

max. Earth dist.	14600 Mar 22 23:13	14°06'21"	31.31627 AU	retrograde	14607 Jul 26 20:24	4°08'46"05	
				opposition	14607 Oct 11 12:28	3°08'22"24	15°51'04"
conjunction	14600 Mar 24 14:53	14°09'10"13	15°30'48"	min. Earth dist.	14607 Oct 12 10:53	3°08'20"49	28.75244 AU
minimum elong	14600 Mar 24 14:58	14°09'10"14	15°30'40"	direct	14607 Dec 29 03:55	1°08'56"51	
retrograde	14600 Jul 07 22:04	16°09'48"22		evening set	14608 Apr 11 11:10	4°08'32"55	
opposition	14600 Sep 22 19:34	15°09'25"26	16°33'45"				
min. Earth dist.	14600 Sep 24 06:27	15°09'22"59	29.33504 AU	conjunction	14608 Apr 14 13:34	4°08'40"20	14°43'37"
direct	14600 Dec 10 09:56	14°09'00"45		minimum elong	14608 Apr 14 13:54	4°08'40"22	14°43'07"
max. Earth dist.	14601 Mar 25 20:32	16°09'37"16	31.20068 AU	max. Earth dist.	14608 Apr 13 15:15	4°08'38"07	30.65965 AU
				morning rise	14608 Apr 17 16:33	4°08'47"49	
conjunction	14601 Mar 27 10:34	16°09'41"00	15°30'54"	retrograde	14608 Jul 28 14:45	7°08'21"34	
minimum elong	14601 Mar 27 10:41	16°09'41"00	15°30'42"	opposition	14608 Oct 13 09:00	5°08'57"52	15°37'26"
retrograde	14601 Jul 10 17:26	19°09'19"54		min. Earth dist.	14608 Oct 14 05:32	5°08'56"24	28.71041 AU
opposition	14601 Sep 25 14:10	17°09'56"49	16°33'12"	direct	14608 Dec 31 01:00	4°08'32"17	
min. Earth dist.	14601 Sep 27 00:29	17°09'54"23	29.22404 AU	evening set	14609 Apr 13 06:45	7°08'05"49	
direct	14601 Dec 13 03:19	16°09'31"57					
max. Earth dist.	14602 Mar 28 19:14	19°09'09"29	31.09433 AU	conjunction	14609 Apr 17 10:36	7°08'15"47	14°29'51"
				minimum elong	14609 Apr 17 10:57	7°08'15"49	14°29'18"
conjunction	14602 Mar 30 06:51	19°09'12"59	15°29'19"	max. Earth dist.	14609 Apr 16 14:12	7°08'13"45	30.62582 AU
minimum elong	14602 Mar 30 07:00	19°09'13"00	15°29'05"	morning rise	14609 Apr 21 15:04	7°08'25"49	
retrograde	14602 Jul 13 14:43	21°09'52"32		retrograde	14609 Jul 31 12:04	9°08'56"57	
opposition	14602 Sep 28 08:59	20°09'29"19	16°30'50"	opposition	14609 Oct 16 05:25	8°08'33"15	15°21'53"
min. Earth dist.	14602 Sep 29 16:48	20°09'27"04	29.12183 AU	min. Earth dist.	14609 Oct 16 22:30	8°08'32"02	28.68052 AU
direct	14602 Dec 15 23:35	19°09'04"19		direct	14610 Jan 02 21:30	7°08'07"41	
max. Earth dist.	14603 Mar 31 16:55	21°09'42"37	30.99703 AU	evening set	14610 Apr 15 05:52	9°08'38"58	
conjunction	14603 Apr 02 03:32	21°09'46"02	15°26'02"	conjunction	14610 Apr 20 07:52	9°08'51"07	14°14'22"
minimum elong	14603 Apr 02 03:44	21°09'46"03	15°25'45"	minimum elong	14610 Apr 20 08:14	9°08'51"10	14°13'48"
retrograde	14603 Jul 16 11:33	24°09'26"07		max. Earth dist.	14610 Apr 19 14:56	9°08'49"26	30.60441 AU
opposition	14603 Oct 01 04:26	23°09'02"47	16°26'38"	morning rise	14610 Apr 25 10:24	10°08'03"21	
min. Earth dist.	14603 Oct 02 11:19	23°09'00"35	29.02860 AU	retrograde	14610 Aug 03 05:39	12°08'32"09	
direct	14603 Dec 18 18:20	21°09'37"38		opposition	14610 Oct 19 01:50	11°08'08"30	15°04'29"
max. Earth dist.	14604 Apr 02 16:46	24°09'16"47	30.90912 AU	min. Earth dist.	14610 Oct 19 17:22	11°08'07"24	28.66290 AU
				direct	14611 Jan 05 17:55	9°08'43"00	
conjunction	14604 Apr 04 00:30	24°09'19"56	15°21'03"	evening set	14611 Apr 17 06:55	12°08'12"08	
minimum elong	14604 Apr 04 00:42	24°09'19"57	15°20'43"				
retrograde	14604 Jul 18 07:19	27°09'00"27		conjunction	14611 Apr 23 04:56	12°08'26"17	13°57'11"
opposition	14604 Oct 03 00:07	25°09'37"01	16°20'35"	minimum elong	14611 Apr 23 05:19	12°08'26"19	13°56'33"
min. Earth dist.	14604 Oct 04 04:38	25°09'34"59	28.94448 AU	max. Earth dist.	14611 Apr 22 14:20	12°08'24"50	30.59563 AU
direct	14604 Dec 20 15:30	24°09'11"44		morning rise	14611 Apr 29 03:29	12°08'40"30	
					14611 Jul 17 05:10	15°08'	
conjunction	14605 Apr 06 21:34	26°09'54"30	15°14'19"	retrograde	14611 Aug 06 02:00	15°08'07"04	
minimum elong	14605 Apr 06 21:49	26°09'54"31	15°13'57"		14611 Aug 26 06:20	15°08'	
max. Earth dist.	14605 Apr 05 14:53	26°09'51"27	30.83090 AU	opposition	14611 Oct 21 22:09	13°08'43"32	14°45'16"
retrograde	14605 Jul 21 04:40	29°09'35"21		min. Earth dist.	14611 Oct 22 10:11	13°08'42"41	28.65745 AU
opposition	14605 Oct 05 20:05	28°09'11"49	16°12'39"	direct	14612 Jan 08 16:43	12°08'18"08	
min. Earth dist.	14605 Oct 06 22:58	28°09'09"54	28.87016 AU	evening set	14612 Apr 18 08:56	14°08'45"12	
direct	14605 Dec 23 10:49	26°09'46"26			14612 Apr 24 13:56	15°08'	
conjunction	14606 Apr 09 18:53	29°09'29"33	15°05'50"	conjunction	14612 Apr 25 01:46	15°08'01"11	13°38'21"
minimum elong	14606 Apr 09 19:09	29°09'29"34	15°05'26"	minimum elong	14612 Apr 25 02:10	15°08'01"13	13°37'43"
max. Earth dist.	14606 Apr 08 15:35	29°09'26"50	30.76291 AU	max. Earth dist.	14612 Apr 24 14:08	15°08'00"01	30.59887 AU
	14606 Apr 22 14:23	0°08'		morning rise	14612 May 01 19:02	15°08'17"14	
retrograde	14606 Jul 24 00:18	2°08'10"38		retrograde	14612 Aug 07 20:40	17°08'41"39	
opposition	14606 Oct 08 16:17	0°08'47"01	16°02'49"	opposition	14612 Oct 23 18:32	16°08'18"15	14°24'19"
min. Earth dist.	14606 Oct 09 17:12	0°08'45"14	28.80587 AU	min. Earth dist.	14612 Oct 24 05:11	16°08'17"29	28.66370 AU
	14606 Nov 06 19:30	30°08'09"			14612 Dec 21 03:38	15°08'	
direct	14606 Dec 26 07:25	29°09'21"32		direct	14613 Jan 10 12:45	14°08'52"59	
	14607 Feb 12 05:31	0°08'			14613 Jan 30 20:12	15°08'	
evening set	14607 Apr 11 00:11	2°08'00"53		evening set	14613 Apr 20 12:06	17°08'17"59	
conjunction	14607 Apr 12 16:10	2°08'04"53	14°55'36"	conjunction	14613 Apr 27 22:25	17°08'35"41	13°17'58"
minimum elong	14607 Apr 12 16:27	2°08'04"54	14°55'08"	minimum elong	14613 Apr 27 22:50	17°08'35"43	13°17'16"
max. Earth dist.	14607 Apr 11 14:12	2°08'02"17	30.70561 AU	max. Earth dist.	14613 Apr 27 13:29	17°08'34"47	30.61379 AU
morning rise	14607 Apr 14 08:43	2°08'08"55		morning rise	14613 May 05 09:07	17°08'53"26	

retrograde	14613 Aug 10 16:31	20° 8 15'44		evening set	14620 May 03 22:48	4° II 45'56	
opposition	14613 Oct 26 14:33	18° 8 52'29	14°01'43				
min. Earth dist.	14613 Oct 26 22:00	18° 8 51'57	28.68104 AU	conjunction	14620 May 15 11:58	5° II 12'41	10°18'16
direct	14614 Jan 13 11:23	17° 8 27'23		minimum elong	14620 May 15 12:22	5° II 12'43	10°17'23
evening set	14614 Apr 22 15:48	19° 8 50'20		max. Earth dist.	14620 May 15 18:55	5° II 13'21	31.00685 AU
				morning rise	14620 May 27 00:57	5° II 39'25	
conjunction	14614 Apr 30 18:48	20° 8 09'38	12°56'06	retrograde	14620 Aug 27 18:04	7° II 47'32	
minimum elong	14614 Apr 30 19:13	20° 8 09'40	12°55'23	opposition	14620 Nov 13 02:40	6° II 25'34	10°44'48
max. Earth dist.	14614 Apr 30 11:55	20° 8 08'57	30.63956 AU	min. Earth dist.	14620 Nov 12 18:27	6° II 26'08	29.08617 AU
morning rise	14614 May 08 22:08	20° 8 28'58		direct	14621 Jan 31 12:53	5° II 01'51	
retrograde	14614 Aug 13 11:40	22° 8 49'12		evening set	14621 May 06 04:27	7° II 10'51	
opposition	14614 Oct 29 10:34	21° 8 26'05	13°37'33				
min. Earth dist.	14614 Oct 29 16:30	21° 8 25'40	28.70899 AU	conjunction	14621 May 18 04:49	7° II 38'30	9°48'18
direct	14615 Jan 16 08:34	20° 8 01'09		minimum elong	14621 May 18 05:11	7° II 38'32	9°47'23
evening set	14615 Apr 24 20:16	22° 8 22'04		max. Earth dist.	14621 May 18 15:16	7° II 39'31	31.10354 AU
				morning rise	14621 May 30 04:39	8° II 06'08	
conjunction	14615 May 03 14:57	22° 8 42'52	12°32'49	retrograde	14621 Aug 30 06:53	10° II 12'22	
minimum elong	14615 May 03 15:21	22° 8 42'54	12°32'03	opposition	14621 Nov 15 19:36	8° II 50'39	10°12'13
max. Earth dist.	14615 May 03 10:58	22° 8 42'28	30.67586 AU	min. Earth dist.	14621 Nov 15 09:57	8° II 51'19	29.18501 AU
morning rise	14615 May 12 09:46	23° 8 03'41		direct	14622 Feb 03 06:19	7° II 27'12	
retrograde	14615 Aug 16 06:01	25° 8 21'50		evening set	14622 May 08 10:22	9° II 34'19	
opposition	14615 Nov 01 06:14	23° 8 58'54	13°11'55				
min. Earth dist.	14615 Nov 01 09:33	23° 8 58'40	28.74699 AU	conjunction	14622 May 20 20:56	10° II 02'48	9°17'30
direct	14616 Jan 19 07:17	22° 8 34'08		minimum elong	14622 May 20 21:19	10° II 02'50	9°16'34
evening set	14616 Apr 26 01:04	24° 8 53'01		max. Earth dist.	14622 May 21 09:16	10° II 03'59	31.21116 AU
				morning rise	14622 Jun 02 07:03	10° II 31'15	
conjunction	14616 May 05 10:35	25° 8 15'12	12°08'14	retrograde	14622 Sep 01 20:49	12° II 35'39	
minimum elong	14616 May 05 11:01	25° 8 15'15	12°07'27	opposition	14622 Nov 18 11:54	11° II 14'13	9°38'47
max. Earth dist.	14616 May 05 08:08	25° 8 14'58	30.72219 AU	min. Earth dist.	14622 Nov 17 22:43	11° II 15'07	29.29478 AU
morning rise	14616 May 14 20:20	25° 8 37'24		direct	14623 Feb 06 01:28	9° II 51'04	
retrograde	14616 Aug 18 00:52	27° 8 53'30		evening set	14623 May 10 16:11	11° II 56'23	
opposition	14616 Nov 03 01:41	26° 8 30'44	12°44'54				
min. Earth dist.	14616 Nov 03 02:59	26° 8 30'39	28.79507 AU	conjunction	14623 May 23 12:25	12° II 25'37	8°45'57
direct	14617 Jan 21 03:27	25° 8 06'10		minimum elong	14623 May 23 12:46	12° II 25'39	8°45'00
evening set	14617 Apr 28 06:06	27° 8 23'02		max. Earth dist.	14623 May 24 03:46	12° II 27'04	31.32948 AU
				morning rise	14623 Jun 05 08:02	12° II 54'47	
conjunction	14617 May 08 05:46	27° 8 46'30	11°42'24	retrograde	14623 Sep 04 09:27	14° II 57'26	
minimum elong	14617 May 08 06:11	27° 8 46'32	11°41'34	opposition	14623 Nov 21 03:46	13° II 36'18	9°04'37
max. Earth dist.	14617 May 08 06:38	27° 8 46'35	30.77854 AU	min. Earth dist.	14623 Nov 20 12:58	13° II 37'19	29.41533 AU
morning rise	14617 May 18 05:20	28° 8 09'58		direct	14624 Feb 08 17:15	12° II 13'30	
	14617 Jul 14 12:06	0° II		evening set	14624 May 11 22:08	14° II 17'04	
retrograde	14617 Aug 20 18:09	0° II 24'02					
	14617 Sep 28 00:29	30° 8		conjunction	14624 May 25 03:15	14° II 46'57	8°13'47
opposition	14617 Nov 05 20:43	29° 8 01'27	12°16'36	minimum elong	14624 May 25 03:35	14° II 46'59	8°12'49
min. Earth dist.	14617 Nov 05 20:00	29° 8 01'30	28.85283 AU	max. Earth dist.	14624 May 25 20:54	14° II 48'37	31.45830 AU
direct	14618 Jan 24 01:39	27° 8 37'05		morning rise	14624 Jun 07 07:36	15° II 16'46	
evening set	14618 Apr 30 11:36	29° 8 51'56		retrograde	14624 Sep 05 22:43	17° II 17'44	
	14618 May 03 22:42	0° II		opposition	14624 Nov 22 18:54	15° II 56'56	8°29'50
				min. Earth dist.	14624 Nov 22 01:07	15° II 58'08	29.54598 AU
conjunction	14618 May 11 00:27	0° II 16'36	11°15'24	direct	14625 Feb 10 10:39	14° II 34'29	
minimum elong	14618 May 11 00:52	0° II 16'38	11°14'34	evening set	14625 May 14 04:00	16° II 36'22	
max. Earth dist.	14618 May 11 02:32	0° II 16'48	30.84466 AU				
morning rise	14618 May 21 13:21	0° II 41'15		conjunction	14625 May 27 17:16	17° II 06'49	7°41'04
retrograde	14618 Aug 23 11:11	2° II 53'18		minimum elong	14625 May 27 17:35	17° II 06'51	7°40'05
opposition	14618 Nov 08 15:05	1° II 30'54	11°47'05	max. Earth dist.	14625 May 28 12:58	17° II 08'40	31.59663 AU
min. Earth dist.	14618 Nov 08 11:45	1° II 31'08	28.92051 AU	morning rise	14625 Jun 10 05:49	17° II 37'12	
direct	14619 Jan 26 21:39	0° II 06'44		retrograde	14625 Sep 08 11:55	19° II 36'32	
evening set	14619 May 02 17:10	2° II 19'36		opposition	14625 Nov 25 09:33	18° II 16'05	7°54'33
				min. Earth dist.	14625 Nov 24 14:03	18° II 17'23	29.68606 AU
conjunction	14619 May 13 18:41	2° II 45'21	10°47'20	direct	14626 Feb 13 02:35	16° II 54'00	
minimum elong	14619 May 13 19:06	2° II 45'24	10°46'28	evening set	14626 May 16 10:03	18° II 54'15	
max. Earth dist.	14619 May 14 00:11	2° II 45'54	30.92067 AU				
morning rise	14619 May 24 19:53	3° II 11'06		conjunction	14626 May 30 06:52	19° II 25'11	7°07'55
retrograde	14619 Aug 26 01:44	5° II 21'09		minimum elong	14626 May 30 07:10	19° II 25'13	7°06'56
opposition	14619 Nov 11 09:12	3° II 58'59	11°16'27	max. Earth dist.	14626 May 31 05:07	19° II 27'16	31.74377 AU
min. Earth dist.	14619 Nov 11 04:18	3° II 59'19	28.99811 AU	morning rise	14626 Jun 13 02:40	19° II 56'03	
direct	14620 Jan 29 17:54	2° II 35'02		retrograde	14626 Sep 10 23:59	21° II 53'48	

opposition	14626 Nov 27 23:25	20°II33'42	7°18'51	conjunction	14633 Jun 14 09:23	4°☾46'35	3°10'53
min. Earth dist.	14626 Nov 27 02:03	20°II35'08	29.83448 AU	minimum elong	14633 Jun 14 09:31	4°☾46'36	3°09'50
direct	14627 Feb 15 20:13	19°II12'00		max. Earth dist.	14633 Jun 15 19:08	4°☾49'36	32.96629 AU
evening set	14627 May 18 16:14	21°II10'40		morning rise	14633 Jun 29 14:41	5°☾18'52	
				retrograde	14633 Sep 25 10:43	7°☾06'55	
conjunction	14627 Jun 01 19:40	21°II42'01	6°34'26	min. Earth dist.	14633 Dec 11 21:13	5°☾51'11	31.06663 AU
minimum elong	14627 Jun 01 19:56	21°II42'02	6°33'26	opposition	14633 Dec 13 06:49	5°☾49'01	3°05'17
max. Earth dist.	14627 Jun 02 19:03	21°II44'11	31.89872 AU	direct	14634 Mar 03 18:11	4°☾29'42	
morning rise	14627 Jun 15 22:18	22°II13'17		evening set	14634 Jun 01 08:04	6°☾18'31	
retrograde	14627 Sep 13 11:49	24°II09'30					
opposition	14627 Nov 30 12:50	22°II49'44	6°42'51	conjunction	14634 Jun 16 16:59	6°☾50'51	2°37'08
min. Earth dist.	14627 Nov 29 13:15	22°II51'18	29.99077 AU	minimum elong	14634 Jun 16 17:06	6°☾50'51	2°36'06
direct	14628 Feb 18 10:21	21°II28'24		max. Earth dist.	14634 Jun 18 04:23	6°☾53'59	33.16615 AU
evening set	14628 May 19 22:06	23°II25'32		morning rise	14634 Jul 02 00:42	7°☾23'05	
				retrograde	14634 Sep 27 16:55	9°☾09'59	
conjunction	14628 Jun 03 07:48	23°II57'13	6°00'42	min. Earth dist.	14634 Dec 14 04:08	7°☾54'40	31.26900 AU
minimum elong	14628 Jun 03 08:03	23°II57'14	5°59'41	opposition	14634 Dec 15 15:21	7°☾52'25	2°29'25
max. Earth dist.	14628 Jun 04 10:00	23°II59'38	32.06095 AU	direct	14635 Mar 06 03:21	6°☾33'27	
morning rise	14628 Jun 17 16:17	24°II28'49		evening set	14635 Jun 03 13:06	8°☾21'05	
retrograde	14628 Sep 14 21:57	26°II23'33					
min. Earth dist.	14628 Dec 01 00:58	25°II05'46	30.15408 AU	conjunction	14635 Jun 18 23:59	8°☾53'20	2°03'36
opposition	14628 Dec 02 01:39	25°II04'08	6°06'39	minimum elong	14635 Jun 19 00:04	8°☾53'20	2°02'35
direct	14629 Feb 20 02:57	23°II43'10		max. Earth dist.	14635 Jun 20 13:38	8°☾56'38	33.37294 AU
evening set	14629 May 22 04:12	25°II38'47		morning rise	14635 Jul 04 09:24	9°☾25'28	
				retrograde	14635 Sep 29 22:07	11°☾11'18	
conjunction	14629 Jun 05 19:11	26°II10'44	5°26'47	min. Earth dist.	14635 Dec 16 10:27	9°☾56'24	31.47818 AU
minimum elong	14629 Jun 05 19:24	26°II10'45	5°25'47	opposition	14635 Dec 17 23:18	9°☾54'04	1°53'49
max. Earth dist.	14629 Jun 06 21:53	26°II13'11	32.22981 AU	direct	14636 Mar 07 13:47	8°☾35'29	
morning rise	14629 Jun 20 09:13	26°II42'36		evening set	14636 Jun 04 17:57	10°☾22'00	
retrograde	14629 Sep 17 09:08	28°II35'54					
min. Earth dist.	14629 Dec 03 10:21	27°II18'35	30.32406 AU	conjunction	14636 Jun 20 06:00	10°☾54'08	1°30'20
opposition	14629 Dec 04 13:32	27°II16'48	5°30'19	minimum elong	14636 Jun 20 06:03	10°☾54'08	1°29'19
direct	14630 Feb 22 17:21	25°II56'10		max. Earth dist.	14636 Jun 21 20:38	10°☾57'29	33.58615 AU
evening set	14630 May 24 10:06	27°II50'20		morning rise	14636 Jul 05 16:53	11°☾26'09	
				retrograde	14636 Oct 01 04:04	13°☾10'57	
conjunction	14630 Jun 08 06:03	28°II22'29	4°52'47	min. Earth dist.	14636 Dec 17 15:19	11°☾56'33	31.69390 AU
minimum elong	14630 Jun 08 06:15	28°II22'30	4°51'46	opposition	14636 Dec 19 06:31	11°☾54'05	1°18'34
max. Earth dist.	14630 Jun 09 11:17	28°II25'09	32.40487 AU	direct	14637 Mar 09 21:29	10°☾35'53	
morning rise	14630 Jun 23 00:40	28°II54'33		evening set	14637 Jun 06 22:36	12°☾21'23	
	14630 Jul 27 04:03	0°☾					
retrograde	14630 Sep 19 15:45	0°☾46'27		conjunction	14637 Jun 22 11:38	12°☾53'20	0°57'24
	14630 Nov 15 19:49	30°☾II		minimum elong	14637 Jun 22 11:40	12°☾53'20	0°56'22
min. Earth dist.	14630 Dec 05 21:18	29°II29'29	30.50024 AU	max. Earth dist.	14637 Jun 24 04:51	12°☾56'54	33.80530 AU
opposition	14630 Dec 07 01:00	29°II27'40	4°53'57	morning rise	14637 Jul 07 23:11	13°☾25'11	
direct	14631 Feb 25 06:59	28°II07'23		retrograde	14637 Oct 03 07:40	15°☾09'02	
evening set	14631 May 26 15:55	0°☾00'08		min. Earth dist.	14637 Dec 19 21:14	13°☾55'02	31.91523 AU
	14631 May 26 14:29	0°☾		opposition	14637 Dec 21 13:00	13°☾52'32	0°43'42
				direct	14638 Mar 12 07:28	12°☾34'46	
conjunction	14631 Jun 10 15:54	0°☾32'25	4°18'46	evening set	14638 Jun 09 03:18	14°☾19'17	
minimum elong	14631 Jun 10 16:04	0°☾32'26	4°17'44				
max. Earth dist.	14631 Jun 11 21:49	0°☾35'07	32.58591 AU	conjunction	14638 Jun 24 16:31	14°☾51'01	0°24'49
morning rise	14631 Jun 25 14:45	1°☾04'36		minimum elong	14638 Jun 24 16:31	14°☾51'01	0°23'47
retrograde	14631 Sep 21 22:55	2°☾55'10		max. Earth dist.	14638 Jun 26 09:57	14°☾54'34	34.02947 AU
min. Earth dist.	14631 Dec 08 05:15	1°☾38'40	30.68255 AU	morning rise	14638 Jul 10 04:32	15°☾22'40	
opposition	14631 Dec 09 11:36	1°☾36'41	4°17'37	retrograde	14638 Oct 05 12:43	17°☾05'37	
direct	14632 Feb 27 19:59	0°☾16'43		min. Earth dist.	14638 Dec 22 00:51	15°☾52'08	32.14143 AU
evening set	14632 May 27 21:28	2°☾08'05		opposition	14638 Dec 23 18:54	15°☾49'30	0°09'16
				direct	14639 Mar 14 15:25	14°☾32'08	
conjunction	14632 Jun 12 01:05	2°☾40'27	3°44'46	desc. node	14639 Apr 02 21:24	14°☾37'42	
minimum elong	14632 Jun 12 01:14	2°☾40'28	3°43'44	evening set	14639 Jun 11 07:40	16°☾15'44	
max. Earth dist.	14632 Jun 13 09:22	2°☾43'21	32.77289 AU				
morning rise	14632 Jun 27 03:25	3°☾12'43		conjunction	14639 Jun 26 20:46	16°☾47'14	-0°07'26
retrograde	14632 Sep 23 04:58	5°☾01'59		minimum elong	14639 Jun 26 20:47	16°☾47'14	0°08'28
opposition	14632 Dec 10 21:38	3°☾43'48	3°41'22	behind sun begin	14639 Jun 26 15:08	16°☾46'46	
min. Earth dist.	14632 Dec 09 14:25	3°☾45'49	30.87129 AU	behind sun end	14639 Jun 27 02:25	16°☾47'41	
direct	14633 Mar 01 06:11	2°☾24'10		max. Earth dist.	14639 Jun 28 16:24	16°☾50'56	34.25782 AU
evening set	14633 May 30 02:46	4°☾14'12		morning rise	14639 Jul 12 08:31	17°☾18'37	

retrograde	14639 Oct 07 13:59	19°☾00'45		conjunction	14646 Jul 09 09:38	29°☾39'16	-3°38'55
min. Earth dist.	14639 Dec 24 06:11	17°☾47'37	32.37167 AU	minimum elong	14646 Jul 09 09:32	29°☾39'16	3°39'51
opposition	14639 Dec 26 00:24	17°☾45'00	-0°24'42	max. Earth dist.	14646 Jul 11 11:24	29°☾43'18	35.92757 AU
direct	14640 Mar 15 22:19	16°☾28'03			14646 Jul 20 02:52	0°♂	
evening set	14640 Jun 12 12:00	18°☾10'45		morning rise	14646 Jul 24 08:57	0°♂08'06	
				retrograde	14646 Oct 19 17:24	1°♂45'26	
conjunction	14640 Jun 28 00:28	18°☾41'58	-0°39'09	min. Earth dist.	14647 Jan 05 20:14	0°♂34'53	34.05417 AU
minimum elong	14640 Jun 28 00:26	18°☾41'58	0°40'09	opposition	14647 Jan 07 20:56	0°♂31'58	-4°06'38
max. Earth dist.	14640 Jun 29 20:25	18°☾45'41	34.48971 AU		14647 Jan 30 22:17	30°☿☾	
morning rise	14640 Jul 13 11:40	19°☾13'05		direct	14647 Mar 30 05:03	29°☾17'31	
retrograde	14640 Oct 08 15:23	20°☾54'25			14647 May 24 22:49	0°♂	
min. Earth dist.	14640 Dec 25 09:00	19°☾41'46	32.60518 AU	evening set	14647 Jun 26 11:43	0°♂55'08	
opposition	14640 Dec 27 05:04	19°☾39'03	-0°58'08				
direct	14641 Mar 18 04:42	18°☾22'29		conjunction	14647 Jul 11 08:53	1°♂23'35	-4°06'54
evening set	14641 Jun 14 16:07	20°☾04'21		minimum elong	14647 Jul 11 08:46	1°♂23'34	4°07'50
				max. Earth dist.	14647 Jul 13 10:53	1°♂27'36	36.17544 AU
conjunction	14641 Jun 30 03:31	20°☾35'16	-1°10'25	morning rise	14647 Jul 26 05:02	1°♂51'57	
minimum elong	14641 Jun 30 03:29	20°☾35'16	1°11'25	retrograde	14647 Oct 21 14:35	3°♂28'46	
max. Earth dist.	14641 Jul 02 00:43	20°☾39'03	34.72428 AU	min. Earth dist.	14648 Jan 07 18:52	2°♂18'37	34.30464 AU
morning rise	14641 Jul 15 13:44	21°☾06'04		opposition	14648 Jan 09 21:30	2°♂15'37	-4°35'50
retrograde	14641 Oct 10 17:07	22°☾46'39		direct	14648 Mar 31 08:13	1°♂01'30	
min. Earth dist.	14641 Dec 27 12:46	21°☾34'22	32.84138 AU	evening set	14648 Jun 27 14:05	2°♂38'33	
opposition	14641 Dec 29 09:18	21°☾31'38	-1°31'02				
direct	14642 Mar 20 07:55	20°☾15'27		conjunction	14648 Jul 12 07:41	3°♂06'31	-4°34'17
evening set	14642 Jun 16 20:02	21°☾56'32		minimum elong	14648 Jul 12 07:33	3°♂06'31	4°35'11
				max. Earth dist.	14648 Jul 14 11:06	3°♂10'37	36.42609 AU
conjunction	14642 Jul 02 06:05	22°☾27'05	-1°41'12	morning rise	14648 Jul 27 00:22	3°♂34'25	
minimum elong	14642 Jul 02 06:02	22°☾27'05	1°42'11	retrograde	14648 Oct 22 11:52	5°♂10'46	
max. Earth dist.	14642 Jul 04 04:06	22°☾30'55	34.96111 AU	min. Earth dist.	14649 Jan 08 18:22	4°♂00'57	34.55800 AU
morning rise	14642 Jul 17 14:46	22°☾57'33		opposition	14649 Jan 10 21:32	3°♂57'56	-5°04'21
retrograde	14642 Oct 12 17:43	24°☾37'25		direct	14649 Apr 02 08:16	2°♂44'11	
min. Earth dist.	14642 Dec 29 15:26	23°☾25'30	33.07957 AU	evening set	14649 Jun 29 16:07	4°♂20'42	
opposition	14642 Dec 31 12:48	23°☾22'45	-2°03'22				
direct	14643 Mar 22 13:26	22°☾06'56		conjunction	14649 Jul 14 06:00	4°♂48'11	-5°01'02
evening set	14643 Jun 18 23:52	23°☾47'15		minimum elong	14649 Jul 14 05:52	4°♂48'10	5°01'57
				max. Earth dist.	14649 Jul 16 10:23	4°♂52'20	36.67930 AU
conjunction	14643 Jul 04 07:55	24°☾17'25	-2°11'27	morning rise	14649 Jul 28 18:49	5°♂15'36	
minimum elong	14643 Jul 04 07:51	24°☾17'25	2°12'26	retrograde	14649 Oct 24 08:21	6°♂51'30	
max. Earth dist.	14643 Jul 06 06:05	24°☾21'14	35.19969 AU	min. Earth dist.	14650 Jan 10 16:59	5°♂42'04	34.81345 AU
morning rise	14643 Jul 19 14:56	24°☾47'31		opposition	14650 Jan 12 21:01	5°♂39'00	-5°32'11
retrograde	14643 Oct 14 20:21	26°☾26'42		direct	14650 Apr 04 09:17	4°♂25'37	
min. Earth dist.	14643 Dec 31 17:13	25°☾15'10	33.31982 AU	evening set	14650 Jul 01 18:06	6°♂01'39	
opposition	14644 Jan 02 15:49	25°☾12'20	-2°35'07				
direct	14644 Mar 23 16:47	23°☾56'52		conjunction	14650 Jul 16 03:42	6°♂28'38	-5°27'09
evening set	14644 Jun 20 03:05	25°☾36'27		minimum elong	14650 Jul 16 03:33	6°♂28'37	5°28'02
				max. Earth dist.	14650 Jul 18 08:13	6°♂32'46	36.93413 AU
conjunction	14644 Jul 05 09:07	26°☾06'14	-2°41'10	morning rise	14650 Jul 30 12:35	6°♂55'32	
minimum elong	14644 Jul 05 09:02	26°☾06'14	2°42'08	retrograde	14650 Oct 26 07:43	8°♂31'02	
max. Earth dist.	14644 Jul 07 09:01	26°☾10'10	35.44015 AU	min. Earth dist.	14651 Jan 12 14:52	7°♂21'59	35.07051 AU
morning rise	14644 Jul 20 13:48	26°☾35'55		opposition	14651 Jan 14 20:03	7°♂18'53	-5°59'20
retrograde	14644 Oct 15 20:34	28°☾14'28		direct	14651 Apr 06 06:28	6°♂05'51	
min. Earth dist.	14645 Jan 01 19:29	27°☾03'13	33.56201 AU	evening set	14651 Jul 03 19:45	7°♂41'27	
opposition	14645 Jan 03 18:11	27°☾00'24	-3°06'16				
direct	14645 Mar 25 21:53	25°☾45'16		conjunction	14651 Jul 18 01:07	8°♂07'54	-5°52'39
evening set	14645 Jun 22 06:19	27°☾24'10		minimum elong	14651 Jul 18 00:58	8°♂07'53	5°53'32
				max. Earth dist.	14651 Jul 20 07:06	8°♂12'07	37.19013 AU
conjunction	14645 Jul 07 09:37	27°☾53'31	-3°10'20	morning rise	14651 Aug 01 05:29	8°♂34'18	
minimum elong	14645 Jul 07 09:32	27°☾53'30	3°11'18	retrograde	14651 Oct 28 04:05	10°♂09'26	
max. Earth dist.	14645 Jul 09 09:24	27°☾57'24	35.68261 AU	min. Earth dist.	14652 Jan 14 13:52	9°♂00'39	35.32832 AU
morning rise	14645 Jul 22 11:57	28°☾22'47		opposition	14652 Jan 16 18:43	8°♂57'36	-6°25'47
	14645 Oct 10 20:53	0°♂		direct	14652 Apr 07 05:53	7°♂44'56	
retrograde	14645 Oct 17 20:56	0°♂00'42		evening set	14652 Jul 04 21:14	9°♂20'06	
	14645 Oct 24 17:31	30°☿☾					
min. Earth dist.	14646 Jan 03 19:03	28°☾49'51	33.80667 AU	conjunction	14652 Jul 18 21:50	9°♂46'02	-6°17'30
opposition	14646 Jan 05 19:41	28°☾46'56	-3°36'46	minimum elong	14652 Jul 18 21:41	9°♂46'01	6°18'21
direct	14646 Mar 28 00:26	27°☾32'07		max. Earth dist.	14652 Jul 21 03:14	9°♂50'10	37.44646 AU
evening set	14646 Jun 24 09:09	29°☾10'22		morning rise	14652 Aug 01 21:47	10°♂11'54	

retrograde	14652 Oct 29 01:31	11°♏46'41		evening set	14659 Jul 18 01:19	20°♏18'43	
min. Earth dist.	14653 Jan 15 10:31	10°♏38'18	35.58624 AU				
opposition	14653 Jan 17 16:46	10°♏35'10	-6°51'34	conjunction	14659 Jul 30 11:27	20°♏40'41	-8°54'09
direct	14653 Apr 09 04:57	9°♏22'51		minimum elong	14659 Jul 30 11:17	20°♏40'40	8°54'54
evening set	14653 Jul 06 22:32	10°♏57'38		max. Earth dist.	14659 Aug 01 18:15	20°♏44'45	39.21474 AU
				morning rise	14659 Aug 11 21:13	21°♏02'37	
conjunction	14653 Jul 20 18:23	11°♏23'01	-6°41'45	retrograde	14659 Nov 09 08:12	22°♏35'34	
minimum elong	14653 Jul 20 18:13	11°♏23'01	6°42'35	min. Earth dist.	14660 Jan 27 06:40	21°♏29'04	37.36465 AU
max. Earth dist.	14653 Jul 23 00:59	11°♏27'13	37.70238 AU	opposition	14660 Jan 29 14:36	21°♏25'57	-9°33'13
morning rise	14653 Aug 03 13:25	11°♏48'21		direct	14660 Apr 20 10:54	20°♏15'44	
retrograde	14653 Oct 30 20:13	13°♏22'48		evening set	14660 Jul 19 00:40	21°♏48'22	
min. Earth dist.	14654 Jan 17 08:56	12°♏14'40	35.84352 AU				
opposition	14654 Jan 19 14:24	12°♏11'36	-7°16'39	conjunction	14660 Jul 31 04:40	22°♏09'45	-9°14'03
direct	14654 Apr 11 05:13	10°♏59'38		minimum elong	14660 Jul 31 04:31	22°♏09'44	9°14'45
evening set	14654 Jul 08 23:46	12°♏34'02		max. Earth dist.	14660 Aug 02 12:44	22°♏13'52	39.46511 AU
				morning rise	14660 Aug 12 08:15	22°♏31'06	
conjunction	14654 Jul 22 14:27	12°♏58'52	-7°05'21	retrograde	14660 Nov 09 23:53	24°♏03'54	
minimum elong	14654 Jul 22 14:17	12°♏58'52	7°06'10	min. Earth dist.	14661 Jan 28 01:36	22°♏57'39	37.61704 AU
max. Earth dist.	14654 Jul 24 20:25	13°♏03'00	37.95740 AU	opposition	14661 Jan 30 09:08	22°♏54'33	-9°53'38
morning rise	14654 Aug 05 04:25	13°♏23'39		direct	14661 Apr 22 07:06	21°♏44'39	
retrograde	14654 Nov 01 14:29	14°♏57'48		evening set	14661 Jul 20 23:57	23°♏17'05	
min. Earth dist.	14655 Jan 19 05:15	13°♏50'00	36.09962 AU				
opposition	14655 Jan 21 11:35	13°♏46'54	-7°41'05	conjunction	14661 Aug 01 21:34	23°♏37'53	-9°33'19
direct	14655 Apr 13 04:44	12°♏35'14		minimum elong	14661 Aug 01 21:25	23°♏37'52	9°34'01
evening set	14655 Jul 11 00:35	14°♏09'18		max. Earth dist.	14661 Aug 04 05:34	23°♏41'59	39.71554 AU
				morning rise	14661 Aug 13 18:44	23°♏58'39	
conjunction	14655 Jul 24 09:55	14°♏33'34	-7°28'21	retrograde	14661 Nov 11 14:30	25°♏31'19	
minimum elong	14655 Jul 24 09:46	14°♏33'33	7°29'10	min. Earth dist.	14662 Jan 29 18:43	24°♏25'23	37.86913 AU
max. Earth dist.	14655 Jul 26 16:10	14°♏37'42	38.21096 AU	opposition	14662 Feb 01 03:00	24°♏22'16	-10°13'23
morning rise	14655 Aug 06 18:43	14°♏57'48		direct	14662 Apr 24 03:09	23°♏12'41	
	14655 Aug 08 00:20	15°♏		evening set	14662 Jul 22 23:02	24°♏44'56	
retrograde	14655 Nov 03 08:43	16°♏31'40					
min. Earth dist.	14656 Jan 21 02:20	15°♏24'07	36.35439 AU	conjunction	14662 Aug 03 14:03	25°♏05'08	-9°51'59
opposition	14656 Jan 23 08:28	15°♏21'02	-8°04'50	minimum elong	14662 Aug 03 13:54	25°♏05'08	9°52'39
	14656 Feb 07 23:29	15°♏		max. Earth dist.	14662 Aug 05 22:02	25°♏09'13	39.96544 AU
direct	14656 Apr 14 02:00	14°♏09'41		morning rise	14662 Aug 15 04:51	25°♏25'19	
	14656 Jun 15 19:34	15°♏		retrograde	14662 Nov 13 07:20	26°♏57'54	
evening set	14656 Jul 12 01:11	15°♏43'23		min. Earth dist.	14663 Jan 31 12:18	25°♏52'14	38.12067 AU
				opposition	14663 Feb 02 20:47	25°♏49'08	-10°32'29
conjunction	14656 Jul 25 05:08	16°♏07'05	-7°50'44	direct	14663 Apr 25 20:20	24°♏39'52	
minimum elong	14656 Jul 25 04:58	16°♏07'05	7°51'31	evening set	14663 Jul 24 21:41	26°♏11'58	
max. Earth dist.	14656 Jul 27 11:47	16°♏11'13	38.46320 AU				
morning rise	14656 Aug 07 08:19	16°♏30'45		conjunction	14663 Aug 05 06:09	26°♏31'35	-10°10'02
retrograde	14656 Nov 04 02:13	18°♏04'22		minimum elong	14663 Aug 05 06:00	26°♏31'34	10°10'42
min. Earth dist.	14657 Jan 21 22:31	16°♏57'03	36.60773 AU	max. Earth dist.	14663 Aug 07 15:01	26°♏35'42	40.21449 AU
opposition	14657 Jan 24 04:35	16°♏53'59	-8°27'56	morning rise	14663 Aug 16 14:10	26°♏51'11	
direct	14657 Apr 15 23:32	15°♏42'54		retrograde	14663 Nov 14 23:53	28°♏23'41	
evening set	14657 Jul 14 01:34	17°♏16'18		min. Earth dist.	14664 Feb 02 06:09	27°♏18'15	38.37087 AU
				opposition	14664 Feb 04 14:10	27°♏15'11	-10°50'58
conjunction	14657 Jul 26 23:40	17°♏39'26	-8°12'30	direct	14664 Apr 26 13:11	26°♏06'14	
minimum elong	14657 Jul 26 23:30	17°♏39'25	8°13'17	evening set	14664 Jul 25 20:24	27°♏38'13	
max. Earth dist.	14657 Jul 29 05:46	17°♏43'29	38.71416 AU				
morning rise	14657 Aug 08 21:23	18°♏02'31		conjunction	14664 Aug 05 21:54	27°♏57'14	-10°27'31
retrograde	14657 Nov 05 22:14	19°♏35'53		minimum elong	14664 Aug 05 21:46	27°♏57'13	10°28'09
min. Earth dist.	14658 Jan 23 17:23	18°♏28'51	36.86026 AU	max. Earth dist.	14664 Aug 08 05:49	28°♏01'15	40.46192 AU
opposition	14658 Jan 26 00:22	18°♏25'45	-8°50'22	morning rise	14664 Aug 16 23:17	28°♏16'14	
direct	14658 Apr 17 17:42	17°♏14'57		retrograde	14664 Nov 15 17:45	29°♏48'40	
evening set	14658 Jul 16 01:29	18°♏48'03		min. Earth dist.	14665 Feb 02 22:12	28°♏43'32	38.61930 AU
				opposition	14665 Feb 05 07:01	28°♏40'27	-11°08'49
conjunction	14658 Jul 28 17:50	19°♏10'36	-8°33'38	direct	14665 Apr 28 04:02	27°♏31'48	
minimum elong	14658 Jul 28 17:40	19°♏10'36	8°34'23	evening set	14665 Jul 27 18:49	29°♏03'40	
max. Earth dist.	14658 Jul 31 01:14	19°♏14'44	38.96448 AU				
morning rise	14658 Aug 10 09:32	19°♏33'07		conjunction	14665 Aug 07 13:32	29°♏22'05	-10°44'25
retrograde	14658 Nov 07 15:04	21°♏06'16		minimum elong	14665 Aug 07 13:23	29°♏22'04	10°45'02
min. Earth dist.	14659 Jan 25 13:20	19°♏59'26	37.11237 AU	max. Earth dist.	14665 Aug 09 22:12	29°♏26'08	40.70720 AU
opposition	14659 Jan 27 19:45	19°♏56'23	-9°12'07	morning rise	14665 Aug 18 07:56	29°♏40'30	
direct	14659 Apr 19 14:31	18°♏45'53			14665 Aug 30 02:13	0°♏	

retrograde	14665 Nov 17 08:23	1° \mathring{M} 12'52		conjunction	14672 Aug 16 16:40	8° \mathring{M} 51'31	-12°27'34
min. Earth dist.	14666 Feb 04 16:16	0° \mathring{M} 07'55	38.86522 AU	minimum elong	14672 Aug 16 16:35	8° \mathring{M} 51'30	12°28'03
opposition	14666 Feb 06 23:45	0° \mathring{M} 04'55	-11°26'04	max. Earth dist.	14672 Aug 18 23:51	8° \mathring{M} 55'18	42.34634 AU
	14666 Feb 10 18:21	30° \mathring{R} 2		morning rise	14672 Aug 25 07:05	9° \mathring{M} 05'40	
direct	14666 Apr 29 22:07	28° \mathring{L} 56'33		retrograde	14672 Nov 26 06:06	10° \mathring{M} 37'51	
	14666 Jul 12 07:27	0° \mathring{M}		min. Earth dist.	14673 Feb 14 03:59	9° \mathring{M} 34'12	40.50901 AU
evening set	14666 Jul 29 17:10	0° \mathring{M} 28'18		opposition	14673 Feb 16 10:32	9° \mathring{M} 31'20	-13°10'54
				direct	14673 May 09 15:10	8° \mathring{M} 24'35	
conjunction	14666 Aug 09 04:41	0° \mathring{M} 46'07	-11°00'45	evening set	14673 Aug 09 23:07	9° \mathring{M} 55'51	
minimum elong	14666 Aug 09 04:34	0° \mathring{M} 46'07	11°01'21				
max. Earth dist.	14666 Aug 11 12:14	0° \mathring{M} 50'04	40.94976 AU	conjunction	14673 Aug 18 05:35	10° \mathring{M} 09'24	-12°40'10
morning rise	14666 Aug 19 16:01	1° \mathring{M} 03'56		minimum elong	14673 Aug 18 05:30	10° \mathring{M} 09'24	12°40'37
retrograde	14666 Nov 18 22:09	2° \mathring{M} 36'15		max. Earth dist.	14673 Aug 20 12:30	10° \mathring{M} 13'10	42.57304 AU
min. Earth dist.	14667 Feb 06 08:00	1° \mathring{M} 31'34	39.10811 AU	morning rise	14673 Aug 26 11:58	10° \mathring{M} 22'57	
opposition	14667 Feb 08 16:02	1° \mathring{M} 28'32	-11°42'44	retrograde	14673 Nov 27 16:24	11° \mathring{M} 55'10	
direct	14667 May 01 16:29	0° \mathring{M} 20'26		min. Earth dist.	14674 Feb 15 17:23	10° \mathring{M} 51'46	40.73656 AU
evening set	14667 Jul 31 15:16	1° \mathring{M} 52'06		opposition	14674 Feb 18 00:23	10° \mathring{M} 48'52	-13°23'37
				direct	14674 May 11 07:19	9° \mathring{M} 42'22	
conjunction	14667 Aug 10 19:37	2° \mathring{M} 09'19	-11°16'33	evening set	14674 Aug 11 19:39	11° \mathring{M} 13'40	
minimum elong	14667 Aug 10 19:29	2° \mathring{M} 09'18	11°17'08				
max. Earth dist.	14667 Aug 13 03:07	2° \mathring{M} 13'14	41.18912 AU	conjunction	14674 Aug 19 18:01	11° \mathring{M} 26'36	-12°52'15
morning rise	14667 Aug 20 23:50	2° \mathring{M} 26'31		minimum elong	14674 Aug 19 17:56	11° \mathring{M} 26'36	12°52'41
retrograde	14667 Nov 20 11:41	3° \mathring{M} 58'47		max. Earth dist.	14674 Aug 22 00:36	11° \mathring{M} 30'19	42.79814 AU
min. Earth dist.	14668 Feb 08 00:53	2° \mathring{M} 54'17	39.34786 AU	morning rise	14674 Aug 27 16:28	11° \mathring{M} 39'32	
opposition	14668 Feb 10 08:08	2° \mathring{M} 51'18	-11°58'50	retrograde	14674 Nov 29 05:35	13° \mathring{M} 11'51	
direct	14668 May 02 09:53	1° \mathring{M} 43'27		min. Earth dist.	14675 Feb 17 07:04	12° \mathring{M} 08'40	40.96251 AU
evening set	14668 Aug 01 13:08	3° \mathring{M} 15'00		opposition	14675 Feb 19 14:06	12° \mathring{M} 05'47	-13°35'48
				direct	14675 May 12 20:52	10° \mathring{M} 59'32	
conjunction	14668 Aug 11 10:11	3° \mathring{M} 31'36	-11°31'49	evening set	14675 Aug 13 16:11	12° \mathring{M} 30'52	
minimum elong	14668 Aug 11 10:05	3° \mathring{M} 31'36	11°32'23				
max. Earth dist.	14668 Aug 13 17:36	3° \mathring{M} 35'30	41.42537 AU	conjunction	14675 Aug 21 06:26	12° \mathring{M} 43'11	-13°03'49
morning rise	14668 Aug 21 07:00	3° \mathring{M} 48'12		minimum elong	14675 Aug 21 06:22	12° \mathring{M} 43'11	13°04'14
retrograde	14668 Nov 20 23:35	5° \mathring{M} 20'26		max. Earth dist.	14675 Aug 23 13:43	12° \mathring{M} 46'56	43.02149 AU
min. Earth dist.	14669 Feb 08 16:48	4° \mathring{M} 16'06	39.58427 AU	morning rise	14675 Aug 28 20:37	12° \mathring{M} 55'31	
opposition	14669 Feb 10 23:41	4° \mathring{M} 13'09	-12°14'23	retrograde	14675 Nov 30 17:45	14° \mathring{M} 27'55	
direct	14669 May 04 04:10	3° \mathring{M} 05'30		min. Earth dist.	14676 Feb 18 21:13	13° \mathring{M} 24'55	41.18626 AU
evening set	14669 Aug 03 10:49	4° \mathring{M} 36'58		opposition	14676 Feb 21 03:28	13° \mathring{M} 22'05	-13°47'28
				direct	14676 May 13 10:57	12° \mathring{M} 16'06	
conjunction	14669 Aug 13 00:18	4° \mathring{M} 52'58	-11°46'34	evening set	14676 Aug 14 12:34	13° \mathring{M} 47'30	
minimum elong	14669 Aug 13 00:11	4° \mathring{M} 52'57	11°47'05				
max. Earth dist.	14669 Aug 15 06:38	4° \mathring{M} 56'46	41.65851 AU	conjunction	14676 Aug 21 18:24	13° \mathring{M} 59'12	-13°14'54
morning rise	14669 Aug 22 13:49	5° \mathring{M} 08'57		minimum elong	14676 Aug 21 18:20	13° \mathring{M} 59'12	13°15'18
retrograde	14669 Nov 22 14:53	6° \mathring{M} 41'08		max. Earth dist.	14676 Aug 24 00:20	14° \mathring{M} 02'51	43.24243 AU
min. Earth dist.	14670 Feb 10 07:40	5° \mathring{M} 36'59	39.81804 AU	morning rise	14676 Aug 29 00:19	14° \mathring{M} 10'55	
opposition	14670 Feb 12 14:50	5° \mathring{M} 34'02	-12°29'22	retrograde	14676 Dec 01 08:26	15° \mathring{M} 43'26	
direct	14670 May 05 18:35	4° \mathring{M} 26'37		min. Earth dist.	14677 Feb 19 09:46	14° \mathring{M} 40'41	41.40735 AU
evening set	14670 Aug 05 08:10	5° \mathring{M} 57'59		opposition	14677 Feb 21 16:31	14° \mathring{M} 37'50	-13°58'36
				direct	14677 May 14 21:21	13° \mathring{M} 32'07	
conjunction	14670 Aug 14 14:12	6° \mathring{M} 13'22	-12°00'46	evening set	14677 Aug 16 08:54	15° \mathring{M} 03'36	
minimum elong	14670 Aug 14 14:06	6° \mathring{M} 13'22	12°01'17				
max. Earth dist.	14670 Aug 16 21:30	6° \mathring{M} 17'13	41.88934 AU	conjunction	14677 Aug 23 06:22	15° \mathring{M} 14'41	-13°25'31
morning rise	14670 Aug 23 20:02	6° \mathring{M} 28'45		minimum elong	14677 Aug 23 06:19	15° \mathring{M} 14'41	13°25'52
retrograde	14670 Nov 24 04:54	8° \mathring{M} 00'54		max. Earth dist.	14677 Aug 25 12:46	15° \mathring{M} 18'20	43.46034 AU
min. Earth dist.	14671 Feb 11 23:36	6° \mathring{M} 56'52	40.04974 AU	morning rise	14677 Aug 30 03:50	15° \mathring{M} 25'47	
opposition	14671 Feb 14 05:49	6° \mathring{M} 53'59	-12°43'46	retrograde	14677 Dec 02 20:56	16° \mathring{M} 58'26	
direct	14671 May 07 09:29	5° \mathring{M} 46'47		min. Earth dist.	14678 Feb 21 00:12	15° \mathring{M} 55'49	41.62509 AU
evening set	14671 Aug 07 05:18	7° \mathring{M} 18'05		opposition	14678 Feb 23 05:22	15° \mathring{M} 53'04	-14°09'16
				direct	14678 May 16 09:20	14° \mathring{M} 47'36	
conjunction	14671 Aug 16 03:29	7° \mathring{M} 32'51	-12°14'26	evening set	14678 Aug 18 05:21	16° \mathring{M} 19'11	
minimum elong	14671 Aug 16 03:22	7° \mathring{M} 32'51	12°14'55				
max. Earth dist.	14671 Aug 18 09:55	7° \mathring{M} 36'37	42.11851 AU	conjunction	14678 Aug 24 18:04	16° \mathring{M} 29'39	-13°35'40
morning rise	14671 Aug 25 01:38	7° \mathring{M} 47'38		minimum elong	14678 Aug 24 18:00	16° \mathring{M} 29'38	13°36'01
retrograde	14671 Nov 25 18:39	9° \mathring{M} 19'47		max. Earth dist.	14678 Aug 26 23:24	16° \mathring{M} 33'12	43.67479 AU
min. Earth dist.	14672 Feb 13 12:55	8° \mathring{M} 16'00	40.27999 AU	morning rise	14678 Aug 31 06:47	16° \mathring{M} 40'06	
opposition	14672 Feb 15 20:21	8° \mathring{M} 13'04	-12°57'37	retrograde	14678 Dec 04 06:06	18° \mathring{M} 12'54	
direct	14672 May 07 23:24	7° \mathring{M} 06'04		min. Earth dist.	14679 Feb 22 12:33	17° \mathring{M} 10'31	41.83897 AU
evening set	14672 Aug 08 02:13	8° \mathring{M} 37'21		opposition	14679 Feb 24 17:58	17° \mathring{M} 07'45	-14°19'28

direct	14679 May 17 23:59	16° $\mathring{\text{M}}$ 02'31	retrograde	14685 Dec 12 04:24	26° $\mathring{\text{M}}$ 37'21	
evening set	14679 Aug 20 01:33	17° $\mathring{\text{M}}$ 34'13	min. Earth dist.	14686 Mar 03 01:05	25° $\mathring{\text{M}}$ 35'57	43.23521 AU
			opposition	14686 Mar 05 03:06	25° $\mathring{\text{M}}$ 33'25	-15°18'16
conjunction	14679 Aug 26 05:25	17° $\mathring{\text{M}}$ 44'03 -13°45'23	direct	14686 May 26 13:55	24° $\mathring{\text{M}}$ 29'32	
minimum elong	14679 Aug 26 05:23	17° $\mathring{\text{M}}$ 44'03 13°45'41	evening set	14686 Aug 31 03:31	26° $\mathring{\text{M}}$ 02'43	
max. Earth dist.	14679 Aug 28 10:02	17° $\mathring{\text{M}}$ 47'33 43.88513 AU				
morning rise	14679 Sep 01 09:24	17° $\mathring{\text{M}}$ 53'52	conjunction	14686 Sep 03 06:30	26° $\mathring{\text{M}}$ 07'33 -14°41'22	
retrograde	14679 Dec 05 16:20	19° $\mathring{\text{M}}$ 26'50	minimum elong	14686 Sep 03 06:30	26° $\mathring{\text{M}}$ 07'33 14°41'32	
min. Earth dist.	14680 Feb 24 02:05	18° $\mathring{\text{M}}$ 24'34 42.04872 AU	max. Earth dist.	14686 Sep 05 08:04	26° $\mathring{\text{M}}$ 10'45 45.26231 AU	
opposition	14680 Feb 26 06:29	18° $\mathring{\text{M}}$ 21'53 -14°29'12	morning rise	14686 Sep 06 09:35	26° $\mathring{\text{M}}$ 12'24	
direct	14680 May 18 14:14	17° $\mathring{\text{M}}$ 16'52	retrograde	14686 Dec 13 15:44	27° $\mathring{\text{M}}$ 47'08	
evening set	14680 Aug 20 22:01	18° $\mathring{\text{M}}$ 48'41	min. Earth dist.	14687 Mar 04 11:37	26° $\mathring{\text{M}}$ 45'53 43.42425 AU	
			opposition	14687 Mar 06 13:49	26° $\mathring{\text{M}}$ 43'22 -15°24'53	
conjunction	14680 Aug 26 16:47	18° $\mathring{\text{M}}$ 57'52 -13°54'40	direct	14687 May 28 00:33	25° $\mathring{\text{M}}$ 39'41	
minimum elong	14680 Aug 26 16:45	18° $\mathring{\text{M}}$ 57'52 13°54'58	evening set	14687 Sep 02 03:01	27° $\mathring{\text{M}}$ 13'20	
max. Earth dist.	14680 Aug 28 21:16	19° $\mathring{\text{M}}$ 01'21 44.09134 AU				
morning rise	14680 Sep 01 11:33	19° $\mathring{\text{M}}$ 07'03	conjunction	14687 Sep 04 16:03	27° $\mathring{\text{M}}$ 17'15 -14°47'40	
retrograde	14680 Dec 06 02:16	20° $\mathring{\text{M}}$ 40'10	minimum elong	14687 Sep 04 16:05	27° $\mathring{\text{M}}$ 17'16 14°47'49	
min. Earth dist.	14681 Feb 24 15:02	19° $\mathring{\text{M}}$ 38'02 42.25410 AU	morning rise	14687 Sep 07 05:10	27° $\mathring{\text{M}}$ 21'11	
opposition	14681 Feb 26 18:27	19° $\mathring{\text{M}}$ 35'24 -14°38'30	max. Earth dist.	14687 Sep 06 18:21	27° $\mathring{\text{M}}$ 20'29 45.44896 AU	
direct	14681 May 20 04:31	18° $\mathring{\text{M}}$ 30'34	retrograde	14687 Dec 15 02:27	28° $\mathring{\text{M}}$ 56'26	
evening set	14681 Aug 22 18:25	20° $\mathring{\text{M}}$ 02'32	min. Earth dist.	14688 Mar 04 23:33	27° $\mathring{\text{M}}$ 55'18 43.61037 AU	
			opposition	14688 Mar 07 00:20	27° $\mathring{\text{M}}$ 52'52 -15°31'04	
conjunction	14681 Aug 28 03:42	20° $\mathring{\text{M}}$ 11'02 -14°03'31	direct	14688 May 28 11:15	26° $\mathring{\text{M}}$ 49'23	
minimum elong	14681 Aug 28 03:41	20° $\mathring{\text{M}}$ 11'02 14°03'48	evening set	14688 Sep 03 05:28	28° $\mathring{\text{M}}$ 23'43	
max. Earth dist.	14681 Aug 30 06:40	20° $\mathring{\text{M}}$ 14'24 44.29345 AU				
morning rise	14681 Sep 02 13:07	20° $\mathring{\text{M}}$ 19'34	conjunction	14688 Sep 05 01:27	28° $\mathring{\text{M}}$ 26'31 -14°53'33	
retrograde	14681 Dec 07 15:02	21° $\mathring{\text{M}}$ 52'51	minimum elong	14688 Sep 05 01:29	28° $\mathring{\text{M}}$ 26'31 14°53'41	
min. Earth dist.	14682 Feb 26 02:40	20° $\mathring{\text{M}}$ 50'53 42.45574 AU	morning rise	14688 Sep 06 21:32	28° $\mathring{\text{M}}$ 29'20	
opposition	14682 Feb 28 06:18	20° $\mathring{\text{M}}$ 48'15 -14°47'22	max. Earth dist.	14688 Sep 07 02:23	28° $\mathring{\text{M}}$ 29'39 45.63259 AU	
direct	14682 May 21 15:12	19° $\mathring{\text{M}}$ 43'37		14688 Nov 24 01:33	0° $\mathring{\text{A}}$	
evening set	14682 Aug 24 14:43	21° $\mathring{\text{M}}$ 15'44	retrograde	14688 Dec 15 12:54	0° $\mathring{\text{A}}$ 05'18	
				14689 Jan 06 03:24	30° $\mathring{\text{R}}$ $\mathring{\text{M}}$	
conjunction	14682 Aug 29 14:19	21° $\mathring{\text{M}}$ 23'33 -14°11'57	min. Earth dist.	14689 Mar 06 09:11	29° $\mathring{\text{M}}$ 04'22 43.79315 AU	
minimum elong	14682 Aug 29 14:18	21° $\mathring{\text{M}}$ 23'33 14°12'13	opposition	14689 Mar 08 10:23	29° $\mathring{\text{M}}$ 01'55 -15°36'52	
max. Earth dist.	14682 Aug 31 17:57	21° $\mathring{\text{M}}$ 26'57 44.49208 AU	direct	14689 May 29 19:15	27° $\mathring{\text{M}}$ 58'38	
morning rise	14682 Sep 03 13:58	21° $\mathring{\text{M}}$ 31'24	evening set	14689 Sep 05 19:09	29° $\mathring{\text{M}}$ 34'22	
retrograde	14682 Dec 09 02:22	23° $\mathring{\text{M}}$ 04'54				
min. Earth dist.	14683 Feb 27 15:40	22° $\mathring{\text{M}}$ 03'00 42.65418 AU	conjunction	14689 Sep 06 10:45	29° $\mathring{\text{M}}$ 35'22 -14°59'05	
opposition	14683 Mar 01 18:00	22° $\mathring{\text{M}}$ 00'27 -14°55'46	minimum elong	14689 Sep 06 10:48	29° $\mathring{\text{M}}$ 35'22 14°59'12	
direct	14683 May 23 01:57	20° $\mathring{\text{M}}$ 56'00	morning rise	14689 Sep 07 02:28	29° $\mathring{\text{M}}$ 36'22	
evening set	14683 Aug 26 11:22	22° $\mathring{\text{M}}$ 28'17	max. Earth dist.	14689 Sep 08 11:27	29° $\mathring{\text{M}}$ 38'28 45.81253 AU	
				14689 Sep 22 17:23	0° $\mathring{\text{A}}$	
conjunction	14683 Aug 31 00:42	22° $\mathring{\text{M}}$ 35'26 -14°19'57	retrograde	14689 Dec 16 21:59	1° $\mathring{\text{A}}$ 13'46	
minimum elong	14683 Aug 31 00:43	22° $\mathring{\text{M}}$ 35'26 14°20'12	min. Earth dist.	14690 Mar 07 21:00	0° $\mathring{\text{A}}$ 12'55 43.97202 AU	
max. Earth dist.	14683 Sep 02 03:19	22° $\mathring{\text{M}}$ 38'44 44.68803 AU	opposition	14690 Mar 09 20:36	0° $\mathring{\text{A}}$ 10'33 -15°42'16	
morning rise	14683 Sep 04 14:09	22° $\mathring{\text{M}}$ 42'34		14690 Mar 18 17:13	30° $\mathring{\text{R}}$ $\mathring{\text{M}}$	
retrograde	14683 Dec 10 13:05	24° $\mathring{\text{M}}$ 16'17	direct	14690 May 31 04:51	29° $\mathring{\text{M}}$ 07'28	
min. Earth dist.	14684 Feb 29 02:13	23° $\mathring{\text{M}}$ 14'35 42.85011 AU		14690 Aug 08 23:53	0° $\mathring{\text{A}}$	
opposition	14684 Mar 02 05:13	23° $\mathring{\text{M}}$ 12'00 -15°03'43				
direct	14684 May 23 11:37	22° $\mathring{\text{M}}$ 07'44	conjunction	14690 Sep 07 19:52	0° $\mathring{\text{A}}$ 43'47 -15°04'14	
evening set	14684 Aug 27 08:05	23° $\mathring{\text{M}}$ 40'16	minimum elong	14690 Sep 07 19:54	0° $\mathring{\text{A}}$ 43'47 15°04'19	
			max. Earth dist.	14690 Sep 09 19:55	0° $\mathring{\text{A}}$ 46'50 45.98837 AU	
conjunction	14684 Aug 31 10:50	23° $\mathring{\text{M}}$ 46'41 -14°27'31	retrograde	14690 Dec 18 04:26	2° $\mathring{\text{A}}$ 21'48	
minimum elong	14684 Aug 31 10:49	23° $\mathring{\text{M}}$ 46'41 14°27'44	min. Earth dist.	14691 Mar 09 07:21	1° $\mathring{\text{A}}$ 21'06 44.14629 AU	
max. Earth dist.	14684 Sep 02 13:25	23° $\mathring{\text{M}}$ 49'58 44.88161 AU	opposition	14691 Mar 11 06:31	1° $\mathring{\text{A}}$ 18'45 -15°47'18	
morning rise	14684 Sep 04 13:39	23° $\mathring{\text{M}}$ 53'06	direct	14691 Jun 01 16:32	0° $\mathring{\text{A}}$ 15'51	
retrograde	14684 Dec 10 21:55	25° $\mathring{\text{M}}$ 27'06				
min. Earth dist.	14685 Mar 01 14:14	24° $\mathring{\text{M}}$ 25'31 43.04385 AU	conjunction	14691 Sep 09 04:50	1° $\mathring{\text{A}}$ 51'46 -15°09'03	
opposition	14685 Mar 03 16:22	24° $\mathring{\text{M}}$ 22'59 -15°11'13	minimum elong	14691 Sep 09 04:53	1° $\mathring{\text{A}}$ 51'46 15°09'08	
direct	14685 May 24 23:30	23° $\mathring{\text{M}}$ 18'54	max. Earth dist.	14691 Sep 11 03:18	1° $\mathring{\text{A}}$ 54'42 46.15942 AU	
evening set	14685 Aug 29 05:30	24° $\mathring{\text{M}}$ 51'43	retrograde	14691 Dec 19 13:51	3° $\mathring{\text{A}}$ 29'25	
			min. Earth dist.	14692 Mar 09 17:54	2° $\mathring{\text{A}}$ 28'48 44.31576 AU	
conjunction	14685 Sep 01 20:50	24° $\mathring{\text{M}}$ 57'22 -14°34'39	opposition	14692 Mar 11 16:16	2° $\mathring{\text{A}}$ 26'30 -15°51'59	
minimum elong	14685 Sep 01 20:51	24° $\mathring{\text{M}}$ 57'23 14°34'51	direct	14692 Jun 02 02:53	1° $\mathring{\text{A}}$ 23'46	
max. Earth dist.	14685 Sep 03 23:36	25° $\mathring{\text{M}}$ 00'40 45.07312 AU				
morning rise	14685 Sep 05 12:15	25° $\mathring{\text{M}}$ 03'02	conjunction	14692 Sep 09 13:47	2° $\mathring{\text{A}}$ 59'16 -15°13'31	

minimum elong	14692 Sep 09 13:51	2° <u>♁</u> 59'16	15°13'34	min. Earth dist.	14701 Mar 21 05:59	12° <u>♁</u> 17'42	45.66808 AU
max. Earth dist.	14692 Sep 11 12:17	3° <u>♁</u> 02'12	46.32557 AU	opposition	14701 Mar 22 23:02	12° <u>♁</u> 15'43	-16°18'21
retrograde	14692 Dec 19 22:28	4° <u>♁</u> 36'33		direct	14701 Jun 13 08:07	11° <u>♁</u> 14'21	
min. Earth dist.	14693 Mar 11 04:59	3° <u>♁</u> 35'59	44.48006 AU				
opposition	14693 Mar 13 01:49	3° <u>♁</u> 33'46	-15°56'20	conjunction	14701 Sep 20 12:33	12° <u>♁</u> 46'42	-15°38'28
direct	14693 Jun 03 14:13	2° <u>♁</u> 31'10		minimum elong	14701 Sep 20 12:40	12° <u>♁</u> 46'42	15°38'20
				max. Earth dist.	14701 Sep 22 05:03	12° <u>♁</u> 49'11	47.65837 AU
conjunction	14693 Sep 10 22:19	4° <u>♁</u> 06'16	-15°17'40	retrograde	14701 Dec 30 21:26	14° <u>♁</u> 21'06	
minimum elong	14693 Sep 10 22:23	4° <u>♁</u> 06'16	15°17'42	min. Earth dist.	14702 Mar 22 15:07	13° <u>♁</u> 21'29	45.80181 AU
max. Earth dist.	14693 Sep 12 18:57	4° <u>♁</u> 09'04	46.48686 AU	opposition	14702 Mar 24 07:03	13° <u>♁</u> 19'33	-16°19'34
retrograde	14693 Dec 21 09:06	5° <u>♁</u> 43'09		direct	14702 Jun 14 17:08	12° <u>♁</u> 18'20	
min. Earth dist.	14694 Mar 12 14:04	4° <u>♁</u> 42'43	44.63977 AU				
opposition	14694 Mar 14 11:01	4° <u>♁</u> 40'30	-16°00'20	conjunction	14702 Sep 21 19:54	13° <u>♁</u> 50'24	-15°39'36
direct	14694 Jun 04 21:22	3° <u>♁</u> 38'03		minimum elong	14702 Sep 21 20:02	13° <u>♁</u> 50'24	15°39'29
				max. Earth dist.	14702 Sep 23 12:29	13° <u>♁</u> 52'52	47.78967 AU
conjunction	14694 Sep 12 06:45	5° <u>♁</u> 12'44	-15°21'28	retrograde	14703 Jan 01 02:43	15° <u>♁</u> 24'33	
minimum elong	14694 Sep 12 06:50	5° <u>♁</u> 12'44	15°21'29	min. Earth dist.	14703 Mar 24 00:13	14° <u>♁</u> 25'00	45.93092 AU
max. Earth dist.	14694 Sep 14 03:21	5° <u>♁</u> 15'31	46.64386 AU	opposition	14703 Mar 25 14:57	14° <u>♁</u> 23'07	-16°20'29
retrograde	14694 Dec 22 17:36	6° <u>♁</u> 49'15		direct	14703 Jun 16 04:31	13° <u>♁</u> 22'03	
min. Earth dist.	14695 Mar 14 00:54	5° <u>♁</u> 48'51	44.79561 AU				
opposition	14695 Mar 15 20:15	5° <u>♁</u> 46'43	-16°03'59	conjunction	14703 Sep 23 02:58	14° <u>♁</u> 53'49	-15°40'27
direct	14695 Jun 06 05:35	4° <u>♁</u> 44'24		minimum elong	14703 Sep 23 03:06	14° <u>♁</u> 53'49	15°40'17
				max. Earth dist.	14703 Sep 24 17:28	14° <u>♁</u> 56'09	47.91619 AU
conjunction	14695 Sep 13 14:52	6° <u>♁</u> 18'42	-15°24'56	retrograde	14704 Jan 02 12:45	16° <u>♁</u> 27'41	
minimum elong	14695 Sep 13 14:56	6° <u>♁</u> 18'42	15°24'56	min. Earth dist.	14704 Mar 24 08:11	15° <u>♁</u> 28'14	46.05504 AU
max. Earth dist.	14695 Sep 15 11:02	6° <u>♁</u> 21'27	46.79746 AU	opposition	14704 Mar 25 22:41	15° <u>♁</u> 26'23	-16°21'07
retrograde	14695 Dec 23 22:29	7° <u>♁</u> 54'52		direct	14704 Jun 16 11:29	14° <u>♁</u> 25'26	
min. Earth dist.	14696 Mar 14 09:33	6° <u>♁</u> 54'35	44.94814 AU				
opposition	14696 Mar 16 05:06	6° <u>♁</u> 52'27	-16°07'17	conjunction	14704 Sep 23 10:09	15° <u>♁</u> 56'54	-15°41'02
direct	14696 Jun 06 16:34	5° <u>♁</u> 50'16		minimum elong	14704 Sep 23 10:17	15° <u>♁</u> 56'54	15°40'52
				max. Earth dist.	14704 Sep 25 00:19	15° <u>♁</u> 59'13	48.03751 AU
conjunction	14696 Sep 13 22:50	7° <u>♁</u> 24'12	-15°28'03	retrograde	14705 Jan 02 22:00	17° <u>♁</u> 30'30	
minimum elong	14696 Sep 13 22:56	7° <u>♁</u> 24'13	15°28'01	min. Earth dist.	14705 Mar 25 17:53	16° <u>♁</u> 31'02	46.17392 AU
max. Earth dist.	14696 Sep 15 17:55	7° <u>♁</u> 26'53	46.94800 AU	opposition	14705 Mar 27 06:15	16° <u>♁</u> 29'18	-16°21'29
retrograde	14696 Dec 24 05:53	9° <u>♁</u> 00'02		direct	14705 Jun 17 18:18	15° <u>♁</u> 28'27	
min. Earth dist.	14697 Mar 15 18:45	7° <u>♁</u> 59'52	45.09792 AU				
opposition	14697 Mar 17 13:44	7° <u>♁</u> 57'45	-16°10'12	conjunction	14705 Sep 24 17:07	16° <u>♁</u> 59'36	-15°41'21
direct	14697 Jun 08 02:33	6° <u>♁</u> 55'43		minimum elong	14705 Sep 24 17:16	16° <u>♁</u> 59'36	15°41'09
				max. Earth dist.	14705 Sep 26 06:08	17° <u>♁</u> 01'50	48.15393 AU
conjunction	14697 Sep 15 06:47	8° <u>♁</u> 29'19	-15°30'49	retrograde	14706 Jan 04 03:04	18° <u>♁</u> 32'54	
minimum elong	14697 Sep 15 06:52	8° <u>♁</u> 29'19	15°30'46	min. Earth dist.	14706 Mar 27 01:12	17° <u>♁</u> 33'31	46.28795 AU
max. Earth dist.	14697 Sep 17 02:22	8° <u>♁</u> 32'01	47.09593 AU	opposition	14706 Mar 28 13:39	17° <u>♁</u> 31'46	-16°21'34
retrograde	14697 Dec 25 13:30	10° <u>♁</u> 04'51		direct	14706 Jun 19 00:50	16° <u>♁</u> 31'00	
min. Earth dist.	14698 Mar 17 04:15	9° <u>♁</u> 04'45	45.24489 AU				
opposition	14698 Mar 18 22:20	9° <u>♁</u> 02'42	-16°12'46	conjunction	14706 Sep 25 23:40	18° <u>♁</u> 01'52	-15°41'23
direct	14698 Jun 09 12:55	8° <u>♁</u> 00'49		minimum elong	14706 Sep 25 23:48	18° <u>♁</u> 01'52	15°41'11
				max. Earth dist.	14706 Sep 27 11:29	18° <u>♁</u> 04'01	48.26576 AU
conjunction	14698 Sep 16 14:17	9° <u>♁</u> 34'04	-15°33'13	retrograde	14707 Jan 05 07:59	19° <u>♁</u> 34'52	
minimum elong	14698 Sep 16 14:24	9° <u>♁</u> 34'05	15°33'10	min. Earth dist.	14707 Mar 28 09:49	18° <u>♁</u> 35'30	46.39792 AU
max. Earth dist.	14698 Sep 18 08:34	9° <u>♁</u> 36'41	47.24121 AU	opposition	14707 Mar 29 21:03	18° <u>♁</u> 33'49	-16°21'21
retrograde	14698 Dec 26 23:39	11° <u>♁</u> 09'19		direct	14707 Jun 20 08:19	17° <u>♁</u> 33'08	
min. Earth dist.	14699 Mar 18 12:10	10° <u>♁</u> 09'23	45.38917 AU				
opposition	14699 Mar 20 06:45	10° <u>♁</u> 07'19	-16°14'58	conjunction	14707 Sep 27 06:20	19° <u>♁</u> 03'41	-15°41'08
direct	14699 Jun 10 19:25	9° <u>♁</u> 05'36		minimum elong	14707 Sep 27 06:30	19° <u>♁</u> 03'42	15°40'54
				max. Earth dist.	14707 Sep 28 18:28	19° <u>♁</u> 05'52	48.37394 AU
conjunction	14699 Sep 17 21:52	10° <u>♁</u> 38'33	-15°35'18	retrograde	14708 Jan 06 11:55	20° <u>♁</u> 36'25	
minimum elong	14699 Sep 17 21:58	10° <u>♁</u> 38'33	15°35'13	min. Earth dist.	14708 Mar 28 17:34	19° <u>♁</u> 37'05	46.50435 AU
max. Earth dist.	14699 Sep 19 16:19	10° <u>♁</u> 41'09	47.38360 AU	opposition	14708 Mar 30 04:03	19° <u>♁</u> 35'26	-16°20'51
retrograde	14699 Dec 28 08:27	12° <u>♁</u> 13'29		direct	14708 Jun 20 18:21	18° <u>♁</u> 34'50	
min. Earth dist.	14700 Mar 19 21:59	11° <u>♁</u> 13'38	45.53040 AU				
opposition	14700 Mar 21 15:00	11° <u>♁</u> 11'39	-16°16'50	conjunction	14708 Sep 27 12:41	20° <u>♁</u> 05'06	-15°40'35
direct	14700 Jun 12 01:28	10° <u>♁</u> 10'06		minimum elong	14708 Sep 27 12:50	20° <u>♁</u> 05'07	15°40'20
				max. Earth dist.	14708 Sep 28 23:16	20° <u>♁</u> 07'11	48.47896 AU
conjunction	14700 Sep 19 05:19	11° <u>♁</u> 42'45	-15°37'02	retrograde	14709 Jan 06 19:32	21° <u>♁</u> 37'35	
minimum elong	14700 Sep 19 05:27	11° <u>♁</u> 42'45	15°36'57	min. Earth dist.	14709 Mar 30 00:21	20° <u>♁</u> 38'20	46.60787 AU
max. Earth dist.	14700 Sep 20 23:01	11° <u>♁</u> 45'18	47.52291 AU	opposition	14709 Mar 31 10:59	20° <u>♁</u> 36'41	-16°20'02
retrograde	14700 Dec 29 14:27	13° <u>♁</u> 17'25		direct	14709 Jun 22 01:26	19° <u>♁</u> 36'11	

conjunction	14709 Sep 28 19:00	21° <u>♁</u> 06'11	-15°39'45			14717 Nov 15 05:13	0° <u>♂</u>
minimum elong	14709 Sep 28 19:10	21° <u>♁</u> 06'11	15°39'28	retrograde		14718 Jan 16 01:47	0° <u>♂</u> 38'35
max. Earth dist.	14709 Sep 30 05:53	21° <u>♁</u> 08'16	48.58109 AU			14718 Mar 21 10:34	30° <u>♂</u> <u>♂</u>
retrograde	14710 Jan 08 03:16	22° <u>♁</u> 38'25		opposition		14718 Apr 09 21:26	29° <u>♁</u> 38'34 -16°00'00
min. Earth dist.	14710 Mar 31 08:39	21° <u>♁</u> 39'11	46.70852 AU	min. Earth dist.		14718 Apr 08 18:50	29° <u>♁</u> 39'49 47.37980 AU
opposition	14710 Apr 01 17:53	21° <u>♁</u> 37'36	-16°18'54	direct		14718 Jul 01 10:18	28° <u>♁</u> 39'02
direct	14710 Jun 23 08:12	20° <u>♁</u> 37'12				14718 Oct 02 20:59	0° <u>♂</u>
conjunction	14710 Sep 30 01:11	22° <u>♁</u> 06'58	-15°38'36	conjunction		14718 Oct 08 00:31	0° <u>♂</u> 07'14 -15°19'59
minimum elong	14710 Sep 30 01:20	22° <u>♁</u> 06'58	15°38'19	minimum elong		14718 Oct 08 00:43	0° <u>♂</u> 07'15 15°19'34
max. Earth dist.	14710 Oct 01 11:15	22° <u>♁</u> 08'59	48.68064 AU	max. Earth dist.		14718 Oct 09 02:55	0° <u>♂</u> 08'47 49.33743 AU
retrograde	14711 Jan 09 10:08	23° <u>♁</u> 38'58		retrograde		14719 Jan 17 08:12	1° <u>♂</u> 37'50
min. Earth dist.	14711 Apr 01 14:53	22° <u>♁</u> 39'52	46.80642 AU	min. Earth dist.		14719 Apr 10 01:17	0° <u>♂</u> 39'06 47.44238 AU
opposition	14711 Apr 03 00:33	22° <u>♁</u> 38'16	-16°17'29	opposition		14719 Apr 11 03:28	0° <u>♂</u> 37'52 -15°56'32
direct	14711 Jun 24 12:21	21° <u>♁</u> 37'59		direct		14719 May 17 13:22	30° <u>♂</u> <u>♂</u>
conjunction	14711 Oct 01 07:12	23° <u>♁</u> 07'31	-15°37'10			14719 Jul 02 16:49	29° <u>♁</u> 38'24
minimum elong	14711 Oct 01 07:23	23° <u>♁</u> 07'31	15°36'53			14719 Aug 16 15:50	0° <u>♂</u>
max. Earth dist.	14711 Oct 02 16:27	23° <u>♁</u> 09'29	48.77728 AU	conjunction		14719 Oct 09 06:03	1° <u>♂</u> 06'24 -15°16'35
retrograde	14712 Jan 10 16:19	24° <u>♁</u> 39'19		minimum elong		14719 Oct 09 06:14	1° <u>♂</u> 06'25 15°16'09
min. Earth dist.	14712 Apr 01 22:53	23° <u>♁</u> 40'15	46.90133 AU	max. Earth dist.		14719 Oct 10 08:29	1° <u>♂</u> 07'57 49.39844 AU
opposition	14712 Apr 03 07:17	23° <u>♁</u> 38'43	-16°15'46	retrograde		14720 Jan 18 15:14	2° <u>♂</u> 36'50
direct	14712 Jun 24 18:11	22° <u>♁</u> 38'34		min. Earth dist.		14720 Apr 10 08:52	1° <u>♂</u> 38'04 47.50098 AU
conjunction	14712 Oct 01 13:22	24° <u>♁</u> 07'53	-15°35'28	opposition		14720 Apr 11 09:28	1° <u>♂</u> 36'55 -15°52'49
minimum elong	14712 Oct 01 13:32	24° <u>♁</u> 07'54	15°35'08	direct		14720 Jul 03 00:13	0° <u>♂</u> 37'30
max. Earth dist.	14712 Oct 02 22:44	24° <u>♁</u> 09'52	48.87078 AU	conjunction		14720 Oct 09 11:32	2° <u>♂</u> 05'20 -15°12'56
retrograde	14713 Jan 10 19:35	25° <u>♁</u> 39'31		minimum elong		14720 Oct 09 11:45	2° <u>♂</u> 05'20 15°12'29
min. Earth dist.	14713 Apr 03 05:56	24° <u>♁</u> 40'31	46.99267 AU	max. Earth dist.		14720 Oct 10 12:58	2° <u>♂</u> 06'49 49.45594 AU
opposition	14713 Apr 04 13:41	24° <u>♁</u> 39'01	-16°13'46	retrograde		14721 Jan 18 22:48	3° <u>♂</u> 35'35
direct	14713 Jun 26 03:28	23° <u>♁</u> 38'59		opposition		14721 Apr 12 15:06	2° <u>♂</u> 35'44 -15°48'51
conjunction	14713 Oct 02 19:18	25° <u>♁</u> 08'07	-15°33'29	min. Earth dist.		14721 Apr 11 14:12	2° <u>♂</u> 36'54 47.55621 AU
minimum elong	14713 Oct 02 19:29	25° <u>♁</u> 08'08	15°33'09	direct		14721 Jul 04 02:57	1° <u>♂</u> 36'22
max. Earth dist.	14713 Oct 04 02:52	25° <u>♁</u> 10'00	48.96060 AU	conjunction		14721 Oct 10 16:52	3° <u>♂</u> 04'02 -15°09'02
retrograde	14714 Jan 12 03:33	26° <u>♁</u> 39'35		minimum elong		14721 Oct 10 17:04	3° <u>♂</u> 04'03 15°08'34
opposition	14714 Apr 05 20:12	25° <u>♁</u> 39'13	-16°11'30	max. Earth dist.		14721 Oct 11 17:23	3° <u>♂</u> 05'28 49.51017 AU
min. Earth dist.	14714 Apr 04 12:50	25° <u>♁</u> 40'41	47.08015 AU	retrograde		14722 Jan 20 04:54	4° <u>♂</u> 34'09
direct	14714 Jun 27 09:59	24° <u>♁</u> 39'18		opposition		14722 Apr 13 20:59	3° <u>♂</u> 34'21 -15°44'36
conjunction	14714 Oct 04 01:14	26° <u>♁</u> 08'15	-15°31'15	min. Earth dist.		14722 Apr 12 21:27	3° <u>♂</u> 35'26 47.60839 AU
minimum elong	14714 Oct 04 01:25	26° <u>♁</u> 08'16	15°30'53	direct		14722 Jul 05 05:51	2° <u>♂</u> 35'03
max. Earth dist.	14714 Oct 05 08:45	26° <u>♁</u> 10'07	49.04612 AU	conjunction		14722 Oct 11 22:08	4° <u>♂</u> 02'34 -15°04'53
retrograde	14715 Jan 13 12:11	27° <u>♁</u> 39'33		minimum elong		14722 Oct 11 22:21	4° <u>♂</u> 02'35 15°04'24
min. Earth dist.	14715 Apr 05 21:19	26° <u>♁</u> 40'41	47.16295 AU	max. Earth dist.		14722 Oct 12 22:54	4° <u>♂</u> 04'00 49.56150 AU
opposition	14715 Apr 07 02:45	26° <u>♁</u> 39'18	-16°08'58	retrograde		14723 Jan 21 06:28	5° <u>♂</u> 32'32
direct	14715 Jun 28 16:11	25° <u>♁</u> 39'31		min. Earth dist.		14723 Apr 14 03:22	4° <u>♂</u> 33'53 47.65743 AU
conjunction	14715 Oct 05 07:14	27° <u>♁</u> 08'16	-15°28'46	opposition		14723 Apr 15 02:40	4° <u>♂</u> 32'47 -15°40'06
minimum elong	14715 Oct 05 07:25	27° <u>♁</u> 08'17	15°28'25	direct		14723 Jul 06 14:15	3° <u>♂</u> 33'34
max. Earth dist.	14715 Oct 06 13:22	27° <u>♁</u> 10'03	49.12685 AU	conjunction		14723 Oct 13 03:20	5° <u>♂</u> 00'57 -15°00'28
retrograde	14716 Jan 14 18:13	28° <u>♁</u> 39'24		minimum elong		14723 Oct 13 03:32	5° <u>♂</u> 00'57 14°59'58
min. Earth dist.	14716 Apr 06 03:39	27° <u>♁</u> 40'37	47.24061 AU	max. Earth dist.		14723 Oct 14 02:23	5° <u>♂</u> 02'17 49.60973 AU
opposition	14716 Apr 07 08:57	27° <u>♁</u> 39'15	-16°06'13	retrograde		14724 Jan 22 11:17	6° <u>♂</u> 30'47
direct	14716 Jun 28 20:10	26° <u>♁</u> 39'33		min. Earth dist.		14724 Apr 14 09:18	5° <u>♂</u> 32'11 47.70337 AU
conjunction	14716 Oct 05 13:08	28° <u>♁</u> 08'09	-15°26'04	opposition		14724 Apr 15 08:10	5° <u>♂</u> 31'07 -15°35'20
minimum elong	14716 Oct 05 13:20	28° <u>♁</u> 08'09	15°25'41	direct		14724 Jul 06 21:15	4° <u>♂</u> 31'58
max. Earth dist.	14716 Oct 06 17:39	28° <u>♁</u> 09'49	49.20217 AU	evening set		14724 Oct 11 18:35	5° <u>♂</u> 57'00
retrograde	14717 Jan 14 23:17	29° <u>♁</u> 39'06		conjunction		14724 Oct 13 08:39	5° <u>♂</u> 59'12 -14°55'48
min. Earth dist.	14717 Apr 07 11:49	28° <u>♁</u> 40'18	47.31285 AU	minimum elong		14724 Oct 13 08:52	5° <u>♂</u> 59'13 14°55'18
opposition	14717 Apr 08 15:18	28° <u>♁</u> 39'01	-16°03'13	morning rise		14724 Oct 14 23:11	6° <u>♂</u> 01'27
direct	14717 Jun 30 01:33	27° <u>♁</u> 39'25		max. Earth dist.		14724 Oct 14 07:51	6° <u>♂</u> 00'33 49.65458 AU
conjunction	14717 Oct 06 18:56	29° <u>♁</u> 07'49	-15°23'09	retrograde		14725 Jan 22 18:24	7° <u>♂</u> 28'57
minimum elong	14717 Oct 06 19:07	29° <u>♁</u> 07'50	15°22'45	opposition		14725 Apr 16 13:46	6° <u>♂</u> 29'20 -15°30'20
max. Earth dist.	14717 Oct 07 23:14	29° <u>♁</u> 09'29	49.27222 AU	min. Earth dist.		14725 Apr 15 16:33	6° <u>♂</u> 30'19 47.74563 AU
				direct		14725 Jul 08 04:05	5° <u>♂</u> 30'16

evening set	14725 Oct 12 07:14	6° <u>ℓ</u> .54'13		opposition	14732 Apr 23 03:25	13° <u>ℓ</u> .13'39	-14°49'08
				min. Earth dist.	14732 Apr 22 13:17	13° <u>ℓ</u> .14'18	47.90707 AU
conjunction	14725 Oct 14 13:43	6° <u>ℓ</u> .57'23	-14°50'54	direct	14732 Jul 14 12:49	12° <u>ℓ</u> .14'49	
minimum elong	14725 Oct 14 13:56	6° <u>ℓ</u> .57'23	14°50'22	evening set	14732 Oct 15 22:29	13° <u>ℓ</u> .34'08	
max. Earth dist.	14725 Oct 15 11:44	6° <u>ℓ</u> .58'39	49.69572 AU				
morning rise	14725 Oct 16 20:41	7° <u>ℓ</u> .00'34		conjunction	14732 Oct 21 01:34	13° <u>ℓ</u> .41'12	-14°10'41
retrograde	14726 Jan 24 01:16	8° <u>ℓ</u> .27'01		minimum elong	14732 Oct 21 01:46	13° <u>ℓ</u> .41'13	14°10'04
opposition	14726 Apr 17 19:14	7° <u>ℓ</u> .27'28	-15°25'05	max. Earth dist.	14732 Oct 21 16:50	13° <u>ℓ</u> .42'05	49.84663 AU
min. Earth dist.	14726 Apr 16 21:51	7° <u>ℓ</u> .28'28	47.78384 AU	morning rise	14732 Oct 26 05:14	13° <u>ℓ</u> .48'18	
direct	14726 Jul 09 07:46	6° <u>ℓ</u> .28'28			14732 Dec 30 05:52	15° <u>ℓ</u> .	
evening set	14726 Oct 12 23:29	7° <u>ℓ</u> .51'35		retrograde	14733 Jan 30 11:20	15° <u>ℓ</u> .10'08	
					14733 Mar 03 03:43	15° <u>ℓ</u> .	
conjunction	14726 Oct 15 18:55	7° <u>ℓ</u> .55'29	-14°45'47	opposition	14733 Apr 24 08:30	14° <u>ℓ</u> .10'47	-14°42'21
minimum elong	14726 Oct 15 19:08	7° <u>ℓ</u> .55'29	14°45'15	min. Earth dist.	14733 Apr 23 18:32	14° <u>ℓ</u> .11'25	47.91223 AU
max. Earth dist.	14726 Oct 16 15:36	7° <u>ℓ</u> .56'40	49.73243 AU	direct	14733 Jul 15 19:37	13° <u>ℓ</u> .11'58	
morning rise	14726 Oct 18 14:52	7° <u>ℓ</u> .59'24		evening set	14733 Oct 16 19:33	14° <u>ℓ</u> .30'46	
retrograde	14727 Jan 25 07:24	9° <u>ℓ</u> .25'01					
min. Earth dist.	14727 Apr 18 05:23	8° <u>ℓ</u> .26'26	47.81744 AU	conjunction	14733 Oct 22 06:14	14° <u>ℓ</u> .38'16	-14°04'04
opposition	14727 Apr 19 00:48	8° <u>ℓ</u> .25'31	-15°19'37	minimum elong	14733 Oct 22 06:28	14° <u>ℓ</u> .38'17	14°03'26
direct	14727 Jul 10 11:00	7° <u>ℓ</u> .26'35		max. Earth dist.	14733 Oct 22 19:54	14° <u>ℓ</u> .39'04	49.85123 AU
evening set	14727 Oct 13 17:33	8° <u>ℓ</u> .48'57		morning rise	14733 Oct 27 17:40	14° <u>ℓ</u> .45'49	
					14733 Nov 07 04:12	15° <u>ℓ</u> .	
conjunction	14727 Oct 17 00:13	8° <u>ℓ</u> .53'29	-14°40'27	retrograde	14734 Jan 31 15:20	16° <u>ℓ</u> .07'10	
minimum elong	14727 Oct 17 00:26	8° <u>ℓ</u> .53'30	14°39'52	opposition	14734 Apr 25 13:38	15° <u>ℓ</u> .07'49	-14°35'21
max. Earth dist.	14727 Oct 17 20:36	8° <u>ℓ</u> .54'40	49.76426 AU	min. Earth dist.	14734 Apr 25 00:08	15° <u>ℓ</u> .08'27	47.91440 AU
morning rise	14727 Oct 20 07:24	8° <u>ℓ</u> .58'04			14734 May 02 14:43	15° <u>ℓ</u> .	
retrograde	14728 Jan 26 09:43	10° <u>ℓ</u> .22'55		direct	14734 Jul 17 01:50	14° <u>ℓ</u> .09'02	
min. Earth dist.	14728 Apr 18 11:36	9° <u>ℓ</u> .24'20	47.84565 AU		14734 Sep 27 01:28	15° <u>ℓ</u> .	
opposition	14728 Apr 19 06:14	9° <u>ℓ</u> .23'29	-15°13'56	evening set	14734 Oct 17 16:52	15° <u>ℓ</u> .27'22	
direct	14728 Jul 10 17:09	8° <u>ℓ</u> .24'35					
evening set	14728 Oct 13 12:43	9° <u>ℓ</u> .46'15		conjunction	14734 Oct 23 11:07	15° <u>ℓ</u> .35'17	-13°57'13
				minimum elong	14734 Oct 23 11:19	15° <u>ℓ</u> .35'18	13°56'34
conjunction	14728 Oct 17 05:24	9° <u>ℓ</u> .51'23	-14°34'54	max. Earth dist.	14734 Oct 24 01:01	15° <u>ℓ</u> .36'05	49.85287 AU
minimum elong	14728 Oct 17 05:37	9° <u>ℓ</u> .51'24	14°34'21	morning rise	14734 Oct 29 06:02	15° <u>ℓ</u> .43'16	
max. Earth dist.	14728 Oct 17 23:27	9° <u>ℓ</u> .52'25	49.79057 AU	retrograde	14735 Feb 01 21:29	17° <u>ℓ</u> .04'09	
morning rise	14728 Oct 20 22:40	9° <u>ℓ</u> .56'32		opposition	14735 Apr 26 18:43	16° <u>ℓ</u> .04'50	-14°28'05
retrograde	14729 Jan 26 14:56	11° <u>ℓ</u> .20'42		min. Earth dist.	14735 Apr 26 06:29	16° <u>ℓ</u> .05'24	47.91357 AU
opposition	14729 Apr 20 11:35	10° <u>ℓ</u> .21'18	-15°08'03	direct	14735 Jul 18 08:33	15° <u>ℓ</u> .06'05	
min. Earth dist.	14729 Apr 19 17:57	10° <u>ℓ</u> .22'07	47.86837 AU	evening set	14735 Oct 18 14:29	16° <u>ℓ</u> .23'58	
direct	14729 Jul 11 22:55	9° <u>ℓ</u> .22'25					
evening set	14729 Oct 14 08:35	10° <u>ℓ</u> .43'28		conjunction	14735 Oct 24 15:53	16° <u>ℓ</u> .32'17	-13°50'07
				minimum elong	14735 Oct 24 16:07	16° <u>ℓ</u> .32'18	13°49'28
conjunction	14729 Oct 18 10:38	10° <u>ℓ</u> .49'06	-14°29'10	max. Earth dist.	14735 Oct 25 04:48	16° <u>ℓ</u> .33'02	49.85169 AU
minimum elong	14729 Oct 18 10:52	10° <u>ℓ</u> .49'07	14°28'35	morning rise	14735 Oct 30 18:04	16° <u>ℓ</u> .40'40	
max. Earth dist.	14729 Oct 19 04:18	10° <u>ℓ</u> .50'08	49.81141 AU	retrograde	14736 Feb 03 04:56	18° <u>ℓ</u> .01'07	
morning rise	14729 Oct 22 13:18	10° <u>ℓ</u> .54'48		opposition	14736 Apr 26 23:40	17° <u>ℓ</u> .01'51	-14°20'35
retrograde	14730 Jan 27 20:10	12° <u>ℓ</u> .18'20		min. Earth dist.	14736 Apr 26 11:05	17° <u>ℓ</u> .02'26	47.90975 AU
opposition	14730 Apr 21 17:02	11° <u>ℓ</u> .18'56	-15°01'58	direct	14736 Jul 18 11:42	16° <u>ℓ</u> .03'08	
min. Earth dist.	14730 Apr 21 01:09	11° <u>ℓ</u> .19'41	47.88570 AU	evening set	14736 Oct 18 12:07	17° <u>ℓ</u> .20'36	
direct	14730 Jul 13 06:46	10° <u>ℓ</u> .20'05					
evening set	14730 Oct 15 04:50	11° <u>ℓ</u> .40'31		conjunction	14736 Oct 24 20:40	17° <u>ℓ</u> .29'19	-13°42'48
				minimum elong	14736 Oct 24 20:52	17° <u>ℓ</u> .29'20	13°42'07
conjunction	14730 Oct 19 15:35	11° <u>ℓ</u> .46'39	-14°23'14	max. Earth dist.	14736 Oct 25 08:28	17° <u>ℓ</u> .30'00	49.84726 AU
minimum elong	14730 Oct 19 15:47	11° <u>ℓ</u> .46'40	14°22'38	morning rise	14736 Oct 31 06:02	17° <u>ℓ</u> .38'06	
max. Earth dist.	14730 Oct 20 07:59	11° <u>ℓ</u> .47'36	49.82732 AU	retrograde	14737 Feb 03 10:49	18° <u>ℓ</u> .58'08	
morning rise	14730 Oct 24 02:55	11° <u>ℓ</u> .52'50		opposition	14737 Apr 28 04:41	17° <u>ℓ</u> .58'54	-14°12'51
retrograde	14731 Jan 29 02:55	13° <u>ℓ</u> .15'46		min. Earth dist.	14737 Apr 27 17:48	17° <u>ℓ</u> .59'24	47.90262 AU
opposition	14731 Apr 22 22:16	12° <u>ℓ</u> .16'23	-14°55'39	direct	14737 Jul 19 13:59	17° <u>ℓ</u> .00'15	
min. Earth dist.	14731 Apr 22 06:25	12° <u>ℓ</u> .17'07	47.89838 AU	evening set	14737 Oct 19 10:07	18° <u>ℓ</u> .17'18	
direct	14731 Jul 14 10:30	11° <u>ℓ</u> .17'32					
evening set	14731 Oct 16 01:28	12° <u>ℓ</u> .37'24		conjunction	14737 Oct 26 01:34	18° <u>ℓ</u> .26'25	-13°35'15
				minimum elong	14737 Oct 26 01:47	18° <u>ℓ</u> .26'26	13°34'34
conjunction	14731 Oct 20 20:33	12° <u>ℓ</u> .44'00	-14°17'04	max. Earth dist.	14737 Oct 26 13:30	18° <u>ℓ</u> .27'07	49.83945 AU
minimum elong	14731 Oct 20 20:47	12° <u>ℓ</u> .44'01	14°16'28	morning rise	14737 Nov 01 17:47	18° <u>ℓ</u> .35'35	
max. Earth dist.	14731 Oct 21 11:49	12° <u>ℓ</u> .44'53	49.83878 AU	retrograde	14738 Feb 04 13:01	19° <u>ℓ</u> .55'13	
morning rise	14731 Oct 25 16:20	12° <u>ℓ</u> .50'39		opposition	14738 Apr 29 09:42	18° <u>ℓ</u> .56'02	-14°04'53
retrograde	14732 Jan 30 09:14	14° <u>ℓ</u> .13'02		min. Earth dist.	14738 Apr 28 23:10	18° <u>ℓ</u> .56'31	47.89169 AU

direct	14738 Jul 20 18:31	17° \mathcal{M} 57'25	retrograde	14745 Feb 10 23:20	26° \mathcal{M} 35'08
evening set	14738 Oct 20 08:09	19° \mathcal{M} 14'05	opposition	14745 May 05 20:28	25° \mathcal{M} 35'52 -13°03'20
			min. Earth dist.	14745 May 05 17:28	25° \mathcal{M} 36'00 47.68134 AU
conjunction	14738 Oct 27 06:16	19° \mathcal{M} 23'36 -13°27'29	direct	14745 Jul 27 08:02	24° \mathcal{M} 37'09
minimum elong	14738 Oct 27 06:29	19° \mathcal{M} 23'37 13°26'46	evening set	14745 Oct 24 23:10	25° \mathcal{M} 51'18
max. Earth dist.	14738 Oct 27 16:13	19° \mathcal{M} 24'10 49.82759 AU			
morning rise	14738 Nov 03 05:18	19° \mathcal{M} 33'09	conjunction	14745 Nov 02 16:38	26° \mathcal{M} 03'15 -12°27'30
retrograde	14739 Feb 05 17:50	20° \mathcal{M} 52'24	minimum elong	14745 Nov 02 16:51	26° \mathcal{M} 03'16 12°26'43
opposition	14739 Apr 30 14:46	19° \mathcal{M} 53'14 -13°56'42	max. Earth dist.	14745 Nov 02 20:03	26° \mathcal{M} 03'27 49.60984 AU
min. Earth dist.	14739 Apr 30 05:11	19° \mathcal{M} 53'41 47.87649 AU	morning rise	14745 Nov 11 11:10	26° \mathcal{M} 15'16
direct	14739 Jul 21 23:34	18° \mathcal{M} 54'39	retrograde	14746 Feb 12 06:17	27° \mathcal{M} 32'00
evening set	14739 Oct 21 06:31	20° \mathcal{M} 10'57	opposition	14746 May 07 01:21	26° \mathcal{M} 32'42 -12°53'40
			min. Earth dist.	14746 May 06 21:59	26° \mathcal{M} 32'51 47.63524 AU
conjunction	14739 Oct 28 11:20	20° \mathcal{M} 20'50 -13°19'31	direct	14746 Jul 28 12:24	25° \mathcal{M} 33'58
minimum elong	14739 Oct 28 11:33	20° \mathcal{M} 20'50 13°18'49	evening set	14746 Oct 25 22:07	26° \mathcal{M} 47'48
max. Earth dist.	14739 Oct 28 20:54	20° \mathcal{M} 21'23 49.81096 AU			
morning rise	14739 Nov 04 16:59	20° \mathcal{M} 30'46	conjunction	14746 Nov 03 21:22	27° \mathcal{M} 00'04 -12°18'04
retrograde	14740 Feb 06 22:35	21° \mathcal{M} 49'39	minimum elong	14746 Nov 03 21:36	27° \mathcal{M} 00'05 12°17'17
opposition	14740 Apr 30 19:42	20° \mathcal{M} 50'30 -13°48'19	max. Earth dist.	14746 Nov 03 23:49	27° \mathcal{M} 00'13 49.56344 AU
min. Earth dist.	14740 Apr 30 11:57	20° \mathcal{M} 50'52 47.85616 AU	morning rise	14746 Nov 12 21:49	27° \mathcal{M} 12'26
direct	14740 Jul 22 07:13	19° \mathcal{M} 51'56	retrograde	14747 Feb 13 12:55	28° \mathcal{M} 28'52
evening set	14740 Oct 21 05:11	21° \mathcal{M} 07'51	opposition	14747 May 08 06:24	27° \mathcal{M} 29'32 -12°43'45
			min. Earth dist.	14747 May 08 04:39	27° \mathcal{M} 29'37 47.58620 AU
conjunction	14740 Oct 28 16:20	21° \mathcal{M} 18'05 -13°11'21	direct	14747 Jul 29 15:23	26° \mathcal{M} 30'47
minimum elong	14740 Oct 28 16:34	21° \mathcal{M} 18'06 13°10'37	evening set	14747 Oct 26 21:23	27° \mathcal{M} 44'20
max. Earth dist.	14740 Oct 29 00:23	21° \mathcal{M} 18'33 49.78919 AU			
morning rise	14740 Nov 05 04:23	21° \mathcal{M} 28'24	conjunction	14747 Nov 05 02:23	27° \mathcal{M} 56'56 -12°08'25
retrograde	14741 Feb 07 05:59	22° \mathcal{M} 46'53	minimum elong	14747 Nov 05 02:35	27° \mathcal{M} 56'57 12°07'36
opposition	14741 May 02 00:41	21° \mathcal{M} 47'45 -13°39'45	max. Earth dist.	14747 Nov 05 04:59	27° \mathcal{M} 57'05 49.51422 AU
min. Earth dist.	14741 May 01 17:10	21° \mathcal{M} 48'06 47.83048 AU	morning rise	14747 Nov 14 08:24	28° \mathcal{M} 09'37
direct	14741 Jul 23 11:34	20° \mathcal{M} 49'10	retrograde	14748 Feb 14 16:33	29° \mathcal{M} 25'46
evening set	14741 Oct 22 03:41	22° \mathcal{M} 04'43	opposition	14748 May 08 11:10	28° \mathcal{M} 26'26 -12°33'37
			min. Earth dist.	14748 May 08 09:28	28° \mathcal{M} 26'31 47.53414 AU
conjunction	14741 Oct 29 21:10	22° \mathcal{M} 15'19 -13°03'00	direct	14748 Jul 29 19:14	27° \mathcal{M} 27'39
minimum elong	14741 Oct 29 21:23	22° \mathcal{M} 15'19 13°02'16	evening set	14748 Oct 26 20:46	28° \mathcal{M} 40'57
max. Earth dist.	14741 Oct 30 03:38	22° \mathcal{M} 15'41 49.76196 AU			
morning rise	14741 Nov 06 15:39	22° \mathcal{M} 25'58	conjunction	14748 Nov 05 07:14	28° \mathcal{M} 53'53 -11°58'32
retrograde	14742 Feb 08 14:09	23° \mathcal{M} 44'06	minimum elong	14748 Nov 05 07:28	28° \mathcal{M} 53'54 11°57'43
opposition	14742 May 03 05:48	22° \mathcal{M} 44'56 -13°30'58	max. Earth dist.	14748 Nov 05 08:02	28° \mathcal{M} 53'56 49.46191 AU
min. Earth dist.	14742 May 03 00:17	22° \mathcal{M} 45'11 47.79958 AU	morning rise	14748 Nov 14 19:00	29° \mathcal{M} 06'53
direct	14742 Jul 24 13:03	21° \mathcal{M} 46'20		14748 Dec 29 11:30	0° \mathcal{A}
evening set	14742 Oct 23 02:27	23° \mathcal{M} 01'30	retrograde	14749 Feb 14 21:24	0° \mathcal{A} 22'47
				14749 Apr 04 07:36	30° \mathcal{R} \mathcal{M}
conjunction	14742 Oct 31 02:08	23° \mathcal{M} 12'27 -12°54'27	opposition	14749 May 09 16:11	29° \mathcal{M} 23'26 -12°23'14
minimum elong	14742 Oct 31 02:22	23° \mathcal{M} 12'28 12°53'42	min. Earth dist.	14749 May 09 15:17	29° \mathcal{M} 23'29 47.47895 AU
max. Earth dist.	14742 Oct 31 08:25	23° \mathcal{M} 12'49 49.72988 AU	direct	14749 Jul 30 23:28	28° \mathcal{M} 24'40
morning rise	14742 Nov 08 02:43	23° \mathcal{M} 23'27	evening set	14749 Oct 27 20:04	29° \mathcal{M} 37'44
retrograde	14743 Feb 09 17:00	24° \mathcal{M} 41'12			
opposition	14743 May 04 10:39	23° \mathcal{M} 42'01 -13°21'59	conjunction	14749 Nov 06 12:09	29° \mathcal{M} 50'58 -11°48'25
min. Earth dist.	14743 May 04 05:27	23° \mathcal{M} 42'15 47.76399 AU	minimum elong	14749 Nov 06 12:22	29° \mathcal{M} 50'59 11°47'35
direct	14743 Jul 25 18:16	22° \mathcal{M} 43'22	max. Earth dist.	14749 Nov 06 12:58	29° \mathcal{M} 51'01 49.40614 AU
evening set	14743 Oct 24 01:16	23° \mathcal{M} 58'11		14749 Nov 13 01:54	0° \mathcal{A}
			morning rise	14749 Nov 16 05:23	0° \mathcal{A} 04'18
conjunction	14743 Nov 01 06:56	24° \mathcal{M} 09'29 -12°45'41	retrograde	14750 Feb 16 01:48	1° \mathcal{A} 19'58
minimum elong	14743 Nov 01 07:08	24° \mathcal{M} 09'29 12°44'55	opposition	14750 May 10 21:18	0° \mathcal{A} 20'37 -12°12'38
max. Earth dist.	14743 Nov 01 11:18	24° \mathcal{M} 09'44 49.69344 AU	min. Earth dist.	14750 May 10 21:44	0° \mathcal{A} 20'36 47.41997 AU
morning rise	14743 Nov 09 13:41	24° \mathcal{M} 20'49		14750 May 29 17:57	30° \mathcal{R} \mathcal{M}
retrograde	14744 Feb 10 19:45	25° \mathcal{M} 38'13	direct	14750 Aug 01 06:14	29° \mathcal{M} 21'51
opposition	14744 May 04 15:35	24° \mathcal{M} 38'59 -13°12'46		14750 Oct 01 13:02	0° \mathcal{A}
min. Earth dist.	14744 May 04 11:20	24° \mathcal{M} 39'11 47.72446 AU	evening set	14750 Oct 28 19:49	0° \mathcal{A} 34'41
direct	14744 Jul 26 00:04	23° \mathcal{M} 40'18			
evening set	14744 Oct 24 00:06	24° \mathcal{M} 54'47	conjunction	14750 Nov 07 17:14	0° \mathcal{A} 48'14 -11°38'06
			minimum elong	14750 Nov 07 17:26	0° \mathcal{A} 48'15 11°37'17
conjunction	14744 Nov 01 11:49	25° \mathcal{M} 06'24 -12°36'42	max. Earth dist.	14750 Nov 07 16:51	0° \mathcal{A} 48'13 49.34648 AU
minimum elong	14744 Nov 01 12:03	25° \mathcal{M} 06'25 12°35'55	morning rise	14750 Nov 17 15:52	1° \mathcal{A} 01'53
max. Earth dist.	14744 Nov 01 16:14	25° \mathcal{M} 06'39 49.65320 AU	retrograde	14751 Feb 17 08:56	2° \mathcal{A} 17'20
morning rise	14744 Nov 10 00:31	25° \mathcal{M} 18'05	opposition	14751 May 12 02:15	1° \mathcal{A} 18'00 -12°01'49

min. Earth dist.	14751 May 12 02:57	1°♂17'58	47.35674 AU	morning rise	14757 Nov 25 16:20	7°♂48'48	
direct	14751 Aug 02 10:37	0°♂19'13		retrograde	14758 Feb 24 01:55	9°♂02'52	
evening set	14751 Oct 29 19:41	1°♂31'50		opposition	14758 May 18 14:44	8°♂03'10	-10°40'21
				min. Earth dist.	14758 May 18 22:33	8°♂02'48	46.77550 AU
conjunction	14751 Nov 08 22:25	1°♂45'43	-11°27'35	direct	14758 Aug 08 18:48	7°♂03'58	
minimum elong	14751 Nov 08 22:38	1°♂45'44	11°26'43	evening set	14758 Nov 03 22:18	8°♂15'17	
max. Earth dist.	14751 Nov 08 20:23	1°♂45'36	49.28200 AU				
morning rise	14751 Nov 19 02:31	1°♂59'41		conjunction	14758 Nov 15 11:37	8°♂31'15	-10°08'19
retrograde	14752 Feb 18 17:41	3°♂14'55		minimum elong	14758 Nov 15 11:49	8°♂31'15	10°07'25
opposition	14752 May 12 07:28	2°♂15'34	-11°50'48	max. Earth dist.	14758 Nov 15 02:22	8°♂30'42	48.69477 AU
min. Earth dist.	14752 May 12 10:18	2°♂15'26	47.28841 AU	morning rise	14758 Nov 27 02:34	8°♂47'17	
direct	14752 Aug 02 12:35	1°♂16'46		retrograde	14759 Feb 25 06:43	10°♂01'11	
evening set	14752 Oct 29 19:44	2°♂29'11		opposition	14759 May 19 20:01	9°♂01'25	-10°27'48
				min. Earth dist.	14759 May 20 04:44	9°♂01'00	46.67735 AU
conjunction	14752 Nov 09 03:45	2°♂43'22	-11°16'52	direct	14759 Aug 09 22:48	8°♂02'09	
minimum elong	14752 Nov 09 03:57	2°♂43'23	11°16'01	evening set	14759 Nov 04 23:05	9°♂13'21	
max. Earth dist.	14752 Nov 09 01:16	2°♂43'14	49.21225 AU				
morning rise	14752 Nov 19 12:57	2°♂57'38		conjunction	14759 Nov 16 17:12	9°♂29'35	-9°56'07
retrograde	14753 Feb 18 22:15	4°♂12'40		minimum elong	14759 Nov 16 17:24	9°♂29'36	9°55'13
opposition	14753 May 13 12:35	3°♂13'17	-11°39'35	max. Earth dist.	14759 Nov 16 08:02	9°♂29'03	48.59638 AU
min. Earth dist.	14753 May 13 15:53	3°♂13'08	47.21451 AU	morning rise	14759 Nov 28 12:44	9°♂45'55	
direct	14753 Aug 03 16:41	2°♂14'27		retrograde	14760 Feb 26 10:25	10°♂59'41	
evening set	14753 Oct 30 20:00	3°♂26'40		opposition	14760 May 20 01:27	9°♂59'51	-10°15'02
				min. Earth dist.	14760 May 20 11:11	9°♂59'23	46.57614 AU
conjunction	14753 Nov 10 09:00	3°♂41'09	-11°05'58	direct	14760 Aug 10 05:56	9°♂00'31	
minimum elong	14753 Nov 10 09:13	3°♂41'10	11°05'05	evening set	14760 Nov 05 00:10	10°♂11'35	
max. Earth dist.	14753 Nov 10 04:16	3°♂40'53	49.13701 AU				
morning rise	14753 Nov 20 23:28	3°♂55'44		conjunction	14760 Nov 16 22:43	10°♂28'06	-9°43'42
retrograde	14754 Feb 20 02:36	5°♂10'32		minimum elong	14760 Nov 16 22:54	10°♂28'07	9°42'46
opposition	14754 May 14 17:52	4°♂11'07	-11°28'10	max. Earth dist.	14760 Nov 16 12:34	10°♂27'31	48.49508 AU
min. Earth dist.	14754 May 14 22:31	4°♂10'54	47.13535 AU	morning rise	14760 Nov 28 22:47	10°♂44'43	
direct	14754 Aug 04 22:12	3°♂12'13		retrograde	14761 Feb 26 16:44	11°♂58'23	
evening set	14754 Oct 31 20:05	4°♂24'14		opposition	14761 May 21 06:50	10°♂58'29	-10°02'01
				min. Earth dist.	14761 May 21 16:30	10°♂58'01	46.47193 AU
conjunction	14754 Nov 11 14:18	4°♂39'01	-10°54'51	direct	14761 Aug 11 12:23	9°♂59'05	
minimum elong	14754 Nov 11 14:30	4°♂39'02	10°53'59	evening set	14761 Nov 06 01:22	11°♂10'03	
max. Earth dist.	14754 Nov 11 09:12	4°♂38'44	49.05657 AU				
morning rise	14754 Nov 22 09:47	4°♂53'54		conjunction	14761 Nov 18 04:22	11°♂26'51	-9°31'03
retrograde	14755 Feb 21 05:56	6°♂08'31		minimum elong	14761 Nov 18 04:33	11°♂26'51	9°30'08
opposition	14755 May 15 23:08	5°♂09'01	-11°16'33	max. Earth dist.	14761 Nov 17 16:58	11°♂26'11	48.39046 AU
min. Earth dist.	14755 May 16 05:14	5°♂08'44	47.05118 AU	morning rise	14761 Nov 30 09:01	11°♂43'45	
direct	14755 Aug 06 06:51	4°♂10'03		retrograde	14762 Feb 28 02:15	12°♂57'18	
evening set	14755 Nov 01 20:35	5°♂21'53		opposition	14762 May 22 12:31	11°♂57'21	-9°48'46
				min. Earth dist.	14762 May 22 23:58	11°♂56'49	46.36426 AU
conjunction	14755 Nov 12 19:38	5°♂36'57	-10°43'33	direct	14762 Aug 12 16:00	10°♂57'54	
minimum elong	14755 Nov 12 19:51	5°♂36'58	10°42'40	evening set	14762 Nov 07 02:43	12°♂08'45	
max. Earth dist.	14755 Nov 12 13:17	5°♂36'35	48.97162 AU				
morning rise	14755 Nov 23 20:05	5°♂52'08		conjunction	14762 Nov 19 10:11	12°♂25'51	-9°18'11
retrograde	14756 Feb 22 13:25	7°♂06'33		minimum elong	14762 Nov 19 10:22	12°♂25'51	9°17'14
opposition	14756 May 16 04:09	6°♂06'59	-11°04'43	max. Earth dist.	14762 Nov 18 22:46	12°♂25'11	48.28218 AU
min. Earth dist.	14756 May 16 10:18	6°♂06'42	46.96283 AU	morning rise	14762 Dec 01 19:06	12°♂43'02	
direct	14756 Aug 06 11:48	5°♂07'57		retrograde	14763 Mar 01 09:31	13°♂56'29	
evening set	14756 Nov 01 21:03	6°♂19'35		opposition	14763 May 23 18:08	12°♂56'29	-9°35'17
				min. Earth dist.	14763 May 24 05:48	12°♂55'56	46.25245 AU
conjunction	14756 Nov 13 00:58	6°♂34'57	-10°32'02	direct	14763 Aug 13 19:04	11°♂56'57	
minimum elong	14756 Nov 13 01:09	6°♂34'58	10°31'09	evening set	14763 Nov 08 04:33	13°♂07'44	
max. Earth dist.	14756 Nov 12 17:21	6°♂34'31	48.88259 AU				
morning rise	14756 Nov 24 06:23	6°♂50'26		conjunction	14763 Nov 20 16:09	13°♂25'06	-9°05'06
retrograde	14757 Feb 22 21:04	8°♂04'40		minimum elong	14763 Nov 20 16:20	13°♂25'07	9°04'10
opposition	14757 May 17 09:28	7°♂05'02	-10°52'39	max. Earth dist.	14763 Nov 20 02:31	13°♂24'18	48.16936 AU
min. Earth dist.	14757 May 17 17:26	7°♂04'39	46.87079 AU	morning rise	14763 Dec 03 05:31	13°♂42'34	
direct	14757 Aug 07 15:00	6°♂05'55		retrograde	14764 Mar 01 16:05	14°♂55'56	
evening set	14757 Nov 02 21:29	7°♂17'23		opposition	14764 May 23 23:48	13°♂55'51	-9°21'36
				min. Earth dist.	14764 May 24 13:07	13°♂55'13	46.13593 AU
conjunction	14757 Nov 14 06:15	7°♂33'02	-10°20'17	direct	14764 Aug 13 23:40	12°♂56'14	
minimum elong	14757 Nov 14 06:28	7°♂33'03	10°19'24	evening set	14764 Nov 08 06:27	14°♂06'57	
max. Earth dist.	14757 Nov 13 22:49	7°♂32'37	48.79022 AU				

conjunction	14764 Nov 20 22:22	14° 24 '24'35	-8°51'49	direct	14771 Aug 21 19:21	19° 56 '13	
minimum elong	14764 Nov 20 22:33	14° 24 '24'36	8°50'51	evening set	14771 Nov 15 00:28	21° 06 '44	
max. Earth dist.	14764 Nov 20 08:11	14° 23 '45	48.05144 AU				
morning rise	14764 Dec 03 15:49	14° 42 '20		conjunction	14771 Nov 28 19:05	21° 26 '12	-7°12'45
retrograde	14765 Mar 02 19:07	15° 55 '37		minimum elong	14771 Nov 28 19:13	21° 26 '13	7°11'46
opposition	14765 May 25 05:45	14° 55 '26	-9°07'42	max. Earth dist.	14771 Nov 27 21:52	21° 24 '57	47.10470 AU
min. Earth dist.	14765 May 25 20:22	14° 54 '44	46.01406 AU	morning rise	14771 Dec 12 15:30	21° 45 '48	
direct	14765 Aug 15 08:10	13° 55 '42		retrograde	14772 Mar 09 20:17	22° 58 '53	
evening set	14765 Nov 09 08:29	15° 06 '22		opposition	14772 Jun 01 00:48	21° 57 '51	-7°23'56
				min. Earth dist.	14772 Jun 01 21:15	21° 56 '52	45.04636 AU
conjunction	14765 Nov 22 04:25	15° 24 '16	-8°38'19	direct	14772 Aug 22 00:44	20° 57 '14	
minimum elong	14765 Nov 22 04:35	15° 24 '16	8°37'22	evening set	14772 Nov 15 03:49	22° 07 '49	
max. Earth dist.	14765 Nov 21 12:44	15° 23 '21	47.92836 AU	max. Earth dist.	14772 Nov 28 04:59	22° 26 '18	46.95739 AU
morning rise	14765 Dec 05 02:01	15° 42 '16					
retrograde	14766 Mar 04 01:35	16° 55 '30		conjunction	14772 Nov 29 01:58	22° 27 '33	-6°57'40
opposition	14766 May 26 11:41	15° 55 '11	-8°53'35	minimum elong	14772 Nov 29 02:07	22° 27 '33	6°56'41
min. Earth dist.	14766 May 27 02:40	15° 54 '29	45.88711 AU	morning rise	14772 Dec 13 01:44	22° 47 '24	
direct	14766 Aug 16 14:38	14° 55 '20		retrograde	14773 Mar 11 05:51	24° 00 '31	
evening set	14766 Nov 10 10:44	16° 05 '56		opposition	14773 Jun 02 07:21	22° 59 '24	-7°08'07
				min. Earth dist.	14773 Jun 03 03:29	22° 58 '26	44.89651 AU
conjunction	14766 Nov 23 10:41	16° 24 '06	-8°24'37	direct	14773 Aug 23 03:55	21° 58 '41	
minimum elong	14766 Nov 23 10:52	16° 24 '06	8°23'40	evening set	14773 Nov 16 07:26	23° 09 '20	
max. Earth dist.	14766 Nov 22 17:31	16° 23 '05	47.80019 AU	max. Earth dist.	14773 Nov 29 10:03	23° 27 '58	46.80730 AU
morning rise	14766 Dec 06 12:24	16° 42 '23					
retrograde	14767 Mar 05 09:59	17° 55 '32		conjunction	14773 Nov 30 08:47	23° 29 '19	-6°42'21
opposition	14767 May 27 17:41	16° 55 '06	-8°39'14	minimum elong	14773 Nov 30 08:55	23° 29 '20	6°41'21
min. Earth dist.	14767 May 28 10:44	16° 54 '18	45.75544 AU	morning rise	14773 Dec 14 12:04	23° 49 '26	
direct	14767 Aug 17 19:44	15° 55 '08		retrograde	14774 Mar 12 15:03	25° 02 '38	
evening set	14767 Nov 11 13:06	17° 05 '39		opposition	14774 Jun 03 14:10	24° 01 '25	-6°52'04
				min. Earth dist.	14774 Jun 04 11:41	24° 00 '22	44.74380 AU
conjunction	14767 Nov 24 17:05	17° 24 '05	-8°10'42	direct	14774 Aug 24 08:10	23° 00 '35	
minimum elong	14767 Nov 24 17:15	17° 24 '06	8°09'44	evening set	14774 Nov 17 11:20	24° 11 '20	
max. Earth dist.	14767 Nov 23 23:43	17° 23 '04	47.66769 AU				
morning rise	14767 Dec 07 22:36	17° 42 '38		conjunction	14774 Dec 01 16:05	24° 31 '35	-6°26'48
retrograde	14768 Mar 05 16:37	18° 55 '44		minimum elong	14774 Dec 01 16:14	24° 31 '35	6°25'49
opposition	14768 May 27 23:40	17° 55 '10	-8°24'40	max. Earth dist.	14774 Nov 30 17:18	24° 30 '13	46.65395 AU
min. Earth dist.	14768 May 28 16:44	17° 54 '22	45.61966 AU	morning rise	14774 Dec 15 22:29	24° 51 '57	
direct	14768 Aug 18 00:45	16° 55 '03		retrograde	14775 Mar 13 19:34	26° 05 '13	
evening set	14768 Nov 11 15:42	18° 05 '34		opposition	14775 Jun 04 20:57	25° 03 '54	-6°35'46
				min. Earth dist.	14775 Jun 05 19:25	25° 02 '49	44.58744 AU
conjunction	14768 Nov 24 23:19	18° 24 '15	-7°56'34	direct	14775 Aug 25 16:53	24° 02 '57	
minimum elong	14768 Nov 24 23:29	18° 24 '16	7°55'35	evening set	14775 Nov 18 15:45	25° 13 '50	
max. Earth dist.	14768 Nov 24 04:04	18° 23 '07	47.53135 AU				
morning rise	14768 Dec 08 08:49	18° 43 '04		conjunction	14775 Dec 02 23:33	25° 34 '19	-6°11'01
retrograde	14769 Mar 06 23:41	19° 56 '06		minimum elong	14775 Dec 02 23:41	25° 34 '20	6°10'00
opposition	14769 May 29 05:49	18° 55 '26	-8°09'51	max. Earth dist.	14775 Dec 01 23:15	25° 32 '51	46.49670 AU
min. Earth dist.	14769 May 30 00:03	18° 54 '33	45.48050 AU	morning rise	14775 Dec 17 09:10	25° 54 '56	
direct	14769 Aug 19 04:56	17° 55 '11		retrograde	14776 Mar 14 02:37	27° 08 '19	
evening set	14769 Nov 12 18:21	19° 05 '40		opposition	14776 Jun 05 03:59	26° 06 '53	-6°19'13
max. Earth dist.	14769 Nov 25 10:44	19° 23 '30	47.39180 AU	min. Earth dist.	14776 Jun 06 03:00	26° 05 '46	44.42686 AU
				direct	14776 Aug 26 00:48	25° 05 '48	
conjunction	14769 Nov 26 05:51	19° 24 '38	-7°42'12	evening set	14776 Nov 18 20:20	26° 16 '47	
minimum elong	14769 Nov 26 06:00	19° 24 '38	7°41'13	max. Earth dist.	14776 Dec 02 05:23	26° 35 '58	46.33466 AU
morning rise	14769 Dec 09 18:58	19° 43 '42					
retrograde	14770 Mar 08 04:27	20° 56 '44		conjunction	14776 Dec 03 07:09	26° 37 '31	-5°55'01
opposition	14770 May 30 12:05	19° 55 '55	-7°54'48	minimum elong	14776 Dec 03 07:17	26° 37 '32	5°54'01
min. Earth dist.	14770 May 31 07:04	19° 55 '01	45.33834 AU	morning rise	14776 Dec 17 19:48	26° 58 '23	
direct	14770 Aug 20 12:31	18° 55 '33		retrograde	14777 Mar 15 11:45	28° 11 '53	
evening set	14770 Nov 13 21:16	20° 06 '03		opposition	14777 Jun 06 11:21	27° 10 '19	-6°02'27
				min. Earth dist.	14777 Jun 07 12:25	27° 09 '05	44.26134 AU
conjunction	14770 Nov 27 12:21	20° 25 '15	-7°27'36	direct	14777 Aug 27 07:58	26° 09 '05	
minimum elong	14770 Nov 27 12:30	20° 25 '16	7°26'37	evening set	14777 Nov 20 01:13	27° 20 '10	
max. Earth dist.	14770 Nov 26 16:15	20° 24 '04	47.24960 AU				
morning rise	14770 Dec 11 05:11	21° 44 '35		conjunction	14777 Dec 04 15:03	27° 41 '09	-5°38'48
retrograde	14771 Mar 09 11:04	21° 57 '38		minimum elong	14777 Dec 04 15:11	27° 41 '09	5°37'47
opposition	14771 May 31 18:23	20° 56 '43	-7°39'30	max. Earth dist.	14777 Dec 03 12:46	27° 39 '34	46.16782 AU
min. Earth dist.	14771 Jun 01 13:19	20° 55 '48	45.19364 AU	morning rise	14777 Dec 19 06:32	28° 02 '16	

retrograde	14778 Mar 16 21:00	29° $\mathring{\text{A}}$ 15'52		min. Earth dist.	14784 Jun 15 00:47	4° $\mathring{\text{B}}$ 42'59	42.99328 AU
opposition	14778 Jun 07 18:41	28° $\mathring{\text{A}}$ 14'08	-5°45'26	direct	14784 Sep 03 07:44	3° $\mathring{\text{B}}$ 41'53	
min. Earth dist.	14778 Jun 08 19:52	28° $\mathring{\text{A}}$ 12'54	44.09101 AU	evening set	14784 Nov 26 19:06	4° $\mathring{\text{B}}$ 54'10	
direct	14778 Aug 28 13:59	27° $\mathring{\text{A}}$ 12'43		max. Earth dist.	14784 Dec 10 17:48	5° $\mathring{\text{B}}$ 14'44	44.89471 AU
evening set	14778 Nov 21 06:25	28° $\mathring{\text{A}}$ 23'56					
				conjunction	14784 Dec 12 02:08	5° $\mathring{\text{B}}$ 16'45	-3°38'46
conjunction	14778 Dec 05 22:56	28° $\mathring{\text{A}}$ 45'09	-5°22'21	minimum elong	14784 Dec 12 02:13	5° $\mathring{\text{B}}$ 16'45	3°37'44
minimum elong	14778 Dec 05 23:03	28° $\mathring{\text{A}}$ 45'09	5°21'21	morning rise	14784 Dec 27 10:43	5° $\mathring{\text{B}}$ 39'27	
max. Earth dist.	14778 Dec 04 18:25	28° $\mathring{\text{A}}$ 43'25	45.99619 AU	retrograde	14785 Mar 24 13:22	6° $\mathring{\text{B}}$ 54'11	
morning rise	14778 Dec 20 17:25	29° $\mathring{\text{A}}$ 06'30		opposition	14785 Jun 15 02:51	5° $\mathring{\text{B}}$ 51'08	-3°39'24
	14779 Feb 03 00:18	0° $\mathring{\text{B}}$		min. Earth dist.	14785 Jun 16 09:31	5° $\mathring{\text{B}}$ 49'36	42.80131 AU
retrograde	14779 Mar 18 08:24	0° $\mathring{\text{B}}$ 20'12		direct	14785 Sep 04 16:19	4° $\mathring{\text{B}}$ 48'20	
	14779 May 01 04:24	30° $\mathring{\text{R}}$ $\mathring{\text{A}}$		evening set	14785 Nov 28 02:30	6° $\mathring{\text{B}}$ 00'54	
opposition	14779 Jun 09 02:17	29° $\mathring{\text{A}}$ 18'17	-5°28'11	max. Earth dist.	14785 Dec 12 01:43	6° $\mathring{\text{B}}$ 21'35	44.70237 AU
min. Earth dist.	14779 Jun 10 05:12	29° $\mathring{\text{A}}$ 16'58	43.91618 AU				
direct	14779 Aug 29 17:54	28° $\mathring{\text{A}}$ 16'41		conjunction	14785 Dec 13 11:21	6° $\mathring{\text{B}}$ 23'41	-3°20'40
evening set	14779 Nov 22 11:48	29° $\mathring{\text{A}}$ 28'02		minimum elong	14785 Dec 13 11:26	6° $\mathring{\text{B}}$ 23'41	3°19'39
max. Earth dist.	14779 Dec 06 02:34	29° $\mathring{\text{A}}$ 47'45	45.82020 AU	morning rise	14785 Dec 28 22:01	6° $\mathring{\text{B}}$ 46'36	
				retrograde	14786 Mar 25 23:20	8° $\mathring{\text{B}}$ 01'36	
conjunction	14779 Dec 07 07:11	29° $\mathring{\text{A}}$ 49'29	-5°05'41	opposition	14786 Jun 16 11:38	6° $\mathring{\text{B}}$ 58'23	-3°20'21
minimum elong	14779 Dec 07 07:18	29° $\mathring{\text{A}}$ 49'30	5°04'40	min. Earth dist.	14786 Jun 17 18:51	6° $\mathring{\text{B}}$ 56'49	42.60696 AU
	14779 Dec 14 12:08	0° $\mathring{\text{B}}$		direct	14786 Sep 06 00:33	5° $\mathring{\text{B}}$ 55'23	
morning rise	14779 Dec 22 04:10	0° $\mathring{\text{B}}$ 11'04		evening set	14786 Nov 29 10:13	7° $\mathring{\text{B}}$ 08'16	
retrograde	14780 Mar 18 15:53	1° $\mathring{\text{B}}$ 24'52		max. Earth dist.	14786 Dec 13 10:30	7° $\mathring{\text{B}}$ 29'07	44.50709 AU
opposition	14780 Jun 09 09:51	0° $\mathring{\text{B}}$ 22'47	-5°10'42				
min. Earth dist.	14780 Jun 10 13:30	0° $\mathring{\text{B}}$ 21'25	43.73731 AU	conjunction	14786 Dec 14 20:57	7° $\mathring{\text{B}}$ 31'17	-3°02'19
	14780 Jun 29 02:47	30° $\mathring{\text{R}}$ $\mathring{\text{A}}$		minimum elong	14786 Dec 14 21:01	7° $\mathring{\text{B}}$ 31'17	3°01'17
direct	14780 Aug 30 01:58	29° $\mathring{\text{A}}$ 20'58		morning rise	14786 Dec 30 09:20	7° $\mathring{\text{B}}$ 54'25	
	14780 Oct 29 06:53	0° $\mathring{\text{B}}$		retrograde	14787 Mar 27 08:42	9° $\mathring{\text{B}}$ 09'43	
evening set	14780 Nov 22 17:32	0° $\mathring{\text{B}}$ 32'28		opposition	14787 Jun 17 20:47	8° $\mathring{\text{B}}$ 06'20	-3°01'04
max. Earth dist.	14780 Dec 06 09:22	0° $\mathring{\text{B}}$ 52'18	45.64063 AU	min. Earth dist.	14787 Jun 19 05:38	8° $\mathring{\text{B}}$ 04'40	42.40936 AU
				direct	14787 Sep 07 09:57	7° $\mathring{\text{B}}$ 03'09	
conjunction	14780 Dec 07 15:22	0° $\mathring{\text{B}}$ 54'09	-4°48'47	evening set	14787 Nov 30 18:29	8° $\mathring{\text{B}}$ 16'21	
minimum elong	14780 Dec 07 15:28	0° $\mathring{\text{B}}$ 54'09	4°47'46	max. Earth dist.	14787 Dec 14 19:51	8° $\mathring{\text{B}}$ 37'22	44.30831 AU
morning rise	14780 Dec 22 15:04	1° $\mathring{\text{B}}$ 15'57					
retrograde	14781 Mar 19 23:05	2° $\mathring{\text{B}}$ 29'54		conjunction	14787 Dec 16 06:53	8° $\mathring{\text{B}}$ 39'34	-2°43'45
opposition	14781 Jun 10 17:40	1° $\mathring{\text{B}}$ 27'36	-4°52'57	minimum elong	14787 Dec 16 06:57	8° $\mathring{\text{B}}$ 39'34	2°42'44
min. Earth dist.	14781 Jun 11 21:42	1° $\mathring{\text{B}}$ 26'13	43.55524 AU	morning rise	14787 Dec 31 20:52	9° $\mathring{\text{B}}$ 02'55	
direct	14781 Aug 31 10:01	0° $\mathring{\text{B}}$ 25'36		retrograde	14788 Mar 27 19:25	10° $\mathring{\text{B}}$ 18'33	
evening set	14781 Nov 23 23:20	1° $\mathring{\text{B}}$ 37'15		opposition	14788 Jun 18 05:56	9° $\mathring{\text{B}}$ 14'59	-2°41'32
				min. Earth dist.	14788 Jun 19 14:55	9° $\mathring{\text{B}}$ 13'19	42.20795 AU
conjunction	14781 Dec 08 23:40	1° $\mathring{\text{B}}$ 59'09	-4°31'38	direct	14788 Sep 07 18:28	8° $\mathring{\text{B}}$ 11'36	
minimum elong	14781 Dec 08 23:46	1° $\mathring{\text{B}}$ 59'09	4°30'37	evening set	14788 Dec 01 03:17	9° $\mathring{\text{B}}$ 25'09	
max. Earth dist.	14781 Dec 07 16:46	1° $\mathring{\text{B}}$ 57'15	45.45786 AU	max. Earth dist.	14788 Dec 15 03:49	9° $\mathring{\text{B}}$ 46'13	44.10526 AU
morning rise	14781 Dec 24 01:46	2° $\mathring{\text{B}}$ 21'12					
retrograde	14782 Mar 21 06:23	3° $\mathring{\text{B}}$ 35'18		conjunction	14788 Dec 16 17:03	9° $\mathring{\text{B}}$ 48'34	-2°24'56
opposition	14782 Jun 12 01:46	2° $\mathring{\text{B}}$ 32'48	-4°34'57	minimum elong	14788 Dec 16 17:06	9° $\mathring{\text{B}}$ 48'35	2°23'55
min. Earth dist.	14782 Jun 13 07:13	2° $\mathring{\text{B}}$ 31'21	43.37028 AU	morning rise	14789 Jan 01 08:36	10° $\mathring{\text{B}}$ 12'08	
direct	14782 Sep 01 19:47	1° $\mathring{\text{B}}$ 30'35		retrograde	14789 Mar 29 09:17	11° $\mathring{\text{B}}$ 28'06	
evening set	14782 Nov 25 05:36	2° $\mathring{\text{B}}$ 42'25		opposition	14789 Jun 19 15:39	10° $\mathring{\text{B}}$ 24'20	-2°21'45
max. Earth dist.	14782 Dec 09 01:28	3° $\mathring{\text{B}}$ 02'39	45.27253 AU	min. Earth dist.	14789 Jun 21 02:35	10° $\mathring{\text{B}}$ 22'33	42.00218 AU
				direct	14789 Sep 09 00:32	9° $\mathring{\text{B}}$ 20'44	
conjunction	14782 Dec 10 08:20	3° $\mathring{\text{B}}$ 04'33	-4°14'15	evening set	14789 Dec 02 12:11	10° $\mathring{\text{B}}$ 34'38	
minimum elong	14782 Dec 10 08:26	3° $\mathring{\text{B}}$ 04'33	4°13'14	max. Earth dist.	14789 Dec 16 14:08	10° $\mathring{\text{B}}$ 55'54	43.89771 AU
morning rise	14782 Dec 25 12:43	3° $\mathring{\text{B}}$ 26'49					
retrograde	14783 Mar 22 16:32	4° $\mathring{\text{B}}$ 41'06		conjunction	14789 Dec 18 03:29	10° $\mathring{\text{B}}$ 58'16	-2°05'54
opposition	14783 Jun 13 09:46	3° $\mathring{\text{B}}$ 38'25	-4°16'41	minimum elong	14789 Dec 18 03:32	10° $\mathring{\text{B}}$ 58'16	2°04'54
min. Earth dist.	14783 Jun 14 14:52	3° $\mathring{\text{B}}$ 36'58	43.18290 AU	morning rise	14790 Jan 02 20:14	11° $\mathring{\text{B}}$ 22'01	
direct	14783 Sep 03 02:42	2° $\mathring{\text{B}}$ 35'59		retrograde	14790 Mar 30 21:20	12° $\mathring{\text{B}}$ 38'20	
evening set	14783 Nov 26 12:19	3° $\mathring{\text{B}}$ 48'02		opposition	14790 Jun 21 01:31	11° $\mathring{\text{B}}$ 34'21	-2°01'43
max. Earth dist.	14783 Dec 10 08:30	4° $\mathring{\text{B}}$ 08'22	45.08476 AU	min. Earth dist.	14790 Jun 22 12:54	11° $\mathring{\text{B}}$ 32'32	41.79183 AU
				direct	14790 Sep 10 09:03	10° $\mathring{\text{B}}$ 30'30	
conjunction	14783 Dec 11 17:07	4° $\mathring{\text{B}}$ 10'23	-3°56'38	evening set	14790 Dec 03 21:49	11° $\mathring{\text{B}}$ 44'47	
minimum elong	14783 Dec 11 17:13	4° $\mathring{\text{B}}$ 10'24	3°55'37	max. Earth dist.	14790 Dec 17 22:49	12° $\mathring{\text{B}}$ 06'06	43.68577 AU
morning rise	14783 Dec 26 23:50	4° $\mathring{\text{B}}$ 32'52					
retrograde	14784 Mar 23 04:16	5° $\mathring{\text{B}}$ 47'23		conjunction	14790 Dec 19 14:12	12° $\mathring{\text{B}}$ 08'37	-1°46'39
opposition	14784 Jun 13 18:13	4° $\mathring{\text{B}}$ 44'31	-3°58'10	minimum elong	14790 Dec 19 14:15	12° $\mathring{\text{B}}$ 08'37	1°45'38

morning rise	14791 Jan 04 08:18	12°33'34"	opposition	14797 Jun 29 05:22	20°30'58"	0°25'30"
retrograde	14791 Apr 01 09:37	13°34'13"	min. Earth dist.	14797 Jun 30 21:53	20°30'50"	40.23529 AU
opposition	14791 Jun 22 11:27	12°34'50"	direct	14797 Sep 18 07:16	18°35'71"	
min. Earth dist.	14791 Jun 24 00:04	12°34'30"	evening set	14797 Dec 12 04:35	20°31'44"	
direct	14791 Sep 11 17:40	11°34'05"	max. Earth dist.	14797 Dec 26 04:33	20°33'50"	42.12248 AU
evening set	14791 Dec 05 07:44	12°35'53"				
max. Earth dist.	14791 Dec 19 09:00	13°31'00"	conjunction	14797 Dec 28 00:38	20°33'46"	0°34'37"
			minimum elong	14797 Dec 28 00:37	20°33'46"	0°35'36"
conjunction	14791 Dec 21 01:15	13°31'35"	morning rise	14798 Jan 12 21:58	21°30'45"	
minimum elong	14791 Dec 21 01:17	13°31'35"	retrograde	14798 Apr 10 00:34	22°32'44"	
morning rise	14792 Jan 05 20:14	13°34'43"	opposition	14798 Jun 30 17:24	21°31'84"	0°47'30"
retrograde	14792 Apr 01 18:00	15°30'04"	min. Earth dist.	14798 Jul 02 09:53	21°31'63"	40.00588 AU
opposition	14792 Jun 22 21:49	13°35'17"	direct	14798 Sep 19 19:48	20°31'23"	
min. Earth dist.	14792 Jun 24 11:42	13°35'42"	evening set	14798 Dec 13 18:03	21°33'04"	
direct	14792 Sep 12 06:28	12°35'15"	max. Earth dist.	14798 Dec 27 16:22	21°35'52"	41.89194 AU
evening set	14792 Dec 05 17:57	14°30'65"				
max. Earth dist.	14792 Dec 19 19:38	14°32'33"	conjunction	14798 Dec 29 13:48	21°35'58"	0°55'41"
			minimum elong	14798 Dec 29 13:47	21°35'58"	0°56'39"
conjunction	14792 Dec 21 12:20	14°33'11"	morning rise	14799 Jan 14 10:52	22°32'11"	
minimum elong	14792 Dec 21 12:21	14°33'11"	retrograde	14799 Apr 11 13:23	23°34'14"	
morning rise	14793 Jan 06 08:10	14°35'30"	opposition	14799 Jul 02 05:47	22°33'52"	1°09'45"
retrograde	14793 Apr 03 04:44	16°31'25"	min. Earth dist.	14799 Jul 03 23:56	22°33'09"	39.77447 AU
opposition	14793 Jun 24 08:19	15°30'81"	direct	14799 Sep 21 07:39	21°32'90"	
min. Earth dist.	14793 Jun 25 22:03	15°30'61"	evening set	14799 Dec 15 08:05	22°34'75"	
direct	14793 Sep 13 17:19	14°30'33"	max. Earth dist.	14799 Dec 29 06:10	23°31'00"	41.65910 AU
evening set	14793 Dec 07 04:46	15°31'90"				
max. Earth dist.	14793 Dec 21 05:29	15°34'04"	conjunction	14799 Dec 31 03:29	23°31'30"	1°16'57"
			minimum elong	14799 Dec 31 03:27	23°31'30"	1°17'56"
conjunction	14793 Dec 22 23:46	15°34'32"	morning rise	14800 Jan 15 23:54	23°33'32"	
minimum elong	14793 Dec 22 23:47	15°34'32"	retrograde	14800 Apr 12 04:03	24°35'37"	
morning rise	14794 Jan 07 20:20	16°30'75"	opposition	14800 Jul 02 18:33	23°35'04"	1°32'14"
retrograde	14794 Apr 04 18:08	17°32'54"	min. Earth dist.	14800 Jul 04 12:35	23°35'04"	39.54044 AU
opposition	14794 Jun 25 19:10	16°32'04"	direct	14800 Sep 21 18:30	22°34'62"	
min. Earth dist.	14794 Jun 27 10:34	16°31'84"	evening set	14800 Dec 15 22:48	24°30'54"	
direct	14794 Sep 15 01:24	15°31'51"	max. Earth dist.	14800 Dec 29 17:57	24°32'06"	41.42323 AU
evening set	14794 Dec 08 15:54	16°33'14"				
max. Earth dist.	14794 Dec 22 17:38	16°35'38"	conjunction	14800 Dec 31 17:19	24°33'18"	1°38'26"
			minimum elong	14800 Dec 31 17:17	24°33'18"	1°39'23"
conjunction	14794 Dec 24 11:36	16°35'62"	morning rise	14801 Jan 16 13:07	24°35'64"	
minimum elong	14794 Dec 24 11:36	16°35'62"	retrograde	14801 Apr 13 21:07	26°31'83"	
morning rise	14795 Jan 09 08:32	17°32'10"	opposition	14801 Jul 04 07:51	25°31'14"	1°54'56"
retrograde	14795 Apr 06 07:25	18°33'92"	min. Earth dist.	14801 Jul 06 03:34	25°30'92"	39.30333 AU
opposition	14795 Jun 27 06:14	17°33'40"	direct	14801 Sep 23 04:33	24°30'44"	
min. Earth dist.	14795 Jun 28 21:18	17°33'20"	evening set	14801 Dec 17 14:06	25°32'45"	
direct	14795 Sep 16 11:23	16°32'81"	max. Earth dist.	14801 Dec 31 08:12	25°34'71"	41.18400 AU
evening set	14795 Dec 10 03:44	17°34'51"				
max. Earth dist.	14795 Dec 24 04:02	18°30'71"	conjunction	14802 Jan 02 07:52	25°35'02"	2°00'07"
			minimum elong	14802 Jan 02 07:50	25°35'02"	2°01'04"
conjunction	14795 Dec 25 23:35	18°31'01"	morning rise	14802 Jan 18 02:33	26°31'60"	
minimum elong	14795 Dec 25 23:35	18°31'01"	retrograde	14802 Apr 15 13:03	27°33'25"	
behind sun begin	14795 Dec 25 17:25	18°30'39"	opposition	14802 Jul 05 21:25	26°33'16"	2°17'51"
behind sun end	14795 Dec 26 05:45	18°31'02"	min. Earth dist.	14802 Jul 07 17:45	26°32'81"	39.06285 AU
morning rise	14796 Jan 10 20:57	18°33'45"	direct	14802 Sep 24 17:54	25°32'35"	
retrograde	14796 Apr 06 23:20	19°35'38"	evening set	14802 Dec 19 06:09	26°34'41"	
asc. node	14796 Apr 25 20:36	19°34'92"	max. Earth dist.	14803 Jan 01 21:34	27°30'07"	40.94160 AU
opposition	14796 Jun 27 17:33	18°34'80"				
min. Earth dist.	14796 Jun 29 09:31	18°34'60"	conjunction	14803 Jan 03 22:41	27°31'02"	2°21'59"
direct	14796 Sep 16 19:43	17°34'23"	minimum elong	14803 Jan 03 22:38	27°31'02"	2°22'56"
evening set	14796 Dec 10 15:54	18°35'37"	morning rise	14803 Jan 19 16:19	27°33'60"	
max. Earth dist.	14796 Dec 24 16:30	19°32'13"	retrograde	14803 Apr 17 06:24	28°35'91"	
			opposition	14803 Jul 07 11:21	27°35'14"	2°40'59"
conjunction	14796 Dec 26 12:02	19°32'42"	min. Earth dist.	14803 Jul 09 08:15	27°34'91"	38.81946 AU
minimum elong	14796 Dec 26 12:01	19°32'42"	direct	14803 Sep 26 07:25	26°34'40"	
behind sun begin	14796 Dec 26 09:34	19°32'41"	evening set	14803 Dec 20 22:46	28°30'54"	
behind sun end	14796 Dec 26 14:29	19°32'43"	max. Earth dist.	14804 Jan 03 11:43	28°32'75"	40.69619 AU
morning rise	14797 Jan 11 09:21	19°34'92"				
retrograde	14797 Apr 08 12:32	21°30'84"	conjunction	14804 Jan 05 13:56	28°33'25"	2°44'03"

minimum elong	14804 Jan 05 13:52	28° $\overline{3}$ 31'25	2°45'00	retrograde	14810 Apr 27 10:18	8° \approx 54'09	
morning rise	14804 Jan 21 06:01	28° $\overline{3}$ 57'12		opposition	14810 Jul 17 00:24	7° \approx 44'18	5°28'07
	14804 Mar 07 13:29	0° \approx		min. Earth dist.	14810 Jul 19 00:06	7° \approx 41'35	37.07906 AU
retrograde	14804 Apr 17 20:57	0° \approx 21'00		direct	14810 Oct 05 13:27	6° \approx 34'04	
	14804 May 29 18:09	30° \overline{R} 3		evening set	14810 Dec 31 14:54	8° \approx 02'14	
opposition	14804 Jul 08 01:41	29° $\overline{3}$ 13'11	3°04'20	max. Earth dist.	14811 Jan 13 06:51	8° \approx 24'10	38.94688 AU
min. Earth dist.	14804 Jul 10 00:03	29° $\overline{3}$ 10'38	38.57349 AU				
direct	14804 Sep 26 21:44	28° $\overline{3}$ 05'09		conjunction	14811 Jan 15 12:43	8° \approx 28'05	5°22'47
evening set	14804 Dec 21 15:57	29° $\overline{3}$ 27'34		minimum elong	14811 Jan 15 12:35	8° \approx 28'05	5°23'38
max. Earth dist.	14805 Jan 04 03:17	29° $\overline{3}$ 49'50	40.44867 AU	morning rise	14811 Jan 30 11:02	8° \approx 54'01	
				retrograde	14811 Apr 29 04:28	10° \approx 24'11	
conjunction	14805 Jan 06 05:32	29° $\overline{3}$ 53'20	3°06'17	opposition	14811 Jul 18 18:02	9° \approx 14'00	5°52'34
minimum elong	14805 Jan 06 05:28	29° $\overline{3}$ 53'19	3°07'12	min. Earth dist.	14811 Jul 20 19:10	9° \approx 11'11	36.82951 AU
	14805 Jan 10 05:17	0° \approx		direct	14811 Oct 07 04:55	8° \approx 03'26	
morning rise	14805 Jan 21 19:53	0° \approx 19'11		evening set	14812 Jan 02 13:41	9° \approx 32'45	
retrograde	14805 Apr 19 11:50	1° \approx 43'44		max. Earth dist.	14812 Jan 15 02:26	9° \approx 54'37	38.69563 AU
opposition	14805 Jul 09 16:19	0° \approx 35'34	3°27'53				
min. Earth dist.	14805 Jul 11 14:19	0° \approx 33'02	38.32582 AU	conjunction	14812 Jan 17 07:53	9° \approx 58'33	5°45'54
	14805 Aug 06 20:14	30° \overline{R} 3		minimum elong	14812 Jan 17 07:44	9° \approx 58'32	5°46'45
direct	14805 Sep 28 12:18	29° $\overline{3}$ 27'10		morning rise	14812 Feb 01 02:18	10° \approx 24'25	
	14805 Nov 18 19:13	0° \approx		retrograde	14812 Apr 29 23:48	11° \approx 55'42	
evening set	14805 Dec 23 09:51	0° \approx 50'25		opposition	14812 Jul 19 12:01	10° \approx 45'13	6°17'06
max. Earth dist.	14806 Jan 05 17:30	1° \approx 12'35	40.19952 AU	min. Earth dist.	14812 Jul 21 12:52	10° \approx 42'24	36.57914 AU
				direct	14812 Oct 07 21:17	9° \approx 34'17	
conjunction	14806 Jan 07 21:25	1° \approx 16'13	3°28'41	evening set	14813 Jan 03 13:35	11° \approx 04'47	
minimum elong	14806 Jan 07 21:20	1° \approx 16'13	3°29'37	max. Earth dist.	14813 Jan 15 20:15	11° \approx 26'25	38.44319 AU
morning rise	14806 Jan 23 09:56	1° \approx 42'08					
retrograde	14806 Apr 21 05:48	3° \approx 07'30		conjunction	14813 Jan 18 03:35	11° \approx 30'31	6°09'06
opposition	14806 Jul 11 07:30	1° \approx 58'59	3°51'37	minimum elong	14813 Jan 18 03:26	11° \approx 30'30	6°09'55
min. Earth dist.	14806 Jul 13 06:55	1° \approx 56'21	38.07697 AU	morning rise	14813 Feb 01 18:02	11° \approx 56'18	
direct	14806 Sep 29 23:59	0° \approx 50'12		retrograde	14813 May 01 22:47	13° \approx 28'46	
evening set	14806 Dec 25 04:27	2° \approx 14'19		opposition	14813 Jul 21 06:45	12° \approx 17'55	6°41'44
max. Earth dist.	14807 Jan 07 10:40	2° \approx 36'33	39.94937 AU	min. Earth dist.	14813 Jul 23 08:59	12° \approx 15'00	36.32755 AU
				direct	14813 Oct 09 11:02	11° \approx 06'35	
conjunction	14807 Jan 09 14:00	2° \approx 40'10	3°51'15	evening set	14814 Jan 05 14:11	12° \approx 38'20	
minimum elong	14807 Jan 09 13:54	2° \approx 40'10	3°52'09	max. Earth dist.	14814 Jan 17 16:45	12° \approx 59'51	38.18916 AU
morning rise	14807 Jan 25 00:06	3° \approx 06'06					
retrograde	14807 Apr 22 23:08	4° \approx 32'20		conjunction	14814 Jan 20 00:01	13° \approx 03'58	6°32'21
opposition	14807 Jul 12 22:54	3° \approx 23'28	4°15'31	minimum elong	14814 Jan 19 23:51	13° \approx 03'57	6°33'10
min. Earth dist.	14807 Jul 14 21:59	3° \approx 20'50	37.82744 AU	morning rise	14814 Feb 03 09:53	13° \approx 29'39	
direct	14807 Oct 01 13:53	2° \approx 14'19			14814 Apr 18 08:09	15° \approx	
evening set	14807 Dec 26 23:57	3° \approx 39'22		retrograde	14814 May 03 20:16	15° \approx 03'18	
max. Earth dist.	14808 Jan 09 02:18	4° \approx 01'30	39.69878 AU		14814 May 19 12:45	15° \overline{R} \approx	
				opposition	14814 Jul 23 02:04	13° \approx 52'06	7°06'25
conjunction	14808 Jan 11 06:53	4° \approx 05'14	4°13'58	min. Earth dist.	14814 Jul 25 04:35	13° \approx 49'09	36.07429 AU
minimum elong	14808 Jan 11 06:46	4° \approx 05'14	4°14'52	direct	14814 Oct 11 05:04	12° \approx 40'21	
morning rise	14808 Jan 26 14:36	4° \approx 31'12		evening set	14815 Jan 07 16:04	14° \approx 13'23	
retrograde	14808 Apr 23 19:33	5° \approx 58'20		max. Earth dist.	14815 Jan 19 12:28	14° \approx 34'37	37.93361 AU
opposition	14808 Jul 13 14:55	4° \approx 49'07	4°39'35				
min. Earth dist.	14808 Jul 15 14:34	4° \approx 46'27	37.57786 AU	conjunction	14815 Jan 21 21:00	14° \approx 38'53	6°55'38
direct	14808 Oct 02 03:38	3° \approx 39'36		minimum elong	14815 Jan 21 20:51	14° \approx 38'52	6°56'25
evening set	14808 Dec 27 19:56	5° \approx 05'38			14815 Feb 02 14:24	15° \approx	
max. Earth dist.	14809 Jan 09 19:38	5° \approx 27'45	39.44805 AU	morning rise	14815 Feb 05 02:12	15° \approx 04'25	
				retrograde	14815 May 05 21:14	16° \approx 39'18	
conjunction	14809 Jan 12 00:13	5° \approx 31'31	4°36'48	opposition	14815 Jul 24 21:45	15° \approx 27'42	7°31'10
minimum elong	14809 Jan 12 00:06	5° \approx 31'31	4°37'40	min. Earth dist.	14815 Jul 27 00:48	15° \approx 24'42	35.81980 AU
morning rise	14809 Jan 27 04:59	5° \approx 57'29			14815 Aug 14 00:52	15° \overline{R} \approx	
retrograde	14809 Apr 25 14:03	7° \approx 25'34		direct	14815 Oct 13 00:26	14° \approx 15'31	
opposition	14809 Jul 15 07:32	6° \approx 16'02	5°03'47		14815 Dec 10 05:34	15° \approx	
min. Earth dist.	14809 Jul 17 07:39	6° \approx 13'18	37.32832 AU	evening set	14816 Jan 09 18:44	15° \approx 49'53	
direct	14809 Oct 03 20:50	5° \approx 06'09		max. Earth dist.	14816 Jan 21 09:20	16° \approx 10'52	37.67674 AU
evening set	14809 Dec 29 16:58	6° \approx 33'13					
max. Earth dist.	14810 Jan 11 13:26	6° \approx 55'17	39.19755 AU	conjunction	14816 Jan 23 18:39	16° \approx 15'13	7°18'57
				minimum elong	14816 Jan 23 18:28	16° \approx 15'13	7°19'43
conjunction	14810 Jan 13 18:09	6° \approx 59'06	4°59'45	morning rise	14816 Feb 06 18:35	16° \approx 40'36	
minimum elong	14810 Jan 13 18:02	6° \approx 59'06	5°00'37	retrograde	14816 May 06 20:41	18° \approx 16'45	
morning rise	14810 Jan 28 19:52	7° \approx 25'03		opposition	14816 Jul 25 18:15	17° \approx 04'44	7°55'56

min. Earth dist.	14816 Jul 27 22:25	17°01'39	35.56438 AU	morning rise	14823 Feb 16 19:21	28°34'50	
direct	14816 Oct 13 20:58	15°52'07			14823 Apr 11 11:08	0°	
evening set	14817 Jan 10 22:16	17°27'50		retrograde	14823 May 20 05:46	0°21'38	
max. Earth dist.	14817 Jan 22 07:25	17°48'35	37.41937 AU		14823 Jun 28 13:38	30°	
				opposition	14823 Aug 07 10:21	29°06'41	10°46'54
conjunction	14817 Jan 24 16:40	17°52'59	7°42'14	min. Earth dist.	14823 Aug 09 14:56	29°03'26	33.80624 AU
minimum elong	14817 Jan 24 16:29	17°52'58	7°42'59	direct	14823 Oct 26 02:26	27°50'53	
morning rise	14817 Feb 07 11:01	18°18'09		evening set	14824 Jan 26 06:30	29°38'07	
retrograde	14817 May 08 19:30	19°55'38		max. Earth dist.	14824 Feb 04 12:30	29°56'08	35.65167 AU
opposition	14817 Jul 27 15:10	18°43'11	8°20'42				
min. Earth dist.	14817 Jul 29 18:46	18°40'07	35.30885 AU	conjunction	14824 Feb 06 22:17	0°00'52	10°21'58
direct	14817 Oct 15 18:08	17°30'06		minimum elong	14824 Feb 06 22:04	0°00'50	10°22'33
evening set	14818 Jan 13 02:59	19°07'15			14824 Feb 06 11:47	0°	
max. Earth dist.	14818 Jan 24 04:55	19°27'39	37.16196 AU	morning rise	14824 Feb 18 13:39	0°23'35	
				retrograde	14824 May 21 10:52	2°12'13	
conjunction	14818 Jan 26 15:25	19°32'10	8°05'29	opposition	14824 Aug 08 11:59	0°56'53	11°10'29
minimum elong	14818 Jan 26 15:14	19°32'09	8°06'13	min. Earth dist.	14824 Aug 10 15:45	0°53'39	33.56363 AU
morning rise	14818 Feb 09 03:54	19°57'07			14824 Sep 20 05:25	30°	
retrograde	14818 May 10 17:45	21°35'59		direct	14824 Oct 27 03:42	29°40'40	
opposition	14818 Jul 29 12:44	20°23'06	8°45'25		14824 Dec 02 09:09	0°	
min. Earth dist.	14818 Jul 31 17:34	20°19'55	35.05383 AU	evening set	14825 Jan 27 19:18	1°29'51	
direct	14818 Oct 17 13:37	19°09'33		max. Earth dist.	14825 Feb 05 15:09	1°47'13	35.40733 AU
evening set	14819 Jan 15 08:41	20°48'10					
max. Earth dist.	14819 Jan 26 05:18	21°08'20	36.90532 AU	conjunction	14825 Feb 08 01:59	1°52'04	10°43'51
				minimum elong	14825 Feb 08 01:46	1°52'03	10°44'25
conjunction	14819 Jan 28 14:55	21°12'50	8°28'39	morning rise	14825 Feb 19 08:18	2°14'17	
minimum elong	14819 Jan 28 14:44	21°12'49	8°29'22	retrograde	14825 May 23 16:14	4°04'48	
morning rise	14819 Feb 10 20:52	21°37'30		opposition	14825 Aug 10 14:35	2°49'05	11°33'45
retrograde	14819 May 12 16:45	23°17'49		min. Earth dist.	14825 Aug 12 19:29	2°45'45	33.32263 AU
opposition	14819 Jul 31 10:52	22°04'30	9°10'03	direct	14825 Oct 29 03:27	1°32'26	
min. Earth dist.	14819 Aug 02 14:56	22°01'21	34.79992 AU	evening set	14826 Jan 30 09:41	3°23'39	
direct	14819 Oct 19 10:17	20°50'28		max. Earth dist.	14826 Feb 07 20:49	3°40'27	35.16448 AU
evening set	14820 Jan 17 15:31	22°30'40					
max. Earth dist.	14820 Jan 28 04:03	22°50'23	36.65006 AU	conjunction	14826 Feb 10 06:46	3°45'17	11°05'24
				minimum elong	14826 Feb 10 06:32	3°45'16	11°05'56
conjunction	14820 Jan 30 14:49	22°55'01	8°51'43	morning rise	14826 Feb 21 03:16	4°06'53	
minimum elong	14820 Jan 30 14:36	22°55'00	8°52'24	retrograde	14826 May 25 21:24	5°59'21	
morning rise	14820 Feb 12 14:05	23°19'23		opposition	14826 Aug 12 17:43	4°43'15	11°56'39
retrograde	14820 May 13 19:01	25°01'12		min. Earth dist.	14826 Aug 14 21:53	4°39'57	33.08306 AU
opposition	14820 Aug 01 09:43	23°47'28	9°34'33	direct	14826 Oct 31 05:06	3°26'09	
min. Earth dist.	14820 Aug 03 14:22	23°44'16	34.54788 AU	evening set	14827 Feb 02 01:27	5°19'27	
direct	14820 Oct 20 05:28	22°32'58		max. Earth dist.	14827 Feb 10 00:59	5°35'28	34.92309 AU
evening set	14821 Jan 18 23:21	24°14'47					
max. Earth dist.	14821 Jan 29 05:38	24°34'12	36.39679 AU	conjunction	14827 Feb 12 12:15	5°40'27	11°26'33
				minimum elong	14827 Feb 12 12:02	5°40'26	11°27'05
conjunction	14821 Jan 31 15:37	24°38'48	9°14'37	morning rise	14827 Feb 22 22:41	6°01'25	
minimum elong	14821 Jan 31 15:25	24°38'47	9°15'17	retrograde	14827 May 28 04:09	7°55'54	
morning rise	14821 Feb 13 07:28	25°02'50		opposition	14827 Aug 14 21:47	6°39'23	12°19'09
retrograde	14821 May 15 20:46	26°46'14		min. Earth dist.	14827 Aug 17 02:44	6°36'00	32.84516 AU
opposition	14821 Aug 03 09:15	25°32'05	9°58'54	direct	14827 Nov 02 06:05	5°21'49	
min. Earth dist.	14821 Aug 05 13:31	25°28'52	34.29811 AU	evening set	14828 Feb 04 18:22	7°17'16	
direct	14821 Oct 22 04:00	24°17'08		max. Earth dist.	14828 Feb 12 08:06	7°32'37	34.68347 AU
evening set	14822 Jan 21 08:28	26°00'40					
max. Earth dist.	14822 Jan 31 06:42	26°19'38	36.14608 AU	conjunction	14828 Feb 14 18:30	7°37'34	11°47'17
				minimum elong	14828 Feb 14 18:16	7°37'33	11°47'46
conjunction	14822 Feb 02 16:57	26°24'18	9°37'19	morning rise	14828 Feb 24 17:59	7°57'50	
minimum elong	14822 Feb 02 16:44	26°24'17	9°37'57	retrograde	14828 May 29 10:33	9°54'23	
morning rise	14822 Feb 15 01:13	26°47'56		opposition	14828 Aug 16 02:36	8°37'26	12°41'10
retrograde	14822 May 18 02:10	28°33'01		min. Earth dist.	14828 Aug 18 07:14	8°34'03	32.60928 AU
opposition	14822 Aug 05 09:25	27°18'27	10°23'01	direct	14828 Nov 03 09:37	7°19'24	
min. Earth dist.	14822 Aug 07 13:17	27°15'15	34.05101 AU	evening set	14829 Feb 06 12:49	9°17'05	
direct	14822 Oct 24 03:00	26°03'04		max. Earth dist.	14829 Feb 13 14:30	9°31'33	34.44637 AU
evening set	14823 Jan 23 18:48	27°48'24					
max. Earth dist.	14823 Feb 02 08:58	28°06'54	35.89771 AU	conjunction	14829 Feb 16 01:26	9°36'36	12°07'31
				minimum elong	14829 Feb 16 01:13	9°36'35	12°07'59
conjunction	14823 Feb 04 19:16	28°11'37	9°59'46	morning rise	14829 Feb 25 13:38	9°56'05	
minimum elong	14823 Feb 04 19:04	28°11'36	10°00'24	retrograde	14829 May 31 20:01	11°54'47	

opposition	14829 Aug 18 08:02	10° $\mathbf{\text{H}}$ 37'23	13°02'38	minimum elong	14836 Mar 02 23:58	24° $\mathbf{\text{H}}$ 23'40	14°09'40
min. Earth dist.	14829 Aug 20 12:20	10° $\mathbf{\text{H}}$ 34'00	32.37636 AU	morning rise	14836 Mar 08 08:30	24° $\mathbf{\text{H}}$ 35'22	
direct	14829 Nov 05 12:55	9° $\mathbf{\text{H}}$ 18'52		retrograde	14836 Jun 16 03:51	26° $\mathbf{\text{H}}$ 51'19	
evening set	14830 Feb 09 08:29	11° $\mathbf{\text{H}}$ 18'52		opposition	14836 Sep 01 20:36	25° $\mathbf{\text{H}}$ 31'09	15°11'21
max. Earth dist.	14830 Feb 15 22:48	11° $\mathbf{\text{H}}$ 32'29	34.21235 AU	min. Earth dist.	14836 Sep 03 20:02	25° $\mathbf{\text{H}}$ 27'57	30.88411 AU
				direct	14836 Nov 19 16:40	24° $\mathbf{\text{H}}$ 09'35	
conjunction	14830 Feb 18 09:15	11° $\mathbf{\text{H}}$ 37'32	12°27'12	evening set	14837 Feb 28 23:20	26° $\mathbf{\text{H}}$ 28'19	
minimum elong	14830 Feb 18 09:02	11° $\mathbf{\text{H}}$ 37'31	12°27'36	max. Earth dist.	14837 Mar 03 09:45	26° $\mathbf{\text{H}}$ 33'40	32.72292 AU
morning rise	14830 Feb 27 09:26	11° $\mathbf{\text{H}}$ 56'11					
retrograde	14830 Jun 03 04:50	13° $\mathbf{\text{H}}$ 57'04		conjunction	14837 Mar 05 13:37	26° $\mathbf{\text{H}}$ 38'27	14°23'14
opposition	14830 Aug 20 14:23	12° $\mathbf{\text{H}}$ 39'14	13°23'30	minimum elong	14837 Mar 05 13:30	26° $\mathbf{\text{H}}$ 38'26	14°23'24
min. Earth dist.	14830 Aug 22 18:52	12° $\mathbf{\text{H}}$ 35'49	32.14684 AU	morning rise	14837 Mar 10 03:32	26° $\mathbf{\text{H}}$ 48'33	
direct	14830 Nov 07 18:29	11° $\mathbf{\text{H}}$ 20'14		retrograde	14837 Jun 18 16:40	29° $\mathbf{\text{H}}$ 07'24	
evening set	14831 Feb 12 05:49	13° $\mathbf{\text{H}}$ 22'37		opposition	14837 Sep 04 08:30	27° $\mathbf{\text{H}}$ 46'54	15°25'44
max. Earth dist.	14831 Feb 18 08:04	13° $\mathbf{\text{H}}$ 35'20	33.98233 AU	min. Earth dist.	14837 Sep 06 07:16	27° $\mathbf{\text{H}}$ 43'43	30.69540 AU
				direct	14837 Nov 22 03:09	26° $\mathbf{\text{H}}$ 24'58	
conjunction	14831 Feb 20 17:47	13° $\mathbf{\text{H}}$ 40'22	12°46'15	evening set	14838 Mar 04 10:15	28° $\mathbf{\text{H}}$ 46'56	
minimum elong	14831 Feb 20 17:35	13° $\mathbf{\text{H}}$ 40'21	12°46'38	max. Earth dist.	14838 Mar 06 00:13	28° $\mathbf{\text{H}}$ 50'26	32.53518 AU
morning rise	14831 Mar 01 05:16	13° $\mathbf{\text{H}}$ 58'05					
retrograde	14831 Jun 05 16:39	16° $\mathbf{\text{H}}$ 01'15		conjunction	14838 Mar 08 03:50	28° $\mathbf{\text{H}}$ 55'14	14°35'53
opposition	14831 Aug 22 21:16	14° $\mathbf{\text{H}}$ 42'59	13°43'41	minimum elong	14838 Mar 08 03:42	28° $\mathbf{\text{H}}$ 55'13	14°36'00
min. Earth dist.	14831 Aug 25 00:29	14° $\mathbf{\text{H}}$ 39'37	31.92172 AU	morning rise	14838 Mar 11 21:09	29° $\mathbf{\text{H}}$ 03'30	
direct	14831 Nov 10 02:23	13° $\mathbf{\text{H}}$ 23'30			14838 Apr 07 04:56	0° $\mathbf{\text{Y}}$	
evening set	14832 Feb 15 04:23	15° $\mathbf{\text{H}}$ 28'21		retrograde	14838 Jun 21 09:11	1° $\mathbf{\text{Y}}$ 25'27	
max. Earth dist.	14832 Feb 20 17:26	15° $\mathbf{\text{H}}$ 40'01	33.75697 AU	opposition	14838 Sep 06 21:11	0° $\mathbf{\text{Y}}$ 04'38	15°38'55
				min. Earth dist.	14838 Sep 08 18:43	0° $\mathbf{\text{Y}}$ 01'31	30.51261 AU
conjunction	14832 Feb 23 03:05	15° $\mathbf{\text{H}}$ 45'06	13°04'36		14838 Sep 09 17:03	30° $\mathbf{\text{R}}$ $\mathbf{\text{H}}$	
minimum elong	14832 Feb 23 02:52	15° $\mathbf{\text{H}}$ 45'04	13°04'56	direct	14838 Nov 24 14:10	28° $\mathbf{\text{H}}$ 42'19	
morning rise	14832 Mar 02 01:15	16° $\mathbf{\text{H}}$ 01'47			14839 Feb 04 07:32	0° $\mathbf{\text{Y}}$	
retrograde	14832 Jun 07 03:01	18° $\mathbf{\text{H}}$ 07'21		evening set	14839 Mar 08 01:58	1° $\mathbf{\text{Y}}$ 07'53	
opposition	14832 Aug 24 05:13	16° $\mathbf{\text{H}}$ 48'38	14°03'05	max. Earth dist.	14839 Mar 08 16:31	1° $\mathbf{\text{Y}}$ 09'14	32.35327 AU
min. Earth dist.	14832 Aug 26 08:41	16° $\mathbf{\text{H}}$ 45'15	31.70174 AU				
direct	14832 Nov 11 08:44	15° $\mathbf{\text{H}}$ 28'42		conjunction	14839 Mar 10 18:58	1° $\mathbf{\text{Y}}$ 13'56	14°47'23
evening set	14833 Feb 17 04:33	17° $\mathbf{\text{H}}$ 36'05		minimum elong	14839 Mar 10 18:53	1° $\mathbf{\text{Y}}$ 13'56	14°47'28
max. Earth dist.	14833 Feb 22 05:13	17° $\mathbf{\text{H}}$ 46'47	33.53731 AU	morning rise	14839 Mar 13 11:48	1° $\mathbf{\text{Y}}$ 20'00	
				retrograde	14839 Jun 23 23:51	3° $\mathbf{\text{Y}}$ 45'23	
conjunction	14833 Feb 24 13:04	17° $\mathbf{\text{H}}$ 51'44	13°22'10	opposition	14839 Sep 09 10:46	2° $\mathbf{\text{Y}}$ 24'15	15°50'50
minimum elong	14833 Feb 24 12:53	17° $\mathbf{\text{H}}$ 51'43	13°22'29	min. Earth dist.	14839 Sep 11 08:09	2° $\mathbf{\text{Y}}$ 21'08	30.33559 AU
morning rise	14833 Mar 03 21:03	18° $\mathbf{\text{H}}$ 07'21		direct	14839 Nov 27 02:42	1° $\mathbf{\text{Y}}$ 01'34	
retrograde	14833 Jun 09 13:57	20° $\mathbf{\text{H}}$ 15'20		max. Earth dist.	14840 Mar 10 09:26	3° $\mathbf{\text{Y}}$ 29'51	32.17772 AU
opposition	14833 Aug 26 13:50	18° $\mathbf{\text{H}}$ 56'14	14°21'38	evening set	14840 Mar 11 06:47	3° $\mathbf{\text{Y}}$ 31'51	
min. Earth dist.	14833 Aug 28 15:25	18° $\mathbf{\text{H}}$ 52'56	31.48764 AU				
direct	14833 Nov 13 17:11	17° $\mathbf{\text{H}}$ 35'51		conjunction	14840 Mar 12 10:45	3° $\mathbf{\text{Y}}$ 34'29	14°57'39
evening set	14834 Feb 20 06:20	19° $\mathbf{\text{H}}$ 45'53		minimum elong	14840 Mar 12 10:40	3° $\mathbf{\text{Y}}$ 34'29	14°57'42
max. Earth dist.	14834 Feb 24 15:57	19° $\mathbf{\text{H}}$ 55'20	33.32384 AU	morning rise	14840 Mar 13 14:34	3° $\mathbf{\text{Y}}$ 37'06	
				retrograde	14840 Jun 25 17:37	6° $\mathbf{\text{Y}}$ 07'05	
conjunction	14834 Feb 26 23:56	20° $\mathbf{\text{H}}$ 00'21	13°38'53	opposition	14840 Sep 11 00:58	4° $\mathbf{\text{Y}}$ 45'37	16°01'25
minimum elong	14834 Feb 26 23:45	20° $\mathbf{\text{H}}$ 00'20	13°39'09	min. Earth dist.	14840 Sep 12 20:29	4° $\mathbf{\text{Y}}$ 42'37	30.16492 AU
morning rise	14834 Mar 05 17:08	20° $\mathbf{\text{H}}$ 14'46		direct	14840 Nov 28 17:56	3° $\mathbf{\text{Y}}$ 22'35	
retrograde	14834 Jun 12 02:31	22° $\mathbf{\text{H}}$ 25'18		max. Earth dist.	14841 Mar 13 02:39	5° $\mathbf{\text{Y}}$ 52'09	32.00876 AU
opposition	14834 Aug 28 23:13	21° $\mathbf{\text{H}}$ 05'49	14°39'14				
min. Earth dist.	14834 Aug 31 00:45	21° $\mathbf{\text{H}}$ 02'30	31.27998 AU	conjunction	14841 Mar 15 03:10	5° $\mathbf{\text{Y}}$ 56'45	15°06'38
direct	14834 Nov 15 23:36	19° $\mathbf{\text{H}}$ 45'01		minimum elong	14841 Mar 15 03:08	5° $\mathbf{\text{Y}}$ 56'45	15°06'38
evening set	14835 Feb 23 10:04	21° $\mathbf{\text{H}}$ 57'50		retrograde	14841 Jun 28 10:01	8° $\mathbf{\text{Y}}$ 30'28	
max. Earth dist.	14835 Feb 27 06:01	22° $\mathbf{\text{H}}$ 06'07	33.11701 AU	opposition	14841 Sep 13 16:01	7° $\mathbf{\text{Y}}$ 08'40	16°10'35
				min. Earth dist.	14841 Sep 15 11:31	7° $\mathbf{\text{Y}}$ 05'39	30.00095 AU
conjunction	14835 Mar 01 11:47	22° $\mathbf{\text{H}}$ 10'59	13°54'40	direct	14841 Dec 01 07:52	5° $\mathbf{\text{Y}}$ 45'17	
minimum elong	14835 Mar 01 11:38	22° $\mathbf{\text{H}}$ 10'58	13°54'55	max. Earth dist.	14842 Mar 15 21:50	8° $\mathbf{\text{Y}}$ 16'11	31.84712 AU
morning rise	14835 Mar 07 13:04	22° $\mathbf{\text{H}}$ 24'06					
retrograde	14835 Jun 14 14:28	24° $\mathbf{\text{H}}$ 37'17		conjunction	14842 Mar 17 20:23	8° $\mathbf{\text{Y}}$ 20'38	15°14'15
opposition	14835 Aug 31 09:32	23° $\mathbf{\text{H}}$ 17'27	14°55'50	minimum elong	14842 Mar 17 20:21	8° $\mathbf{\text{Y}}$ 20'38	15°14'13
min. Earth dist.	14835 Sep 02 09:30	23° $\mathbf{\text{H}}$ 14'13	31.07880 AU	retrograde	14842 Jul 01 04:22	10° $\mathbf{\text{Y}}$ 55'22	
direct	14835 Nov 18 08:10	21° $\mathbf{\text{H}}$ 56'16		opposition	14842 Sep 16 07:28	9° $\mathbf{\text{Y}}$ 33'17	16°18'16
evening set	14836 Feb 26 15:25	24° $\mathbf{\text{H}}$ 11'57		min. Earth dist.	14842 Sep 18 00:47	9° $\mathbf{\text{Y}}$ 30'24	29.84432 AU
max. Earth dist.	14836 Feb 29 18:26	24° $\mathbf{\text{H}}$ 18'47	32.91682 AU	direct	14842 Dec 04 00:16	8° $\mathbf{\text{Y}}$ 09'34	
				max. Earth dist.	14843 Mar 18 16:11	10° $\mathbf{\text{Y}}$ 41'37	31.69333 AU
conjunction	14836 Mar 03 00:08	24° $\mathbf{\text{H}}$ 23'40	14°09'28				

conjunction	14843 Mar 20 14:07	10° Υ 46'02	15°20'27	conjunction	14851 Apr 10 04:53	0° δ 54'59	15°11'08
minimum elong	14843 Mar 20 14:08	10° Υ 46'02	15°20'22	minimum elong	14851 Apr 10 05:09	0° δ 55'01	15°10'42
retrograde	14843 Jul 03 23:10	13° Υ 21'45		retrograde	14851 Jul 24 10:33	3° δ 35'59	
opposition	14843 Sep 18 23:47	11° Υ 59'22	16°24'22	opposition	14851 Oct 09 04:27	2° δ 12'30	16°09'01
min. Earth dist.	14843 Sep 20 16:31	11° Υ 56'31	29.69584 AU	min. Earth dist.	14851 Oct 10 05:22	2° δ 10'44	28.86371 AU
direct	14843 Dec 06 15:12	10° Υ 35'20		direct	14851 Dec 26 16:57	0° δ 47'14	
max. Earth dist.	14844 Mar 20 13:15	13° Υ 08'42	31.54831 AU	max. Earth dist.	14852 Apr 10 23:43	3° δ 27'46	30.75962 AU
conjunction	14844 Mar 22 08:17	13° Υ 12'51	15°25'07	conjunction	14852 Apr 12 02:10	3° δ 30'24	15°02'12
minimum elong	14844 Mar 22 08:18	13° Υ 12'52	15°25'00	minimum elong	14852 Apr 12 02:25	3° δ 30'26	15°01'45
retrograde	14844 Jul 05 16:49	15° Υ 49'29		retrograde	14852 Jul 26 06:22	6° δ 11'38	
opposition	14844 Sep 20 16:38	14° Υ 26'51	16°28'49	opposition	14852 Oct 11 00:54	4° δ 48'07	15°58'42
min. Earth dist.	14844 Sep 22 07:01	14° Υ 24'09	29.55616 AU	min. Earth dist.	14852 Oct 12 00:55	4° δ 46'25	28.80446 AU
direct	14844 Dec 08 08:25	13° Υ 02'32		direct	14852 Dec 28 13:33	3° δ 22'47	
max. Earth dist.	14845 Mar 23 08:54	15° Υ 36'56	31.41282 AU	evening set	14853 Apr 12 17:26	6° δ 00'47	
conjunction	14845 Mar 25 02:59	15° Υ 41'02	15°28'13	conjunction	14853 Apr 14 23:42	6° δ 06'12	14°51'33
minimum elong	14845 Mar 25 03:04	15° Υ 41'02	15°28'03	minimum elong	14853 Apr 15 00:01	6° δ 06'14	14°51'02
retrograde	14845 Jul 08 11:45	18° Υ 18'31		max. Earth dist.	14853 Apr 13 23:46	6° δ 03'49	30.70692 AU
opposition	14845 Sep 23 09:58	16° Υ 55'38	16°31'31	morning rise	14853 Apr 17 06:34	6° δ 11'40	
min. Earth dist.	14845 Sep 24 22:58	16° Υ 53'02	29.42628 AU	retrograde	14853 Jul 29 03:34	8° δ 47'32	
direct	14845 Dec 11 00:22	15° Υ 31'04		opposition	14853 Oct 13 21:12	7° δ 24'00	15°46'31
max. Earth dist.	14846 Mar 26 07:31	18° Υ 06'42	31.28763 AU	min. Earth dist.	14853 Oct 14 18:21	7° δ 22'29	28.75484 AU
conjunction	14846 Mar 27 22:23	18° Υ 10'30	15°29'41	direct	14853 Dec 31 11:52	5° δ 58'37	
minimum elong	14846 Mar 27 22:28	18° Υ 10'30	15°29'28	evening set	14854 Apr 14 09:38	8° δ 33'49	
retrograde	14846 Jul 11 06:13	20° Υ 48'45		conjunction	14854 Apr 17 21:16	8° δ 42'09	14°39'10
opposition	14846 Sep 26 03:58	19° Υ 25'42	16°32'27	minimum elong	14854 Apr 17 21:35	8° δ 42'11	14°38'38
min. Earth dist.	14846 Sep 27 14:57	19° Υ 23'13	29.30657 AU	max. Earth dist.	14854 Apr 16 22:48	8° δ 39'54	30.66416 AU
direct	14846 Dec 13 17:36	18° Υ 00'55		morning rise	14854 Apr 21 09:28	8° δ 50'33	
max. Earth dist.	14847 Mar 29 04:23	20° Υ 37'30	31.17327 AU	retrograde	14854 Aug 01 00:28	11° δ 23'29	
conjunction	14847 Mar 30 18:00	20° Υ 41'12	15°29'27	opposition	14854 Oct 16 17:50	9° δ 59'55	15°32'30
minimum elong	14847 Mar 30 18:08	20° Υ 41'12	15°29'11	min. Earth dist.	14854 Oct 17 13:45	9° δ 58'30	28.71518 AU
retrograde	14847 Jul 14 02:27	23° Υ 20'11		direct	14855 Jan 03 08:58	8° δ 34'30	
opposition	14847 Sep 28 22:23	21° Υ 56'59	16°31'31	evening set	14855 Apr 16 07:27	11° δ 07'20	
min. Earth dist.	14847 Sep 30 07:04	21° Υ 54'40	29.19760 AU	conjunction	14855 Apr 20 18:43	11° δ 18'02	14°25'06
direct	14847 Dec 16 10:16	20° Υ 32'03		minimum elong	14855 Apr 20 19:04	11° δ 18'04	14°24'31
max. Earth dist.	14848 Mar 31 03:43	23° Υ 09'42	31.06983 AU	max. Earth dist.	14855 Apr 19 23:29	11° δ 16'07	30.63179 AU
conjunction	14848 Apr 01 14:14	23° Υ 13'06	15°27'29	morning rise	14855 Apr 25 06:31	11° δ 28'47	
minimum elong	14848 Apr 01 14:23	23° Υ 13'07	15°27'11	retrograde	14855 Aug 03 20:33	13° δ 59'16	
retrograde	14848 Jul 15 20:30	25° Υ 52'44		opposition	14855 Oct 19 14:23	12° δ 35'41	15°16'39
opposition	14848 Sep 30 17:22	24° Υ 29'26	16°28'43	min. Earth dist.	14855 Oct 20 07:38	12° δ 34'27	28.68572 AU
min. Earth dist.	14848 Oct 02 00:35	24° Υ 27'14	29.09914 AU	direct	14856 Jan 06 08:25	11° δ 10'16	
direct	14848 Dec 18 04:54	23° Υ 04'24		evening set	14856 Apr 17 07:40	13° δ 40'53	
max. Earth dist.	14849 Apr 03 01:44	25° Υ 42'53	30.97721 AU	conjunction	14856 Apr 22 15:57	13° δ 53'40	14°09'21
conjunction	14849 Apr 04 10:40	25° Υ 46'08	15°23'46	minimum elong	14856 Apr 22 16:19	13° δ 53'42	14°08'45
minimum elong	14849 Apr 04 10:51	25° Υ 46'09	15°23'25	max. Earth dist.	14856 Apr 21 22:15	13° δ 51'54	30.61014 AU
retrograde	14849 Jul 18 18:03	28° Υ 26'20		morning rise	14856 Apr 28 00:47	14° δ 06'30	
opposition	14849 Oct 03 12:39	27° Υ 02'58	16°24'01		14856 May 21 04:02	15° δ	
min. Earth dist.	14849 Oct 04 17:14	27° Υ 00'56	29.01096 AU	retrograde	14856 Aug 05 16:34	16° δ 34'41	
direct	14849 Dec 21 00:25	25° Υ 37'49		opposition	14856 Oct 21 10:49	15° δ 11'06	14°59'00
max. Earth dist.	14850 Apr 06 01:17	28° Υ 17'09	30.89472 AU	min. Earth dist.	14856 Oct 22 02:05	15° δ 10'01	28.66722 AU
conjunction	14850 Apr 07 07:42	28° Υ 20'10	15°18'19		14856 Oct 27 23:47	15° δ 8	
minimum elong	14850 Apr 07 07:54	28° Υ 20'11	15°17'56	direct	14857 Jan 08 05:12	13° δ 45'41	
	14850 May 22 10:35	0° δ		evening set	14857 Mar 17 05:43	15° δ	
retrograde	14850 Jul 21 13:10	1° δ 00'48		conjunction	14857 Apr 19 09:26	16° δ 14'10	
	14850 Sep 22 21:44	30° κ Υ		minimum elong	14857 Apr 25 13:07	16° δ 28'52	13°51'57
opposition	14850 Oct 06 08:24	29° Υ 37'23	16°17'28	max. Earth dist.	14857 Apr 25 13:30	16° δ 28'54	13°51'17
min. Earth dist.	14850 Oct 07 12:12	29° Υ 35'25	28.93252 AU	morning rise	14857 Apr 24 23:08	16° δ 27'29	30.59985 AU
direct	14850 Dec 23 18:43	28° Υ 12'10		retrograde	14857 May 01 17:12	16° δ 43'37	
	14851 Mar 17 16:14	0° δ		opposition	14857 Aug 08 12:05	19° δ 09'35	
max. Earth dist.	14851 Apr 09 00:28	0° δ 52'10	30.82231 AU	min. Earth dist.	14857 Oct 24 07:14	17° δ 46'02	14°39'35
				direct	14857 Oct 24 20:06	17° δ 45'07	28.65997 AU
					14858 Jan 11 03:49	16° δ 20'39	

evening set	14858 Apr 21 12:09	18° 8 47'02		max. Earth dist.	14864 May 13 11:36	4° II 16'28	30.86054 AU
				morning rise	14864 May 23 23:41	4° II 41'02	
conjunction	14858 Apr 28 09:53	19° 8 03'31	13°32'57	retrograde	14864 Aug 25 16:49	6° II 52'40	
minimum elong	14858 Apr 28 10:17	19° 8 03'33	13°32'16	opposition	14864 Nov 10 23:11	5° II 30'24	11°39'38
max. Earth dist.	14858 Apr 27 21:32	19° 8 02'17	30.60135 AU	min. Earth dist.	14864 Nov 10 18:38	5° II 30'42	28.93765 AU
morning rise	14858 May 05 08:07	19° 8 20'02		direct	14865 Jan 29 03:38	4° II 06'20	
retrograde	14858 Aug 11 07:52	21° 8 43'50		evening set	14865 May 04 21:13	6° II 18'48	
opposition	14858 Oct 27 03:24	20° 8 20'21	14°18'26				
min. Earth dist.	14858 Oct 27 13:17	20° 8 19'39	28.66474 AU	conjunction	14865 May 16 01:45	6° II 44'50	10°40'16
direct	14859 Jan 14 00:41	18° 8 55'03		minimum elong	14865 May 16 02:08	6° II 44'52	10°39'23
evening set	14859 Apr 23 15:36	21° 8 19'23		max. Earth dist.	14865 May 16 07:37	6° II 45'24	30.94069 AU
				morning rise	14865 May 27 06:07	7° II 10'51	
conjunction	14859 May 01 06:33	21° 8 37'31	13°12'22	retrograde	14865 Aug 28 09:08	9° II 20'34	
minimum elong	14859 May 01 06:57	21° 8 37'33	13°11'38	opposition	14865 Nov 13 17:14	7° II 58'31	11°08'47
max. Earth dist.	14859 Apr 30 22:05	21° 8 36'41	30.61519 AU	min. Earth dist.	14865 Nov 13 11:13	7° II 58'56	29.01919 AU
morning rise	14859 May 08 21:46	21° 8 55'41		direct	14866 Jan 31 22:32	6° II 34'44	
retrograde	14859 Aug 14 01:09	24° 8 17'23		evening set	14866 May 07 03:09	8° II 45'17	
opposition	14859 Oct 29 23:34	22° 8 54'02	13°55'37				
min. Earth dist.	14859 Oct 30 07:22	22° 8 53'29	28.68171 AU	conjunction	14866 May 18 19:17	9° II 12'17	10°11'02
direct	14860 Jan 16 21:54	21° 8 28'52		minimum elong	14866 May 18 19:41	9° II 12'20	10°10'08
evening set	14860 Apr 24 19:29	23° 8 51'09		max. Earth dist.	14866 May 19 03:50	9° II 13'07	31.03019 AU
				morning rise	14866 May 30 11:00	9° II 39'16	
conjunction	14860 May 03 02:34	24° 8 10'50	12°50'16	retrograde	14866 Aug 31 01:09	11° II 47'05	
minimum elong	14860 May 03 02:59	24° 8 10'53	12°49'31	opposition	14866 Nov 16 10:39	10° II 25'18	10°36'58
max. Earth dist.	14860 May 02 19:58	24° 8 10'11	30.64151 AU	min. Earth dist.	14866 Nov 16 02:17	10° II 25'52	29.10980 AU
morning rise	14860 May 11 10:03	24° 8 30'34		direct	14867 Feb 03 20:09	9° II 01'46	
retrograde	14860 Aug 15 20:31	26° 8 50'11		evening set	14867 May 09 09:12	11° II 10'26	
opposition	14860 Oct 31 19:18	25° 8 27'00	13°31'12				
min. Earth dist.	14860 Oct 31 23:44	25° 8 26'41	28.71090 AU	conjunction	14867 May 21 12:06	11° II 38'20	9°40'56
direct	14861 Jan 18 18:40	24° 8 02'00		minimum elong	14867 May 21 12:28	11° II 38'22	9°40'00
evening set	14861 Apr 26 23:53	26° 8 22'18		max. Earth dist.	14867 May 21 22:05	11° II 39'17	31.12871 AU
				morning rise	14867 Jun 02 14:43	12° II 06'11	
conjunction	14861 May 05 22:33	26° 8 43'27	12°26'45	retrograde	14867 Sep 02 16:18	14° II 12'09	
minimum elong	14861 May 05 22:58	26° 8 43'29	12°25'58	opposition	14867 Nov 19 03:36	12° II 50'35	10°04'16
max. Earth dist.	14861 May 05 19:31	26° 8 43'09	30.67981 AU	min. Earth dist.	14867 Nov 18 17:03	12° II 51'18	29.20969 AU
morning rise	14861 May 14 21:20	27° 8 04'37		direct	14868 Feb 06 14:20	11° II 27'18	
retrograde	14861 Aug 18 13:29	29° 8 22'12		evening set	14868 May 10 15:04	13° II 34'07	
opposition	14861 Nov 03 14:46	27° 8 59'13	13°05'17				
min. Earth dist.	14861 Nov 03 17:48	27° 8 59'01	28.75168 AU	conjunction	14868 May 23 04:14	14° II 02'49	9°10'03
direct	14862 Jan 21 13:45	26° 8 34'27		minimum elong	14868 May 23 04:37	14° II 02'51	9°09'07
evening set	14862 Apr 29 04:53	28° 8 52'45		max. Earth dist.	14868 May 23 17:23	14° II 04'04	31.23639 AU
				morning rise	14868 Jun 04 16:44	14° II 31'28	
conjunction	14862 May 08 18:03	29° 8 15'16	12°01'53	retrograde	14868 Sep 04 06:07	16° II 35'35	
minimum elong	14862 May 08 18:28	29° 8 15'18	12°01'05	opposition	14868 Nov 20 19:53	15° II 14'16	9°30'47
max. Earth dist.	14862 May 08 16:59	29° 8 15'09	30.72957 AU	min. Earth dist.	14868 Nov 20 07:35	15° II 15'07	29.31865 AU
morning rise	14862 May 18 07:23	29° 8 37'47		direct	14869 Feb 08 10:03	13° II 51'16	
	14862 May 27 21:57	0° II		evening set	14869 May 12 21:11	15° II 56'15	
retrograde	14862 Aug 21 07:25	1° II 53'22					
opposition	14862 Nov 06 09:55	0° II 30'37	12°37'59	conjunction	14869 May 25 19:37	16° II 25'39	8°38'29
min. Earth dist.	14862 Nov 06 09:38	0° II 30'38	28.80347 AU	minimum elong	14869 May 25 19:57	16° II 25'41	8°37'32
	14862 Nov 25 01:37	30° 8 8		max. Earth dist.	14869 May 26 09:53	16° II 27'00	31.35320 AU
direct	14863 Jan 24 11:16	29° 8 06'04		morning rise	14869 Jun 07 17:35	16° II 55'00	
	14863 Mar 23 05:46	0° II		retrograde	14869 Sep 06 21:04	18° II 57'20	
evening set	14863 May 01 09:56	1° II 22'24		opposition	14869 Nov 23 11:23	17° II 36'15	8°56'37
				min. Earth dist.	14869 Nov 22 20:15	17° II 37'17	29.43717 AU
conjunction	14863 May 11 13:03	1° II 46'11	11°35'48	direct	14870 Feb 11 04:07	16° II 13'31	
minimum elong	14863 May 11 13:28	1° II 46'13	11°34'57	evening set	14870 May 15 03:08	18° II 16'43	
max. Earth dist.	14863 May 11 14:49	1° II 46'21	30.78993 AU				
morning rise	14863 May 21 16:10	2° II 09'58		conjunction	14870 May 28 10:25	18° II 46'45	8°06'18
retrograde	14863 Aug 23 23:40	4° II 23'34		minimum elong	14870 May 28 10:45	18° II 46'47	8°05'21
opposition	14863 Nov 09 04:53	3° II 01'03	12°09'24	max. Earth dist.	14870 May 29 04:09	18° II 48'26	31.47955 AU
min. Earth dist.	14863 Nov 09 03:16	3° II 01'09	28.86564 AU	morning rise	14870 Jun 10 16:49	19° II 16'44	
direct	14864 Jan 27 06:47	1° II 36'45		retrograde	14870 Sep 09 07:49	21° II 17'19	
evening set	14864 May 02 15:30	3° II 51'08		min. Earth dist.	14870 Nov 25 09:58	19° II 57'38	29.56549 AU
				opposition	14870 Nov 26 02:32	19° II 56'31	8°21'50
conjunction	14864 May 13 07:39	4° II 16'05	11°08'33	direct	14871 Feb 13 21:36	18° II 34'04	
minimum elong	14864 May 13 08:04	4° II 16'07	11°07'43	evening set	14871 May 17 09:04	20° II 35'32	

conjunction	14871 May 31 00:10	21°II06'07	7°33'36	max. Earth dist.	14877 Jun 14 05:26	4°☾30'10	32.62101 AU
minimum elong	14871 May 31 00:28	21°II06'08	7°32'37	morning rise	14877 Jun 27 21:01	4°☾59'29	
max. Earth dist.	14871 May 31 19:23	21°II07'55	31.61580 AU	retrograde	14877 Sep 24 04:00	6°☾49'47	
morning rise	14871 Jun 13 14:35	21°II36'37		min. Earth dist.	14877 Dec 10 10:43	5°☾33'22	30.71978 AU
retrograde	14871 Sep 11 19:35	23°II35'33		opposition	14877 Dec 11 17:30	5°☾31'22	4°09'37
opposition	14871 Nov 28 16:53	22°II15'02	7°46'33	direct	14878 Mar 02 00:05	4°☾11'28	
min. Earth dist.	14871 Nov 27 20:50	22°II16'23	29.70397 AU	evening set	14878 May 31 02:00	6°☾02'36	
direct	14872 Feb 16 13:57	20°II52'54					
evening set	14872 May 18 14:56	22°II52'43		conjunction	14878 Jun 15 06:22	6°☾34'59	3°37'18
				minimum elong	14878 Jun 15 06:30	6°☾35'00	3°36'18
conjunction	14872 Jun 01 13:28	23°II23'46	7°00'27	max. Earth dist.	14878 Jun 16 14:59	6°☾37'54	32.81280 AU
minimum elong	14872 Jun 01 13:46	23°II23'47	6°59'29	morning rise	14878 Jun 30 09:38	7°☾07'16	
max. Earth dist.	14872 Jun 02 11:59	23°II25'52	31.76198 AU	retrograde	14878 Sep 26 13:18	8°☾56'20	
morning rise	14872 Jun 15 11:01	23°II54'44		min. Earth dist.	14878 Dec 12 18:24	7°☾40'23	30.91290 AU
retrograde	14872 Sep 13 05:41	25°II52'03		opposition	14878 Dec 14 03:23	7°☾38'15	3°33'26
min. Earth dist.	14872 Nov 29 09:13	24°II33'18	29.85245 AU	direct	14879 Mar 04 12:08	6°☾18'44	
opposition	14872 Nov 30 06:35	24°II31'52	7°10'52	evening set	14879 Jun 02 07:23	8°☾08'36	
direct	14873 Feb 18 04:05	23°II10'05					
evening set	14873 May 20 20:54	25°II08'18		conjunction	14879 Jun 17 14:45	8°☾40'59	3°03'28
				minimum elong	14879 Jun 17 14:52	8°☾41'00	3°02'28
conjunction	14873 Jun 04 02:00	25°II39'44	6°26'58	max. Earth dist.	14879 Jun 19 01:48	8°☾44'06	33.00980 AU
minimum elong	14873 Jun 04 02:16	25°II39'45	6°25'58	morning rise	14879 Jul 02 20:40	9°☾13'16	
max. Earth dist.	14873 Jun 05 02:07	25°II41'58	31.91785 AU	retrograde	14879 Sep 28 18:31	11°☾01'09	
morning rise	14873 Jun 18 06:09	26°II11'05		min. Earth dist.	14879 Dec 15 03:16	9°☾45'33	31.11117 AU
retrograde	14873 Sep 15 16:06	28°II06'53		opposition	14879 Dec 16 12:41	9°☾43'24	2°57'25
opposition	14873 Dec 02 19:34	26°II47'03	6°34'51	direct	14880 Mar 05 24:00	8°☾24'15	
min. Earth dist.	14873 Dec 01 19:07	26°II48'40	30.01030 AU	evening set	14880 Jun 03 12:53	10°☾12'54	
direct	14874 Feb 20 18:56	25°II25'37					
evening set	14874 May 23 02:45	27°II22'18		conjunction	14880 Jun 18 22:25	10°☾45'14	2°29'48
				minimum elong	14880 Jun 18 22:31	10°☾45'15	2°28'49
conjunction	14874 Jun 06 13:48	27°II54'04	5°53'12	max. Earth dist.	14880 Jun 20 09:44	10°☾48'22	33.21169 AU
minimum elong	14874 Jun 06 14:03	27°II54'05	5°52'13	morning rise	14880 Jul 04 06:45	11°☾17'29	
max. Earth dist.	14874 Jun 07 16:19	27°II56'31	32.08241 AU	retrograde	14880 Sep 30 00:22	13°☾04'13	
morning rise	14874 Jun 20 23:49	28°II25'45		min. Earth dist.	14880 Dec 16 09:11	11°☾49'05	31.31445 AU
	14874 Aug 14 00:49	0°☾		opposition	14880 Dec 17 20:56	11°☾46'48	2°21'39
retrograde	14874 Sep 18 01:06	0°☾20'05		direct	14881 Mar 08 10:54	10°☾28'00	
	14874 Oct 24 03:00	30°☾II		evening set	14881 Jun 05 18:05	12°☾15'28	
min. Earth dist.	14874 Dec 04 06:20	29°II02'18	30.17683 AU				
opposition	14874 Dec 05 08:06	29°II00'36	5°58'38	conjunction	14881 Jun 21 05:27	12°☾47'44	1°56'23
direct	14875 Feb 23 08:15	27°II39'34		minimum elong	14881 Jun 21 05:31	12°☾47'44	1°55'22
evening set	14875 May 25 08:36	29°II34'46		max. Earth dist.	14881 Jun 22 19:01	12°☾51'01	33.41829 AU
	14875 Jun 05 22:59	0°☾		morning rise	14881 Jul 06 15:25	13°☾19'52	
conjunction	14875 Jun 09 00:59	0°☾06'47	5°19'17	retrograde	14881 Oct 02 04:15	15°☾05'31	
minimum elong	14875 Jun 09 01:12	0°☾06'48	5°18'17	min. Earth dist.	14881 Dec 18 16:34	13°☾50'44	31.52280 AU
max. Earth dist.	14875 Jun 10 05:29	0°☾09'24	32.25511 AU	opposition	14881 Dec 20 04:50	13°☾48'26	1°46'11
morning rise	14875 Jun 23 16:11	0°☾38'42		direct	14882 Mar 10 20:01	12°☾29'58	
retrograde	14875 Sep 20 10:22	2°☾31'38		evening set	14882 Jun 07 23:00	14°☾16'20	
opposition	14875 Dec 07 19:51	1°☾12'30	5°22'18	conjunction	14882 Jun 23 11:32	14°☾48'26	1°23'14
min. Earth dist.	14875 Dec 06 15:56	1°☾14'21	30.35109 AU	minimum elong	14882 Jun 23 11:35	14°☾48'27	1°22'14
	14876 Feb 02 21:54	30°☾II		max. Earth dist.	14882 Jun 25 02:02	14°☾51'47	33.62996 AU
direct	14876 Feb 25 22:13	29°II51'51		morning rise	14882 Jul 08 22:44	15°☾20'26	
	14876 Mar 19 15:48	0°☾		retrograde	14882 Oct 04 07:57	17°☾05'04	
evening set	14876 May 26 14:24	1°☾45'39		min. Earth dist.	14882 Dec 20 21:19	15°☾50'44	31.73650 AU
				opposition	14882 Dec 22 11:53	15°☾48'18	1°11'04
conjunction	14876 Jun 10 11:21	2°☾17'51	4°45'17	direct	14883 Mar 13 05:11	14°☾30'11	
minimum elong	14876 Jun 10 11:33	2°☾17'52	4°44'16	evening set	14883 Jun 10 03:45	16°☾15'29	
max. Earth dist.	14876 Jun 11 17:14	2°☾20'34	32.43486 AU				
morning rise	14876 Jun 25 07:16	2°☾49'57		conjunction	14883 Jun 25 16:56	16°☾47'25	0°50'24
retrograde	14876 Sep 21 19:56	4°☾41'33		minimum elong	14883 Jun 25 16:58	16°☾47'25	0°49'24
min. Earth dist.	14876 Dec 08 01:24	3°☾24'42	30.53239 AU	max. Earth dist.	14883 Jun 27 09:10	16°☾50'53	33.84692 AU
opposition	14876 Dec 09 07:03	3°☾22'46	4°45'56	morning rise	14883 Jul 11 04:51	17°☾19'14	
direct	14877 Feb 27 09:47	2°☾02'30		retrograde	14883 Oct 06 11:34	19°☾02'54	
evening set	14877 May 28 20:10	3°☾54'56		min. Earth dist.	14883 Dec 23 02:33	17°☾48'57	31.95606 AU
				opposition	14883 Dec 24 18:22	17°☾46'27	0°36'20
conjunction	14877 Jun 12 21:17	4°☾27'15	4°11'16	direct	14884 Mar 14 11:49	16°☾28'43	
minimum elong	14877 Jun 12 21:27	4°☾27'16	4°10'15	evening set	14884 Jun 11 08:10	18°☾13'02	

conjunction	14884 Jun 26 21:41	18°☾44'44	0°17'57			14890 Jul 09 12:34	0°♊	
minimum elong	14884 Jun 26 21:42	18°☾44'44	0°16'59		max. Earth dist.	14890 Jul 10 13:37	0°♊02'03	35.49455 AU
max. Earth dist.	14884 Jun 28 15:42	18°☾48'20	34.06962 AU		morning rise	14890 Jul 23 17:38	0°♊27'42	
morning rise	14884 Jul 12 09:46	19°☾16'20			retrograde	14890 Oct 18 23:04	2°♊06'10	
retrograde	14884 Oct 07 15:01	20°☾59'07			min. Earth dist.	14891 Jan 04 22:41	0°♊55'08	33.61835 AU
min. Earth dist.	14884 Dec 24 06:47	19°☾45'36	32.18121 AU		opposition	14891 Jan 06 22:23	0°♊52'16	-3°12'29
opposition	14884 Dec 26 00:08	19°☾43'01	0°02'02			14891 Feb 15 21:35	30°☾	
desc. node	14885 Jan 17 01:20	19°☾10'57		direct		14891 Mar 29 02:38	29°☾37'18	
direct	14885 Mar 16 19:04	18°☾25'40				14891 May 08 02:57	0°♊	
evening set	14885 Jun 13 12:37	20°☾09'04		evening set		14891 Jun 25 10:54	1°♊16'08	
conjunction	14885 Jun 29 01:44	20°☾40'30	-0°14'09	conjunction		14891 Jul 10 13:53	1°♊45'25	-3°16'08
minimum elong	14885 Jun 29 01:43	20°☾40'30	0°15'08	minimum elong		14891 Jul 10 13:48	1°♊45'25	3°17'03
behind sun begin	14885 Jun 28 23:26	20°☾40'19		max. Earth dist.		14891 Jul 12 14:50	1°♊49'24	35.74007 AU
behind sun end	14885 Jun 29 04:01	20°☾40'41		morning rise		14891 Jul 25 15:39	2°♊14'37	
max. Earth dist.	14885 Jun 30 20:36	20°☾44'09	34.29758 AU	retrograde		14891 Oct 20 21:36	3°♊52'29	
morning rise	14885 Jul 14 13:41	21°☾11'51		min. Earth dist.		14892 Jan 06 23:43	2°♊41'48	33.86518 AU
retrograde	14885 Oct 09 18:59	22°☾53'48		opposition		14892 Jan 09 00:02	2°♊38'55	-3°42'48
min. Earth dist.	14885 Dec 26 09:53	21°☾40'45	32.41180 AU	direct		14892 Mar 30 05:47	1°♊24'17	
opposition	14885 Dec 28 05:13	21°☾38'04	-0°31'46	evening set		14892 Jun 26 14:00	3°♊02'28	
direct	14886 Mar 18 23:48	20°☾21'07		conjunction		14892 Jul 11 13:54	3°♊31'18	-3°44'33
evening set	14886 Jun 15 16:43	22°☾03'39		minimum elong		14892 Jul 11 13:47	3°♊31'18	3°45'26
conjunction	14886 Jul 01 05:17	22°☾34'49	-0°45'45	max. Earth dist.		14892 Jul 13 14:47	3°♊35'15	35.98622 AU
minimum elong	14886 Jul 01 05:15	22°☾34'49	0°46'42	morning rise		14892 Jul 26 12:53	4°♊00'04	
max. Earth dist.	14886 Jul 03 02:26	22°☾38'37	34.53048 AU	retrograde		14892 Oct 21 21:53	5°♊37'23	
morning rise	14886 Jul 16 16:24	23°☾05'52		min. Earth dist.		14893 Jan 07 23:58	4°♊27'01	34.11282 AU
retrograde	14886 Oct 11 21:19	24°☾47'02		opposition		14893 Jan 10 01:13	4°♊24'05	-4°12'29
min. Earth dist.	14886 Dec 28 14:00	23°☾34'23	32.64699 AU	direct		14893 Apr 01 06:59	3°♊09'47	
opposition	14886 Dec 30 09:53	23°☾31'41	-1°05'04	evening set		14893 Jun 28 16:42	4°♊47'21	
direct	14887 Mar 21 07:37	22°☾15'09		conjunction		14893 Jul 13 13:28	5°♊15'44	-4°12'23
evening set	14887 Jun 17 20:39	23°☾56'52		minimum elong		14893 Jul 13 13:21	5°♊15'43	4°13'16
conjunction	14887 Jul 03 07:57	24°☾27'42	-1°16'53	max. Earth dist.		14893 Jul 15 15:44	5°♊19'46	36.23298 AU
minimum elong	14887 Jul 03 07:54	24°☾27'42	1°17'50	morning rise		14893 Jul 28 09:00	5°♊44'01	
max. Earth dist.	14887 Jul 05 05:14	24°☾31'29	34.76744 AU	retrograde		14893 Oct 23 20:22	7°♊20'47	
morning rise	14887 Jul 18 18:08	24°☾58'26		min. Earth dist.		14894 Jan 10 00:42	6°♊10'41	34.36109 AU
retrograde	14887 Oct 14 01:03	26°☾38'52		opposition		14894 Jan 12 01:47	6°♊07'46	-4°41'31
min. Earth dist.	14887 Dec 30 15:51	25°☾26'42	32.88609 AU	direct		14894 Apr 03 09:29	4°♊53'47	
opposition	14888 Jan 01 13:48	25°☾23'53	-1°37'48	evening set		14894 Jun 30 19:16	6°♊30'46	
direct	14888 Mar 22 13:46	24°☾07'46		conjunction		14894 Jul 15 12:15	6°♊58'39	-4°39'36
evening set	14888 Jun 19 00:27	25°☾48'43		minimum elong		14894 Jul 15 12:07	6°♊58'38	4°40'28
conjunction	14888 Jul 04 10:20	26°☾19'13	-1°47'30	max. Earth dist.		14894 Jul 17 14:08	7°♊02'37	36.48054 AU
minimum elong	14888 Jul 04 10:16	26°☾19'12	1°48'26	morning rise		14894 Jul 30 04:24	7°♊26'27	
max. Earth dist.	14888 Jul 06 09:35	26°☾23'08	35.00762 AU	retrograde		14894 Oct 25 19:39	9°♊02'42	
morning rise	14888 Jul 19 18:53	26°☾49'36		min. Earth dist.		14895 Jan 11 22:56	7°♊52'58	34.61064 AU
retrograde	14888 Oct 15 01:05	28°☾29'20		opposition		14895 Jan 14 01:47	7°♊49'58	-5°09'53
min. Earth dist.	14888 Dec 31 19:21	27°☾17'31	33.12818 AU	direct		14895 Apr 05 10:00	6°♊36'16	
opposition	14889 Jan 02 17:09	27°☾14'44	-2°09'58	evening set		14895 Jul 02 21:14	8°♊12'42	
direct	14889 Mar 24 18:57	25°☾59'01		conjunction		14895 Jul 17 10:28	8°♊40'05	-5°06'13
evening set	14889 Jun 21 04:12	27°☾39'14		minimum elong		14895 Jul 17 10:20	8°♊40'05	5°07'04
conjunction	14889 Jul 06 12:05	28°☾09'20	-2°17'36	max. Earth dist.		14895 Jul 19 14:09	8°♊44'10	36.72943 AU
minimum elong	14889 Jul 06 12:01	28°☾09'20	2°18'32	morning rise		14895 Jul 31 22:40	9°♊07'24	
max. Earth dist.	14889 Jul 08 11:21	28°☾13'15	35.25028 AU	retrograde		14895 Oct 27 15:07	10°♊43'11	
morning rise	14889 Jul 21 18:48	28°☾39'22		min. Earth dist.		14896 Jan 13 22:43	9°♊33'41	34.86184 AU
retrograde	14889 Sep 11 12:56	0°♊		opposition		14896 Jan 16 01:19	9°♊30'43	-5°37'34
min. Earth dist.	14889 Oct 17 00:00	0°♊18'26		direct		14896 Apr 06 12:23	8°♊17'20	
opposition	14889 Nov 22 10:46	30°☾		evening set		14896 Jul 03 23:12	9°♊53'15	
direct	14890 Jan 02 20:28	29°☾07'04	33.37245 AU	conjunction		14896 Jul 18 08:11	10°♊20'08	-5°32'12
evening set	14890 Jan 04 19:57	29°☾04'12	-2°41'32	minimum elong		14896 Jul 18 08:03	10°♊20'07	5°33'01
conjunction	14890 Mar 27 00:09	27°☾48'51		max. Earth dist.		14896 Jul 20 11:49	10°♊24'11	36.98013 AU
minimum elong	14890 Jun 23 07:38	29°☾28'22		morning rise		14896 Aug 01 16:18	10°♊46'56	
conjunction	14890 Jul 08 13:11	29°☾58'05	-2°47'09	retrograde		14896 Oct 28 10:39	12°♊22'16	
minimum elong	14890 Jul 08 13:06	29°☾58'05	2°48'04	min. Earth dist.		14897 Jan 14 19:46	11°♊13'09	35.11494 AU

opposition	14897 Jan 17 00:01	11°Ω10'06 -6°04'34	evening set	14903 Jul 18 05:44	21°Ω05'13
direct	14897 Apr 08 14:02	9°Ω57'02			
evening set	14897 Jul 06 00:54	11°Ω32'30	conjunction	14903 Jul 31 02:59	21°Ω28'16 -8°16'22
			minimum elong	14903 Jul 31 02:49	21°Ω28'15 8°17'04
conjunction	14897 Jul 20 05:26	11°Ω58'51 -5°57'34	max. Earth dist.	14903 Aug 02 09:42	21°Ω32'22 38.76135 AU
minimum elong	14897 Jul 20 05:17	11°Ω58'51 5°58'23	morning rise	14903 Aug 12 23:39	21°Ω51'16
max. Earth dist.	14897 Jul 22 10:16	12°Ω02'58 37.23262 AU	retrograde	14903 Nov 09 23:48	23°Ω24'39
morning rise	14897 Aug 03 09:11	12°Ω25'08	min. Earth dist.	14904 Jan 27 20:26	22°Ω17'45 36.90845 AU
retrograde	14897 Oct 30 06:28	14°Ω00'06	opposition	14904 Jan 30 03:22	22°Ω14'39 -8°54'19
min. Earth dist.	14898 Jan 16 17:52	12°Ω51'18 35.36999 AU	direct	14904 Apr 20 23:38	21°Ω04'00
opposition	14898 Jan 18 22:31	12°Ω48'14 -6°30'52	evening set	14904 Jul 19 05:54	22°Ω37'10
direct	14898 Apr 10 12:51	11°Ω35'32			
evening set	14898 Jul 08 02:08	13°Ω10'34	conjunction	14904 Jul 31 21:12	22°Ω59'37 -8°37'20
			minimum elong	14904 Jul 31 21:02	22°Ω59'37 8°38'00
conjunction	14898 Jul 22 02:04	13°Ω36'23 -6°22'16	max. Earth dist.	14904 Aug 03 03:53	23°Ω03'42 39.01267 AU
minimum elong	14898 Jul 22 01:55	13°Ω36'22 6°23'04	morning rise	14904 Aug 13 12:05	23°Ω22'03
max. Earth dist.	14898 Jul 24 07:45	13°Ω40'32 37.48686 AU	retrograde	14904 Nov 10 17:12	24°Ω55'14
morning rise	14898 Aug 05 01:05	14°Ω02'08	min. Earth dist.	14905 Jan 28 15:58	23°Ω48'35 37.16080 AU
	14898 Sep 09 19:26	15°Ω	opposition	14905 Jan 30 22:37	23°Ω45'31 -9°15'54
retrograde	14898 Nov 01 01:20	15°Ω36'46	direct	14905 Apr 22 19:14	22°Ω35'09
	14898 Dec 25 15:46	15°RΩ	evening set	14905 Jul 21 05:45	24°Ω08'03
min. Earth dist.	14899 Jan 18 15:04	14°Ω28'18 35.62639 AU			
opposition	14899 Jan 20 20:26	14°Ω25'13 -6°56'29	conjunction	14905 Aug 02 15:04	24°Ω29'56 -8°57'42
direct	14899 Apr 12 12:22	13°Ω12'52	minimum elong	14905 Aug 02 14:54	24°Ω29'55 8°58'22
evening set	14899 Jul 10 03:21	14°Ω47'31	max. Earth dist.	14905 Aug 04 22:09	24°Ω34'01 39.26213 AU
	14899 Jul 16 23:42	15°Ω	morning rise	14905 Aug 14 23:46	24°Ω51'47
			retrograde	14905 Nov 12 09:27	26°Ω24'47
conjunction	14899 Jul 23 22:15	15°Ω12'47 -6°46'21	min. Earth dist.	14906 Jan 30 11:06	25°Ω18'20 37.41115 AU
minimum elong	14899 Jul 23 22:06	15°Ω12'47 6°47'09	opposition	14906 Feb 01 17:31	25°Ω15'18 -9°36'50
max. Earth dist.	14899 Jul 26 03:54	15°Ω16'55 37.74212 AU	direct	14906 Apr 24 15:32	24°Ω05'12
morning rise	14899 Aug 06 16:35	15°Ω38'01	evening set	14906 Jul 23 05:15	25°Ω37'51
retrograde	14899 Nov 02 23:07	17°Ω12'21			
min. Earth dist.	14900 Jan 20 11:29	16°Ω04'14 35.88380 AU	conjunction	14906 Aug 04 08:10	25°Ω59'09 -9°17'28
opposition	14900 Jan 22 17:48	16°Ω01'07 -7°21'24	minimum elong	14906 Aug 04 08:01	25°Ω59'08 9°18'07
	14900 Mar 16 13:43	15°RΩ	max. Earth dist.	14906 Aug 06 14:30	26°Ω03'09 39.50977 AU
direct	14900 Apr 14 08:01	14°Ω49'07	morning rise	14906 Aug 16 10:49	26°Ω20'25
	14900 May 12 15:52	15°Ω	retrograde	14906 Nov 14 04:50	27°Ω53'14
evening set	14900 Jul 12 04:11	16°Ω23'25	min. Earth dist.	14907 Feb 01 04:41	26°Ω47'02 37.66015 AU
			opposition	14907 Feb 03 11:58	26°Ω43'59 -9°57'08
conjunction	14900 Jul 25 18:08	16°Ω48'09 -7°09'48	direct	14907 Apr 26 07:47	25°Ω34'09
minimum elong	14900 Jul 25 17:59	16°Ω48'09 7°10'33	evening set	14907 Jul 25 04:25	27°Ω06'34
max. Earth dist.	14900 Jul 28 01:07	16°Ω52'21 37.99791 AU			
morning rise	14900 Aug 08 07:14	17°Ω12'50	conjunction	14907 Aug 06 01:05	27°Ω27'16 -9°36'38
retrograde	14900 Nov 04 18:41	18°Ω46'54	minimum elong	14907 Aug 06 00:56	27°Ω27'15 9°37'16
min. Earth dist.	14901 Jan 22 09:02	17°Ω39'04 36.14127 AU	max. Earth dist.	14907 Aug 08 08:39	27°Ω31'19 39.75630 AU
opposition	14901 Jan 24 14:51	17°Ω36'00 -7°45'38	morning rise	14907 Aug 17 21:15	27°Ω47'57
direct	14901 Apr 16 05:31	16°Ω24'21	retrograde	14907 Nov 15 21:03	29°Ω20'36
evening set	14901 Jul 14 04:58	17°Ω58'20	min. Earth dist.	14908 Feb 02 23:26	28°Ω14'34 37.90829 AU
			opposition	14908 Feb 05 05:54	28°Ω11'34 -10°16'47
conjunction	14901 Jul 27 13:25	18°Ω22'31 -7°32'36	direct	14908 Apr 27 02:12	27°Ω02'00
minimum elong	14901 Jul 27 13:15	18°Ω22'30 7°33'21	evening set	14908 Jul 26 03:30	28°Ω34'13
max. Earth dist.	14901 Jul 29 19:40	18°Ω26'38 38.25341 AU			
morning rise	14901 Aug 09 21:20	18°Ω46'39	conjunction	14908 Aug 06 17:28	28°Ω54'19 -9°55'12
retrograde	14901 Nov 06 14:35	20°Ω20'27	minimum elong	14908 Aug 06 17:20	28°Ω54'18 9°55'48
min. Earth dist.	14902 Jan 24 04:15	19°Ω13'00 36.39827 AU	max. Earth dist.	14908 Aug 09 00:23	28°Ω58'18 40.00229 AU
opposition	14902 Jan 26 11:23	19°Ω09'52 -8°09'11	morning rise	14908 Aug 18 07:10	29°Ω14'24
direct	14902 Apr 18 02:17	17°Ω58'34		14908 Sep 15 22:09	0°R
evening set	14902 Jul 16 05:28	19°Ω32'16	retrograde	14908 Nov 16 12:24	0°R46'54
				14909 Jan 20 02:46	30°RΩ
conjunction	14902 Jul 29 08:28	19°Ω55'53 -7°54'48	min. Earth dist.	14909 Feb 03 15:33	29°Ω41'11 38.15605 AU
minimum elong	14902 Jul 29 08:18	19°Ω55'52 7°55'31	opposition	14909 Feb 05 23:25	29°Ω38'07 -10°35'47
max. Earth dist.	14902 Jul 31 15:48	20°Ω00'03 38.50805 AU	direct	14909 Apr 28 21:30	28°Ω28'48
morning rise	14902 Aug 11 10:49	20°Ω19'27		14909 Jul 27 14:07	0°R
retrograde	14902 Nov 08 07:27	21°Ω53'03	evening set	14909 Jul 28 02:07	0°R00'51
min. Earth dist.	14903 Jan 26 01:23	20°Ω45'50 36.65422 AU			
opposition	14903 Jan 28 07:41	20°Ω42'46 -8°32'05	conjunction	14909 Aug 08 09:27	0°R20'22 -10°13'09
direct	14903 Apr 20 01:18	19°Ω31'48	minimum elong	14909 Aug 08 09:18	0°R20'21 10°13'44

max. Earth dist.	14909 Aug 10 17:22	0° \mathring{M} 24'24	40.24795 AU	direct	14916 May 08 19:46	8° \mathring{M} 12'38	
morning rise	14909 Aug 19 16:31	0° \mathring{M} 39'51		evening set	14916 Aug 08 11:37	9° \mathring{M} 44'02	
retrograde	14909 Nov 18 02:31	2° \mathring{M} 12'15					
min. Earth dist.	14910 Feb 05 09:11	1° \mathring{M} 06'45	38.40363 AU	conjunction	14916 Aug 17 16:36	9° \mathring{M} 59'21	-12°02'40
opposition	14910 Feb 07 16:43	1° \mathring{M} 03'42	-10°54'08	minimum elong	14916 Aug 17 16:30	9° \mathring{M} 59'21	12°03'07
	14910 Apr 10 05:12	30° \mathring{K} 2		max. Earth dist.	14916 Aug 19 23:31	10° \mathring{M} 03'10	41.93470 AU
direct	14910 Apr 30 16:49	29° \mathring{O} 54'40		morning rise	14916 Aug 26 21:34	10° \mathring{M} 14'39	
	14910 May 20 22:22	0° \mathring{M}		retrograde	14916 Nov 27 06:06	11° \mathring{M} 46'49	
evening set	14910 Jul 30 00:39	1° \mathring{M} 26'34		min. Earth dist.	14917 Feb 15 00:42	10° \mathring{M} 42'56	40.09608 AU
				opposition	14917 Feb 17 07:28	10° \mathring{M} 40'01	-12°45'38
conjunction	14910 Aug 10 01:10	1° \mathring{M} 45'29	-10°30'30	direct	14917 May 10 11:51	9° \mathring{M} 32'55	
minimum elong	14910 Aug 10 01:02	1° \mathring{M} 45'29	10°31'04	evening set	14917 Aug 10 08:52	11° \mathring{M} 04'17	
max. Earth dist.	14910 Aug 12 09:10	1° \mathring{M} 49'31	40.49350 AU				
morning rise	14910 Aug 21 01:19	2° \mathring{M} 04'22		conjunction	14917 Aug 19 06:13	11° \mathring{M} 18'59	-12°16'11
retrograde	14910 Nov 19 15:43	3° \mathring{M} 36'41		minimum elong	14917 Aug 19 06:07	11° \mathring{M} 18'59	12°16'36
min. Earth dist.	14911 Feb 07 01:24	2° \mathring{M} 31'28	38.65076 AU	max. Earth dist.	14917 Aug 21 13:05	11° \mathring{M} 22'47	42.16474 AU
opposition	14911 Feb 09 09:29	2° \mathring{M} 28'24	-11°11'51	morning rise	14917 Aug 28 03:22	11° \mathring{M} 33'41	
direct	14911 May 02 12:01	1° \mathring{M} 19'39		retrograde	14917 Nov 28 17:50	13° \mathring{M} 05'52	
evening set	14911 Jul 31 22:50	2° \mathring{M} 51'26		min. Earth dist.	14918 Feb 16 15:59	12° \mathring{M} 02'09	40.32600 AU
				opposition	14918 Feb 18 22:04	11° \mathring{M} 59'17	-12°59'20
conjunction	14911 Aug 11 16:20	3° \mathring{M} 09'44	-10°47'16	direct	14918 May 12 04:31	10° \mathring{M} 52'24	
minimum elong	14911 Aug 11 16:12	3° \mathring{M} 09'43	10°47'48	evening set	14918 Aug 12 05:56	12° \mathring{M} 23'44	
max. Earth dist.	14911 Aug 14 00:08	3° \mathring{M} 13'43	40.73838 AU				
morning rise	14911 Aug 22 09:45	3° \mathring{M} 28'02		conjunction	14918 Aug 20 19:23	12° \mathring{M} 37'49	-12°29'12
retrograde	14911 Nov 21 07:21	5° \mathring{M} 00'17		minimum elong	14918 Aug 20 19:17	12° \mathring{M} 37'49	12°29'37
min. Earth dist.	14912 Feb 08 17:33	3° \mathring{M} 55'19	38.89714 AU	max. Earth dist.	14918 Aug 23 00:59	12° \mathring{M} 41'30	42.39133 AU
opposition	14912 Feb 11 01:58	3° \mathring{M} 52'15	-11°28'57	morning rise	14918 Aug 29 08:52	12° \mathring{M} 51'55	
direct	14912 May 03 04:06	2° \mathring{M} 43'48		retrograde	14918 Nov 30 08:49	14° \mathring{M} 24'07	
evening set	14912 Aug 01 20:53	4° \mathring{M} 15'28		min. Earth dist.	14919 Feb 18 05:52	13° \mathring{M} 20'35	40.55288 AU
				opposition	14919 Feb 20 12:19	13° \mathring{M} 17'43	-13°12'31
conjunction	14912 Aug 12 07:27	4° \mathring{M} 33'10	-11°03'27	direct	14919 May 13 17:20	12° \mathring{M} 11'04	
minimum elong	14912 Aug 12 07:20	4° \mathring{M} 33'10	11°03'58	evening set	14919 Aug 14 02:39	13° \mathring{M} 42'22	
max. Earth dist.	14912 Aug 14 16:09	4° \mathring{M} 37'12	40.98221 AU				
morning rise	14912 Aug 22 17:40	4° \mathring{M} 50'53		conjunction	14919 Aug 22 08:18	13° \mathring{M} 55'51	-12°41'43
retrograde	14912 Nov 21 22:19	6° \mathring{M} 23'05		minimum elong	14919 Aug 22 08:13	13° \mathring{M} 55'51	12°42'05
min. Earth dist.	14913 Feb 09 10:19	5° \mathring{M} 18'20	39.14199 AU	max. Earth dist.	14919 Aug 24 14:48	13° \mathring{M} 59'35	42.61512 AU
opposition	14913 Feb 11 18:00	5° \mathring{M} 15'19	-11°45'26	morning rise	14919 Aug 30 13:50	14° \mathring{M} 09'20	
direct	14913 May 04 20:25	4° \mathring{M} 07'09		retrograde	14919 Dec 01 22:17	15° \mathring{M} 41'34	
evening set	14913 Aug 03 18:53	5° \mathring{M} 38'44		min. Earth dist.	14920 Feb 19 20:59	14° \mathring{M} 38'09	40.77714 AU
				opposition	14920 Feb 22 02:17	14° \mathring{M} 35'22	-13°25'09
conjunction	14913 Aug 13 22:06	5° \mathring{M} 55'50	-11°19'03	direct	14920 May 14 06:47	13° \mathring{M} 28'56	
minimum elong	14913 Aug 13 21:58	5° \mathring{M} 55'50	11°19'33	evening set	14920 Aug 14 23:22	15° \mathring{M} 00'14	
max. Earth dist.	14913 Aug 16 05:40	5° \mathring{M} 59'46	41.22432 AU				
morning rise	14913 Aug 24 01:13	6° \mathring{M} 12'57		conjunction	14920 Aug 22 20:50	15° \mathring{M} 13'06	-12°53'43
retrograde	14913 Nov 23 15:21	7° \mathring{M} 45'07		minimum elong	14920 Aug 22 20:45	15° \mathring{M} 13'06	12°54'04
min. Earth dist.	14914 Feb 11 01:16	6° \mathring{M} 40'39	39.38494 AU	max. Earth dist.	14920 Aug 25 02:20	15° \mathring{M} 16'45	42.83669 AU
opposition	14914 Feb 13 09:49	6° \mathring{M} 37'37	-12°01'20	morning rise	14920 Aug 30 18:16	15° \mathring{M} 25'58	
direct	14914 May 06 10:06	5° \mathring{M} 29'44		retrograde	14920 Dec 02 10:54	16° \mathring{M} 58'15	
evening set	14914 Aug 05 16:28	7° \mathring{M} 01'14		min. Earth dist.	14921 Feb 20 09:31	15° \mathring{M} 55'06	40.99939 AU
				opposition	14921 Feb 22 15:44	15° \mathring{M} 52'15	-13°37'16
conjunction	14914 Aug 15 12:29	7° \mathring{M} 17'45	-11°34'07	direct	14921 May 15 19:30	14° \mathring{M} 46'03	
minimum elong	14914 Aug 15 12:23	7° \mathring{M} 17'45	11°34'37	evening set	14921 Aug 16 19:49	16° \mathring{M} 17'24	
max. Earth dist.	14914 Aug 17 20:49	7° \mathring{M} 21'42	41.46414 AU				
morning rise	14914 Aug 25 08:21	7° \mathring{M} 34'16		conjunction	14921 Aug 24 09:07	16° \mathring{M} 29'39	-13°05'13
retrograde	14914 Nov 25 04:58	9° \mathring{M} 06'26		minimum elong	14921 Aug 24 09:04	16° \mathring{M} 29'39	13°05'32
min. Earth dist.	14915 Feb 12 18:17	8° \mathring{M} 02'07	39.62529 AU	max. Earth dist.	14921 Aug 26 14:58	16° \mathring{M} 33'18	43.05646 AU
opposition	14915 Feb 15 01:28	7° \mathring{M} 59'10	-12°16'39	morning rise	14921 Aug 31 22:28	16° \mathring{M} 41'54	
direct	14915 May 08 02:24	6° \mathring{M} 51'34		retrograde	14921 Dec 03 20:59	18° \mathring{M} 14'16	
evening set	14915 Aug 07 14:10	8° \mathring{M} 23'01		min. Earth dist.	14922 Feb 21 23:43	17° \mathring{M} 11'16	41.22003 AU
				opposition	14922 Feb 24 05:12	17° \mathring{M} 08'28	-13°48'50
conjunction	14915 Aug 17 02:41	8° \mathring{M} 38'56	-11°48'39	direct	14922 May 17 11:03	16° \mathring{M} 02'31	
minimum elong	14915 Aug 17 02:34	8° \mathring{M} 38'55	11°49'07	evening set	14922 Aug 18 16:06	17° \mathring{M} 33'54	
max. Earth dist.	14915 Aug 19 10:01	8° \mathring{M} 42'48	41.70115 AU				
morning rise	14915 Aug 26 15:03	8° \mathring{M} 54'50		conjunction	14922 Aug 25 21:05	17° \mathring{M} 45'33	-13°16'13
retrograde	14915 Nov 26 17:04	10° \mathring{M} 26'59		minimum elong	14922 Aug 25 21:01	17° \mathring{M} 45'32	13°16'32
min. Earth dist.	14916 Feb 14 08:57	9° \mathring{M} 22'56	39.86243 AU	max. Earth dist.	14922 Aug 28 03:04	17° \mathring{M} 49'11	43.27473 AU
opposition	14916 Feb 16 16:28	9° \mathring{M} 19'58	-12°31'25	morning rise	14922 Sep 02 02:00	17° \mathring{M} 57'10	

retrograde	14922 Dec 05 06:13	19° <u>00</u> 29'39		minimum elong	14929 Sep 03 03:12	26° <u>00</u> 21'33	14°20'27
min. Earth dist.	14923 Feb 23 12:37	18° <u>00</u> 26'52	41.43884 AU	max. Earth dist.	14929 Sep 05 05:56	26° <u>00</u> 24'52	44.72511 AU
opposition	14923 Feb 25 18:13	18° <u>00</u> 24'05	-13°59'54	morning rise	14929 Sep 07 16:20	26° <u>00</u> 28'41	
direct	14923 May 19 03:02	17° <u>00</u> 18'22		retrograde	14929 Dec 13 12:06	28° <u>00</u> 02'23	
evening set	14923 Aug 20 12:20	18° <u>00</u> 49'50		min. Earth dist.	14930 Mar 04 05:20	27° <u>00</u> 00'43	42.88621 AU
				opposition	14930 Mar 06 06:43	26° <u>00</u> 58'13	-15°03'59
conjunction	14923 Aug 27 08:48	19° <u>00</u> 00'51	-13°26'43	direct	14930 May 27 17:37	25° <u>00</u> 54'02	
minimum elong	14923 Aug 27 08:46	19° <u>00</u> 00'51	13°27'00	evening set	14930 Aug 31 10:53	27° <u>00</u> 26'34	
max. Earth dist.	14923 Aug 29 14:00	19° <u>00</u> 04'25	43.49110 AU				
morning rise	14923 Sep 03 05:24	19° <u>00</u> 11'52		conjunction	14930 Sep 04 13:18	27° <u>00</u> 32'57	-14°27'46
retrograde	14923 Dec 06 19:23	20° <u>00</u> 44'29		minimum elong	14930 Sep 04 13:18	27° <u>00</u> 32'57	14°27'55
min. Earth dist.	14924 Feb 25 01:05	19° <u>00</u> 41'54	41.65572 AU	max. Earth dist.	14930 Sep 06 14:21	27° <u>00</u> 36'09	44.91621 AU
opposition	14924 Feb 27 06:52	19° <u>00</u> 39'07	-14°10'26	morning rise	14930 Sep 08 15:50	27° <u>00</u> 39'22	
direct	14924 May 19 15:04	18° <u>00</u> 33'39		retrograde	14930 Dec 15 00:11	29° <u>00</u> 13'20	
evening set	14924 Aug 21 08:31	20° <u>00</u> 05'14		min. Earth dist.	14931 Mar 05 16:06	28° <u>00</u> 11'48	43.07642 AU
				opposition	14931 Mar 07 17:47	28° <u>00</u> 09'17	-15°11'25
conjunction	14924 Aug 27 20:28	20° <u>00</u> 15'36	-13°36'45	direct	14931 May 29 03:34	27° <u>00</u> 05'16	
minimum elong	14924 Aug 27 20:24	20° <u>00</u> 15'36	13°37'02	evening set	14931 Sep 02 08:16	28° <u>00</u> 38'03	
max. Earth dist.	14924 Aug 30 02:19	20° <u>00</u> 19'12	43.70532 AU				
morning rise	14924 Sep 03 08:23	20° <u>00</u> 26'01		conjunction	14931 Sep 05 23:24	28° <u>00</u> 43'41	-14°34'52
retrograde	14924 Dec 07 07:20	21° <u>00</u> 58'46		minimum elong	14931 Sep 05 23:25	28° <u>00</u> 43'41	14°35'00
min. Earth dist.	14925 Feb 25 14:51	20° <u>00</u> 56'21	41.87002 AU	max. Earth dist.	14931 Sep 08 00:45	28° <u>00</u> 46'52	45.10338 AU
opposition	14925 Feb 27 19:27	20° <u>00</u> 53'38	-14°20'29	morning rise	14931 Sep 09 14:38	28° <u>00</u> 49'19	
direct	14925 May 21 04:01	19° <u>00</u> 48'25			14931 Oct 31 22:08	0° <u>00</u> 00'00	
evening set	14925 Aug 23 04:37	21° <u>00</u> 20'06		retrograde	14931 Dec 16 10:01	0° <u>00</u> 23'35	
					14932 Feb 01 02:29	30° <u>00</u> 00'00	
conjunction	14925 Aug 29 07:38	21° <u>00</u> 29'51	-13°46'19	min. Earth dist.	14932 Mar 06 04:32	29° <u>00</u> 22'06	43.26304 AU
minimum elong	14925 Aug 29 07:37	21° <u>00</u> 29'51	13°46'34	opposition	14932 Mar 08 04:34	29° <u>00</u> 19'40	-15°18'27
max. Earth dist.	14925 Aug 31 12:10	21° <u>00</u> 33'21	43.91683 AU	direct	14932 May 29 14:04	28° <u>00</u> 15'48	
morning rise	14925 Sep 04 10:45	21° <u>00</u> 39'38		evening set	14932 Sep 03 06:27	29° <u>00</u> 48'55	
retrograde	14925 Dec 08 20:50	23° <u>00</u> 12'32					
min. Earth dist.	14926 Feb 27 02:34	22° <u>00</u> 10'22	42.08136 AU	conjunction	14932 Sep 06 09:12	29° <u>00</u> 53'44	-14°41'33
opposition	14926 Mar 01 07:44	22° <u>00</u> 07'38	-14°30'04	minimum elong	14932 Sep 06 09:12	29° <u>00</u> 53'44	14°41'39
direct	14926 May 22 13:34	21° <u>00</u> 02'39		max. Earth dist.	14932 Sep 08 09:44	29° <u>00</u> 56'51	45.28748 AU
evening set	14926 Aug 25 00:42	22° <u>00</u> 34'28		morning rise	14932 Sep 09 12:01	29° <u>00</u> 58'33	
					14932 Sep 10 10:34	0° <u>00</u> 00'00	
conjunction	14926 Aug 30 18:49	22° <u>00</u> 43'36	-13°55'26	retrograde	14932 Dec 16 18:09	1° <u>00</u> 33'10	
minimum elong	14926 Aug 30 18:46	22° <u>00</u> 43'36	13°55'40	min. Earth dist.	14933 Mar 07 14:36	0° <u>00</u> 31'51	43.44674 AU
max. Earth dist.	14926 Sep 01 23:35	22° <u>00</u> 47'05	44.12505 AU	opposition	14933 Mar 09 15:07	0° <u>00</u> 29'24	-15°25'03
morning rise	14926 Sep 05 12:57	22° <u>00</u> 52'43			14933 Apr 03 22:17	30° <u>00</u> 00'00	
retrograde	14926 Dec 10 08:52	24° <u>00</u> 25'49		direct	14933 May 31 00:49	29° <u>00</u> 25'41	
min. Earth dist.	14927 Feb 28 16:13	23° <u>00</u> 23'46	42.28918 AU		14933 Jul 25 03:41	0° <u>00</u> 00'00	
opposition	14927 Mar 02 19:52	23° <u>00</u> 21'07	-14°39'11	evening set	14933 Sep 05 05:49	0° <u>00</u> 59'16	
direct	14927 May 24 00:19	22° <u>00</u> 16'22					
evening set	14927 Aug 26 21:03	23° <u>00</u> 48'20		conjunction	14933 Sep 07 18:34	1° <u>00</u> 03'09	-14°47'50
				minimum elong	14933 Sep 07 18:36	1° <u>00</u> 03'10	14°47'56
conjunction	14927 Sep 01 05:47	23° <u>00</u> 56'49	-14°04'07	morning rise	14933 Sep 10 07:26	1° <u>00</u> 07'04	
minimum elong	14927 Sep 01 05:46	23° <u>00</u> 56'49	14°04'20	max. Earth dist.	14933 Sep 09 18:44	1° <u>00</u> 06'15	45.46888 AU
max. Earth dist.	14927 Sep 03 09:42	24° <u>00</u> 00'14	44.32956 AU	retrograde	14933 Dec 18 02:49	2° <u>00</u> 42'11	
morning rise	14927 Sep 06 14:35	24° <u>00</u> 05'17		min. Earth dist.	14934 Mar 09 01:41	1° <u>00</u> 40'57	43.62806 AU
retrograde	14927 Dec 11 17:00	25° <u>00</u> 38'35		opposition	14934 Mar 11 01:39	1° <u>00</u> 38'33	-15°31'14
min. Earth dist.	14928 Mar 01 04:09	24° <u>00</u> 36'42	42.49276 AU	direct	14934 Jun 01 11:51	0° <u>00</u> 35'00	
opposition	14928 Mar 03 07:39	24° <u>00</u> 34'05	-14°47'52	evening set	14934 Sep 07 08:18	2° <u>00</u> 09'14	
direct	14928 May 24 14:23	23° <u>00</u> 29'32					
evening set	14928 Aug 27 17:23	25° <u>00</u> 01'40		conjunction	14934 Sep 09 03:59	2° <u>00</u> 12'01	-14°53'43
				minimum elong	14934 Sep 09 04:01	2° <u>00</u> 12'02	14°53'46
conjunction	14928 Sep 01 16:30	25° <u>00</u> 09'29	-14°12'24	morning rise	14934 Sep 10 23:47	2° <u>00</u> 14'49	
minimum elong	14928 Sep 01 16:29	25° <u>00</u> 09'29	14°12'35	max. Earth dist.	14934 Sep 11 04:33	2° <u>00</u> 15'08	45.64809 AU
max. Earth dist.	14928 Sep 03 19:07	25° <u>00</u> 12'48	44.52958 AU	retrograde	14934 Dec 19 10:09	3° <u>00</u> 50'39	
morning rise	14928 Sep 06 15:44	25° <u>00</u> 17'18		min. Earth dist.	14935 Mar 10 12:16	2° <u>00</u> 49'33	43.80696 AU
retrograde	14928 Dec 12 02:23	26° <u>00</u> 50'47		opposition	14935 Mar 12 11:44	2° <u>00</u> 47'11	-15°36'59
min. Earth dist.	14929 Mar 02 16:38	25° <u>00</u> 49'02	42.69184 AU	direct	14935 Jun 03 00:33	1° <u>00</u> 43'49	
opposition	14929 Mar 04 19:16	25° <u>00</u> 46'27	-14°56'08	evening set	14935 Sep 09 21:44	3° <u>00</u> 19'26	
direct	14929 May 26 04:01	24° <u>00</u> 42'06					
evening set	14929 Aug 29 14:07	26° <u>00</u> 14'26		conjunction	14935 Sep 10 13:02	3° <u>00</u> 20'24	-14°59'11
				minimum elong	14935 Sep 10 13:03	3° <u>00</u> 20'25	14°59'14
conjunction	14929 Sep 03 03:12	26° <u>00</u> 21'33	-14°20'17	morning rise	14935 Sep 11 04:24	3° <u>00</u> 21'23	

max. Earth dist.	14935 Sep 12 12:13	3° <u>♁</u> 23'25	45.82495 AU	opposition	14944 Mar 21 23:13	12° <u>♁</u> 47'38	-16°11'56
retrograde	14935 Dec 20 21:21	4° <u>♁</u> 58'39		direct	14944 Jun 12 08:04	11° <u>♁</u> 45'48	
min. Earth dist.	14936 Mar 10 21:54	3° <u>♁</u> 57'44	43.98342 AU				
opposition	14936 Mar 12 21:40	3° <u>♁</u> 55'21	-15°42'19	conjunction	14944 Sep 19 16:24	13° <u>♁</u> 19'04	-15°32'26
direct	14936 Jun 03 09:30	2° <u>♁</u> 52'11		minimum elong	14944 Sep 19 16:30	13° <u>♁</u> 19'04	15°32'18
				max. Earth dist.	14944 Sep 21 10:19	13° <u>♁</u> 21'39	47.25231 AU
conjunction	14936 Sep 10 22:01	4° <u>♁</u> 28'22	-15°04'16	retrograde	14944 Dec 29 22:39	14° <u>♁</u> 54'15	
minimum elong	14936 Sep 10 22:04	4° <u>♁</u> 28'23	15°04'17	min. Earth dist.	14945 Mar 21 14:38	13° <u>♁</u> 54'15	45.39823 AU
max. Earth dist.	14936 Sep 12 21:49	4° <u>♁</u> 31'24	45.99916 AU	opposition	14945 Mar 23 07:29	13° <u>♁</u> 52'16	-16°14'07
retrograde	14936 Dec 21 08:10	6° <u>♁</u> 06'16		direct	14945 Jun 13 19:42	12° <u>♁</u> 50'33	
min. Earth dist.	14937 Mar 12 09:08	5° <u>♁</u> 05'26	44.15699 AU				
opposition	14937 Mar 14 07:29	5° <u>♁</u> 03'08	-15°47'16	conjunction	14945 Sep 20 23:49	14° <u>♁</u> 23'28	-15°34'29
direct	14937 Jun 04 17:59	4° <u>♁</u> 00'10		minimum elong	14945 Sep 20 23:55	14° <u>♁</u> 23'28	15°34'19
				max. Earth dist.	14945 Sep 22 16:22	14° <u>♁</u> 25'58	47.39105 AU
conjunction	14937 Sep 12 06:48	5° <u>♁</u> 35'58	-15°08'58	retrograde	14945 Dec 31 05:47	15° <u>♁</u> 58'20	
minimum elong	14937 Sep 12 06:50	5° <u>♁</u> 35'59	15°08'59	min. Earth dist.	14946 Mar 22 22:58	14° <u>♁</u> 58'27	45.53606 AU
max. Earth dist.	14937 Sep 14 05:32	5° <u>♁</u> 38'56	46.17049 AU	opposition	14946 Mar 24 15:44	14° <u>♁</u> 56'28	-16°15'57
retrograde	14937 Dec 22 16:46	7° <u>♁</u> 13'30		direct	14946 Jun 15 05:36	13° <u>♁</u> 54'53	
min. Earth dist.	14938 Mar 13 18:18	6° <u>♁</u> 12'53	44.32734 AU				
opposition	14938 Mar 15 17:04	6° <u>♁</u> 10'34	-15°51'49	conjunction	14946 Sep 22 07:12	15° <u>♁</u> 27'28	-15°36'11
direct	14938 Jun 06 02:05	5° <u>♁</u> 07'48		minimum elong	14946 Sep 22 07:19	15° <u>♁</u> 27'28	15°36'02
				max. Earth dist.	14946 Sep 24 00:27	15° <u>♁</u> 30'00	47.52721 AU
conjunction	14938 Sep 13 15:21	6° <u>♁</u> 43'14	-15°13'18	retrograde	14947 Jan 01 14:26	17° <u>♁</u> 02'03	
minimum elong	14938 Sep 13 15:25	6° <u>♁</u> 43'15	15°13'17	min. Earth dist.	14947 Mar 24 08:17	16° <u>♁</u> 02'13	45.67116 AU
max. Earth dist.	14938 Sep 15 13:28	6° <u>♁</u> 46'09	46.33829 AU	opposition	14947 Mar 25 23:48	16° <u>♁</u> 00'18	-16°17'26
retrograde	14938 Dec 24 00:13	8° <u>♁</u> 20'27		direct	14947 Jun 16 14:51	14° <u>♁</u> 58'51	
min. Earth dist.	14939 Mar 15 05:13	7° <u>♁</u> 19'55	44.49398 AU				
opposition	14939 Mar 17 02:37	7° <u>♁</u> 17'41	-15°56'01	conjunction	14947 Sep 23 14:25	16° <u>♁</u> 31'06	-15°37'34
direct	14939 Jun 07 12:37	6° <u>♁</u> 15'06		minimum elong	14947 Sep 23 14:32	16° <u>♁</u> 31'06	15°37'22
				max. Earth dist.	14947 Sep 25 06:23	16° <u>♁</u> 33'32	47.66081 AU
conjunction	14939 Sep 15 00:02	7° <u>♁</u> 50'11	-15°17'18	retrograde	14948 Jan 02 23:48	18° <u>♁</u> 05'23	
minimum elong	14939 Sep 15 00:05	7° <u>♁</u> 50'11	15°17'16	min. Earth dist.	14948 Mar 24 15:22	17° <u>♁</u> 05'42	45.80357 AU
max. Earth dist.	14939 Sep 16 21:56	7° <u>♁</u> 53'04	46.50213 AU	opposition	14948 Mar 26 07:28	17° <u>♁</u> 03'46	-16°18'35
retrograde	14939 Dec 25 06:21	9° <u>♁</u> 27'04		direct	14948 Jun 16 20:35	16° <u>♁</u> 02'27	
min. Earth dist.	14940 Mar 15 15:13	8° <u>♁</u> 26'40	44.65615 AU				
opposition	14940 Mar 17 11:44	8° <u>♁</u> 24'28	-15°59'51	conjunction	14948 Sep 23 21:32	17° <u>♁</u> 34'25	-15°38'37
direct	14940 Jun 08 00:47	7° <u>♁</u> 22'04		minimum elong	14948 Sep 23 21:39	17° <u>♁</u> 34'25	15°38'26
				max. Earth dist.	14948 Sep 25 13:13	17° <u>♁</u> 36'50	47.79155 AU
conjunction	14940 Sep 15 08:26	8° <u>♁</u> 56'48	-15°20'57	retrograde	14949 Jan 03 06:54	19° <u>♁</u> 08'25	
minimum elong	14940 Sep 15 08:31	8° <u>♁</u> 56'48	15°20'54	min. Earth dist.	14949 Mar 26 00:46	18° <u>♁</u> 08'47	45.93302 AU
max. Earth dist.	14940 Sep 17 04:29	8° <u>♁</u> 59'33	46.66134 AU	opposition	14949 Mar 27 15:22	18° <u>♁</u> 06'56	-16°19'24
retrograde	14940 Dec 25 16:26	10° <u>♁</u> 33'21		direct	14949 Jun 18 02:51	17° <u>♁</u> 05'46	
min. Earth dist.	14941 Mar 17 00:44	9° <u>♁</u> 33'05	44.81359 AU				
opposition	14941 Mar 18 20:54	9° <u>♁</u> 30'54	-16°03'22	conjunction	14949 Sep 25 04:29	18° <u>♁</u> 37'26	-15°39'22
direct	14941 Jun 09 09:35	8° <u>♁</u> 28'40		minimum elong	14949 Sep 25 04:37	18° <u>♁</u> 37'27	15°39'08
				max. Earth dist.	14949 Sep 26 20:02	18° <u>♁</u> 39'50	47.91928 AU
conjunction	14941 Sep 16 16:43	10° <u>♁</u> 03'02	-15°24'18	retrograde	14950 Jan 04 11:02	20° <u>♁</u> 11'10	
minimum elong	14941 Sep 16 16:47	10° <u>♁</u> 03'02	15°24'14	min. Earth dist.	14950 Mar 27 08:35	19° <u>♁</u> 11'40	46.05902 AU
max. Earth dist.	14941 Sep 18 12:47	10° <u>♁</u> 05'47	46.81567 AU	opposition	14950 Mar 28 23:01	19° <u>♁</u> 09'49	-16°19'54
retrograde	14941 Dec 27 01:45	11° <u>♁</u> 39'15		direct	14950 Jun 19 11:07	18° <u>♁</u> 08'48	
min. Earth dist.	14942 Mar 18 11:37	10° <u>♁</u> 39'01	44.96601 AU				
opposition	14942 Mar 20 06:00	10° <u>♁</u> 36'57	-16°06'33	conjunction	14950 Sep 26 11:22	19° <u>♁</u> 40'12	-15°39'48
direct	14942 Jun 10 18:59	9° <u>♁</u> 34'52		minimum elong	14950 Sep 26 11:29	19° <u>♁</u> 40'13	15°39'34
				max. Earth dist.	14950 Sep 28 01:21	19° <u>♁</u> 42'30	48.04331 AU
conjunction	14942 Sep 18 00:50	11° <u>♁</u> 08'51	-15°27'20	retrograde	14951 Jan 05 18:16	21° <u>♁</u> 13'41	
minimum elong	14942 Sep 18 00:56	11° <u>♁</u> 08'51	15°27'15	min. Earth dist.	14951 Mar 28 16:48	20° <u>♁</u> 14'16	46.18120 AU
max. Earth dist.	14942 Sep 19 19:22	11° <u>♁</u> 11'29	46.96530 AU	opposition	14951 Mar 30 06:30	20° <u>♁</u> 12'28	-16°20'06
retrograde	14942 Dec 28 10:57	12° <u>♁</u> 44'43		direct	14951 Jun 20 18:57	19° <u>♁</u> 11'35	
min. Earth dist.	14943 Mar 19 20:07	11° <u>♁</u> 44'36	45.11385 AU				
opposition	14943 Mar 21 14:36	11° <u>♁</u> 42'32	-16°09'24	conjunction	14951 Sep 27 18:20	20° <u>♁</u> 42'43	-15°39'57
direct	14943 Jun 12 01:05	10° <u>♁</u> 40'34		minimum elong	14951 Sep 27 18:29	20° <u>♁</u> 42'43	15°39'41
				max. Earth dist.	14951 Sep 29 08:24	20° <u>♁</u> 45'01	48.16317 AU
conjunction	14943 Sep 19 08:42	12° <u>♁</u> 14'12	-15°30'03	retrograde	14952 Jan 07 00:50	22° <u>♁</u> 15'58	
minimum elong	14943 Sep 19 08:46	12° <u>♁</u> 14'12	15°29'56	min. Earth dist.	14952 Mar 29 01:55	21° <u>♁</u> 16'35	46.29867 AU
max. Earth dist.	14943 Sep 21 02:41	12° <u>♁</u> 16'47	47.11056 AU	opposition	14952 Mar 30 13:57	21° <u>♁</u> 14'52	-16°20'00
retrograde	14943 Dec 29 18:33	13° <u>♁</u> 49'43		direct	14952 Jun 21 04:36	20° <u>♁</u> 14'08	
min. Earth dist.	14944 Mar 20 06:09	12° <u>♁</u> 49'38	45.25774 AU				

conjunction	14952 Sep 28 01:04	21° <u>♂</u> 44'59 -15°39'50	minimum elong	14960 Oct 06 03:09	29° <u>♂</u> 52'21 15°28'58
minimum elong	14952 Sep 28 01:11	21° <u>♂</u> 44'59 15°39'33	max. Earth dist.	14960 Oct 07 08:56	29° <u>♂</u> 54'07 49.03815 AU
max. Earth dist.	14952 Sep 29 13:14	21° <u>♂</u> 47'09 48.27818 AU		14960 Oct 11 12:47	0° <u>♂</u>
retrograde	14953 Jan 07 09:46	23° <u>♂</u> 17'59	retrograde	14961 Jan 15 09:52	1° <u>♂</u> 23'35
min. Earth dist.	14953 Mar 30 09:19	22° <u>♂</u> 18'43 46.41107 AU	min. Earth dist.	14961 Apr 07 21:41	0° <u>♂</u> 24'42 47.15402 AU
opposition	14953 Mar 31 21:15	22° <u>♂</u> 17'00 -16°19'39	opposition	14961 Apr 09 03:17	0° <u>♂</u> 23'19 -16°07'00
direct	14953 Jun 22 10:23	21° <u>♂</u> 16'23		14961 Apr 30 06:40	30° <u>♂</u> <u>♂</u>
			direct	14961 Jun 30 15:11	29° <u>♂</u> 23'29
conjunction	14953 Sep 29 07:50	22° <u>♂</u> 46'58 -15°39'27		14961 Aug 28 20:52	0° <u>♂</u>
minimum elong	14953 Sep 29 07:59	22° <u>♂</u> 46'59 15°39'10	conjunction	14961 Oct 07 08:52	0° <u>♂</u> 52'15 -15°26'51
max. Earth dist.	14953 Sep 30 19:17	22° <u>♂</u> 49'06 48.38791 AU	minimum elong	14961 Oct 07 09:02	0° <u>♂</u> 52'16 15°26'26
retrograde	14954 Jan 08 18:10	24° <u>♂</u> 19'44	max. Earth dist.	14961 Oct 08 15:08	0° <u>♂</u> 54'02 49.11793 AU
min. Earth dist.	14954 Mar 31 18:39	23° <u>♂</u> 20'27 46.51815 AU	retrograde	14962 Jan 16 14:34	2° <u>♂</u> 23'20
opposition	14954 Apr 02 04:36	23° <u>♂</u> 18'50 -16°19'02	min. Earth dist.	14962 Apr 09 05:08	1° <u>♂</u> 24'30 47.23153 AU
direct	14954 Jun 23 15:29	22° <u>♂</u> 18'20	opposition	14962 Apr 10 09:34	1° <u>♂</u> 23'10 -16°04'10
			direct	14962 Jul 02 00:02	0° <u>♂</u> 23'28
conjunction	14954 Sep 30 14:25	23° <u>♂</u> 48'39 -15°38'49			
minimum elong	14954 Sep 30 14:34	23° <u>♂</u> 48'39 15°38'31	conjunction	14962 Oct 08 14:30	1° <u>♂</u> 52'02 -15°24'03
max. Earth dist.	14954 Oct 02 01:05	23° <u>♂</u> 50'43 48.49253 AU	minimum elong	14962 Oct 08 14:42	1° <u>♂</u> 52'03 15°23'36
retrograde	14955 Jan 09 22:13	25° <u>♂</u> 21'09	max. Earth dist.	14962 Oct 09 19:09	1° <u>♂</u> 53'43 49.19404 AU
min. Earth dist.	14955 Apr 02 02:01	24° <u>♂</u> 21'57 46.62005 AU	retrograde	14963 Jan 17 23:01	3° <u>♂</u> 22'59
opposition	14955 Apr 03 11:38	24° <u>♂</u> 20'21 -16°18'09	min. Earth dist.	14963 Apr 10 11:21	2° <u>♂</u> 24'14 47.30507 AU
direct	14955 Jun 24 23:36	23° <u>♂</u> 19'55	opposition	14963 Apr 11 15:42	2° <u>♂</u> 22'54 -16°01'03
			direct	14963 Jul 03 05:58	1° <u>♂</u> 23'18
conjunction	14955 Oct 01 20:49	24° <u>♂</u> 49'59 -15°37'56			
minimum elong	14955 Oct 01 20:58	24° <u>♂</u> 49'59 15°37'37	conjunction	14963 Oct 09 20:18	2° <u>♂</u> 51'43 -15°21'00
max. Earth dist.	14955 Oct 03 05:45	24° <u>♂</u> 51'57 48.59222 AU	minimum elong	14963 Oct 09 20:28	2° <u>♂</u> 51'44 15°20'34
retrograde	14956 Jan 11 03:23	26° <u>♂</u> 22'14	max. Earth dist.	14963 Oct 11 00:22	2° <u>♂</u> 53'22 49.26572 AU
min. Earth dist.	14956 Apr 02 09:53	25° <u>♂</u> 23'03 46.71750 AU	retrograde	14964 Jan 19 08:19	4° <u>♂</u> 22'30
opposition	14956 Apr 03 18:28	25° <u>♂</u> 21'30 -16°17'00	opposition	14964 Apr 11 21:48	3° <u>♂</u> 22'32 -15°57'43
direct	14956 Jun 25 07:56	24° <u>♂</u> 21'10	min. Earth dist.	14964 Apr 10 19:33	3° <u>♂</u> 23'45 47.37393 AU
			direct	14964 Jul 03 09:36	2° <u>♂</u> 23'01
conjunction	14956 Oct 02 03:11	25° <u>♂</u> 50'58 -15°36'47			
minimum elong	14956 Oct 02 03:20	25° <u>♂</u> 50'59 15°36'26	conjunction	14964 Oct 10 02:05	3° <u>♂</u> 51'16 -15°17'44
max. Earth dist.	14956 Oct 03 12:29	25° <u>♂</u> 52'58 48.68782 AU	minimum elong	14964 Oct 10 02:17	3° <u>♂</u> 51'17 15°17'16
retrograde	14957 Jan 11 09:19	27° <u>♂</u> 23'00	max. Earth dist.	14964 Oct 11 05:13	3° <u>♂</u> 52'52 49.33261 AU
min. Earth dist.	14957 Apr 03 17:53	26° <u>♂</u> 23'50 46.81106 AU	retrograde	14965 Jan 19 13:14	5° <u>♂</u> 21'53
opposition	14957 Apr 05 01:19	26° <u>♂</u> 22'21 -16°15'35	min. Earth dist.	14965 Apr 12 01:50	4° <u>♂</u> 23'13 47.43757 AU
direct	14957 Jun 26 17:20	25° <u>♂</u> 22'06	opposition	14965 Apr 13 03:52	4° <u>♂</u> 22'00 -15°54'09
			direct	14965 Jul 04 13:57	3° <u>♂</u> 22'34
conjunction	14957 Oct 03 09:10	26° <u>♂</u> 51'39 -15°35'21			
minimum elong	14957 Oct 03 09:20	26° <u>♂</u> 51'40 15°35'00	conjunction	14965 Oct 11 07:37	4° <u>♂</u> 50'38 -15°14'15
max. Earth dist.	14957 Oct 04 17:03	26° <u>♂</u> 53'33 48.77998 AU	minimum elong	14965 Oct 11 07:47	4° <u>♂</u> 50'39 15°13'46
retrograde	14958 Jan 12 18:02	28° <u>♂</u> 23'28	max. Earth dist.	14965 Oct 12 08:49	4° <u>♂</u> 52'07 49.39408 AU
min. Earth dist.	14958 Apr 05 00:09	27° <u>♂</u> 24'24 46.90140 AU	retrograde	14966 Jan 20 17:11	6° <u>♂</u> 21'06
opposition	14958 Apr 06 07:59	27° <u>♂</u> 22'54 -16°13'52	min. Earth dist.	14966 Apr 13 09:30	5° <u>♂</u> 22'24 47.49584 AU
direct	14958 Jun 27 22:42	26° <u>♂</u> 22'45	opposition	14966 Apr 14 10:01	5° <u>♂</u> 21'15 -15°50'21
			direct	14966 Jul 05 20:48	4° <u>♂</u> 21'52
conjunction	14958 Oct 04 15:15	27° <u>♂</u> 52'05 -15°33'38			
minimum elong	14958 Oct 04 15:25	27° <u>♂</u> 52'06 15°33'16	conjunction	14966 Oct 12 13:20	5° <u>♂</u> 49'46 -15°10'33
max. Earth dist.	14958 Oct 05 22:54	27° <u>♂</u> 53'57 48.86898 AU	minimum elong	14966 Oct 12 13:33	5° <u>♂</u> 49'47 15°10'03
retrograde	14959 Jan 14 00:46	29° <u>♂</u> 23'42	max. Earth dist.	14966 Oct 13 14:30	5° <u>♂</u> 51'14 49.45022 AU
min. Earth dist.	14959 Apr 06 08:17	28° <u>♂</u> 24'39 46.98871 AU	retrograde	14967 Jan 21 19:47	7° <u>♂</u> 20'03
opposition	14959 Apr 07 14:31	28° <u>♂</u> 23'13 -16°11'52	opposition	14967 Apr 15 15:49	6° <u>♂</u> 20'14 -15°46'20
direct	14959 Jun 29 03:24	27° <u>♂</u> 23'10	min. Earth dist.	14967 Apr 14 16:40	6° <u>♂</u> 21'19 47.54874 AU
			direct	14967 Jul 07 06:21	5° <u>♂</u> 20'54
conjunction	14959 Oct 05 21:16	28° <u>♂</u> 52'18 -15°31'39			
minimum elong	14959 Oct 05 21:26	28° <u>♂</u> 52'19 15°31'16	conjunction	14967 Oct 13 18:46	6° <u>♂</u> 48'36 -15°06'37
max. Earth dist.	14959 Oct 07 04:37	28° <u>♂</u> 54'09 48.95514 AU	minimum elong	14967 Oct 13 18:57	6° <u>♂</u> 48'37 15°06'07
	14959 Nov 28 12:54	0° <u>♂</u>	max. Earth dist.	14967 Oct 14 17:57	6° <u>♂</u> 49'57 49.50142 AU
retrograde	14960 Jan 15 04:36	0° <u>♂</u> 23'43	retrograde	14968 Jan 23 02:46	8° <u>♂</u> 18'43
	14960 Mar 04 02:25	30° <u>♂</u> <u>♂</u>	opposition	14968 Apr 15 21:33	7° <u>♂</u> 18'55 -15°42'06
opposition	14960 Apr 07 20:53	29° <u>♂</u> 23'20 -16°09'34	min. Earth dist.	14968 Apr 14 22:31	7° <u>♂</u> 20'00 47.59706 AU
min. Earth dist.	14960 Apr 06 14:32	29° <u>♂</u> 24'46 47.07292 AU	direct	14968 Jul 07 12:24	6° <u>♂</u> 19'37
direct	14960 Jun 29 08:50	28° <u>♂</u> 23'24			
			conjunction	14968 Oct 14 00:02	7° <u>♂</u> 47'08 -15°02'28

minimum elong	14968 Oct 14 00:14	7°M47'09	15°01'57	direct	14975 Jul 14 22:28	13°M05'04	
max. Earth dist.	14968 Oct 14 22:54	7°M48'28	49.54823 AU	evening set	14975 Oct 17 05:36	14°M25'54	
retrograde	14969 Jan 23 09:29	9°M17'05					
min. Earth dist.	14969 Apr 16 06:05	8°M18'19	47.64139 AU	conjunction	14975 Oct 21 11:42	14°M31'47	-14°26'28
opposition	14969 Apr 17 03:21	8°M17'19	-15°37'36	minimum elong	14975 Oct 21 11:56	14°M31'48	14°25'51
direct	14969 Jul 08 18:05	7°M18'03		max. Earth dist.	14975 Oct 22 05:12	14°M32'48	49.78654 AU
evening set	14969 Oct 14 01:41	8°M43'47		morning rise	14975 Oct 25 18:27	14°M37'42	
					14975 Nov 11 05:15	15°M	
conjunction	14969 Oct 15 05:19	8°M45'23	-14°58'04	retrograde	14976 Jan 30 22:37	16°M01'01	
minimum elong	14969 Oct 15 05:31	8°M45'24	14°57'31	opposition	14976 Apr 23 17:15	15°M01'38	-14°59'06
morning rise	14969 Oct 16 09:23	8°M47'01		min. Earth dist.	14976 Apr 23 00:37	15°M02'24	47.86214 AU
max. Earth dist.	14969 Oct 16 03:47	8°M46'41	49.59159 AU		14976 Apr 25 04:20	15°RM	
retrograde	14970 Jan 24 14:11	10°M15'10		direct	14976 Jul 15 03:21	14°M02'47	
min. Earth dist.	14970 Apr 17 11:20	9°M16'26	47.68240 AU		14976 Sep 29 23:41	15°M	
opposition	14970 Apr 18 08:52	9°M15'26	-15°32'52	evening set	14976 Oct 17 02:04	15°M23'03	
direct	14970 Jul 09 21:58	8°M16'12					
evening set	14970 Oct 14 11:29	9°M40'41		conjunction	14976 Oct 21 16:47	15°M29'26	-14°20'24
				minimum elong	14976 Oct 21 16:59	15°M29'27	14°19'46
conjunction	14970 Oct 16 10:24	9°M43'24	-14°53'25	max. Earth dist.	14976 Oct 22 10:12	15°M30'26	49.80565 AU
minimum elong	14970 Oct 16 10:36	9°M43'25	14°52'52	morning rise	14976 Oct 26 08:03	15°M35'50	
max. Earth dist.	14970 Oct 17 07:28	9°M44'37	49.63178 AU	retrograde	14977 Jan 31 00:48	16°M58'37	
morning rise	14970 Oct 18 09:47	9°M46'09		opposition	14977 Apr 24 22:35	15°M59'17	-14°52'40
retrograde	14971 Jan 25 18:46	11°M13'02		min. Earth dist.	14977 Apr 24 07:06	16°M00'00	47.87771 AU
opposition	14971 Apr 19 14:27	10°M13'20	-15°27'52	direct	14977 Jul 16 11:37	15°M00'29	
min. Earth dist.	14971 Apr 18 17:54	10°M14'18	47.72045 AU	evening set	14977 Oct 17 23:04	16°M20'14	
direct	14971 Jul 11 02:09	9°M14'09					
evening set	14971 Oct 15 02:36	10°M37'41		conjunction	14977 Oct 22 21:50	16°M27'04	-14°14'08
				minimum elong	14977 Oct 22 22:04	16°M27'05	14°13'29
conjunction	14971 Oct 17 15:37	10°M41'13	-14°48'31	max. Earth dist.	14977 Oct 23 13:08	16°M27'57	49.81961 AU
minimum elong	14971 Oct 17 15:49	10°M41'14	14°47'56	morning rise	14977 Oct 27 21:17	16°M33'57	
max. Earth dist.	14971 Oct 18 13:03	10°M42'28	49.66907 AU	retrograde	14978 Feb 01 07:43	17°M56'12	
morning rise	14971 Oct 20 05:05	10°M44'47		opposition	14978 Apr 26 03:49	16°M56'54	-14°46'02
retrograde	14972 Jan 26 21:46	12°M10'45		min. Earth dist.	14978 Apr 25 12:48	16°M57'36	47.88805 AU
opposition	14972 Apr 19 19:49	11°M11'05	-15°22'36	direct	14978 Jul 17 17:09	15°M58'08	
min. Earth dist.	14972 Apr 19 00:00	11°M12'01	47.75546 AU	evening set	14978 Oct 18 20:16	17°M17'23	
direct	14972 Jul 11 09:58	10°M11'58					
evening set	14972 Oct 14 19:53	11°M34'42		conjunction	14978 Oct 24 02:56	17°M24'39	-14°07'40
				minimum elong	14978 Oct 24 03:08	17°M24'40	14°07'00
conjunction	14972 Oct 17 20:38	11°M38'55	-14°43'22	max. Earth dist.	14978 Oct 24 17:26	17°M25'29	49.82816 AU
minimum elong	14972 Oct 17 20:50	11°M38'55	14°42'47	morning rise	14978 Oct 29 10:16	17°M31'58	
max. Earth dist.	14972 Oct 18 16:37	11°M40'04	49.70351 AU	retrograde	14979 Feb 02 15:02	18°M53'43	
morning rise	14972 Oct 20 21:53	11°M43'09		opposition	14979 Apr 27 09:06	17°M54'27	-14°39'11
retrograde	14973 Jan 27 04:14	13°M08'21		min. Earth dist.	14979 Apr 26 20:13	17°M55'02	47.89304 AU
min. Earth dist.	14973 Apr 20 05:22	12°M09'41	47.78759 AU	direct	14979 Jul 18 22:30	16°M55'42	
opposition	14973 Apr 21 01:14	12°M08'45	-15°17'05	evening set	14979 Oct 19 17:50	18°M14'26	
direct	14973 Jul 12 15:45	11°M09'41					
evening set	14973 Oct 15 14:12	12°M31'44		conjunction	14979 Oct 25 07:57	18°M22'08	-14°00'59
				minimum elong	14979 Oct 25 08:10	18°M22'09	14°00'19
conjunction	14973 Oct 19 01:35	12°M36'32	-14°37'58	max. Earth dist.	14979 Oct 25 21:40	18°M22'55	49.83176 AU
minimum elong	14973 Oct 19 01:48	12°M36'33	14°37'22	morning rise	14979 Oct 30 22:44	18°M29'53	
max. Earth dist.	14973 Oct 19 21:23	12°M37'41	49.73482 AU	retrograde	14980 Feb 03 19:56	19°M51'07	
morning rise	14973 Oct 22 13:31	12°M41'23		opposition	14980 Apr 27 14:04	18°M51'51	-14°32'08
retrograde	14974 Jan 28 12:07	14°M05'54		min. Earth dist.	14980 Apr 27 01:14	18°M52'27	47.89326 AU
opposition	14974 Apr 22 06:45	13°M06'22	-15°11'20	direct	14980 Jul 19 01:25	17°M53'07	
min. Earth dist.	14974 Apr 21 12:30	13°M07'13	47.81640 AU	evening set	14980 Oct 19 15:23	19°M11'22	
direct	14974 Jul 13 19:58	12°M07'23					
evening set	14974 Oct 16 09:39	13°M28'47		conjunction	14980 Oct 25 12:47	19°M19'29	-13°54'06
				minimum elong	14980 Oct 25 12:59	19°M19'30	13°53'25
conjunction	14974 Oct 20 06:41	13°M34'09	-14°32'20	max. Earth dist.	14980 Oct 26 00:47	19°M20'10	49.83090 AU
minimum elong	14974 Oct 20 06:53	13°M34'10	14°31'44	morning rise	14980 Oct 31 10:58	19°M27'38	
max. Earth dist.	14974 Oct 21 01:52	13°M35'16	49.76275 AU	retrograde	14981 Feb 04 00:17	20°M48'23	
morning rise	14974 Oct 24 04:15	13°M39'33		opposition	14981 Apr 28 19:16	19°M49'08	-14°24'51
	14975 Jan 11 14:25	15°M		min. Earth dist.	14981 Apr 28 07:45	19°M49'40	47.88954 AU
retrograde	14975 Jan 29 17:43	15°M03'26		direct	14981 Jul 20 04:08	18°M50'24	
	14975 Feb 16 21:42	15°RM		evening set	14981 Oct 20 13:05	20°M08'11	
opposition	14975 Apr 23 11:52	14°M03'59	-15°05'20				
min. Earth dist.	14975 Apr 22 17:39	14°M04'50	47.84144 AU	conjunction	14981 Oct 26 17:37	20°M16'42	-13°47'00

minimum elong	14981 Oct 26 17:51	20° \mathbb{M} .16'43	13°46'19	evening set	14988 Oct 25 01:23	26° \mathbb{M} .45'00	
max. Earth dist.	14981 Oct 27 06:00	20° \mathbb{M} .17'25	49.82636 AU				
morning rise	14981 Nov 01 22:52	20° \mathbb{M} .25'15		conjunction	14988 Nov 02 03:31	26° \mathbb{M} .56'05	-12°50'52
retrograde	14982 Feb 05 02:26	21° \mathbb{M} .45'33		minimum elong	14988 Nov 02 03:44	26° \mathbb{M} .56'06	12°50'06
opposition	14982 Apr 30 00:21	20° \mathbb{M} .46'17	-14°17'21	max. Earth dist.	14988 Nov 02 09:43	26° \mathbb{M} .56'27	49.70264 AU
min. Earth dist.	14982 Apr 29 13:32	20° \mathbb{M} .46'47	47.88222 AU	morning rise	14988 Nov 10 06:38	27° \mathbb{M} .07'14	
direct	14982 Jul 21 11:24	19° \mathbb{M} .47'34		retrograde	14989 Feb 11 16:43	28° \mathbb{M} .24'53	
evening set	14982 Oct 21 11:03	21° \mathbb{M} .04'54		opposition	14989 May 06 11:22	27° \mathbb{M} .25'43	-13°18'13
				min. Earth dist.	14989 May 06 06:42	27° \mathbb{M} .25'56	47.73745 AU
conjunction	14982 Oct 27 22:26	21° \mathbb{M} .13'48	-13°39'40	direct	14989 Jul 27 22:47	26° \mathbb{M} .27'05	
minimum elong	14982 Oct 27 22:38	21° \mathbb{M} .13'49	13°38'57	evening set	14989 Oct 26 00:24	27° \mathbb{M} .41'51	
max. Earth dist.	14982 Oct 28 09:16	21° \mathbb{M} .14'26	49.81858 AU				
morning rise	14982 Nov 03 10:37	21° \mathbb{M} .22'45		conjunction	14989 Nov 03 08:30	27° \mathbb{M} .53'16	-12°42'01
retrograde	14983 Feb 06 07:19	22° \mathbb{M} .42'37		minimum elong	14989 Nov 03 08:43	27° \mathbb{M} .53'17	12°41'14
opposition	14983 May 01 05:12	21° \mathbb{M} .43'22	-14°09'36	max. Earth dist.	14989 Nov 03 13:42	27° \mathbb{M} .53'34	49.66806 AU
min. Earth dist.	14983 Apr 30 18:30	21° \mathbb{M} .43'51	47.87186 AU	morning rise	14989 Nov 11 17:33	28° \mathbb{M} .04'46	
direct	14983 Jul 22 17:49	20° \mathbb{M} .44'38		retrograde	14990 Feb 12 22:31	29° \mathbb{M} .22'05	
evening set	14983 Oct 22 09:03	22° \mathbb{M} .01'34		opposition	14990 May 07 16:24	28° \mathbb{M} .22'54	-13°08'56
				min. Earth dist.	14990 May 07 11:58	28° \mathbb{M} .23'06	47.69880 AU
conjunction	14983 Oct 29 03:17	22° \mathbb{M} .10'50	-13°32'06	direct	14990 Jul 29 02:25	27° \mathbb{M} .24'15	
minimum elong	14983 Oct 29 03:30	22° \mathbb{M} .10'51	13°31'23	evening set	14990 Oct 26 23:35	28° \mathbb{M} .38'41	
max. Earth dist.	14983 Oct 29 13:47	22° \mathbb{M} .11'26	49.80769 AU				
morning rise	14983 Nov 04 22:20	22° \mathbb{M} .20'11		conjunction	14990 Nov 04 13:33	28° \mathbb{M} .50'27	-12°32'58
retrograde	14984 Feb 07 14:40	23° \mathbb{M} .39'38		minimum elong	14990 Nov 04 13:47	28° \mathbb{M} .50'28	12°32'11
opposition	14984 May 01 10:17	22° \mathbb{M} .40'23	-14°01'36	max. Earth dist.	14990 Nov 04 16:36	28° \mathbb{M} .50'38	49.62783 AU
min. Earth dist.	14984 May 01 01:06	22° \mathbb{M} .40'48	47.85842 AU	morning rise	14990 Nov 13 04:40	29° \mathbb{M} .02'17	
direct	14984 Jul 22 23:29	21° \mathbb{M} .41'41			14991 Jan 01 15:25	0° \mathbb{A}	
evening set	14984 Oct 22 07:11	22° \mathbb{M} .58'11		retrograde	14991 Feb 14 04:26	0° \mathbb{A} 19'16	
					14991 Mar 30 10:36	30° \mathbb{R} \mathbb{M} .	
conjunction	14984 Oct 29 07:59	23° \mathbb{M} .07'50	-13°24'17	opposition	14991 May 08 21:25	29° \mathbb{M} .20'04	-12°59'26
minimum elong	14984 Oct 29 08:12	23° \mathbb{M} .07'51	13°23'33	min. Earth dist.	14991 May 08 18:52	29° \mathbb{M} .20'11	47.65470 AU
max. Earth dist.	14984 Oct 29 18:06	23° \mathbb{M} .08'25	49.79392 AU	direct	14991 Jul 30 05:02	28° \mathbb{M} .21'23	
morning rise	14984 Nov 05 09:36	23° \mathbb{M} .17'33		evening set	14991 Oct 27 22:48	29° \mathbb{M} .35'30	
retrograde	14985 Feb 07 21:48	24° \mathbb{M} .36'36					
opposition	14985 May 02 15:15	23° \mathbb{M} .37'22	-13°53'23	conjunction	14991 Nov 05 18:40	29° \mathbb{M} .47'36	-12°23'44
min. Earth dist.	14985 May 02 05:41	23° \mathbb{M} .37'49	47.84192 AU	minimum elong	14991 Nov 05 18:52	29° \mathbb{M} .47'37	12°22'56
direct	14985 Jul 24 01:28	22° \mathbb{M} .38'41		max. Earth dist.	14991 Nov 05 21:36	29° \mathbb{M} .47'46	49.58237 AU
evening set	14985 Oct 23 05:25	23° \mathbb{M} .54'49		morning rise	14991 Nov 14 15:28	29° \mathbb{M} .59'45	
					14991 Nov 14 19:43	0° \mathbb{A}	
conjunction	14985 Oct 30 12:44	24° \mathbb{M} .04'50	-13°16'16	retrograde	14992 Feb 15 06:53	1° \mathbb{A} 16'26	
minimum elong	14985 Oct 30 12:57	24° \mathbb{M} .04'51	13°15'32	opposition	14992 May 09 02:26	0° \mathbb{A} 17'11	-12°49'45
max. Earth dist.	14985 Oct 30 21:23	24° \mathbb{M} .05'20	49.77696 AU	min. Earth dist.	14992 May 09 00:47	0° \mathbb{A} 17'16	47.60552 AU
morning rise	14985 Nov 06 20:59	24° \mathbb{M} .14'55			14992 May 24 18:01	30° \mathbb{R} \mathbb{M} .	
retrograde	14986 Feb 09 03:18	25° \mathbb{M} .33'35		direct	14992 Jul 30 11:36	29° \mathbb{M} .18'28	
opposition	14986 May 03 20:16	24° \mathbb{M} .34'23	-13°44'55		14992 Oct 02 19:19	0° \mathbb{A}	
min. Earth dist.	14986 May 03 12:11	24° \mathbb{M} .34'45	47.82220 AU	evening set	14992 Oct 27 22:02	0° \mathbb{A} 32'17	
direct	14986 Jul 25 04:30	23° \mathbb{M} .35'43					
evening set	14986 Oct 24 03:52	24° \mathbb{M} .51'29		conjunction	14992 Nov 05 23:26	0° \mathbb{A} 44'42	-12°14'17
				minimum elong	14992 Nov 05 23:39	0° \mathbb{A} 44'43	12°13'29
conjunction	14986 Oct 31 17:39	25° \mathbb{M} .01'52	-13°08'00	max. Earth dist.	14992 Nov 06 00:38	0° \mathbb{A} 44'46	49.53228 AU
minimum elong	14986 Oct 31 17:53	25° \mathbb{M} .01'53	13°07'15	morning rise	14992 Nov 15 01:59	0° \mathbb{A} 57'11	
max. Earth dist.	14986 Nov 01 02:30	25° \mathbb{M} .02'22	49.75654 AU	retrograde	14993 Feb 15 11:38	2° \mathbb{A} 13'34	
morning rise	14986 Nov 08 08:16	25° \mathbb{M} .12'18		opposition	14993 May 10 07:27	1° \mathbb{A} 14'16	-12°39'50
retrograde	14987 Feb 10 04:37	26° \mathbb{M} .30'37		min. Earth dist.	14993 May 10 06:14	1° \mathbb{A} 14'20	47.55215 AU
opposition	14987 May 05 01:15	25° \mathbb{M} .31'25	-13°36'13	direct	14993 Jul 31 17:13	0° \mathbb{A} 15'31	
min. Earth dist.	14987 May 04 17:56	25° \mathbb{M} .31'46	47.79857 AU	evening set	14993 Oct 28 21:21	1° \mathbb{A} 29'03	
direct	14987 Jul 26 11:19	24° \mathbb{M} .32'47					
evening set	14987 Oct 25 02:34	25° \mathbb{M} .48'12		conjunction	14993 Nov 07 04:25	1° \mathbb{A} 41'46	-12°04'38
				minimum elong	14993 Nov 07 04:38	1° \mathbb{A} 41'47	12°03'48
conjunction	14987 Nov 01 22:29	25° \mathbb{M} .58'57	-12°59'32	max. Earth dist.	14993 Nov 07 05:06	1° \mathbb{A} 41'49	49.47815 AU
minimum elong	14987 Nov 01 22:41	25° \mathbb{M} .58'58	12°58'47	morning rise	14993 Nov 16 12:38	1° \mathbb{A} 54'35	
max. Earth dist.	14987 Nov 02 05:24	25° \mathbb{M} .59'21	49.73201 AU	retrograde	14994 Feb 16 17:57	3° \mathbb{A} 10'41	
morning rise	14987 Nov 09 19:23	26° \mathbb{M} .09'45		opposition	14994 May 11 12:26	2° \mathbb{A} 11'21	-12°29'43
retrograde	14988 Feb 11 09:42	27° \mathbb{M} .27'43		min. Earth dist.	14994 May 11 12:48	2° \mathbb{A} 11'20	47.49505 AU
opposition	14988 May 05 06:10	26° \mathbb{M} .28'32	-13°27'19	direct	14994 Aug 01 23:26	1° \mathbb{A} 12'34	
min. Earth dist.	14988 May 04 23:26	26° \mathbb{M} .28'51	47.77057 AU	evening set	14994 Oct 29 20:50	2° \mathbb{A} 25'49	
direct	14988 Jul 26 17:01	25° \mathbb{M} .29'55					

conjunction	14994 Nov 08 09:24	2°♂38'52	-11°54'45	direct	15001 Aug 09 03:58	7°♂55'06	
minimum elong	14994 Nov 08 09:36	2°♂38'53	11°53'56	evening set	15001 Nov 04 20:39	9°♂06'56	
max. Earth dist.	14994 Nov 08 09:38	2°♂38'53	49.42069 AU				
morning rise	14994 Nov 17 23:02	2°♂52'00		conjunction	15001 Nov 15 21:27	9°♂22'08	-10°39'26
retrograde	14995 Feb 18 01:14	4°♂07'49		minimum elong	15001 Nov 15 21:39	9°♂22'09	10°38'33
opposition	14995 May 12 17:19	3°♂08'28	-12°19'21	max. Earth dist.	15001 Nov 15 15:42	9°♂21'48	48.92450 AU
min. Earth dist.	14995 May 12 17:25	3°♂08'27	47.43466 AU	morning rise	15001 Nov 26 23:29	9°♂37'25	
direct	14995 Aug 03 01:46	2°♂09'38		retrograde	15002 Feb 25 15:19	10°♂51'49	
evening set	14995 Oct 30 20:23	3°♂22'38		opposition	15002 May 20 05:21	9°♂52'17	-11°00'25
				min. Earth dist.	15002 May 20 12:06	9°♂51'58	46.91566 AU
conjunction	14995 Nov 09 14:18	3°♂36'01	-11°44'40	direct	15002 Aug 10 09:25	8°♂53'14	
minimum elong	14995 Nov 09 14:30	3°♂36'02	11°43'48	evening set	15002 Nov 05 21:24	10°♂04'54	
max. Earth dist.	14995 Nov 09 13:00	3°♂35'56	49.35999 AU				
morning rise	14995 Nov 19 09:31	3°♂49'28		conjunction	15002 Nov 17 02:54	10°♂20'24	-10°27'51
retrograde	14996 Feb 19 07:42	5°♂05'02		minimum elong	15002 Nov 17 03:05	10°♂20'24	10°26'57
opposition	14996 May 12 22:21	4°♂05'39	-12°08'45	max. Earth dist.	15002 Nov 16 18:57	10°♂19'56	48.83587 AU
min. Earth dist.	14996 May 12 23:52	4°♂05'35	47.37127 AU	morning rise	15002 Nov 28 09:54	10°♂35'58	
direct	14996 Aug 03 03:58	3°♂06'48		retrograde	15003 Feb 26 20:06	11°♂50'11	
evening set	14996 Oct 30 20:01	4°♂19'35		opposition	15003 May 21 10:41	10°♂50'34	-10°48'17
				min. Earth dist.	15003 May 21 18:19	10°♂50'13	46.82309 AU
conjunction	14996 Nov 09 19:23	4°♂33'16	-11°34'20	direct	15003 Aug 11 14:58	9°♂51'27	
minimum elong	14996 Nov 09 19:35	4°♂33'16	11°33'30	evening set	15003 Nov 06 22:04	11°♂02'57	
max. Earth dist.	14996 Nov 09 18:24	4°♂33'12	49.29638 AU				
morning rise	14996 Nov 19 19:50	4°♂47'01		conjunction	15003 Nov 18 08:24	11°♂18'43	-10°16'03
retrograde	14997 Feb 19 09:24	6°♂02'22		minimum elong	15003 Nov 18 08:36	11°♂18'43	10°15'10
opposition	14997 May 14 03:25	5°♂02'58	-11°57'55	max. Earth dist.	15003 Nov 17 23:37	11°♂18'12	48.74202 AU
min. Earth dist.	14997 May 14 05:15	5°♂02'53	47.30485 AU	morning rise	15003 Nov 29 20:09	11°♂34'35	
direct	14997 Aug 04 10:44	4°♂04'05		retrograde	15004 Feb 28 00:51	12°♂48'38	
evening set	14997 Oct 31 19:48	5°♂16'40		opposition	15004 May 21 16:06	11°♂48'55	-10°35'57
				min. Earth dist.	15004 May 22 01:28	11°♂48'28	46.72559 AU
conjunction	14997 Nov 11 00:17	5°♂30'39	-11°23'47	direct	15004 Aug 11 23:30	10°♂49'41	
minimum elong	14997 Nov 11 00:30	5°♂30'40	11°22'55	evening set	15004 Nov 06 22:58	12°♂01'00	
max. Earth dist.	14997 Nov 10 21:46	5°♂30'30	49.22983 AU				
morning rise	14997 Nov 21 06:07	5°♂44'43		conjunction	15004 Nov 18 13:55	12°♂17'04	-10°04'04
retrograde	14998 Feb 20 14:01	6°♂59'51		minimum elong	15004 Nov 18 14:06	12°♂17'04	10°03'09
opposition	14998 May 15 08:30	6°♂00'26	-11°46'51	max. Earth dist.	15004 Nov 18 04:33	12°♂16'31	48.64382 AU
min. Earth dist.	14998 May 15 10:41	6°♂00'20	47.23539 AU	morning rise	15004 Nov 30 06:16	12°♂33'13	
direct	14998 Aug 05 16:54	5°♂01'33		retrograde	15005 Feb 28 08:32	13°♂47'05	
evening set	14998 Nov 01 19:43	6°♂13'56		opposition	15005 May 22 21:26	12°♂47'17	-10°23'23
				min. Earth dist.	15005 May 23 06:42	12°♂46'51	46.62405 AU
conjunction	14998 Nov 12 05:30	6°♂28'13	-11°13'01	direct	15005 Aug 13 04:03	11°♂47'57	
minimum elong	14998 Nov 12 05:41	6°♂28'14	11°12'09	evening set	15005 Nov 07 23:52	12°♂59'06	
max. Earth dist.	14998 Nov 12 02:31	6°♂28'03	49.15986 AU				
morning rise	14998 Nov 22 16:34	6°♂42'36		conjunction	15005 Nov 19 19:21	13°♂15'27	-9°51'51
retrograde	14999 Feb 21 21:16	7°♂57'33		minimum elong	15005 Nov 19 19:32	13°♂15'27	9°50'56
opposition	14999 May 16 13:34	6°♂58'07	-11°35'34	max. Earth dist.	15005 Nov 19 08:20	13°♂14'48	48.54171 AU
min. Earth dist.	14999 May 16 17:34	6°♂57'56	47.16228 AU	morning rise	15005 Dec 01 16:27	13°♂31'53	
direct	14999 Aug 06 22:50	5°♂59'13		retrograde	15006 Mar 01 16:50	14°♂45'36	
evening set	14999 Nov 02 19:55	7°♂11'24		opposition	15006 May 24 02:58	13°♂45'41	-10°10'36
				min. Earth dist.	15006 May 24 13:52	13°♂45'11	46.51900 AU
conjunction	14999 Nov 13 10:45	7°♂26'00	-11°02'01	direct	15006 Aug 14 06:13	12°♂46'16	
minimum elong	14999 Nov 13 10:58	7°♂26'00	11°01'09	evening set	15006 Nov 09 00:58	13°♂57'16	
max. Earth dist.	14999 Nov 13 07:05	7°♂25'47	49.08615 AU				
morning rise	14999 Nov 24 02:49	7°♂40'41		conjunction	15006 Nov 21 01:04	14°♂13'53	-9°39'25
retrograde	15000 Feb 23 04:11	8°♂55'27		minimum elong	15006 Nov 21 01:15	14°♂13'54	9°38'29
opposition	15000 May 17 18:42	7°♂56'00	-11°24'03	max. Earth dist.	15006 Nov 20 14:16	14°♂13'16	48.43633 AU
min. Earth dist.	15000 May 17 22:40	7°♂55'49	47.08504 AU	morning rise	15006 Dec 03 02:30	14°♂30'37	
direct	15000 Aug 08 02:14	6°♂57'04		retrograde	15007 Mar 02 20:19	15°♂44'10	
evening set	15000 Nov 03 20:08	8°♂09'04		opposition	15007 May 25 08:17	14°♂44'10	-9°57'34
				min. Earth dist.	15007 May 25 19:23	14°♂43'39	46.41080 AU
conjunction	15000 Nov 14 15:54	8°♂23'59	-10°50'50	direct	15007 Aug 15 12:33	13°♂44'39	
minimum elong	15000 Nov 14 16:05	8°♂23'59	10°49'57	evening set	15007 Nov 10 02:19	14°♂55'33	
max. Earth dist.	15000 Nov 14 10:18	8°♂23'39	49.00785 AU				
morning rise	15000 Nov 25 13:09	8°♂38'58		conjunction	15007 Nov 22 06:40	15°♂12'26	-9°26'45
retrograde	15001 Feb 24 12:01	9°♂53'33		minimum elong	15007 Nov 22 06:50	15°♂12'27	9°25'50
opposition	15001 May 19 00:05	8°♂54'04	-11°12'20	max. Earth dist.	15007 Nov 21 18:20	15°♂11'43	48.32808 AU
min. Earth dist.	15001 May 19 05:57	8°♂53'48	47.00303 AU	morning rise	15007 Dec 04 12:39	15°♂29'26	

retrograde	15008 Mar 03 00:43	16° ♂ 42'52		conjunction	15014 Nov 29 01:35	22° ♂ 09'48	-7°51'43
opposition	15008 May 25 13:50	15° ♂ 42'47	-9°44'18	minimum elong	15014 Nov 29 01:45	22° ♂ 09'49	7°50'45
min. Earth dist.	15008 May 26 01:22	15° ♂ 42'15	46.29993 AU	morning rise	15014 Dec 12 12:05	22° ♂ 28'43	
direct	15008 Aug 15 18:17	14° ♂ 43'10		retrograde	15015 Mar 11 01:10	23° ♂ 41'52	
evening set	15008 Nov 10 03:32	15° ♂ 53'59		opposition	15015 Jun 02 07:22	22° ♂ 41'16	-8°04'46
				min. Earth dist.	15015 Jun 03 01:07	22° ♂ 40'25	45.42800 AU
conjunction	15008 Nov 22 12:17	16° ♂ 11'09	-9°13'51	direct	15015 Aug 23 08:57	21° ♂ 41'04	
minimum elong	15008 Nov 22 12:28	16° ♂ 11'09	9°12'54	evening set	15015 Nov 16 19:44	22° ♂ 51'41	
max. Earth dist.	15008 Nov 21 23:44	16° ♂ 10'25	48.21706 AU	max. Earth dist.	15015 Nov 29 11:50	23° ♂ 09'32	47.33957 AU
morning rise	15008 Dec 04 22:35	16° ♂ 28'25					
retrograde	15009 Mar 04 06:34	17° ♂ 41'47		conjunction	15015 Nov 30 08:14	23° ♂ 10'44	-7°37'16
opposition	15009 May 26 19:35	16° ♂ 41'36	-9°30'47	minimum elong	15015 Nov 30 08:22	23° ♂ 10'45	7°36'18
min. Earth dist.	15009 May 27 08:23	16° ♂ 41'00	46.18631 AU	morning rise	15015 Dec 13 22:33	23° ♂ 29'55	
direct	15009 Aug 17 01:12	15° ♂ 41'55		retrograde	15016 Mar 11 11:55	24° ♂ 43'04	
evening set	15009 Nov 11 05:09	16° ♂ 52'38		opposition	15016 Jun 02 13:51	23° ♂ 42'20	-7°49'39
				min. Earth dist.	15016 Jun 03 09:36	23° ♂ 41'23	45.28506 AU
conjunction	15009 Nov 23 18:08	17° ♂ 10'05	-9°00'43	direct	15016 Aug 23 11:12	22° ♂ 42'00	
minimum elong	15009 Nov 23 18:19	17° ♂ 10'05	8°59'47	evening set	15016 Nov 16 22:40	23° ♂ 52'37	
max. Earth dist.	15009 Nov 23 05:09	17° ♂ 09'19	48.10347 AU				
morning rise	15009 Dec 06 08:39	17° ♂ 27'38		conjunction	15016 Nov 30 14:55	24° ♂ 11'56	-7°22'37
retrograde	15010 Mar 05 13:55	18° ♂ 40'55		minimum elong	15016 Nov 30 15:04	24° ♂ 11'56	7°21'40
opposition	15010 May 28 01:08	17° ♂ 40'41	-9°17'01	max. Earth dist.	15016 Nov 29 18:34	24° ♂ 10'44	47.19565 AU
min. Earth dist.	15010 May 28 13:38	17° ♂ 40'05	46.06996 AU	morning rise	15016 Dec 14 08:42	24° ♂ 31'22	
direct	15010 Aug 18 05:51	16° ♂ 40'55		retrograde	15017 Mar 12 17:49	25° ♂ 44'30	
evening set	15010 Nov 12 07:00	17° ♂ 51'35		opposition	15017 Jun 03 20:19	24° ♂ 43'38	-7°34'18
max. Earth dist.	15010 Nov 24 09:29	18° ♂ 08'27	47.98684 AU	min. Earth dist.	15017 Jun 04 16:17	24° ♂ 42'41	45.13787 AU
				direct	15017 Aug 24 17:57	23° ♂ 43'10	
conjunction	15010 Nov 25 00:05	18° ♂ 09'18	-8°47'21	evening set	15017 Nov 18 02:06	24° ♂ 53'48	
minimum elong	15010 Nov 25 00:16	18° ♂ 09'19	8°46'24				
morning rise	15010 Dec 07 18:56	18° ♂ 27'08		conjunction	15017 Dec 01 21:42	25° ♂ 13'22	-7°07'44
retrograde	15011 Mar 06 22:54	19° ♂ 40'22		minimum elong	15017 Dec 01 21:50	25° ♂ 13'23	7°06'46
opposition	15011 May 29 07:01	18° ♂ 40'05	-9°03'01	max. Earth dist.	15017 Nov 30 23:36	25° ♂ 12'03	47.04783 AU
min. Earth dist.	15011 May 29 21:12	18° ♂ 39'24	45.95042 AU	morning rise	15017 Dec 15 19:09	25° ♂ 33'04	
direct	15011 Aug 19 08:38	17° ♂ 40'15		retrograde	15018 Mar 13 23:28	26° ♂ 46'12	
evening set	15011 Nov 13 08:56	18° ♂ 50'54		opposition	15018 Jun 05 02:47	25° ♂ 45'12	-7°18'43
				min. Earth dist.	15018 Jun 05 23:40	25° ♂ 44'11	44.98719 AU
conjunction	15011 Nov 26 06:12	19° ♂ 08'53	-8°33'45	direct	15018 Aug 26 00:18	24° ♂ 44'34	
minimum elong	15011 Nov 26 06:22	19° ♂ 08'54	8°32'49	evening set	15018 Nov 19 05:36	25° ♂ 55'14	
max. Earth dist.	15011 Nov 25 15:47	19° ♂ 08'03	47.86671 AU	max. Earth dist.	15018 Dec 02 06:13	26° ♂ 13'43	46.89655 AU
morning rise	15011 Dec 09 04:57	19° ♂ 27'00					
retrograde	15012 Mar 07 04:18	20° ♂ 40'11		conjunction	15018 Dec 03 04:43	26° ♂ 15'04	-6°52'38
opposition	15012 May 29 12:53	19° ♂ 39'50	-8°48'48	minimum elong	15018 Dec 03 04:52	26° ♂ 15'04	6°51'40
min. Earth dist.	15012 May 30 03:36	19° ♂ 39'08	45.82697 AU	morning rise	15018 Dec 17 05:31	26° ♂ 35'00	
direct	15012 Aug 19 13:44	18° ♂ 39'56		retrograde	15019 Mar 15 04:33	27° ♂ 48'11	
evening set	15012 Nov 13 11:21	19° ♂ 50'35		opposition	15019 Jun 06 09:30	26° ♂ 47'02	-7°02'53
				min. Earth dist.	15019 Jun 07 07:37	26° ♂ 45'57	44.83326 AU
conjunction	15012 Nov 26 12:26	20° ♂ 08'50	-8°19'57	direct	15019 Aug 27 09:15	25° ♂ 46'15	
minimum elong	15012 Nov 26 12:36	20° ♂ 08'51	8°19'00	evening set	15019 Nov 20 09:19	26° ♂ 56'58	
max. Earth dist.	15012 Nov 25 20:01	20° ♂ 07'53	47.74246 AU				
morning rise	15012 Dec 09 15:18	20° ♂ 27'13		conjunction	15019 Dec 04 11:42	27° ♂ 17'02	-6°37'17
retrograde	15013 Mar 08 11:19	21° ♂ 40'24		minimum elong	15019 Dec 04 11:50	27° ♂ 17'03	6°36'18
opposition	15013 May 30 18:58	20° ♂ 39'59	-8°34'20	max. Earth dist.	15019 Dec 03 12:38	27° ♂ 15'39	46.74240 AU
min. Earth dist.	15013 May 31 10:40	20° ♂ 39'14	45.69917 AU	morning rise	15019 Dec 18 15:46	27° ♂ 37'14	
direct	15013 Aug 20 18:43	19° ♂ 39'59		retrograde	15020 Mar 15 12:16	28° ♂ 50'27	
evening set	15013 Nov 14 13:49	20° ♂ 50'38		opposition	15020 Jun 06 16:14	27° ♂ 49'10	-6°46'47
				min. Earth dist.	15020 Jun 07 13:59	27° ♂ 48'07	44.67662 AU
conjunction	15013 Nov 27 18:55	21° ♂ 09'09	-8°05'56	direct	15020 Aug 27 16:12	26° ♂ 48'14	
minimum elong	15013 Nov 27 19:04	21° ♂ 09'10	8°04'59	evening set	15020 Nov 20 13:22	27° ♂ 59'01	
max. Earth dist.	15013 Nov 27 01:36	21° ♂ 08'08	47.61329 AU				
morning rise	15013 Dec 11 01:39	21° ♂ 27'48		conjunction	15020 Dec 04 18:52	28° ♂ 19'20	-6°21'42
retrograde	15014 Mar 09 16:44	22° ♂ 40'59		minimum elong	15020 Dec 04 19:00	28° ♂ 19'21	6°20'44
opposition	15014 Jun 01 01:16	21° ♂ 40'28	-8°19'40	max. Earth dist.	15020 Dec 03 18:23	28° ♂ 17'52	46.58551 AU
min. Earth dist.	15014 Jun 01 18:44	21° ♂ 39'38	45.56616 AU	morning rise	15020 Dec 19 02:15	28° ♂ 39'47	
direct	15014 Aug 22 03:18	20° ♂ 40'23		retrograde	15021 Mar 16 22:33	29° ♂ 53'05	
evening set	15014 Nov 15 16:43	21° ♂ 51'01		opposition	15021 Jun 07 23:16	28° ♂ 51'39	-6°30'27
max. Earth dist.	15014 Nov 28 07:15	22° ♂ 08'43	47.47900 AU	min. Earth dist.	15021 Jun 08 22:35	28° ♂ 50'31	44.51743 AU
				direct	15021 Aug 28 20:49	27° ♂ 50'34	

evening set	15021 Nov 21 17:31	29° \mathring{A} 01'27		conjunction	15027 Dec 13 02:54	5° \mathring{B} 47'29	-4°26'06
max. Earth dist.	15021 Dec 05 02:11	29° \mathring{A} 20'34	46.42609 AU	minimum elong	15027 Dec 13 02:59	5° \mathring{B} 47'29	4°25'07
				morning rise	15027 Dec 28 05:38	6° \mathring{B} 09'36	
conjunction	15021 Dec 06 02:17	29° \mathring{A} 22'00	-6°05'53	retrograde	15028 Mar 24 13:14	7° \mathring{B} 23'49	
minimum elong	15021 Dec 06 02:25	29° \mathring{A} 22'01	6°04'54	opposition	15028 Jun 15 04:36	6° \mathring{B} 21'20	-4°29'09
morning rise	15021 Dec 20 12:39	29° \mathring{A} 42'42		min. Earth dist.	15028 Jun 16 10:19	6° \mathring{B} 19'51	43.30328 AU
	15022 Jan 02 03:36	0° \mathring{B}		direct	15028 Sep 04 19:12	5° \mathring{B} 19'04	
retrograde	15022 Mar 18 07:46	0° \mathring{B} 56'04		evening set	15028 Nov 28 08:29	6° \mathring{B} 31'03	
	15022 Jun 04 13:37	30° \mathring{R} \mathring{A}		max. Earth dist.	15028 Dec 12 03:40	6° \mathring{B} 51'17	45.20419 AU
opposition	15022 Jun 09 06:21	29° \mathring{A} 54'31	-6°13'51				
min. Earth dist.	15022 Jun 10 05:38	29° \mathring{A} 53'23	44.35552 AU	conjunction	15028 Dec 13 11:45	6° \mathring{B} 53'16	-4°08'41
direct	15022 Aug 30 01:29	28° \mathring{A} 53'18		minimum elong	15028 Dec 13 11:50	6° \mathring{B} 53'16	4°07'41
	15022 Nov 19 20:51	0° \mathring{B}		morning rise	15028 Dec 28 16:39	7° \mathring{B} 15'36	
evening set	15022 Nov 22 22:13	0° \mathring{B} 04'17		retrograde	15029 Mar 25 20:26	8° \mathring{B} 30'00	
max. Earth dist.	15022 Dec 06 07:53	0° \mathring{B} 23'32	46.26387 AU	opposition	15029 Jun 16 12:56	7° \mathring{B} 27'18	-4°10'51
				min. Earth dist.	15029 Jun 17 19:45	7° \mathring{B} 25'45	43.11239 AU
conjunction	15022 Dec 07 09:49	0° \mathring{B} 25'06	-5°49'50	direct	15029 Sep 06 05:04	6° \mathring{B} 24'49	
minimum elong	15022 Dec 07 09:56	0° \mathring{B} 25'06	5°48'51	evening set	15029 Nov 29 15:16	7° \mathring{B} 37'00	
morning rise	15022 Dec 21 23:20	0° \mathring{B} 46'02		max. Earth dist.	15029 Dec 13 11:35	7° \mathring{B} 57'23	45.01245 AU
retrograde	15023 Mar 19 17:31	1° \mathring{B} 59'30					
opposition	15023 Jun 10 13:31	0° \mathring{B} 57'49	-5°57'01	conjunction	15029 Dec 14 20:40	7° \mathring{B} 59'26	-3°51'01
min. Earth dist.	15023 Jun 11 13:49	0° \mathring{B} 56'38	44.19074 AU	minimum elong	15029 Dec 14 20:45	7° \mathring{B} 59'27	3°50'02
	15023 Aug 13 16:12	30° \mathring{R} \mathring{A}		morning rise	15029 Dec 30 03:48	8° \mathring{B} 22'00	
direct	15023 Aug 31 06:18	29° \mathring{A} 56'27		retrograde	15030 Mar 27 05:07	9° \mathring{B} 36'37	
	15023 Sep 17 22:51	0° \mathring{B}		opposition	15030 Jun 17 21:21	8° \mathring{B} 33'42	-3°52'18
evening set	15023 Nov 24 03:03	1° \mathring{B} 07'35		min. Earth dist.	15030 Jun 19 04:15	8° \mathring{B} 32'09	42.91824 AU
				direct	15030 Sep 07 13:41	7° \mathring{B} 31'00	
conjunction	15023 Dec 08 17:39	1° \mathring{B} 28'38	-5°33'32	evening set	15030 Nov 30 22:27	8° \mathring{B} 43'25	
minimum elong	15023 Dec 08 17:46	1° \mathring{B} 28'39	5°32'33	max. Earth dist.	15030 Dec 14 19:23	9° \mathring{B} 03'55	44.81744 AU
max. Earth dist.	15023 Dec 07 15:22	1° \mathring{B} 27'03	46.09834 AU				
morning rise	15023 Dec 23 09:55	1° \mathring{B} 49'49		conjunction	15030 Dec 16 05:50	9° \mathring{B} 06'04	-3°33'08
retrograde	15024 Mar 19 22:56	3° \mathring{B} 03'25		minimum elong	15030 Dec 16 05:54	9° \mathring{B} 06'04	3°32'08
opposition	15024 Jun 10 21:01	2° \mathring{B} 01'36	-5°39'55	morning rise	15030 Dec 31 14:59	9° \mathring{B} 28'51	
min. Earth dist.	15024 Jun 11 22:33	2° \mathring{B} 00'21	44.02235 AU	retrograde	15031 Mar 28 15:17	10° \mathring{B} 43'42	
direct	15024 Aug 31 15:29	1° \mathring{B} 00'06		opposition	15031 Jun 19 06:00	9° \mathring{B} 40'34	-3°33'30
evening set	15024 Nov 24 08:12	2° \mathring{B} 11'22		min. Earth dist.	15031 Jun 20 14:33	9° \mathring{B} 38'56	42.72123 AU
max. Earth dist.	15024 Dec 07 22:21	2° \mathring{B} 31'00	45.92903 AU	direct	15031 Sep 08 21:39	8° \mathring{B} 37'39	
				evening set	15031 Dec 02 05:50	9° \mathring{B} 50'20	
conjunction	15024 Dec 09 01:32	2° \mathring{B} 32'40	-5°17'01	max. Earth dist.	15031 Dec 16 05:05	10° \mathring{B} 11'04	44.61994 AU
minimum elong	15024 Dec 09 01:38	2° \mathring{B} 32'40	5°16'02				
morning rise	15024 Dec 23 20:36	2° \mathring{B} 54'05		conjunction	15031 Dec 17 15:13	10° \mathring{B} 13'12	-3°14'59
retrograde	15025 Mar 21 06:36	4° \mathring{B} 07'50		minimum elong	15031 Dec 17 15:18	10° \mathring{B} 13'12	3°14'01
opposition	15025 Jun 12 04:37	3° \mathring{B} 05'52	-5°22'35	morning rise	15032 Jan 02 02:08	10° \mathring{B} 36'11	
min. Earth dist.	15025 Jun 13 06:28	3° \mathring{B} 04'36	43.84983 AU	retrograde	15032 Mar 29 02:46	11° \mathring{B} 51'18	
direct	15025 Sep 02 00:02	2° \mathring{B} 04'12		opposition	15032 Jun 19 14:51	10° \mathring{B} 47'58	-3°14'25
evening set	15025 Nov 25 13:55	3° \mathring{B} 15'38		min. Earth dist.	15032 Jun 20 23:01	10° \mathring{B} 46'21	42.52193 AU
max. Earth dist.	15025 Dec 09 04:40	3° \mathring{B} 35'23	45.75501 AU	direct	15032 Sep 09 04:22	9° \mathring{B} 44'50	
				evening set	15032 Dec 02 13:36	10° \mathring{B} 57'49	
conjunction	15025 Dec 10 09:50	3° \mathring{B} 37'10	-5°00'16	max. Earth dist.	15032 Dec 16 12:44	11° \mathring{B} 18'38	44.42027 AU
minimum elong	15025 Dec 10 09:56	3° \mathring{B} 37'10	4°59'17				
morning rise	15025 Dec 25 07:37	3° \mathring{B} 58'49		conjunction	15032 Dec 18 00:35	11° \mathring{B} 20'53	-2°56'37
retrograde	15026 Mar 22 17:43	5° \mathring{B} 12'44		minimum elong	15032 Dec 18 00:39	11° \mathring{B} 20'53	2°55'38
opposition	15026 Jun 13 12:26	4° \mathring{B} 10'36	-5°05'01	morning rise	15033 Jan 02 13:24	11° \mathring{B} 44'05	
min. Earth dist.	15026 Jun 14 16:28	4° \mathring{B} 09'13	43.67248 AU	retrograde	15033 Mar 30 16:02	12° \mathring{B} 59'29	
direct	15026 Sep 03 05:50	3° \mathring{B} 08'45		opposition	15033 Jun 21 00:01	11° \mathring{B} 55'57	-2°55'06
evening set	15026 Nov 26 19:49	4° \mathring{B} 20'22		min. Earth dist.	15033 Jun 22 09:17	11° \mathring{B} 54'16	42.32069 AU
				direct	15033 Sep 10 09:39	10° \mathring{B} 52'36	
conjunction	15026 Dec 11 18:25	4° \mathring{B} 42'07	-4°43'18	evening set	15033 Dec 03 21:45	12° \mathring{B} 05'54	
minimum elong	15026 Dec 11 18:31	4° \mathring{B} 42'07	4°42'19	max. Earth dist.	15033 Dec 17 22:49	12° \mathring{B} 26'57	44.21855 AU
max. Earth dist.	15026 Dec 10 12:53	4° \mathring{B} 40'19	45.57611 AU				
morning rise	15026 Dec 26 18:35	5° \mathring{B} 04'00		conjunction	15033 Dec 19 10:30	12° \mathring{B} 29'12	-2°38'00
retrograde	15027 Mar 24 02:45	6° \mathring{B} 18'04		minimum elong	15033 Dec 19 10:34	12° \mathring{B} 29'12	2°37'02
opposition	15027 Jun 14 20:23	5° \mathring{B} 15'46	-4°47'12	morning rise	15034 Jan 04 00:46	12° \mathring{B} 52'36	
min. Earth dist.	15027 Jun 16 00:40	5° \mathring{B} 14'22	43.49014 AU	retrograde	15034 Apr 01 01:04	14° \mathring{B} 08'18	
direct	15027 Sep 04 12:58	4° \mathring{B} 13'43		opposition	15034 Jun 22 09:16	13° \mathring{B} 04'35	-2°35'30
evening set	15027 Nov 28 02:03	5° \mathring{B} 25'30		min. Earth dist.	15034 Jun 23 19:00	13° \mathring{B} 02'52	42.11741 AU
max. Earth dist.	15027 Dec 11 19:14	5° \mathring{B} 45'32	45.39235 AU	direct	15034 Sep 11 19:29	12° \mathring{B} 01'02	

evening set	15034 Dec 05 06:26	13° $\overline{3}$ 14'41		opposition	15041 Jun 30 10:23	21° $\overline{3}$ 25'46	-0°11'20
max. Earth dist.	15034 Dec 19 07:59	13° $\overline{3}$ 35'51	44.01490 AU	min. Earth dist.	15041 Jul 02 02:36	21° $\overline{3}$ 23'40	40.60913 AU
				direct	15041 Sep 19 15:53	20° $\overline{3}$ 20'28	
conjunction	15034 Dec 20 20:35	13° $\overline{3}$ 38'11	-2°19'08	evening set	15041 Dec 13 08:01	21° $\overline{3}$ 37'09	
minimum elong	15034 Dec 20 20:38	13° $\overline{3}$ 38'11	2°18'09	max. Earth dist.	15041 Dec 27 08:45	21° $\overline{3}$ 59'04	42.49676 AU
morning rise	15035 Jan 05 12:23	14° $\overline{3}$ 01'48					
retrograde	15035 Apr 02 10:16	15° $\overline{3}$ 17'50		conjunction	15041 Dec 29 03:56	22° $\overline{3}$ 01'54	-0°00'39
opposition	15035 Jun 23 18:48	14° $\overline{3}$ 13'56	-2°15'39	minimum elong	15041 Dec 29 03:54	22° $\overline{3}$ 01'54	0°00'17
min. Earth dist.	15035 Jun 25 04:44	14° $\overline{3}$ 12'12	41.91210 AU	behind sun begin	15041 Dec 28 21:29	22° $\overline{3}$ 01'31	
direct	15035 Sep 13 06:03	13° $\overline{3}$ 10'11		behind sun end	15041 Dec 29 10:19	22° $\overline{3}$ 02'18	
evening set	15035 Dec 06 15:25	14° $\overline{3}$ 24'13		asc. node	15042 Jan 10 01:29	22° $\overline{3}$ 20'37	
max. Earth dist.	15035 Dec 20 17:07	14° $\overline{3}$ 45'30	43.80872 AU	morning rise	15042 Jan 14 01:04	22° $\overline{3}$ 26'47	
				retrograde	15042 Apr 10 23:25	23° $\overline{3}$ 45'46	
conjunction	15035 Dec 22 06:50	14° $\overline{3}$ 47'55	-2°00'03	opposition	15042 Jul 01 21:42	22° $\overline{3}$ 40'09	0°10'15
minimum elong	15035 Dec 22 06:53	14° $\overline{3}$ 47'55	1°59'04	min. Earth dist.	15042 Jul 03 13:46	22° $\overline{3}$ 38'02	40.38020 AU
morning rise	15036 Jan 06 23:54	15° $\overline{3}$ 11'44		direct	15042 Sep 21 03:49	21° $\overline{3}$ 34'32	
retrograde	15036 Apr 02 21:00	16° $\overline{3}$ 28'09		evening set	15042 Dec 14 20:35	22° $\overline{3}$ 51'44	
opposition	15036 Jun 24 04:47	15° $\overline{3}$ 24'04	-1°55'33	max. Earth dist.	15042 Dec 28 19:27	23° $\overline{3}$ 13'40	42.26665 AU
min. Earth dist.	15036 Jun 25 16:22	15° $\overline{3}$ 22'14	41.70411 AU				
direct	15036 Sep 13 15:38	14° $\overline{3}$ 20'06		conjunction	15042 Dec 30 16:26	23° $\overline{3}$ 16'38	0°20'02
evening set	15036 Dec 07 00:57	15° $\overline{3}$ 34'32		minimum elong	15042 Dec 30 16:25	23° $\overline{3}$ 16'38	0°20'58
max. Earth dist.	15036 Dec 21 03:47	15° $\overline{3}$ 56'00	43.59965 AU	morning rise	15043 Jan 15 13:44	23° $\overline{3}$ 41'39	
				retrograde	15043 Apr 12 14:23	25° $\overline{3}$ 01'09	
conjunction	15036 Dec 22 17:37	15° $\overline{3}$ 58'25	-1°40'43	opposition	15043 Jul 03 09:36	23° $\overline{3}$ 55'14	0°32'05
minimum elong	15036 Dec 22 17:39	15° $\overline{3}$ 58'25	1°39'44	min. Earth dist.	15043 Jul 05 03:13	23° $\overline{3}$ 53'02	40.14920 AU
morning rise	15037 Jan 07 11:43	16° $\overline{3}$ 22'26		direct	15043 Sep 22 12:13	22° $\overline{3}$ 49'18	
retrograde	15037 Apr 04 09:02	17° $\overline{3}$ 39'16		evening set	15043 Dec 16 09:21	24° $\overline{3}$ 07'03	
opposition	15037 Jun 25 14:50	16° $\overline{3}$ 34'58	-1°35'12	max. Earth dist.	15043 Dec 30 08:42	24° $\overline{3}$ 29'08	42.03467 AU
min. Earth dist.	15037 Jun 27 02:20	16° $\overline{3}$ 33'08	41.49289 AU				
direct	15037 Sep 15 00:15	15° $\overline{3}$ 30'46		conjunction	15044 Jan 01 05:13	24° $\overline{3}$ 32'05	0°40'55
evening set	15037 Dec 08 11:08	16° $\overline{3}$ 45'38		minimum elong	15044 Jan 01 05:12	24° $\overline{3}$ 32'05	0°41'52
max. Earth dist.	15037 Dec 22 12:39	17° $\overline{3}$ 07'08	43.38687 AU	morning rise	15044 Jan 17 02:12	24° $\overline{3}$ 57'15	
				retrograde	15044 Apr 13 03:55	26° $\overline{3}$ 17'17	
conjunction	15037 Dec 24 04:39	17° $\overline{3}$ 09'42	-1°21'10	opposition	15044 Jul 03 21:47	25° $\overline{3}$ 11'05	0°54'09
minimum elong	15037 Dec 24 04:40	17° $\overline{3}$ 09'42	1°20'12	min. Earth dist.	15044 Jul 05 15:07	25° $\overline{3}$ 08'52	39.91659 AU
morning rise	15038 Jan 08 23:51	17° $\overline{3}$ 33'55		direct	15044 Sep 22 23:53	24° $\overline{3}$ 04'49	
retrograde	15038 Apr 06 00:03	18° $\overline{3}$ 51'09		evening set	15044 Dec 16 22:57	25° $\overline{3}$ 23'09	
opposition	15038 Jun 27 01:22	17° $\overline{3}$ 46'38	-1°14'36	max. Earth dist.	15044 Dec 30 20:35	25° $\overline{3}$ 45'16	41.80135 AU
min. Earth dist.	15038 Jun 28 14:42	17° $\overline{3}$ 44'42	41.27778 AU				
direct	15038 Sep 16 07:10	16° $\overline{3}$ 42'11		conjunction	15045 Jan 01 18:22	25° $\overline{3}$ 48'20	1°02'02
evening set	15038 Dec 09 21:40	17° $\overline{3}$ 57'29		minimum elong	15045 Jan 01 18:20	25° $\overline{3}$ 48'20	1°02'57
max. Earth dist.	15038 Dec 23 23:52	18° $\overline{3}$ 19'08	43.16990 AU	morning rise	15045 Jan 17 15:08	26° $\overline{3}$ 13'37	
				retrograde	15045 Apr 14 20:20	27° $\overline{3}$ 34'13	
conjunction	15038 Dec 25 16:09	18° $\overline{3}$ 21'45	-1°01'23	opposition	15045 Jul 05 10:14	26° $\overline{3}$ 27'44	1°16'27
minimum elong	15038 Dec 25 16:11	18° $\overline{3}$ 21'45	1°00'25	min. Earth dist.	15045 Jul 07 04:10	26° $\overline{3}$ 25'29	39.68295 AU
morning rise	15039 Jan 10 11:57	18° $\overline{3}$ 46'07		direct	15045 Sep 24 10:14	25° $\overline{3}$ 21'10	
retrograde	15039 Apr 07 12:57	20° $\overline{3}$ 03'46		evening set	15045 Dec 18 13:01	26° $\overline{3}$ 40'08	
opposition	15039 Jun 28 12:02	18° $\overline{3}$ 59'00	-0°53'46	max. Earth dist.	15046 Jan 01 09:56	27° $\overline{3}$ 02'20	41.56681 AU
min. Earth dist.	15039 Jun 30 02:05	18° $\overline{3}$ 57'02	41.05846 AU				
direct	15039 Sep 17 17:06	17° $\overline{3}$ 54'17		conjunction	15046 Jan 03 08:02	27° $\overline{3}$ 05'27	1°23'21
evening set	15039 Dec 11 08:45	19° $\overline{3}$ 10'02		minimum elong	15046 Jan 03 08:00	27° $\overline{3}$ 05'27	1°24'17
max. Earth dist.	15039 Dec 25 09:48	19° $\overline{3}$ 31'45	42.94899 AU	morning rise	15046 Jan 19 04:07	27° $\overline{3}$ 30'52	
				retrograde	15046 Apr 16 10:32	28° $\overline{3}$ 52'05	
conjunction	15039 Dec 27 03:46	19° $\overline{3}$ 34'28	-0°41'22	opposition	15046 Jul 06 23:12	27° $\overline{3}$ 45'18	1°38'59
minimum elong	15039 Dec 27 03:47	19° $\overline{3}$ 34'28	0°40'25	min. Earth dist.	15046 Jul 08 17:58	27° $\overline{3}$ 43'00	39.44818 AU
morning rise	15040 Jan 12 00:19	19° $\overline{3}$ 59'01		direct	15046 Sep 25 23:23	26° $\overline{3}$ 38'26	
retrograde	15040 Apr 08 02:41	21° $\overline{3}$ 17'05		evening set	15046 Dec 20 03:46	27° $\overline{3}$ 58'05	
opposition	15040 Jun 28 23:02	20° $\overline{3}$ 12'03	-0°32'40	max. Earth dist.	15047 Jan 02 23:38	28° $\overline{3}$ 20'22	41.33128 AU
min. Earth dist.	15040 Jun 30 13:46	20° $\overline{3}$ 10'02	40.83548 AU				
direct	15040 Sep 18 02:51	19° $\overline{3}$ 07'03		conjunction	15047 Jan 04 22:00	28° $\overline{3}$ 23'31	1°44'52
evening set	15040 Dec 11 20:05	20° $\overline{3}$ 23'15		minimum elong	15047 Jan 04 21:57	28° $\overline{3}$ 23'31	1°45'46
max. Earth dist.	15040 Dec 25 20:38	20° $\overline{3}$ 45'03	42.72435 AU	morning rise	15047 Jan 20 17:19	28° $\overline{3}$ 49'03	
					15047 Mar 19 05:33	0° \approx	
conjunction	15040 Dec 27 15:37	20° $\overline{3}$ 47'52	-0°21'09	retrograde	15047 Apr 18 00:46	0° \approx 10'55	
minimum elong	15040 Dec 27 15:38	20° $\overline{3}$ 47'52	0°20'12		15047 May 18 03:07	30° \overline{R} $\overline{3}$	
morning rise	15041 Jan 12 12:33	21° $\overline{3}$ 12'35		opposition	15047 Jul 08 12:20	29° $\overline{3}$ 03'53	2°01'43
retrograde	15041 Apr 09 12:03	22° $\overline{3}$ 31'05		min. Earth dist.	15047 Jul 10 06:46	29° $\overline{3}$ 01'35	39.21239 AU

direct	15047 Sep 27 12:17	27° \approx 56'43		conjunction	15054 Jan 14 12:59	8° \approx 01'28	4°20'33
evening set	15047 Dec 21 19:13	29° \approx 17'06		minimum elong	15054 Jan 14 12:53	8° \approx 01'28	4°21'23
max. Earth dist.	15048 Jan 04 12:37	29° \approx 39'22	41.09434 AU	morning rise	15054 Jan 29 19:41	8° \approx 27'27	
				retrograde	15054 Apr 28 00:14	9° \approx 54'59	
conjunction	15048 Jan 06 12:23	29° \approx 42'38	2°06'35	opposition	15054 Jul 17 21:10	8° \approx 45'47	4°46'33
minimum elong	15048 Jan 06 12:20	29° \approx 42'38	2°07'29	min. Earth dist.	15054 Jul 19 20:59	8° \approx 43'05	37.49805 AU
	15048 Jan 17 03:25	0° \approx		direct	15054 Oct 06 12:41	7° \approx 36'14	
morning rise	15048 Jan 22 06:42	0° \approx 08'17		evening set	15055 Jan 01 03:25	9° \approx 02'40	
retrograde	15048 Apr 18 15:59	1° \approx 30'52		max. Earth dist.	15055 Jan 14 00:34	9° \approx 24'41	39.36638 AU
opposition	15048 Jul 09 02:06	0° \approx 23'34	2°24'41				
min. Earth dist.	15048 Jul 10 22:06	0° \approx 21'10	38.97512 AU	conjunction	15055 Jan 16 06:35	9° \approx 28'34	4°43'24
	15048 Jul 27 11:59	30° \approx 8'3		minimum elong	15055 Jan 16 06:28	9° \approx 28'33	4°44'13
direct	15048 Sep 27 23:49	29° \approx 16'07		morning rise	15055 Jan 31 10:28	9° \approx 54'33	
	15048 Nov 27 11:11	0° \approx		retrograde	15055 Apr 29 19:38	11° \approx 23'02	
evening set	15048 Dec 22 11:10	0° \approx 37'15		opposition	15055 Jul 19 13:54	10° \approx 13'27	5°10'48
max. Earth dist.	15049 Jan 05 03:51	0° \approx 59'38	40.85559 AU	min. Earth dist.	15055 Jul 21 15:03	10° \approx 10'40	37.24504 AU
				direct	15055 Oct 08 01:41	9° \approx 03'30	
conjunction	15049 Jan 07 03:16	1° \approx 02'53	2°28'29	evening set	15056 Jan 03 00:37	10° \approx 30'57	
minimum elong	15049 Jan 07 03:13	1° \approx 02'53	2°29'21	max. Earth dist.	15056 Jan 15 19:23	10° \approx 52'58	39.11184 AU
morning rise	15049 Jan 22 20:12	1° \approx 28'37					
retrograde	15049 Apr 20 08:42	2° \approx 51'59		conjunction	15056 Jan 18 00:48	10° \approx 56'50	5°06'23
opposition	15049 Jul 10 16:10	1° \approx 44'24	2°47'51	minimum elong	15056 Jan 18 00:40	10° \approx 56'50	5°07'12
min. Earth dist.	15049 Jul 12 12:07	1° \approx 42'00	38.73569 AU	morning rise	15056 Feb 02 01:19	11° \approx 22'47	
direct	15049 Sep 29 11:36	0° \approx 36'39		retrograde	15056 Apr 30 15:06	12° \approx 52'17	
evening set	15049 Dec 24 04:12	1° \approx 58'36		opposition	15056 Jul 20 07:06	11° \approx 42'19	5°35'10
max. Earth dist.	15050 Jan 06 17:10	2° \approx 20'53	40.61425 AU	min. Earth dist.	15056 Jul 22 07:59	11° \approx 39'31	36.99160 AU
				direct	15056 Oct 08 16:37	10° \approx 31'57	
conjunction	15050 Jan 08 18:41	2° \approx 24'19	2°50'33	evening set	15057 Jan 03 22:43	12° \approx 00'28	
minimum elong	15050 Jan 08 18:36	2° \approx 24'19	2°51'27	max. Earth dist.	15057 Jan 16 12:49	12° \approx 22'20	38.85716 AU
morning rise	15050 Jan 24 10:15	2° \approx 50'08					
retrograde	15050 Apr 22 03:36	4° \approx 14'16		conjunction	15057 Jan 18 19:18	12° \approx 26'19	5°29'27
opposition	15050 Jul 12 06:38	3° \approx 06'24	3°11'13	minimum elong	15057 Jan 18 19:11	12° \approx 26'18	5°30'14
min. Earth dist.	15050 Jul 14 04:07	3° \approx 03'54	38.49355 AU	morning rise	15057 Feb 02 16:29	12° \approx 52'13	
direct	15050 Sep 30 22:15	1° \approx 58'20		retrograde	15057 May 02 13:02	14° \approx 22'45	
evening set	15050 Dec 25 21:48	3° \approx 21'07		opposition	15057 Jul 22 00:48	13° \approx 12'25	5°59'39
max. Earth dist.	15051 Jan 08 08:45	3° \approx 43'26	40.36980 AU	min. Earth dist.	15057 Jul 24 02:04	13° \approx 09'35	36.73837 AU
				direct	15057 Oct 10 07:44	12° \approx 01'39	
conjunction	15051 Jan 10 10:42	3° \approx 46'55	3°12'49	evening set	15058 Jan 05 21:43	13° \approx 31'17	
minimum elong	15051 Jan 10 10:37	3° \approx 46'55	3°13'40	max. Earth dist.	15058 Jan 18 07:57	13° \approx 53'03	38.60259 AU
morning rise	15051 Jan 26 00:19	4° \approx 12'48					
retrograde	15051 Apr 23 20:40	5° \approx 37'44		conjunction	15058 Jan 20 14:38	13° \approx 57'05	5°52'36
opposition	15051 Jul 13 21:41	4° \approx 29'34	3°34'47	minimum elong	15058 Jan 20 14:30	13° \approx 57'04	5°53'22
min. Earth dist.	15051 Jul 15 19:55	4° \approx 27'00	38.24829 AU	morning rise	15058 Feb 04 07:50	14° \approx 22'55	
direct	15051 Oct 02 13:25	3° \approx 21'10			15058 Feb 27 01:50	15° \approx	
evening set	15051 Dec 27 16:03	4° \approx 44'48		retrograde	15058 May 04 09:41	15° \approx 54'32	
max. Earth dist.	15052 Jan 09 23:51	5° \approx 07'03	40.12243 AU		15058 Jul 12 00:26	15° \approx 8'8	
				opposition	15058 Jul 23 19:00	14° \approx 43'49	6°24'12
conjunction	15052 Jan 12 02:52	5° \approx 10'39	3°35'14	min. Earth dist.	15058 Jul 25 20:51	14° \approx 40'56	36.48553 AU
minimum elong	15052 Jan 12 02:47	5° \approx 10'39	3°36'06	direct	15058 Oct 12 02:49	13° \approx 32'40	
morning rise	15052 Jan 27 14:33	5° \approx 36'35			15059 Jan 05 21:19	15° \approx	
retrograde	15052 Apr 24 14:53	7° \approx 02'21		evening set	15059 Jan 07 21:40	15° \approx 03'30	
opposition	15052 Jul 14 13:06	5° \approx 53'51	3°58'32	max. Earth dist.	15059 Jan 20 03:50	15° \approx 25'08	38.34866 AU
min. Earth dist.	15052 Jul 16 11:41	5° \approx 51'15	38.00034 AU				
direct	15052 Oct 03 05:22	4° \approx 45'05		conjunction	15059 Jan 22 10:26	15° \approx 29'12	6°15'47
evening set	15052 Dec 28 11:06	6° \approx 09'37		minimum elong	15059 Jan 22 10:17	15° \approx 29'11	6°16'32
max. Earth dist.	15053 Jan 10 15:20	6° \approx 31'47	39.87227 AU	morning rise	15059 Feb 05 23:28	15° \approx 54'57	
				retrograde	15059 May 06 08:13	17° \approx 27'43	
conjunction	15053 Jan 12 19:41	6° \approx 35'30	3°57'49	opposition	15059 Jul 25 13:45	16° \approx 16'38	6°48'50
minimum elong	15053 Jan 12 19:36	6° \approx 35'30	3°58'39	min. Earth dist.	15059 Jul 27 14:58	16° \approx 13'47	36.23341 AU
morning rise	15053 Jan 28 05:02	7° \approx 01'28		direct	15059 Oct 13 21:47	15° \approx 05'05	
retrograde	15053 Apr 26 07:50	8° \approx 28'06		evening set	15060 Jan 09 22:26	16° \approx 37'10	
opposition	15053 Jul 16 04:58	7° \approx 19'15	4°22'28	max. Earth dist.	15060 Jan 21 23:03	16° \approx 58'35	38.09513 AU
min. Earth dist.	15053 Jul 18 05:10	7° \approx 16'33	37.75003 AU				
direct	15053 Oct 04 20:49	6° \approx 10'06		conjunction	15060 Jan 24 06:41	17° \approx 02'46	6°39'01
evening set	15053 Dec 30 06:50	7° \approx 35'34		minimum elong	15060 Jan 24 06:31	17° \approx 02'45	6°39'46
max. Earth dist.	15054 Jan 12 08:39	7° \approx 57'44	39.62011 AU	morning rise	15060 Feb 07 15:14	17° \approx 28'24	
				retrograde	15060 May 07 04:39	19° \approx 02'23	

opposition	15060 Jul 26 09:15	17° \approx 50'57	7°13'30	minimum elong	15067 Feb 05 00:09	28° \approx 41'23	9°21'28
min. Earth dist.	15060 Jul 28 11:49	17° \approx 48'00	35.98170 AU	morning rise	15067 Feb 17 14:13	29° \approx 05'20	
direct	15060 Oct 14 15:09	16° \approx 39'01			15067 Mar 21 03:20	0° \approx	
evening set	15061 Jan 11 00:19	18° \approx 12'24		retrograde	15067 May 20 07:57	0° \approx 49'17	
max. Earth dist.	15061 Jan 22 20:48	18° \approx 33'41	37.84177 AU		15067 Jul 21 10:57	30° \approx	
				opposition	15067 Aug 07 18:16	29° \approx 35'00	10°05'34
conjunction	15061 Jan 25 03:51	18° \approx 37'51	7°02'16	min. Earth dist.	15067 Aug 09 23:40	29° \approx 31'43	34.21097 AU
minimum elong	15061 Jan 25 03:41	18° \approx 37'50	7°02'59	direct	15067 Oct 26 13:53	28° \approx 19'56	
morning rise	15061 Feb 08 07:23	19° \approx 03'21			15068 Jan 23 16:42	0° \approx	
retrograde	15061 May 09 01:20	20° \approx 38'37		evening set	15068 Jan 25 19:38	0° \approx 04'01	
opposition	15061 Jul 28 05:05	19° \approx 26'49	7°38'11	max. Earth dist.	15068 Feb 04 15:45	0° \approx 22'52	36.05679 AU
min. Earth dist.	15061 Jul 30 07:14	19° \approx 23'52	35.72993 AU				
direct	15061 Oct 16 10:04	18° \approx 14'29		conjunction	15068 Feb 07 01:58	0° \approx 27'33	9°43'31
evening set	15062 Jan 13 03:26	19° \approx 49'14		minimum elong	15068 Feb 07 01:45	0° \approx 27'32	9°44'05
max. Earth dist.	15062 Jan 24 16:47	20° \approx 10'11	37.58795 AU	morning rise	15068 Feb 19 07:51	0° \approx 51'05	
				retrograde	15068 May 21 09:23	2° \approx 36'43	
conjunction	15062 Jan 27 01:36	20° \approx 14'31	7°25'30	opposition	15068 Aug 08 18:42	1° \approx 21'59	10°29'40
minimum elong	15062 Jan 27 01:25	20° \approx 14'30	7°26'13	min. Earth dist.	15068 Aug 10 23:08	1° \approx 18'44	33.96074 AU
morning rise	15062 Feb 10 00:01	20° \approx 39'51		direct	15068 Oct 27 13:03	0° \approx 06'26	
retrograde	15062 May 11 01:34	22° \approx 16'26		evening set	15069 Jan 27 06:22	1° \approx 52'19	
opposition	15062 Jul 30 01:45	21° \approx 04'16	8°02'53	max. Earth dist.	15069 Feb 05 17:06	2° \approx 10'36	35.80542 AU
min. Earth dist.	15062 Aug 01 05:10	21° \approx 01'13	35.47761 AU				
direct	15062 Oct 18 02:27	19° \approx 51'31		conjunction	15069 Feb 08 04:19	2° \approx 15'25	10°05'57
evening set	15063 Jan 15 07:24	21° \approx 27'40		minimum elong	15069 Feb 08 04:06	2° \approx 15'24	10°06'29
max. Earth dist.	15063 Jan 26 15:30	21° \approx 48'25	37.33318 AU	morning rise	15069 Feb 20 02:04	2° \approx 38'30	
				retrograde	15069 May 23 13:48	4° \approx 25'52	
conjunction	15063 Jan 29 00:06	21° \approx 52'46	7°48'44	opposition	15069 Aug 10 19:45	3° \approx 10'43	10°53'29
minimum elong	15063 Jan 28 23:56	21° \approx 52'45	7°49'25	min. Earth dist.	15069 Aug 13 00:41	3° \approx 07'24	33.71330 AU
morning rise	15063 Feb 11 16:40	22° \approx 17'53		direct	15069 Oct 29 10:01	1° \approx 54'41	
retrograde	15063 May 13 00:39	23° \approx 55'51		evening set	15070 Jan 29 18:14	3° \approx 42'27	
opposition	15063 Jul 31 23:02	22° \approx 43'17	8°27'35	max. Earth dist.	15070 Feb 07 21:25	4° \approx 00'17	35.55694 AU
min. Earth dist.	15063 Aug 03 02:39	22° \approx 40'12	35.22434 AU				
direct	15063 Oct 19 22:04	21° \approx 30'06		conjunction	15070 Feb 10 07:35	4° \approx 05'03	10°28'04
evening set	15064 Jan 17 12:35	23° \approx 07'43		minimum elong	15070 Feb 10 07:22	4° \approx 05'02	10°28'35
max. Earth dist.	15064 Jan 28 13:26	23° \approx 28'06	37.07769 AU	morning rise	15070 Feb 21 20:24	4° \approx 27'39	
				retrograde	15070 May 25 17:33	6° \approx 16'50	
conjunction	15064 Jan 30 23:09	23° \approx 32'35	8°11'54	opposition	15070 Aug 12 21:40	5° \approx 01'15	11°17'00
minimum elong	15064 Jan 30 22:57	23° \approx 32'34	8°12'34	min. Earth dist.	15070 Aug 15 01:58	4° \approx 57'58	33.46902 AU
morning rise	15064 Feb 13 09:46	23° \approx 57'28		direct	15070 Oct 31 10:35	3° \approx 44'47	
retrograde	15064 May 14 03:24	25° \approx 36'50		evening set	15071 Feb 01 07:22	5° \approx 34'29	
opposition	15064 Aug 01 20:53	24° \approx 23'51	8°52'14	max. Earth dist.	15071 Feb 10 01:01	5° \approx 51'44	35.31201 AU
min. Earth dist.	15064 Aug 04 00:50	24° \approx 20'44	34.97061 AU				
direct	15064 Oct 20 18:44	23° \approx 10'12		conjunction	15071 Feb 12 11:18	5° \approx 56'33	10°49'51
evening set	15065 Jan 18 18:38	24° \approx 49'21		minimum elong	15071 Feb 12 11:06	5° \approx 56'32	10°50'21
max. Earth dist.	15065 Jan 29 12:33	25° \approx 09'23	36.82161 AU	morning rise	15071 Feb 23 14:56	6° \approx 18'37	
				retrograde	15071 May 28 01:20	8° \approx 09'41	
conjunction	15065 Jan 31 22:54	25° \approx 13'57	8°35'01	opposition	15071 Aug 15 00:14	6° \approx 53'42	11°40'09
minimum elong	15065 Jan 31 22:43	25° \approx 13'56	8°35'39	min. Earth dist.	15071 Aug 17 03:57	6° \approx 50'26	33.22851 AU
morning rise	15065 Feb 14 02:59	25° \approx 38'33		direct	15071 Nov 02 11:50	5° \approx 36'48	
retrograde	15065 May 16 04:51	27° \approx 19'24		evening set	15072 Feb 03 21:42	7° \approx 28'33	
opposition	15065 Aug 03 19:28	26° \approx 05'59	9°16'48	max. Earth dist.	15072 Feb 12 06:11	7° \approx 45'12	35.07070 AU
min. Earth dist.	15065 Aug 06 00:26	26° \approx 02'46	34.71660 AU				
direct	15065 Oct 22 17:10	24° \approx 51'52		conjunction	15072 Feb 14 16:02	7° \approx 50'02	11°11'15
evening set	15066 Jan 21 01:58	26° \approx 32'35		minimum elong	15072 Feb 14 15:48	7° \approx 50'01	11°11'43
max. Earth dist.	15066 Jan 31 13:04	26° \approx 52'16	36.56568 AU	morning rise	15072 Feb 25 09:49	8° \approx 11'29	
				retrograde	15072 May 29 07:28	10° \approx 04'33	
conjunction	15066 Feb 02 23:20	26° \approx 56'52	8°58'01	opposition	15072 Aug 16 03:40	8° \approx 48'11	12°02'52
minimum elong	15066 Feb 02 23:07	26° \approx 56'51	8°58'37	min. Earth dist.	15072 Aug 18 07:42	8° \approx 44'52	32.99166 AU
morning rise	15066 Feb 15 20:28	27° \approx 21'10		direct	15072 Nov 03 13:36	7° \approx 30'51	
retrograde	15066 May 18 07:04	29° \approx 03'31		evening set	15073 Feb 05 13:33	9° \approx 24'44	
opposition	15066 Aug 05 18:24	27° \approx 49'41	9°41'16	max. Earth dist.	15073 Feb 13 12:17	9° \approx 40'45	34.83309 AU
min. Earth dist.	15066 Aug 07 22:44	27° \approx 46'29	34.46317 AU				
direct	15066 Oct 24 16:22	26° \approx 35'05		conjunction	15073 Feb 15 21:30	9° \approx 45'34	11°32'12
evening set	15067 Jan 23 10:19	28° \approx 17'28		minimum elong	15073 Feb 15 21:17	9° \approx 45'33	11°32'39
max. Earth dist.	15067 Feb 02 13:01	28° \approx 36'40	36.31044 AU	morning rise	15073 Feb 26 04:57	10° \approx 06'22	
				retrograde	15073 May 31 16:01	12° \approx 01'28	
conjunction	15067 Feb 05 00:21	28° \approx 41'23	9°20'52	opposition	15073 Aug 18 07:44	10° \approx 44'44	12°25'07

min. Earth dist.	15073 Aug 20 10:46	10° ✕ 41'28	32.75824 AU	morning rise	15080 Mar 09 01:09	24° ✕ 25'16	
direct	15073 Nov 05 17:24	9° ✕ 27'00		retrograde	15080 Jun 15 13:16	26° ✕ 36'33	
evening set	15074 Feb 08 06:47	11° ✕ 23'05		opposition	15080 Sep 01 11:25	25° ✕ 16'56	14°43'09
max. Earth dist.	15074 Feb 15 18:01	11° ✕ 38'16	34.59846 AU	min. Earth dist.	15080 Sep 03 12:16	25° ✕ 13'40	31.21395 AU
				direct	15080 Nov 19 10:11	23° ✕ 56'01	
conjunction	15074 Feb 18 03:53	11° ✕ 43'12	11°52'41	evening set	15081 Feb 27 01:32	26° ✕ 09'32	
minimum elong	15074 Feb 18 03:40	11° ✕ 43'11	11°53'05	max. Earth dist.	15081 Mar 02 17:05	26° ✕ 17'27	33.05005 AU
morning rise	15074 Feb 28 00:32	12° ✕ 03'16					
retrograde	15074 Jun 03 00:36	14° ✕ 00'30		conjunction	15081 Mar 04 23:37	26° ✕ 22'23	13°58'07
opposition	15074 Aug 20 12:44	12° ✕ 43'23	12°46'51	minimum elong	15081 Mar 04 23:28	26° ✕ 22'23	13°58'17
min. Earth dist.	15074 Aug 22 16:39	12° ✕ 40'02	32.52773 AU	morning rise	15081 Mar 10 21:17	26° ✕ 35'13	
direct	15074 Nov 07 20:36	11° ✕ 25'14		retrograde	15081 Jun 18 01:34	28° ✕ 49'08	
evening set	15075 Feb 11 01:34	13° ✕ 23'35		opposition	15081 Sep 03 22:02	27° ✕ 29'07	14°59'28
max. Earth dist.	15075 Feb 18 02:29	13° ✕ 38'02	34.36670 AU	min. Earth dist.	15081 Sep 05 22:54	27° ✕ 25'49	31.01194 AU
				direct	15081 Nov 21 19:33	26° ✕ 07'45	
conjunction	15075 Feb 20 11:13	13° ✕ 42'55	12°12'38	evening set	15082 Mar 02 07:37	28° ✕ 24'08	
minimum elong	15075 Feb 20 11:01	13° ✕ 42'54	12°13'01	max. Earth dist.	15082 Mar 05 07:30	28° ✕ 30'41	32.84913 AU
morning rise	15075 Mar 01 20:17	14° ✕ 02'12					
retrograde	15075 Jun 05 09:23	16° ✕ 01'36		conjunction	15082 Mar 07 12:25	28° ✕ 35'31	14°12'38
opposition	15075 Aug 22 18:32	14° ✕ 44'06	13°08'01	minimum elong	15082 Mar 07 12:15	28° ✕ 35'31	14°12'45
min. Earth dist.	15075 Aug 24 21:20	14° ✕ 40'48	32.29995 AU	morning rise	15082 Mar 12 16:49	28° ✕ 46'53	
direct	15075 Nov 10 01:32	13° ✕ 25'31			15082 Apr 17 09:12	0° ∇	
evening set	15076 Feb 13 21:35	15° ✕ 26'13		retrograde	15082 Jun 20 16:26	1° ∇ 03'32	
max. Earth dist.	15076 Feb 20 09:27	15° ✕ 39'40	34.13769 AU		15082 Aug 26 22:51	30° ✕	
				opposition	15082 Sep 06 09:14	29° ✕ 43'09	15°14'41
conjunction	15076 Feb 22 19:08	15° ✕ 44'40	12°32'01	min. Earth dist.	15082 Sep 08 07:59	29° ✕ 39'59	30.81681 AU
minimum elong	15076 Feb 22 18:54	15° ✕ 44'39	12°32'21	direct	15082 Nov 24 07:05	28° ✕ 21'22	
morning rise	15076 Mar 02 16:15	16° ✕ 03'06			15083 Feb 14 18:12	0° ∇	
retrograde	15076 Jun 06 17:45	18° ✕ 04'45		evening set	15083 Mar 05 15:52	0° ∇ 40'46	
opposition	15076 Aug 24 01:15	16° ✕ 46'51	13°28'34	max. Earth dist.	15083 Mar 07 21:29	0° ∇ 45'42	32.65547 AU
min. Earth dist.	15076 Aug 26 04:42	16° ✕ 43'29	32.07505 AU				
direct	15076 Nov 11 05:19	15° ✕ 27'48		conjunction	15083 Mar 10 01:56	0° ∇ 50'32	14°26'05
evening set	15077 Feb 15 19:19	17° ✕ 30'54		minimum elong	15083 Mar 10 01:49	0° ∇ 50'32	14°26'11
max. Earth dist.	15077 Feb 21 19:45	17° ✕ 43'29	33.91167 AU	morning rise	15083 Mar 14 11:44	1° ∇ 00'16	
				retrograde	15083 Jun 23 07:43	3° ∇ 19'50	
conjunction	15077 Feb 24 04:12	17° ✕ 48'25	12°50'47	opposition	15083 Sep 08 21:28	1° ∇ 59'05	15°28'42
minimum elong	15077 Feb 24 04:00	17° ✕ 48'24	12°51'05	min. Earth dist.	15083 Sep 10 19:55	1° ∇ 55'55	30.62918 AU
morning rise	15077 Mar 04 12:29	18° ✕ 05'55		direct	15083 Nov 26 17:21	0° ∇ 36'57	
retrograde	15077 Jun 09 01:52	20° ✕ 09'51		evening set	15084 Mar 08 03:10	2° ∇ 59'35	
opposition	15077 Aug 26 08:34	18° ✕ 51'32	13°48'26	max. Earth dist.	15084 Mar 09 14:14	3° ∇ 02'50	32.46973 AU
min. Earth dist.	15077 Aug 28 11:23	18° ✕ 48'12	31.85327 AU				
direct	15077 Nov 13 11:13	17° ✕ 32'01		conjunction	15084 Mar 11 16:14	3° ∇ 07'29	14°38'22
evening set	15078 Feb 18 18:35	19° ✕ 37'36		minimum elong	15084 Mar 11 16:06	3° ∇ 07'28	14°38'24
max. Earth dist.	15078 Feb 24 04:51	19° ✕ 49'04	33.68922 AU	morning rise	15084 Mar 15 05:00	3° ∇ 15'21	
				retrograde	15084 Jun 24 23:12	5° ∇ 38'01	
conjunction	15078 Feb 26 13:54	19° ✕ 54'06	13°08'50	opposition	15084 Sep 10 10:21	4° ∇ 16'59	15°41'27
minimum elong	15078 Feb 26 13:41	19° ✕ 54'05	13°09'06	min. Earth dist.	15084 Sep 12 06:42	4° ∇ 13'56	30.44923 AU
morning rise	15078 Mar 06 08:49	20° ✕ 10'35		direct	15084 Nov 28 05:53	2° ∇ 54'30	
retrograde	15078 Jun 11 13:40	22° ✕ 16'53		evening set	15085 Mar 11 19:39	5° ∇ 20'48	
opposition	15078 Aug 28 16:45	20° ✕ 58'08	14°07'33	max. Earth dist.	15085 Mar 12 05:39	5° ∇ 21'45	32.29183 AU
min. Earth dist.	15078 Aug 30 19:15	20° ✕ 54'48	31.63541 AU				
direct	15078 Nov 15 16:29	19° ✕ 38'09		conjunction	15085 Mar 14 07:21	5° ∇ 26'24	14°49'25
evening set	15079 Feb 21 19:10	21° ✕ 46'17		minimum elong	15085 Mar 14 07:17	5° ∇ 26'23	14°49'26
max. Earth dist.	15079 Feb 26 16:28	21° ✕ 56'42	33.47087 AU	morning rise	15085 Mar 16 18:55	5° ∇ 31'58	
				retrograde	15085 Jun 27 15:05	7° ∇ 58'10	
conjunction	15079 Mar 01 00:22	22° ✕ 01'40	13°26'08	opposition	15085 Sep 12 23:57	6° ∇ 36'51	15°52'51
minimum elong	15079 Mar 01 00:11	22° ✕ 01'39	13°26'23	min. Earth dist.	15085 Sep 14 19:54	6° ∇ 33'50	30.27698 AU
morning rise	15079 Mar 08 05:02	22° ✕ 17'03		direct	15085 Nov 30 17:02	5° ∇ 14'04	
retrograde	15079 Jun 13 23:37	24° ✕ 25'48		max. Earth dist.	15086 Mar 15 00:08	7° ∇ 42'50	32.12155 AU
opposition	15079 Aug 31 01:49	23° ✕ 06'37	14°25'48				
min. Earth dist.	15079 Sep 02 04:00	23° ✕ 03'17	31.42196 AU	conjunction	15086 Mar 16 23:25	7° ∇ 47'18	14°59'11
direct	15079 Nov 18 00:08	21° ✕ 46'10		minimum elong	15086 Mar 16 23:20	7° ∇ 47'17	14°59'09
evening set	15080 Feb 24 21:32	23° ✕ 56'56		evening set	15086 Mar 16 06:23	7° ∇ 45'41	
max. Earth dist.	15080 Feb 29 04:16	24° ✕ 06'08	33.25762 AU	morning rise	15086 Mar 17 16:18	7° ∇ 48'53	
				retrograde	15086 Jun 30 06:56	10° ∇ 20'16	
conjunction	15080 Mar 02 11:33	24° ✕ 11'06	13°42'35	opposition	15086 Sep 15 14:27	8° ∇ 58'42	16°02'52
minimum elong	15080 Mar 02 11:22	24° ✕ 11'05	13°42'47	min. Earth dist.	15086 Sep 17 08:59	8° ∇ 55'45	30.11192 AU

direct	15086 Dec 03 06:16	7° Υ 35'37			15095 Apr 06 16:00	0° \mathcal{B}	
max. Earth dist.	15087 Mar 17 16:54	10° Υ 05'39	31.95864 AU	max. Earth dist.	15095 Apr 07 17:45	0° \mathcal{B} 02'33	30.94462 AU
conjunction	15087 Mar 19 15:53	10° Υ 10'07	15°07'37	conjunction	15095 Apr 09 01:38	0° \mathcal{B} 05'42	15°20'49
minimum elong	15087 Mar 19 15:52	10° Υ 10'07	15°07'33	minimum elong	15095 Apr 09 01:50	0° \mathcal{B} 05'43	15°20'25
retrograde	15087 Jul 03 01:17	12° Υ 44'14		retrograde	15095 Jul 23 10:26	2° \mathcal{B} 46'00	
opposition	15087 Sep 18 05:42	11° Υ 22'25	16°11'26	opposition	15095 Oct 08 04:26	1° \mathcal{B} 22'29	16°20'41
min. Earth dist.	15087 Sep 19 23:07	11° Υ 19'32	29.95400 AU	min. Earth dist.	15095 Oct 09 08:55	1° \mathcal{B} 20'27	28.97795 AU
direct	15087 Dec 05 18:55	9° Υ 59'02			15095 Dec 12 23:22	30° \mathcal{R} Υ	
max. Earth dist.	15088 Mar 19 12:26	12° Υ 30'28	31.80287 AU	direct	15095 Dec 25 19:09	29° Υ 57'14	
					15096 Jan 07 09:10	0° \mathcal{B}	
conjunction	15088 Mar 21 09:23	12° Υ 34'46	15°14'41	conjunction	15096 Apr 10 22:28	2° \mathcal{B} 39'35	15°14'54
minimum elong	15088 Mar 21 09:21	12° Υ 34'46	15°14'34	minimum elong	15096 Apr 10 22:40	2° \mathcal{B} 39'36	15°14'28
retrograde	15088 Jul 04 17:15	15° Υ 09'57		max. Earth dist.	15096 Apr 09 15:59	2° \mathcal{B} 36'34	30.86279 AU
opposition	15088 Sep 19 21:36	13° Υ 47'53	16°18'30	retrograde	15096 Jul 25 06:27	5° \mathcal{B} 20'16	
min. Earth dist.	15088 Sep 21 14:13	13° Υ 45'03	29.80297 AU	opposition	15096 Oct 10 00:05	3° \mathcal{B} 56'40	16°13'36
direct	15088 Dec 07 09:39	12° Υ 24'14		min. Earth dist.	15096 Oct 11 02:41	3° \mathcal{B} 54'46	28.90100 AU
max. Earth dist.	15089 Mar 22 07:13	14° Υ 56'50	31.65450 AU	direct	15096 Dec 27 14:08	2° \mathcal{B} 31'19	
conjunction	15089 Mar 24 03:25	15° Υ 01'05	15°20'18	conjunction	15097 Apr 13 19:42	5° \mathcal{B} 14'06	15°07'11
minimum elong	15089 Mar 24 03:26	15° Υ 01'06	15°20'09	minimum elong	15097 Apr 13 19:58	5° \mathcal{B} 14'07	15°06'43
retrograde	15089 Jul 07 12:24	17° Υ 37'16		max. Earth dist.	15097 Apr 12 16:50	5° \mathcal{B} 11'25	30.79277 AU
opposition	15089 Sep 22 14:09	16° Υ 14'58	16°24'00	retrograde	15097 Jul 28 02:34	7° \mathcal{B} 55'04	
min. Earth dist.	15089 Sep 24 04:59	16° Υ 12'15	29.65919 AU	opposition	15097 Oct 12 20:07	6° \mathcal{B} 31'26	16°04'34
direct	15089 Dec 10 02:33	14° Υ 51'02		min. Earth dist.	15097 Oct 13 20:26	6° \mathcal{B} 29'42	28.83535 AU
max. Earth dist.	15090 Mar 25 03:37	17° Υ 24'51	31.51358 AU	direct	15097 Dec 30 10:53	5° \mathcal{B} 06'03	
conjunction	15090 Mar 26 22:06	17° Υ 28'57	15°24'26	evening set	15098 Apr 15 10:27	7° \mathcal{B} 46'07	
minimum elong	15090 Mar 26 22:08	17° Υ 28'57	15°24'14	conjunction	15098 Apr 16 16:50	7° \mathcal{B} 49'09	14°57'42
retrograde	15090 Jul 10 05:54	20° Υ 06'02		minimum elong	15098 Apr 16 17:05	7° \mathcal{B} 49'10	14°57'11
opposition	15090 Sep 25 07:24	18° Υ 43'30	16°27'52	max. Earth dist.	15098 Apr 15 15:19	7° \mathcal{B} 46'36	30.73429 AU
min. Earth dist.	15090 Sep 26 21:46	18° Υ 40'48	29.52292 AU	morning rise	15098 Apr 17 23:45	7° \mathcal{B} 52'14	
direct	15090 Dec 12 18:26	17° Υ 19'17		retrograde	15098 Jul 31 00:20	10° \mathcal{B} 30'20	
max. Earth dist.	15091 Mar 28 00:24	19° Υ 54'13	31.38093 AU	opposition	15098 Oct 15 16:19	9° \mathcal{B} 06'41	15°53'38
conjunction	15091 Mar 29 17:13	19° Υ 58'11	15°27'01	min. Earth dist.	15098 Oct 16 14:11	9° \mathcal{B} 05'08	28.78088 AU
minimum elong	15091 Mar 29 17:17	19° Υ 58'11	15°26'47	direct	15099 Jan 02 06:27	7° \mathcal{B} 41'16	
retrograde	15091 Jul 13 02:03	22° Υ 36'05		evening set	15099 Apr 16 18:13	10° \mathcal{B} 17'49	
opposition	15091 Sep 28 01:01	21° Υ 13'19	16°30'03	conjunction	15099 Apr 19 14:19	10° \mathcal{B} 24'36	14°46'27
min. Earth dist.	15091 Sep 29 12:57	21° Υ 10'47	29.39488 AU	minimum elong	15099 Apr 19 14:37	10° \mathcal{B} 24'38	14°45'53
direct	15091 Dec 15 13:13	19° Υ 48'51		max. Earth dist.	15099 Apr 18 16:15	10° \mathcal{B} 22'24	30.68692 AU
max. Earth dist.	15092 Mar 29 21:22	22° Υ 24'46	31.25693 AU	morning rise	15099 Apr 22 10:59	10° \mathcal{B} 31'27	
conjunction	15092 Mar 31 12:46	22° Υ 28'37	15°28'00	retrograde	15099 Aug 02 19:02	13° \mathcal{B} 05'55	
minimum elong	15092 Mar 31 12:50	22° Υ 28'38	15°27'43	opposition	15099 Oct 18 12:46	11° \mathcal{B} 42'17	15°40'48
retrograde	15092 Jul 14 21:04	25° Υ 07'16		min. Earth dist.	15099 Oct 19 09:08	11° \mathcal{B} 40'50	28.73701 AU
opposition	15092 Sep 29 19:19	23° Υ 44'16	16°30'29	direct	15100 Jan 05 02:36	10° \mathcal{B} 16'52	
min. Earth dist.	15092 Oct 01 06:37	23° Υ 41'46	29.27562 AU	evening set	15100 Apr 18 13:39	12° \mathcal{B} 50'55	
direct	15092 Dec 17 07:31	22° Υ 19'34		conjunction	15100 Apr 22 11:42	13° \mathcal{B} 00'19	14°33'28
max. Earth dist.	15093 Apr 01 20:00	24° Υ 56'30	31.14241 AU	minimum elong	15100 Apr 22 12:00	13° \mathcal{B} 00'20	14°32'53
conjunction	15093 Apr 03 08:49	25° Υ 00'07	15°27'20	max. Earth dist.	15100 Apr 21 15:04	12° \mathcal{B} 58'15	30.65034 AU
minimum elong	15093 Apr 03 08:57	25° Υ 00'08	15°27'00	morning rise	15100 Apr 26 10:18	13° \mathcal{B} 09'45	
retrograde	15093 Jul 17 17:09	27° Υ 39'24			15100 Jun 17 13:34	15° \mathcal{B}	
opposition	15093 Oct 02 13:49	26° Υ 16'11	16°29'06	retrograde	15100 Aug 05 15:49	15° \mathcal{B} 41'37	
min. Earth dist.	15093 Oct 03 22:21	26° Υ 13'53	29.16583 AU		15100 Sep 25 14:28	15° \mathcal{R} \mathcal{B}	
direct	15093 Dec 20 03:56	24° Υ 51'16		opposition	15100 Oct 21 09:14	14° \mathcal{B} 18'01	15°26'07
max. Earth dist.	15094 Apr 04 17:43	27° Υ 29'02	31.03799 AU	min. Earth dist.	15100 Oct 22 02:51	14° \mathcal{B} 16'46	28.70349 AU
conjunction	15094 Apr 06 05:07	27° Υ 32'31	15°24'57	direct	15101 Jan 08 00:17	12° \mathcal{B} 52'37	
minimum elong	15094 Apr 06 05:16	27° Υ 32'32	15°24'35	evening set	15101 Apr 10 04:48	15° \mathcal{B}	
	15094 Jun 24 02:13	0° \mathcal{B}			15101 Apr 20 12:58	15° \mathcal{B} 24'28	
retrograde	15094 Jul 20 13:31	0° \mathcal{B} 12'21		conjunction	15101 Apr 25 09:16	15° \mathcal{B} 36'04	14°18'49
	15094 Aug 16 10:24	30° \mathcal{R} Υ		minimum elong	15101 Apr 25 09:37	15° \mathcal{B} 36'06	14°18'11
opposition	15094 Oct 05 08:59	28° Υ 48'58	16°25'51	max. Earth dist.	15101 Apr 24 15:36	15° \mathcal{B} 34'18	30.62405 AU
min. Earth dist.	15094 Oct 06 16:18	28° Υ 46'45	29.06642 AU	morning rise	15101 Apr 30 06:05	15° \mathcal{B} 47'43	
direct	15094 Dec 22 22:02	27° Υ 23'52		retrograde	15101 Aug 08 10:51	18° \mathcal{B} 17'16	

opposition	15101 Oct 24 05:51	16° 8 53'43	15°09'39
min. Earth dist.	15101 Oct 24 22:23	16° 8 52'32	28.67998 AU
direct	15102 Jan 10 20:35	15° 8 28'21	