retrograde	2600 Jan 07	13:06	6°♎25'26		
opposition	2600 Mar 25	19:27	5°♎03'22	1°17'19	
min. Earth dist.	2600 Mar 26	15:30	5°♎01'59	29.27577	AU
direct	2600 Jun 14	08:13	3°♎38'25		
evening set	2600 Sep 13	05:11	5°♎34'23		
max. Earth dist.	2600 Sep 28	06:53	6°♎07'36	31.27749	AU
conjunction	2600 Sep 29	04:42	6°♎09'37	1°13'41	
minimum elong	2600 Sep 29	04:41	6°♎09'37	1°13'40	
morning rise	2600 Oct 15	00:49	6°♎44'34		
retrograde	2601 Jan 09	23:31	8°♎36'34		
opposition	2601 Mar 28	05:44	7°♎14'31	1°20'01	
min. Earth dist.	2601 Mar 29	01:30	7°♎13'09	29.28042	AU
direct	2601 Jun 16	21:56	5°♎49'31		
evening set	2601 Sep 15	17:15	7°♎45'29		
conjunction	2601 Oct 01	16:09	8°♎20'41	1°16'10	
minimum elong	2601 Oct 01	16:09	8°♎20'41	1°16'10	
max. Earth dist.	2601 Sep 30	17:31	8°♎18'35	31.28190	AU
morning rise	2601 Oct 17	11:44	8°♎55'36		
retrograde	2602 Jan 12	08:33	10°♎47'31		
opposition	2602 Mar 30	16:15	9°♎25'28	1°22'37	
min. Earth dist.	2602 Mar 31	12:45	9°♎24'03	29.28493	AU
direct	2602 Jun 19	08:40	8°♎00'27		
evening set	2602 Sep 18	04:55	9°♎56'24		
max. Earth dist.	2602 Oct 03	05:35	10°♎29'32	31.28644	AU
conjunction	2602 Oct 04	03:22	10°♎31'33	1°18'32	
minimum elong	2602 Oct 04	03:22	10°♎31'33	1°18'32	
morning rise	2602 Oct 19	22:17	11°♎06'25		
retrograde	2603 Jan 14	16:47	12°♎58'17		
opposition	2603 Apr 02	02:47	11°♎36'15	1°25'05	
min. Earth dist.	2603 Apr 02	23:11	11°♎34'50	29.28967	AU
direct	2603 Jun 21	21:17	10°♎11'13		
evening set	2603 Sep 20	16:41	12°♎07'08		
conjunction	2603 Oct 06	14:26	12°♎42'15	1°20'47	
minimum elong	2603 Oct 06	14:26	12°♎42'15	1°20'47	
max. Earth dist.	2603 Oct 05	15:39	12°♎40'08	31.29155	AU
morning rise	2603 Oct 22	08:55	13°♎17'05		
retrograde	2604 Jan 17	03:20	15°♎08'55		
opposition	2604 Apr 03	13:12	13°♎46'53	1°27'26	
min. Earth dist.	2604 Apr 04	09:15	13°♎45'30	29.29538	AU
direct	2604 Jun 23	06:59	12°♎21'52		
evening set	2604 Sep 22	04:10	14°♎17'47		
max. Earth dist.	2604 Oct 07	03:54	14°♎50'51	31.29764	AU
conjunction	2604 Oct 08	01:35	14°♎52'51	1°22'56	
minimum elong	2604 Oct 08	01:35	14°♎52'51	1°22'55	
morning rise	2604 Oct 23	19:22	15°♎27'39		
retrograde	2605 Jan 18	11:08	17°♎19'28		
opposition	2605 Apr 05	23:49	15°♎57'28	1°29'39	
min. Earth dist.	2605 Apr 06	20:25	15°♎56'03	29.30187	AU
direct	2605 Jun 25	18:41	14°♎32'29		
evening set	2605 Sep 24	15:49	16°♎28'24		
conjunction	2605 Oct 10	12:30	17°♎03'26	1°24'57	
minimum elong	2605 Oct 10	12:30	17°♎03'26	1°24'57	
max. Earth dist.	2605 Oct 09	13:50	17°♎01'20	31.30456	AU
morning rise	2605 Oct 26	05:52	17°♎38'11		
retrograde	2606 Jan 20	21:49	19°♎30'00		
opposition	2606 Apr 08	10:20	18°♎08'03	1°31'45	
min. Earth dist.	2606 Apr 09	06:09	18°♎06'41	29.30907	AU
direct	2606 Jun 28	05:34	16°♎43'06		
evening set	2606 Sep 27	03:16	18°♎39'03		
conjunction	2606 Oct 12	23:32	19°♎14'03	1°26'51	
minimum elong	2606 Oct 12	23:32	19°♎14'03	1°26'51	
max. Earth dist.	2606 Oct 12	01:45	19°♎12'01	31.31182	AU
morning rise	2606 Oct 28	16:12	19°♎48'46		
retrograde	2607 Jan 23	07:07	21°♎40'36		
opposition	2607 Apr 10	21:08	20°♎18'41	1°33'42	
min. Earth dist.	2607 Apr 11	18:05	20°♎17'15	29.31637	AU
direct	2607 Jun 30	15:45	18°♎53'47		
evening set	2607 Sep 29	14:38	20°♎49'45		
max. Earth dist.	2607 Oct 14	11:54	21°♎22'37	31.31897	AU
conjunction	2607 Oct 15	10:16	21°♎24'42	1°28'37	
minimum elong	2607 Oct 15	10:16	21°♎24'42	1°28'37	
morning rise	2607 Oct 31	02:32	21°♎59'23		
retrograde	2608 Jan 25	18:29	23°♎51'14		
opposition	2608 Apr 12	07:49	22°♎29'22	1°35'32	
min. Earth dist.	2608 Apr 13	03:58	22°♎27'59	29.32316	AU
direct	2608 Jul 02	04:27	21°♎04'31		
evening set	2608 Oct 01	02:06	23°♎00'29		
conjunction	2608 Oct 16	21:13	23°♎35'24	1°30'16	
minimum elong	2608 Oct 16	21:13	23°♎35'24	1°30'15	
max. Earth dist.	2608 Oct 15	22:42	23°♎33'19	31.32518	AU
morning rise	2608 Nov 01	12:51	24°♎10'03		
retrograde	2609 Jan 27	05:23	26°♎01'54		
opposition	2609 Apr 14	18:38	24°♎40'04	1°37'13	
min. Earth dist.	2609 Apr 15	16:00	24°♎38'36	29.32894	AU
direct	2609 Jul 04	16:15	23°♎15'15		
evening set	2609 Oct 03	13:32	25°♎11'13		
max. Earth dist.	2609 Oct 18	09:32	25°♎44'00	31.33032	AU
conjunction	2609 Oct 19	08:07	25°♎46'06	1°31'46	
minimum elong	2609 Oct 19	08:07	25°♎46'06	1°31'46	
morning rise	2609 Nov 03	23:12	26°♎20'43		
retrograde	2610 Jan 29	15:51	28°♎12'34		
opposition	2610 Apr 17	05:34	26°♎50'45	1°38'46	
min. Earth dist.	2610 Apr 18	02:32	26°♎49'19	29.33332	AU
direct	2610 Jul 07	05:55	25°♎25'58		
evening set	2610 Oct 06	00:50	27°♎21'55		
conjunction	2610 Oct 21	18:46	27°♎56'46	1°33'09	
minimum elong	2610 Oct 21	18:46	27°♎56'46	1°33'09	
max. Earth dist.	2610 Oct 20	19:22	27°♎54'36	31.33395	AU
morning rise	2610 Nov 06	09:22	28°♎31'21		
	2610 Dec 25	23:06	0°♏		
retrograde	2611 Feb 01	01:50	0°♏23'13		
	2611 Mar 11	01:16	30°℞♎		
opposition	2611 Apr 19	16:37	29°♎01'24	1°40'10	
min. Earth dist.	2611 Apr 20	14:13	28°♎59'55	29.33639	AU
direct	2611 Jul 09	16:48	27°♎36'37		
evening set	2611 Oct 08	11:59	29°♎32'33		
	2611 Oct 20	22:22	0°♏		
max. Earth dist.	2611 Oct 23	06:51	0°♏05'16	31.33630	AU
conjunction	2611 Oct 24	05:32	0°♏07'22	1°34'24	
minimum elong	2611 Oct 24	05:32	0°♏07'22	1°34'25	
morning rise	2611 Nov 08	19:32	0°♏41'54		
retrograde	2612 Feb 03	10:30	2°♏33'45		
opposition	2612 Apr 21	03:31	1°♏11'56	1°41'26	
min. Earth dist.	2612 Apr 22	01:19	1°♏10'27	29.33804	AU
	2612 Jun 12	10:15	30°℞♎		
direct	2612 Jul 11	06:00	29°♎47'10		
	2612 Aug 08	12:48	0°♏		
evening set	2612 Oct 09	23:11	1°♏43'04		

conjunction	2612 Oct 25 16:05	2°♏17'51	1°35'31
minimum elong	2612 Oct 25 16:04	2°♏17'51	1°35'31
max. Earth dist.	2612 Oct 24 16:11	2°♏15'38	31.33740 AU
morning rise	2612 Nov 10 05:44	2°♏52'22	
retrograde	2613 Feb 04 21:11	4°♏44'12	
opposition	2613 Apr 23 14:28	3°♏22'22	1°42'33
min. Earth dist.	2613 Apr 24 12:01	3°♏20'53	29.33870 AU
direct	2613 Jul 13 16:41	1°♏57'35	
evening set	2613 Oct 12 10:03	3°♏53'27	
max. Earth dist.	2613 Oct 27 03:47	4°♏26'04	31.33761 AU
conjunction	2613 Oct 28 02:35	4°♏28'11	1°36'30
minimum elong	2613 Oct 28 02:35	4°♏28'11	1°36'30
morning rise	2613 Nov 12 15:35	5°♏02'40	
retrograde	2614 Feb 07 04:45	6°♏54'31	
opposition	2614 Apr 26 01:34	5°♏32'39	1°43'32
min. Earth dist.	2614 Apr 26 23:42	5°♏31'08	29.33866 AU
direct	2614 Jul 16 04:50	4°♏07'51	
evening set	2614 Oct 14 20:56	6°♏03'40	
conjunction	2614 Oct 30 12:48	6°♏38'23	1°37'21
minimum elong	2614 Oct 30 12:47	6°♏38'23	1°37'21
max. Earth dist.	2614 Oct 29 13:16	6°♏36'12	31.33759 AU
morning rise	2614 Nov 15 01:29	7°♏12'50	
retrograde	2615 Feb 09 15:02	9°♏04'41	
opposition	2615 Apr 28 12:33	7°♏42'47	1°44'22
min. Earth dist.	2615 Apr 29 09:34	7°♏41'21	29.33880 AU
direct	2615 Jul 18 15:36	6°♏17'59	
evening set	2615 Oct 17 07:25	8°♏13'46	
conjunction	2615 Nov 01 22:55	8°♏48'27	1°38'03
minimum elong	2615 Nov 01 22:55	8°♏48'27	1°38'03
max. Earth dist.	2615 Nov 01 00:37	8°♏46'23	31.33788 AU
morning rise	2615 Nov 17 11:01	9°♏22'53	
retrograde	2616 Feb 11 23:55	11°♏14'45	
opposition	2616 Apr 29 23:43	9°♏52'50	1°45'03
min. Earth dist.	2616 Apr 30 21:21	9°♏51'21	29.33951 AU
direct	2616 Jul 20 01:29	8°♏28'03	
evening set	2616 Oct 18 18:05	10°♏23'49	
max. Earth dist.	2616 Nov 02 10:44	10°♏56'23	31.33909 AU
conjunction	2616 Nov 03 08:59	10°♏58'28	1°38'37
minimum elong	2616 Nov 03 08:59	10°♏58'28	1°38'37
morning rise	2616 Nov 18 20:44	11°♏32'52	
retrograde	2617 Feb 13 10:46	13°♏24'46	
opposition	2617 May 02 10:39	12°♏02'51	1°45'35
min. Earth dist.	2617 May 03 06:48	12°♏01'29	29.34115 AU
direct	2617 Jul 22 13:55	10°♏38'07	
evening set	2617 Oct 21 04:36	12°♏33'52	
conjunction	2617 Nov 05 19:04	13°♏08'30	1°39'03
minimum elong	2617 Nov 05 19:04	13°♏08'30	1°39'03
max. Earth dist.	2617 Nov 04 21:19	13°♏06'28	31.34120 AU
morning rise	2617 Nov 21 06:18	13°♏42'52	
	2618 Jan 01 03:27	15°♏	
retrograde	2618 Feb 15 22:05	15°♏34'50	
	2618 Apr 04 08:07	15°℞♏	
opposition	2618 May 04 21:57	14°♏12'57	1°45'57
min. Earth dist.	2618 May 05 18:30	14°♏11'32	29.34376 AU
direct	2618 Jul 25 01:05	12°♏48'16	
evening set	2618 Oct 23 14:54	14°♏44'01	
	2618 Oct 30 21:00	15°♏	
max. Earth dist.	2618 Nov 07 08:01	15°♏16'40	31.34418 AU
conjunction	2618 Nov 08 04:56	15°♏18'37	1°39'20
minimum elong	2618 Nov 08 04:55	15°♏18'37	1°39'20
morning rise	2618 Nov 23 15:45	15°♏52'58	
retrograde	2619 Feb 18 08:36	17°♏45'00	
opposition	2619 May 07 09:12	16°♏23'09	1°46'11
min. Earth dist.	2619 May 08 04:45	16°♏21'49	29.34680 AU
	2619 Jul 18 01:16	15°℞♏	
direct	2619 Jul 27 14:01	14°♏58'33	
	2619 Aug 06 01:05	15°♏	
evening set	2619 Oct 26 01:21	16°♏54'18	
conjunction	2619 Nov 10 14:50	17°♏28'53	1°39'28
minimum elong	2619 Nov 10 14:50	17°♏28'53	1°39'29
max. Earth dist.	2619 Nov 09 17:37	17°♏26'54	31.34728 AU
morning rise	2619 Nov 26 01:20	18°♏03'13	
retrograde	2620 Feb 20 19:12	19°♏55'19	
opposition	2620 May 08 20:24	18°♏33'30	1°46'16
min. Earth dist.	2620 May 09 16:09	18°♏32'09	29.34989 AU
direct	2620 Jul 29 00:21	17°♏08'58	
evening set	2620 Oct 27 11:42	19°♏04'43	
max. Earth dist.	2620 Nov 11 04:51	19°♏37'25	31.35008 AU
conjunction	2620 Nov 12 00:52	19°♏39'17	1°39'28
minimum elong	2620 Nov 12 00:52	19°♏39'17	1°39'28
morning rise	2620 Nov 27 10:52	20°♏13'36	
retrograde	2621 Feb 22 04:45	22°♏05'45	
opposition	2621 May 11 07:55	20°♏43'58	1°46'11
min. Earth dist.	2621 May 12 03:33	20°♏42'38	29.35222 AU
direct	2621 Jul 31 14:00	19°♏19'30	
evening set	2621 Oct 29 22:09	21°♏15'15	
conjunction	2621 Nov 14 10:41	21°♏49'47	1°39'20
minimum elong	2621 Nov 14 10:41	21°♏49'47	1°39'20
max. Earth dist.	2621 Nov 13 13:49	21°♏47'50	31.35195 AU
morning rise	2621 Nov 29 20:26	22°♏24'05	
retrograde	2622 Feb 24 16:15	24°♏16'19	
opposition	2622 May 13 19:28	22°♏54'32	1°45'57
min. Earth dist.	2622 May 14 14:31	22°♏53'14	29.35360 AU
direct	2622 Aug 03 01:01	21°♏30'07	
evening set	2622 Nov 01 08:26	23°♏25'50	
conjunction	2622 Nov 16 20:43	24°♏00'21	1°39'03
minimum elong	2622 Nov 16 20:43	24°♏00'21	1°39'03
max. Earth dist.	2622 Nov 16 01:00	23°♏58'30	31.35265 AU
morning rise	2622 Dec 02 05:56	24°♏34'38	
retrograde	2623 Feb 27 00:03	26°♏26'55	
opposition	2623 May 16 07:11	25°♏05'09	1°45'35
min. Earth dist.	2623 May 17 02:48	25°♏03'49	29.35360 AU
direct	2623 Aug 05 13:06	23°♏40'46	
evening set	2623 Nov 03 18:45	25°♏36'26	
max. Earth dist.	2623 Nov 18 09:59	26°♏09'00	31.35202 AU
conjunction	2623 Nov 19 06:29	26°♏10'55	1°38'37
minimum elong	2623 Nov 19 06:29	26°♏10'55	1°38'37
morning rise	2623 Dec 04 15:33	26°♏45'12	
retrograde	2624 Feb 29 10:20	28°♏37'32	
opposition	2624 May 17 18:47	27°♏15'44	1°45'03
min. Earth dist.	2624 May 18 13:24	27°♏14'28	29.35220 AU
direct	2624 Aug 07 00:00	25°♏51'22	
evening set	2624 Nov 05 04:57	27°♏46'58	
conjunction	2624 Nov 20 16:25	28°♏21'27	1°38'03
minimum elong	2624 Nov 20 16:25	28°♏21'27	1°38'03
max. Earth dist.	2624 Nov 19 20:43	28°♏19'36	31.34983 AU
morning rise	2624 Dec 06 01:01	28°♏55'43	
	2625 Jan 07 14:30	0°♐	
retrograde	2625 Mar 02 19:29	0°♐48'05	
	2625 Apr 28 21:54	30°℞♏	
opposition	2625 May 20 06:32	29°♏26'15	1°44'23
min. Earth dist.	2625 May 21 02:03	29°♏24'55	29.34937 AU

direct	2625 Aug 09 10:12	28°♏01'53	
evening set	2625 Nov 07 15:08	29°♏57'25	
	2625 Nov 08 19:25	0°♐	
max. Earth dist.	2625 Nov 22 06:31	0°♐30'02	31.34655 AU
conjunction	2625 Nov 23 02:09	0°♐31'52	1°37'21
minimum elong	2625 Nov 23 02:10	0°♐31'52	1°37'21
morning rise	2625 Dec 08 10:33	1°♐06'07	
retrograde	2626 Mar 05 06:01	2°♐58'32	
opposition	2626 May 22 18:16	1°♐36'38	1°43'34
min. Earth dist.	2626 May 23 12:24	1°♐35'24	29.34554 AU
direct	2626 Aug 11 22:57	0°♐12'16	
evening set	2626 Nov 10 01:00	2°♐07'42	
conjunction	2626 Nov 25 11:41	2°♐42'08	1°36'31
minimum elong	2626 Nov 25 11:41	2°♐42'08	1°36'31
max. Earth dist.	2626 Nov 24 16:26	2°♐40'20	31.34241 AU
morning rise	2626 Dec 10 19:47	3°♐16'22	
retrograde	2627 Mar 07 16:55	5°♐08'50	
opposition	2627 May 25 06:08	3°♐46'51	1°42'36
min. Earth dist.	2627 May 26 00:37	3°♐45'36	29.34133 AU
direct	2627 Aug 14 09:41	2°♐22'29	
evening set	2627 Nov 12 10:51	4°♐17'51	
conjunction	2627 Nov 27 21:14	4°♐52'16	1°35'33
minimum elong	2627 Nov 27 21:14	4°♐52'16	1°35'32
max. Earth dist.	2627 Nov 27 03:05	4°♐50'34	31.33826 AU
morning rise	2627 Dec 13 05:03	5°♐26'29	
retrograde	2628 Mar 09 02:54	7°♐18'59	
opposition	2628 May 26 17:46	5°♐56'57	1°41'29
min. Earth dist.	2628 May 27 11:01	5°♐55'47	29.33724 AU
direct	2628 Aug 15 22:22	4°♐32'35	
evening set	2628 Nov 13 20:46	6°♐27'53	
conjunction	2628 Nov 29 06:42	7°♐02'17	1°34'26
minimum elong	2628 Nov 29 06:42	7°♐02'17	1°34'26
max. Earth dist.	2628 Nov 28 12:30	7°♐00'35	31.33450 AU
morning rise	2628 Dec 14 14:20	7°♐36'30	
retrograde	2629 Mar 11 14:06	9°♐29'03	
opposition	2629 May 29 05:40	8°♐06'59	1°40'14
min. Earth dist.	2629 May 29 22:28	8°♐05'50	29.33395 AU
direct	2629 Aug 18 09:15	6°♐42'38	
evening set	2629 Nov 16 06:23	8°♐37'54	
conjunction	2629 Dec 01 16:08	9°♐12'17	1°33'11
minimum elong	2629 Dec 01 16:08	9°♐12'17	1°33'12
max. Earth dist.	2629 Nov 30 23:48	9°♐10'45	31.33162 AU
morning rise	2629 Dec 16 23:23	9°♐46'29	
retrograde	2630 Mar 13 23:55	11°♐39'07	
opposition	2630 May 31 17:39	10°♐17'02	1°38'50
min. Earth dist.	2630 Jun 01 09:41	10°♐15'57	29.33138 AU
direct	2630 Aug 20 22:48	8°♐52'45	
evening set	2630 Nov 18 16:11	10°♐47'58	
max. Earth dist.	2630 Dec 03 08:51	11°♐20'47	31.32954 AU
conjunction	2630 Dec 04 01:28	11°♐22'21	1°31'49
minimum elong	2630 Dec 04 01:28	11°♐22'21	1°31'49
morning rise	2630 Dec 19 08:41	11°♐56'33	
retrograde	2631 Mar 16 11:48	13°♐49'17	
opposition	2631 Jun 03 05:31	12°♐27'12	1°37'17
min. Earth dist.	2631 Jun 03 20:21	12°♐26'11	29.32960 AU
direct	2631 Aug 23 09:34	11°♐02'59	
evening set	2631 Nov 21 01:43	12°♐58'11	
conjunction	2631 Dec 06 10:54	13°♐32'33	1°30'18
minimum elong	2631 Dec 06 10:55	13°♐32'33	1°30'18
max. Earth dist.	2631 Dec 05 19:58	13°♐31'09	31.32787 AU
morning rise	2631 Dec 21 17:48	14°♐06'45	
retrograde	2632 Mar 17 20:24	15°♐59'36	
opposition	2632 Jun 04 17:36	14°♐37'31	1°35'36
min. Earth dist.	2632 Jun 05 08:35	14°♐36'30	29.32784 AU
direct	2632 Aug 24 21:31	13°♐13'23	
evening set	2632 Nov 22 11:27	15°♐08'34	
conjunction	2632 Dec 07 20:13	15°♐42'56	1°28'39
minimum elong	2632 Dec 07 20:13	15°♐42'56	1°28'39
max. Earth dist.	2632 Dec 07 05:04	15°♐41'30	31.32609 AU
morning rise	2632 Dec 23 03:04	16°♐17'08	
retrograde	2633 Mar 20 07:20	18°♐10'06	
opposition	2633 Jun 07 05:38	16°♐48'02	1°33'46
min. Earth dist.	2633 Jun 07 19:11	16°♐47'07	29.32577 AU
direct	2633 Aug 27 08:19	15°♐23'58	
evening set	2633 Nov 24 21:09	17°♐19'08	
conjunction	2633 Dec 10 05:44	17°♐53'30	1°26'53
minimum elong	2633 Dec 10 05:44	17°♐53'30	1°26'53
max. Earth dist.	2633 Dec 09 15:40	17°♐52'10	31.32363 AU
morning rise	2633 Dec 25 12:19	18°♐27'43	
retrograde	2634 Mar 22 17:25	20°♐20'48	
opposition	2634 Jun 09 18:01	18°♐58'44	1°31'49
min. Earth dist.	2634 Jun 10 08:10	18°♐57'47	29.32288 AU
direct	2634 Aug 29 18:13	17°♐34'45	
evening set	2634 Nov 27 06:45	19°♐29'52	
conjunction	2634 Dec 12 15:04	20°♐04'13	1°24'59
minimum elong	2634 Dec 12 15:04	20°♐04'13	1°24'58
max. Earth dist.	2634 Dec 12 01:22	20°♐02'56	31.32027 AU
morning rise	2634 Dec 27 21:35	20°♐38'27	
retrograde	2635 Mar 25 04:31	22°♐31'39	
opposition	2635 Jun 12 06:17	21°♐09'35	1°29'43
min. Earth dist.	2635 Jun 12 18:59	21°♐08'43	29.31876 AU
direct	2635 Sep 01 06:22	19°♐45'39	
evening set	2635 Nov 29 16:30	21°♐40'44	
max. Earth dist.	2635 Dec 14 10:57	22°♐13'48	31.31540 AU
conjunction	2635 Dec 15 00:35	22°♐15'05	1°22'58
minimum elong	2635 Dec 15 00:35	22°♐15'05	1°22'57
morning rise	2635 Dec 30 06:59	22°♐49'19	
retrograde	2636 Mar 26 16:19	24°♐42'39	
opposition	2636 Jun 13 18:37	23°♐20'32	1°27'30
min. Earth dist.	2636 Jun 14 07:49	23°♐19'39	29.31318 AU
direct	2636 Sep 02 16:13	21°♐56'38	
evening set	2636 Dec 01 02:12	23°♐51'41	
conjunction	2636 Dec 16 10:10	24°♐26'02	1°20'49
minimum elong	2636 Dec 16 10:10	24°♐26'02	1°20'49
max. Earth dist.	2636 Dec 15 21:28	24°♐24'50	31.30910 AU
morning rise	2636 Dec 31 16:23	25°♐00'16	
retrograde	2637 Mar 29 03:00	26°♐53'41	
opposition	2637 Jun 16 07:05	25°♐31'32	1°25'09
min. Earth dist.	2637 Jun 16 19:15	25°♐30'43	29.30596 AU
direct	2637 Sep 05 04:25	24°♐07'40	
evening set	2637 Dec 03 11:50	26°♐02'38	
conjunction	2637 Dec 18 19:28	26°♐36'59	1°18'34
minimum elong	2637 Dec 18 19:28	26°♐36'59	1°18'34
max. Earth dist.	2637 Dec 18 06:25	26°♐35'45	31.30123 AU
morning rise	2638 Jan 03 01:44	27°♐11'14	
retrograde	2638 Mar 31 15:09	29°♐04'45	
opposition	2638 Jun 18 19:39	27°♐42'31	1°22'41
min. Earth dist.	2638 Jun 19 07:36	27°♐41'42	29.29751 AU
direct	2638 Sep 07 15:41	26°♐18'38	
evening set	2638 Dec 05 21:17	28°♐13'32	

conjunction	2638 Dec 21 04:56	28°♐47'53	1°16'12
minimum elong	2638 Dec 21 04:56	28°♐47'53	1°16'13
max. Earth dist.	2638 Dec 20 17:34	28°♐46'49	31.29231 AU
morning rise	2639 Jan 05 11:01	29°♐22'08	
	2639 Jan 23 10:43	0°♑	
retrograde	2639 Apr 03 01:57	1°♑15'43	
	2639 Jun 17 06:17	30°℞♐	
opposition	2639 Jun 21 08:04	29°♐53'24	1°20'07
min. Earth dist.	2639 Jun 21 19:29	29°♐52'38	29.28814 AU
direct	2639 Sep 10 05:37	28°♐29'31	
	2639 Nov 26 22:25	0°♑	
evening set	2639 Dec 08 06:46	0°♑24'20	
conjunction	2639 Dec 23 14:07	0°♑58'41	1°13'44
minimum elong	2639 Dec 23 14:07	0°♑58'41	1°13'44
max. Earth dist.	2639 Dec 23 02:28	0°♑57'35	31.28286 AU
morning rise	2640 Jan 07 20:21	1°♑32'56	
retrograde	2640 Apr 04 13:59	3°♑26'36	
opposition	2640 Jun 22 20:29	2°♑04'12	1°17'25
min. Earth dist.	2640 Jun 23 06:36	2°♑03'31	29.27870 AU
direct	2640 Sep 11 16:50	0°♑40'18	
evening set	2640 Dec 09 16:03	2°♑35'02	
conjunction	2640 Dec 24 23:23	3°♑09'23	1°11'10
minimum elong	2640 Dec 24 23:23	3°♑09'23	1°11'10
max. Earth dist.	2640 Dec 24 13:34	3°♑08'27	31.27353 AU
morning rise	2641 Jan 09 05:24	3°♑43'39	
retrograde	2641 Apr 06 22:39	5°♑37'24	
opposition	2641 Jun 25 09:04	4°♑14'55	1°14'37
min. Earth dist.	2641 Jun 25 18:54	4°♑14'15	29.26964 AU
direct	2641 Sep 14 05:40	2°♑51'02	
evening set	2641 Dec 12 01:28	4°♑45'41	
conjunction	2641 Dec 27 08:32	5°♑20'02	1°08'30
minimum elong	2641 Dec 27 08:32	5°♑20'02	1°08'29
max. Earth dist.	2641 Dec 26 23:03	5°♑19'08	31.26504 AU
morning rise	2642 Jan 11 14:40	5°♑54'18	
retrograde	2642 Apr 09 09:54	7°♑48'10	
opposition	2642 Jun 27 21:34	6°♑25'37	1°11'42
min. Earth dist.	2642 Jun 28 05:22	6°♑25'05	29.26159 AU
direct	2642 Sep 16 17:32	5°♑01'45	
evening set	2642 Dec 14 10:39	6°♑56'21	
conjunction	2642 Dec 29 17:42	7°♑30'42	1°05'43
minimum elong	2642 Dec 29 17:42	7°♑30'42	1°05'43
max. Earth dist.	2642 Dec 29 09:39	7°♑29'56	31.25742 AU
morning rise	2643 Jan 13 23:47	8°♑04'59	
retrograde	2643 Apr 11 20:05	9°♑58'58	
opposition	2643 Jun 30 10:13	8°♑36'22	1°08'41
min. Earth dist.	2643 Jun 30 18:06	8°♑35'50	29.25438 AU
direct	2643 Sep 19 04:18	7°♑12'33	
evening set	2643 Dec 16 19:59	9°♑07'05	
conjunction	2644 Jan 01 02:57	9°♑41'27	1°02'51
minimum elong	2644 Jan 01 02:57	9°♑41'27	1°02'51
max. Earth dist.	2643 Dec 31 19:52	9°♑40'46	31.25066 AU
morning rise	2644 Jan 16 09:04	10°♑15'45	
retrograde	2644 Apr 13 06:31	12°♑09'51	
opposition	2644 Jul 01 22:37	10°♑47'13	1°05'34
min. Earth dist.	2644 Jul 02 04:35	10°♑46'49	29.24773 AU
direct	2644 Sep 20 15:54	9°♑23'27	
evening set	2644 Dec 18 05:23	11°♑17'57	
conjunction	2645 Jan 02 12:12	11°♑52'19	0°59'53
minimum elong	2645 Jan 02 12:12	11°♑52'19	0°59'53
max. Earth dist.	2645 Jan 02 05:36	11°♑51'41	31.24419 AU
morning rise	2645 Jan 17 18:24	12°♑26'38	
retrograde	2645 Apr 15 18:07	14°♑20'53	
opposition	2645 Jul 04 11:27	12°♑58'13	1°02'21
min. Earth dist.	2645 Jul 04 17:23	12°♑57'49	29.24135 AU
direct	2645 Sep 23 01:10	11°♑34'31	
evening set	2645 Dec 20 14:36	13°♑28'57	
conjunction	2646 Jan 04 21:27	14°♑03'20	0°56'49
minimum elong	2646 Jan 04 21:28	14°♑03'20	0°56'49
max. Earth dist.	2646 Jan 04 16:25	14°♑02'51	31.23779 AU
morning rise	2646 Jan 20 03:37	14°♑37'40	
retrograde	2646 Apr 18 05:13	16°♑32'03	
opposition	2646 Jul 07 00:15	15°♑09'21	0°59'02
min. Earth dist.	2646 Jul 07 04:49	15°♑09'03	29.23465 AU
direct	2646 Sep 25 12:50	13°♑45'43	
evening set	2646 Dec 23 00:09	15°♑40'07	
conjunction	2647 Jan 07 06:47	16°♑14'29	0°53'41
minimum elong	2647 Jan 07 06:47	16°♑14'29	0°53'41
max. Earth dist.	2647 Jan 07 01:34	16°♑14'00	31.23084 AU
morning rise	2647 Jan 22 13:10	16°♑48'52	
retrograde	2647 Apr 20 18:18	18°♑43'23	
opposition	2647 Jul 09 13:00	17°♑20'39	0°55'38
min. Earth dist.	2647 Jul 09 17:16	17°♑20'21	29.22738 AU
direct	2647 Sep 27 23:12	15°♑57'02	
evening set	2647 Dec 25 09:34	17°♑51'24	
conjunction	2648 Jan 09 16:21	18°♑25'48	0°50'27
minimum elong	2648 Jan 09 16:21	18°♑25'48	0°50'27
max. Earth dist.	2648 Jan 09 12:46	18°♑25'28	31.22304 AU
morning rise	2648 Jan 24 22:39	19°♑00'11	
retrograde	2648 Apr 22 05:58	20°♑54'50	
opposition	2648 Jul 11 01:56	19°♑32'03	0°52'09
min. Earth dist.	2648 Jul 11 05:43	19°♑31'48	29.21890 AU
direct	2648 Sep 29 12:03	18°♑08'29	
evening set	2648 Dec 26 19:10	20°♑02'49	
conjunction	2649 Jan 11 01:44	20°♑37'13	0°47'10
minimum elong	2649 Jan 11 01:44	20°♑37'13	0°47'10
max. Earth dist.	2649 Jan 10 21:41	20°♑36'50	31.21400 AU
morning rise	2649 Jan 26 08:16	21°♑11'37	
retrograde	2649 Apr 24 18:59	23°♑06'24	
opposition	2649 Jul 13 14:53	21°♑43'33	0°48'36
min. Earth dist.	2649 Jul 13 17:34	21°♑43'22	29.20922 AU
direct	2649 Oct 01 22:54	20°♑20'01	
evening set	2649 Dec 29 04:39	22°♑14'17	
conjunction	2650 Jan 13 11:21	22°♑48'42	0°43'48
minimum elong	2650 Jan 13 11:21	22°♑48'42	0°43'48
max. Earth dist.	2650 Jan 13 08:41	22°♑48'26	31.20364 AU
morning rise	2650 Jan 28 17:52	23°♑23'07	
retrograde	2650 Apr 27 05:21	25°♑18'01	
opposition	2650 Jul 16 03:56	23°♑55'06	0°44'58
min. Earth dist.	2650 Jul 16 06:42	23°♑54'54	29.19821 AU
direct	2650 Oct 04 11:51	22°♑31'34	
evening set	2650 Dec 31 14:08	24°♑25'45	
conjunction	2651 Jan 15 20:47	25°♑00'10	0°40'23
minimum elong	2651 Jan 15 20:47	25°♑00'10	0°40'23
max. Earth dist.	2651 Jan 15 18:12	24°♑59'56	31.19225 AU
morning rise	2651 Jan 31 03:35	25°♑34'37	
retrograde	2651 Apr 29 17:41	27°♑29'38	
opposition	2651 Jul 18 16:49	26°♑06'36	0°41'17
min. Earth dist.	2651 Jul 18 17:58	26°♑06'32	29.18633 AU
direct	2651 Oct 07 00:17	24°♑43'04	
evening set	2652 Jan 02 23:34	26°♑37'11	
conjunction	2652 Jan 18 06:16	27°♑11'37	0°36'54

minimum elong	2652 Jan 18 06:16	27°♑11'37	0°36'54
max. Earth dist.	2652 Jan 18 04:44	27°♑11'29	31.18006 AU
morning rise	2652 Feb 02 13:09	27°♑46'05	
retrograde	2652 May 01 04:09	29°♑41'13	
opposition	2652 Jul 20 05:44	28°♑18'05	0°37'32
min. Earth dist.	2652 Jul 20 07:08	28°♑17'59	29.17409 AU
direct	2652 Oct 08 11:41	26°♑54'32	
evening set	2653 Jan 04 08:58	28°♑48'35	
conjunction	2653 Jan 19 15:43	29°♑23'01	0°33'22
minimum elong	2653 Jan 19 15:43	29°♑23'01	0°33'22
max. Earth dist.	2653 Jan 19 15:22	29°♑22'59	31.16805 AU
morning rise	2653 Feb 03 22:44	29°♑57'31	
	2653 Feb 05 01:42	0°♒	
retrograde	2653 May 03 14:42	1°♒52'45	
opposition	2653 Jul 22 18:40	0°♒29'32	0°33'44
min. Earth dist.	2653 Jul 22 17:57	0°♒29'35	29.16232 AU
	2653 Aug 10 08:20	30°℞♑	
direct	2653 Oct 10 23:46	29°♑06'00	
	2653 Dec 08 00:50	0°♒	
evening set	2654 Jan 06 18:19	0°♒59'58	
conjunction	2654 Jan 22 01:01	1°♒34'25	0°29'48
minimum elong	2654 Jan 22 01:02	1°♒34'25	0°29'48
max. Earth dist.	2654 Jan 22 01:15	1°♒34'27	31.15668 AU
morning rise	2654 Feb 06 08:17	2°♒08'57	
retrograde	2654 May 06 02:12	4°♒04'19	
opposition	2654 Jul 25 07:45	2°♒41'01	0°29'53
min. Earth dist.	2654 Jul 25 06:43	2°♒41'05	29.15155 AU
direct	2654 Oct 13 09:07	1°♒17'30	
evening set	2655 Jan 09 03:41	3°♒11'25	
conjunction	2655 Jan 24 10:35	3°♒45'54	0°26'10
minimum elong	2655 Jan 24 10:35	3°♒45'54	0°26'11
max. Earth dist.	2655 Jan 24 12:42	3°♒46'05	31.14650 AU
morning rise	2655 Feb 08 17:54	4°♒20'26	
retrograde	2655 May 08 13:20	6°♒15'57	
opposition	2655 Jul 27 20:31	4°♒52'36	0°25'59
min. Earth dist.	2655 Jul 27 17:46	4°♒52'47	29.14185 AU
direct	2655 Oct 15 20:27	3°♒29'07	
evening set	2656 Jan 11 13:13	5°♒23'00	
conjunction	2656 Jan 26 20:02	5°♒57'29	0°22'30
minimum elong	2656 Jan 26 20:02	5°♒57'29	0°22'30
max. Earth dist.	2656 Jan 26 22:14	5°♒57'41	31.13739 AU
morning rise	2656 Feb 11 03:42	6°♒32'04	
retrograde	2656 May 10 02:45	8°♒27'44	
opposition	2656 Jul 29 09:33	7°♒04'20	0°22'02
min. Earth dist.	2656 Jul 29 06:03	7°♒04'34	29.13328 AU
direct	2656 Oct 17 06:23	5°♒40'54	
evening set	2657 Jan 12 22:32	7°♒34'46	
conjunction	2657 Jan 28 05:36	8°♒09'16	0°18'48
minimum elong	2657 Jan 28 05:35	8°♒09'16	0°18'48
max. Earth dist.	2657 Jan 28 09:56	8°♒09'40	31.12918 AU
morning rise	2657 Feb 12 13:17	8°♒43'52	
retrograde	2657 May 12 15:02	10°♒39'42	
opposition	2657 Jul 31 22:39	9°♒16'16	0°18'03
min. Earth dist.	2657 Jul 31 18:14	9°♒16'34	29.12531 AU
direct	2657 Oct 19 18:09	7°♒52'53	
evening set	2658 Jan 15 08:11	9°♒46'44	
conjunction	2658 Jan 30 15:10	10°♒21'15	0°15'04
minimum elong	2658 Jan 30 15:10	10°♒21'15	0°15'04
behind sun begin	2658 Jan 30 12:41	10°♒21'02	
behind sun end	2658 Jan 30 17:40	10°♒21'29	
max. Earth dist.	2658 Jan 30 19:29	10°♒21'39	31.12155 AU
morning rise	2658 Feb 14 23:15	10°♒55'53	
retrograde	2658 May 15 04:41	12°♒51'53	
opposition	2658 Aug 03 11:42	11°♒28'25	0°14'02
min. Earth dist.	2658 Aug 03 05:58	11°♒28'48	29.11783 AU
direct	2658 Oct 22 03:53	10°♒05'06	
evening set	2659 Jan 17 17:45	11°♒58'56	
conjunction	2659 Feb 02 00:58	12°♒33'28	0°11'18
minimum elong	2659 Feb 02 00:58	12°♒33'28	0°11'18
behind sun begin	2659 Feb 01 20:13	12°♒33'02	
behind sun end	2659 Feb 02 05:44	12°♒33'54	
max. Earth dist.	2659 Feb 02 06:51	12°♒34'00	31.11396 AU
morning rise	2659 Feb 17 09:09	13°♒08'08	
	2659 May 01 13:49	15°♒	
retrograde	2659 May 17 16:44	15°♒04'17	
	2659 Jun 03 00:08	15°℞♒	
opposition	2659 Aug 06 00:55	13°♒40'47	0°10'00
min. Earth dist.	2659 Aug 05 19:10	13°♒41'10	29.11008 AU
direct	2659 Oct 24 16:44	12°♒17'32	
evening set	2660 Jan 20 03:35	14°♒11'20	
conjunction	2660 Feb 04 10:49	14°♒45'53	0°07'32
minimum elong	2660 Feb 04 10:49	14°♒45'53	0°07'32
behind sun begin	2660 Feb 04 04:59	14°♒45'22	
behind sun end	2660 Feb 04 16:39	14°♒46'25	
max. Earth dist.	2660 Feb 04 16:52	14°♒46'26	31.10601 AU
	2660 Feb 10 15:37	15°♒	
morning rise	2660 Feb 19 19:17	15°♒20'34	
retrograde	2660 May 19 06:58	17°♒16'52	
opposition	2660 Aug 07 13:59	15°♒53'20	0°05'57
min. Earth dist.	2660 Aug 07 06:43	15°♒53'50	29.10173 AU
	2660 Sep 12 01:49	15°℞♒	
direct	2660 Oct 26 05:14	14°♒30'07	
	2660 Dec 07 15:29	15°♒	
evening set	2661 Jan 21 13:31	16°♒23'54	
conjunction	2661 Feb 05 20:51	16°♒58'29	0°03'45
minimum elong	2661 Feb 05 20:52	16°♒58'29	0°03'45
behind sun begin	2661 Feb 05 14:32	16°♒57'54	
behind sun end	2661 Feb 06 03:13	16°♒59'03	
max. Earth dist.	2661 Feb 06 03:39	16°♒59'06	31.09712 AU
morning rise	2661 Feb 21 05:32	17°♒33'12	
retrograde	2661 May 21 18:37	19°♒29'39	
opposition	2661 Aug 10 03:25	18°♒06'02	0°01'53
min. Earth dist.	2661 Aug 09 20:39	18°♒06'30	29.09236 AU
direct	2661 Oct 28 16:43	16°♒42'51	
evening set	2662 Jan 23 23:24	18°♒36'35	
desc. node	2662 Jan 26 07:48	18°♒41'49	
conjunction	2662 Feb 08 06:58	19°♒11'11	-0°00'09
minimum elong	2662 Feb 08 06:57	19°♒11'11	0°00'08
behind sun begin	2662 Feb 08 00:41	19°♒10'37	
behind sun end	2662 Feb 08 13:13	19°♒11'45	
max. Earth dist.	2662 Feb 08 14:33	19°♒11'53	31.08720 AU
morning rise	2662 Feb 23 15:50	19°♒45'56	
retrograde	2662 May 24 06:05	21°♒42'30	
opposition	2662 Aug 12 16:40	20°♒18'49	-0°02'12
min. Earth dist.	2662 Aug 12 08:20	20°♒19'23	29.08172 AU
direct	2662 Oct 31 05:27	18°♒55'38	
evening set	2663 Jan 26 09:31	20°♒49'18	
conjunction	2663 Feb 10 17:07	21°♒23'55	-0°04'01
minimum elong	2663 Feb 10 17:07	21°♒23'55	0°04'00
behind sun begin	2663 Feb 10 10:48	21°♒23'21	
behind sun end	2663 Feb 10 23:27	21°♒24'29	
max. Earth dist.	2663 Feb 11 00:33	21°♒24'36	31.07592 AU
morning rise	2663 Feb 26 02:23	21°♒58'41	

retrograde	2663 May 26 18:03	23°♒55'22	
opposition	2663 Aug 15 05:53	22°♒31'35	-0°06'16
min. Earth dist.	2663 Aug 14 21:55	22°♒32'08	29.06998 AU
direct	2663 Nov 02 16:00	21°♒08'23	
evening set	2664 Jan 28 19:27	23°♒01'59	
conjunction	2664 Feb 13 03:23	23°♒36'37	-0°07'48
minimum elong	2664 Feb 13 03:23	23°♒36'37	0°07'48
behind sun begin	2664 Feb 12 21:35	23°♒36'06	
behind sun end	2664 Feb 13 09:10	23°♒37'09	
max. Earth dist.	2664 Feb 13 12:16	23°♒37'27	31.06377 AU
morning rise	2664 Feb 28 12:47	24°♒11'25	
retrograde	2664 May 28 05:18	26°♒08'11	
opposition	2664 Aug 16 19:03	24°♒44'18	-0°10'20
min. Earth dist.	2664 Aug 16 09:44	24°♒44'56	29.05749 AU
direct	2664 Nov 04 04:31	23°♒21'05	
evening set	2665 Jan 30 05:24	25°♒14'36	
conjunction	2665 Feb 14 13:19	25°♒49'14	-0°11'34
minimum elong	2665 Feb 14 13:19	25°♒49'14	0°11'35
behind sun begin	2665 Feb 14 08:40	25°♒48'49	
behind sun end	2665 Feb 14 17:58	25°♒49'40	
max. Earth dist.	2665 Feb 14 22:05	25°♒50'03	31.05125 AU
morning rise	2665 Mar 01 23:10	26°♒24'04	
retrograde	2665 May 30 17:57	28°♒20'57	
opposition	2665 Aug 19 08:21	26°♒56'57	-0°14'22
min. Earth dist.	2665 Aug 18 22:33	26°♒57'37	29.04518 AU
direct	2665 Nov 06 14:42	25°♒33'41	
evening set	2666 Feb 01 15:21	27°♒27'09	
conjunction	2666 Feb 16 23:36	28°♒01'48	-0°15'20
minimum elong	2666 Feb 16 23:36	28°♒01'48	0°15'21
behind sun begin	2666 Feb 16 21:27	28°♒01'37	
behind sun end	2666 Feb 17 01:45	28°♒02'00	
max. Earth dist.	2666 Feb 17 10:23	28°♒02'49	31.03912 AU
morning rise	2666 Mar 04 09:34	28°♒36'39	
	2666 Apr 17 11:53	0°♓	
retrograde	2666 Jun 02 05:28	0°♓33'39	
	2666 Jul 19 19:13	30°♑℞	
opposition	2666 Aug 21 21:25	29°♒09'33	-0°18'24
min. Earth dist.	2666 Aug 21 10:44	29°♒10'16	29.03346 AU
direct	2666 Nov 09 02:13	27°♒46'16	
evening set	2667 Feb 04 01:26	29°♒39'41	
	2667 Feb 13 02:18	0°♓	
conjunction	2667 Feb 19 09:45	0°♓14'22	-0°19'05
minimum elong	2667 Feb 19 09:44	0°♓14'22	0°19'05
max. Earth dist.	2667 Feb 19 20:30	0°♓15'23	31.02793 AU
morning rise	2667 Mar 06 20:09	0°♓49'14	
retrograde	2667 Jun 04 19:20	2°♓46'21	
opposition	2667 Aug 24 10:30	1°♓22'10	-0°22'24
min. Earth dist.	2667 Aug 23 22:28	1°♓22'59	29.02287 AU
	2667 Nov 03 12:15	30°♑℞	
direct	2667 Nov 11 12:11	29°♒58'54	
	2667 Nov 19 14:16	0°♓	
evening set	2668 Feb 06 11:27	1°♓52'18	
conjunction	2668 Feb 21 20:02	2°♓27'00	-0°22'49
minimum elong	2668 Feb 21 20:02	2°♓27'00	0°22'49
max. Earth dist.	2668 Feb 22 08:26	2°♓28'10	31.01775 AU
morning rise	2668 Mar 08 06:37	3°♓01'54	
retrograde	2668 Jun 06 07:45	4°♓59'09	
opposition	2668 Aug 25 23:39	3°♓34'54	-0°26'22
min. Earth dist.	2668 Aug 25 11:19	3°♓35'44	29.01326 AU
direct	2668 Nov 13 00:33	2°♓11'40	
evening set	2669 Feb 07 21:38	4°♓05'02	

conjunction	2669 Feb 23 06:24	4°♓39'46	-0°26'30
minimum elong	2669 Feb 23 06:23	4°♓39'46	0°26'30
max. Earth dist.	2669 Feb 23 19:18	4°♓40'59	31.00879 AU
morning rise	2669 Mar 10 17:20	5°♓14'42	
retrograde	2669 Jun 08 22:39	7°♓12'05	
opposition	2669 Aug 28 12:47	5°♓47'47	-0°30'18
min. Earth dist.	2669 Aug 27 22:38	5°♓48'45	29.00478 AU
direct	2669 Nov 15 12:26	4°♓24'36	
evening set	2670 Feb 10 07:49	6°♓17'58	
conjunction	2670 Feb 25 16:48	6°♓52'43	-0°30'10
minimum elong	2670 Feb 25 16:47	6°♓52'43	0°30'10
max. Earth dist.	2670 Feb 26 06:40	6°♓54'02	31.00060 AU
morning rise	2670 Mar 13 04:06	7°♓27'42	
retrograde	2670 Jun 11 11:00	9°♓25'14	
opposition	2670 Aug 31 02:04	8°♓00'55	-0°34'12
min. Earth dist.	2670 Aug 30 12:15	8°♓01'51	28.99695 AU
direct	2670 Nov 17 23:32	6°♓37'46	
evening set	2671 Feb 12 18:12	8°♓31'09	
conjunction	2671 Feb 28 03:29	9°♓05'55	-0°33'47
minimum elong	2671 Feb 28 03:29	9°♓05'55	0°33'47
max. Earth dist.	2671 Feb 28 18:23	9°♓07'20	30.99299 AU
morning rise	2671 Mar 15 15:02	9°♓40'55	
retrograde	2671 Jun 13 23:53	11°♓38'36	
opposition	2671 Sep 02 15:01	10°♓14'16	-0°38'03
min. Earth dist.	2671 Sep 01 23:39	10°♓15'19	28.98938 AU
direct	2671 Nov 20 12:02	8°♓51'11	
evening set	2672 Feb 15 04:47	10°♓44'34	
conjunction	2672 Mar 01 14:10	11°♓19'22	-0°37'22
minimum elong	2672 Mar 01 14:09	11°♓19'22	0°37'22
max. Earth dist.	2672 Mar 02 04:59	11°♓20'46	30.98532 AU
morning rise	2672 Mar 17 02:09	11°♓54'25	
retrograde	2672 Jun 15 13:20	13°♓52'15	
opposition	2672 Sep 04 04:22	12°♓27'53	-0°41'51
min. Earth dist.	2672 Sep 03 13:23	12°♓28'55	28.98165 AU
direct	2672 Nov 21 22:32	11°♓04'51	
evening set	2673 Feb 16 15:16	12°♓58'14	
conjunction	2673 Mar 04 01:01	13°♓33'04	-0°40'53
minimum elong	2673 Mar 04 01:01	13°♓33'04	0°40'53
max. Earth dist.	2673 Mar 04 17:14	13°♓34'36	30.97726 AU
morning rise	2673 Mar 19 13:11	14°♓08'09	
retrograde	2673 Jun 18 01:25	16°♓06'07	
opposition	2673 Sep 06 17:37	14°♓41'44	-0°45'35
min. Earth dist.	2673 Sep 06 01:32	14°♓42'50	28.97316 AU
direct	2673 Nov 24 11:01	13°♓18'44	
evening set	2674 Feb 19 02:10	15°♓12'07	
conjunction	2674 Mar 06 12:02	15°♓46'58	-0°44'21
minimum elong	2674 Mar 06 12:01	15°♓46'58	0°44'20
max. Earth dist.	2674 Mar 07 03:32	15°♓48'26	30.96825 AU
morning rise	2674 Mar 22 00:42	16°♓22'05	
retrograde	2674 Jun 20 14:24	18°♓20'11	
opposition	2674 Sep 09 06:52	16°♓55'45	-0°49'15
min. Earth dist.	2674 Sep 08 14:57	16°♓56'50	28.96369 AU
direct	2674 Nov 26 20:59	15°♓32'44	
evening set	2675 Feb 21 12:59	17°♓26'07	
conjunction	2675 Mar 08 23:17	18°♓01'00	-0°47'44
minimum elong	2675 Mar 08 23:17	18°♓01'00	0°47'44
max. Earth dist.	2675 Mar 09 16:06	18°♓02'35	30.95806 AU
morning rise	2675 Mar 24 12:10	18°♓36'08	
retrograde	2675 Jun 23 02:07	20°♓34'21	
opposition	2675 Sep 11 20:06	19°♓09'50	-0°52'51
min. Earth dist.	2675 Sep 11 03:54	19°♓10'57	28.95286 AU

direct	2675 Nov 29	08:25	17°♓46'49	
evening set	2676 Feb 23	23:53	19°♓40'10	
conjunction	2676 Mar 10	10:20	20°♓15'03	-0°51'04
minimum elong	2676 Mar 10	10:19	20°♓15'03	0°51'04
max. Earth dist.	2676 Mar 11	02:32	20°♓16'35	30.94677 AU
morning rise	2676 Mar 25	23:41	20°♓50'13	
retrograde	2676 Jun 24	16:14	22°♓48'32	
opposition	2676 Sep 13	09:17	21°♓23'55	-0°56'22
min. Earth dist.	2676 Sep 12	16:25	21°♓25'04	28.94125 AU
direct	2676 Nov 30	18:47	20°♓00'51	
evening set	2677 Feb 25	10:45	21°♓54'10	
conjunction	2677 Mar 12	21:34	22°♓29'05	-0°54'19
minimum elong	2677 Mar 12	21:33	22°♓29'05	0°54'19
max. Earth dist.	2677 Mar 13	14:56	22°♓30'43	30.93486 AU
morning rise	2677 Mar 28	11:11	23°♓04'16	
retrograde	2677 Jun 27	04:38	25°♓02'39	
opposition	2677 Sep 15	22:27	23°♓37'56	-0°59'47
min. Earth dist.	2677 Sep 15	05:41	23°♓39'05	28.92936 AU
direct	2677 Dec 03	07:21	22°♓14'50	
evening set	2678 Feb 27	21:37	24°♓08'06	
conjunction	2678 Mar 15	08:44	24°♓43'02	-0°57'28
minimum elong	2678 Mar 15	08:43	24°♓43'02	0°57'29
max. Earth dist.	2678 Mar 16	02:19	24°♓44'42	30.92318 AU
morning rise	2678 Mar 30	22:48	25°♓18'15	
retrograde	2678 Jun 29	19:14	27°♓16'42	
opposition	2678 Sep 18	11:25	25°♓51'52	-1°03'08
min. Earth dist.	2678 Sep 17	17:14	25°♓53'08	28.91798 AU
direct	2678 Dec 05	19:12	24°♓28'43	
evening set	2679 Mar 02	08:40	26°♓21'58	
conjunction	2679 Mar 17	20:01	26°♓56'55	-1°00'33
minimum elong	2679 Mar 17	20:01	26°♓56'55	1°00'33
max. Earth dist.	2679 Mar 18	14:18	26°♓58'39	30.91206 AU
morning rise	2679 Apr 02	10:26	27°♓32'10	
retrograde	2679 Jul 02	07:33	29°♓30'41	
min. Earth dist.	2679 Sep 20	06:34	28°♓07'00	28.90750 AU
opposition	2679 Sep 21	00:19	28°♓05'46	-1°06'23
direct	2679 Dec 08	06:19	26°♓42'35	
evening set	2680 Mar 03	19:37	28°♓35'49	
conjunction	2680 Mar 19	07:23	29°♓10'48	-1°03'33
minimum elong	2680 Mar 19	07:22	29°♓10'47	1°03'33
max. Earth dist.	2680 Mar 20	02:45	29°♓12'38	30.90221 AU
morning rise	2680 Apr 03	22:06	29°♓46'04	
	2680 Apr 10	06:51	0°♈	
retrograde	2680 Jul 03	21:39	1°♈44'39	
opposition	2680 Sep 22	13:11	0°♈19'40	-1°09'31
min. Earth dist.	2680 Sep 21	17:43	0°♈21'00	28.89830 AU
	2680 Oct 04	12:41	30°♓℞	
direct	2680 Dec 09	19:45	28°♓56'28	
	2681 Feb 10	06:36	0°♈	
evening set	2681 Mar 06	06:39	0°♈49'41	
conjunction	2681 Mar 21	18:36	1°♈24'41	-1°06'26
minimum elong	2681 Mar 21	18:36	1°♈24'41	1°06'26
max. Earth dist.	2681 Mar 22	14:00	1°♈26'31	30.89359 AU
morning rise	2681 Apr 06	09:50	2°♈00'00	
retrograde	2681 Jul 06	11:44	3°♈58'39	
min. Earth dist.	2681 Sep 24	07:00	2°♈34'56	28.89047 AU
opposition	2681 Sep 25	02:12	2°♈33'37	-1°12'34
direct	2681 Dec 12	07:04	1°♈10'25	
evening set	2682 Mar 08	17:44	3°♈03'37	
conjunction	2682 Mar 24	06:12	3°♈38'39	-1°09'14
minimum elong	2682 Mar 24	06:11	3°♈38'39	1°09'14
max. Earth dist.	2682 Mar 25	03:07	3°♈40'38	30.88636 AU
morning rise	2682 Apr 08	21:40	4°♈14'00	
retrograde	2682 Jul 08	23:38	6°♈12'44	
opposition	2682 Sep 27	14:52	4°♈47'39	-1°15'30
min. Earth dist.	2682 Sep 26	18:25	4°♈49'04	28.88378 AU
direct	2682 Dec 14	19:35	3°♈24'28	
evening set	2683 Mar 11	05:08	5°♈17'41	
conjunction	2683 Mar 26	17:46	5°♈52'44	-1°11'56
minimum elong	2683 Mar 26	17:46	5°♈52'44	1°11'56
max. Earth dist.	2683 Mar 27	14:10	5°♈54'41	30.88017 AU
morning rise	2683 Apr 11	09:49	6°♈28'07	
retrograde	2683 Jul 11	12:57	8°♈26'57	
min. Earth dist.	2683 Sep 29	07:22	7°♈03'15	28.87809 AU
opposition	2683 Sep 30	03:46	7°♈01'51	-1°18'20
direct	2683 Dec 17	05:46	5°♈38'41	
evening set	2684 Mar 12	16:22	7°♈31'55	
conjunction	2684 Mar 28	05:29	8°♈07'00	-1°14'31
minimum elong	2684 Mar 28	05:29	8°♈07'00	1°14'32
max. Earth dist.	2684 Mar 29	03:29	8°♈09'05	30.87467 AU
morning rise	2684 Apr 12	21:44	8°♈42'24	
retrograde	2684 Jul 13	01:00	10°♈41'19	
opposition	2684 Oct 01	16:38	9°♈16'13	-1°21'02
min. Earth dist.	2684 Sep 30	19:52	9°♈17'39	28.87277 AU
direct	2684 Dec 18	17:20	7°♈53'04	
evening set	2685 Mar 15	04:01	9°♈46'20	
conjunction	2685 Mar 30	17:22	10°♈21'26	-1°17'00
minimum elong	2685 Mar 30	17:22	10°♈21'26	1°17'00
max. Earth dist.	2685 Mar 31	14:41	10°♈23'27	30.86947 AU
morning rise	2685 Apr 15	10:09	10°♈56'53	
retrograde	2685 Jul 15	15:21	12°♈55'53	
min. Earth dist.	2685 Oct 03	08:23	11°♈32'14	28.86757 AU
opposition	2685 Oct 04	05:29	11°♈30'46	-1°23'38
direct	2685 Dec 21	03:35	10°♈07'38	
evening set	2686 Mar 17	15:43	12°♈00'55	
conjunction	2686 Apr 02	05:32	12°♈36'04	-1°19'21
minimum elong	2686 Apr 02	05:31	12°♈36'03	1°19'22
max. Earth dist.	2686 Apr 03	03:37	12°♈38'09	30.86388 AU
morning rise	2686 Apr 17	22:38	13°♈11'32	
retrograde	2686 Jul 18	03:33	15°♈10'37	
opposition	2686 Oct 06	18:24	13°♈45'29	-1°26'05
min. Earth dist.	2686 Oct 05	21:52	13°♈46'54	28.86167 AU
direct	2686 Dec 23	15:15	12°♈22'21	
evening set	2687 Mar 20	03:38	14°♈15'39	
conjunction	2687 Apr 04	17:47	14°♈50'49	-1°21'36
minimum elong	2687 Apr 04	17:47	14°♈50'49	1°21'35
max. Earth dist.	2687 Apr 05	15:21	14°♈52'52	30.85758 AU
morning rise	2687 Apr 20	11:20	15°♈26'19	
retrograde	2687 Jul 20	18:12	17°♈25'28	
min. Earth dist.	2687 Oct 08	09:48	16°♈01'46	28.85491 AU
opposition	2687 Oct 09	07:06	16°♈00'17	-1°28'25
direct	2687 Dec 26	02:36	14°♈37'08	
evening set	2688 Mar 21	15:36	16°♈30'27	
conjunction	2688 Apr 06	06:06	17°♈05'39	-1°23'43
minimum elong	2688 Apr 06	06:06	17°♈05'39	1°23'43
max. Earth dist.	2688 Apr 07	03:42	17°♈07'42	30.85028 AU
morning rise	2688 Apr 22	00:04	17°♈41'10	
retrograde	2688 Jul 22	07:07	19°♈40'21	
opposition	2688 Oct 10	20:01	18°♈15'08	-1°30'37
min. Earth dist.	2688 Oct 09	23:43	18°♈16'32	28.84731 AU
direct	2688 Dec 27	13:49	16°♈51'56	

evening set	2689 Mar 24	03:21	18°♈45'15	
conjunction	2689 Apr 08	18:23	19°♈20'28	-1°25'42
minimum elong	2689 Apr 08	18:23	19°♈20'28	1°25'42
max. Earth dist.	2689 Apr 09	16:27	19°♈22'34	30.84252 AU
morning rise	2689 Apr 24	12:44	19°♈56'02	
retrograde	2689 Jul 24	21:55	21°♈55'14	
min. Earth dist.	2689 Oct 12	11:20	20°♈31'25	28.83940 AU
opposition	2689 Oct 13	08:39	20°♈29'56	-1°32'41
direct	2689 Dec 30	03:33	19°♈06'42	
evening set	2690 Mar 26	15:26	21°♈00'01	
conjunction	2690 Apr 11	06:44	21°♈35'16	-1°27'34
minimum elong	2690 Apr 11	06:44	21°♈35'16	1°27'35
max. Earth dist.	2690 Apr 12	04:16	21°♈37'18	30.83460 AU
morning rise	2690 Apr 27	01:38	22°♈10'51	
retrograde	2690 Jul 27	11:57	24°♈10'03	
opposition	2690 Oct 15	21:12	22°♈44'42	-1°34'36
min. Earth dist.	2690 Oct 15	00:46	22°♈46'07	28.83180 AU
direct	2691 Jan 01	15:15	21°♈21'25	
evening set	2691 Mar 29	03:22	23°♈14'44	
conjunction	2691 Apr 13	19:14	23°♈50'00	-1°29'18
minimum elong	2691 Apr 13	19:14	23°♈50'00	1°29'17
max. Earth dist.	2691 Apr 14	17:54	23°♈52'09	30.82731 AU
morning rise	2691 Apr 29	14:24	24°♈25'37	
retrograde	2691 Jul 30	00:25	26°♈24'50	
opposition	2691 Oct 18	09:38	24°♈59'26	-1°36'23
min. Earth dist.	2691 Oct 17	12:09	25°♈00'56	28.82496 AU
direct	2692 Jan 04	04:13	23°♈36'07	
evening set	2692 Mar 30	15:22	25°♈29'26	
conjunction	2692 Apr 15	07:28	26°♈04'44	-1°30'54
minimum elong	2692 Apr 15	07:28	26°♈04'44	1°30'54
max. Earth dist.	2692 Apr 16	05:27	26°♈06'49	30.82103 AU
morning rise	2692 May 01	03:13	26°♈40'23	
retrograde	2692 Jul 31	14:17	28°♈39'37	
opposition	2692 Oct 19	22:11	27°♈14'10	-1°38'01
min. Earth dist.	2692 Oct 19	00:53	27°♈15'39	28.81947 AU
direct	2693 Jan 05	15:13	25°♈50'50	
evening set	2693 Apr 02	03:24	27°♈44'09	
conjunction	2693 Apr 17	20:05	28°♈19'29	-1°32'21
minimum elong	2693 Apr 17	20:05	28°♈19'29	1°32'21
max. Earth dist.	2693 Apr 18	19:32	28°♈21'43	30.81617 AU
morning rise	2693 May 03	16:06	28°♈55'09	
	2693 Jun 04	23:24	0°♉	
retrograde	2693 Aug 03	02:43	0°♉54'24	
	2693 Oct 03	11:29	30°℞♈	
opposition	2693 Oct 22	10:30	29°♈28'57	-1°39'30
min. Earth dist.	2693 Oct 21	12:49	29°♈30'28	28.81535 AU
direct	2694 Jan 08	03:14	28°♈05'36	
evening set	2694 Apr 04	15:37	29°♈58'57	
	2694 Apr 05	03:05	0°♉	
conjunction	2694 Apr 20	08:39	0°♉34'18	-1°33'40
minimum elong	2694 Apr 20	08:39	0°♉34'18	1°33'41
max. Earth dist.	2694 Apr 21	07:23	0°♉36'27	30.81286 AU
morning rise	2694 May 06	05:16	1°♉10'01	
retrograde	2694 Aug 05	16:13	3°♉09'16	
opposition	2694 Oct 24	22:52	1°♉43'49	-1°40'49
min. Earth dist.	2694 Oct 24	00:48	1°♉45'22	28.81280 AU
direct	2695 Jan 10	13:49	0°♉20'27	
evening set	2695 Apr 07	03:52	2°♉13'51	
conjunction	2695 Apr 22	21:23	2°♉49'14	-1°34'51
minimum elong	2695 Apr 22	21:23	2°♉49'14	1°34'50
max. Earth dist.	2695 Apr 23	21:06	2°♉51'28	30.81085 AU
morning rise	2695 May 08	18:18	3°♉24'58	
retrograde	2695 Aug 08	03:21	5°♉24'14	
opposition	2695 Oct 27	11:09	3°♉58'48	-1°42'00
min. Earth dist.	2695 Oct 26	13:27	4°♉00'20	28.81142 AU
direct	2696 Jan 13	00:51	2°♉35'28	
evening set	2696 Apr 08	16:14	4°♉28'53	
conjunction	2696 Apr 24	10:11	5°♉04'18	-1°35'52
minimum elong	2696 Apr 24	10:10	5°♉04'18	1°35'53
max. Earth dist.	2696 Apr 25	09:30	5°♉06'31	30.81014 AU
morning rise	2696 May 10	07:35	5°♉40'04	
retrograde	2696 Aug 09	18:04	7°♉39'22	
opposition	2696 Oct 28	23:24	6°♉13'58	-1°43'01
min. Earth dist.	2696 Oct 28	00:54	6°♉15'32	28.81115 AU
direct	2697 Jan 14	11:05	4°♉50'37	
evening set	2697 Apr 11	04:42	6°♉44'06	
conjunction	2697 Apr 26	23:05	7°♉19'33	-1°36'45
minimum elong	2697 Apr 26	23:04	7°♉19'33	1°36'45
max. Earth dist.	2697 Apr 27	22:34	7°♉21'46	30.81006 AU
morning rise	2697 May 12	20:56	7°♉55'20	
retrograde	2697 Aug 12	06:30	9°♉54'39	
opposition	2697 Oct 31	11:47	8°♉29'17	-1°43'53
min. Earth dist.	2697 Oct 30	14:29	8°♉30'46	28.81123 AU
direct	2698 Jan 16	21:49	7°♉05'57	
evening set	2698 Apr 13	17:26	8°♉59'29	
conjunction	2698 Apr 29	12:21	9°♉34'57	-1°37'29
minimum elong	2698 Apr 29	12:21	9°♉34'57	1°37'29
max. Earth dist.	2698 Apr 30	11:50	9°♉37'10	30.81016 AU
morning rise	2698 May 15	10:34	10°♉10'46	
retrograde	2698 Aug 14	21:12	12°♉10'05	
opposition	2698 Nov 02	23:50	10°♉44'44	-1°44'35
min. Earth dist.	2698 Nov 02	01:59	10°♉46'16	28.81111 AU
direct	2699 Jan 19	11:04	9°♉21'23	
evening set	2699 Apr 16	06:24	11°♉14'58	
conjunction	2699 May 02	01:38	11°♉50'29	-1°38'04
minimum elong	2699 May 02	01:38	11°♉50'29	1°38'03
max. Earth dist.	2699 May 03	00:03	11°♉52'36	30.80964 AU
morning rise	2699 May 18	00:22	12°♉26'19	
retrograde	2699 Aug 17	10:55	14°♉25'37	
opposition	2699 Nov 05	12:12	13°♉00'16	-1°45'07
min. Earth dist.	2699 Nov 04	15:45	13°♉01'42	28.81026 AU
direct	2700 Jan 21	22:23	11°♉36'54	
evening set	2700 Apr 18	19:08	13°♉30'30	
conjunction	2700 May 04	15:00	14°♉06'02	-1°38'30
minimum elong	2700 May 04	15:00	14°♉06'02	1°38'30
max. Earth dist.	2700 May 05	13:47	14°♉08'11	30.80835 AU
morning rise	2700 May 20	14:02	14°♉41'54	
	2700 May 28	22:22	15°♉	
retrograde	2700 Aug 20	00:42	16°♉41'09	
min. Earth dist.	2700 Nov 07	03:34	15°♉17'15	28.80845 AU
opposition	2700 Nov 08	00:25	15°♉15'48	-1°45'30
	2700 Nov 17	10:44	15°℞♉	
direct	2701 Jan 24	11:47	13°♉52'23	
	2701 Mar 30	04:13	15°♉	
evening set	2701 Apr 21	08:12	15°♉45'59	
conjunction	2701 May 07	04:24	16°♉21'33	-1°38'47
minimum elong	2701 May 07	04:24	16°♉21'33	1°38'46
max. Earth dist.	2701 May 08	01:40	16°♉23'33	30.80620 AU
morning rise	2701 May 23	04:03	16°♉57'26	
retrograde	2701 Aug 22	15:32	18°♉56'37	
opposition	2701 Nov 10	12:32	17°♉31'14	-1°45'43

min. Earth dist.	2701 Nov 09 16:41	17°♉32'37	28.80607 AU
direct	2702 Jan 26 23:49	16°♉07'45	
evening set	2702 Apr 23 21:09	18°♉01'21	
conjunction	2702 May 09 18:00	18°♉36'57	-1°38'55
minimum elong	2702 May 09 18:00	18°♉36'57	1°38'55
max. Earth dist.	2702 May 10 16:01	18°♉39'01	30.80363 AU
morning rise	2702 May 25 17:56	19°♉12'51	
retrograde	2702 Aug 25 03:59	21°♉11'57	
min. Earth dist.	2702 Nov 12 04:52	19°♉47'55	28.80339 AU
opposition	2702 Nov 13 00:31	19°♉46'32	-1°45'47
direct	2703 Jan 29 13:10	18°♉22'59	
evening set	2703 Apr 26 10:10	20°♉16'35	
conjunction	2703 May 12 07:21	20°♉52'12	-1°38'54
minimum elong	2703 May 12 07:21	20°♉52'12	1°38'53
max. Earth dist.	2703 May 13 04:04	20°♉54'09	30.80113 AU
morning rise	2703 May 28 07:50	21°♉28'08	
retrograde	2703 Aug 27 17:21	23°♉27'09	
opposition	2703 Nov 15 12:24	22°♉01'42	-1°45'41
min. Earth dist.	2703 Nov 14 16:54	22°♉03'05	28.80118 AU
direct	2704 Feb 01 00:31	20°♉38'05	
evening set	2704 Apr 27 23:08	22°♉31'42	
conjunction	2704 May 13 20:52	23°♉07'20	-1°38'43
minimum elong	2704 May 13 20:52	23°♉07'20	1°38'44
max. Earth dist.	2704 May 14 18:17	23°♉09'21	30.79923 AU
morning rise	2704 May 29 21:40	23°♉43'17	
retrograde	2704 Aug 29 04:39	25°♉42'13	
min. Earth dist.	2704 Nov 16 05:22	24°♉18'06	28.79978 AU
opposition	2704 Nov 17 00:15	24°♉16'46	-1°45'25
direct	2705 Feb 02 12:13	22°♉53'06	
evening set	2705 Apr 30 12:07	24°♉46'43	
conjunction	2705 May 16 10:19	25°♉22'23	-1°38'24
minimum elong	2705 May 16 10:19	25°♉22'23	1°38'23
max. Earth dist.	2705 May 17 06:57	25°♉24'20	30.79850 AU
morning rise	2705 Jun 01 11:38	25°♉58'21	
retrograde	2705 Aug 31 18:52	27°♉57'12	
opposition	2705 Nov 19 11:58	26°♉31'46	-1°45'00
min. Earth dist.	2705 Nov 18 16:28	26°♉33'08	28.79965 AU
direct	2706 Feb 04 23:06	25°♉08'03	
evening set	2706 May 03 01:16	27°♉01'42	
conjunction	2706 May 18 23:56	27°♉37'24	-1°37'56
minimum elong	2706 May 18 23:56	27°♉37'24	1°37'56
max. Earth dist.	2706 May 19 20:37	27°♉39'20	30.79893 AU
morning rise	2706 Jun 04 01:37	28°♉13'23	
	2706 Aug 07 01:54	0°♊	
retrograde	2706 Sep 03 05:55	0°♊12'10	
	2706 Sep 30 18:56	30°℞♉	
opposition	2706 Nov 21 23:37	28°♉46'45	-1°44'25
min. Earth dist.	2706 Nov 21 05:15	28°♉48'03	28.80081 AU
direct	2707 Feb 07 09:51	27°♉23'00	
evening set	2707 May 05 14:22	29°♉16'43	
conjunction	2707 May 21 13:35	29°♉52'26	-1°37'19
minimum elong	2707 May 21 13:35	29°♉52'26	1°37'18
max. Earth dist.	2707 May 22 10:15	29°♉54'22	30.80090 AU
	2707 May 24 22:04	0°♊	
morning rise	2707 Jun 06 15:38	0°♊28'26	
retrograde	2707 Sep 05 19:36	2°♊27'09	
opposition	2707 Nov 24 11:13	1°♊01'47	-1°43'40
min. Earth dist.	2707 Nov 23 16:04	1°♊03'08	28.80339 AU
	2708 Jan 04 11:03	30°℞♉	
direct	2708 Feb 09 22:21	29°♉38'02	
	2708 Mar 16 19:36	0°♊	
evening set	2708 May 07 03:29	1°♊31'47	
conjunction	2708 May 23 03:04	2°♊07'32	-1°36'32
minimum elong	2708 May 23 03:04	2°♊07'32	1°36'33
max. Earth dist.	2708 May 23 23:05	2°♊09'25	30.80411 AU
morning rise	2708 Jun 08 05:38	2°♊43'34	
retrograde	2708 Sep 07 08:32	4°♊42'14	
opposition	2708 Nov 25 22:59	3°♊16'56	-1°42'45
min. Earth dist.	2708 Nov 25 05:05	3°♊18'11	28.80718 AU
direct	2709 Feb 11 08:49	1°♊53'10	
evening set	2709 May 09 16:45	3°♊47'00	
conjunction	2709 May 25 16:58	4°♊22'47	-1°35'37
minimum elong	2709 May 25 16:58	4°♊22'47	1°35'37
max. Earth dist.	2709 May 26 13:22	4°♊24'42	30.80841 AU
morning rise	2709 Jun 10 19:49	4°♊58'50	
retrograde	2709 Sep 09 22:30	6°♊57'27	
opposition	2709 Nov 28 10:24	5°♊32'13	-1°41'41
min. Earth dist.	2709 Nov 27 16:11	5°♊33'30	28.81167 AU
direct	2710 Feb 13 21:39	4°♊08'28	
evening set	2710 May 12 06:21	6°♊02'23	
conjunction	2710 May 28 06:52	6°♊38'11	-1°34'33
minimum elong	2710 May 28 06:52	6°♊38'11	1°34'34
max. Earth dist.	2710 May 29 01:38	6°♊39'57	30.81306 AU
morning rise	2710 Jun 13 10:15	7°♊14'16	
retrograde	2710 Sep 12 13:40	9°♊12'49	
opposition	2710 Nov 30 22:02	7°♊47'39	-1°40'28
min. Earth dist.	2710 Nov 30 05:01	7°♊48'51	28.81633 AU
direct	2711 Feb 16 09:31	6°♊23'54	
evening set	2711 May 14 19:48	8°♊17'53	
conjunction	2711 May 30 20:54	8°♊53'44	-1°33'20
minimum elong	2711 May 30 20:54	8°♊53'44	1°33'19
max. Earth dist.	2711 May 31 16:05	8°♊55'32	30.81747 AU
morning rise	2711 Jun 16 00:27	9°♊29'50	
retrograde	2711 Sep 15 02:23	11°♊28'18	
opposition	2711 Dec 03 09:33	10°♊03'12	-1°39'05
min. Earth dist.	2711 Dec 02 17:03	10°♊04'22	28.82034 AU
direct	2712 Feb 18 22:54	8°♊39'26	
evening set	2712 May 16 09:31	10°♊33'28	
conjunction	2712 Jun 01 10:57	11°♊09'20	-1°31'58
minimum elong	2712 Jun 01 10:57	11°♊09'20	1°31'59
max. Earth dist.	2712 Jun 02 04:10	11°♊10'57	30.82117 AU
morning rise	2712 Jun 17 15:02	11°♊45'28	
retrograde	2712 Sep 16 16:38	13°♊43'50	
opposition	2712 Dec 04 21:05	12°♊18'46	-1°37'33
min. Earth dist.	2712 Dec 04 05:18	12°♊19'53	28.82361 AU
direct	2713 Feb 20 10:25	10°♊54'58	
evening set	2713 May 18 23:07	12°♊49'02	
conjunction	2713 Jun 04 01:09	13°♊24'56	-1°30'28
minimum elong	2713 Jun 04 01:09	13°♊24'56	1°30'28
max. Earth dist.	2713 Jun 04 18:25	13°♊26'33	30.82393 AU
morning rise	2713 Jun 20 05:29	14°♊01'04	
retrograde	2713 Sep 19 04:56	15°♊59'18	
opposition	2713 Dec 07 08:32	14°♊34'16	-1°35'52
min. Earth dist.	2713 Dec 06 18:00	14°♊35'18	28.82586 AU
direct	2714 Feb 22 22:57	13°♊10'25	
evening set	2714 May 21 12:52	15°♊04'30	
conjunction	2714 Jun 06 15:16	15°♊40'25	-1°28'50
minimum elong	2714 Jun 06 15:16	15°♊40'25	1°28'51
max. Earth dist.	2714 Jun 07 06:53	15°♊41'53	30.82599 AU
morning rise	2714 Jun 22 20:02	16°♊16'34	
retrograde	2714 Sep 21 18:45	18°♊14'40	

opposition	2714 Dec 09 19:42	16°♊49'38	-1°34'03
min. Earth dist.	2714 Dec 09 05:11	16°♊50'40	28.82767 AU
direct	2715 Feb 25 10:34	15°♊25'42	
evening set	2715 May 24 02:32	17°♊19'48	
conjunction	2715 Jun 09 05:23	17°♊55'44	-1°27'04
minimum elong	2715 Jun 09 05:23	17°♊55'44	1°27'04
max. Earth dist.	2715 Jun 09 20:40	17°♊57'10	30.82770 AU
morning rise	2715 Jun 25 10:25	18°♊31'54	
retrograde	2715 Sep 24 04:44	20°♊29'50	
opposition	2715 Dec 12 07:00	19°♊04'49	-1°32'06
min. Earth dist.	2715 Dec 11 17:59	19°♊05'44	28.82944 AU
direct	2716 Feb 27 21:52	17°♊40'48	
evening set	2716 May 25 15:59	19°♊34'54	
conjunction	2716 Jun 10 19:19	20°♊10'51	-1°25'11
minimum elong	2716 Jun 10 19:20	20°♊10'51	1°25'11
max. Earth dist.	2716 Jun 11 10:03	20°♊12'14	30.82981 AU
morning rise	2716 Jun 27 00:43	20°♊47'01	
retrograde	2716 Sep 25 17:21	22°♊44'48	
opposition	2716 Dec 13 18:03	21°♊19'47	-1°30'00
min. Earth dist.	2716 Dec 13 04:39	21°♊20'44	28.83177 AU
direct	2717 Mar 01 10:09	19°♊55'41	
evening set	2717 May 28 05:43	21°♊49'48	
conjunction	2717 Jun 13 09:23	22°♊25'46	-1°23'09
minimum elong	2717 Jun 13 09:23	22°♊25'46	1°23'09
max. Earth dist.	2717 Jun 13 23:13	22°♊27'04	30.83253 AU
morning rise	2717 Jun 29 15:08	23°♊01'56	
retrograde	2717 Sep 28 04:48	24°♊59'35	
opposition	2717 Dec 16 05:04	23°♊34'34	-1°27'46
min. Earth dist.	2717 Dec 15 17:09	23°♊35'25	28.83507 AU
direct	2718 Mar 03 20:03	22°♊10'23	
evening set	2718 May 30 19:19	24°♊04'32	
conjunction	2718 Jun 15 23:31	24°♊40'31	-1°21'01
minimum elong	2718 Jun 15 23:31	24°♊40'31	1°21'01
max. Earth dist.	2718 Jun 16 13:29	24°♊41'49	30.83650 AU
morning rise	2718 Jul 02 05:27	25°♊16'41	
retrograde	2718 Sep 30 16:58	27°♊14'10	
opposition	2718 Dec 18 15:58	25°♊49'12	-1°25'25
min. Earth dist.	2718 Dec 18 03:38	25°♊50'04	28.83961 AU
direct	2719 Mar 06 09:26	24°♊24'57	
evening set	2719 Jun 02 08:54	26°♊19'08	
conjunction	2719 Jun 18 13:19	26°♊55'07	-1°18'45
minimum elong	2719 Jun 18 13:19	26°♊55'07	1°18'44
max. Earth dist.	2719 Jun 19 01:52	26°♊56'17	30.84180 AU
morning rise	2719 Jul 04 19:38	27°♊31'18	
retrograde	2719 Oct 03 05:59	29°♊28'39	
opposition	2719 Dec 21 02:58	28°♊03'42	-1°22'55
min. Earth dist.	2719 Dec 20 15:30	28°♊04'31	28.84573 AU
direct	2720 Mar 07 20:55	26°♊39'25	
evening set	2720 Jun 03 22:26	28°♊33'38	
conjunction	2720 Jun 20 03:25	29°♊09'39	-1°16'21
minimum elong	2720 Jun 20 03:25	29°♊09'39	1°16'22
max. Earth dist.	2720 Jun 20 16:36	29°♊10'53	30.84872 AU
morning rise	2720 Jul 06 09:50	29°♊45'50	
	2720 Jul 12 23:39	0°♋	
retrograde	2720 Oct 04 18:03	1°♋43'02	
opposition	2720 Dec 22 13:46	0°♋18'10	-1°20'18
min. Earth dist.	2720 Dec 22 02:32	0°♋18'58	28.85327 AU
	2721 Jan 02 07:54	30°℞♊	
direct	2721 Mar 10 09:47	28°♊53'52	
	2721 May 13 23:28	0°♋	
evening set	2721 Jun 06 12:12	0°♋48'08	

conjunction	2721 Jun 22 17:24	1°♋24'10	-1°13'51
minimum elong	2721 Jun 22 17:24	1°♋24'10	1°13'51
max. Earth dist.	2721 Jun 23 04:56	1°♋25'14	30.85703 AU
morning rise	2721 Jul 09 00:16	2°♋00'21	
retrograde	2721 Oct 07 08:15	3°♋57'26	
opposition	2721 Dec 25 00:36	2°♋32'39	-1°17'34
min. Earth dist.	2721 Dec 24 13:53	2°♋33'24	28.86209 AU
direct	2722 Mar 12 21:10	1°♋08'20	
evening set	2722 Jun 09 01:57	3°♋02'40	
conjunction	2722 Jun 25 07:36	3°♋38'44	-1°11'14
minimum elong	2722 Jun 25 07:36	3°♋38'44	1°11'14
max. Earth dist.	2722 Jun 25 19:28	3°♋39'50	30.86618 AU
morning rise	2722 Jul 11 14:29	4°♋14'55	
retrograde	2722 Oct 09 20:39	6°♋11'53	
opposition	2722 Dec 27 11:23	4°♋47'12	-1°14'42
min. Earth dist.	2722 Dec 27 01:53	4°♋47'52	28.87139 AU
direct	2723 Mar 15 09:46	3°♋22'53	
evening set	2723 Jun 11 15:51	5°♋17'18	
conjunction	2723 Jun 27 21:44	5°♋53'22	-1°08'30
minimum elong	2723 Jun 27 21:44	5°♋53'22	1°08'29
max. Earth dist.	2723 Jun 28 07:50	5°♋54'18	30.87568 AU
morning rise	2723 Jul 14 04:56	6°♋29'34	
retrograde	2723 Oct 12 10:27	8°♋26'24	
opposition	2723 Dec 29 22:09	7°♋01'48	-1°11'43
min. Earth dist.	2723 Dec 29 12:44	7°♋02'28	28.88076 AU
direct	2724 Mar 16 21:33	5°♋37'30	
evening set	2724 Jun 13 05:41	7°♋31'58	
conjunction	2724 Jun 29 11:56	8°♋08'03	-1°05'40
minimum elong	2724 Jun 29 11:56	8°♋08'03	1°05'40
max. Earth dist.	2724 Jun 29 21:29	8°♋08'56	30.88471 AU
morning rise	2724 Jul 15 19:14	8°♋44'15	
retrograde	2724 Oct 13 21:25	10°♋40'58	
opposition	2724 Dec 31 09:04	9°♋16'27	-1°08'38
min. Earth dist.	2724 Dec 31 01:33	9°♋16'59	28.88939 AU
direct	2725 Mar 19 08:45	7°♋52'07	
evening set	2725 Jun 15 19:43	9°♋46'39	
conjunction	2725 Jul 02 02:17	10°♋22'44	-1°02'44
minimum elong	2725 Jul 02 02:17	10°♋22'44	1°02'44
max. Earth dist.	2725 Jul 02 10:29	10°♋23'30	30.89302 AU
morning rise	2725 Jul 18 09:47	10°♋58'56	
retrograde	2725 Oct 16 10:27	12°♋55'30	
opposition	2726 Jan 02 19:41	11°♋31'04	-1°05'27
min. Earth dist.	2726 Jan 02 12:14	11°♋31'36	28.89715 AU
direct	2726 Mar 21 20:47	10°♋06'41	
evening set	2726 Jun 18 09:47	12°♋01'15	
conjunction	2726 Jul 04 16:33	12°♋37'22	-0°59'43
minimum elong	2726 Jul 04 16:33	12°♋37'22	0°59'43
max. Earth dist.	2726 Jul 04 23:25	12°♋38'00	30.90034 AU
morning rise	2726 Jul 21 00:12	13°♋13'34	
retrograde	2726 Oct 18 21:25	15°♋09'58	
opposition	2727 Jan 05 06:30	13°♋45'35	-1°02'11
min. Earth dist.	2727 Jan 05 00:57	13°♋45'59	28.90416 AU
direct	2727 Mar 24 06:32	12°♋21'09	
evening set	2727 Jun 20 23:29	14°♋15'45	
conjunction	2727 Jul 07 06:37	14°♋51'51	-0°56'36
minimum elong	2727 Jul 07 06:37	14°♋51'51	0°56'36
max. Earth dist.	2727 Jul 07 13:06	14°♋52'27	30.90718 AU
morning rise	2727 Jul 23 14:19	15°♋28'03	
retrograde	2727 Oct 21 08:39	17°♋24'17	
opposition	2728 Jan 07 17:05	15°♋59'57	-0°58'49
min. Earth dist.	2728 Jan 07 11:32	16°♋00'21	28.91073 AU

direct	2728 Mar 25	20:00	14°♓35'28		
evening set	2728 Jun 22	13:25	16°♓30'05		
conjunction	2728 Jul 08	20:38	17°♓06'12	-0°53'25	
minimum elong	2728 Jul 08	20:38	17°♓06'12	0°53'26	
max. Earth dist.	2728 Jul 09	01:18	17°♓06'38	30.91378 AU	
morning rise	2728 Jul 25	04:34	17°♓42'23		
retrograde	2728 Oct 22	20:31	19°♓38'27		
opposition	2729 Jan 09	03:33	18°♓14'09	-0°55'22	
min. Earth dist.	2729 Jan 08	23:20	18°♓14'27	28.91746 AU	
direct	2729 Mar 28	07:07	16°♓49'35		
evening set	2729 Jun 25	03:09	18°♓44'16		
conjunction	2729 Jul 11	10:46	19°♓20'22	-0°50'09	
minimum elong	2729 Jul 11	10:46	19°♓20'22	0°50'09	
max. Earth dist.	2729 Jul 11	15:38	19°♓20'49	30.92071 AU	
morning rise	2729 Jul 27	18:38	19°♓56'32		
retrograde	2729 Oct 25	07:44	21°♓52'27		
opposition	2730 Jan 11	14:00	20°♓28'11	-0°51'50	
min. Earth dist.	2730 Jan 11	10:16	20°♓28'27	28.92457 AU	
direct	2730 Mar 30	19:52	19°♓03'34		
evening set	2730 Jun 27	16:59	20°♓58'16		
conjunction	2730 Jul 14	00:35	21°♓34'23	-0°46'49	
minimum elong	2730 Jul 14	00:35	21°♓34'23	0°46'49	
max. Earth dist.	2730 Jul 14	03:39	21°♓34'40	30.92828 AU	
morning rise	2730 Jul 30	08:37	22°♓10'32		
retrograde	2730 Oct 27	20:55	24°♓06'16		
opposition	2731 Jan 14	00:20	22°♓42'04	-0°48'14	
min. Earth dist.	2731 Jan 13	21:04	22°♓42'18	28.93270 AU	
direct	2731 Apr 02	07:36	21°♓17'23		
evening set	2731 Jun 30	06:36	23°♓12'08		
conjunction	2731 Jul 16	14:31	23°♓48'14	-0°43'25	
minimum elong	2731 Jul 16	14:31	23°♓48'14	0°43'25	
max. Earth dist.	2731 Jul 16	18:04	23°♓48'34	30.93697 AU	
morning rise	2731 Aug 01	22:24	24°♓24'22		
retrograde	2731 Oct 30	08:40	26°♓19'58		
opposition	2732 Jan 16	10:43	24°♓55'48	-0°44'34	
min. Earth dist.	2732 Jan 16	08:26	24°♓55'58	28.94202 AU	
direct	2732 Apr 03	20:55	23°♓31'07		
evening set	2732 Jul 01	20:16	25°♓25'53		
conjunction	2732 Jul 18	04:14	26°♓02'00	-0°39'57	
minimum elong	2732 Jul 18	04:14	26°♓02'00	0°39'57	
max. Earth dist.	2732 Jul 18	06:14	26°♓02'11	30.94712 AU	
morning rise	2732 Aug 03	12:18	26°♓38'07		
retrograde	2732 Oct 31	21:30	28°♓33'33		
opposition	2733 Jan 17	21:01	27°♓09'29	-0°40'50	
min. Earth dist.	2733 Jan 17	18:27	27°♓09'40	28.95282 AU	
direct	2733 Apr 06	09:11	25°♓44'46		
evening set	2733 Jul 04	10:02	27°♓39'36		
conjunction	2733 Jul 20	18:10	28°♓15'43	-0°36'26	
minimum elong	2733 Jul 20	18:10	28°♓15'43	0°36'26	
max. Earth dist.	2733 Jul 20	20:05	28°♓15'53	30.95854 AU	
morning rise	2733 Aug 06	02:05	28°♓51'49		
	2733 Sep 10	03:12	0°♌		
retrograde	2733 Nov 03	08:29	0°♌47'06		
	2733 Dec 28	19:43	30°℞♓		
opposition	2734 Jan 20	07:20	29°♓23'08	-0°37'02	
min. Earth dist.	2734 Jan 20	06:19	29°♓23'13	28.96482 AU	
direct	2734 Apr 08	20:21	27°♓58'26		
evening set	2734 Jul 06	23:49	29°♓53'20		
	2734 Jul 10	01:19	0°♌		
conjunction	2734 Jul 23	08:02	0°♌29'26	-0°32'51	
minimum elong	2734 Jul 23	08:02	0°♌29'26	0°32'51	
max. Earth dist.	2734 Jul 23	08:56	0°♌29'31	30.97116 AU	
morning rise	2734 Aug 08	15:57	1°♌05'32		
retrograde	2734 Nov 05	21:54	3°♌00'41		
opposition	2735 Jan 22	17:36	1°♌36'50	-0°33'10	
min. Earth dist.	2735 Jan 22	16:21	1°♌36'55	28.97768 AU	
direct	2735 Apr 11	08:16	0°♌12'08		
evening set	2735 Jul 09	13:31	2°♌07'06		
conjunction	2735 Jul 25	21:43	2°♌43'12	-0°29'13	
minimum elong	2735 Jul 25	21:44	2°♌43'12	0°29'13	
max. Earth dist.	2735 Jul 25	21:45	2°♌43'12	30.98414 AU	
morning rise	2735 Aug 11	05:33	3°♌19'17		
retrograde	2735 Nov 08	08:18	5°♌14'19		
opposition	2736 Jan 25	04:01	3°♌50'34	-0°29'16	
min. Earth dist.	2736 Jan 25	04:36	3°♌50'32	28.99070 AU	
direct	2736 Apr 12	17:51	2°♌25'53		
evening set	2736 Jul 11	03:20	4°♌20'54		
conjunction	2736 Jul 27	11:41	4°♌57'00	-0°25'32	
minimum elong	2736 Jul 27	11:41	4°♌57'00	0°25'33	
max. Earth dist.	2736 Jul 27	11:06	4°♌56'57	30.99698 AU	
morning rise	2736 Aug 12	19:22	5°♌33'04		
retrograde	2736 Nov 09	18:58	7°♌27'57		
opposition	2737 Jan 26	14:13	6°♌04'19	-0°25'19	
min. Earth dist.	2737 Jan 26	15:05	6°♌04'15	29.00309 AU	
direct	2737 Apr 15	06:50	4°♌39'37		
evening set	2737 Jul 13	17:22	6°♌34'42		
conjunction	2737 Jul 30	01:36	7°♌10'47	-0°21'50	
minimum elong	2737 Jul 30	01:36	7°♌10'47	0°21'50	
max. Earth dist.	2737 Jul 29	22:56	7°♌10'32	31.00887 AU	
morning rise	2737 Aug 15	09:15	7°♌46'49		
retrograde	2737 Nov 12	06:17	9°♌41'34		
opposition	2738 Jan 29	00:39	8°♌18'00	-0°21'19	
min. Earth dist.	2738 Jan 29	03:00	8°♌17'50	29.01452 AU	
direct	2738 Apr 17	17:00	6°♌53'16		
evening set	2738 Jul 16	07:07	8°♌48'24		
conjunction	2738 Aug 01	15:28	9°♌24'28	-0°18'05	
minimum elong	2738 Aug 01	15:29	9°♌24'28	0°18'05	
max. Earth dist.	2738 Aug 01	12:35	9°♌24'12	31.01970 AU	
morning rise	2738 Aug 17	22:48	10°♌00'29		
retrograde	2738 Nov 14	16:48	11°♌55'05		
opposition	2739 Jan 31	10:59	10°♌31'35	-0°17'19	
min. Earth dist.	2739 Jan 31	14:11	10°♌31'21	29.02470 AU	
direct	2739 Apr 20	05:23	9°♌06'48		
evening set	2739 Jul 18	21:00	11°♌01'57		
conjunction	2739 Aug 04	05:09	11°♌38'00	-0°14'20	
minimum elong	2739 Aug 04	05:09	11°♌38'00	0°14'20	
behind sun begin	2739 Aug 04	02:19	11°♌37'45		
behind sun end	2739 Aug 04	07:59	11°♌38'15		
max. Earth dist.	2739 Aug 04	00:02	11°♌37'32	31.02945 AU	
morning rise	2739 Aug 20	12:28	12°♌13'59		
retrograde	2739 Nov 17	04:54	14°♌08'26		
opposition	2740 Feb 02	21:13	12°♌44'58	-0°13'17	
min. Earth dist.	2740 Feb 03	01:13	12°♌44'41	29.03408 AU	
direct	2740 Apr 21	17:16	11°♌20'08		
evening set	2740 Jul 20	10:36	13°♌15'18		
conjunction	2740 Aug 05	18:53	13°♌51'20	-0°10'34	
minimum elong	2740 Aug 05	18:54	13°♌51'20	0°10'34	
behind sun begin	2740 Aug 05	13:49	13°♌50'53		
behind sun end	2740 Aug 05	23:58	13°♌51'47		
max. Earth dist.	2740 Aug 05	13:50	13°♌50'53	31.03842 AU	
morning rise	2740 Aug 22	01:53	14°♌27'17		

	2740 Sep 06 18:06	15°♌	
retrograde	2740 Nov 18 15:29	16°♌21'34	
	2741 Feb 03 05:03	15°℞♌	
opposition	2741 Feb 04 07:30	14°♌58'08	-0°09'14
min. Earth dist.	2741 Feb 04 12:57	14°♌57'45	29.04270 AU
direct	2741 Apr 24 06:41	13°♌33'15	
	2741 Jul 09 10:40	15°♌	
evening set	2741 Jul 23 00:22	15°♌28'27	
conjunction	2741 Aug 08 08:26	16°♌04'27	-0°06'48
minimum elong	2741 Aug 08 08:25	16°♌04'27	0°06'47
behind sun begin	2741 Aug 08 02:17	16°♌03'55	
behind sun end	2741 Aug 08 14:33	16°♌05'00	
max. Earth dist.	2741 Aug 08 01:26	16°♌03'50	31.04694 AU
morning rise	2741 Aug 24 15:20	16°♌40'22	
retrograde	2741 Nov 21 03:43	18°♌34'29	
opposition	2742 Feb 06 17:32	17°♌11'05	-0°05'11
min. Earth dist.	2742 Feb 06 22:59	17°♌10'42	29.05117 AU
direct	2742 Apr 26 19:16	15°♌46'08	
evening set	2742 Jul 25 13:54	17°♌41'22	
conjunction	2742 Aug 10 21:54	18°♌17'21	-0°03'01
minimum elong	2742 Aug 10 21:56	18°♌17'21	0°03'00
behind sun begin	2742 Aug 10 15:21	18°♌16'46	
behind sun end	2742 Aug 11 04:30	18°♌17'56	
max. Earth dist.	2742 Aug 10 14:49	18°♌16'43	31.05540 AU
morning rise	2742 Aug 27 04:28	18°♌53'14	
retrograde	2742 Nov 23 14:18	20°♌47'11	
opposition	2743 Feb 09 03:47	19°♌23'50	-0°01'08
min. Earth dist.	2743 Feb 09 10:48	19°♌23'20	29.05986 AU
direct	2743 Apr 29 07:10	17°♌58'51	
asc. node	2743 May 22 15:22	18°♌07'53	
evening set	2743 Jul 28 03:11	19°♌54'04	
conjunction	2743 Aug 13 11:02	20°♌30'02	0°00'53
minimum elong	2743 Aug 13 11:02	20°♌30'02	0°00'53
behind sun begin	2743 Aug 13 04:27	20°♌29'28	
behind sun end	2743 Aug 13 17:37	20°♌30'37	
max. Earth dist.	2743 Aug 13 02:56	20°♌29'19	31.06445 AU
morning rise	2743 Aug 29 17:24	21°♌05'53	
retrograde	2743 Nov 26 02:44	22°♌59'42	
opposition	2744 Feb 11 13:49	21°♌36'23	0°02'55
min. Earth dist.	2744 Feb 11 20:25	21°♌35'55	29.06926 AU
direct	2744 Apr 30 19:56	20°♌11'22	
evening set	2744 Jul 29 16:37	22°♌06'38	
conjunction	2744 Aug 15 00:17	22°♌42'35	0°04'43
minimum elong	2744 Aug 15 00:17	22°♌42'35	0°04'43
behind sun begin	2744 Aug 14 17:50	22°♌42'01	
behind sun end	2744 Aug 15 06:43	22°♌43'09	
max. Earth dist.	2744 Aug 14 15:35	22°♌41'48	31.07427 AU
morning rise	2744 Aug 31 06:19	23°♌18'24	
retrograde	2744 Nov 27 12:27	25°♌12'05	
opposition	2745 Feb 12 23:55	23°♌48'50	0°06'58
min. Earth dist.	2745 Feb 13 07:57	23°♌48'16	29.07973 AU
direct	2745 May 03 06:00	22°♌23'48	
evening set	2745 Aug 01 05:57	24°♌19'07	
conjunction	2745 Aug 17 13:30	24°♌55'02	0°08'29
minimum elong	2745 Aug 17 13:30	24°♌55'02	0°08'28
behind sun begin	2745 Aug 17 07:45	24°♌54'32	
behind sun end	2745 Aug 17 19:14	24°♌55'33	
max. Earth dist.	2745 Aug 17 04:38	24°♌54'14	31.08534 AU
morning rise	2745 Sep 02 19:11	25°♌30'49	
retrograde	2745 Nov 29 22:31	27°♌24'23	
opposition	2746 Feb 15 09:58	26°♌01'14	0°11'00
min. Earth dist.	2746 Feb 15 17:44	26°♌00'41	29.09126 AU
direct	2746 May 05 18:35	24°♌36'13	
evening set	2746 Aug 03 19:14	26°♌31'35	
conjunction	2746 Aug 20 02:25	27°♌07'29	0°12'14
minimum elong	2746 Aug 20 02:25	27°♌07'29	0°12'14
behind sun begin	2746 Aug 19 22:06	27°♌07'06	
behind sun end	2746 Aug 20 06:44	27°♌07'52	
max. Earth dist.	2746 Aug 19 16:15	27°♌06'33	31.09736 AU
morning rise	2746 Sep 05 07:50	27°♌43'14	
retrograde	2746 Dec 02 09:14	29°♌36'43	
opposition	2747 Feb 17 20:06	28°♌13'40	0°15'01
min. Earth dist.	2747 Feb 18 04:48	28°♌13'03	29.10377 AU
direct	2747 May 08 03:49	26°♌48'40	
evening set	2747 Aug 06 08:26	28°♌44'06	
conjunction	2747 Aug 22 15:32	29°♌19'59	0°15'58
minimum elong	2747 Aug 22 15:32	29°♌19'59	0°15'58
max. Earth dist.	2747 Aug 22 05:38	29°♌19'05	31.11011 AU
morning rise	2747 Sep 07 20:29	29°♌55'43	
	2747 Sep 09 20:16	0°♍	
retrograde	2747 Dec 04 19:11	1°♍49'06	
opposition	2748 Feb 20 06:08	0°♍26'10	0°19'00
min. Earth dist.	2748 Feb 20 15:31	0°♍25'30	29.11653 AU
	2748 Mar 07 00:33	30°℞♌	
direct	2748 May 09 15:06	29°♌01'12	
	2748 Jul 10 10:12	0°♍	
evening set	2748 Aug 07 21:50	0°♍56'43	
conjunction	2748 Aug 24 04:31	1°♍32'34	0°19'41
minimum elong	2748 Aug 24 04:31	1°♍32'34	0°19'42
max. Earth dist.	2748 Aug 23 16:40	1°♍31'28	31.12279 AU
morning rise	2748 Sep 09 09:16	2°♍08'16	
retrograde	2748 Dec 06 06:50	4°♍01'34	
opposition	2749 Feb 21 16:16	2°♍38'44	0°22'58
min. Earth dist.	2749 Feb 22 02:16	2°♍38'02	29.12900 AU
direct	2749 May 12 02:27	1°♍13'47	
evening set	2749 Aug 10 11:09	3°♍09'22	
conjunction	2749 Aug 26 17:40	3°♍45'11	0°23'23
minimum elong	2749 Aug 26 17:40	3°♍45'11	0°23'23
max. Earth dist.	2749 Aug 26 05:59	3°♍44'07	31.13470 AU
morning rise	2749 Sep 11 21:49	4°♍20'50	
retrograde	2749 Dec 08 16:57	6°♍14'04	
opposition	2750 Feb 24 02:31	4°♍51'18	0°26'54
min. Earth dist.	2750 Feb 24 14:01	4°♍50'30	29.14040 AU
direct	2750 May 14 15:10	3°♍26'22	
evening set	2750 Aug 13 00:32	5°♍22'00	
conjunction	2750 Aug 29 06:36	5°♍57'48	0°27'02
minimum elong	2750 Aug 29 06:35	5°♍57'48	0°27'02
max. Earth dist.	2750 Aug 28 16:54	5°♍56'32	31.14558 AU
morning rise	2750 Sep 14 10:28	6°♍33'25	
retrograde	2750 Dec 11 05:04	8°♍26'32	
opposition	2751 Feb 26 12:43	7°♍03'50	0°30'47
min. Earth dist.	2751 Feb 27 00:11	7°♍03'02	29.15073 AU
direct	2751 May 17 03:09	5°♍38'53	
evening set	2751 Aug 15 13:34	7°♍34'33	
conjunction	2751 Aug 31 19:26	8°♍10'19	0°30'39
minimum elong	2751 Aug 31 19:26	8°♍10'19	0°30'38
max. Earth dist.	2751 Aug 31 05:30	8°♍09'02	31.15519 AU
morning rise	2751 Sep 16 22:46	8°♍45'53	
retrograde	2751 Dec 13 15:46	10°♍38'55	
opposition	2752 Feb 28 23:01	9°♍16'15	0°34'37
min. Earth dist.	2752 Feb 29 12:18	9°♍15'19	29.15979 AU
direct	2752 May 18 15:45	7°♍51'16	
evening set	2752 Aug 17 02:46	9°♍46'57	

conjunction	2752 Sep 02 08:14	10°♑22'41	0°34'12
minimum elong	2752 Sep 02 08:14	10°♑22'41	0°34'12
max. Earth dist.	2752 Sep 01 16:54	10°♑21'16	31.16376 AU
morning rise	2752 Sep 18 11:13	10°♑58'12	
retrograde	2752 Dec 15 04:00	12°♑51'06	
opposition	2753 Mar 02 09:01	11°♑28'28	0°38'23
min. Earth dist.	2753 Mar 02 22:11	11°♑27'33	29.16785 AU
direct	2753 May 21 05:32	10°♑03'27	
evening set	2753 Aug 19 15:52	11°♑59'09	
conjunction	2753 Sep 04 20:57	12°♑34'51	0°37'43
minimum elong	2753 Sep 04 20:57	12°♑34'51	0°37'42
max. Earth dist.	2753 Sep 04 04:52	12°♑33'22	31.17136 AU
morning rise	2753 Sep 20 23:25	13°♑10'19	
retrograde	2753 Dec 17 13:21	15°♑03'06	
opposition	2754 Mar 04 19:16	13°♑40'29	0°42'06
min. Earth dist.	2754 Mar 05 10:02	13°♑39'27	29.17529 AU
direct	2754 May 23 16:41	12°♑15'25	
evening set	2754 Aug 22 04:36	14°♑11'06	
conjunction	2754 Sep 07 09:21	14°♑46'45	0°41'09
minimum elong	2754 Sep 07 09:21	14°♑46'45	0°41'10
max. Earth dist.	2754 Sep 06 17:05	14°♑45'15	31.17864 AU
morning rise	2754 Sep 23 11:20	15°♑22'11	
retrograde	2754 Dec 19 22:58	17°♑14'50	
opposition	2755 Mar 07 05:21	15°♑52'14	0°45'45
min. Earth dist.	2755 Mar 07 19:58	15°♑51'13	29.18248 AU
direct	2755 May 26 05:46	14°♑27'08	
evening set	2755 Aug 24 17:24	16°♑22'48	
conjunction	2755 Sep 09 21:38	16°♑58'25	0°44'32
minimum elong	2755 Sep 09 21:38	16°♑58'25	0°44'32
max. Earth dist.	2755 Sep 09 04:10	16°♑56'48	31.18590 AU
morning rise	2755 Sep 25 23:12	17°♑33'48	
retrograde	2755 Dec 22 09:08	19°♑26'20	
opposition	2756 Mar 08 15:22	18°♑03'45	0°49'20
min. Earth dist.	2756 Mar 09 06:44	18°♑02'40	29.19013 AU
direct	2756 May 27 15:39	16°♑38'35	
evening set	2756 Aug 26 05:59	18°♑34'16	
conjunction	2756 Sep 11 09:57	19°♑09'51	0°47'51
minimum elong	2756 Sep 11 09:57	19°♑09'51	0°47'52
max. Earth dist.	2756 Sep 10 17:01	19°♑08'17	31.19383 AU
morning rise	2756 Sep 27 10:55	19°♑45'11	
retrograde	2756 Dec 23 17:36	21°♑37'36	
opposition	2757 Mar 11 01:32	20°♑15'03	0°52'50
min. Earth dist.	2757 Mar 11 17:11	20°♑13'57	29.19845 AU
direct	2757 May 30 03:47	18°♑49'52	
evening set	2757 Aug 28 18:38	20°♑45'33	
conjunction	2757 Sep 13 21:59	21°♑21'05	0°51'06
minimum elong	2757 Sep 13 21:58	21°♑21'05	0°51'06
max. Earth dist.	2757 Sep 13 03:41	21°♑19'23	31.20267 AU
morning rise	2757 Sep 29 22:33	21°♑56'23	
retrograde	2757 Dec 26 03:44	23°♑48'43	
opposition	2758 Mar 13 11:37	22°♑26'12	0°56'16
min. Earth dist.	2758 Mar 14 03:09	22°♑25'07	29.20798 AU
direct	2758 Jun 01 14:24	21°♑01'01	
evening set	2758 Aug 31 07:02	22°♑56'43	
conjunction	2758 Sep 16 10:05	23°♑32'13	0°54'16
minimum elong	2758 Sep 16 10:05	23°♑32'13	0°54'17
max. Earth dist.	2758 Sep 15 16:42	23°♑30'37	31.21270 AU
morning rise	2758 Oct 02 09:58	24°♑07'28	
retrograde	2758 Dec 28 12:47	25°♑59'45	
opposition	2759 Mar 15 21:52	24°♑37'18	0°59'36
min. Earth dist.	2759 Mar 16 14:17	24°♑36'09	29.21854 AU
direct	2759 Jun 04 01:44	23°♑12'09	
evening set	2759 Sep 02 19:24	25°♑07'53	
conjunction	2759 Sep 18 21:52	25°♑43'21	0°57'22
minimum elong	2759 Sep 18 21:52	25°♑43'21	0°57'21
max. Earth dist.	2759 Sep 18 03:16	25°♑41'38	31.22372 AU
morning rise	2759 Oct 04 21:25	26°♑18'34	
retrograde	2759 Dec 31 00:25	28°♑10'48	
opposition	2760 Mar 17 07:58	26°♑48'25	1°02'52
min. Earth dist.	2760 Mar 17 23:51	26°♑47'19	29.22979 AU
direct	2760 Jun 05 12:54	25°♑23'18	
evening set	2760 Sep 04 07:47	27°♑19'06	
conjunction	2760 Sep 20 09:53	27°♑54'32	1°00'22
minimum elong	2760 Sep 20 09:53	27°♑54'32	1°00'22
max. Earth dist.	2760 Sep 19 15:32	27°♑52'50	31.23492 AU
morning rise	2760 Oct 06 08:44	28°♑29'42	
	2760 Nov 26 10:51	0°♎	
retrograde	2761 Jan 01 10:42	0°♎21'54	
	2761 Feb 07 03:11	30°℞♑	
opposition	2761 Mar 19 18:12	28°♑59'36	1°06'02
min. Earth dist.	2761 Mar 20 11:37	28°♑58'23	29.24096 AU
direct	2761 Jun 08 00:53	27°♑34'33	
evening set	2761 Sep 06 20:14	29°♑30'24	
	2761 Sep 20 07:22	0°♎	
conjunction	2761 Sep 22 21:45	0°♎05'47	1°03'17
minimum elong	2761 Sep 22 21:45	0°♎05'47	1°03'16
max. Earth dist.	2761 Sep 22 02:26	0°♎03'59	31.24585 AU
morning rise	2761 Oct 08 20:09	0°♎40'54	
retrograde	2762 Jan 03 22:45	2°♎33'04	
opposition	2762 Mar 22 04:32	1°♎10'51	1°09'06
min. Earth dist.	2762 Mar 22 21:33	1°♎09'40	29.25150 AU
	2762 May 11 12:29	30°℞♑	
direct	2762 Jun 10 14:11	29°♑45'50	
	2762 Jul 10 05:36	0°♎	
evening set	2762 Sep 09 08:29	1°♎41'43	
conjunction	2762 Sep 25 09:29	2°♎17'04	1°06'07
minimum elong	2762 Sep 25 09:29	2°♎17'04	1°06'07
max. Earth dist.	2762 Sep 24 13:39	2°♎15'14	31.25579 AU
morning rise	2762 Oct 11 07:16	2°♎52'09	
retrograde	2763 Jan 06 08:36	4°♎44'18	
opposition	2763 Mar 24 15:01	3°♎22'08	1°12'04
min. Earth dist.	2763 Mar 25 09:29	3°♎20'51	29.26103 AU
direct	2763 Jun 13 01:06	1°♎57'09	
evening set	2763 Sep 11 20:45	3°♎53'04	
conjunction	2763 Sep 27 21:18	4°♎28'22	1°08'50
minimum elong	2763 Sep 27 21:17	4°♎28'22	1°08'50
max. Earth dist.	2763 Sep 27 01:13	4°♎26'31	31.26467 AU
morning rise	2763 Oct 13 18:30	5°♎03'25	
retrograde	2764 Jan 08 18:30	6°♎55'30	
opposition	2764 Mar 26 01:18	5°♎33'24	1°14'56
min. Earth dist.	2764 Mar 26 19:47	5°♎32'07	29.26922 AU
direct	2764 Jun 14 14:11	4°♎08'26	
evening set	2764 Sep 13 09:06	6°♎04'22	
max. Earth dist.	2764 Sep 28 11:33	6°♎37'39	31.27218 AU
conjunction	2764 Sep 29 09:02	6°♎39'38	1°11'28
minimum elong	2764 Sep 29 09:02	6°♎39'38	1°11'29
morning rise	2764 Oct 15 05:45	7°♎14'38	
retrograde	2765 Jan 10 05:06	9°♎06'41	
opposition	2765 Mar 28 11:48	7°♎44'37	1°17'41
min. Earth dist.	2765 Mar 29 07:04	7°♎43'16	29.27623 AU
direct	2765 Jun 17 00:26	6°♎19'38	
evening set	2765 Sep 15 21:08	8°♎15'35	

conjunction	2765 Oct	01	20:40	8°♎50'49	1°14'00	
minimum elong	2765 Oct	01	20:40	8°♎50'49	1°13'59	
max. Earth dist.	2765 Sep	30	23:36	8°♎48'52	31.27855 AU	
morning rise	2765 Oct	17	16:41	9°♎25'46		
retrograde	2766 Jan	12	13:20	11°♎17'46		
opposition	2766 Mar	30	22:18	9°♎55'43	1°20'19	
min. Earth dist.	2766 Mar	31	18:08	9°♎54'21	29.28206 AU	
direct	2766 Jun	19	12:56	8°♎30'45		
evening set	2766 Sep	18	09:13	10°♎26'40		
max. Earth dist.	2766 Oct	03	09:31	10°♎59'46	31.28402 AU	
conjunction	2766 Oct	04	08:03	11°♎01'52	1°16'24	
minimum elong	2766 Oct	04	08:03	11°♎01'52	1°16'25	
morning rise	2766 Oct	20	03:41	11°♎36'47		
retrograde	2767 Jan	14	23:04	13°♎28'43		
opposition	2767 Apr	02	08:41	12°♎06'41	1°22'50	
min. Earth dist.	2767 Apr	03	04:27	12°♎05'19	29.28736 AU	
direct	2767 Jun	21	23:27	10°♎41'41		
evening set	2767 Sep	20	20:52	12°♎37'36		
conjunction	2767 Oct	06	19:23	13°♎12'45	1°18'43	
minimum elong	2767 Oct	06	19:23	13°♎12'45	1°18'42	
max. Earth dist.	2767 Oct	05	21:46	13°♎10'45	31.28906 AU	
morning rise	2767 Oct	22	14:19	13°♎47'38		
retrograde	2768 Jan	17	07:25	15°♎39'31		
opposition	2768 Apr	03	19:13	14°♎17'29	1°25'14	
min. Earth dist.	2768 Apr	04	15:57	14°♎16'03	29.29235 AU	
direct	2768 Jun	23	10:31	12°♎52'29		
evening set	2768 Sep	22	08:41	14°♎48'22		
max. Earth dist.	2768 Oct	07	07:51	15°♎21'23	31.29416 AU	
conjunction	2768 Oct	08	06:29	15°♎23'29	1°20'54	
minimum elong	2768 Oct	08	06:29	15°♎23'29	1°20'54	
morning rise	2768 Oct	24	01:01	15°♎58'19		
retrograde	2769 Jan	18	18:10	17°♎50'10		
opposition	2769 Apr	06	05:34	16°♎28'08	1°27'31	
min. Earth dist.	2769 Apr	07	01:24	16°♎26'45	29.29772 AU	
direct	2769 Jun	25	21:30	15°♎03'07		
evening set	2769 Sep	24	20:16	16°♎59'00		
conjunction	2769 Oct	10	17:37	17°♎34'04	1°22'59	
minimum elong	2769 Oct	10	17:37	17°♎34'04	1°22'58	
max. Earth dist.	2769 Oct	09	19:43	17°♎32'02	31.29979 AU	
morning rise	2769 Oct	26	11:25	18°♎08'52		
retrograde	2770 Jan	21	04:00	20°♎00'41		
opposition	2770 Apr	08	16:16	18°♎38'40	1°29'40	
min. Earth dist.	2770 Apr	09	12:57	18°♎37'14	29.30390 AU	
direct	2770 Jun	28	09:47	17°♎13'40		
evening set	2770 Sep	27	07:39	19°♎09'33		
max. Earth dist.	2770 Oct	12	06:18	19°♎42'32	31.30650 AU	
conjunction	2770 Oct	13	04:24	19°♎44'35	1°24'56	
minimum elong	2770 Oct	13	04:24	19°♎44'35	1°24'56	
morning rise	2770 Oct	28	21:46	20°♎19'20		
retrograde	2771 Jan	23	15:23	22°♎11'09		
opposition	2771 Apr	11	02:47	20°♎49'09	1°31'42	
min. Earth dist.	2771 Apr	11	22:24	20°♎47'48	29.31103 AU	
direct	2771 Jun	30	22:47	19°♎24'12		
evening set	2771 Sep	29	19:06	21°♎20'06		
conjunction	2771 Oct	15	15:20	21°♎55'05	1°26'46	
minimum elong	2771 Oct	15	15:20	21°♎55'05	1°26'45	
max. Earth dist.	2771 Oct	14	17:18	21°♎53'03	31.31399 AU	
morning rise	2771 Oct	31	08:07	22°♎29'48		
retrograde	2772 Jan	26	01:16	24°♎21'37		
opposition	2772 Apr	12	13:19	22°♎59'40	1°33'35	
min. Earth dist.	2772 Apr	13	09:49	22°♎58'16	29.31893 AU	
direct	2772 Jul	02	09:19	21°♎34'46		
evening set	2772 Oct	01	06:32	23°♎30'42		
max. Earth dist.	2772 Oct	16	04:42	24°♎03'39	31.32203 AU	
conjunction	2772 Oct	17	02:16	24°♎05'39	1°28'28	
minimum elong	2772 Oct	17	02:16	24°♎05'39	1°28'29	
morning rise	2772 Nov	01	18:29	24°♎40'19		
retrograde	2773 Jan	27	11:37	26°♎32'08		
opposition	2773 Apr	15	00:00	25°♎10'16	1°35'21	
min. Earth dist.	2773 Apr	15	20:06	25°♎08'53	29.32686 AU	
direct	2773 Jul	04	22:44	23°♎45'25		
evening set	2773 Oct	03	17:55	25°♎41'21		
conjunction	2773 Oct	19	12:59	26°♎16'17	1°30'03	
minimum elong	2773 Oct	19	12:59	26°♎16'17	1°30'03	
max. Earth dist.	2773 Oct	18	14:35	26°♎14'12	31.32976 AU	
morning rise	2773 Nov	04	04:43	26°♎50'55		
retrograde	2774 Jan	29	22:49	28°♎42'45		
opposition	2774 Apr	17	10:51	27°♎20'55	1°36'58	
min. Earth dist.	2774 Apr	18	07:16	27°♎19'31	29.33441 AU	
direct	2774 Jul	07	09:42	25°♎56'08		
evening set	2774 Oct	06	05:12	27°♎52'05		
conjunction	2774 Oct	21	23:52	28°♎26'58	1°31'30	
minimum elong	2774 Oct	21	23:51	28°♎26'58	1°31'31	
max. Earth dist.	2774 Oct	21	02:13	28°♎24'57	31.33679 AU	
morning rise	2774 Nov	06	14:57	29°♎01'34		
	2774 Dec	05	23:19	0°♏		
retrograde	2775 Feb	01	07:06	0°♏53'25		
	2775 Apr	02	07:36	30°℞♎		
opposition	2775 Apr	19	21:43	29°♎31'38	1°38'26	
min. Earth dist.	2775 Apr	20	18:36	29°♎30'12	29.34086 AU	
direct	2775 Jul	09	22:09	28°♎06'53		
	2775 Oct	07	09:16	0°♏		
evening set	2775 Oct	08	16:32	0°♏02'49		
max. Earth dist.	2775 Oct	23	11:30	0°♏35'32	31.34259 AU	
conjunction	2775 Oct	24	10:31	0°♏37'40	1°32'49	
minimum elong	2775 Oct	24	10:31	0°♏37'40	1°32'49	
morning rise	2775 Nov	09	01:15	1°♏12'15		
retrograde	2776 Feb	03	17:05	3°♏04'06		
opposition	2776 Apr	21	08:38	1°♏42'20	1°39'47	
min. Earth dist.	2776 Apr	22	05:18	1°♏40'55	29.34600 AU	
direct	2776 Jul	11	08:43	0°♏17'37		
evening set	2776 Oct	10	03:43	2°♏13'32		
conjunction	2776 Oct	25	21:20	2°♏48'21	1°34'00	
minimum elong	2776 Oct	25	21:20	2°♏48'21	1°34'01	
max. Earth dist.	2776 Oct	24	23:07	2°♏46'17	31.34685 AU	
morning rise	2776 Nov	10	11:22	3°♏22'54		
retrograde	2777 Feb	05	01:37	5°♏14'45		
opposition	2777 Apr	23	19:43	3°♏53'00	1°40'58	
min. Earth dist.	2777 Apr	24	17:28	3°♏51'30	29.34948 AU	
direct	2777 Jul	13	19:47	2°♏28'18		
evening set	2777 Oct	12	14:58	4°♏24'11		
max. Earth dist.	2777 Oct	27	08:37	4°♏56'48	31.34962 AU	
conjunction	2777 Oct	28	07:54	4°♏58'58	1°35'04	
minimum elong	2777 Oct	28	07:53	4°♏58'58	1°35'03	
morning rise	2777 Nov	12	21:35	5°♏33'29		
retrograde	2778 Feb	07	12:17	7°♏25'20		
opposition	2778 Apr	26	06:44	6°♏03'34	1°42'02	
min. Earth dist.	2778 Apr	27	03:38	6°♏02'08	29.35154 AU	
direct	2778 Jul	16	07:03	4°♏38'52		
evening set	2778 Oct	15	01:47	6°♏34'43		
conjunction	2778 Oct	30	18:21	7°♏09'28	1°35'58	

minimum elong	2778 Oct 30 18:20	7°♑09'27	1°35'59
max. Earth dist.	2778 Oct 29 19:33	7°♑07'20	31.35094 AU
morning rise	2778 Nov 15 07:27	7°♑43'56	
retrograde	2779 Feb 09 21:44	9°♑35'48	
opposition	2779 Apr 28 17:54	8°♑14'00	1°42'56
min. Earth dist.	2779 Apr 29 15:56	8°♑12'30	29.35231 AU
direct	2779 Jul 18 18:51	6°♑49'18	
evening set	2779 Oct 17 12:43	8°♑45'06	
max. Earth dist.	2779 Nov 01 05:40	9°♑17'40	31.35130 AU
conjunction	2779 Nov 02 04:43	9°♑19'49	1°36'45
minimum elong	2779 Nov 02 04:43	9°♑19'49	1°36'45
morning rise	2779 Nov 17 17:27	9°♑54'16	
retrograde	2780 Feb 12 08:28	11°♑46'07	
opposition	2780 Apr 30 04:47	10°♑24'17	1°43'42
min. Earth dist.	2780 May 01 01:55	10°♑22'51	29.35223 AU
direct	2780 Jul 20 07:37	8°♑59'34	
evening set	2780 Oct 18 23:31	10°♑55'20	
conjunction	2780 Nov 03 15:01	11°♑30'01	1°37'24
minimum elong	2780 Nov 03 15:01	11°♑30'01	1°37'24
max. Earth dist.	2780 Nov 02 16:01	11°♑27'52	31.35098 AU
morning rise	2780 Nov 19 03:15	12°♑04'26	
retrograde	2781 Feb 13 18:26	13°♑56'18	
opposition	2781 May 02 16:00	12°♑34'26	1°44'19
min. Earth dist.	2781 May 03 13:43	12°♑32'57	29.35201 AU
direct	2781 Jul 22 18:31	11°♑09'43	
evening set	2781 Oct 21 10:02	13°♑05'26	
max. Earth dist.	2781 Nov 05 03:06	13°♑38'02	31.35087 AU
conjunction	2781 Nov 06 01:04	13°♑40'05	1°37'54
minimum elong	2781 Nov 06 01:04	13°♑40'05	1°37'54
morning rise	2781 Nov 21 12:49	14°♑14'28	
	2781 Dec 13 16:55	15°♑	
retrograde	2782 Feb 16 04:22	16°♑06'21	
	2782 Apr 25 14:33	15°℞♑	
opposition	2782 May 05 03:12	14°♑44'28	1°44'47
min. Earth dist.	2782 May 05 23:58	14°♑43'03	29.35210 AU
direct	2782 Jul 25 08:22	13°♑19'46	
	2782 Oct 16 15:40	15°♑	
evening set	2782 Oct 23 20:37	15°♑15'27	
conjunction	2782 Nov 08 11:04	15°♑50'04	1°38'16
minimum elong	2782 Nov 08 11:04	15°♑50'04	1°38'17
max. Earth dist.	2782 Nov 07 12:43	15°♑47'59	31.35135 AU
morning rise	2782 Nov 23 22:28	16°♑24'26	
retrograde	2783 Feb 18 15:32	18°♑16'21	
opposition	2783 May 07 14:17	16°♑54'28	1°45'06
min. Earth dist.	2783 May 08 10:42	16°♑53'04	29.35313 AU
direct	2783 Jul 27 19:27	15°♑29'48	
evening set	2783 Oct 26 06:58	17°♑25'29	
conjunction	2783 Nov 10 21:08	18°♑00'04	1°38'30
minimum elong	2783 Nov 10 21:08	18°♑00'04	1°38'29
max. Earth dist.	2783 Nov 10 00:14	17°♑58'07	31.35278 AU
morning rise	2783 Nov 26 08:00	18°♑34'25	
retrograde	2784 Feb 20 23:51	20°♑26'23	
opposition	2784 May 09 01:34	19°♑04'31	1°45'16
min. Earth dist.	2784 May 09 21:47	19°♑03'09	29.35481 AU
direct	2784 Jul 29 07:54	17°♑39'55	
evening set	2784 Oct 27 17:26	19°♑35'35	
max. Earth dist.	2784 Nov 11 09:26	20°♑08'09	31.35480 AU
conjunction	2784 Nov 12 06:58	20°♑10'10	1°38'35
minimum elong	2784 Nov 12 06:57	20°♑10'10	1°38'35
morning rise	2784 Nov 27 17:35	20°♑44'29	
retrograde	2785 Feb 22 09:55	22°♑36'31	
opposition	2785 May 11 12:48	21°♑14'42	1°45'17
min. Earth dist.	2785 May 12 08:08	21°♑13'23	29.35700 AU
direct	2785 Jul 31 18:20	19°♑50'09	
evening set	2785 Oct 30 03:42	21°♑45'49	
conjunction	2785 Nov 14 16:57	22°♑20'23	1°38'31
minimum elong	2785 Nov 14 16:57	22°♑20'23	1°38'31
max. Earth dist.	2785 Nov 13 20:53	22°♑18'31	31.35697 AU
morning rise	2785 Nov 30 03:01	22°♑54'42	
retrograde	2786 Feb 24 18:54	24°♑46'48	
opposition	2786 May 14 00:19	23°♑25'01	1°45'08
min. Earth dist.	2786 May 14 20:13	23°♑23'39	29.35905 AU
direct	2786 Aug 03 04:50	22°♑00'33	
evening set	2786 Nov 01 13:58	23°♑56'12	
max. Earth dist.	2786 Nov 16 06:07	24°♑28'49	31.35884 AU
conjunction	2786 Nov 17 02:39	24°♑30'44	1°38'19
minimum elong	2786 Nov 17 02:39	24°♑30'44	1°38'20
morning rise	2786 Dec 02 12:31	25°♑05'03	
retrograde	2787 Feb 27 05:39	26°♑57'13	
opposition	2787 May 16 11:43	25°♑35'27	1°44'51
min. Earth dist.	2787 May 17 06:25	25°♑34'11	29.36049 AU
direct	2787 Aug 05 15:41	24°♑11'03	
evening set	2787 Nov 04 00:16	26°♑06'42	
conjunction	2787 Nov 19 12:37	26°♑41'13	1°37'59
minimum elong	2787 Nov 19 12:37	26°♑41'13	1°37'58
max. Earth dist.	2787 Nov 18 16:41	26°♑39'21	31.35969 AU
morning rise	2787 Dec 04 22:00	27°♑15'30	
retrograde	2788 Feb 29 15:27	29°♑07'46	
opposition	2788 May 17 23:17	27°♑46'00	1°44'25
min. Earth dist.	2788 May 18 18:55	27°♑44'40	29.36080 AU
direct	2788 Aug 07 02:31	26°♑21'39	
evening set	2788 Nov 05 10:37	28°♑17'16	
conjunction	2788 Nov 20 22:31	28°♑51'46	1°37'30
minimum elong	2788 Nov 20 22:31	28°♑51'46	1°37'31
max. Earth dist.	2788 Nov 20 02:36	28°♑49'54	31.35942 AU
morning rise	2788 Dec 06 07:36	29°♑26'02	
	2788 Dec 22 10:58	0°♐	
retrograde	2789 Mar 03 02:31	1°♐18'21	
	2789 May 18 08:32	30°℞♑	
opposition	2789 May 20 10:57	29°♑56'35	1°43'50
min. Earth dist.	2789 May 21 05:31	29°♑55'19	29.35973 AU
direct	2789 Aug 09 14:07	28°♑32'16	
	2789 Oct 25 17:26	0°♐	
evening set	2789 Nov 07 20:48	0°♐27'50	
conjunction	2789 Nov 23 08:16	1°♐02'19	1°36'53
minimum elong	2789 Nov 23 08:16	1°♐02'19	1°36'53
max. Earth dist.	2789 Nov 22 12:16	1°♐00'27	31.35759 AU
morning rise	2789 Dec 08 17:02	1°♐36'35	
retrograde	2790 Mar 05 13:14	3°♐28'58	
opposition	2790 May 22 22:46	2°♐07'10	1°43'06
min. Earth dist.	2790 May 23 17:56	2°♐05'52	29.35726 AU
direct	2790 Aug 12 00:50	0°♐42'51	
evening set	2790 Nov 10 06:55	2°♐38'23	
conjunction	2790 Nov 25 18:06	3°♐12'50	1°36'08
minimum elong	2790 Nov 25 18:06	3°♐12'50	1°36'09
max. Earth dist.	2790 Nov 24 22:59	3°♐11'03	31.35444 AU
morning rise	2790 Dec 11 02:31	3°♐47'05	
retrograde	2791 Mar 07 23:54	5°♐39'30	
opposition	2791 May 25 10:21	4°♐17'39	1°42'14
min. Earth dist.	2791 May 26 04:55	4°♐16'24	29.35332 AU
direct	2791 Aug 14 14:54	2°♐53'21	
evening set	2791 Nov 12 17:03	4°♐48'49	

max. Earth dist.	2791 Nov 27 07:59	5°♐21'24	31.34996 AU
conjunction	2791 Nov 28 03:47	5°♐23'15	1°35'15
minimum elong	2791 Nov 28 03:47	5°♐23'15	1°35'15
morning rise	2791 Dec 13 12:03	5°♐57'29	
retrograde	2792 Mar 09 11:36	7°♐49'57	
opposition	2792 May 26 22:06	6°♐28'01	1°41'13
min. Earth dist.	2792 May 27 16:24	6°♐26'47	29.34841 AU
direct	2792 Aug 16 02:39	5°♐03'42	
evening set	2792 Nov 14 02:49	6°♐59'05	
conjunction	2792 Nov 29 13:21	7°♐33'30	1°34'14
minimum elong	2792 Nov 29 13:21	7°♐33'30	1°34'14
max. Earth dist.	2792 Nov 28 19:04	7°♐31'48	31.34468 AU
morning rise	2792 Dec 14 21:13	8°♐07'44	
retrograde	2793 Mar 11 19:50	10°♐00'13	
opposition	2793 May 29 09:56	8°♐38'14	1°40'04
min. Earth dist.	2793 May 30 04:01	8°♐37'00	29.34287 AU
direct	2793 Aug 18 15:34	7°♐13'54	
evening set	2793 Nov 16 12:41	9°♐09'12	
conjunction	2793 Dec 01 22:42	9°♐43'36	1°33'05
minimum elong	2793 Dec 01 22:42	9°♐43'36	1°33'04
max. Earth dist.	2793 Dec 01 04:04	9°♐41'51	31.33927 AU
morning rise	2793 Dec 17 06:29	10°♐17'48	
retrograde	2794 Mar 14 06:11	12°♐10'20	
opposition	2794 May 31 21:43	10°♐48'17	1°38'46
min. Earth dist.	2794 Jun 01 14:29	10°♐47'08	29.33770 AU
direct	2794 Aug 21 03:19	9°♐23'56	
evening set	2794 Nov 18 22:12	11°♐19'09	
conjunction	2794 Dec 04 08:05	11°♐53'33	1°31'48
minimum elong	2794 Dec 04 08:05	11°♐53'33	1°31'48
max. Earth dist.	2794 Dec 03 15:13	11°♐51'58	31.33437 AU
morning rise	2794 Dec 19 15:30	12°♐27'45	
retrograde	2795 Mar 16 15:08	14°♐20'20	
opposition	2795 Jun 03 09:37	12°♐58'14	1°37'20
min. Earth dist.	2795 Jun 04 02:27	12°♐57'05	29.33318 AU
direct	2795 Aug 23 14:59	11°♐33'54	
evening set	2795 Nov 21 07:54	13°♐29'04	
conjunction	2795 Dec 06 17:21	14°♐03'26	1°30'23
minimum elong	2795 Dec 06 17:21	14°♐03'26	1°30'22
max. Earth dist.	2795 Dec 06 00:39	14°♐01'52	31.33043 AU
morning rise	2795 Dec 22 00:41	14°♐37'38	
retrograde	2796 Mar 18 01:20	16°♐30'18	
opposition	2796 Jun 04 21:21	15°♐08'10	1°35'45
min. Earth dist.	2796 Jun 05 12:18	15°♐07'09	29.32966 AU
direct	2796 Aug 25 02:09	13°♐43'53	
evening set	2796 Nov 22 17:30	15°♐39'00	
max. Earth dist.	2796 Dec 07 11:10	16°♐11'54	31.32736 AU
conjunction	2796 Dec 08 02:44	16°♐13'22	1°28'51
minimum elong	2796 Dec 08 02:44	16°♐13'22	1°28'51
morning rise	2796 Dec 23 09:47	16°♐47'34	
retrograde	2797 Mar 20 11:06	18°♐40'20	
opposition	2797 Jun 07 09:27	17°♐18'11	1°34'02
min. Earth dist.	2797 Jun 08 00:35	17°♐17'09	29.32697 AU
direct	2797 Aug 27 12:15	15°♐53'58	
evening set	2797 Nov 25 02:57	17°♐49'02	
conjunction	2797 Dec 10 11:55	18°♐23'24	1°27'10
minimum elong	2797 Dec 10 11:55	18°♐23'24	1°27'10
max. Earth dist.	2797 Dec 09 21:14	18°♐22'01	31.32504 AU
morning rise	2797 Dec 25 18:50	18°♐57'36	
retrograde	2798 Mar 22 22:02	20°♐50'29	
opposition	2798 Jun 09 21:27	19°♐28'20	1°32'11
min. Earth dist.	2798 Jun 10 10:58	19°♐27'25	29.32466 AU
direct	2798 Aug 29 23:08	18°♐04'11	
evening set	2798 Nov 27 12:34	19°♐59'14	
conjunction	2798 Dec 12 21:14	20°♐33'36	1°25'22
minimum elong	2798 Dec 12 21:14	20°♐33'36	1°25'23
max. Earth dist.	2798 Dec 12 06:50	20°♐32'15	31.32276 AU
morning rise	2798 Dec 28 04:03	21°♐07'48	
retrograde	2799 Mar 25 09:30	23°♐00'48	
opposition	2799 Jun 12 09:29	21°♐38'40	1°30'12
min. Earth dist.	2799 Jun 12 23:14	21°♐37'44	29.32231 AU
direct	2799 Sep 01 09:02	20°♐14'35	
evening set	2799 Nov 29 22:09	22°♐09'37	
conjunction	2799 Dec 15 06:41	22°♐43'59	1°23'27
minimum elong	2799 Dec 15 06:41	22°♐43'59	1°23'27
max. Earth dist.	2799 Dec 14 17:36	22°♐42'45	31.32019 AU
morning rise	2799 Dec 30 13:15	23°♐18'11	
retrograde	2800 Mar 26 20:51	25°♐11'19	
opposition	2800 Jun 13 21:42	23°♐49'10	1°28'04
min. Earth dist.	2800 Jun 14 10:32	23°♐48'18	29.31924 AU
direct	2800 Sep 02 22:02	22°♐25'10	
evening set	2800 Dec 01 07:48	24°♐20'11	
conjunction	2800 Dec 16 15:56	24°♐54'32	1°21'24
minimum elong	2800 Dec 16 15:56	24°♐54'32	1°21'25
max. Earth dist.	2800 Dec 16 02:24	24°♐53'16	31.31670 AU
morning rise	2800 Dec 31 22:30	25°♐28'45	
retrograde	2801 Mar 29 09:37	27°♐22'00	
opposition	2801 Jun 16 10:04	25°♐59'51	1°25'50
min. Earth dist.	2801 Jun 16 22:25	25°♐59'01	29.31527 AU
direct	2801 Sep 05 08:58	24°♐35'54	
evening set	2801 Dec 03 17:22	26°♐30'53	
conjunction	2801 Dec 19 01:27	27°♐05'14	1°19'15
minimum elong	2801 Dec 19 01:27	27°♐05'15	1°19'14
max. Earth dist.	2801 Dec 18 13:24	27°♐04'07	31.31209 AU
morning rise	2802 Jan 03 07:45	27°♐39'28	
retrograde	2802 Mar 31 19:15	29°♐32'50	
opposition	2802 Jun 18 22:29	28°♐10'39	1°23'28
min. Earth dist.	2802 Jun 19 10:41	28°♐09'50	29.30992 AU
direct	2802 Sep 07 21:25	26°♐46'46	
evening set	2802 Dec 06 03:00	28°♐41'42	
conjunction	2802 Dec 21 10:46	29°♐16'03	1°16'58
minimum elong	2802 Dec 21 10:47	29°♐16'03	1°16'59
max. Earth dist.	2802 Dec 20 22:07	29°♐14'52	31.30613 AU
morning rise	2803 Jan 05 17:11	29°♐50'18	
	2803 Jan 10 03:56	0°♑	
retrograde	2803 Apr 03 06:50	1°♑43'45	
opposition	2803 Jun 21 10:51	0°♑21'32	1°20'58
min. Earth dist.	2803 Jun 21 22:01	0°♑20'47	29.30320 AU
	2803 Jul 04 21:25	30°℞♐	
direct	2803 Sep 10 09:35	28°♐57'40	
	2803 Nov 12 18:49	0°♑	
evening set	2803 Dec 08 12:32	0°♑52'33	
conjunction	2803 Dec 23 20:16	1°♑26'55	1°14'35
minimum elong	2803 Dec 23 20:16	1°♑26'55	1°14'35
max. Earth dist.	2803 Dec 23 08:55	1°♑25'51	31.29868 AU
morning rise	2804 Jan 08 02:27	2°♑01'09	
retrograde	2804 Apr 04 16:50	3°♑54'43	
opposition	2804 Jun 22 23:21	2°♑32'26	1°18'22
min. Earth dist.	2804 Jun 23 10:56	2°♑31'39	29.29507 AU
direct	2804 Sep 11 21:52	1°♑08'35	
evening set	2804 Dec 09 22:06	3°♑03'23	

conjunction	2804 Dec 25 05:35	3°♓37'44	1°12'06
minimum elong	2804 Dec 25 05:35	3°♓37'44	1°12'07
max. Earth dist.	2804 Dec 24 18:19	3°♓36'41	31.29020 AU
morning rise	2805 Jan 09 11:51	4°♓12'00	
retrograde	2805 Apr 07 03:10	6°♓05'38	
opposition	2805 Jun 25 11:48	4°♓43'17	1°15'40
min. Earth dist.	2805 Jun 25 21:39	4°♓42'37	29.28616 AU
direct	2805 Sep 14 09:42	3°♓19'26	
evening set	2805 Dec 12 07:22	5°♓14'09	
conjunction	2805 Dec 27 14:45	5°♓48'30	1°09'31
minimum elong	2805 Dec 27 14:45	5°♓48'30	1°09'30
max. Earth dist.	2805 Dec 27 04:29	5°♓47'32	31.28108 AU
morning rise	2806 Jan 11 20:58	6°♓22'47	
retrograde	2806 Apr 09 12:42	8°♓16'31	
opposition	2806 Jun 28 00:25	6°♓54'04	1°12'51
min. Earth dist.	2806 Jun 28 10:27	6°♓53'24	29.27706 AU
direct	2806 Sep 16 20:15	5°♓30'13	
evening set	2806 Dec 14 16:44	7°♓24'51	
conjunction	2806 Dec 30 00:01	7°♓59'12	1°06'50
minimum elong	2806 Dec 30 00:01	7°♓59'12	1°06'50
max. Earth dist.	2806 Dec 29 14:51	7°♓58'20	31.27221 AU
morning rise	2807 Jan 14 06:12	8°♓33'29	
retrograde	2807 Apr 11 23:10	10°♓27'19	
opposition	2807 Jun 30 12:41	9°♓04'48	1°09'56
min. Earth dist.	2807 Jun 30 20:52	9°♓04'15	29.26837 AU
direct	2807 Sep 19 07:03	7°♓40'57	
evening set	2807 Dec 17 02:07	9°♓35'32	
conjunction	2808 Jan 01 09:12	10°♓09'53	1°04'03
minimum elong	2808 Jan 01 09:12	10°♓09'53	1°04'02
max. Earth dist.	2808 Jan 01 00:28	10°♓09'03	31.26392 AU
morning rise	2808 Jan 16 15:27	10°♓44'10	
retrograde	2808 Apr 13 10:48	12°♓38'07	
opposition	2808 Jul 02 01:18	11°♓15'32	1°06'54
min. Earth dist.	2808 Jul 02 09:10	11°♓15'00	29.26060 AU
direct	2808 Sep 20 17:14	9°♓51'44	
evening set	2808 Dec 18 11:17	11°♓46'14	
conjunction	2809 Jan 02 18:23	12°♓20'35	1°01'10
minimum elong	2809 Jan 02 18:23	12°♓20'35	1°01'11
max. Earth dist.	2809 Jan 02 11:36	12°♓19'57	31.25664 AU
morning rise	2809 Jan 18 00:32	12°♓54'54	
retrograde	2809 Apr 15 22:16	14°♓48'58	
opposition	2809 Jul 04 13:55	13°♓26'21	1°03'47
min. Earth dist.	2809 Jul 04 20:18	13°♓25'55	29.25362 AU
direct	2809 Sep 23 05:27	12°♓02'35	
evening set	2809 Dec 20 20:39	13°♓57'03	
conjunction	2810 Jan 05 03:32	14°♓31'24	0°58'12
minimum elong	2810 Jan 05 03:32	14°♓31'24	0°58'12
max. Earth dist.	2810 Jan 04 20:42	14°♓30'46	31.25013 AU
morning rise	2810 Jan 20 09:53	15°♓05'44	
retrograde	2810 Apr 18 11:18	16°♓59'56	
opposition	2810 Jul 07 02:29	15°♓37'16	1°00'33
min. Earth dist.	2810 Jul 07 07:56	15°♓36'54	29.24742 AU
direct	2810 Sep 25 15:13	14°♓13'34	
evening set	2810 Dec 23 05:50	16°♓07'59	
conjunction	2811 Jan 07 12:51	16°♓42'22	0°55'08
minimum elong	2811 Jan 07 12:51	16°♓42'22	0°55'09
max. Earth dist.	2811 Jan 07 07:55	16°♓41'54	31.24407 AU
morning rise	2811 Jan 22 19:06	17°♓16'42	
retrograde	2811 Apr 20 21:50	19°♓11'02	
opposition	2811 Jul 09 15:13	17°♓48'21	0°57'15
min. Earth dist.	2811 Jul 09 20:10	17°♓48'01	29.24128 AU
direct	2811 Sep 28 03:28	16°♓24'43	
evening set	2811 Dec 25 15:17	18°♓19'06	
conjunction	2812 Jan 09 22:03	18°♓53'29	0°52'00
minimum elong	2812 Jan 09 22:03	18°♓53'29	0°51'59
max. Earth dist.	2812 Jan 09 16:59	18°♓53'00	31.23795 AU
morning rise	2812 Jan 25 04:31	19°♓27'50	
retrograde	2812 Apr 22 10:55	21°♓22'19	
opposition	2812 Jul 11 03:57	19°♓59'36	0°53'50
min. Earth dist.	2812 Jul 11 07:33	19°♓59'21	29.23495 AU
direct	2812 Sep 29 15:35	18°♓36'01	
evening set	2812 Dec 27 00:41	20°♓30'22	
conjunction	2813 Jan 11 07:31	21°♓04'46	0°48'47
minimum elong	2813 Jan 11 07:31	21°♓04'46	0°48'47
max. Earth dist.	2813 Jan 11 03:58	21°♓04'26	31.23128 AU
morning rise	2813 Jan 26 13:56	21°♓39'09	
retrograde	2813 Apr 24 22:12	23°♓33'46	
opposition	2813 Jul 13 16:59	22°♓11'00	0°50'22
min. Earth dist.	2813 Jul 13 20:49	22°♓10'45	29.22788 AU
direct	2813 Oct 02 03:39	20°♓47'29	
evening set	2813 Dec 29 10:09	22°♓41'47	
conjunction	2814 Jan 13 16:54	23°♓16'11	0°45'29
minimum elong	2814 Jan 13 16:54	23°♓16'11	0°45'28
max. Earth dist.	2814 Jan 13 13:34	23°♓15'52	31.22380 AU
morning rise	2814 Jan 28 23:30	23°♓50'35	
retrograde	2814 Apr 27 09:34	25°♓45'20	
opposition	2814 Jul 16 05:53	24°♓22'33	0°46'48
min. Earth dist.	2814 Jul 16 08:05	24°♓22'24	29.21972 AU
direct	2814 Oct 04 15:37	22°♓59'03	
evening set	2814 Dec 31 19:47	24°♓53'19	
conjunction	2815 Jan 16 02:31	25°♓27'44	0°42'08
minimum elong	2815 Jan 16 02:31	25°♓27'44	0°42'08
max. Earth dist.	2815 Jan 15 23:39	25°♓27'27	31.21489 AU
morning rise	2815 Jan 31 09:11	26°♓02'09	
retrograde	2815 Apr 29 20:03	27°♓57'02	
opposition	2815 Jul 18 18:51	26°♓34'11	0°43'11
min. Earth dist.	2815 Jul 18 21:34	26°♓34'00	29.21012 AU
direct	2815 Oct 07 02:37	25°♓10'43	
evening set	2816 Jan 03 05:23	27°♓04'54	
conjunction	2816 Jan 18 12:11	27°♓39'20	0°38'42
minimum elong	2816 Jan 18 12:11	27°♓39'20	0°38'42
max. Earth dist.	2816 Jan 18 10:09	27°♓39'09	31.20463 AU
morning rise	2816 Feb 02 18:56	28°♓13'47	
	2816 Apr 08 07:38	0°♒	
retrograde	2816 May 01 07:15	0°♒08'47	
	2816 May 24 19:29	30°℞♓	
opposition	2816 Jul 20 07:51	28°♓45'51	0°39'30
min. Earth dist.	2816 Jul 20 09:02	28°♓45'46	29.19902 AU
direct	2816 Oct 08 14:28	27°♓22'23	
evening set	2817 Jan 04 14:56	29°♓16'30	
conjunction	2817 Jan 19 21:37	29°♓50'56	0°35'14
minimum elong	2817 Jan 19 21:38	29°♓50'56	0°35'15
max. Earth dist.	2817 Jan 19 19:36	29°♓50'45	31.19294 AU
	2817 Jan 23 21:17	0°♒	
morning rise	2817 Feb 04 04:38	0°♒25'25	
retrograde	2817 May 03 19:09	2°♒20'32	
opposition	2817 Jul 22 21:01	0°♒57'30	0°35'45
min. Earth dist.	2817 Jul 22 22:17	0°♒57'25	29.18686 AU
	2817 Aug 30 21:11	30°℞♓	
direct	2817 Oct 11 00:57	29°♓34'02	
	2817 Nov 19 19:48	0°♒	
evening set	2818 Jan 07 00:22	1°♒28'04	

conjunction	2818 Jan 22 07:15	2°♒02'31	0°31'42
minimum elong	2818 Jan 22 07:16	2°♒02'31	0°31'42
max. Earth dist.	2818 Jan 22 06:57	2°♒02'29	31.18044 AU
morning rise	2818 Feb 06 14:17	2°♒37'00	
retrograde	2818 May 06 06:23	4°♒32'14	
opposition	2818 Jul 25 09:53	3°♒09'06	0°31'58
min. Earth dist.	2818 Jul 25 09:57	3°♒09'06	29.17409 AU
direct	2818 Oct 13 13:02	1°♒45'37	
evening set	2819 Jan 09 09:54	3°♒39'35	
conjunction	2819 Jan 24 16:41	4°♒14'02	0°28'08
minimum elong	2819 Jan 24 16:41	4°♒14'02	0°28'09
max. Earth dist.	2819 Jan 24 16:13	4°♒14'00	31.16772 AU
morning rise	2819 Feb 09 00:03	4°♒48'33	
retrograde	2819 May 08 19:27	6°♒43'54	
opposition	2819 Jul 27 22:52	5°♒20'40	0°28'07
min. Earth dist.	2819 Jul 27 22:01	5°♒20'43	29.16159 AU
direct	2819 Oct 15 22:49	3°♒57'10	
evening set	2820 Jan 11 19:15	5°♒51'05	
conjunction	2820 Jan 27 02:12	6°♒25'33	0°24'32
minimum elong	2820 Jan 27 02:12	6°♒25'33	0°24'31
max. Earth dist.	2820 Jan 27 03:47	6°♒25'42	31.15544 AU
morning rise	2820 Feb 11 09:33	7°♒00'05	
retrograde	2820 May 10 06:26	8°♒55'34	
opposition	2820 Jul 29 11:54	7°♒32'14	0°24'15
min. Earth dist.	2820 Jul 29 10:12	7°♒32'21	29.14970 AU
direct	2820 Oct 17 11:10	6°♒08'46	
evening set	2821 Jan 13 04:48	8°♒02'38	
conjunction	2821 Jan 28 11:41	8°♒37'07	0°20'53
minimum elong	2821 Jan 28 11:41	8°♒37'07	0°20'54
max. Earth dist.	2821 Jan 28 13:28	8°♒37'16	31.14417 AU
morning rise	2821 Feb 12 19:22	9°♒11'40	
retrograde	2821 May 12 20:25	11°♒07'17	
opposition	2821 Aug 01 00:52	9°♒43'54	0°20'19
min. Earth dist.	2821 Jul 31 21:27	9°♒44'07	29.13899 AU
direct	2821 Oct 19 23:01	8°♒20'27	
evening set	2822 Jan 15 14:12	10°♒14'17	
conjunction	2822 Jan 30 21:16	10°♒48'47	0°17'13
minimum elong	2822 Jan 30 21:16	10°♒48'47	0°17'12
max. Earth dist.	2822 Jan 31 00:47	10°♒49'07	31.13388 AU
morning rise	2822 Feb 15 05:03	11°♒23'23	
retrograde	2822 May 15 08:18	13°♒19'09	
opposition	2822 Aug 03 13:57	11°♒55'42	0°16'22
min. Earth dist.	2822 Aug 03 10:23	11°♒55'57	29.12914 AU
direct	2822 Oct 22 10:44	10°♒32'18	
evening set	2823 Jan 17 23:46	12°♒26'07	
conjunction	2823 Feb 02 06:54	13°♒00'38	0°13'30
minimum elong	2823 Feb 02 06:53	13°♒00'38	0°13'31
behind sun begin	2823 Feb 02 03:13	13°♒00'18	
behind sun end	2823 Feb 02 10:34	13°♒00'58	
max. Earth dist.	2823 Feb 02 11:05	13°♒01'01	31.12452 AU
morning rise	2823 Feb 17 14:56	13°♒35'16	
	2823 Apr 03 21:27	15°♒	
retrograde	2823 May 17 20:11	15°♒31'11	
	2823 Jul 02 09:06	15°℞♒	
opposition	2823 Aug 06 02:47	14°♒07'42	0°12'23
min. Earth dist.	2823 Aug 05 21:16	14°♒08'04	29.12002 AU
direct	2823 Oct 24 22:34	12°♒44'21	
evening set	2824 Jan 20 09:26	14°♒38'09	
	2824 Jan 30 02:50	15°♒	
conjunction	2824 Feb 04 16:37	15°♒12'41	0°09'47
minimum elong	2824 Feb 04 16:37	15°♒12'41	0°09'46
behind sun begin	2824 Feb 04 11:20	15°♒12'13	
behind sun end	2824 Feb 04 21:54	15°♒13'10	
max. Earth dist.	2824 Feb 04 21:37	15°♒13'09	31.11558 AU
morning rise	2824 Feb 20 00:53	15°♒47'21	
retrograde	2824 May 19 07:39	17°♒43'26	
opposition	2824 Aug 07 16:01	16°♒19'55	0°08'23
min. Earth dist.	2824 Aug 07 10:38	16°♒20'17	29.11126 AU
	2824 Oct 12 01:09	15°℞♒	
direct	2824 Oct 26 09:43	14°♒56'38	
	2824 Nov 09 12:23	15°♒	
evening set	2825 Jan 21 18:59	16°♒50'24	
conjunction	2825 Feb 06 02:22	17°♒24'58	0°06'03
minimum elong	2825 Feb 06 02:21	17°♒24'58	0°06'03
behind sun begin	2825 Feb 05 20:15	17°♒24'25	
behind sun end	2825 Feb 06 08:27	17°♒25'31	
max. Earth dist.	2825 Feb 06 08:41	17°♒25'32	31.10690 AU
morning rise	2825 Feb 21 10:47	17°♒59'39	
retrograde	2825 May 21 19:44	19°♒55'54	
opposition	2825 Aug 10 05:08	18°♒32'21	0°04'22
min. Earth dist.	2825 Aug 09 22:02	18°♒32'50	29.10240 AU
direct	2825 Oct 28 21:37	17°♒09'07	
evening set	2826 Jan 24 04:54	19°♒02'52	
conjunction	2826 Feb 08 12:16	19°♒37'26	0°02'17
minimum elong	2826 Feb 08 12:16	19°♒37'26	0°02'16
behind sun begin	2826 Feb 08 05:52	19°♒36'52	
behind sun end	2826 Feb 08 18:39	19°♒38'01	
max. Earth dist.	2826 Feb 08 18:34	19°♒38'01	31.09780 AU
morning rise	2826 Feb 23 21:03	20°♒12'10	
retrograde	2826 May 24 07:46	22°♒08'34	
opposition	2826 Aug 12 18:17	20°♒44'58	0°00'20
min. Earth dist.	2826 Aug 12 11:25	20°♒45'26	29.09309 AU
desc. node	2826 Sep 12 07:37	19°♒58'02	
direct	2826 Oct 31 07:37	19°♒21'47	
evening set	2827 Jan 26 14:47	21°♒15'30	
conjunction	2827 Feb 10 22:24	21°♒50'06	-0°01'36
minimum elong	2827 Feb 10 22:26	21°♒50'06	0°01'36
behind sun begin	2827 Feb 10 16:02	21°♒49'31	
behind sun end	2827 Feb 11 04:50	21°♒50'41	
max. Earth dist.	2827 Feb 11 06:15	21°♒50'49	31.08800 AU
morning rise	2827 Feb 26 07:18	22°♒24'51	
retrograde	2827 May 26 19:04	24°♒21'24	
opposition	2827 Aug 15 07:29	22°♒57'45	-0°03'42
min. Earth dist.	2827 Aug 14 23:38	22°♒58'17	29.08270 AU
direct	2827 Nov 02 19:12	21°♒34'34	
evening set	2828 Jan 29 00:49	23°♒28'15	
conjunction	2828 Feb 13 08:26	24°♒02'53	-0°05'24
minimum elong	2828 Feb 13 08:25	24°♒02'53	0°05'24
behind sun begin	2828 Feb 13 02:14	24°♒02'19	
behind sun end	2828 Feb 13 14:36	24°♒03'26	
max. Earth dist.	2828 Feb 13 15:42	24°♒03'33	31.07706 AU
morning rise	2828 Feb 28 17:42	24°♒37'39	
retrograde	2828 May 28 08:40	26°♒34'21	
opposition	2828 Aug 16 20:50	25°♒10'36	-0°07'44
min. Earth dist.	2828 Aug 16 12:30	25°♒11'10	29.07123 AU
direct	2828 Nov 04 04:45	23°♒47'25	
evening set	2829 Jan 30 10:49	25°♒41'04	
conjunction	2829 Feb 14 18:44	26°♒15'42	-0°09'08
minimum elong	2829 Feb 14 18:44	26°♒15'42	0°09'08
behind sun begin	2829 Feb 14 13:16	26°♒15'12	
behind sun end	2829 Feb 15 00:13	26°♒16'11	
max. Earth dist.	2829 Feb 15 03:31	26°♒16'31	31.06497 AU
morning rise	2829 Mar 02 04:08	26°♒50'30	

retrograde	2829 May 30 20:23	28°♒47'19	
opposition	2829 Aug 19 10:07	27°♒23'28	-0°11'45
min. Earth dist.	2829 Aug 19 01:25	27°♒24'03	29.05862 AU
direct	2829 Nov 06 17:23	26°♒00'16	
evening set	2830 Feb 01 20:52	27°♒53'50	
conjunction	2830 Feb 17 04:53	28°♒28'29	-0°12'52
minimum elong	2830 Feb 17 04:52	28°♒28'29	0°12'53
behind sun begin	2830 Feb 17 00:50	28°♒28'07	
behind sun end	2830 Feb 17 08:54	28°♒28'50	
max. Earth dist.	2830 Feb 17 13:26	28°♒29'16	31.05208 AU
morning rise	2830 Mar 04 14:43	29°♒03'18	
	2830 Apr 01 07:46	0°♓	
retrograde	2830 Jun 02 10:52	1°♓00'13	
	2830 Aug 07 05:37	30°♑℞♒	
opposition	2830 Aug 21 23:17	29°♒36'15	-0°15'44
min. Earth dist.	2830 Aug 21 13:24	29°♒36'55	29.04548 AU
direct	2830 Nov 09 05:01	28°♒13'00	
	2831 Feb 01 08:01	0°♓	
evening set	2831 Feb 04 06:53	0°♓06'31	
conjunction	2831 Feb 19 15:06	0°♓41'11	-0°16'36
minimum elong	2831 Feb 19 15:06	0°♓41'11	0°16'35
max. Earth dist.	2831 Feb 20 01:02	0°♓42'06	31.03875 AU
morning rise	2831 Mar 07 01:08	1°♓16'02	
retrograde	2831 Jun 04 22:27	3°♓13'02	
opposition	2831 Aug 24 12:25	1°♓48'56	-0°19'43
min. Earth dist.	2831 Aug 24 02:37	1°♓49'36	29.03231 AU
direct	2831 Nov 11 16:38	0°♓25'40	
evening set	2832 Feb 06 16:56	2°♓19'07	
conjunction	2832 Feb 22 01:19	2°♓53'48	-0°20'18
minimum elong	2832 Feb 22 01:19	2°♓53'48	0°20'18
max. Earth dist.	2832 Feb 22 11:59	2°♓54'48	31.02597 AU
morning rise	2832 Mar 08 11:39	3°♓28'40	
retrograde	2832 Jun 06 11:36	5°♓25'46	
opposition	2832 Aug 26 01:31	4°♓01'35	-0°23'40
min. Earth dist.	2832 Aug 25 13:44	4°♓02'23	29.01999 AU
direct	2832 Nov 13 05:12	2°♓38'17	
evening set	2833 Feb 08 02:56	4°♓31'41	
conjunction	2833 Feb 23 11:28	5°♓06'23	-0°23'58
minimum elong	2833 Feb 23 11:28	5°♓06'23	0°23'57
max. Earth dist.	2833 Feb 23 22:57	5°♓07'28	31.01408 AU
morning rise	2833 Mar 10 22:09	5°♓41'17	
retrograde	2833 Jun 09 00:05	7°♓38'30	
opposition	2833 Aug 28 14:44	6°♓14'13	-0°27'35
min. Earth dist.	2833 Aug 28 02:59	6°♓15'01	29.00881 AU
direct	2833 Nov 15 16:59	4°♓50'56	
evening set	2834 Feb 10 13:02	6°♓44'17	
conjunction	2834 Feb 25 21:54	7°♓19'01	-0°27'37
minimum elong	2834 Feb 25 21:54	7°♓19'01	0°27'37
max. Earth dist.	2834 Feb 26 10:51	7°♓20'14	31.00356 AU
morning rise	2834 Mar 13 08:47	7°♓53'57	
retrograde	2834 Jun 11 12:30	9°♓51'17	
opposition	2834 Aug 31 03:36	8°♓26'56	-0°31'27
min. Earth dist.	2834 Aug 30 13:57	8°♓27'52	28.99890 AU
direct	2834 Nov 18 05:23	7°♓03'39	
evening set	2835 Feb 12 23:19	8°♓57'00	
conjunction	2835 Feb 28 08:15	9°♓31'45	-0°31'13
minimum elong	2835 Feb 28 08:15	9°♓31'45	0°31'12
max. Earth dist.	2835 Feb 28 21:19	9°♓32'59	30.99422 AU
morning rise	2835 Mar 15 19:35	10°♓06'43	
retrograde	2835 Jun 14 00:35	12°♓04'12	
opposition	2835 Sep 02 16:46	10°♓39'48	-0°35'18
min. Earth dist.	2835 Sep 02 03:03	10°♓40'44	28.99021 AU
direct	2835 Nov 20 15:23	9°♓16'34	
evening set	2836 Feb 15 09:24	11°♓09'54	
conjunction	2836 Mar 01 18:43	11°♓44'40	-0°34'47
minimum elong	2836 Mar 01 18:43	11°♓44'40	0°34'47
max. Earth dist.	2836 Mar 02 09:45	11°♓46'05	30.98598 AU
morning rise	2836 Mar 17 06:12	12°♓19'40	
retrograde	2836 Jun 15 12:02	14°♓17'17	
opposition	2836 Sep 04 05:55	12°♓52'52	-0°39'05
min. Earth dist.	2836 Sep 03 14:53	12°♓53'53	28.98235 AU
direct	2836 Nov 22 02:59	11°♓29'41	
evening set	2837 Feb 16 19:54	13°♓23'01	
conjunction	2837 Mar 04 05:16	13°♓57'48	-0°38'18
minimum elong	2837 Mar 04 05:16	13°♓57'48	0°38'17
max. Earth dist.	2837 Mar 04 20:00	13°♓59'12	30.97848 AU
morning rise	2837 Mar 19 17:16	14°♓32'51	
retrograde	2837 Jun 18 02:10	16°♓30'37	
opposition	2837 Sep 06 19:02	15°♓06'10	-0°42'49
min. Earth dist.	2837 Sep 06 03:32	15°♓07'14	28.97516 AU
direct	2837 Nov 24 12:05	13°♓43'02	
evening set	2838 Feb 19 06:22	15°♓36'24	
conjunction	2838 Mar 06 16:08	16°♓11'13	-0°41'46
minimum elong	2838 Mar 06 16:08	16°♓11'13	0°41'47
max. Earth dist.	2838 Mar 07 08:26	16°♓12'45	30.97124 AU
morning rise	2838 Mar 22 04:19	16°♓46'17	
retrograde	2838 Jun 20 14:20	18°♓44'13	
opposition	2838 Sep 09 08:12	17°♓19'45	-0°46'29
min. Earth dist.	2838 Sep 08 16:24	17°♓20'50	28.96784 AU
direct	2838 Nov 26 23:58	15°♓56'40	
evening set	2839 Feb 21 17:08	17°♓50'02	
conjunction	2839 Mar 09 03:01	18°♓24'52	-0°45'10
minimum elong	2839 Mar 09 03:00	18°♓24'52	0°45'10
max. Earth dist.	2839 Mar 09 18:57	18°♓26'23	30.96376 AU
morning rise	2839 Mar 24 15:36	18°♓59'58	
retrograde	2839 Jun 23 05:27	20°♓58'03	
opposition	2839 Sep 11 21:18	19°♓33'34	-0°50'06
min. Earth dist.	2839 Sep 11 04:37	19°♓34'42	28.96011 AU
direct	2839 Nov 29 10:43	18°♓10'30	
evening set	2840 Feb 24 03:58	20°♓03'54	
conjunction	2840 Mar 10 14:09	20°♓38'46	-0°48'30
minimum elong	2840 Mar 10 14:09	20°♓38'46	0°48'31
max. Earth dist.	2840 Mar 11 07:00	20°♓40'22	30.95548 AU
morning rise	2840 Mar 26 03:01	21°♓13'54	
retrograde	2840 Jun 24 17:59	23°♓12'07	
opposition	2840 Sep 13 10:38	21°♓47'34	-0°53'38
min. Earth dist.	2840 Sep 12 18:28	21°♓48'41	28.95140 AU
direct	2840 Nov 30 21:37	20°♓24'32	
evening set	2841 Feb 25 14:50	22°♓17'55	
conjunction	2841 Mar 13 01:20	22°♓52'49	-0°51'46
minimum elong	2841 Mar 13 01:20	22°♓52'49	0°51'46
max. Earth dist.	2841 Mar 13 18:18	22°♓54'25	30.94630 AU
morning rise	2841 Mar 28 14:35	23°♓27'59	
retrograde	2841 Jun 27 08:45	25°♓26'17	
opposition	2841 Sep 15 23:48	24°♓01'42	-0°57'05
min. Earth dist.	2841 Sep 15 06:25	24°♓02'53	28.94164 AU
direct	2841 Dec 03 10:34	22°♓38'39	
evening set	2842 Feb 28 01:54	24°♓32'01	
conjunction	2842 Mar 15 12:38	25°♓06'56	-0°54'58
minimum elong	2842 Mar 15 12:38	25°♓06'56	0°54'58
max. Earth dist.	2842 Mar 16 05:36	25°♓08'33	30.93595 AU

morning rise	2842 Mar 31 02:18	25°♓42'08	
retrograde	2842 Jun 29 22:34	27°♓40'32	
opposition	2842 Sep 18 12:53	26°♓15'51	-1°00'27
min. Earth dist.	2842 Sep 17 20:16	26°♓16'59	28.93099 AU
direct	2842 Dec 05 22:51	24°♓52'47	
evening set	2843 Mar 02 12:50	26°♓46'06	
conjunction	2843 Mar 17 23:59	27°♓21'03	-0°58'04
minimum elong	2843 Mar 17 23:59	27°♓21'03	0°58'04
max. Earth dist.	2843 Mar 18 17:55	27°♓22'45	30.92510 AU
morning rise	2843 Apr 02 13:55	27°♓56'17	
retrograde	2843 Jul 02 11:40	29°♓54'44	
min. Earth dist.	2843 Sep 20 07:51	28°♓31'13	28.92004 AU
opposition	2843 Sep 21 01:54	28°♓29'58	-1°03'44
direct	2843 Dec 08 12:09	27°♓06'52	
evening set	2844 Mar 03 23:48	29°♓00'10	
conjunction	2844 Mar 19 11:06	29°♓35'07	-1°01'06
minimum elong	2844 Mar 19 11:05	29°♓35'07	1°01'06
max. Earth dist.	2844 Mar 20 04:51	29°♓36'48	30.91420 AU
	2844 Mar 30 10:08	0°♈	
morning rise	2844 Apr 04 01:33	0°♈10'23	
retrograde	2844 Jul 03 23:52	2°♈08'55	
opposition	2844 Sep 22 15:04	0°♈44'03	-1°06'55
min. Earth dist.	2844 Sep 21 21:17	0°♈45'17	28.90954 AU
	2844 Oct 20 15:33	30°♑♓	
direct	2844 Dec 09 22:59	29°♓20'55	
	2845 Jan 27 05:04	0°♈	
evening set	2845 Mar 06 10:48	1°♈14'11	
conjunction	2845 Mar 21 22:34	1°♈49'10	-1°04'02
minimum elong	2845 Mar 21 22:34	1°♈49'10	1°04'01
max. Earth dist.	2845 Mar 22 18:02	1°♈51'01	30.90404 AU
morning rise	2845 Apr 06 13:14	2°♈24'27	
retrograde	2845 Jul 06 11:41	4°♈23'03	
min. Earth dist.	2845 Sep 24 09:00	2°♈59'25	28.89990 AU
opposition	2845 Sep 25 03:53	2°♈58'07	-1°10'00
direct	2845 Dec 12 11:36	1°♈34'57	
evening set	2846 Mar 08 22:00	3°♈28'12	
conjunction	2846 Mar 24 09:57	4°♈03'12	-1°06'52
minimum elong	2846 Mar 24 09:57	4°♈03'12	1°06'52
max. Earth dist.	2846 Mar 25 04:57	4°♈05'01	30.89496 AU
morning rise	2846 Apr 09 01:11	4°♈38'31	
retrograde	2846 Jul 09 01:28	6°♈37'12	
opposition	2846 Sep 27 16:50	5°♈12'11	-1°12'59
min. Earth dist.	2846 Sep 26 21:34	5°♈13'31	28.89154 AU
direct	2846 Dec 14 21:38	3°♈49'01	
evening set	2847 Mar 11 09:05	5°♈42'15	
conjunction	2847 Mar 26 21:29	6°♈17'17	-1°09'36
minimum elong	2847 Mar 26 21:28	6°♈17'17	1°09'35
max. Earth dist.	2847 Mar 27 18:06	6°♈19'14	30.88709 AU
morning rise	2847 Apr 11 12:54	6°♈52'38	
retrograde	2847 Jul 11 12:21	8°♈51'23	
min. Earth dist.	2847 Sep 29 09:54	7°♈27'42	28.88431 AU
opposition	2847 Sep 30 05:42	7°♈26'20	-1°15'52
direct	2847 Dec 17 09:34	6°♈03'10	
evening set	2848 Mar 12 20:24	7°♈56'24	
conjunction	2848 Mar 28 09:03	8°♈31'27	-1°12'14
minimum elong	2848 Mar 28 09:02	8°♈31'27	1°12'15
max. Earth dist.	2848 Mar 29 05:27	8°♈33'23	30.88056 AU
morning rise	2848 Apr 13 00:59	9°♈06'49	
retrograde	2848 Jul 13 02:37	11°♈05'40	
opposition	2848 Oct 01 18:35	9°♈40'35	-1°18'37
min. Earth dist.	2848 Sep 30 21:47	9°♈42'01	28.87841 AU
direct	2848 Dec 18 19:33	8°♈17'25	
evening set	2849 Mar 15 07:43	10°♈10'40	
conjunction	2849 Mar 30 20:46	10°♈45'45	-1°14'46
minimum elong	2849 Mar 30 20:46	10°♈45'45	1°14'45
max. Earth dist.	2849 Mar 31 18:18	10°♈47'47	30.87501 AU
morning rise	2849 Apr 15 13:04	11°♈21'09	
retrograde	2849 Jul 15 15:02	13°♈20'05	
min. Earth dist.	2849 Oct 03 11:09	11°♈56'23	28.87327 AU
opposition	2849 Oct 04 07:31	11°♈54'59	-1°21'16
direct	2849 Dec 21 05:56	10°♈31'50	
evening set	2850 Mar 17 19:16	12°♈25'06	
conjunction	2850 Apr 02 08:42	13°♈00'13	-1°17'10
minimum elong	2850 Apr 02 08:42	13°♈00'13	1°17'11
max. Earth dist.	2850 Apr 03 06:25	13°♈02'16	30.87021 AU
morning rise	2850 Apr 18 01:24	13°♈35'39	
retrograde	2850 Jul 18 06:02	15°♈34'39	
opposition	2850 Oct 06 20:11	14°♈09'32	-1°23'47
min. Earth dist.	2850 Oct 05 22:43	14°♈11'02	28.86862 AU
direct	2850 Dec 23 18:21	12°♈46'25	
evening set	2851 Mar 20 07:01	14°♈39'43	
conjunction	2851 Apr 04 20:43	15°♈14'51	-1°19'28
minimum elong	2851 Apr 04 20:43	15°♈14'51	1°19'28
max. Earth dist.	2851 Apr 05 18:26	15°♈16'55	30.86545 AU
morning rise	2851 Apr 20 13:51	15°♈50'19	
retrograde	2851 Jul 20 20:05	17°♈49'24	
opposition	2851 Oct 09 09:10	16°♈24'17	-1°26'10
min. Earth dist.	2851 Oct 08 12:37	16°♈25'42	28.86385 AU
direct	2851 Dec 26 05:50	15°♈01'10	
evening set	2852 Mar 21 18:41	16°♈54'30	
conjunction	2852 Apr 06 08:53	17°♈29'40	-1°21'39
minimum elong	2852 Apr 06 08:53	17°♈29'40	1°21'39
max. Earth dist.	2852 Apr 07 07:13	17°♈31'47	30.86043 AU
morning rise	2852 Apr 22 02:19	18°♈05'10	
retrograde	2852 Jul 22 10:17	20°♈04'19	
opposition	2852 Oct 10 22:01	18°♈39'11	-1°28'26
min. Earth dist.	2852 Oct 10 00:29	18°♈40'40	28.85842 AU
direct	2852 Dec 27 18:56	17°♈16'04	
evening set	2853 Mar 24 06:48	19°♈09'25	
conjunction	2853 Apr 08 21:14	19°♈44'37	-1°23'42
minimum elong	2853 Apr 08 21:14	19°♈44'36	1°23'41
max. Earth dist.	2853 Apr 09 18:39	19°♈46'38	30.85445 AU
morning rise	2853 Apr 24 15:14	20°♈20'09	
retrograde	2853 Jul 25 00:13	22°♈19'20	
opposition	2853 Oct 13 10:53	20°♈54'10	-1°30'34
min. Earth dist.	2853 Oct 12 14:23	20°♈55'35	28.85200 AU
direct	2853 Dec 30 06:09	19°♈31'02	
evening set	2854 Mar 26 18:48	21°♈24'23	
conjunction	2854 Apr 11 09:50	21°♈59'37	-1°25'37
minimum elong	2854 Apr 11 09:50	21°♈59'37	1°25'38
max. Earth dist.	2854 Apr 12 08:07	22°♈01'43	30.84745 AU
morning rise	2854 Apr 27 04:05	22°♈35'10	
retrograde	2854 Jul 27 13:34	24°♈34'23	
opposition	2854 Oct 15 23:37	23°♈09'10	-1°32'33
min. Earth dist.	2854 Oct 15 02:41	23°♈10'37	28.84446 AU
direct	2855 Jan 01 19:38	21°♈46'00	
evening set	2855 Mar 29 06:52	23°♈39'21	
conjunction	2855 Apr 13 22:07	24°♈14'36	-1°27'25
minimum elong	2855 Apr 13 22:07	24°♈14'36	1°27'25
max. Earth dist.	2855 Apr 14 19:18	24°♈16'36	30.83956 AU
morning rise	2855 Apr 29 16:58	24°♈50'11	

retrograde	2855 Jul 30	03:06	26°♈49'25	
opposition	2855 Oct 18	12:22	25°♈24'08	-1°34'24
min. Earth dist.	2855 Oct 17	15:45	25°♈25'34	28.83642 AU
direct	2856 Jan 04	06:35	24°♈00'55	
evening set	2856 Mar 30	18:55	25°♈54'15	
conjunction	2856 Apr 15	10:43	26°♈29'31	-1°29'05
minimum elong	2856 Apr 15	10:43	26°♈29'31	1°29'06
max. Earth dist.	2856 Apr 16	09:00	26°♈31'38	30.83141 AU
morning rise	2856 May 01	05:50	27°♈05'08	
retrograde	2856 Jul 31	14:11	29°♈04'23	
min. Earth dist.	2856 Oct 19	04:16	27°♈40'28	28.82839 AU
opposition	2856 Oct 20	00:55	27°♈39'02	-1°36'07
direct	2857 Jan 05	18:59	26°♈15'46	
evening set	2857 Apr 02	07:01	28°♈09'05	
conjunction	2857 Apr 17	23:10	28°♈44'23	-1°30'37
minimum elong	2857 Apr 17	23:10	28°♈44'23	1°30'37
max. Earth dist.	2857 Apr 18	20:47	28°♈46'26	30.82370 AU
morning rise	2857 May 03	18:52	29°♈20'02	
	2857 May 22	17:00	0°♉	
retrograde	2857 Aug 03	04:04	1°♉19'17	
	2857 Oct 18	21:35	30°℞♈	
opposition	2857 Oct 22	13:23	29°♈53'53	-1°37'40
min. Earth dist.	2857 Oct 21	16:11	29°♈55'21	28.82111 AU
direct	2858 Jan 08	05:23	28°♈30'33	
	2858 Mar 24	17:04	0°♉	
evening set	2858 Apr 04	19:13	0°♉23'54	
conjunction	2858 Apr 20	11:50	0°♉59'13	-1°32'00
minimum elong	2858 Apr 20	11:50	0°♉59'13	1°32'00
max. Earth dist.	2858 Apr 21	10:16	1°♉01'21	30.81676 AU
morning rise	2858 May 06	07:51	1°♉34'54	
retrograde	2858 Aug 05	15:44	3°♉34'09	
min. Earth dist.	2858 Oct 24	05:05	2°♉10'09	28.81481 AU
opposition	2858 Oct 25	01:44	2°♉08'42	-1°39'05
direct	2859 Jan 10	15:50	0°♉45'20	
evening set	2859 Apr 07	07:24	2°♉38'42	
conjunction	2859 Apr 23	00:27	3°♉14'04	-1°33'15
minimum elong	2859 Apr 23	00:27	3°♉14'04	1°33'15
max. Earth dist.	2859 Apr 23	22:57	3°♉16'11	30.81121 AU
morning rise	2859 May 08	20:56	3°♉49'45	
retrograde	2859 Aug 08	05:53	5°♉49'01	
opposition	2859 Oct 27	14:03	4°♉23'33	-1°40'21
min. Earth dist.	2859 Oct 26	16:16	4°♉25'05	28.81000 AU
direct	2860 Jan 13	04:13	3°♉00'10	
evening set	2860 Apr 08	19:35	4°♉53'34	
conjunction	2860 Apr 24	13:01	5°♉28'57	-1°34'22
minimum elong	2860 Apr 24	13:01	5°♉28'57	1°34'22
max. Earth dist.	2860 Apr 25	11:40	5°♉31'05	30.80703 AU
morning rise	2860 May 10	09:59	6°♉04'40	
retrograde	2860 Aug 09	19:00	8°♉03'57	
min. Earth dist.	2860 Oct 28	05:30	6°♉39'57	28.80661 AU
opposition	2860 Oct 29	02:30	6°♉38'28	-1°41'27
direct	2861 Jan 14	15:11	5°♉15'04	
evening set	2861 Apr 11	07:54	7°♉08'30	
conjunction	2861 Apr 27	01:56	7°♉43'55	-1°35'20
minimum elong	2861 Apr 27	01:56	7°♉43'55	1°35'19
max. Earth dist.	2861 Apr 28	01:13	7°♉46'07	30.80440 AU
morning rise	2861 May 12	23:15	8°♉19'41	
retrograde	2861 Aug 12	09:12	10°♉18'57	
opposition	2861 Oct 31	14:35	8°♉53'30	-1°42'24
min. Earth dist.	2861 Oct 30	16:30	8°♉55'03	28.80457 AU
direct	2862 Jan 17	03:38	7°♉30'06	
evening set	2862 Apr 13	20:29	9°♉23'35	
conjunction	2862 Apr 29	14:48	9°♉59'02	-1°36'09
minimum elong	2862 Apr 29	14:48	9°♉59'02	1°36'09
max. Earth dist.	2862 Apr 30	13:24	10°♉01'10	30.80289 AU
morning rise	2862 May 15	12:42	10°♉34'49	
retrograde	2862 Aug 14	23:46	12°♉34'07	
min. Earth dist.	2862 Nov 02	05:45	11°♉10'10	28.80361 AU
opposition	2862 Nov 03	02:56	11°♉08'41	-1°43'12
direct	2863 Jan 19	14:55	9°♉45'17	
evening set	2863 Apr 16	08:53	11°♉38'49	
conjunction	2863 May 02	03:49	12°♉14'18	-1°36'49
minimum elong	2863 May 02	03:49	12°♉14'18	1°36'49
max. Earth dist.	2863 May 03	03:28	12°♉16'32	30.80226 AU
morning rise	2863 May 18	01:58	12°♉50'07	
retrograde	2863 Aug 17	14:19	14°♉49'25	
opposition	2863 Nov 05	15:08	13°♉24'01	-1°43'50
min. Earth dist.	2863 Nov 04	17:31	13°♉25'32	28.80312 AU
direct	2864 Jan 22	04:41	12°♉00'38	
evening set	2864 Apr 17	21:44	13°♉54'13	
conjunction	2864 May 03	16:58	14°♉29'44	-1°37'20
minimum elong	2864 May 03	16:58	14°♉29'44	1°37'20
max. Earth dist.	2864 May 04	15:19	14°♉31'50	30.80187 AU
	2864 May 17	03:19	15°♉	
morning rise	2864 May 19	15:43	15°♉05'35	
retrograde	2864 Aug 19	04:03	17°♉04'52	
min. Earth dist.	2864 Nov 06	06:29	15°♉40'57	28.80274 AU
opposition	2864 Nov 07	03:22	15°♉39'30	-1°44'18
	2864 Dec 01	13:30	15°℞♉	
direct	2865 Jan 23	15:33	14°♉16'06	
	2865 Mar 15	21:15	15°♉	
evening set	2865 Apr 20	10:36	16°♉09'44	
conjunction	2865 May 06	06:27	16°♉45'17	-1°37'42
minimum elong	2865 May 06	06:27	16°♉45'17	1°37'42
max. Earth dist.	2865 May 07	05:23	16°♉47'27	30.80115 AU
morning rise	2865 May 22	05:29	17°♉21'09	
retrograde	2865 Aug 21	16:34	19°♉20'25	
opposition	2865 Nov 09	15:35	17°♉55'03	-1°44'37
min. Earth dist.	2865 Nov 08	19:09	17°♉56'29	28.80161 AU
direct	2866 Jan 26	04:23	16°♉31'39	
evening set	2866 Apr 22	23:40	18°♉25'17	
conjunction	2866 May 08	19:52	19°♉00'52	-1°37'55
minimum elong	2866 May 08	19:52	19°♉00'52	1°37'55
max. Earth dist.	2866 May 09	17:18	19°♉02'53	30.79967 AU
morning rise	2866 May 24	19:27	19°♉36'46	
retrograde	2866 Aug 24	07:07	21°♉35'59	
min. Earth dist.	2866 Nov 11	07:20	20°♉12'02	28.79973 AU
opposition	2866 Nov 12	03:40	20°♉10'37	-1°44'47
direct	2867 Jan 28	15:29	18°♉47'09	
evening set	2867 Apr 25	12:39	20°♉40'48	
conjunction	2867 May 11	09:24	21°♉16'24	-1°38'00
minimum elong	2867 May 11	09:24	21°♉16'24	1°38'00
max. Earth dist.	2867 May 12	07:03	21°♉18'27	30.79738 AU
morning rise	2867 May 27	09:19	21°♉52'20	
retrograde	2867 Aug 26	18:16	23°♉51'28	
opposition	2867 Nov 14	15:47	22°♉26'05	-1°44'47
min. Earth dist.	2867 Nov 13	20:34	22°♉27'26	28.79717 AU
direct	2868 Jan 31	02:55	21°♉02'33	
evening set	2868 Apr 27	01:33	22°♉56'12	
conjunction	2868 May 12	22:49	23°♉31'50	-1°37'55
minimum elong	2868 May 12	22:49	23°♉31'50	1°37'56

max. Earth dist.	2868 May 13 19:47	23°♉33'48	30.79482 AU
morning rise	2868 May 28 23:15	24°♉07'47	
retrograde	2868 Aug 28 07:14	26°♉06'50	
min. Earth dist.	2868 Nov 15 08:02	24°♉42'48	28.79456 AU
opposition	2868 Nov 16 03:43	24°♉41'24	-1°44'37
direct	2869 Feb 01 15:11	23°♉17'48	
evening set	2869 Apr 29 14:40	25°♉11'27	
conjunction	2869 May 15 12:21	25°♉47'06	-1°37'42
minimum elong	2869 May 15 12:21	25°♉47'06	1°37'42
max. Earth dist.	2869 May 16 08:59	25°♉49'03	30.79227 AU
morning rise	2869 May 31 13:14	26°♉23'04	
retrograde	2869 Aug 30 19:04	28°♉22'02	
opposition	2869 Nov 18 15:31	26°♉56'35	-1°44'18
min. Earth dist.	2869 Nov 17 21:09	26°♉57'52	28.79231 AU
direct	2870 Feb 04 01:45	25°♉32'53	
evening set	2870 May 02 03:41	27°♉26'33	
conjunction	2870 May 18 01:57	28°♉02'14	-1°37'20
minimum elong	2870 May 18 01:57	28°♉02'14	1°37'20
max. Earth dist.	2870 May 18 22:43	28°♉04'11	30.79049 AU
morning rise	2870 Jun 03 03:10	28°♉38'12	
	2870 Jul 16 04:23	0°♊	
retrograde	2870 Sep 02 08:31	0°♊37'04	
	2870 Oct 21 16:27	30°℞♉	
min. Earth dist.	2870 Nov 20 08:00	29°♉12'58	28.79099 AU
opposition	2870 Nov 21 03:12	29°♉11'37	-1°43'49
direct	2871 Feb 06 14:25	27°♉47'51	
evening set	2871 May 04 16:41	29°♉41'32	
	2871 May 12 23:53	0°♊	
conjunction	2871 May 20 15:16	0°♊17'14	-1°36'49
minimum elong	2871 May 20 15:16	0°♊17'14	1°36'48
max. Earth dist.	2871 May 21 11:12	0°♊19'07	30.78974 AU
morning rise	2871 Jun 05 17:00	0°♊53'14	
retrograde	2871 Sep 04 21:48	2°♊52'01	
opposition	2871 Nov 23 15:00	1°♊26'33	-1°43'11
min. Earth dist.	2871 Nov 22 20:47	1°♊27'50	28.79100 AU
direct	2872 Feb 09 01:55	0°♊02'45	
evening set	2872 May 06 05:42	1°♊56'27	
conjunction	2872 May 22 04:56	2°♊32'11	-1°36'09
minimum elong	2872 May 22 04:56	2°♊32'11	1°36'09
max. Earth dist.	2872 May 23 01:44	2°♊34'08	30.79051 AU
morning rise	2872 Jun 07 06:56	3°♊08'12	
retrograde	2872 Sep 06 11:21	5°♊06'54	
min. Earth dist.	2872 Nov 24 07:49	3°♊42'46	28.79247 AU
opposition	2872 Nov 25 02:29	3°♊41'27	-1°42'24
direct	2873 Feb 10 15:29	2°♊17'37	
evening set	2873 May 08 18:59	4°♊11'22	
conjunction	2873 May 24 18:33	4°♊47'07	-1°35'20
minimum elong	2873 May 24 18:33	4°♊47'07	1°35'20
max. Earth dist.	2873 May 25 14:04	4°♊48'57	30.79281 AU
morning rise	2873 Jun 09 21:08	5°♊23'10	
retrograde	2873 Sep 09 01:09	7°♊21'47	
opposition	2873 Nov 27 14:07	5°♊56'23	-1°41'26
min. Earth dist.	2873 Nov 26 20:01	5°♊57'40	28.79557 AU
direct	2874 Feb 13 02:19	4°♊32'32	
evening set	2874 May 11 08:07	6°♊26'20	
conjunction	2874 May 27 08:17	7°♊02'07	-1°34'22
minimum elong	2874 May 27 08:18	7°♊02'07	1°34'22
max. Earth dist.	2874 May 28 04:40	7°♊04'02	30.79657 AU
morning rise	2874 Jun 12 11:05	7°♊38'11	
retrograde	2874 Sep 11 14:09	9°♊36'44	
min. Earth dist.	2874 Nov 29 07:44	8°♊12'40	28.79990 AU
opposition	2874 Nov 30 01:35	8°♊11'24	-1°40'20
direct	2875 Feb 15 15:09	6°♊47'34	
evening set	2875 May 13 21:30	8°♊41'26	
conjunction	2875 May 29 22:01	9°♊17'15	-1°33'15
minimum elong	2875 May 29 22:01	9°♊17'15	1°33'16
max. Earth dist.	2875 May 30 17:01	9°♊19'02	30.80161 AU
morning rise	2875 Jun 15 01:21	9°♊53'20	
retrograde	2875 Sep 14 05:07	11°♊51'50	
opposition	2875 Dec 02 13:05	10°♊26'34	-1°39'04
min. Earth dist.	2875 Dec 01 19:17	10°♊27'50	28.80537 AU
direct	2876 Feb 18 02:11	9°♊02'45	
evening set	2876 May 15 10:52	10°♊56'41	
conjunction	2876 May 31 11:57	11°♊32'32	-1°32'00
minimum elong	2876 May 31 11:57	11°♊32'32	1°32'00
max. Earth dist.	2876 Jun 01 07:15	11°♊34'21	30.80727 AU
morning rise	2876 Jun 16 15:34	12°♊08'39	
retrograde	2876 Sep 15 16:39	14°♊07'05	
min. Earth dist.	2876 Dec 03 08:08	12°♊43'05	28.81105 AU
opposition	2876 Dec 04 00:38	12°♊41'55	-1°37'38
direct	2877 Feb 19 13:29	11°♊18'06	
evening set	2877 May 18 00:33	13°♊12'06	
conjunction	2877 Jun 03 02:04	13°♊47'59	-1°30'36
minimum elong	2877 Jun 03 02:04	13°♊47'59	1°30'36
max. Earth dist.	2877 Jun 03 20:08	13°♊49'41	30.81296 AU
morning rise	2877 Jun 19 06:06	14°♊24'07	
retrograde	2877 Sep 18 06:03	16°♊22'28	
opposition	2877 Dec 06 11:57	14°♊57'23	-1°36'04
min. Earth dist.	2877 Dec 05 19:27	14°♊58'33	28.81644 AU
direct	2878 Feb 22 01:09	13°♊33'33	
evening set	2878 May 20 14:20	15°♊27'38	
conjunction	2878 Jun 05 16:15	16°♊03'32	-1°29'04
minimum elong	2878 Jun 05 16:15	16°♊03'32	1°29'04
max. Earth dist.	2878 Jun 06 09:33	16°♊05'10	30.81792 AU
morning rise	2878 Jun 21 20:37	16°♊39'41	
retrograde	2878 Sep 20 18:14	18°♊37'57	
opposition	2878 Dec 08 23:34	17°♊12'55	-1°34'21
min. Earth dist.	2878 Dec 08 08:49	17°♊13'58	28.82099 AU
direct	2879 Feb 24 11:04	15°♊49'04	
evening set	2879 May 23 03:52	17°♊43'11	
conjunction	2879 Jun 08 06:20	18°♊19'06	-1°27'24
minimum elong	2879 Jun 08 06:20	18°♊19'06	1°27'24
max. Earth dist.	2879 Jun 08 22:57	18°♊20'40	30.82214 AU
morning rise	2879 Jun 24 11:01	18°♊55'16	
retrograde	2879 Sep 23 07:04	20°♊53'25	
opposition	2879 Dec 11 10:57	19°♊28'26	-1°32'30
min. Earth dist.	2879 Dec 10 19:58	19°♊29'29	28.82468 AU
direct	2880 Feb 26 23:41	18°♊04'31	
evening set	2880 May 24 17:43	19°♊58'40	
conjunction	2880 Jun 09 20:30	20°♊34'37	-1°25'36
minimum elong	2880 Jun 09 20:30	20°♊34'37	1°25'36
max. Earth dist.	2880 Jun 10 11:37	20°♊36'02	30.82551 AU
morning rise	2880 Jun 26 01:37	21°♊10'47	
retrograde	2880 Sep 24 19:20	23°♊08'48	
opposition	2880 Dec 12 22:15	21°♊43'50	-1°30'30
min. Earth dist.	2880 Dec 12 08:57	21°♊44'46	28.82784 AU
direct	2881 Feb 28 11:19	20°♊19'51	
evening set	2881 May 27 07:24	22°♊14'02	
conjunction	2881 Jun 12 10:48	22°♊50'00	-1°23'40
minimum elong	2881 Jun 12 10:48	22°♊50'00	1°23'40
max. Earth dist.	2881 Jun 13 02:00	22°♊51'25	30.82860 AU

morning rise	2881 Jun 28 16:07	23°♊26'10	
retrograde	2881 Sep 27 08:00	25°♊24'02	
opposition	2881 Dec 15 09:25	23°♊59'05	-1°28'22
min. Earth dist.	2881 Dec 14 20:09	24°♊00'01	28.83079 AU
direct	2882 Mar 03 01:00	22°♊35'02	
evening set	2882 May 29 21:08	24°♊29'14	
conjunction	2882 Jun 15 00:45	25°♊05'12	-1°21'37
minimum elong	2882 Jun 15 00:45	25°♊05'12	1°21'36
max. Earth dist.	2882 Jun 15 14:17	25°♊06'28	30.83171 AU
morning rise	2882 Jul 01 06:31	25°♊41'23	
retrograde	2882 Sep 29 21:14	27°♊39'06	
opposition	2882 Dec 17 20:33	26°♊14'09	-1°26'06
min. Earth dist.	2882 Dec 17 08:16	26°♊15'02	28.83419 AU
direct	2883 Mar 05 12:00	24°♊50'02	
evening set	2883 Jun 01 10:43	26°♊44'15	
conjunction	2883 Jun 17 14:54	27°♊20'15	-1°19'26
minimum elong	2883 Jun 17 14:54	27°♊20'15	1°19'26
max. Earth dist.	2883 Jun 18 04:59	27°♊21'34	30.83546 AU
morning rise	2883 Jul 03 20:47	27°♊56'26	
retrograde	2883 Oct 02 10:11	29°♊53'59	
opposition	2883 Dec 20 07:32	28°♊29'03	-1°23'43
min. Earth dist.	2883 Dec 19 19:43	28°♊29'54	28.83833 AU
direct	2884 Mar 07 01:59	27°♊04'52	
evening set	2884 Jun 03 00:25	28°♊59'06	
conjunction	2884 Jun 19 04:52	29°♊35'07	-1°17'08
minimum elong	2884 Jun 19 04:52	29°♊35'07	1°17'08
max. Earth dist.	2884 Jun 19 17:18	29°♊36'17	30.84025 AU
	2884 Jun 30 07:55	0°♋	
morning rise	2884 Jul 05 11:13	0°♋11'18	
retrograde	2884 Oct 04 00:03	2°♋08'43	
opposition	2884 Dec 21 18:30	0°♋43'49	-1°21'11
min. Earth dist.	2884 Dec 21 06:47	0°♋44'38	28.84370 AU
	2885 Jan 17 20:14	30°℞♊	
direct	2885 Mar 09 14:16	29°♊19'34	
	2885 Apr 28 02:32	0°♋	
evening set	2885 Jun 05 14:07	1°♋13'50	
conjunction	2885 Jun 21 19:02	1°♋49'52	-1°14'43
minimum elong	2885 Jun 21 19:02	1°♋49'52	1°14'43
max. Earth dist.	2885 Jun 22 07:47	1°♋51'03	30.84620 AU
morning rise	2885 Jul 08 01:29	2°♋26'03	
retrograde	2885 Oct 06 11:11	4°♋23'18	
opposition	2885 Dec 24 05:23	2°♋58'27	-1°18'33
min. Earth dist.	2885 Dec 23 18:47	2°♋59'12	28.85029 AU
direct	2886 Mar 12 02:14	1°♋34'10	
evening set	2886 Jun 08 03:50	3°♋28'28	
conjunction	2886 Jun 24 09:03	4°♋04'31	-1°12'12
minimum elong	2886 Jun 24 09:04	4°♋04'31	1°12'12
max. Earth dist.	2886 Jun 24 20:41	4°♋05'36	30.85363 AU
morning rise	2886 Jul 10 15:50	4°♋40'43	
retrograde	2886 Oct 09 00:48	6°♋37'49	
opposition	2886 Dec 26 16:14	5°♋13'02	-1°15'47
min. Earth dist.	2886 Dec 26 05:14	5°♋13'49	28.85833 AU
direct	2887 Mar 14 14:01	3°♋48'44	
evening set	2887 Jun 10 17:25	5°♋43'05	
conjunction	2887 Jun 26 23:00	6°♋19'09	-1°09'33
minimum elong	2887 Jun 26 23:01	6°♋19'09	1°09'34
max. Earth dist.	2887 Jun 27 10:25	6°♋20'13	30.86225 AU
morning rise	2887 Jul 13 05:58	6°♋55'21	
retrograde	2887 Oct 11 12:33	8°♋52'20	
opposition	2887 Dec 29 03:12	7°♋27'38	-1°12'54
min. Earth dist.	2887 Dec 28 17:47	7°♋28'18	28.86743 AU
direct	2888 Mar 16 00:05	6°♋03'20	
evening set	2888 Jun 12 07:15	7°♋57'44	
conjunction	2888 Jun 28 13:14	8°♋33'48	-1°06'49
minimum elong	2888 Jun 28 13:14	8°♋33'48	1°06'49
max. Earth dist.	2888 Jun 28 23:59	8°♋34'49	30.87184 AU
morning rise	2888 Jul 14 20:24	9°♋10'01	
retrograde	2888 Oct 13 00:36	11°♋06'52	
opposition	2888 Dec 30 13:50	9°♋42'17	-1°09'55
min. Earth dist.	2888 Dec 30 04:14	9°♋42'57	28.87708 AU
direct	2889 Mar 18 12:22	8°♋17'57	
evening set	2889 Jun 14 21:19	10°♋12'26	
conjunction	2889 Jul 01 03:29	10°♋48'31	-1°03'58
minimum elong	2889 Jul 01 03:29	10°♋48'31	1°03'58
max. Earth dist.	2889 Jul 01 12:45	10°♋49'23	30.88149 AU
morning rise	2889 Jul 17 10:52	11°♋24'44	
retrograde	2889 Oct 15 12:12	13°♋21'28	
opposition	2890 Jan 02 00:45	11°♋56'58	-1°06'49
min. Earth dist.	2890 Jan 01 16:55	11°♋57'31	28.88662 AU
direct	2890 Mar 20 22:53	10°♋32'38	
evening set	2890 Jun 17 11:11	12°♋27'11	
conjunction	2890 Jul 03 17:45	13°♋03'17	-1°01'01
minimum elong	2890 Jul 03 17:45	13°♋03'17	1°01'01
max. Earth dist.	2890 Jul 04 02:45	13°♋04'07	30.89073 AU
morning rise	2890 Jul 20 01:09	13°♋39'29	
retrograde	2890 Oct 18 00:22	15°♋36'05	
opposition	2891 Jan 04 11:33	14°♋11'40	-1°03'37
min. Earth dist.	2891 Jan 04 04:02	14°♋12'12	28.89534 AU
direct	2891 Mar 23 11:38	12°♋47'19	
evening set	2891 Jun 20 01:18	14°♋41'55	
conjunction	2891 Jul 06 07:59	15°♋18'01	-0°57'59
minimum elong	2891 Jul 06 07:59	15°♋18'01	0°58'00
max. Earth dist.	2891 Jul 06 14:50	15°♋18'39	30.89903 AU
morning rise	2891 Jul 22 15:40	15°♋54'13	
retrograde	2891 Oct 20 13:07	17°♋50'40	
opposition	2892 Jan 06 22:20	16°♋26'19	-1°00'19
min. Earth dist.	2892 Jan 06 16:13	16°♋26'45	28.90321 AU
direct	2892 Mar 24 22:28	15°♋01'55	
evening set	2892 Jun 21 15:15	16°♋56'34	
conjunction	2892 Jul 07 22:23	17°♋32'40	-0°54'52
minimum elong	2892 Jul 07 22:23	17°♋32'40	0°54'51
max. Earth dist.	2892 Jul 08 05:10	17°♋33'18	30.90641 AU
morning rise	2892 Jul 24 06:02	18°♋08'52	
retrograde	2892 Oct 22 01:21	20°♋05'09	
opposition	2893 Jan 08 09:03	18°♋40'51	-0°56'57
min. Earth dist.	2893 Jan 08 03:55	18°♋41'13	28.91002 AU
direct	2893 Mar 27 12:31	17°♋16'24	
evening set	2893 Jun 24 05:21	19°♋11'05	
conjunction	2893 Jul 10 12:32	19°♋47'12	-0°51'40
minimum elong	2893 Jul 10 12:32	19°♋47'12	0°51'40
max. Earth dist.	2893 Jul 10 17:04	19°♋47'37	30.91299 AU
morning rise	2893 Jul 26 20:26	20°♋23'22	
retrograde	2893 Oct 24 14:31	22°♋19'30	
opposition	2894 Jan 10 19:35	20°♋55'14	-0°53'29
min. Earth dist.	2894 Jan 10 15:00	20°♋55'33	28.91637 AU
direct	2894 Mar 30 00:59	19°♋30'42	
evening set	2894 Jun 26 19:13	21°♋25'25	
conjunction	2894 Jul 13 02:44	22°♋01'32	-0°48'24
minimum elong	2894 Jul 13 02:44	22°♋01'32	0°48'23
max. Earth dist.	2894 Jul 13 07:16	22°♋01'58	30.91921 AU
morning rise	2894 Jul 29 10:33	22°♋37'43	

retrograde	2894 Oct 27	01:40	24°♋33'40		
opposition	2895 Jan 13	06:11	23°♋09'26	-0°49'58	
min. Earth dist.	2895 Jan 13	03:01	23°♋09'39	28.92256 AU	
direct	2895 Apr 01	13:22	21°♋44'51		
evening set	2895 Jun 29	08:57	23°♋39'35		
conjunction	2895 Jul 15	16:36	24°♋15'42	-0°45'04	
minimum elong	2895 Jul 15	16:36	24°♋15'42	0°45'04	
max. Earth dist.	2895 Jul 15	19:38	24°♋15'59	30.92566 AU	
morning rise	2895 Aug 01	00:37	24°♋51'51		
retrograde	2895 Oct 29	15:06	26°♋47'38		
opposition	2896 Jan 15	16:36	25°♋23'26	-0°46'22	
min. Earth dist.	2896 Jan 15	13:19	25°♋23'40	28.92920 AU	
direct	2896 Apr 03	01:56	23°♋58'47		
evening set	2896 Jun 30	22:47	25°♋53'33		
conjunction	2896 Jul 17	06:38	26°♋29'41	-0°41'40	
minimum elong	2896 Jul 17	06:39	26°♋29'41	0°41'39	
max. Earth dist.	2896 Jul 17	09:20	26°♋29'56	30.93259 AU	
morning rise	2896 Aug 02	14:36	27°♋05'49		
retrograde	2896 Oct 31	02:04	29°♋01'26		
opposition	2897 Jan 17	02:58	27°♋37'17	-0°42'42	
min. Earth dist.	2897 Jan 17	01:21	27°♋37'24	28.93661 AU	
direct	2897 Apr 05	12:31	26°♋12'35		
evening set	2897 Jul 03	12:33	28°♋07'22		
conjunction	2897 Jul 19	20:34	28°♋43'30	-0°38'13	
minimum elong	2897 Jul 19	20:34	28°♋43'30	0°38'13	
max. Earth dist.	2897 Jul 19	22:33	28°♋43'41	30.94063 AU	
morning rise	2897 Aug 05	04:32	29°♋19'38		
	2897 Aug 24	17:01	0°♌		
retrograde	2897 Nov 02	13:06	1°♌15'04		
	2898 Jan 14	05:54	30°℞♋		
opposition	2898 Jan 19	13:17	29°♋50'59	-0°38'58	
min. Earth dist.	2898 Jan 19	11:11	29°♋51'08	28.94520 AU	
direct	2898 Apr 08	01:06	28°♋26'14		
	2898 Jun 26	03:48	0°♌		
evening set	2898 Jul 06	02:11	0°♌21'04		
conjunction	2898 Jul 22	10:12	0°♌57'11	-0°34'42	
minimum elong	2898 Jul 22	10:12	0°♌57'11	0°34'42	
max. Earth dist.	2898 Jul 22	11:14	0°♌57'17	30.94988 AU	
morning rise	2898 Aug 07	18:09	1°♌33'19		
retrograde	2898 Nov 04	23:36	3°♌28'37		
opposition	2899 Jan 21	23:43	2°♌04'36	-0°35'11	
min. Earth dist.	2899 Jan 21	22:52	2°♌04'39	28.95524 AU	
direct	2899 Apr 10	11:01	0°♌39'50		
evening set	2899 Jul 08	15:47	2°♌34'43		
conjunction	2899 Jul 25	00:02	3°♌10'50	-0°31'08	
minimum elong	2899 Jul 25	00:02	3°♌10'50	0°31'09	
max. Earth dist.	2899 Jul 25	01:08	3°♌10'56	30.96068 AU	
morning rise	2899 Aug 10	07:52	3°♌46'56		
retrograde	2899 Nov 07	10:47	5°♌42'06		
opposition	2900 Jan 24	09:53	4°♌18'11	-0°31'21	
min. Earth dist.	2900 Jan 24	09:02	4°♌18'14	28.96657 AU	
direct	2900 Apr 12	22:28	2°♌53'24		
evening set	2900 Jul 11	05:36	4°♌48'22		
conjunction	2900 Jul 27	13:47	5°♌24'28	-0°27'31	
minimum elong	2900 Jul 27	13:47	5°♌24'28	0°27'31	
max. Earth dist.	2900 Jul 27	13:14	5°♌24'25	30.97261 AU	
morning rise	2900 Aug 12	21:41	6°♌00'33		
retrograde	2900 Nov 09	22:21	7°♌55'36		
opposition	2901 Jan 26	20:13	6°♌31'47	-0°27'28	
min. Earth dist.	2901 Jan 26	20:24	6°♌31'46	28.97893 AU	
direct	2901 Apr 15	08:47	5°♌07'01		
evening set	2901 Jul 13	19:17	7°♌02'03		
conjunction	2901 Jul 30	03:38	7°♌38'09	-0°23'52	
minimum elong	2901 Jul 30	03:38	7°♌38'09	0°23'53	
max. Earth dist.	2901 Jul 30	03:22	7°♌38'07	30.98515 AU	
morning rise	2901 Aug 15	11:14	8°♌14'12		
retrograde	2901 Nov 12	09:23	10°♌09'08		
opposition	2902 Jan 29	06:28	8°♌45'25	-0°23'32	
min. Earth dist.	2902 Jan 29	07:33	8°♌45'21	28.99144 AU	
direct	2902 Apr 17	22:01	7°♌20'40		
evening set	2902 Jul 16	09:10	9°♌15'46		
conjunction	2902 Aug 01	17:20	9°♌51'51	-0°20'11	
minimum elong	2902 Aug 01	17:20	9°♌51'51	0°20'10	
max. Earth dist.	2902 Aug 01	14:55	9°♌51'38	30.99762 AU	
morning rise	2902 Aug 18	00:59	10°♌27'54		
retrograde	2902 Nov 14	22:11	12°♌22'42		
opposition	2903 Jan 31	16:46	10°♌59'05	-0°19'35	
min. Earth dist.	2903 Jan 31	18:20	10°♌58'58	29.00371 AU	
direct	2903 Apr 20	09:41	9°♌34'18		
evening set	2903 Jul 18	22:49	11°♌29'28		
conjunction	2903 Aug 04	07:09	12°♌05'33	-0°16'29	
minimum elong	2903 Aug 04	07:08	12°♌05'33	0°16'29	
max. Earth dist.	2903 Aug 04	04:35	12°♌05'19	31.00942 AU	
morning rise	2903 Aug 20	14:29	12°♌41'34		
retrograde	2903 Nov 17	09:20	14°♌36'14		
opposition	2904 Feb 03	03:10	13°♌12'41	-0°15'36	
min. Earth dist.	2904 Feb 03	06:26	13°♌12'27	29.01500 AU	
direct	2904 Apr 21	22:01	11°♌47'54		
evening set	2904 Jul 20	12:44	13°♌43'05		
conjunction	2904 Aug 05	20:54	14°♌19'09	-0°12'45	
minimum elong	2904 Aug 05	20:54	14°♌19'09	0°12'44	
behind sun begin	2904 Aug 05	16:53	14°♌18'47		
behind sun end	2904 Aug 06	00:56	14°♌19'30		
max. Earth dist.	2904 Aug 05	16:19	14°♌18'44	31.02027 AU	
morning rise	2904 Aug 22	04:12	14°♌55'08		
	2904 Aug 24	10:20	15°♌		
retrograde	2904 Nov 18	22:45	16°♌49'38		
opposition	2905 Feb 04	13:20	15°♌26'09	-0°11'36	
min. Earth dist.	2905 Feb 04	16:47	15°♌25'55	29.02531 AU	
	2905 Feb 20	06:05	15°℞♌		
direct	2905 Apr 24	11:27	14°♌01'19		
	2905 Jun 24	18:21	15°♌		
evening set	2905 Jul 23	02:32	15°♌56'33		
conjunction	2905 Aug 08	10:42	16°♌32'36	-0°09'00	
minimum elong	2905 Aug 08	10:42	16°♌32'36	0°09'01	
behind sun begin	2905 Aug 08	05:06	16°♌32'06		
behind sun end	2905 Aug 08	16:17	16°♌33'05		
max. Earth dist.	2905 Aug 08	05:31	16°♌32'08	31.03005 AU	
morning rise	2905 Aug 24	17:40	17°♌08'33		
retrograde	2905 Nov 21	09:13	19°♌02'54		
opposition	2906 Feb 06	23:43	17°♌39'27	-0°07'35	
min. Earth dist.	2906 Feb 07	05:05	17°♌39'04	29.03473 AU	
direct	2906 Apr 26	23:11	16°♌14'35		
evening set	2906 Jul 25	16:03	18°♌09'49		
conjunction	2906 Aug 11	00:07	18°♌45'50	-0°05'16	
minimum elong	2906 Aug 11	00:07	18°♌45'50	0°05'16	
behind sun begin	2906 Aug 10	17:44	18°♌45'16		
behind sun end	2906 Aug 11	06:29	18°♌46'24		
max. Earth dist.	2906 Aug 10	17:51	18°♌45'17	31.03923 AU	
morning rise	2906 Aug 27	06:56	19°♌21'45		
retrograde	2906 Nov 23	20:24	21°♌15'56		
opposition	2907 Feb 09	09:51	19°♌52'32	-0°03'34	

min. Earth dist.	2907 Feb 09 15:04	19°♌52'10	29.04361 AU
direct	2907 Apr 29 12:12	18°♌27'36	
evening set	2907 Jul 28 05:40	20°♌22'50	
conjunction	2907 Aug 13 13:35	20°♌58'50	-0°01'29
minimum elong	2907 Aug 13 13:35	20°♌58'50	0°01'30
behind sun begin	2907 Aug 13 06:59	20°♌58'15	
behind sun end	2907 Aug 13 20:11	20°♌59'25	
max. Earth dist.	2907 Aug 13 06:07	20°♌58'10	31.04796 AU
morning rise	2907 Aug 29 20:10	21°♌34'44	
retrograde	2907 Nov 26 06:50	23°♌28'44	
asc. node	2908 Jan 01 09:43	23°♌07'26	
opposition	2908 Feb 11 19:58	22°♌05'22	0°00'27
min. Earth dist.	2908 Feb 12 02:46	22°♌04'53	29.05241 AU
direct	2908 Apr 30 22:34	20°♌40'22	
evening set	2908 Jul 29 19:08	22°♌35'37	
conjunction	2908 Aug 15 03:03	23°♌11'36	0°02'23
minimum elong	2908 Aug 15 03:01	23°♌11'36	0°02'24
behind sun begin	2908 Aug 14 20:26	23°♌11'01	
behind sun end	2908 Aug 15 09:37	23°♌12'11	
max. Earth dist.	2908 Aug 14 19:22	23°♌10'55	31.05687 AU
morning rise	2908 Aug 31 09:18	23°♌47'28	
retrograde	2908 Nov 27 16:58	25°♌41'18	
opposition	2909 Feb 13 06:02	24°♌17'58	0°04'28
min. Earth dist.	2909 Feb 13 12:56	24°♌17'29	29.06144 AU
direct	2909 May 03 10:37	22°♌52'56	
evening set	2909 Aug 01 08:36	24°♌48'12	
conjunction	2909 Aug 17 16:08	25°♌24'09	0°06'08
minimum elong	2909 Aug 17 16:08	25°♌24'09	0°06'07
behind sun begin	2909 Aug 17 09:53	25°♌23'35	
behind sun end	2909 Aug 17 22:23	25°♌24'42	
max. Earth dist.	2909 Aug 17 06:59	25°♌23'19	31.06620 AU
morning rise	2909 Sep 02 22:11	25°♌59'58	
retrograde	2909 Nov 30 03:07	27°♌53'41	
opposition	2910 Feb 15 16:08	26°♌30'23	0°08'28
min. Earth dist.	2910 Feb 15 23:49	26°♌29'51	29.07133 AU
direct	2910 May 05 21:08	25°♌05'18	
evening set	2910 Aug 03 21:49	27°♌00'36	
conjunction	2910 Aug 20 05:20	27°♌36'32	0°09'51
minimum elong	2910 Aug 20 05:19	27°♌36'31	0°09'52
behind sun begin	2910 Aug 19 24:00	27°♌36'03	
behind sun end	2910 Aug 20 10:38	27°♌37'00	
max. Earth dist.	2910 Aug 19 20:45	27°♌35'45	31.07659 AU
morning rise	2910 Sep 05 10:55	28°♌12'18	
	2910 Nov 14 00:29	0°♍	
retrograde	2910 Dec 02 12:44	0°♍05'53	
	2910 Dec 21 06:38	30°℞♌	
opposition	2911 Feb 18 02:12	28°♌42'40	0°12'27
min. Earth dist.	2911 Feb 18 10:24	28°♌42'05	29.08231 AU
direct	2911 May 08 09:30	27°♌17'34	
evening set	2911 Aug 06 11:05	29°♌12'54	
conjunction	2911 Aug 22 18:14	29°♌48'48	0°13'34
minimum elong	2911 Aug 22 18:14	29°♌48'48	0°13'33
behind sun begin	2911 Aug 22 14:45	29°♌48'30	
behind sun end	2911 Aug 22 21:44	29°♌49'07	
max. Earth dist.	2911 Aug 22 08:01	29°♌47'52	31.08826 AU
	2911 Aug 27 19:10	0°♍	
morning rise	2911 Sep 07 23:42	0°♍24'33	
retrograde	2911 Dec 05 00:40	2°♍18'02	
opposition	2912 Feb 20 12:15	0°♍54'53	0°16'25
min. Earth dist.	2912 Feb 20 20:23	0°♍54'18	29.09463 AU
	2912 Mar 26 20:17	30°℞♌	
direct	2912 May 09 20:26	29°♌29'48	
	2912 Jun 22 06:41	0°♍	
evening set	2912 Aug 08 00:19	1°♍25'12	
conjunction	2912 Aug 24 07:23	2°♍01'05	0°17'16
minimum elong	2912 Aug 24 07:23	2°♍01'04	0°17'16
max. Earth dist.	2912 Aug 23 21:36	2°♍00'11	31.10107 AU
morning rise	2912 Sep 09 12:18	2°♍36'48	
retrograde	2912 Dec 06 11:06	4°♍30'10	
opposition	2913 Feb 21 22:20	3°♍07'08	0°20'22
min. Earth dist.	2913 Feb 22 07:46	3°♍06'28	29.10787 AU
direct	2913 May 12 08:15	1°♍42'05	
evening set	2913 Aug 10 13:39	3°♍37'34	
conjunction	2913 Aug 26 20:19	4°♍13'25	0°20'56
minimum elong	2913 Aug 26 20:19	4°♍13'25	0°20'56
max. Earth dist.	2913 Aug 26 09:03	4°♍12'23	31.11473 AU
morning rise	2913 Sep 12 01:00	4°♍49'05	
retrograde	2913 Dec 09 00:17	6°♍42'24	
opposition	2914 Feb 24 08:24	5°♍19'28	0°24'17
min. Earth dist.	2914 Feb 24 17:36	5°♍18'49	29.12168 AU
direct	2914 May 14 21:13	3°♍54'28	
evening set	2914 Aug 13 02:44	5°♍50'01	
conjunction	2914 Aug 29 09:11	6°♍25'50	0°24'35
minimum elong	2914 Aug 29 09:11	6°♍25'50	0°24'35
max. Earth dist.	2914 Aug 28 21:47	6°♍24'48	31.12841 AU
morning rise	2914 Sep 14 13:21	7°♍01'29	
retrograde	2914 Dec 11 10:48	8°♍54'43	
opposition	2915 Feb 26 18:40	7°♍31'54	0°28'09
min. Earth dist.	2915 Feb 27 05:40	7°♍31'07	29.13524 AU
direct	2915 May 17 08:42	6°♍06'56	
evening set	2915 Aug 15 16:01	8°♍02'33	
conjunction	2915 Aug 31 22:08	8°♍38'21	0°28'11
minimum elong	2915 Aug 31 22:08	8°♍38'21	0°28'11
max. Earth dist.	2915 Aug 31 09:39	8°♍37'12	31.14160 AU
morning rise	2915 Sep 17 01:59	9°♍13'58	
retrograde	2915 Dec 13 22:14	11°♍07'06	
opposition	2916 Feb 29 04:43	9°♍44'23	0°31'59
min. Earth dist.	2916 Feb 29 15:40	9°♍43'37	29.14790 AU
direct	2916 May 18 21:26	8°♍19'26	
evening set	2916 Aug 17 05:21	10°♍15'07	
conjunction	2916 Sep 02 11:06	10°♍50'53	0°31'45
minimum elong	2916 Sep 02 11:06	10°♍50'53	0°31'45
max. Earth dist.	2916 Sep 01 21:19	10°♍49'37	31.15359 AU
morning rise	2916 Sep 18 14:29	11°♍26'27	
retrograde	2916 Dec 15 09:20	13°♍19'30	
opposition	2917 Mar 02 15:03	11°♍56'51	0°35'46
min. Earth dist.	2917 Mar 03 03:38	11°♍55'59	29.15938 AU
direct	2917 May 21 07:59	10°♍31'55	
evening set	2917 Aug 19 18:26	12°♍27'37	
conjunction	2917 Sep 04 23:54	13°♍03'22	0°35'16
minimum elong	2917 Sep 04 23:54	13°♍03'22	0°35'15
max. Earth dist.	2917 Sep 04 09:43	13°♍02'03	31.16438 AU
morning rise	2917 Sep 21 02:46	13°♍38'53	
retrograde	2917 Dec 17 19:11	15°♍31'50	
opposition	2918 Mar 05 01:19	14°♍09'15	0°39'30
min. Earth dist.	2918 Mar 05 14:13	14°♍08'21	29.16948 AU
direct	2918 May 23 20:10	12°♍44'19	
evening set	2918 Aug 22 07:34	14°♍40'02	
conjunction	2918 Sep 07 12:33	15°♍15'44	0°38'43
minimum elong	2918 Sep 07 12:32	15°♍15'44	0°38'44
max. Earth dist.	2918 Sep 06 20:36	15°♍14'15	31.17389 AU
morning rise	2918 Sep 23 15:03	15°♍51'13	

retrograde	2918 Dec 20	04:44	17°♑44'04		
opposition	2919 Mar 07	11:28	16°♑21'31	0°43'10	
min. Earth dist.	2919 Mar 08	01:23	16°♑20'32	29.17860 AU	
direct	2919 May 26	06:52	14°♑56'32		
evening set	2919 Aug 24	20:26	16°♑52'15		
max. Earth dist.	2919 Sep 09	09:32	17°♑26'29	31.18248 AU	
conjunction	2919 Sep 10	01:12	17°♑27'55	0°42'07	
minimum elong	2919 Sep 10	01:12	17°♑27'55	0°42'07	
morning rise	2919 Sep 26	03:08	18°♑03'22		
retrograde	2919 Dec 22	13:16	19°♑56'05		
opposition	2920 Mar 08	21:43	18°♑33'34	0°46'45	
min. Earth dist.	2920 Mar 09	12:32	18°♑32'32	29.18673 AU	
direct	2920 May 27	18:57	17°♑08'33		
evening set	2920 Aug 26	09:25	19°♑04'17		
conjunction	2920 Sep 11	13:37	19°♑39'54	0°45'27	
minimum elong	2920 Sep 11	13:37	19°♑39'54	0°45'28	
max. Earth dist.	2920 Sep 10	20:07	19°♑38'17	31.19035 AU	
morning rise	2920 Sep 27	15:12	20°♑15'18		
retrograde	2920 Dec 24	00:22	22°♑07'55		
opposition	2921 Mar 11	07:48	20°♑45'24	0°50'17	
min. Earth dist.	2921 Mar 11	22:39	20°♑44'22	29.19453 AU	
direct	2921 May 30	05:30	19°♑20'20		
evening set	2921 Aug 28	22:05	21°♑16'04		
max. Earth dist.	2921 Sep 13	09:01	21°♑50'05	31.19803 AU	
conjunction	2921 Sep 14	02:00	21°♑51'39	0°48'43	
minimum elong	2921 Sep 14	02:00	21°♑51'39	0°48'43	
morning rise	2921 Sep 30	02:55	22°♑27'00		
retrograde	2921 Dec 26	09:23	24°♑19'30		
opposition	2922 Mar 13	18:06	22°♑57'00	0°53'44	
min. Earth dist.	2922 Mar 14	10:08	22°♑55'53	29.20237 AU	
direct	2922 Jun 01	17:49	21°♑31'54		
evening set	2922 Aug 31	10:36	23°♑27'37		
conjunction	2922 Sep 16	13:58	24°♑03'09	0°51'54	
minimum elong	2922 Sep 16	13:57	24°♑03'09	0°51'55	
max. Earth dist.	2922 Sep 15	19:48	24°♑01'29	31.20615 AU	
morning rise	2922 Oct 02	14:32	24°♑38'28		
retrograde	2922 Dec 28	21:05	26°♑30'52		
opposition	2923 Mar 16	04:13	25°♑08'23	0°57'06	
min. Earth dist.	2923 Mar 16	19:37	25°♑07'18	29.21086 AU	
direct	2923 Jun 04	07:04	23°♑43'15		
evening set	2923 Sep 02	23:07	25°♑38'59		
max. Earth dist.	2923 Sep 18	08:14	26°♑12'50	31.21496 AU	
conjunction	2923 Sep 19	02:07	26°♑14'29	0°55'01	
minimum elong	2923 Sep 19	02:07	26°♑14'29	0°55'00	
morning rise	2923 Oct 05	02:02	26°♑49'44		
retrograde	2923 Dec 31	06:40	28°♑42'04		
opposition	2924 Mar 17	14:23	27°♑19'37	1°00'23	
min. Earth dist.	2924 Mar 18	07:05	27°♑18'27	29.22026 AU	
direct	2924 Jun 05	18:29	25°♑54'29		
evening set	2924 Sep 04	11:38	27°♑50'14		
conjunction	2924 Sep 20	14:08	28°♑25'42	0°58'03	
minimum elong	2924 Sep 20	14:08	28°♑25'42	0°58'03	
max. Earth dist.	2924 Sep 19	19:50	28°♑24'00	31.22489 AU	
morning rise	2924 Oct 06	13:35	29°♑00'54		
	2924 Nov 05	10:09	0°♎		
retrograde	2925 Jan 01	17:50	0°♎53'09		
	2925 Mar 02	03:29	30°℞♑		
opposition	2925 Mar 20	00:35	29°♑30'46	1°03'34	
min. Earth dist.	2925 Mar 20	16:34	29°♑29'39	29.23057 AU	
direct	2925 Jun 08	07:28	28°♑05'40		
evening set	2925 Sep 06	23:58	0°♎01'27		
	2925 Sep 06	07:49	0°♎		
max. Earth dist.	2925 Sep 22	07:10	0°♎35'08	31.23550 AU	
conjunction	2925 Sep 23	01:56	0°♎36'52	1°01'00	
minimum elong	2925 Sep 23	01:56	0°♎36'52	1°00'59	
morning rise	2925 Oct 09	00:50	1°♎12'02		
retrograde	2926 Jan 04	04:53	3°♎04'15		
opposition	2926 Mar 22	10:54	1°♎41'56	1°06'40	
min. Earth dist.	2926 Mar 23	03:54	1°♎40'45	29.24154 AU	
direct	2926 Jun 10	18:28	0°♎16'52		
evening set	2926 Sep 09	12:16	2°♎12'41		
conjunction	2926 Sep 25	13:50	2°♎48'04	1°03'51	
minimum elong	2926 Sep 25	13:50	2°♎48'04	1°03'52	
max. Earth dist.	2926 Sep 24	19:14	2°♎46'21	31.24652 AU	
morning rise	2926 Oct 11	12:09	3°♎23'12		
retrograde	2927 Jan 06	14:27	5°♎15'22		
opposition	2927 Mar 24	21:06	3°♎53'08	1°09'40	
min. Earth dist.	2927 Mar 25	14:12	3°♎51'56	29.25240 AU	
direct	2927 Jun 13	06:53	2°♎28'07		
evening set	2927 Sep 12	00:41	4°♎23'58		
max. Earth dist.	2927 Sep 27	05:38	4°♎57'28	31.25707 AU	
conjunction	2927 Sep 28	01:39	4°♎59'19	1°06'37	
minimum elong	2927 Sep 28	01:38	4°♎59'19	1°06'37	
morning rise	2927 Oct 13	23:31	5°♎34'24		
retrograde	2928 Jan 09	00:30	7°♎26'32		
opposition	2928 Mar 26	07:30	6°♎04'22	1°12'34	
min. Earth dist.	2928 Mar 27	01:18	6°♎03'08	29.26266 AU	
direct	2928 Jun 14	17:13	4°♎39'23		
evening set	2928 Sep 13	12:58	6°♎35'17		
conjunction	2928 Sep 29	13:32	7°♎10'35	1°09'17	
minimum elong	2928 Sep 29	13:32	7°♎10'35	1°09'17	
max. Earth dist.	2928 Sep 28	18:00	7°♎08'47	31.26668 AU	
morning rise	2928 Oct 15	10:41	7°♎45'38		
retrograde	2929 Jan 10	09:01	9°♎37'44		
opposition	2929 Mar 28	18:00	8°♎15'38	1°15'22	
min. Earth dist.	2929 Mar 29	12:40	8°♎14'20	29.27163 AU	
direct	2929 Jun 17	04:51	6°♎50'41		
evening set	2929 Sep 16	01:20	8°♎46'35		
max. Earth dist.	2929 Oct 01	03:56	9°♎19'53	31.27501 AU	
conjunction	2929 Oct 02	01:12	9°♎21'51	1°11'50	
minimum elong	2929 Oct 02	01:12	9°♎21'51	1°11'50	
morning rise	2929 Oct 17	21:57	9°♎56'52		
retrograde	2930 Jan 12	20:12	11°♎48'55		
opposition	2930 Mar 31	04:28	10°♎26'51	1°18'02	
min. Earth dist.	2930 Mar 31	23:02	10°♎25'34	29.27941 AU	
direct	2930 Jun 19	15:01	9°♎01'55		
evening set	2930 Sep 18	13:17	10°♎57'50		
conjunction	2930 Oct 04	12:50	11°♎33'04	1°14'18	
minimum elong	2930 Oct 04	12:50	11°♎33'04	1°14'18	
max. Earth dist.	2930 Oct 03	15:59	11°♎31'08	31.28199 AU	
morning rise	2930 Oct 20	08:52	12°♎08'02		
retrograde	2931 Jan 15	05:01	14°♎00'03		
opposition	2931 Apr 02	15:03	12°♎38'01	1°20'36	
min. Earth dist.	2931 Apr 03	11:01	12°♎36'38	29.28572 AU	
direct	2931 Jun 22	03:03	11°♎13'05		
evening set	2931 Sep 21	01:27	13°♎08'59		
max. Earth dist.	2931 Oct 06	02:04	13°♎42'07	31.28771 AU	
conjunction	2931 Oct 07	00:20	13°♎44'11	1°16'39	
minimum elong	2931 Oct 07	00:19	13°♎44'11	1°16'38	
morning rise	2931 Oct 22	19:58	14°♎19'06		
retrograde	2932 Jan 17	16:21	16°♎11'04		

opposition	2932 Apr	04	01:23	14°♎49'03	1°23'03	
min. Earth dist.	2932 Apr	04	20:55	14°♎47'42	29.29088 AU	
direct	2932 Jun	23	15:51	13°♎24'06		
evening set	2932 Sep	22	13:23	15°♎20'01		
conjunction	2932 Oct	08	11:50	15°♎55'10	1°18'53	
minimum elong	2932 Oct	08	11:50	15°♎55'10	1°18'53	
max. Earth dist.	2932 Oct	07	13:43	15°♎53'07	31.29231 AU	
morning rise	2932 Oct	24	06:47	16°♎30'03		
retrograde	2933 Jan	19	01:52	18°♎21'59		
opposition	2933 Apr	06	12:00	16°♎59'57	1°25'23	
min. Earth dist.	2933 Apr	07	08:55	16°♎58'30	29.29521 AU	
direct	2933 Jun	26	03:09	15°♎34'59		
evening set	2933 Sep	25	01:02	17°♎30'53		
conjunction	2933 Oct	10	22:54	18°♎05'59	1°21'00	
minimum elong	2933 Oct	10	22:53	18°♎05'59	1°21'00	
max. Earth dist.	2933 Oct	10	00:31	18°♎03'55	31.29643 AU	
morning rise	2933 Oct	26	17:23	18°♎40'49		
retrograde	2934 Jan	21	12:28	20°♎32'42		
opposition	2934 Apr	08	22:28	19°♎10'40	1°27'35	
min. Earth dist.	2934 Apr	09	18:37	19°♎09'17	29.29920 AU	
direct	2934 Jun	28	16:40	17°♎45'41		
evening set	2934 Sep	27	12:38	19°♎41'34		
max. Earth dist.	2934 Oct	12	11:15	20°♎14'32	31.30040 AU	
conjunction	2934 Oct	13	09:57	20°♎16'38	1°23'01	
minimum elong	2934 Oct	13	09:57	20°♎16'38	1°23'01	
morning rise	2934 Oct	29	03:53	20°♎51'26		
retrograde	2935 Jan	23	23:28	22°♎43'16		
opposition	2935 Apr	11	08:55	21°♎21'14	1°29'40	
min. Earth dist.	2935 Apr	12	05:47	21°♎19'47	29.30354 AU	
direct	2935 Jul	01	04:24	19°♎56'14		
evening set	2935 Sep	30	00:05	21°♎52'06		
conjunction	2935 Oct	15	20:57	22°♎27'08	1°24'54	
minimum elong	2935 Oct	15	20:57	22°♎27'08	1°24'53	
max. Earth dist.	2935 Oct	14	22:54	22°♎25'05	31.30503 AU	
morning rise	2935 Oct	31	14:18	23°♎01'53		
retrograde	2936 Jan	26	08:17	24°♎53'41		
opposition	2936 Apr	12	19:29	23°♎31'40	1°31'37	
min. Earth dist.	2936 Apr	13	15:53	23°♎30'15	29.30852 AU	
direct	2936 Jul	02	17:31	22°♎06'41		
evening set	2936 Oct	01	11:32	24°♎02'33		
max. Earth dist.	2936 Oct	16	08:56	24°♎35'25	31.31049 AU	
conjunction	2936 Oct	17	07:42	24°♎37'32	1°26'40	
minimum elong	2936 Oct	17	07:42	24°♎37'32	1°26'40	
morning rise	2936 Nov	02	00:35	25°♎12'15		
retrograde	2937 Jan	27	17:50	27°♎04'02		
opposition	2937 Apr	15	06:06	25°♎42'03	1°33'26	
min. Earth dist.	2937 Apr	16	02:21	25°♎40'39	29.31461 AU	
direct	2937 Jul	05	03:55	24°♎17'06		
evening set	2937 Oct	03	22:47	26°♎12'58		
conjunction	2937 Oct	19	18:34	26°♎47'56	1°28'18	
minimum elong	2937 Oct	19	18:34	26°♎47'56	1°28'18	
max. Earth dist.	2937 Oct	18	21:05	26°♎45'56	31.31703 AU	
morning rise	2937 Nov	04	10:46	27°♎22'36		
retrograde	2938 Jan	30	01:58	29°♎14'23		
opposition	2938 Apr	17	16:47	27°♎52'27	1°35'07	
min. Earth dist.	2938 Apr	18	13:17	27°♎51'02	29.32149 AU	
direct	2938 Jul	07	15:16	26°♎27'33		
evening set	2938 Oct	06	10:00	28°♎23'25		
max. Earth dist.	2938 Oct	21	06:41	28°♎56'16	31.32420 AU	
conjunction	2938 Oct	22	05:07	28°♎58'21	1°29'49	
minimum elong	2938 Oct	22	05:07	28°♎58'21	1°29'49	
morning rise	2938 Nov	06	20:59	29°♎33'00		
	2938 Nov	19	15:59	0°♏		
retrograde	2939 Feb	01	13:00	1°♏24'48		
opposition	2939 Apr	20	03:24	0°♏02'55	1°36'40	
min. Earth dist.	2939 Apr	20	23:14	0°♏01'33	29.32879 AU	
	2939 Apr	21	21:44	30°℞♎		
direct	2939 Jul	10	01:10	28°♎38'04		
	2939 Sep	22	14:27	0°♏		
evening set	2939 Oct	08	21:12	0°♏33'57		
conjunction	2939 Oct	24	15:56	1°♏08'51	1°31'12	
minimum elong	2939 Oct	24	15:56	1°♏08'51	1°31'11	
max. Earth dist.	2939 Oct	23	18:23	1°♏06'51	31.33132 AU	
morning rise	2939 Nov	09	07:05	1°♏43'28		
retrograde	2940 Feb	03	21:10	3°♏35'17		
opposition	2940 Apr	21	14:12	2°♏13'27	1°38'05	
min. Earth dist.	2940 Apr	22	11:06	2°♏12'01	29.33571 AU	
direct	2940 Jul	11	12:27	0°♏48'40		
evening set	2940 Oct	10	08:30	2°♏44'33		
max. Earth dist.	2940 Oct	25	04:08	3°♏17'19	31.33795 AU	
conjunction	2940 Oct	26	02:33	3°♏19'24	1°32'27	
minimum elong	2940 Oct	26	02:33	3°♏19'24	1°32'27	
morning rise	2940 Nov	10	17:20	3°♏53'59		
retrograde	2941 Feb	05	08:12	5°♏45'50		
opposition	2941 Apr	24	01:04	4°♏24'01	1°39'21	
min. Earth dist.	2941 Apr	24	21:09	4°♏22'39	29.34188 AU	
direct	2941 Jul	13	23:51	2°♏59'17		
evening set	2941 Oct	12	19:31	4°♏55'10		
conjunction	2941 Oct	28	13:07	5°♏29'59	1°33'34	
minimum elong	2941 Oct	28	13:07	5°♏29'59	1°33'34	
max. Earth dist.	2941 Oct	27	15:02	5°♏27'56	31.34347 AU	
morning rise	2941 Nov	13	03:16	6°♏04'32		
retrograde	2942 Feb	07	17:59	7°♏56'24		
opposition	2942 Apr	26	12:08	6°♏34'37	1°40'28	
min. Earth dist.	2942 Apr	27	09:27	6°♏33'09	29.34689 AU	
direct	2942 Jul	16	10:08	5°♏09'54		
evening set	2942 Oct	15	06:39	7°♏05'46		
conjunction	2942 Oct	30	23:43	7°♏40'33	1°34'33	
minimum elong	2942 Oct	30	23:43	7°♏40'33	1°34'33	
max. Earth dist.	2942 Oct	30	01:25	7°♏38'28	31.34783 AU	
morning rise	2942 Nov	15	13:26	8°♏15'04		
retrograde	2943 Feb	10	04:48	10°♏06'56		
opposition	2943 Apr	28	22:58	8°♏45'09	1°41'27	
min. Earth dist.	2943 Apr	29	19:37	8°♏43'44	29.35048 AU	
direct	2943 Jul	18	23:48	7°♏20'27		
evening set	2943 Oct	17	17:46	9°♏16'18		
max. Earth dist.	2943 Nov	01	11:24	9°♏48'55	31.35068 AU	
conjunction	2943 Nov	02	10:18	9°♏51'03	1°35'24	
minimum elong	2943 Nov	02	10:18	9°♏51'03	1°35'24	
morning rise	2943 Nov	17	23:32	10°♏25'32		
retrograde	2944 Feb	12	16:13	12°♏17'24		
opposition	2944 Apr	30	10:05	10°♏55'36	1°42'18	
min. Earth dist.	2944 May	01	07:30	10°♏54'08	29.35277 AU	
direct	2944 Jul	20	11:38	9°♏30'55		
evening set	2944 Oct	19	04:36	11°♏26'43		
conjunction	2944 Nov	03	20:43	12°♏01'26	1°36'08	
minimum elong	2944 Nov	03	20:43	12°♏01'26	1°36'08	
max. Earth dist.	2944 Nov	02	22:26	11°♏59'22	31.35233 AU	
morning rise	2944 Nov	19	09:24	12°♏35'53		
retrograde	2945 Feb	14	01:07	14°♏27'45		
opposition	2945 May	02	21:13	13°♏05'56	1°42'59	

min. Earth dist.	2945 May 03 18:23	13°♑04'29	29.35377 AU
direct	2945 Jul 23 01:09	11°♑41'15	
evening set	2945 Oct 21 15:28	13°♑37'00	
max. Earth dist.	2945 Nov 05 07:49	14°♑09'32	31.35294 AU
conjunction	2945 Nov 06 06:57	14°♑11'41	1°36'42
minimum elong	2945 Nov 06 06:57	14°♑11'41	1°36'43
morning rise	2945 Nov 21 19:19	14°♑46'06	
	2945 Nov 28 06:20	15°♑	
retrograde	2946 Feb 16 11:15	16°♑37'58	
opposition	2946 May 05 08:14	15°♑16'07	1°43'33
min. Earth dist.	2946 May 06 05:19	15°♑14'40	29.35418 AU
	2946 May 15 05:30	15°℞♑	
direct	2946 Jul 25 12:11	13°♑51'25	
	2946 Oct 01 00:28	15°♑	
evening set	2946 Oct 24 01:56	15°♑47'07	
conjunction	2946 Nov 08 17:08	16°♑21'46	1°37'09
minimum elong	2946 Nov 08 17:08	16°♑21'46	1°37'10
max. Earth dist.	2946 Nov 07 19:21	16°♑19'44	31.35312 AU
morning rise	2946 Nov 24 04:57	16°♑56'09	
retrograde	2947 Feb 18 19:21	18°♑48'01	
opposition	2947 May 07 19:24	17°♑26'08	1°43'57
min. Earth dist.	2947 May 08 16:41	17°♑24'41	29.35425 AU
direct	2947 Jul 28 00:45	16°♑01'26	
evening set	2947 Oct 26 12:33	17°♑57'05	
max. Earth dist.	2947 Nov 10 04:39	18°♑29'37	31.35335 AU
conjunction	2947 Nov 11 03:05	18°♑31'42	1°37'28
minimum elong	2947 Nov 11 03:05	18°♑31'42	1°37'27
morning rise	2947 Nov 26 14:37	19°♑06'05	
retrograde	2948 Feb 21 05:54	20°♑57'57	
opposition	2948 May 09 06:27	19°♑36'03	1°44'12
min. Earth dist.	2948 May 10 02:33	19°♑34'41	29.35480 AU
direct	2948 Jul 29 11:26	18°♑11'21	
evening set	2948 Oct 27 22:55	20°♑06'58	
conjunction	2948 Nov 12 13:07	20°♑41'34	1°37'38
minimum elong	2948 Nov 12 13:07	20°♑41'34	1°37'38
max. Earth dist.	2948 Nov 11 16:05	20°♑39'36	31.35421 AU
morning rise	2948 Nov 28 00:04	21°♑15'55	
retrograde	2949 Feb 22 14:00	23°♑07'50	
opposition	2949 May 11 17:48	21°♑45'56	1°44'19
min. Earth dist.	2949 May 12 14:17	21°♑44'32	29.35613 AU
direct	2949 Jul 31 22:29	20°♑21'17	
evening set	2949 Oct 30 09:11	22°♑16'52	
conjunction	2949 Nov 14 22:50	22°♑51'26	1°37'40
minimum elong	2949 Nov 14 22:50	22°♑51'26	1°37'40
max. Earth dist.	2949 Nov 14 01:42	22°♑49'28	31.35610 AU
morning rise	2949 Nov 30 09:32	23°♑25'46	
retrograde	2950 Feb 25 00:43	25°♑17'44	
opposition	2950 May 14 04:59	23°♑55'51	1°44'17
min. Earth dist.	2950 May 14 23:58	23°♑54'34	29.35835 AU
direct	2950 Aug 03 09:09	22°♑31'16	
evening set	2950 Nov 01 19:26	24°♑26'51	
conjunction	2950 Nov 17 08:44	25°♑01'24	1°37'34
minimum elong	2950 Nov 17 08:44	25°♑01'24	1°37'34
max. Earth dist.	2950 Nov 16 12:25	24°♑59'30	31.35859 AU
morning rise	2950 Dec 02 18:58	25°♑35'43	
retrograde	2951 Feb 27 10:44	27°♑27'45	
opposition	2951 May 16 16:14	26°♑05'55	1°44'05
min. Earth dist.	2951 May 17 11:54	26°♑04'34	29.36108 AU
direct	2951 Aug 05 18:27	24°♑41'24	
evening set	2951 Nov 04 05:43	26°♑36'59	
conjunction	2951 Nov 19 18:35	27°♑11'31	1°37'19
minimum elong	2951 Nov 19 18:35	27°♑11'31	1°37'19
max. Earth dist.	2951 Nov 18 22:47	27°♑09'40	31.36143 AU
morning rise	2951 Dec 05 04:29	27°♑45'49	
retrograde	2952 Feb 29 21:53	29°♑37'56	
opposition	2952 May 18 03:39	28°♑16'08	1°43'45
min. Earth dist.	2952 May 18 22:10	28°♑14'52	29.36370 AU
direct	2952 Aug 07 07:34	26°♑51'42	
evening set	2952 Nov 05 15:56	28°♑47'17	
max. Earth dist.	2952 Nov 20 08:22	29°♑19'56	31.36379 AU
conjunction	2952 Nov 21 04:18	29°♑21'48	1°36'55
minimum elong	2952 Nov 21 04:18	29°♑21'48	1°36'56
morning rise	2952 Dec 06 13:52	29°♑56'05	
	2952 Dec 08 09:01	0°♐	
retrograde	2953 Mar 03 10:17	1°♐48'18	
opposition	2953 May 20 15:17	0°♐26'30	1°43'15
min. Earth dist.	2953 May 21 10:06	0°♐25'14	29.36580 AU
	2953 Jun 06 04:11	30°℞♑	
direct	2953 Aug 09 18:39	29°♑02'09	
	2953 Oct 10 06:39	0°♐	
evening set	2953 Nov 08 02:06	0°♐57'44	
conjunction	2953 Nov 23 14:10	1°♐32'13	1°36'23
minimum elong	2953 Nov 23 14:10	1°♐32'13	1°36'23
max. Earth dist.	2953 Nov 22 19:14	1°♐30'27	31.36542 AU
morning rise	2953 Dec 08 23:19	2°♐06'30	
retrograde	2954 Mar 05 19:46	3°♐58'47	
opposition	2954 May 23 02:51	2°♐37'01	1°42'37
min. Earth dist.	2954 May 23 21:19	2°♐35'46	29.36676 AU
direct	2954 Aug 12 07:23	1°♐12'44	
evening set	2954 Nov 10 12:22	3°♐08'17	
conjunction	2954 Nov 25 23:55	3°♐42'46	1°35'43
minimum elong	2954 Nov 25 23:55	3°♐42'46	1°35'44
max. Earth dist.	2954 Nov 25 04:08	3°♐40'55	31.36573 AU
morning rise	2954 Dec 11 08:53	4°♐17'02	
retrograde	2955 Mar 08 07:00	6°♐09'23	
opposition	2955 May 25 14:33	4°♐47'37	1°41'50
min. Earth dist.	2955 May 26 08:48	4°♐46'23	29.36638 AU
direct	2955 Aug 14 18:44	3°♐23'22	
evening set	2955 Nov 12 22:29	5°♐18'54	
conjunction	2955 Nov 28 09:48	5°♐53'22	1°34'55
minimum elong	2955 Nov 28 09:48	5°♐53'22	1°34'55
max. Earth dist.	2955 Nov 27 15:15	5°♐51'38	31.36449 AU
morning rise	2955 Dec 13 18:17	6°♐27'36	
retrograde	2956 Mar 09 16:05	8°♐20'01	
opposition	2956 May 27 02:23	6°♐58'15	1°40'54
min. Earth dist.	2956 May 27 20:58	6°♐56'59	29.36427 AU
direct	2956 Aug 16 08:03	5°♐34'02	
evening set	2956 Nov 14 08:42	7°♐29'30	
conjunction	2956 Nov 29 19:30	8°♐03'57	1°33'59
minimum elong	2956 Nov 29 19:30	8°♐03'57	1°33'59
max. Earth dist.	2956 Nov 29 00:08	8°♐02'08	31.36172 AU
morning rise	2956 Dec 15 03:52	8°♐38'11	
retrograde	2957 Mar 12 03:13	10°♐30'39	
opposition	2957 May 29 14:11	9°♐08'50	1°39'50
min. Earth dist.	2957 May 30 07:43	9°♐07'39	29.36075 AU
direct	2957 Aug 18 19:29	7°♐44'37	
evening set	2957 Nov 16 18:31	9°♐40'01	
max. Earth dist.	2957 Dec 01 10:52	10°♐12'44	31.35748 AU
conjunction	2957 Dec 02 05:09	10°♐14'27	1°32'55
minimum elong	2957 Dec 02 05:09	10°♐14'27	1°32'55
morning rise	2957 Dec 17 13:08	10°♐48'41	

retrograde	2958 Mar 14 10:54	12°♐41'12	
opposition	2958 Jun 01 02:06	11°♐19'20	1°38'38
min. Earth dist.	2958 Jun 01 20:19	11°♐18'05	29.35590 AU
direct	2958 Aug 21 07:06	9°♐55'06	
evening set	2958 Nov 19 04:28	11°♐50'25	
conjunction	2958 Dec 04 14:41	12°♐24'50	1°31'43
minimum elong	2958 Dec 04 14:41	12°♐24'50	1°31'43
max. Earth dist.	2958 Dec 03 20:17	12°♐23'06	31.35229 AU
morning rise	2958 Dec 19 22:33	12°♐59'03	
retrograde	2959 Mar 16 20:58	14°♐51'36	
opposition	2959 Jun 03 13:44	13°♐29'40	1°37'17
min. Earth dist.	2959 Jun 04 06:32	13°♐28'31	29.35032 AU
direct	2959 Aug 23 18:13	12°♐05'25	
evening set	2959 Nov 21 14:17	14°♐00'39	
max. Earth dist.	2959 Dec 06 06:36	14°♐33'24	31.34657 AU
conjunction	2959 Dec 07 00:12	14°♐35'03	1°30'24
minimum elong	2959 Dec 07 00:12	14°♐35'03	1°30'24
morning rise	2959 Dec 22 07:47	15°♐09'16	
retrograde	2960 Mar 18 06:48	17°♐01'52	
opposition	2960 Jun 05 01:45	15°♐39'51	1°35'48
min. Earth dist.	2960 Jun 05 18:55	15°♐38'41	29.34471 AU
direct	2960 Aug 25 04:09	14°♐15'36	
evening set	2960 Nov 22 23:52	16°♐10'45	
conjunction	2960 Dec 08 09:29	16°♐45'08	1°28'57
minimum elong	2960 Dec 08 09:29	16°♐45'08	1°28'57
max. Earth dist.	2960 Dec 07 16:59	16°♐43'35	31.34123 AU
morning rise	2960 Dec 23 16:51	17°♐19'20	
retrograde	2961 Mar 20 17:15	19°♐12'00	
opposition	2961 Jun 07 13:41	17°♐49'55	1°34'11
min. Earth dist.	2961 Jun 08 05:09	17°♐48'53	29.33961 AU
direct	2961 Aug 27 17:08	16°♐25'41	
evening set	2961 Nov 25 09:33	18°♐20'47	
conjunction	2961 Dec 10 18:49	18°♐55'09	1°27'22
minimum elong	2961 Dec 10 18:49	18°♐55'09	1°27'22
max. Earth dist.	2961 Dec 10 02:31	18°♐53'37	31.33656 AU
morning rise	2961 Dec 26 02:03	19°♐29'21	
retrograde	2962 Mar 23 05:17	21°♐22'05	
opposition	2962 Jun 10 01:33	19°♐59'58	1°32'26
min. Earth dist.	2962 Jun 10 16:43	19°♐58'56	29.33545 AU
direct	2962 Aug 30 03:08	18°♐35'45	
evening set	2962 Nov 27 19:03	20°♐30'48	
conjunction	2962 Dec 13 04:12	21°♐05'10	1°25'40
minimum elong	2962 Dec 13 04:12	21°♐05'10	1°25'40
max. Earth dist.	2962 Dec 12 13:32	21°♐03'47	31.33281 AU
morning rise	2962 Dec 28 11:10	21°♐39'22	
retrograde	2963 Mar 25 14:57	23°♐32'12	
opposition	2963 Jun 12 13:32	22°♐10'03	1°30'33
min. Earth dist.	2963 Jun 13 03:44	22°♐09'06	29.33185 AU
direct	2963 Sep 01 15:30	20°♐45'54	
evening set	2963 Nov 30 04:38	22°♐40'55	
conjunction	2963 Dec 15 13:22	23°♐15'16	1°23'50
minimum elong	2963 Dec 15 13:22	23°♐15'16	1°23'50
max. Earth dist.	2963 Dec 14 22:29	23°♐13'52	31.32951 AU
morning rise	2963 Dec 30 20:19	23°♐49'29	
retrograde	2964 Mar 27 03:02	25°♐42'25	
opposition	2964 Jun 14 01:36	24°♐20'16	1°28'32
min. Earth dist.	2964 Jun 14 14:57	24°♐19'22	29.32868 AU
direct	2964 Sep 03 02:38	22°♐56'11	
evening set	2964 Dec 01 14:07	24°♐51'10	
conjunction	2964 Dec 16 22:46	25°♐25'31	1°21'53
minimum elong	2964 Dec 16 22:46	25°♐25'31	1°21'53
max. Earth dist.	2964 Dec 16 09:41	25°♐24'17	31.32634 AU
morning rise	2965 Jan 01 05:25	25°♐59'43	
retrograde	2965 Mar 29 13:05	27°♐52'46	
opposition	2965 Jun 16 13:50	26°♐30'37	1°26'23
min. Earth dist.	2965 Jun 17 03:06	26°♐29'43	29.32532 AU
direct	2965 Sep 05 15:28	25°♐06'36	
evening set	2965 Dec 03 23:38	27°♐01'33	
conjunction	2965 Dec 19 07:55	27°♐35'54	1°19'48
minimum elong	2965 Dec 19 07:55	27°♐35'54	1°19'48
max. Earth dist.	2965 Dec 18 18:32	27°♐34'39	31.32282 AU
morning rise	2966 Jan 03 14:39	28°♐10'07	
	2966 Mar 17 24:00	0°♑	
retrograde	2966 Apr 01 00:52	0°♑03'17	
	2966 Apr 15 02:57	30°℞♐	
opposition	2966 Jun 19 02:00	28°♐41'08	1°24'06
min. Earth dist.	2966 Jun 19 13:55	28°♐40'20	29.32139 AU
direct	2966 Sep 08 02:37	27°♐17'11	
evening set	2966 Dec 06 09:10	29°♐12'06	
conjunction	2966 Dec 21 17:23	29°♐46'27	1°17'37
minimum elong	2966 Dec 21 17:23	29°♐46'27	1°17'37
max. Earth dist.	2966 Dec 21 05:07	29°♐45'18	31.31834 AU
	2966 Dec 27 17:28	0°♑	
morning rise	2967 Jan 05 23:51	0°♑20'41	
retrograde	2967 Apr 03 09:44	2°♑13'58	
opposition	2967 Jun 21 14:20	0°♑51'47	1°21'42
min. Earth dist.	2967 Jun 22 02:48	0°♑50'57	29.31633 AU
	2967 Jul 26 00:13	30°℞♐	
direct	2967 Sep 10 14:05	29°♐27'54	
	2967 Oct 25 09:05	0°♑	
evening set	2967 Dec 08 18:51	1°♑22'47	
conjunction	2967 Dec 24 02:46	1°♑57'08	1°15'19
minimum elong	2967 Dec 24 02:46	1°♑57'08	1°15'19
max. Earth dist.	2967 Dec 23 14:34	1°♑55'59	31.31276 AU
morning rise	2968 Jan 08 09:14	2°♑31'22	
retrograde	2968 Apr 04 20:44	4°♑24'46	
opposition	2968 Jun 23 02:44	3°♑02'34	1°19'12
min. Earth dist.	2968 Jun 23 13:42	3°♑01'50	29.30997 AU
direct	2968 Sep 12 01:16	1°♑38'43	
evening set	2968 Dec 10 04:21	3°♑33'32	
conjunction	2968 Dec 25 12:06	4°♑07'54	1°12'55
minimum elong	2968 Dec 25 12:06	4°♑07'54	1°12'55
max. Earth dist.	2968 Dec 25 00:24	4°♑06'48	31.30566 AU
morning rise	2969 Jan 09 18:28	4°♑42'09	
retrograde	2969 Apr 07 07:22	6°♑35'40	
opposition	2969 Jun 25 15:22	5°♑13'25	1°16'34
min. Earth dist.	2969 Jun 26 02:55	5°♑12'38	29.30218 AU
direct	2969 Sep 14 11:14	3°♑49'35	
evening set	2969 Dec 12 13:53	5°♑44'21	
conjunction	2969 Dec 27 21:34	6°♑18'42	1°10'25
minimum elong	2969 Dec 27 21:34	6°♑18'42	1°10'25
max. Earth dist.	2969 Dec 27 10:44	6°♑17'41	31.29727 AU
morning rise	2970 Jan 12 03:52	6°♑52'58	
retrograde	2970 Apr 09 18:11	8°♑46'35	
opposition	2970 Jun 28 03:39	7°♑24'16	1°13'51
min. Earth dist.	2970 Jun 28 13:51	7°♑23'35	29.29301 AU
direct	2970 Sep 16 23:51	6°♑00'26	
evening set	2970 Dec 14 23:25	7°♑55'08	
conjunction	2970 Dec 30 06:52	8°♑29'30	1°07'48
minimum elong	2970 Dec 30 06:53	8°♑29'30	1°07'49
max. Earth dist.	2970 Dec 29 19:51	8°♑28'27	31.28761 AU

morning rise	2971 Jan	14	13:16	9°♓03'46	
retrograde	2971 Apr	12	06:41	10°♓57'29	
opposition	2971 Jun	30	16:11	9°♓35'04	1°11'01
min. Earth dist.	2971 Jul	01	02:17	9°♓34'23	29.28299 AU
direct	2971 Sep	19	09:38	8°♓11'14	
evening set	2971 Dec	17	08:40	10°♓05'52	
conjunction	2972 Jan	01	16:07	10°♓40'13	1°05'07
minimum elong	2972 Jan	01	16:07	10°♓40'13	1°05'06
max. Earth dist.	2972 Jan	01	06:49	10°♓39'21	31.27738 AU
morning rise	2972 Jan	16	22:21	11°♓14'30	
retrograde	2972 Apr	13	16:30	13°♓08'18	
opposition	2972 Jul	02	04:44	11°♓45'48	1°08'05
min. Earth dist.	2972 Jul	02	13:45	11°♓45'12	29.27261 AU
direct	2972 Sep	20	22:02	10°♓21'58	
evening set	2972 Dec	18	18:03	12°♓16'31	
conjunction	2973 Jan	03	01:13	12°♓50'52	1°02'19
minimum elong	2973 Jan	03	01:13	12°♓50'52	1°02'19
max. Earth dist.	2973 Jan	02	15:52	12°♓49'59	31.26724 AU
morning rise	2973 Jan	18	07:37	13°♓25'10	
retrograde	2973 Apr	16	05:17	15°♓19'04	
opposition	2973 Jul	04	17:13	13°♓56'29	1°05'03
min. Earth dist.	2973 Jul	05	01:05	13°♓55'57	29.26286 AU
direct	2973 Sep	23	09:27	12°♓32'39	
evening set	2973 Dec	21	03:10	14°♓27'08	
conjunction	2974 Jan	05	10:25	15°♓01'30	0°59'26
minimum elong	2974 Jan	05	10:25	15°♓01'30	0°59'26
max. Earth dist.	2974 Jan	05	03:10	15°♓00'49	31.25787 AU
morning rise	2974 Jan	20	16:41	15°♓35'48	
retrograde	2974 Apr	18	16:01	17°♓29'49	
opposition	2974 Jul	07	05:47	16°♓07'09	1°01'56
min. Earth dist.	2974 Jul	07	13:07	16°♓06'40	29.25391 AU
direct	2974 Sep	25	22:31	14°♓43'21	
evening set	2974 Dec	23	12:30	16°♓37'47	
conjunction	2975 Jan	07	19:30	17°♓12'09	0°56'28
minimum elong	2975 Jan	07	19:30	17°♓12'09	0°56'28
max. Earth dist.	2975 Jan	07	12:25	17°♓11'29	31.24954 AU
morning rise	2975 Jan	23	01:56	17°♓46'28	
retrograde	2975 Apr	21	03:55	19°♓40'36	
opposition	2975 Jul	09	18:12	18°♓17'54	0°58'43
min. Earth dist.	2975 Jul	09	23:38	18°♓17'32	29.24604 AU
direct	2975 Sep	28	09:30	16°♓54'08	
evening set	2975 Dec	25	21:44	18°♓48'32	
conjunction	2976 Jan	10	04:45	19°♓22'54	0°53'25
minimum elong	2976 Jan	10	04:45	19°♓22'54	0°53'25
max. Earth dist.	2976 Jan	09	23:15	19°♓22'23	31.24212 AU
morning rise	2976 Jan	25	11:07	19°♓57'14	
retrograde	2976 Apr	22	13:17	21°♓51'30	
opposition	2976 Jul	11	06:58	20°♓28'46	0°55'24
min. Earth dist.	2976 Jul	11	12:19	20°♓28'25	29.23899 AU
direct	2976 Sep	29	21:29	19°♓05'04	
evening set	2976 Dec	27	06:55	20°♓59'25	
conjunction	2977 Jan	11	13:52	21°♓33'48	0°50'17
minimum elong	2977 Jan	11	13:52	21°♓33'48	0°50'17
max. Earth dist.	2977 Jan	11	09:08	21°♓33'21	31.23548 AU
morning rise	2977 Jan	26	20:22	22°♓08'09	
retrograde	2977 Apr	25	00:56	24°♓02'34	
opposition	2977 Jul	13	19:36	22°♓39'48	0°52'01
min. Earth dist.	2977 Jul	13	23:01	22°♓39'34	29.23241 AU
direct	2977 Oct	02	09:10	21°♓16'09	
evening set	2977 Dec	29	16:18	23°♓10'27	

conjunction	2978 Jan	13	23:10	23°♓44'51	0°47'05
minimum elong	2978 Jan	13	23:11	23°♓44'51	0°47'05
max. Earth dist.	2978 Jan	13	19:11	23°♓44'29	31.22893 AU
morning rise	2978 Jan	29	05:46	24°♓19'14	
retrograde	2978 Apr	27	11:45	26°♓13'48	
opposition	2978 Jul	16	08:18	24°♓51'00	0°48'33
min. Earth dist.	2978 Jul	16	12:01	24°♓50'45	29.22584 AU
direct	2978 Oct	04	19:07	23°♓27'25	
evening set	2979 Jan	01	01:42	25°♓21'41	
conjunction	2979 Jan	16	08:37	25°♓56'05	0°43'48
minimum elong	2979 Jan	16	08:37	25°♓56'05	0°43'48
max. Earth dist.	2979 Jan	16	05:53	25°♓55'50	31.22222 AU
morning rise	2979 Jan	31	15:13	26°♓30'30	
retrograde	2979 Apr	29	22:33	28°♓25'11	
opposition	2979 Jul	18	21:06	27°♓02'22	0°45'00
min. Earth dist.	2979 Jul	18	23:18	27°♓02'13	29.21871 AU
direct	2979 Oct	07	06:59	25°♓38'50	
evening set	2980 Jan	03	11:11	27°♓33'04	
conjunction	2980 Jan	18	17:55	28°♓07'29	0°40'27
minimum elong	2980 Jan	18	17:56	28°♓07'29	0°40'27
max. Earth dist.	2980 Jan	18	15:03	28°♓07'12	31.21469 AU
morning rise	2980 Feb	03	00:44	28°♓41'54	
	2980 Mar	14	20:38	0°♒	
retrograde	2980 May	01	11:15	0°♒36'45	
	2980 Jun	20	05:56	30°℞♓	
opposition	2980 Jul	20	10:07	29°♓13'53	0°41'24
min. Earth dist.	2980 Jul	20	12:10	29°♓13'45	29.21076 AU
direct	2980 Oct	08	16:04	27°♓50'24	
evening set	2981 Jan	04	20:39	29°♓44'34	
	2981 Jan	11	18:20	0°♒	
conjunction	2981 Jan	20	03:33	0°♒19'00	0°37'02
minimum elong	2981 Jan	20	03:34	0°♒19'00	0°37'03
max. Earth dist.	2981 Jan	20	02:13	0°♒18'52	31.20616 AU
morning rise	2981 Feb	04	10:20	0°♒53'26	
retrograde	2981 May	03	22:13	2°♒48'26	
opposition	2981 Jul	22	23:02	1°♒25'30	0°37'43
min. Earth dist.	2981 Jul	23	00:18	1°♒25'25	29.20152 AU
direct	2981 Oct	11	04:20	0°♒02'02	
evening set	2982 Jan	07	06:18	1°♒56'09	
conjunction	2982 Jan	22	13:05	2°♒30'35	0°33'35
minimum elong	2982 Jan	22	13:05	2°♒30'35	0°33'35
max. Earth dist.	2982 Jan	22	11:13	2°♒30'25	31.19633 AU
morning rise	2982 Feb	06	20:11	3°♒05'03	
retrograde	2982 May	06	11:57	5°♒00'10	
opposition	2982 Jul	25	12:00	3°♒37'09	0°34'00
min. Earth dist.	2982 Jul	25	12:35	3°♒37'07	29.19102 AU
direct	2982 Oct	13	15:17	2°♒13'41	
evening set	2983 Jan	09	15:46	4°♒07'45	
conjunction	2983 Jan	24	22:43	4°♒42'12	0°30'04
minimum elong	2983 Jan	24	22:43	4°♒42'12	0°30'04
max. Earth dist.	2983 Jan	24	22:26	4°♒42'10	31.18514 AU
morning rise	2983 Feb	09	05:47	5°♒16'41	
retrograde	2983 May	08	23:16	7°♒11'54	
opposition	2983 Jul	28	01:01	5°♒48'48	0°30'13
min. Earth dist.	2983 Jul	28	01:29	5°♒48'46	29.17924 AU
direct	2983 Oct	16	04:01	4°♒25'20	
evening set	2984 Jan	12	01:21	6°♒19'19	
conjunction	2984 Jan	27	08:13	6°♒53'46	0°26'31
minimum elong	2984 Jan	27	08:13	6°♒53'46	0°26'31
max. Earth dist.	2984 Jan	27	07:56	6°♒53'45	31.17316 AU
morning rise	2984 Feb	11	15:36	7°♒28'17	

retrograde	2984 May 10 12:02	9°♒23'36	
opposition	2984 Jul 29 14:01	8°♒00'24	0°26'24
min. Earth dist.	2984 Jul 29 12:50	8°♒00'29	29.16705 AU
direct	2984 Oct 17 15:26	6°♒36'55	
evening set	2985 Jan 13 10:42	8°♒30'50	
conjunction	2985 Jan 28 17:42	9°♒05'18	0°22'56
minimum elong	2985 Jan 28 17:42	9°♒05'18	0°22'56
max. Earth dist.	2985 Jan 28 18:48	9°♒05'24	31.16087 AU
morning rise	2985 Feb 13 01:11	9°♒39'50	
retrograde	2985 May 12 22:31	11°♒35'16	
opposition	2985 Aug 01 03:07	10°♒11'57	0°22'32
min. Earth dist.	2985 Aug 01 01:55	10°♒12'02	29.15494 AU
direct	2985 Oct 20 03:59	8°♒48'29	
evening set	2986 Jan 15 20:14	10°♒42'19	
conjunction	2986 Jan 31 03:16	11°♒16'48	0°19'18
minimum elong	2986 Jan 31 03:16	11°♒16'48	0°19'18
max. Earth dist.	2986 Jan 31 05:16	11°♒16'59	31.14913 AU
morning rise	2986 Feb 15 10:57	11°♒51'22	
retrograde	2986 May 15 10:43	13°♒46'55	
opposition	2986 Aug 03 15:52	12°♒23'31	0°18'39
min. Earth dist.	2986 Aug 03 12:36	12°♒23'45	29.14357 AU
direct	2986 Oct 22 16:13	11°♒00'03	
evening set	2987 Jan 18 05:48	12°♒53'52	
conjunction	2987 Feb 02 12:51	13°♒28'22	0°15'39
minimum elong	2987 Feb 02 12:51	13°♒28'22	0°15'40
behind sun begin	2987 Feb 02 11:04	13°♒28'12	
behind sun end	2987 Feb 02 14:37	13°♒28'31	
max. Earth dist.	2987 Feb 02 15:38	13°♒28'37	31.13819 AU
morning rise	2987 Feb 17 20:45	14°♒02'57	
	2987 Mar 17 20:30	15°♒	
retrograde	2987 May 17 21:45	15°♒58'39	
	2987 Jul 21 17:16	15°℞♒	
opposition	2987 Aug 06 04:58	14°♒35'11	0°14'43
min. Earth dist.	2987 Aug 06 01:39	14°♒35'25	29.13322 AU
direct	2987 Oct 25 02:34	13°♒11'46	
	2988 Jan 18 03:00	15°♒	
evening set	2988 Jan 20 15:11	15°♒05'32	
conjunction	2988 Feb 04 22:24	15°♒40'02	0°11'59
minimum elong	2988 Feb 04 22:25	15°♒40'02	0°11'59
behind sun begin	2988 Feb 04 17:56	15°♒39'38	
behind sun end	2988 Feb 05 02:53	15°♒40'26	
max. Earth dist.	2988 Feb 05 02:57	15°♒40'27	31.12841 AU
morning rise	2988 Feb 20 06:25	16°♒14'39	
retrograde	2988 May 19 08:38	18°♒10'31	
opposition	2988 Aug 07 17:59	16°♒47'00	0°10'47
min. Earth dist.	2988 Aug 07 12:44	16°♒47'22	29.12383 AU
direct	2988 Oct 26 14:22	15°♒23'38	
evening set	2989 Jan 22 00:51	17°♒17'22	
conjunction	2989 Feb 06 08:02	17°♒51'54	0°08'17
minimum elong	2989 Feb 06 08:02	17°♒51'54	0°08'18
behind sun begin	2989 Feb 06 02:22	17°♒51'23	
behind sun end	2989 Feb 06 13:42	17°♒52'25	
max. Earth dist.	2989 Feb 06 12:40	17°♒52'19	31.11946 AU
morning rise	2989 Feb 21 16:25	18°♒26'33	
retrograde	2989 May 21 21:31	20°♒22'35	
opposition	2989 Aug 10 07:01	18°♒59'02	0°06'48
min. Earth dist.	2989 Aug 10 01:22	18°♒59'25	29.11531 AU
direct	2989 Oct 28 22:52	17°♒35'43	
evening set	2990 Jan 24 10:24	19°♒29'26	
conjunction	2990 Feb 08 17:53	20°♒04'00	0°04'35
minimum elong	2990 Feb 08 17:53	20°♒04'00	0°04'35
behind sun begin	2990 Feb 08 11:37	20°♒03'26	
behind sun end	2990 Feb 09 00:09	20°♒04'34	
max. Earth dist.	2990 Feb 09 00:25	20°♒04'35	31.11114 AU
morning rise	2990 Feb 24 02:20	20°♒38'40	
retrograde	2990 May 24 09:05	22°♒34'52	
opposition	2990 Aug 12 20:05	21°♒11'18	0°02'49
min. Earth dist.	2990 Aug 12 13:21	21°♒11'46	29.10702 AU
direct	2990 Oct 31 10:43	19°♒48'03	
evening set	2991 Jan 26 20:12	21°♒41'46	
conjunction	2991 Feb 11 03:37	22°♒16'20	0°00'49
minimum elong	2991 Feb 11 03:36	22°♒16'20	0°00'48
behind sun begin	2991 Feb 10 21:13	22°♒15'45	
behind sun end	2991 Feb 11 09:59	22°♒16'55	
max. Earth dist.	2991 Feb 11 09:57	22°♒16'54	31.10291 AU
morning rise	2991 Feb 26 12:26	22°♒51'02	
desc. node	2991 Apr 29 01:15	24°♒34'38	
retrograde	2991 May 26 23:34	24°♒47'25	
opposition	2991 Aug 15 09:16	23°♒23'49	-0°01'11
min. Earth dist.	2991 Aug 15 01:41	23°♒24'20	29.09874 AU
direct	2991 Nov 02 20:52	22°♒00'37	
evening set	2992 Jan 29 06:03	23°♒54'20	
conjunction	2992 Feb 13 13:42	24°♒28'55	-0°03'02
minimum elong	2992 Feb 13 13:42	24°♒28'55	0°03'02
behind sun begin	2992 Feb 13 07:19	24°♒28'21	
behind sun end	2992 Feb 13 20:04	24°♒29'30	
max. Earth dist.	2992 Feb 13 21:42	24°♒29'40	31.09435 AU
morning rise	2992 Feb 28 22:36	25°♒03'39	
retrograde	2992 May 28 11:58	27°♒00'12	
opposition	2992 Aug 16 22:34	25°♒36'34	-0°05'11
min. Earth dist.	2992 Aug 16 14:53	25°♒37'05	29.08986 AU
direct	2992 Nov 04 08:30	24°♒13'25	
evening set	2993 Jan 30 16:02	26°♒07'06	
conjunction	2993 Feb 14 23:44	26°♒41'43	-0°06'45
minimum elong	2993 Feb 14 23:44	26°♒41'43	0°06'45
behind sun begin	2993 Feb 14 17:45	26°♒41'10	
behind sun end	2993 Feb 15 05:44	26°♒42'16	
max. Earth dist.	2993 Feb 15 07:37	26°♒42'27	31.08510 AU
morning rise	2993 Mar 02 09:01	27°♒16'29	
retrograde	2993 May 31 01:59	29°♒13'11	
opposition	2993 Aug 19 11:49	27°♒49'29	-0°09'10
min. Earth dist.	2993 Aug 19 02:50	27°♒50'06	29.08006 AU
direct	2993 Nov 06 19:30	26°♒26'22	
evening set	2994 Feb 02 02:12	28°♒20'02	
conjunction	2994 Feb 17 10:05	28°♒54'40	-0°10'28
minimum elong	2994 Feb 17 10:04	28°♒54'40	0°10'28
behind sun begin	2994 Feb 17 05:00	28°♒54'13	
behind sun end	2994 Feb 17 15:08	28°♒55'08	
max. Earth dist.	2994 Feb 17 18:41	28°♒55'28	31.07453 AU
morning rise	2994 Mar 04 19:32	29°♒29'28	
	2994 Mar 19 01:07	0°♓	
retrograde	2994 Jun 02 14:21	1°♓26'18	
opposition	2994 Aug 22 01:04	0°♓02'32	-0°13'09
min. Earth dist.	2994 Aug 21 16:35	0°♓03'06	29.06887 AU
	2994 Aug 23 14:17	30°℞♒	
direct	2994 Nov 09 08:33	28°♒39'25	
	2995 Jan 20 00:43	0°♓	
evening set	2995 Feb 04 12:22	0°♓33'03	
conjunction	2995 Feb 19 20:25	1°♓07'42	-0°14'10
minimum elong	2995 Feb 19 20:26	1°♓07'42	0°14'10
behind sun begin	2995 Feb 19 17:11	1°♓07'24	
behind sun end	2995 Feb 19 23:40	1°♓08'00	
max. Earth dist.	2995 Feb 20 05:29	1°♓08'33	31.06277 AU

morning rise	2995 Mar 07 06:09	1°♓42'31	
retrograde	2995 Jun 05 04:22	3°♓39'28	
opposition	2995 Aug 24 14:18	2°♓15'36	-0°17'06
min. Earth dist.	2995 Aug 24 04:15	2°♓16'17	29.05644 AU
direct	2995 Nov 11 21:40	0°♓52'28	
evening set	2996 Feb 06 22:27	2°♓46'03	
conjunction	2996 Feb 22 06:37	3°♓20'43	-0°17'51
minimum elong	2996 Feb 22 06:37	3°♓20'43	0°17'51
max. Earth dist.	2996 Feb 22 15:56	3°♓21'35	31.04981 AU
morning rise	2996 Mar 08 16:42	3°♓55'34	
retrograde	2996 Jun 06 15:24	5°♓52'37	
opposition	2996 Aug 26 03:42	4°♓28'38	-0°21'02
min. Earth dist.	2996 Aug 25 18:06	4°♓29'17	29.04319 AU
direct	2996 Nov 13 08:54	3°♓05'29	
evening set	2997 Feb 08 08:33	4°♓58'59	
conjunction	2997 Feb 23 17:02	5°♓33'40	-0°21'31
minimum elong	2997 Feb 23 17:02	5°♓33'40	0°21'31
max. Earth dist.	2997 Feb 24 03:48	5°♓34'40	31.03639 AU
morning rise	2997 Mar 11 03:19	6°♓08'33	
retrograde	2997 Jun 09 02:25	8°♓05'40	
opposition	2997 Aug 28 16:40	6°♓41'35	-0°24'57
min. Earth dist.	2997 Aug 28 05:33	6°♓42'20	29.02974 AU
direct	2997 Nov 15 21:45	5°♓18'23	
evening set	2998 Feb 10 18:46	7°♓11'49	
conjunction	2998 Feb 26 03:18	7°♓46'32	-0°25'09
minimum elong	2998 Feb 26 03:17	7°♓46'32	0°25'09
max. Earth dist.	2998 Feb 26 13:53	7°♓47'32	31.02308 AU
morning rise	2998 Mar 13 14:01	8°♓21'26	
retrograde	2998 Jun 11 15:01	10°♓18'40	
opposition	2998 Aug 31 05:51	8°♓54'28	-0°28'49
min. Earth dist.	2998 Aug 30 18:28	8°♓55'14	29.01685 AU
direct	2998 Nov 18 07:40	7°♓31'14	
evening set	2999 Feb 13 04:49	9°♓24'37	
conjunction	2999 Feb 28 13:40	9°♓59'20	-0°28'44
minimum elong	2999 Feb 28 13:40	9°♓59'20	0°28'44
max. Earth dist.	2999 Mar 01 02:14	10°♓00'32	31.01053 AU
morning rise	2999 Mar 16 00:30	10°♓34'16	
retrograde	2999 Jun 14 02:02	12°♓31'37	
opposition	2999 Sep 02 18:57	11°♓07'19	-0°32'38
min. Earth dist.	2999 Sep 02 06:18	11°♓08'11	29.00481 AU
direct	2999 Nov 20 20:09	9°♓44'05	
evening set	3000 Feb 15 15:07	11°♓37'26	
conjunction	3000 Mar 03 00:02	12°♓12'10	-0°32'18
minimum elong	3000 Mar 03 00:02	12°♓12'10	0°32'18
max. Earth dist.	3000 Mar 03 12:31	12°♓13'21	30.99912 AU
morning rise	3000 Mar 18 11:21	12°♓47'08	
retrograde	3000 Jun 16 15:36	14°♓44'36	
opposition	3000 Sep 05 08:04	13°♓20'13	-0°36'25
min. Earth dist.	3000 Sep 04 18:26	13°♓21'09	28.99411 AU
direct	3000 Nov 23 05:48	11°♓56'59	
evening set	3001 Feb 18 01:18	13°♓50'19	
conjunction	3001 Mar 05 10:36	14°♓25'04	-0°35'48
minimum elong	3001 Mar 05 10:36	14°♓25'04	0°35'48
max. Earth dist.	3001 Mar 06 00:55	14°♓26'26	30.98888 AU
morning rise	3001 Mar 20 22:07	15°♓00'04	
retrograde	3001 Jun 19 03:30	16°♓57'40	
opposition	3001 Sep 07 21:13	15°♓33'13	-0°40'09
min. Earth dist.	3001 Sep 07 07:12	15°♓34'11	28.98438 AU
direct	3001 Nov 25 16:53	14°♓10'01	
evening set	3002 Feb 20 11:44	16°♓03'20	
conjunction	3002 Mar 07 21:11	16°♓38'07	-0°39'16
minimum elong	3002 Mar 07 21:11	16°♓38'07	0°39'16
max. Earth dist.	3002 Mar 08 11:39	16°♓39'29	30.97968 AU
morning rise	3002 Mar 23 09:06	17°♓13'08	
retrograde	3002 Jun 21 17:58	19°♓10'52	
opposition	3002 Sep 10 10:10	17°♓46'23	-0°43'49
min. Earth dist.	3002 Sep 09 18:42	17°♓47'27	28.97561 AU
direct	3002 Nov 28 03:34	16°♓23'12	
evening set	3003 Feb 22 22:13	18°♓16'32	
conjunction	3003 Mar 10 07:55	18°♓51'21	-0°42'40
minimum elong	3003 Mar 10 07:54	18°♓51'21	0°42'40
max. Earth dist.	3003 Mar 10 23:26	18°♓52'49	30.97114 AU
morning rise	3003 Mar 25 20:07	19°♓26'24	
retrograde	3003 Jun 24 07:16	21°♓24'17	
opposition	3003 Sep 12 23:26	19°♓59'46	-0°47'26
min. Earth dist.	3003 Sep 12 08:11	20°♓00'48	28.96736 AU
direct	3003 Nov 30 15:41	18°♓36'38	
evening set	3004 Feb 25 08:42	20°♓29'58	
conjunction	3004 Mar 11 18:42	21°♓04'48	-0°46'01
minimum elong	3004 Mar 11 18:41	21°♓04'48	0°46'01
max. Earth dist.	3004 Mar 12 10:57	21°♓06'20	30.96306 AU
morning rise	3004 Mar 27 07:13	21°♓39'53	
retrograde	3004 Jun 25 22:06	23°♓37'54	
opposition	3004 Sep 14 12:33	22°♓13'22	-0°50'58
min. Earth dist.	3004 Sep 13 19:47	22°♓14'31	28.95926 AU
direct	3004 Dec 02 04:09	20°♓50'16	
evening set	3005 Feb 26 19:35	22°♓43'37	
conjunction	3005 Mar 14 05:43	23°♓18'29	-0°49'18
minimum elong	3005 Mar 14 05:43	23°♓18'29	0°49'17
max. Earth dist.	3005 Mar 14 22:03	23°♓20'02	30.95471 AU
morning rise	3005 Mar 29 18:40	23°♓53'37	
retrograde	3005 Jun 28 10:36	25°♓51'46	
min. Earth dist.	3005 Sep 16 09:40	24°♓28'18	28.95077 AU
opposition	3005 Sep 17 01:41	24°♓27'12	-0°54'26
direct	3005 Dec 04 14:59	23°♓04'08	
evening set	3006 Mar 01 06:27	24°♓57'30	
conjunction	3006 Mar 16 17:00	25°♓32'23	-0°52'30
minimum elong	3006 Mar 16 17:00	25°♓32'23	0°52'30
max. Earth dist.	3006 Mar 17 10:23	25°♓34'02	30.94581 AU
morning rise	3006 Apr 01 06:10	26°♓07'33	
retrograde	3006 Jun 30 23:31	28°♓05'49	
opposition	3006 Sep 19 14:49	26°♓41'13	-0°57'50
min. Earth dist.	3006 Sep 18 21:40	26°♓42'23	28.94137 AU
direct	3006 Dec 07 04:03	25°♓18'09	
evening set	3007 Mar 03 17:28	27°♓11'31	
conjunction	3007 Mar 19 04:07	27°♓46'26	-0°55'38
minimum elong	3007 Mar 19 04:07	27°♓46'26	0°55'38
max. Earth dist.	3007 Mar 19 20:47	27°♓48'01	30.93585 AU
morning rise	3007 Apr 03 17:47	28°♓21'38	
	3007 May 29 07:50	0°♈	
retrograde	3007 Jul 03 13:12	0°♈20'01	
	3007 Aug 08 12:38	30°℞♓	
min. Earth dist.	3007 Sep 21 11:20	28°♓56'30	28.93101 AU
opposition	3007 Sep 22 04:08	28°♓55'21	-1°01'08
direct	3007 Dec 09 14:30	27°♓32'17	
evening set	3008 Mar 05 04:27	29°♓25'37	
conjunction	3008 Mar 20 15:35	0°♈00'34	-0°58'40
minimum elong	3008 Mar 20 15:35	0°♈00'34	0°58'40
	3008 Mar 20 09:37	0°♈	
max. Earth dist.	3008 Mar 21 09:34	0°♈02'16	30.92500 AU
morning rise	3008 Apr 05 05:27	0°♈35'48	

retrograde	3008 Jul 05 00:28	2°♈34'16	
opposition	3008 Sep 23 17:12	1°♈09'31	-1°04'21
min. Earth dist.	3008 Sep 22 23:44	1°♈10'43	28.91977 AU
	3008 Nov 12 09:05	30°♓	
direct	3008 Dec 11 03:21	29°♓46'26	
	3009 Jan 08 04:16	0°♈	
evening set	3009 Mar 07 15:34	1°♈39'44	
conjunction	3009 Mar 23 02:53	2°♈14'42	-1°01'38
minimum elong	3009 Mar 23 02:52	2°♈14'42	1°01'38
max. Earth dist.	3009 Mar 23 20:13	2°♈16'20	30.91359 AU
morning rise	3009 Apr 07 17:19	2°♈49'57	
retrograde	3009 Jul 07 13:36	4°♈48'30	
opposition	3009 Sep 26 06:15	3°♈23'39	-1°07'27
min. Earth dist.	3009 Sep 25 12:26	3°♈24'53	28.90836 AU
direct	3009 Dec 13 13:23	2°♈00'31	
evening set	3010 Mar 10 02:35	3°♈53'49	
conjunction	3010 Mar 25 14:19	4°♈28'48	-1°04'30
minimum elong	3010 Mar 25 14:18	4°♈28'48	1°04'30
max. Earth dist.	3010 Mar 26 09:08	4°♈30'35	30.90214 AU
morning rise	3010 Apr 10 04:58	5°♈04'05	
retrograde	3010 Jul 10 01:05	7°♈02'42	
opposition	3010 Sep 28 19:09	5°♈37'45	-1°10'28
min. Earth dist.	3010 Sep 28 01:13	5°♈39'00	28.89722 AU
direct	3010 Dec 16 00:22	4°♈14'35	
evening set	3011 Mar 12 13:44	6°♈07'51	
conjunction	3011 Mar 28 01:42	6°♈42'51	-1°07'16
minimum elong	3011 Mar 28 01:42	6°♈42'51	1°07'16
max. Earth dist.	3011 Mar 28 20:31	6°♈44'38	30.89151 AU
morning rise	3011 Apr 12 16:49	7°♈18'10	
retrograde	3011 Jul 12 15:19	9°♈16'51	
opposition	3011 Oct 01 08:03	7°♈51'50	-1°13'23
min. Earth dist.	3011 Sep 30 12:50	7°♈53'10	28.88722 AU
direct	3011 Dec 18 11:21	6°♈28'38	
evening set	3012 Mar 14 00:49	8°♈21'54	
conjunction	3012 Mar 29 13:07	8°♈56'55	-1°09'56
minimum elong	3012 Mar 29 13:07	8°♈56'55	1°09'56
max. Earth dist.	3012 Mar 30 08:55	8°♈58'48	30.88198 AU
morning rise	3012 Apr 14 04:36	9°♈32'16	
retrograde	3012 Jul 14 04:18	11°♈31'01	
opposition	3012 Oct 02 20:59	10°♈05'56	-1°16'11
min. Earth dist.	3012 Oct 02 01:59	10°♈07'15	28.87845 AU
direct	3012 Dec 19 23:21	8°♈42'43	
evening set	3013 Mar 16 12:03	10°♈35'58	
conjunction	3013 Apr 01 00:45	11°♈11'02	-1°12'30
minimum elong	3013 Apr 01 00:45	11°♈11'01	1°12'30
max. Earth dist.	3013 Apr 01 21:13	11°♈12'58	30.87396 AU
morning rise	3013 Apr 16 16:36	11°♈46'24	
retrograde	3013 Jul 16 18:40	13°♈45'13	
opposition	3013 Oct 05 09:34	12°♈20'05	-1°18'52
min. Earth dist.	3013 Oct 04 13:00	12°♈21'31	28.87114 AU
direct	3013 Dec 22 11:14	10°♈56'52	
evening set	3014 Mar 18 23:28	12°♈50'08	
conjunction	3014 Apr 03 12:25	13°♈25'13	-1°14'58
minimum elong	3014 Apr 03 12:24	13°♈25'13	1°14'57
max. Earth dist.	3014 Apr 04 09:03	13°♈27'10	30.86724 AU
morning rise	3014 Apr 19 04:43	14°♈00'37	
retrograde	3014 Jul 19 07:55	15°♈59'31	
opposition	3014 Oct 07 22:27	14°♈34'22	-1°21'27
min. Earth dist.	3014 Oct 07 02:24	14°♈35'45	28.86517 AU
direct	3014 Dec 24 22:13	13°♈11'09	
evening set	3015 Mar 21 10:40	15°♈04'25	
conjunction	3015 Apr 06 00:07	15°♈39'32	-1°17'18
minimum elong	3015 Apr 06 00:07	15°♈39'32	1°17'19
max. Earth dist.	3015 Apr 06 22:08	15°♈41'37	30.86186 AU
morning rise	3015 Apr 21 16:42	16°♈14'58	
retrograde	3015 Jul 21 22:21	18°♈13'56	
opposition	3015 Oct 10 11:12	16°♈48'46	-1°23'53
min. Earth dist.	3015 Oct 09 13:51	16°♈50'15	28.86027 AU
direct	3015 Dec 27 11:44	15°♈25'35	
evening set	3016 Mar 22 22:20	17°♈18'52	
conjunction	3016 Apr 07 12:00	17°♈54'01	-1°19'32
minimum elong	3016 Apr 07 12:00	17°♈54'01	1°19'32
max. Earth dist.	3016 Apr 08 09:27	17°♈56'03	30.85736 AU
morning rise	3016 Apr 23 05:10	18°♈29'29	
retrograde	3016 Jul 23 12:35	20°♈28'32	
min. Earth dist.	3016 Oct 11 03:08	19°♈04'48	28.85616 AU
opposition	3016 Oct 12 00:01	19°♈03'21	-1°26'13
direct	3016 Dec 28 22:33	17°♈40'11	
evening set	3017 Mar 25 10:00	19°♈33'30	
conjunction	3017 Apr 10 00:13	20°♈08'41	-1°21'39
minimum elong	3017 Apr 10 00:13	20°♈08'41	1°21'40
max. Earth dist.	3017 Apr 10 22:56	20°♈10'50	30.85331 AU
morning rise	3017 Apr 25 17:38	20°♈44'11	
retrograde	3017 Jul 26 00:35	22°♈43'18	
opposition	3017 Oct 14 12:45	21°♈18'07	-1°28'24
min. Earth dist.	3017 Oct 13 15:24	21°♈19'36	28.85206 AU
direct	3017 Dec 31 11:08	19°♈54'58	
evening set	3018 Mar 27 21:59	21°♈48'19	
conjunction	3018 Apr 12 12:23	22°♈23'31	-1°23'38
minimum elong	3018 Apr 12 12:23	22°♈23'31	1°23'38
max. Earth dist.	3018 Apr 13 10:06	22°♈25'34	30.84904 AU
morning rise	3018 Apr 28 06:20	22°♈59'03	
retrograde	3018 Jul 28 14:28	24°♈58'13	
min. Earth dist.	3018 Oct 16 04:18	23°♈34'31	28.84760 AU
opposition	3018 Oct 17 01:33	23°♈33'02	-1°30'28
direct	3019 Jan 02 21:36	22°♈09'53	
evening set	3019 Mar 30 09:59	24°♈03'15	
conjunction	3019 Apr 15 00:54	24°♈38'29	-1°25'30
minimum elong	3019 Apr 15 00:54	24°♈38'29	1°25'30
max. Earth dist.	3019 Apr 15 23:30	24°♈40'37	30.84408 AU
morning rise	3019 Apr 30 19:08	25°♈14'03	
retrograde	3019 Jul 31 02:44	27°♈13'16	
opposition	3019 Oct 19 14:24	25°♈48'03	-1°32'23
min. Earth dist.	3019 Oct 18 17:35	25°♈49'30	28.84221 AU
direct	3020 Jan 05 09:05	24°♈24'53	
evening set	3020 Mar 31 22:04	26°♈18'16	
conjunction	3020 Apr 16 13:22	26°♈53'31	-1°27'14
minimum elong	3020 Apr 16 13:22	26°♈53'31	1°27'13
max. Earth dist.	3020 Apr 17 11:09	26°♈55'35	30.83830 AU
morning rise	3020 May 02 08:08	27°♈29'06	
retrograde	3020 Aug 01 16:37	29°♈28'21	
min. Earth dist.	3020 Oct 20 05:53	28°♈04'35	28.83597 AU
opposition	3020 Oct 21 03:10	28°♈03'06	-1°34'10
direct	3021 Jan 06 20:27	26°♈39'53	
evening set	3021 Apr 03 10:16	28°♈33'16	
conjunction	3021 Apr 19 02:00	29°♈08'32	-1°28'50
minimum elong	3021 Apr 19 02:00	29°♈08'32	1°28'50
max. Earth dist.	3021 Apr 19 24:00	29°♈10'37	30.83158 AU
morning rise	3021 May 04 21:10	29°♈44'09	
	3021 May 12 03:24	0°♉	
retrograde	3021 Aug 04 04:44	1°♉43'25	
opposition	3021 Oct 23 15:45	0°♉18'06	-1°35'48

min. Earth dist.	3021 Oct 22 19:26	0°♉19'31	28.82905 AU
	3021 Nov 03 13:20	30°℞♈	
direct	3022 Jan 09 08:02	28°♈54'50	
	3022 Mar 13 16:08	0°♉	
evening set	3022 Apr 05 22:25	0°♉48'13	
conjunction	3022 Apr 21 14:37	1°♉23'31	-1°30'18
minimum elong	3022 Apr 21 14:37	1°♉23'31	1°30'18
max. Earth dist.	3022 Apr 22 12:39	1°♉25'36	30.82466 AU
morning rise	3022 May 07 10:11	1°♉59'09	
retrograde	3022 Aug 06 18:54	3°♉58'24	
min. Earth dist.	3022 Oct 25 06:52	2°♉34'31	28.82219 AU
opposition	3022 Oct 26 04:15	2°♉33'02	-1°37'18
direct	3023 Jan 11 20:02	1°♉09'43	
evening set	3023 Apr 08 10:32	3°♉03'05	
conjunction	3023 Apr 24 03:03	3°♉38'25	-1°31'38
minimum elong	3023 Apr 24 03:03	3°♉38'25	1°31'38
max. Earth dist.	3023 Apr 25 00:57	3°♉40'29	30.81795 AU
morning rise	3023 May 09 23:08	4°♉14'05	
retrograde	3023 Aug 09 08:10	6°♉13'21	
opposition	3023 Oct 28 16:52	4°♉47'55	-1°38'39
min. Earth dist.	3023 Oct 27 20:23	4°♉49'21	28.81594 AU
direct	3024 Jan 14 07:29	3°♉24'34	
evening set	3024 Apr 09 22:44	5°♉17'56	
conjunction	3024 Apr 25 15:50	5°♉53'18	-1°32'49
minimum elong	3024 Apr 25 15:50	5°♉53'18	1°32'49
max. Earth dist.	3024 Apr 26 14:41	5°♉55'28	30.81219 AU
morning rise	3024 May 11 12:14	6°♉29'00	
retrograde	3024 Aug 10 22:47	8°♉28'14	
min. Earth dist.	3024 Oct 29 07:36	7°♉04'17	28.81072 AU
opposition	3024 Oct 30 05:05	7°♉02'47	-1°39'50
direct	3025 Jan 15 21:11	5°♉39'23	
evening set	3025 Apr 12 11:09	7°♉32'47	
conjunction	3025 Apr 28 04:32	8°♉08'11	-1°33'52
minimum elong	3025 Apr 28 04:32	8°♉08'11	1°33'52
max. Earth dist.	3025 Apr 29 02:37	8°♉10'16	30.80755 AU
morning rise	3025 May 14 01:32	8°♉43'55	
retrograde	3025 Aug 13 12:40	10°♉43'09	
opposition	3025 Nov 01 17:30	9°♉17'41	-1°40'53
min. Earth dist.	3025 Oct 31 20:35	9°♉19'09	28.80685 AU
direct	3026 Jan 18 08:23	7°♉54'16	
evening set	3026 Apr 14 23:22	9°♉47'42	
conjunction	3026 Apr 30 17:21	10°♉23'07	-1°34'46
minimum elong	3026 Apr 30 17:21	10°♉23'07	1°34'46
max. Earth dist.	3026 May 01 16:41	10°♉25'19	30.80429 AU
morning rise	3026 May 16 14:35	10°♉58'53	
retrograde	3026 Aug 16 01:14	12°♉58'07	
min. Earth dist.	3026 Nov 03 08:10	11°♉34'10	28.80425 AU
opposition	3026 Nov 04 05:45	11°♉32'39	-1°41'46
direct	3027 Jan 20 21:09	10°♉09'15	
evening set	3027 Apr 17 11:52	12°♉02'43	
conjunction	3027 May 03 06:10	12°♉38'10	-1°35'31
minimum elong	3027 May 03 06:10	12°♉38'10	1°35'32
max. Earth dist.	3027 May 04 04:34	12°♉40'17	30.80246 AU
morning rise	3027 May 19 04:00	13°♉13'57	
	3027 Jul 21 03:28	15°♉	
retrograde	3027 Aug 18 15:53	15°♉13'12	
	3027 Sep 16 09:36	15°℞♉	
opposition	3027 Nov 06 18:02	13°♉47'46	-1°42'30
min. Earth dist.	3027 Nov 05 20:28	13°♉49'16	28.80312 AU
direct	3028 Jan 23 07:55	12°♉24'21	
evening set	3028 Apr 19 00:19	14°♉17'52	
conjunction	3028 May 04 19:13	14°♉53'21	-1°36'08
minimum elong	3028 May 04 19:13	14°♉53'21	1°36'08
max. Earth dist.	3028 May 05 18:43	14°♉55'35	30.80179 AU
	3028 May 07 17:30	15°♉	
morning rise	3028 May 20 17:23	15°♉29'10	
retrograde	3028 Aug 20 04:17	17°♉28'26	
min. Earth dist.	3028 Nov 07 09:05	16°♉04'31	28.80284 AU
opposition	3028 Nov 08 06:18	16°♉03'02	-1°43'04
	3028 Dec 20 16:02	15°℞♉	
direct	3029 Jan 24 19:29	14°♉39'39	
	3029 Feb 28 04:26	15°♉	
evening set	3029 Apr 21 13:06	16°♉33'12	
conjunction	3029 May 07 08:22	17°♉08'43	-1°36'36
minimum elong	3029 May 07 08:22	17°♉08'43	1°36'36
max. Earth dist.	3029 May 08 07:00	17°♉10'52	30.80191 AU
morning rise	3029 May 23 07:04	17°♉44'35	
retrograde	3029 Aug 22 17:42	19°♉43'50	
opposition	3029 Nov 10 18:21	18°♉18'29	-1°43'29
min. Earth dist.	3029 Nov 09 20:52	18°♉19'59	28.80315 AU
direct	3030 Jan 27 06:26	16°♉55'06	
evening set	3030 Apr 24 01:56	18°♉48'44	
conjunction	3030 May 09 21:41	19°♉24'16	-1°36'54
minimum elong	3030 May 09 21:41	19°♉24'16	1°36'54
max. Earth dist.	3030 May 10 20:30	19°♉26'26	30.80214 AU
morning rise	3030 May 25 20:44	20°♉00'09	
retrograde	3030 Aug 25 05:36	21°♉59'25	
min. Earth dist.	3030 Nov 12 10:19	20°♉35'31	28.80328 AU
opposition	3030 Nov 13 06:37	20°♉34'06	-1°43'44
direct	3031 Jan 29 17:06	19°♉10'43	
evening set	3031 Apr 26 14:48	21°♉04'23	
conjunction	3031 May 12 11:04	21°♉39'58	-1°37'04
minimum elong	3031 May 12 11:04	21°♉39'58	1°37'04
max. Earth dist.	3031 May 13 09:19	21°♉42'04	30.80208 AU
morning rise	3031 May 28 10:34	22°♉15'53	
retrograde	3031 Aug 27 20:06	24°♉15'07	
opposition	3031 Nov 15 18:47	22°♉49'49	-1°43'50
min. Earth dist.	3031 Nov 14 22:00	22°♉51'17	28.80278 AU
direct	3032 Feb 01 04:18	21°♉26'25	
evening set	3032 Apr 28 04:01	23°♉20'08	
conjunction	3032 May 14 00:41	23°♉55'44	-1°37'05
minimum elong	3032 May 14 00:41	23°♉55'44	1°37'04
max. Earth dist.	3032 May 14 22:03	23°♉57'45	30.80103 AU
morning rise	3032 May 30 00:40	24°♉31'40	
retrograde	3032 Aug 29 08:42	26°♉30'52	
min. Earth dist.	3032 Nov 16 11:46	25°♉06'55	28.80126 AU
opposition	3032 Nov 17 06:56	25°♉05'34	-1°43'46
direct	3033 Feb 02 16:02	23°♉42'06	
evening set	3033 Apr 30 17:08	25°♉35'50	
conjunction	3033 May 16 14:26	26°♉11'28	-1°36'57
minimum elong	3033 May 16 14:26	26°♉11'28	1°36'57
max. Earth dist.	3033 May 17 11:50	26°♉13'29	30.79912 AU
morning rise	3033 Jun 01 14:46	26°♉47'25	
retrograde	3033 Aug 31 22:45	28°♉46'32	
opposition	3033 Nov 19 18:57	27°♉21'13	-1°43'32
min. Earth dist.	3033 Nov 18 23:25	27°♉22'36	28.79886 AU
direct	3034 Feb 05 05:52	25°♉57'42	
evening set	3034 May 03 06:16	27°♉51'26	
conjunction	3034 May 19 03:53	28°♉27'06	-1°36'40
minimum elong	3034 May 19 03:53	28°♉27'06	1°36'40
max. Earth dist.	3034 May 19 23:57	28°♉28'59	30.79646 AU
morning rise	3034 Jun 04 04:46	29°♉03'04	

	3034 Jul 02 03:34	0°♊		
retrograde	3034 Sep 03 12:07	1°♊02'06		
	3034 Nov 08 08:04	30°℞♉		
opposition	3034 Nov 22 07:00	29°♉36'45	-1°43'10	
min. Earth dist.	3034 Nov 21 12:39	29°♉38'02	28.79615 AU	
direct	3035 Feb 07 17:22	28°♉13'08		
	3035 May 02 15:58	0°♊		
evening set	3035 May 05 19:19	0°♊06'52		
conjunction	3035 May 21 17:36	0°♊42'34	-1°36'14	
minimum elong	3035 May 21 17:36	0°♊42'34	1°36'15	
max. Earth dist.	3035 May 22 14:20	0°♊44'31	30.79380 AU	
morning rise	3035 Jun 06 18:45	1°♊18'33		
retrograde	3035 Sep 06 01:21	3°♊17'28		
opposition	3035 Nov 24 18:45	1°♊52'05	-1°42'37	
min. Earth dist.	3035 Nov 24 00:15	1°♊53'23	28.79360 AU	
direct	3036 Feb 10 06:56	0°♊28'24		
evening set	3036 May 07 08:33	2°♊22'08		
conjunction	3036 May 23 07:09	2°♊57'51	-1°35'40	
minimum elong	3036 May 23 07:09	2°♊57'51	1°35'39	
max. Earth dist.	3036 May 24 02:28	2°♊59'40	30.79162 AU	
morning rise	3036 Jun 08 08:55	3°♊33'52		
retrograde	3036 Sep 07 16:09	5°♊32'41		
opposition	3036 Nov 26 06:32	4°♊07'16	-1°41'56	
min. Earth dist.	3036 Nov 25 12:26	4°♊08'32	28.79187 AU	
direct	3037 Feb 11 19:08	2°♊43'30		
evening set	3037 May 09 21:41	4°♊37'15		
conjunction	3037 May 25 20:53	5°♊13'00	-1°34'57	
minimum elong	3037 May 25 20:53	5°♊13'00	1°34'57	
max. Earth dist.	3037 May 26 17:01	5°♊14'53	30.79031 AU	
morning rise	3037 Jun 10 22:53	5°♊49'01		
retrograde	3037 Sep 10 03:34	7°♊47'44		
opposition	3037 Nov 28 18:06	6°♊22'19	-1°41'05	
min. Earth dist.	3037 Nov 28 00:27	6°♊23'34	28.79114 AU	
direct	3038 Feb 14 07:43	4°♊58'30		
evening set	3038 May 12 10:54	6°♊52'16		
conjunction	3038 May 28 10:29	7°♊28'01	-1°34'05	
minimum elong	3038 May 28 10:29	7°♊28'01	1°34'04	
max. Earth dist.	3038 May 29 05:36	7°♊29'49	30.79040 AU	
morning rise	3038 Jun 13 13:00	8°♊04'04		
retrograde	3038 Sep 12 17:10	10°♊02'41		
min. Earth dist.	3038 Nov 30 11:41	8°♊38'33	28.79198 AU	
opposition	3038 Dec 01 05:42	8°♊37'17	-1°40'05	
direct	3039 Feb 16 19:05	7°♊13'25		
evening set	3039 May 14 23:59	9°♊07'12		
conjunction	3039 May 31 00:06	9°♊43'00	-1°33'05	
minimum elong	3039 May 31 00:06	9°♊43'00	1°33'05	
max. Earth dist.	3039 May 31 19:39	9°♊44'50	30.79193 AU	
morning rise	3039 Jun 16 02:58	10°♊19'04		
retrograde	3039 Sep 15 04:49	12°♊17'36		
opposition	3039 Dec 03 17:21	10°♊52'14	-1°38'56	
min. Earth dist.	3039 Dec 03 00:18	10°♊53'26	28.79426 AU	
direct	3040 Feb 19 05:57	9°♊28'20		
evening set	3040 May 16 13:17	11°♊22'11		
conjunction	3040 Jun 01 13:55	11°♊58'00	-1°31'55	
minimum elong	3040 Jun 01 13:55	11°♊58'00	1°31'55	
max. Earth dist.	3040 Jun 02 08:55	11°♊59'47	30.79507 AU	
morning rise	3040 Jun 17 17:12	12°♊34'05		
retrograde	3040 Sep 16 18:34	14°♊32'32		
min. Earth dist.	3040 Dec 04 10:59	13°♊08'29	28.79799 AU	
opposition	3040 Dec 05 04:41	13°♊07'14	-1°37'37	
direct	3041 Feb 20 17:00	11°♊43'19		
evening set	3041 May 19 02:46	13°♊37'14		
conjunction	3041 Jun 04 03:47	14°♊13'05	-1°30'38	
minimum elong	3041 Jun 04 03:47	14°♊13'05	1°30'39	
max. Earth dist.	3041 Jun 04 22:15	14°♊14'49	30.79935 AU	
morning rise	3041 Jun 20 07:28	14°♊49'11		
retrograde	3041 Sep 19 06:15	16°♊47'34		
opposition	3041 Dec 07 16:15	15°♊22'20	-1°36'09	
min. Earth dist.	3041 Dec 06 24:00	15°♊23'29	28.80274 AU	
direct	3042 Feb 23 03:53	13°♊58'26		
evening set	3042 May 21 16:03	15°♊52'25		
conjunction	3042 Jun 06 17:38	16°♊28'17	-1°29'12	
minimum elong	3042 Jun 06 17:38	16°♊28'17	1°29'11	
max. Earth dist.	3042 Jun 07 12:12	16°♊30'02	30.80450 AU	
morning rise	3042 Jun 22 21:35	17°♊04'25		
retrograde	3042 Sep 21 19:44	19°♊02'44		
min. Earth dist.	3042 Dec 09 11:04	17°♊38'45	28.80795 AU	
opposition	3042 Dec 10 03:39	17°♊37'35	-1°34'33	
direct	3043 Feb 25 16:32	16°♊13'40		
evening set	3043 May 24 05:47	18°♊07'44		
conjunction	3043 Jun 09 07:39	18°♊43'38	-1°27'37	
minimum elong	3043 Jun 09 07:39	18°♊43'38	1°27'38	
max. Earth dist.	3043 Jun 10 00:43	18°♊45'14	30.80970 AU	
morning rise	3043 Jun 25 12:06	19°♊19'47		
retrograde	3043 Sep 24 09:08	21°♊18'02		
opposition	3043 Dec 12 15:07	19°♊52'57	-1°32'47	
min. Earth dist.	3043 Dec 12 00:06	19°♊54'01	28.81305 AU	
direct	3044 Feb 28 03:07	18°♊29'02		
evening set	3044 May 25 19:27	20°♊23'10		
conjunction	3044 Jun 10 21:57	20°♊59'05	-1°25'55	
minimum elong	3044 Jun 10 21:57	20°♊59'06	1°25'54	
max. Earth dist.	3044 Jun 11 15:05	21°♊00'42	30.81449 AU	
morning rise	3044 Jun 27 02:35	21°♊35'15		
retrograde	3044 Sep 25 22:42	23°♊33'24		
min. Earth dist.	3044 Dec 13 11:45	22°♊09'25	28.81732 AU	
opposition	3044 Dec 14 02:29	22°♊08'23	-1°30'53	
direct	3045 Mar 01 16:38	20°♊44'26		
evening set	3045 May 28 09:18	22°♊38'37		
conjunction	3045 Jun 13 12:03	23°♊14'34	-1°24'05	
minimum elong	3045 Jun 13 12:03	23°♊14'34	1°24'05	
max. Earth dist.	3045 Jun 14 03:03	23°♊15'58	30.81840 AU	
morning rise	3045 Jun 29 17:09	23°♊50'44		
retrograde	3045 Sep 28 13:30	25°♊48'46		
opposition	3045 Dec 16 13:49	24°♊23'47	-1°28'51	
min. Earth dist.	3045 Dec 16 00:02	24°♊24'45	28.82087 AU	
direct	3046 Mar 04 05:09	22°♊59'47		
evening set	3046 May 30 22:59	24°♊54'00		
conjunction	3046 Jun 16 02:19	25°♊29'59	-1°22'07	
minimum elong	3046 Jun 16 02:19	25°♊29'59	1°22'06	
max. Earth dist.	3046 Jun 16 17:33	25°♊31'25	30.82164 AU	
morning rise	3046 Jul 02 07:34	26°♊06'10		
retrograde	3046 Oct 01 01:03	28°♊04'04		
opposition	3046 Dec 19 01:04	26°♊39'06	-1°26'42	
min. Earth dist.	3046 Dec 18 12:14	26°♊40'00	28.82380 AU	
direct	3047 Mar 06 18:05	25°♊15'03		
evening set	3047 Jun 02 12:39	27°♊09'17		
conjunction	3047 Jun 18 16:19	27°♊45'16	-1°20'02	
minimum elong	3047 Jun 18 16:20	27°♊45'16	1°20'02	
max. Earth dist.	3047 Jun 19 05:53	27°♊46'32	30.82463 AU	
morning rise	3047 Jul 04 22:05	28°♊21'28		
	3047 Aug 30 08:43	0°♋		

retrograde	3047 Oct	03	15:08	0°♒19'12	
	3047 Nov	07	03:30	30°℞♊	
opposition	3047 Dec	21	12:11	28°♊54'16	-1°24'24
min. Earth dist.	3047 Dec	20	23:35	28°♊55'09	28.82675 AU
direct	3048 Mar	08	06:15	27°♊30'08	
evening set	3048 Jun	04	02:26	29°♊24'23	
conjunction	3048 Jun	20	06:34	0°♒00'25	-1°17'50
minimum elong	3048 Jun	20	06:34	0°♒00'25	1°17'49
	3048 Jun	20	02:12	0°♒	
max. Earth dist.	3048 Jun	20	20:07	0°♒01'41	30.82765 AU
morning rise	3048 Jul	06	12:30	0°♒36'37	
retrograde	3048 Oct	05	02:54	2°♒34'11	
opposition	3048 Dec	22	23:12	1°♒09'16	-1°21'59
min. Earth dist.	3048 Dec	22	12:01	1°♒10'03	28.83000 AU
	3049 Feb	08	18:54	30°℞♊	
direct	3049 Mar	10	17:51	29°♊45'04	
	3049 Apr	09	07:26	0°♒	
evening set	3049 Jun	06	16:09	1°♒39'20	
conjunction	3049 Jun	22	20:39	2°♒15'22	-1°15'31
minimum elong	3049 Jun	22	20:40	2°♒15'22	1°15'31
max. Earth dist.	3049 Jun	23	09:12	2°♒16'33	30.83140 AU
morning rise	3049 Jul	09	02:55	2°♒51'35	
retrograde	3049 Oct	07	15:40	4°♒49'00	
opposition	3049 Dec	25	10:07	3°♒24'06	-1°19'27
min. Earth dist.	3049 Dec	24	22:27	3°♒24'56	28.83417 AU
direct	3050 Mar	13	05:35	1°♒59'50	
evening set	3050 Jun	09	05:43	3°♒54'08	
conjunction	3050 Jun	25	10:32	4°♒30'10	-1°13'05
minimum elong	3050 Jun	25	10:33	4°♒30'10	1°13'04
max. Earth dist.	3050 Jun	25	22:35	4°♒31'18	30.83610 AU
morning rise	3050 Jul	11	17:03	5°♒06'23	
retrograde	3050 Oct	10	01:46	7°♒03'40	
opposition	3050 Dec	27	21:08	5°♒38'47	-1°16'47
min. Earth dist.	3050 Dec	27	10:52	5°♒39'31	28.83956 AU
direct	3051 Mar	15	16:33	4°♒14'28	
evening set	3051 Jun	11	19:21	6°♒08'47	
conjunction	3051 Jun	28	00:39	6°♒44'51	-1°10'33
minimum elong	3051 Jun	28	00:39	6°♒44'51	1°10'33
max. Earth dist.	3051 Jun	28	12:36	6°♒45'58	30.84230 AU
morning rise	3051 Jul	14	07:20	7°♒21'03	
retrograde	3051 Oct	12	14:12	9°♒18'11	
opposition	3051 Dec	30	07:50	7°♒53'22	-1°14'01
min. Earth dist.	3051 Dec	29	21:08	7°♒54'08	28.84642 AU
direct	3052 Mar	17	04:21	6°♒29'00	
evening set	3052 Jun	13	09:10	8°♒23'22	
conjunction	3052 Jun	29	14:41	8°♒59'26	-1°07'54
minimum elong	3052 Jun	29	14:41	8°♒59'26	1°07'54
max. Earth dist.	3052 Jun	30	01:24	9°♒00'26	30.84994 AU
morning rise	3052 Jul	15	21:43	9°♒35'39	
retrograde	3052 Oct	14	02:04	11°♒32'38	
opposition	3052 Dec	31	18:45	10°♒07'53	-1°11'07
min. Earth dist.	3052 Dec	31	09:16	10°♒08'34	28.85483 AU
direct	3053 Mar	19	14:19	8°♒43'29	
evening set	3053 Jun	15	22:48	10°♒37'55	
conjunction	3053 Jul	02	04:47	11°♒13'59	-1°05'08
minimum elong	3053 Jul	02	04:47	11°♒13'59	1°05'09
max. Earth dist.	3053 Jul	02	15:54	11°♒15'02	30.85907 AU
morning rise	3053 Jul	18	11:50	11°♒50'12	
retrograde	3053 Oct	16	14:04	13°♒47'04	
opposition	3054 Jan	03	05:28	12°♒22'24	-1°08'07
min. Earth dist.	3054 Jan	02	20:01	12°♒23'04	28.86444 AU
direct	3054 Mar	22	03:37	10°♒58'00	
evening set	3054 Jun	18	12:40	12°♒52'29	
conjunction	3054 Jul	04	18:47	13°♒28'35	-1°02'17
minimum elong	3054 Jul	04	18:47	13°♒28'35	1°02'17
max. Earth dist.	3054 Jul	05	04:07	13°♒29'27	30.86929 AU
morning rise	3054 Jul	21	02:12	14°♒04'47	
retrograde	3054 Oct	19	03:47	16°♒01'32	
opposition	3055 Jan	05	16:14	14°♒36'58	-1°05'01
min. Earth dist.	3055 Jan	05	07:35	14°♒37'34	28.87502 AU
direct	3055 Mar	24	15:14	13°♒12'34	
evening set	3055 Jun	21	02:27	15°♒07'07	
conjunction	3055 Jul	07	09:02	15°♒43'14	-0°59'20
minimum elong	3055 Jul	07	09:03	15°♒43'14	0°59'20
max. Earth dist.	3055 Jul	07	18:37	15°♒44'07	30.87997 AU
morning rise	3055 Jul	23	16:27	16°♒19'26	
retrograde	3055 Oct	21	15:39	18°♒16'03	
opposition	3056 Jan	08	03:02	16°♒51'35	-1°01'49
min. Earth dist.	3056 Jan	07	19:31	16°♒52'07	28.88554 AU
direct	3056 Mar	26	03:40	15°♒27'11	
evening set	3056 Jun	22	16:36	17°♒21'48	
conjunction	3056 Jul	08	23:18	17°♒57'55	-0°56'18
minimum elong	3056 Jul	08	23:18	17°♒57'55	0°56'17
max. Earth dist.	3056 Jul	09	06:47	17°♒58'36	30.89035 AU
morning rise	3056 Jul	25	06:59	18°♒34'07	
retrograde	3056 Oct	23	06:06	20°♒30'35	
opposition	3057 Jan	09	13:42	19°♒06'13	-0°58'31
min. Earth dist.	3057 Jan	09	06:42	19°♒06'43	28.89557 AU
direct	3057 Mar	28	16:05	17°♒41'47	
evening set	3057 Jun	25	06:38	19°♒36'28	
conjunction	3057 Jul	11	13:40	20°♒12'36	-0°53'10
minimum elong	3057 Jul	11	13:40	20°♒12'36	0°53'11
max. Earth dist.	3057 Jul	11	20:49	20°♒13'16	30.89988 AU
morning rise	3057 Jul	27	21:19	20°♒48'48	
retrograde	3057 Oct	25	17:57	22°♒45'07	
opposition	3058 Jan	12	00:35	21°♒20'48	-0°55'08
min. Earth dist.	3058 Jan	11	19:20	21°♒21'11	28.90461 AU
direct	3058 Mar	31	04:17	19°♒56'22	
evening set	3058 Jun	27	20:30	21°♒51'04	
conjunction	3058 Jul	14	03:45	22°♒27'12	-0°49'58
minimum elong	3058 Jul	14	03:45	22°♒27'12	0°49'58
max. Earth dist.	3058 Jul	14	09:15	22°♒27'42	30.90859 AU
morning rise	3058 Jul	30	11:36	23°♒03'24	
retrograde	3058 Oct	28	06:52	24°♒59'33	
opposition	3059 Jan	14	11:16	23°♒35'18	-0°51'40
min. Earth dist.	3059 Jan	14	06:00	23°♒35'41	28.91280 AU
direct	3059 Apr	02	16:51	22°♒10'48	
evening set	3059 Jun	30	10:32	24°♒05'32	
conjunction	3059 Jul	16	17:59	24°♒41'40	-0°46'42
minimum elong	3059 Jul	16	17:59	24°♒41'40	0°46'43
max. Earth dist.	3059 Jul	16	22:29	24°♒42'05	30.91639 AU
morning rise	3059 Aug	02	01:53	25°♒17'52	
retrograde	3059 Oct	30	17:23	27°♒13'51	
opposition	3060 Jan	16	21:53	25°♒49'39	-0°48'08
min. Earth dist.	3060 Jan	16	18:33	25°♒49'53	28.92035 AU
direct	3060 Apr	04	03:50	24°♒25'05	
evening set	3060 Jul	02	00:29	26°♒19'51	
conjunction	3060 Jul	18	08:12	26°♒55'59	-0°43'22
minimum elong	3060 Jul	18	08:12	26°♒55'59	0°43'22
max. Earth dist.	3060 Jul	18	11:55	26°♒56'20	30.92386 AU
morning rise	3060 Aug	03	16:07	27°♒32'10	

retrograde	3060 Nov 01	05:36	29°♋27'59		
opposition	3061 Jan 18	08:22	28°♋03'49	-0°44'32	
min. Earth dist.	3061 Jan 18	05:01	28°♋04'04	28.92763 AU	
direct	3061 Apr 06	15:54	26°♋39'12		
evening set	3061 Jul 04	14:22	28°♋34'00		
conjunction	3061 Jul 20	22:05	29°♋10'08	-0°39'58	
minimum elong	3061 Jul 20	22:05	29°♋10'08	0°39'58	
max. Earth dist.	3061 Jul 21	00:24	29°♋10'20	30.93117 AU	
morning rise	3061 Aug 06	06:04	29°♋46'17		
	3061 Aug 12	15:28	0°♌		
retrograde	3061 Nov 03	16:07	1°♌41'57		
opposition	3062 Jan 20	18:53	0°♌17'50	-0°40'52	
min. Earth dist.	3062 Jan 20	17:00	0°♌17'58	28.93518 AU	
	3062 Jan 31	08:22	30°℞♋		
direct	3062 Apr 09	01:59	28°♋53'09		
	3062 Jun 13	14:51	0°♌		
evening set	3062 Jul 07	04:04	0°♌47'58		
conjunction	3062 Jul 23	12:04	1°♌24'06	-0°36'31	
minimum elong	3062 Jul 23	12:04	1°♌24'06	0°36'30	
max. Earth dist.	3062 Jul 23	14:32	1°♌24'19	30.93904 AU	
morning rise	3062 Aug 08	19:56	2°♌00'14		
retrograde	3062 Nov 06	02:48	3°♌55'44		
opposition	3063 Jan 23	05:12	2°♌31'40	-0°37'09	
min. Earth dist.	3063 Jan 23	03:29	2°♌31'47	28.94334 AU	
direct	3063 Apr 11	15:11	1°♌06'56		
evening set	3063 Jul 09	17:54	3°♌01'48		
conjunction	3063 Jul 26	01:53	3°♌37'55	-0°33'00	
minimum elong	3063 Jul 26	01:53	3°♌37'55	0°33'00	
max. Earth dist.	3063 Jul 26	02:31	3°♌37'59	30.94771 AU	
morning rise	3063 Aug 11	09:54	4°♌14'02		
retrograde	3063 Nov 08	15:09	6°♌09'23		
opposition	3064 Jan 25	15:36	4°♌45'23	-0°33'23	
min. Earth dist.	3064 Jan 25	14:32	4°♌45'27	28.95260 AU	
direct	3064 Apr 13	02:34	3°♌20'36		
evening set	3064 Jul 11	07:37	5°♌15'31		
conjunction	3064 Jul 27	15:50	5°♌51'38	-0°29'27	
minimum elong	3064 Jul 27	15:50	5°♌51'38	0°29'27	
max. Earth dist.	3064 Jul 27	16:54	5°♌51'44	30.95751 AU	
morning rise	3064 Aug 12	23:35	6°♌27'44		
retrograde	3064 Nov 10	02:00	8°♌22'56		
opposition	3065 Jan 27	01:55	6°♌59'00	-0°29'34	
min. Earth dist.	3065 Jan 27	01:38	6°♌59'02	28.96296 AU	
direct	3065 Apr 15	14:30	5°♌34'13		
evening set	3065 Jul 13	21:26	7°♌29'12		
conjunction	3065 Jul 30	05:33	8°♌05'18	-0°25'52	
minimum elong	3065 Jul 30	05:33	8°♌05'18	0°25'52	
max. Earth dist.	3065 Jul 30	04:56	8°♌05'14	30.96863 AU	
morning rise	3065 Aug 15	13:24	8°♌41'23		
retrograde	3065 Nov 12	15:55	10°♌36'27		
opposition	3066 Jan 29	12:15	9°♌12'37	-0°25'42	
min. Earth dist.	3066 Jan 29	11:58	9°♌12'38	28.97468 AU	
direct	3066 Apr 18	03:07	7°♌47'50		
evening set	3066 Jul 16	10:59	9°♌42'52		
conjunction	3066 Aug 01	19:16	10°♌18'58	-0°22'14	
minimum elong	3066 Aug 01	19:16	10°♌18'58	0°22'14	
max. Earth dist.	3066 Aug 01	18:55	10°♌18'56	30.98081 AU	
morning rise	3066 Aug 18	02:53	10°♌55'02		
retrograde	3066 Nov 15	03:15	12°♌49'59		
opposition	3067 Jan 31	22:39	11°♌26'15	-0°21'47	
min. Earth dist.	3067 Jan 31	23:53	11°♌26'10	28.98719 AU	
direct	3067 Apr 20	15:29	10°♌01'30		
evening set	3067 Jul 19	00:50	11°♌56'36		
conjunction	3067 Aug 04	09:04	12°♌32'42	-0°18'34	
minimum elong	3067 Aug 04	09:04	12°♌32'42	0°18'34	
max. Earth dist.	3067 Aug 04	07:13	12°♌32'32	30.99363 AU	
morning rise	3067 Aug 20	16:41	13°♌08'45		
	3067 Nov 03	02:59	15°♌		
retrograde	3067 Nov 17	16:06	15°♌03'34		
	3067 Dec 02	03:54	15°℞♌		
opposition	3068 Feb 03	08:48	13°♌39'57	-0°17'51	
min. Earth dist.	3068 Feb 03	09:57	13°♌39'52	28.99998 AU	
direct	3068 Apr 22	03:59	12°♌15'12		
evening set	3068 Jul 20	14:45	14°♌10'23		
conjunction	3068 Aug 05	22:58	14°♌46'28	-0°14'52	
minimum elong	3068 Aug 05	22:58	14°♌46'28	0°14'52	
behind sun begin	3068 Aug 05	20:42	14°♌46'16		
behind sun end	3068 Aug 06	01:13	14°♌46'40		
max. Earth dist.	3068 Aug 05	20:17	14°♌46'14	31.00618 AU	
	3068 Aug 12	00:56	15°♌		
morning rise	3068 Aug 22	06:20	15°♌22'30		
retrograde	3068 Nov 19	03:16	17°♌17'12		
opposition	3069 Feb 04	19:16	15°♌53'40	-0°13'53	
min. Earth dist.	3069 Feb 04	22:22	15°♌53'27	29.01228 AU	
	3069 Mar 11	02:59	15°℞♌		
direct	3069 Apr 24	14:53	14°♌28'56		
	3069 Jun 07	08:41	15°♌		
evening set	3069 Jul 23	04:29	16°♌24'10		
conjunction	3069 Aug 08	12:40	17°♌00'14	-0°11'10	
minimum elong	3069 Aug 08	12:40	17°♌00'14	0°11'10	
behind sun begin	3069 Aug 08	07:50	16°♌59'49		
behind sun end	3069 Aug 08	17:29	17°♌00'40		
max. Earth dist.	3069 Aug 08	09:00	16°♌59'55	31.01807 AU	
morning rise	3069 Aug 24	19:50	17°♌36'14		
retrograde	3069 Nov 21	15:48	19°♌30'48		
opposition	3070 Feb 07	05:36	18°♌07'22	-0°09'55	
min. Earth dist.	3070 Feb 07	08:48	18°♌07'08	29.02358 AU	
direct	3070 Apr 27	03:04	16°♌42'36		
evening set	3070 Jul 25	18:22	18°♌37'52		
conjunction	3070 Aug 11	02:24	19°♌13'56	-0°07'27	
minimum elong	3070 Aug 11	02:23	19°♌13'56	0°07'27	
behind sun begin	3070 Aug 10	20:23	19°♌13'24		
behind sun end	3070 Aug 11	08:23	19°♌14'28		
max. Earth dist.	3070 Aug 10	21:04	19°♌13'28	31.02879 AU	
morning rise	3070 Aug 27	09:25	19°♌49'54		
retrograde	3070 Nov 24	01:30	21°♌44'20		
opposition	3071 Feb 09	15:56	20°♌20'57	-0°05'55	
min. Earth dist.	3071 Feb 09	20:53	20°♌20'36	29.03385 AU	
direct	3071 Apr 29	13:24	18°♌56'08		
evening set	3071 Jul 28	08:05	20°♌51'26		
conjunction	3071 Aug 13	16:11	21°♌27'28	-0°03'44	
minimum elong	3071 Aug 13	16:11	21°♌27'28	0°03'44	
behind sun begin	3071 Aug 13	09:39	21°♌26'53		
behind sun end	3071 Aug 13	22:43	21°♌28'03		
max. Earth dist.	3071 Aug 13	10:31	21°♌26'58	31.03852 AU	
morning rise	3071 Aug 29	22:55	22°♌03'25		
retrograde	3071 Nov 26	11:17	23°♌57'40		
opposition	3072 Feb 12	02:13	22°♌34'20	-0°01'56	
min. Earth dist.	3072 Feb 12	07:44	22°♌33'57	29.04297 AU	
direct	3072 May 01	02:26	21°♌09'29		
evening set	3072 Jul 29	21:54	23°♌04'47		
asc. node	3072 Aug 08	00:49	23°♌24'48		
conjunction	3072 Aug 15	05:43	23°♌40'48	0°00'05	

minimum elong	3072 Aug 15	05:42	23°♌40'48	0°00'05
behind sun begin	3072 Aug 14	23:29	23°♌40'15	
behind sun end	3072 Aug 15	11:55	23°♌41'21	
max. Earth dist.	3072 Aug 14	21:54	23°♌40'06	31.04725 AU
morning rise	3072 Aug 31	12:18	24°♌16'43	
retrograde	3072 Nov 27	22:31	26°♌10'49	
opposition	3073 Feb 13	12:26	24°♌47'30	0°02'03
min. Earth dist.	3073 Feb 13	18:52	24°♌47'03	29.05146 AU
direct	3073 May 03	13:06	23°♌22'34	
evening set	3073 Aug 01	11:24	25°♌17'54	
conjunction	3073 Aug 17	19:14	25°♌53'53	0°03'52
minimum elong	3073 Aug 17	19:15	25°♌53'53	0°03'52
behind sun begin	3073 Aug 17	12:43	25°♌53'19	
behind sun end	3073 Aug 18	01:46	25°♌54'28	
max. Earth dist.	3073 Aug 17	11:38	25°♌53'12	31.05550 AU
morning rise	3073 Sep 03	01:24	26°♌29'46	
retrograde	3073 Nov 30	08:12	28°♌23'42	
opposition	3074 Feb 15	22:39	27°♌00'25	0°06'02
min. Earth dist.	3074 Feb 16	06:08	26°♌59'53	29.05960 AU
direct	3074 May 06	01:13	25°♌35'26	
evening set	3074 Aug 04	00:50	27°♌30'45	
conjunction	3074 Aug 20	08:22	28°♌06'42	0°07'34
minimum elong	3074 Aug 20	08:21	28°♌06'42	0°07'35
behind sun begin	3074 Aug 20	02:23	28°♌06'11	
behind sun end	3074 Aug 20	14:19	28°♌07'14	
max. Earth dist.	3074 Aug 19	22:55	28°♌05'51	31.06373 AU
morning rise	3074 Sep 05	14:26	28°♌42'33	
	3074 Oct 16	19:31	0°♍	
retrograde	3074 Dec 02	20:22	0°♍36'20	
	3075 Jan 19	20:20	30°℞♌	
opposition	3075 Feb 18	08:44	29°♌13'04	0°10'00
min. Earth dist.	3075 Feb 18	16:19	29°♌12'32	29.06799 AU
direct	3075 May 08	14:05	27°♌48'00	
evening set	3075 Aug 06	14:12	29°♌43'21	
	3075 Aug 14	04:58	0°♍	
conjunction	3075 Aug 22	21:40	0°♍19'17	0°11'15
minimum elong	3075 Aug 22	21:40	0°♍19'17	0°11'15
behind sun begin	3075 Aug 22	16:53	0°♍18'52	
behind sun end	3075 Aug 23	02:27	0°♍19'42	
max. Earth dist.	3075 Aug 22	12:32	0°♍18'27	31.07228 AU
morning rise	3075 Sep 08	03:16	0°♍55'04	
retrograde	3075 Dec 05	06:15	2°♍48'43	
opposition	3076 Feb 20	18:51	1°♍25'28	0°13'56
min. Earth dist.	3076 Feb 21	03:51	1°♍24'50	29.07694 AU
direct	3076 May 10	02:33	0°♍00'22	
evening set	3076 Aug 08	03:33	1°♍55'45	
conjunction	3076 Aug 24	10:42	2°♍31'38	0°14'56
minimum elong	3076 Aug 24	10:42	2°♍31'38	0°14'55
behind sun begin	3076 Aug 24	08:29	2°♍31'27	
behind sun end	3076 Aug 24	12:55	2°♍31'50	
max. Earth dist.	3076 Aug 24	00:21	2°♍30'42	31.08177 AU
morning rise	3076 Sep 09	16:05	3°♍07'24	
retrograde	3076 Dec 06	18:21	5°♍00'54	
opposition	3077 Feb 22	04:54	3°♍37'42	0°17'51
min. Earth dist.	3077 Feb 22	13:17	3°♍37'07	29.08699 AU
direct	3077 May 12	15:17	2°♍12'35	
evening set	3077 Aug 10	16:37	4°♍07'59	
conjunction	3077 Aug 26	23:33	4°♍43'51	0°18'35
minimum elong	3077 Aug 26	23:33	4°♍43'51	0°18'34
max. Earth dist.	3077 Aug 26	13:04	4°♍42'54	31.09235 AU
morning rise	3077 Sep 12	04:29	5°♍19'34	
retrograde	3077 Dec 09	04:57	7°♍12'58	
opposition	3078 Feb 24	15:08	5°♍49'50	0°21'45
min. Earth dist.	3078 Feb 25	00:49	5°♍49'09	29.09830 AU
direct	3078 May 15	02:29	4°♍24'44	
evening set	3078 Aug 13	05:46	6°♍20'10	
conjunction	3078 Aug 29	12:28	6°♍56'01	0°22'12
minimum elong	3078 Aug 29	12:28	6°♍56'01	0°22'12
max. Earth dist.	3078 Aug 29	01:32	6°♍55'01	31.10432 AU
morning rise	3078 Sep 14	17:04	7°♍31'42	
retrograde	3078 Dec 11	16:44	9°♍24'59	
opposition	3079 Feb 27	01:02	8°♍01'58	0°25'36
min. Earth dist.	3079 Feb 27	10:24	8°♍01'18	29.11069 AU
direct	3079 May 17	14:44	6°♍36'52	
evening set	3079 Aug 15	19:01	8°♍32'23	
conjunction	3079 Sep 01	01:22	9°♍08'12	0°25'48
minimum elong	3079 Sep 01	01:22	9°♍08'12	0°25'48
max. Earth dist.	3079 Aug 31	13:25	9°♍07'06	31.11707 AU
morning rise	3079 Sep 17	05:37	9°♍43'51	
retrograde	3079 Dec 14	02:33	11°♍37'04	
opposition	3080 Feb 29	11:12	10°♍14'09	0°29'26
min. Earth dist.	3080 Feb 29	21:53	10°♍13'24	29.12375 AU
direct	3080 May 19	00:45	8°♍49'06	
evening set	3080 Aug 17	08:09	10°♍44'40	
conjunction	3080 Sep 02	14:16	11°♍20'28	0°29'21
minimum elong	3080 Sep 02	14:16	11°♍20'28	0°29'21
max. Earth dist.	3080 Sep 02	02:25	11°♍19'22	31.13011 AU
morning rise	3080 Sep 18	17:59	11°♍56'05	
retrograde	3080 Dec 15	12:07	13°♍49'12	
opposition	3081 Mar 02	21:21	12°♍26'24	0°33'12
min. Earth dist.	3081 Mar 03	08:25	12°♍25'37	29.13660 AU
direct	3081 May 21	12:51	11°♍01'23	
evening set	3081 Aug 19	21:25	12°♍57'01	
conjunction	3081 Sep 05	03:03	13°♍32'48	0°32'51
minimum elong	3081 Sep 05	03:02	13°♍32'48	0°32'52
max. Earth dist.	3081 Sep 04	13:19	13°♍31'32	31.14268 AU
morning rise	3081 Sep 21	06:27	14°♍08'22	
retrograde	3081 Dec 17	23:25	16°♍01'26	
opposition	3082 Mar 05	07:32	14°♍38'43	0°36'56
min. Earth dist.	3082 Mar 05	19:20	14°♍37'53	29.14892 AU
direct	3082 May 23	22:25	13°♍13'43	
evening set	3082 Aug 22	10:24	15°♍09'24	
conjunction	3082 Sep 07	15:53	15°♍45'09	0°36'19
minimum elong	3082 Sep 07	15:52	15°♍45'09	0°36'19
max. Earth dist.	3082 Sep 07	02:17	15°♍43'53	31.15440 AU
morning rise	3082 Sep 23	18:42	16°♍20'41	
retrograde	3082 Dec 20	08:45	18°♍13'40	
opposition	3083 Mar 07	17:50	16°♍51'01	0°40'36
min. Earth dist.	3083 Mar 08	06:52	16°♍50'07	29.16003 AU
direct	3083 May 26	10:03	15°♍26'02	
evening set	3083 Aug 24	23:39	17°♍21'46	
conjunction	3083 Sep 10	04:35	17°♍57'28	0°39'43
minimum elong	3083 Sep 10	04:35	17°♍57'28	0°39'43
max. Earth dist.	3083 Sep 09	12:56	17°♍56'01	31.16493 AU
morning rise	3083 Sep 26	07:06	18°♍32'58	
retrograde	3083 Dec 22	20:31	20°♍25'51	
opposition	3084 Mar 09	03:57	19°♍03'15	0°44'12
min. Earth dist.	3084 Mar 09	17:12	19°♍02'20	29.17004 AU
direct	3084 May 27	22:38	17°♍38'15	
evening set	3084 Aug 26	12:39	19°♍34'01	
conjunction	3084 Sep 11	17:20	20°♍09'41	0°43'04
minimum elong	3084 Sep 11	17:20	20°♍09'41	0°43'03

max. Earth dist.	3084 Sep 11	01:48	20°♑08'15	31.17430 AU
morning rise	3084 Sep 27	19:12	20°♑45'08	
retrograde	3084 Dec 24	06:03	22°♑37'56	
opposition	3085 Mar 11	14:19	21°♑15'22	0°47'44
min. Earth dist.	3085 Mar 12	05:11	21°♑14'20	29.17896 AU
direct	3085 May 30	10:46	19°♑50'21	
evening set	3085 Aug 29	01:27	21°♑46'07	
conjunction	3085 Sep 14	05:38	22°♑21'44	0°46'20
minimum elong	3085 Sep 14	05:37	22°♑21'44	0°46'20
max. Earth dist.	3085 Sep 13	12:43	22°♑20'11	31.18285 AU
morning rise	3085 Sep 30	07:10	22°♑57'09	
retrograde	3085 Dec 26	17:47	24°♑49'50	
opposition	3086 Mar 14	00:27	23°♑27'18	0°51'12
min. Earth dist.	3086 Mar 14	14:56	23°♑26'18	29.18718 AU
direct	3086 Jun 01	23:39	22°♑02'15	
evening set	3086 Aug 31	14:12	23°♑58'01	
conjunction	3086 Sep 16	18:02	24°♑33'37	0°49'32
minimum elong	3086 Sep 16	18:02	24°♑33'37	0°49'32
max. Earth dist.	3086 Sep 16	00:48	24°♑32'01	31.19075 AU
morning rise	3086 Oct 02	19:00	25°♑08'58	
retrograde	3086 Dec 29	04:21	27°♑01'33	
opposition	3087 Mar 16	10:35	25°♑39'02	0°54'35
min. Earth dist.	3087 Mar 17	02:37	25°♑37'55	29.19507 AU
direct	3087 Jun 04	11:51	24°♑13'57	
evening set	3087 Sep 03	02:53	26°♑09'43	
conjunction	3087 Sep 19	06:17	26°♑45'16	0°52'40
minimum elong	3087 Sep 19	06:17	26°♑45'16	0°52'40
max. Earth dist.	3087 Sep 18	12:34	26°♑43'37	31.19866 AU
morning rise	3087 Oct 05	06:47	27°♑20'34	
retrograde	3087 Dec 31	15:30	29°♑13'02	
opposition	3088 Mar 17	20:43	27°♑50'32	0°57'53
min. Earth dist.	3088 Mar 18	12:21	27°♑49'27	29.20306 AU
direct	3088 Jun 06	01:33	26°♑25'25	
evening set	3088 Sep 04	15:24	28°♑21'11	
conjunction	3088 Sep 20	18:16	28°♑56'41	0°55'43
minimum elong	3088 Sep 20	18:16	28°♑56'41	0°55'43
max. Earth dist.	3088 Sep 19	23:51	28°♑54'59	31.20684 AU
morning rise	3088 Oct 06	18:14	29°♑31'57	
	3088 Oct 20	02:57	0°♎	
retrograde	3089 Jan 02	00:32	1°♎24'20	
opposition	3089 Mar 20	06:58	0°♎01'51	1°01'06
min. Earth dist.	3089 Mar 20	23:26	0°♎00'42	29.21180 AU
	3089 Mar 21	09:28	30℞♑	
direct	3089 Jun 08	12:10	28°♑36'43	
	3089 Aug 22	13:30	0°♎	
evening set	3089 Sep 07	03:44	0°♎32'29	
conjunction	3089 Sep 23	06:15	1°♎07'56	0°58'41
minimum elong	3089 Sep 23	06:15	1°♎07'56	0°58'42
max. Earth dist.	3089 Sep 22	12:26	1°♎06'18	31.21604 AU
morning rise	3089 Oct 09	05:37	1°♎43'09	
retrograde	3090 Jan 04	09:29	3°♎35'26	
opposition	3090 Mar 22	17:08	2°♎13'00	1°04'13
min. Earth dist.	3090 Mar 23	09:29	2°♎11'52	29.22152 AU
direct	3090 Jun 11	00:32	0°♎47'53	
evening set	3090 Sep 09	16:06	2°♎43'39	
conjunction	3090 Sep 25	18:02	3°♎19'05	1°01'34
minimum elong	3090 Sep 25	18:02	3°♎19'05	1°01'34
max. Earth dist.	3090 Sep 24	23:01	3°♎17'19	31.22633 AU
morning rise	3090 Oct 11	17:01	3°♎54'15	
retrograde	3091 Jan 06	20:13	5°♎46'28	
opposition	3091 Mar 25	03:20	4°♎24'06	1°07'15
min. Earth dist.	3091 Mar 25	19:44	4°♎22'57	29.23242 AU
direct	3091 Jun 13	10:07	2°♎58'59	
evening set	3091 Sep 12	04:21	4°♎54'47	
max. Earth dist.	3091 Sep 27	11:45	5°♎28'29	31.23758 AU
conjunction	3091 Sep 28	05:57	5°♎30'10	1°04'22
minimum elong	3091 Sep 28	05:57	5°♎30'10	1°04'22
morning rise	3091 Oct 14	04:13	6°♎05'18	
retrograde	3092 Jan 09	04:30	7°♎57'29	
opposition	3092 Mar 26	13:36	6°♎35'11	1°10'11
min. Earth dist.	3092 Mar 27	06:46	6°♎33'59	29.24392 AU
direct	3092 Jun 14	21:41	5°♎10'08	
evening set	3092 Sep 13	16:42	7°♎05'57	
conjunction	3092 Sep 29	17:38	7°♎41'18	1°07'04
minimum elong	3092 Sep 29	17:38	7°♎41'18	1°07'04
max. Earth dist.	3092 Sep 28	22:03	7°♎39'29	31.24928 AU
morning rise	3092 Oct 15	15:32	8°♎16'24	
retrograde	3093 Jan 10	15:30	10°♎08'32	
opposition	3093 Mar 28	23:56	8°♎46'19	1°13'01
min. Earth dist.	3093 Mar 29	16:46	8°♎45'09	29.25567 AU
direct	3093 Jun 17	08:41	7°♎21'18	
evening set	3093 Sep 16	04:43	9°♎17'10	
max. Earth dist.	3093 Oct 01	10:17	9°♎50'43	31.26071 AU
conjunction	3093 Oct 02	05:17	9°♎52'29	1°09'40
minimum elong	3093 Oct 02	05:17	9°♎52'29	1°09'40
morning rise	3093 Oct 18	02:29	10°♎27'32	
retrograde	3094 Jan 13	00:50	12°♎19'39	
opposition	3094 Mar 31	10:26	10°♎57'30	1°15'45
min. Earth dist.	3094 Apr 01	04:44	10°♎56'13	29.26679 AU
direct	3094 Jun 19	19:32	9°♎32'32	
evening set	3094 Sep 18	17:00	11°♎28'25	
conjunction	3094 Oct 04	16:57	12°♎03'41	1°12'10
minimum elong	3094 Oct 04	16:56	12°♎03'41	1°12'09
max. Earth dist.	3094 Oct 03	20:43	12°♎01'49	31.27135 AU
morning rise	3094 Oct 20	13:43	12°♎38'42	
retrograde	3095 Jan 15	12:24	14°♎30'47	
opposition	3095 Apr 02	20:44	13°♎08'42	1°18'21
min. Earth dist.	3095 Apr 03	14:37	13°♎07'27	29.27684 AU
direct	3095 Jun 22	08:02	11°♎43'45	
evening set	3095 Sep 21	05:14	13°♎39'41	
max. Earth dist.	3095 Oct 06	08:07	14°♎13'00	31.28062 AU
conjunction	3095 Oct 07	04:42	14°♎14'54	1°14'34
minimum elong	3095 Oct 07	04:42	14°♎14'54	1°14'34
morning rise	3095 Oct 23	00:49	14°♎49'52	
retrograde	3096 Jan 17	23:09	16°♎41'56	
opposition	3096 Apr 04	07:24	15°♎19'53	1°20'51
min. Earth dist.	3096 Apr 05	02:47	15°♎18'32	29.28553 AU
direct	3096 Jun 23	20:04	13°♎54'58	
evening set	3096 Sep 22	17:16	15°♎50'54	
conjunction	3096 Oct 08	16:11	16°♎26'05	1°16'51
minimum elong	3096 Oct 08	16:11	16°♎26'05	1°16'50
max. Earth dist.	3096 Oct 07	19:06	16°♎24'08	31.28857 AU
morning rise	3096 Oct 24	11:46	17°♎01'00	
retrograde	3097 Jan 19	10:05	18°♎53'01	
opposition	3097 Apr 06	17:58	17°♎31'00	1°23'14
min. Earth dist.	3097 Apr 07	13:05	17°♎29'41	29.29271 AU
direct	3097 Jun 26	09:53	16°♎06'06	
evening set	3097 Sep 25	05:19	18°♎02'02	
max. Earth dist.	3097 Oct 10	05:37	18°♎35'08	31.29504 AU
conjunction	3097 Oct 11	03:39	18°♎37'11	1°19'01
minimum elong	3097 Oct 11	03:39	18°♎37'11	1°19'02

morning rise	3097 Oct	26	22:42	19°♎12'04	
retrograde	3098 Jan	21	19:45	21°♎04'02	
opposition	3098 Apr	09	04:30	19°♎42'02	1°25'30
min. Earth dist.	3098 Apr	10	00:40	19°♎40'38	29.29872 AU
direct	3098 Jun	28	20:41	18°♎17'08	
evening set	3098 Sep	27	17:07	20°♎13'02	
conjunction	3098 Oct	13	15:04	20°♎48'09	1°21'05
minimum elong	3098 Oct	13	15:04	20°♎48'09	1°21'05
max. Earth dist.	3098 Oct	12	17:25	20°♎46'09	31.30045 AU
morning rise	3098 Oct	29	09:31	21°♎22'59	
retrograde	3099 Jan	24	04:39	23°♎14'54	
opposition	3099 Apr	11	15:05	21°♎52'55	1°27'38
min. Earth dist.	3099 Apr	12	11:27	21°♎51'31	29.30357 AU
direct	3099 Jul	01	09:51	20°♎28'01	
evening set	3099 Sep	30	04:57	22°♎23'54	
max. Earth dist.	3099 Oct	15	03:17	22°♎56'51	31.30495 AU
conjunction	3099 Oct	16	02:13	22°♎58'59	1°23'01
minimum elong	3099 Oct	16	02:12	22°♎58'59	1°23'02
morning rise	3099 Oct	31	20:13	23°♎33'47	
retrograde	3100 Jan	26	15:07	25°♎25'39	
opposition	3100 Apr	14	01:37	24°♎03'40	1°29'39
min. Earth dist.	3100 Apr	14	21:59	24°♎02'15	29.30797 AU
direct	3100 Jul	03	20:08	22°♎38'44	
evening set	3100 Oct	02	16:27	24°♎34'37	
conjunction	3100 Oct	18	13:21	25°♎09'39	1°24'50
minimum elong	3100 Oct	18	13:20	25°♎09'39	1°24'50
max. Earth dist.	3100 Oct	17	15:25	25°♎07'36	31.30922 AU
morning rise	3100 Nov	03	06:39	25°♎44'24	
retrograde	3101 Jan	28	22:47	27°♎36'14	
opposition	3101 Apr	16	12:19	26°♎14'15	1°31'32
min. Earth dist.	3101 Apr	17	09:14	26°♎12'49	29.31235 AU
direct	3101 Jul	06	08:11	24°♎49'19	
evening set	3101 Oct	05	03:50	26°♎45'10	
max. Earth dist.	3101 Oct	20	01:11	27°♎18'02	31.31385 AU
conjunction	3101 Oct	21	00:02	27°♎20'10	1°26'32
minimum elong	3101 Oct	21	00:02	27°♎20'10	1°26'33
morning rise	3101 Nov	05	17:00	27°♎54'53	