retrograde	14526 Mar 06 20:16	19°♂16'20		minimum elong	14532 Dec 01 22:06	25°♂01'48	5°25'37
opposition	14526 May 29 00:20	18°♂15'23	-7°28'04	max. Earth dist.	14532 Nov 30 18:15	25°♂00'07	46.01691 AU
min. Earth dist.	14526 May 29 19:51	18°♂14'27	45.08083 AU	morning rise	14532 Dec 16 15:49	25°♂23'06	
direct	14526 Aug 18 21:45	17°♂14'52		retrograde	14533 Mar 14 02:15	26°♂36'44	
evening set	14526 Nov 12 03:43	18°♂25'30		opposition	14533 Jun 05 01:34	25°♂34'45	-5°32'40
max. Earth dist.	14526 Nov 25 03:20	18°♂43'53	46.99192 AU	min. Earth dist.	14533 Jun 06 04:19	25°♂33'26	43.93760 AU
				direct	14533 Aug 25 21:35	24°♂33'07	
conjunction	14526 Nov 26 00:58	18°♂45'10	-7°01'39	evening set	14533 Nov 18 11:04	25°♂44'24	
minimum elong	14526 Nov 26 01:07	18°♂45'11	7°00'39	max. Earth dist.	14533 Dec 02 01:44	26°♂04'05	45.84224 AU
morning rise	14526 Dec 10 00:06	19°♂04'58					
retrograde	14527 Mar 08 03:44	20°♂18'09		conjunction	14533 Dec 03 05:52	26°♂05'47	-5°09'59
opposition	14527 May 30 06:59	19°♂17'06	-7°12'17	minimum elong	14533 Dec 03 05:59	26°♂05'48	5°08'57
min. Earth dist.	14527 May 31 03:29	19°♂16'07	44.93115 AU	morning rise	14533 Dec 18 02:24	26°♂27'19	
direct	14527 Aug 20 03:50	18°♂16'28		retrograde	14534 Mar 15 11:23	27°♂41'06	
evening set	14527 Nov 13 07:27	19°♂27'09		opposition	14534 Jun 06 09:04	26°♂38'58	-5°15'11
max. Earth dist.	14527 Nov 26 09:32	19°♂45'44	46.84077 AU	min. Earth dist.	14534 Jun 07 11:24	26°♂37'40	43.76078 AU
				direct	14534 Aug 27 04:37	25°♂37'09	
conjunction	14527 Nov 27 08:11	19°♂47'05	-6°46'22	evening set	14534 Nov 19 16:38	26°♂48'35	
minimum elong	14527 Nov 27 08:19	19°♂47'05	6°45'22	max. Earth dist.	14534 Dec 03 08:24	27°♂08'24	45.66518 AU
morning rise	14527 Dec 11 10:40	20°♂07'09					
retrograde	14528 Mar 08 10:28	21°♂20'23		conjunction	14534 Dec 04 13:57	27°♂10'13	-4°53'06
opposition	14528 May 30 13:54	20°♂19'12	-6°56'17	minimum elong	14534 Dec 04 14:03	27°♂10'13	4°52'04
min. Earth dist.	14528 May 31 12:13	20°♂18'08	44.77627 AU	morning rise	14534 Dec 19 13:11	27°♂31'59	
direct	14528 Aug 20 12:03	19°♂18'26		retrograde	14535 Mar 16 22:21	28°♂45'55	
evening set	14528 Nov 13 11:34	20°♂29'11		opposition	14535 Jun 07 16:53	27°♂43'37	-4°57'27
				min. Earth dist.	14535 Jun 08 20:46	27°♂42'14	43.58178 AU
conjunction	14528 Nov 27 15:36	20°♂49'22	-6°30'53	direct	14535 Aug 28 09:28	26°♂41'38	
minimum elong	14528 Nov 27 15:45	20°♂49'22	6°29'53	evening set	14535 Nov 20 22:20	27°♂53'15	
max. Earth dist.	14528 Nov 26 16:01	20°♂47'57	46.68456 AU				
morning rise	14528 Dec 11 21:20	21°♂09'41		conjunction	14535 Dec 05 22:20	28°♂15'07	-4°35'57
retrograde	14529 Mar 09 19:19	22°♂22'58		minimum elong	14535 Dec 05 22:27	28°♂15'07	4°34'55
opposition	14529 May 31 20:39	21°♂21'40	-6°40'03	max. Earth dist.	14535 Dec 04 17:10	28°♂13'20	45.48597 AU
min. Earth dist.	14529 Jun 01 19:14	21°♂20'34	44.61638 AU	morning rise	14535 Dec 20 23:56	28°♂37'06	
direct	14529 Aug 21 18:00	20°♂20'43		retrograde	14536 Mar 17 08:22	29°♂51'14	
evening set	14529 Nov 14 15:54	21°♂31'33		opposition	14536 Jun 08 00:48	28°♂48'46	-4°39'27
				min. Earth dist.	14536 Jun 09 04:36	28°♂47'24	43.40043 AU
conjunction	14529 Nov 28 23:00	21°♂51'59	-6°15'10	direct	14536 Aug 28 15:32	27°♂46'37	
minimum elong	14529 Nov 28 23:08	21°♂51'59	6°14'09	evening set	14536 Nov 21 04:41	28°♂58'27	
max. Earth dist.	14529 Nov 27 21:19	21°♂50'26	46.52340 AU	max. Earth dist.	14536 Dec 04 23:57	29°♂18'39	45.30428 AU
morning rise	14529 Dec 13 08:02	22°♂12'32					
retrograde	14530 Mar 11 06:39	23°♂25'54		conjunction	14536 Dec 06 06:53	29°♂20'33	-4°18'34
opposition	14530 Jun 02 03:47	22°♂24'26	-6°23'34	minimum elong	14536 Dec 06 06:59	29°♂20'33	4°17'33
min. Earth dist.	14530 Jun 03 04:16	22°♂23'15	44.45197 AU	morning rise	14536 Dec 21 11:00	29°♂42'46	
direct	14530 Aug 22 21:00	21°♂23'20			14537 Jan 02 18:20	0°♂	

retrograde	14537 Mar 18 18:58	0° $\overline{3}$ 57'05	direct	14543 Sep 06 01:29	5° $\overline{3}$ 36'50	
	14537 Jun 04 17:40	30° \overline{R} \overline{A}	evening set	14543 Nov 29 10:54	6° $\overline{3}$ 50'36	
opposition	14537 Jun 09 08:49	29° \overline{A} 54'29 -4°21'12	max. Earth dist.	14543 Dec 13 12:12	7° $\overline{3}$ 11'47	43.92618 AU
min. Earth dist.	14537 Jun 10 13:35	29° \overline{A} 53'03 43.21655 AU				
direct	14537 Aug 29 21:43	28° \overline{A} 52'09	conjunction	14543 Dec 15 02:02	7° $\overline{3}$ 14'11	-2°10'23
	14537 Nov 19 12:40	0° $\overline{3}$	minimum elong	14543 Dec 15 02:05	7° $\overline{3}$ 14'12	2°09'21
evening set	14537 Nov 22 11:13	0° $\overline{3}$ 04'13	morning rise	14543 Dec 30 18:48	7° $\overline{3}$ 37'54	
max. Earth dist.	14537 Dec 06 08:29	0° $\overline{3}$ 24'37 45.11960 AU	retrograde	14544 Mar 26 16:10	8° $\overline{3}$ 54'03	
			opposition	14544 Jun 16 24:00	7° $\overline{3}$ 50'00	-2°06'25
conjunction	14537 Dec 07 15:46	0° $\overline{3}$ 26'33 -4°00'57	min. Earth dist.	14544 Jun 18 11:02	7° $\overline{3}$ 48'12	41.82046 AU
minimum elong	14537 Dec 07 15:52	0° $\overline{3}$ 26'33 3°59'55	direct	14544 Sep 06 11:15	6° $\overline{3}$ 46'05	
morning rise	14537 Dec 22 21:59	0° $\overline{3}$ 49'00	evening set	14544 Nov 29 20:15	8° $\overline{3}$ 00'12	
retrograde	14538 Mar 20 02:12	2° $\overline{3}$ 03'33	max. Earth dist.	14544 Dec 13 21:26	8° $\overline{3}$ 21'29	43.71471 AU
opposition	14538 Jun 10 17:14	1° $\overline{3}$ 00'46 -4°02'41				
min. Earth dist.	14538 Jun 11 23:13	0° $\overline{3}$ 59'16 43.02936 AU	conjunction	14544 Dec 15 12:34	8° $\overline{3}$ 23'58	-1°51'08
	14538 Aug 19 01:52	30° \overline{R} \overline{A}	minimum elong	14544 Dec 15 12:36	8° $\overline{3}$ 23'59	1°50'05
direct	14538 Aug 31 07:06	29° \overline{A} 58'16	morning rise	14544 Dec 31 06:32	8° $\overline{3}$ 47'53	
	14538 Sep 12 10:49	0° $\overline{3}$	retrograde	14545 Mar 28 03:14	10° $\overline{3}$ 04'23	
evening set	14538 Nov 23 18:09	1° $\overline{3}$ 10'35	opposition	14545 Jun 18 09:53	9° $\overline{3}$ 00'05	-1°46'09
max. Earth dist.	14538 Dec 07 16:37	1° $\overline{3}$ 31'08 44.93140 AU	min. Earth dist.	14545 Jun 19 22:32	8° $\overline{3}$ 58'12	41.60747 AU
			direct	14545 Sep 07 20:15	7° $\overline{3}$ 55'55	
conjunction	14538 Dec 09 00:46	1° $\overline{3}$ 33'08 -3°43'06	evening set	14545 Dec 01 05:53	9° $\overline{3}$ 10'25	
minimum elong	14538 Dec 09 00:51	1° $\overline{3}$ 33'08 3°42'04	max. Earth dist.	14545 Dec 15 08:32	9° $\overline{3}$ 31'53	43.50110 AU
morning rise	14538 Dec 24 09:08	1° $\overline{3}$ 55'49				
retrograde	14539 Mar 21 10:42	3° $\overline{3}$ 10'36	conjunction	14545 Dec 16 23:23	9° $\overline{3}$ 34'22	-1°31'39
opposition	14539 Jun 12 01:48	2° $\overline{3}$ 07'39 -3°43'56	minimum elong	14545 Dec 16 23:25	9° $\overline{3}$ 34'23	1°30'37
min. Earth dist.	14539 Jun 13 08:05	2° $\overline{3}$ 06'08 42.83833 AU	morning rise	14546 Jan 01 18:18	9° $\overline{3}$ 58'28	
direct	14539 Sep 01 16:39	1° $\overline{3}$ 04'57	retrograde	14546 Mar 29 15:39	11° $\overline{3}$ 15'21	
evening set	14539 Nov 25 01:40	2° $\overline{3}$ 17'32	opposition	14546 Jun 19 20:02	10° $\overline{3}$ 10'49	-1°25'38
max. Earth dist.	14539 Dec 09 00:02	2° $\overline{3}$ 38'10 44.73881 AU	min. Earth dist.	14546 Jun 21 08:14	10° $\overline{3}$ 08'57	41.39254 AU
			direct	14546 Sep 09 04:43	9° $\overline{3}$ 06'24	
conjunction	14539 Dec 10 10:12	2° $\overline{3}$ 40'18 -3°25'01	evening set	14546 Dec 02 15:58	10° $\overline{3}$ 21'19	
minimum elong	14539 Dec 10 10:17	2° $\overline{3}$ 40'19 3°24'00	max. Earth dist.	14546 Dec 16 17:42	10° $\overline{3}$ 42'51	43.28563 AU
morning rise	14539 Dec 25 20:35	3° $\overline{3}$ 03'12				
retrograde	14540 Mar 21 22:47	4° $\overline{3}$ 18'15	conjunction	14546 Dec 18 10:14	10° $\overline{3}$ 45'28	-1°11'56
opposition	14540 Jun 12 10:37	3° $\overline{3}$ 15'06 -3°24'56	minimum elong	14546 Dec 18 10:16	10° $\overline{3}$ 45'28	1°10'54
min. Earth dist.	14540 Jun 13 19:01	3° $\overline{3}$ 13'28 42.64281 AU	morning rise	14547 Jan 03 06:12	11° $\overline{3}$ 09'44	
direct	14540 Sep 01 23:17	2° $\overline{3}$ 12'11	retrograde	14547 Mar 31 06:42	12° $\overline{3}$ 27'02	
evening set	14540 Nov 25 09:26	3° $\overline{3}$ 25'02	opposition	14547 Jun 21 06:33	11° $\overline{3}$ 22'16	-1°04'51
max. Earth dist.	14540 Dec 09 09:34	3° $\overline{3}$ 45'52 44.54171 AU	min. Earth dist.	14547 Jun 22 19:55	11° $\overline{3}$ 20'20	41.17597 AU
			direct	14547 Sep 10 11:25	10° $\overline{3}$ 17'36	
conjunction	14540 Dec 10 19:59	3° $\overline{3}$ 48'01 -3°06'43	evening set	14547 Dec 04 02:32	11° $\overline{3}$ 32'59	
minimum elong	14540 Dec 10 20:03	3° $\overline{3}$ 48'01 3°05'40	max. Earth dist.	14547 Dec 18 05:24	11° $\overline{3}$ 54'42	43.06839 AU
morning rise	14540 Dec 26 08:03	4° $\overline{3}$ 11'08				
retrograde	14541 Mar 23 09:29	5° $\overline{3}$ 26'25	conjunction	14547 Dec 19 21:44	11° $\overline{3}$ 57'19	-0°51'59
opposition	14541 Jun 13 19:38	4° $\overline{3}$ 23'04 -3°05'41	minimum elong	14547 Dec 19 21:45	11° $\overline{3}$ 57'19	0°50'58
min. Earth dist.	14541 Jun 15 04:11	4° $\overline{3}$ 21'26 42.44275 AU	morning rise	14548 Jan 04 18:14	12° $\overline{3}$ 21'46	
direct	14541 Sep 03 06:53	3° $\overline{3}$ 19'55	retrograde	14548 Mar 31 18:12	13° $\overline{3}$ 39'30	
evening set	14541 Nov 26 17:36	4° $\overline{3}$ 33'03	opposition	14548 Jun 21 17:13	12° $\overline{3}$ 34'32	-0°43'49
max. Earth dist.	14541 Dec 10 17:10	4° $\overline{3}$ 53'57 44.34020 AU	min. Earth dist.	14548 Jun 23 06:56	12° $\overline{3}$ 32'34	40.95762 AU
			direct	14548 Sep 10 21:59	11° $\overline{3}$ 29'37	
conjunction	14541 Dec 12 05:40	4° $\overline{3}$ 56'14 -2°48'10	evening set	14548 Dec 04 13:45	12° $\overline{3}$ 45'30	
minimum elong	14541 Dec 12 05:44	4° $\overline{3}$ 56'15 2°47'08	max. Earth dist.	14548 Dec 18 16:04	13° $\overline{3}$ 07'19	42.84943 AU
morning rise	14541 Dec 27 19:33	5° $\overline{3}$ 19'33				
retrograde	14542 Mar 24 21:22	6° $\overline{3}$ 35'07	conjunction	14548 Dec 20 09:25	13° $\overline{3}$ 10'00	-0°31'49
opposition	14542 Jun 15 04:56	5° $\overline{3}$ 31'32 -2°46'11	minimum elong	14548 Dec 20 09:26	13° $\overline{3}$ 10'00	0°30'47
min. Earth dist.	14542 Jun 16 14:56	5° $\overline{3}$ 29'49 42.23865 AU	morning rise	14549 Jan 05 06:34	13° $\overline{3}$ 34'38	
direct	14542 Sep 04 14:26	4° $\overline{3}$ 28'08	retrograde	14549 Apr 02 05:46	14° $\overline{3}$ 52'51	
evening set	14542 Nov 28 02:02	5° $\overline{3}$ 41'34	opposition	14549 Jun 23 04:14	13° $\overline{3}$ 47'39	-0°22'33
max. Earth dist.	14542 Dec 12 02:54	6° $\overline{3}$ 02'38 44.13477 AU	min. Earth dist.	14549 Jun 24 18:18	13° $\overline{3}$ 45'40	40.73745 AU
			direct	14549 Sep 12 09:28	12° $\overline{3}$ 42'31	
conjunction	14542 Dec 13 15:48	6° $\overline{3}$ 04'58 -2°29'24	evening set	14549 Dec 06 01:20	13° $\overline{3}$ 58'55	
minimum elong	14542 Dec 13 15:51	6° $\overline{3}$ 04'58 2°28'20	max. Earth dist.	14549 Dec 20 02:57	14° $\overline{3}$ 20'49	42.62808 AU
morning rise	14542 Dec 29 07:05	6° $\overline{3}$ 28'28				
retrograde	14543 Mar 26 05:57	7° $\overline{3}$ 44'19	conjunction	14549 Dec 21 21:21	14° $\overline{3}$ 23'36	-0°11'26
opposition	14543 Jun 16 14:23	6° $\overline{3}$ 40'30 -2°26'26	minimum elong	14549 Dec 21 21:22	14° $\overline{3}$ 23'36	0°10'25
min. Earth dist.	14543 Jun 18 01:21	6° $\overline{3}$ 38'43 42.03098 AU	behind sun begin	14549 Dec 21 16:19	14° $\overline{3}$ 23'18	

behind sun end	14549 Dec 22 02:25	14°32'35.5	min. Earth dist.	14556 Jul 03 15:10	22°34'23.9	39.10708 AU
morning rise	14550 Jan 06 18:48	14°34'48.24	direct	14556 Sep 20 18:39	21°33'37.47	
retrograde	14550 Apr 03 17:38	16°30'07.08	evening set	14556 Dec 15 03:36	22°33'58.30	
opposition	14550 Jun 24 15:44	15°30'14.44 -0°01'02	max. Earth dist.	14556 Dec 28 18:48	23°33'20.42	40.98558 AU
min. Earth dist.	14550 Jun 26 07:23	14°35'59.38 40.51471 AU				
asc. node	14550 Jul 12 01:41	14°34'00.09	conjunction	14556 Dec 30 20:32	23°33'24.06	2°17'26
direct	14550 Sep 13 20:39	13°33'56.21	minimum elong	14556 Dec 30 20:29	23°33'24.06	2°18'25
evening set	14550 Dec 07 13:36	15°33'13.18	morning rise	14557 Jan 15 14:36	23°33'49.48	
max. Earth dist.	14550 Dec 21 15:16	15°33'35.20 42.40394 AU	retrograde	14557 Apr 13 00:26	25°33'12.43	
			opposition	14557 Jul 03 08:55	24°33'05.16	2°36'12
conjunction	14550 Dec 23 09:53	15°33'38.09 0°09'16	min. Earth dist.	14557 Jul 05 06:35	24°33'02.46	38.86339 AU
minimum elong	14550 Dec 23 09:53	15°33'38.09 0°10'18	direct	14557 Sep 22 05:29	22°33'57.38	
behind sun begin	14550 Dec 23 04:47	15°33'37.50	evening set	14557 Dec 16 19:47	24°33'19.05	
behind sun end	14550 Dec 23 14:58	15°33'38.28	max. Earth dist.	14557 Dec 30 10:21	24°33'41.23	40.74068 AU
morning rise	14551 Jan 08 07:24	16°33'03.07				
retrograde	14551 Apr 05 07:18	17°33'22.23	conjunction	14558 Jan 01 11:31	24°33'44.46	2°39'29
opposition	14551 Jun 26 03:22	16°33'16.45 0°20'44	minimum elong	14558 Jan 01 11:27	24°33'44.46	2°40'29
min. Earth dist.	14551 Jun 27 18:58	16°33'14.39 40.28886 AU	morning rise	14558 Jan 17 04:01	25°33'10.33	
direct	14551 Sep 15 06:32	15°33'11.07	retrograde	14558 Apr 14 16:06	26°33'34.11	
evening set	14551 Dec 09 02:35	16°33'28.38	opposition	14558 Jul 04 23:06	25°33'26.23	2°59'32
max. Earth dist.	14551 Dec 23 01:56	16°33'50.40 42.17619 AU	min. Earth dist.	14558 Jul 06 20:17	25°33'23.54	38.61857 AU
			direct	14558 Sep 23 18:46	24°33'18.24	
conjunction	14551 Dec 24 22:44	16°33'53.38 0°30'05	evening set	14558 Dec 18 12:56	25°33'40.38	
minimum elong	14551 Dec 24 22:43	16°33'53.38 0°31'07	max. Earth dist.	14559 Jan 01 00:20	26°33'02.52	40.49487 AU
morning rise	14552 Jan 09 20:19	17°33'18.45				
retrograde	14552 Apr 05 23:32	18°33'38.35	conjunction	14559 Jan 03 02:55	26°33'06.23	3°01'43
opposition	14552 Jun 26 15:32	17°33'32.42 0°42'44	minimum elong	14559 Jan 03 02:50	26°33'06.23	3°02'42
min. Earth dist.	14552 Jun 28 09:04	17°33'30.30 40.05927 AU	morning rise	14559 Jan 18 17:55	26°33'32.13	
direct	14552 Sep 15 15:23	16°33'26.47	retrograde	14559 Apr 16 11:23	27°33'56.37	
evening set	14552 Dec 09 16:01	17°33'44.54	opposition	14559 Jul 06 13:39	26°33'48.29	3°23'05
max. Earth dist.	14552 Dec 23 15:02	18°33'07.02 41.94449 AU	min. Earth dist.	14559 Jul 08 11:40	26°33'45.57	38.37321 AU
			direct	14559 Sep 25 06:33	25°33'40.08	
conjunction	14552 Dec 25 12:06	18°33'10.02 0°51'08	evening set	14559 Dec 20 06:39	27°33'03.12	
minimum elong	14552 Dec 25 12:05	18°33'10.02 0°52'09	max. Earth dist.	14560 Jan 02 16:23	27°33'25.29	40.24839 AU
morning rise	14553 Jan 10 09:14	18°33'35.17				
retrograde	14553 Apr 07 14:53	19°33'55.41	conjunction	14560 Jan 04 18:56	27°33'29.01	3°24'08
opposition	14553 Jun 28 03:53	18°33'49.31 1°04'58	minimum elong	14560 Jan 04 18:51	27°33'29.01	3°25'06
min. Earth dist.	14553 Jun 29 21:57	18°33'47.17 39.82576 AU	morning rise	14560 Jan 20 07:53	27°33'54.55	
direct	14553 Sep 17 02:51	17°33'43.17	retrograde	14560 Apr 17 04:42	29°33'20.07	
evening set	14553 Dec 11 06:07	19°33'02.02	opposition	14560 Jul 07 04:45	28°33'11.40	3°46'48
max. Earth dist.	14553 Dec 25 02:47	19°33'24.09 41.70912 AU	min. Earth dist.	14560 Jul 09 03:14	28°33'09.05	38.12727 AU
			direct	14560 Sep 25 21:42	27°33'02.58	
conjunction	14553 Dec 27 01:39	19°33'27.18 1°12'24	evening set	14560 Dec 21 01:12	28°33'26.55	
minimum elong	14553 Dec 27 01:37	19°33'27.18 1°13'25	max. Earth dist.	14561 Jan 03 08:12	28°33'49.10	40.00147 AU
morning rise	14554 Jan 11 22:28	19°33'52.41				
retrograde	14554 Apr 09 07:32	21°33'13.40	conjunction	14561 Jan 05 11:16	28°33'52.47	3°46'41
opposition	14554 Jun 29 16:38	20°33'07.12 1°27'26	minimum elong	14561 Jan 05 11:11	28°33'52.46	3°47'38
min. Earth dist.	14554 Jul 01 11:34	20°33'04.54 39.58894 AU	morning rise	14561 Jan 20 22:06	29°33'18.43	
direct	14554 Sep 18 14:12	19°33'00.38		14561 Feb 16 23:20	0°33'00.00	
evening set	14554 Dec 12 20:33	20°33'20.00	retrograde	14561 Apr 18 22:51	0°33'44.46	
max. Earth dist.	14554 Dec 26 15:51	20°33'42.11 41.47038 AU		14561 Jun 20 13:00	30°33'00.00	
			opposition	14561 Jul 08 20:07	29°33'36.00	4°10'41
conjunction	14554 Dec 28 15:32	20°33'45.24 1°33'53	min. Earth dist.	14561 Jul 10 18:27	29°33'33.25	37.88092 AU
minimum elong	14554 Dec 28 15:29	20°33'45.24 1°34'53	direct	14561 Sep 27 12:26	28°33'26.57	
morning rise	14555 Jan 13 11:35	21°33'10.54	evening set	14561 Dec 22 20:31	29°33'51.51	
retrograde	14555 Apr 10 19:32	22°33'32.30		14561 Dec 27 17:23	0°33'00.00	
opposition	14555 Jul 01 05:49	21°33'25.42 1°50'08	max. Earth dist.	14562 Jan 05 00:00	0°33'14.02	39.75372 AU
min. Earth dist.	14555 Jul 03 02:02	21°33'23.19 39.34911 AU				
direct	14555 Sep 20 04:30	20°33'18.48	conjunction	14562 Jan 07 04:10	0°33'17.45	4°09'23
evening set	14555 Dec 14 11:44	21°33'38.50	minimum elong	14562 Jan 07 04:04	0°33'17.44	4°10'21
max. Earth dist.	14555 Dec 28 05:52	22°33'01.03 41.22906 AU	morning rise	14562 Jan 22 12:30	0°33'43.43	
			retrograde	14562 Apr 20 15:12	2°33'10.41	
conjunction	14555 Dec 30 05:53	22°33'04.20 1°55'33	opposition	14562 Jul 10 12:11	1°33'01.36	4°34'45
minimum elong	14555 Dec 30 05:51	22°33'04.20 1°56'33	min. Earth dist.	14562 Jul 12 11:56	0°33'58.55	37.63366 AU
morning rise	14556 Jan 15 01:03	22°33'29.56		14562 Sep 04 14:51	30°33'00.00	
retrograde	14556 Apr 11 08:35	23°33'52.10	direct	14562 Sep 29 03:18	29°33'52.13	
opposition	14556 Jul 01 19:02	22°33'45.03 2°13'04		14562 Oct 23 08:37	0°33'00.00	

evening set	14562 Dec 24 16:33	1°18'06"		opposition	14569 Jul 20 18:10	11°37'51"	7°26'40"
max. Earth dist.	14563 Jan 06 17:44	1°40'17"	39.50479 AU	min. Earth dist.	14569 Jul 22 22:10	11°34'48"	35.85816 AU
				direct	14569 Oct 08 23:58	10°25'38"	
conjunction	14563 Jan 08 21:36	1°44'00"	4°32'13"	evening set	14570 Jan 05 14:08	11°59'39"	
minimum elong	14563 Jan 08 21:29	1°44'00"	4°33'09"	max. Earth dist.	14570 Jan 17 06:32	12°20'43"	37.71520 AU
morning rise	14563 Jan 24 03:06	2°09'59"					
retrograde	14563 Apr 22 09:11	3°37'55"		conjunction	14570 Jan 19 15:09	12°25'01"	7°14'43"
opposition	14563 Jul 12 04:36	2°28'31"	4°58'57"	minimum elong	14570 Jan 19 14:59	12°25'01"	7°15'34"
min. Earth dist.	14563 Jul 14 04:08	2°25'50"	37.38492 AU	morning rise	14570 Feb 02 16:06	12°50'25"	
direct	14563 Sep 30 18:17	1°18'47"		retrograde	14570 May 03 11:22	14°26'14"	
evening set	14563 Dec 26 13:45	2°45'41"		opposition	14570 Jul 22 14:14	13°14'11"	7°51'29"
max. Earth dist.	14564 Jan 08 09:42	3°07'42"	39.25390 AU	min. Earth dist.	14570 Jul 24 17:28	13°11'09"	35.60266 AU
				direct	14570 Oct 10 17:41	12°01'32"	
conjunction	14564 Jan 10 15:39	3°11'35"	4°55'11"	evening set	14571 Jan 07 17:29	13°36'55"	
minimum elong	14564 Jan 10 15:31	3°11'35"	4°56'07"	max. Earth dist.	14571 Jan 19 03:06	13°57'41"	37.45846 AU
morning rise	14564 Jan 25 18:12	3°37'33"					
retrograde	14564 Apr 23 06:00	5°06'30"		conjunction	14571 Jan 21 12:55	14°02'06"	7°38'03"
opposition	14564 Jul 12 21:33	3°56'46"	5°23'18"	minimum elong	14571 Jan 21 12:44	14°02'05"	7°38'52"
min. Earth dist.	14564 Jul 14 22:46	3°53'58"	37.13421 AU	morning rise	14571 Feb 04 08:31	14°27'19"	
direct	14564 Oct 01 07:04	2°46'39"			14571 Feb 23 07:31	15°	
evening set	14564 Dec 27 11:37	4°14'38"		retrograde	14571 May 05 11:58	16°04'28"	
max. Earth dist.	14565 Jan 09 04:24	4°36'35"	39.00080 AU		14571 Jul 18 20:30	15°R	
				opposition	14571 Jul 24 11:01	14°52'01"	8°16'17"
conjunction	14565 Jan 11 10:22	4°40'30"	5°18'15"	min. Earth dist.	14571 Jul 26 14:56	14°48'55"	35.34858 AU
minimum elong	14565 Jan 11 10:14	4°40'30"	5°19'09"	direct	14571 Oct 12 10:56	13°38'55"	
morning rise	14565 Jan 26 09:21	5°06'26"			14572 Jan 01 01:51	15°	
retrograde	14565 Apr 25 01:54	6°36'25"		evening set	14572 Jan 09 21:50	15°15'45"	
opposition	14565 Jul 14 15:06	5°26'20"	5°47'47"	max. Earth dist.	14572 Jan 21 02:21	15°36'18"	37.20313 AU
min. Earth dist.	14565 Jul 16 16:31	5°23'30"	36.88130 AU				
direct	14565 Oct 03 00:05	4°15'50"		conjunction	14572 Jan 23 11:35	15°40'43"	8°01'21"
evening set	14565 Dec 29 10:20	5°44'55"		minimum elong	14572 Jan 23 11:23	15°40'42"	8°02'08"
max. Earth dist.	14566 Jan 10 21:57	6°06'41"	38.74571 AU	morning rise	14572 Feb 06 01:06	16°05'42"	
				retrograde	14572 May 06 12:31	17°44'15"	
conjunction	14566 Jan 13 05:17	6°10'45"	5°41'26"	opposition	14572 Jul 25 08:18	16°31'24"	8°41'01"
minimum elong	14566 Jan 13 05:08	6°10'44"	5°42'20"	min. Earth dist.	14572 Jul 27 12:03	16°28'18"	35.09616 AU
morning rise	14566 Jan 28 00:43	6°36'37"		direct	14572 Oct 13 07:47	15°17'53"	
retrograde	14566 Apr 27 00:39	8°07'40"		evening set	14573 Jan 11 03:24	16°56'14"	
opposition	14566 Jul 16 09:08	6°57'12"	6°12'23"	max. Earth dist.	14573 Jan 22 01:08	17°16'28"	36.94972 AU
min. Earth dist.	14566 Jul 18 11:10	6°54'20"	36.62674 AU				
direct	14566 Oct 04 17:22	5°46'17"		conjunction	14573 Jan 24 10:45	17°20'57"	8°24'32"
evening set	14566 Dec 31 09:54	7°16'33"		minimum elong	14573 Jan 24 10:34	17°20'56"	8°25'19"
max. Earth dist.	14567 Jan 12 17:00	7°38'09"	38.48889 AU	morning rise	14573 Feb 06 18:03	17°45'41"	
				retrograde	14573 May 08 16:00	19°25'42"	
conjunction	14567 Jan 15 00:59	7°42'18"	6°04'41"	opposition	14573 Jul 27 06:18	18°12'28"	9°05'40"
minimum elong	14567 Jan 15 00:50	7°42'17"	6°05'34"	min. Earth dist.	14573 Jul 29 09:42	18°09'22"	34.84578 AU
morning rise	14567 Jan 29 16:17	8°08'06"		direct	14573 Oct 15 04:45	16°58'32"	
retrograde	14567 Apr 28 21:27	9°40'15"		evening set	14574 Jan 13 09:48	18°38'29"	
opposition	14567 Jul 18 03:37	8°29'24"	6°37'05"	max. Earth dist.	14574 Jan 24 00:47	18°58'22"	36.69797 AU
min. Earth dist.	14567 Jul 20 06:47	8°26'26"	36.37086 AU				
direct	14567 Oct 06 11:47	7°18'04"		conjunction	14574 Jan 26 10:33	19°02'54"	8°47'37"
evening set	14568 Jan 02 10:25	8°49'31"		minimum elong	14574 Jan 26 10:21	19°02'53"	8°48'23"
max. Earth dist.	14568 Jan 14 12:59	9°10'58"	38.23117 AU	morning rise	14574 Feb 08 11:05	19°27'20"	
				retrograde	14574 May 10 16:54	21°08'54"	
conjunction	14568 Jan 16 21:11	9°15'10"	6°28'00"	opposition	14574 Jul 29 05:07	19°55'18"	9°30'12"
minimum elong	14568 Jan 16 21:01	9°15'09"	6°28'53"	min. Earth dist.	14574 Jul 31 09:21	19°52'07"	34.59700 AU
morning rise	14568 Jan 31 08:06	9°40'52"		direct	14574 Oct 17 02:14	18°40'57"	
retrograde	14568 Apr 29 17:31	11°14'11"		evening set	14575 Jan 15 17:40	20°22'33"	
opposition	14568 Jul 18 22:34	10°02'56"	7°01'51"	max. Earth dist.	14575 Jan 26 01:55	20°42'05"	36.44770 AU
min. Earth dist.	14568 Jul 21 01:21	9°59'59"	36.11447 AU				
direct	14568 Oct 07 06:47	8°51'10"		conjunction	14575 Jan 28 11:16	20°46'39"	9°10'33"
evening set	14569 Jan 03 11:51	10°23'52"		minimum elong	14575 Jan 28 11:05	20°46'38"	9°11'17"
max. Earth dist.	14569 Jan 15 08:21	10°45'04"	37.97297 AU	morning rise	14575 Feb 10 04:35	21°10'45"	
				retrograde	14575 May 12 18:52	22°53'54"	
conjunction	14569 Jan 17 17:50	10°49'24"	6°51'21"	opposition	14575 Jul 31 04:20	21°39'55"	9°54'35"
minimum elong	14569 Jan 17 17:40	10°49'23"	6°52'12"	min. Earth dist.	14575 Aug 02 07:59	21°36'46"	34.34949 AU
morning rise	14569 Feb 01 00:02	11°14'58"		direct	14575 Oct 19 01:30	20°25'09"	
retrograde	14569 May 01 13:52	12°49'30"		evening set	14576 Jan 18 02:48	22°08'29"	

max. Earth dist.	14576 Jan 28 01:58	22° \approx 27'30	36.19819 AU	conjunction	14582 Feb 10 13:12	3° \mathbb{H} 43'14	11°44'09
				minimum elong	14582 Feb 10 12:57	3° \mathbb{H} 43'13	11°44'42
conjunction	14576 Jan 30 12:47	22° \approx 32'13	9°33'19	morning rise	14582 Feb 20 14:26	4° \mathbb{H} 03'36	
minimum elong	14576 Jan 30 12:33	22° \approx 32'12	9°34'02	retrograde	14582 May 26 07:12	5° \mathbb{H} 59'39	
morning rise	14576 Feb 11 22:32	22° \approx 55'56		opposition	14582 Aug 12 20:31	4° \mathbb{H} 42'40	12°37'52
retrograde	14576 May 13 21:38	24° \approx 40'45		min. Earth dist.	14582 Aug 15 00:43	4° \mathbb{H} 39'18	32.64892 AU
opposition	14576 Aug 01 04:34	23° \approx 26'23	10°18'47	direct	14582 Oct 31 07:28	3° \mathbb{H} 24'34	
min. Earth dist.	14576 Aug 03 09:34	23° \approx 23'07	34.10266 AU	evening set	14583 Feb 03 05:25	5° \mathbb{H} 21'48	
direct	14576 Oct 19 22:41	22° \approx 11'11		max. Earth dist.	14583 Feb 10 08:52	5° \mathbb{H} 36'22	34.48665 AU
evening set	14577 Jan 19 13:03	23° \approx 56'18					
max. Earth dist.	14577 Jan 29 04:57	24° \approx 14'54	35.94921 AU	conjunction	14583 Feb 12 19:55	5° \mathbb{H} 41'25	12°04'32
				minimum elong	14583 Feb 12 19:42	5° \mathbb{H} 41'24	12°05'03
conjunction	14577 Jan 31 15:02	24° \approx 19'36	9°55'52	morning rise	14583 Feb 22 09:55	6° \mathbb{H} 01'00	
minimum elong	14577 Jan 31 14:50	24° \approx 19'35	9°56'34	retrograde	14583 May 28 14:39	7° \mathbb{H} 59'11	
morning rise	14577 Feb 12 16:31	24° \approx 42'53		opposition	14583 Aug 15 01:47	6° \mathbb{H} 41'46	12°59'29
retrograde	14577 May 15 23:52	26° \approx 29'25		min. Earth dist.	14583 Aug 17 06:36	6° \mathbb{H} 38'21	32.41699 AU
opposition	14577 Aug 03 05:25	25° \approx 14'39	10°42'47	direct	14583 Nov 02 10:13	5° \mathbb{H} 23'13	
min. Earth dist.	14577 Aug 05 09:48	25° \approx 11'24	33.85635 AU	evening set	14584 Feb 06 00:57	7° \mathbb{H} 22'45	
direct	14577 Oct 21 22:17	23° \approx 58'59		max. Earth dist.	14584 Feb 12 18:00	7° \mathbb{H} 36'34	34.25437 AU
evening set	14578 Jan 22 00:39	25° \approx 45'56					
max. Earth dist.	14578 Jan 31 06:28	26° \approx 03'54	35.70087 AU	conjunction	14584 Feb 15 03:31	7° \mathbb{H} 41'32	12°24'19
				minimum elong	14584 Feb 15 03:17	7° \mathbb{H} 41'30	12°24'48
conjunction	14578 Feb 02 17:57	26° \approx 08'46	10°18'12	morning rise	14584 Feb 24 05:25	8° \mathbb{H} 00'17	
minimum elong	14578 Feb 02 17:43	26° \approx 08'44	10°18'52	retrograde	14584 May 29 22:13	10° \mathbb{H} 00'40	
morning rise	14578 Feb 14 10:59	26° \approx 31'35		opposition	14584 Aug 16 07:50	8° \mathbb{H} 42'51	13°20'27
retrograde	14578 May 18 04:29	28° \approx 19'54		min. Earth dist.	14584 Aug 18 11:05	8° \mathbb{H} 39'31	32.18982 AU
opposition	14578 Aug 05 07:00	27° \approx 04'41	11°06'31	direct	14584 Nov 03 15:39	7° \mathbb{H} 23'51	
min. Earth dist.	14578 Aug 07 12:12	27° \approx 01'22	33.61097 AU	evening set	14585 Feb 07 21:45	9° \mathbb{H} 25'47	
direct	14578 Oct 23 20:47	25° \approx 48'33		max. Earth dist.	14585 Feb 14 01:44	9° \mathbb{H} 38'37	34.02711 AU
evening set	14579 Jan 24 13:20	27° \approx 37'24					
max. Earth dist.	14579 Feb 02 10:48	27° \approx 54'51	35.45347 AU	conjunction	14585 Feb 16 11:39	9° \mathbb{H} 43'39	12°43'28
				minimum elong	14585 Feb 16 11:27	9° \mathbb{H} 43'38	12°43'56
conjunction	14579 Feb 04 21:45	27° \approx 59'42	10°40'14	morning rise	14585 Feb 25 01:07	10° \mathbb{H} 01'30	
minimum elong	14579 Feb 04 21:32	27° \approx 59'41	10°40'53	retrograde	14585 Jun 01 07:47	12° \mathbb{H} 04'12	
morning rise	14579 Feb 16 05:33	28° \approx 22'00		opposition	14585 Aug 18 14:46	10° \mathbb{H} 46'00	13°40'43
	14579 Apr 21 19:53	0° \mathbb{H}		min. Earth dist.	14585 Aug 20 18:01	10° \mathbb{H} 42'38	31.96790 AU
retrograde	14579 May 20 08:54	0° \mathbb{H} 12'08		direct	14585 Nov 05 18:33	9° \mathbb{H} 26'35	
	14579 Jun 18 07:57	30° \mathbb{R}		evening set	14586 Feb 10 20:10	11° \mathbb{H} 31'01	
opposition	14579 Aug 07 09:21	28° \approx 56'30	11°29'58	max. Earth dist.	14586 Feb 16 12:46	11° \mathbb{H} 42'57	33.80518 AU
min. Earth dist.	14579 Aug 09 14:36	28° \approx 53'09	33.36675 AU				
direct	14579 Oct 25 22:02	27° \approx 39'52		conjunction	14586 Feb 18 20:54	11° \mathbb{H} 47'53	13°01'54
evening set	14580 Jan 27 03:32	29° \approx 30'41		minimum elong	14586 Feb 18 20:41	11° \mathbb{H} 47'52	13°02'20
max. Earth dist.	14580 Feb 04 14:37	29° \approx 47'28	35.20767 AU	morning rise	14586 Feb 26 20:59	12° \mathbb{H} 04'44	
				retrograde	14586 Jun 03 17:22	14° \mathbb{H} 09'51	
conjunction	14580 Feb 07 02:11	29° \approx 52'25	11°01'57	opposition	14586 Aug 20 22:26	12° \mathbb{H} 51'17	14°00'13
minimum elong	14580 Feb 07 01:57	29° \approx 52'24	11°02'33	min. Earth dist.	14586 Aug 23 00:42	12° \mathbb{H} 47'58	31.75116 AU
	14580 Feb 10 21:25	0° \mathbb{H}		direct	14586 Nov 07 23:51	11° \mathbb{H} 31'28	
morning rise	14580 Feb 18 00:25	0° \mathbb{H} 14'08		evening set	14587 Feb 13 20:13	13° \mathbb{H} 38'30	
retrograde	14580 May 21 16:01	2° \mathbb{H} 06'10		max. Earth dist.	14587 Feb 18 22:35	13° \mathbb{H} 49'18	33.58848 AU
opposition	14580 Aug 08 12:13	0° \mathbb{H} 50'04	11°53'03				
min. Earth dist.	14580 Aug 10 17:13	0° \mathbb{H} 46'43	33.12458 AU	conjunction	14587 Feb 21 06:51	13° \mathbb{H} 54'18	13°19'35
	14580 Sep 13 07:03	30° \mathbb{R}		minimum elong	14587 Feb 21 06:40	13° \mathbb{H} 54'17	13°19'59
direct	14580 Oct 26 23:24	29° \approx 32'57		morning rise	14587 Feb 28 17:04	14° \mathbb{H} 10'05	
	14580 Dec 08 20:49	0° \mathbb{H}		retrograde	14587 Jun 06 05:47	16° \mathbb{H} 17'40	
evening set	14581 Jan 28 18:50	1° \mathbb{H} 25'50		opposition	14587 Aug 23 06:57	14° \mathbb{H} 58'46	14°18'53
max. Earth dist.	14581 Feb 05 19:56	1° \mathbb{H} 41'56	34.96400 AU	min. Earth dist.	14587 Aug 25 08:47	14° \mathbb{H} 55'28	31.53945 AU
				direct	14587 Nov 10 06:15	13° \mathbb{H} 38'33	
conjunction	14581 Feb 08 07:26	1° \mathbb{H} 46'55	11°23'16	evening set	14588 Feb 16 21:58	15° \mathbb{H} 48'16	
minimum elong	14581 Feb 08 07:13	1° \mathbb{H} 46'54	11°23'52	max. Earth dist.	14588 Feb 21 10:37	15° \mathbb{H} 57'57	33.37642 AU
morning rise	14581 Feb 18 19:28	2° \mathbb{H} 07'59					
retrograde	14581 May 23 22:26	4° \mathbb{H} 01'59		conjunction	14588 Feb 23 17:54	16° \mathbb{H} 02'54	13°36'27
opposition	14581 Aug 10 16:05	2° \mathbb{H} 45'27	12°15'42	minimum elong	14588 Feb 23 17:42	16° \mathbb{H} 02'53	13°36'48
min. Earth dist.	14581 Aug 12 21:30	2° \mathbb{H} 42'02	32.88500 AU	morning rise	14588 Mar 01 13:15	16° \mathbb{H} 17'30	
direct	14581 Oct 29 02:40	1° \mathbb{H} 27'50		retrograde	14588 Jun 07 17:29	18° \mathbb{H} 27'40	
evening set	14582 Jan 31 11:25	3° \mathbb{H} 22'51		opposition	14588 Aug 24 16:21	17° \mathbb{H} 08'25	14°36'40
max. Earth dist.	14582 Feb 08 02:33	3° \mathbb{H} 38'16	34.72349 AU	min. Earth dist.	14588 Aug 26 18:11	17° \mathbb{H} 05'05	31.33217 AU
				direct	14588 Nov 11 14:59	15° \mathbb{H} 47'48	

evening set	14589 Feb 19 01:40	18° $\mathbf{\text{X}}$ 00'18		retrograde	14595 Jun 25 02:55	4° $\mathbf{\text{Y}}$ 31'41	
max. Earth dist.	14589 Feb 22 22:45	18° $\mathbf{\text{X}}$ 08'41	33.16903 AU	opposition	14595 Sep 10 08:09	3° $\mathbf{\text{Y}}$ 09'55	16°10'26
				min. Earth dist.	14595 Sep 12 03:41	3° $\mathbf{\text{Y}}$ 06'53	30.02843 AU
conjunction	14589 Feb 25 05:39	18° $\mathbf{\text{X}}$ 13'39	13°52'26	direct	14595 Nov 28 00:58	1° $\mathbf{\text{Y}}$ 46'30	
minimum elong	14589 Feb 25 05:29	18° $\mathbf{\text{X}}$ 13'38	13°52'45	max. Earth dist.	14596 Mar 11 13:30	4° $\mathbf{\text{Y}}$ 17'03	31.87390 AU
morning rise	14589 Mar 03 09:15	18° $\mathbf{\text{X}}$ 26'57					
retrograde	14589 Jun 10 07:48	20° $\mathbf{\text{X}}$ 39'47		conjunction	14596 Mar 13 13:21	4° $\mathbf{\text{Y}}$ 21'36	15°14'19
opposition	14589 Aug 27 02:34	19° $\mathbf{\text{X}}$ 20'10	14°53'30	minimum elong	14596 Mar 13 13:18	4° $\mathbf{\text{Y}}$ 21'36	15°14'21
min. Earth dist.	14589 Aug 29 03:09	19° $\mathbf{\text{X}}$ 16'55	31.12943 AU	retrograde	14596 Jun 26 19:51	6° $\mathbf{\text{Y}}$ 56'04	
direct	14589 Nov 14 00:35	17° $\mathbf{\text{X}}$ 59'09		opposition	14596 Sep 11 23:31	5° $\mathbf{\text{Y}}$ 33'59	16°18'26
evening set	14590 Feb 22 07:04	20° $\mathbf{\text{X}}$ 14'32		min. Earth dist.	14596 Sep 13 17:28	5° $\mathbf{\text{Y}}$ 31'04	29.87088 AU
max. Earth dist.	14590 Feb 25 11:38	20° $\mathbf{\text{X}}$ 21'30	32.96611 AU	direct	14596 Nov 29 15:12	4° $\mathbf{\text{Y}}$ 10'14	
				max. Earth dist.	14597 Mar 14 09:45	6° $\mathbf{\text{Y}}$ 42'09	31.71973 AU
conjunction	14590 Feb 27 18:12	20° $\mathbf{\text{X}}$ 26'27	14°07'30				
minimum elong	14590 Feb 27 18:02	20° $\mathbf{\text{X}}$ 26'26	14°07'46	conjunction	14597 Mar 16 06:54	6° $\mathbf{\text{Y}}$ 46'29	15°20'47
morning rise	14590 Mar 05 04:55	20° $\mathbf{\text{X}}$ 38'21		minimum elong	14597 Mar 16 06:55	6° $\mathbf{\text{Y}}$ 46'29	15°20'46
retrograde	14590 Jun 12 21:39	22° $\mathbf{\text{X}}$ 53'55		retrograde	14597 Jun 29 12:12	9° $\mathbf{\text{Y}}$ 21'57	
opposition	14590 Aug 29 13:46	21° $\mathbf{\text{X}}$ 33'57	15°09'20	opposition	14597 Sep 14 15:41	7° $\mathbf{\text{Y}}$ 59'36	16°24'49
min. Earth dist.	14590 Aug 31 14:43	21° $\mathbf{\text{X}}$ 30'39	30.93120 AU	min. Earth dist.	14597 Sep 16 08:17	7° $\mathbf{\text{Y}}$ 56'45	29.72262 AU
direct	14590 Nov 16 10:22	20° $\mathbf{\text{X}}$ 12'32		direct	14597 Dec 02 06:16	6° $\mathbf{\text{Y}}$ 35'33	
evening set	14591 Feb 25 15:10	22° $\mathbf{\text{X}}$ 30'55		max. Earth dist.	14598 Mar 17 05:03	9° $\mathbf{\text{Y}}$ 08'40	31.57552 AU
max. Earth dist.	14591 Feb 28 02:25	22° $\mathbf{\text{X}}$ 36'21	32.76816 AU				
conjunction	14591 Mar 02 07:42	22° $\mathbf{\text{X}}$ 41'15	14°21'34	conjunction	14598 Mar 19 00:50	9° $\mathbf{\text{Y}}$ 12'53	15°25'43
minimum elong	14591 Mar 02 07:35	22° $\mathbf{\text{X}}$ 41'14	14°21'48	minimum elong	14598 Mar 19 00:51	9° $\mathbf{\text{Y}}$ 12'53	15°25'40
morning rise	14591 Mar 06 23:55	22° $\mathbf{\text{X}}$ 51'33		retrograde	14598 Jul 02 07:39	11° $\mathbf{\text{Y}}$ 49'19	
retrograde	14591 Jun 15 13:48	25° $\mathbf{\text{X}}$ 09'59		opposition	14598 Sep 17 08:22	10° $\mathbf{\text{Y}}$ 26'44	16°29'32
opposition	14591 Sep 01 01:26	23° $\mathbf{\text{X}}$ 49'39	15°24'04	min. Earth dist.	14598 Sep 18 22:34	10° $\mathbf{\text{Y}}$ 24'03	29.58408 AU
min. Earth dist.	14591 Sep 03 00:48	23° $\mathbf{\text{X}}$ 46'26	30.73798 AU	direct	14598 Dec 04 22:07	9° $\mathbf{\text{Y}}$ 02'26	
direct	14591 Nov 18 23:08	22° $\mathbf{\text{X}}$ 27'49		max. Earth dist.	14599 Mar 20 02:02	11° $\mathbf{\text{Y}}$ 36'47	31.44104 AU
evening set	14592 Feb 29 02:01	24° $\mathbf{\text{X}}$ 49'25		conjunction	14599 Mar 21 19:37	11° $\mathbf{\text{Y}}$ 40'49	15°29'04
max. Earth dist.	14592 Mar 01 16:32	24° $\mathbf{\text{X}}$ 52'59	32.57550 AU	minimum elong	14599 Mar 21 19:42	11° $\mathbf{\text{Y}}$ 40'49	15°28'58
				retrograde	14599 Jul 05 01:29	14° $\mathbf{\text{Y}}$ 18'08	
conjunction	14592 Mar 03 21:55	24° $\mathbf{\text{X}}$ 57'55	14°34'34	opposition	14599 Sep 20 01:40	12° $\mathbf{\text{Y}}$ 55'22	16°32'31
minimum elong	14592 Mar 03 21:47	24° $\mathbf{\text{X}}$ 57'54	14°34'46	min. Earth dist.	14599 Sep 21 15:07	12° $\mathbf{\text{Y}}$ 52'44	29.45495 AU
morning rise	14592 Mar 07 17:31	25° $\mathbf{\text{X}}$ 06'23		direct	14599 Dec 07 14:50	11° $\mathbf{\text{Y}}$ 30'52	
retrograde	14592 Jun 17 04:11	27° $\mathbf{\text{X}}$ 27'54		max. Earth dist.	14600 Mar 22 23:13	14° $\mathbf{\text{Y}}$ 06'21	31.31627 AU
opposition	14592 Sep 02 14:07	26° $\mathbf{\text{X}}$ 07'11	15°37'39				
min. Earth dist.	14592 Sep 04 13:44	26° $\mathbf{\text{X}}$ 03'56	30.55034 AU	conjunction	14600 Mar 24 14:53	14° $\mathbf{\text{Y}}$ 10'13	15°30'48
direct	14592 Nov 20 09:52	24° $\mathbf{\text{X}}$ 44'57		minimum elong	14600 Mar 24 14:58	14° $\mathbf{\text{Y}}$ 10'14	15°30'40
evening set	14593 Mar 03 17:34	27° $\mathbf{\text{X}}$ 10'06		retrograde	14600 Jul 07 22:04	16° $\mathbf{\text{Y}}$ 48'22	
max. Earth dist.	14593 Mar 04 09:29	27° $\mathbf{\text{X}}$ 11'35	32.38898 AU	opposition	14600 Sep 22 19:34	15° $\mathbf{\text{Y}}$ 25'26	16°33'45
				min. Earth dist.	14600 Sep 24 06:27	15° $\mathbf{\text{Y}}$ 22'59	29.33504 AU
conjunction	14593 Mar 06 12:45	27° $\mathbf{\text{X}}$ 16'22	14°46'26	direct	14600 Dec 10 09:56	14° $\mathbf{\text{Y}}$ 00'45	
minimum elong	14593 Mar 06 12:40	27° $\mathbf{\text{X}}$ 16'21	14°46'35	max. Earth dist.	14601 Mar 25 20:32	16° $\mathbf{\text{Y}}$ 37'16	31.20068 AU
morning rise	14593 Mar 09 07:44	27° $\mathbf{\text{X}}$ 22'37					
retrograde	14593 Jun 19 19:12	29° $\mathbf{\text{X}}$ 47'32		conjunction	14601 Mar 27 10:34	16° $\mathbf{\text{Y}}$ 41'00	15°30'54
opposition	14593 Sep 05 03:26	28° $\mathbf{\text{X}}$ 26'27	15°49'57	minimum elong	14601 Mar 27 10:41	16° $\mathbf{\text{Y}}$ 41'00	15°30'42
min. Earth dist.	14593 Sep 07 01:11	28° $\mathbf{\text{X}}$ 23'19	30.36896 AU	retrograde	14601 Jul 10 17:26	19° $\mathbf{\text{Y}}$ 19'54	
direct	14593 Nov 22 23:32	27° $\mathbf{\text{X}}$ 03'49		opposition	14601 Sep 25 14:10	17° $\mathbf{\text{Y}}$ 56'49	16°33'12
evening set	14594 Mar 07 21:17	29° $\mathbf{\text{X}}$ 33'36		min. Earth dist.	14601 Sep 27 00:29	17° $\mathbf{\text{Y}}$ 54'23	29.22404 AU
max. Earth dist.	14594 Mar 07 01:05	29° $\mathbf{\text{X}}$ 31'42	32.20931 AU	direct	14601 Dec 13 03:19	16° $\mathbf{\text{Y}}$ 31'57	
conjunction	14594 Mar 09 04:15	29° $\mathbf{\text{X}}$ 36'31	14°57'03				
minimum elong	14594 Mar 09 04:09	29° $\mathbf{\text{X}}$ 36'30	14°57'11				
morning rise	14594 Mar 10 11:02	29° $\mathbf{\text{X}}$ 39'24					
	14594 Mar 19 15:15	0° $\mathbf{\text{Y}}$					
retrograde	14594 Jun 22 11:57	2° $\mathbf{\text{Y}}$ 08'49					
opposition	14594 Sep 07 17:24	0° $\mathbf{\text{Y}}$ 47'23	16°00'55				
min. Earth dist.	14594 Sep 09 14:35	0° $\mathbf{\text{Y}}$ 44'16	30.19480 AU				
	14594 Oct 08 03:47	30° $\mathbf{\text{X}}$					
direct	14594 Nov 25 11:04	29° $\mathbf{\text{X}}$ 24'20					
	14595 Jan 11 11:15	0° $\mathbf{\text{Y}}$					
max. Earth dist.	14595 Mar 09 20:01	1° $\mathbf{\text{Y}}$ 53'41	32.03734 AU				
conjunction	14595 Mar 11 20:35	1° $\mathbf{\text{Y}}$ 58'17	15°06'23				
minimum elong	14595 Mar 11 20:32	1° $\mathbf{\text{Y}}$ 58'16	15°06'27				