retrograde	2600 Feb 01 09:40	23°♎23'33	
opposition	2600 Apr 09 21:58	20°♎02'37	2°43'14
min. Earth dist.	2600 Apr 09 20:29	20°♎02'55	8.55093 AU
direct	2600 Jun 18 19:27	16°♎36'25	
evening set	2600 Oct 02 15:00	24°♎20'57	
conjunction	2600 Oct 19 20:41	26°♎27'18	2°13'54
minimum elong	2600 Oct 19 20:41	26°♎27'18	2°13'53
max. Earth dist.	2600 Oct 19 21:50	26°♎27'39	10.60280 AU
morning rise	2600 Nov 05 21:41	28°♎32'16	
	2600 Nov 18 07:14	0°♏	
retrograde	2601 Feb 13 21:49	5°♏53'01	
opposition	2601 Apr 22 20:39	2°♏33'08	2°44'46
min. Earth dist.	2601 Apr 22 20:26	2°♏33'10	8.65627 AU
	2601 May 30 08:19	30°℞♎	
direct	2601 Jul 02 04:11	29°♎07'59	
	2601 Aug 03 17:47	0°♏	
evening set	2601 Oct 15 11:50	6°♏44'41	
conjunction	2601 Nov 01 13:37	8°♏48'37	2°12'15
minimum elong	2601 Nov 01 13:38	8°♏48'37	2°12'15
max. Earth dist.	2601 Nov 01 13:22	8°♏48'33	10.70560 AU
morning rise	2601 Nov 18 11:10	10°♏51'19	
	2601 Dec 26 16:18	15°♏	
retrograde	2602 Feb 26 04:53	18°♏05'33	
	2602 May 02 15:49	15°℞♏	
opposition	2602 May 05 14:36	14°♏46'31	2°38'45
min. Earth dist.	2602 May 05 15:11	14°♏46'24	8.75547 AU
direct	2602 Jul 15 06:45	11°♏22'28	
	2602 Sep 22 12:34	15°♏	
evening set	2602 Oct 27 23:05	18°♏51'22	
conjunction	2602 Nov 13 21:40	20°♏53'16	2°04'43
minimum elong	2602 Nov 13 21:42	20°♏53'16	2°04'43
max. Earth dist.	2602 Nov 13 20:28	20°♏52'54	10.80017 AU
morning rise	2602 Nov 30 16:37	22°♏54'03	
	2603 Mar 02 21:42	0°♐	
retrograde	2603 Mar 10 06:40	0°♐02'49	
	2603 Mar 17 16:38	30°℞♏	
opposition	2603 May 18 04:03	26°♏44'23	2°25'57
min. Earth dist.	2603 May 18 04:43	26°♏44'15	8.84422 AU
direct	2603 Jul 28 02:05	23°♏21'26	
	2603 Nov 02 21:50	0°♐	
evening set	2603 Nov 09 02:08	0°♐43'01	
conjunction	2603 Nov 25 22:22	2°♐43'14	1°51'56
minimum elong	2603 Nov 25 22:24	2°♐43'15	1°51'57
max. Earth dist.	2603 Nov 25 21:07	2°♐42'52	10.88252 AU
morning rise	2603 Dec 12 15:20	4°♐42'30	
retrograde	2604 Mar 21 05:40	11°♐47'01	
opposition	2604 May 29 13:31	8°♐28'59	2°07'15
min. Earth dist.	2604 May 29 14:06	8°♐28'52	8.91894 AU
direct	2604 Aug 08 16:13	5°♐07'04	
evening set	2604 Nov 19 22:25	12°♐22'10	
conjunction	2604 Dec 06 16:51	14°♐21'04	1°34'42
minimum elong	2604 Dec 06 16:53	14°♐21'04	1°34'42
max. Earth dist.	2604 Dec 06 15:47	14°♐20'45	10.94936 AU
morning rise	2604 Dec 23 08:29	16°♐19'12	
retrograde	2605 Apr 02 03:54	23°♐20'49	
opposition	2605 Jun 10 20:14	20°♐03'00	1°43'39
min. Earth dist.	2605 Jun 10 21:31	20°♐02'45	8.97681 AU
direct	2605 Aug 20 23:34	16°♐42'03	
evening set	2605 Dec 01 13:22	23°♐51'39	

conjunction	2605 Dec 18 06:21	25°♐49'37	1°13'49
minimum elong	2605 Dec 18 06:23	25°♐49'38	1°13'49
max. Earth dist.	2605 Dec 18 04:22	25°♐49'02	10.99826 AU
morning rise	2606 Jan 03 21:24	27°♐47'03	
	2606 Jan 23 18:27	0°♑	
retrograde	2606 Apr 13 22:03	4°♑47'12	
opposition	2606 Jun 23 00:56	1°♑29'24	1°16'12
min. Earth dist.	2606 Jun 23 03:04	1°♑29'00	9.01583 AU
	2606 Jul 13 21:45	30°℞♐	
direct	2606 Sep 02 02:04	28°♐09'17	
	2606 Oct 20 16:37	0°♑	
evening set	2606 Dec 13 00:42	5°♑14'39	
conjunction	2606 Dec 29 16:44	7°♑12'03	0°50'10
minimum elong	2606 Dec 29 16:46	7°♑12'03	0°50'10
max. Earth dist.	2606 Dec 29 13:45	7°♑11'10	11.02755 AU
morning rise	2607 Jan 15 07:49	9°♑09'09	
retrograde	2607 Apr 25 17:54	16°♑09'21	
opposition	2607 Jul 05 04:14	12°♑51'20	0°45'56
min. Earth dist.	2607 Jul 05 06:38	12°♑50'53	9.03462 AU
direct	2607 Sep 14 03:35	9°♑31'54	
evening set	2607 Dec 24 09:56	16°♑34'24	
conjunction	2608 Jan 10 01:36	18°♑31'36	0°24'38
minimum elong	2608 Jan 10 01:37	18°♑31'36	0°24'37
max. Earth dist.	2608 Jan 09 22:52	18°♑30'48	11.03604 AU
morning rise	2608 Jan 26 16:57	20°♑28'43	
retrograde	2608 May 06 15:53	27°♑30'30	
opposition	2608 Jul 16 07:23	24°♑12'03	0°13'56
min. Earth dist.	2608 Jul 16 09:13	24°♑11'43	9.03232 AU
direct	2608 Sep 25 01:14	20°♑53'10	
desc. node	2608 Dec 24 10:05	26°♑43'31	
evening set	2609 Jan 03 18:49	27°♑54'12	
conjunction	2609 Jan 20 10:24	29°♑51'31	-0°01'58
minimum elong	2609 Jan 20 10:24	29°♑51'31	0°01'58
behind sun begin	2609 Jan 20 03:25	29°♑49'29	
behind sun end	2609 Jan 20 17:22	29°♑53'33	
max. Earth dist.	2609 Jan 20 08:07	29°♑50'54	11.02326 AU
	2609 Jan 21 15:06	0°♒	
morning rise	2609 Feb 06 02:18	1°♒49'00	
retrograde	2609 May 18 16:33	8°♒53'52	
opposition	2609 Jul 28 11:28	5°♒34'48	-0°18'43
min. Earth dist.	2609 Jul 28 13:14	5°♒34'29	9.00901 AU
direct	2609 Oct 06 21:34	2°♒16'16	
evening set	2610 Jan 15 05:09	9°♒17'18	
conjunction	2610 Jan 31 20:48	11°♒15'05	-0°28'30
minimum elong	2610 Jan 31 20:47	11°♒15'04	0°28'29
max. Earth dist.	2610 Jan 31 17:57	11°♒14'14	10.98978 AU
morning rise	2610 Feb 17 13:46	13°♒13'16	
	2610 Mar 05 08:14	15°♒	
retrograde	2610 May 30 20:47	20°♒22'38	
opposition	2610 Aug 09 17:24	17°♒02'46	-0°50'53
min. Earth dist.	2610 Aug 09 19:44	17°♒02'20	8.96568 AU
	2610 Sep 08 10:20	15°℞♒	
direct	2610 Oct 18 17:42	13°♒44'20	
	2610 Nov 26 23:53	15°♒	
evening set	2611 Jan 26 18:14	20°♒46'52	
conjunction	2611 Feb 12 10:23	22°♒45'25	-0°54'09
minimum elong	2611 Feb 12 10:22	22°♒45'25	0°54'08
max. Earth dist.	2611 Feb 12 06:59	22°♒44'24	10.93688 AU
morning rise	2611 Mar 01 04:48	24°♒44'39	
	2611 Apr 22 17:04	0°♓	

retrograde	2611 Jun 12 04:28	1°♓59'51		
	2611 Aug 03 11:17	30°♑℞		
opposition	2611 Aug 22 01:57	28°♒38'59	-1°21'22	
min. Earth dist.	2611 Aug 22 04:29	28°♒38'31	8.90387 AU	
direct	2611 Oct 30 16:06	25°♒20'26		
	2612 Jan 16 20:56	0°♓		
evening set	2612 Feb 07 11:40	2°♓25'55		
conjunction	2612 Feb 24 04:50	4°♓25'36	-1°17'52	
minimum elong	2612 Feb 24 04:48	4°♓25'35	1°17'52	
max. Earth dist.	2612 Feb 24 02:12	4°♓24'48	10.86638 AU	
morning rise	2612 Mar 12 00:50	6°♓26'08		
retrograde	2612 Jun 23 19:27	13°♓48'21		
opposition	2612 Sep 02 13:52	10°♓26'22	-1°48'59	
min. Earth dist.	2612 Sep 02 15:41	10°♓26'01	8.82581 AU	
direct	2612 Nov 10 18:08	7°♓07'30		
evening set	2613 Feb 18 10:49	14°♓17'14		
conjunction	2613 Mar 07 05:31	16°♓18'23	-1°38'39	
minimum elong	2613 Mar 07 05:28	16°♓18'22	1°38'39	
max. Earth dist.	2613 Mar 07 03:50	16°♓17'52	10.78102 AU	
morning rise	2613 Mar 24 03:28	18°♓20'34		
retrograde	2613 Jul 06 17:12	25°♓50'40		
opposition	2613 Sep 15 06:07	22°♓27'27	-2°12'25	
min. Earth dist.	2613 Sep 15 07:04	22°♓27'16	8.73455 AU	
direct	2613 Nov 22 21:38	19°♓08'04		
evening set	2614 Mar 02 16:56	26°♓23'15		
conjunction	2614 Mar 19 13:36	28°♓26'11	-1°55'26	
minimum elong	2614 Mar 19 13:34	28°♓26'10	1°55'27	
max. Earth dist.	2614 Mar 19 11:56	28°♓25'40	10.68415 AU	
	2614 Apr 01 09:24	0°♈		
morning rise	2614 Apr 05 14:12	0°♈30'20		
retrograde	2614 Jul 19 20:58	8°♈08'51		
opposition	2614 Sep 28 03:07	4°♈44'23	-2°30'25	
min. Earth dist.	2614 Sep 28 03:59	4°♈44'13	8.63356 AU	
direct	2614 Dec 05 06:47	1°♈24'14		
evening set	2615 Mar 15 07:09	8°♈45'56		
conjunction	2615 Apr 01 06:27	10°♈50'58	-2°07'14	
minimum elong	2615 Apr 01 06:25	10°♈50'58	2°07'14	
max. Earth dist.	2615 Apr 01 04:18	10°♈50'18	10.57948 AU	
morning rise	2615 Apr 18 10:14	12°♈57'22		
retrograde	2615 Aug 02 07:47	20°♈44'28		
opposition	2615 Oct 11 05:04	17°♈18'47	-2°41'45	
min. Earth dist.	2615 Oct 11 06:23	17°♈18'31	8.52666 AU	
direct	2615 Dec 17 21:44	13°♈57'39		
evening set	2616 Mar 27 06:01	21°♈26'42		
conjunction	2616 Apr 13 08:47	23°♈34'08	-2°13'08	
minimum elong	2616 Apr 13 08:47	23°♈34'08	2°13'08	
max. Earth dist.	2616 Apr 13 06:49	23°♈33'31	10.47104 AU	
morning rise	2616 Apr 30 16:17	25°♈43'01		
	2616 Jun 07 20:50	0°♉		
retrograde	2616 Aug 15 01:08	3°♉38'31		
opposition	2616 Oct 23 12:27	0°♉11'41	-2°45'22	
min. Earth dist.	2616 Oct 23 13:42	0°♉11'27	8.41814 AU	
	2616 Oct 25 23:45	30°♓℞		
direct	2616 Dec 29 19:12	26°♈49'27		
	2617 Mar 01 00:02	0°♉		
evening set	2617 Apr 09 14:05	4°♉26'25		
conjunction	2617 Apr 26 21:08	6°♉36'30	-2°12'25	
minimum elong	2617 Apr 26 21:09	6°♉36'30	2°12'24	
max. Earth dist.	2617 Apr 26 20:11	6°♉36'12	10.36369 AU	
morning rise	2617 May 14 08:43	8°♉48'03		
	2617 Jul 12 20:12	15°♉		

retrograde	2617 Aug 29 00:31	16°♉51'17		
	2617 Oct 16 01:23	15°♑℞♉		
opposition	2617 Nov 06 01:04	13°♉23'27	-2°40'26	
min. Earth dist.	2617 Nov 06 01:31	13°♉23'21	8.31362 AU	
direct	2618 Jan 12 00:24	10°♉00'01		
	2618 Mar 31 06:50	15°♉		
evening set	2618 Apr 23 07:58	17°♉45'05		
conjunction	2618 May 10 19:46	19°♉57'55	-2°04'38	
minimum elong	2618 May 10 19:48	19°♉57'56	2°04'38	
max. Earth dist.	2618 May 10 19:57	19°♉57'59	10.26371 AU	
morning rise	2618 May 28 11:43	22°♉12'09		
	2618 Aug 23 00:16	0°♊		
retrograde	2618 Sep 12 06:01	0°♊21'43		
	2618 Oct 02 14:01	30°♑℞♉		
opposition	2618 Nov 19 18:23	26°♉53'06	-2°26'39	
min. Earth dist.	2618 Nov 19 17:45	26°♉53'14	8.21962 AU	
direct	2619 Jan 25 11:34	23°♉28'25		
	2619 Apr 26 12:23	0°♊		
evening set	2619 May 07 11:11	1°♊21'14		
conjunction	2619 May 25 03:47	3°♊36'44	-1°49'49	
minimum elong	2619 May 25 03:50	3°♊36'45	1°49'48	
max. Earth dist.	2619 May 25 04:40	3°♊37'01	10.17754 AU	
morning rise	2619 Jun 12 00:03	5°♊53'26		
retrograde	2619 Sep 26 16:22	14°♊07'29		
opposition	2619 Dec 03 15:59	10°♊38'22	-2°04'14	
min. Earth dist.	2619 Dec 03 14:41	10°♊38'38	8.14226 AU	
direct	2620 Feb 08 04:17	7°♊12'25		
evening set	2620 May 20 22:30	15°♊12'11		
conjunction	2620 Jun 07 19:36	17°♊29'58	-1°28'27	
minimum elong	2620 Jun 07 19:39	17°♊29'59	1°28'27	
max. Earth dist.	2620 Jun 07 21:04	17°♊30'27	10.11078 AU	
morning rise	2620 Jun 25 19:43	19°♊48'44		
retrograde	2620 Oct 10 04:42	28°♊05'02		
opposition	2620 Dec 16 16:40	24°♊35'44	-1°34'10	
min. Earth dist.	2620 Dec 16 15:03	24°♊36'04	8.08656 AU	
direct	2621 Feb 21 05:02	21°♊08'35		
evening set	2621 Jun 04 16:48	29°♊14'07		
	2621 Jun 10 16:20	0°♋		
conjunction	2621 Jun 22 17:38	1°♋33'38	-1°01'38	
minimum elong	2621 Jun 22 17:41	1°♋33'39	1°01'38	
max. Earth dist.	2621 Jun 22 19:26	1°♋34'13	10.06767 AU	
morning rise	2621 Jul 10 20:35	3°♋53'48		
retrograde	2621 Oct 24 15:41	12°♋09'56		
opposition	2621 Dec 30 19:01	8°♋40'48	-0°58'08	
min. Earth dist.	2621 Dec 30 17:20	8°♋41'09	8.05608 AU	
direct	2622 Mar 07 11:10	5°♋12'37		
evening set	2622 Jun 19 15:46	13°♋22'20		
conjunction	2622 Jul 07 19:06	15°♋42'47	-0°30'58	
minimum elong	2622 Jul 07 19:07	15°♋42'47	0°30'57	
max. Earth dist.	2622 Jul 07 21:17	15°♋43'30	10.05085 AU	
morning rise	2622 Jul 25 23:21	18°♋03'31		
retrograde	2622 Nov 08 00:40	26°♋17'12		
opposition	2623 Jan 13 21:48	22°♋48'32	-0°18'26	
min. Earth dist.	2623 Jan 13 19:42	22°♋48'58	8.05265 AU	
direct	2623 Mar 21 20:26	19°♋19'35		
evening set	2623 Jul 04 16:39	27°♋31'33		
asc. node	2623 Jul 04 07:00	27°♋28'30		
conjunction	2623 Jul 22 20:51	29°♋52'04	0°01'39	
minimum elong	2623 Jul 22 20:52	29°♋52'04	0°01'39	
behind sun begin	2623 Jul 22 13:30	29°♋49'42		
behind sun end	2623 Jul 23 04:14	29°♋54'26		

max. Earth dist.	2623 Jul 22	23:49	29°♋52'58	10.06117 AU
	2623 Jul 23	21:20	0°♌	
morning rise	2623 Aug 10	00:39	2°♌12'25	
retrograde	2623 Nov 22	06:23	10°♌21'41	
opposition	2624 Jan 27	23:33	6°♌53'45	0°22'15
min. Earth dist.	2624 Jan 27	20:44	6°♌54'20	8.07631 AU
direct	2624 Apr 04	06:24	3°♌24'18	
evening set	2624 Jul 18	16:53	11°♌36'32	
conjunction	2624 Aug 05	20:18	13°♌56'12	0°33'54
minimum elong	2624 Aug 05	20:16	13°♌56'12	0°33'54
max. Earth dist.	2624 Aug 05	23:54	13°♌57'22	10.09782 AU
	2624 Aug 14	02:00	15°♌	
morning rise	2624 Aug 23	21:55	16°♌15'18	
retrograde	2624 Dec 05	08:14	24°♌18'27	
opposition	2625 Feb 09	22:52	20°♌51'29	1°01'15
min. Earth dist.	2625 Feb 09	19:34	20°♌52'09	8.12534 AU
direct	2625 Apr 18	15:49	17°♌21'51	
evening set	2625 Aug 02	13:40	25°♌32'23	
conjunction	2625 Aug 20	14:41	27°♌50'25	1°03'53
minimum elong	2625 Aug 20	14:38	27°♌50'24	1°03'53
max. Earth dist.	2625 Aug 20	18:37	27°♌51'40	10.15820 AU
	2625 Sep 06	12:50	0°♍	
morning rise	2625 Sep 07	12:42	0°♍07'30	
retrograde	2625 Dec 19	03:32	8°♍03'22	
opposition	2626 Feb 23	18:56	4°♍37'33	1°36'06
min. Earth dist.	2626 Feb 23	15:37	4°♍38'14	8.19643 AU
direct	2626 May 02	23:45	1°♍08'05	
evening set	2626 Aug 17	04:22	9°♍15'03	
conjunction	2626 Sep 04	01:39	11°♍30'47	1°29'47
minimum elong	2626 Sep 04	01:36	11°♍30'46	1°29'47
max. Earth dist.	2626 Sep 04	05:31	11°♍32'01	10.23844 AU
morning rise	2626 Sep 21	19:05	13°♍45'20	
retrograde	2627 Jan 01	15:28	21°♍33'15	
opposition	2627 Mar 09	10:48	18°♍08'43	2°04'54
min. Earth dist.	2627 Mar 09	08:08	18°♍09'15	8.28519 AU
direct	2627 May 17	03:59	14°♍39'45	
evening set	2627 Aug 31	11:02	22°♍41'31	
conjunction	2627 Sep 18	03:50	24°♍54'35	1°50'19
minimum elong	2627 Sep 18	03:47	24°♍54'34	1°50'19
max. Earth dist.	2627 Sep 18	06:47	24°♍55'31	10.33385 AU
morning rise	2627 Oct 05	16:21	27°♍06'20	
	2627 Oct 30	06:34	0°♎	
retrograde	2628 Jan 14	20:29	4°♎46'02	
opposition	2628 Mar 21	21:46	1°♎22'49	2°26'19
min. Earth dist.	2628 Mar 21	19:49	1°♎23'12	8.38656 AU
	2628 Apr 08	17:37	30°℞♍	
direct	2628 May 30	03:01	27°♍54'39	
	2628 Jul 19	14:51	0°♎	
evening set	2628 Sep 13	08:16	5°♎49'58	
conjunction	2628 Sep 30	20:22	8°♎00'15	2°04'39
minimum elong	2628 Sep 30	20:20	8°♎00'15	2°04'39
max. Earth dist.	2628 Sep 30	22:10	8°♎00'49	10.43914 AU
morning rise	2628 Oct 18	04:04	10°♎09'10	
retrograde	2629 Jan 26	17:58	17°♎40'44	
opposition	2629 Apr 04	03:38	14°♎18'51	2°39'43
min. Earth dist.	2629 Apr 04	02:03	14°♎19'10	8.49487 AU
direct	2629 Jun 12	20:57	10°♎51'44	
evening set	2629 Sep 26	19:29	18°♎39'45	
conjunction	2629 Oct 14	03:05	20°♎47'18	2°12'27
minimum elong	2629 Oct 14	03:04	20°♎47'18	2°12'26
max. Earth dist.	2629 Oct 14	04:12	20°♎47'39	10.54863 AU
morning rise	2629 Oct 31	06:14	22°♎53'29	
	2630 Jan 21	09:11	0°♏	
retrograde	2630 Feb 08	08:46	0°♏17'26	
	2630 Feb 26	13:27	30°℞♎	
opposition	2630 Apr 17	04:21	26°♎56'47	2°44'58
min. Earth dist.	2630 Apr 17	02:39	26°♎57'07	8.60454 AU
direct	2630 Jun 26	09:04	23°♎30'54	
	2630 Sep 29	19:09	0°♏	
evening set	2630 Oct 09	20:36	1°♏11'09	
conjunction	2630 Oct 27	00:13	3°♏16'10	2°13'44
minimum elong	2630 Oct 27	00:14	3°♏16'10	2°13'44
max. Earth dist.	2630 Oct 27	01:27	3°♏16'33	10.65699 AU
morning rise	2630 Nov 12	23:24	5°♏19'53	
retrograde	2631 Feb 20	19:36	12°♏36'58	
opposition	2631 Apr 30	00:15	9°♏17'25	2°42'24
min. Earth dist.	2631 Apr 29	22:52	9°♏17'41	8.71042 AU
direct	2631 Jul 09	13:09	5°♏52'51	
evening set	2631 Oct 22	12:05	13°♏25'14	
	2631 Nov 04	15:46	15°♏	
conjunction	2631 Nov 08	12:19	15°♏28'03	2°08'53
minimum elong	2631 Nov 08	12:21	15°♏28'03	2°08'53
max. Earth dist.	2631 Nov 08	13:24	15°♏28'22	10.75920 AU
morning rise	2631 Nov 25	08:21	17°♏29'39	
retrograde	2632 Mar 04	00:48	24°♏40'45	
opposition	2632 May 11	15:40	21°♏22'09	2°32'39
min. Earth dist.	2632 May 11	15:21	21°♏22'13	8.80775 AU
direct	2632 Jul 21	09:48	17°♏58'53	
evening set	2632 Nov 02	19:10	25°♏23'46	
conjunction	2632 Nov 19	16:29	27°♏24'42	1°58'28
minimum elong	2632 Nov 19	16:31	27°♏24'43	1°58'28
max. Earth dist.	2632 Nov 19	16:21	27°♏24'39	10.85081 AU
morning rise	2632 Dec 06	10:14	29°♏24'36	
	2632 Dec 11	11:31	0°♐	
retrograde	2633 Mar 16	00:45	6°♐30'52	
opposition	2633 May 24	03:06	3°♐13'00	2°16'35
min. Earth dist.	2633 May 24	03:55	3°♐12'50	8.89248 AU
	2633 Jul 20	10:50	30°℞♏	
direct	2633 Aug 03	02:49	29°♏50'56	
	2633 Aug 16	17:35	0°♐	
evening set	2633 Nov 14	18:50	7°♐08'59	
conjunction	2633 Dec 01	13:55	9°♐08'24	1°43'13
minimum elong	2633 Dec 01	13:57	9°♐08'25	1°43'13
max. Earth dist.	2633 Dec 01	12:26	9°♐07'57	10.92815 AU
morning rise	2633 Dec 18	06:12	11°♐06'59	
retrograde	2634 Mar 27	22:51	18°♐09'43	
opposition	2634 Jun 05	11:20	14°♐52'16	1°55'09
min. Earth dist.	2634 Jun 05	12:24	14°♐52'04	8.96121 AU
direct	2634 Aug 15	13:44	11°♐31'21	
evening set	2634 Nov 26	12:17	18°♐43'23	
conjunction	2634 Dec 13	05:51	20°♐41'41	1°23'56
minimum elong	2634 Dec 13	05:53	20°♐41'42	1°23'56
max. Earth dist.	2634 Dec 13	04:14	20°♐41'12	10.98800 AU
morning rise	2634 Dec 29	21:12	22°♐39'22	
retrograde	2635 Apr 08	18:56	29°♐39'57	
opposition	2635 Jun 17	16:59	26°♐22'40	1°29'23
min. Earth dist.	2635 Jun 17	18:03	26°♐22'28	9.01095 AU
direct	2635 Aug 27	19:27	23°♐02'42	
	2635 Dec 06	15:13	0°♑	
evening set	2635 Dec 08	01:27	0°♑09'53	
conjunction	2635 Dec 24	18:02	2°♑07'27	1°01'29
minimum elong	2635 Dec 24	18:03	2°♑07'27	1°01'28

max. Earth dist.	2635 Dec 24 16:13	2°♑06'55	11.02753 AU
morning rise	2636 Jan 10 08:55	4°♑04'35	
retrograde	2636 Apr 19 16:20	11°♑04'29	
opposition	2636 Jun 28 20:56	7°♑47'08	1°00'19
min. Earth dist.	2636 Jun 28 22:48	7°♑46'48	9.03924 AU
direct	2636 Sep 07 21:21	4°♑27'56	
evening set	2636 Dec 18 11:57	11°♑31'37	
conjunction	2637 Jan 04 03:46	13°♑28'49	0°36'43
minimum elong	2637 Jan 04 03:47	13°♑28'50	0°36'43
max. Earth dist.	2637 Jan 04 00:38	13°♑27'54	11.04467 AU
morning rise	2637 Jan 20 18:48	15°♑25'50	
retrograde	2637 May 01 12:36	22°♑26'39	
opposition	2637 Jul 11 00:34	19°♑08'58	0°29'01
min. Earth dist.	2637 Jul 11 03:48	19°♑08'22	9.04466 AU
direct	2637 Sep 19 19:11	15°♑50'20	
evening set	2637 Dec 29 21:13	22°♑52'00	
conjunction	2638 Jan 15 12:38	24°♑49'11	0°10'34
minimum elong	2638 Jan 15 12:38	24°♑49'11	0°10'34
behind sun begin	2638 Jan 15 07:10	24°♑47'35	
behind sun end	2638 Jan 15 18:07	24°♑50'47	
max. Earth dist.	2638 Jan 15 08:13	24°♑47'54	11.03878 AU
morning rise	2638 Feb 01 04:19	26°♑46'27	
	2638 Mar 03 00:55	0°♒	
retrograde	2638 May 13 11:01	3°♒49'50	
desc. node	2638 Jun 13 03:08	3°♒05'50	
opposition	2638 Jul 23 04:36	0°♒31'31	-0°03'28
min. Earth dist.	2638 Jul 23 08:15	0°♒30'51	9.02736 AU
	2638 Jul 30 08:09	30°℞♑	
direct	2638 Oct 01 17:46	27°♑13'10	
	2638 Nov 30 13:08	0°♒	
evening set	2639 Jan 10 07:05	4°♒14'18	
conjunction	2639 Jan 26 22:40	6°♒11'51	-0°16'11
minimum elong	2639 Jan 26 22:39	6°♒11'51	0°16'10
behind sun begin	2639 Jan 26 21:51	6°♒11'37	
behind sun end	2639 Jan 26 23:27	6°♒12'05	
max. Earth dist.	2639 Jan 26 18:25	6°♒10'36	11.01058 AU
morning rise	2639 Feb 12 15:10	8°♒09'42	
	2639 May 06 21:42	15°♒	
retrograde	2639 May 25 14:17	15°♒17'03	
	2639 Jun 13 10:52	15°℞♒	
opposition	2639 Aug 04 09:44	11°♒57'52	-0°36'01
min. Earth dist.	2639 Aug 04 13:00	11°♒57'15	8.98850 AU
direct	2639 Oct 13 15:13	8°♒39'34	
	2640 Jan 15 18:47	15°♒	
evening set	2640 Jan 21 19:04	15°♒41'37	
conjunction	2640 Feb 07 11:07	17°♒39'50	-0°42'23
minimum elong	2640 Feb 07 11:06	17°♒39'50	0°42'22
max. Earth dist.	2640 Feb 07 07:26	17°♒38'45	10.96149 AU
morning rise	2640 Feb 24 04:41	19°♒38'36	
retrograde	2640 Jun 05 20:56	26°♒51'18	
opposition	2640 Aug 15 17:18	23°♒30'59	-1°07'28
min. Earth dist.	2640 Aug 15 20:07	23°♒30'27	8.92983 AU
direct	2640 Oct 24 12:45	20°♒12'30	
evening set	2641 Feb 01 10:37	27°♒16'53	
conjunction	2641 Feb 18 03:19	29°♒16'06	-1°07'08
minimum elong	2641 Feb 18 03:16	29°♒16'06	1°07'08
max. Earth dist.	2641 Feb 17 23:15	29°♒14'53	10.89364 AU
	2641 Feb 24 05:55	0°♓	
morning rise	2641 Mar 06 22:26	1°♓16'05	
retrograde	2641 Jun 18 09:37	8°♓35'22	
opposition	2641 Aug 28 04:04	5°♓13'46	-1°36'37
min. Earth dist.	2641 Aug 28 07:09	5°♓13'12	8.85381 AU
direct	2641 Nov 05 12:46	1°♓54'51	
evening set	2642 Feb 13 07:15	9°♓02'57	
conjunction	2642 Mar 02 01:05	11°♓03'31	-1°29'26
minimum elong	2642 Mar 02 01:03	11°♓03'30	1°29'27
max. Earth dist.	2642 Mar 01 20:47	11°♓02'13	10.80984 AU
morning rise	2642 Mar 18 22:14	13°♓05'04	
retrograde	2642 Jul 01 02:49	20°♓31'54	
opposition	2642 Sep 09 18:32	17°♓08'56	-2°02'12
min. Earth dist.	2642 Sep 09 21:42	17°♓08'20	8.76350 AU
direct	2642 Nov 17 15:12	13°♓49'22	
evening set	2643 Feb 25 10:09	21°♓02'31	
conjunction	2643 Mar 14 05:51	23°♓04'45	-1°48'14
minimum elong	2643 Mar 14 05:48	23°♓04'44	1°48'15
max. Earth dist.	2643 Mar 14 02:21	23°♓03'41	10.71335 AU
morning rise	2643 Mar 31 05:19	25°♓08'10	
	2643 May 16 03:10	0°♈	
retrograde	2643 Jul 14 02:32	2°♈43'21	
	2643 Sep 13 14:02	30°℞♓	
opposition	2643 Sep 22 13:29	29°♓18'57	-2°22'56
min. Earth dist.	2643 Sep 22 15:59	29°♓18'28	8.66236 AU
direct	2643 Nov 29 23:58	25°♓58'34	
	2644 Feb 08 16:29	0°♈	
evening set	2644 Mar 08 20:32	3°♈17'54	
conjunction	2644 Mar 25 18:42	5°♈22'09	-2°02'29
minimum elong	2644 Mar 25 18:40	5°♈22'08	2°02'30
max. Earth dist.	2644 Mar 25 16:39	5°♈21'31	10.60798 AU
morning rise	2644 Apr 11 20:55	7°♈27'42	
retrograde	2644 Jul 26 11:04	15°♈11'39	
opposition	2644 Oct 04 13:27	11°♈45'51	-2°37'32
min. Earth dist.	2644 Oct 04 14:38	11°♈45'37	8.55454 AU
direct	2644 Dec 11 12:35	8°♈24'32	
evening set	2645 Mar 21 15:32	15°♈50'55	
conjunction	2645 Apr 07 16:48	17°♈57'29	-2°11'14
minimum elong	2645 Apr 07 16:47	17°♈57'29	2°11'14
max. Earth dist.	2645 Apr 07 15:24	17°♈57'03	10.49842 AU
morning rise	2645 Apr 24 22:27	20°♈05'28	
retrograde	2645 Aug 09 03:05	27°♈58'04	
opposition	2645 Oct 17 18:44	24°♈31'01	-2°44'51
min. Earth dist.	2645 Oct 17 19:11	24°♈30'55	8.44497 AU
direct	2645 Dec 24 05:41	21°♈08'37	
evening set	2646 Apr 03 19:44	28°♈42'45	
	2646 Apr 14 03:53	0°♉	
conjunction	2646 Apr 21 00:48	0°♉51'51	-2°13'39
minimum elong	2646 Apr 21 00:49	0°♉51'51	2°13'39
max. Earth dist.	2646 Apr 20 23:38	0°♉51'29	10.38983 AU
morning rise	2646 May 08 10:32	3°♉02'26	
retrograde	2646 Aug 23 00:08	11°♉03'06	
opposition	2646 Oct 31 05:25	7°♉34'59	-2°43'55
min. Earth dist.	2646 Oct 31 05:34	7°♉34'57	8.33890 AU
direct	2647 Jan 06 07:40	4°♉11'26	
evening set	2647 Apr 17 09:31	11°♉53'35	
conjunction	2647 May 04 18:59	14°♉05'23	-2°09'08
minimum elong	2647 May 04 19:00	14°♉05'24	2°09'07
max. Earth dist.	2647 May 04 18:15	14°♉05'09	10.28766 AU
	2647 May 11 22:58	15°♉	
morning rise	2647 May 22 09:05	16°♉18'39	
retrograde	2647 Sep 06 03:07	24°♉26'15	
opposition	2647 Nov 13 21:06	20°♉57'19	-2°34'11
min. Earth dist.	2647 Nov 13 20:59	20°♉57'20	8.24198 AU
direct	2648 Jan 19 16:27	17°♉32'35	
evening set	2648 Apr 30 08:41	25°♉22'36	

conjunction	2648 May 17	23:00	27°♉37'06	-1°57'29
minimum elong	2648 May 17	23:03	27°♉37'07	1°57'28
max. Earth dist.	2648 May 17	23:35	27°♉37'17	10.19764 AU
morning rise	2648 Jun 04	17:32	29°♉52'56	
	2648 Jun 05	16:05	0°♊	
retrograde	2648 Sep 19	11:11	8°♊05'51	
opposition	2648 Nov 26	17:19	4°♊36'23	-2°15'34
min. Earth dist.	2648 Nov 26	16:17	4°♊36'36	8.15987 AU
direct	2649 Feb 01	07:56	1°♊10'31	
evening set	2649 May 14	16:38	9°♊07'50	
conjunction	2649 Jun 01	11:50	11°♊24'47	-1°38'58
minimum elong	2649 Jun 01	11:53	11°♊24'49	1°38'57
max. Earth dist.	2649 Jun 01	14:01	11°♊25'30	10.12514 AU
morning rise	2649 Jun 19	10:26	13°♊42'53	
retrograde	2649 Oct 03	22:35	21°♊59'02	
opposition	2649 Dec 10	17:04	18°♊29'25	-1°48'45
min. Earth dist.	2649 Dec 10	14:52	18°♊29'52	8.09759 AU
direct	2650 Feb 15	06:13	15°♊02'31	
evening set	2650 May 29	08:26	23°♊06'06	
conjunction	2650 Jun 16	07:52	25°♊25'04	-1°14'24
minimum elong	2650 Jun 16	07:55	25°♊25'05	1°14'24
max. Earth dist.	2650 Jun 16	11:24	25°♊26'13	10.07470 AU
morning rise	2650 Jul 04	09:40	27°♊44'50	
	2650 Jul 22	16:40	0°♋	
retrograde	2650 Oct 18	10:54	6°♋01'54	
opposition	2650 Dec 24	19:11	2°♋32'29	-1°15'05
min. Earth dist.	2650 Dec 24	15:57	2°♋33'09	8.05924 AU
	2651 Jan 28	12:42	30°℞♊	
direct	2651 Mar 01	09:26	29°♊04'43	
	2651 Apr 02	00:28	0°♋	
evening set	2651 Jun 13	06:03	7°♋13'11	
conjunction	2651 Jul 01	08:35	9°♋33'27	-0°45'12
minimum elong	2651 Jul 01	08:37	9°♋33'27	0°45'12
max. Earth dist.	2651 Jul 01	13:08	9°♋34'55	10.04977 AU
morning rise	2651 Jul 19	12:18	11°♋54'07	
retrograde	2651 Nov 01	22:59	20°♋09'45	
opposition	2652 Jan 07	22:32	16°♋40'52	-0°36'40
min. Earth dist.	2652 Jan 07	18:43	16°♋41'39	8.04758 AU
direct	2652 Mar 14	16:20	13°♋12'24	
evening set	2652 Jun 27	06:56	21°♋23'57	
conjunction	2652 Jul 15	11:03	23°♋44'39	-0°13'13
minimum elong	2652 Jul 15	11:03	23°♋44'39	0°13'12
behind sun begin	2652 Jul 15	06:54	23°♋43'19	
behind sun end	2652 Jul 15	15:13	23°♋45'59	
max. Earth dist.	2652 Jul 15	15:56	23°♋46'13	10.05209 AU
morning rise	2652 Aug 02	15:09	26°♋05'21	
	2652 Sep 04	13:40	0°♌	
retrograde	2652 Nov 15	08:30	4°♌17'19	
asc. node	2652 Dec 15	04:00	3°♌28'48	
opposition	2653 Jan 21	01:34	0°♌49'15	0°03'58
min. Earth dist.	2653 Jan 20	21:54	0°♌50'00	8.06342 AU
	2653 Jan 31	02:40	30°℞♋	
direct	2653 Mar 29	01:55	27°♋20'20	
	2653 May 23	15:59	0°♌	
evening set	2653 Jul 12	08:42	5°♌33'00	
conjunction	2653 Jul 30	12:38	7°♌53'11	0°19'33
minimum elong	2653 Jul 30	12:37	7°♌53'11	0°19'33
max. Earth dist.	2653 Jul 30	17:08	7°♌54'38	10.08138 AU
morning rise	2653 Aug 17	15:24	10°♌12'59	
	2653 Sep 28	06:21	15°♌	
retrograde	2653 Nov 29	13:18	18°♌19'20	
	2654 Feb 02	13:16	15°℞♌	
opposition	2654 Feb 04	02:43	14°♌52'19	0°44'05
min. Earth dist.	2654 Feb 03	23:21	14°♌53'00	8.10552 AU
direct	2654 Apr 12	13:06	11°♌23'11	
	2654 Jun 17	13:31	15°♌	
evening set	2654 Jul 27	08:03	19°♌34'54	
conjunction	2654 Aug 14	10:08	21°♌53'42	0°50'49
minimum elong	2654 Aug 14	10:05	21°♌53'42	0°50'49
max. Earth dist.	2654 Aug 14	14:05	21°♌54'59	10.13538 AU
morning rise	2654 Sep 01	09:59	24°♌11'46	
	2654 Oct 24	17:23	0°♍	
retrograde	2654 Dec 13	10:24	2°♍11'06	
	2655 Feb 02	09:31	30°℞♌	
opposition	2655 Feb 18	00:53	28°♌45'16	1°21'04
min. Earth dist.	2655 Feb 17	21:45	28°♌45'54	8.17060 AU
direct	2655 Apr 27	00:01	25°♌16'14	
	2655 Jul 13	03:57	0°♍	
evening set	2655 Aug 11	02:00	3°♍24'59	
conjunction	2655 Aug 29	00:55	5°♍41'42	1°18'44
minimum elong	2655 Aug 29	00:52	5°♍41'41	1°18'44
max. Earth dist.	2655 Aug 29	04:11	5°♍42'45	10.20986 AU
morning rise	2655 Sep 15	20:39	7°♍57'24	
retrograde	2655 Dec 27	01:04	15°♍48'56	
opposition	2656 Mar 02	18:54	12°♍24'20	1°52'45
min. Earth dist.	2656 Mar 02	15:57	12°♍24'56	8.25352 AU
direct	2656 May 10	06:38	8°♍55'40	
evening set	2656 Aug 24	12:46	16°♍59'52	
conjunction	2656 Sep 11	07:39	19°♍14'06	1°41'48
minimum elong	2656 Sep 11	07:36	19°♍14'05	1°41'47
max. Earth dist.	2656 Sep 11	10:15	19°♍14'55	10.29916 AU
morning rise	2656 Sep 28	22:31	21°♍27'05	
retrograde	2657 Jan 08	10:14	29°♍10'31	
opposition	2657 Mar 16	08:10	25°♍47'13	2°17'35
min. Earth dist.	2657 Mar 16	05:41	25°♍47'43	8.34844 AU
direct	2657 May 24	07:42	22°♍19'13	
	2657 Sep 05	05:08	0°♎	
evening set	2657 Sep 07	14:49	0°♎17'39	
conjunction	2657 Sep 25	05:11	2°♎29'12	1°58'57
minimum elong	2657 Sep 25	05:08	2°♎29'11	1°58'56
max. Earth dist.	2657 Sep 25	07:19	2°♎29'52	10.39794 AU
morning rise	2657 Oct 12	14:57	4°♎39'22	
retrograde	2658 Jan 21	12:55	12°♎14'48	
opposition	2658 Mar 29	16:49	8°♎52'48	2°34'36
min. Earth dist.	2658 Mar 29	15:14	8°♎53'06	8.45059 AU
direct	2658 Jun 07	03:22	5°♎25'39	
evening set	2658 Sep 21	07:05	13°♎17'20	
conjunction	2658 Oct 08	16:48	15°♎26'10	2°09'40
minimum elong	2658 Oct 08	16:46	15°♎26'09	2°09'39
max. Earth dist.	2658 Oct 08	18:07	15°♎26'34	10.50185 AU
morning rise	2658 Oct 25	21:48	17°♎33'36	
retrograde	2659 Feb 03	07:09	25°♎01'21	
opposition	2659 Apr 11	20:31	21°♎40'31	2°43'28
min. Earth dist.	2659 Apr 11	20:03	21°♎40'37	8.55564 AU
direct	2659 Jun 20	18:45	18°♎14'22	
evening set	2659 Oct 04	13:24	25°♎58'38	
conjunction	2659 Oct 21	18:47	28°♎04'52	2°13'48
minimum elong	2659 Oct 21	18:47	28°♎04'52	2°13'48
max. Earth dist.	2659 Oct 21	18:47	28°♎04'52	10.60645 AU
	2659 Nov 06	11:20	0°♏	
morning rise	2659 Nov 07	19:41	0°♏09'46	
retrograde	2660 Feb 15	19:43	7°♏30'22	
opposition	2660 Apr 23	19:04	4°♏10'33	2°44'18

min. Earth dist.	2660 Apr 23 19:31	4°♏10'28	8.65892 AU
direct	2660 Jul 03 03:10	0°♏45'27	
evening set	2660 Oct 16 09:54	8°♏22'00	
conjunction	2660 Nov 02 11:32	10°♏25'55	2°11'36
minimum elong	2660 Nov 02 11:33	10°♏25'55	2°11'36
max. Earth dist.	2660 Nov 02 10:18	10°♏25'32	10.70708 AU
morning rise	2660 Nov 19 09:06	12°♏28'35	
	2660 Dec 11 11:38	15°♏	
retrograde	2661 Feb 27 02:37	19°♏42'51	
opposition	2661 May 06 12:59	16°♏23'50	2°37'39
min. Earth dist.	2661 May 06 13:30	16°♏23'44	8.75575 AU
	2661 May 25 10:18	15°℞♏	
direct	2661 Jul 16 05:07	12°♏59'51	
	2661 Sep 04 15:17	15°♏	
evening set	2661 Oct 28 21:06	20°♏28'44	
conjunction	2661 Nov 14 19:44	22°♏30'38	2°03'33
minimum elong	2661 Nov 14 19:45	22°♏30'39	2°03'33
max. Earth dist.	2661 Nov 14 18:31	22°♏30'17	10.79924 AU
morning rise	2661 Dec 01 14:34	24°♏31'27	
	2662 Jan 25 11:53	0°♐	
retrograde	2662 Mar 11 05:23	1°♐40'25	
	2662 Apr 26 11:46	30°℞♏	
opposition	2662 May 19 02:40	28°♏21'59	2°24'14
min. Earth dist.	2662 May 19 03:10	28°♏21'54	8.84201 AU
direct	2662 Jul 29 01:32	24°♏59'05	
	2662 Oct 20 04:18	0°♐	
evening set	2662 Nov 10 00:16	2°♐20'47	
conjunction	2662 Nov 26 20:33	4°♐21'03	1°50'18
minimum elong	2662 Nov 26 20:35	4°♐21'03	1°50'19
max. Earth dist.	2662 Nov 26 19:33	4°♐20'45	10.87913 AU
morning rise	2662 Dec 13 13:25	6°♐20'22	
retrograde	2663 Mar 23 05:54	13°♐25'13	
opposition	2663 May 31 12:39	10°♐07'10	2°05'01
min. Earth dist.	2663 May 31 13:45	10°♐06'58	8.91434 AU
direct	2663 Aug 10 14:02	6°♐45'17	
evening set	2663 Nov 21 20:45	14°♐00'34	
conjunction	2663 Dec 08 15:09	15°♐59'34	1°32'40
minimum elong	2663 Dec 08 15:11	15°♐59'34	1°32'40
max. Earth dist.	2663 Dec 08 13:24	15°♐59'03	10.94365 AU
morning rise	2663 Dec 25 06:54	17°♐57'50	
retrograde	2664 Apr 03 02:05	24°♐59'52	
opposition	2664 Jun 11 19:47	21°♐42'00	1°40'58
min. Earth dist.	2664 Jun 11 21:56	21°♐41'36	8.97001 AU
direct	2664 Aug 21 21:40	18°♐21'01	
evening set	2664 Dec 02 12:04	25°♐30'58	
conjunction	2664 Dec 19 05:02	27°♐29'02	1°11'27
minimum elong	2664 Dec 19 05:04	27°♐29'03	1°11'27
max. Earth dist.	2664 Dec 19 02:11	27°♐28'11	10.99044 AU
morning rise	2665 Jan 04 20:17	29°♐26'37	
	2665 Jan 09 16:10	0°♑	
retrograde	2665 Apr 14 22:03	6°♑27'20	
opposition	2665 Jun 24 00:50	3°♑09'26	1°13'09
min. Earth dist.	2665 Jun 24 03:09	3°♑09'00	9.00702 AU
	2665 Aug 19 04:10	30°℞♐	
direct	2665 Sep 03 02:52	29°♐49'15	
	2665 Sep 17 22:31	0°♑	
evening set	2665 Dec 13 23:47	6°♑55'03	
conjunction	2665 Dec 30 15:57	8°♑52'36	0°47'33
minimum elong	2665 Dec 30 15:59	8°♑52'36	0°47'32
max. Earth dist.	2665 Dec 30 13:13	8°♑51'47	11.01785 AU
morning rise	2666 Jan 16 07:06	10°♑49'51	

retrograde	2666 Apr 26 18:43	17°♑50'45	
opposition	2666 Jul 06 04:46	14°♑32'35	0°42'38
min. Earth dist.	2666 Jul 06 06:31	14°♑32'15	9.02407 AU
direct	2666 Sep 15 03:13	11°♑13'06	
evening set	2666 Dec 25 09:28	18°♑16'04	
conjunction	2667 Jan 11 01:17	20°♑13'26	0°21'51
minimum elong	2667 Jan 11 01:18	20°♑13'26	0°21'51
max. Earth dist.	2667 Jan 10 23:12	20°♑12'49	11.02478 AU
morning rise	2667 Jan 27 16:40	22°♑10'43	
retrograde	2667 May 08 17:28	29°♑13'18	
opposition	2667 Jul 18 08:33	25°♑54'41	0°10'29
min. Earth dist.	2667 Jul 18 10:12	25°♑54'23	9.02044 AU
direct	2667 Sep 27 01:22	22°♑35'43	
desc. node	2667 Nov 16 11:21	24°♑36'13	
evening set	2668 Jan 05 19:07	29°♑37'20	
	2668 Jan 09 01:03	0°♒	
conjunction	2668 Jan 22 10:42	1°♒34'49	-0°04'49
minimum elong	2668 Jan 22 10:42	1°♒34'49	0°04'49
behind sun begin	2668 Jan 22 03:53	1°♒32'50	
behind sun end	2668 Jan 22 17:31	1°♒36'49	
max. Earth dist.	2668 Jan 22 08:01	1°♒34'04	11.01088 AU
morning rise	2668 Feb 08 02:46	3°♒32'30	
retrograde	2668 May 19 18:55	10°♒38'12	
opposition	2668 Jul 29 13:13	7°♒18'59	-0°22'11
min. Earth dist.	2668 Jul 29 15:28	7°♒18'34	8.99625 AU
direct	2668 Oct 07 21:37	4°♒00'19	
evening set	2669 Jan 16 06:06	11°♒02'02	
conjunction	2669 Feb 01 21:47	12°♒59'59	-0°31'17
minimum elong	2669 Feb 01 21:46	12°♒59'59	0°31'17
max. Earth dist.	2669 Feb 01 18:29	12°♒59'00	10.97675 AU
morning rise	2669 Feb 18 14:58	14°♒58'22	
	2669 Feb 18 20:34	15°♒	
retrograde	2669 May 31 22:09	22°♒08'40	
opposition	2669 Aug 10 19:49	18°♒48'37	-0°54'13
min. Earth dist.	2669 Aug 10 22:17	18°♒48'09	8.95250 AU
direct	2669 Oct 19 19:25	15°♒30'03	
evening set	2670 Jan 27 19:48	22°♒33'19	
conjunction	2670 Feb 13 12:07	24°♒32'04	-0°56'46
minimum elong	2670 Feb 13 12:05	24°♒32'03	0°56'46
max. Earth dist.	2670 Feb 13 09:26	24°♒31'16	10.92362 AU
morning rise	2670 Mar 02 06:36	26°♒31'28	
	2670 Apr 03 05:54	0°♓	
retrograde	2670 Jun 13 08:22	3°♓47'40	
opposition	2670 Aug 23 04:59	0°♓26'37	-1°24'27
min. Earth dist.	2670 Aug 23 06:44	0°♓26'17	8.89071 AU
	2670 Aug 29 03:38	30°℞♒	
direct	2670 Oct 31 19:21	27°♒07'57	
	2670 Dec 30 15:34	0°♓	
evening set	2671 Feb 08 14:01	4°♓14'09	
conjunction	2671 Feb 25 07:24	6°♓14'02	-1°20'13
minimum elong	2671 Feb 25 07:22	6°♓14'02	1°20'13
max. Earth dist.	2671 Feb 25 05:43	6°♓13'32	10.85337 AU
morning rise	2671 Mar 14 03:28	8°♓14'48	
retrograde	2671 Jun 26 00:24	15°♓37'56	
opposition	2671 Sep 04 17:27	12°♓15'47	-1°51'39
min. Earth dist.	2671 Sep 04 18:25	12°♓15'36	8.81318 AU
direct	2671 Nov 12 19:35	8°♓56'50	
evening set	2672 Feb 20 14:02	16°♓07'18	
conjunction	2672 Mar 08 08:49	18°♓08'38	-1°40'35
minimum elong	2672 Mar 08 08:46	18°♓08'38	1°40'35
max. Earth dist.	2672 Mar 08 07:13	18°♓08'09	10.76880 AU

morning rise	2672 Mar 25 06:59	20°♓11'02		
retrograde	2672 Jul 07 21:57	27°♓42'00		
opposition	2672 Sep 16 10:19	24°♓18'40	-2°14'31	
min. Earth dist.	2672 Sep 16 11:05	24°♓18'31	8.72299 AU	
direct	2672 Nov 24 00:46	20°♓59'11		
evening set	2673 Mar 03 20:50	28°♓15'06		
	2673 Mar 18 06:08	0°♈		
conjunction	2673 Mar 20 17:35	0°♈18'13	-1°56'51	
minimum elong	2673 Mar 20 17:33	0°♈18'12	1°56'51	
max. Earth dist.	2673 Mar 20 15:43	0°♈17'39	10.67338 AU	
morning rise	2673 Apr 06 18:29	2°♈22'35		
retrograde	2673 Jul 21 02:30	10°♈01'53		
opposition	2673 Sep 29 07:54	6°♈37'20	-2°31'49	
min. Earth dist.	2673 Sep 29 08:55	6°♈37'08	8.62380 AU	
direct	2673 Dec 06 10:34	3°♈17'05		
evening set	2674 Mar 16 11:40	10°♈39'26		
conjunction	2674 Apr 02 11:14	12°♈44'38	-2°08'02	
minimum elong	2674 Apr 02 11:13	12°♈44'38	2°08'01	
max. Earth dist.	2674 Apr 02 09:53	12°♈44'13	10.57093 AU	
morning rise	2674 Apr 19 15:18	14°♈51'14		
retrograde	2674 Aug 03 13:11	22°♈38'57		
opposition	2674 Oct 12 10:14	19°♈13'11	-2°42'19	
min. Earth dist.	2674 Oct 12 11:05	19°♈13'01	8.51956 AU	
direct	2674 Dec 19 02:12	15°♈52'00		
evening set	2675 Mar 29 11:10	23°♈21'33		
conjunction	2675 Apr 15 14:20	25°♈29'08	-2°13'14	
minimum elong	2675 Apr 15 14:19	25°♈29'08	2°13'13	
max. Earth dist.	2675 Apr 15 13:52	25°♈29'00	10.46547 AU	
morning rise	2675 May 02 22:01	27°♈38'10		
	2675 May 22 22:20	0°♉		
retrograde	2675 Aug 17 06:04	5°♉34'01		
opposition	2675 Oct 25 17:46	2°♉07'07	-2°45'01	
min. Earth dist.	2675 Oct 25 17:58	2°♉07'05	8.41428 AU	
	2675 Nov 23 18:35	30°℞♈		
direct	2676 Jan 01 01:15	28°♈44'51		
	2676 Feb 07 11:37	0°♉		
evening set	2676 Apr 10 19:43	6°♉22'05		
conjunction	2676 Apr 28 03:05	8°♉32'17	-2°11'46	
minimum elong	2676 Apr 28 03:06	8°♉32'18	2°11'45	
max. Earth dist.	2676 Apr 28 03:20	8°♉32'22	10.36139 AU	
morning rise	2676 May 15 14:51	10°♉43'55		
	2676 Jun 22 03:35	15°♉		
retrograde	2676 Aug 30 06:57	18°♉47'12		
opposition	2676 Nov 07 06:24	15°♉19'21	-2°39'10	
min. Earth dist.	2676 Nov 07 05:52	15°♉19'27	8.31288 AU	
	2676 Nov 11 07:24	15°℞♉		
direct	2677 Jan 13 04:57	11°♉55'55		
	2677 Mar 13 23:21	15°♉		
evening set	2677 Apr 24 13:52	19°♉41'01		
conjunction	2677 May 12 01:53	21°♉53'56	-2°03'16	
minimum elong	2677 May 12 01:55	21°♉53'56	2°03'16	
max. Earth dist.	2677 May 12 02:21	21°♉54'05	10.26437 AU	
morning rise	2677 May 29 18:06	24°♉08'13		
	2677 Jul 23 02:56	0°♊		
retrograde	2677 Sep 13 13:08	2°♊17'34		
	2677 Nov 06 00:38	30°℞♉		
opposition	2677 Nov 20 23:41	28°♉48'59	-2°24'30	
min. Earth dist.	2677 Nov 20 22:47	28°♉49'10	8.22160 AU	
direct	2678 Jan 26 15:32	25°♉24'18		
	2678 Apr 11 02:26	0°♊		
evening set	2678 May 08 17:09	3°♊17'02		
conjunction	2678 May 26 09:57	5°♊32'32	-1°47'47	
minimum elong	2678 May 26 10:00	5°♊32'33	1°47'47	
max. Earth dist.	2678 May 26 10:25	5°♊32'41	10.18079 AU	
morning rise	2678 Jun 13 06:34	7°♊49'16		
retrograde	2678 Sep 27 22:31	16°♊02'50		
opposition	2678 Dec 04 21:02	12°♊33'48	-2°01'19	
min. Earth dist.	2678 Dec 04 20:07	12°♊34'00	8.14659 AU	
direct	2679 Feb 09 10:02	9°♊07'51		
evening set	2679 May 23 04:28	17°♊07'26		
conjunction	2679 Jun 10 01:44	19°♊25'10	-1°25'53	
minimum elong	2679 Jun 10 01:47	19°♊25'11	1°25'52	
max. Earth dist.	2679 Jun 10 02:41	19°♊25'28	10.11619 AU	
morning rise	2679 Jun 28 02:06	21°♊43'53		
retrograde	2679 Oct 12 08:29	29°♊59'31		
opposition	2679 Dec 18 21:18	26°♊30'21	-1°30'41	
min. Earth dist.	2679 Dec 18 20:06	26°♊30'35	8.09288 AU	
direct	2680 Feb 23 11:18	23°♊03'13		
	2680 May 27 19:52	0°♋		
evening set	2680 Jun 05 22:25	1°♋08'23		
conjunction	2680 Jun 23 23:24	3°♋27'49	-0°58'41	
minimum elong	2680 Jun 23 23:27	3°♋27'50	0°58'41	
max. Earth dist.	2680 Jun 24 01:05	3°♋28'22	10.07489 AU	
morning rise	2680 Jul 12 02:26	5°♋47'52		
retrograde	2680 Oct 25 18:44	14°♋03'13		
opposition	2680 Dec 31 23:09	10°♋34'13	-0°54'18	
min. Earth dist.	2680 Dec 31 21:26	10°♋34'34	8.06404 AU	
direct	2681 Mar 08 16:17	7°♋06'05		
evening set	2681 Jun 20 20:53	15°♋15'16		
conjunction	2681 Jul 09 00:20	17°♋35'37	-0°27'50	
minimum elong	2681 Jul 09 00:22	17°♋35'37	0°27'50	
max. Earth dist.	2681 Jul 09 02:56	17°♋36'27	10.05947 AU	
morning rise	2681 Jul 27 04:30	19°♋56'10		
retrograde	2681 Nov 09 04:02	28°♋09'00		
opposition	2682 Jan 15 01:18	24°♋40'27	-0°14'31	
min. Earth dist.	2682 Jan 14 22:45	24°♋40'59	8.06177 AU	
direct	2682 Mar 23 00:21	21°♋11'33		
asc. node	2682 May 30 07:57	25°♋06'03		
evening set	2682 Jul 05 21:21	29°♋22'57		
	2682 Jul 10 17:36	0°♌		
conjunction	2682 Jul 24 01:36	1°♌43'18	0°04'46	
minimum elong	2682 Jul 24 01:34	1°♌43'17	0°04'47	
behind sun begin	2682 Jul 23 18:24	1°♌40'59		
behind sun end	2682 Jul 24 08:45	1°♌45'36		
max. Earth dist.	2682 Jul 24 05:04	1°♌44'23	10.07067 AU	
morning rise	2682 Aug 11 05:05	4°♌03'25		
retrograde	2682 Nov 23 09:57	12°♌11'47		
opposition	2683 Jan 29 02:25	8°♌43'58	0°26'01	
min. Earth dist.	2683 Jan 28 23:18	8°♌44'36	8.08603 AU	
direct	2683 Apr 06 09:49	5°♌14'35		
evening set	2683 Jul 20 20:59	13°♌26'14		
	2683 Aug 02 02:35	15°♌		
conjunction	2683 Aug 08 00:14	15°♌45'40	0°36'48	
minimum elong	2683 Aug 08 00:12	15°♌45'40	0°36'48	
max. Earth dist.	2683 Aug 08 04:04	15°♌46'55	10.10763 AU	
morning rise	2683 Aug 26 01:28	18°♌04'31		
retrograde	2683 Dec 07 10:36	26°♌06'48		
opposition	2684 Feb 12 01:15	22°♌39'58	1°04'37	
min. Earth dist.	2684 Feb 11 22:14	22°♌40'35	8.13516 AU	
direct	2684 Apr 19 19:06	19°♌10'24		
evening set	2684 Aug 03 16:57	27°♌20'19		
conjunction	2684 Aug 21 17:40	29°♌38'05	1°06'24	

minimum elong	2684 Aug 21 17:37	29°♌38'04	1°06'24
max. Earth dist.	2684 Aug 21 21:13	29°♌39'14	10.16783 AU
	2684 Aug 24 14:00	0°♍	
morning rise	2684 Sep 08 15:20	1°♍54'56	
retrograde	2684 Dec 20 05:00	9°♍50'01	
opposition	2685 Feb 24 20:47	6°♍24'19	1°38'55
min. Earth dist.	2685 Feb 24 18:21	6°♍24'49	8.20580 AU
direct	2685 May 04 02:05	2°♍54'54	
evening set	2685 Aug 18 07:01	11°♍01'17	
conjunction	2685 Sep 05 03:54	13°♍16'46	1°31'49
minimum elong	2685 Sep 05 03:51	13°♍16'45	1°31'49
max. Earth dist.	2685 Sep 05 06:35	13°♍17'37	10.24732 AU
morning rise	2685 Sep 22 21:05	15°♍31'06	
retrograde	2686 Jan 02 16:27	23°♍18'18	
opposition	2686 Mar 10 12:05	19°♍53'51	2°07'02
min. Earth dist.	2686 Mar 10 10:19	19°♍54'13	8.29359 AU
direct	2686 May 18 05:56	16°♍24'55	
evening set	2686 Sep 01 12:57	24°♍26'10	
conjunction	2686 Sep 19 05:21	26°♍39'02	1°51'47
minimum elong	2686 Sep 19 05:18	26°♍39'01	1°51'46
max. Earth dist.	2686 Sep 19 07:01	26°♍39'33	10.34149 AU
morning rise	2686 Oct 06 17:39	28°♍50'35	
	2686 Oct 16 05:57	0°♎	
retrograde	2687 Jan 15 20:15	6°♎29'41	
opposition	2687 Mar 23 22:40	3°♎06'33	2°27'44
min. Earth dist.	2687 Mar 23 20:56	3°♎06'53	8.39346 AU
	2687 May 11 17:17	30°℞♍	
direct	2687 Jun 01 05:25	29°♍38'24	
	2687 Jun 21 16:07	0°♎	
evening set	2687 Sep 15 09:19	7°♎33'15	
conjunction	2687 Oct 02 21:10	9°♎43'22	2°05'30
minimum elong	2687 Oct 02 21:08	9°♎43'21	2°05'29
max. Earth dist.	2687 Oct 02 22:29	9°♎43'47	10.44510 AU
morning rise	2687 Oct 20 04:36	11°♎52'07	
retrograde	2688 Jan 28 17:14	19°♎23'18	
opposition	2688 Apr 05 04:10	16°♎01'26	2°40'21
min. Earth dist.	2688 Apr 05 02:20	16°♎01'47	8.49989 AU
direct	2688 Jun 13 23:12	12°♎34'21	
evening set	2688 Sep 27 19:54	20°♎21'58	
conjunction	2688 Oct 15 03:24	22°♎29'24	2°12'40
minimum elong	2688 Oct 15 03:23	22°♎29'24	2°12'39
max. Earth dist.	2688 Oct 15 04:43	22°♎29'48	10.55262 AU
morning rise	2688 Nov 01 06:16	24°♎35'27	
	2688 Dec 23 06:07	0°♏	
retrograde	2689 Feb 09 09:49	1°♏59'10	
	2689 Mar 31 04:32	30°℞♎	
opposition	2689 Apr 18 04:36	28°♎38'31	2°44'51
min. Earth dist.	2689 Apr 18 03:03	28°♎38'50	8.60744 AU
direct	2689 Jun 27 08:48	25°♎12'39	
	2689 Sep 15 14:14	0°♏	
evening set	2689 Oct 10 20:37	2°♏52'37	
conjunction	2689 Oct 28 00:08	4°♏57'36	2°13'21
minimum elong	2689 Oct 28 00:08	4°♏57'36	2°13'20
max. Earth dist.	2689 Oct 28 01:22	4°♏57'58	10.65878 AU
morning rise	2689 Nov 13 23:06	7°♏01'15	
retrograde	2690 Feb 21 19:35	14°♏18'13	
opposition	2690 May 01 00:30	10°♏58'40	2°41'34
min. Earth dist.	2690 Apr 30 23:57	10°♏58'46	8.71107 AU
direct	2690 Jul 10 12:27	7°♏34'06	
	2690 Oct 22 14:22	15°♏	
evening set	2690 Oct 23 11:49	15°♏06'21	

conjunction	2690 Nov 09 11:51	17°♏09'08	2°07'55
minimum elong	2690 Nov 09 11:53	17°♏09'09	2°07'56
max. Earth dist.	2690 Nov 09 12:03	17°♏09'12	10.75874 AU
morning rise	2690 Nov 26 07:51	19°♏10'46	
retrograde	2691 Mar 05 23:53	26°♏21'56	
opposition	2691 May 13 15:59	23°♏03'19	2°31'10
min. Earth dist.	2691 May 13 16:26	23°♏03'14	8.80623 AU
direct	2691 Jul 23 10:59	19°♏40'02	
evening set	2691 Nov 04 18:42	27°♏04'56	
conjunction	2691 Nov 21 15:55	29°♏05'53	1°57'00
minimum elong	2691 Nov 21 15:57	29°♏05'54	1°57'00
max. Earth dist.	2691 Nov 21 14:51	29°♏05'34	10.84825 AU
	2691 Nov 29 04:12	0°♐	
morning rise	2691 Dec 08 09:47	1°♐05'50	
retrograde	2692 Mar 17 00:48	8°♐12'20	
opposition	2692 May 25 03:26	4°♐54'24	2°14'30
min. Earth dist.	2692 May 25 04:14	4°♐54'15	8.88886 AU
direct	2692 Aug 04 02:58	1°♐32'21	
evening set	2692 Nov 15 18:21	8°♐50'30	
conjunction	2692 Dec 02 13:30	10°♐50'01	1°41'17
minimum elong	2692 Dec 02 13:32	10°♐50'01	1°41'18
max. Earth dist.	2692 Dec 02 12:08	10°♐49'36	10.92359 AU
morning rise	2692 Dec 19 05:49	12°♐48'41	
retrograde	2693 Mar 28 22:56	19°♐51'47	
opposition	2693 Jun 06 11:55	16°♐34'17	1°52'34
min. Earth dist.	2693 Jun 06 12:29	16°♐34'11	8.95565 AU
direct	2693 Aug 16 14:08	13°♐13'22	
evening set	2693 Nov 27 12:01	20°♐25'39	
conjunction	2693 Dec 14 05:42	22°♐24'03	1°21'37
minimum elong	2693 Dec 14 05:44	22°♐24'04	1°21'37
max. Earth dist.	2693 Dec 14 04:43	22°♐23'45	10.98168 AU
morning rise	2693 Dec 30 21:01	24°♐21'50	
	2694 Feb 27 16:15	0°♑	
retrograde	2694 Apr 09 21:22	1°♑22'55	
	2694 May 22 06:31	30°℞♐	
opposition	2694 Jun 18 18:05	28°♐05'35	1°26'22
min. Earth dist.	2694 Jun 18 19:11	28°♐05'23	9.00392 AU
direct	2694 Aug 28 20:12	24°♐45'39	
	2694 Nov 22 06:07	0°♑	
evening set	2694 Dec 09 01:35	1°♑53'07	
conjunction	2694 Dec 25 18:07	3°♑50'49	0°58'52
minimum elong	2694 Dec 25 18:09	3°♑50'49	0°58'51
max. Earth dist.	2694 Dec 25 16:10	3°♑50'14	11.02008 AU
morning rise	2695 Jan 11 09:09	5°♑48'06	
retrograde	2695 Apr 21 17:06	12°♑48'33	
opposition	2695 Jun 30 22:34	9°♑31'09	0°56'59
min. Earth dist.	2695 Jul 01 00:53	9°♑30'43	9.03151 AU
direct	2695 Sep 09 20:34	6°♑11'56	
evening set	2695 Dec 20 12:27	13°♑15'59	
conjunction	2696 Jan 06 04:15	15°♑13'18	0°33'54
minimum elong	2696 Jan 06 04:16	15°♑13'18	0°33'53
max. Earth dist.	2696 Jan 06 00:44	15°♑12'16	11.03682 AU
morning rise	2696 Jan 22 19:31	17°♑10'27	
retrograde	2696 May 02 13:45	24°♑11'54	
opposition	2696 Jul 12 02:32	20°♑54'07	0°25'29
min. Earth dist.	2696 Jul 12 05:43	20°♑53'32	9.03670 AU
direct	2696 Sep 20 21:31	17°♑35'26	
evening set	2696 Dec 30 22:08	24°♑37'30	
conjunction	2697 Jan 16 13:39	26°♑34'49	0°07'39
minimum elong	2697 Jan 16 13:40	26°♑34'49	0°07'39
behind sun begin	2697 Jan 16 07:20	26°♑32'58	

behind sun end	2697 Jan 16 19:59	26°♑36'40	
max. Earth dist.	2697 Jan 16 09:53	26°♑33'44	11.03069 AU
morning rise	2697 Feb 02 05:23	28°♑32'12	
	2697 Feb 15 03:48	0°♒	
desc. node	2697 May 03 20:04	5°♒30'33	
retrograde	2697 May 14 14:30	5°♒36'14	
opposition	2697 Jul 24 06:57	2°♒17'50	-0°07'04
min. Earth dist.	2697 Jul 24 09:48	2°♒17'18	9.01913 AU
	2697 Aug 27 17:27	30°℞♑	
direct	2697 Oct 02 19:57	28°♑59'29	
	2697 Nov 07 01:37	0°♒	
evening set	2698 Jan 11 08:32	6°♒01'02	
conjunction	2698 Jan 28 00:13	7°♒58'42	-0°19'05
minimum elong	2698 Jan 28 00:12	7°♒58'42	0°19'04
max. Earth dist.	2698 Jan 27 20:49	7°♒57'42	11.00217 AU
morning rise	2698 Feb 13 16:42	9°♒56'41	
	2698 Apr 05 03:41	15°♒	
retrograde	2698 May 26 17:27	17°♒04'46	
	2698 Jul 19 08:15	15°℞♒	
opposition	2698 Aug 05 12:44	13°♒45'28	-0°39'32
min. Earth dist.	2698 Aug 05 15:23	13°♒44'59	8.98002 AU
direct	2698 Oct 14 16:34	10°♒27'11	
	2698 Dec 31 11:03	15°♒	
evening set	2699 Jan 22 21:08	17°♒29'42	
conjunction	2699 Feb 08 13:10	19°♒28'04	-0°45'10
minimum elong	2699 Feb 08 13:09	19°♒28'03	0°45'09
max. Earth dist.	2699 Feb 08 09:22	19°♒26'56	10.95291 AU
morning rise	2699 Feb 25 06:54	21°♒26'58	
retrograde	2699 Jun 08 01:28	28°♒40'24	
opposition	2699 Aug 17 20:52	25°♒20'01	-1°10'46
min. Earth dist.	2699 Aug 17 23:54	25°♒19'27	8.92128 AU
direct	2699 Oct 26 15:08	22°♒01'31	
evening set	2700 Feb 03 13:24	29°♒06'25	
	2700 Feb 11 02:25	0°♓	
conjunction	2700 Feb 20 06:05	1°♓05'47	-1°09'41
minimum elong	2700 Feb 20 06:03	1°♓05'46	1°09'41
max. Earth dist.	2700 Feb 20 01:39	1°♓04'27	10.88512 AU
morning rise	2700 Mar 09 01:26	3°♓05'56	
retrograde	2700 Jun 20 13:20	10°♓25'56	
opposition	2700 Aug 30 08:07	7°♓04'16	-1°39'32
min. Earth dist.	2700 Aug 30 11:27	7°♓03'39	8.84544 AU
direct	2700 Nov 07 15:17	3°♓45'20	
evening set	2701 Feb 15 10:39	10°♓53'59	
conjunction	2701 Mar 04 04:38	12°♓54'41	-1°31'37
minimum elong	2701 Mar 04 04:36	12°♓54'40	1°31'38
max. Earth dist.	2701 Mar 04 00:59	12°♓53'34	10.80162 AU
morning rise	2701 Mar 21 01:54	14°♓56'22	
retrograde	2701 Jul 03 06:58	22°♓23'57	
opposition	2701 Sep 11 23:08	19°♓00'53	-2°04'36
min. Earth dist.	2701 Sep 12 01:45	19°♓00'24	8.75560 AU
direct	2701 Nov 19 20:18	15°♓41'17	
evening set	2702 Feb 27 14:10	22°♓54'57	
conjunction	2702 Mar 16 10:06	24°♓57'20	-1°49'55
minimum elong	2702 Mar 16 10:03	24°♓57'20	1°49'56
max. Earth dist.	2702 Mar 16 07:43	24°♓56'37	10.70574 AU
morning rise	2702 Apr 02 09:39	27°♓00'53	
	2702 Apr 28 18:12	0°♈	
retrograde	2702 Jul 16 09:22	4°♈36'45	
opposition	2702 Sep 24 18:33	1°♈12'15	-2°24'40
min. Earth dist.	2702 Sep 24 20:03	1°♈11'58	8.65526 AU
	2702 Oct 10 19:19	30°℞♓	
direct	2702 Dec 02 03:56	27°♓51'51	

	2703 Jan 21 09:46	0°♈	
evening set	2703 Mar 12 01:22	5°♈11'37	
conjunction	2703 Mar 28 23:42	7°♈16'00	-2°03'35
minimum elong	2703 Mar 28 23:40	7°♈16'00	2°03'35
max. Earth dist.	2703 Mar 28 21:55	7°♈15'27	10.60137 AU
morning rise	2703 Apr 15 02:07	9°♈21'42	
retrograde	2703 Jul 29 17:50	17°♈06'09	
opposition	2703 Oct 07 18:47	13°♈40'18	-2°38'29
min. Earth dist.	2703 Oct 07 19:35	13°♈40'08	8.54861 AU
direct	2703 Dec 14 16:06	10°♈18'56	
evening set	2704 Mar 23 20:57	17°♈45'45	
conjunction	2704 Apr 09 22:21	19°♈52'25	-2°11'39
minimum elong	2704 Apr 09 22:20	19°♈52'25	2°11'39
max. Earth dist.	2704 Apr 09 20:35	19°♈51'52	10.49319 AU
morning rise	2704 Apr 27 04:20	22°♈00'32	
retrograde	2704 Aug 11 08:38	29°♈53'29	
opposition	2704 Oct 20 00:24	26°♈26'23	-2°44'55
min. Earth dist.	2704 Oct 20 01:04	26°♈26'15	8.44054 AU
direct	2704 Dec 26 11:22	23°♈03'55	
	2705 Mar 31 19:58	0°♉	
evening set	2705 Apr 06 01:30	0°♉38'21	
conjunction	2705 Apr 23 06:47	2°♉47'35	-2°13'20
minimum elong	2705 Apr 23 06:48	2°♉47'35	2°13'19
max. Earth dist.	2705 Apr 23 05:34	2°♉47'12	10.38630 AU
morning rise	2705 May 10 16:51	4°♉58'18	
retrograde	2705 Aug 25 06:11	12°♉59'07	
opposition	2705 Nov 02 11:11	9°♉30'58	-2°43'04
min. Earth dist.	2705 Nov 02 11:33	9°♉30'54	8.33627 AU
direct	2706 Jan 08 13:14	6°♉07'20	
evening set	2706 Apr 19 15:35	13°♉49'40	
	2706 Apr 28 23:32	15°♉	
conjunction	2706 May 07 01:27	16°♉01'35	-2°08'04
minimum elong	2706 May 07 01:28	16°♉01'35	2°08'03
max. Earth dist.	2706 May 07 01:21	16°♉01'33	10.28600 AU
morning rise	2706 May 24 15:50	18°♉14'56	
retrograde	2706 Sep 08 09:06	26°♉22'28	
opposition	2706 Nov 16 02:42	22°♉53'31	-2°32'25
min. Earth dist.	2706 Nov 16 02:19	22°♉53'35	8.24125 AU
direct	2707 Jan 21 22:21	19°♉28'43	
evening set	2707 May 03 14:58	27°♉18'48	
conjunction	2707 May 21 05:42	29°♉33'22	-1°55'43
minimum elong	2707 May 21 05:45	29°♉33'23	1°55'43
max. Earth dist.	2707 May 21 07:15	29°♉33'52	10.19782 AU
	2707 May 24 16:44	0°♊	
morning rise	2707 Jun 08 00:25	1°♊49'15	
retrograde	2707 Sep 22 16:43	10°♊01'53	
opposition	2707 Nov 29 22:40	6°♊32'25	-2°12'59
min. Earth dist.	2707 Nov 29 20:57	6°♊32'46	8.16093 AU
direct	2708 Feb 04 14:09	3°♊06'30	
evening set	2708 May 16 22:53	11°♊03'44	
conjunction	2708 Jun 03 18:23	13°♊20'43	-1°36'36
minimum elong	2708 Jun 03 18:27	13°♊20'45	1°36'36
max. Earth dist.	2708 Jun 03 21:12	13°♊21'38	10.12706 AU
morning rise	2708 Jun 21 17:07	15°♊38'48	
retrograde	2708 Oct 06 03:40	23°♊54'31	
opposition	2708 Dec 12 22:09	20°♊24'53	-1°45'29
min. Earth dist.	2708 Dec 12 19:28	20°♊25'26	8.10031 AU
direct	2709 Feb 17 11:23	16°♊57'57	
evening set	2709 May 31 14:33	25°♊01'19	
conjunction	2709 Jun 18 14:09	27°♊20'17	-1°11'36

minimum elong	2709 Jun 18	14:13	27°♊20'18	1°11'35	
max. Earth dist.	2709 Jun 18	17:39	27°♊21'25	10.07823 AU	
morning rise	2709 Jul 06	16:05	29°♊40'00		
	2709 Jul 09	07:22	0°♋		
retrograde	2709 Oct 20	16:34	7°♋56'28		
opposition	2709 Dec 26	23:51	4°♋27'04	-1°11'22	
min. Earth dist.	2709 Dec 26	20:48	4°♋27'42	8.06342 AU	
direct	2710 Mar 03	13:22	0°♋59'13		
evening set	2710 Jun 15	11:55	9°♋07'24		
conjunction	2710 Jul 03	14:29	11°♋27'36	-0°42'07	
minimum elong	2710 Jul 03	14:31	11°♋27'37	0°42'07	
max. Earth dist.	2710 Jul 03	18:14	11°♋28'50	10.05459 AU	
morning rise	2710 Jul 21	18:18	13°♋48'12		
retrograde	2710 Nov 04	04:16	22°♋03'06		
opposition	2711 Jan 10	02:44	18°♋34'17	-0°32'44	
min. Earth dist.	2711 Jan 09	23:40	18°♋34'55	8.05288 AU	
direct	2711 Mar 17	21:00	15°♋05'45		
evening set	2711 Jun 30	12:22	23°♋16'59		
conjunction	2711 Jul 18	16:21	25°♋37'33	-0°10'03	
minimum elong	2711 Jul 18	16:21	25°♋37'33	0°10'03	
behind sun begin	2711 Jul 18	10:30	25°♋35'40		
behind sun end	2711 Jul 18	22:13	25°♋39'26		
max. Earth dist.	2711 Jul 18	20:10	25°♋38'46	10.05784 AU	
morning rise	2711 Aug 05	20:27	27°♋58'08		
	2711 Aug 22	06:43	0°♌		
asc. node	2711 Nov 11	23:11	6°♌06'58		
retrograde	2711 Nov 18	12:04	6°♌09'21		
opposition	2712 Jan 24	05:15	2°♌41'22	0°07'52	
min. Earth dist.	2712 Jan 24	02:11	2°♌42'00	8.06952 AU	
	2712 Mar 01	15:46	30°℞♋		
direct	2712 Mar 31	07:30	29°♋12'25		
	2712 Apr 29	20:36	0°♌		
evening set	2712 Jul 14	13:28	7°♌24'44		
conjunction	2712 Aug 01	17:14	9°♌44'45	0°22'35	
minimum elong	2712 Aug 01	17:13	9°♌44'45	0°22'35	
max. Earth dist.	2712 Aug 01	21:06	9°♌46'00	10.08778 AU	
morning rise	2712 Aug 19	19:53	12°♌04'23		
	2712 Sep 13	00:13	15°♌		
retrograde	2712 Dec 01	14:48	20°♌10'03		
opposition	2713 Feb 06	05:50	16°♌43'08	0°47'42	
min. Earth dist.	2713 Feb 06	02:32	16°♌43'49	8.11219 AU	
	2713 Feb 28	04:18	15°℞♌		
direct	2713 Apr 14	18:32	13°♌14'02		
	2713 May 29	17:59	15°♌		
evening set	2713 Jul 29	12:12	21°♌25'22		
conjunction	2713 Aug 16	14:09	23°♌44'00	0°53'34	
minimum elong	2713 Aug 16	14:06	23°♌43'59	0°53'33	
max. Earth dist.	2713 Aug 16	18:05	23°♌45'16	10.14225 AU	
morning rise	2713 Sep 03	13:44	26°♌01'51		
	2713 Oct 07	11:32	0°♍		
retrograde	2713 Dec 15	12:10	4°♍00'36		
opposition	2714 Feb 20	03:29	0°♍34'51	1°24'13	
min. Earth dist.	2714 Feb 19	23:56	0°♍35'34	8.17772 AU	
	2714 Feb 27	07:20	30°℞♌		
direct	2714 Apr 29	03:05	27°♌05'52		
	2714 Jun 27	04:01	0°♍		
evening set	2714 Aug 13	05:39	5°♍14'12		
conjunction	2714 Aug 31	04:22	7°♍30'45	1°21'03	
minimum elong	2714 Aug 31	04:19	7°♍30'44	1°21'02	
max. Earth dist.	2714 Aug 31	08:15	7°♍32'00	10.21724 AU	
morning rise	2714 Sep 17	23:40	9°♍46'13		
retrograde	2714 Dec 29	04:06	17°♍37'10		

opposition	2715 Mar 05	21:08	14°♍12'39	1°55'17	
min. Earth dist.	2715 Mar 05	17:45	14°♍13'20	8.26127 AU	
direct	2715 May 13	08:38	10°♍44'03		
evening set	2715 Aug 27	15:44	18°♍47'43		
conjunction	2715 Sep 14	10:20	21°♍01'45	1°43'33	
minimum elong	2715 Sep 14	10:17	21°♍01'44	1°43'33	
max. Earth dist.	2715 Sep 14	13:39	21°♍02'48	10.30726 AU	
morning rise	2715 Oct 02	00:44	23°♍14'30		
	2715 Dec 09	23:44	0°♎		
retrograde	2716 Jan 11	12:09	0°♎57'17		
	2716 Feb 13	09:43	30°℞♍		
opposition	2716 Mar 18	10:02	27°♍34'04	2°19'22	
min. Earth dist.	2716 Mar 18	07:48	27°♍34'31	8.35681 AU	
direct	2716 May 26	09:54	24°♍06'06		
	2716 Aug 23	08:40	0°♎		
evening set	2716 Sep 09	16:59	2°♎03'56		
conjunction	2716 Sep 27	07:00	4°♎15'16	2°00'06	
minimum elong	2716 Sep 27	06:58	4°♎15'15	2°00'05	
max. Earth dist.	2716 Sep 27	08:56	4°♎15'52	10.40625 AU	
morning rise	2716 Oct 14	16:27	6°♎25'13		
retrograde	2717 Jan 23	12:59	14°♎00'02		
opposition	2717 Mar 31	18:13	10°♎38'06	2°35'36	
min. Earth dist.	2717 Mar 31	17:27	10°♎38'15	8.45867 AU	
direct	2717 Jun 09	06:09	7°♎10'59		
evening set	2717 Sep 23	08:37	15°♎02'08		
conjunction	2717 Oct 10	17:58	17°♎10'45	2°10'10	
minimum elong	2717 Oct 10	17:56	17°♎10'45	2°10'09	
max. Earth dist.	2717 Oct 10	18:11	17°♎10'49	10.50929 AU	
morning rise	2717 Oct 27	22:46	19°♎18'00		
retrograde	2718 Feb 05	07:45	26°♎45'16		
opposition	2718 Apr 13	21:30	23°♎24'30	2°43'40	
min. Earth dist.	2718 Apr 13	21:38	23°♎24'29	8.56238 AU	
direct	2718 Jun 22	20:09	19°♎58'24		
evening set	2718 Oct 06	14:17	27°♎42'12		
conjunction	2718 Oct 23	19:24	29°♎48'18	2°13'40	
minimum elong	2718 Oct 23	19:24	29°♎48'18	2°13'40	
max. Earth dist.	2718 Oct 23	18:27	29°♎48'01	10.61224 AU	
	2718 Oct 25	09:27	0°♏		
morning rise	2718 Nov 09	20:11	1°♏53'04		
retrograde	2719 Feb 17	19:19	9°♏13'22		
opposition	2719 Apr 26	19:52	5°♏53'35	2°43'45	
min. Earth dist.	2719 Apr 26	20:10	5°♏53'32	8.66370 AU	
direct	2719 Jul 06	04:40	2°♏28'35		
evening set	2719 Oct 19	10:10	10°♏04'45		
conjunction	2719 Nov 05	11:45	12°♏08'35	2°10'52	
minimum elong	2719 Nov 05	11:46	12°♏08'36	2°10'52	
max. Earth dist.	2719 Nov 05	10:34	12°♏08'14	10.71073 AU	
morning rise	2719 Nov 22	09:09	14°♏11'12		
	2719 Nov 29	06:39	15°♏		
retrograde	2720 Mar 01	02:49	21°♏25'21		
opposition	2720 May 08	13:41	18°♏06'21	2°36'23	
min. Earth dist.	2720 May 08	14:01	18°♏06'18	8.75817 AU	
	2720 Jun 29	06:43	15°℞♏		
direct	2720 Jul 18	06:47	14°♏42'27		
	2720 Aug 06	02:53	15°♏		
evening set	2720 Oct 30	21:12	22°♏11'08		
conjunction	2720 Nov 16	19:50	24°♏13'01	2°02'15	
minimum elong	2720 Nov 16	19:52	24°♏13'02	2°02'15	
max. Earth dist.	2720 Nov 16	18:51	24°♏12'43	10.80043 AU	
morning rise	2720 Dec 03	14:32	26°♏13'48		
	2721 Jan 07	06:11	0°♐		

retrograde	2721 Mar 13 07:10	3°♐22'48	
opposition	2721 May 21 03:26	0°♐04'24	2°22'21
min. Earth dist.	2721 May 21 04:31	0°♐04'12	8.84190 AU
	2721 May 22 02:47	30℞♏	
direct	2721 Jul 31 00:59	26°♏41'34	
	2721 Oct 05 02:53	0°♐	
evening set	2721 Nov 12 00:23	4°♐03'12	
conjunction	2721 Nov 28 20:35	6°♐03'30	1°48'31
minimum elong	2721 Nov 28 20:37	6°♐03'31	1°48'32
max. Earth dist.	2721 Nov 28 18:53	6°♐03'00	10.87776 AU
morning rise	2721 Dec 15 13:29	8°♐02'53	
retrograde	2722 Mar 25 05:46	15°♐07'55	
opposition	2722 Jun 02 13:47	11°♐49'53	2°02'34
min. Earth dist.	2722 Jun 02 15:50	11°♐49'30	8.91170 AU
direct	2722 Aug 12 14:18	8°♐28'01	
evening set	2722 Nov 23 20:54	15°♐43'24	
conjunction	2722 Dec 10 15:13	17°♐42'28	1°30'27
minimum elong	2722 Dec 10 15:15	17°♐42'28	1°30'27
max. Earth dist.	2722 Dec 10 12:24	17°♐41'37	10.93979 AU
morning rise	2722 Dec 27 07:08	19°♐40'49	
retrograde	2723 Apr 06 03:03	26°♐43'15	
opposition	2723 Jun 14 21:13	23°♐25'21	1°38'03
min. Earth dist.	2723 Jun 14 23:37	23°♐24'54	8.96489 AU
direct	2723 Aug 24 23:48	20°♐04'22	
evening set	2723 Dec 05 12:26	27°♐14'32	
conjunction	2723 Dec 22 05:30	29°♐12'43	1°08'54
minimum elong	2723 Dec 22 05:32	29°♐12'44	1°08'53
max. Earth dist.	2723 Dec 22 02:37	29°♐11'52	10.98415 AU
	2723 Dec 28 20:55	0°♑	
morning rise	2724 Jan 07 20:51	1°♑10'25	
retrograde	2724 Apr 16 23:48	8°♑11'40	
opposition	2724 Jun 26 02:33	4°♑53'40	1°09'52
min. Earth dist.	2724 Jun 26 04:28	4°♑53'19	8.99949 AU
direct	2724 Sep 05 03:52	1°♑33'29	
evening set	2724 Dec 16 00:32	8°♑39'38	
conjunction	2725 Jan 01 16:52	10°♑37'19	0°44'45
minimum elong	2725 Jan 01 16:53	10°♑37'20	0°44'44
max. Earth dist.	2725 Jan 01 14:35	10°♑36'39	11.00921 AU
morning rise	2725 Jan 18 08:01	12°♑34'43	
retrograde	2725 Apr 28 21:52	19°♑36'17	
opposition	2725 Jul 08 07:05	16°♑18'01	0°39'06
min. Earth dist.	2725 Jul 08 08:46	16°♑17'43	9.01432 AU
direct	2725 Sep 17 04:55	12°♑58'29	
evening set	2725 Dec 27 10:47	20°♑01'56	
conjunction	2726 Jan 13 02:36	21°♑59'27	0°18'54
minimum elong	2726 Jan 13 02:37	21°♑59'28	0°18'53
max. Earth dist.	2726 Jan 13 00:10	21°♑58'45	11.01408 AU
morning rise	2726 Jan 29 18:07	23°♑56'55	
	2726 Apr 05 13:20	0°♒	
retrograde	2726 May 10 21:01	1°♒00'17	
	2726 Jun 15 21:51	30℞♑	
opposition	2726 Jul 20 11:36	27°♑41'33	0°06'49
min. Earth dist.	2726 Jul 20 13:52	27°♑41'08	9.00886 AU
direct	2726 Sep 29 02:39	24°♑22'30	
desc. node	2726 Oct 07 02:41	24°♑25'39	
	2726 Dec 26 10:21	0°♒	
evening set	2727 Jan 07 21:02	1°♒24'42	
conjunction	2727 Jan 24 12:37	3°♒22'22	-0°07'49
minimum elong	2727 Jan 24 12:37	3°♒22'22	0°07'48
behind sun begin	2727 Jan 24 06:19	3°♒20'31	
behind sun end	2727 Jan 24 18:55	3°♒24'12	

max. Earth dist.	2727 Jan 24 09:16	3°♒21'24	10.99857 AU
morning rise	2727 Feb 10 04:57	5°♒20'15	
retrograde	2727 May 22 21:06	12°♒26'51	
opposition	2727 Aug 01 16:47	9°♒07'28	-0°25'51
min. Earth dist.	2727 Aug 01 19:25	9°♒06'59	8.98326 AU
direct	2727 Oct 11 00:07	5°♒48'42	
evening set	2728 Jan 19 08:39	12°♒51'07	
conjunction	2728 Feb 05 00:29	14°♒49'17	-0°34'14
minimum elong	2728 Feb 05 00:28	14°♒49'16	0°34'13
max. Earth dist.	2728 Feb 04 21:29	14°♒48'23	10.96312 AU
	2728 Feb 06 12:31	15°♒	
morning rise	2728 Feb 21 17:47	16°♒47'52	
retrograde	2728 Jun 03 03:28	23°♒59'10	
opposition	2728 Aug 12 23:56	20°♒38'56	-0°57'45
min. Earth dist.	2728 Aug 13 01:56	20°♒38'34	8.93836 AU
direct	2728 Oct 21 23:37	17°♒20'16	
evening set	2729 Jan 29 23:05	24°♒24'17	
conjunction	2729 Feb 15 15:34	26°♒23'16	-0°59'32
minimum elong	2729 Feb 15 15:33	26°♒23'15	0°59'31
max. Earth dist.	2729 Feb 15 13:43	26°♒22'42	10.90899 AU
morning rise	2729 Mar 04 10:06	28°♒22'54	
	2729 Mar 18 14:08	0°♓	
retrograde	2729 Jun 15 14:14	5°♓40'10	
opposition	2729 Aug 25 09:49	2°♓18'54	-1°27'42
min. Earth dist.	2729 Aug 25 10:52	2°♓18'43	8.87581 AU
	2729 Sep 28 15:07	30℞♒	
direct	2729 Nov 02 22:11	29°♒00'08	
	2729 Dec 07 10:19	0°♓	
evening set	2730 Feb 10 18:11	6°♓07'11	
conjunction	2730 Feb 27 11:39	8°♓07'17	-1°22'40
minimum elong	2730 Feb 27 11:36	8°♓07'16	1°22'40
max. Earth dist.	2730 Feb 27 09:56	8°♓06'46	10.83825 AU
morning rise	2730 Mar 16 07:53	10°♓08'17	
retrograde	2730 Jun 28 06:29	17°♓32'32	
opposition	2730 Sep 06 23:06	14°♓10'11	-1°54'26
min. Earth dist.	2730 Sep 07 00:04	14°♓10'00	8.79807 AU
direct	2730 Nov 15 00:02	10°♓51'05	
evening set	2731 Feb 22 19:05	18°♓02'27	
conjunction	2731 Mar 11 13:57	20°♓04'02	-1°42'35
minimum elong	2731 Mar 11 13:54	20°♓04'01	1°42'36
max. Earth dist.	2731 Mar 11 11:56	20°♓03'25	10.75379 AU
morning rise	2731 Mar 28 12:27	22°♓06'42	
retrograde	2731 Jul 11 05:34	29°♓38'45	
opposition	2731 Sep 19 16:40	26°♓15'14	-2°16'42
min. Earth dist.	2731 Sep 19 17:46	26°♓15'01	8.70825 AU
direct	2731 Nov 27 05:28	22°♓55'35	
	2732 Mar 04 09:14	0°♈	
evening set	2732 Mar 06 02:47	0°♈12'26	
conjunction	2732 Mar 22 23:46	2°♈15'47	-1°58'18
minimum elong	2732 Mar 22 23:44	2°♈15'46	1°58'18
max. Earth dist.	2732 Mar 22 22:17	2°♈15'20	10.65902 AU
morning rise	2732 Apr 09 00:55	4°♈20'25	
retrograde	2732 Jul 23 09:22	12°♈00'45	
opposition	2732 Oct 01 14:54	8°♈36'02	-2°33'14
min. Earth dist.	2732 Oct 01 15:41	8°♈35'53	8.61009 AU
direct	2732 Dec 08 16:52	5°♈15'39	
evening set	2733 Mar 18 18:30	12°♈38'54	
conjunction	2733 Apr 04 18:25	14°♈44'22	-2°08'48
minimum elong	2733 Apr 04 18:24	14°♈44'21	2°08'48
max. Earth dist.	2733 Apr 04 18:21	14°♈44'20	10.55796 AU
morning rise	2733 Apr 21 22:41	16°♈51'12	

retrograde	2733 Aug 05	20:52	24°♈39'52	
opposition	2733 Oct 14	17:56	21°♈13'57	-2°42'51
min. Earth dist.	2733 Oct 14	17:43	21°♈13'59	8.50771 AU
direct	2733 Dec 21	10:07	17°♈52'40	
evening set	2734 Mar 31	18:56	25°♈22'59	
conjunction	2734 Apr 17	22:28	27°♈30'50	-2°13'14
minimum elong	2734 Apr 17	22:28	27°♈30'50	2°13'14
max. Earth dist.	2734 Apr 17	23:08	27°♈31'02	10.45487 AU
morning rise	2734 May 05	06:25	29°♈40'06	
	2734 May 07	23:39	0°♉	
retrograde	2734 Aug 19	16:27	7°♉36'40	
opposition	2734 Oct 28	01:58	4°♉09'39	-2°44'34
min. Earth dist.	2734 Oct 28	01:08	4°♉09'49	8.40527 AU
direct	2735 Jan 03	07:45	0°♉47'18	
evening set	2735 Apr 14	04:27	8°♉25'07	
conjunction	2735 May 01	12:06	10°♉35'31	-2°10'59
minimum elong	2735 May 01	12:07	10°♉35'32	2°10'58
max. Earth dist.	2735 May 01	12:40	10°♉35'42	10.35401 AU
morning rise	2735 May 19	00:14	12°♉47'22	
	2735 Jun 06	10:59	15°♉	
retrograde	2735 Sep 02	17:27	20°♉50'58	
opposition	2735 Nov 10	14:54	17°♉23'04	-2°37'42
min. Earth dist.	2735 Nov 10	14:01	17°♉23'14	8.30720 AU
	2735 Dec 13	17:25	15°℞♉	
direct	2736 Jan 16	12:10	13°♉59'31	
	2736 Feb 18	20:51	15°♉	
evening set	2736 Apr 26	23:08	21°♉45'04	
conjunction	2736 May 14	11:25	23°♉58'07	-2°01'41
minimum elong	2736 May 14	11:27	23°♉58'08	2°01'40
max. Earth dist.	2736 May 14	11:37	23°♉58'11	10.26035 AU
morning rise	2736 Jun 01	04:04	26°♉12'33	
	2736 Jul 03	15:30	0°♊	
retrograde	2736 Sep 15	22:08	4°♊21'57	
opposition	2736 Nov 23	08:25	0°♊53'22	-2°22'04
min. Earth dist.	2736 Nov 23	07:45	0°♊53'30	8.21912 AU
	2736 Dec 04	11:34	30°℞♉	
direct	2737 Jan 29	00:49	27°♉28'36	
	2737 Mar 23	16:02	0°♊	
evening set	2737 May 11	02:42	5°♊21'35	
conjunction	2737 May 28	19:49	7°♊37'11	-1°45'28
minimum elong	2737 May 28	19:53	7°♊37'12	1°45'27
max. Earth dist.	2737 May 28	20:18	7°♊37'20	10.17984 AU
morning rise	2737 Jun 15	16:49	9°♊54'00	
retrograde	2737 Sep 30	06:25	18°♊07'22	
opposition	2737 Dec 07	05:44	14°♊38'24	-1°58'02
min. Earth dist.	2737 Dec 07	04:56	14°♊38'33	8.14704 AU
direct	2738 Feb 11	19:51	11°♊12'24	
evening set	2738 May 25	14:19	19°♊12'01	
conjunction	2738 Jun 12	11:57	21°♊29'50	-1°22'57
minimum elong	2738 Jun 12	12:00	21°♊29'51	1°22'56
max. Earth dist.	2738 Jun 12	13:21	21°♊30'17	10.11804 AU
morning rise	2738 Jun 30	12:32	23°♊48'34	
	2738 Aug 26	20:49	0°♋	
retrograde	2738 Oct 14	16:46	2°♋03'45	
	2738 Dec 03	08:49	30°℞♊	
opposition	2738 Dec 21	05:43	28°♊34'40	-1°26'43
min. Earth dist.	2738 Dec 21	04:11	28°♊34'59	8.09601 AU
direct	2739 Feb 25	20:00	25°♊07'33	
	2739 May 13	16:45	0°♋	
evening set	2739 Jun 09	08:19	3°♋12'36	
conjunction	2739 Jun 27	09:35	5°♋32'00	-0°55'20
minimum elong	2739 Jun 27	09:38	5°♋32'01	0°55'19
max. Earth dist.	2739 Jun 27	12:05	5°♋32'49	10.07930 AU
morning rise	2739 Jul 15	12:37	7°♋52'00	
retrograde	2739 Oct 29	03:40	16°♋06'44	
opposition	2740 Jan 04	07:18	12°♋37'49	-0°49'57
min. Earth dist.	2740 Jan 04	04:53	12°♋38'19	8.06962 AU
direct	2740 Mar 11	01:02	9°♋09'44	
evening set	2740 Jun 23	06:32	17°♋18'38	
conjunction	2740 Jul 11	10:07	19°♋38'53	-0°24'16
minimum elong	2740 Jul 11	10:08	19°♋38'53	0°24'16
max. Earth dist.	2740 Jul 11	13:32	19°♋39'59	10.06620 AU
morning rise	2740 Jul 29	14:08	21°♋59'18	
	2740 Oct 28	06:16	0°♌	
retrograde	2740 Nov 11	12:18	0°♌11'22	
	2740 Nov 25	18:51	30°℞♋	
opposition	2741 Jan 17	09:05	26°♋42'57	-0°10'03
min. Earth dist.	2741 Jan 17	06:05	26°♋43'34	8.06952 AU
direct	2741 Mar 25	08:57	23°♋14'07	
asc. node	2741 Apr 21	05:38	23°♋53'45	
	2741 Jun 26	21:22	0°♌	
evening set	2741 Jul 08	06:44	1°♌25'05	
conjunction	2741 Jul 26	10:53	3°♌45'16	0°08'18
minimum elong	2741 Jul 26	10:53	3°♌45'15	0°08'18
behind sun begin	2741 Jul 26	04:26	3°♌43'11	
behind sun end	2741 Jul 26	17:20	3°♌47'19	
max. Earth dist.	2741 Jul 26	14:37	3°♌46'26	10.07939 AU
morning rise	2741 Aug 13	14:09	6°♌05'11	
retrograde	2741 Nov 25	17:16	14°♌12'39	
opposition	2742 Jan 31	09:41	10°♌45'00	0°30'18
min. Earth dist.	2742 Jan 31	06:50	10°♌45'36	8.09557 AU
direct	2742 Apr 08	17:52	7°♌15'41	
	2742 Jul 19	16:28	15°♌	
evening set	2742 Jul 23	05:52	15°♌26'49	
conjunction	2742 Aug 10	08:49	17°♌46'01	0°40'06
minimum elong	2742 Aug 10	08:47	17°♌46'01	0°40'06
max. Earth dist.	2742 Aug 10	12:10	17°♌47'06	10.11786 AU
morning rise	2742 Aug 28	09:46	20°♌04'36	
retrograde	2742 Dec 09	17:22	28°♌05'57	
opposition	2743 Feb 14	08:03	24°♌39'18	1°08'28
min. Earth dist.	2743 Feb 14	05:42	24°♌39'47	8.14596 AU
direct	2743 Apr 23	02:13	21°♌09'49	
evening set	2743 Aug 07	00:58	29°♌19'05	
	2743 Aug 12	10:42	0°♍	
conjunction	2743 Aug 25	01:14	1°♍36'35	1°09'16
minimum elong	2743 Aug 25	01:11	1°♍36'34	1°09'16
max. Earth dist.	2743 Aug 25	03:53	1°♍37'26	10.17901 AU
morning rise	2743 Sep 11	22:36	3°♍53'09	
retrograde	2743 Dec 23	11:01	11°♍47'17	
opposition	2744 Feb 28	02:56	8°♍21'46	1°42'07
min. Earth dist.	2744 Feb 28	01:02	8°♍22'09	8.21730 AU
direct	2744 May 06	09:31	4°♍52'26	
evening set	2744 Aug 20	14:02	12°♍58'07	
conjunction	2744 Sep 07	10:31	15°♍13'19	1°34'06
minimum elong	2744 Sep 07	10:28	15°♍13'18	1°34'06
max. Earth dist.	2744 Sep 07	12:22	15°♍13'54	10.25886 AU
morning rise	2744 Sep 25	03:24	17°♍27'22	
retrograde	2745 Jan 04	20:14	25°♍13'40	
opposition	2745 Mar 12	17:27	21°♍49'22	2°09'27
min. Earth dist.	2745 Mar 12	15:42	21°♍49'43	8.30507 AU
direct	2745 May 20	13:37	18°♍20'32	
evening set	2745 Sep 03	18:58	26°♍21'03	

conjunction	2745 Sep 21 11:03	28°♍33'38	1°53'24
minimum elong	2745 Sep 21 11:00	28°♍33'37	1°53'23
max. Earth dist.	2745 Sep 21 12:29	28°♍34'05	10.35265 AU
	2745 Oct 02 22:10	0°♎	
morning rise	2745 Oct 08 22:58	0°♎44'54	
retrograde	2746 Jan 17 23:47	8°♎23'13	
opposition	2746 Mar 26 03:21	5°♎00'11	2°29'16
min. Earth dist.	2746 Mar 26 01:20	5°♎00'35	8.40417 AU
direct	2746 Jun 03 11:51	1°♎32'09	
evening set	2746 Sep 17 14:19	9°♎26'14	
conjunction	2746 Oct 05 01:54	11°♎36'07	2°06'25
minimum elong	2746 Oct 05 01:52	11°♎36'06	2°06'24
max. Earth dist.	2746 Oct 05 03:35	11°♎36'38	10.45518 AU
morning rise	2746 Oct 22 08:52	13°♎44'36	
retrograde	2747 Jan 30 22:09	21°♎15'06	
opposition	2747 Apr 08 08:21	17°♎53'18	2°41'02
min. Earth dist.	2747 Apr 08 06:39	17°♎53'38	8.50926 AU
direct	2747 Jun 17 02:50	14°♎26'19	
evening set	2747 Sep 30 23:58	22°♎13'12	
conjunction	2747 Oct 18 07:12	24°♎20'27	2°12'52
minimum elong	2747 Oct 18 07:12	24°♎20'27	2°12'52
max. Earth dist.	2747 Oct 18 08:35	24°♎20'53	10.56113 AU
morning rise	2747 Nov 04 09:43	26°♎26'19	
	2747 Dec 06 00:41	0°♏	
retrograde	2748 Feb 12 12:34	3°♏49'27	
opposition	2748 Apr 20 08:17	0°♏28'52	2°44'40
min. Earth dist.	2748 Apr 20 07:35	0°♏29'00	8.61505 AU
	2748 Apr 26 13:29	30°℞♎	
direct	2748 Jun 29 12:36	27°♎03'02	
	2748 Aug 30 01:25	0°♏	
evening set	2748 Oct 12 23:56	4°♏42'25	
conjunction	2748 Oct 30 03:09	6°♏47'13	2°12'53
minimum elong	2748 Oct 30 03:10	6°♏47'14	2°12'53
max. Earth dist.	2748 Oct 30 03:28	6°♏47'19	10.66531 AU
morning rise	2748 Nov 16 01:59	8°♏50'45	
	2749 Jan 18 20:47	15°♏	
retrograde	2749 Feb 23 21:28	16°♏07'17	
	2749 Apr 01 17:18	15°℞♏	
opposition	2749 May 03 03:45	12°♏47'47	2°40'36
min. Earth dist.	2749 May 03 04:08	12°♏47'43	8.71653 AU
direct	2749 Jul 12 16:57	9°♏23'13	
	2749 Oct 08 22:43	15°♏	
evening set	2749 Oct 25 14:32	16°♏55'02	
conjunction	2749 Nov 11 14:19	18°♏57'42	2°06'50
minimum elong	2749 Nov 11 14:21	18°♏57'43	2°06'51
max. Earth dist.	2749 Nov 11 13:20	18°♏57'24	10.76298 AU
morning rise	2749 Nov 28 10:17	20°♏59'14	
retrograde	2750 Mar 08 02:13	28°♏10'10	
opposition	2750 May 15 18:57	24°♏51'32	2°29'29
min. Earth dist.	2750 May 15 19:32	24°♏51'26	8.80922 AU
direct	2750 Jul 25 14:26	21°♏28'16	
evening set	2750 Nov 06 20:51	28°♏52'50	
	2750 Nov 16 07:03	0°♐	
conjunction	2750 Nov 23 18:02	0°♐53'45	1°55'21
minimum elong	2750 Nov 23 18:04	0°♐53'45	1°55'22
max. Earth dist.	2750 Nov 23 16:50	0°♐53'23	10.84998 AU
morning rise	2750 Dec 10 11:50	2°♐53'40	
retrograde	2751 Mar 20 02:40	10°♐00'07	
opposition	2751 May 28 06:18	6°♐42'08	2°12'11
min. Earth dist.	2751 May 28 06:47	6°♐42'03	8.88927 AU
direct	2751 Aug 07 06:23	3°♐20'06	
evening set	2751 Nov 18 20:08	10°♐38'04	

conjunction	2751 Dec 05 15:23	12°♐37'35	1°39'10
minimum elong	2751 Dec 05 15:25	12°♐37'35	1°39'10
max. Earth dist.	2751 Dec 05 14:23	12°♐37'17	10.92272 AU
morning rise	2751 Dec 22 07:38	14°♐36'16	
retrograde	2752 Mar 31 02:46	21°♐39'30	
opposition	2752 Jun 08 14:48	18°♐21'57	1°49'43
min. Earth dist.	2752 Jun 08 15:39	18°♐21'48	8.95345 AU
direct	2752 Aug 18 16:47	15°♐01'02	
evening set	2752 Nov 29 13:53	22°♐13'17	
conjunction	2752 Dec 16 07:32	24°♐11'45	1°19'06
minimum elong	2752 Dec 16 07:35	24°♐11'45	1°19'06
max. Earth dist.	2752 Dec 16 06:04	24°♐11'19	10.97826 AU
morning rise	2753 Jan 01 22:56	26°♐09'36	
	2753 Feb 07 02:05	0°♑	
retrograde	2753 Apr 11 23:45	3°♑10'57	
	2753 Jun 19 10:30	30°℞♐	
opposition	2753 Jun 20 21:12	29°♐53'34	1°23'06
min. Earth dist.	2753 Jun 20 23:08	29°♐53'13	8.99935 AU
direct	2753 Aug 30 21:28	26°♐33'36	
	2753 Nov 06 13:06	0°♑	
evening set	2753 Dec 11 03:35	3°♑41'15	
conjunction	2753 Dec 27 20:04	5°♑39'00	0°56'03
minimum elong	2753 Dec 27 20:05	5°♑39'00	0°56'02
max. Earth dist.	2753 Dec 27 17:16	5°♑38'10	11.01454 AU
morning rise	2754 Jan 13 11:17	7°♑36'24	
retrograde	2754 Apr 23 19:42	14°♑37'20	
opposition	2754 Jul 03 02:06	11°♑19'50	0°53'24
min. Earth dist.	2754 Jul 03 04:39	11°♑19'22	9.02510 AU
direct	2754 Sep 12 00:34	8°♑00'35	
evening set	2754 Dec 22 14:36	15°♑04'54	
conjunction	2755 Jan 08 06:29	17°♑02'19	0°30'52
minimum elong	2755 Jan 08 06:30	17°♑02'19	0°30'52
max. Earth dist.	2755 Jan 08 03:16	17°♑01'22	11.02973 AU
morning rise	2755 Jan 24 21:53	18°♑59'36	
retrograde	2755 May 05 18:14	26°♑01'38	
opposition	2755 Jul 15 06:25	22°♑43'44	0°21'43
min. Earth dist.	2755 Jul 15 08:54	22°♑43'16	9.02899 AU
direct	2755 Sep 24 00:58	19°♑25'01	
evening set	2756 Jan 03 00:46	26°♑27'24	
conjunction	2756 Jan 19 16:27	28°♑24'50	0°04'33
minimum elong	2756 Jan 19 16:27	28°♑24'50	0°04'33
behind sun begin	2756 Jan 19 09:37	28°♑22'51	
behind sun end	2756 Jan 19 23:17	28°♑26'50	
max. Earth dist.	2756 Jan 19 13:31	28°♑24'01	11.02242 AU
	2756 Feb 02 03:16	0°♒	
morning rise	2756 Feb 05 08:12	0°♒22'22	
desc. node	2756 Mar 22 23:26	5°♒06'39	
retrograde	2756 May 16 18:39	7°♒27'03	
opposition	2756 Jul 26 11:15	4°♒08'31	-0°10'53
min. Earth dist.	2756 Jul 26 13:39	4°♒08'04	9.01031 AU
direct	2756 Oct 04 22:45	0°♒50'08	
evening set	2757 Jan 13 11:47	7°♒52'08	
conjunction	2757 Jan 30 03:29	9°♒49'56	-0°22'11
minimum elong	2757 Jan 30 03:28	9°♒49'56	0°22'10
max. Earth dist.	2757 Jan 29 23:55	9°♒48'53	10.99280 AU
morning rise	2757 Feb 15 20:05	11°♒48'04	
	2757 Mar 17 05:47	15°♒	
retrograde	2757 May 28 23:34	18°♒56'55	
opposition	2757 Aug 07 17:46	15°♒37'31	-0°43'15
min. Earth dist.	2757 Aug 07 20:44	15°♒36'58	8.97014 AU
	2757 Aug 16 05:15	15°℞♒	
direct	2757 Oct 16 20:33	12°♒19'12	

	2757 Dec 14 02:45	15°♒	
evening set	2758 Jan 25 01:03	19°♒22'15	
conjunction	2758 Feb 10 17:03	21°♒20'46	-0°48'07
minimum elong	2758 Feb 10 17:02	21°♒20'46	0°48'06
max. Earth dist.	2758 Feb 10 12:42	21°♒19'28	10.94257 AU
morning rise	2758 Feb 27 11:01	23°♒19'52	
	2758 May 14 18:32	0°♓	
retrograde	2758 Jun 10 06:36	0°♓34'11	
	2758 Jul 07 03:01	30°℞♒	
opposition	2758 Aug 20 02:36	27°♒13'42	-1°14'15
min. Earth dist.	2758 Aug 20 06:00	27°♒13'04	8.91056 AU
direct	2758 Oct 28 19:06	23°♒55'09	
	2759 Jan 28 00:20	0°♓	
evening set	2759 Feb 05 18:07	1°♓00'44	
conjunction	2759 Feb 22 10:58	3°♓00'16	-1°12'22
minimum elong	2759 Feb 22 10:55	3°♓00'15	1°12'22
max. Earth dist.	2759 Feb 22 06:52	2°♓59'02	10.87405 AU
morning rise	2759 Mar 11 06:27	5°♓00'36	
retrograde	2759 Jun 22 19:22	12°♓21'34	
opposition	2759 Sep 01 14:21	8°♓59'48	-1°42'38
min. Earth dist.	2759 Sep 01 17:19	8°♓59'15	8.83415 AU
direct	2759 Nov 09 21:34	5°♓40'49	
evening set	2760 Feb 17 16:15	12°♓50'13	
conjunction	2760 Mar 05 10:28	14°♓51'08	-1°33'54
minimum elong	2760 Mar 05 10:26	14°♓51'07	1°33'55
max. Earth dist.	2760 Mar 05 07:41	14°♓50'17	10.79010 AU
morning rise	2760 Mar 22 07:48	16°♓53'02	
retrograde	2760 Jul 04 16:07	24°♓21'36	
opposition	2760 Sep 13 06:05	20°♓58'26	-2°07'08
min. Earth dist.	2760 Sep 13 07:53	20°♓58'06	8.74409 AU
direct	2760 Nov 21 01:55	17°♓38'50	
evening set	2761 Feb 28 20:41	24°♓53'15	
conjunction	2761 Mar 17 16:45	26°♓55'51	-1°51'41
minimum elong	2761 Mar 17 16:43	26°♓55'50	1°51'41
max. Earth dist.	2761 Mar 17 14:38	26°♓55'12	10.69428 AU
morning rise	2761 Apr 03 16:29	28°♓59'37	
	2761 Apr 12 05:06	0°♈	
retrograde	2761 Jul 17 18:08	6°♈36'26	
opposition	2761 Sep 26 02:15	3°♈11'52	-2°26'29
min. Earth dist.	2761 Sep 26 03:23	3°♈11'39	8.64411 AU
	2761 Nov 20 15:09	30°℞♓	
direct	2761 Dec 03 09:36	29°♓51'25	
	2761 Dec 16 03:09	0°♈	
evening set	2762 Mar 13 08:51	7°♈11'59	
conjunction	2762 Mar 30 07:20	9°♈16'35	-2°04'42
minimum elong	2762 Mar 30 07:18	9°♈16'35	2°04'42
max. Earth dist.	2762 Mar 30 05:08	9°♈15'55	10.59066 AU
morning rise	2762 Apr 16 10:07	11°♈22'31	
retrograde	2762 Jul 31 02:44	19°♈07'49	
opposition	2762 Oct 09 03:08	15°♈41'55	-2°39'27
min. Earth dist.	2762 Oct 09 04:14	15°♈41'42	8.53848 AU
direct	2762 Dec 15 23:39	12°♈20'28	
evening set	2763 Mar 26 05:18	19°♈48'03	
conjunction	2763 Apr 12 06:59	21°♈54'57	-2°12'02
minimum elong	2763 Apr 12 06:58	21°♈54'57	2°12'01
max. Earth dist.	2763 Apr 12 05:14	21°♈54'24	10.48378 AU
morning rise	2763 Apr 29 13:21	24°♈03'18	
	2763 Jun 25 21:39	0°♉	
retrograde	2763 Aug 13 18:18	1°♉56'56	
	2763 Oct 02 14:46	30°℞♈	
opposition	2763 Oct 22 09:14	28°♈29'47	-2°44'55
min. Earth dist.	2763 Oct 22 10:03	28°♈29'37	8.43196 AU
direct	2763 Dec 28 19:24	25°♈07'16	
	2764 Mar 15 11:54	0°♉	
evening set	2764 Apr 07 10:32	2°♉42'21	
conjunction	2764 Apr 24 16:15	4°♉51'48	-2°12'54
minimum elong	2764 Apr 24 16:16	4°♉51'48	2°12'53
max. Earth dist.	2764 Apr 24 15:55	4°♉51'41	10.37866 AU
morning rise	2764 May 12 02:37	7°♉02'43	
	2764 Aug 17 20:22	15°♉	
retrograde	2764 Aug 26 15:48	15°♉04'03	
	2764 Sep 04 11:30	15°℞♉	
opposition	2764 Nov 03 20:23	11°♉35'50	-2°42'02
min. Earth dist.	2764 Nov 03 20:14	11°♉35'52	8.32971 AU
direct	2765 Jan 09 22:31	8°♉12'10	
	2765 Apr 13 14:37	15°♉	
evening set	2765 Apr 21 01:16	15°♉55'00	
conjunction	2765 May 08 11:36	18°♉07'06	-2°06'49
minimum elong	2765 May 08 11:38	18°♉07'07	2°06'48
max. Earth dist.	2765 May 08 12:43	18°♉07'28	10.28059 AU
morning rise	2765 May 26 02:15	20°♉20'37	
retrograde	2765 Sep 09 18:46	28°♉28'26	
opposition	2765 Nov 17 12:06	24°♉59'26	-2°30'22
min. Earth dist.	2765 Nov 17 10:49	24°♉59'41	8.23708 AU
direct	2766 Jan 23 07:57	21°♉34'35	
evening set	2766 May 05 01:12	29°♉24'59	
	2766 May 09 16:10	0°♊	
conjunction	2766 May 22 16:22	1°♊39'43	-1°53'41
minimum elong	2766 May 22 16:25	1°♊39'44	1°53'41
max. Earth dist.	2766 May 22 18:33	1°♊40'26	10.19493 AU
morning rise	2766 Jun 09 11:21	3°♊55'43	
retrograde	2766 Sep 24 03:12	12°♊08'20	
opposition	2766 Dec 01 08:05	8°♊38'50	-2°10'00
min. Earth dist.	2766 Dec 01 05:51	8°♊39'18	8.15930 AU
direct	2767 Feb 05 22:50	5°♊12'51	
evening set	2767 May 19 09:29	13°♊10'13	
conjunction	2767 Jun 06 05:13	15°♊27'18	-1°33'53
minimum elong	2767 Jun 06 05:17	15°♊27'19	1°33'53
max. Earth dist.	2767 Jun 06 07:55	15°♊28'10	10.12675 AU
morning rise	2767 Jun 24 04:12	17°♊45'27	
retrograde	2767 Oct 08 14:32	26°♊00'50	
opposition	2767 Dec 15 07:24	22°♊31'13	-1°41'45
min. Earth dist.	2767 Dec 15 04:50	22°♊31'45	8.10125 AU
direct	2768 Feb 19 19:55	19°♊04'11	
evening set	2768 Jun 02 01:05	27°♊07'32	
conjunction	2768 Jun 20 00:49	29°♊26'29	-1°08'22
minimum elong	2768 Jun 20 00:52	29°♊26'30	1°08'22
max. Earth dist.	2768 Jun 20 03:46	29°♊27'26	10.08047 AU
	2768 Jun 24 08:17	0°♋	
morning rise	2768 Jul 08 02:58	1°♋46'12	
retrograde	2768 Oct 22 02:29	10°♋02'05	
opposition	2768 Dec 28 08:48	6°♋32'43	-1°07'07
min. Earth dist.	2768 Dec 28 06:12	6°♋33'15	8.06684 AU
direct	2769 Mar 04 23:35	3°♋04'46	
evening set	2769 Jun 16 22:08	11°♋12'45	
conjunction	2769 Jul 05 00:46	13°♋32'52	-0°38'35
minimum elong	2769 Jul 05 00:48	13°♋32'53	0°38'35
max. Earth dist.	2769 Jul 05 03:58	13°♋33'54	10.05917 AU
morning rise	2769 Jul 23 04:43	15°♋53'23	
retrograde	2769 Nov 05 11:43	24°♋07'31	
opposition	2770 Jan 11 11:08	20°♋38'44	-0°28'15
min. Earth dist.	2770 Jan 11 08:23	20°♋39'18	8.05844 AU

direct	2770 Mar 19 07:34	17°♋10'09	
evening set	2770 Jul 01 22:13	25°♋21'01	
conjunction	2770 Jul 20 02:12	27°♋41'26	-0°06'28
minimum elong	2770 Jul 20 02:12	27°♋41'26	0°06'28
behind sun begin	2770 Jul 19 19:18	27°♋39'13	
behind sun end	2770 Jul 20 09:06	27°♋43'39	
max. Earth dist.	2770 Jul 20 05:46	27°♋42'34	10.06429 AU
morning rise	2770 Aug 07 06:12	0°♌01'50	
	2770 Aug 07 00:25	0°♌	
asc. node	2770 Oct 02 17:24	6°♌09'31	
retrograde	2770 Nov 19 18:22	8°♌12'11	
opposition	2771 Jan 25 12:57	4°♌44'16	0°12'18
min. Earth dist.	2771 Jan 25 09:44	4°♌44'56	8.07674 AU
direct	2771 Apr 02 16:53	1°♌15'18	
evening set	2771 Jul 16 22:39	9°♌27'06	
conjunction	2771 Aug 04 02:19	11°♌46'57	0°26'02
minimum elong	2771 Aug 04 02:18	11°♌46'56	0°26'02
max. Earth dist.	2771 Aug 04 06:29	11°♌48'17	10.09565 AU
morning rise	2771 Aug 22 04:39	14°♌06'20	
	2771 Aug 29 08:04	15°♌	
retrograde	2771 Dec 03 21:29	22°♌11'08	
opposition	2772 Feb 08 12:55	18°♌44'16	0°51'48
min. Earth dist.	2772 Feb 08 09:07	18°♌45'03	8.12060 AU
direct	2772 Apr 16 02:04	15°♌15'11	
evening set	2772 Jul 30 20:36	23°♌25'55	
conjunction	2772 Aug 17 22:21	25°♌44'20	0°56'39
minimum elong	2772 Aug 17 22:19	25°♌44'19	0°56'39
max. Earth dist.	2772 Aug 18 02:54	25°♌45'48	10.15110 AU
morning rise	2772 Sep 04 21:31	28°♌01'56	
	2772 Sep 20 23:10	0°♍	
retrograde	2772 Dec 16 19:31	5°♍59'49	
opposition	2773 Feb 21 09:59	2°♍34'09	1°27'44
min. Earth dist.	2773 Feb 21 06:14	2°♍34'55	8.18694 AU
	2773 Mar 29 01:32	30°℞♌	
direct	2773 Apr 30 09:59	29°♌05'13	
	2773 Jun 01 16:26	0°♍	
evening set	2773 Aug 14 13:25	7°♍12'57	
conjunction	2773 Sep 01 11:49	9°♍29'15	1°23'37
minimum elong	2773 Sep 01 11:46	9°♍29'14	1°23'37
max. Earth dist.	2773 Sep 01 16:03	9°♍30'36	10.22679 AU
morning rise	2773 Sep 19 06:38	11°♍44'27	
retrograde	2773 Dec 30 09:39	19°♍34'32	
opposition	2774 Mar 07 03:05	16°♍10'09	1°58'04
min. Earth dist.	2774 Mar 07 00:05	16°♍10'45	8.27120 AU
direct	2774 May 14 15:44	12°♍41'36	
evening set	2774 Aug 28 22:44	20°♍44'39	
conjunction	2774 Sep 15 16:53	22°♍58'24	1°45'29
minimum elong	2774 Sep 15 16:49	22°♍58'23	1°45'29
max. Earth dist.	2774 Sep 15 19:58	22°♍59'22	10.31756 AU
morning rise	2774 Oct 03 06:51	25°♍10'52	
	2774 Nov 15 17:21	0°♎	
retrograde	2775 Jan 12 16:42	2°♎52'49	
	2775 Mar 14 07:07	30°℞♍	
opposition	2775 Mar 20 15:34	29°♍29'42	2°21'19
min. Earth dist.	2775 Mar 20 13:57	29°♍30'01	8.36757 AU
direct	2775 May 28 16:32	26°♍01'47	
	2775 Aug 07 21:20	0°♎	
evening set	2775 Sep 11 22:54	3°♎58'50	
conjunction	2775 Sep 29 12:26	6°♎09'53	2°01'20
minimum elong	2775 Sep 29 12:23	6°♎09'52	2°01'20
max. Earth dist.	2775 Sep 29 13:32	6°♎10'14	10.41719 AU
morning rise	2775 Oct 16 21:35	8°♎19'34	
retrograde	2776 Jan 25 16:57	15°♎53'32	
opposition	2776 Apr 01 23:03	12°♎31'41	2°36'39
min. Earth dist.	2776 Apr 01 22:35	12°♎31'46	8.46964 AU
direct	2776 Jun 10 11:53	9°♎04'38	
evening set	2776 Sep 24 13:30	16°♎54'57	
conjunction	2776 Oct 11 22:30	19°♎03'19	2°10'41
minimum elong	2776 Oct 11 22:28	19°♎03'19	2°10'40
max. Earth dist.	2776 Oct 11 22:00	19°♎03'10	10.51988 AU
morning rise	2776 Oct 29 03:04	21°♎10'21	
retrograde	2777 Feb 06 10:06	28°♎36'51	
opposition	2777 Apr 15 01:37	25°♎16'10	2°43'50
min. Earth dist.	2777 Apr 15 01:36	25°♎16'10	8.57235 AU
direct	2777 Jun 24 02:01	21°♎50'09	
evening set	2777 Oct 07 18:15	29°♎33'13	
	2777 Oct 11 11:02	0°♏	
conjunction	2777 Oct 24 23:11	1°♏39'07	2°13'29
minimum elong	2777 Oct 24 23:10	1°♏39'07	2°13'28
max. Earth dist.	2777 Oct 24 22:14	1°♏38'50	10.62132 AU
morning rise	2777 Nov 10 23:41	3°♏43'42	
retrograde	2778 Feb 18 22:45	11°♏03'28	
opposition	2778 Apr 27 23:38	7°♏43'46	2°43'05
min. Earth dist.	2778 Apr 27 23:46	7°♏43'44	8.67169 AU
direct	2778 Jul 07 09:29	4°♏18'52	
evening set	2778 Oct 20 13:22	11°♏54'26	
conjunction	2778 Nov 06 14:49	13°♏58'08	2°10'00
minimum elong	2778 Nov 06 14:50	13°♏58'09	2°10'01
max. Earth dist.	2778 Nov 06 13:54	13°♏57'52	10.71753 AU
	2778 Nov 15 02:19	15°♏	
morning rise	2778 Nov 23 11:57	16°♏00'36	
retrograde	2779 Mar 03 06:53	23°♏14'26	
opposition	2779 May 10 17:17	19°♏55'31	2°34'57
min. Earth dist.	2779 May 10 18:11	19°♏55'21	8.76368 AU
direct	2779 Jul 20 09:23	16°♏31'44	
evening set	2779 Nov 01 23:59	23°♏59'59	
conjunction	2779 Nov 18 22:28	26°♏01'48	2°00'48
minimum elong	2779 Nov 18 22:30	26°♏01'49	2°00'48
max. Earth dist.	2779 Nov 18 20:48	26°♏01'18	10.80459 AU
morning rise	2779 Dec 05 17:07	28°♏02'32	
	2779 Dec 22 19:33	0°♐	
retrograde	2780 Mar 14 09:07	5°♐11'24	
opposition	2780 May 22 06:53	1°♐53'05	2°20'13
min. Earth dist.	2780 May 22 08:59	1°♐52'42	8.84466 AU
	2780 Jun 17 19:45	30°℞♏	
direct	2780 Aug 01 04:01	28°♏30'20	
	2780 Sep 13 15:03	0°♐	
evening set	2780 Nov 13 02:59	5°♐51'47	
conjunction	2780 Nov 29 23:02	7°♐52'03	1°46'32
minimum elong	2780 Nov 29 23:04	7°♐52'04	1°46'33
max. Earth dist.	2780 Nov 29 20:07	7°♐51'11	10.87907 AU
morning rise	2780 Dec 16 16:03	9°♐51'26	
retrograde	2781 Mar 26 08:53	16°♐56'34	
opposition	2781 Jun 03 17:17	13°♐38'35	1°59'51
min. Earth dist.	2781 Jun 03 19:49	13°♐38'07	8.91149 AU
direct	2781 Aug 13 18:30	10°♐16'48	
evening set	2781 Nov 24 23:23	17°♐32'10	
conjunction	2781 Dec 11 17:43	19°♐31'16	1°28'01
minimum elong	2781 Dec 11 17:45	19°♐31'17	1°28'01
max. Earth dist.	2781 Dec 11 14:32	19°♐30'19	10.93811 AU
morning rise	2781 Dec 28 09:41	21°♐29'40	
retrograde	2782 Apr 07 06:32	28°♐32'25	

opposition	2782 Jun 16 00:58	25°♐14'30	1°34'51
min. Earth dist.	2782 Jun 16 03:03	25°♐14'07	8.96165 AU
direct	2782 Aug 26 03:02	21°♐53'36	
evening set	2782 Dec 06 15:02	29°♐03'54	
	2782 Dec 14 14:30	0°♑	
conjunction	2782 Dec 23 08:14	1°♑02'10	1°06'07
minimum elong	2782 Dec 23 08:16	1°♑02'11	1°06'06
max. Earth dist.	2782 Dec 23 05:47	1°♑01'27	10.97948 AU
morning rise	2783 Jan 08 23:36	2°♑59'58	
retrograde	2783 Apr 19 04:28	10°♑01'43	
opposition	2783 Jun 28 06:38	6°♑43'41	1°06'18
min. Earth dist.	2783 Jun 28 08:37	6°♑43'19	8.99333 AU
direct	2783 Sep 07 07:31	3°♑23'31	
evening set	2783 Dec 18 03:31	10°♑29'59	
conjunction	2784 Jan 03 19:53	12°♑27'48	0°41'42
minimum elong	2784 Jan 03 19:54	12°♑27'48	0°41'41
max. Earth dist.	2784 Jan 03 17:13	12°♑27'00	11.00168 AU
morning rise	2784 Jan 20 11:09	14°♑25'20	
retrograde	2784 Apr 30 02:56	21°♑27'31	
opposition	2784 Jul 09 11:40	18°♑09'12	0°35'16
min. Earth dist.	2784 Jul 09 14:09	18°♑08'45	9.00544 AU
direct	2784 Sep 18 07:24	14°♑49'39	
evening set	2784 Dec 28 14:17	21°♑53'34	
conjunction	2785 Jan 14 06:03	23°♑51'14	0°15'42
minimum elong	2785 Jan 14 06:04	23°♑51'14	0°15'42
behind sun begin	2785 Jan 14 04:10	23°♑50'41	
behind sun end	2785 Jan 14 07:57	23°♑51'47	
max. Earth dist.	2785 Jan 14 02:38	23°♑50'14	11.00397 AU
morning rise	2785 Jan 30 21:47	25°♑48'53	
	2785 Mar 11 22:55	0°♒	
retrograde	2785 May 12 00:53	2°♒53'03	
	2785 Jul 15 20:58	30°℞♑	
opposition	2785 Jul 21 16:46	29°♑34'12	0°02'52
min. Earth dist.	2785 Jul 21 19:38	29°♑33'40	8.99761 AU
desc. node	2785 Aug 23 17:05	27°♑20'34	
direct	2785 Sep 30 06:54	26°♑15'04	
	2785 Dec 09 13:38	0°♒	
evening set	2786 Jan 09 01:02	3°♒17'54	
conjunction	2786 Jan 25 16:42	5°♒15'44	-0°11'02
minimum elong	2786 Jan 25 16:42	5°♒15'44	0°11'02
behind sun begin	2786 Jan 25 11:24	5°♒14'11	
behind sun end	2786 Jan 25 22:00	5°♒17'17	
max. Earth dist.	2786 Jan 25 13:23	5°♒14'46	10.98626 AU
morning rise	2786 Feb 11 09:10	7°♒13'49	
retrograde	2786 May 24 03:53	14°♒21'24	
opposition	2786 Aug 02 22:36	11°♒01'50	-0°29'47
min. Earth dist.	2786 Aug 03 00:53	11°♒01'25	8.97002 AU
direct	2786 Oct 12 06:21	7°♒42'58	
evening set	2787 Jan 20 13:17	14°♒46'05	
	2787 Jan 22 12:53	15°♒	
conjunction	2787 Feb 06 05:20	16°♒44'28	-0°37'23
minimum elong	2787 Feb 06 05:19	16°♒44'28	0°37'23
max. Earth dist.	2787 Feb 06 03:00	16°♒43'47	10.94897 AU
morning rise	2787 Feb 22 22:43	18°♒43'18	
retrograde	2787 Jun 05 10:41	25°♒55'39	
opposition	2787 Aug 15 06:24	22°♒35'13	-1°01'32
min. Earth dist.	2787 Aug 15 07:51	22°♒34'57	8.92349 AU
direct	2787 Oct 24 03:54	19°♒16'26	
evening set	2788 Feb 01 04:41	26°♒21'17	
conjunction	2788 Feb 17 21:15	28°♒20'29	-1°02'28
minimum elong	2788 Feb 17 21:14	28°♒20'28	1°02'28
max. Earth dist.	2788 Feb 17 19:21	28°♒19'54	10.89341 AU
	2788 Mar 02 18:46	0°♓	
morning rise	2788 Mar 05 15:56	0°♓20'21	
retrograde	2788 Jun 16 22:15	7°♓38'46	
opposition	2788 Aug 26 17:06	4°♓17'18	-1°31'08
min. Earth dist.	2788 Aug 26 18:15	4°♓17'05	8.85978 AU
direct	2788 Nov 04 04:13	0°♓58'23	
evening set	2789 Feb 12 00:42	8°♓06'20	
conjunction	2789 Feb 28 18:12	10°♓06'42	-1°25'15
minimum elong	2789 Feb 28 18:09	10°♓06'41	1°25'16
max. Earth dist.	2789 Feb 28 15:52	10°♓05'59	10.82186 AU
morning rise	2789 Mar 17 14:44	12°♓07'58	
retrograde	2789 Jun 29 15:44	19°♓33'25	
opposition	2789 Sep 08 07:22	16°♓10'50	-1°57'23
min. Earth dist.	2789 Sep 08 08:45	16°♓10'35	8.78152 AU
direct	2789 Nov 16 06:41	12°♓51'34	
evening set	2790 Feb 24 02:29	20°♓03'54	
conjunction	2790 Mar 12 21:34	22°♓05'44	-1°44'42
minimum elong	2790 Mar 12 21:32	22°♓05'43	1°44'43
max. Earth dist.	2790 Mar 12 19:47	22°♓05'11	10.73718 AU
morning rise	2790 Mar 29 20:21	24°♓08'42	
	2790 May 27 12:24	0°♈	
retrograde	2790 Jul 12 13:55	1°♈41'57	
	2790 Aug 28 18:58	30°℞♓	
opposition	2790 Sep 21 01:42	28°♓18'12	-2°18'59
min. Earth dist.	2790 Sep 21 02:38	28°♓18'01	8.69180 AU
direct	2790 Nov 28 13:32	24°♓58'22	
	2791 Feb 16 20:51	0°♈	
evening set	2791 Mar 08 11:17	2°♈16'13	
conjunction	2791 Mar 25 08:38	4°♈19'52	-1°59'47
minimum elong	2791 Mar 25 08:36	4°♈19'51	1°59'48
max. Earth dist.	2791 Mar 25 08:11	4°♈19'43	10.64277 AU
morning rise	2791 Apr 11 09:58	6°♈24'46	
retrograde	2791 Jul 25 19:50	14°♈06'17	
opposition	2791 Oct 04 00:35	10°♈41'19	-2°34'41
min. Earth dist.	2791 Oct 04 00:29	10°♈41'20	8.59435 AU
direct	2791 Dec 11 02:24	7°♈20'48	
evening set	2792 Mar 20 04:06	14°♈45'01	
conjunction	2792 Apr 06 04:22	16°♈50'46	-2°09'33
minimum elong	2792 Apr 06 04:21	16°♈50'46	2°09'34
max. Earth dist.	2792 Apr 06 05:06	16°♈51'00	10.54283 AU
morning rise	2792 Apr 23 08:52	18°♈57'54	
retrograde	2792 Aug 07 09:41	26°♈47'38	
opposition	2792 Oct 16 04:25	23°♈21'31	-2°43'20
min. Earth dist.	2792 Oct 16 03:18	23°♈21'44	8.49354 AU
direct	2792 Dec 22 18:35	20°♈00'06	
evening set	2793 Apr 02 05:32	27°♈31'19	
conjunction	2793 Apr 19 09:21	29°♈39'26	-2°13'10
minimum elong	2793 Apr 19 09:21	29°♈39'26	2°13'10
max. Earth dist.	2793 Apr 19 10:14	29°♈39'43	10.44187 AU
	2793 Apr 22 03:00	0°♉	
morning rise	2793 May 06 17:43	1°♉49'00	
retrograde	2793 Aug 21 05:15	9°♉46'25	
opposition	2793 Oct 29 13:10	6°♉19'15	-2°43'59
min. Earth dist.	2793 Oct 29 11:57	6°♉19'30	8.39376 AU
direct	2794 Jan 04 17:23	2°♉56'46	
evening set	2794 Apr 15 16:06	10°♉35'24	
conjunction	2794 May 03 00:06	12°♉46'02	-2°10'02
minimum elong	2794 May 03 00:07	12°♉46'03	2°10'01
max. Earth dist.	2794 May 03 00:43	12°♉46'14	10.34427 AU
morning rise	2794 May 20 12:45	14°♉58'08	

	2794 May 20 18:47	15°♉	
retrograde	2794 Sep 04 05:05	23°♉02'15	
opposition	2794 Nov 12 02:30	19°♉34'14	-2°36'01
min. Earth dist.	2794 Nov 12 01:38	19°♉34'25	8.29934 AU
direct	2795 Jan 18 00:05	16°♉10'34	
evening set	2795 Apr 29 11:31	23°♉56'40	
conjunction	2795 May 17 00:14	26°♉09'55	-1°59'53
minimum elong	2795 May 17 00:16	26°♉09'56	1°59'52
max. Earth dist.	2795 May 17 00:51	26°♉10'07	10.25442 AU
morning rise	2795 Jun 03 17:19	28°♉24'32	
	2795 Jun 16 17:21	0°♊	
retrograde	2795 Sep 18 10:06	6°♊34'05	
opposition	2795 Nov 25 20:15	3°♊05'28	-2°19'19
min. Earth dist.	2795 Nov 25 19:25	3°♊05'38	8.21499 AU
	2796 Jan 12 19:15	30°℞♉	
direct	2796 Jan 31 12:48	29°♉40'36	
	2796 Feb 19 03:46	0°♊	
evening set	2796 May 12 15:29	7°♊33'54	
conjunction	2796 May 30 09:05	9°♊49'39	-1°42'52
minimum elong	2796 May 30 09:08	9°♊49'40	1°42'51
max. Earth dist.	2796 May 30 10:30	9°♊50'06	10.17746 AU
morning rise	2796 Jun 17 06:22	12°♊06'35	
retrograde	2796 Oct 01 18:53	20°♊19'50	
opposition	2796 Dec 08 17:35	16°♊50'52	-1°54'22
min. Earth dist.	2796 Dec 08 16:10	16°♊51'09	8.14627 AU
direct	2797 Feb 13 07:50	13°♊24'50	
evening set	2797 May 27 03:28	21°♊24'35	
conjunction	2797 Jun 14 01:32	23°♊42'29	-1°19'42
minimum elong	2797 Jun 14 01:35	23°♊42'30	1°19'42
max. Earth dist.	2797 Jun 14 04:00	23°♊43'16	10.11887 AU
morning rise	2797 Jul 02 02:17	26°♊01'16	
	2797 Aug 04 20:48	0°♋	
retrograde	2797 Oct 16 05:20	4°♋16'04	
opposition	2797 Dec 22 17:23	0°♋47'03	-1°22'22
min. Earth dist.	2797 Dec 22 15:06	0°♋47'31	8.09830 AU
	2798 Jan 01 08:47	30°℞♊	
direct	2798 Feb 27 08:22	27°♊19'55	
	2798 Apr 23 13:13	0°♋	
evening set	2798 Jun 10 21:40	5°♋24'57	
conjunction	2798 Jun 28 23:13	7°♋44'22	-0°51'38
minimum elong	2798 Jun 28 23:15	7°♋44'23	0°51'38
max. Earth dist.	2798 Jun 29 02:23	7°♋45'24	10.08304 AU
morning rise	2798 Jul 17 02:17	10°♋04'19	
retrograde	2798 Oct 30 15:32	18°♋18'27	
opposition	2799 Jan 05 18:46	14°♋49'40	-0°45'10
min. Earth dist.	2799 Jan 05 15:59	14°♋50'15	8.07466 AU
direct	2799 Mar 13 12:52	11°♋21'37	
evening set	2799 Jun 25 19:46	19°♋30'20	
conjunction	2799 Jul 13 23:21	21°♋50'29	-0°20'22
minimum elong	2799 Jul 13 23:22	21°♋50'29	0°20'22
max. Earth dist.	2799 Jul 14 02:52	21°♋51'37	10.07254 AU
morning rise	2799 Aug 01 03:15	24°♋10'46	
	2799 Sep 22 22:02	0°♌	
retrograde	2799 Nov 14 00:06	2°♌22'06	
	2800 Jan 06 05:25	30°℞♋	
opposition	2800 Jan 19 20:15	28°♋53'51	-0°05'10
min. Earth dist.	2800 Jan 19 17:28	28°♋54'25	8.07706 AU
asc. node	2800 Mar 08 03:55	25°♋44'24	
direct	2800 Mar 26 19:58	25°♋25'04	
	2800 Jun 09 15:23	0°♌	
evening set	2800 Jul 09 19:34	3°♌35'42	
conjunction	2800 Jul 27 23:31	5°♌55'42	0°12'09
minimum elong	2800 Jul 27 23:31	5°♌55'42	0°12'09
behind sun begin	2800 Jul 27 18:40	5°♌54'09	
behind sun end	2800 Jul 28 04:21	5°♌57'15	
max. Earth dist.	2800 Jul 28 02:43	5°♌56'43	10.08805 AU
morning rise	2800 Aug 15 02:38	8°♌15'25	
	2800 Oct 19 05:48	15°♌	
retrograde	2800 Nov 27 04:34	16°♌22'01	
	2801 Jan 05 11:39	15°℞♌	
opposition	2801 Feb 01 20:20	12°♌54'34	0°34'58
min. Earth dist.	2801 Feb 01 18:06	12°♌55'02	8.10524 AU
direct	2801 Apr 10 05:02	9°♌25'20	
	2801 Jul 03 07:46	15°♌	
evening set	2801 Jul 24 18:08	17°♌35'59	
conjunction	2801 Aug 11 20:45	19°♌54'57	0°43'41
minimum elong	2801 Aug 11 20:43	19°♌54'56	0°43'41
max. Earth dist.	2801 Aug 11 23:13	19°♌55'44	10.12837 AU
morning rise	2801 Aug 29 21:28	22°♌13'17	
	2801 Nov 25 11:27	0°♍	
retrograde	2801 Dec 11 03:06	0°♍13'40	
	2801 Dec 26 18:45	30°℞♌	
opposition	2802 Feb 15 18:05	26°♌47'14	1°12'39
min. Earth dist.	2802 Feb 15 16:07	26°♌47'38	8.15720 AU
direct	2802 Apr 24 14:14	23°♌17'51	
	2802 Jul 27 18:53	0°♍	
evening set	2802 Aug 08 12:28	1°♍26'33	
conjunction	2802 Aug 26 12:19	3°♍43'44	1°12'22
minimum elong	2802 Aug 26 12:16	3°♍43'43	1°12'22
max. Earth dist.	2802 Aug 26 14:25	3°♍44'25	10.19074 AU
morning rise	2802 Sep 13 09:18	6°♍00'01	
retrograde	2802 Dec 24 18:29	13°♍53'12	
opposition	2803 Mar 01 12:18	10°♍27'53	1°45'35
min. Earth dist.	2803 Mar 01 10:13	10°♍28'18	8.22946 AU
direct	2803 May 08 21:24	6°♍58'42	
evening set	2803 Aug 23 00:29	15°♍03'39	
conjunction	2803 Sep 09 20:35	17°♍18'32	1°36'34
minimum elong	2803 Sep 09 20:32	17°♍18'31	1°36'34
max. Earth dist.	2803 Sep 09 22:34	17°♍19'10	10.27121 AU
morning rise	2803 Sep 27 12:58	19°♍32'16	
retrograde	2804 Jan 07 04:27	27°♍17'41	
opposition	2804 Mar 14 02:07	23°♍53'33	2°12'02
min. Earth dist.	2804 Mar 13 23:57	23°♍53'59	8.31749 AU
direct	2804 May 21 23:03	20°♍24'51	
evening set	2804 Sep 05 04:23	28°♍24'33	
	2804 Sep 17 22:56	0°♎	
conjunction	2804 Sep 22 20:08	0°♎36'51	1°55'08
minimum elong	2804 Sep 22 20:06	0°♎36'51	1°55'07
max. Earth dist.	2804 Sep 22 22:05	0°♎37'28	10.36493 AU
morning rise	2804 Oct 10 07:30	2°♎47'49	
retrograde	2805 Jan 19 08:18	10°♎25'16	
opposition	2805 Mar 27 11:23	7°♎02'21	2°30'54
min. Earth dist.	2805 Mar 27 09:31	7°♎02'43	8.41616 AU
direct	2805 Jun 04 19:44	3°♎34'26	
evening set	2805 Sep 18 22:50	11°♎27'43	
conjunction	2805 Oct 06 10:01	13°♎37'20	2°07'22
minimum elong	2805 Oct 06 09:59	13°♎37'19	2°07'21
max. Earth dist.	2805 Oct 06 11:44	13°♎37'52	10.46669 AU
morning rise	2805 Oct 23 16:29	15°♎45'32	
retrograde	2806 Feb 01 04:32	23°♎15'14	
opposition	2806 Apr 09 15:48	19°♎53'33	2°41'41
min. Earth dist.	2806 Apr 09 14:55	19°♎53'44	8.52022 AU
direct	2806 Jun 18 11:13	16°♎26'38	

evening set	2806 Oct 02 07:29	24°♎12'45	
conjunction	2806 Oct 19 14:16	26°♎19'44	2°13'03
minimum elong	2806 Oct 19 14:15	26°♎19'44	2°13'03
max. Earth dist.	2806 Oct 19 14:49	26°♎19'55	10.57134 AU
morning rise	2806 Nov 05 16:28	28°♎25'23	
	2806 Nov 19 01:13	0°♏	
retrograde	2807 Feb 13 18:19	5°♏47'49	
opposition	2807 Apr 22 15:13	2°♏27'19	2°44'24
min. Earth dist.	2807 Apr 22 15:18	2°♏27'18	8.62452 AU
	2807 May 28 01:19	30°℞♎	
direct	2807 Jul 01 20:55	29°♎01'32	
	2807 Aug 05 08:40	0°♏	
evening set	2807 Oct 15 06:22	6°♏40'10	
conjunction	2807 Nov 01 09:15	8°♏44'47	2°12'19
minimum elong	2807 Nov 01 09:16	8°♏44'47	2°12'19
max. Earth dist.	2807 Nov 01 08:31	8°♏44'33	10.67382 AU
morning rise	2807 Nov 18 07:57	10°♏48'07	
	2807 Dec 26 23:30	15°♏	
retrograde	2808 Feb 26 02:45	18°♏04'06	
	2808 May 01 01:38	15°℞♏	
opposition	2808 May 04 10:04	14°♏44'37	2°39'27
min. Earth dist.	2808 May 04 10:33	14°♏44'31	8.72404 AU
direct	2808 Jul 13 23:52	11°♏20'05	
	2808 Sep 21 13:13	15°♏	
evening set	2808 Oct 26 20:09	18°♏51'15	
conjunction	2808 Nov 12 19:49	20°♏53'48	2°05'35
minimum elong	2808 Nov 12 19:50	20°♏53'48	2°05'36
max. Earth dist.	2808 Nov 12 18:33	20°♏53'25	10.76937 AU
morning rise	2808 Nov 29 15:38	22°♏55'12	
	2809 Feb 26 20:02	0°♐	
retrograde	2809 Mar 09 06:34	0°♐05'44	
	2809 Mar 19 19:53	30°℞♏	
opposition	2809 May 17 00:48	26°♏47'05	2°27'34
min. Earth dist.	2809 May 17 01:05	26°♏47'02	8.81436 AU
direct	2809 Jul 26 21:22	23°♏23'50	
	2809 Nov 01 05:12	0°♐	
evening set	2809 Nov 08 01:49	0°♐47'53	
conjunction	2809 Nov 24 22:59	2°♐48'42	1°53'30
minimum elong	2809 Nov 24 23:01	2°♐48'43	1°53'31
max. Earth dist.	2809 Nov 24 22:07	2°♐48'27	10.85390 AU
morning rise	2809 Dec 11 16:37	4°♐48'33	
retrograde	2810 Mar 21 09:09	11°♐54'47	
opposition	2810 May 29 12:03	8°♐36'46	2°09'36
min. Earth dist.	2810 May 29 12:45	8°♐36'38	8.89185 AU
direct	2810 Aug 08 12:27	5°♐14'45	
evening set	2810 Nov 20 00:38	12°♐32'18	
conjunction	2810 Dec 06 19:49	14°♐31'48	1°36'49
minimum elong	2810 Dec 06 19:51	14°♐31'48	1°36'49
max. Earth dist.	2810 Dec 06 18:31	14°♐31'24	10.92403 AU
morning rise	2810 Dec 23 12:03	16°♐30'28	
retrograde	2811 Apr 02 07:19	23°♐33'38	
opposition	2811 Jun 10 20:30	20°♐16'03	1°46'34
min. Earth dist.	2811 Jun 10 22:12	20°♐15'44	8.95346 AU
direct	2811 Aug 20 20:50	16°♐55'06	
evening set	2811 Dec 01 18:14	24°♐07'09	
conjunction	2811 Dec 18 11:48	26°♐05'37	1°16'21
minimum elong	2811 Dec 18 11:50	26°♐05'38	1°16'20
max. Earth dist.	2811 Dec 18 09:15	26°♐04'52	10.97703 AU
morning rise	2812 Jan 04 03:21	28°♐03'31	
	2812 Jan 21 09:22	0°♑	
retrograde	2812 Apr 13 03:45	5°♑05'01	
opposition	2812 Jun 22 02:48	1°♑47'34	1°19'31
min. Earth dist.	2812 Jun 22 05:14	1°♑47'07	8.99686 AU
	2812 Jul 17 16:31	30°℞♐	
direct	2812 Sep 01 03:40	28°♐27'33	
	2812 Oct 15 08:37	0°♑	
evening set	2812 Dec 12 07:53	5°♑35'11	
conjunction	2812 Dec 29 00:25	7°♑33'00	0°52'58
minimum elong	2812 Dec 29 00:27	7°♑33'00	0°52'57
max. Earth dist.	2812 Dec 28 21:26	7°♑32'07	11.01091 AU
morning rise	2813 Jan 14 15:44	9°♑30'27	
retrograde	2813 Apr 25 01:50	16°♑31'44	
opposition	2813 Jul 04 07:57	13°♑14'08	0°49'31
min. Earth dist.	2813 Jul 04 10:03	13°♑13'45	9.02034 AU
direct	2813 Sep 13 06:39	9°♑54'53	
evening set	2813 Dec 23 19:02	16°♑59'17	
conjunction	2814 Jan 09 11:04	18°♑56'48	0°27'36
minimum elong	2814 Jan 09 11:04	18°♑56'48	0°27'36
max. Earth dist.	2814 Jan 09 08:33	18°♑56'04	11.02406 AU
morning rise	2814 Jan 26 02:27	20°♑54'11	
retrograde	2814 May 07 00:23	27°♑56'43	
opposition	2814 Jul 16 12:39	24°♑38'42	0°17'39
min. Earth dist.	2814 Jul 16 14:38	24°♑38'20	9.02251 AU
direct	2814 Sep 25 06:07	21°♑19'59	
evening set	2815 Jan 04 05:39	28°♑22'35	
	2815 Jan 18 01:22	0°♒	
conjunction	2815 Jan 20 21:22	0°♒20'08	0°01'10
minimum elong	2815 Jan 20 21:23	0°♒20'08	0°01'11
behind sun begin	2815 Jan 20 14:25	0°♒18'06	
behind sun end	2815 Jan 21 04:22	0°♒22'11	
max. Earth dist.	2815 Jan 20 18:30	0°♒19'21	11.01531 AU
desc. node	2815 Feb 05 20:56	2°♒13'03	
morning rise	2815 Feb 06 13:15	2°♒17'47	
retrograde	2815 May 19 02:00	9°♒23'03	
opposition	2815 Jul 28 17:51	6°♒04'25	-0°14'58
min. Earth dist.	2815 Jul 28 20:34	6°♒03'55	9.00261 AU
direct	2815 Oct 07 04:17	2°♒45'59	
evening set	2816 Jan 15 17:10	9°♒48'20	
conjunction	2816 Feb 01 08:50	11°♒46'15	-0°25'29
minimum elong	2816 Feb 01 08:49	11°♒46'15	0°25'28
max. Earth dist.	2816 Feb 01 04:36	11°♒45'00	10.98451 AU
morning rise	2816 Feb 18 01:40	13°♒44'33	
	2816 Feb 29 02:07	15°♒	
retrograde	2816 May 30 05:41	20°♒54'04	
opposition	2816 Aug 09 00:50	17°♒34'35	-0°47'13
min. Earth dist.	2816 Aug 09 04:19	17°♒33'56	8.96124 AU
	2816 Sep 17 20:44	15°℞♒	
direct	2816 Oct 18 01:53	14°♒16'13	
	2816 Nov 16 19:20	15°♒	
evening set	2817 Jan 26 06:57	21°♒19'47	
conjunction	2817 Feb 11 23:02	23°♒18'26	-0°51'15
minimum elong	2817 Feb 11 23:01	23°♒18'26	0°51'14
max. Earth dist.	2817 Feb 11 18:46	23°♒17'10	10.93302 AU
morning rise	2817 Feb 28 17:08	25°♒17'41	
	2817 Apr 15 06:03	0°♓	
retrograde	2817 Jun 11 14:15	2°♓32'53	
	2817 Aug 10 16:03	30°℞♒	
opposition	2817 Aug 21 10:14	29°♒12'17	-1°17'56
min. Earth dist.	2817 Aug 21 13:25	29°♒11'42	8.90043 AU
direct	2817 Oct 30 02:54	25°♒53'43	
	2818 Jan 10 23:27	0°♓	
evening set	2818 Feb 07 00:43	2°♓59'55	

conjunction	2818 Feb 23 17:47	4°♓59'39	-1°15'11
minimum elong	2818 Feb 23 17:44	4°♓59'39	1°15'11
max. Earth dist.	2818 Feb 23 14:31	4°♓58'40	10.86330 AU
morning rise	2818 Mar 12 13:21	7°♓00'11	
retrograde	2818 Jun 24 05:25	14°♓22'08	
opposition	2818 Sep 02 22:36	11°♓00'16	-1°45'52
min. Earth dist.	2818 Sep 03 00:51	10°♓59'51	8.82295 AU
direct	2818 Nov 11 04:18	7°♓41'17	
evening set	2819 Feb 18 23:47	14°♓51'26	
conjunction	2819 Mar 07 18:11	16°♓52'32	-1°36'17
minimum elong	2819 Mar 07 18:08	16°♓52'32	1°36'17
max. Earth dist.	2819 Mar 07 15:28	16°♓51'43	10.77841 AU
morning rise	2819 Mar 24 15:41	18°♓54'40	
retrograde	2819 Jul 07 01:57	26°♓24'16	
opposition	2819 Sep 15 15:04	23°♓01'02	-2°09'45
min. Earth dist.	2819 Sep 15 16:44	23°♓00'43	8.73210 AU
direct	2819 Nov 23 08:39	19°♓41'24	
evening set	2820 Mar 02 05:14	26°♓56'41	
conjunction	2820 Mar 19 01:24	28°♓59'30	-1°53'29
minimum elong	2820 Mar 19 01:22	28°♓59'29	1°53'30
max. Earth dist.	2820 Mar 18 22:42	28°♓58'40	10.68208 AU
	2820 Mar 27 07:25	0°♈	
morning rise	2820 Apr 05 01:28	1°♈03'31	
retrograde	2820 Jul 19 05:01	8°♈41'24	
opposition	2820 Sep 27 12:05	5°♈16'46	-2°28'20
min. Earth dist.	2820 Sep 27 13:37	5°♈16'28	8.63186 AU
direct	2820 Dec 04 18:17	1°♈56'16	
evening set	2821 Mar 14 18:19	9°♈17'44	
conjunction	2821 Mar 31 17:02	11°♈22'36	-2°05'49
minimum elong	2821 Mar 31 17:01	11°♈22'35	2°05'49
max. Earth dist.	2821 Mar 31 14:43	11°♈21'53	10.57851 AU
morning rise	2821 Apr 17 20:12	13°♈28'48	
retrograde	2821 Aug 01 14:23	21°♈15'08	
opposition	2821 Oct 10 13:46	17°♈49'09	-2°40'23
min. Earth dist.	2821 Oct 10 15:04	17°♈48'54	8.52659 AU
direct	2821 Dec 17 08:51	14°♈27'39	
evening set	2822 Mar 27 15:44	21°♈56'07	
conjunction	2822 Apr 13 17:52	24°♈03'17	-2°12'21
minimum elong	2822 Apr 13 17:52	24°♈03'17	2°12'21
max. Earth dist.	2822 Apr 13 16:53	24°♈02'59	10.47227 AU
morning rise	2822 May 01 00:34	26°♈11'54	
	2822 Jun 03 10:18	0°♉	
retrograde	2822 Aug 15 05:52	4°♉06'28	
opposition	2822 Oct 23 20:26	0°♉39'14	-2°44'49
min. Earth dist.	2822 Oct 23 20:50	0°♉39'10	8.42100 AU
	2822 Nov 01 04:36	30°℞♈	
direct	2822 Dec 30 06:24	27°♈16'39	
	2823 Feb 24 14:07	0°♉	
evening set	2823 Apr 09 22:03	4°♉52'36	
conjunction	2823 Apr 27 04:15	7°♉02'19	-2°12'21
minimum elong	2823 Apr 27 04:16	7°♉02'19	2°12'20
max. Earth dist.	2823 Apr 27 04:50	7°♉02'30	10.36831 AU
morning rise	2823 May 14 14:54	9°♉13'29	
	2823 Jul 07 18:58	15°♉	
retrograde	2823 Aug 29 04:09	17°♉15'34	
	2823 Oct 21 19:51	15°℞♉	
opposition	2823 Nov 06 08:04	13°♉47'17	-2°40'50
min. Earth dist.	2823 Nov 06 07:08	13°♉47'28	8.32020 AU
direct	2824 Jan 12 09:58	10°♉23'33	
	2824 Mar 27 04:12	15°♉	
evening set	2824 Apr 22 13:41	18°♉07'07	
conjunction	2824 May 10 00:26	20°♉19'29	-2°05'23
minimum elong	2824 May 10 00:28	20°♉19'30	2°05'23
max. Earth dist.	2824 May 10 01:59	20°♉19'59	10.27201 AU
morning rise	2824 May 27 15:26	22°♉33'15	
	2824 Aug 14 03:37	0°♊	
retrograde	2824 Sep 11 09:21	0°♊41'34	
	2824 Oct 09 16:23	30°℞♉	
opposition	2824 Nov 19 00:16	27°♉12'30	-2°28'04
min. Earth dist.	2824 Nov 18 22:30	27°♉12'51	8.22959 AU
direct	2825 Jan 24 18:11	23°♉47'33	
	2825 Apr 23 05:27	0°♊	
evening set	2825 May 06 14:19	1°♊38'33	
conjunction	2825 May 24 05:50	3°♊53'30	-1°51'25
minimum elong	2825 May 24 05:53	3°♊53'31	1°51'24
max. Earth dist.	2825 May 24 07:48	3°♊54'08	10.18867 AU
morning rise	2825 Jun 11 01:17	6°♊09'43	
retrograde	2825 Sep 25 17:43	14°♊22'31	
opposition	2825 Dec 02 20:31	10°♊53'01	-2°06'42
min. Earth dist.	2825 Dec 02 18:27	10°♊53'26	8.15428 AU
direct	2826 Feb 07 10:37	7°♊26'53	
evening set	2826 May 20 23:15	15°♊24'43	
conjunction	2826 Jun 07 19:19	17°♊41'57	-1°30'53
minimum elong	2826 Jun 07 19:22	17°♊41'58	1°30'52
max. Earth dist.	2826 Jun 07 21:27	17°♊42'38	10.12312 AU
morning rise	2826 Jun 25 18:43	20°♊00'14	
retrograde	2826 Oct 10 03:32	28°♊15'30	
opposition	2826 Dec 16 19:51	24°♊45'53	-1°37'38
min. Earth dist.	2826 Dec 16 17:44	24°♊46'19	8.09894 AU
direct	2827 Feb 21 09:39	21°♊18'43	
evening set	2827 Jun 04 15:06	29°♊22'20	
	2827 Jun 09 13:18	0°♋	
conjunction	2827 Jun 22 15:06	1°♋41'21	-1°04'48
minimum elong	2827 Jun 22 15:09	1°♋41'22	1°04'48
max. Earth dist.	2827 Jun 22 17:49	1°♋42'14	10.07958 AU
morning rise	2827 Jul 10 17:30	4°♋01'07	
retrograde	2827 Oct 24 13:42	12°♋16'38	
opposition	2827 Dec 30 21:08	8°♋47'16	-1°02'25
min. Earth dist.	2827 Dec 30 18:36	8°♋47'47	8.06730 AU
direct	2828 Mar 06 13:33	5°♋19'13	
evening set	2828 Jun 18 12:03	13°♋27'11	
conjunction	2828 Jul 06 14:54	15°♋47'18	-0°34'41
minimum elong	2828 Jul 06 14:56	15°♋47'19	0°34'41
max. Earth dist.	2828 Jul 06 18:26	15°♋48'27	10.06099 AU
morning rise	2828 Jul 24 18:54	18°♋07'46	
retrograde	2828 Nov 06 23:12	26°♋21'21	
opposition	2829 Jan 12 23:09	22°♋52'34	-0°23'17
min. Earth dist.	2829 Jan 12 19:57	22°♋53'13	8.06153 AU
direct	2829 Mar 20 20:08	19°♋23'52	
evening set	2829 Jul 03 11:59	27°♋34'32	
conjunction	2829 Jul 21 16:04	29°♋54'53	-0°02'30
minimum elong	2829 Jul 21 16:04	29°♋54'53	0°02'29
behind sun begin	2829 Jul 21 08:43	29°♋52'31	
behind sun end	2829 Jul 21 23:25	29°♋57'14	
max. Earth dist.	2829 Jul 21 20:20	29°♋56'13	10.06860 AU
	2829 Jul 22 07:54	0°♌	
morning rise	2829 Aug 08 19:53	2°♌15'08	
asc. node	2829 Aug 18 23:52	3°♌31'21	
retrograde	2829 Nov 21 06:30	10°♌24'45	
opposition	2830 Jan 27 00:27	6°♌56'50	0°17'11
min. Earth dist.	2830 Jan 26 20:38	6°♌57'37	8.08214 AU
direct	2830 Apr 04 05:00	3°♌27'47	
evening set	2830 Jul 18 12:00	11°♌39'14	

conjunction	2830 Aug 05 15:35	13°♌58'55	0°29'51
minimum elong	2830 Aug 05 15:33	13°♌58'54	0°29'51
max. Earth dist.	2830 Aug 05 20:26	14°♌00'29	10.10206 AU
	2830 Aug 13 12:53	15°♌	
morning rise	2830 Aug 23 17:32	16°♌18'06	
retrograde	2830 Dec 05 09:02	24°♌22'03	
opposition	2831 Feb 10 00:01	20°♌55'13	0°56'19
min. Earth dist.	2831 Feb 09 20:00	20°♌56'03	8.12793 AU
direct	2831 Apr 18 14:10	17°♌26'06	
evening set	2831 Aug 02 09:12	25°♌36'21	
conjunction	2831 Aug 20 10:39	27°♌54'31	1°00'04
minimum elong	2831 Aug 20 10:36	27°♌54'30	1°00'04
max. Earth dist.	2831 Aug 20 15:28	27°♌56'04	10.15925 AU
	2831 Sep 05 19:40	0°♍	
morning rise	2831 Sep 07 09:21	0°♍11'52	
retrograde	2831 Dec 19 05:28	8°♍08'53	
opposition	2832 Feb 23 20:35	4°♍43'17	1°31'38
min. Earth dist.	2832 Feb 23 17:11	4°♍43'59	8.19589 AU
direct	2832 May 01 21:55	1°♍14'21	
evening set	2832 Aug 16 01:15	9°♍21'30	
conjunction	2832 Sep 02 23:12	11°♍37'31	1°26'27
minimum elong	2832 Sep 02 23:09	11°♍37'30	1°26'26
max. Earth dist.	2832 Sep 03 03:03	11°♍38'45	10.23639 AU
morning rise	2832 Sep 20 17:37	13°♍52'27	
retrograde	2832 Dec 31 19:07	21°♍41'39	
opposition	2833 Mar 08 13:03	18°♍17'23	2°01'08
min. Earth dist.	2833 Mar 08 10:36	18°♍17'52	8.28151 AU
direct	2833 May 16 02:23	14°♍48'52	
evening set	2833 Aug 30 09:42	22°♍51'14	
conjunction	2833 Sep 17 03:19	25°♍04'42	1°47'37
minimum elong	2833 Sep 17 03:16	25°♍04'41	1°47'36
max. Earth dist.	2833 Sep 17 05:46	25°♍05'28	10.32847 AU
morning rise	2833 Oct 04 16:56	27°♍16'53	
	2833 Oct 27 16:29	0°♎	
retrograde	2834 Jan 14 01:15	4°♎57'55	
opposition	2834 Mar 22 00:58	1°♎34'57	2°23'25
min. Earth dist.	2834 Mar 21 23:21	1°♎35'16	8.37918 AU
	2834 Apr 11 16:23	30°℞♍	
direct	2834 May 30 03:17	28°♍07'07	
	2834 Jul 16 20:26	0°♎	
evening set	2834 Sep 13 08:47	6°♎03'21	
conjunction	2834 Sep 30 21:50	8°♎14'05	2°02'40
minimum elong	2834 Sep 30 21:47	8°♎14'04	2°02'40
max. Earth dist.	2834 Sep 30 22:48	8°♎14'23	10.42942 AU
morning rise	2834 Oct 18 06:35	10°♎23'28	
retrograde	2835 Jan 26 23:43	17°♎56'31	
opposition	2835 Apr 04 07:46	14°♎34'45	2°37'46
min. Earth dist.	2835 Apr 04 06:39	14°♎34'58	8.48240 AU
direct	2835 Jun 12 22:50	11°♎07'49	
evening set	2835 Sep 26 22:10	18°♎57'09	
conjunction	2835 Oct 14 06:51	21°♎05'14	2°11'13
minimum elong	2835 Oct 14 06:50	21°♎05'13	2°11'12
max. Earth dist.	2835 Oct 14 06:53	21°♎05'15	10.53290 AU
morning rise	2835 Oct 31 11:00	23°♎11'57	
	2836 Jan 13 04:52	0°♏	
retrograde	2836 Feb 08 17:17	0°♏37'35	
	2836 Mar 06 14:10	30°℞♎	
opposition	2836 Apr 16 09:31	27°♎16'58	2°43'58
min. Earth dist.	2836 Apr 16 09:06	27°♎17'03	8.58525 AU
direct	2836 Jun 25 11:17	23°♎51'05	
	2836 Sep 25 20:30	0°♏	
evening set	2836 Oct 09 01:51	1°♏33'11	

conjunction	2836 Oct 26 06:32	3°♏38'50	2°13'14
minimum elong	2836 Oct 26 06:32	3°♏38'50	2°13'13
max. Earth dist.	2836 Oct 26 06:05	3°♏38'41	10.63382 AU
morning rise	2836 Nov 12 06:38	5°♏43'09	
retrograde	2837 Feb 20 06:03	13°♏02'06	
opposition	2837 Apr 29 06:55	9°♏42'31	2°42'17
min. Earth dist.	2837 Apr 29 07:31	9°♏42'25	8.68349 AU
direct	2837 Jul 08 16:01	6°♏17'46	
evening set	2837 Oct 21 20:05	13°♏52'29	
	2837 Oct 31 04:50	15°♏	
conjunction	2837 Nov 07 21:14	15°♏55'59	2°09'02
minimum elong	2837 Nov 07 21:15	15°♏55'59	2°09'02
max. Earth dist.	2837 Nov 07 19:55	15°♏55'35	10.72844 AU
morning rise	2837 Nov 24 18:07	17°♏58'15	
retrograde	2838 Mar 04 12:00	25°♏11'28	
opposition	2838 May 12 00:08	21°♏52'41	2°33'18
min. Earth dist.	2838 May 12 02:00	21°♏52'20	8.77356 AU
direct	2838 Jul 21 16:42	18°♏29'01	
evening set	2838 Nov 03 05:55	25°♏56'36	
conjunction	2838 Nov 20 04:07	27°♏58'15	1°59'10
minimum elong	2838 Nov 20 04:09	27°♏58'16	1°59'11
max. Earth dist.	2838 Nov 20 01:18	27°♏57'24	10.81328 AU
morning rise	2838 Dec 06 22:44	29°♏58'52	
	2838 Dec 07 02:35	0°♐	
retrograde	2839 Mar 16 14:36	7°♐07'20	
opposition	2839 May 24 13:17	3°♐49'08	2°17'51
min. Earth dist.	2839 May 24 15:50	3°♐48'39	8.85206 AU
direct	2839 Aug 03 11:35	0°♐26'30	
evening set	2839 Nov 15 08:16	7°♐47'27	
conjunction	2839 Dec 02 04:14	9°♐47'38	1°44'21
minimum elong	2839 Dec 02 04:16	9°♐47'39	1°44'22
max. Earth dist.	2839 Dec 02 00:48	9°♐46'36	10.88505 AU
morning rise	2839 Dec 18 21:14	11°♐46'57	
retrograde	2840 Mar 27 14:05	18°♐51'54	
opposition	2840 Jun 04 23:21	15°♐34'00	1°56'52
min. Earth dist.	2840 Jun 05 01:45	15°♐33'33	8.91590 AU
direct	2840 Aug 15 00:20	12°♐12'21	
evening set	2840 Nov 26 04:21	19°♐27'24	
conjunction	2840 Dec 12 22:44	21°♐26'28	1°25'23
minimum elong	2840 Dec 12 22:46	21°♐26'28	1°25'23
max. Earth dist.	2840 Dec 12 19:45	21°♐25'35	10.94094 AU
morning rise	2840 Dec 29 14:36	23°♐24'51	
	2841 Mar 16 01:45	0°♑	
retrograde	2841 Apr 08 12:55	0°♑27'38	
	2841 May 02 07:24	30°℞♐	
opposition	2841 Jun 17 07:03	27°♐09'47	1°31'23
min. Earth dist.	2841 Jun 17 09:14	27°♐09'23	8.96276 AU
direct	2841 Aug 27 09:18	23°♐48'59	
	2841 Nov 29 05:26	0°♑	
evening set	2841 Dec 07 19:54	0°♑59'09	
conjunction	2841 Dec 24 13:06	2°♑57'27	1°03'07
minimum elong	2841 Dec 24 13:08	2°♑57'28	1°03'06
max. Earth dist.	2841 Dec 24 10:18	2°♑56'37	10.97894 AU
morning rise	2842 Jan 10 04:28	4°♑55'16	
retrograde	2842 Apr 20 11:20	11°♑57'16	
opposition	2842 Jun 29 13:00	8°♑39'15	1°02'28
min. Earth dist.	2842 Jun 29 15:50	8°♑38'44	8.99110 AU
direct	2842 Sep 08 12:25	5°♑19'09	
evening set	2842 Dec 19 08:25	12°♑25'39	
conjunction	2843 Jan 05 00:44	14°♑23'31	0°38'27
minimum elong	2843 Jan 05 00:45	14°♑23'32	0°38'26

max. Earth dist.	2843 Jan 04	20:57	14°♑22'24	10.99781 AU
morning rise	2843 Jan 21	16:13	16°♑21'10	
retrograde	2843 May 02	07:47	23°♑23'48	
opposition	2843 Jul 11	18:15	20°♑05'26	0°31'12
min. Earth dist.	2843 Jul 11	21:34	20°♑04'49	8.99993 AU
direct	2843 Sep 20	13:01	16°♑45'52	
evening set	2843 Dec 30	19:28	23°♑50'04	
conjunction	2844 Jan 16	11:18	25°♑47'49	0°12'19
minimum elong	2844 Jan 16	11:18	25°♑47'49	0°12'19
behind sun begin	2844 Jan 16	06:35	25°♑46'27	
behind sun end	2844 Jan 16	16:00	25°♑49'12	
max. Earth dist.	2844 Jan 16	07:22	25°♑46'40	10.99684 AU
morning rise	2844 Feb 02	03:10	27°♑45'36	
	2844 Feb 22	05:01	0°♒	
retrograde	2844 May 13	08:22	4°♒50'25	
desc. node	2844 Jul 07	22:27	2°♒37'04	
opposition	2844 Jul 22	23:37	1°♒31'28	-0°01'18
min. Earth dist.	2844 Jul 23	02:30	1°♒30'56	8.98889 AU
	2844 Aug 13	08:42	30°℞♑	
direct	2844 Oct 01	14:12	28°♑12'17	
	2844 Nov 17	23:53	0°♒	
evening set	2845 Jan 10	06:38	5°♒15'32	
conjunction	2845 Jan 26	22:29	7°♒13'32	-0°14'26
minimum elong	2845 Jan 26	22:29	7°♒13'32	0°14'25
behind sun begin	2845 Jan 26	19:08	7°♒12'33	
behind sun end	2845 Jan 27	01:49	7°♒14'31	
max. Earth dist.	2845 Jan 26	19:35	7°♒12'41	10.97601 AU
morning rise	2845 Feb 12	14:58	9°♒11'46	
	2845 Apr 14	14:13	15°♒	
retrograde	2845 May 25	11:52	16°♒20'12	
	2845 Jul 06	10:56	15°℞♒	
opposition	2845 Aug 04	06:05	13°♒00'28	-0°33'55
min. Earth dist.	2845 Aug 04	07:59	13°♒00'07	8.95835 AU
direct	2845 Oct 13	12:08	9°♒41'32	
	2846 Jan 06	08:30	15°♒	
evening set	2846 Jan 21	19:33	16°♒45'14	
conjunction	2846 Feb 07	11:41	18°♒43'48	-0°40'41
minimum elong	2846 Feb 07	11:39	18°♒43'47	0°40'40
max. Earth dist.	2846 Feb 07	09:13	18°♒43'03	10.93596 AU
morning rise	2846 Feb 24	05:10	20°♒42'49	
retrograde	2846 Jun 06	19:29	27°♒56'12	
opposition	2846 Aug 16	14:37	24°♒35'33	-1°05'27
min. Earth dist.	2846 Aug 16	16:21	24°♒35'14	8.90928 AU
direct	2846 Oct 25	10:58	21°♒16'38	
evening set	2847 Feb 02	11:52	28°♒22'15	
	2847 Feb 16	04:15	0°♓	
conjunction	2847 Feb 19	04:28	0°♓21'41	-1°05'31
minimum elong	2847 Feb 19	04:26	0°♓21'40	1°05'31
max. Earth dist.	2847 Feb 19	01:38	0°♓20'50	10.87811 AU
morning rise	2847 Mar 07	23:25	2°♓21'48	
retrograde	2847 Jun 19	07:59	9°♓41'19	
opposition	2847 Aug 29	02:00	6°♓19'39	-1°34'42
min. Earth dist.	2847 Aug 29	03:54	6°♓19'18	8.84354 AU
direct	2847 Nov 06	11:12	3°♓00'33	
evening set	2848 Feb 14	08:48	10°♓09'26	
conjunction	2848 Mar 02	02:26	12°♓10'03	-1°27'55
minimum elong	2848 Mar 02	02:24	12°♓10'02	1°27'56
max. Earth dist.	2848 Mar 01	23:50	12°♓09'15	10.80477 AU
morning rise	2848 Mar 18	23:13	14°♓11'35	
retrograde	2848 Jul 01	00:52	21°♓38'17	
opposition	2848 Sep 09	17:07	18°♓15'28	-2°00'24
min. Earth dist.	2848 Sep 09	18:39	18°♓15'10	8.76378 AU
direct	2848 Nov 17	15:29	14°♓55'59	
evening set	2849 Feb 25	11:32	22°♓09'22	
conjunction	2849 Mar 14	06:56	24°♓11'30	-1°46'51
minimum elong	2849 Mar 14	06:53	24°♓11'30	1°46'51
max. Earth dist.	2849 Mar 14	05:50	24°♓11'10	10.71887 AU
morning rise	2849 Mar 31	05:53	26°♓14'45	
	2849 May 04	04:37	0°♈	
retrograde	2849 Jul 14	01:25	3°♈49'23	
opposition	2849 Sep 22	12:21	0°♈25'20	-2°21'17
min. Earth dist.	2849 Sep 22	12:41	0°♈25'16	8.67322 AU
	2849 Sep 28	01:03	30°℞♓	
direct	2849 Nov 30	00:11	27°♓05'19	
	2850 Jan 28	07:42	0°♈	
evening set	2850 Mar 09	21:36	4°♈24'16	
conjunction	2850 Mar 26	19:18	6°♈28'15	-2°01'17
minimum elong	2850 Mar 26	19:16	6°♈28'15	2°01'17
max. Earth dist.	2850 Mar 26	19:21	6°♈28'16	10.62400 AU
morning rise	2850 Apr 12	20:55	8°♈33'30	
retrograde	2850 Jul 27	10:02	16°♈16'20	
opposition	2850 Oct 05	12:06	12°♈51'07	-2°36'07
min. Earth dist.	2850 Oct 05	11:26	12°♈51'15	8.57572 AU
direct	2850 Dec 12	11:26	9°♈30'23	
evening set	2851 Mar 22	15:45	16°♈55'48	
conjunction	2851 Apr 08	16:19	19°♈01'54	-2°10'16
minimum elong	2851 Apr 08	16:18	19°♈01'54	2°10'16
max. Earth dist.	2851 Apr 08	16:49	19°♈02'04	10.52448 AU
morning rise	2851 Apr 25	21:16	21°♈09'24	
retrograde	2851 Aug 09	23:35	29°♈00'22	
opposition	2851 Oct 18	16:59	25°♈34'03	-2°43'44
min. Earth dist.	2851 Oct 18	15:49	25°♈34'17	8.47577 AU
direct	2851 Dec 25	05:31	22°♈12'26	
evening set	2852 Apr 03	18:24	29°♈44'53	
	2852 Apr 05	19:32	0°♉	
conjunction	2852 Apr 20	22:35	1°♉53'21	-2°13'00
minimum elong	2852 Apr 20	22:35	1°♉53'21	2°13'00
max. Earth dist.	2852 Apr 20	23:13	1°♉53'33	10.42501 AU
morning rise	2852 May 08	07:30	4°♉03'17	
retrograde	2852 Aug 22	19:11	12°♉01'49	
opposition	2852 Oct 31	02:44	8°♉34'31	-2°43'15
min. Earth dist.	2852 Oct 31	01:40	8°♉34'43	8.37807 AU
direct	2853 Jan 06	06:32	5°♉11'50	
evening set	2853 Apr 17	06:09	12°♉51'35	
conjunction	2853 May 04	14:41	15°♉02'35	-2°08'56
minimum elong	2853 May 04	14:43	15°♉02'35	2°08'55
	2853 May 04	06:32	15°♉	
max. Earth dist.	2853 May 04	15:57	15°♉02'59	10.33016 AU
morning rise	2853 May 22	03:53	17°♉15'02	
retrograde	2853 Sep 05	20:24	25°♉20'01	
opposition	2853 Nov 13	16:49	21°♉51'54	-2°34'06
min. Earth dist.	2853 Nov 13	15:36	21°♉52'09	8.28707 AU
direct	2854 Jan 19	13:37	18°♉28'04	
evening set	2854 May 01	02:43	26°♉15'05	
conjunction	2854 May 18	16:03	28°♉28'39	-1°57'51
minimum elong	2854 May 18	16:05	28°♉28'40	1°57'50
max. Earth dist.	2854 May 18	18:01	28°♉29'17	10.24419 AU
	2854 May 30	15:03	0°♊	
morning rise	2854 Jun 05	09:34	0°♊43'33	
retrograde	2854 Sep 20	01:58	8°♊53'35	
opposition	2854 Nov 27	11:01	5°♊24'54	-2°16'16
min. Earth dist.	2854 Nov 27	09:20	5°♊25'14	8.20685 AU
direct	2855 Feb 02	03:38	1°♊59'55	

evening set	2855 May 15	07:31	9°♊53'52		
conjunction	2855 Jun 02	01:39	12°♊09'50	-1°39'59	
minimum elong	2855 Jun 02	01:43	12°♊09'51	1°39'59	
max. Earth dist.	2855 Jun 02	04:25	12°♊10'44	10.17135 AU	
morning rise	2855 Jun 19	23:14	14°♊26'57		
retrograde	2855 Oct 04	10:41	22°♊40'23		
opposition	2855 Dec 11	08:38	19°♊11'24	-1°50'20	
min. Earth dist.	2855 Dec 11	06:13	19°♊11'53	8.14213 AU	
direct	2856 Feb 15	23:07	15°♊45'18		
evening set	2856 May 28	20:04	23°♊45'29		
conjunction	2856 Jun 15	18:31	26°♊03'31	-1°16'08	
minimum elong	2856 Jun 15	18:34	26°♊03'32	1°16'08	
max. Earth dist.	2856 Jun 15	21:47	26°♊04'34	10.11667 AU	
morning rise	2856 Jul 03	19:30	28°♊22'24		
	2856 Jul 16	22:45	0°♋		
retrograde	2856 Oct 17	21:20	6°♋37'05		
opposition	2856 Dec 24	08:33	3°♋08'06	-1°17'34	
min. Earth dist.	2856 Dec 24	05:47	3°♋08'40	8.09794 AU	
	2857 Feb 10	11:45	30℞♊		
direct	2857 Feb 28	23:10	29°♊40'58		
	2857 Mar 19	10:04	0°♋		
evening set	2857 Jun 12	14:38	7°♋46'12		
conjunction	2857 Jun 30	16:21	10°♋05'40	-0°47'34	
minimum elong	2857 Jun 30	16:23	10°♋05'41	0°47'34	
max. Earth dist.	2857 Jun 30	19:34	10°♋06'42	10.08451 AU	
morning rise	2857 Jul 18	19:34	12°♋25'38		
retrograde	2857 Nov 01	07:54	20°♋39'21		
opposition	2858 Jan 07	09:50	17°♋10'41	-0°39'55	
min. Earth dist.	2858 Jan 07	07:12	17°♋11'14	8.07786 AU	
direct	2858 Mar 15	03:23	13°♋42'38		
evening set	2858 Jun 27	12:52	21°♋51'22		
conjunction	2858 Jul 15	16:24	24°♋11'27	-0°16'05	
minimum elong	2858 Jul 15	16:24	24°♋11'27	0°16'05	
max. Earth dist.	2858 Jul 15	19:26	24°♋12'26	10.07743 AU	
morning rise	2858 Aug 02	20:18	26°♋31'39		
	2858 Aug 31	20:30	0°♌		
retrograde	2858 Nov 15	15:57	4°♌42'18		
asc. node	2859 Jan 19	18:51	1°♌22'31		
opposition	2859 Jan 21	11:01	1°♌14'14	0°00'11	
min. Earth dist.	2859 Jan 21	08:37	1°♌14'44	8.08355 AU	
	2859 Feb 05	19:46	30℞♋		
direct	2859 Mar 29	11:53	27°♋45'30		
	2859 May 19	05:04	0°♌		
evening set	2859 Jul 12	12:19	5°♌55'56		
conjunction	2859 Jul 30	16:03	8°♌15'45	0°16'22	
minimum elong	2859 Jul 30	16:02	8°♌15'45	0°16'22	
max. Earth dist.	2859 Jul 30	18:47	8°♌16'37	10.09605 AU	
morning rise	2859 Aug 17	19:00	10°♌35'18		
	2859 Sep 24	18:37	15°♌		
retrograde	2859 Nov 29	18:10	18°♌41'02		
opposition	2860 Feb 04	10:39	15°♌13'48	0°40'04	
min. Earth dist.	2860 Feb 04	08:28	15°♌14'15	8.11468 AU	
	2860 Feb 07	05:55	15℞♌		
direct	2860 Apr 11	21:39	11°♌44'39		
	2860 Jun 13	04:38	15°♌		
evening set	2860 Jul 26	10:13	19°♌54'51		
conjunction	2860 Aug 13	12:34	22°♌13'34	0°47'36	
minimum elong	2860 Aug 13	12:32	22°♌13'33	0°47'36	
max. Earth dist.	2860 Aug 13	14:59	22°♌14'21	10.13904 AU	
morning rise	2860 Aug 31	12:57	24°♌31'38		
	2860 Oct 20	00:32	0°♍		
retrograde	2860 Dec 12	15:18	2°♍31'04		
	2861 Feb 05	22:07	30℞♌		
opposition	2861 Feb 17	07:45	29°♌04'50	1°17'11	
min. Earth dist.	2861 Feb 17	05:22	29°♌05'19	8.16899 AU	
direct	2861 Apr 26	06:02	25°♌35'35		
	2861 Jul 09	08:18	0°♍		
evening set	2861 Aug 10	03:49	3°♍43'38		
conjunction	2861 Aug 28	03:20	6°♍00'31	1°15'44	
minimum elong	2861 Aug 28	03:17	6°♍00'30	1°15'44	
max. Earth dist.	2861 Aug 28	05:52	6°♍01'19	10.20341 AU	
morning rise	2861 Sep 14	23:47	8°♍16'26		
retrograde	2861 Dec 26	07:14	16°♍08'37		
opposition	2862 Mar 03	01:15	12°♍43'29	1°49'18	
min. Earth dist.	2862 Mar 02	22:41	12°♍44'00	8.24285 AU	
direct	2862 May 10	10:52	9°♍14'27		
evening set	2862 Aug 24	14:49	17°♍18'34		
conjunction	2862 Sep 11	10:30	19°♍33'08	1°39'13	
minimum elong	2862 Sep 11	10:27	19°♍33'07	1°39'13	
max. Earth dist.	2862 Sep 11	13:05	19°♍33'57	10.28511 AU	
morning rise	2862 Sep 29	02:14	21°♍46'29		
retrograde	2863 Jan 08	17:18	29°♍30'51		
opposition	2863 Mar 16	14:26	26°♍06'53	2°14'47	
min. Earth dist.	2863 Mar 16	12:15	26°♍07'19	8.33176 AU	
direct	2863 May 24	11:42	22°♍38'21		
	2863 Sep 02	15:50	0°♎		
evening set	2863 Sep 07	17:26	0°♎37'06		
conjunction	2863 Sep 25	08:44	2°♎49'03	1°56'58	
minimum elong	2863 Sep 25	08:41	2°♎49'03	1°56'58	
max. Earth dist.	2863 Sep 25	10:51	2°♎49'43	10.37931 AU	
morning rise	2863 Oct 12	19:32	4°♎59'40		
retrograde	2864 Jan 21	18:42	12°♎36'03		
opposition	2864 Mar 28	22:58	9°♎13'20	2°32'36	
min. Earth dist.	2864 Mar 28	21:47	9°♎13'34	8.43053 AU	
direct	2864 Jun 06	08:44	5°♎45'31		
evening set	2864 Sep 20	10:46	13°♎37'49		
conjunction	2864 Oct 07	21:25	15°♎47'05	2°08'21	
minimum elong	2864 Oct 07	21:24	15°♎47'04	2°08'20	
max. Earth dist.	2864 Oct 07	22:23	15°♎47'23	10.48075 AU	
morning rise	2864 Oct 25	03:30	17°♎54'58		
retrograde	2865 Feb 02	13:49	25°♎23'39		
opposition	2865 Apr 11	02:34	22°♎02'07	2°42'19	
min. Earth dist.	2865 Apr 11	02:25	22°♎02'09	8.53390 AU	
direct	2865 Jun 19	23:38	18°♎35'17		
evening set	2865 Oct 03	18:12	26°♎20'25		
conjunction	2865 Oct 21	00:30	28°♎27'06	2°13'10	
minimum elong	2865 Oct 21	00:30	28°♎27'06	2°13'10	
max. Earth dist.	2865 Oct 21	00:02	28°♎26'57	10.58436 AU	
	2865 Nov 02	15:20	0°♏		
morning rise	2865 Nov 07	02:26	0°♏32'27		
retrograde	2866 Feb 15	03:06	7°♏54'00		
opposition	2866 Apr 24	01:20	4°♏33'34	2°44'01	
min. Earth dist.	2866 Apr 24	01:28	4°♏33'32	8.63680 AU	
direct	2866 Jul 03	07:52	1°♏07'52		
evening set	2866 Oct 16	15:47	8°♏45'30		
conjunction	2866 Nov 02	18:24	10°♏49'52	2°11'38	
minimum elong	2866 Nov 02	18:24	10°♏49'53	2°11'38	
max. Earth dist.	2866 Nov 02	17:26	10°♏49'35	10.68518 AU	
morning rise	2866 Nov 19	16:50	12°♏53'00		
	2866 Dec 08	00:56	15°♏		
retrograde	2867 Feb 27	10:24	20°♏08'15		
opposition	2867 May 06	19:30	16°♏48'46	2°38'08	

min. Earth dist.	2867 May 06 19:38	16°♏48'45	8.73434 AU
	2867 May 31 19:48	15°℞♏	
direct	2867 Jul 16 11:04	13°♏24'19	
	2867 Aug 30 03:34	15°♏	
evening set	2867 Oct 29 04:35	20°♏54'34	
conjunction	2867 Nov 15 04:08	22°♏56'55	2°04'11
minimum elong	2867 Nov 15 04:09	22°♏56'56	2°04'11
max. Earth dist.	2867 Nov 15 03:14	22°♏56'39	10.77853 AU
morning rise	2867 Dec 01 23:41	24°♏58'09	
	2868 Jan 19 20:54	0°♐	
retrograde	2868 Mar 10 15:27	2°♐08'06	
	2868 May 02 12:51	30°℞♏	
opposition	2868 May 18 09:38	28°♏49'27	2°25'25
min. Earth dist.	2868 May 18 10:09	28°♏49'21	8.82222 AU
direct	2868 Jul 28 06:45	25°♏26'15	
	2868 Oct 15 01:18	0°♐	
evening set	2868 Nov 09 09:33	2°♐49'32	
conjunction	2868 Nov 26 06:34	4°♐50'14	1°51'28
minimum elong	2868 Nov 26 06:36	4°♐50'15	1°51'29
max. Earth dist.	2868 Nov 26 05:26	4°♐49'54	10.86045 AU
morning rise	2868 Dec 13 00:04	6°♐49'57	
retrograde	2869 Mar 22 16:31	13°♐55'47	
opposition	2869 May 30 20:36	10°♐37'45	2°06'45
min. Earth dist.	2869 May 30 22:11	10°♐37'28	8.89697 AU
direct	2869 Aug 09 19:54	7°♐15'45	
evening set	2869 Nov 21 07:48	14°♐32'45	
conjunction	2869 Dec 08 02:46	16°♐32'08	1°34'15
minimum elong	2869 Dec 08 02:48	16°♐32'09	1°34'15
max. Earth dist.	2869 Dec 08 00:26	16°♐31'27	10.92776 AU
morning rise	2869 Dec 24 19:04	18°♐30'46	
retrograde	2870 Apr 03 13:56	25°♐33'46	
opposition	2870 Jun 12 04:50	22°♐16'07	1°43'09
min. Earth dist.	2870 Jun 12 07:08	22°♐15'41	8.95573 AU
direct	2870 Aug 22 06:11	18°♐55'11	
evening set	2870 Dec 03 00:59	26°♐06'52	
conjunction	2870 Dec 19 18:31	28°♐05'18	1°13'21
minimum elong	2870 Dec 19 18:33	28°♐05'19	1°13'20
max. Earth dist.	2870 Dec 19 15:27	28°♐04'23	10.97789 AU
	2871 Jan 04 23:13	0°♑	
morning rise	2871 Jan 05 10:10	0°♑03'11	
retrograde	2871 Apr 15 11:34	7°♑04'44	
opposition	2871 Jun 24 10:53	3°♑47'12	1°15'39
min. Earth dist.	2871 Jun 24 13:07	3°♑46'47	8.99622 AU
direct	2871 Sep 03 12:03	0°♑27'12	
evening set	2871 Dec 14 14:29	7°♑34'40	
conjunction	2871 Dec 31 07:07	9°♑32'30	0°49'40
minimum elong	2871 Dec 31 07:09	9°♑32'31	0°49'39
max. Earth dist.	2871 Dec 31 04:34	9°♑31'45	11.00886 AU
morning rise	2872 Jan 16 22:25	11°♑30'00	
retrograde	2872 Apr 26 09:28	18°♑31'33	
opposition	2872 Jul 05 16:05	15°♑13'52	0°45'20
min. Earth dist.	2872 Jul 05 17:56	15°♑13'31	9.01686 AU
direct	2872 Sep 14 14:01	11°♑54'37	
evening set	2872 Dec 25 01:47	18°♑59'05	
conjunction	2873 Jan 10 17:50	20°♑56'40	0°24'06
minimum elong	2873 Jan 10 17:51	20°♑56'40	0°24'06
max. Earth dist.	2873 Jan 10 15:21	20°♑55'56	11.01936 AU
morning rise	2873 Jan 27 09:15	22°♑54'07	
retrograde	2873 May 08 09:43	29°♑57'07	
opposition	2873 Jul 17 21:11	26°♑39'02	0°13'19
min. Earth dist.	2873 Jul 17 23:31	26°♑38'37	9.01671 AU
direct	2873 Sep 26 13:37	23°♑20'19	
desc. node	2873 Dec 18 19:56	28°♑24'10	
	2874 Jan 02 04:26	0°♒	
evening set	2874 Jan 05 12:43	0°♒23'09	
conjunction	2874 Jan 22 04:25	2°♒20'48	-0°02'30
minimum elong	2874 Jan 22 04:23	2°♒20'48	0°02'29
behind sun begin	2874 Jan 21 21:25	2°♒18'45	
behind sun end	2874 Jan 22 11:22	2°♒22'50	
max. Earth dist.	2874 Jan 22 00:51	2°♒19'48	11.00863 AU
morning rise	2874 Feb 07 20:28	4°♒18'35	
retrograde	2874 May 20 09:56	11°♒24'27	
opposition	2874 Jul 30 02:46	8°♒05'44	-0°19'19
min. Earth dist.	2874 Jul 30 06:03	8°♒05'07	8.99518 AU
direct	2874 Oct 08 11:26	4°♒47'16	
evening set	2875 Jan 17 00:37	11°♒50'00	
conjunction	2875 Feb 02 16:21	13°♒48'03	-0°28'59
minimum elong	2875 Feb 02 16:20	13°♒48'02	0°28'58
max. Earth dist.	2875 Feb 02 12:04	13°♒46'46	10.97636 AU
	2875 Feb 12 18:50	15°♒	
morning rise	2875 Feb 19 09:22	15°♒46'28	
retrograde	2875 Jun 01 14:33	22°♒56'46	
opposition	2875 Aug 11 10:05	19°♒37'10	-0°51'25
min. Earth dist.	2875 Aug 11 13:27	19°♒36'32	8.95238 AU
direct	2875 Oct 20 11:21	16°♒18'46	
evening set	2876 Jan 28 14:58	23°♒22'51	
conjunction	2876 Feb 14 07:14	25°♒21'40	-0°54'32
minimum elong	2876 Feb 14 07:12	25°♒21'40	0°54'32
max. Earth dist.	2876 Feb 14 03:39	25°♒20'36	10.92336 AU
morning rise	2876 Mar 02 01:21	27°♒21'05	
	2876 Mar 25 19:31	0°♓	
retrograde	2876 Jun 13 01:38	4°♓37'11	
opposition	2876 Aug 22 20:00	1°♓16'29	-1°21'48
min. Earth dist.	2876 Aug 22 22:35	1°♓16'00	8.89007 AU
	2876 Sep 09 08:06	30°℞♒	
direct	2876 Oct 31 11:12	27°♒57'56	
	2876 Dec 20 09:43	0°♓	
evening set	2877 Feb 08 09:32	5°♓04'47	
conjunction	2877 Feb 25 02:42	7°♓04'42	-1°18'09
minimum elong	2877 Feb 25 02:40	7°♓04'41	1°18'09
max. Earth dist.	2877 Feb 24 23:40	7°♓03'47	10.85218 AU
morning rise	2877 Mar 13 22:22	9°♓05'25	
retrograde	2877 Jun 25 16:41	16°♓28'25	
opposition	2877 Sep 04 09:11	13°♓06'28	-1°49'14
min. Earth dist.	2877 Sep 04 11:14	13°♓06'05	8.81128 AU
direct	2877 Nov 12 12:49	9°♓47'29	
evening set	2878 Feb 20 09:32	16°♓58'26	
conjunction	2878 Mar 09 03:59	18°♓59'46	-1°38'45
minimum elong	2878 Mar 09 03:57	18°♓59'45	1°38'46
max. Earth dist.	2878 Mar 09 00:39	18°♓58'45	10.76620 AU
morning rise	2878 Mar 26 01:48	21°♓02'08	
retrograde	2878 Jul 08 14:21	28°♓32'51	
opposition	2878 Sep 17 02:26	25°♓09'33	-2°12'28
min. Earth dist.	2878 Sep 17 04:35	25°♓09'09	8.71952 AU
direct	2878 Nov 24 18:43	21°♓49'52	
evening set	2879 Mar 04 16:02	29°♓06'05	
	2879 Mar 12 02:20	0°♈	
conjunction	2879 Mar 21 12:23	1°♈09'09	-1°55'21
minimum elong	2879 Mar 21 12:21	1°♈09'08	1°55'21
max. Earth dist.	2879 Mar 21 09:21	1°♈08'13	10.66919 AU
morning rise	2879 Apr 07 12:47	3°♈13'27	
retrograde	2879 Jul 21 18:05	10°♈52'27	

opposition	2879 Sep 30 00:10	7°♈27'45	-2°30'13
min. Earth dist.	2879 Sep 30 02:02	7°♈27'23	8.61886 AU
direct	2879 Dec 07 04:33	4°♈07'12	
evening set	2880 Mar 16 06:07	11°♈29'40	
conjunction	2880 Apr 02 05:13	13°♈34'47	-2°06'55
minimum elong	2880 Apr 02 05:12	13°♈34'47	2°06'56
max. Earth dist.	2880 Apr 02 03:32	13°♈34'16	10.56550 AU
morning rise	2880 Apr 19 08:39	15°♈41'16	
retrograde	2880 Aug 03 03:19	23°♈28'43	
opposition	2880 Oct 12 02:40	20°♈02'38	-2°41'16
min. Earth dist.	2880 Oct 12 03:33	20°♈02'28	8.51380 AU
direct	2880 Dec 18 21:35	16°♈41'05	
evening set	2881 Mar 29 04:37	24°♈10'31	
conjunction	2881 Apr 15 07:13	26°♈18'00	-2°12'36
minimum elong	2881 Apr 15 07:13	26°♈18'00	2°12'35
max. Earth dist.	2881 Apr 15 07:09	26°♈17'59	10.45980 AU
morning rise	2881 May 02 14:13	28°♈26'54	
	2881 May 15 12:48	0°♉	
retrograde	2881 Aug 16 20:55	6°♉22'28	
opposition	2881 Oct 25 10:04	2°♉55'09	-2°44'35
min. Earth dist.	2881 Oct 25 09:38	2°♉55'14	8.40909 AU
	2881 Dec 09 02:27	30°℞♈	
direct	2881 Dec 31 19:12	29°♈32'29	
	2882 Jan 23 05:19	0°♉	
evening set	2882 Apr 11 12:11	7°♉09'20	
conjunction	2882 Apr 28 18:50	9°♉19'21	-2°11'41
minimum elong	2882 Apr 28 18:51	9°♉19'22	2°11'40
max. Earth dist.	2882 Apr 28 19:38	9°♉19'36	10.35709 AU
morning rise	2882 May 16 05:54	11°♉30'49	
	2882 Jun 15 04:55	15°♉	
retrograde	2882 Aug 30 21:02	19°♉33'40	
opposition	2882 Nov 07 22:15	16°♉05'19	-2°39'26
min. Earth dist.	2882 Nov 07 20:59	16°♉05'34	8.30985 AU
	2882 Nov 21 19:00	15°℞♉	
direct	2883 Jan 13 21:57	12°♉41'28	
	2883 Mar 06 06:19	15°♉	
evening set	2883 Apr 25 04:51	20°♉25'53	
conjunction	2883 May 12 15:59	22°♉38'30	-2°03'46
minimum elong	2883 May 12 16:02	22°♉38'31	2°03'45
max. Earth dist.	2883 May 12 17:11	22°♉38'53	10.26273 AU
morning rise	2883 May 30 07:31	24°♉52'33	
	2883 Jul 15 06:30	0°♊	
retrograde	2883 Sep 14 01:54	3°♊01'21	
	2883 Nov 15 21:24	30°℞♉	
opposition	2883 Nov 21 15:04	29°♉32'15	-2°25'31
min. Earth dist.	2883 Nov 21 13:28	29°♉32'34	8.22144 AU
direct	2884 Jan 27 08:33	26°♉07'10	
	2884 Apr 04 02:20	0°♊	
evening set	2884 May 08 06:12	3°♊58'52	
conjunction	2884 May 25 22:09	6°♊14'02	-1°48'54
minimum elong	2884 May 25 22:12	6°♊14'03	1°48'53
max. Earth dist.	2884 May 25 23:47	6°♊14'33	10.18190 AU
morning rise	2884 Jun 12 18:08	8°♊30'28	
retrograde	2884 Sep 27 08:54	16°♊43'29	
opposition	2884 Dec 04 11:39	13°♊13'56	-2°03'05
min. Earth dist.	2884 Dec 04 09:53	13°♊14'18	8.14886 AU
direct	2885 Feb 09 02:37	9°♊47'41	
evening set	2885 May 22 15:47	17°♊45'59	
conjunction	2885 Jun 09 12:19	20°♊03'24	-1°27'36
minimum elong	2885 Jun 09 12:22	20°♊03'25	1°27'35
max. Earth dist.	2885 Jun 09 14:34	20°♊04'07	10.11924 AU
morning rise	2885 Jun 27 12:08	22°♊21'49	
	2885 Sep 15 14:15	0°♋	
retrograde	2885 Oct 11 18:27	0°♋36'59	
	2885 Nov 07 00:52	30°℞♊	
opposition	2885 Dec 18 10:59	27°♊07'21	-1°33'09
min. Earth dist.	2885 Dec 18 08:50	27°♊07'47	8.09652 AU
direct	2886 Feb 23 01:38	23°♊40'02	
	2886 May 23 08:56	0°♋	
evening set	2886 Jun 06 08:01	1°♋43'53	
conjunction	2886 Jun 24 08:26	4°♋03'01	-1°00'56
minimum elong	2886 Jun 24 08:29	4°♋03'02	1°00'56
max. Earth dist.	2886 Jun 24 11:46	4°♋04'06	10.07871 AU
morning rise	2886 Jul 12 11:00	6°♋22'49	
retrograde	2886 Oct 26 05:05	14°♋37'57	
opposition	2887 Jan 01 12:10	11°♋08'34	-0°57'22
min. Earth dist.	2887 Jan 01 09:04	11°♋09'12	8.06788 AU
direct	2887 Mar 09 04:58	7°♋40'24	
evening set	2887 Jun 21 04:56	15°♋48'21	
conjunction	2887 Jul 09 08:01	18°♋08'29	-0°30'30
minimum elong	2887 Jul 09 08:03	18°♋08'29	0°30'30
max. Earth dist.	2887 Jul 09 12:26	18°♋09'54	10.06305 AU
morning rise	2887 Jul 27 11:57	20°♋28'53	
retrograde	2887 Nov 09 14:50	28°♋41'51	
opposition	2888 Jan 15 13:53	25°♋13'02	-0°17'59
min. Earth dist.	2888 Jan 15 10:04	25°♋13'49	8.06497 AU
direct	2888 Mar 22 11:47	21°♋44'15	
asc. node	2888 Jul 02 01:11	29°♋30'52	
evening set	2888 Jul 05 04:39	29°♋54'41	
	2888 Jul 05 21:24	0°♌	
conjunction	2888 Jul 23 08:46	2°♌14'56	0°01'53
minimum elong	2888 Jul 23 08:46	2°♌14'56	0°01'53
behind sun begin	2888 Jul 23 01:24	2°♌12'34	
behind sun end	2888 Jul 23 16:08	2°♌17'17	
max. Earth dist.	2888 Jul 23 13:39	2°♌16'28	10.07339 AU
morning rise	2888 Aug 10 12:22	4°♌35'03	
retrograde	2888 Nov 22 20:59	12°♌43'50	
opposition	2889 Jan 28 14:44	9°♌15'56	0°22'24
min. Earth dist.	2889 Jan 28 10:45	9°♌16'45	8.08815 AU
direct	2889 Apr 05 20:22	5°♌46'49	
evening set	2889 Jul 20 04:13	13°♌57'53	
	2889 Jul 28 07:19	15°♌	
conjunction	2889 Aug 07 07:35	16°♌17'21	0°33'53
minimum elong	2889 Aug 07 07:33	16°♌17'21	0°33'53
max. Earth dist.	2889 Aug 07 12:26	16°♌18'55	10.10918 AU
morning rise	2889 Aug 25 09:13	18°♌36'18	
retrograde	2889 Dec 06 22:36	26°♌39'20	
opposition	2890 Feb 11 13:47	23°♌12'35	1°01'06
min. Earth dist.	2890 Feb 11 10:14	23°♌13'18	8.13605 AU
direct	2890 Apr 20 04:49	19°♌43'24	
evening set	2890 Aug 04 00:40	27°♌53'07	
	2890 Aug 20 15:14	0°♍	
conjunction	2890 Aug 22 01:39	0°♍11'02	1°03'39
minimum elong	2890 Aug 22 01:37	0°♍11'01	1°03'39
max. Earth dist.	2890 Aug 22 05:53	0°♍12'23	10.16821 AU
morning rise	2890 Sep 08 23:58	2°♍28'05	
retrograde	2890 Dec 20 18:20	10°♍24'09	
opposition	2891 Feb 25 09:45	6°♍58'40	1°35'42
min. Earth dist.	2891 Feb 25 06:55	6°♍59'14	8.20566 AU
direct	2891 May 04 11:58	3°♍29'44	
evening set	2891 Aug 18 15:43	11°♍36'15	
conjunction	2891 Sep 05 13:09	13°♍51'58	1°29'24

minimum elong	2891 Sep 05 13:06	13°♍51'57	1°29'23
max. Earth dist.	2891 Sep 05 16:14	13°♍52'57	10.24678 AU
morning rise	2891 Sep 23 07:10	16°♍06'36	
retrograde	2892 Jan 03 06:42	23°♍54'52	
opposition	2892 Mar 10 01:31	20°♍30'43	2°04'19
min. Earth dist.	2892 Mar 09 23:08	20°♍31'11	8.29252 AU
direct	2892 May 17 16:43	17°♍02'17	
evening set	2892 Aug 31 23:08	25°♍03'56	
conjunction	2892 Sep 18 16:18	27°♍17'05	1°49'48
minimum elong	2892 Sep 18 16:15	27°♍17'04	1°49'47
max. Earth dist.	2892 Sep 18 18:30	27°♍17'47	10.33993 AU
morning rise	2892 Oct 06 05:29	29°♍28'59	
	2892 Oct 10 10:34	0°♎	
retrograde	2893 Jan 15 11:12	7°♎09'09	
opposition	2893 Mar 23 12:44	3°♎46'18	2°25'35
min. Earth dist.	2893 Mar 23 10:36	3°♎46'43	8.39113 AU
direct	2893 May 31 17:23	0°♎18'36	
evening set	2893 Sep 14 21:11	8°♎14'02	
conjunction	2893 Oct 02 09:51	10°♎24'28	2°04'01
minimum elong	2893 Oct 02 09:49	10°♎24'27	2°04'01
max. Earth dist.	2893 Oct 02 11:28	10°♎24'58	10.44184 AU
morning rise	2893 Oct 19 18:05	12°♎33'32	
retrograde	2894 Jan 28 10:35	20°♎05'44	
opposition	2894 Apr 05 18:57	16°♎44'06	2°38'52
min. Earth dist.	2894 Apr 05 17:14	16°♎44'26	8.49529 AU
direct	2894 Jun 14 10:48	13°♎17'20	
evening set	2894 Sep 28 09:26	21°♎05'43	
conjunction	2894 Oct 15 17:45	23°♎13'30	2°11'42
minimum elong	2894 Oct 15 17:44	23°♎13'30	2°11'42
max. Earth dist.	2894 Oct 15 18:43	23°♎13'48	10.54619 AU
morning rise	2894 Nov 01 21:23	25°♎19'55	
	2894 Dec 15 00:05	0°♏	
retrograde	2895 Feb 10 03:44	2°♏44'39	
	2895 Apr 11 02:51	30°℞♎	
opposition	2895 Apr 18 20:05	29°♎24'10	2°44'01
min. Earth dist.	2895 Apr 18 19:47	29°♎24'13	8.59873 AU
direct	2895 Jun 27 21:23	25°♎58'26	
	2895 Sep 08 17:02	0°♏	
evening set	2895 Oct 11 11:56	3°♏39'31	
conjunction	2895 Oct 28 16:15	5°♏44'53	2°12'53
minimum elong	2895 Oct 28 16:15	5°♏44'53	2°12'53
max. Earth dist.	2895 Oct 28 15:43	5°♏44'44	10.64720 AU
morning rise	2895 Nov 14 16:01	7°♏48'57	
	2896 Feb 11 01:01	15°♏	
retrograde	2896 Feb 22 14:01	15°♏07'04	
	2896 Mar 05 04:35	15°℞♏	
opposition	2896 Apr 30 16:46	11°♏47'38	2°41'21
min. Earth dist.	2896 Apr 30 18:04	11°♏47'23	8.69649 AU
direct	2896 Jul 10 03:03	8°♏23'00	
	2896 Oct 15 03:32	15°♏	
evening set	2896 Oct 23 05:12	15°♏56'49	
conjunction	2896 Nov 09 05:58	18°♏00'03	2°07'55
minimum elong	2896 Nov 09 05:59	18°♏00'04	2°07'56
max. Earth dist.	2896 Nov 09 03:43	17°♏59'22	10.74076 AU
morning rise	2896 Nov 26 02:43	20°♏02'07	
retrograde	2897 Mar 05 20:11	27°♏14'38	
opposition	2897 May 13 09:19	23°♏56'00	2°31'29
min. Earth dist.	2897 May 13 11:33	23°♏55'35	8.78503 AU
direct	2897 Jul 23 02:55	20°♏32'30	
evening set	2897 Nov 04 14:05	27°♏59'16	
conjunction	2897 Nov 21 12:03	0°♐00'45	1°57'23
minimum elong	2897 Nov 21 12:05	0°♐00'45	1°57'24
max. Earth dist.	2897 Nov 21 08:45	29°♏59'45	10.82373 AU
	2897 Nov 21 09:35	0°♐	
morning rise	2897 Dec 08 06:34	2°♐01'11	
retrograde	2898 Mar 17 22:07	9°♐09'11	
opposition	2898 May 25 22:04	5°♐51'04	2°15'16
min. Earth dist.	2898 May 26 00:17	5°♐50'39	8.86130 AU
direct	2898 Aug 04 20:36	2°♐28'38	
evening set	2898 Nov 16 15:37	9°♐48'53	
conjunction	2898 Dec 03 11:34	11°♐48'57	1°41'59
minimum elong	2898 Dec 03 11:36	11°♐48'58	1°41'59
max. Earth dist.	2898 Dec 03 08:30	11°♐48'02	10.89302 AU
morning rise	2898 Dec 20 04:26	13°♐48'09	
retrograde	2899 Mar 29 22:21	20°♐52'51	
opposition	2899 Jun 07 07:49	17°♐35'01	1°53'38
min. Earth dist.	2899 Jun 07 10:06	17°♐34'35	8.92241 AU
direct	2899 Aug 17 09:29	14°♐13'31	
evening set	2899 Nov 28 11:22	21°♐28'04	
conjunction	2899 Dec 15 05:43	23°♐27'05	1°22'32
minimum elong	2899 Dec 15 05:45	23°♐27'05	1°22'31
max. Earth dist.	2899 Dec 15 02:39	23°♐26'10	10.94598 AU
morning rise	2899 Dec 31 21:31	25°♐25'24	
	2900 Feb 14 05:48	0°♑	
retrograde	2900 Apr 10 21:24	2°♑28'04	
	2900 Jun 08 09:11	30°℞♐	
opposition	2900 Jun 19 15:20	29°♐10'18	1°27'39
min. Earth dist.	2900 Jun 19 18:17	29°♐09'46	8.96622 AU
direct	2900 Aug 29 16:03	25°♐49'37	
	2900 Nov 12 18:52	0°♑	
evening set	2900 Dec 10 02:46	2°♑59'29	
conjunction	2900 Dec 26 19:50	4°♑57'46	0°59'54
minimum elong	2900 Dec 26 19:52	4°♑57'46	0°59'54
max. Earth dist.	2900 Dec 26 15:56	4°♑56'36	10.98086 AU
morning rise	2901 Jan 12 11:19	6°♑55'36	
retrograde	2901 Apr 22 17:41	13°♑57'41	
opposition	2901 Jul 01 21:25	10°♑39'42	0°58'22
min. Earth dist.	2901 Jul 02 01:05	10°♑39'01	8.99139 AU
direct	2901 Sep 10 19:59	7°♑19'39	
evening set	2901 Dec 21 15:08	14°♑26'03	
conjunction	2902 Jan 07 07:25	16°♑23'56	0°35'00
minimum elong	2902 Jan 07 07:26	16°♑23'56	0°35'00
max. Earth dist.	2902 Jan 07 03:02	16°♑22'38	10.99653 AU
morning rise	2902 Jan 23 23:02	18°♑21'37	
retrograde	2902 May 04 16:23	25°♑24'35	
opposition	2902 Jul 14 02:44	22°♑06'09	0°26'53
min. Earth dist.	2902 Jul 14 06:05	22°♑05'32	8.99699 AU
direct	2902 Sep 22 22:36	18°♑46'36	
evening set	2903 Jan 02 02:21	25°♑50'51	
conjunction	2903 Jan 18 18:19	27°♑48'41	0°08'46
minimum elong	2903 Jan 18 18:19	27°♑48'42	0°08'46
behind sun begin	2903 Jan 18 12:16	27°♑46'55	
behind sun end	2903 Jan 19 00:22	27°♑50'28	
max. Earth dist.	2903 Jan 18 14:40	27°♑47'38	10.99229 AU
morning rise	2903 Feb 04 10:13	29°♑46'33	
	2903 Feb 06 08:42	0°♒	
retrograde	2903 May 16 17:05	6°♒51'51	
desc. node	2903 May 21 20:34	6°♒50'33	
opposition	2903 Jul 26 08:13	3°♒32'48	-0°05'41
min. Earth dist.	2903 Jul 26 10:49	3°♒32'19	8.98273 AU
direct	2903 Oct 04 21:22	0°♒13'36	
evening set	2904 Jan 13 13:56	7°♒17'05	

conjunction	2904 Jan 30 05:51	9°♒15'12	-0°17'59
minimum elong	2904 Jan 30 05:50	9°♒15'12	0°17'58
max. Earth dist.	2904 Jan 30 02:53	9°♒14'19	10.96829 AU
morning rise	2904 Feb 15 22:22	11°♒13'33	
	2904 Mar 22 05:57	15°♒	
retrograde	2904 May 27 21:13	18°♒22'39	
opposition	2904 Aug 06 15:10	15°♒02'47	-0°38'12
min. Earth dist.	2904 Aug 06 17:22	15°♒02'22	8.94915 AU
	2904 Aug 07 06:07	15°℞♒	
direct	2904 Oct 15 20:14	11°♒43'46	
	2904 Dec 19 15:46	15°♒	
evening set	2905 Jan 24 03:23	18°♒47'54	
conjunction	2905 Feb 09 19:27	20°♒46'36	-0°44'05
minimum elong	2905 Feb 09 19:25	20°♒46'36	0°44'05
max. Earth dist.	2905 Feb 09 16:04	20°♒45'36	10.92538 AU
morning rise	2905 Feb 26 13:09	22°♒45'48	
	2905 Jun 08 22:04	0°♓	
retrograde	2905 Jun 09 05:46	0°♓00'00	
	2905 Jun 09 13:27	30°℞♒	
opposition	2905 Aug 19 00:19	26°♒39'11	-1°09'30
min. Earth dist.	2905 Aug 19 02:50	26°♒38'43	8.89744 AU
direct	2905 Oct 27 19:14	23°♒20'09	
	2906 Feb 01 02:05	0°♓	
evening set	2906 Feb 04 20:21	0°♓26'22	
conjunction	2906 Feb 21 13:02	2°♓25'58	-1°08'39
minimum elong	2906 Feb 21 13:00	2°♓25'57	1°08'39
max. Earth dist.	2906 Feb 21 09:41	2°♓24'58	10.86508 AU
morning rise	2906 Mar 10 08:14	4°♓26'19	
retrograde	2906 Jun 21 17:08	11°♓46'49	
opposition	2906 Aug 31 12:12	8°♓24'56	-1°38'20
min. Earth dist.	2906 Aug 31 14:28	8°♓24'30	8.82944 AU
direct	2906 Nov 08 20:34	5°♓05'39	
evening set	2907 Feb 16 18:04	12°♓15'20	
conjunction	2907 Mar 05 11:57	14°♓16'11	-1°30'38
minimum elong	2907 Mar 05 11:55	14°♓16'10	1°30'38
max. Earth dist.	2907 Mar 05 09:48	14°♓15'31	10.78962 AU
morning rise	2907 Mar 22 08:52	16°♓17'57	
retrograde	2907 Jul 04 12:41	23°♓45'48	
opposition	2907 Sep 13 03:57	20°♓22'43	-2°03'27
min. Earth dist.	2907 Sep 13 05:05	20°♓22'30	8.74777 AU
direct	2907 Nov 21 02:09	17°♓03'04	
evening set	2908 Feb 28 21:48	24°♓17'22	
conjunction	2908 Mar 16 17:26	26°♓19'47	-1°49'00
minimum elong	2908 Mar 16 17:23	26°♓19'46	1°49'01
max. Earth dist.	2908 Mar 16 16:40	26°♓19'33	10.70203 AU
morning rise	2908 Apr 02 16:32	28°♓23'19	
	2908 Apr 16 11:37	0°♈	
retrograde	2908 Jul 16 15:14	5°♈59'10	
opposition	2908 Sep 25 00:03	2°♈34'52	-2°23'35
min. Earth dist.	2908 Sep 24 23:59	2°♈34'53	8.65583 AU
	2908 Nov 02 11:41	30°℞♓	
direct	2908 Dec 02 09:39	29°♓14'40	
	2908 Dec 31 19:40	0°♈	
evening set	2909 Mar 12 08:59	6°♈34'40	
conjunction	2909 Mar 29 06:54	8°♈38'57	-2°02'45
minimum elong	2909 Mar 29 06:52	8°♈38'57	2°02'45
max. Earth dist.	2909 Mar 29 06:31	8°♈38'50	10.60618 AU
morning rise	2909 Apr 15 08:53	10°♈44'32	
retrograde	2909 Jul 29 23:26	18°♈28'39	
opposition	2909 Oct 08 00:46	15°♈03'12	-2°37'29
min. Earth dist.	2909 Oct 08 00:19	15°♈03'17	8.55768 AU
direct	2909 Dec 14 22:34	11°♈42'14	
evening set	2910 Mar 25 04:20	19°♈08'50	
conjunction	2910 Apr 11 05:13	21°♈15'17	-2°10'55
minimum elong	2910 Apr 11 05:12	21°♈15'17	2°10'55
max. Earth dist.	2910 Apr 11 05:06	21°♈15'15	10.50644 AU
morning rise	2910 Apr 28 10:42	23°♈23'09	
	2910 Jul 04 15:21	0°♉	
retrograde	2910 Aug 12 14:07	1°♉15'23	
	2910 Sep 21 00:06	30°℞♈	
opposition	2910 Oct 21 06:32	27°♈48'52	-2°44'02
min. Earth dist.	2910 Oct 21 05:54	27°♈48'59	8.45790 AU
direct	2910 Dec 27 18:06	24°♈27'01	
	2911 Mar 21 11:58	0°♉	
evening set	2911 Apr 07 08:14	2°♉00'42	
conjunction	2911 Apr 24 12:53	4°♉09'33	-2°12'45
minimum elong	2911 Apr 24 12:54	4°♉09'33	2°12'44
max. Earth dist.	2911 Apr 24 13:43	4°♉09'49	10.40757 AU
morning rise	2911 May 11 22:17	6°♉19'52	
retrograde	2911 Aug 26 10:53	14°♉19'36	
opposition	2911 Nov 03 17:10	10°♉52'08	-2°42'23
min. Earth dist.	2911 Nov 03 16:03	10°♉52'22	8.36133 AU
direct	2912 Jan 09 20:01	7°♉29'17	
	2912 Apr 18 12:05	15°♉	
evening set	2912 Apr 19 21:13	15°♉10'16	
conjunction	2912 May 07 06:22	17°♉21'39	-2°07'43
minimum elong	2912 May 07 06:24	17°♉21'39	2°07'42
max. Earth dist.	2912 May 07 08:41	17°♉22'23	10.31443 AU
morning rise	2912 May 24 19:59	19°♉34'28	
retrograde	2912 Sep 08 12:49	27°♉40'31	
opposition	2912 Nov 16 08:07	24°♉12'16	-2°32'02
min. Earth dist.	2912 Nov 16 06:05	24°♉12'41	8.27269 AU
direct	2913 Jan 22 04:42	20°♉48'19	
evening set	2913 May 03 19:04	28°♉36'27	
	2913 May 14 19:20	0°♊	
conjunction	2913 May 21 09:02	0°♊50'22	-1°55'40
minimum elong	2913 May 21 09:05	0°♊50'23	1°55'40
max. Earth dist.	2913 May 21 12:14	0°♊51'23	10.23148 AU
morning rise	2913 Jun 08 02:58	3°♊05'36	
retrograde	2913 Sep 22 18:57	11°♊16'23	
opposition	2913 Nov 30 02:59	7°♊47'36	-2°13'02
min. Earth dist.	2913 Nov 30 00:20	7°♊48'08	8.19604 AU
direct	2914 Feb 04 19:10	4°♊22'30	
evening set	2914 May 18 01:06	12°♊17'20	
conjunction	2914 Jun 04 19:43	14°♊33'37	-1°36'57
minimum elong	2914 Jun 04 19:47	14°♊33'38	1°36'56
max. Earth dist.	2914 Jun 04 23:06	14°♊34'42	10.16253 AU
morning rise	2914 Jun 22 17:41	16°♊50'59	
retrograde	2914 Oct 07 05:03	25°♊04'45	
opposition	2914 Dec 14 01:01	21°♊35'44	-1°46'05
min. Earth dist.	2914 Dec 13 22:11	21°♊36'19	8.13523 AU
direct	2915 Feb 18 14:13	18°♊09'32	
evening set	2915 Jun 01 14:24	26°♊10'23	
conjunction	2915 Jun 19 13:10	28°♊28'37	-1°12'22
minimum elong	2915 Jun 19 13:13	28°♊28'38	1°12'22
max. Earth dist.	2915 Jun 19 16:17	28°♊29'38	10.11169 AU
	2915 Jul 01 08:46	0°♋	
morning rise	2915 Jul 07 14:28	0°♋47'41	
retrograde	2915 Oct 21 16:10	9°♋02'23	
opposition	2915 Dec 28 01:18	5°♋33'28	-1°12'33
min. Earth dist.	2915 Dec 27 22:43	5°♋34'00	8.09477 AU
direct	2916 Mar 03 15:23	2°♋06'15	
evening set	2916 Jun 15 09:25	10°♋11'58	

conjunction	2916 Jul 03	11:19	12°♋31'31	-0°43'20	
minimum elong	2916 Jul 03	11:21	12°♋31'32	0°43'19	
max. Earth dist.	2916 Jul 03	14:04	12°♋32'25	10.08316 AU	
morning rise	2916 Jul 21	14:47	14°♋51'34		
retrograde	2916 Nov 04	01:51	23°♋05'03		
opposition	2917 Jan 10	02:40	19°♋36'30	-0°34'27	
min. Earth dist.	2917 Jan 10	00:23	19°♋36'59	8.07822 AU	
direct	2917 Mar 17	21:31	16°♋08'25		
evening set	2917 Jun 30	07:58	24°♋17'26		
conjunction	2917 Jul 18	11:34	26°♋37'30	-0°11'38	
minimum elong	2917 Jul 18	11:34	26°♋37'31	0°11'37	
behind sun begin	2917 Jul 18	06:26	26°♋35'52		
behind sun end	2917 Jul 18	16:42	26°♋39'09		
max. Earth dist.	2917 Jul 18	14:17	26°♋38'22	10.07948 AU	
morning rise	2917 Aug 05	15:30	28°♋57'40		
	2917 Aug 13	22:35	0°♌		
retrograde	2917 Nov 18	07:52	7°♌07'51		
asc. node	2917 Dec 01	04:23	6°♌58'40		
opposition	2918 Jan 24	03:43	3°♌39'57	0°05'45	
min. Earth dist.	2918 Jan 24	01:18	3°♌40'27	8.08723 AU	
direct	2918 Apr 01	06:34	0°♌11'14		
evening set	2918 Jul 15	07:20	8°♌21'41		
conjunction	2918 Aug 02	11:00	10°♌41'24	0°20'47	
minimum elong	2918 Aug 02	10:59	10°♌41'24	0°20'47	
max. Earth dist.	2918 Aug 02	13:56	10°♌42'21	10.10128 AU	
morning rise	2918 Aug 20	13:43	13°♌00'48		
	2918 Sep 05	17:08	15°♌		
retrograde	2918 Dec 02	10:03	21°♌05'55		
opposition	2919 Feb 07	03:09	17°♌38'51	0°45'23	
min. Earth dist.	2919 Feb 07	00:23	17°♌39'25	8.12142 AU	
	2919 Mar 15	22:24	15℞♌		
direct	2919 Apr 15	14:59	14°♌09'46		
	2919 May 16	04:27	15°♌		
evening set	2919 Jul 30	04:44	22°♌19'43		
conjunction	2919 Aug 17	06:53	24°♌38'15	0°51'40	
minimum elong	2919 Aug 17	06:51	24°♌38'14	0°51'40	
max. Earth dist.	2919 Aug 17	10:05	24°♌39'16	10.14716 AU	
morning rise	2919 Sep 04	06:49	26°♌56'04		
	2919 Sep 29	21:16	0°♍		
retrograde	2919 Dec 16	08:00	4°♍54'45		
opposition	2920 Feb 20	23:53	1°♍28'40	1°21'54	
min. Earth dist.	2920 Feb 20	20:49	1°♍29'17	8.17841 AU	
	2920 Mar 10	17:18	30℞♌		
direct	2920 Apr 28	22:23	27°♌59'31		
	2920 Jun 16	10:12	0°♍		
evening set	2920 Aug 12	21:47	6°♍07'05		
conjunction	2920 Aug 30	20:59	8°♍23'43	1°19'14	
minimum elong	2920 Aug 30	20:55	8°♍23'42	1°19'13	
max. Earth dist.	2920 Aug 31	00:17	8°♍24'46	10.21398 AU	
morning rise	2920 Sep 17	16:50	10°♍39'20		
retrograde	2920 Dec 28	23:24	18°♍30'36		
opposition	2921 Mar 05	16:52	15°♍05'38	1°53'10	
min. Earth dist.	2921 Mar 05	14:13	15°♍06'10	8.25446 AU	
direct	2921 May 13	03:13	11°♍36'44		
evening set	2921 Aug 27	07:57	19°♍40'11		
conjunction	2921 Sep 14	03:09	21°♍54'25	1°41'58	
minimum elong	2921 Sep 14	03:06	21°♍54'24	1°41'57	
max. Earth dist.	2921 Sep 14	05:57	21°♍55'18	10.29756 AU	
morning rise	2921 Oct 01	18:17	24°♍07'27		
	2921 Nov 26	13:17	0°♎		
retrograde	2922 Jan 11	07:16	1°♎50'48		
	2922 Feb 27	03:19	30℞♍		
opposition	2922 Mar 19	05:35	28°♍27'03	2°17'37	
min. Earth dist.	2922 Mar 19	03:51	28°♍27'24	8.34496 AU	
direct	2922 May 27	04:30	24°♍58'37		
	2922 Aug 16	05:49	0°♎		
evening set	2922 Sep 10	09:26	2°♎56'31		
conjunction	2922 Sep 28	00:07	5°♎08'07	1°58'50	
minimum elong	2922 Sep 28	00:04	5°♎08'06	1°58'49	
max. Earth dist.	2922 Sep 28	01:46	5°♎08'38	10.39300 AU	
morning rise	2922 Oct 15	10:25	7°♎18'23		
retrograde	2923 Jan 24	08:15	14°♎53'46		
opposition	2923 Apr 01	13:26	11°♎31'12	2°34'19	
min. Earth dist.	2923 Apr 01	12:41	11°♎31'21	8.44466 AU	
direct	2923 Jun 10	00:19	8°♎03'30		
evening set	2923 Sep 24	01:31	15°♎54'48		
conjunction	2923 Oct 11	11:37	18°♎03'44	2°09'18	
minimum elong	2923 Oct 11	11:36	18°♎03'43	2°09'17	
max. Earth dist.	2923 Oct 11	11:53	18°♎03'48	10.49503 AU	
morning rise	2923 Oct 28	17:20	20°♎11'17		
retrograde	2924 Feb 06	02:02	27°♎38'57		
opposition	2924 Apr 13	16:09	24°♎17'31	2°42'54	
min. Earth dist.	2924 Apr 13	15:54	24°♎17'34	8.54821 AU	
direct	2924 Jun 22	14:38	20°♎50'48		
evening set	2924 Oct 06	07:40	28°♎34'51		
	2924 Oct 17	23:28	0°♏		
conjunction	2924 Oct 23	13:35	0°♏41'14	2°13'13	
minimum elong	2924 Oct 23	13:35	0°♏41'14	2°13'13	
max. Earth dist.	2924 Oct 23	13:04	0°♏41'04	10.59846 AU	
morning rise	2924 Nov 09	15:09	2°♏46'17		
retrograde	2925 Feb 17	13:52	10°♏06'52		
opposition	2925 Apr 26	14:11	6°♏46'30	2°43'30	
min. Earth dist.	2925 Apr 26	13:50	6°♏46'34	8.65050 AU	
direct	2925 Jul 05	22:58	3°♏20'55		
evening set	2925 Oct 19	04:00	10°♏57'27		
conjunction	2925 Nov 05	06:21	13°♏01'32	2°10'50	
minimum elong	2925 Nov 05	06:22	13°♏01'32	2°10'50	
max. Earth dist.	2925 Nov 05	05:58	13°♏01'25	10.69837 AU	
	2925 Nov 21	13:43	15°♏		
morning rise	2925 Nov 22	04:23	15°♏04'22		
retrograde	2926 Mar 01	22:39	22°♏18'46		
opposition	2926 May 09	07:42	18°♏59'20	2°36'38	
min. Earth dist.	2926 May 09	07:47	18°♏59'19	8.74683 AU	
direct	2926 Jul 18	23:49	15°♏34'59		
evening set	2926 Oct 31	15:40	23°♏04'09		
conjunction	2926 Nov 17	14:59	25°♏06'17	2°02'37	
minimum elong	2926 Nov 17	15:01	25°♏06'18	2°02'38	
max. Earth dist.	2926 Nov 17	14:15	25°♏06'04	10.79026 AU	
morning rise	2926 Dec 04	10:18	27°♏07'17		
	2926 Dec 30	03:03	0°♐		
retrograde	2927 Mar 14	01:38	4°♐16'28		
opposition	2927 May 21	21:09	0°♐57'51	2°23'03	
min. Earth dist.	2927 May 21	22:23	0°♐57'37	8.83303 AU	
	2927 Jun 03	19:18	30℞♏		
direct	2927 Jul 31	17:43	27°♏34'43		
	2927 Sep 25	16:03	0°♐		
evening set	2927 Nov 12	19:43	4°♐57'03		
conjunction	2927 Nov 29	16:28	6°♐57'34	1°49'15	
minimum elong	2927 Nov 29	16:31	6°♐57'34	1°49'15	
max. Earth dist.	2927 Nov 29	14:27	6°♐56'57	10.87026 AU	
morning rise	2927 Dec 16	09:56	8°♐57'08		
retrograde	2928 Mar 25	01:04	16°♐02'21		
opposition	2928 Jun 02	07:30	12°♐44'20	2°03'40	

min. Earth dist.	2928 Jun 02 09:41	12°♐43'55	8.90564 AU	
direct	2928 Aug 12 08:02	9°♐22'22		
evening set	2928 Nov 23 17:10	16°♐38'35		
conjunction	2928 Dec 10 11:58	18°♐37'50	1°31'29	
minimum elong	2928 Dec 10 12:01	18°♐37'51	1°31'29	
max. Earth dist.	2928 Dec 10 09:02	18°♐36'57	10.93523 AU	
morning rise	2928 Dec 27 04:17	20°♐36'20		
retrograde	2929 Apr 05 23:30	27°♐38'57		
opposition	2929 Jun 14 15:15	24°♐21'17	1°39'29	
min. Earth dist.	2929 Jun 14 17:23	24°♐20'53	8.96185 AU	
direct	2929 Aug 24 17:17	21°♐00'24		
evening set	2929 Dec 05 09:40	28°♐11'27		
	2929 Dec 20 18:11	0°♑		
conjunction	2929 Dec 22 03:13	0°♑09'49	1°10'10	
minimum elong	2929 Dec 22 03:15	0°♑09'49	1°10'10	
max. Earth dist.	2929 Dec 22 00:32	0°♑09'01	10.98269 AU	
morning rise	2930 Jan 07 18:48	2°♑07'38		
retrograde	2930 Apr 17 20:53	9°♑09'01		
opposition	2930 Jun 26 21:02	5°♑51'26	1°11'33	
min. Earth dist.	2930 Jun 26 22:55	5°♑51'05	8.99956 AU	
direct	2930 Sep 05 22:04	2°♑31'29		
evening set	2930 Dec 16 22:47	9°♑38'31		
conjunction	2931 Jan 02 15:27	11°♑36'20	0°46'11	
minimum elong	2931 Jan 02 15:29	11°♑36'21	0°46'11	
max. Earth dist.	2931 Jan 02 13:03	11°♑35'37	11.01080 AU	
morning rise	2931 Jan 19 06:45	13°♑33'49		
retrograde	2931 Apr 29 19:51	20°♑35'24		
opposition	2931 Jul 09 02:05	17°♑17'41	0°40'58	
min. Earth dist.	2931 Jul 09 04:22	17°♑17'16	9.01735 AU	
direct	2931 Sep 17 23:28	13°♑58'28		
evening set	2931 Dec 28 10:03	21°♑02'44		
conjunction	2932 Jan 14 02:00	23°♑00'20	0°20'28	
minimum elong	2932 Jan 14 02:01	23°♑00'20	0°20'28	
max. Earth dist.	2932 Jan 13 22:43	22°♑59'21	11.01849 AU	
morning rise	2932 Jan 30 17:34	24°♑57'50		
	2932 Mar 21 04:27	0°♒		
retrograde	2932 May 10 18:17	2°♒01'04		
	2932 Jul 02 10:07	30°℞♑		
opposition	2932 Jul 20 07:12	28°♑42'57	0°08'48	
min. Earth dist.	2932 Jul 20 10:15	28°♑42'23	9.01454 AU	
direct	2932 Sep 28 21:52	25°♑24'15		
desc. node	2932 Oct 30 03:31	26°♑11'38		
	2932 Dec 16 18:05	0°♒		
evening set	2933 Jan 07 21:02	2°♒27'07		
conjunction	2933 Jan 24 12:40	4°♒24'48	-0°06'11	
minimum elong	2933 Jan 24 12:40	4°♒24'48	0°06'10	
behind sun begin	2933 Jan 24 06:02	4°♒22'51		
behind sun end	2933 Jan 24 19:18	4°♒26'44		
max. Earth dist.	2933 Jan 24 08:42	4°♒23'39	11.00530 AU	
morning rise	2933 Feb 10 04:54	6°♒22'39		
retrograde	2933 May 22 19:36	13°♒29'01		
opposition	2933 Aug 01 13:00	10°♒10'12	-0°23'48	
min. Earth dist.	2933 Aug 01 16:16	10°♒09'36	8.99082 AU	
direct	2933 Oct 10 22:02	6°♒51'46		
evening set	2934 Jan 19 09:05	13°♒54'40		
	2934 Jan 28 15:22	15°♒		
conjunction	2934 Feb 05 00:56	15°♒52'48	-0°32'34	
minimum elong	2934 Feb 05 00:55	15°♒52'48	0°32'33	
max. Earth dist.	2934 Feb 04 21:20	15°♒51'44	10.97103 AU	
morning rise	2934 Feb 21 17:59	17°♒51'19		
retrograde	2934 Jun 04 01:59	25°♒02'14		
opposition	2934 Aug 13 20:29	21°♒42'31	-0°55'41	
min. Earth dist.	2934 Aug 13 23:12	21°♒42'01	8.94618 AU	
direct	2934 Oct 22 20:51	18°♒24'09		
evening set	2935 Jan 30 23:59	25°♒28'33		
conjunction	2935 Feb 16 16:20	27°♒27'28	-0°57'53	
minimum elong	2935 Feb 16 16:18	27°♒27'27	0°57'53	
max. Earth dist.	2935 Feb 16 13:01	27°♒26'29	10.91616 AU	
morning rise	2935 Mar 05 10:30	29°♒27'00		
	2935 Mar 10 04:02	0°♓		
retrograde	2935 Jun 16 12:24	6°♓43'50		
opposition	2935 Aug 26 06:41	3°♓23'03	-1°25'42	
min. Earth dist.	2935 Aug 26 09:11	3°♓22'35	8.88196 AU	
direct	2935 Nov 03 19:58	0°♓04'30		
evening set	2936 Feb 11 19:12	7°♓11'53		
conjunction	2936 Feb 28 12:22	9°♓11'56	-1°21'07	
minimum elong	2936 Feb 28 12:19	9°♓11'55	1°21'07	
max. Earth dist.	2936 Feb 28 08:35	9°♓10'47	10.84309 AU	
morning rise	2936 Mar 16 08:14	11°♓12'49		
retrograde	2936 Jun 28 05:09	18°♓36'42		
opposition	2936 Sep 06 20:32	15°♓14'41	-1°52'36	
min. Earth dist.	2936 Sep 06 23:11	15°♓14'11	8.80130 AU	
direct	2936 Nov 14 22:47	11°♓55'40		
evening set	2937 Feb 22 19:54	19°♓07'18		
conjunction	2937 Mar 11 14:28	21°♓08'50	-1°41'12	
minimum elong	2937 Mar 11 14:25	21°♓08'49	1°41'13	
max. Earth dist.	2937 Mar 11 10:33	21°♓07'38	10.75537 AU	
morning rise	2937 Mar 28 12:33	23°♓11'24		
	2937 Jun 11 11:15	0°♈		
retrograde	2937 Jul 11 02:47	0°♈43'09		
	2937 Aug 10 01:57	30°℞♓		
opposition	2937 Sep 19 14:28	27°♓19'47	-2°15'08	
min. Earth dist.	2937 Sep 19 17:07	27°♓19'16	8.70795 AU	
direct	2937 Nov 27 05:02	24°♓00'03		
	2938 Feb 24 05:48	0°♈		
evening set	2938 Mar 07 03:24	1°♈17'07		
conjunction	2938 Mar 24 00:04	3°♈20'25	-1°57'09	
minimum elong	2938 Mar 24 00:02	3°♈20'25	1°57'09	
max. Earth dist.	2938 Mar 23 21:20	3°♈19'35	10.65693 AU	
morning rise	2938 Apr 10 00:42	5°♈24'57		
retrograde	2938 Jul 24 06:30	13°♈05'04		
opposition	2938 Oct 02 12:45	9°♈40'16	-2°32'00	
min. Earth dist.	2938 Oct 02 14:28	9°♈39'56	8.60609 AU	
direct	2938 Dec 09 17:05	6°♈19'40		
evening set	2939 Mar 19 18:35	13°♈43'05		
conjunction	2939 Apr 05 18:05	15°♈48'31	-2°07'57	
minimum elong	2939 Apr 05 18:04	15°♈48'30	2°07'57	
max. Earth dist.	2939 Apr 05 16:55	15°♈48'09	10.55227 AU	
morning rise	2939 Apr 22 21:45	17°♈55'16		
retrograde	2939 Aug 06 18:50	25°♈43'50		
opposition	2939 Oct 15 16:04	22°♈17'39	-2°42'02	
min. Earth dist.	2939 Oct 15 16:25	22°♈17'35	8.50039 AU	
direct	2939 Dec 22 09:44	18°♈56'03		
evening set	2940 Mar 31 18:14	26°♈26'28		
conjunction	2940 Apr 17 21:12	28°♈34'16	-2°12'45	
minimum elong	2940 Apr 17 21:12	28°♈34'16	2°12'44	
max. Earth dist.	2940 Apr 17 21:07	28°♈34'14	10.44634 AU	
	2940 Apr 29 07:44	0°♉		
morning rise	2940 May 05 04:35	0°♉43'29		
retrograde	2940 Aug 19 13:57	8°♉40'05		
opposition	2940 Oct 28 00:22	5°♉12'41	-2°44'14	
min. Earth dist.	2940 Oct 27 23:45	5°♉12'48	8.39582 AU	

direct	2941 Jan 03 07:04	1°♉49'55	
evening set	2941 Apr 14 03:03	9°♉27'48	
conjunction	2941 May 01 10:06	11°♉38'08	-2°10'53
minimum elong	2941 May 01 10:07	11°♉38'09	2°10'52
max. Earth dist.	2941 May 01 10:17	11°♉38'12	10.34426 AU
morning rise	2941 May 18 21:44	13°♉49'56	
	2941 May 28 11:21	15°♉	
retrograde	2941 Sep 02 13:33	21°♉53'39	
opposition	2941 Nov 10 13:20	18°♉25'15	-2°37'53
min. Earth dist.	2941 Nov 10 12:27	18°♉25'25	8.29758 AU
direct	2942 Jan 16 12:19	15°♉01'15	
evening set	2942 Apr 27 20:53	22°♉46'41	
conjunction	2942 May 15 08:31	24°♉59'37	-2°02'01
minimum elong	2942 May 15 08:33	24°♉59'38	2°02'00
max. Earth dist.	2942 May 15 09:16	24°♉59'52	10.25131 AU
morning rise	2942 Jun 02 00:38	27°♉13'59	
	2942 Jun 25 03:13	0°♊	
retrograde	2942 Sep 16 17:43	5°♊23'27	
opposition	2942 Nov 24 06:49	1°♊54'17	-2°22'46
min. Earth dist.	2942 Nov 24 05:38	1°♊54'32	8.21093 AU
	2942 Dec 19 06:27	30°℞♉	
direct	2943 Jan 30 00:41	28°♉29'04	
	2943 Mar 11 23:48	0°♊	
evening set	2943 May 11 23:12	6°♊21'38	
conjunction	2943 May 29 15:42	8°♊37'06	-1°46'14
minimum elong	2943 May 29 15:45	8°♊37'07	1°46'13
max. Earth dist.	2943 May 29 17:37	8°♊37'42	10.17258 AU
morning rise	2943 Jun 16 12:09	10°♊53'48	
retrograde	2943 Oct 01 01:52	19°♊07'15	
opposition	2943 Dec 08 03:55	15°♊37'39	-1°59'16
min. Earth dist.	2943 Dec 08 02:01	15°♊38'02	8.14079 AU
direct	2944 Feb 12 18:39	12°♊11'15	
evening set	2944 May 25 09:37	20°♊10'14	
conjunction	2944 Jun 12 06:43	22°♊27'54	-1°24'08
minimum elong	2944 Jun 12 06:46	22°♊27'55	1°24'08
max. Earth dist.	2944 Jun 12 09:52	22°♊28'55	10.11263 AU
morning rise	2944 Jun 30 06:51	24°♊46'32	
	2944 Aug 15 12:05	0°♋	
retrograde	2944 Oct 14 12:16	3°♋01'49	
	2944 Dec 15 11:28	30°℞♊	
opposition	2944 Dec 21 03:32	29°♊32'08	-1°28'27
min. Earth dist.	2944 Dec 21 00:44	29°♊32'43	8.09137 AU
direct	2945 Feb 25 18:22	26°♊04'41	
	2945 May 04 18:25	0°♋	
evening set	2945 Jun 09 02:34	4°♋09'02	
conjunction	2945 Jun 27 03:25	6°♋28'19	-0°56'53
minimum elong	2945 Jun 27 03:27	6°♋28'20	0°56'53
max. Earth dist.	2945 Jun 27 07:41	6°♋29'42	10.07515 AU
morning rise	2945 Jul 15 06:08	8°♋48'14	
retrograde	2945 Oct 28 22:49	17°♋03'11	
opposition	2946 Jan 04 04:50	13°♋33'46	-0°52'04
min. Earth dist.	2946 Jan 04 01:08	13°♋34'32	8.06588 AU
direct	2946 Mar 11 22:21	10°♋05'29	
evening set	2946 Jun 23 23:53	18°♋13'44	
conjunction	2946 Jul 12 03:08	20°♋33'53	-0°26'06
minimum elong	2946 Jul 12 03:09	20°♋33'53	0°26'06
max. Earth dist.	2946 Jul 12 08:02	20°♋35'28	10.06266 AU
morning rise	2946 Jul 30 07:00	22°♋54'16	
	2946 Oct 08 05:39	0°♌	
retrograde	2946 Nov 12 07:50	1°♌06'48	
	2946 Dec 17 15:26	30°℞♋	

opposition	2947 Jan 18 06:30	27°♋38'00	-0°12'26
min. Earth dist.	2947 Jan 18 02:33	27°♋38'49	8.06617 AU
direct	2947 Mar 26 05:01	24°♋09'07	
asc. node	2947 May 14 17:51	26°♋18'24	
	2947 Jun 20 00:19	0°♌	
evening set	2947 Jul 08 23:31	2°♌19'34	
conjunction	2947 Jul 27 03:32	4°♌39'45	0°06'20
minimum elong	2947 Jul 27 03:31	4°♌39'44	0°06'19
behind sun begin	2947 Jul 26 20:35	4°♌37'31	
behind sun end	2947 Jul 27 10:27	4°♌41'58	
max. Earth dist.	2947 Jul 27 08:21	4°♌41'16	10.07616 AU
morning rise	2947 Aug 14 06:58	6°♌59'44	
	2947 Nov 14 17:03	15°♌	
retrograde	2947 Nov 26 13:48	15°♌07'53	
	2947 Dec 08 10:06	15°℞♌	
opposition	2948 Feb 01 07:07	11°♌40'02	0°27'50
min. Earth dist.	2948 Feb 01 03:29	11°♌40'47	8.09245 AU
direct	2948 Apr 08 12:55	8°♌10'48	
	2948 Jul 11 23:24	15°♌	
evening set	2948 Jul 22 22:42	16°♌21'40	
conjunction	2948 Aug 10 01:45	18°♌40'59	0°38'06
minimum elong	2948 Aug 10 01:43	18°♌40'58	0°38'06
max. Earth dist.	2948 Aug 10 06:02	18°♌42'21	10.11487 AU
morning rise	2948 Aug 28 03:08	20°♌59'44	
retrograde	2948 Dec 09 14:50	29°♌01'57	
opposition	2949 Feb 14 05:40	25°♌35'16	1°06'04
min. Earth dist.	2949 Feb 14 02:33	25°♌35'54	8.14309 AU
direct	2949 Apr 22 22:02	22°♌06'01	
	2949 Aug 04 17:21	0°♍	
evening set	2949 Aug 06 18:31	0°♍15'22	
conjunction	2949 Aug 24 19:04	2°♍33'02	1°07'23
minimum elong	2949 Aug 24 19:01	2°♍33'01	1°07'23
max. Earth dist.	2949 Aug 24 22:39	2°♍34'10	10.17637 AU
morning rise	2949 Sep 11 17:00	4°♍49'49	
retrograde	2949 Dec 23 08:31	12°♍44'58	
opposition	2950 Feb 28 01:01	9°♍19'35	1°39'56
min. Earth dist.	2950 Feb 27 22:08	9°♍20'10	8.21491 AU
direct	2950 May 07 05:45	5°♍50'40	
evening set	2950 Aug 21 08:33	13°♍56'37	
conjunction	2950 Sep 08 05:32	16°♍12'02	1°32'27
minimum elong	2950 Sep 08 05:29	16°♍12'01	1°32'27
max. Earth dist.	2950 Sep 08 08:34	16°♍13'00	10.25690 AU
morning rise	2950 Sep 25 23:03	18°♍26'22	
retrograde	2951 Jan 05 19:34	26°♍13'44	
opposition	2951 Mar 13 16:08	22°♍49'41	2°07'34
min. Earth dist.	2951 Mar 13 13:11	22°♍50'16	8.30349 AU
direct	2951 May 21 09:39	19°♍21'20	
evening set	2951 Sep 04 14:47	27°♍22'16	
conjunction	2951 Sep 22 07:34	29°♍35'07	1°52'01
minimum elong	2951 Sep 22 07:31	29°♍35'06	1°52'01
max. Earth dist.	2951 Sep 22 10:24	29°♍36'00	10.35156 AU
	2951 Sep 25 14:34	0°♎	
morning rise	2951 Oct 09 20:10	1°♎46'40	
retrograde	2952 Jan 19 01:20	9°♎25'57	
opposition	2952 Mar 26 02:41	6°♎03'14	2°27'46
min. Earth dist.	2952 Mar 26 00:02	6°♎03'45	8.40336 AU
direct	2952 Jun 03 07:34	2°♎35'40	
evening set	2952 Sep 17 11:50	10°♎30'17	
conjunction	2952 Oct 05 00:06	12°♎40'25	2°05'21
minimum elong	2952 Oct 05 00:04	12°♎40'24	2°05'21
max. Earth dist.	2952 Oct 05 02:30	12°♎41'10	10.45461 AU

morning rise	2952 Oct 22 07:44	14°♎49'10	
retrograde	2953 Jan 30 23:45	22°♎20'27	
opposition	2953 Apr 08 08:16	18°♎58'59	2°39'55
min. Earth dist.	2953 Apr 08 06:36	18°♎59'18	8.50860 AU
direct	2953 Jun 17 00:15	15°♎32'21	
evening set	2953 Sep 30 22:57	23°♎19'49	
conjunction	2953 Oct 18 06:48	25°♎27'18	2°12'08
minimum elong	2953 Oct 18 06:47	25°♎27'17	2°12'08
max. Earth dist.	2953 Oct 18 08:00	25°♎27'40	10.56004 AU
morning rise	2953 Nov 04 09:59	27°♎33'24	
	2953 Nov 25 10:57	0°♏	
retrograde	2954 Feb 12 14:37	4°♏57'11	
opposition	2954 Apr 21 08:51	1°♏36'52	2°43'58
min. Earth dist.	2954 Apr 21 08:56	1°♏36'51	8.61308 AU
	2954 May 13 01:29	30°℞♎	
direct	2954 Jun 30 11:35	28°♎11'17	
	2954 Aug 16 23:55	0°♏	
evening set	2954 Oct 14 00:07	5°♏51'17	
conjunction	2954 Oct 31 03:57	7°♏56'21	2°12'28
minimum elong	2954 Oct 31 03:58	7°♏56'21	2°12'28
max. Earth dist.	2954 Oct 31 02:55	7°♏56'02	10.66179 AU
morning rise	2954 Nov 17 03:30	10°♏00'08	
	2955 Jan 03 19:16	15°♏	
retrograde	2955 Feb 25 00:41	17°♏17'19	
	2955 Apr 20 11:51	15°℞♏	
opposition	2955 May 04 04:41	13°♏58'00	2°40'16
min. Earth dist.	2955 May 04 06:04	13°♏57'44	8.71106 AU
direct	2955 Jul 13 16:19	10°♏33'32	
	2955 Sep 28 23:07	15°♏	
evening set	2955 Oct 26 16:09	18°♏06'13	
conjunction	2955 Nov 12 16:37	20°♏09'12	2°06'42
minimum elong	2955 Nov 12 16:38	20°♏09'13	2°06'42
max. Earth dist.	2955 Nov 12 14:01	20°♏08'25	10.75499 AU
morning rise	2955 Nov 29 13:12	22°♏11'01	
retrograde	2956 Mar 08 05:25	29°♏22'42	
opposition	2956 May 15 20:21	26°♏04'10	2°29'30
min. Earth dist.	2956 May 15 22:11	26°♏03'49	8.79859 AU
direct	2956 Jul 25 14:39	22°♏40'50	
evening set	2956 Nov 06 23:56	0°♐06'34	
	2956 Nov 06 01:33	0°♐	
conjunction	2956 Nov 23 21:48	2°♐07'50	1°55'27
minimum elong	2956 Nov 23 21:50	2°♐07'51	1°55'28
max. Earth dist.	2956 Nov 23 18:54	2°♐06'58	10.83644 AU
morning rise	2956 Dec 10 16:04	4°♐08'05	
retrograde	2957 Mar 20 07:47	11°♐15'25	
opposition	2957 May 28 08:36	7°♐57'25	2°12'30
min. Earth dist.	2957 May 28 10:33	7°♐57'03	8.87288 AU
direct	2957 Aug 07 08:13	4°♐35'09	
evening set	2957 Nov 19 00:36	11°♐54'31	
conjunction	2957 Dec 05 20:27	13°♐54'25	1°39'28
minimum elong	2957 Dec 05 20:30	13°♐54'26	1°39'28
max. Earth dist.	2957 Dec 05 17:36	13°♐53'34	10.90343 AU
morning rise	2957 Dec 22 13:09	15°♐53'28	
retrograde	2958 Apr 01 08:36	22°♐57'41	
opposition	2958 Jun 09 17:59	19°♐39'57	1°50'14
min. Earth dist.	2958 Jun 09 20:49	19°♐39'25	8.93145 AU
direct	2958 Aug 19 18:53	16°♐18'37	
evening set	2958 Nov 30 19:50	23°♐32'27	
conjunction	2958 Dec 17 14:02	25°♐31'21	1°19'33
minimum elong	2958 Dec 17 14:04	25°♐31'21	1°19'33
max. Earth dist.	2958 Dec 17 10:05	25°♐30'10	10.95364 AU

morning rise	2959 Jan 03 05:54	27°♐29'36	
	2959 Jan 25 18:36	0°♑	
retrograde	2959 Apr 13 04:58	4°♑31'59	
opposition	2959 Jun 22 01:06	1°♑14'17	1°23'46
min. Earth dist.	2959 Jun 22 04:54	1°♑13'34	8.97235 AU
	2959 Jul 09 02:43	30°℞♐	
direct	2959 Sep 01 01:16	27°♐53'42	
	2959 Oct 23 02:04	0°♑	
evening set	2959 Dec 12 10:52	5°♑03'05	
conjunction	2959 Dec 29 03:52	7°♑01'18	0°56'35
minimum elong	2959 Dec 29 03:53	7°♑01'18	0°56'34
max. Earth dist.	2959 Dec 28 23:06	6°♑59'53	10.98543 AU
morning rise	2960 Jan 14 19:27	8°♑59'05	
retrograde	2960 Apr 24 02:47	16°♑01'07	
opposition	2960 Jul 03 07:01	12°♑43'10	0°54'08
min. Earth dist.	2960 Jul 03 10:53	12°♑42'27	8.99425 AU
direct	2960 Sep 12 06:37	9°♑23'12	
evening set	2960 Dec 22 23:02	16°♑29'18	
conjunction	2961 Jan 08 15:23	18°♑27'10	0°31'27
minimum elong	2961 Jan 08 15:24	18°♑27'10	0°31'27
max. Earth dist.	2961 Jan 08 11:10	18°♑25'55	10.99772 AU
morning rise	2961 Jan 25 06:59	20°♑24'51	
retrograde	2961 May 06 01:54	27°♑28'00	
opposition	2961 Jul 15 12:23	24°♑09'31	0°22'28
min. Earth dist.	2961 Jul 15 15:26	24°♑08'58	8.99642 AU
direct	2961 Sep 24 07:27	20°♑50'03	
evening set	2962 Jan 03 10:19	27°♑54'10	
conjunction	2962 Jan 20 02:23	29°♑52'03	0°05'08
minimum elong	2962 Jan 20 02:22	29°♑52'02	0°05'09
behind sun begin	2962 Jan 19 19:35	29°♑50'03	
behind sun end	2962 Jan 20 09:08	29°♑54'02	
max. Earth dist.	2962 Jan 19 22:50	29°♑51'02	10.99005 AU
	2962 Jan 21 05:12	0°♒	
morning rise	2962 Feb 05 18:17	1°♒49'57	
desc. node	2962 Apr 01 16:26	7°♒12'52	
retrograde	2962 May 18 03:13	8°♒55'37	
opposition	2962 Jul 27 18:03	5°♒36'29	-0°10'09
min. Earth dist.	2962 Jul 27 20:56	5°♒35'57	8.97879 AU
direct	2962 Oct 06 06:26	2°♒17'17	
evening set	2963 Jan 14 22:15	9°♒20'53	
conjunction	2963 Jan 31 14:07	11°♒19'04	-0°21'36
minimum elong	2963 Jan 31 14:07	11°♒19'04	0°21'35
max. Earth dist.	2963 Jan 31 10:15	11°♒17'56	10.96272 AU
morning rise	2963 Feb 17 06:50	13°♒17'32	
	2963 Mar 04 08:30	15°♒	
retrograde	2963 May 30 07:34	20°♒27'10	
opposition	2963 Aug 09 01:19	17°♒07'12	-0°42'34
min. Earth dist.	2963 Aug 09 04:29	17°♒06'37	8.94200 AU
	2963 Sep 08 23:20	15°℞♒	
direct	2963 Oct 18 04:45	13°♒48'07	
	2963 Nov 25 11:06	15°♒	
evening set	2964 Jan 26 12:07	20°♒52'36	
conjunction	2964 Feb 12 04:11	22°♒51'24	-0°47'32
minimum elong	2964 Feb 12 04:09	22°♒51'23	0°47'32
max. Earth dist.	2964 Feb 12 00:02	22°♒50'09	10.91671 AU
morning rise	2964 Feb 28 22:05	24°♒50'44	
	2964 Apr 19 23:41	0°♓	
retrograde	2964 Jun 10 14:58	2°♓05'43	
	2964 Aug 03 06:05	30°℞♒	
opposition	2964 Aug 20 10:53	28°♒44'44	-1°13'34
min. Earth dist.	2964 Aug 20 13:54	28°♒44'10	8.88735 AU
direct	2964 Oct 29 04:55	25°♒25'35	

	2965 Jan 14	15:20	0°♓		
evening set	2965 Feb 06	05:37	2°♓32'22		
conjunction	2965 Feb 22	22:28	4°♓32'07	-1°11'48	
minimum elong	2965 Feb 22	22:26	4°♓32'07	1°11'47	
max. Earth dist.	2965 Feb 22	19:25	4°♓31'12	10.85361 AU	
morning rise	2965 Mar 11	17:45	6°♓32'38		
retrograde	2965 Jun 23	05:16	13°♓54'08		
opposition	2965 Sep 01	23:18	10°♓32'01	-1°41'58	
min. Earth dist.	2965 Sep 02	01:16	10°♓31'39	8.81677 AU	
direct	2965 Nov 10	07:47	7°♓12'37		
evening set	2966 Feb 18	04:06	14°♓23'00		
conjunction	2966 Mar 06	22:13	16°♓24'05	-1°33'20	
minimum elong	2966 Mar 06	22:11	16°♓24'04	1°33'20	
max. Earth dist.	2966 Mar 06	20:22	16°♓23'31	10.77573 AU	
morning rise	2966 Mar 23	19:16	18°♓26'05		
retrograde	2966 Jul 06	01:59	25°♓55'01		
opposition	2966 Sep 14	15:38	22°♓31'44	-2°06'28	
min. Earth dist.	2966 Sep 14	16:30	22°♓31'34	8.73292 AU	
direct	2966 Nov 22	11:35	19°♓11'56		
evening set	2967 Mar 02	08:53	26°♓27'08		
conjunction	2967 Mar 19	04:39	28°♓29'48	-1°51'07	
minimum elong	2967 Mar 19	04:37	28°♓29'47	1°51'08	
max. Earth dist.	2967 Mar 19	03:19	28°♓29'24	10.68622 AU	
	2967 Mar 31	12:26	0°♈		
morning rise	2967 Apr 05	04:03	0°♈33'37		
retrograde	2967 Jul 19	04:23	8°♈10'40		
opposition	2967 Sep 27	12:32	4°♈46'10	-2°25'48	
min. Earth dist.	2967 Sep 27	12:49	4°♈46'06	8.63933 AU	
direct	2967 Dec 04	20:36	1°♈25'46		
evening set	2968 Mar 13	21:07	8°♈46'51		
conjunction	2968 Mar 30	19:12	10°♈51'26	-2°04'08	
minimum elong	2968 Mar 30	19:11	10°♈51'26	2°04'09	
max. Earth dist.	2968 Mar 30	18:04	10°♈51'05	10.58913 AU	
morning rise	2968 Apr 16	21:36	12°♈57'21		
retrograde	2968 Jul 31	13:50	20°♈42'44		
opposition	2968 Oct 09	14:12	17°♈17'05	-2°38'45	
min. Earth dist.	2968 Oct 09	14:20	17°♈17'03	8.54030 AU	
direct	2968 Dec 16	10:52	13°♈55'56		
evening set	2969 Mar 26	17:32	21°♈23'41		
conjunction	2969 Apr 12	18:50	23°♈30'29	-2°11'28	
minimum elong	2969 Apr 12	18:49	23°♈30'29	2°11'29	
max. Earth dist.	2969 Apr 12	18:45	23°♈30'27	10.48890 AU	
morning rise	2969 Apr 30	00:45	25°♈38'43		
	2969 Jun 08	01:11	0°♉		
retrograde	2969 Aug 14	05:28	3°♉32'14		
opposition	2969 Oct 22	20:48	0°♉05'31	-2°44'13	
min. Earth dist.	2969 Oct 22	20:17	0°♉05'37	8.44041 AU	
	2969 Oct 24	00:54	30°℞♈		
direct	2969 Dec 29	07:09	26°♈43'28		
	2970 Mar 01	15:08	0°♉		
evening set	2970 Apr 08	22:46	4°♉18'24		
conjunction	2970 Apr 26	04:00	6°♉27'38	-2°12'22	
minimum elong	2970 Apr 26	04:01	6°♉27'39	2°12'22	
max. Earth dist.	2970 Apr 26	05:35	6°♉28'08	10.39033 AU	
morning rise	2970 May 13	13:47	8°♉38'19		
	2970 Jul 14	13:38	15°♉		
retrograde	2970 Aug 28	02:36	16°♉39'16		
	2970 Oct 12	09:32	15°℞♉		
opposition	2970 Nov 05	08:10	13°♉11'38	-2°41'22	
min. Earth dist.	2970 Nov 05	06:29	13°♉11'58	8.34462 AU	
direct	2971 Jan 11	10:50	9°♉48'37		
	2971 Apr 01	12:33	15°♉		
evening set	2971 Apr 22	13:04	17°♉30'51		
conjunction	2971 May 09	22:47	19°♉42'38	-2°06'22	
minimum elong	2971 May 09	22:49	19°♉42'39	2°06'21	
max. Earth dist.	2971 May 10	01:54	19°♉43'37	10.29851 AU	
morning rise	2971 May 27	12:49	21°♉55'49		
	2971 Sep 03	19:54	0°♊		
retrograde	2971 Sep 11	06:05	0°♊02'57		
	2971 Sep 18	17:14	30°℞♉		
opposition	2971 Nov 19	00:02	26°♉34'35	-2°29'48	
min. Earth dist.	2971 Nov 18	21:10	26°♉35'09	8.25788 AU	
direct	2972 Jan 24	19:40	23°♉10'29		
	2972 Apr 27	11:05	0°♊		
evening set	2972 May 05	12:10	0°♊59'46		
conjunction	2972 May 23	02:38	3°♊14'04	-1°53'22	
minimum elong	2972 May 23	02:41	3°♊14'05	1°53'21	
max. Earth dist.	2972 May 23	06:15	3°♊15'13	10.21818 AU	
morning rise	2972 Jun 09	21:03	5°♊29'39		
retrograde	2972 Sep 24	14:10	13°♊41'14		
opposition	2972 Dec 01	19:41	10°♊12'23	-2°09'38	
min. Earth dist.	2972 Dec 01	16:35	10°♊13'01	8.18452 AU	
direct	2973 Feb 06	09:47	6°♊47'09		
evening set	2973 May 19	19:26	14°♊42'57		
conjunction	2973 Jun 06	14:29	16°♊59'31	-1°33'46	
minimum elong	2973 Jun 06	14:32	16°♊59'32	1°33'45	
max. Earth dist.	2973 Jun 06	17:49	17°♊00'35	10.15315 AU	
morning rise	2973 Jun 24	12:56	19°♊17'10		
retrograde	2973 Oct 09	00:24	27°♊31'16		
opposition	2973 Dec 15	18:11	24°♊02'15	-1°41'41	
min. Earth dist.	2973 Dec 15	15:27	24°♊02'49	8.12797 AU	
direct	2974 Feb 20	07:18	20°♊35'54		
evening set	2974 Jun 03	09:33	28°♊37'28		
	2974 Jun 14	03:38	0°♋		
conjunction	2974 Jun 21	08:38	0°♋55'53	-1°08'30	
minimum elong	2974 Jun 21	08:41	0°♋55'54	1°08'30	
max. Earth dist.	2974 Jun 21	11:31	0°♋56'49	10.10660 AU	
morning rise	2974 Jul 09	10:19	3°♋15'06		
retrograde	2974 Oct 23	10:00	11°♋29'47		
opposition	2974 Dec 29	18:45	8°♋00'55	-1°07'24	
min. Earth dist.	2974 Dec 29	16:22	8°♋01'25	8.09163 AU	
direct	2975 Mar 06	10:16	4°♋33'36		
evening set	2975 Jun 18	04:55	12°♋39'45		
conjunction	2975 Jul 06	07:03	14°♋59'24	-0°39'00	
minimum elong	2975 Jul 06	07:05	14°♋59'25	0°38'59	
max. Earth dist.	2975 Jul 06	09:53	15°♋00'19	10.08195 AU	
morning rise	2975 Jul 24	10:41	17°♋19'29		
retrograde	2975 Nov 06	18:39	25°♋32'42		
opposition	2976 Jan 12	20:10	22°♋04'15	-0°28'53	
min. Earth dist.	2976 Jan 12	17:41	22°♋04'45	8.07877 AU	
direct	2976 Mar 19	16:32	18°♋36'07		
evening set	2976 Jul 02	03:42	26°♋45'19		
conjunction	2976 Jul 20	07:27	29°♋05'24	-0°07'07	
minimum elong	2976 Jul 20	07:27	29°♋05'24	0°07'07	
behind sun begin	2976 Jul 20	00:41	29°♋03'14		
behind sun end	2976 Jul 20	14:12	29°♋07'34		
max. Earth dist.	2976 Jul 20	10:39	29°♋06'24	10.08176 AU	
	2976 Jul 27	08:15	0°♌		
morning rise	2976 Aug 07	11:18	1°♌25'29		
asc. node	2976 Oct 11	00:53	8°♌08'52		
retrograde	2976 Nov 20	01:06	9°♌35'11		
opposition	2977 Jan 25	21:01	6°♌07'23	0°11'22	

min. Earth dist.	2977 Jan 25 18:02	6°♌08'00	8.09110 AU
direct	2977 Apr 03 00:18	2°♌38'41	
evening set	2977 Jul 17 03:05	10°♌49'06	
conjunction	2977 Aug 04 06:43	13°♌08'43	0°25'12
minimum elong	2977 Aug 04 06:41	13°♌08'42	0°25'12
max. Earth dist.	2977 Aug 04 10:24	13°♌09'54	10.10667 AU
	2977 Aug 18 16:57	15°♌	
morning rise	2977 Aug 22 09:05	15°♌27'56	
retrograde	2977 Dec 04 04:20	23°♌32'23	
opposition	2978 Feb 08 20:18	20°♌05'27	0°50'41
min. Earth dist.	2978 Feb 08 16:58	20°♌06'08	8.12821 AU
direct	2978 Apr 17 08:36	16°♌36'26	
evening set	2978 Aug 01 00:05	24°♌46'06	
conjunction	2978 Aug 19 01:58	27°♌04'26	0°55'43
minimum elong	2978 Aug 19 01:55	27°♌04'25	0°55'43
max. Earth dist.	2978 Aug 19 05:51	27°♌05'41	10.15526 AU
morning rise	2978 Sep 06 01:21	29°♌22'00	
	2978 Sep 11 03:13	0°♍	
retrograde	2978 Dec 18 01:11	7°♍19'53	
opposition	2979 Feb 22 16:43	3°♍53'58	1°26'34
min. Earth dist.	2979 Feb 22 13:35	3°♍54'36	8.18776 AU
direct	2979 May 01 16:19	0°♍24'54	
evening set	2979 Aug 15 16:29	8°♍32'00	
conjunction	2979 Sep 02 15:13	10°♍48'21	1°22'40
minimum elong	2979 Sep 02 15:10	10°♍48'20	1°22'40
max. Earth dist.	2979 Sep 02 18:40	10°♍49'27	10.22441 AU
morning rise	2979 Sep 20 10:32	13°♍03'40	
retrograde	2979 Dec 31 15:07	20°♍54'01	
opposition	2980 Mar 07 09:14	17°♍29'15	1°56'58
min. Earth dist.	2980 Mar 07 07:04	17°♍29'41	8.26591 AU
direct	2980 May 14 20:59	14°♍00'26	
evening set	2980 Aug 29 01:50	22°♍03'15	
conjunction	2980 Sep 15 20:27	24°♍17'10	1°44'38
minimum elong	2980 Sep 15 20:24	24°♍17'09	1°44'37
max. Earth dist.	2980 Sep 15 22:40	24°♍17'52	10.30977 AU
morning rise	2980 Oct 03 11:06	26°♍29'51	
	2980 Nov 02 14:52	0°♎	
retrograde	2981 Jan 12 22:23	4°♎12'14	
opposition	2981 Mar 20 21:23	0°♎48'40	2°20'22
min. Earth dist.	2981 Mar 20 20:06	0°♎48'55	8.35788 AU
	2981 Mar 31 02:52	30°℞♍	
direct	2981 May 28 21:22	27°♍20'22	
	2981 Jul 25 03:23	0°♎	
evening set	2981 Sep 12 02:14	5°♎17'27	
conjunction	2981 Sep 29 16:19	7°♎28'42	2°00'37
minimum elong	2981 Sep 29 16:16	7°♎28'42	2°00'37
max. Earth dist.	2981 Sep 29 17:19	7°♎29'01	10.40636 AU
morning rise	2981 Oct 17 02:10	9°♎38'38	
retrograde	2982 Jan 25 22:00	17°♎13'02	
opposition	2982 Apr 03 04:36	13°♎50'38	2°35'55
min. Earth dist.	2982 Apr 03 03:42	13°♎50'48	8.45839 AU
direct	2982 Jun 11 17:10	10°♎23'05	
evening set	2982 Sep 25 17:02	18°♎13'26	
conjunction	2982 Oct 13 02:41	20°♎22'02	2°10'09
minimum elong	2982 Oct 13 02:39	20°♎22'02	2°10'08
max. Earth dist.	2982 Oct 13 02:58	20°♎22'07	10.50890 AU
morning rise	2982 Oct 30 07:57	22°♎29'17	
retrograde	2983 Feb 07 14:48	29°♎56'00	
opposition	2983 Apr 16 06:35	26°♎34'42	2°43'21
min. Earth dist.	2983 Apr 16 05:46	26°♎34'51	8.56206 AU
direct	2983 Jun 25 07:11	23°♎08'08	
	2983 Oct 01 17:50	0°♏	
evening set	2983 Oct 08 21:56	0°♏51'09	
conjunction	2983 Oct 26 03:34	2°♏57'14	2°13'10
minimum elong	2983 Oct 26 03:34	2°♏57'14	2°13'09
max. Earth dist.	2983 Oct 26 03:42	2°♏57'17	10.61214 AU
morning rise	2983 Nov 12 04:40	5°♏01'59	
retrograde	2984 Feb 20 03:31	12°♏21'41	
opposition	2984 Apr 28 03:56	9°♏01'25	2°42'51
min. Earth dist.	2984 Apr 28 03:32	9°♏01'30	8.66379 AU
direct	2984 Jul 07 13:22	5°♏35'59	
evening set	2984 Oct 20 17:13	13°♏11'28	
	2984 Nov 04 16:58	15°♏	
conjunction	2984 Nov 06 19:16	15°♏15'18	2°09'55
minimum elong	2984 Nov 06 19:17	15°♏15'18	2°09'55
max. Earth dist.	2984 Nov 06 19:08	15°♏15'16	10.71119 AU
morning rise	2984 Nov 23 16:55	17°♏17'53	
retrograde	2985 Mar 03 10:35	24°♏31'27	
opposition	2985 May 10 20:53	21°♏12'07	2°34'59
min. Earth dist.	2985 May 10 21:33	21°♏11'59	8.75905 AU
direct	2985 Jul 20 12:33	17°♏47'52	
evening set	2985 Nov 02 03:51	25°♏16'03	
conjunction	2985 Nov 19 02:48	27°♏17'57	2°00'56
minimum elong	2985 Nov 19 02:50	27°♏17'58	2°00'57
max. Earth dist.	2985 Nov 19 01:26	27°♏17'32	10.80180 AU
morning rise	2985 Dec 05 21:57	29°♏18'46	
	2985 Dec 11 18:54	0°♐	
retrograde	2986 Mar 15 12:18	6°♐27'15	
opposition	2986 May 23 09:46	3°♐08'42	2°20'32
min. Earth dist.	2986 May 23 11:30	3°♐08'22	8.84382 AU
	2986 Jul 16 03:05	30°℞♏	
direct	2986 Aug 02 07:40	29°♏45'38	
	2986 Aug 19 10:38	0°♐	
evening set	2986 Nov 14 06:48	7°♐07'04	
conjunction	2986 Dec 01 03:21	9°♐07'24	1°46'54
minimum elong	2986 Dec 01 03:23	9°♐07'25	1°46'54
max. Earth dist.	2986 Dec 01 00:42	9°♐06'36	10.88019 AU
morning rise	2986 Dec 17 20:48	11°♐06'49	
retrograde	2987 Mar 27 11:55	18°♐11'29	
opposition	2987 Jun 04 19:25	14°♐53'29	2°00'25
min. Earth dist.	2987 Jun 04 21:24	14°♐53'07	8.91456 AU
direct	2987 Aug 14 20:47	11°♐31'37	
evening set	2987 Nov 26 03:27	18°♐47'02	
conjunction	2987 Dec 12 22:14	20°♐46'10	1°28'35
minimum elong	2987 Dec 12 22:16	20°♐46'10	1°28'35
max. Earth dist.	2987 Dec 12 19:35	20°♐45'22	10.94310 AU
morning rise	2987 Dec 29 14:26	22°♐44'33	
retrograde	2988 Apr 07 09:35	29°♐46'47	
opposition	2988 Jun 16 02:37	26°♐29'06	1°35'39
min. Earth dist.	2988 Jun 16 04:20	26°♐28'47	8.96851 AU
direct	2988 Aug 26 04:52	23°♐08'19	
	2988 Dec 04 02:34	0°♑	
evening set	2988 Dec 06 19:20	0°♑18'43	
conjunction	2988 Dec 23 12:53	2°♑17'00	1°06'52
minimum elong	2988 Dec 23 12:55	2°♑17'00	1°06'51
max. Earth dist.	2988 Dec 23 10:34	2°♑16'18	10.98819 AU
morning rise	2989 Jan 09 04:23	4°♑14'44	
retrograde	2989 Apr 19 08:27	11°♑15'55	
opposition	2989 Jun 28 08:13	7°♑58'20	1°07'19
min. Earth dist.	2989 Jun 28 10:18	7°♑57'57	9.00381 AU
direct	2989 Sep 07 08:56	4°♑38'27	
evening set	2989 Dec 18 08:01	11°♑45'00	

conjunction	2990 Jan 04 00:36	13°♑42'46	0°42'36
minimum elong	2990 Jan 04 00:37	13°♑42'47	0°42'36
max. Earth dist.	2990 Jan 03 21:37	13°♑41'53	11.01386 AU
morning rise	2990 Jan 20 16:00	15°♑40'14	
retrograde	2990 May 01 05:21	22°♑41'47	
opposition	2990 Jul 10 13:05	19°♑24'02	0°36'28
min. Earth dist.	2990 Jul 10 16:05	19°♑23'29	9.01918 AU
direct	2990 Sep 19 08:51	16°♑04'52	
evening set	2990 Dec 29 19:07	23°♑08'52	
conjunction	2991 Jan 15 11:01	25°♑06'26	0°16'44
minimum elong	2991 Jan 15 11:01	25°♑06'26	0°16'44
max. Earth dist.	2991 Jan 15 07:03	25°♑05'16	11.01913 AU
morning rise	2991 Feb 01 02:45	27°♑03'57	
	2991 Feb 27 23:16	0°♒	
retrograde	2991 May 13 03:49	4°♒07'22	
opposition	2991 Jul 22 17:57	0°♒49'11	0°04'13
min. Earth dist.	2991 Jul 22 21:09	0°♒48'36	9.01399 AU
	2991 Aug 02 23:06	30°℞♑	
desc. node	2991 Sep 09 11:12	27°♑53'34	
direct	2991 Oct 01 09:14	27°♑30'31	
	2991 Nov 26 20:38	0°♒	
evening set	2992 Jan 10 06:02	4°♒33'18	
conjunction	2992 Jan 26 21:45	6°♒31'01	-0°09'54
minimum elong	2992 Jan 26 21:45	6°♒31'01	0°09'54
behind sun begin	2992 Jan 26 16:03	6°♒29'20	
behind sun end	2992 Jan 27 03:28	6°♒32'41	
max. Earth dist.	2992 Jan 26 18:13	6°♒29'59	11.00367 AU
morning rise	2992 Feb 12 14:01	8°♒28'54	
	2992 Apr 27 05:39	15°♒	
retrograde	2992 May 24 07:05	15°♒35'36	
	2992 Jun 20 17:29	15°℞♒	
opposition	2992 Aug 02 23:52	12°♒16'44	-0°28'19
min. Earth dist.	2992 Aug 03 02:29	12°♒16'15	8.98817 AU
direct	2992 Oct 12 08:09	8°♒58'21	
	2993 Jan 11 20:39	15°♒	
evening set	2993 Jan 20 18:15	16°♒01'16	
conjunction	2993 Feb 06 10:11	17°♒59'27	-0°36'11
minimum elong	2993 Feb 06 10:10	17°♒59'27	0°36'10
max. Earth dist.	2993 Feb 06 07:13	17°♒58'35	10.96752 AU
morning rise	2993 Feb 23 03:15	19°♒58'03	
retrograde	2993 Jun 05 12:54	27°♒09'26	
opposition	2993 Aug 15 07:36	23°♒49'39	-0°59'59
min. Earth dist.	2993 Aug 15 09:56	23°♒49'13	8.94196 AU
direct	2993 Oct 24 06:23	20°♒31'17	
evening set	2994 Feb 01 09:35	27°♒35'51	
conjunction	2994 Feb 18 01:55	29°♒34'50	-1°01'14
minimum elong	2994 Feb 18 01:53	29°♒34'50	1°01'14
max. Earth dist.	2994 Feb 17 22:13	29°♒33'44	10.91127 AU
	2994 Feb 21 14:00	0°♓	
morning rise	2994 Mar 06 20:16	1°♓34'28	
retrograde	2994 Jun 18 00:22	8°♓51'50	
opposition	2994 Aug 27 17:59	5°♓30'59	-1°29'36
min. Earth dist.	2994 Aug 27 20:57	5°♓30'26	8.87641 AU
direct	2994 Nov 05 06:31	2°♓12'23	
evening set	2995 Feb 13 05:16	9°♓20'05	
conjunction	2995 Mar 01 22:27	11°♓20'14	-1°24'03
minimum elong	2995 Mar 01 22:24	11°♓20'13	1°24'03
max. Earth dist.	2995 Mar 01 18:06	11°♓18'55	10.83680 AU
morning rise	2995 Mar 18 18:33	13°♓21'15	
retrograde	2995 Jun 30 16:28	20°♓45'46	
opposition	2995 Sep 09 08:10	17°♓23'41	-1°55'55
min. Earth dist.	2995 Sep 09 11:19	17°♓23'06	8.79428 AU
direct	2995 Nov 17 08:43	14°♓04'38	
evening set	2996 Feb 25 06:28	21°♓16'45	
conjunction	2996 Mar 13 01:12	23°♓18'24	-1°43'36
minimum elong	2996 Mar 13 01:10	23°♓18'23	1°43'36
max. Earth dist.	2996 Mar 12 21:36	23°♓17'18	10.74756 AU
morning rise	2996 Mar 29 23:26	25°♓21'07	
	2996 May 12 14:15	0°♈	
retrograde	2996 Jul 12 14:24	2°♈53'40	
	2996 Sep 14 13:41	30°℞♓	
opposition	2996 Sep 21 02:31	29°♓30'12	-2°17'42
min. Earth dist.	2996 Sep 21 04:59	29°♓29'43	8.69947 AU
direct	2996 Nov 28 17:07	26°♓10'27	
	2997 Feb 05 15:51	0°♈	
evening set	2997 Mar 08 14:44	3°♈28'07	
conjunction	2997 Mar 25 11:42	5°♈31'37	-1°58'52
minimum elong	2997 Mar 25 11:40	5°♈31'36	1°58'52
max. Earth dist.	2997 Mar 25 09:34	5°♈30'57	10.64774 AU
morning rise	2997 Apr 11 12:29	7°♈36'20	
retrograde	2997 Jul 25 20:48	15°♈17'18	
opposition	2997 Oct 04 01:17	11°♈52'25	-2°33'41
min. Earth dist.	2997 Oct 04 02:28	11°♈52'11	8.59638 AU
direct	2997 Dec 11 04:39	8°♈31'47	
evening set	2998 Mar 21 06:53	15°♈55'54	
conjunction	2998 Apr 07 06:39	18°♈01'33	-2°08'53
minimum elong	2998 Apr 07 06:38	18°♈01'32	2°08'53
max. Earth dist.	2998 Apr 07 05:17	18°♈01'07	10.54205 AU
morning rise	2998 Apr 24 10:38	20°♈08'33	
retrograde	2998 Aug 08 10:12	27°♈57'58	
opposition	2998 Oct 17 05:12	24°♈31'43	-2°42'41
min. Earth dist.	2998 Oct 17 05:33	24°♈31'39	8.48983 AU
direct	2998 Dec 23 20:21	21°♈10'02	
evening set	2999 Apr 03 07:32	28°♈41'17	
	2999 Apr 13 21:18	0°♉	
conjunction	2999 Apr 20 10:46	0°♉49'19	-2°12'48
minimum elong	2999 Apr 20 10:46	0°♉49'19	2°12'48
max. Earth dist.	2999 Apr 20 09:52	0°♉49'02	10.43560 AU
morning rise	2999 May 07 18:37	2°♉58'48	
retrograde	2999 Aug 22 04:25	10°♉56'14	
opposition	2999 Oct 30 14:13	7°♉28'46	-2°43'45
min. Earth dist.	2999 Oct 30 14:08	7°♉28'47	8.38503 AU
direct	3000 Jan 05 20:20	4°♉05'54	
evening set	3000 Apr 16 17:18	11°♉44'40	
conjunction	3000 May 04 00:45	13°♉55'17	-2°10'00
minimum elong	3000 May 04 00:46	13°♉55'17	2°09'59
max. Earth dist.	3000 May 04 00:28	13°♉55'12	10.33368 AU
	3000 May 12 13:31	15°♉	
morning rise	3000 May 21 12:55	16°♉07'22	
retrograde	3000 Sep 05 04:33	24°♉11'50	
opposition	3000 Nov 13 03:51	20°♉43'22	-2°36'14
min. Earth dist.	3000 Nov 13 03:29	20°♉43'26	8.28727 AU
direct	3001 Jan 19 02:37	17°♉19'15	
evening set	3001 Apr 30 12:08	25°♉05'31	
conjunction	3001 May 18 00:21	27°♉18'46	-2°00'11
minimum elong	3001 May 18 00:24	27°♉18'47	2°00'11
max. Earth dist.	3001 May 18 01:20	27°♉19'05	10.24152 AU
morning rise	3001 Jun 04 16:57	29°♉33'25	
	3001 Jun 08 06:26	0°♊	
retrograde	3001 Sep 19 09:50	7°♊43'28	
opposition	3001 Nov 26 21:50	4°♊14'17	-2°19'58
min. Earth dist.	3001 Nov 26 20:38	4°♊14'31	8.20170 AU
direct	3002 Feb 01 15:17	0°♊48'56	

evening set	3002 May 14	15:30	8°♊42'18		
conjunction	3002 Jun 01	08:35	10°♊58'03	-1°43'31	
minimum elong	3002 Jun 01	08:38	10°♊58'04	1°43'31	
max. Earth dist.	3002 Jun 01	11:10	10°♊58'53	10.16411 AU	
morning rise	3002 Jun 19	05:22	13°♊15'00		
retrograde	3002 Oct 03	18:38	21°♊28'51		
opposition	3002 Dec 10	19:21	17°♊59'13	-1°55'25	
min. Earth dist.	3002 Dec 10	16:57	17°♊59'43	8.13318 AU	
direct	3003 Feb 15	10:19	14°♊32'44		
evening set	3003 May 29	02:45	22°♊32'26		
conjunction	3003 Jun 16	00:19	24°♊50'19	-1°20'40	
minimum elong	3003 Jun 16	00:22	24°♊50'20	1°20'40	
max. Earth dist.	3003 Jun 16	04:07	24°♊51'32	10.10607 AU	
morning rise	3003 Jul 04	00:41	27°♊09'08		
	3003 Jul 27	12:18	0°♋		
retrograde	3003 Oct 18	05:02	5°♋24'38		
opposition	3003 Dec 24	19:21	1°♋54'56	-1°23'45	
min. Earth dist.	3003 Dec 24	16:04	1°♋55'36	8.08592 AU	
	3004 Jan 18	12:31	30°℞♊		
direct	3004 Feb 29	10:13	28°♊27'23		
	3004 Apr 10	17:26	0°♋		
evening set	3004 Jun 11	20:21	6°♋32'17		
conjunction	3004 Jun 29	21:30	8°♋51'44	-0°52'52	
minimum elong	3004 Jun 29	21:32	8°♋51'45	0°52'51	
max. Earth dist.	3004 Jun 30	01:56	8°♋53'10	10.07094 AU	
morning rise	3004 Jul 18	00:23	11°♋11'46		
retrograde	3004 Oct 31	16:03	19°♋26'42		
opposition	3005 Jan 06	20:52	15°♋57'18	-0°46'49	
min. Earth dist.	3005 Jan 06	17:13	15°♋58'04	8.06291 AU	
direct	3005 Mar 14	14:01	12°♋28'54		
evening set	3005 Jun 26	18:13	20°♋37'33		
conjunction	3005 Jul 14	21:31	22°♋57'47	-0°21'46	
minimum elong	3005 Jul 14	21:32	22°♋57'47	0°21'46	
max. Earth dist.	3005 Jul 15	01:57	22°♋59'13	10.06099 AU	
morning rise	3005 Aug 02	01:26	25°♋18'12		
	3005 Sep 11	15:50	0°♌		
retrograde	3005 Nov 15	01:09	3°♌30'27		
opposition	3006 Jan 20	22:34	0°♌01'42	-0°06'57	
min. Earth dist.	3006 Jan 20	19:07	0°♌02'25	8.06581 AU	
	3006 Jan 21	06:48	30°℞♋		
asc. node	3006 Mar 27	03:20	26°♋32'52		
direct	3006 Mar 28	21:06	26°♋32'42		
	3006 May 31	18:41	0°♌		
evening set	3006 Jul 11	17:54	4°♌43'24		
conjunction	3006 Jul 29	21:45	7°♌03'31	0°10'41	
minimum elong	3006 Jul 29	21:45	7°♌03'31	0°10'41	
behind sun begin	3006 Jul 29	16:09	7°♌01'43		
behind sun end	3006 Jul 30	03:21	7°♌05'19		
max. Earth dist.	3006 Jul 30	01:51	7°♌04'49	10.07709 AU	
morning rise	3006 Aug 17	01:06	9°♌23'28		
	3006 Oct 06	12:55	15°♌		
retrograde	3006 Nov 29	06:26	17°♌31'09		
	3007 Jan 23	08:11	15°℞♌		
opposition	3007 Feb 03	23:06	14°♌03'21	0°33'10	
min. Earth dist.	3007 Feb 03	19:52	14°♌04'01	8.09470 AU	
direct	3007 Apr 12	06:24	10°♌34'03		
	3007 Jun 24	23:49	15°♌		
evening set	3007 Jul 26	16:44	18°♌44'56		
conjunction	3007 Aug 13	19:33	21°♌04'06	0°42'14	
minimum elong	3007 Aug 13	19:31	21°♌04'06	0°42'14	
max. Earth dist.	3007 Aug 13	23:21	21°♌05'20	10.11832 AU	
morning rise	3007 Aug 31	20:42	23°♌22'44		
	3007 Nov 03	18:20	0°♍		
retrograde	3007 Dec 13	05:15	1°♍24'21		
	3008 Jan 22	04:49	30°℞♌		
opposition	3008 Feb 17	21:21	27°♌57'44	1°10'56	
min. Earth dist.	3008 Feb 17	18:07	27°♌58'23	8.14772 AU	
direct	3008 Apr 25	16:07	24°♌28'27		
	3008 Jul 18	17:18	0°♍		
evening set	3008 Aug 09	12:08	2°♍37'37		
conjunction	3008 Aug 27	12:23	4°♍55'04	1°11'02	
minimum elong	3008 Aug 27	12:20	4°♍55'03	1°11'02	
max. Earth dist.	3008 Aug 27	16:00	4°♍56'14	10.18204 AU	
morning rise	3008 Sep 14	09:54	7°♍11'39		
retrograde	3008 Dec 25	22:44	15°♍06'08		
opposition	3009 Mar 02	16:13	11°♍40'49	1°44'03	
min. Earth dist.	3009 Mar 02	12:46	11°♍41'31	8.22156 AU	
direct	3009 May 09	22:26	8°♍11'54		
evening set	3009 Aug 24	01:30	16°♍17'29		
conjunction	3009 Sep 10	22:07	18°♍32'40	1°35'24	
minimum elong	3009 Sep 10	22:03	18°♍32'39	1°35'24	
max. Earth dist.	3009 Sep 11	01:48	18°♍33'51	10.26441 AU	
morning rise	3009 Sep 28	15:02	20°♍46'43		
retrograde	3010 Jan 08	10:46	28°♍33'23		
opposition	3010 Mar 16	07:01	25°♍09'25	2°10'44	
min. Earth dist.	3010 Mar 16	03:35	25°♍10'06	8.31178 AU	
direct	3010 May 24	00:38	21°♍41'08		
evening set	3010 Sep 07	06:45	29°♍41'30		
	3010 Sep 09	18:38	0°♎		
conjunction	3010 Sep 24	23:06	1°♎54'06	1°54'10	
minimum elong	3010 Sep 24	23:04	1°♎54'05	1°54'09	
max. Earth dist.	3010 Sep 25	02:43	1°♎55'14	10.36054 AU	
morning rise	3010 Oct 12	11:06	4°♎05'23		
retrograde	3011 Jan 21	15:42	11°♎43'56		
opposition	3011 Mar 29	17:07	8°♎21'19	2°29'51	
min. Earth dist.	3011 Mar 29	14:33	8°♎21'49	8.41300 AU	
direct	3011 Jun 06	22:22	4°♎53'50		
evening set	3011 Sep 21	02:55	12°♎47'48		
conjunction	3011 Oct 08	14:42	14°♎57'40	2°06'36	
minimum elong	3011 Oct 08	14:40	14°♎57'39	2°06'35	
max. Earth dist.	3011 Oct 08	17:13	14°♎58'27	10.46484 AU	
morning rise	3011 Oct 25	21:51	17°♎06'09		
retrograde	3012 Feb 03	12:13	24°♎36'40		
opposition	3012 Apr 10	22:09	21°♎15'21	2°40'52	
min. Earth dist.	3012 Apr 10	20:55	21°♎15'35	8.51946 AU	
direct	3012 Jun 19	15:37	17°♎48'49		
evening set	3012 Oct 03	13:04	25°♎35'32		
conjunction	3012 Oct 20	20:24	27°♎42'44	2°12'29	
minimum elong	3012 Oct 20	20:23	27°♎42'44	2°12'28	
max. Earth dist.	3012 Oct 20	21:12	27°♎42'59	10.57149 AU	
morning rise	3012 Nov 06	23:16	29°♎48'35		
	3012 Nov 08	13:08	0°♏		
retrograde	3013 Feb 15	02:56	7°♏11'36		
opposition	3013 Apr 23	22:13	3°♏51'24	2°43'48	
min. Earth dist.	3013 Apr 23	22:11	3°♏51'24	8.62518 AU	
direct	3013 Jul 03	02:02	0°♏25'57		
evening set	3013 Oct 16	13:02	8°♏05'01		
conjunction	3013 Nov 02	16:29	10°♏09'49	2°11'56	
minimum elong	3013 Nov 02	16:30	10°♏09'49	2°11'55	
max. Earth dist.	3013 Nov 02	15:30	10°♏09'31	10.67450 AU	
morning rise	3013 Nov 19	15:46	12°♏13'21		
	3013 Dec 14	01:37	15°♏		

retrograde	3014 Feb 27 11:36	19°♏29'42	
opposition	3014 May 06 17:24	16°♏10'27	2°39'05
min. Earth dist.	3014 May 06 18:00	16°♏10'20	8.72420 AU
	3014 May 22 09:09	15°℞♏	
direct	3014 Jul 16 06:04	12°♏46'08	
	3014 Sep 07 13:02	15°♏	
evening set	3014 Oct 29 03:53	20°♏17'46	
conjunction	3014 Nov 15 04:09	22°♏20'29	2°05'22
minimum elong	3014 Nov 15 04:11	22°♏20'30	2°05'22
max. Earth dist.	3014 Nov 15 02:21	22°♏19'56	10.76839 AU
morning rise	3014 Dec 02 00:28	24°♏22'04	
	3015 Jan 27 20:00	0°♐	
retrograde	3015 Mar 11 16:21	1°♐32'55	
	3015 Apr 24 20:56	30°℞♏	
opposition	3015 May 19 08:16	28°♏14'27	2°27'23
min. Earth dist.	3015 May 19 09:31	28°♏14'13	8.81184 AU
direct	3015 Jul 29 04:14	24°♏51'17	
	3015 Oct 21 10:17	0°♐	
evening set	3015 Nov 10 10:39	2°♐15'57	
conjunction	3015 Nov 27 08:22	4°♐17'00	1°53'26
minimum elong	3015 Nov 27 08:25	4°♐17'01	1°53'26
max. Earth dist.	3015 Nov 27 06:07	4°♐16'19	10.84940 AU
morning rise	3015 Dec 14 02:25	6°♐17'01	
retrograde	3016 Mar 22 19:01	13°♐23'36	
opposition	3016 May 30 19:57	10°♐05'42	2°09'36
min. Earth dist.	3016 May 30 22:11	10°♐05'17	8.88523 AU
direct	3016 Aug 09 18:56	6°♐43'36	
evening set	3016 Nov 21 10:31	14°♐01'58	
conjunction	3016 Dec 08 06:08	16°♐01'41	1°36'51
minimum elong	3016 Dec 08 06:10	16°♐01'42	1°36'52
max. Earth dist.	3016 Dec 08 02:52	16°♐00'43	10.91510 AU
morning rise	3016 Dec 24 22:46	18°♐00'34	
retrograde	3017 Apr 03 17:03	25°♐04'10	
opposition	3017 Jun 12 04:52	21°♐46'32	1°46'43
min. Earth dist.	3017 Jun 12 08:22	21°♐45'53	8.94226 AU
direct	3017 Aug 22 05:24	18°♐25'21	
evening set	3017 Dec 03 05:01	25°♐38'21	
conjunction	3017 Dec 19 23:02	27°♐37'05	1°16'29
minimum elong	3017 Dec 19 23:04	27°♐37'05	1°16'29
max. Earth dist.	3017 Dec 19 18:25	27°♐35'42	10.96351 AU
morning rise	3018 Jan 05 14:58	29°♐35'12	
	3018 Jan 09 04:35	0°♑	
retrograde	3018 Apr 15 14:27	6°♑37'10	
opposition	3018 Jun 24 11:29	3°♑19'32	1°19'47
min. Earth dist.	3018 Jun 24 15:20	3°♑18'49	8.98108 AU
	3018 Aug 30 04:58	30°℞♐	
direct	3018 Sep 03 13:08	29°♐59'05	
	3018 Sep 07 20:36	0°♑	
evening set	3018 Dec 14 19:28	7°♑07'47	
conjunction	3018 Dec 31 12:28	9°♑05'54	0°53'11
minimum elong	3018 Dec 31 12:30	9°♑05'54	0°53'11
max. Earth dist.	3018 Dec 31 07:52	9°♑04'32	10.99297 AU
morning rise	3019 Jan 17 04:04	11°♑03'36	
retrograde	3019 Apr 27 12:12	18°♑05'23	
opposition	3019 Jul 06 16:59	14°♑47'27	0°49'50
min. Earth dist.	3019 Jul 06 20:26	14°♑46'49	9.00040 AU
direct	3019 Sep 15 16:08	11°♑27'37	
evening set	3019 Dec 26 07:20	18°♑33'12	
conjunction	3020 Jan 11 23:44	20°♑31'01	0°27'52
minimum elong	3020 Jan 11 23:45	20°♑31'01	0°27'52
max. Earth dist.	3020 Jan 11 19:52	20°♑29'52	11.00247 AU
morning rise	3020 Jan 28 15:16	22°♑28'39	
retrograde	3020 May 08 11:28	29°♑31'43	
opposition	3020 Jul 17 22:14	26°♑13'16	0°18'01
min. Earth dist.	3020 Jul 18 01:25	26°♑12'41	8.99968 AU
direct	3020 Sep 26 16:49	22°♑53'52	
evening set	3021 Jan 05 18:32	29°♑57'41	
	3021 Jan 06 02:30	0°♒	
conjunction	3021 Jan 22 10:29	1°♒55'32	0°01'28
minimum elong	3021 Jan 22 10:29	1°♒55'31	0°01'29
behind sun begin	3021 Jan 22 03:30	1°♒53'29	
behind sun end	3021 Jan 22 17:28	1°♒57'34	
max. Earth dist.	3021 Jan 22 06:18	1°♒54'20	10.99185 AU
morning rise	3021 Feb 08 02:30	3°♒53'26	
desc. node	3021 Feb 11 12:59	4°♒17'15	
retrograde	3021 May 20 13:12	10°♒59'13	
opposition	3021 Jul 30 03:58	7°♒40'04	-0°14'36
min. Earth dist.	3021 Jul 30 07:39	7°♒39'23	8.97912 AU
direct	3021 Oct 08 15:07	4°♒20'55	
evening set	3022 Jan 17 06:26	11°♒24'23	
conjunction	3022 Feb 02 22:15	13°♒22'34	-0°25'10
minimum elong	3022 Feb 02 22:14	13°♒22'34	0°25'10
max. Earth dist.	3022 Feb 02 17:31	13°♒21'10	10.96156 AU
	3022 Feb 16 15:04	15°♒	
morning rise	3022 Feb 19 15:10	15°♒21'05	
retrograde	3022 Jun 01 15:58	22°♒31'02	
opposition	3022 Aug 11 11:13	19°♒11'00	-0°46'51
min. Earth dist.	3022 Aug 11 14:59	19°♒10'18	8.93936 AU
direct	3022 Oct 20 14:05	15°♒51'54	
evening set	3023 Jan 28 20:29	22°♒56'30	
conjunction	3023 Feb 14 12:39	24°♒55'21	-0°50'55
minimum elong	3023 Feb 14 12:38	24°♒55'21	0°50'55
max. Earth dist.	3023 Feb 14 08:34	24°♒54'08	10.91255 AU
morning rise	3023 Mar 03 06:37	26°♒54'45	
	3023 Mar 31 07:09	0°♓	
retrograde	3023 Jun 14 01:25	4°♓10'15	
opposition	3023 Aug 23 20:50	0°♓49'10	-1°17'32
min. Earth dist.	3023 Aug 23 23:41	0°♓48'38	8.88175 AU
	3023 Sep 03 22:11	30°℞♒	
direct	3023 Nov 01 15:12	27°♒29'59	
	3023 Dec 27 07:36	0°♓	
evening set	3024 Feb 09 14:22	4°♓37'02	
conjunction	3024 Feb 26 07:21	6°♓36'55	-1°14'50
minimum elong	3024 Feb 26 07:19	6°♓36'54	1°14'50
max. Earth dist.	3024 Feb 26 04:35	6°♓36'05	10.84653 AU
morning rise	3024 Mar 14 02:40	8°♓37'33	
retrograde	3024 Jun 25 16:44	15°♓59'44	
opposition	3024 Sep 04 09:40	12°♓37'29	-1°45'27
min. Earth dist.	3024 Sep 04 11:24	12°♓37'09	8.80839 AU
direct	3024 Nov 12 16:12	9°♓18'02	
evening set	3025 Feb 20 13:26	16°♓28'54	
conjunction	3025 Mar 09 07:37	18°♓30'06	-1°35'54
minimum elong	3025 Mar 09 07:34	18°♓30'06	1°35'55
max. Earth dist.	3025 Mar 09 05:12	18°♓29'22	10.76604 AU
morning rise	3025 Mar 26 04:52	20°♓32'17	
retrograde	3025 Jul 08 13:16	28°♓02'04	
opposition	3025 Sep 17 02:31	24°♓38'38	-2°09'18
min. Earth dist.	3025 Sep 17 03:50	24°♓38'23	8.72207 AU
direct	3025 Nov 24 21:14	21°♓18'43	
evening set	3026 Mar 04 19:00	28°♓34'37	
	3026 Mar 16 12:31	0°♈	
conjunction	3026 Mar 21 14:53	0°♈37'29	-1°53'06

minimum elong	3026 Mar 21 14:51	0°♈37'28	1°53'06
max. Earth dist.	3026 Mar 21 12:29	0°♈36'45	10.67428 AU
morning rise	3026 Apr 07 14:37	2°♈41'31	
retrograde	3026 Jul 21 16:39	10°♈19'31	
opposition	3026 Sep 29 23:52	6°♈54'52	-2°27'51
min. Earth dist.	3026 Sep 30 01:02	6°♈54'38	8.62642 AU
direct	3026 Dec 07 06:42	3°♈34'19	
evening set	3027 Mar 17 08:01	10°♈56'15	
conjunction	3027 Apr 03 06:24	13°♈01'06	-2°05'24
minimum elong	3027 Apr 03 06:23	13°♈01'05	2°05'24
max. Earth dist.	3027 Apr 03 04:59	13°♈00'39	10.57535 AU
morning rise	3027 Apr 20 09:07	15°♈07'16	
retrograde	3027 Aug 04 02:18	22°♈53'43	
opposition	3027 Oct 13 02:11	19°♈27'53	-2°39'51
min. Earth dist.	3027 Oct 13 02:38	19°♈27'48	8.52581 AU
direct	3027 Dec 19 21:50	16°♈06'34	
evening set	3028 Mar 29 05:17	23°♈35'18	
conjunction	3028 Apr 15 07:03	25°♈42'25	-2°11'55
minimum elong	3028 Apr 15 07:03	25°♈42'25	2°11'55
max. Earth dist.	3028 Apr 15 07:27	25°♈42'33	10.47383 AU
morning rise	3028 May 02 13:16	27°♈50'57	
	3028 May 20 16:41	0°♉	
retrograde	3028 Aug 16 18:21	5°♉45'36	
opposition	3028 Oct 25 09:29	2°♉18'42	-2°44'16
min. Earth dist.	3028 Oct 25 08:36	2°♉18'52	8.42498 AU
	3028 Nov 26 18:19	30°℞♈	
direct	3028 Dec 31 19:57	28°♈56'29	
	3029 Feb 04 04:40	0°♉	
evening set	3029 Apr 11 11:44	6°♉32'29	
conjunction	3029 Apr 28 17:29	8°♉42'06	-2°11'55
minimum elong	3029 Apr 28 17:30	8°♉42'06	2°11'54
max. Earth dist.	3029 Apr 28 19:23	8°♉42'42	10.37470 AU
morning rise	3029 May 16 03:38	10°♉53'07	
	3029 Jun 21 04:58	15°♉	
retrograde	3029 Aug 30 18:06	18°♉55'10	
opposition	3029 Nov 07 21:31	15°♉27'21	-2°40'16
min. Earth dist.	3029 Nov 07 19:25	15°♉27'46	8.32902 AU
	3029 Nov 13 15:19	15°℞♉	
direct	3030 Jan 13 22:34	12°♉04'09	
	3030 Mar 13 06:55	15°♉	
evening set	3030 Apr 25 03:16	19°♉47'32	
conjunction	3030 May 12 13:28	21°♉59'42	-2°04'58
minimum elong	3030 May 12 13:30	21°♉59'42	2°04'58
max. Earth dist.	3030 May 12 16:18	22°♉00'36	10.28322 AU
morning rise	3030 May 30 03:59	24°♉13'16	
	3030 Jul 22 15:52	0°♊	
retrograde	3030 Sep 13 23:06	2°♊21'22	
	3030 Nov 07 10:31	30°℞♉	
opposition	3030 Nov 21 14:14	28°♉52'53	-2°27'32
min. Earth dist.	3030 Nov 21 11:23	28°♉53'28	8.24311 AU
direct	3031 Jan 27 07:50	25°♉28'37	
	3031 Apr 11 03:55	0°♊	
evening set	3031 May 09 03:32	3°♊19'04	
conjunction	3031 May 26 18:26	5°♊33'43	-1°51'03
minimum elong	3031 May 26 18:29	5°♊33'44	1°51'02
max. Earth dist.	3031 May 26 21:33	5°♊34'43	10.20437 AU
morning rise	3031 Jun 13 13:26	7°♊49'40	
retrograde	3031 Sep 28 07:06	16°♊02'04	
opposition	3031 Dec 05 10:46	12°♊33'09	-2°06'16
min. Earth dist.	3031 Dec 05 07:56	12°♊33'44	8.17189 AU
direct	3032 Feb 10 00:39	9°♊07'45	
evening set	3032 May 22 11:58	17°♊04'39	

conjunction	3032 Jun 09 07:28	19°♊21'31	-1°30'38
minimum elong	3032 Jun 09 07:32	19°♊21'32	1°30'37
max. Earth dist.	3032 Jun 09 10:44	19°♊22'34	10.14220 AU
morning rise	3032 Jun 27 06:28	21°♊39'29	
retrograde	3032 Oct 11 16:10	29°♊54'06	
opposition	3032 Dec 18 09:52	26°♊25'03	-1°37'21
min. Earth dist.	3032 Dec 18 07:13	26°♊25'35	8.11885 AU
direct	3033 Feb 22 23:53	22°♊58'33	
	3033 May 29 00:17	0°♋	
evening set	3033 Jun 06 03:04	1°♋00'55	
conjunction	3033 Jun 24 02:36	3°♋19'34	-1°04'42
minimum elong	3033 Jun 24 02:39	3°♋19'35	1°04'41
max. Earth dist.	3033 Jun 24 05:55	3°♋20'39	10.09951 AU
morning rise	3033 Jul 12 04:37	5°♋38'59	
retrograde	3033 Oct 26 02:02	13°♋53'49	
opposition	3034 Jan 01 10:50	10°♋24'56	-1°02'22
min. Earth dist.	3034 Jan 01 08:07	10°♋25'30	8.08642 AU
direct	3034 Mar 09 02:40	6°♋57'30	
evening set	3034 Jun 20 23:01	15°♋04'10	
conjunction	3034 Jul 09 01:28	17°♋23'57	-0°34'45
minimum elong	3034 Jul 09 01:30	17°♋23'58	0°34'45
max. Earth dist.	3034 Jul 09 05:09	17°♋25'09	10.07858 AU
morning rise	3034 Jul 27 05:09	19°♋44'07	
retrograde	3034 Nov 09 11:45	27°♋57'13	
opposition	3035 Jan 15 12:25	24°♋28'47	-0°23'27
min. Earth dist.	3035 Jan 15 09:12	24°♋29'27	8.07710 AU
direct	3035 Mar 23 08:51	21°♋00'36	
evening set	3035 Jul 05 22:08	29°♋10'06	
	3035 Jul 12 10:35	0°♌	
conjunction	3035 Jul 24 02:01	1°♌30'12	-0°02'43
minimum elong	3035 Jul 24 02:00	1°♌30'12	0°02'44
behind sun begin	3035 Jul 23 18:39	1°♌27'51	
behind sun end	3035 Jul 24 09:20	1°♌32'33	
max. Earth dist.	3035 Jul 24 06:13	1°♌31'32	10.08171 AU
morning rise	3035 Aug 11 05:41	3°♌50'16	
asc. node	3035 Aug 24 04:49	5°♌26'50	
retrograde	3035 Nov 23 18:40	11°♌59'40	
opposition	3036 Jan 29 13:19	8°♌31'55	0°16'50
min. Earth dist.	3036 Jan 29 09:45	8°♌32'39	8.09257 AU
direct	3036 Apr 05 17:02	5°♌03'12	
evening set	3036 Jul 19 21:39	13°♌13'45	
	3036 Aug 02 18:01	15°♌	
conjunction	3036 Aug 07 01:11	15°♌33'17	0°29'30
minimum elong	3036 Aug 07 01:09	15°♌33'16	0°29'29
max. Earth dist.	3036 Aug 07 05:28	15°♌34'39	10.10959 AU
morning rise	3036 Aug 25 03:13	17°♌52'23	
retrograde	3036 Dec 06 20:57	25°♌56'21	
opposition	3037 Feb 11 12:34	22°♌29'32	0°55'50
min. Earth dist.	3037 Feb 11 09:14	22°♌30'13	8.13252 AU
direct	3037 Apr 20 01:50	19°♌00'32	
evening set	3037 Aug 03 18:34	27°♌10'10	
conjunction	3037 Aug 21 20:04	29°♌28'18	0°59'38
minimum elong	3037 Aug 21 20:01	29°♌28'17	0°59'38
max. Earth dist.	3037 Aug 21 23:56	29°♌29'32	10.16084 AU
	3037 Aug 25 22:51	0°♍	
morning rise	3037 Sep 08 19:01	1°♍45'40	
retrograde	3037 Dec 20 17:13	9°♍42'56	
opposition	3038 Feb 25 08:51	6°♍17'11	1°31'05
min. Earth dist.	3038 Feb 25 06:08	6°♍17'44	8.19463 AU
direct	3038 May 04 08:58	2°♍48'11	
evening set	3038 Aug 18 10:27	10°♍55'00	

conjunction	3038 Sep 05	08:39	13°♍11'07	1°25'59
minimum elong	3038 Sep 05	08:35	13°♍11'06	1°25'59
max. Earth dist.	3038 Sep 05	11:34	13°♍12'03	10.23238 AU
morning rise	3038 Sep 23	03:30	15°♍26'10	
retrograde	3039 Jan 03	06:48	23°♍15'49	
opposition	3039 Mar 11	01:04	19°♍51'14	2°00'35
min. Earth dist.	3039 Mar 10	23:11	19°♍51'37	8.27503 AU
direct	3039 May 18	13:42	16°♍22'30	
evening set	3039 Sep 01	19:04	24°♍24'51	
conjunction	3039 Sep 19	13:08	26°♍38'29	1°47'10
minimum elong	3039 Sep 19	13:04	26°♍38'28	1°47'10
max. Earth dist.	3039 Sep 19	14:50	26°♍39'02	10.31978 AU
morning rise	3039 Oct 07	03:20	28°♍50'54	
	3039 Oct 16	14:07	0°♎	
retrograde	3040 Jan 16	12:35	6°♎32'30	
opposition	3040 Mar 23	12:45	3°♎09'06	2°22'57
min. Earth dist.	3040 Mar 23	11:11	3°♎09'25	8.36874 AU
	3040 May 12	09:56	30°℞♍	
direct	3040 May 31	14:41	29°♍40'56	
	3040 Jun 19	18:07	0°♎	
evening set	3040 Sep 14	18:38	7°♎37'24	
conjunction	3040 Oct 02	08:14	9°♎48'21	2°02'17
minimum elong	3040 Oct 02	08:12	9°♎48'21	2°02'17
max. Earth dist.	3040 Oct 02	09:22	9°♎48'43	10.41785 AU
morning rise	3040 Oct 19	17:34	11°♎58'00	
retrograde	3041 Jan 28	11:20	19°♎31'36	
opposition	3041 Apr 05	19:27	16°♎09'21	2°37'22
min. Earth dist.	3041 Apr 05	17:56	16°♎09'39	8.47037 AU
direct	3041 Jun 14	10:11	12°♎41'59	
evening set	3041 Sep 28	08:24	20°♎31'32	
conjunction	3041 Oct 15	17:40	22°♎39'51	2°10'54
minimum elong	3041 Oct 15	17:39	22°♎39'50	2°10'53
max. Earth dist.	3041 Oct 15	18:42	22°♎40'10	10.52126 AU
morning rise	3041 Nov 01	22:22	24°♎46'47	
	3041 Dec 21	08:30	0°♏	
retrograde	3042 Feb 10	05:32	2°♏12'43	
	3042 Apr 03	23:14	30°℞♎	
opposition	3042 Apr 18	21:00	28°♎51'34	2°43'40
min. Earth dist.	3042 Apr 18	19:54	28°♎51'47	8.57462 AU
direct	3042 Jun 27	21:35	25°♎25'10	
	3042 Sep 14	00:09	0°♏	
evening set	3042 Oct 11	12:09	3°♏07'16	
conjunction	3042 Oct 28	17:25	5°♏13'06	2°13'00
minimum elong	3042 Oct 28	17:26	5°♏13'06	2°13'00
max. Earth dist.	3042 Oct 28	18:05	5°♏13'18	10.62479 AU
morning rise	3042 Nov 14	18:05	7°♏17'35	
retrograde	3043 Feb 22	16:26	14°♏36'28	
opposition	3043 May 01	17:46	11°♏16'21	2°42'05
min. Earth dist.	3043 May 01	17:48	11°♏16'20	8.67637 AU
direct	3043 Jul 11	03:08	7°♏51'03	
	3043 Oct 20	15:52	15°♏	
evening set	3043 Oct 24	06:28	15°♏25'36	
conjunction	3043 Nov 10	08:06	17°♏29'11	2°08'55
minimum elong	3043 Nov 10	08:07	17°♏29'11	2°08'55
max. Earth dist.	3043 Nov 10	07:32	17°♏29'01	10.72355 AU
morning rise	3043 Nov 27	05:32	19°♏31'33	
retrograde	3044 Mar 05	21:39	26°♏44'20	
opposition	3044 May 13	10:02	23°♏25'07	2°33'14
min. Earth dist.	3044 May 13	11:12	23°♏24'54	8.77107 AU
direct	3044 Jul 23	03:19	20°♏00'59	
evening set	3044 Nov 04	16:00	27°♏28'15	
conjunction	3044 Nov 21	14:39	29°♏29'55	1°59'10
minimum elong	3044 Nov 21	14:40	29°♏29'56	1°59'11
max. Earth dist.	3044 Nov 21	12:38	29°♏29'19	10.81335 AU
	3044 Nov 25	18:30	0°♐	
morning rise	3044 Dec 08	09:41	1°♐30'32	
retrograde	3045 Mar 17	23:40	8°♐38'21	
opposition	3045 May 25	22:19	5°♐19'51	2°17'56
min. Earth dist.	3045 May 25	23:49	5°♐19'34	8.85476 AU
direct	3045 Aug 04	20:51	1°♐56'56	
evening set	3045 Nov 16	17:50	9°♐17'25	
conjunction	3045 Dec 03	14:15	11°♐17'35	1°44'29
minimum elong	3045 Dec 03	14:17	11°♐17'36	1°44'30
max. Earth dist.	3045 Dec 03	11:54	11°♐16'53	10.89046 AU
morning rise	3045 Dec 20	07:35	13°♐16'50	
retrograde	3046 Mar 29	22:20	20°♐20'58	
opposition	3046 Jun 07	07:21	17°♐02'58	1°57'07
min. Earth dist.	3046 Jun 07	08:42	17°♐02'43	8.92396 AU
direct	3046 Aug 17	09:21	13°♐41'13	
evening set	3046 Nov 28	13:40	20°♐55'48	
conjunction	3046 Dec 15	08:26	22°♐54'47	1°25'40
minimum elong	3046 Dec 15	08:28	22°♐54'48	1°25'40
max. Earth dist.	3046 Dec 15	06:22	22°♐54'10	10.95163 AU
morning rise	3047 Jan 01	00:30	24°♐53'02	
	3047 Feb 21	05:22	0°♑	
retrograde	3047 Apr 10	21:03	1°♑54'51	
	3047 May 31	10:06	30°℞♐	
opposition	3047 Jun 19	13:57	28°♐37'10	1°31'49
min. Earth dist.	3047 Jun 19	15:48	28°♐36'50	8.97599 AU
direct	3047 Aug 29	16:39	25°♐16'27	
	3047 Nov 18	06:01	0°♑	
evening set	3047 Dec 10	04:59	2°♑26'10	
conjunction	3047 Dec 26	22:25	4°♑24'20	1°03'33
minimum elong	3047 Dec 26	22:27	4°♑24'20	1°03'33
max. Earth dist.	3047 Dec 26	19:41	4°♑23'31	10.99466 AU
morning rise	3048 Jan 12	13:55	6°♑21'59	
retrograde	3048 Apr 21	17:53	13°♑22'52	
opposition	3048 Jun 30	19:16	10°♑05'16	1°03'05
min. Earth dist.	3048 Jun 30	22:01	10°♑04'46	9.00913 AU
direct	3048 Sep 09	18:23	6°♑45'27	
evening set	3048 Dec 20	17:10	13°♑51'27	
conjunction	3049 Jan 06	09:36	15°♑49'08	0°39'03
minimum elong	3049 Jan 06	09:37	15°♑49'08	0°39'02
max. Earth dist.	3049 Jan 06	05:53	15°♑48'02	11.01809 AU
morning rise	3049 Jan 23	01:08	17°♑46'33	
retrograde	3049 May 03	14:27	24°♑48'00	
opposition	3049 Jul 12	23:49	21°♑30'12	0°32'00
min. Earth dist.	3049 Jul 13	03:04	21°♑29'36	9.02223 AU
direct	3049 Sep 21	20:25	18°♑11'04	
evening set	3050 Jan 01	03:56	25°♑14'41	
conjunction	3050 Jan 17	19:52	27°♑12'13	0°13'04
minimum elong	3050 Jan 17	19:53	27°♑12'13	0°13'04
behind sun begin	3050 Jan 17	15:35	27°♑10'58	
behind sun end	3050 Jan 18	00:11	27°♑13'29	
max. Earth dist.	3050 Jan 17	16:06	27°♑11'07	11.02103 AU
morning rise	3050 Feb 03	11:40	29°♑09'43	
	3050 Feb 10	19:22	0°♒	
retrograde	3050 May 15	14:39	6°♒13'11	
desc. node	3050 Jul 21	14:18	3°♒10'48	
opposition	3050 Jul 25	04:22	2°♒54'56	-0°00'19
min. Earth dist.	3050 Jul 25	07:05	2°♒54'26	9.01470 AU
	3050 Sep 11	13:33	30°℞♑	
direct	3050 Oct 03	19:52	29°♑36'18	

	3050 Oct 25 18:05	0°♒	
evening set	3051 Jan 12 14:46	6°♒38'52	
conjunction	3051 Jan 29 06:36	8°♒36'35	-0°13'34
minimum elong	3051 Jan 29 06:36	8°♒36'34	0°13'33
behind sun begin	3051 Jan 29 02:36	8°♒35'24	
behind sun end	3051 Jan 29 10:35	8°♒37'45	
max. Earth dist.	3051 Jan 29 03:35	8°♒35'41	11.00322 AU
morning rise	3051 Feb 14 22:51	10°♒34'29	
	3051 Mar 29 16:32	15°♒	
retrograde	3051 May 27 16:58	17°♒41'24	
	3051 Jul 28 22:16	15°℞♒	
opposition	3051 Aug 06 10:15	14°♒22'27	-0°32'45
min. Earth dist.	3051 Aug 06 12:36	14°♒22'01	8.98664 AU
direct	3051 Oct 15 17:08	11°♒04'06	
	3051 Dec 26 14:15	15°♒	
evening set	3052 Jan 24 03:09	18°♒06'59	
conjunction	3052 Feb 09 19:02	20°♒05'12	-0°39'42
minimum elong	3052 Feb 09 19:01	20°♒05'11	0°39'41
max. Earth dist.	3052 Feb 09 15:47	20°♒04'14	10.96505 AU
morning rise	3052 Feb 26 12:13	22°♒03'50	
retrograde	3052 Jun 07 24:00	29°♒15'35	
opposition	3052 Aug 17 18:11	25°♒55'43	-1°04'09
min. Earth dist.	3052 Aug 17 20:55	25°♒55'13	8.93872 AU
direct	3052 Oct 26 16:04	22°♒37'21	
evening set	3053 Feb 03 18:44	29°♒42'01	
	3053 Feb 06 07:57	0°♓	
conjunction	3053 Feb 20 11:02	1°♓41'03	-1°04'29
minimum elong	3053 Feb 20 11:00	1°♓41'02	1°04'28
max. Earth dist.	3053 Feb 20 06:47	1°♓39'47	10.90740 AU
morning rise	3053 Mar 09 05:36	3°♓40'46	
retrograde	3053 Jun 20 10:32	10°♓58'34	
opposition	3053 Aug 30 04:45	7°♓37'37	-1°33'20
min. Earth dist.	3053 Aug 30 08:11	7°♓36'58	8.87199 AU
direct	3053 Nov 07 15:50	4°♓18'59	
evening set	3054 Feb 15 14:44	11°♓26'54	
conjunction	3054 Mar 04 08:03	13°♓27'07	-1°26'52
minimum elong	3054 Mar 04 08:01	13°♓27'07	1°26'52
max. Earth dist.	3054 Mar 04 03:59	13°♓25'54	10.83171 AU
morning rise	3054 Mar 21 04:19	15°♓28'14	
retrograde	3054 Jul 03 02:35	22°♓53'19	
opposition	3054 Sep 11 19:03	19°♓31'07	-1°59'04
min. Earth dist.	3054 Sep 11 22:04	19°♓30'33	8.78856 AU
direct	3054 Nov 19 20:00	16°♓12'01	
evening set	3055 Feb 27 16:27	23°♓24'30	
conjunction	3055 Mar 16 11:25	25°♓26'17	-1°45'52
minimum elong	3055 Mar 16 11:23	25°♓26'16	1°45'52
max. Earth dist.	3055 Mar 16 08:24	25°♓25'22	10.74104 AU
morning rise	3055 Apr 02 09:43	27°♓29'07	
	3055 Apr 24 09:57	0°♈	
retrograde	3055 Jul 16 03:29	5°♈02'20	
opposition	3055 Sep 24 13:44	1°♈38'46	-2°20'06
min. Earth dist.	3055 Sep 24 15:42	1°♈38'24	8.69231 AU
	3055 Oct 17 02:37	30°℞♓	
direct	3055 Dec 02 03:11	28°♓19'01	
	3056 Jan 15 14:44	0°♈	
evening set	3056 Mar 11 01:25	5°♈37'09	
conjunction	3056 Mar 27 22:35	7°♈40'49	-2°00'27
minimum elong	3056 Mar 27 22:33	7°♈40'48	2°00'28
max. Earth dist.	3056 Mar 27 20:18	7°♈40'07	10.63987 AU
morning rise	3056 Apr 13 23:35	9°♈45'43	
retrograde	3056 Jul 28 10:12	17°♈27'26	
opposition	3056 Oct 06 13:08	14°♈02'28	-2°35'11
min. Earth dist.	3056 Oct 06 14:17	14°♈02'15	8.58799 AU
direct	3056 Dec 13 14:14	10°♈41'48	
evening set	3057 Mar 23 18:25	18°♈06'34	
conjunction	3057 Apr 09 18:25	20°♈12'25	-2°09'41
minimum elong	3057 Apr 09 18:24	20°♈12'24	2°09'41
max. Earth dist.	3057 Apr 09 16:11	20°♈11'43	10.53319 AU
morning rise	3057 Apr 26 22:49	22°♈19'38	
	3057 Jul 28 01:19	0°♉	
retrograde	3057 Aug 10 22:59	0°♉09'50	
	3057 Aug 24 20:49	30°℞♈	
opposition	3057 Oct 19 17:38	26°♈43'32	-2°43'11
min. Earth dist.	3057 Oct 19 18:36	26°♈43'21	8.48061 AU
direct	3057 Dec 26 08:11	23°♈21'47	
	3058 Mar 29 10:44	0°♉	
evening set	3058 Apr 05 20:00	0°♉53'48	
conjunction	3058 Apr 22 23:35	3°♉02'05	-2°12'44
minimum elong	3058 Apr 22 23:36	3°♉02'05	2°12'44
max. Earth dist.	3058 Apr 22 22:07	3°♉01'37	10.42617 AU
morning rise	3058 May 10 07:53	5°♉11'49	
retrograde	3058 Aug 24 18:20	13°♉10'01	
opposition	3058 Nov 02 03:11	9°♉42'31	-2°43'09
min. Earth dist.	3058 Nov 02 03:40	9°♉42'26	8.37549 AU
direct	3059 Jan 08 08:29	6°♉19'35	
evening set	3059 Apr 19 06:40	13°♉59'09	
	3059 Apr 27 09:14	15°♉	
conjunction	3059 May 06 14:37	16°♉10'02	-2°09'01
minimum elong	3059 May 06 14:39	16°♉10'03	2°09'01
max. Earth dist.	3059 May 06 14:35	16°♉10'02	10.32426 AU
morning rise	3059 May 24 03:11	18°♉22'24	
retrograde	3059 Sep 07 19:15	26°♉27'34	
opposition	3059 Nov 15 17:25	22°♉59'04	-2°34'29
min. Earth dist.	3059 Nov 15 16:59	22°♉59'10	8.27808 AU
direct	3060 Jan 21 15:39	19°♉34'54	
evening set	3060 May 02 02:24	27°♉21'58	
conjunction	3060 May 19 15:13	29°♉35'30	-1°58'18
minimum elong	3060 May 19 15:15	29°♉35'31	1°58'18
max. Earth dist.	3060 May 19 16:58	29°♉36'04	10.23276 AU
	3060 May 22 19:49	0°♊	
morning rise	3060 Jun 06 08:11	1°♊50'24	
retrograde	3060 Sep 21 00:53	10°♊01'03	
opposition	3060 Nov 28 11:53	6°♊31'50	-2°17'06
min. Earth dist.	3060 Nov 28 10:07	6°♊32'12	8.19348 AU
direct	3061 Feb 03 05:21	3°♊06'26	
evening set	3061 May 16 06:52	11°♊00'35	
conjunction	3061 Jun 03 00:27	13°♊16'36	-1°40'48
minimum elong	3061 Jun 03 00:31	13°♊16'37	1°40'47
max. Earth dist.	3061 Jun 03 03:27	13°♊17'34	10.15663 AU
morning rise	3061 Jun 20 21:34	15°♊33'47	
retrograde	3061 Oct 05 10:07	23°♊48'01	
opposition	3061 Dec 12 09:45	20°♊18'24	-1°51'34
min. Earth dist.	3061 Dec 12 06:59	20°♊18'58	8.12652 AU
direct	3062 Feb 17 00:14	16°♊51'50	
evening set	3062 May 30 18:55	24°♊52'13	
conjunction	3062 Jun 17 16:50	27°♊10'19	-1°17'14
minimum elong	3062 Jun 17 16:53	27°♊10'20	1°17'14
max. Earth dist.	3062 Jun 17 20:28	27°♊11'30	10.10043 AU
morning rise	3062 Jul 05 17:30	29°♊29'19	
	3062 Jul 09 18:58	0°♋	
retrograde	3062 Oct 19 21:44	7°♋44'59	
opposition	3062 Dec 26 10:10	4°♋15'20	-1°19'07

min. Earth dist.	3062 Dec 26 07:00	4°♋15'59	8.08134 AU
direct	3063 Mar 02 23:44	0°♋47'42	
evening set	3063 Jun 14 13:02	8°♋53'10	
conjunction	3063 Jul 02 14:23	11°♋12'44	-0°48'54
minimum elong	3063 Jul 02 14:25	11°♋12'45	0°48'54
max. Earth dist.	3063 Jul 02 18:14	11°♋13'59	10.06760 AU
morning rise	3063 Jul 20 17:31	13°♋32'54	
retrograde	3063 Nov 03 08:49	21°♋47'45	
opposition	3064 Jan 09 11:53	18°♋18'25	-0°41'40
min. Earth dist.	3064 Jan 09 08:45	18°♋19'04	8.06078 AU
direct	3064 Mar 16 05:17	14°♋49'55	
evening set	3064 Jun 28 11:19	22°♋58'58	
conjunction	3064 Jul 16 14:41	25°♋19'14	-0°17'32
minimum elong	3064 Jul 16 14:42	25°♋19'14	0°17'32
max. Earth dist.	3064 Jul 16 18:24	25°♋20'26	10.06018 AU
morning rise	3064 Aug 03 18:43	27°♋39'41	
	3064 Aug 22 19:31	0°♌	
retrograde	3064 Nov 16 16:23	5°♌51'37	
opposition	3065 Jan 22 13:31	2°♌22'57	-0°01'39
min. Earth dist.	3065 Jan 22 10:27	2°♌23'35	8.06626 AU
asc. node	3065 Feb 06 23:33	1°♌08'17	
	3065 Feb 23 10:30	30°℞♋	
direct	3065 Mar 30 13:56	28°♋53'52	
	3065 May 04 11:50	0°♌	
evening set	3065 Jul 13 11:05	7°♌04'46	
conjunction	3065 Jul 31 14:53	9°♌24'50	0°14'54
minimum elong	3065 Jul 31 14:52	9°♌24'50	0°14'54
behind sun begin	3065 Jul 31 12:24	9°♌24'02	
behind sun end	3065 Jul 31 17:20	9°♌25'37	
max. Earth dist.	3065 Jul 31 18:39	9°♌26'03	10.07877 AU
morning rise	3065 Aug 18 18:06	11°♌44'42	
	3065 Sep 14 20:03	15°♌	
retrograde	3065 Nov 30 20:03	19°♌51'55	
opposition	3066 Feb 05 13:56	16°♌24'11	0°38'18
min. Earth dist.	3066 Feb 05 10:30	16°♌24'53	8.09759 AU
	3066 Feb 23 03:14	15°℞♌	
direct	3066 Apr 13 23:25	12°♌54'50	
	3066 Jun 01 22:43	15°♌	
evening set	3066 Jul 28 09:31	21°♌05'39	
conjunction	3066 Aug 15 12:09	23°♌24'41	0°46'12
minimum elong	3066 Aug 15 12:07	23°♌24'40	0°46'12
max. Earth dist.	3066 Aug 15 16:18	23°♌26'01	10.12232 AU
morning rise	3066 Sep 02 12:57	25°♌43'07	
	3066 Oct 09 09:34	0°♍	
retrograde	3066 Dec 14 19:12	3°♍44'11	
opposition	3067 Feb 19 11:52	0°♍17'36	1°15'34
min. Earth dist.	3067 Feb 19 08:03	0°♍18'23	8.15281 AU
	3067 Feb 23 02:01	30°℞♌	
direct	3067 Apr 28 07:12	26°♌48'19	
	3067 Jun 29 07:10	0°♍	
evening set	3067 Aug 12 04:23	4°♍57'10	
conjunction	3067 Aug 30 04:23	7°♍14'27	1°14'30
minimum elong	3067 Aug 30 04:20	7°♍14'26	1°14'29
max. Earth dist.	3067 Aug 30 08:43	7°♍15'50	10.18808 AU
morning rise	3067 Sep 17 01:23	9°♍30'47	
retrograde	3067 Dec 28 13:39	17°♍24'35	
opposition	3068 Mar 04 06:17	13°♍59'18	1°47'55
min. Earth dist.	3068 Mar 04 02:27	14°♍00'05	8.22848 AU
direct	3068 May 11 12:45	10°♍30'23	
evening set	3068 Aug 25 17:03	18°♍35'31	
conjunction	3068 Sep 12 13:18	20°♍50'29	1°38'11
minimum elong	3068 Sep 12 13:15	20°♍50'28	1°38'10
max. Earth dist.	3068 Sep 12 17:33	20°♍51'50	10.27206 AU
morning rise	3068 Sep 30 05:39	23°♍04'15	
	3068 Dec 10 16:06	0°♎	
retrograde	3069 Jan 10 00:17	0°♎50'10	
	3069 Feb 09 15:18	30°℞♍	
opposition	3069 Mar 17 20:43	27°♍26'17	2°13'39
min. Earth dist.	3069 Mar 17 17:29	27°♍26'55	8.32009 AU
direct	3069 May 25 15:21	23°♍58'01	
	3069 Aug 23 11:49	0°♎	
evening set	3069 Sep 08 21:26	1°♎57'49	
conjunction	3069 Sep 26 13:15	4°♎10'08	1°56'07
minimum elong	3069 Sep 26 13:13	4°♎10'07	1°56'07
max. Earth dist.	3069 Sep 26 16:49	4°♎11'15	10.36938 AU
morning rise	3069 Oct 14 00:44	6°♎21'08	
retrograde	3070 Jan 23 03:28	13°♎58'56	
opposition	3070 Mar 31 06:23	10°♎36'25	2°31'43
min. Earth dist.	3070 Mar 31 04:18	10°♎36'50	8.42237 AU
direct	3070 Jun 08 13:15	7°♎09'00	
evening set	3070 Sep 22 16:35	15°♎02'16	
conjunction	3070 Oct 10 03:49	17°♎11'52	2°07'41
minimum elong	3070 Oct 10 03:47	17°♎11'51	2°07'41
max. Earth dist.	3070 Oct 10 05:47	17°♎12'28	10.47459 AU
morning rise	3070 Oct 27 10:38	19°♎20'06	
retrograde	3071 Feb 05 00:11	26°♎49'53	
opposition	3071 Apr 13 10:50	23°♎28'39	2°41'38
min. Earth dist.	3071 Apr 13 09:41	23°♎28'52	8.52961 AU
direct	3071 Jun 22 05:01	20°♎02'13	
evening set	3071 Oct 06 01:46	27°♎48'10	
conjunction	3071 Oct 23 08:40	29°♎55'08	2°12'41
minimum elong	3071 Oct 23 08:40	29°♎55'08	2°12'41
max. Earth dist.	3071 Oct 23 09:14	29°♎55'18	10.58196 AU
	3071 Oct 24 00:29	0°♏	
morning rise	3071 Nov 09 11:15	2°♏00'45	
retrograde	3072 Feb 17 13:20	9°♏23'02	
opposition	3072 Apr 25 10:20	6°♏02'55	2°43'31
min. Earth dist.	3072 Apr 25 09:40	6°♏03'03	8.63596 AU
direct	3072 Jul 04 15:32	2°♏37'36	
evening set	3072 Oct 18 00:47	10°♏15'50	
conjunction	3072 Nov 04 03:57	12°♏20'23	2°11'18
minimum elong	3072 Nov 04 03:58	12°♏20'23	2°11'18
max. Earth dist.	3072 Nov 04 03:45	12°♏20'19	10.68570 AU
morning rise	3072 Nov 21 02:52	14°♏23'41	
	3072 Nov 26 05:26	15°♏	
retrograde	3073 Feb 28 22:00	21°♏39'20	
opposition	3073 May 08 05:03	18°♏20'10	2°37'48
min. Earth dist.	3073 May 08 04:52	18°♏20'12	8.73569 AU
	3073 Jul 08 18:14	15°℞♏	
direct	3073 Jul 17 19:20	14°♏55'59	
	3073 Jul 26 18:41	15°♏	
evening set	3073 Oct 30 14:40	22°♏26'38	
conjunction	3073 Nov 16 14:44	24°♏29'09	2°03'59
minimum elong	3073 Nov 16 14:46	24°♏29'09	2°03'59
max. Earth dist.	3073 Nov 16 13:58	24°♏28'55	10.78022 AU
morning rise	3073 Dec 03 10:43	26°♏30'29	
	3074 Jan 04 03:55	0°♐	
retrograde	3074 Mar 13 03:29	3°♐40'36	
opposition	3074 May 20 19:24	0°♐22'13	2°25'14
min. Earth dist.	3074 May 20 20:39	0°♐21'58	8.82373 AU
	3074 May 25 16:55	30°℞♏	
direct	3074 Jul 30 14:56	26°♏59'10	
	3074 Oct 01 10:43	0°♐	

evening set	3074 Nov 11	20:32	4°♐22'51	
conjunction	3074 Nov 28	18:00	6°♐23'41	1°51'23
minimum elong	3074 Nov 28	18:02	6°♐23'42	1°51'23
max. Earth dist.	3074 Nov 28	15:41	6°♐23'00	10.86120 AU
morning rise	3074 Dec 15	11:55	8°♐23'32	
retrograde	3075 Mar 25	03:21	15°♐29'25	
opposition	3075 Jun 02	06:28	12°♐11'35	2°06'43
min. Earth dist.	3075 Jun 02	09:14	12°♐11'04	8.89668 AU
direct	3075 Aug 12	05:28	8°♐49'36	
evening set	3075 Nov 23	19:39	16°♐07'07	
conjunction	3075 Dec 10	15:00	18°♐06'38	1°34'15
minimum elong	3075 Dec 10	15:03	18°♐06'39	1°34'16
max. Earth dist.	3075 Dec 10	11:04	18°♐05'27	10.92603 AU
morning rise	3075 Dec 27	07:39	20°♐05'22	
retrograde	3076 Apr 05	01:37	27°♐08'25	
opposition	3076 Jun 13	14:49	23°♐50'52	1°43'14
min. Earth dist.	3076 Jun 13	18:19	23°♐50'12	8.95249 AU
direct	3076 Aug 23	16:44	20°♐29'49	
evening set	3076 Dec 04	13:24	27°♐42'03	
conjunction	3076 Dec 21	07:20	29°♐40'38	1°13'27
minimum elong	3076 Dec 21	07:22	29°♐40'39	1°13'27
max. Earth dist.	3076 Dec 21	02:52	29°♐39'19	10.97297 AU
	3076 Dec 24	00:28	0°♑	
morning rise	3077 Jan 06	23:12	1°♑38'38	
retrograde	3077 Apr 16	23:16	8°♑40'13	
opposition	3077 Jun 25	21:02	5°♑22'38	1°15'51
min. Earth dist.	3077 Jun 26	00:18	5°♑22'02	8.98961 AU
direct	3077 Sep 04	22:36	2°♑02'22	
evening set	3077 Dec 16	03:15	9°♑10'25	
conjunction	3078 Jan 01	20:18	11°♑08'26	0°49'51
minimum elong	3078 Jan 01	20:19	11°♑08'26	0°49'50
max. Earth dist.	3078 Jan 01	16:17	11°♑07'14	11.00052 AU
morning rise	3078 Jan 18	11:48	13°♑06'03	
retrograde	3078 Apr 28	21:28	20°♑07'36	
opposition	3078 Jul 08	02:14	16°♑49'44	0°45'38
min. Earth dist.	3078 Jul 08	05:31	16°♑49'08	9.00684 AU
direct	3078 Sep 17	01:14	13°♑30'04	
evening set	3078 Dec 27	14:57	20°♑35'10	
conjunction	3079 Jan 13	07:16	22°♑32'55	0°24'22
minimum elong	3079 Jan 13	07:16	22°♑32'55	0°24'21
max. Earth dist.	3079 Jan 13	03:03	22°♑31'40	11.00779 AU
morning rise	3079 Jan 29	22:50	24°♑30'29	
	3079 Mar 27	16:23	0°♒	
retrograde	3079 May 10	20:26	1°♒33'28	
	3079 Jun 25	09:00	30°℞♑	
opposition	3079 Jul 20	07:16	28°♑15'06	0°13'40
min. Earth dist.	3079 Jul 20	11:09	28°♑14'23	9.00382 AU
direct	3079 Sep 29	00:33	24°♑55'49	
	3079 Dec 21	08:19	0°♒	
desc. node	3079 Dec 25	16:24	0°♒28'16	
evening set	3080 Jan 08	01:59	1°♒59'20	
conjunction	3080 Jan 24	17:49	3°♒57'07	-0°02'11
minimum elong	3080 Jan 24	17:49	3°♒57'07	0°02'11
behind sun begin	3080 Jan 24	10:50	3°♒55'04	
behind sun end	3080 Jan 25	00:48	3°♒59'10	
max. Earth dist.	3080 Jan 24	12:44	3°♒55'39	10.99482 AU
morning rise	3080 Feb 10	09:59	5°♒55'01	
retrograde	3080 May 21	20:13	13°♒00'54	
opposition	3080 Jul 31	13:00	9°♒41'46	-0°18'55
min. Earth dist.	3080 Jul 31	17:12	9°♒40'59	8.98088 AU
direct	3080 Oct 09	23:21	6°♒22'41	
evening set	3081 Jan 18	13:45	13°♒26'02	
	3081 Jan 31	20:19	15°♒	
conjunction	3081 Feb 04	05:37	15°♒24'12	-0°28'38
minimum elong	3081 Feb 04	05:36	15°♒24'12	0°28'37
max. Earth dist.	3081 Feb 04	00:57	15°♒22'49	10.96211 AU
morning rise	3081 Feb 20	22:36	17°♒22'43	
retrograde	3081 Jun 03	01:29	24°♒32'57	
opposition	3081 Aug 12	20:11	21°♒12'53	-0°50'58
min. Earth dist.	3081 Aug 12	23:42	21°♒12'14	8.93870 AU
direct	3081 Oct 21	23:40	17°♒53'50	
evening set	3082 Jan 30	04:00	24°♒58'25	
conjunction	3082 Feb 15	20:18	26°♒57'19	-0°54'09
minimum elong	3082 Feb 15	20:16	26°♒57'19	0°54'09
max. Earth dist.	3082 Feb 15	16:41	26°♒56'14	10.91063 AU
morning rise	3082 Mar 04	14:15	28°♒56'46	
	3082 Mar 13	17:31	0°♓	
retrograde	3082 Jun 15	10:58	6°♓12'38	
opposition	3082 Aug 25	05:45	2°♓51'30	-1°21'19
min. Earth dist.	3082 Aug 25	08:16	2°♓51'01	8.87867 AU
	3082 Oct 10	06:06	30°℞♒	
direct	3082 Nov 02	22:30	29°♒32'20	
	3082 Nov 26	07:16	0°♓	
evening set	3083 Feb 10	22:14	6°♓39'33	
conjunction	3083 Feb 27	15:14	8°♓39'29	-1°17'44
minimum elong	3083 Feb 27	15:12	8°♓39'28	1°17'44
max. Earth dist.	3083 Feb 27	12:03	8°♓38'32	10.84227 AU
morning rise	3083 Mar 16	10:39	10°♓40'12	
retrograde	3083 Jun 28	01:55	18°♓02'53	
opposition	3083 Sep 06	18:51	14°♓40'34	-1°48'44
min. Earth dist.	3083 Sep 06	20:58	14°♓40'10	8.80306 AU
direct	3083 Nov 15	00:23	11°♓21'05	
evening set	3084 Feb 22	21:39	18°♓32'15	
conjunction	3084 Mar 10	15:49	20°♓33'34	-1°38'19
minimum elong	3084 Mar 10	15:47	20°♓33'33	1°38'20
max. Earth dist.	3084 Mar 10	12:30	20°♓32'33	10.75968 AU
morning rise	3084 Mar 27	13:19	22°♓35'52	
	3084 Jun 28	17:15	0°♈	
retrograde	3084 Jul 09	23:41	0°♈06'16	
	3084 Jul 21	05:18	30°℞♓	
opposition	3084 Sep 18	12:00	26°♓42'43	-2°11'57
min. Earth dist.	3084 Sep 18	14:06	26°♓42'19	8.71477 AU
direct	3084 Nov 26	05:33	23°♓22'43	
	3085 Feb 28	16:17	0°♈	
evening set	3085 Mar 06	03:42	0°♈39'04	
conjunction	3085 Mar 22	23:46	2°♈42'04	-1°54'55
minimum elong	3085 Mar 22	23:44	2°♈42'04	1°54'55
max. Earth dist.	3085 Mar 22	21:04	2°♈41'15	10.66611 AU
morning rise	3085 Apr 08	23:45	4°♈46'17	
retrograde	3085 Jul 23	01:58	12°♈24'57	
opposition	3085 Oct 01	09:33	9°♈00'10	-2°29'42
min. Earth dist.	3085 Oct 01	11:07	8°♈59'52	8.61744 AU
direct	3085 Dec 08	15:46	5°♈39'29	
evening set	3086 Mar 18	17:19	13°♈02'02	
conjunction	3086 Apr 04	16:04	15°♈07'04	-2°06'31
minimum elong	3086 Apr 04	16:02	15°♈07'04	2°06'31
max. Earth dist.	3086 Apr 04	15:04	15°♈06'46	10.56558 AU
morning rise	3086 Apr 21	18:58	17°♈13'26	
retrograde	3086 Aug 05	12:20	25°♈00'38	
opposition	3086 Oct 14	12:12	21°♈34'38	-2°40'47
min. Earth dist.	3086 Oct 14	12:22	21°♈34'36	8.51540 AU
direct	3086 Dec 21	08:12	18°♈13'11	

evening set	3087 Mar 31	15:19	25°♈42'36	
conjunction	3087 Apr 17	17:26	27°♈49'57	-2°12'15
minimum elong	3087 Apr 17	17:26	27°♈49'57	2°12'14
max. Earth dist.	3087 Apr 17	17:59	27°♈50'08	10.46283 AU
morning rise	3087 May 04	23:53	29°♈58'43	
	3087 May 05	04:05	0°♉	
retrograde	3087 Aug 19	06:55	7°♉54'09	
opposition	3087 Oct 27	20:00	4°♉27'04	-2°44'11
min. Earth dist.	3087 Oct 27	18:50	4°♉27'18	8.41357 AU
direct	3088 Jan 03	04:57	1°♉04'42	
evening set	3088 Apr 12	22:36	8°♉41'28	
conjunction	3088 Apr 30	04:42	10°♉51'20	-2°11'23
minimum elong	3088 Apr 30	04:43	10°♉51'20	2°11'23
max. Earth dist.	3088 Apr 30	06:04	10°♉51'46	10.36304 AU
morning rise	3088 May 17	15:18	13°♉02'39	
	3088 Jun 02	21:24	15°♉	
retrograde	3088 Sep 01	07:33	21°♉05'25	
opposition	3088 Nov 09	08:39	17°♉37'28	-2°39'07
min. Earth dist.	3088 Nov 09	06:50	17°♉37'50	8.31722 AU
	3088 Dec 17	01:00	15°℞♉	
direct	3089 Jan 15	07:55	14°♉14'04	
	3089 Feb 13	08:14	15°♉	
evening set	3089 Apr 26	15:05	21°♉58'19	
conjunction	3089 May 14	01:40	24°♉10'46	-2°03'34
minimum elong	3089 May 14	01:43	24°♉10'46	2°03'34
max. Earth dist.	3089 May 14	03:33	24°♉11'21	10.27154 AU
morning rise	3089 May 31	16:46	26°♉24'38	
	3089 Jul 01	07:25	0°♊	
retrograde	3089 Sep 15	11:32	4°♊33'24	
opposition	3089 Nov 23	01:58	1°♊04'48	-2°25'18
min. Earth dist.	3089 Nov 22	23:50	1°♊05'14	8.23160 AU
	3089 Dec 06	17:12	30°℞♉	
direct	3090 Jan 28	19:41	27°♉40'20	
	3090 Mar 21	04:54	0°♊	
evening set	3090 May 10	16:16	5°♊31'42	
conjunction	3090 May 28	07:37	7°♊46'39	-1°48'49
minimum elong	3090 May 28	07:40	7°♊46'40	1°48'48
max. Earth dist.	3090 May 28	10:16	7°♊47'30	10.19339 AU
morning rise	3090 Jun 15	03:06	10°♊02'53	
retrograde	3090 Sep 29	19:18	18°♊15'52	
opposition	3090 Dec 06	23:04	14°♊46'53	-2°03'01
min. Earth dist.	3090 Dec 06	20:35	14°♊47'24	8.16156 AU
direct	3091 Feb 11	13:32	11°♊21'20	
evening set	3091 May 25	01:33	19°♊19'04	
conjunction	3091 Jun 11	21:34	21°♊36'14	-1°27'38
minimum elong	3091 Jun 11	21:38	21°♊36'15	1°27'38
max. Earth dist.	3091 Jun 12	01:17	21°♊37'26	10.13293 AU
morning rise	3091 Jun 29	20:56	23°♊54'26	
	3091 Aug 25	02:17	0°♋	
retrograde	3091 Oct 14	05:27	2°♋09'30	
	3091 Dec 04	07:17	30°℞♊	
opposition	3091 Dec 20	22:42	28°♊40'24	-1°33'14
min. Earth dist.	3091 Dec 20	19:38	28°♊41'01	8.11085 AU
direct	3092 Feb 25	12:25	25°♊13'46	
	3092 May 11	09:57	0°♋	
evening set	3092 Jun 07	17:30	3°♋16'50	
conjunction	3092 Jun 25	17:29	5°♋35'42	-1°01'07
minimum elong	3092 Jun 25	17:32	5°♋35'43	1°01'07
max. Earth dist.	3092 Jun 25	21:51	5°♋37'07	10.09308 AU
morning rise	3092 Jul 13	19:43	7°♋55'18	
retrograde	3092 Oct 27	16:32	16°♋10'17	
opposition	3093 Jan 02	23:58	12°♋41'21	-0°57'38
min. Earth dist.	3093 Jan 02	20:29	12°♋42'04	8.08162 AU
direct	3093 Mar 10	16:00	9°♋13'48	
evening set	3093 Jun 22	14:10	17°♋20'58	
conjunction	3093 Jul 10	16:52	19°♋40'51	-0°30'48
minimum elong	3093 Jul 10	16:53	19°♋40'52	0°30'48
max. Earth dist.	3093 Jul 10	21:26	19°♋42'20	10.07534 AU
morning rise	3093 Jul 28	20:31	22°♋01'05	
	3093 Oct 26	04:14	0°♌	
retrograde	3093 Nov 11	02:02	0°♌14'04	
	3093 Nov 27	00:21	30°℞♋	
opposition	3094 Jan 17	01:43	26°♋45'38	-0°18'24
min. Earth dist.	3094 Jan 16	22:02	26°♋46'24	8.07528 AU
direct	3094 Mar 24	22:40	23°♋17'22	
	3094 Jun 25	21:20	0°♌	
evening set	3094 Jul 07	13:33	1°♌27'12	
asc. node	3094 Jul 09	00:55	1°♌38'25	
conjunction	3094 Jul 25	17:24	3°♌47'18	0°01'28
minimum elong	3094 Jul 25	17:24	3°♌47'19	0°01'28
behind sun begin	3094 Jul 25	10:02	3°♌44'57	
behind sun end	3094 Jul 26	00:46	3°♌49'40	
max. Earth dist.	3094 Jul 25	21:55	3°♌48'44	10.08117 AU
morning rise	3094 Aug 12	20:57	6°♌07'21	
retrograde	3094 Nov 25	08:37	14°♌16'30	
opposition	3095 Jan 31	02:46	10°♌48'50	0°21'52
min. Earth dist.	3095 Jan 30	23:20	10°♌49'32	8.09323 AU
direct	3095 Apr 08	06:50	7°♌20'04	
	3095 Jul 18	11:03	15°♌	
evening set	3095 Jul 22	13:08	15°♌30'48	
conjunction	3095 Aug 09	16:27	17°♌50'17	0°33'27
minimum elong	3095 Aug 09	16:25	17°♌50'16	0°33'26
max. Earth dist.	3095 Aug 09	20:22	17°♌51'32	10.11130 AU
morning rise	3095 Aug 27	18:16	20°♌09'17	
retrograde	3095 Dec 09	10:51	28°♌12'56	
opposition	3096 Feb 14	02:02	24°♌46'14	1°00'32
min. Earth dist.	3096 Feb 13	23:15	24°♌46'48	8.13527 AU
direct	3096 Apr 21	15:24	21°♌17'13	
evening set	3096 Aug 05	10:04	29°♌26'56	
	3096 Aug 09	18:51	0°♍	
conjunction	3096 Aug 23	11:11	1°♍44'57	1°03'12
minimum elong	3096 Aug 23	11:08	1°♍44'56	1°03'12
max. Earth dist.	3096 Aug 23	14:15	1°♍45'56	10.16446 AU
morning rise	3096 Sep 10	09:50	4°♍02'10	
retrograde	3096 Dec 22	07:03	11°♍59'02	
opposition	3097 Feb 26	22:14	8°♍33'26	1°35'11
min. Earth dist.	3097 Feb 26	19:54	8°♍33'54	8.19918 AU
direct	3097 May 05	23:20	5°♍04'28	
evening set	3097 Aug 20	01:38	13°♍11'15	
conjunction	3097 Sep 06	23:22	15°♍27'11	1°28'59
minimum elong	3097 Sep 06	23:19	15°♍27'10	1°28'59
max. Earth dist.	3097 Sep 07	01:45	15°♍27'57	10.23769 AU
morning rise	3097 Sep 24	17:51	17°♍42'04	
retrograde	3098 Jan 04	18:56	25°♍31'17	
opposition	3098 Mar 12	14:24	22°♍06'51	2°03'52
min. Earth dist.	3098 Mar 12	12:13	22°♍07'17	8.28115 AU
direct	3098 May 20	05:00	18°♍38'14	
evening set	3098 Sep 03	09:36	26°♍40'21	
conjunction	3098 Sep 21	03:16	28°♍53'48	1°49'26
minimum elong	3098 Sep 21	03:13	28°♍53'47	1°49'26
max. Earth dist.	3098 Sep 21	05:12	28°♍54'24	10.32655 AU
	3098 Sep 29	21:18	0°♎	

morning rise	3098 Oct 08 17:01	1°♎06'00	
retrograde	3099 Jan 18 00:49	8°♎47'10	
opposition	3099 Mar 26 01:52	5°♎23'55	2°25'14
min. Earth dist.	3099 Mar 25 23:36	5°♎24'22	8.37613 AU
direct	3099 Jun 03 05:09	1°♎55'55	
evening set	3099 Sep 17 08:37	9°♎52'00	
conjunction	3099 Oct 04 21:54	12°♎02'45	2°03'43
minimum elong	3099 Oct 04 21:52	12°♎02'45	2°03'43
max. Earth dist.	3099 Oct 04 23:49	12°♎03'21	10.42576 AU
morning rise	3099 Oct 22 06:42	14°♎12'10	
retrograde	3100 Jan 31 00:56	21°♎45'17	
opposition	3100 Apr 08 08:18	18°♎23'11	2°38'36
min. Earth dist.	3100 Apr 08 06:30	18°♎23'33	8.47870 AU
direct	3100 Jun 16 22:36	14°♎56'00	
evening set	3100 Sep 30 21:43	22°♎45'03	
conjunction	3100 Oct 18 06:38	24°♎53'10	2°11'28
minimum elong	3100 Oct 18 06:37	24°♎53'09	2°11'28
max. Earth dist.	3100 Oct 18 08:13	24°♎53'39	10.52995 AU
morning rise	3100 Nov 04 10:51	26°♎59'53	
	3100 Nov 30 14:08	0°♏	
retrograde	3101 Feb 12 17:32	4°♏25'17	
opposition	3101 Apr 21 09:44	1°♏04'18	2°43'49
min. Earth dist.	3101 Apr 21 08:56	1°♏04'27	8.58357 AU
	3101 May 05 09:26	30°℞♎	
direct	3101 Jun 30 10:17	27°♎38'04	
	3101 Aug 24 00:48	0°♏	
evening set	3101 Oct 14 00:38	5°♏19'34	
conjunction	3101 Oct 31 05:29	7°♏25'11	2°12'43
minimum elong	3101 Oct 31 05:29	7°♏25'11	2°12'43
max. Earth dist.	3101 Oct 31 05:57	7°♏25'19	10.63393 AU
morning rise	3101 Nov 17 05:52	9°♏29'29	
	3102 Jan 10 05:27	15°♏	