evening set	2600 Mar 17 18:25	12°♈00'53	
conjunction	2600 Apr 02 17:15	12°♈55'02	-0°40'04
minimum elong	2600 Apr 02 17:15	12°♈55'02	0°40'04
max. Earth dist.	2600 Apr 03 14:51	12°♈58'07	21.08585 AU
morning rise	2600 Apr 18 19:36	13°♈49'42	
retrograde	2600 Jul 22 04:57	16°♈56'16	
min. Earth dist.	2600 Oct 07 08:08	14°♈58'59	19.08035 AU
opposition	2600 Oct 08 04:09	14°♈56'58	-0°43'29
direct	2600 Dec 22 12:35	13°♈00'41	
evening set	2601 Mar 21 23:13	15°♈58'31	
conjunction	2601 Apr 06 22:49	16°♈52'47	-0°38'38
minimum elong	2601 Apr 06 22:49	16°♈52'47	0°38'39
max. Earth dist.	2601 Apr 07 19:17	16°♈55'42	21.07311 AU
morning rise	2601 Apr 23 02:13	17°♈47'36	
retrograde	2601 Jul 26 12:12	20°♈54'24	
opposition	2601 Oct 12 11:00	18°♈55'03	-0°41'48
min. Earth dist.	2601 Oct 11 16:52	18°♈56'53	19.06540 AU
direct	2601 Dec 26 16:08	16°♈58'45	
evening set	2602 Mar 26 04:30	19°♈56'46	
conjunction	2602 Apr 11 05:09	20°♈51'11	-0°37'01
minimum elong	2602 Apr 11 05:09	20°♈51'11	0°37'01
max. Earth dist.	2602 Apr 12 01:09	20°♈54'02	21.05594 AU
morning rise	2602 Apr 27 09:25	21°♈46'08	
retrograde	2602 Jul 30 22:03	24°♈53'13	
opposition	2602 Oct 16 17:33	22°♈53'49	-0°39'54
min. Earth dist.	2602 Oct 15 23:31	22°♈55'38	19.04573 AU
direct	2602 Dec 30 21:17	20°♈57'26	
evening set	2603 Mar 30 10:26	23°♈55'43	
conjunction	2603 Apr 15 11:55	24°♈50'18	-0°35'13
minimum elong	2603 Apr 15 11:55	24°♈50'18	0°35'13
max. Earth dist.	2603 Apr 16 06:13	24°♈52'54	21.03367 AU
morning rise	2603 May 01 17:14	25°♈45'25	
retrograde	2603 Aug 04 06:09	28°♈52'49	
min. Earth dist.	2603 Oct 20 08:41	26°♈54'55	19.02083 AU
opposition	2603 Oct 21 00:28	26°♈53'19	-0°37'49
direct	2604 Jan 04 01:24	24°♈56'51	
evening set	2604 Apr 02 16:42	27°♈55'27	
conjunction	2604 Apr 18 19:14	28°♈50'12	-0°33'15
minimum elong	2604 Apr 18 19:14	28°♈50'12	0°33'15
max. Earth dist.	2604 Apr 19 12:36	28°♈52'40	21.00614 AU
morning rise	2604 May 05 01:25	29°♈45'29	
	2604 May 09 10:26	0°♉	
retrograde	2604 Aug 07 16:37	2°♉53'13	
opposition	2604 Oct 24 07:22	0°♉53'36	-0°35'32
min. Earth dist.	2604 Oct 23 15:52	0°♉55'11	18.99046 AU
	2604 Nov 16 03:54	30°℞♈	
direct	2605 Jan 07 07:17	28°♈56'59	
	2605 Feb 26 14:36	0°♉	
evening set	2605 Apr 06 23:39	1°♉55'56	
conjunction	2605 Apr 23 03:05	2°♉50'53	-0°31'06
minimum elong	2605 Apr 23 03:05	2°♉50'53	0°31'05
max. Earth dist.	2605 Apr 23 18:32	2°♉53'05	20.97305 AU
morning rise	2605 May 09 10:19	3°♉46'22	
retrograde	2605 Aug 12 01:06	6°♉54'26	
opposition	2605 Oct 28 14:30	4°♉54'40	-0°33'04
min. Earth dist.	2605 Oct 28 01:22	4°♉56'00	18.95470 AU
direct	2606 Jan 11 11:54	2°♉57'50	
evening set	2606 Apr 11 07:00	5°♉57'12	
conjunction	2606 Apr 27 11:34	6°♉52'21	-0°28'47
minimum elong	2606 Apr 27 11:34	6°♉52'21	0°28'48
max. Earth dist.	2606 Apr 28 01:54	6°♉54'24	20.93487 AU
morning rise	2606 May 13 19:45	7°♉48'02	
retrograde	2606 Aug 16 12:32	10°♉56'28	
opposition	2606 Nov 01 21:35	8°♉56'30	-0°30'26
min. Earth dist.	2606 Nov 01 08:52	8°♉57'48	18.91396 AU
direct	2607 Jan 15 18:49	6°♉59'24	
evening set	2607 Apr 15 15:03	9°♉59'16	
conjunction	2607 May 01 20:32	10°♉54'38	-0°26'19
minimum elong	2607 May 01 20:32	10°♉54'38	0°26'18
max. Earth dist.	2607 May 02 09:02	10°♉56'25	20.89184 AU
morning rise	2607 May 18 05:41	11°♉50'32	
retrograde	2607 Aug 20 21:00	14°♉59'20	
opposition	2607 Nov 06 04:51	12°♉59'10	-0°27'38
min. Earth dist.	2607 Nov 05 18:28	13°♉00'14	18.86884 AU
direct	2608 Jan 19 23:42	11°♉01'48	
evening set	2608 Apr 18 23:32	14°♉02'12	
conjunction	2608 May 05 06:06	14°♉57'48	-0°23'43
minimum elong	2608 May 05 06:06	14°♉57'48	0°23'43
	2608 May 05 21:26	15°♉	
max. Earth dist.	2608 May 05 17:32	14°♉59'26	20.84497 AU
morning rise	2608 May 21 16:10	15°♉53'56	
retrograde	2608 Aug 24 09:16	19°♉03'08	
opposition	2608 Nov 09 12:16	17°♉02'45	-0°24'41
min. Earth dist.	2608 Nov 09 02:11	17°♉03'48	18.82017 AU
direct	2609 Jan 23 07:23	15°♉05'05	
evening set	2609 Apr 23 08:40	18°♉06'07	
conjunction	2609 May 09 16:10	19°♉01'58	-0°20'59
minimum elong	2609 May 09 16:11	19°♉01'58	0°20'59
max. Earth dist.	2609 May 10 02:02	19°♉03'23	20.79468 AU
morning rise	2609 May 26 03:11	19°♉58'20	
retrograde	2609 Aug 28 18:35	23°♉08'00	
opposition	2609 Nov 13 20:05	21°♉07'25	-0°21'36
min. Earth dist.	2609 Nov 13 12:11	21°♉08'14	18.76843 AU
direct	2610 Jan 27 12:45	19°♉09'26	
evening set	2610 Apr 27 18:34	22°♉11'10	
conjunction	2610 May 14 03:09	23°♉07'17	-0°18'08
minimum elong	2610 May 14 03:09	23°♉07'17	0°18'08
max. Earth dist.	2610 May 14 11:46	23°♉08'31	20.74172 AU
morning rise	2610 May 30 15:02	24°♉03'54	
retrograde	2610 Sep 02 07:26	27°♉14'02	
opposition	2610 Nov 18 03:54	25°♉13'16	-0°18'24
min. Earth dist.	2610 Nov 17 20:26	25°♉14'03	18.71421 AU
direct	2611 Jan 31 21:13	23°♉14'59	
evening set	2611 May 02 05:19	26°♉17'31	
conjunction	2611 May 18 14:49	27°♉13'54	-0°15'11
minimum elong	2611 May 18 14:49	27°♉13'54	0°15'11
behind sun begin	2611 May 18 12:49	27°♉13'37	
behind sun end	2611 May 18 16:49	27°♉14'11	
max. Earth dist.	2611 May 18 21:51	27°♉14'54	20.68633 AU
morning rise	2611 Jun 04 03:32	28°♉10'46	
	2611 Jul 09 23:13	0°♊	
retrograde	2611 Sep 06 18:10	1°♊21'25	
	2611 Nov 06 08:43	30°℞♉	
opposition	2611 Nov 22 12:23	29°♉20'30	-0°15'04
min. Earth dist.	2611 Nov 22 07:02	29°♉21'04	18.65781 AU
direct	2612 Feb 05 03:27	27°♉21'55	
	2612 Apr 28 02:37	0°♊	
evening set	2612 May 05 16:37	0°♊25'18	

conjunction	2612 May 22 03:07	1°♊21'58	-0°12'09
minimum elong	2612 May 22 03:06	1°♊21'58	0°12'08
behind sun begin	2612 May 21 22:38	1°♊21'20	
behind sun end	2612 May 22 07:35	1°♊22'36	
max. Earth dist.	2612 May 22 08:47	1°♊22'46	20.62912 AU
morning rise	2612 Jun 07 16:39	2°♊19'06	
retrograde	2612 Sep 10 07:59	5°♊30'20	
opposition	2612 Nov 25 21:10	3°♊29'16	-0°11'39
min. Earth dist.	2612 Nov 25 16:15	3°♊29'47	18.59969 AU
direct	2613 Feb 08 12:35	1°♊30'24	
evening set	2613 May 10 05:01	4°♊34'43	
conjunction	2613 May 26 16:25	5°♊31'41	-0°09'01
minimum elong	2613 May 26 16:26	5°♊31'41	0°09'02
behind sun begin	2613 May 26 10:43	5°♊30'52	
behind sun end	2613 May 26 22:08	5°♊32'29	
max. Earth dist.	2613 May 26 20:37	5°♊32'16	20.57014 AU
morning rise	2613 Jun 12 06:44	6°♊29'05	
retrograde	2613 Sep 14 20:27	9°♊40'55	
opposition	2613 Nov 30 06:29	7°♊39'45	-0°08'09
min. Earth dist.	2613 Nov 30 03:46	7°♊40'02	18.53991 AU
direct	2614 Feb 12 20:11	5°♊40'35	
evening set	2614 May 14 18:20	8°♊45'55	
conjunction	2614 May 31 06:42	9°♊43'11	-0°05'51
minimum elong	2614 May 31 06:42	9°♊43'11	0°05'51
behind sun begin	2614 May 31 00:16	9°♊42'16	
behind sun end	2614 May 31 13:07	9°♊44'06	
max. Earth dist.	2614 May 31 09:05	9°♊43'30	20.50968 AU
morning rise	2614 Jun 16 21:47	10°♊40'52	
retrograde	2614 Sep 19 11:30	13°♊53'20	
opposition	2614 Dec 04 16:15	11°♊52'05	-0°04'35
min. Earth dist.	2614 Dec 04 14:18	11°♊52'17	18.47857 AU
direct	2615 Feb 17 06:03	9°♊52'38	
evening set	2615 May 19 08:41	12°♊59'02	
conjunction	2615 Jun 04 21:50	13°♊56'37	-0°02'36
minimum elong	2615 Jun 04 21:52	13°♊56'37	0°02'36
behind sun begin	2615 Jun 04 15:08	13°♊55'40	
behind sun end	2615 Jun 05 04:36	13°♊57'34	
max. Earth dist.	2615 Jun 04 22:43	13°♊56'42	20.44736 AU
morning rise	2615 Jun 21 13:30	14°♊54'35	
retrograde	2615 Sep 24 01:34	18°♊07'42	
opposition	2615 Dec 09 02:41	16°♊06'22	-0°00'57
min. Earth dist.	2615 Dec 09 03:03	16°♊06'20	18.41532 AU
direct	2616 Feb 21 15:43	14°♊06'38	
asc. node	2616 Mar 15 00:05	14°♊19'47	
evening set	2616 May 23 00:04	17°♊14'10	
conjunction	2616 Jun 08 14:02	18°♊12'03	0°00'48
minimum elong	2616 Jun 08 14:02	18°♊12'03	0°00'48
behind sun begin	2616 Jun 08 07:17	18°♊11'06	
behind sun end	2616 Jun 08 20:46	18°♊13'01	
max. Earth dist.	2616 Jun 08 12:34	18°♊11'55	20.38326 AU
morning rise	2616 Jun 25 06:21	19°♊10'18	
retrograde	2616 Sep 27 17:21	22°♊24'06	
opposition	2616 Dec 12 13:40	20°♊22'40	0°02'42
min. Earth dist.	2616 Dec 12 15:07	20°♊22'30	18.35021 AU
direct	2617 Feb 25 02:56	18°♊22'35	
evening set	2617 May 27 16:25	21°♊31'17	
conjunction	2617 Jun 13 07:14	22°♊29'30	0°04'09
minimum elong	2617 Jun 13 07:13	22°♊29'30	0°04'10
behind sun begin	2617 Jun 13 00:34	22°♊28'33	
behind sun end	2617 Jun 13 13:52	22°♊30'27	
max. Earth dist.	2617 Jun 13 04:06	22°♊29'05	20.31697 AU
morning rise	2617 Jun 29 23:59	23°♊28'02	
retrograde	2617 Oct 02 08:53	26°♊42'28	
opposition	2617 Dec 17 01:25	24°♊40'56	0°06'23
min. Earth dist.	2617 Dec 17 05:13	24°♊40'32	18.28284 AU
direct	2618 Mar 01 14:46	22°♊40'30	
evening set	2618 Jun 01 09:55	25°♊50'23	
conjunction	2618 Jun 18 01:23	26°♊48'55	0°07'27
minimum elong	2618 Jun 18 01:22	26°♊48'54	0°07'27
behind sun begin	2618 Jun 17 19:14	26°♊48'01	
behind sun end	2618 Jun 18 07:31	26°♊49'47	
max. Earth dist.	2618 Jun 17 19:27	26°♊48'03	20.24868 AU
morning rise	2618 Jul 04 18:43	27°♊47'43	
	2618 Aug 17 17:31	0°♋	
retrograde	2618 Oct 07 01:20	1°♋02'48	
	2618 Nov 27 10:20	30°℞♊	
opposition	2618 Dec 21 13:37	29°♊01'07	0°10'04
min. Earth dist.	2618 Dec 21 18:43	29°♊00'34	18.21363 AU
direct	2619 Mar 06 04:11	27°♊00'16	
	2619 Jun 02 21:09	0°♋	
evening set	2619 Jun 06 04:17	0°♋11'22	
conjunction	2619 Jun 22 20:28	1°♋10'12	0°10'45
minimum elong	2619 Jun 22 20:28	1°♋10'12	0°10'45
behind sun begin	2619 Jun 22 15:21	1°♋09'28	
behind sun end	2619 Jun 23 01:35	1°♋10'57	
max. Earth dist.	2619 Jun 22 13:09	1°♋09'08	20.17860 AU
morning rise	2619 Jul 09 14:03	2°♋09'17	
retrograde	2619 Oct 11 17:44	5°♋24'59	
opposition	2619 Dec 26 02:36	3°♋23'09	0°13'43
min. Earth dist.	2619 Dec 26 09:45	3°♋22'24	18.14294 AU
direct	2620 Mar 09 17:31	1°♋21'53	
evening set	2620 Jun 09 23:26	4°♋34'12	
conjunction	2620 Jun 26 16:07	5°♋33'20	0°14'00
minimum elong	2620 Jun 26 16:07	5°♋33'20	0°14'00
behind sun begin	2620 Jun 26 12:54	5°♋32'52	
behind sun end	2620 Jun 26 19:21	5°♋33'48	
max. Earth dist.	2620 Jun 26 06:05	5°♋31'51	20.10760 AU
morning rise	2620 Jul 13 10:11	6°♋32'41	
retrograde	2620 Oct 15 11:32	9°♋49'02	
opposition	2620 Dec 29 16:08	7°♋47'00	0°17'19
min. Earth dist.	2620 Dec 30 00:35	7°♋46'06	18.07173 AU
direct	2621 Mar 14 08:46	5°♋45'16	
evening set	2621 Jun 14 19:38	8°♋58'50	
conjunction	2621 Jul 01 12:59	9°♋58'17	0°17'12
minimum elong	2621 Jul 01 12:59	9°♋58'17	0°17'12
max. Earth dist.	2621 Jul 01 02:01	9°♋56'39	20.03625 AU
morning rise	2621 Jul 18 07:08	10°♋57'54	
retrograde	2621 Oct 20 05:15	14°♋14'49	
opposition	2622 Jan 03 06:14	12°♋12'38	0°20'50
min. Earth dist.	2622 Jan 03 16:26	12°♋11'32	18.00053 AU
direct	2622 Mar 18 23:39	10°♋10'27	
evening set	2622 Jun 19 16:51	13°♋25'16	
conjunction	2622 Jul 06 10:30	14°♋25'00	0°20'19
minimum elong	2622 Jul 06 10:30	14°♋25'00	0°20'19
max. Earth dist.	2622 Jul 05 20:47	14°♋22'57	19.96544 AU
morning rise	2622 Jul 23 04:57	15°♋24'52	
retrograde	2622 Oct 25 00:19	18°♋42'24	
opposition	2623 Jan 07 21:03	16°♋40'02	0°24'15
min. Earth dist.	2623 Jan 08 08:34	16°♋38'48	17.93033 AU
direct	2623 Mar 23 15:57	14°♋37'23	
evening set	2623 Jun 24 14:40	17°♋53'29	
conjunction	2623 Jul 11 08:48	18°♋53'30	0°23'19
minimum elong	2623 Jul 11 08:48	18°♋53'30	0°23'19

max. Earth dist.	2623 Jul 10	18:42	18°♋51'23	19.89582 AU
morning rise	2623 Jul 28	03:07	19°♋53'37	
retrograde	2623 Oct 29	19:59	23°♋11'44	
opposition	2624 Jan 12	12:36	21°♋09'13	0°27'32
min. Earth dist.	2624 Jan 13	01:15	21°♋07'51	17.86165 AU
direct	2624 Mar 27	08:35	19°♋06'08	
evening set	2624 Jun 28	13:34	22°♋23'30	
conjunction	2624 Jul 15	07:49	23°♋23'47	0°26'12
minimum elong	2624 Jul 15	07:48	23°♋23'47	0°26'13
max. Earth dist.	2624 Jul 14	15:11	23°♋21'17	19.82828 AU
morning rise	2624 Aug 01	02:16	24°♋24'08	
retrograde	2624 Nov 02	16:01	27°♋42'50	
opposition	2625 Jan 16	04:47	25°♋40'11	0°30'41
min. Earth dist.	2625 Jan 16	18:43	25°♋38'40	17.79552 AU
direct	2625 Apr 01	01:37	23°♋36'40	
evening set	2625 Jul 03	13:11	26°♋55'19	
conjunction	2625 Jul 20	07:49	27°♋55'53	0°28'57
minimum elong	2625 Jul 20	07:49	27°♋55'53	0°28'56
max. Earth dist.	2625 Jul 19	15:04	27°♋53'21	19.76345 AU
morning rise	2625 Aug 06	02:00	28°♋56'27	
	2625 Aug 24	17:36	0°♌	
retrograde	2625 Nov 07	13:46	2°♌15'43	
opposition	2626 Jan 20	21:48	0°♌12'58	0°33'39
min. Earth dist.	2626 Jan 21	12:25	0°♌11'23	17.73223 AU
	2626 Jan 25	21:13	30°℞♋	
direct	2626 Apr 05	20:17	28°♋09'05	
	2626 Jun 11	19:54	0°♌	
evening set	2626 Jul 08	13:52	1°♌29'00	
conjunction	2626 Jul 25	08:24	2°♌29'49	0°31'31
minimum elong	2626 Jul 25	08:24	2°♌29'49	0°31'31
max. Earth dist.	2626 Jul 24	13:19	2°♌26'55	19.70183 AU
morning rise	2626 Aug 11	02:30	3°♌30'36	
retrograde	2626 Nov 12	10:22	6°♌50'25	
opposition	2627 Jan 25	15:33	4°♌47'37	0°36'25
min. Earth dist.	2627 Jan 26	07:31	4°♌45'52	17.67250 AU
direct	2627 Apr 10	14:34	2°♌43'23	
evening set	2627 Jul 13	15:10	6°♌04'35	
conjunction	2627 Jul 30	09:53	7°♌05'38	0°33'55
minimum elong	2627 Jul 30	09:53	7°♌05'38	0°33'55
max. Earth dist.	2627 Jul 29	14:53	7°♌02'44	19.64388 AU
morning rise	2627 Aug 16	03:33	8°♌06'36	
retrograde	2627 Nov 17	09:42	11°♌26'58	
opposition	2628 Jan 30	10:04	9°♌24'08	0°38'59
min. Earth dist.	2628 Jan 31	02:24	9°♌22'21	17.61637 AU
direct	2628 Apr 14	11:15	7°♌19'38	
evening set	2628 Jul 17	17:22	10°♌42'04	
conjunction	2628 Aug 03	11:51	11°♌43'20	0°36'06
minimum elong	2628 Aug 03	11:51	11°♌43'20	0°36'06
max. Earth dist.	2628 Aug 02	14:49	11°♌40'07	19.58957 AU
morning rise	2628 Aug 20	05:16	12°♌44'28	
	2628 Oct 02	09:38	15°♌	
retrograde	2628 Nov 21	07:03	16°♌05'22	
	2629 Jan 11	09:30	15°℞♌	
opposition	2629 Feb 03	05:28	14°♌02'32	0°41'19
min. Earth dist.	2629 Feb 03	23:25	14°♌00'35	17.56394 AU
direct	2629 Apr 19	07:28	11°♌57'45	
	2629 Jul 16	20:09	15°♌	
evening set	2629 Jul 22	20:23	15°♌21'24	
conjunction	2629 Aug 08	14:49	16°♌22'52	0°38'04
minimum elong	2629 Aug 08	14:49	16°♌22'52	0°38'05
max. Earth dist.	2629 Aug 07	17:35	16°♌19'36	19.53880 AU
morning rise	2629 Aug 25	07:39	17°♌24'09	
retrograde	2629 Nov 26	07:18	20°♌45'31	
opposition	2630 Feb 08	01:28	18°♌42'43	0°43'24
min. Earth dist.	2630 Feb 08	19:39	18°♌40'43	17.51484 AU
direct	2630 Apr 24	06:20	16°♌37'41	
evening set	2630 Jul 28	00:14	20°♌02'28	
conjunction	2630 Aug 13	18:16	21°♌04'07	0°39'48
minimum elong	2630 Aug 13	18:16	21°♌04'07	0°39'48
max. Earth dist.	2630 Aug 12	19:14	21°♌00'33	19.49129 AU
morning rise	2630 Aug 30	10:33	22°♌05'31	
retrograde	2630 Dec 01	05:23	25°♌27'19	
opposition	2631 Feb 12	22:30	23°♌24'31	0°45'12
min. Earth dist.	2631 Feb 13	18:23	23°♌22'20	17.46915 AU
direct	2631 Apr 29	04:29	21°♌19'13	
evening set	2631 Aug 02	04:20	24°♌45'05	
conjunction	2631 Aug 18	22:04	25°♌46'52	0°41'17
minimum elong	2631 Aug 18	22:04	25°♌46'52	0°41'17
max. Earth dist.	2631 Aug 17	22:40	25°♌43'14	19.44726 AU
morning rise	2631 Sep 04	13:42	26°♌48'22	
	2631 Nov 16	18:22	0°♍	
retrograde	2631 Dec 06	06:21	0°♍10'33	
	2631 Dec 25	19:56	30°℞♌	
opposition	2632 Feb 17	20:04	28°♌07'45	0°46'42
min. Earth dist.	2632 Feb 18	15:45	28°♌05'35	17.42685 AU
direct	2632 May 03	05:38	26°♌02'13	
evening set	2632 Aug 06	09:07	29°♌29'03	
	2632 Aug 14	19:04	0°♍	
max. Earth dist.	2632 Aug 22	01:52	0°♍27'09	19.40670 AU
conjunction	2632 Aug 23	02:21	0°♍30'57	0°42'29
minimum elong	2632 Aug 23	02:21	0°♍30'57	0°42'29
morning rise	2632 Sep 08	17:14	1°♍32'32	
retrograde	2632 Dec 10	04:44	4°♍55'02	
opposition	2633 Feb 21	18:18	2°♍52'12	0°47'54
min. Earth dist.	2633 Feb 22	15:37	2°♍49'52	17.38831 AU
direct	2633 May 08	05:26	0°♍46'26	
evening set	2633 Aug 11	14:14	4°♍14'10	
max. Earth dist.	2633 Aug 27	05:52	5°♍12'15	19.37019 AU
conjunction	2633 Aug 28	06:57	5°♍16'09	0°43'24
minimum elong	2633 Aug 28	06:57	5°♍16'09	0°43'23
morning rise	2633 Sep 13	21:07	6°♍17'48	
retrograde	2633 Dec 15	06:04	9°♍40'32	
opposition	2634 Feb 26	17:04	7°♍37'42	0°48'46
min. Earth dist.	2634 Feb 27	13:51	7°♍35'25	17.35390 AU
direct	2634 May 13	08:25	5°♍31'42	
evening set	2634 Aug 16	19:30	9°♍00'12	
max. Earth dist.	2634 Sep 01	10:28	9°♍58'20	19.33795 AU
conjunction	2634 Sep 02	11:37	10°♍02'16	0°44'00
minimum elong	2634 Sep 02	11:37	10°♍02'16	0°44'01
morning rise	2634 Sep 19	00:48	11°♍03'56	
retrograde	2634 Dec 20	05:05	14°♍26'52	
opposition	2635 Mar 03	16:30	12°♍24'01	0°49'17
min. Earth dist.	2635 Mar 04	14:30	12°♍21'36	17.32414 AU
direct	2635 May 18	09:44	10°♍17'49	
evening set	2635 Aug 22	00:55	13°♍47'00	
conjunction	2635 Sep 07	16:15	14°♍49'05	0°44'19
minimum elong	2635 Sep 07	16:15	14°♍49'05	0°44'19
max. Earth dist.	2635 Sep 06	14:34	14°♍45'04	19.31080 AU
morning rise	2635 Sep 24	04:40	15°♍50'46	
retrograde	2635 Dec 25	06:41	19°♍13'49	
opposition	2636 Mar 07	16:12	17°♍10'57	0°49'28
min. Earth dist.	2636 Mar 08	13:17	17°♍08'38	17.29967 AU

direct	2636 May 22 13:31	15°♍04'33	
evening set	2636 Aug 26 06:14	18°♍34'18	
conjunction	2636 Sep 11 20:56	19°♍36'24	0°44'19
minimum elong	2636 Sep 11 20:56	19°♍36'24	0°44'19
max. Earth dist.	2636 Sep 10 20:11	19°♍32'31	19.28907 AU
morning rise	2636 Sep 28 08:17	20°♍38'04	
retrograde	2636 Dec 29 06:22	24°♍01'10	
opposition	2637 Mar 12 16:32	21°♍58'18	0°49'18
min. Earth dist.	2637 Mar 13 14:18	21°♍55'55	17.28087 AU
direct	2637 May 27 15:10	19°♍51'46	
evening set	2637 Aug 31 11:42	23°♍21'57	
max. Earth dist.	2637 Sep 16 00:11	24°♍20'04	19.27338 AU
conjunction	2637 Sep 17 01:23	24°♍24'02	0°44'00
minimum elong	2637 Sep 17 01:23	24°♍24'02	0°44'01
morning rise	2637 Oct 03 11:53	25°♍25'39	
retrograde	2638 Jan 03 08:16	28°♍48'45	
opposition	2638 Mar 17 17:02	26°♍45'55	0°48'48
min. Earth dist.	2638 Mar 18 13:36	26°♍43'40	17.26839 AU
direct	2638 Jun 01 19:16	24°♍39'16	
evening set	2638 Sep 05 16:51	28°♍09'48	
max. Earth dist.	2638 Sep 21 06:22	29°♍08'09	19.26416 AU
conjunction	2638 Sep 22 05:47	29°♍11'50	0°43'23
minimum elong	2638 Sep 22 05:47	29°♍11'50	0°43'23
	2638 Oct 05 00:34	0°♎	
morning rise	2638 Oct 08 15:02	0°♎13'23	
retrograde	2639 Jan 08 08:22	3°♎36'25	
opposition	2639 Mar 22 18:09	1°♎33'39	0°47'56
min. Earth dist.	2639 Mar 23 14:39	1°♎31'24	17.26257 AU
	2639 May 01 23:08	30°℞♍	
direct	2639 Jun 06 21:04	29°♍26'58	
	2639 Jul 12 08:08	0°♎	
evening set	2639 Sep 10 21:46	2°♎57'43	
max. Earth dist.	2639 Sep 26 10:01	3°♎55'57	19.26189 AU
conjunction	2639 Sep 27 09:34	3°♎59'40	0°42'28
minimum elong	2639 Sep 27 09:35	3°♎59'40	0°42'28
morning rise	2639 Oct 13 17:57	5°♎01'07	
retrograde	2640 Jan 13 09:48	8°♎24'06	
opposition	2640 Mar 26 19:22	6°♎21'23	0°46'45
min. Earth dist.	2640 Mar 27 14:32	6°♎19'18	17.26378 AU
direct	2640 Jun 11 01:25	4°♎14'45	
evening set	2640 Sep 15 02:24	7°♎45'37	
conjunction	2640 Oct 01 13:24	8°♎47'29	0°41'15
minimum elong	2640 Oct 01 13:24	8°♎47'29	0°41'15
max. Earth dist.	2640 Sep 30 16:01	8°♎44'06	19.26653 AU
morning rise	2640 Oct 17 20:33	9°♎48'48	
retrograde	2641 Jan 17 09:36	13°♎11'37	
opposition	2641 Mar 31 20:48	11°♎09'04	0°45'14
min. Earth dist.	2641 Apr 01 15:29	11°♎07'02	17.27166 AU
direct	2641 Jun 16 04:13	9°♎02'32	
evening set	2641 Sep 20 06:56	12°♎33'25	
conjunction	2641 Oct 06 16:43	13°♎35'08	0°39'46
minimum elong	2641 Oct 06 16:43	13°♎35'08	0°39'46
max. Earth dist.	2641 Oct 05 19:19	13°♎31'46	19.27776 AU
morning rise	2641 Oct 22 22:54	14°♎36'19	
retrograde	2642 Jan 22 10:11	17°♎58'57	
opposition	2642 Apr 05 22:32	15°♎56'33	0°43'25
min. Earth dist.	2642 Apr 06 16:12	15°♎54'38	17.28603 AU
direct	2642 Jun 21 09:11	13°♎50'10	
evening set	2642 Sep 25 10:44	17°♎20'57	
conjunction	2642 Oct 11 19:34	18°♎22'30	0°38'00
minimum elong	2642 Oct 11 19:34	18°♎22'30	0°38'00
max. Earth dist.	2642 Oct 11 00:26	18°♎19'29	19.29511 AU
morning rise	2642 Oct 28 00:32	19°♎23'31	
retrograde	2643 Jan 27 09:42	22°♎45'55	
opposition	2643 Apr 11 00:29	20°♎43'42	0°41'18
min. Earth dist.	2643 Apr 11 17:08	20°♎41'54	17.30608 AU
direct	2643 Jun 26 13:38	18°♎37'29	
evening set	2643 Sep 30 14:18	22°♎08'01	
conjunction	2643 Oct 16 21:55	23°♎09'24	0°35'58
minimum elong	2643 Oct 16 21:55	23°♎09'24	0°35'58
max. Earth dist.	2643 Oct 16 03:04	23°♎06'25	19.31791 AU
morning rise	2643 Nov 02 01:53	24°♎10'14	
retrograde	2644 Feb 01 09:05	27°♎32'20	
opposition	2644 Apr 15 02:22	25°♎30'16	0°38'54
min. Earth dist.	2644 Apr 15 18:21	25°♎28'33	17.33151 AU
direct	2644 Jun 30 18:00	23°♎24'15	
evening set	2644 Oct 04 17:12	26°♎54'26	
conjunction	2644 Oct 20 23:50	27°♎55'36	0°33'42
minimum elong	2644 Oct 20 23:50	27°♎55'36	0°33'42
max. Earth dist.	2644 Oct 20 06:52	27°♎52'55	19.34576 AU
morning rise	2644 Nov 06 02:39	28°♎56'14	
	2644 Nov 24 01:33	0°♏	
retrograde	2645 Feb 05 08:48	2°♏17'57	
opposition	2645 Apr 20 04:23	0°♏16'04	0°36'14
min. Earth dist.	2645 Apr 20 18:52	0°♏14'30	17.36149 AU
	2645 Apr 26 09:55	30°℞♎	
direct	2645 Jul 05 22:58	28°♎10'15	
	2645 Sep 10 13:15	0°♏	
evening set	2645 Oct 09 19:33	1°♏39'56	
max. Earth dist.	2645 Oct 25 08:45	2°♏38'20	19.37795 AU
conjunction	2645 Oct 26 00:58	2°♏40'53	0°31'12
minimum elong	2645 Oct 26 00:58	2°♏40'53	0°31'11
morning rise	2645 Nov 11 02:42	3°♏41'18	
retrograde	2646 Feb 10 07:08	7°♏02'36	
opposition	2646 Apr 25 06:22	5°♏00'52	0°33'19
min. Earth dist.	2646 Apr 25 20:22	4°♏59'22	17.39584 AU
direct	2646 Jul 11 02:05	2°♏55'15	
evening set	2646 Oct 14 21:05	6°♏24'21	
max. Earth dist.	2646 Oct 30 10:52	7°♏22'45	19.41440 AU
conjunction	2646 Oct 31 01:25	7°♏25'02	0°28'30
minimum elong	2646 Oct 31 01:25	7°♏25'02	0°28'30
morning rise	2646 Nov 16 02:07	8°♏25'13	
retrograde	2647 Feb 15 06:48	11°♏46'02	
opposition	2647 Apr 30 08:04	9°♏44'27	0°30'11
min. Earth dist.	2647 Apr 30 20:04	9°♏43'10	17.43412 AU
direct	2647 Jul 16 06:48	7°♏39'04	
evening set	2647 Oct 19 21:42	11°♏07'26	
max. Earth dist.	2647 Nov 04 11:47	12°♏05'48	19.45462 AU
conjunction	2647 Nov 05 00:57	12°♏07'52	0°25'36
minimum elong	2647 Nov 05 00:57	12°♏07'52	0°25'37
morning rise	2647 Nov 21 00:39	13°♏07'48	
	2647 Dec 24 13:57	15°♏	
retrograde	2648 Feb 20 03:47	16°♏28'07	
	2648 Apr 21 04:51	15°℞♏	
opposition	2648 May 04 09:36	14°♏26'39	0°26'52
min. Earth dist.	2648 May 04 21:11	14°♏25'25	17.47623 AU
direct	2648 Jul 20 08:33	12°♏21'29	
	2648 Oct 10 03:37	15°♏	
evening set	2648 Oct 23 21:32	15°♏49'03	
conjunction	2648 Nov 08 23:41	16°♏49'12	0°22'34
minimum elong	2648 Nov 08 23:41	16°♏49'12	0°22'33

max. Earth dist.	2648 Nov 08 11:54	16°♏47'21	19.49865 AU
morning rise	2648 Nov 24 22:29	17°♏48'52	
retrograde	2649 Feb 24 02:32	21°♏08'36	
opposition	2649 May 09 10:33	19°♏07'16	0°23'24
min. Earth dist.	2649 May 09 19:46	19°♏06'17	17.52195 AU
direct	2649 Jul 25 12:31	17°♏02'20	
evening set	2649 Oct 28 20:21	20°♏29'00	
conjunction	2649 Nov 13 21:29	21°♏28'52	0°19'23
minimum elong	2649 Nov 13 21:30	21°♏28'52	0°19'24
max. Earth dist.	2649 Nov 13 11:48	21°♏27'21	19.54627 AU
morning rise	2649 Nov 29 19:17	22°♏28'16	
retrograde	2650 Feb 28 22:14	25°♏47'24	
opposition	2650 May 14 11:24	23°♏46'10	0°19'47
min. Earth dist.	2650 May 14 19:59	23°♏45'16	17.57148 AU
direct	2650 Jul 30 13:08	21°♏41'30	
evening set	2650 Nov 02 18:02	25°♏07'10	
conjunction	2650 Nov 18 18:04	26°♏06'43	0°16'06
minimum elong	2650 Nov 18 18:04	26°♏06'43	0°16'06
behind sun begin	2650 Nov 18 17:34	26°♏06'39	
behind sun end	2650 Nov 18 18:35	26°♏06'48	
max. Earth dist.	2650 Nov 18 09:50	26°♏05'27	19.59783 AU
morning rise	2650 Dec 04 15:07	27°♏05'51	
	2651 Feb 03 23:01	0°♐	
retrograde	2651 Mar 05 19:40	0°♐24'22	
	2651 Apr 05 08:08	30°℞♏	
opposition	2651 May 19 11:35	28°♏23'15	0°16'04
min. Earth dist.	2651 May 19 17:19	28°♏22'38	17.62492 AU
direct	2651 Aug 04 15:47	26°♏18'51	
evening set	2651 Nov 07 14:45	29°♏43'28	
	2651 Nov 12 02:44	0°♐	
conjunction	2651 Nov 23 13:54	0°♐42'44	0°12'45
minimum elong	2651 Nov 23 13:54	0°♐42'44	0°12'45
behind sun begin	2651 Nov 23 09:42	0°♐42'06	
behind sun end	2651 Nov 23 18:06	0°♐43'22	
max. Earth dist.	2651 Nov 23 08:23	0°♐41'54	19.65324 AU
morning rise	2651 Dec 09 10:00	1°♐41'35	
retrograde	2652 Mar 09 14:19	4°♐59'27	
opposition	2652 May 23 11:15	2°♐58'28	0°12'17
min. Earth dist.	2652 May 23 16:09	2°♐57'57	17.68236 AU
direct	2652 Aug 08 15:05	0°♐54'24	
evening set	2652 Nov 11 10:37	4°♐17'57	
conjunction	2652 Nov 27 08:41	5°♐16'53	0°09'20
minimum elong	2652 Nov 27 08:40	5°♐16'53	0°09'20
behind sun begin	2652 Nov 27 03:07	5°♐16'03	
behind sun end	2652 Nov 27 14:14	5°♐17'44	
max. Earth dist.	2652 Nov 27 04:26	5°♐16'15	19.71273 AU
morning rise	2652 Dec 13 04:08	6°♐15'27	
retrograde	2653 Mar 14 10:24	9°♐32'42	
opposition	2653 May 28 10:26	7°♐31'52	0°08'26
min. Earth dist.	2653 May 28 12:18	7°♐31'41	17.74370 AU
direct	2653 Aug 13 16:14	5°♐28'11	
evening set	2653 Nov 16 05:16	8°♐50'36	
conjunction	2653 Dec 02 02:33	9°♐49'14	0°05'54
minimum elong	2653 Dec 02 02:33	9°♐49'14	0°05'53
behind sun begin	2653 Dec 01 20:15	9°♐48'17	
behind sun end	2653 Dec 02 08:51	9°♐50'11	
max. Earth dist.	2653 Dec 02 01:22	9°♐49'05	19.77588 AU
morning rise	2653 Dec 17 21:08	10°♐47'30	
retrograde	2654 Mar 19 04:06	14°♐04'08	
opposition	2654 Jun 02 09:14	12°♐03'30	0°04'35
min. Earth dist.	2654 Jun 02 10:02	12°♐03'25	17.80851 AU
direct	2654 Aug 18 14:52	10°♐00'14	
evening set	2654 Nov 20 23:09	13°♐21'30	
conjunction	2654 Dec 06 19:25	14°♐19'49	0°02'25
minimum elong	2654 Dec 06 19:25	14°♐19'49	0°02'26
behind sun begin	2654 Dec 06 12:51	14°♐18'49	
behind sun end	2654 Dec 07 02:00	14°♐20'48	
max. Earth dist.	2654 Dec 06 19:18	14°♐19'48	19.84232 AU
morning rise	2654 Dec 22 13:32	15°♐17'48	
retrograde	2655 Mar 23 22:38	18°♐33'49	
opposition	2655 Jun 07 07:11	16°♐33'24	0°00'43
min. Earth dist.	2655 Jun 07 05:14	16°♐33'36	17.87628 AU
desc. node	2655 Aug 15 06:28	14°♐32'19	
direct	2655 Aug 23 13:57	14°♐30'34	
evening set	2655 Nov 25 15:54	17°♐50'40	
conjunction	2655 Dec 11 11:33	18°♐48'40	-0°01'09
minimum elong	2655 Dec 11 11:33	18°♐48'40	0°01'09
behind sun begin	2655 Dec 11 04:59	18°♐47'41	
behind sun end	2655 Dec 11 18:07	18°♐49'39	
max. Earth dist.	2655 Dec 11 14:25	18°♐49'03	19.91117 AU
morning rise	2655 Dec 27 04:57	19°♐46'22	
retrograde	2656 Mar 27 15:21	23°♐01'45	
opposition	2656 Jun 11 04:45	21°♐01'34	-0°03'07
min. Earth dist.	2656 Jun 11 01:48	21°♐01'52	17.94597 AU
direct	2656 Aug 27 11:34	18°♐59'11	
evening set	2656 Nov 29 07:57	22°♐18'05	
conjunction	2656 Dec 15 02:40	23°♐15'46	-0°04'37
minimum elong	2656 Dec 15 02:39	23°♐15'46	0°04'37
behind sun begin	2656 Dec 14 20:13	23°♐14'48	
behind sun end	2656 Dec 15 09:05	23°♐16'44	
max. Earth dist.	2656 Dec 15 06:15	23°♐16'17	19.98160 AU
morning rise	2656 Dec 30 19:40	24°♐13'11	
retrograde	2657 Apr 01 08:02	27°♐27'58	
opposition	2657 Jun 16 01:38	25°♐27'59	-0°06'55
min. Earth dist.	2657 Jun 15 20:19	25°♐28'32	18.01695 AU
direct	2657 Sep 01 08:37	23°♐26'03	
evening set	2657 Dec 03 22:59	26°♐43'44	
conjunction	2657 Dec 19 17:08	27°♐41'06	-0°07'59
minimum elong	2657 Dec 19 17:08	27°♐41'06	0°07'59
behind sun begin	2657 Dec 19 11:15	27°♐40'14	
behind sun end	2657 Dec 19 23:01	27°♐41'59	
max. Earth dist.	2657 Dec 19 23:33	27°♐42'04	20.05287 AU
morning rise	2658 Jan 04 09:31	28°♐38'15	
	2658 Jan 28 17:05	0°♑	
retrograde	2658 Apr 05 23:42	1°♑52'24	
	2658 Jun 17 22:19	30°℞♐	
opposition	2658 Jun 20 22:03	29°♐52'38	-0°10'39
min. Earth dist.	2658 Jun 20 15:40	29°♐53'17	18.08834 AU
direct	2658 Sep 06 04:32	27°♐51'08	
	2658 Nov 18 16:00	0°♑	
evening set	2658 Dec 08 13:11	1°♑07'35	
conjunction	2658 Dec 24 06:33	2°♑04'38	-0°11'18
minimum elong	2658 Dec 24 06:32	2°♑04'38	0°11'18
behind sun begin	2658 Dec 24 01:40	2°♑03'55	
behind sun end	2658 Dec 24 11:24	2°♑05'21	
max. Earth dist.	2658 Dec 24 13:26	2°♑05'40	20.12421 AU
morning rise	2659 Jan 08 22:44	3°♑01'31	
retrograde	2659 Apr 10 15:16	6°♑15'02	
opposition	2659 Jun 25 17:42	4°♑15'27	-0°14'18
min. Earth dist.	2659 Jun 25 09:27	4°♑16'17	18.15951 AU
direct	2659 Sep 10 23:25	2°♑14'21	
evening set	2659 Dec 13 02:29	5°♑29'34	
conjunction	2659 Dec 28 19:26	6°♑26'19	-0°14'32

minimum elong	2659 Dec 28 19:26	6°♉26'19	0°14'32
behind sun begin	2659 Dec 28 16:24	6°♉25'52	
behind sun end	2659 Dec 28 22:29	6°♉26'46	
max. Earth dist.	2659 Dec 29 04:47	6°♉27'44	20.19487 AU
morning rise	2660 Jan 13 11:07	7°♉22'56	
retrograde	2660 Apr 14 05:29	10°♉35'49	
opposition	2660 Jun 29 12:35	8°♉36'23	-0°17'50
min. Earth dist.	2660 Jun 29 03:18	8°♉37'20	18.22956 AU
direct	2660 Sep 14 17:27	6°♉35'41	
evening set	2660 Dec 16 15:07	9°♉49'39	
conjunction	2661 Jan 01 07:23	10°♉46'07	-0°17'40
minimum elong	2661 Jan 01 07:23	10°♉46'07	0°17'40
max. Earth dist.	2661 Jan 01 16:57	10°♉47'33	20.26424 AU
morning rise	2661 Jan 16 22:59	11°♉42'28	
retrograde	2661 Apr 18 20:03	14°♉54'44	
opposition	2661 Jul 04 06:56	12°♉55'25	-0°21'15
min. Earth dist.	2661 Jul 03 20:10	12°♉56'30	18.29823 AU
direct	2661 Sep 19 10:40	10°♉55'02	
evening set	2661 Dec 21 02:32	14°♉07'46	
conjunction	2662 Jan 05 18:32	15°♉03'57	-0°20'41
minimum elong	2662 Jan 05 18:33	15°♉03'57	0°20'40
max. Earth dist.	2662 Jan 06 06:29	15°♉05'44	20.33197 AU
morning rise	2662 Jan 21 09:49	16°♉00'03	
retrograde	2662 Apr 23 09:17	19°♉11'41	
opposition	2662 Jul 09 00:31	17°♉12'28	-0°24'31
min. Earth dist.	2662 Jul 08 12:29	17°♉13'41	18.36500 AU
direct	2662 Sep 24 03:19	15°♉12'25	
evening set	2662 Dec 25 13:20	18°♉23'53	
conjunction	2663 Jan 10 04:50	19°♉19'47	-0°23'34
minimum elong	2663 Jan 10 04:49	19°♉19'47	0°23'34
max. Earth dist.	2663 Jan 10 17:03	19°♉21'37	20.39785 AU
morning rise	2663 Jan 25 20:11	20°♉15'40	
retrograde	2663 Apr 27 22:13	23°♉26'41	
opposition	2663 Jul 13 17:08	21°♉27'29	-0°27'38
min. Earth dist.	2663 Jul 13 04:00	21°♉28'49	18.43010 AU
direct	2663 Sep 28 18:31	19°♉27'44	
evening set	2663 Dec 29 23:03	22°♉37'59	
conjunction	2664 Jan 14 14:26	23°♉33'38	-0°26'18
minimum elong	2664 Jan 14 14:26	23°♉33'38	0°26'17
max. Earth dist.	2664 Jan 15 04:59	23°♉35'48	20.46203 AU
morning rise	2664 Jan 30 05:36	24°♉29'17	
retrograde	2664 May 01 10:28	27°♉39'41	
opposition	2664 Jul 17 09:01	25°♉40'33	-0°30'34
min. Earth dist.	2664 Jul 16 18:22	25°♉42'02	18.49344 AU
direct	2664 Oct 02 10:02	23°♉41'05	
evening set	2665 Jan 02 08:04	26°♉50'08	
conjunction	2665 Jan 17 23:01	27°♉45'32	-0°28'52
minimum elong	2665 Jan 17 23:01	27°♉45'32	0°28'52
max. Earth dist.	2665 Jan 18 14:05	27°♉47'46	20.52461 AU
morning rise	2665 Feb 02 14:21	28°♉40'58	
	2665 Feb 26 18:00	0°♒	
retrograde	2665 May 05 21:51	1°♒50'49	
	2665 Jul 18 13:58	30°℞♉	
min. Earth dist.	2665 Jul 21 08:33	29°♉53'18	18.55549 AU
opposition	2665 Jul 22 00:17	29°♉51'42	-0°33'18
direct	2665 Oct 06 23:02	27°♉52'32	
	2665 Dec 19 11:49	0°♒	
evening set	2666 Jan 06 16:15	1°♒00'27	
conjunction	2666 Jan 22 07:12	1°♒55'37	-0°31'15
minimum elong	2666 Jan 22 07:12	1°♒55'37	0°31'15
max. Earth dist.	2666 Jan 23 00:36	1°♒58'12	20.58592 AU
morning rise	2666 Feb 06 22:28	2°♒50'52	
retrograde	2666 May 10 09:22	6°♒00'11	
opposition	2666 Jul 26 14:39	4°♒01'08	-0°35'51
min. Earth dist.	2666 Jul 25 21:11	4°♒02'54	18.61610 AU
direct	2666 Oct 11 12:58	2°♒02'16	
evening set	2667 Jan 10 23:50	5°♒09'06	
conjunction	2667 Jan 26 14:34	6°♒04'04	-0°33'28
minimum elong	2667 Jan 26 14:33	6°♒04'04	0°33'28
max. Earth dist.	2667 Jan 27 08:22	6°♒06'42	20.64573 AU
morning rise	2667 Feb 11 06:09	6°♒59'08	
retrograde	2667 May 14 19:42	10°♒08'00	
min. Earth dist.	2667 Jul 30 10:14	8°♒10'50	18.67519 AU
opposition	2667 Jul 31 04:24	8°♒09'01	-0°38'11
direct	2667 Oct 15 23:39	6°♒10'28	
evening set	2668 Jan 15 06:43	9°♒16'18	
conjunction	2668 Jan 30 21:34	10°♒11'04	-0°35'30
minimum elong	2668 Jan 30 21:34	10°♒11'04	0°35'30
max. Earth dist.	2668 Jan 31 17:25	10°♒13'59	20.70380 AU
morning rise	2668 Feb 15 13:14	11°♒05'58	
retrograde	2668 May 18 06:26	14°♒14'23	
opposition	2668 Aug 03 17:22	12°♒15'31	-0°40'19
min. Earth dist.	2668 Aug 02 21:36	12°♒17'30	18.73211 AU
direct	2668 Oct 19 12:09	10°♒17'18	
evening set	2669 Jan 18 13:14	13°♒22'11	
conjunction	2669 Feb 03 03:59	14°♒16'46	-0°37'20
minimum elong	2669 Feb 03 03:59	14°♒16'46	0°37'19
max. Earth dist.	2669 Feb 04 00:03	14°♒19'43	20.75953 AU
	2669 Feb 15 11:58	15°♒	
morning rise	2669 Feb 18 20:05	15°♒11'32	
retrograde	2669 May 22 16:24	18°♒19'35	
min. Earth dist.	2669 Aug 07 09:56	16°♒22'49	18.78664 AU
opposition	2669 Aug 08 05:59	16°♒20'48	-0°42'14
	2669 Sep 14 06:21	15°℞♒	
direct	2669 Oct 23 21:04	14°♒22'55	
	2669 Dec 01 07:46	15°♒	
evening set	2670 Jan 22 19:02	17°♒26'54	
conjunction	2670 Feb 07 10:04	18°♒21'20	-0°38'59
minimum elong	2670 Feb 07 10:04	18°♒21'20	0°38'59
max. Earth dist.	2670 Feb 08 07:51	18°♒24'31	20.81254 AU
morning rise	2670 Feb 23 02:24	19°♒15'58	
retrograde	2670 May 27 02:29	22°♒23'41	
opposition	2670 Aug 12 17:54	20°♒25'01	-0°43'56
min. Earth dist.	2670 Aug 11 20:26	20°♒27'09	18.83798 AU
direct	2670 Oct 28 08:28	18°♒27'28	
evening set	2671 Jan 27 00:46	21°♒30'36	
conjunction	2671 Feb 11 15:50	22°♒24'54	-0°40'25
minimum elong	2671 Feb 11 15:50	22°♒24'54	0°40'25
max. Earth dist.	2671 Feb 12 13:27	22°♒28'03	20.86205 AU
morning rise	2671 Feb 27 08:42	23°♒19'25	
retrograde	2671 May 31 12:13	26°♒26'51	
min. Earth dist.	2671 Aug 16 08:04	24°♒30'22	18.88568 AU
opposition	2671 Aug 17 05:13	24°♒28'15	-0°45'24
direct	2671 Nov 01 16:08	22°♒31'00	
evening set	2672 Jan 31 06:00	25°♒33'23	
conjunction	2672 Feb 15 21:27	26°♒27'33	-0°41'39
minimum elong	2672 Feb 15 21:27	26°♒27'33	0°41'39
max. Earth dist.	2672 Feb 16 20:16	26°♒30'52	20.90762 AU
morning rise	2672 Mar 02 14:38	27°♒21'59	
	2672 Apr 30 06:37	0°♓	
retrograde	2672 Jun 03 21:26	0°♓29'09	
	2672 Jul 09 07:36	30°℞♒	

opposition	2672 Aug 20 16:04	28°♒30'38	-0°46'39
min. Earth dist.	2672 Aug 19 17:47	28°♒32'51	18.92899 AU
direct	2672 Nov 05 02:19	26°♒33'39	
evening set	2673 Feb 03 11:00	29°♒35'18	
	2673 Feb 10 15:48	0°♓	
conjunction	2673 Feb 19 02:35	0°♓29'22	-0°42'41
minimum elong	2673 Feb 19 02:35	0°♓29'22	0°42'41
max. Earth dist.	2673 Feb 20 00:58	0°♓32'37	20.94851 AU
morning rise	2673 Mar 06 20:25	1°♓23'44	
retrograde	2673 Jun 08 06:33	4°♓30'41	
min. Earth dist.	2673 Aug 24 05:01	2°♓34'21	18.96751 AU
opposition	2673 Aug 25 02:39	2°♓32'11	-0°47'40
direct	2673 Nov 09 09:32	0°♓35'25	
evening set	2674 Feb 07 15:44	3°♓36'25	
conjunction	2674 Feb 23 07:51	4°♓30'24	-0°43'30
minimum elong	2674 Feb 23 07:51	4°♓30'24	0°43'29
max. Earth dist.	2674 Feb 24 07:02	4°♓33'45	20.98439 AU
morning rise	2674 Mar 11 02:07	5°♓24'42	
retrograde	2674 Jun 12 15:15	8°♓31'26	
opposition	2674 Aug 29 12:27	6°♓32'57	-0°48'26
min. Earth dist.	2674 Aug 28 13:57	6°♓35'11	19.00068 AU
direct	2674 Nov 13 18:21	4°♓36'21	
evening set	2675 Feb 11 20:20	7°♓36'43	
conjunction	2675 Feb 27 12:46	8°♓30'38	-0°44'06
minimum elong	2675 Feb 27 12:46	8°♓30'38	0°44'07
max. Earth dist.	2675 Feb 28 11:10	8°♓33'52	21.01480 AU
morning rise	2675 Mar 15 07:49	9°♓24'54	
retrograde	2675 Jun 16 22:54	12°♓31'27	
opposition	2675 Sep 02 21:59	10°♓32'54	-0°48'58
min. Earth dist.	2675 Sep 02 00:30	10°♓35'03	19.02842 AU
direct	2675 Nov 18 01:05	8°♓36'25	
evening set	2676 Feb 16 00:28	11°♓36'13	
conjunction	2676 Mar 02 17:32	12°♓30'05	-0°44'29
minimum elong	2676 Mar 02 17:32	12°♓30'05	0°44'29
max. Earth dist.	2676 Mar 03 16:40	12°♓33'25	21.03989 AU
morning rise	2676 Mar 18 13:07	13°♓24'19	
retrograde	2676 Jun 20 07:20	16°♓30'42	
min. Earth dist.	2676 Sep 05 08:31	14°♓34'18	19.05088 AU
opposition	2676 Sep 06 06:51	14°♓32'05	-0°49'16
direct	2676 Nov 21 09:04	12°♓35'40	
evening set	2677 Feb 19 04:36	15°♓34'56	
conjunction	2677 Mar 06 22:04	16°♓28'46	-0°44'39
minimum elong	2677 Mar 06 22:04	16°♓28'46	0°44'40
max. Earth dist.	2677 Mar 07 20:34	16°♓32'00	21.05993 AU
morning rise	2677 Mar 22 18:30	17°♓23'00	
retrograde	2677 Jun 24 13:44	20°♓29'15	
opposition	2677 Sep 10 15:28	18°♓30'31	-0°49'19
min. Earth dist.	2677 Sep 09 18:10	18°♓32'39	19.06873 AU
direct	2677 Nov 25 14:37	16°♓34'09	
evening set	2678 Feb 23 08:21	19°♓32'58	
conjunction	2678 Mar 11 02:36	20°♓26'47	-0°44'35
minimum elong	2678 Mar 11 02:36	20°♓26'47	0°44'35
max. Earth dist.	2678 Mar 12 01:53	20°♓30'07	21.07561 AU
morning rise	2678 Mar 26 23:41	21°♓21'01	
retrograde	2678 Jun 28 22:07	24°♓27'10	
opposition	2678 Sep 14 23:28	22°♓28'20	-0°49'08
min. Earth dist.	2678 Sep 14 01:16	22°♓30'33	19.08227 AU
direct	2678 Nov 29 21:45	20°♓32'00	
evening set	2679 Feb 27 12:18	23°♓30'26	
conjunction	2679 Mar 15 07:02	24°♓24'15	-0°44'19
minimum elong	2679 Mar 15 07:02	24°♓24'15	0°44'19
max. Earth dist.	2679 Mar 16 05:36	24°♓27'29	21.08709 AU
morning rise	2679 Mar 31 05:01	25°♓18'31	
retrograde	2679 Jul 03 03:54	28°♓24'37	
min. Earth dist.	2679 Sep 18 10:03	26°♓27'47	19.09189 AU
opposition	2679 Sep 19 07:06	26°♓25'41	-0°48'42
direct	2679 Dec 04 02:07	24°♓29'22	
evening set	2680 Mar 02 16:03	27°♓27'31	
conjunction	2680 Mar 18 11:37	28°♓21'21	-0°43'50
minimum elong	2680 Mar 18 11:37	28°♓21'21	0°43'50
max. Earth dist.	2680 Mar 19 10:47	28°♓24'40	21.09485 AU
morning rise	2680 Apr 03 10:18	29°♓15'40	
	2680 Apr 17 01:51	0°♈	
retrograde	2680 Jul 06 12:17	2°♈21'45	
opposition	2680 Sep 22 14:27	0°♈22'44	-0°48'03
min. Earth dist.	2680 Sep 21 16:31	0°♈24'56	19.09772 AU
	2680 Oct 02 03:05	30°♓℞	
direct	2680 Dec 07 08:16	28°♓26'27	
	2681 Feb 07 14:49	0°♈	
evening set	2681 Mar 06 19:53	1°♈24'22	
conjunction	2681 Mar 22 16:04	2°♈18'16	-0°43'09
minimum elong	2681 Mar 22 16:04	2°♈18'16	0°43'08
max. Earth dist.	2681 Mar 23 14:26	2°♈21'27	21.09879 AU
morning rise	2681 Apr 07 15:44	3°♈12'38	
retrograde	2681 Jul 10 18:32	6°♈18'47	
opposition	2681 Sep 26 21:44	4°♈19'41	-0°47'11
min. Earth dist.	2681 Sep 26 01:03	4°♈21'45	19.09982 AU
direct	2681 Dec 11 12:08	2°♈23'25	
evening set	2682 Mar 10 23:51	5°♈21'11	
conjunction	2682 Mar 26 20:58	6°♈15'09	-0°42'16
minimum elong	2682 Mar 26 20:59	6°♈15'09	0°42'16
max. Earth dist.	2682 Mar 27 19:42	6°♈18'24	21.09903 AU
morning rise	2682 Apr 11 21:26	7°♈09'36	
retrograde	2682 Jul 15 03:10	10°♈15'50	
min. Earth dist.	2682 Sep 30 07:16	8°♈18'49	19.09801 AU
opposition	2682 Oct 01 04:31	8°♈16'41	-0°46'05
direct	2682 Dec 15 17:40	6°♈20'26	
evening set	2683 Mar 15 04:14	9°♈18'09	
conjunction	2683 Mar 31 02:03	10°♈12'12	-0°41'10
minimum elong	2683 Mar 31 02:03	10°♈12'12	0°41'10
max. Earth dist.	2683 Mar 31 23:37	10°♈15'17	21.09518 AU
morning rise	2683 Apr 16 03:33	11°♈06'45	
retrograde	2683 Jul 19 10:11	14°♈13'08	
opposition	2683 Oct 05 11:29	12°♈13'55	-0°44'46
min. Earth dist.	2683 Oct 04 15:49	12°♈15'54	19.09209 AU
direct	2683 Dec 19 21:10	10°♈17'41	
evening set	2684 Mar 18 08:38	13°♈15'25	
conjunction	2684 Apr 03 07:26	14°♈09'35	-0°39'53
minimum elong	2684 Apr 03 07:26	14°♈09'35	0°39'54
max. Earth dist.	2684 Apr 04 05:05	14°♈12'40	21.08715 AU
morning rise	2684 Apr 19 09:43	15°♈04'14	
retrograde	2684 Jul 22 19:16	18°♈10'49	
opposition	2684 Oct 08 18:15	16°♈11'33	-0°43'15
min. Earth dist.	2684 Oct 07 22:16	16°♈13'34	19.08172 AU
direct	2684 Dec 23 02:55	14°♈15'18	
evening set	2685 Mar 22 13:43	17°♈13'09	
conjunction	2685 Apr 07 13:16	18°♈07'26	-0°38'25
minimum elong	2685 Apr 07 13:16	18°♈07'26	0°38'24
max. Earth dist.	2685 Apr 08 09:29	18°♈10'18	21.07444 AU
morning rise	2685 Apr 23 16:37	19°♈02'14	
retrograde	2685 Jul 27 02:56	22°♈09'03	

min. Earth dist.	2685 Oct 12 07:11	20°♈11'31	19.06657 AU
opposition	2685 Oct 13 01:08	20°♈09'43	-0°41'31
direct	2685 Dec 27 06:14	18°♈13'25	
evening set	2686 Mar 26 19:06	21°♈11'27	
conjunction	2686 Apr 11 19:43	22°♈05'52	-0°36'45
minimum elong	2686 Apr 11 19:43	22°♈05'52	0°36'45
max. Earth dist.	2686 Apr 12 15:29	22°♈08'41	21.05677 AU
morning rise	2686 Apr 27 23:56	23°♈00'49	
retrograde	2686 Jul 31 12:42	26°♈07'54	
opposition	2686 Oct 17 07:54	24°♈08'29	-0°39'34
min. Earth dist.	2686 Oct 16 14:04	24°♈10'17	19.04612 AU
direct	2686 Dec 31 12:27	22°♈12'07	
evening set	2687 Mar 31 01:08	25°♈10'23	
conjunction	2687 Apr 16 02:33	26°♈04'58	-0°34'54
minimum elong	2687 Apr 16 02:33	26°♈04'58	0°34'54
max. Earth dist.	2687 Apr 16 20:25	26°♈07'30	21.03350 AU
morning rise	2687 May 02 07:48	27°♈00'04	
	2687 Jul 18 10:11	0°♉	
retrograde	2687 Aug 04 20:31	0°♉07'26	
	2687 Aug 22 12:12	30°℞♈	
opposition	2687 Oct 21 14:50	28°♈07'55	-0°37'26
min. Earth dist.	2687 Oct 20 23:18	28°♈09'30	19.02006 AU
direct	2688 Jan 04 16:07	26°♈11'25	
evening set	2688 Apr 03 07:26	29°♈09'59	
	2688 Apr 18 00:47	0°♉	
conjunction	2688 Apr 19 09:57	0°♉04'44	-0°32'53
minimum elong	2688 Apr 19 09:57	0°♉04'44	0°32'52
max. Earth dist.	2688 Apr 20 03:03	0°♉07'10	21.00479 AU
morning rise	2688 May 05 16:05	1°♉00'01	
retrograde	2688 Aug 08 06:44	4°♉07'42	
opposition	2688 Oct 24 21:45	2°♉08'02	-0°35'06
min. Earth dist.	2688 Oct 24 06:28	2°♉09'35	18.98854 AU
direct	2689 Jan 07 22:42	0°♉11'21	
evening set	2689 Apr 07 14:13	3°♉10'16	
conjunction	2689 Apr 23 17:38	4°♉05'12	-0°30'41
minimum elong	2689 Apr 23 17:38	4°♉05'12	0°30'41
max. Earth dist.	2689 Apr 24 08:49	4°♉07'22	20.97069 AU
morning rise	2689 May 10 00:52	5°♉00'41	
retrograde	2689 Aug 12 15:01	8°♉08'42	
opposition	2689 Oct 29 04:52	6°♉08'51	-0°32'36
min. Earth dist.	2689 Oct 28 15:55	6°♉10'10	18.95194 AU
direct	2690 Jan 12 03:08	4°♉11'56	
evening set	2690 Apr 11 21:30	7°♉11'17	
conjunction	2690 Apr 28 02:03	8°♉06'25	-0°28'20
minimum elong	2690 Apr 28 02:03	8°♉06'25	0°28'19
max. Earth dist.	2690 Apr 28 16:24	8°♉08'28	20.93191 AU
morning rise	2690 May 14 10:11	9°♉02'06	
retrograde	2690 Aug 17 01:35	12°♉10'28	
opposition	2690 Nov 02 11:44	10°♉10'26	-0°29'56
min. Earth dist.	2690 Nov 01 23:07	10°♉11'43	18.91093 AU
direct	2691 Jan 16 09:40	8°♉13'16	
evening set	2691 Apr 16 05:26	11°♉13'06	
conjunction	2691 May 02 10:52	12°♉08'28	-0°25'50
minimum elong	2691 May 02 10:52	12°♉08'28	0°25'51
max. Earth dist.	2691 May 02 23:23	12°♉10'15	20.88891 AU
morning rise	2691 May 18 20:00	13°♉04'22	
	2691 Jun 26 13:54	15°♉	
retrograde	2691 Aug 21 10:51	16°♉13'07	
	2691 Oct 18 02:09	15°℞♉	
opposition	2691 Nov 06 19:02	14°♉12'54	-0°27'06
min. Earth dist.	2691 Nov 06 08:38	14°♉13'58	18.86613 AU
direct	2692 Jan 20 14:44	12°♉15'28	
	2692 Apr 14 19:18	15°♉	
evening set	2692 Apr 19 13:40	15°♉15'51	
conjunction	2692 May 05 20:12	16°♉11'27	-0°23'13
minimum elong	2692 May 05 20:12	16°♉11'27	0°23'12
max. Earth dist.	2692 May 06 07:55	16°♉13'08	20.84255 AU
morning rise	2692 May 22 06:12	17°♉07'35	
retrograde	2692 Aug 24 22:09	20°♉16'46	
opposition	2692 Nov 10 02:25	18°♉16'21	-0°24'07
min. Earth dist.	2692 Nov 09 16:10	18°♉17'24	18.81817 AU
direct	2693 Jan 23 21:31	16°♉18'39	
evening set	2693 Apr 23 22:50	19°♉19'41	
conjunction	2693 May 10 06:17	20°♉15'32	-0°20'27
minimum elong	2693 May 10 06:17	20°♉15'32	0°20'27
max. Earth dist.	2693 May 10 16:16	20°♉16'57	20.79314 AU
morning rise	2693 May 26 17:15	21°♉11'53	
retrograde	2693 Aug 29 08:30	24°♉21'32	
opposition	2693 Nov 14 10:05	22°♉20'57	-0°21'00
min. Earth dist.	2693 Nov 14 02:02	22°♉21'47	18.76749 AU
direct	2694 Jan 28 03:14	20°♉22'58	
evening set	2694 Apr 28 08:37	23°♉24'43	
conjunction	2694 May 14 17:09	24°♉20'50	-0°17'35
minimum elong	2694 May 14 17:09	24°♉20'50	0°17'35
max. Earth dist.	2694 May 15 02:05	24°♉22'06	20.74134 AU
morning rise	2694 May 31 04:59	25°♉17'26	
retrograde	2694 Sep 02 21:12	28°♉27'35	
opposition	2694 Nov 18 18:00	26°♉26'51	-0°17'46
min. Earth dist.	2694 Nov 18 10:12	26°♉27'39	18.71446 AU
direct	2695 Feb 01 10:49	24°♉28'34	
evening set	2695 May 02 19:13	27°♉31'07	
conjunction	2695 May 19 04:38	28°♉27'30	-0°14'37
minimum elong	2695 May 19 04:38	28°♉27'30	0°14'37
behind sun begin	2695 May 19 01:55	28°♉27'07	
behind sun end	2695 May 19 07:20	28°♉27'53	
max. Earth dist.	2695 May 19 11:53	28°♉28'32	20.68717 AU
morning rise	2695 Jun 04 17:18	29°♉24'22	
	2695 Jun 15 11:44	0°♊	
retrograde	2695 Sep 07 08:10	2°♊35'04	
opposition	2695 Nov 23 02:26	0°♊34'11	-0°14'26
min. Earth dist.	2695 Nov 22 20:47	0°♊34'46	18.65929 AU
	2695 Dec 07 00:12	30°℞♉	
direct	2696 Feb 05 17:22	28°♉35'39	
	2696 Apr 04 05:07	0°♊	
evening set	2696 May 06 06:34	1°♊39'03	
conjunction	2696 May 22 17:01	2°♊35'43	-0°11'33
minimum elong	2696 May 22 17:01	2°♊35'43	0°11'34
behind sun begin	2696 May 22 12:16	2°♊35'03	
behind sun end	2696 May 22 21:46	2°♊36'23	
max. Earth dist.	2696 May 22 23:01	2°♊36'34	20.63118 AU
morning rise	2696 Jun 08 06:29	3°♊32'51	
retrograde	2696 Sep 10 22:27	6°♊44'07	
opposition	2696 Nov 26 11:08	4°♊43'07	-0°11'00
min. Earth dist.	2696 Nov 26 05:54	4°♊43'40	18.60229 AU
direct	2697 Feb 09 02:11	2°♊44'18	
evening set	2697 May 10 18:54	5°♊48'39	
conjunction	2697 May 27 06:16	6°♊45'36	-0°08'26
minimum elong	2697 May 27 06:15	6°♊45'36	0°08'25
behind sun begin	2697 May 27 00:22	6°♊44'46	
behind sun end	2697 May 27 12:08	6°♊46'26	
max. Earth dist.	2697 May 27 10:33	6°♊46'12	20.57318 AU
morning rise	2697 Jun 12 20:31	7°♊43'01	

retrograde	2697 Sep 15 10:32	10°♊54'52	
opposition	2697 Nov 30 20:31	8°♊53'47	-0°07'29
min. Earth dist.	2697 Nov 30 17:39	8°♊54'05	18.54324 AU
direct	2698 Feb 13 09:37	6°♊54'42	
evening set	2698 May 15 08:17	10°♊00'02	
conjunction	2698 May 31 20:33	10°♊57'18	-0°05'14
minimum elong	2698 May 31 20:34	10°♊57'18	0°05'14
behind sun begin	2698 May 31 14:03	10°♊56'22	
behind sun end	2698 Jun 01 03:04	10°♊58'13	
max. Earth dist.	2698 May 31 23:06	10°♊57'38	20.51317 AU
morning rise	2698 Jun 17 11:32	11°♊54'59	
retrograde	2698 Sep 20 01:59	15°♊07'28	
opposition	2698 Dec 05 06:10	13°♊06'16	-0°03'54
min. Earth dist.	2698 Dec 05 04:08	13°♊06'29	18.48207 AU
direct	2699 Feb 17 20:21	11°♊06'53	
evening set	2699 May 19 22:42	14°♊13'17	
conjunction	2699 Jun 05 11:47	15°♊10'51	-0°01'58
minimum elong	2699 Jun 05 11:47	15°♊10'51	0°01'57
behind sun begin	2699 Jun 05 05:03	15°♊09'54	
behind sun end	2699 Jun 05 18:32	15°♊11'49	
max. Earth dist.	2699 Jun 05 12:28	15°♊10'55	20.45075 AU
morning rise	2699 Jun 22 03:22	16°♊08'49	
retrograde	2699 Sep 24 15:05	19°♊21'56	
opposition	2699 Dec 09 16:41	17°♊20'38	-0°00'16
min. Earth dist.	2699 Dec 09 17:10	17°♊20'35	18.41846 AU
asc. node	2700 Jan 05 03:33	16°♊17'16	
direct	2700 Feb 22 05:06	15°♊20'55	
evening set	2700 May 24 13:57	18°♊28'25	
conjunction	2700 Jun 10 03:53	19°♊26'17	0°01'27
minimum elong	2700 Jun 10 03:52	19°♊26'17	0°01'27
behind sun begin	2700 Jun 09 21:08	19°♊25'19	
behind sun end	2700 Jun 10 10:37	19°♊27'15	
max. Earth dist.	2700 Jun 10 02:20	19°♊26'07	20.38599 AU
morning rise	2700 Jun 26 20:07	20°♊24'31	
retrograde	2700 Sep 29 07:41	23°♊38'16	
opposition	2700 Dec 14 03:44	21°♊36'50	0°03'25
min. Earth dist.	2700 Dec 14 05:15	21°♊36'40	18.35243 AU
direct	2701 Feb 26 17:56	19°♊36'45	
evening set	2701 May 29 06:22	22°♊45'22	
conjunction	2701 Jun 14 21:05	23°♊43'34	0°04'47
minimum elong	2701 Jun 14 21:06	23°♊43'34	0°04'46
behind sun begin	2701 Jun 14 14:31	23°♊42'37	
behind sun end	2701 Jun 15 03:42	23°♊44'30	
max. Earth dist.	2701 Jun 14 17:42	23°♊43'06	20.31868 AU
morning rise	2701 Jul 01 13:49	24°♊42'04	
retrograde	2701 Oct 03 21:46	27°♊56'26	
opposition	2701 Dec 18 15:20	25°♊54'51	0°07'05
min. Earth dist.	2701 Dec 18 19:23	25°♊54'25	18.28405 AU
direct	2702 Mar 03 04:42	23°♊54'21	
evening set	2702 Jun 02 23:45	27°♊04'08	
conjunction	2702 Jun 19 15:10	28°♊02'38	0°08'05
minimum elong	2702 Jun 19 15:10	28°♊02'38	0°08'05
behind sun begin	2702 Jun 19 09:11	28°♊01'46	
behind sun end	2702 Jun 19 21:09	28°♊03'29	
max. Earth dist.	2702 Jun 19 09:14	28°♊01'46	20.24947 AU
morning rise	2702 Jul 06 08:27	29°♊01'25	
	2702 Jul 23 23:22	0°♋	
retrograde	2702 Oct 08 15:09	2°♋16'23	
opposition	2702 Dec 23 03:32	0°♋14'37	0°10'46
min. Earth dist.	2702 Dec 23 08:41	0°♋14'04	18.21405 AU
	2702 Dec 28 21:31	30°℞♊	
direct	2703 Mar 07 18:45	28°♊13'42	
	2703 May 12 14:44	0°♋	
evening set	2703 Jun 07 17:51	1°♋24'39	
conjunction	2703 Jun 24 09:58	2°♋23'28	0°11'22
minimum elong	2703 Jun 24 09:58	2°♋23'28	0°11'21
behind sun begin	2703 Jun 24 05:06	2°♋22'46	
behind sun end	2703 Jun 24 14:50	2°♋24'10	
max. Earth dist.	2703 Jun 24 02:41	2°♋22'24	20.17879 AU
morning rise	2703 Jul 11 03:31	3°♋22'31	
retrograde	2703 Oct 13 06:46	6°♋38'07	
opposition	2703 Dec 27 16:24	4°♋36'10	0°14'24
min. Earth dist.	2703 Dec 27 23:39	4°♋35'23	18.14302 AU
direct	2704 Mar 11 07:37	2°♋34'47	
evening set	2704 Jun 11 12:59	5°♋46'58	
conjunction	2704 Jun 28 05:38	6°♋46'04	0°14'36
minimum elong	2704 Jun 28 05:38	6°♋46'04	0°14'36
behind sun begin	2704 Jun 28 03:00	6°♋45'41	
behind sun end	2704 Jun 28 08:16	6°♋46'27	
max. Earth dist.	2704 Jun 27 19:50	6°♋44'38	20.10770 AU
morning rise	2704 Jul 14 23:38	7°♋45'24	
retrograde	2704 Oct 17 00:48	11°♋01'36	
opposition	2704 Dec 31 05:42	8°♋59'28	0°17'58
min. Earth dist.	2704 Dec 31 14:02	8°♋58'35	18.07199 AU
direct	2705 Mar 15 22:37	6°♋57'38	
evening set	2705 Jun 16 09:00	10°♋11'03	
conjunction	2705 Jul 03 02:17	11°♋10'28	0°17'47
minimum elong	2705 Jul 03 02:17	11°♋10'28	0°17'47
max. Earth dist.	2705 Jul 02 15:33	11°♋08'53	20.03676 AU
morning rise	2705 Jul 19 20:24	12°♋10'03	
retrograde	2705 Oct 21 18:13	15°♋26'52	
opposition	2706 Jan 04 19:48	13°♋24'34	0°21'28
min. Earth dist.	2706 Jan 05 05:52	13°♋23'29	18.00145 AU
direct	2706 Mar 20 13:22	11°♋22'17	
evening set	2706 Jun 21 06:00	14°♋36'59	
conjunction	2706 Jul 07 23:35	15°♋36'41	0°20'52
minimum elong	2706 Jul 07 23:35	15°♋36'41	0°20'52
max. Earth dist.	2706 Jul 07 10:19	15°♋34'42	19.96682 AU
morning rise	2706 Jul 24 17:59	16°♋36'31	
retrograde	2706 Oct 26 13:12	19°♋53'57	
opposition	2707 Jan 09 10:28	17°♋51'30	0°24'51
min. Earth dist.	2707 Jan 09 21:32	17°♋50'18	17.93235 AU
direct	2707 Mar 25 05:42	15°♋48'47	
evening set	2707 Jun 26 03:46	19°♋04'46	
conjunction	2707 Jul 12 21:50	20°♋04'45	0°23'51
minimum elong	2707 Jul 12 21:50	20°♋04'45	0°23'52
max. Earth dist.	2707 Jul 12 08:09	20°♋02'42	19.89854 AU
morning rise	2707 Jul 29 16:07	21°♋04'50	
retrograde	2707 Oct 31 08:18	24°♋22'51	
opposition	2708 Jan 14 01:56	22°♋20'18	0°28'07
min. Earth dist.	2708 Jan 14 14:14	22°♋18'58	17.86522 AU
direct	2708 Mar 28 21:58	20°♋17'12	
evening set	2708 Jun 30 02:27	23°♋34'27	
conjunction	2708 Jul 16 20:41	24°♋34'43	0°26'43
minimum elong	2708 Jul 16 20:41	24°♋34'43	0°26'42
max. Earth dist.	2708 Jul 16 04:33	24°♋32'18	19.83268 AU
morning rise	2708 Aug 02 15:08	25°♋35'02	
retrograde	2708 Nov 04 04:53	28°♋53'41	
opposition	2709 Jan 17 18:09	26°♋51'02	0°31'14
min. Earth dist.	2709 Jan 18 07:30	26°♋49'35	17.80079 AU
direct	2709 Apr 02 15:36	24°♋47'33	
evening set	2709 Jul 05 02:04	28°♋06'07	

conjunction	2709 Jul 21	20:40	29°♋06'40	0°29'25
minimum elong	2709 Jul 21	20:40	29°♋06'40	0°29'26
max. Earth dist.	2709 Jul 21	04:23	29°♋04'12	19.76959 AU
	2709 Aug 05	14:17	0°♌	
morning rise	2709 Aug 07	14:49	0°♌07'12	
retrograde	2709 Nov 09	01:50	3°♌26'25	
opposition	2710 Jan 22	11:02	1°♌23'44	0°34'10
min. Earth dist.	2710 Jan 23	01:18	1°♌22'11	17.73920 AU
	2710 Feb 26	18:24	30°℞♋	
direct	2710 Apr 07	09:19	29°♋19'56	
	2710 May 16	10:48	0°♌	
evening set	2710 Jul 10	02:44	2°♌39'49	
conjunction	2710 Jul 26	21:15	3°♌40'36	0°31'58
minimum elong	2710 Jul 26	21:15	3°♌40'36	0°31'58
max. Earth dist.	2710 Jul 26	02:34	3°♌37'46	19.70960 AU
morning rise	2710 Aug 12	15:21	4°♌41'21	
retrograde	2710 Nov 14	00:04	8°♌01'10	
opposition	2711 Jan 27	04:50	5°♌58'28	0°36'55
min. Earth dist.	2711 Jan 27	20:22	5°♌56'47	17.68088 AU
direct	2711 Apr 12	04:13	3°♌54'22	
evening set	2711 Jul 15	03:54	7°♌15'32	
conjunction	2711 Jul 31	22:35	8°♌16'34	0°34'20
minimum elong	2711 Jul 31	22:35	8°♌16'34	0°34'20
max. Earth dist.	2711 Jul 31	03:56	8°♌13'43	19.65272 AU
morning rise	2711 Aug 17	16:14	9°♌17'30	
retrograde	2711 Nov 18	22:29	12°♌37'53	
opposition	2712 Jan 31	23:22	10°♌35'12	0°39'27
min. Earth dist.	2712 Feb 01	15:34	10°♌33'26	17.62547 AU
direct	2712 Apr 15	23:51	8°♌30'49	
evening set	2712 Jul 19	06:15	11°♌53'14	
max. Earth dist.	2712 Aug 04	03:40	12°♌51'15	19.59872 AU
conjunction	2712 Aug 05	00:42	12°♌54'29	0°36'30
minimum elong	2712 Aug 05	00:41	12°♌54'29	0°36'30
morning rise	2712 Aug 21	18:06	13°♌55'36	
	2712 Sep 09	10:36	15°♌	
retrograde	2712 Nov 22	21:20	17°♌16'31	
opposition	2713 Feb 04	18:41	15°♌13'49	0°41'45
min. Earth dist.	2713 Feb 05	12:32	15°♌11'52	17.57300 AU
	2713 Feb 10	01:26	15°℞♌	
direct	2713 Apr 20	20:14	13°♌09'10	
	2713 Jun 26	17:40	15°♌	
evening set	2713 Jul 24	09:15	16°♌32'47	
max. Earth dist.	2713 Aug 09	06:21	17°♌30'57	19.54753 AU
conjunction	2713 Aug 10	03:40	17°♌34'14	0°38'26
minimum elong	2713 Aug 10	03:39	17°♌34'14	0°38'25
morning rise	2713 Aug 26	20:28	18°♌35'30	
retrograde	2713 Nov 27	20:42	21°♌56'53	
opposition	2714 Feb 09	14:48	19°♌54'11	0°43'47
min. Earth dist.	2714 Feb 10	09:02	19°♌52'11	17.52315 AU
direct	2714 Apr 25	18:48	17°♌49'16	
evening set	2714 Jul 29	12:58	21°♌14'00	
max. Earth dist.	2714 Aug 14	07:37	22°♌12'01	19.49901 AU
conjunction	2714 Aug 15	06:56	22°♌15'37	0°40'08
minimum elong	2714 Aug 15	06:56	22°♌15'37	0°40'08
morning rise	2714 Aug 31	23:13	23°♌17'01	
retrograde	2714 Dec 02	19:13	26°♌38'49	
opposition	2715 Feb 14	11:46	24°♌36'05	0°45'32
min. Earth dist.	2715 Feb 15	07:40	24°♌33'55	17.47626 AU
direct	2715 Apr 30	17:07	22°♌30'54	
evening set	2715 Aug 03	17:07	25°♌56'41	
max. Earth dist.	2715 Aug 19	11:14	26°♌54'48	19.45368 AU
conjunction	2715 Aug 20	10:49	26°♌58'27	0°41'34
minimum elong	2715 Aug 20	10:49	26°♌58'27	0°41'34
morning rise	2715 Sep 06	02:26	27°♌59'56	
	2715 Oct 12	21:12	0°♍	
retrograde	2715 Dec 07	19:09	1°♍22'06	
	2716 Feb 03	14:41	30°℞♌	
opposition	2716 Feb 19	09:11	29°♌19'20	0°47'00
min. Earth dist.	2716 Feb 20	05:02	29°♌17'10	17.43260 AU
direct	2716 May 04	18:17	27°♌13'52	
	2716 Jul 27	11:29	0°♍	
evening set	2716 Aug 07	21:47	0°♍40'37	
conjunction	2716 Aug 24	15:01	1°♍42'30	0°42'44
minimum elong	2716 Aug 24	15:01	1°♍42'30	0°42'43
max. Earth dist.	2716 Aug 23	14:11	1°♍38'39	19.41179 AU
morning rise	2716 Sep 10	05:57	2°♍44'05	
retrograde	2716 Dec 11	17:54	6°♍06'32	
opposition	2717 Feb 23	07:26	4°♍03'44	0°48'09
min. Earth dist.	2717 Feb 24	04:51	4°♍01'23	17.39275 AU
direct	2717 May 09	18:27	1°♍57'59	
evening set	2717 Aug 13	02:49	5°♍25'37	
conjunction	2717 Aug 29	19:32	6°♍27'35	0°43'36
minimum elong	2717 Aug 29	19:32	6°♍27'35	0°43'36
max. Earth dist.	2717 Aug 28	18:22	6°♍23'40	19.37405 AU
morning rise	2717 Sep 15	09:42	7°♍29'13	
retrograde	2717 Dec 16	18:39	10°♍51'54	
opposition	2718 Feb 28	06:03	8°♍49'03	0°48'58
min. Earth dist.	2718 Mar 01	02:56	8°♍46'46	17.35722 AU
direct	2718 May 14	21:34	6°♍43'03	
evening set	2718 Aug 18	08:04	10°♍11'27	
max. Earth dist.	2718 Sep 02	22:49	11°♍09'32	19.34087 AU
conjunction	2718 Sep 04	00:10	11°♍13'30	0°44'10
minimum elong	2718 Sep 04	00:10	11°♍13'30	0°44'09
morning rise	2718 Sep 20	13:24	12°♍15'09	
retrograde	2718 Dec 21	17:46	15°♍38'01	
opposition	2719 Mar 05	05:26	13°♍35'08	0°49'26
min. Earth dist.	2719 Mar 06	03:28	13°♍32'43	17.32672 AU
direct	2719 May 19	22:30	11°♍28'54	
evening set	2719 Aug 23	13:15	14°♍57'57	
max. Earth dist.	2719 Sep 08	03:03	15°♍56'01	19.31314 AU
conjunction	2719 Sep 09	04:37	16°♍00'02	0°44'26
minimum elong	2719 Sep 09	04:37	16°♍00'02	0°44'26
morning rise	2719 Sep 25	17:06	17°♍01'42	
retrograde	2719 Dec 26	19:16	20°♍24'41	
opposition	2720 Mar 09	05:06	18°♍21'46	0°49'34
min. Earth dist.	2720 Mar 10	02:06	18°♍19'27	17.30181 AU
direct	2720 May 24	02:16	16°♍15'20	
evening set	2720 Aug 27	18:36	19°♍44'57	
max. Earth dist.	2720 Sep 12	08:34	20°♍43'10	19.29114 AU
conjunction	2720 Sep 13	09:18	20°♍47'02	0°44'23
minimum elong	2720 Sep 13	09:18	20°♍47'02	0°44'22
morning rise	2720 Sep 29	20:41	21°♍48'41	
retrograde	2720 Dec 30	19:00	25°♍11'43	
opposition	2721 Mar 14	05:16	23°♍08'49	0°49'21
min. Earth dist.	2721 Mar 15	03:00	23°♍06'26	17.28300 AU
direct	2721 May 29	03:59	21°♍02'14	
evening set	2721 Sep 02	00:02	24°♍32'19	
conjunction	2721 Sep 18	13:45	25°♍34'23	0°44'01
minimum elong	2721 Sep 18	13:45	25°♍34'23	0°44'01
max. Earth dist.	2721 Sep 17	12:48	25°♍30'28	19.27565 AU
morning rise	2721 Oct 05	00:16	26°♍36'00	
retrograde	2722 Jan 04	20:31	29°♍59'02	

opposition	2722 Mar 19 05:51	27°♍56'10	0°48'47
min. Earth dist.	2722 Mar 20 02:11	27°♍53'56	17.27087 AU
direct	2722 Jun 03 07:45	25°♍49'31	
evening set	2722 Sep 07 05:03	29°♍19'57	
	2722 Sep 17 22:24	0°♎	
conjunction	2722 Sep 23 18:01	0°♎21'59	0°43'22
minimum elong	2722 Sep 23 18:01	0°♎21'59	0°43'22
max. Earth dist.	2722 Sep 22 18:50	0°♎18'20	19.26689 AU
morning rise	2722 Oct 10 03:19	1°♎23'31	
retrograde	2723 Jan 09 20:50	4°♎46'32	
opposition	2723 Mar 24 06:56	2°♎43'45	0°47'53
min. Earth dist.	2723 Mar 25 03:21	2°♎41'31	17.26555 AU
direct	2723 Jun 08 10:16	0°♎37'06	
evening set	2723 Sep 12 10:10	4°♎07'48	
conjunction	2723 Sep 28 22:01	5°♎09'45	0°42'24
minimum elong	2723 Sep 28 22:01	5°♎09'45	0°42'23
max. Earth dist.	2723 Sep 27 22:40	5°♎06'04	19.26511 AU
morning rise	2723 Oct 15 06:27	6°♎11'12	
retrograde	2724 Jan 14 22:02	9°♎34'09	
opposition	2724 Mar 28 08:02	7°♎31'30	0°46'39
min. Earth dist.	2724 Mar 29 03:08	7°♎29'25	17.26712 AU
direct	2724 Jun 12 13:49	5°♎24'54	
evening set	2724 Sep 16 14:55	8°♎55'46	
max. Earth dist.	2724 Oct 02 04:41	9°♎54'16	19.26991 AU
conjunction	2724 Oct 03 01:58	9°♎57'38	0°41'09
minimum elong	2724 Oct 03 01:58	9°♎57'38	0°41'09
morning rise	2724 Oct 19 09:10	10°♎58'57	
retrograde	2725 Jan 18 22:52	14°♎21'47	
opposition	2725 Apr 02 09:42	12°♎19'18	0°45'05
min. Earth dist.	2725 Apr 03 04:33	12°♎17'14	17.27493 AU
direct	2725 Jun 17 17:26	10°♎12'50	
evening set	2725 Sep 21 19:32	13°♎43'44	
max. Earth dist.	2725 Oct 07 07:55	14°♎42'04	19.28077 AU
conjunction	2725 Oct 08 05:20	14°♎45'27	0°39'36
minimum elong	2725 Oct 08 05:20	14°♎45'27	0°39'36
morning rise	2725 Oct 24 11:35	15°♎46'39	
retrograde	2726 Jan 23 23:09	19°♎09'19	
opposition	2726 Apr 07 11:31	17°♎06'59	0°43'13
min. Earth dist.	2726 Apr 08 05:16	17°♎05'04	17.28867 AU
direct	2726 Jun 22 21:08	15°♎00'40	
evening set	2726 Sep 26 23:34	18°♎31'29	
conjunction	2726 Oct 13 08:28	19°♎33'03	0°37'47
minimum elong	2726 Oct 13 08:28	19°♎33'03	0°37'47
max. Earth dist.	2726 Oct 12 13:13	19°♎30'01	19.29724 AU
morning rise	2726 Oct 29 13:28	20°♎34'05	
retrograde	2727 Jan 28 23:53	23°♎56'32	
opposition	2727 Apr 12 13:32	21°♎54'22	0°41'03
min. Earth dist.	2727 Apr 13 06:32	21°♎52'32	17.30767 AU
direct	2727 Jun 28 02:04	19°♎48'14	
evening set	2727 Oct 02 03:13	23°♎18'48	
conjunction	2727 Oct 18 10:54	24°♎20'12	0°35'43
minimum elong	2727 Oct 18 10:54	24°♎20'12	0°35'43
max. Earth dist.	2727 Oct 17 15:43	24°♎17'11	19.31878 AU
morning rise	2727 Nov 03 14:57	25°♎21'03	
retrograde	2728 Feb 02 22:49	28°♎43'13	
opposition	2728 Apr 16 15:36	26°♎41'12	0°38'35
min. Earth dist.	2728 Apr 17 07:49	26°♎39'27	17.33161 AU
direct	2728 Jul 02 06:07	24°♎35'14	
evening set	2728 Oct 06 06:14	28°♎05'29	
conjunction	2728 Oct 22 12:55	29°♎06'40	0°33'24
minimum elong	2728 Oct 22 12:55	29°♎06'40	0°33'23
max. Earth dist.	2728 Oct 21 19:43	29°♎03'57	19.34499 AU
	2728 Nov 05 16:25	0°♏	
morning rise	2728 Nov 07 15:46	0°♏07'19	
retrograde	2729 Feb 06 22:40	3°♏29'07	
opposition	2729 Apr 21 17:35	1°♏27'16	0°35'52
min. Earth dist.	2729 Apr 22 08:31	1°♏25'39	17.35988 AU
	2729 May 29 02:17	30°℞♎	
direct	2729 Jul 07 11:51	29°♎21'29	
	2729 Aug 14 23:08	0°♏	
evening set	2729 Oct 11 08:41	2°♏51'15	
conjunction	2729 Oct 27 14:10	3°♏52'13	0°30'51
minimum elong	2729 Oct 27 14:10	3°♏52'13	0°30'51
max. Earth dist.	2729 Oct 26 21:31	3°♏49'36	19.37549 AU
morning rise	2729 Nov 12 16:00	4°♏52'39	
retrograde	2730 Feb 11 20:37	8°♏14'02	
opposition	2730 Apr 26 19:39	6°♏12'19	0°32'54
min. Earth dist.	2730 Apr 27 09:54	6°♏10'48	17.39254 AU
direct	2730 Jul 12 15:15	4°♏06'44	
evening set	2730 Oct 16 10:05	7°♏35'54	
conjunction	2730 Nov 01 14:32	8°♏36'37	0°28'06
minimum elong	2730 Nov 01 14:32	8°♏36'37	0°28'06
max. Earth dist.	2730 Oct 31 23:46	8°♏34'18	19.41028 AU
morning rise	2730 Nov 17 15:20	9°♏36'49	
retrograde	2731 Feb 16 19:51	12°♏57'44	
opposition	2731 May 01 21:22	10°♏56'09	0°29'44
min. Earth dist.	2731 May 02 09:42	10°♏54'50	17.42921 AU
direct	2731 Jul 17 20:02	8°♏50'45	
evening set	2731 Oct 21 10:50	12°♏19'12	
conjunction	2731 Nov 06 14:10	13°♏19'40	0°25'11
minimum elong	2731 Nov 06 14:10	13°♏19'40	0°25'10
max. Earth dist.	2731 Nov 06 00:38	13°♏17'33	19.44903 AU
morning rise	2731 Nov 22 13:59	14°♏19'38	
	2731 Dec 03 18:53	15°♏	
retrograde	2732 Feb 21 16:58	17°♏40'01	
opposition	2732 May 05 22:45	15°♏38'32	0°26'23
min. Earth dist.	2732 May 06 10:32	15°♏37'16	17.47002 AU
	2732 May 21 05:38	15°℞♏	
direct	2732 Jul 21 22:08	13°♏33'20	
	2732 Sep 18 18:25	15°♏	
evening set	2732 Oct 25 10:39	17°♏00'58	
conjunction	2732 Nov 10 12:55	18°♏01'10	0°22'06
minimum elong	2732 Nov 10 12:55	18°♏01'10	0°22'07
max. Earth dist.	2732 Nov 10 01:05	17°♏59'19	19.49199 AU
morning rise	2732 Nov 26 11:48	19°♏00'52	
retrograde	2733 Feb 25 15:29	22°♏20'40	
opposition	2733 May 10 23:49	20°♏19'17	0°22'52
min. Earth dist.	2733 May 11 09:09	20°♏18'18	17.51493 AU
direct	2733 Jul 27 01:35	18°♏14'19	
evening set	2733 Oct 30 09:22	21°♏41'02	
conjunction	2733 Nov 15 10:35	22°♏40'56	0°18'53
minimum elong	2733 Nov 15 10:35	22°♏40'56	0°18'53
max. Earth dist.	2733 Nov 15 00:52	22°♏39'25	19.53904 AU
morning rise	2733 Dec 01 08:28	23°♏40'22	
retrograde	2734 Mar 02 11:31	26°♏59'35	
opposition	2734 May 16 00:40	24°♏58'18	0°19'13
min. Earth dist.	2734 May 16 09:10	24°♏57'24	17.56422 AU
direct	2734 Aug 01 02:22	22°♏53'34	
evening set	2734 Nov 04 07:11	26°♏19'18	
conjunction	2734 Nov 20 07:18	27°♏18'54	0°15'35
minimum elong	2734 Nov 20 07:18	27°♏18'54	0°15'35

behind sun begin	2734 Nov 20 05:32	27°♏18'38	
behind sun end	2734 Nov 20 09:04	27°♏19'11	
max. Earth dist.	2734 Nov 19 23:15	27°♏17'40	19.59063 AU
morning rise	2734 Dec 06 04:24	28°♏18'04	
	2735 Jan 05 11:20	0°♐	
retrograde	2735 Mar 07 09:12	1°♐36'39	
	2735 May 11 07:12	30°℞♏	
opposition	2735 May 21 00:45	29°♏35'29	0°15'28
min. Earth dist.	2735 May 21 06:20	29°♏34'53	17.61797 AU
direct	2735 Aug 06 04:33	27°♏31'02	
	2735 Oct 24 08:11	0°♐	
evening set	2735 Nov 09 03:57	0°♐55'45	
conjunction	2735 Nov 25 03:10	1°♐55'03	0°12'12
minimum elong	2735 Nov 25 03:09	1°♐55'02	0°12'12
behind sun begin	2735 Nov 24 22:40	1°♐54'22	
behind sun end	2735 Nov 25 07:38	1°♐55'43	
max. Earth dist.	2735 Nov 24 21:41	1°♐54'12	19.64657 AU
morning rise	2735 Dec 10 23:20	2°♐53'55	
retrograde	2736 Mar 11 03:38	6°♐11'52	
opposition	2736 May 25 00:35	4°♐10'52	0°11'40
min. Earth dist.	2736 May 25 05:14	4°♐10'22	17.67604 AU
direct	2736 Aug 10 04:21	2°♐06'46	
evening set	2736 Nov 12 23:49	5°♐30'23	
conjunction	2736 Nov 28 21:57	6°♐29'22	0°08'46
minimum elong	2736 Nov 28 21:57	6°♐29'22	0°08'46
behind sun begin	2736 Nov 28 16:14	6°♐28'30	
behind sun end	2736 Nov 29 03:40	6°♐30'14	
max. Earth dist.	2736 Nov 28 17:52	6°♐28'45	19.70676 AU
morning rise	2736 Dec 14 17:28	7°♐27'57	
retrograde	2737 Mar 16 00:10	10°♐45'17	
opposition	2737 May 29 23:44	8°♐44'27	0°07'48
min. Earth dist.	2737 May 30 01:22	8°♐44'17	17.73804 AU
direct	2737 Aug 15 05:21	6°♐40'44	
evening set	2737 Nov 17 18:38	10°♐03'15	
conjunction	2737 Dec 03 15:59	11°♐01'55	0°05'19
minimum elong	2737 Dec 03 15:59	11°♐01'55	0°05'19
behind sun begin	2737 Dec 03 09:36	11°♐00'57	
behind sun end	2737 Dec 03 22:22	11°♐02'53	
max. Earth dist.	2737 Dec 03 14:46	11°♐01'45	19.77051 AU
morning rise	2737 Dec 19 10:39	12°♐00'13	
retrograde	2738 Mar 20 17:23	15°♐16'55	
opposition	2738 Jun 03 22:34	13°♐16'17	0°03'55
min. Earth dist.	2738 Jun 03 23:18	13°♐16'13	17.80334 AU
direct	2738 Aug 20 03:55	11°♐13'00	
evening set	2738 Nov 22 12:31	14°♐34'21	
conjunction	2738 Dec 08 08:53	15°♐32'42	0°01'49
minimum elong	2738 Dec 08 08:53	15°♐32'42	0°01'48
behind sun begin	2738 Dec 08 02:18	15°♐31'42	
behind sun end	2738 Dec 08 15:28	15°♐33'41	
max. Earth dist.	2738 Dec 08 08:44	15°♐32'41	19.83724 AU
morning rise	2738 Dec 24 03:05	16°♐30'42	
retrograde	2739 Mar 25 12:39	19°♐46'47	
opposition	2739 Jun 08 20:39	17°♐46'22	0°00'03
min. Earth dist.	2739 Jun 08 18:40	17°♐46'34	17.87114 AU
desc. node	2739 Jun 13 11:01	17°♐34'54	
direct	2739 Aug 25 03:25	15°♐43'30	
evening set	2739 Nov 27 05:30	19°♐03'41	
conjunction	2739 Dec 13 01:13	20°♐01'42	-0°01'46
minimum elong	2739 Dec 13 01:11	20°♐01'42	0°01'46
behind sun begin	2739 Dec 12 18:36	20°♐00'43	
behind sun end	2739 Dec 13 07:46	20°♐02'41	
max. Earth dist.	2739 Dec 13 03:51	20°♐02'03	19.90590 AU
morning rise	2739 Dec 28 18:37	20°♐59'26	
retrograde	2740 Mar 29 04:28	24°♐14'52	
opposition	2740 Jun 12 18:14	22°♐14'40	-0°03'48
min. Earth dist.	2740 Jun 12 15:30	22°♐14'57	17.94051 AU
direct	2740 Aug 29 00:36	20°♐12'15	
evening set	2740 Nov 30 21:45	23°♐31'13	
conjunction	2740 Dec 16 16:29	24°♐28'55	-0°05'14
minimum elong	2740 Dec 16 16:29	24°♐28'55	0°05'14
behind sun begin	2740 Dec 16 10:08	24°♐27'58	
behind sun end	2740 Dec 16 22:51	24°♐29'52	
max. Earth dist.	2740 Dec 16 19:51	24°♐29'24	19.97587 AU
morning rise	2741 Jan 01 09:33	25°♐26'22	
retrograde	2741 Apr 02 22:33	28°♐41'10	
opposition	2741 Jun 17 15:16	26°♐41'10	-0°07'36
min. Earth dist.	2741 Jun 17 10:09	26°♐41'41	18.01086 AU
direct	2741 Sep 02 22:06	24°♐39'10	
evening set	2741 Dec 05 12:48	27°♐56'55	
conjunction	2741 Dec 21 07:00	28°♐54'18	-0°08'36
minimum elong	2741 Dec 21 07:00	28°♐54'18	0°08'36
behind sun begin	2741 Dec 21 01:15	28°♐53'27	
behind sun end	2741 Dec 21 12:44	28°♐55'10	
max. Earth dist.	2741 Dec 21 13:06	28°♐55'13	20.04631 AU
morning rise	2742 Jan 05 23:25	29°♐51'28	
	2742 Jan 08 08:51	0°♑	
retrograde	2742 Apr 07 13:20	3°♑05'39	
opposition	2742 Jun 22 11:47	1°♑05'50	-0°11'21
min. Earth dist.	2742 Jun 22 05:49	1°♑06'26	18.08128 AU
	2742 Jul 20 16:05	30°℞♐	
direct	2742 Sep 07 18:07	29°♐04'15	
	2742 Oct 24 20:12	0°♑	
evening set	2742 Dec 10 03:14	2°♑20'45	
conjunction	2742 Dec 25 20:38	3°♑17'50	-0°11'55
minimum elong	2742 Dec 25 20:38	3°♑17'50	0°11'55
behind sun begin	2742 Dec 25 16:02	3°♑17'09	
behind sun end	2742 Dec 26 01:15	3°♑18'31	
max. Earth dist.	2742 Dec 26 03:08	3°♑18'48	20.11657 AU
morning rise	2743 Jan 10 12:51	4°♑14'44	
retrograde	2743 Apr 12 05:41	7°♑28'17	
opposition	2743 Jun 27 07:19	5°♑28'36	-0°14'59
min. Earth dist.	2743 Jun 26 23:26	5°♑29'25	18.15128 AU
direct	2743 Sep 12 13:15	3°♑27'24	
evening set	2743 Dec 14 16:36	6°♑42'41	
conjunction	2743 Dec 30 09:37	7°♑39'28	-0°15'09
minimum elong	2743 Dec 30 09:36	7°♑39'28	0°15'09
behind sun begin	2743 Dec 30 07:09	7°♑39'07	
behind sun end	2743 Dec 30 12:04	7°♑39'50	
max. Earth dist.	2743 Dec 30 18:34	7°♑40'49	20.18601 AU
morning rise	2744 Jan 15 01:20	8°♑36'06	
retrograde	2744 Apr 15 19:30	11°♑49'00	
opposition	2744 Jul 01 02:22	9°♑49'29	-0°18'31
min. Earth dist.	2744 Jun 30 17:33	9°♑50'23	18.22011 AU
direct	2744 Sep 16 07:59	7°♑48'39	
evening set	2744 Dec 18 05:08	11°♑02'40	
conjunction	2745 Jan 02 21:28	11°♑59'10	-0°18'16
minimum elong	2745 Jan 02 21:28	11°♑59'10	0°18'15
max. Earth dist.	2745 Jan 03 06:44	12°♑00'33	20.25424 AU
morning rise	2745 Jan 18 13:06	12°♑55'33	
retrograde	2745 Apr 20 09:59	16°♑07'50	
opposition	2745 Jul 05 20:40	14°♑08'24	-0°21'55
min. Earth dist.	2745 Jul 05 10:08	14°♑09'28	18.28775 AU
direct	2745 Sep 21 00:48	12°♑07'54	
evening set	2745 Dec 22 16:35	15°♑20'40	

conjunction	2746 Jan 07	08:40	16°♉16'53	-0°21'16	
minimum elong	2746 Jan 07	08:40	16°♉16'53	0°21'16	
max. Earth dist.	2746 Jan 07	20:28	16°♉18'39	20.32117 AU	
morning rise	2746 Jan 22	23:59	17°♉13'01		
retrograde	2746 Apr 24	22:42	20°♉24'40		
opposition	2746 Jul 10	14:06	18°♉25'19	-0°25'10	
min. Earth dist.	2746 Jul 10	02:23	18°♉26'30	18.35403 AU	
direct	2746 Sep 25	17:57	16°♉25'08		
evening set	2746 Dec 27	03:14	19°♉36'40		
conjunction	2747 Jan 11	18:48	20°♉32'36	-0°24'07	
minimum elong	2747 Jan 11	18:48	20°♉32'36	0°24'07	
max. Earth dist.	2747 Jan 12	07:01	20°♉34'26	20.38687 AU	
morning rise	2747 Jan 27	10:13	21°♉28'31		
retrograde	2747 Apr 29	11:45	24°♉39'34		
opposition	2747 Jul 15	06:47	22°♉40'16	-0°28'15	
min. Earth dist.	2747 Jul 14	17:34	22°♉41'36	18.41929 AU	
direct	2747 Sep 30	08:33	20°♉40'23		
evening set	2747 Dec 31	12:56	23°♉50'43		
conjunction	2748 Jan 16	04:20	24°♉46'24	-0°26'50	
minimum elong	2748 Jan 16	04:20	24°♉46'24	0°26'51	
max. Earth dist.	2748 Jan 16	19:07	24°♉48'36	20.45152 AU	
morning rise	2748 Jan 31	19:30	25°♉42'05		
retrograde	2748 May 02	23:22	28°♉52'33		
opposition	2748 Jul 18	22:38	26°♉53'20	-0°31'09	
min. Earth dist.	2748 Jul 18	07:53	26°♉54'49	18.48347 AU	
direct	2748 Oct 03	23:42	24°♉53'47		
evening set	2749 Jan 03	22:02	28°♉02'57		
conjunction	2749 Jan 19	13:01	28°♉58'23	-0°29'22	
minimum elong	2749 Jan 19	13:01	28°♉58'23	0°29'22	
max. Earth dist.	2749 Jan 20	04:17	29°♉00'39	20.51527 AU	
morning rise	2749 Feb 04	04:22	29°♉53'51		
	2749 Feb 05	22:48	0°♒		
retrograde	2749 May 07	11:40	3°♒03'48		
opposition	2749 Jul 23	13:54	1°♒04'39	-0°33'51	
min. Earth dist.	2749 Jul 22	21:49	1°♒06'16	18.54690 AU	
	2749 Aug 20	18:40	30°℞♉		
direct	2749 Oct 08	12:39	29°♉05'26		
	2749 Nov 24	08:03	0°♒		
evening set	2750 Jan 08	06:08	2°♒13'29		
conjunction	2750 Jan 23	21:09	3°♒08'42	-0°31'44	
minimum elong	2750 Jan 23	21:09	3°♒08'42	0°31'44	
max. Earth dist.	2750 Jan 24	14:51	3°♒11'19	20.57809 AU	
morning rise	2750 Feb 08	12:27	4°♒03'58		
retrograde	2750 May 11	22:47	7°♒13'25		
min. Earth dist.	2750 Jul 27	10:40	5°♒16'09	18.60903 AU	
opposition	2750 Jul 28	04:22	5°♒14'22	-0°36'22	
direct	2750 Oct 13	01:47	3°♒15'31		
evening set	2751 Jan 12	13:53	6°♒22'30		
conjunction	2751 Jan 28	04:39	7°♒17'30	-0°33'55	
minimum elong	2751 Jan 28	04:38	7°♒17'30	0°33'55	
max. Earth dist.	2751 Jan 28	22:36	7°♒20'09	20.63946 AU	
morning rise	2751 Feb 12	20:16	8°♒12'36		
retrograde	2751 May 16	10:07	11°♒21'34		
opposition	2751 Aug 01	18:04	9°♒22'38	-0°38'41	
min. Earth dist.	2751 Jul 31	23:34	9°♒24'30	18.66965 AU	
direct	2751 Oct 17	13:08	7°♒24'08		
evening set	2752 Jan 16	20:52	10°♒30'07		
conjunction	2752 Feb 01	11:46	11°♒24'55	-0°35'55	
minimum elong	2752 Feb 01	11:46	11°♒24'55	0°35'54	
max. Earth dist.	2752 Feb 02	07:49	11°♒27'52	20.69900 AU	
morning rise	2752 Feb 17	03:27	12°♒19'51		
	2752 Apr 16	00:48	15°♒		
retrograde	2752 May 19	20:50	15°♒28'24		
	2752 Jun 23	14:04	15°℞♒		
min. Earth dist.	2752 Aug 04	11:18	13°♒31'35	18.72796 AU	
opposition	2752 Aug 05	07:14	13°♒29'35	-0°40'47	
direct	2752 Oct 21	00:56	11°♒31'26		
evening set	2753 Jan 20	03:23	14°♒36'27		
	2753 Jan 26	22:11	15°♒		
conjunction	2753 Feb 04	18:09	15°♒31'04	-0°37'44	
minimum elong	2753 Feb 04	18:09	15°♒31'04	0°37'44	
max. Earth dist.	2753 Feb 05	14:19	15°♒34'01	20.75599 AU	
morning rise	2753 Feb 20	10:17	16°♒25'52		
retrograde	2753 May 24	07:04	19°♒34'02		
opposition	2753 Aug 09	19:58	17°♒35'19	-0°42'40	
min. Earth dist.	2753 Aug 08	23:40	17°♒37'21	18.78362 AU	
direct	2753 Oct 25	11:06	15°♒37'30		
evening set	2754 Jan 24	09:26	18°♒41'36		
conjunction	2754 Feb 09	00:28	19°♒36'04	-0°39'21	
minimum elong	2754 Feb 09	00:28	19°♒36'04	0°39'20	
max. Earth dist.	2754 Feb 09	22:21	19°♒39'16	20.80996 AU	
morning rise	2754 Feb 24	16:47	20°♒30'43		
retrograde	2754 May 28	17:37	23°♒38'32		
min. Earth dist.	2754 Aug 13	10:25	21°♒42'03	18.83577 AU	
opposition	2754 Aug 14	07:51	21°♒39'55	-0°44'20	
direct	2754 Oct 29	21:45	19°♒42'24		
evening set	2755 Jan 28	15:15	22°♒45'39		
conjunction	2755 Feb 13	06:19	23°♒39'58	-0°40'45	
minimum elong	2755 Feb 13	06:19	23°♒39'58	0°40'46	
max. Earth dist.	2755 Feb 14	03:53	23°♒43'06	20.86010 AU	
morning rise	2755 Feb 28	23:11	24°♒34'31		
retrograde	2755 Jun 02	02:24	27°♒42'00		
opposition	2755 Aug 18	19:25	25°♒43'27	-0°45'46	
min. Earth dist.	2755 Aug 17	22:14	25°♒45'34	18.88391 AU	
direct	2755 Nov 03	06:36	23°♒46'13		
evening set	2756 Feb 01	20:32	26°♒48'40		
conjunction	2756 Feb 17	11:58	27°♒42'51	-0°41'58	
minimum elong	2756 Feb 17	11:57	27°♒42'51	0°41'58	
max. Earth dist.	2756 Feb 18	10:48	27°♒46'10	20.90587 AU	
morning rise	2756 Mar 04	05:06	28°♒37'17		
	2756 Mar 30	06:06	0°♓		
retrograde	2756 Jun 05	12:29	1°♓44'29		
	2756 Aug 16	09:28	30°℞♒		
min. Earth dist.	2756 Aug 21	08:14	29°♒48'11	18.92722 AU	
opposition	2756 Aug 22	06:21	29°♒45'59	-0°46'58	
direct	2756 Nov 06	16:36	27°♒48'59		
	2757 Jan 20	14:25	0°♓		
evening set	2757 Feb 05	01:44	0°♓50'40		
conjunction	2757 Feb 20	17:19	1°♓44'44	-0°42'57	
minimum elong	2757 Feb 20	17:19	1°♓44'44	0°42'57	
max. Earth dist.	2757 Feb 21	15:30	1°♓47'57	20.94664 AU	
morning rise	2757 Mar 08	11:07	2°♓39'06		
retrograde	2757 Jun 09	20:15	5°♓46'03		
opposition	2757 Aug 26	16:55	3°♓47'31	-0°47'56	
min. Earth dist.	2757 Aug 25	19:26	3°♓49'40	18.96552 AU	
direct	2757 Nov 10	23:56	1°♓50'42		
evening set	2758 Feb 09	06:22	4°♓51'41		
conjunction	2758 Feb 24	22:31	5°♓45'40	-0°43'44	
minimum elong	2758 Feb 24	22:31	5°♓45'40	0°43'44	
max. Earth dist.	2758 Feb 25	21:39	5°♓49'00	20.98225 AU	
morning rise	2758 Mar 12	16:47	6°♓39'58		
retrograde	2758 Jun 14	05:18	9°♓46'38		

min. Earth dist.	2758 Aug 30 04:30	7°♓50'18	18.99838 AU	
opposition	2758 Aug 31 02:46	7°♓48'05	-0°48'40	
direct	2758 Nov 15 09:19	5°♓51'24		
evening set	2759 Feb 13 10:57	8°♓51'43		
conjunction	2759 Mar 01 03:22	9°♓45'38	-0°44'17	
minimum elong	2759 Mar 01 03:22	9°♓45'38	0°44'17	
max. Earth dist.	2759 Mar 02 01:41	9°♓48'51	21.01248 AU	
morning rise	2759 Mar 16 22:24	10°♓39'53		
retrograde	2759 Jun 18 12:31	13°♓46'20		
opposition	2759 Sep 04 12:07	11°♓47'43	-0°49'09	
min. Earth dist.	2759 Sep 03 14:43	11°♓49'51	19.02616 AU	
direct	2759 Nov 19 15:21	9°♓51'07		
evening set	2760 Feb 17 15:03	12°♓50'51		
conjunction	2760 Mar 04 08:07	13°♓44'42	-0°44'37	
minimum elong	2760 Mar 04 08:07	13°♓44'42	0°44'38	
max. Earth dist.	2760 Mar 05 07:21	13°♓48'03	21.03787 AU	
morning rise	2760 Mar 20 03:40	14°♓38'55		
retrograde	2760 Jun 21 20:33	17°♓45'11		
opposition	2760 Sep 07 20:57	15°♓46'29	-0°49'24	
min. Earth dist.	2760 Sep 06 22:36	15°♓48'42	19.04922 AU	
direct	2760 Nov 22 23:41	13°♓49'58		
evening set	2761 Feb 20 18:58	16°♓49'10		
conjunction	2761 Mar 08 12:25	17°♓42'59	-0°44'45	
minimum elong	2761 Mar 08 12:25	17°♓42'59	0°44'44	
max. Earth dist.	2761 Mar 09 11:01	17°♓46'13	21.05873 AU	
morning rise	2761 Mar 24 08:50	18°♓37'12		
retrograde	2761 Jun 26 03:53	21°♓43'20		
min. Earth dist.	2761 Sep 11 07:58	19°♓46'41	19.06810 AU	
opposition	2761 Sep 12 05:29	19°♓44'32	-0°49'24	
direct	2761 Nov 27 04:46	17°♓48'05		
evening set	2762 Feb 24 22:46	20°♓46'50		
conjunction	2762 Mar 12 16:59	21°♓40'39	-0°44'39	
minimum elong	2762 Mar 12 16:59	21°♓40'39	0°44'39	
max. Earth dist.	2762 Mar 13 16:27	21°♓44'01	21.07560 AU	
morning rise	2762 Mar 28 14:01	22°♓34'52		
retrograde	2762 Jun 30 11:29	25°♓40'55		
opposition	2762 Sep 16 13:16	23°♓42'03	-0°49'10	
min. Earth dist.	2762 Sep 15 14:53	23°♓44'17	19.08297 AU	
direct	2762 Dec 01 11:47	21°♓45'40		
evening set	2763 Mar 01 02:39	24°♓44'05		
conjunction	2763 Mar 16 21:21	25°♓37'53	-0°44'20	
minimum elong	2763 Mar 16 21:21	25°♓37'53	0°44'20	
max. Earth dist.	2763 Mar 17 19:59	25°♓41'08	21.08850 AU	
morning rise	2763 Apr 01 19:19	26°♓32'09		
retrograde	2763 Jul 04 18:42	29°♓38'10		
opposition	2763 Sep 20 21:02	27°♓39'14	-0°48'42	
min. Earth dist.	2763 Sep 19 23:39	27°♓41'22	19.09402 AU	
direct	2763 Dec 05 16:06	25°♓42'56		
evening set	2764 Mar 04 06:15	28°♓41'03		
conjunction	2764 Mar 20 01:48	29°♓34'54	-0°43'49	
minimum elong	2764 Mar 20 01:48	29°♓34'54	0°43'49	
max. Earth dist.	2764 Mar 21 01:13	29°♓38'15	21.09765 AU	
	2764 Mar 27 09:29	0°♈		
morning rise	2764 Apr 05 00:26	0°♈29'12		
retrograde	2764 Jul 08 02:34	3°♈35'15		
min. Earth dist.	2764 Sep 23 06:15	1°♈38'30	19.10115 AU	
opposition	2764 Sep 24 04:26	1°♈36'17	-0°48'01	
	2764 Nov 10 08:33	30°♑♓		
direct	2764 Dec 08 22:17	29°♓40'02		
	2765 Jan 05 20:24	0°♈		
evening set	2765 Mar 08 10:15	2°♈37'58		
conjunction	2765 Mar 24 06:24	3°♈31'52	-0°43'06	
minimum elong	2765 Mar 24 06:24	3°♈31'52	0°43'06	
max. Earth dist.	2765 Mar 25 04:51	3°♈35'04	21.10281 AU	
morning rise	2765 Apr 09 06:02	4°♈26'14		
retrograde	2765 Jul 12 09:37	7°♈32'22		
opposition	2765 Sep 28 11:43	5°♈33'21	-0°47'06	
min. Earth dist.	2765 Sep 27 14:52	5°♈35'27	19.10434 AU	
direct	2765 Dec 13 02:02	3°♈37'10		
evening set	2766 Mar 12 14:14	6°♈34'59		
conjunction	2766 Mar 28 11:21	7°♈28'57	-0°42'10	
minimum elong	2766 Mar 28 11:21	7°♈28'57	0°42'10	
max. Earth dist.	2766 Mar 29 10:15	7°♈32'13	21.10395 AU	
morning rise	2766 Apr 13 11:47	8°♈23'24		
retrograde	2766 Jul 16 18:13	11°♈29'40		
opposition	2766 Oct 02 18:42	9°♈30'37	-0°45'58	
min. Earth dist.	2766 Oct 01 21:25	9°♈32'45	19.10319 AU	
direct	2766 Dec 17 07:53	7°♈34'29		
evening set	2767 Mar 16 18:41	10°♈32'16		
conjunction	2767 Apr 01 16:26	11°♈26'19	-0°41'02	
minimum elong	2767 Apr 01 16:26	11°♈26'19	0°41'03	
max. Earth dist.	2767 Apr 02 14:01	11°♈29'24	21.10052 AU	
morning rise	2767 Apr 17 17:53	12°♈20'52		
retrograde	2767 Jul 21 01:05	15°♈27'18		
min. Earth dist.	2767 Oct 06 06:08	13°♈30'11	19.09745 AU	
opposition	2767 Oct 07 01:42	13°♈28'14	-0°44'36	
direct	2767 Dec 21 11:23	11°♈32'06		
evening set	2768 Mar 19 23:18	14°♈29'56		
conjunction	2768 Apr 04 22:04	15°♈24'05	-0°39'43	
minimum elong	2768 Apr 04 22:04	15°♈24'05	0°39'42	
max. Earth dist.	2768 Apr 05 19:41	15°♈27'10	21.09240 AU	
morning rise	2768 Apr 21 00:17	16°♈18'45		
retrograde	2768 Jul 24 10:21	19°♈25'24		
opposition	2768 Oct 10 08:34	17°♈26'16	-0°43'02	
min. Earth dist.	2768 Oct 09 12:53	17°♈28'15	19.08669 AU	
direct	2768 Dec 24 17:04	15°♈30'08		
evening set	2769 Mar 24 04:25	18°♈28'04		
conjunction	2769 Apr 09 03:55	19°♈22'21	-0°38'12	
minimum elong	2769 Apr 09 03:56	19°♈22'21	0°38'12	
max. Earth dist.	2769 Apr 09 23:49	19°♈25'11	21.07897 AU	
morning rise	2769 Apr 25 07:15	20°♈17'09		
retrograde	2769 Jul 28 17:37	23°♈24'02		
opposition	2769 Oct 14 15:36	21°♈24'49	-0°41'15	
min. Earth dist.	2769 Oct 13 22:01	21°♈26'35	19.07050 AU	
direct	2769 Dec 28 20:58	19°♈28'37		
evening set	2770 Mar 28 09:55	22°♈26'43		
conjunction	2770 Apr 13 10:30	23°♈21'08	-0°36'29	
minimum elong	2770 Apr 13 10:30	23°♈21'08	0°36'29	
max. Earth dist.	2770 Apr 14 05:52	23°♈23'54	21.05997 AU	
morning rise	2770 Apr 29 14:39	24°♈16'05		
retrograde	2770 Aug 02 03:13	27°♈23'12		
opposition	2770 Oct 18 22:18	25°♈23'53	-0°39'16	
min. Earth dist.	2770 Oct 18 04:56	25°♈25'38	19.04852 AU	
direct	2771 Jan 02 02:39	23°♈27'34		
evening set	2771 Apr 01 15:55	26°♈25'53		
conjunction	2771 Apr 17 17:19	27°♈20'28	-0°34'36	
minimum elong	2771 Apr 17 17:19	27°♈20'28	0°34'36	
max. Earth dist.	2771 Apr 18 10:36	27°♈22'56	21.03513 AU	
morning rise	2771 May 03 22:33	28°♈15'35		
	2771 Jun 07 11:19	0°♉		
retrograde	2771 Aug 06 10:55	1°♉22'57		
	2771 Oct 07 22:20	30°♑♈		

opposition	2771 Oct 23 05:20	29°♈23'29	-0°37'05
min. Earth dist.	2771 Oct 22 14:11	29°♈25'01	19.02088 AU
direct	2772 Jan 06 07:02	27°♈26'59	
	2772 Mar 28 03:32	0°♉	
evening set	2772 Apr 04 22:00	0°♉25'34	
conjunction	2772 Apr 21 00:31	1°♉20'19	-0°32'32
minimum elong	2772 Apr 21 00:31	1°♉20'19	0°32'33
max. Earth dist.	2772 Apr 21 17:18	1°♉22'43	21.00493 AU
morning rise	2772 May 07 06:38	2°♉15'36	
retrograde	2772 Aug 09 20:57	5°♉23'16	
opposition	2772 Oct 26 12:14	3°♉23'36	-0°34'43
min. Earth dist.	2772 Oct 25 21:14	3°♉25'08	18.98803 AU
direct	2773 Jan 09 13:20	1°♉26'54	
evening set	2773 Apr 09 04:50	4°♉25'49	
conjunction	2773 Apr 25 08:12	5°♉20'45	-0°30'19
minimum elong	2773 Apr 25 08:13	5°♉20'45	0°30'18
max. Earth dist.	2773 Apr 25 23:03	5°♉22'51	20.96974 AU
morning rise	2773 May 11 15:25	6°♉16'13	
retrograde	2773 Aug 14 05:04	9°♉24'12	
opposition	2773 Oct 30 19:11	7°♉24'19	-0°32'10
min. Earth dist.	2773 Oct 30 06:25	7°♉25'37	18.95065 AU
direct	2774 Jan 13 17:40	5°♉27'22	
evening set	2774 Apr 13 12:01	8°♉26'41	
conjunction	2774 Apr 29 16:32	9°♉21'49	-0°27'55
minimum elong	2774 Apr 29 16:32	9°♉21'49	0°27'56
max. Earth dist.	2774 Apr 30 06:49	9°♉23'52	20.93041 AU
morning rise	2774 May 16 00:36	10°♉17'30	
retrograde	2774 Aug 18 16:01	13°♉25'49	
opposition	2774 Nov 04 02:08	11°♉25'44	-0°29'27
min. Earth dist.	2774 Nov 03 13:30	11°♉27'01	18.90934 AU
direct	2775 Jan 18 00:39	9°♉28'31	
evening set	2775 Apr 17 19:47	12°♉28'19	
conjunction	2775 May 04 01:08	13°♉23'40	-0°25'24
minimum elong	2775 May 04 01:08	13°♉23'40	0°25'23
max. Earth dist.	2775 May 04 13:37	13°♉25'27	20.88730 AU
morning rise	2775 May 20 10:13	14°♉19'33	
	2775 Jun 01 19:11	15°♉	
retrograde	2775 Aug 23 00:30	17°♉28'16	
opposition	2775 Nov 08 09:23	15°♉27'59	-0°26'35
min. Earth dist.	2775 Nov 07 22:51	15°♉29'03	18.86464 AU
	2775 Nov 19 20:48	15°℞♉	
direct	2776 Jan 22 05:04	13°♉30'30	
	2776 Mar 22 18:58	15°♉	
evening set	2776 Apr 21 04:04	16°♉30'51	
conjunction	2776 May 07 10:33	17°♉26'26	-0°22'44
minimum elong	2776 May 07 10:33	17°♉26'26	0°22'45
max. Earth dist.	2776 May 07 22:26	17°♉28'08	20.84122 AU
morning rise	2776 May 23 20:29	18°♉22'33	
retrograde	2776 Aug 26 12:34	21°♉31'41	
opposition	2776 Nov 11 16:40	19°♉31'13	-0°23'34
min. Earth dist.	2776 Nov 11 06:15	19°♉32'17	18.81710 AU
direct	2777 Jan 25 12:38	17°♉33'27	
evening set	2777 Apr 25 13:09	20°♉34'27	
conjunction	2777 May 11 20:32	21°♉30'17	-0°19'57
minimum elong	2777 May 11 20:33	21°♉30'17	0°19'57
max. Earth dist.	2777 May 12 06:36	21°♉31'43	20.79233 AU
morning rise	2777 May 28 07:28	22°♉26'38	
retrograde	2777 Aug 30 22:06	25°♉36'15	
opposition	2777 Nov 16 00:25	23°♉35'37	-0°20'26
min. Earth dist.	2777 Nov 15 16:11	23°♉36'28	18.76696 AU
direct	2778 Jan 29 17:42	21°♉37'36	
evening set	2778 Apr 29 22:55	24°♉39'19	
conjunction	2778 May 16 07:24	25°♉35'25	-0°17'03
minimum elong	2778 May 16 07:24	25°♉35'25	0°17'03
max. Earth dist.	2778 May 16 16:34	25°♉36'43	20.74108 AU
morning rise	2778 Jun 01 19:07	26°♉32'00	
retrograde	2778 Sep 04 10:55	29°♉42'07	
opposition	2778 Nov 20 08:13	27°♉41'21	-0°17'11
min. Earth dist.	2778 Nov 20 00:16	27°♉42'11	18.71447 AU
direct	2779 Feb 03 01:51	25°♉43'04	
evening set	2779 May 04 09:35	28°♉45'36	
conjunction	2779 May 20 18:56	29°♉41'58	-0°14'04
minimum elong	2779 May 20 18:56	29°♉41'58	0°14'04
behind sun begin	2779 May 20 15:44	29°♉41'31	
behind sun end	2779 May 20 22:08	29°♉42'25	
max. Earth dist.	2779 May 21 02:14	29°♉43'01	20.68746 AU
	2779 May 25 23:44	0°♊	
morning rise	2779 Jun 06 07:34	0°♊38'50	
retrograde	2779 Sep 08 22:07	3°♊49'30	
opposition	2779 Nov 24 16:44	1°♊48'37	-0°13'49
min. Earth dist.	2779 Nov 24 11:03	1°♊49'13	18.65975 AU
	2780 Jan 18 19:36	30°℞♉	
direct	2780 Feb 07 08:00	29°♉50'05	
	2780 Feb 26 19:05	0°♊	
evening set	2780 May 07 20:52	2°♊53'29	
conjunction	2780 May 24 07:18	3°♊50'09	-0°10'59
minimum elong	2780 May 24 07:17	3°♊50'09	0°10'59
behind sun begin	2780 May 24 02:17	3°♊49'26	
behind sun end	2780 May 24 12:18	3°♊50'51	
max. Earth dist.	2780 May 24 13:28	3°♊51'01	20.63175 AU
morning rise	2780 Jun 09 20:43	4°♊47'16	
retrograde	2780 Sep 12 12:06	7°♊58'32	
opposition	2780 Nov 28 01:33	5°♊57'34	-0°10'21
min. Earth dist.	2780 Nov 27 20:23	5°♊58'06	18.60279 AU
direct	2781 Feb 10 16:53	3°♊58'46	
evening set	2781 May 12 09:26	7°♊03'07	
conjunction	2781 May 28 20:42	8°♊00'05	-0°07'50
minimum elong	2781 May 28 20:43	8°♊00'05	0°07'50
behind sun begin	2781 May 28 14:41	7°♊59'13	
behind sun end	2781 May 29 02:44	8°♊00'56	
max. Earth dist.	2781 May 29 00:50	8°♊00'39	20.57351 AU
morning rise	2781 Jun 14 10:56	8°♊57'29	
retrograde	2781 Sep 17 01:00	12°♊09'22	
opposition	2781 Dec 02 10:54	10°♊08'18	-0°06'49
min. Earth dist.	2781 Dec 02 08:22	10°♊08'34	18.54326 AU
direct	2782 Feb 15 00:31	8°♊09'13	
evening set	2782 May 16 22:54	11°♊14'36	
conjunction	2782 Jun 02 11:08	12°♊11'51	-0°04'37
minimum elong	2782 Jun 02 11:08	12°♊11'51	0°04'37
behind sun begin	2782 Jun 02 04:33	12°♊10'55	
behind sun end	2782 Jun 02 17:43	12°♊12'47	
max. Earth dist.	2782 Jun 02 13:30	12°♊12'10	20.51271 AU
morning rise	2782 Jun 19 02:03	13°♊09'32	
retrograde	2782 Sep 21 16:10	16°♊22'03	
opposition	2782 Dec 06 20:47	14°♊20'53	-0°03'12
min. Earth dist.	2782 Dec 06 19:03	14°♊21'04	18.48101 AU
direct	2783 Feb 19 10:32	12°♊21'30	
evening set	2783 May 21 13:16	15°♊27'56	
conjunction	2783 Jun 07 02:19	16°♊25'30	-0°01'19
minimum elong	2783 Jun 07 02:17	16°♊25'30	0°01'19
behind sun begin	2783 Jun 06 19:33	16°♊24'32	
behind sun end	2783 Jun 07 09:02	16°♊26'27	

max. Earth dist.	2783 Jun 07	02:31	16°♊25'31	20.44893 AU	
morning rise	2783 Jun 23	17:50	17°♊23'28		
retrograde	2783 Sep 26	06:14	20°♊36'37		
asc. node	2783 Oct 27	08:31	20°♊12'40		
opposition	2783 Dec 11	07:24	18°♊35'19	0°00'27	
min. Earth dist.	2783 Dec 11	08:16	18°♊35'13	18.41583 AU	
direct	2784 Feb 23	20:15	16°♊35'35		
evening set	2784 May 25	04:38	19°♊43'06		
conjunction	2784 Jun 10	18:30	20°♊40'59	0°02'06	
minimum elong	2784 Jun 10	18:31	20°♊40'59	0°02'06	
behind sun begin	2784 Jun 10	11:46	20°♊40'02		
behind sun end	2784 Jun 11	01:15	20°♊41'57		
max. Earth dist.	2784 Jun 10	16:37	20°♊40'46	20.38252 AU	
morning rise	2784 Jun 27	10:42	21°♊39'14		
retrograde	2784 Sep 29	22:03	24°♊53'01		
opposition	2784 Dec 14	18:21	22°♊51'33	0°04'08	
min. Earth dist.	2784 Dec 14	20:08	22°♊51'22	18.34814 AU	
direct	2785 Feb 27	07:52	20°♊51'25		
evening set	2785 May 29	20:58	24°♊00'05		
conjunction	2785 Jun 15	11:39	24°♊58'17	0°05'26	
minimum elong	2785 Jun 15	11:39	24°♊58'17	0°05'26	
behind sun begin	2785 Jun 15	05:09	24°♊57'21		
behind sun end	2785 Jun 15	18:10	24°♊59'13		
max. Earth dist.	2785 Jun 15	07:47	24°♊57'44	20.31365 AU	
morning rise	2785 Jul 02	04:21	25°♊56'48		
retrograde	2785 Oct 04	13:03	29°♊11'12		
opposition	2785 Dec 19	06:01	27°♊09'34	0°07'49	
min. Earth dist.	2785 Dec 19	10:17	27°♊09'07	18.27832 AU	
direct	2786 Mar 03	19:25	25°♊09'01		
evening set	2786 Jun 03	14:11	28°♊18'50		
conjunction	2786 Jun 20	05:33	29°♊17'21	0°08'44	
minimum elong	2786 Jun 20	05:33	29°♊17'21	0°08'43	
behind sun begin	2786 Jun 19	23:44	29°♊16'30		
behind sun end	2786 Jun 20	11:22	29°♊18'11		
max. Earth dist.	2786 Jun 19	23:27	29°♊16'28	20.24318 AU	
	2786 Jul 02	07:26	0°♋		
morning rise	2786 Jul 06	22:46	0°♋16'08		
retrograde	2786 Oct 09	05:28	3°♋31'10		
opposition	2786 Dec 23	18:04	1°♋29'20	0°11'29	
min. Earth dist.	2786 Dec 23	23:13	1°♋28'47	18.20731 AU	
	2787 Feb 01	03:49	30°℞♊		
direct	2787 Mar 08	09:03	29°♊28'21		
	2787 Apr 12	03:23	0°♋		
evening set	2787 Jun 08	08:17	2°♋39'21		
conjunction	2787 Jun 25	00:20	3°♋38'11	0°12'00	
minimum elong	2787 Jun 25	00:20	3°♋38'11	0°12'01	
behind sun begin	2787 Jun 24	19:48	3°♋37'31		
behind sun end	2787 Jun 25	04:53	3°♋38'50		
max. Earth dist.	2787 Jun 24	16:49	3°♋37'05	20.17176 AU	
morning rise	2787 Jul 11	17:52	4°♋37'15		
retrograde	2787 Oct 13	21:17	7°♋52'54		
opposition	2787 Dec 28	06:51	5°♋50'53	0°15'06	
min. Earth dist.	2787 Dec 28	14:07	5°♋50'06	18.13581 AU	
direct	2788 Mar 11	21:45	3°♋49'27		
evening set	2788 Jun 12	03:14	7°♋01'40		
conjunction	2788 Jun 28	19:51	8°♋00'47	0°15'14	
minimum elong	2788 Jun 28	19:51	8°♋00'47	0°15'14	
behind sun begin	2788 Jun 28	18:04	8°♋00'32		
behind sun end	2788 Jun 28	21:39	8°♋01'03		
max. Earth dist.	2788 Jun 28	10:08	7°♋59'21	20.10040 AU	
morning rise	2788 Jul 15	13:51	9°♋00'08		
retrograde	2788 Oct 17	15:10	12°♋16'24		
opposition	2788 Dec 31	20:11	10°♋14'12	0°18'40	
min. Earth dist.	2789 Jan 01	04:18	10°♋13'20	18.06470 AU	
direct	2789 Mar 16	13:19	8°♋12'19		
evening set	2789 Jun 16	23:14	11°♋25'47		
conjunction	2789 Jul 03	16:27	12°♋25'13	0°18'23	
minimum elong	2789 Jul 03	16:27	12°♋25'13	0°18'24	
max. Earth dist.	2789 Jul 03	05:45	12°♋23'38	20.02956 AU	
morning rise	2789 Jul 20	10:32	13°♋24'49		
retrograde	2789 Oct 22	08:10	16°♋41'42		
opposition	2790 Jan 05	10:11	14°♋39'21	0°22'08	
min. Earth dist.	2790 Jan 05	20:06	14°♋38'17	17.99449 AU	
direct	2790 Mar 21	03:33	12°♋37'01		
evening set	2790 Jun 21	20:10	15°♋51'46		
conjunction	2790 Jul 08	13:43	16°♋51'29	0°21'28	
minimum elong	2790 Jul 08	13:43	16°♋51'29	0°21'28	
max. Earth dist.	2790 Jul 08	00:45	16°♋49'33	19.96018 AU	
morning rise	2790 Jul 25	08:05	17°♋51'20		
retrograde	2790 Oct 27	03:28	21°♋08'50		
opposition	2791 Jan 10	00:55	19°♋06'20	0°25'30	
min. Earth dist.	2791 Jan 10	11:37	19°♋05'11	17.92611 AU	
direct	2791 Mar 25	20:11	17°♋03'36		
evening set	2791 Jun 26	17:45	20°♋19'37		
conjunction	2791 Jul 13	11:48	21°♋19'38	0°24'26	
minimum elong	2791 Jul 13	11:47	21°♋19'38	0°24'25	
max. Earth dist.	2791 Jul 12	22:26	21°♋17'38	19.89274 AU	
morning rise	2791 Jul 30	06:04	22°♋19'44		
retrograde	2791 Oct 31	22:42	25°♋37'51		
opposition	2792 Jan 14	16:29	23°♋35'16	0°28'44	
min. Earth dist.	2792 Jan 15	04:31	23°♋33'58	17.85990 AU	
direct	2792 Mar 29	12:13	21°♋32'09		
evening set	2792 Jun 30	16:33	24°♋49'28		
conjunction	2792 Jul 17	10:45	25°♋49'45	0°27'16	
minimum elong	2792 Jul 17	10:45	25°♋49'45	0°27'16	
max. Earth dist.	2792 Jul 16	19:03	25°♋47'23	19.82788 AU	
morning rise	2792 Aug 03	05:11	26°♋50'05		
	2792 Oct 17	17:05	0°♌		
retrograde	2792 Nov 04	19:14	0°♌08'49		
	2792 Nov 23	00:01	30°℞♋		
opposition	2793 Jan 18	08:36	28°♋06'09	0°31'49	
min. Earth dist.	2793 Jan 18	21:37	28°♋04'45	17.79646 AU	
direct	2793 Apr 03	05:39	26°♋02'41		
evening set	2793 Jul 05	16:13	29°♋21'19		
	2793 Jul 16	10:29	0°♌		
conjunction	2793 Jul 22	10:47	0°♌21'52	0°29'57	
minimum elong	2793 Jul 22	10:46	0°♌21'52	0°29'56	
max. Earth dist.	2793 Jul 21	18:52	0°♌19'28	19.76572 AU	
morning rise	2793 Aug 08	04:55	1°♌22'25		
retrograde	2793 Nov 09	16:50	4°♌41'45		
opposition	2794 Jan 23	01:40	2°♌39'04	0°34'44	
min. Earth dist.	2794 Jan 23	15:48	2°♌37'32	17.73568 AU	
direct	2794 Apr 07	23:38	0°♌35'17		
evening set	2794 Jul 10	16:53	3°♌55'13		
conjunction	2794 Jul 27	11:20	4°♌56'01	0°32'28	
minimum elong	2794 Jul 27	11:20	4°♌56'01	0°32'28	
max. Earth dist.	2794 Jul 26	17:00	4°♌53'14	19.70633 AU	
morning rise	2794 Aug 13	05:25	5°♌56'47		
retrograde	2794 Nov 14	14:15	9°♌16'42		
opposition	2795 Jan 27	19:30	7°♌14'00	0°37'27	
min. Earth dist.	2795 Jan 28	10:54	7°♌12'20	17.67773 AU	
direct	2795 Apr 12	18:28	5°♌09'55		
evening set	2795 Jul 15	18:20	8°♌31'08		

conjunction	2795 Aug 01 12:58	9°♌32'10	0°34'48
minimum elong	2795 Aug 01 12:58	9°♌32'10	0°34'48
max. Earth dist.	2795 Jul 31 18:29	9°♌29'21	19.64957 AU
morning rise	2795 Aug 18 06:35	10°♌33'08	
retrograde	2795 Nov 19 13:30	13°♌53'35	
opposition	2796 Feb 01 14:05	11°♌50'53	0°39'57
min. Earth dist.	2796 Feb 02 06:25	11°♌49'06	17.62226 AU
direct	2796 Apr 16 14:41	9°♌46'31	
evening set	2796 Jul 19 20:49	13°♌08'57	
conjunction	2796 Aug 05 15:13	14°♌10'13	0°36'56
minimum elong	2796 Aug 05 15:13	14°♌10'13	0°36'56
max. Earth dist.	2796 Aug 04 18:11	14°♌06'59	19.59531 AU
	2796 Aug 19 05:15	15°♌	
morning rise	2796 Aug 22 08:36	15°♌11'20	
retrograde	2796 Nov 23 11:25	18°♌32'18	
opposition	2797 Feb 05 09:36	16°♌29'34	0°42'13
min. Earth dist.	2797 Feb 06 03:29	16°♌27'37	17.56935 AU
	2797 Mar 15 14:19	15°℞♌	
direct	2797 Apr 21 11:32	14°♌24'53	
	2797 May 27 23:12	15°♌	
evening set	2797 Jul 24 23:54	17°♌48'31	
conjunction	2797 Aug 10 18:16	18°♌49'58	0°38'50
minimum elong	2797 Aug 10 18:16	18°♌49'58	0°38'51
max. Earth dist.	2797 Aug 09 21:01	18°♌46'42	19.54357 AU
morning rise	2797 Aug 27 11:02	19°♌51'15	
retrograde	2797 Nov 28 11:27	23°♌12'39	
opposition	2798 Feb 10 05:45	21°♌09'54	0°44'12
min. Earth dist.	2798 Feb 11 00:07	21°♌07'53	17.51894 AU
direct	2798 Apr 26 10:01	19°♌04'56	
evening set	2798 Jul 30 03:43	22°♌29'40	
conjunction	2798 Aug 15 21:41	23°♌31'17	0°40'30
minimum elong	2798 Aug 15 21:41	23°♌31'17	0°40'29
max. Earth dist.	2798 Aug 14 22:19	23°♌27'41	19.49461 AU
morning rise	2798 Sep 01 13:58	24°♌32'41	
retrograde	2798 Dec 03 09:45	27°♌54'30	
opposition	2799 Feb 15 02:44	25°♌51'42	0°45'55
min. Earth dist.	2799 Feb 15 22:37	25°♌49'31	17.47171 AU
direct	2799 May 01 08:37	23°♌46'25	
evening set	2799 Aug 04 07:44	27°♌12'12	
max. Earth dist.	2799 Aug 20 02:04	28°♌10'20	19.44906 AU
conjunction	2799 Aug 21 01:29	28°♌13'58	0°41'53
minimum elong	2799 Aug 21 01:29	28°♌13'58	0°41'53
morning rise	2799 Sep 06 17:07	29°♌15'28	
	2799 Sep 19 07:05	0°♍	
retrograde	2799 Dec 08 10:17	2°♍37'38	
opposition	2800 Feb 20 00:14	0°♍34'47	0°47'20
min. Earth dist.	2800 Feb 20 20:02	0°♍32'37	17.42794 AU
	2800 Mar 04 09:52	30°℞♌	
direct	2800 May 05 09:13	28°♌29'14	
	2800 Jul 04 07:42	0°♍	
evening set	2800 Aug 08 12:29	1°♍55'57	
max. Earth dist.	2800 Aug 24 04:56	2°♍54'00	19.40723 AU
conjunction	2800 Aug 25 05:43	2°♍57'51	0°43'00
minimum elong	2800 Aug 25 05:43	2°♍57'51	0°43'00
morning rise	2800 Sep 10 20:39	3°♍59'26	
retrograde	2800 Dec 12 08:38	7°♍21'53	
opposition	2801 Feb 23 22:20	5°♍18'59	0°48'25
min. Earth dist.	2801 Feb 24 19:36	5°♍16'39	17.38835 AU
direct	2801 May 10 09:19	3°♍13'10	
evening set	2801 Aug 13 17:27	6°♍40'46	
max. Earth dist.	2801 Aug 29 09:22	7°♍38'53	19.36993 AU
conjunction	2801 Aug 30 10:11	7°♍42'45	0°43'49
minimum elong	2801 Aug 30 10:11	7°♍42'45	0°43'48
morning rise	2801 Sep 16 00:22	8°♍44'23	
retrograde	2801 Dec 17 09:36	12°♍07'04	
opposition	2802 Feb 28 20:59	10°♍04'09	0°49'11
min. Earth dist.	2802 Mar 01 17:38	10°♍01'53	17.35345 AU
direct	2802 May 15 11:54	7°♍58'05	
evening set	2802 Aug 18 22:29	11°♍26'27	
conjunction	2802 Sep 04 14:35	12°♍28'30	0°44'20
minimum elong	2802 Sep 04 14:34	12°♍28'30	0°44'20
max. Earth dist.	2802 Sep 03 13:33	12°♍24'35	19.33755 AU
morning rise	2802 Sep 21 03:51	13°♍30'10	
retrograde	2802 Dec 22 08:19	16°♍53'03	
opposition	2803 Mar 05 20:19	14°♍50'05	0°49'36
min. Earth dist.	2803 Mar 06 18:01	14°♍47'42	17.32392 AU
direct	2803 May 20 13:20	12°♍43'49	
evening set	2803 Aug 24 03:43	16°♍12'52	
conjunction	2803 Sep 09 19:06	17°♍14'57	0°44'33
minimum elong	2803 Sep 09 19:06	17°♍14'57	0°44'32
max. Earth dist.	2803 Sep 08 18:04	17°♍11'02	19.31092 AU
morning rise	2803 Sep 26 07:35	18°♍16'37	
retrograde	2803 Dec 27 09:42	21°♍39'38	
opposition	2804 Mar 09 19:50	19°♍36'41	0°49'40
min. Earth dist.	2804 Mar 10 16:27	19°♍34'25	17.30029 AU
direct	2804 May 24 16:55	17°♍30'15	
evening set	2804 Aug 28 09:05	20°♍59'53	
conjunction	2804 Sep 13 23:46	22°♍01'59	0°44'27
minimum elong	2804 Sep 13 23:46	22°♍01'59	0°44'27
max. Earth dist.	2804 Sep 12 23:25	21°♍58'10	19.29035 AU
morning rise	2804 Sep 30 11:11	23°♍03'38	
retrograde	2804 Dec 31 09:12	26°♍26'43	
opposition	2805 Mar 14 20:08	24°♍23'49	0°49'24
min. Earth dist.	2805 Mar 15 17:24	24°♍21'29	17.28300 AU
direct	2805 May 29 18:34	22°♍17'18	
evening set	2805 Sep 02 14:25	25°♍47'25	
max. Earth dist.	2805 Sep 18 03:42	26°♍45'38	19.27642 AU
conjunction	2805 Sep 19 04:09	26°♍49'29	0°44'02
minimum elong	2805 Sep 19 04:09	26°♍49'29	0°44'03
morning rise	2805 Oct 05 14:41	27°♍51'06	
	2805 Nov 14 00:59	0°♎	
retrograde	2806 Jan 05 11:32	1°♎14'14	
	2806 Feb 28 20:34	30°℞♍	
opposition	2806 Mar 19 20:42	29°♍11'25	0°48'47
min. Earth dist.	2806 Mar 20 16:30	29°♍09'15	17.27238 AU
direct	2806 Jun 03 22:40	27°♍04'52	
	2806 Aug 29 00:56	0°♎	
evening set	2806 Sep 07 19:37	0°♎35'22	
max. Earth dist.	2806 Sep 23 09:42	1°♎33'48	19.26911 AU
conjunction	2806 Sep 24 08:36	1°♎37'24	0°43'20
minimum elong	2806 Sep 24 08:36	1°♎37'24	0°43'20
morning rise	2806 Oct 10 17:57	2°♎38'57	
retrograde	2807 Jan 10 11:37	6°♎02'04	
opposition	2807 Mar 24 21:45	3°♎59'23	0°47'50
min. Earth dist.	2807 Mar 25 17:52	3°♎57'11	17.26835 AU
direct	2807 Jun 09 00:04	1°♎52'52	
evening set	2807 Sep 13 00:43	5°♎23'38	
conjunction	2807 Sep 29 12:38	6°♎25'37	0°42'19
minimum elong	2807 Sep 29 12:38	6°♎25'37	0°42'20
max. Earth dist.	2807 Sep 28 13:30	6°♎21'58	19.26837 AU
morning rise	2807 Oct 15 21:08	7°♎27'04	
retrograde	2808 Jan 15 14:04	10°♎50'08	

opposition	2808 Mar 28 23:01	8°♎47'35	0°46'32
min. Earth dist.	2808 Mar 29 17:51	8°♎45'32	17.27061 AU
direct	2808 Jun 13 04:28	6°♎41'08	
evening set	2808 Sep 17 05:37	10°♎12'05	
conjunction	2808 Oct 03 16:41	11°♎13'57	0°41'01
minimum elong	2808 Oct 03 16:41	11°♎13'57	0°41'01
max. Earth dist.	2808 Oct 02 19:27	11°♎10'36	19.27351 AU
morning rise	2808 Oct 19 23:55	12°♎15'18	
retrograde	2809 Jan 19 14:03	15°♎38'14	
opposition	2809 Apr 03 00:44	13°♎35'51	0°44'56
min. Earth dist.	2809 Apr 03 19:35	13°♎33'48	17.27852 AU
direct	2809 Jun 18 06:56	11°♎29'31	
evening set	2809 Sep 22 10:22	15°♎00'28	
conjunction	2809 Oct 08 20:13	16°♎02'13	0°39'26
minimum elong	2809 Oct 08 20:13	16°♎02'13	0°39'26
max. Earth dist.	2809 Oct 07 22:42	15°♎58'49	19.28421 AU
morning rise	2809 Oct 25 02:30	17°♎03'25	
retrograde	2810 Jan 24 15:29	20°♎26'10	
opposition	2810 Apr 08 02:40	18°♎23'56	0°43'00
min. Earth dist.	2810 Apr 08 20:23	18°♎22'00	17.29186 AU
direct	2810 Jun 23 12:16	16°♎17'43	
evening set	2810 Sep 27 14:22	19°♎48'33	
conjunction	2810 Oct 13 23:19	20°♎50'08	0°37'34
minimum elong	2810 Oct 13 23:19	20°♎50'08	0°37'34
max. Earth dist.	2810 Oct 13 03:55	20°♎47'04	19.30005 AU
morning rise	2810 Oct 30 04:22	21°♎51'10	
retrograde	2811 Jan 29 14:44	25°♎13'41	
opposition	2811 Apr 13 04:49	23°♎11'35	0°40'46
min. Earth dist.	2811 Apr 13 21:59	23°♎09'43	17.31002 AU
direct	2811 Jun 28 16:27	21°♎05'30	
evening set	2811 Oct 02 18:12	24°♎36'06	
max. Earth dist.	2811 Oct 18 06:24	25°♎34'25	19.32062 AU
conjunction	2811 Oct 19 01:55	25°♎37'29	0°35'27
minimum elong	2811 Oct 19 01:55	25°♎37'29	0°35'26
morning rise	2811 Nov 04 06:00	26°♎38'21	
	2812 Jan 30 07:13	0°♏	
retrograde	2812 Feb 03 14:33	0°♏00'32	
	2812 Feb 07 21:53	30°℞♎	
opposition	2812 Apr 17 06:48	27°♎58'33	0°38'16
min. Earth dist.	2812 Apr 17 23:06	27°♎56'47	17.33291 AU
direct	2812 Jul 02 21:40	25°♎52'36	
evening set	2812 Oct 06 21:18	29°♎22'50	
	2812 Oct 16 19:49	0°♏	
max. Earth dist.	2812 Oct 22 10:36	0°♏21'16	19.34577 AU
conjunction	2812 Oct 23 04:03	0°♏24'01	0°33'05
minimum elong	2812 Oct 23 04:03	0°♏24'01	0°33'05
morning rise	2812 Nov 08 06:57	1°♏24'40	
retrograde	2813 Feb 07 13:41	4°♏46'28	
opposition	2813 Apr 22 08:56	2°♏44'37	0°35'29
min. Earth dist.	2813 Apr 23 00:04	2°♏42'59	17.36012 AU
direct	2813 Jul 08 02:41	0°♏38'50	
evening set	2813 Oct 11 23:42	4°♏08'32	
conjunction	2813 Oct 28 05:13	5°♏09'30	0°30'30
minimum elong	2813 Oct 28 05:13	5°♏09'30	0°30'29
max. Earth dist.	2813 Oct 27 12:17	5°♏06'50	19.37525 AU
morning rise	2813 Nov 13 07:07	6°♏09'57	
retrograde	2814 Feb 12 12:08	9°♏31'19	
opposition	2814 Apr 27 10:58	7°♏29'33	0°32'29
min. Earth dist.	2814 Apr 28 01:16	7°♏28'01	17.39185 AU
direct	2814 Jul 13 06:37	5°♏23'54	
evening set	2814 Oct 17 01:14	8°♏53'01	

conjunction	2814 Nov 02 05:44	9°♏53'44	0°27'42
minimum elong	2814 Nov 02 05:44	9°♏53'44	0°27'42
max. Earth dist.	2814 Nov 01 14:53	9°♏51'24	19.40924 AU
morning rise	2814 Nov 18 06:35	10°♏53'56	
retrograde	2815 Feb 17 11:01	14°♏14'48	
opposition	2815 May 02 12:32	12°♏13'08	0°29'16
min. Earth dist.	2815 May 03 01:03	12°♏11'47	17.42790 AU
direct	2815 Jul 18 11:16	10°♏07'40	
evening set	2815 Oct 22 01:57	13°♏36'02	
conjunction	2815 Nov 07 05:20	14°♏36'30	0°24'44
minimum elong	2815 Nov 07 05:20	14°♏36'30	0°24'45
max. Earth dist.	2815 Nov 06 15:41	14°♏34'22	19.44759 AU
	2815 Nov 13 10:44	15°♏	
morning rise	2815 Nov 23 05:13	15°♏36'28	
retrograde	2816 Feb 22 08:05	18°♏56'47	
opposition	2816 May 06 14:00	16°♏55'13	0°25'52
min. Earth dist.	2816 May 07 01:45	16°♏53'57	17.46856 AU
	2816 Jul 02 18:50	15°℞♏	
direct	2816 Jul 22 13:29	14°♏49'56	
	2816 Aug 11 03:50	15°♏	
evening set	2816 Oct 26 01:39	18°♏17'30	
conjunction	2816 Nov 11 03:58	19°♏17'40	0°21'37
minimum elong	2816 Nov 11 03:58	19°♏17'40	0°21'37
max. Earth dist.	2816 Nov 10 16:21	19°♏15'51	19.49062 AU
morning rise	2816 Nov 27 02:52	20°♏17'22	
retrograde	2817 Feb 26 06:22	23°♏37'07	
opposition	2817 May 11 15:02	21°♏35'39	0°22'19
min. Earth dist.	2817 May 12 00:16	21°♏34'40	17.51383 AU
direct	2817 Jul 27 17:19	19°♏30'37	
evening set	2817 Oct 31 00:27	22°♏57'16	
conjunction	2817 Nov 16 01:41	23°♏57'10	0°18'23
minimum elong	2817 Nov 16 01:41	23°♏57'10	0°18'24
max. Earth dist.	2817 Nov 15 16:06	23°♏55'40	19.53834 AU
morning rise	2817 Dec 01 23:37	24°♏56'36	
retrograde	2818 Mar 03 02:17	28°♏15'46	
opposition	2818 May 16 15:48	26°♏14'25	0°18'38
min. Earth dist.	2818 May 17 00:03	26°♏13'33	17.56406 AU
direct	2818 Aug 01 17:52	24°♏09'39	
evening set	2818 Nov 04 22:09	27°♏35'22	
conjunction	2818 Nov 20 22:21	28°♏34'57	0°15'03
minimum elong	2818 Nov 20 22:21	28°♏34'57	0°15'02
behind sun begin	2818 Nov 20 19:52	28°♏34'35	
behind sun end	2818 Nov 21 00:50	28°♏35'20	
max. Earth dist.	2818 Nov 20 14:37	28°♏33'46	19.59105 AU
morning rise	2818 Dec 06 19:30	29°♏34'07	
	2818 Dec 13 23:30	0°♐	
retrograde	2819 Mar 07 23:43	2°♐52'41	
opposition	2819 May 21 15:56	0°♐51'30	0°14'52
min. Earth dist.	2819 May 21 21:16	0°♐50'57	17.61896 AU
	2819 Jun 11 14:30	30°℞♏	
direct	2819 Aug 06 19:59	28°♏47'05	
	2819 Sep 29 16:22	0°♐	
evening set	2819 Nov 09 19:01	2°♐11'47	
conjunction	2819 Nov 25 18:16	3°♐11'05	0°11'39
minimum elong	2819 Nov 25 18:16	3°♐11'05	0°11'39
behind sun begin	2819 Nov 25 13:32	3°♐10'21	
behind sun end	2819 Nov 25 23:00	3°♐11'48	
max. Earth dist.	2819 Nov 25 12:58	3°♐10'16	19.64816 AU
morning rise	2819 Dec 11 14:29	4°♐09'57	
retrograde	2820 Mar 11 18:54	7°♐27'55	
opposition	2820 May 25 15:41	5°♐26'57	0°11'02
min. Earth dist.	2820 May 25 20:10	5°♐26'28	17.67815 AU

direct	2820 Aug 10	19:08	3°♐22'54	
evening set	2820 Nov 13	14:59	6°♐46'34	
conjunction	2820 Nov 29	13:11	7°♐45'32	0°08'12
minimum elong	2820 Nov 29	13:11	7°♐45'32	0°08'12
behind sun begin	2820 Nov 29	07:19	7°♐44'39	
behind sun end	2820 Nov 29	19:03	7°♐46'26	
max. Earth dist.	2820 Nov 29	09:23	7°♐44'58	19.70937 AU
morning rise	2820 Dec 15	08:45	8°♐44'08	
retrograde	2821 Mar 16	15:18	12°♐01'29	
opposition	2821 May 30	14:57	10°♐00'44	0°07'09
min. Earth dist.	2821 May 30	16:30	10°♐00'35	17.74097 AU
direct	2821 Aug 15	19:56	7°♐57'07	
evening set	2821 Nov 18	09:48	11°♐19'40	
conjunction	2821 Dec 04	07:12	12°♐18'21	0°04'43
minimum elong	2821 Dec 04	07:11	12°♐18'21	0°04'43
behind sun begin	2821 Dec 04	00:44	12°♐17'22	
behind sun end	2821 Dec 04	13:38	12°♐19'19	
max. Earth dist.	2821 Dec 04	06:06	12°♐18'12	19.77371 AU
morning rise	2821 Dec 20	01:55	13°♐16'39	
retrograde	2822 Mar 21	09:32	16°♐33'24	
opposition	2822 Jun 04	13:51	14°♐32'52	0°03'15
min. Earth dist.	2822 Jun 04	14:39	14°♐32'47	17.80663 AU
direct	2822 Aug 20	18:24	12°♐29'41	
evening set	2822 Nov 23	03:53	15°♐51'06	
conjunction	2822 Dec 09	00:18	16°♐49'27	0°01'11
minimum elong	2822 Dec 09	00:18	16°♐49'26	0°01'12
behind sun begin	2822 Dec 08	17:43	16°♐48'27	
behind sun end	2822 Dec 09	06:52	16°♐50'26	
max. Earth dist.	2822 Dec 09	00:14	16°♐49'26	19.84053 AU
morning rise	2822 Dec 24	18:31	17°♐47'28	
retrograde	2823 Mar 26	04:22	21°♐03'35	
desc. node	2823 Apr 08	15:12	20°♐58'46	
opposition	2823 Jun 09	11:51	19°♐03'16	-0°00'39
min. Earth dist.	2823 Jun 09	10:02	19°♐03'28	17.87432 AU
direct	2823 Aug 25	17:42	17°♐00'30	
evening set	2823 Nov 27	21:00	20°♐20'45	
conjunction	2823 Dec 13	16:43	21°♐18'48	-0°02'25
minimum elong	2823 Dec 13	16:43	21°♐18'48	0°02'25
behind sun begin	2823 Dec 13	10:09	21°♐17'49	
behind sun end	2823 Dec 13	23:17	21°♐19'47	
max. Earth dist.	2823 Dec 13	19:15	21°♐19'08	19.90887 AU
morning rise	2823 Dec 29	10:11	22°♐16'32	
retrograde	2824 Mar 29	21:10	25°♐32'01	
opposition	2824 Jun 13	09:37	23°♐31'54	-0°04'31
min. Earth dist.	2824 Jun 13	07:08	23°♐32'10	17.94318 AU
direct	2824 Aug 29	15:37	21°♐29'34	
evening set	2824 Dec 01	13:12	24°♐48'36	
conjunction	2824 Dec 17	07:59	25°♐46'19	-0°05'52
minimum elong	2824 Dec 17	07:59	25°♐46'19	0°05'52
behind sun begin	2824 Dec 17	01:42	25°♐45'23	
behind sun end	2824 Dec 17	14:16	25°♐47'15	
max. Earth dist.	2824 Dec 17	11:11	25°♐46'46	19.97810 AU
morning rise	2825 Jan 02	01:04	26°♐43'46	
retrograde	2825 Apr 03	14:08	29°♐58'38	
opposition	2825 Jun 18	06:39	27°♐58'41	-0°08'20
min. Earth dist.	2825 Jun 18	01:43	27°♐59'12	18.01261 AU
direct	2825 Sep 03	13:17	25°♐56'45	
evening set	2825 Dec 06	04:24	29°♐14'33	
	2825 Dec 18	16:30	0°♑	
conjunction	2825 Dec 21	22:38	0°♑11'57	-0°09'15
minimum elong	2825 Dec 21	22:38	0°♑11'57	0°09'15
behind sun begin	2825 Dec 21	17:04	0°♑11'08	
behind sun end	2825 Dec 22	04:12	0°♑12'47	
max. Earth dist.	2825 Dec 22	04:24	0°♑12'49	20.04748 AU
morning rise	2826 Jan 06	15:05	1°♑09'08	
retrograde	2826 Apr 08	05:30	4°♑23'20	
opposition	2826 Jun 23	03:04	2°♑23'33	-0°12'04
min. Earth dist.	2826 Jun 22	21:26	2°♑24'08	18.08189 AU
direct	2826 Sep 08	09:31	0°♑21'59	
evening set	2826 Dec 10	18:45	3°♑38'32	
conjunction	2826 Dec 26	12:13	4°♑35'38	-0°12'34
minimum elong	2826 Dec 26	12:13	4°♑35'38	0°12'34
behind sun begin	2826 Dec 26	07:55	4°♑34'59	
behind sun end	2826 Dec 26	16:31	4°♑36'16	
max. Earth dist.	2826 Dec 26	18:20	4°♑36'33	20.11653 AU
morning rise	2827 Jan 11	04:29	5°♑32'32	
retrograde	2827 Apr 12	21:01	8°♑46'05	
opposition	2827 Jun 27	22:41	6°♑46'25	-0°15'43
min. Earth dist.	2827 Jun 27	14:57	6°♑47'12	18.15060 AU
direct	2827 Sep 13	05:03	4°♑45'12	
evening set	2827 Dec 15	08:02	8°♑00'29	
conjunction	2827 Dec 31	01:05	8°♑57'16	-0°15'47
minimum elong	2827 Dec 31	01:05	8°♑57'16	0°15'47
behind sun begin	2827 Dec 30	23:28	8°♑57'02	
behind sun end	2827 Dec 31	02:41	8°♑57'30	
max. Earth dist.	2827 Dec 31	09:42	8°♑58'34	20.18474 AU
morning rise	2828 Jan 15	16:50	9°♑53'54	
retrograde	2828 Apr 16	10:37	13°♑06'47	
opposition	2828 Jul 01	17:38	11°♑07'13	-0°19'14
min. Earth dist.	2828 Jul 01	09:03	11°♑08'06	18.21833 AU
direct	2828 Sep 16	23:18	9°♑06'20	
evening set	2828 Dec 18	20:31	12°♑20'20	
conjunction	2829 Jan 03	12:53	13°♑16'49	-0°18'54
minimum elong	2829 Jan 03	12:53	13°♑16'49	0°18'55
max. Earth dist.	2829 Jan 03	21:55	13°♑18'11	20.25211 AU
morning rise	2829 Jan 19	04:35	14°♑13'12	
retrograde	2829 Apr 21	01:04	17°♑25'26	
opposition	2829 Jul 06	11:48	15°♑25'55	-0°22'37
min. Earth dist.	2829 Jul 06	01:17	15°♑26'59	18.28537 AU
direct	2829 Sep 21	16:42	13°♑25'20	
evening set	2829 Dec 23	07:44	16°♑38'03	
conjunction	2830 Jan 07	23:52	17°♑34'16	-0°21'53
minimum elong	2830 Jan 07	23:52	17°♑34'16	0°21'52
max. Earth dist.	2830 Jan 08	11:38	17°♑36'01	20.31871 AU
morning rise	2830 Jan 23	15:14	18°♑30'23	
retrograde	2830 Apr 25	13:27	21°♑41'58	
opposition	2830 Jul 11	05:11	19°♑42'31	-0°25'50
min. Earth dist.	2830 Jul 10	17:29	19°♑43'43	18.35164 AU
direct	2830 Sep 26	09:03	17°♑42'15	
evening set	2830 Dec 27	18:23	20°♑53'43	
conjunction	2831 Jan 12	09:58	21°♑49'39	-0°24'43
minimum elong	2831 Jan 12	09:58	21°♑49'39	0°24'43
max. Earth dist.	2831 Jan 12	22:12	21°♑51'28	20.38469 AU
morning rise	2831 Jan 28	01:23	22°♑45'32	
retrograde	2831 Apr 30	02:28	25°♑56'30	
opposition	2831 Jul 15	21:37	23°♑57'07	-0°28'53
min. Earth dist.	2831 Jul 15	08:11	23°♑58'28	18.41749 AU
direct	2831 Oct 01	00:05	21°♑57'08	
evening set	2832 Jan 01	04:03	25°♑07'25	
conjunction	2832 Jan 16	19:28	26°♑03'06	-0°27'23
minimum elong	2832 Jan 16	19:28	26°♑03'06	0°27'23
max. Earth dist.	2832 Jan 17	10:22	26°♑05'19	20.45021 AU

morning rise	2832 Feb 01 10:39	26°♑58'45	
	2832 Apr 14 17:08	0°♒	
retrograde	2832 May 03 14:15	0°♒09'08	
	2832 May 22 19:31	30°℞♑	
opposition	2832 Jul 19 13:29	28°♑09'51	-0°31'45
min. Earth dist.	2832 Jul 18 22:36	28°♑11'21	18.48270 AU
direct	2832 Oct 04 15:04	26°♑10'14	
evening set	2833 Jan 04 12:59	29°♑19'20	
	2833 Jan 16 00:53	0°♒	
conjunction	2833 Jan 20 04:00	0°♒14'46	-0°29'54
minimum elong	2833 Jan 20 03:59	0°♒14'45	0°29'54
max. Earth dist.	2833 Jan 20 19:24	0°♒17'03	20.51507 AU
morning rise	2833 Feb 04 19:22	1°♒10'13	
retrograde	2833 May 08 02:16	4°♒20'05	
opposition	2833 Jul 24 04:41	2°♒20'53	-0°34'26
min. Earth dist.	2833 Jul 23 12:20	2°♒22'32	18.54723 AU
direct	2833 Oct 09 03:40	0°♒21'37	
evening set	2834 Jan 08 21:09	3°♒29'37	
conjunction	2834 Jan 24 12:11	4°♒24'49	-0°32'14
minimum elong	2834 Jan 24 12:11	4°♒24'49	0°32'14
max. Earth dist.	2834 Jan 25 06:03	4°♒27'28	20.57894 AU
morning rise	2834 Feb 09 03:29	5°♒20'05	
retrograde	2834 May 12 13:24	8°♒29'27	
opposition	2834 Jul 28 18:59	6°♒30'23	-0°36'55
min. Earth dist.	2834 Jul 28 01:18	6°♒32'09	18.61035 AU
direct	2834 Oct 13 17:17	4°♒31'29	
evening set	2835 Jan 13 04:51	7°♒38'26	
conjunction	2835 Jan 28 19:38	8°♒33'25	-0°34'24
minimum elong	2835 Jan 28 19:38	8°♒33'25	0°34'23
max. Earth dist.	2835 Jan 29 13:42	8°♒36'05	20.64119 AU
morning rise	2835 Feb 13 11:16	9°♒28'31	
retrograde	2835 May 17 00:35	12°♒37'26	
opposition	2835 Aug 02 08:48	10°♒38'29	-0°39'11
min. Earth dist.	2835 Aug 01 14:14	10°♒40'21	18.67167 AU
direct	2835 Oct 18 03:50	8°♒39'57	
evening set	2836 Jan 17 11:46	11°♒45'55	
conjunction	2836 Feb 02 02:41	12°♒40'42	-0°36'22
minimum elong	2836 Feb 02 02:40	12°♒40'42	0°36'23
max. Earth dist.	2836 Feb 02 22:53	12°♒43'40	20.70124 AU
morning rise	2836 Feb 17 18:21	13°♒35'37	
	2836 Mar 15 00:37	15°♒	
retrograde	2836 May 20 11:01	16°♒44'07	
	2836 Jul 30 19:10	15°℞♒	
opposition	2836 Aug 05 21:59	14°♒45'19	-0°41'15
min. Earth dist.	2836 Aug 05 02:12	14°♒47'18	18.73034 AU
direct	2836 Oct 21 16:17	12°♒47'10	
	2837 Jan 05 00:36	15°♒	
evening set	2837 Jan 20 18:28	15°♒52'10	
conjunction	2837 Feb 05 09:14	16°♒46'46	-0°38'09
minimum elong	2837 Feb 05 09:13	16°♒46'46	0°38'08
max. Earth dist.	2837 Feb 06 05:20	16°♒49'43	20.75841 AU
morning rise	2837 Feb 21 01:20	17°♒41'33	
retrograde	2837 May 24 21:42	20°♒49'41	
opposition	2837 Aug 10 10:40	18°♒50'59	-0°43'06
min. Earth dist.	2837 Aug 09 14:30	18°♒53'00	18.78600 AU
direct	2837 Oct 26 01:29	16°♒53'09	
evening set	2838 Jan 25 00:29	19°♒57'16	
conjunction	2838 Feb 09 15:33	20°♒51'43	-0°39'43
minimum elong	2838 Feb 09 15:33	20°♒51'43	0°39'44
max. Earth dist.	2838 Feb 10 13:19	20°♒54'54	20.81215 AU
morning rise	2838 Feb 25 07:51	21°♒46'22	
retrograde	2838 May 29 07:30	24°♒54'09	
opposition	2838 Aug 14 22:39	22°♒55'33	-0°44'44
min. Earth dist.	2838 Aug 14 01:32	22°♒57'40	18.83770 AU
direct	2838 Oct 30 12:42	20°♒58'03	
evening set	2839 Jan 29 06:25	24°♒01'18	
conjunction	2839 Feb 13 21:27	24°♒55'36	-0°41'06
minimum elong	2839 Feb 13 21:27	24°♒55'36	0°41'06
max. Earth dist.	2839 Feb 14 18:40	24°♒58'42	20.86163 AU
morning rise	2839 Mar 01 14:17	25°♒50'09	
retrograde	2839 Jun 02 17:34	28°♒57'37	
opposition	2839 Aug 19 10:06	26°♒59'05	-0°46'07
min. Earth dist.	2839 Aug 18 13:09	27°♒01'10	18.88502 AU
direct	2839 Nov 03 20:58	25°♒01'50	
evening set	2840 Feb 02 11:45	28°♒04'18	
conjunction	2840 Feb 18 03:12	28°♒58'29	-0°42'16
minimum elong	2840 Feb 18 03:12	28°♒58'29	0°42'16
max. Earth dist.	2840 Feb 19 01:39	29°♒01'45	20.90651 AU
morning rise	2840 Mar 04 20:19	29°♒52'55	
	2840 Mar 06 22:25	0°♓	
retrograde	2840 Jun 06 02:29	3°♓00'06	
opposition	2840 Aug 22 21:03	1°♓01'35	-0°47'17
min. Earth dist.	2840 Aug 21 23:14	1°♓03'46	18.92739 AU
	2840 Sep 18 23:04	30°℞♒	
direct	2840 Nov 07 07:03	29°♒04'35	
	2840 Dec 24 13:20	0°♓	
evening set	2841 Feb 05 16:48	2°♓06'16	
conjunction	2841 Feb 21 08:24	3°♓00'20	-0°43'13
minimum elong	2841 Feb 21 08:24	3°♓00'20	0°43'13
max. Earth dist.	2841 Feb 22 06:09	3°♓03'30	20.94637 AU
morning rise	2841 Mar 09 02:14	3°♓54'42	
retrograde	2841 Jun 10 11:37	7°♓01'37	
min. Earth dist.	2841 Aug 26 10:12	5°♓05'12	18.96482 AU
opposition	2841 Aug 27 07:34	5°♓03'05	-0°48'12
direct	2841 Nov 11 14:44	3°♓06'14	
evening set	2842 Feb 09 21:24	6°♓07'13	
conjunction	2842 Feb 25 13:34	7°♓01'12	-0°43'57
minimum elong	2842 Feb 25 13:34	7°♓01'12	0°43'56
max. Earth dist.	2842 Feb 26 12:28	7°♓04'30	20.98132 AU
morning rise	2842 Mar 13 07:49	7°♓55'29	
retrograde	2842 Jun 14 19:50	11°♓02'08	
opposition	2842 Aug 31 17:10	9°♓03'33	-0°48'53
min. Earth dist.	2842 Aug 30 19:03	9°♓05'46	18.99733 AU
direct	2842 Nov 15 23:24	7°♓06'50	
evening set	2843 Feb 14 01:50	10°♓07'10	
conjunction	2843 Mar 01 18:15	11°♓01'04	-0°44'28
minimum elong	2843 Mar 01 18:15	11°♓01'04	0°44'28
max. Earth dist.	2843 Mar 02 16:28	11°♓04'16	21.01156 AU
morning rise	2843 Mar 17 13:17	11°♓55'19	
retrograde	2843 Jun 19 03:20	15°♓01'44	
min. Earth dist.	2843 Sep 04 04:59	13°♓05'14	19.02552 AU
opposition	2843 Sep 05 02:32	13°♓03'06	-0°49'19
direct	2843 Nov 20 06:16	11°♓06'29	
evening set	2844 Feb 18 05:43	14°♓06'12	
conjunction	2844 Mar 04 22:46	15°♓00'04	-0°44'46
minimum elong	2844 Mar 04 22:46	15°♓00'04	0°44'45
max. Earth dist.	2844 Mar 05 22:16	15°♓03'27	21.03766 AU
morning rise	2844 Mar 20 18:18	15°♓54'17	
retrograde	2844 Jun 22 11:44	19°♓00'31	
opposition	2844 Sep 08 11:19	17°♓01'48	-0°49'31
min. Earth dist.	2844 Sep 07 12:48	17°♓04'03	19.04962 AU
direct	2844 Nov 23 13:55	15°♓05'18	

evening set	2845 Feb 21	09:42	18°♓04'30	
conjunction	2845 Mar 09	03:07	18°♓58'18	-0°44'50
minimum elong	2845 Mar 09	03:07	18°♓58'19	0°44'51
max. Earth dist.	2845 Mar 10	01:59	19°♓01'35	21.05986 AU
morning rise	2845 Mar 24	23:31	19°♓52'31	
retrograde	2845 Jun 26	18:08	22°♓58'38	
opposition	2845 Sep 12	19:43	20°♓59'51	-0°49'29
min. Earth dist.	2845 Sep 11	21:54	21°♓02'02	19.07010 AU
direct	2845 Nov 27	19:18	19°♓03'25	
evening set	2846 Feb 25	13:23	22°♓02'11	
conjunction	2846 Mar 13	07:35	22°♓55'59	-0°44'42
minimum elong	2846 Mar 13	07:35	22°♓55'59	0°44'42
max. Earth dist.	2846 Mar 14	07:29	22°♓59'25	21.07847 AU
morning rise	2846 Mar 29	04:36	23°♓50'12	
retrograde	2846 Jul 01	02:34	26°♓56'14	
min. Earth dist.	2846 Sep 16	04:57	24°♓59'40	19.08676 AU
opposition	2846 Sep 17	03:36	24°♓57'24	-0°49'12
direct	2846 Dec 02	02:10	23°♓01'04	
evening set	2847 Mar 01	17:10	25°♓59'28	
conjunction	2847 Mar 17	11:51	26°♓53'17	-0°44'21
minimum elong	2847 Mar 17	11:51	26°♓53'17	0°44'21
max. Earth dist.	2847 Mar 18	10:52	26°♓56'34	21.09321 AU
morning rise	2847 Apr 02	09:46	27°♓47'31	
	2847 May 18	17:06	0°♈	
retrograde	2847 Jul 05	08:46	0°♈53'31	
	2847 Aug 23	13:48	30°℞♓	
opposition	2847 Sep 21	11:20	28°♓54'39	-0°48'42
min. Earth dist.	2847 Sep 20	13:37	28°♓56'49	19.09965 AU
direct	2847 Dec 06	06:22	26°♓58'24	
evening set	2848 Mar 04	20:52	29°♓56'31	
	2848 Mar 05	21:50	0°♈	
conjunction	2848 Mar 20	16:24	0°♈50'20	-0°43'48
minimum elong	2848 Mar 20	16:24	0°♈50'20	0°43'48
max. Earth dist.	2848 Mar 21	16:13	0°♈53'45	21.10417 AU
morning rise	2848 Apr 05	15:00	1°♈44'38	
retrograde	2848 Jul 08	17:05	4°♈50'38	
opposition	2848 Sep 24	18:43	2°♈51'44	-0°47'58
min. Earth dist.	2848 Sep 23	20:21	2°♈53'59	19.10850 AU
direct	2848 Dec 09	12:36	0°♈55'34	
evening set	2849 Mar 09	00:47	3°♈53'28	
conjunction	2849 Mar 24	20:55	4°♈47'21	-0°43'02
minimum elong	2849 Mar 24	20:55	4°♈47'21	0°43'02
max. Earth dist.	2849 Mar 25	19:35	4°♈50'35	21.11092 AU
morning rise	2849 Apr 09	20:33	5°♈41'42	
retrograde	2849 Jul 12	24:00	8°♈47'47	
min. Earth dist.	2849 Sep 28	05:01	6°♈50'57	19.11307 AU
opposition	2849 Sep 29	02:04	6°♈48'51	-0°47'00
direct	2849 Dec 13	16:20	4°♈52'44	
evening set	2850 Mar 13	04:52	7°♈50'31	
conjunction	2850 Mar 29	01:57	8°♈44'28	-0°42'04
minimum elong	2850 Mar 29	01:57	8°♈44'28	0°42'04
max. Earth dist.	2850 Mar 30	00:59	8°♈47'45	21.11319 AU
morning rise	2850 Apr 14	02:18	9°♈38'53	
retrograde	2850 Jul 17	08:21	12°♈45'04	
min. Earth dist.	2850 Oct 02	11:39	10°♈48'15	19.11283 AU
opposition	2850 Oct 03	08:56	10°♈46'07	-0°45'50
direct	2850 Dec 17	22:08	8°♈50'03	
evening set	2851 Mar 17	09:23	11°♈47'47	
conjunction	2851 Apr 02	07:06	12°♈41'48	-0°40'54
minimum elong	2851 Apr 02	07:06	12°♈41'48	0°40'54
max. Earth dist.	2851 Apr 03	04:33	12°♈44'52	21.11043 AU
morning rise	2851 Apr 18	08:29	13°♈36'20	
retrograde	2851 Jul 21	15:54	16°♈42'41	
opposition	2851 Oct 07	16:04	14°♈43'40	-0°44'26
min. Earth dist.	2851 Oct 06	20:30	14°♈45'38	19.10746 AU
direct	2851 Dec 22	01:43	12°♈47'37	
evening set	2852 Mar 20	13:56	15°♈45'21	
conjunction	2852 Apr 05	12:39	16°♈39'29	-0°39'32
minimum elong	2852 Apr 05	12:39	16°♈39'29	0°39'33
max. Earth dist.	2852 Apr 06	10:09	16°♈42'33	21.10233 AU
morning rise	2852 Apr 21	14:49	17°♈34'07	
retrograde	2852 Jul 25	00:40	20°♈40'39	
opposition	2852 Oct 10	22:59	18°♈41'35	-0°42'49
min. Earth dist.	2852 Oct 10	03:27	18°♈43'33	19.09642 AU
direct	2852 Dec 25	07:45	16°♈45'29	
evening set	2853 Mar 24	19:10	19°♈43'19	
conjunction	2853 Apr 09	18:38	20°♈37'34	-0°37'59
minimum elong	2853 Apr 09	18:38	20°♈37'34	0°37'59
max. Earth dist.	2853 Apr 10	14:08	20°♈40'21	21.08837 AU
morning rise	2853 Apr 25	21:54	21°♈32'21	
retrograde	2853 Jul 29	08:28	24°♈39'05	
opposition	2853 Oct 15	05:55	22°♈39'54	-0°41'00
min. Earth dist.	2853 Oct 14	12:30	22°♈41'39	19.07951 AU
direct	2853 Dec 29	11:26	20°♈43'43	
evening set	2854 Mar 29	00:34	23°♈41'41	
conjunction	2854 Apr 14	01:08	24°♈36'05	-0°36'15
minimum elong	2854 Apr 14	01:08	24°♈36'05	0°36'15
max. Earth dist.	2854 Apr 14	20:16	24°♈38'48	21.06856 AU
morning rise	2854 Apr 30	05:14	25°♈30'59	
retrograde	2854 Aug 02	17:31	28°♈37'57	
opposition	2854 Oct 19	12:42	26°♈38'38	-0°38'58
min. Earth dist.	2854 Oct 18	19:29	26°♈40'22	19.05669 AU
direct	2855 Jan 02	17:50	24°♈42'19	
evening set	2855 Apr 02	06:21	27°♈40'29	
conjunction	2855 Apr 18	07:42	28°♈35'02	-0°34'19
minimum elong	2855 Apr 18	07:42	28°♈35'02	0°34'20
max. Earth dist.	2855 Apr 19	00:50	28°♈37'28	21.04301 AU
morning rise	2855 May 04	12:53	29°♈30'06	
	2855 May 13	15:40	0°♉	
retrograde	2855 Aug 07	01:12	2°♉37'20	
opposition	2855 Oct 23	19:38	0°♉37'50	-0°36'45
min. Earth dist.	2855 Oct 23	04:32	0°♉39'22	19.02853 AU
	2855 Nov 08	16:10	30°℞♈	
direct	2856 Jan 06	21:50	28°♈41'20	
	2856 Mar 03	13:39	0°♉	
evening set	2856 Apr 05	12:27	1°♉39'46	
conjunction	2856 Apr 21	14:55	2°♉34'29	-0°32'13
minimum elong	2856 Apr 21	14:55	2°♉34'29	0°32'14
max. Earth dist.	2856 Apr 22	07:47	2°♉36'53	21.01251 AU
morning rise	2856 May 07	20:57	3°♉29'44	
retrograde	2856 Aug 10	10:45	6°♉37'14	
min. Earth dist.	2856 Oct 26	11:22	4°♉39'05	18.99567 AU
opposition	2856 Oct 27	02:19	4°♉37'33	-0°34'21
direct	2857 Jan 10	04:17	2°♉40'51	
evening set	2857 Apr 09	19:07	5°♉39'38	
conjunction	2857 Apr 25	22:26	6°♉34'32	-0°29'58
minimum elong	2857 Apr 25	22:26	6°♉34'32	0°29'59
max. Earth dist.	2857 Apr 26	13:21	6°♉36'39	20.97755 AU
morning rise	2857 May 12	05:35	7°♉29'58	
retrograde	2857 Aug 14	18:48	10°♉37'49	
opposition	2857 Oct 31	09:15	8°♉37'56	-0°31'46

min. Earth dist.	2857 Oct 30 20:24	8°♉39'15	18.95874 AU
direct	2858 Jan 14 08:39	6°♉41'00	
evening set	2858 Apr 14 02:11	9°♉40'12	
conjunction	2858 Apr 30 06:37	10°♉35'19	-0°27'33
minimum elong	2858 Apr 30 06:37	10°♉35'19	0°27'32
max. Earth dist.	2858 Apr 30 21:10	10°♉37'23	20.93881 AU
morning rise	2858 May 16 14:35	11°♉30'57	
retrograde	2858 Aug 19 05:03	14°♉39'09	
opposition	2858 Nov 04 16:00	12°♉39'06	-0°29'02
min. Earth dist.	2858 Nov 04 03:14	12°♉40'24	18.91820 AU
direct	2859 Jan 18 14:54	10°♉41'55	
evening set	2859 Apr 18 09:55	13°♉41'38	
conjunction	2859 May 04 15:12	14°♉36'58	-0°25'00
minimum elong	2859 May 04 15:12	14°♉36'58	0°25'00
max. Earth dist.	2859 May 05 03:48	14°♉38'46	20.89668 AU
	2859 May 11 08:10	15°♉	
morning rise	2859 May 21 00:12	15°♉32'49	
retrograde	2859 Aug 23 14:09	18°♉41'26	
opposition	2859 Nov 08 23:13	16°♉41'13	-0°26'08
min. Earth dist.	2859 Nov 08 12:30	16°♉42'19	18.87459 AU
	2859 Dec 28 13:12	15°℞♉	
direct	2860 Jan 22 19:45	14°♉43'48	
	2860 Feb 16 19:23	15°♉	
evening set	2860 Apr 21 18:00	17°♉44'05	
conjunction	2860 May 08 00:27	18°♉39'39	-0°22'19
minimum elong	2860 May 08 00:27	18°♉39'39	0°22'18
max. Earth dist.	2860 May 08 12:36	18°♉41'23	20.85172 AU
morning rise	2860 May 24 10:18	19°♉35'44	
retrograde	2860 Aug 27 01:33	22°♉44'48	
opposition	2860 Nov 12 06:31	20°♉44'26	-0°23'06
min. Earth dist.	2860 Nov 11 19:54	20°♉45'32	18.82816 AU
direct	2861 Jan 26 02:18	18°♉46'47	
evening set	2861 Apr 26 03:06	21°♉47'44	
conjunction	2861 May 12 10:25	22°♉43'32	-0°19'31
minimum elong	2861 May 12 10:25	22°♉43'32	0°19'31
max. Earth dist.	2861 May 12 20:33	22°♉44'59	20.80395 AU
morning rise	2861 May 28 21:18	23°♉39'52	
retrograde	2861 Aug 31 11:51	26°♉49'24	
opposition	2861 Nov 16 14:08	24°♉48'55	-0°19'56
min. Earth dist.	2861 Nov 16 05:45	24°♉49'47	18.77909 AU
direct	2862 Jan 30 07:40	22°♉51'01	
evening set	2862 Apr 30 12:48	25°♉52'42	
conjunction	2862 May 16 21:15	26°♉48'47	-0°16'36
minimum elong	2862 May 16 21:15	26°♉48'47	0°16'36
max. Earth dist.	2862 May 17 06:38	26°♉50'07	20.75370 AU
morning rise	2862 Jun 02 08:55	27°♉45'21	
	2862 Jul 18 21:54	0°♊	
retrograde	2862 Sep 05 00:52	0°♊55'26	
	2862 Oct 24 02:49	30°℞♉	
opposition	2862 Nov 20 22:05	28°♉54'49	-0°16'39
min. Earth dist.	2862 Nov 20 13:57	28°♉55'40	18.72746 AU
direct	2863 Feb 03 15:20	26°♉56'42	
evening set	2863 May 04 23:20	29°♉59'11	
	2863 May 05 05:09	0°♊	
conjunction	2863 May 21 08:37	0°♊55'32	-0°13'35
minimum elong	2863 May 21 08:36	0°♊55'32	0°13'35
behind sun begin	2863 May 21 05:01	0°♊55'01	
behind sun end	2863 May 21 12:12	0°♊56'02	
max. Earth dist.	2863 May 21 15:58	0°♊56'34	20.70076 AU
morning rise	2863 Jun 06 21:12	1°♊52'22	
retrograde	2863 Sep 09 12:00	5°♊03'00	
opposition	2863 Nov 25 06:37	3°♊02'17	-0°13'16
min. Earth dist.	2863 Nov 25 00:53	3°♊02'53	18.67318 AU
direct	2864 Feb 07 21:23	1°♊03'55	
evening set	2864 May 08 10:47	4°♊07'17	
conjunction	2864 May 24 21:08	5°♊03'54	-0°10'29
minimum elong	2864 May 24 21:08	5°♊03'54	0°10'30
behind sun begin	2864 May 24 15:56	5°♊03'10	
behind sun end	2864 May 25 02:20	5°♊04'38	
max. Earth dist.	2864 May 25 03:22	5°♊04'48	20.64519 AU
morning rise	2864 Jun 10 10:28	6°♊01'00	
retrograde	2864 Sep 13 02:48	9°♊12'14	
opposition	2864 Nov 28 15:20	7°♊11'25	-0°09'47
min. Earth dist.	2864 Nov 28 10:15	7°♊11'56	18.61608 AU
direct	2865 Feb 11 06:34	5°♊12'45	
evening set	2865 May 12 23:22	8°♊17'04	
conjunction	2865 May 29 10:33	9°♊13'59	-0°07'19
minimum elong	2865 May 29 10:33	9°♊13'59	0°07'19
behind sun begin	2865 May 29 04:24	9°♊13'07	
behind sun end	2865 May 29 16:42	9°♊14'51	
max. Earth dist.	2865 May 29 14:24	9°♊14'31	20.58647 AU
morning rise	2865 Jun 15 00:42	10°♊11'22	
retrograde	2865 Sep 17 14:46	13°♊23'11	
opposition	2865 Dec 03 00:49	11°♊22'14	-0°06'14
min. Earth dist.	2865 Dec 02 22:26	11°♊22'29	18.55576 AU
direct	2866 Feb 15 13:49	9°♊23'16	
evening set	2866 May 17 12:43	12°♊28'33	
conjunction	2866 Jun 03 00:52	13°♊25'47	-0°04'05
minimum elong	2866 Jun 03 00:52	13°♊25'47	0°04'05
behind sun begin	2866 Jun 02 18:14	13°♊24'50	
behind sun end	2866 Jun 03 07:30	13°♊26'43	
max. Earth dist.	2866 Jun 03 03:03	13°♊26'03	20.52458 AU
morning rise	2866 Jun 19 15:40	14°♊23'25	
retrograde	2866 Sep 22 06:26	17°♊35'51	
opposition	2866 Dec 07 10:36	15°♊34'44	-0°02'36
min. Earth dist.	2866 Dec 07 09:01	15°♊34'54	18.49220 AU
direct	2867 Feb 20 00:57	13°♊35'25	
evening set	2867 May 22 03:04	16°♊41'43	
conjunction	2867 Jun 07 16:00	17°♊39'15	-0°00'45
minimum elong	2867 Jun 07 16:00	17°♊39'15	0°00'45
behind sun begin	2867 Jun 07 09:17	17°♊38'18	
behind sun end	2867 Jun 07 22:44	17°♊40'12	
max. Earth dist.	2867 Jun 07 15:50	17°♊39'14	20.45945 AU
morning rise	2867 Jun 24 07:29	18°♊37'10	
asc. node	2867 Aug 27 14:57	21°♊27'16	
retrograde	2867 Sep 26 19:09	21°♊50'11	
opposition	2867 Dec 11 21:06	19°♊48'54	0°01'03
min. Earth dist.	2867 Dec 11 22:11	19°♊48'47	18.42567 AU
direct	2868 Feb 24 09:47	17°♊49'11	
evening set	2868 May 25 18:10	20°♊56'32	
conjunction	2868 Jun 11 08:02	21°♊54'22	0°02'40
minimum elong	2868 Jun 11 08:01	21°♊54'22	0°02'40
behind sun begin	2868 Jun 11 01:17	21°♊53'25	
behind sun end	2868 Jun 11 14:45	21°♊55'20	
max. Earth dist.	2868 Jun 11 06:00	21°♊54'08	20.39175 AU
morning rise	2868 Jun 28 00:09	22°♊52'34	
retrograde	2868 Sep 30 11:28	26°♊06'11	
opposition	2868 Dec 15 07:57	24°♊04'42	0°04'44
min. Earth dist.	2868 Dec 15 09:53	24°♊04'30	18.35678 AU
direct	2869 Feb 27 22:38	22°♊04'33	
evening set	2869 May 30 10:21	25°♊13'00	
conjunction	2869 Jun 16 00:57	26°♊11'09	0°05'59

minimum elong	2869 Jun	16	00:57	26°♊11'09	0°05'59
behind sun begin	2869 Jun	15	18:31	26°♊10'14	
behind sun end	2869 Jun	16	07:22	26°♊12'04	
max. Earth dist.	2869 Jun	15	20:52	26°♊10'35	20.32185 AU
morning rise	2869 Jul	02	17:35	27°♊09'37	
	2869 Sep	04	11:01	0°♋	
retrograde	2869 Oct	05	01:06	0°♋23'50	
	2869 Nov	04	21:44	30°℞♊	
opposition	2869 Dec	19	19:21	28°♊22'08	0°08'25
min. Earth dist.	2869 Dec	19	23:48	28°♊21'40	18.28617 AU
direct	2870 Mar	04	09:11	26°♊21'32	
evening set	2870 Jun	04	03:20	29°♊31'08	
	2870 Jun	12	09:54	0°♋	
conjunction	2870 Jun	20	18:38	0°♋29'35	0°09'16
minimum elong	2870 Jun	20	18:39	0°♋29'35	0°09'17
behind sun begin	2870 Jun	20	13:00	0°♋28'46	
behind sun end	2870 Jun	21	00:17	0°♋30'24	
max. Earth dist.	2870 Jun	20	12:41	0°♋28'44	20.25082 AU
morning rise	2870 Jul	07	11:48	1°♋28'20	
retrograde	2870 Oct	09	18:15	4°♋43'09	
opposition	2870 Dec	24	07:18	2°♋41'15	0°12'05
min. Earth dist.	2870 Dec	24	12:26	2°♋40'42	18.21480 AU
direct	2871 Mar	08	23:00	0°♋40'12	
evening set	2871 Jun	08	21:03	3°♋50'58	
conjunction	2871 Jun	25	13:03	4°♋49'44	0°12'32
minimum elong	2871 Jun	25	13:03	4°♋49'44	0°12'32
behind sun begin	2871 Jun	25	08:47	4°♋49'07	
behind sun end	2871 Jun	25	17:18	4°♋50'21	
max. Earth dist.	2871 Jun	25	05:38	4°♋48'39	20.17920 AU
morning rise	2871 Jul	12	06:32	5°♋48'45	
retrograde	2871 Oct	14	09:30	9°♋04'12	
opposition	2871 Dec	28	19:58	7°♋02'06	0°15'41
min. Earth dist.	2871 Dec	29	03:15	7°♋01'20	18.14327 AU
direct	2872 Mar	12	11:26	5°♋00'37	
evening set	2872 Jun	12	15:53	8°♋12'36	
conjunction	2872 Jun	29	08:27	9°♋11'40	0°15'45
minimum elong	2872 Jun	29	08:27	9°♋11'40	0°15'45
max. Earth dist.	2872 Jun	28	23:02	9°♋10'17	20.10796 AU
morning rise	2872 Jul	16	02:22	10°♋10'58	
retrograde	2872 Oct	18	03:28	13°♋27'02	
opposition	2873 Jan	01	09:01	11°♋24'46	0°19'14
min. Earth dist.	2873 Jan	01	16:58	11°♋23'55	18.07243 AU
direct	2873 Mar	17	02:11	9°♋22'49	
evening set	2873 Jun	17	11:42	12°♋36'05	
conjunction	2873 Jul	04	04:50	13°♋35'28	0°18'54
minimum elong	2873 Jul	04	04:50	13°♋35'27	0°18'53
max. Earth dist.	2873 Jul	03	18:19	13°♋33'54	20.03751 AU
morning rise	2873 Jul	20	22:51	14°♋35'00	
retrograde	2873 Oct	22	20:37	17°♋51'43	
opposition	2874 Jan	05	23:00	15°♋49'19	0°22'41
min. Earth dist.	2874 Jan	06	08:46	15°♋48'16	18.00273 AU
direct	2874 Mar	21	16:31	13°♋46'58	
evening set	2874 Jun	22	08:20	17°♋01'30	
conjunction	2874 Jul	09	01:48	18°♋01'11	0°21'57
minimum elong	2874 Jul	09	01:48	18°♋01'11	0°21'56
max. Earth dist.	2874 Jul	08	13:13	17°♋59'18	19.96869 AU
morning rise	2874 Jul	25	20:06	19°♋00'59	
retrograde	2874 Oct	27	15:39	22°♋18'21	
opposition	2875 Jan	10	13:35	20°♋15'50	0°26'02
min. Earth dist.	2875 Jan	10	23:56	20°♋14'43	17.93492 AU
direct	2875 Mar	26	08:40	18°♋13'07	
evening set	2875 Jun	27	05:57	21°♋28'58	

conjunction	2875 Jul	13	23:54	22°♋28'56	0°24'53
minimum elong	2875 Jul	13	23:54	22°♋28'56	0°24'53
max. Earth dist.	2875 Jul	13	10:41	22°♋26'58	19.90183 AU
morning rise	2875 Jul	30	18:07	23°♋29'00	
retrograde	2875 Nov	01	10:34	26°♋47'00	
opposition	2876 Jan	15	04:57	24°♋44'26	0°29'15
min. Earth dist.	2876 Jan	15	16:53	24°♋43'09	17.86921 AU
direct	2876 Mar	30	00:35	22°♋41'23	
evening set	2876 Jul	01	04:39	25°♋58'34	
conjunction	2876 Jul	17	22:48	26°♋58'49	0°27'42
minimum elong	2876 Jul	17	22:48	26°♋58'49	0°27'42
max. Earth dist.	2876 Jul	17	07:14	26°♋56'28	19.83733 AU
morning rise	2876 Aug	03	17:11	27°♋59'07	
	2876 Sep	10	22:53	0°♌	
retrograde	2876 Nov	05	07:26	1°♌17'46	
	2877 Jan	01	05:03	30°℞♋	
opposition	2877 Jan	18	21:05	29°♋15'10	0°32'18
min. Earth dist.	2877 Jan	19	09:55	29°♋13'47	17.80588 AU
direct	2877 Apr	03	18:22	27°♋11'47	
	2877 Jun	27	11:42	0°♌	
evening set	2877 Jul	06	04:17	0°♌30'19	
conjunction	2877 Jul	22	22:45	1°♌30'51	0°30'22
minimum elong	2877 Jul	22	22:45	1°♌30'51	0°30'23
max. Earth dist.	2877 Jul	22	06:46	1°♌28'26	19.77496 AU
morning rise	2877 Aug	08	16:50	2°♌31'22	
retrograde	2877 Nov	10	04:13	5°♌50'39	
opposition	2878 Jan	23	14:02	3°♌48'03	0°35'11
min. Earth dist.	2878 Jan	24	04:20	3°♌46'30	17.74460 AU
direct	2878 Apr	08	12:02	1°♌44'22	
evening set	2878 Jul	11	04:59	5°♌04'14	
conjunction	2878 Jul	27	23:23	6°♌05'00	0°32'52
minimum elong	2878 Jul	27	23:23	6°♌05'00	0°32'52
max. Earth dist.	2878 Jul	27	04:49	6°♌02'11	19.71477 AU
morning rise	2878 Aug	13	17:25	7°♌05'44	
retrograde	2878 Nov	15	02:40	10°♌25'38	
opposition	2879 Jan	28	07:51	8°♌23'00	0°37'53
min. Earth dist.	2879 Jan	28	23:20	8°♌21'19	17.68555 AU
direct	2879 Apr	13	07:14	6°♌19'00	
evening set	2879 Jul	16	06:17	9°♌40'09	
max. Earth dist.	2879 Aug	01	06:02	10°♌38'17	19.65659 AU
conjunction	2879 Aug	02	00:53	10°♌41'10	0°35'11
minimum elong	2879 Aug	02	00:53	10°♌41'10	0°35'11
morning rise	2879 Aug	18	18:29	11°♌42'06	
	2879 Nov	10	09:15	15°♌	
retrograde	2879 Nov	20	01:06	15°♌02'32	
	2879 Nov	29	16:47	15°℞♌	
opposition	2880 Feb	02	02:30	12°♌59'53	0°40'21
min. Earth dist.	2880 Feb	02	19:07	12°♌58'04	17.62839 AU
direct	2880 Apr	17	03:00	10°♌55'34	
evening set	2880 Jul	20	08:44	14°♌17'57	
	2880 Jul	31	22:03	15°♌	
max. Earth dist.	2880 Aug	05	05:35	15°♌15'53	19.60049 AU
conjunction	2880 Aug	06	03:06	15°♌19'11	0°37'16
minimum elong	2880 Aug	06	03:06	15°♌19'11	0°37'17
morning rise	2880 Aug	22	20:28	16°♌20'18	
retrograde	2880 Nov	24	00:07	19°♌41'14	
opposition	2881 Feb	05	21:49	17°♌38'32	0°42'34
min. Earth dist.	2881 Feb	06	15:51	17°♌36'34	17.57356 AU
direct	2881 Apr	21	23:41	15°♌33'52	
evening set	2881 Jul	25	11:41	18°♌57'26	
max. Earth dist.	2881 Aug	10	08:25	19°♌55'33	19.54685 AU

conjunction	2881 Aug 11 06:03	19°♌58'53	0°39'08
minimum elong	2881 Aug 11 06:03	19°♌58'53	0°39'08
morning rise	2881 Aug 27 22:48	21°♌00'08	
retrograde	2881 Nov 28 23:22	24°♌21'31	
opposition	2882 Feb 10 17:56	22°♌18'46	0°44'31
min. Earth dist.	2882 Feb 11 12:32	22°♌16'44	17.52131 AU
direct	2882 Apr 26 22:02	20°♌13'48	
evening set	2882 Jul 30 15:12	23°♌38'27	
max. Earth dist.	2882 Aug 15 09:28	24°♌36'24	19.49616 AU
conjunction	2882 Aug 16 09:09	24°♌40'03	0°40'45
minimum elong	2882 Aug 16 09:08	24°♌40'03	0°40'46
morning rise	2882 Sep 02 01:28	25°♌41'27	
retrograde	2882 Dec 03 21:55	29°♌03'15	
opposition	2883 Feb 15 14:46	27°♌00'24	0°46'12
min. Earth dist.	2883 Feb 16 10:43	26°♌58'13	17.47247 AU
direct	2883 May 01 20:07	24°♌55'07	
evening set	2883 Aug 04 19:11	28°♌20'48	
conjunction	2883 Aug 21 12:56	29°♌22'34	0°42'06
minimum elong	2883 Aug 21 12:56	29°♌22'34	0°42'06
max. Earth dist.	2883 Aug 20 13:25	29°♌18'55	19.44917 AU
	2883 Aug 31 14:57	0°♍	
morning rise	2883 Sep 07 04:35	0°♍24'03	
retrograde	2883 Dec 08 21:43	3°♍46'12	
opposition	2884 Feb 20 12:00	1°♍43'17	0°47'33
min. Earth dist.	2884 Feb 21 07:59	1°♍41'05	17.42749 AU
	2884 Apr 06 17:06	30°℞♌	
direct	2884 May 05 21:03	29°♌37'41	
	2884 Jun 03 19:26	0°♍	
evening set	2884 Aug 08 23:47	3°♍04'20	
conjunction	2884 Aug 25 17:00	4°♍06'13	0°43'11
minimum elong	2884 Aug 25 17:00	4°♍06'13	0°43'11
max. Earth dist.	2884 Aug 24 16:06	4°♍02'21	19.40636 AU
morning rise	2884 Sep 11 08:00	5°♍07'47	
retrograde	2884 Dec 12 20:10	8°♍30'13	
opposition	2885 Feb 24 10:04	6°♍27'14	0°48'36
min. Earth dist.	2885 Feb 25 07:18	6°♍24'55	17.38716 AU
direct	2885 May 10 20:53	4°♍21'21	
evening set	2885 Aug 14 04:29	7°♍48'52	
conjunction	2885 Aug 30 21:14	8°♍50'50	0°43'57
minimum elong	2885 Aug 30 21:14	8°♍50'50	0°43'58
max. Earth dist.	2885 Aug 29 20:39	8°♍47'01	19.36853 AU
morning rise	2885 Sep 16 11:25	9°♍52'28	
retrograde	2885 Dec 17 20:39	13°♍15'08	
opposition	2886 Mar 01 08:36	11°♍12'07	0°49'19
min. Earth dist.	2886 Mar 02 05:10	11°♍09'51	17.35200 AU
direct	2886 May 15 23:48	9°♍05'59	
evening set	2886 Aug 19 09:31	12°♍34'16	
max. Earth dist.	2886 Sep 04 00:42	13°♍32'25	19.33618 AU
conjunction	2886 Sep 05 01:36	13°♍36'18	0°44'26
minimum elong	2886 Sep 05 01:36	13°♍36'18	0°44'25
morning rise	2886 Sep 21 14:56	14°♍37'58	
retrograde	2886 Dec 22 19:29	18°♍00'49	
opposition	2887 Mar 06 07:46	15°♍57'47	0°49'41
min. Earth dist.	2887 Mar 07 05:15	15°♍55'25	17.32281 AU
direct	2887 May 21 00:27	13°♍51'27	
evening set	2887 Aug 24 14:37	17°♍20'25	
max. Earth dist.	2887 Sep 09 05:25	18°♍18'38	19.31012 AU
conjunction	2887 Sep 10 06:03	18°♍22'30	0°44'36
minimum elong	2887 Sep 10 06:03	18°♍22'30	0°44'37
morning rise	2887 Sep 26 18:35	19°♍24'10	
retrograde	2887 Dec 27 21:02	22°♍47'09	
opposition	2888 Mar 10 07:24	20°♍44'09	0°49'43
min. Earth dist.	2888 Mar 11 03:41	20°♍41'55	17.29989 AU
direct	2888 May 25 04:17	18°♍37'41	
evening set	2888 Aug 28 19:58	22°♍07'15	
max. Earth dist.	2888 Sep 13 10:35	23°♍05'34	19.29043 AU
conjunction	2888 Sep 14 10:41	23°♍09'20	0°44'28
minimum elong	2888 Sep 14 10:41	23°♍09'20	0°44'28
morning rise	2888 Sep 30 22:08	24°♍10'59	
retrograde	2888 Dec 31 20:43	27°♍34'04	
opposition	2889 Mar 15 07:36	25°♍31'08	0°49'24
min. Earth dist.	2889 Mar 16 04:35	25°♍28'50	17.28356 AU
direct	2889 May 30 05:40	23°♍24'37	
evening set	2889 Sep 03 01:22	26°♍54'41	
conjunction	2889 Sep 19 15:10	27°♍56'46	0°44'02
minimum elong	2889 Sep 19 15:10	27°♍56'46	0°44'02
max. Earth dist.	2889 Sep 18 15:10	27°♍52'59	19.27749 AU
morning rise	2889 Oct 06 01:46	28°♍58'23	
	2889 Oct 23 10:40	0°♎	
retrograde	2890 Jan 05 22:42	2°♎21'31	
opposition	2890 Mar 20 08:12	0°♎18'42	0°48'45
min. Earth dist.	2890 Mar 21 03:46	0°♎16'33	17.27381 AU
	2890 Mar 27 11:32	30°℞♍	
direct	2890 Jun 04 09:35	28°♍12'10	
	2890 Aug 09 02:49	0°♎	
evening set	2890 Sep 08 06:31	1°♎42'38	
conjunction	2890 Sep 24 19:33	2°♎44'40	0°43'17
minimum elong	2890 Sep 24 19:33	2°♎44'40	0°43'18
max. Earth dist.	2890 Sep 23 20:55	2°♎41'06	19.27085 AU
morning rise	2890 Oct 11 05:00	3°♎46'13	
retrograde	2891 Jan 10 23:13	7°♎09'22	
opposition	2891 Mar 25 09:21	5°♎06'42	0°47'45
min. Earth dist.	2891 Mar 26 05:28	5°♎04'30	17.27019 AU
direct	2891 Jun 09 11:50	3°♎00'13	
evening set	2891 Sep 13 11:51	6°♎30'58	
conjunction	2891 Sep 29 23:48	7°♎32'56	0°42'14
minimum elong	2891 Sep 29 23:48	7°♎32'56	0°42'14
max. Earth dist.	2891 Sep 29 00:52	7°♎29'19	19.27019 AU
morning rise	2891 Oct 16 08:22	8°♎34'24	
retrograde	2892 Jan 16 01:00	11°♎57'29	
opposition	2892 Mar 29 10:36	9°♎54'58	0°46'26
min. Earth dist.	2892 Mar 30 05:29	9°♎52'54	17.27228 AU
direct	2892 Jun 13 15:59	7°♎48'33	
evening set	2892 Sep 17 16:54	11°♎19'28	
max. Earth dist.	2892 Oct 03 06:45	12°♎18'00	19.27490 AU
conjunction	2892 Oct 04 04:01	12°♎21'21	0°40'54
minimum elong	2892 Oct 04 04:01	12°♎21'21	0°40'54
morning rise	2892 Oct 20 11:18	13°♎22'42	
retrograde	2893 Jan 20 01:49	16°♎45'39	
opposition	2893 Apr 03 12:29	14°♎43'18	0°44'46
min. Earth dist.	2893 Apr 04 07:34	14°♎41'13	17.27951 AU
direct	2893 Jun 18 19:15	12°♎36'59	
evening set	2893 Sep 22 21:39	16°♎07'56	
max. Earth dist.	2893 Oct 08 09:56	17°♎06'15	19.28467 AU
conjunction	2893 Oct 09 07:32	17°♎09'40	0°39'16
minimum elong	2893 Oct 09 07:32	17°♎09'40	0°39'16
morning rise	2893 Oct 25 13:53	18°♎10'53	
retrograde	2894 Jan 25 02:44	21°♎33'41	
opposition	2894 Apr 08 14:27	19°♎31'27	0°42'48
min. Earth dist.	2894 Apr 09 08:18	19°♎29'30	17.29171 AU
direct	2894 Jun 23 23:31	17°♎25'14	
evening set	2894 Sep 28 01:53	20°♎56'05	

conjunction	2894 Oct	14	10:53	21°♎57'40	0°37'22
minimum elong	2894 Oct	14	10:54	21°♎57'40	0°37'22
max. Earth dist.	2894 Oct	13	15:16	21°♎54'35	19.29919 AU
morning rise	2894 Oct	30	16:00	22°♎58'44	
retrograde	2895 Jan	30	03:15	26°♎21'16	
opposition	2895 Apr	13	16:30	24°♎19'10	0°40'32
min. Earth dist.	2895 Apr	14	10:03	24°♎17'16	17.30846 AU
direct	2895 Jun	29	04:00	22°♎13'05	
evening set	2895 Oct	03	05:47	25°♎43'42	
conjunction	2895 Oct	19	13:34	26°♎45'07	0°35'13
minimum elong	2895 Oct	19	13:34	26°♎45'07	0°35'13
max. Earth dist.	2895 Oct	18	17:44	26°♎41'59	19.31828 AU
morning rise	2895 Nov	04	17:45	27°♎46'00	
	2895 Dec	16	00:15	0°♏	
retrograde	2896 Feb	04	02:35	1°♏08'14	
	2896 Mar	27	07:27	30°℞♎	
opposition	2896 Apr	17	18:37	29°♎06'14	0°37'59
min. Earth dist.	2896 Apr	18	11:07	29°♎04'27	17.32980 AU
direct	2896 Jul	03	08:34	27°♎00'16	
	2896 Sep	28	23:17	0°♏	
evening set	2896 Oct	07	08:52	0°♏30'33	
conjunction	2896 Oct	23	15:42	1°♏31'46	0°32'49
minimum elong	2896 Oct	23	15:42	1°♏31'46	0°32'48
max. Earth dist.	2896 Oct	22	22:03	1°♏28'59	19.34187 AU
morning rise	2896 Nov	08	18:39	2°♏32'26	
retrograde	2897 Feb	08	02:07	5°♏54'18	
opposition	2897 Apr	22	20:43	3°♏52'25	0°35'11
min. Earth dist.	2897 Apr	23	12:12	3°♏50'45	17.35552 AU
direct	2897 Jul	08	14:10	1°♏46'37	
evening set	2897 Oct	12	11:22	5°♏16'23	
conjunction	2897 Oct	28	16:58	6°♏17'23	0°30'11
minimum elong	2897 Oct	28	16:58	6°♏17'23	0°30'12
max. Earth dist.	2897 Oct	27	23:44	6°♏14'40	19.37001 AU
morning rise	2897 Nov	13	18:58	7°♏17'51	
retrograde	2898 Feb	13	00:06	10°♏39'17	
opposition	2898 Apr	27	22:39	8°♏37'29	0°32'08
min. Earth dist.	2898 Apr	28	13:06	8°♏35'56	17.38606 AU
direct	2898 Jul	13	18:04	6°♏31'49	
evening set	2898 Oct	17	12:46	10°♏01'00	
conjunction	2898 Nov	02	17:25	11°♏01'46	0°27'22
minimum elong	2898 Nov	02	17:25	11°♏01'46	0°27'22
max. Earth dist.	2898 Nov	02	02:31	10°♏59'25	19.40298 AU
morning rise	2898 Nov	18	18:21	12°♏02'00	
	2899 Jan	20	06:35	15°♏	
retrograde	2899 Feb	17	22:49	15°♏22'57	
	2899 Mar	19	06:29	15°℞♏	
opposition	2899 May	03	00:20	13°♏21'15	0°28'53
min. Earth dist.	2899 May	03	13:00	13°♏19'54	17.42129 AU
direct	2899 Jul	18	23:03	11°♏15'46	
evening set	2899 Oct	22	13:33	14°♏44'14	
	2899 Oct	26	19:40	15°♏	
conjunction	2899 Nov	07	17:00	15°♏44'44	0°24'23
minimum elong	2899 Nov	07	17:00	15°♏44'44	0°24'22
max. Earth dist.	2899 Nov	07	03:14	15°♏42'34	19.44074 AU
morning rise	2899 Nov	23	16:58	16°♏44'44	
retrograde	2900 Feb	22	19:48	20°♏05'10	
opposition	2900 May	08	01:44	18°♏03'34	0°25'28
min. Earth dist.	2900 May	08	13:22	18°♏02'19	17.46165 AU
direct	2900 Jul	24	01:23	15°♏58'16	
evening set	2900 Oct	27	13:21	19°♏25'57	
conjunction	2900 Nov	12	15:45	20°♏26'11	0°21'15
minimum elong	2900 Nov	12	15:45	20°♏26'11	0°21'15
max. Earth dist.	2900 Nov	12	04:17	20°♏24'23	19.48376 AU
morning rise	2900 Nov	28	14:44	21°♏25'55	
retrograde	2901 Feb	27	18:12	24°♏45'47	
opposition	2901 May	13	02:52	22°♏44'20	0°21'53
min. Earth dist.	2901 May	13	11:57	22°♏43'22	17.50716 AU
direct	2901 Jul	29	04:46	20°♏39'18	
evening set	2901 Nov	01	12:08	24°♏06'06	
conjunction	2901 Nov	17	13:26	25°♏06'02	0°18'00
minimum elong	2901 Nov	17	13:26	25°♏06'02	0°17'59
max. Earth dist.	2901 Nov	17	03:52	25°♏04'33	19.53190 AU
morning rise	2901 Dec	03	11:29	26°♏05'31	
retrograde	2902 Mar	04	14:29	29°♏24'50	
opposition	2902 May	18	03:42	27°♏23'31	0°18'11
min. Earth dist.	2902 May	18	11:43	27°♏22'40	17.55788 AU
direct	2902 Aug	03	05:08	25°♏18'48	
evening set	2902 Nov	06	10:05	28°♏44'40	
conjunction	2902 Nov	22	10:24	29°♏44'19	0°14'38
minimum elong	2902 Nov	22	10:23	29°♏44'19	0°14'39
behind sun begin	2902 Nov	22	07:31	29°♏43'52	
behind sun end	2902 Nov	22	13:16	29°♏44'45	
max. Earth dist.	2902 Nov	22	02:48	29°♏43'08	19.58514 AU
	2902 Nov	26	14:35	0°♐	
morning rise	2902 Dec	08	07:37	0°♐43'31	
retrograde	2903 Mar	09	12:36	4°♐02'14	
opposition	2903 May	23	03:50	2°♐01'08	0°14'24
min. Earth dist.	2903 May	23	09:07	2°♐00'34	17.61324 AU
	2903 Jul	28	02:02	30°℞♏	
direct	2903 Aug	08	07:22	29°♏56'45	
	2903 Aug	19	11:03	0°♐	
evening set	2903 Nov	11	07:10	3°♐21'39	
conjunction	2903 Nov	27	06:30	4°♐20'59	0°11'13
minimum elong	2903 Nov	27	06:30	4°♐20'59	0°11'13
behind sun begin	2903 Nov	27	01:35	4°♐20'14	
behind sun end	2903 Nov	27	11:25	4°♐21'44	
max. Earth dist.	2903 Nov	27	01:06	4°♐20'10	19.64263 AU
morning rise	2903 Dec	13	02:49	5°♐19'55	
retrograde	2904 Mar	13	07:31	8°♐38'02	
opposition	2904 May	27	03:52	6°♐37'08	0°10'33
min. Earth dist.	2904 May	27	08:20	6°♐36'40	17.67266 AU
direct	2904 Aug	12	06:35	4°♐33'09	
evening set	2904 Nov	15	03:14	7°♐56'59	
conjunction	2904 Dec	01	01:32	8°♐56'01	0°07'45
minimum elong	2904 Dec	01	01:32	8°♐56'01	0°07'45
behind sun begin	2904 Nov	30	19:34	8°♐55'07	
behind sun end	2904 Dec	01	07:30	8°♐56'55	
max. Earth dist.	2904 Nov	30	21:43	8°♐55'27	19.70384 AU
morning rise	2904 Dec	16	21:10	9°♐54'39	
retrograde	2905 Mar	18	04:51	13°♐12'11	
opposition	2905 Jun	01	03:21	11°♐11'29	0°06'38
min. Earth dist.	2905 Jun	01	05:00	11°♐11'18	17.73529 AU
direct	2905 Aug	17	08:00	9°♐07'54	
evening set	2905 Nov	19	22:26	12°♐30'38	
conjunction	2905 Dec	05	19:52	13°♐29'21	0°04'15
minimum elong	2905 Dec	05	19:53	13°♐29'21	0°04'16
behind sun begin	2905 Dec	05	13:23	13°♐28'22	
behind sun end	2905 Dec	06	02:22	13°♐30'20	
max. Earth dist.	2905 Dec	05	18:30	13°♐29'11	19.76778 AU
morning rise	2905 Dec	21	14:41	14°♐27'42	
retrograde	2906 Mar	22	22:15	17°♐44'36	
opposition	2906 Jun	06	02:21	15°♐44'07	0°02'43
min. Earth dist.	2906 Jun	06	03:24	15°♐44'00	17.80041 AU

direct	2906 Aug 22 06:17	13°♐40'56	
evening set	2906 Nov 24 16:43	17°♐02'32	
conjunction	2906 Dec 10 13:13	18°♐00'55	0°00'41
minimum elong	2906 Dec 10 13:13	18°♐00'55	0°00'40
behind sun begin	2906 Dec 10 06:39	17°♐59'56	
behind sun end	2906 Dec 10 19:47	18°♐01'55	
max. Earth dist.	2906 Dec 10 12:51	18°♐00'54	19.83386 AU
morning rise	2906 Dec 26 07:31	18°♐58'59	
desc. node	2907 Feb 17 11:19	21°♐36'22	
retrograde	2907 Mar 27 18:02	22°♐15'15	
opposition	2907 Jun 11 00:43	20°♐14'56	-0°01'12
min. Earth dist.	2907 Jun 10 23:08	20°♐15'06	17.86716 AU
direct	2907 Aug 27 06:37	18°♐12'10	
evening set	2907 Nov 29 10:02	21°♐32'34	
conjunction	2907 Dec 15 05:49	22°♐30'39	-0°02'55
minimum elong	2907 Dec 15 05:48	22°♐30'39	0°02'55
behind sun begin	2907 Dec 14 23:15	22°♐29'40	
behind sun end	2907 Dec 15 12:22	22°♐31'38	
max. Earth dist.	2907 Dec 15 07:54	22°♐30'55	19.90109 AU
morning rise	2907 Dec 30 23:20	23°♐28'25	
retrograde	2908 Mar 31 09:59	26°♐44'02	
opposition	2908 Jun 14 22:40	24°♐43'55	-0°05'05
min. Earth dist.	2908 Jun 14 20:33	24°♐44'08	17.93481 AU
direct	2908 Aug 31 03:48	22°♐41'32	
evening set	2908 Dec 03 02:32	26°♐00'43	
conjunction	2908 Dec 18 21:23	26°♐58'27	-0°06'23
minimum elong	2908 Dec 18 21:24	26°♐58'28	0°06'23
behind sun begin	2908 Dec 18 15:12	26°♐57'32	
behind sun end	2908 Dec 19 03:36	26°♐59'23	
max. Earth dist.	2908 Dec 19 00:12	26°♐58'51	19.96905 AU
morning rise	2909 Jan 03 14:32	27°♐55'57	
	2909 Feb 11 16:01	0°♑	
retrograde	2909 Apr 05 04:15	1°♑10'55	
	2909 May 30 10:29	30°℞♐	
opposition	2909 Jun 19 19:53	29°♐10'56	-0°08'54
min. Earth dist.	2909 Jun 19 15:16	29°♐11'24	18.00289 AU
direct	2909 Sep 05 02:20	27°♐08'55	
	2909 Nov 30 03:17	0°♑	
evening set	2909 Dec 07 17:49	0°♑26'51	
conjunction	2909 Dec 23 12:09	1°♑24'18	-0°09'46
minimum elong	2909 Dec 23 12:09	1°♑24'18	0°09'46
behind sun begin	2909 Dec 23 06:44	1°♑23'29	
behind sun end	2909 Dec 23 17:33	1°♑25'06	
max. Earth dist.	2909 Dec 23 17:28	1°♑25'05	20.03705 AU
morning rise	2910 Jan 08 04:41	2°♑21'30	
retrograde	2910 Apr 09 18:51	5°♑35'48	
opposition	2910 Jun 24 16:29	3°♑35'57	-0°12'39
min. Earth dist.	2910 Jun 24 11:17	3°♑36'29	18.07077 AU
direct	2910 Sep 09 22:20	1°♑34'18	
evening set	2910 Dec 12 08:22	4°♑50'57	
conjunction	2910 Dec 28 01:55	5°♑48'05	-0°13'05
minimum elong	2910 Dec 28 01:55	5°♑48'05	0°13'05
behind sun begin	2910 Dec 27 21:54	5°♑47'29	
behind sun end	2910 Dec 28 05:56	5°♑48'41	
max. Earth dist.	2910 Dec 28 07:43	5°♑48'57	20.10481 AU
morning rise	2911 Jan 12 18:13	6°♑45'01	
retrograde	2911 Apr 14 11:09	9°♑58'39	
opposition	2911 Jun 29 12:04	7°♑58'54	-0°16'17
min. Earth dist.	2911 Jun 29 04:38	7°♑59'39	18.13834 AU
direct	2911 Sep 14 18:31	5°♑57'34	
evening set	2911 Dec 16 21:46	9°♑12'57	

conjunction	2912 Jan 01 14:53	10°♑09'47	-0°16'18
minimum elong	2912 Jan 01 14:53	10°♑09'47	0°16'19
max. Earth dist.	2912 Jan 01 23:20	10°♑11'03	20.17213 AU
morning rise	2912 Jan 17 06:43	11°♑06'27	
retrograde	2912 Apr 18 00:35	14°♑19'24	
opposition	2912 Jul 03 07:10	12°♑19'44	-0°19'48
min. Earth dist.	2912 Jul 02 22:53	12°♑20'35	18.20548 AU
direct	2912 Sep 18 13:06	10°♑18'44	
evening set	2912 Dec 20 10:11	13°♑32'50	
conjunction	2913 Jan 05 02:37	14°♑29'22	-0°19'25
minimum elong	2913 Jan 05 02:37	14°♑29'22	0°19'24
max. Earth dist.	2913 Jan 05 11:43	14°♑30'43	20.23920 AU
morning rise	2913 Jan 20 18:22	15°♑25'46	
retrograde	2913 Apr 22 14:58	18°♑38'06	
opposition	2913 Jul 08 01:23	16°♑38'29	-0°23'10
min. Earth dist.	2913 Jul 07 14:51	16°♑39'33	18.27256 AU
direct	2913 Sep 23 06:36	14°♑37'47	
evening set	2913 Dec 24 21:37	17°♑50'38	
conjunction	2914 Jan 09 13:46	18°♑46'53	-0°22'22
minimum elong	2914 Jan 09 13:46	18°♑46'53	0°22'23
max. Earth dist.	2914 Jan 10 01:41	18°♑48'40	20.30615 AU
morning rise	2914 Jan 25 05:10	19°♑43'03	
retrograde	2914 Apr 27 03:23	22°♑54'44	
opposition	2914 Jul 12 18:42	20°♑55'13	-0°26'22
min. Earth dist.	2914 Jul 12 07:00	20°♑56'24	18.33952 AU
direct	2914 Sep 27 23:08	18°♑54'51	
evening set	2914 Dec 29 08:20	22°♑06'29	
conjunction	2915 Jan 13 23:57	23°♑02'28	-0°25'11
minimum elong	2915 Jan 13 23:57	23°♑02'28	0°25'11
max. Earth dist.	2915 Jan 14 12:23	23°♑04'19	20.37309 AU
morning rise	2915 Jan 29 15:23	23°♑58'23	
retrograde	2915 May 01 16:28	27°♑09'29	
opposition	2915 Jul 17 11:19	25°♑10'04	-0°29'24
min. Earth dist.	2915 Jul 16 21:37	25°♑11'27	18.40648 AU
direct	2915 Oct 02 14:00	23°♑10'04	
evening set	2916 Jan 02 18:00	26°♑20'31	
conjunction	2916 Jan 18 09:28	27°♑16'14	-0°27'51
minimum elong	2916 Jan 18 09:27	27°♑16'14	0°27'51
max. Earth dist.	2916 Jan 19 00:37	27°♑18'30	20.43978 AU
morning rise	2916 Feb 03 00:39	28°♑11'56	
	2916 Mar 08 05:32	0°♒	
retrograde	2916 May 05 04:04	1°♒22'29	
	2916 Jul 05 17:29	30°℞♑	
opposition	2916 Jul 21 03:17	29°♑23'11	-0°32'15
min. Earth dist.	2916 Jul 20 12:16	29°♑24'43	18.47289 AU
direct	2916 Oct 06 04:28	27°♑23'34	
	2916 Dec 27 12:16	0°♒	
evening set	2917 Jan 06 03:08	0°♒32'53	
conjunction	2917 Jan 21 18:11	1°♒28'21	-0°30'20
minimum elong	2917 Jan 21 18:11	1°♒28'21	0°30'20
max. Earth dist.	2917 Jan 22 09:45	1°♒30'40	20.50586 AU
morning rise	2917 Feb 06 09:35	2°♒23'51	
retrograde	2917 May 09 16:35	5°♒33'53	
opposition	2917 Jul 25 18:30	3°♒34'43	-0°34'54
min. Earth dist.	2917 Jul 25 01:55	3°♒36'23	18.53857 AU
direct	2917 Oct 10 17:35	1°♒35'28	
evening set	2918 Jan 10 11:23	4°♒43'42	
conjunction	2918 Jan 26 02:28	5°♒38'56	-0°32'39
minimum elong	2918 Jan 26 02:28	5°♒38'56	0°32'39
max. Earth dist.	2918 Jan 26 20:26	5°♒41'36	20.57075 AU
morning rise	2918 Feb 10 17:48	6°♒34'14	

retrograde	2918 May 14 03:40	9°♒43'46	
opposition	2918 Jul 30 09:01	7°♒44'46	-0°37'22
min. Earth dist.	2918 Jul 29 15:18	7°♒46'33	18.60255 AU
direct	2918 Oct 15 06:06	5°♒45'54	
evening set	2919 Jan 14 19:13	8°♒53'04	
conjunction	2919 Jan 30 10:01	9°♒48'05	-0°34'47
minimum elong	2919 Jan 30 10:01	9°♒48'05	0°34'48
max. Earth dist.	2919 Jan 31 04:03	9°♒50'45	20.63370 AU
morning rise	2919 Feb 15 01:39	10°♒43'13	
retrograde	2919 May 18 15:13	13°♒52'18	
opposition	2919 Aug 03 22:52	11°♒53'25	-0°39'37
min. Earth dist.	2919 Aug 03 04:12	11°♒55'17	18.66441 AU
direct	2919 Oct 19 17:56	9°♒54'55	
evening set	2920 Jan 19 02:23	13°♒01'04	
conjunction	2920 Feb 03 17:19	13°♒55'54	-0°36'44
minimum elong	2920 Feb 03 17:19	13°♒55'54	0°36'44
max. Earth dist.	2920 Feb 04 13:25	13°♒58'52	20.69415 AU
morning rise	2920 Feb 19 08:59	14°♒50'51	
	2920 Feb 22 00:53	15°♒	
retrograde	2920 May 22 01:59	17°♒59'31	
opposition	2920 Aug 07 12:14	16°♒00'45	-0°41'39
min. Earth dist.	2920 Aug 06 16:34	16°♒02'43	18.72333 AU
	2920 Sep 03 00:18	15°℞♒	
direct	2920 Oct 23 05:30	14°♒02'37	
	2920 Dec 10 07:58	15°♒	
evening set	2921 Jan 22 09:08	17°♒07'47	
conjunction	2921 Feb 06 23:55	18°♒02'26	-0°38'29
minimum elong	2921 Feb 06 23:55	18°♒02'26	0°38'30
max. Earth dist.	2921 Feb 07 19:49	18°♒05'21	20.75137 AU
morning rise	2921 Feb 22 16:02	18°♒57'15	
retrograde	2921 May 26 12:31	22°♒05'30	
min. Earth dist.	2921 Aug 11 04:57	20°♒08'50	18.77883 AU
opposition	2921 Aug 12 01:02	20°♒06'50	-0°43'28
direct	2921 Oct 27 15:57	18°♒09'00	
evening set	2922 Jan 26 15:23	21°♒13'15	
conjunction	2922 Feb 11 06:27	22°♒07'44	-0°40'02
minimum elong	2922 Feb 11 06:27	22°♒07'44	0°40'01
max. Earth dist.	2922 Feb 12 03:57	22°♒10'53	20.80474 AU
morning rise	2922 Feb 26 22:44	23°♒02'24	
retrograde	2922 May 30 22:45	26°♒10'17	
opposition	2922 Aug 16 13:00	24°♒11'40	-0°45'03
min. Earth dist.	2922 Aug 15 16:12	24°♒13'45	18.83002 AU
direct	2922 Nov 01 02:51	22°♒14'07	
evening set	2923 Jan 30 21:22	25°♒17'30	
conjunction	2923 Feb 15 12:26	26°♒11'49	-0°41'22
minimum elong	2923 Feb 15 12:26	26°♒11'49	0°41'22
max. Earth dist.	2923 Feb 16 09:19	26°♒14'52	20.85365 AU
morning rise	2923 Mar 03 05:17	27°♒06'23	
	2923 May 11 13:54	0°♓	
retrograde	2923 Jun 04 07:51	0°♓13'54	
	2923 Jun 28 10:33	30°℞♒	
min. Earth dist.	2923 Aug 20 03:51	28°♒17'23	18.87669 AU
opposition	2923 Aug 21 00:38	28°♒15'18	-0°46'24
direct	2923 Nov 05 11:53	26°♒17'59	
evening set	2924 Feb 04 02:36	29°♒20'30	
	2924 Feb 15 13:02	0°♓	
conjunction	2924 Feb 19 18:04	0°♓14'42	-0°42'30
minimum elong	2924 Feb 19 18:04	0°♓14'42	0°42'30
max. Earth dist.	2924 Feb 20 16:24	0°♓17'57	20.89788 AU
morning rise	2924 Mar 06 11:13	1°♓09'09	
retrograde	2924 Jun 07 17:17	4°♓16'20	
opposition	2924 Aug 24 11:37	2°♓17'44	-0°47'31
min. Earth dist.	2924 Aug 23 14:04	2°♓19'53	18.91849 AU
direct	2924 Nov 08 22:09	0°♓20'36	
evening set	2925 Feb 07 07:41	3°♓22'19	
conjunction	2925 Feb 22 23:18	4°♓16'23	-0°43'25
minimum elong	2925 Feb 22 23:18	4°♓16'23	0°43'24
max. Earth dist.	2925 Feb 23 20:59	4°♓19'32	20.93739 AU
morning rise	2925 Mar 10 17:09	5°♓10'46	
retrograde	2925 Jun 12 01:14	8°♓17'38	
opposition	2925 Aug 28 21:57	6°♓18'58	-0°48'24
min. Earth dist.	2925 Aug 28 00:41	6°♓21'06	18.95588 AU
direct	2925 Nov 13 05:31	4°♓21'58	
evening set	2926 Feb 11 12:09	7°♓22'57	
conjunction	2926 Feb 27 04:21	8°♓16'56	-0°44'06
minimum elong	2926 Feb 27 04:21	8°♓16'56	0°44'07
max. Earth dist.	2926 Feb 28 03:24	8°♓20'16	20.97257 AU
morning rise	2926 Mar 14 22:37	9°♓11'14	
retrograde	2926 Jun 16 09:31	12°♓17'49	
min. Earth dist.	2926 Sep 01 09:31	10°♓21'18	18.98897 AU
opposition	2926 Sep 02 07:38	10°♓19'06	-0°49'02
direct	2926 Nov 17 14:47	8°♓22'14	
evening set	2927 Feb 15 16:28	11°♓22'32	
conjunction	2927 Mar 03 08:52	12°♓16'26	-0°44'34
minimum elong	2927 Mar 03 08:52	12°♓16'26	0°44'34
max. Earth dist.	2927 Mar 04 07:20	12°♓19'41	21.00370 AU
morning rise	2927 Mar 19 03:53	13°♓10'41	
retrograde	2927 Jun 20 17:13	16°♓17'03	
opposition	2927 Sep 06 16:55	14°♓18'16	-0°49'25
min. Earth dist.	2927 Sep 05 19:05	14°♓20'27	19.01837 AU
direct	2927 Nov 21 20:41	12°♓21'31	
evening set	2928 Feb 19 20:25	15°♓21'14	
conjunction	2928 Mar 06 13:28	16°♓15'05	-0°44'49
minimum elong	2928 Mar 06 13:28	16°♓15'05	0°44'50
max. Earth dist.	2928 Mar 07 13:17	16°♓18'30	21.03128 AU
morning rise	2928 Mar 22 08:58	17°♓09'18	
retrograde	2928 Jun 24 00:49	20°♓15'29	
min. Earth dist.	2928 Sep 09 02:52	18°♓18'57	19.04416 AU
opposition	2928 Sep 10 01:39	18°♓16'40	-0°49'34
direct	2928 Nov 25 04:40	16°♓20'03	
evening set	2929 Feb 23 00:17	19°♓19'14	
conjunction	2929 Mar 10 17:43	20°♓13'03	-0°44'52
minimum elong	2929 Mar 10 17:43	20°♓13'03	0°44'51
max. Earth dist.	2929 Mar 11 16:49	20°♓16'22	21.05531 AU
morning rise	2929 Mar 26 14:07	21°♓07'16	
retrograde	2929 Jun 28 08:50	24°♓13'20	
min. Earth dist.	2929 Sep 13 11:48	22°♓16'42	19.06648 AU
opposition	2929 Sep 14 10:05	22°♓14'29	-0°49'29
direct	2929 Nov 29 09:32	20°♓18'00	
evening set	2930 Feb 27 04:00	23°♓16'45	
conjunction	2930 Mar 14 22:12	24°♓10'33	-0°44'41
minimum elong	2930 Mar 14 22:12	24°♓10'33	0°44'41
max. Earth dist.	2930 Mar 15 22:23	24°♓14'01	21.07576 AU
morning rise	2930 Mar 30 19:10	25°♓04'46	
retrograde	2930 Jul 02 16:10	28°♓10'46	
opposition	2930 Sep 18 17:52	26°♓11'55	-0°49'10
min. Earth dist.	2930 Sep 17 18:53	26°♓14'13	19.08499 AU
direct	2930 Dec 03 16:12	24°♓15'33	
evening set	2931 Mar 03 07:50	27°♓13'58	
conjunction	2931 Mar 19 02:29	28°♓07'46	-0°44'18
minimum elong	2931 Mar 19 02:29	28°♓07'46	0°44'18

max. Earth dist.	2931 Mar 20 01:43	28°♓11'06	21.09238 AU
morning rise	2931 Apr 04 00:24	29°♓02'01	
	2931 Apr 22 01:38	0°♈	
retrograde	2931 Jul 06 23:58	2°♈08'00	
min. Earth dist.	2931 Sep 22 03:33	0°♈11'21	19.09966 AU
opposition	2931 Sep 23 01:41	0°♈09'09	-0°48'37
	2931 Sep 26 21:22	30°℞♓	
direct	2931 Dec 07 20:37	28°♓12'55	
	2932 Feb 12 23:19	0°♈	
evening set	2932 Mar 06 11:26	1°♈11'03	
conjunction	2932 Mar 22 06:58	2°♈04'53	-0°43'43
minimum elong	2932 Mar 22 06:58	2°♈04'53	0°43'42
max. Earth dist.	2932 Mar 23 07:06	2°♈08'20	21.10499 AU
morning rise	2932 Apr 07 05:32	2°♈59'10	
retrograde	2932 Jul 10 07:58	6°♈05'11	
min. Earth dist.	2932 Sep 25 10:32	4°♈08'36	19.11001 AU
opposition	2932 Sep 26 09:09	4°♈06'20	-0°47'51
direct	2932 Dec 11 02:34	2°♈10'13	
evening set	2933 Mar 10 15:31	5°♈08'09	
conjunction	2933 Mar 26 11:37	6°♈02'02	-0°42'55
minimum elong	2933 Mar 26 11:37	6°♈02'02	0°42'55
max. Earth dist.	2933 Mar 27 10:28	6°♈05'18	21.11308 AU
morning rise	2933 Apr 11 11:13	6°♈56'23	
retrograde	2933 Jul 14 15:13	10°♈02'29	
opposition	2933 Sep 30 16:22	8°♈03'37	-0°46'51
min. Earth dist.	2933 Sep 29 19:11	8°♈05'44	19.11576 AU
direct	2933 Dec 15 06:39	6°♈07'35	
evening set	2934 Mar 14 19:39	9°♈05'25	
conjunction	2934 Mar 30 16:41	9°♈59'21	-0°41'55
minimum elong	2934 Mar 30 16:41	9°♈59'21	0°41'54
max. Earth dist.	2934 Mar 31 15:56	10°♈02'40	21.11629 AU
morning rise	2934 Apr 15 16:59	10°♈53'47	
retrograde	2934 Jul 18 23:54	13°♈59'59	
opposition	2934 Oct 04 23:25	12°♈01'07	-0°45'38
min. Earth dist.	2934 Oct 04 02:10	12°♈03'14	19.11624 AU
direct	2934 Dec 19 12:30	10°♈05'08	
evening set	2935 Mar 19 00:09	13°♈02'54	
conjunction	2935 Apr 03 21:48	13°♈56'55	-0°40'43
minimum elong	2935 Apr 03 21:48	13°♈56'55	0°40'43
max. Earth dist.	2935 Apr 04 19:18	13°♈59'59	21.11400 AU
morning rise	2935 Apr 19 23:08	14°♈51'27	
retrograde	2935 Jul 23 06:48	17°♈57'49	
min. Earth dist.	2935 Oct 08 11:04	16°♈00'50	19.11112 AU
opposition	2935 Oct 09 06:35	15°♈58'53	-0°44'12
direct	2935 Dec 23 16:26	14°♈02'53	
evening set	2936 Mar 22 04:51	17°♈00'40	
conjunction	2936 Apr 07 03:31	17°♈54'47	-0°39'19
minimum elong	2936 Apr 07 03:32	17°♈54'47	0°39'18
max. Earth dist.	2936 Apr 08 01:00	17°♈57'51	21.10597 AU
morning rise	2936 Apr 23 05:38	18°♈49'25	
retrograde	2936 Jul 26 15:43	21°♈55'57	
opposition	2936 Oct 12 13:26	19°♈56'56	-0°42'33
min. Earth dist.	2936 Oct 11 18:04	19°♈58'52	19.10002 AU
direct	2936 Dec 26 22:27	18°♈00'53	
evening set	2937 Mar 26 09:58	20°♈58'42	
conjunction	2937 Apr 11 09:25	21°♈52'57	-0°37'43
minimum elong	2937 Apr 11 09:25	21°♈52'57	0°37'44
max. Earth dist.	2937 Apr 12 04:47	21°♈55'42	21.09193 AU
morning rise	2937 Apr 27 12:39	22°♈47'43	
retrograde	2937 Jul 30 22:42	25°♈54'25	
opposition	2937 Oct 16 20:23	23°♈55'16	-0°40'41
min. Earth dist.	2937 Oct 16 03:01	23°♈57'01	19.08304 AU
direct	2937 Dec 31 02:32	21°♈59'05	
evening set	2938 Mar 30 15:14	24°♈57'02	
conjunction	2938 Apr 15 15:45	25°♈51'25	-0°35'57
minimum elong	2938 Apr 15 15:45	25°♈51'25	0°35'56
max. Earth dist.	2938 Apr 16 10:55	25°♈54'08	21.07217 AU
morning rise	2938 May 01 19:47	26°♈46'18	
retrograde	2938 Aug 04 07:31	29°♈53'12	
min. Earth dist.	2938 Oct 20 09:46	27°♈55'38	19.06049 AU
opposition	2938 Oct 21 02:58	27°♈53'54	-0°38'37
direct	2939 Jan 04 08:29	25°♈57'34	
evening set	2939 Apr 03 20:57	28°♈55'41	
conjunction	2939 Apr 19 22:14	29°♈50'13	-0°33'59
minimum elong	2939 Apr 19 22:14	29°♈50'13	0°34'00
max. Earth dist.	2939 Apr 20 15:24	29°♈52'39	21.04717 AU
	2939 Apr 22 18:55	0°♉	
morning rise	2939 May 06 03:23	0°♉45'16	
retrograde	2939 Aug 08 14:56	3°♉52'24	
opposition	2939 Oct 25 09:47	1°♉52'54	-0°36'22
min. Earth dist.	2939 Oct 24 18:31	1°♉54'26	19.03315 AU
	2939 Dec 27 15:14	30°℞♈	
direct	2940 Jan 08 12:39	29°♈56'23	
	2940 Jan 20 07:30	0°♉	
evening set	2940 Apr 07 02:47	2°♉54'44	
conjunction	2940 Apr 23 05:13	3°♉49'26	-0°31'52
minimum elong	2940 Apr 23 05:13	3°♉49'26	0°31'52
max. Earth dist.	2940 Apr 23 22:19	3°♉51'52	21.01768 AU
morning rise	2940 May 09 11:12	4°♉44'39	
retrograde	2940 Aug 12 00:19	7°♉52'03	
opposition	2940 Oct 28 16:24	5°♉52'23	-0°33'56
min. Earth dist.	2940 Oct 28 01:13	5°♉53'55	19.00147 AU
direct	2941 Jan 11 18:47	3°♉55'39	
evening set	2941 Apr 11 09:23	6°♉54'21	
conjunction	2941 Apr 27 12:38	7°♉49'13	-0°29'35
minimum elong	2941 Apr 27 12:38	7°♉49'13	0°29'34
max. Earth dist.	2941 Apr 28 03:42	7°♉51'22	20.98403 AU
morning rise	2941 May 13 19:44	8°♉44'38	
retrograde	2941 Aug 16 08:26	11°♉52'20	
opposition	2941 Nov 01 23:07	9°♉52'29	-0°31'20
min. Earth dist.	2941 Nov 01 09:56	9°♉53'49	18.96599 AU
direct	2942 Jan 15 22:41	7°♉55'32	
evening set	2942 Apr 15 16:18	10°♉54'38	
conjunction	2942 May 01 20:42	11°♉49'43	-0°27'09
minimum elong	2942 May 01 20:42	11°♉49'43	0°27'09
max. Earth dist.	2942 May 02 11:34	11°♉51'50	20.94684 AU
morning rise	2942 May 18 04:36	12°♉45'19	
	2942 Jul 04 07:32	15°♉	
retrograde	2942 Aug 20 18:51	15°♉53'23	
	2942 Oct 08 08:40	15°℞♉	
opposition	2942 Nov 06 05:55	13°♉53'22	-0°28'34
min. Earth dist.	2942 Nov 05 16:47	13°♉54'42	18.92703 AU
direct	2943 Jan 20 05:20	11°♉56'13	
evening set	2943 Apr 19 23:48	14°♉55'48	
	2943 Apr 21 05:49	15°♉	
conjunction	2943 May 06 05:01	15°♉51'05	-0°24'35
minimum elong	2943 May 06 05:01	15°♉51'05	0°24'34
max. Earth dist.	2943 May 06 17:56	15°♉52'56	20.90629 AU
morning rise	2943 May 22 14:00	16°♉46'55	
retrograde	2943 Aug 25 03:47	19°♉55'24	
opposition	2943 Nov 10 13:08	17°♉55'13	-0°25'39
min. Earth dist.	2943 Nov 10 02:03	17°♉56'21	18.88494 AU

direct	2944 Jan 24	09:25	15°♉57'51	
evening set	2944 Apr 23	07:56	18°♉58'00	
conjunction	2944 May 09	14:20	19°♉53'32	-0°21'53
minimum elong	2944 May 09	14:20	19°♉53'32	0°21'53
max. Earth dist.	2944 May 10	02:55	19°♉55'20	20.86278 AU
morning rise	2944 May 26	00:08	20°♉49'34	
retrograde	2944 Aug 28	15:31	23°♉58'30	
opposition	2944 Nov 13	20:19	21°♉58'12	-0°22'36
min. Earth dist.	2944 Nov 13	09:26	21°♉59'19	18.83986 AU
direct	2945 Jan 27	16:41	20°♉00'37	
evening set	2945 Apr 27	17:00	23°♉01'26	
conjunction	2945 May 14	00:15	23°♉57'12	-0°19'03
minimum elong	2945 May 14	00:15	23°♉57'12	0°19'04
max. Earth dist.	2945 May 14	10:38	23°♉58'41	20.81624 AU
morning rise	2945 May 30	11:05	24°♉53'29	
retrograde	2945 Sep 02	01:32	28°♉02'55	
opposition	2945 Nov 18	04:04	26°♉02'30	-0°19'25
min. Earth dist.	2945 Nov 17	19:29	26°♉03'23	18.79183 AU
direct	2946 Jan 31	21:41	24°♉04'41	
evening set	2946 May 02	02:38	27°♉06'15	
conjunction	2946 May 18	10:59	28°♉02'17	-0°16'07
minimum elong	2946 May 18	10:59	28°♉02'17	0°16'08
max. Earth dist.	2946 May 18	20:42	28°♉03'40	20.76675 AU
morning rise	2946 Jun 03	22:34	28°♉58'49	
	2946 Jun 22	21:32	0°♊	
retrograde	2946 Sep 06	14:17	2°♊08'46	
opposition	2946 Nov 22	11:58	0°♊08'15	-0°16'07
min. Earth dist.	2946 Nov 22	03:49	0°♊09'06	18.74069 AU
	2946 Nov 25	19:55	30°℞♉	
direct	2947 Feb 05	05:35	28°♉10'14	
	2947 Apr 13	18:44	0°♊	
evening set	2947 May 06	13:20	1°♊12'36	
conjunction	2947 May 22	22:30	2°♊08'54	-0°13'06
minimum elong	2947 May 22	22:30	2°♊08'54	0°13'06
behind sun begin	2947 May 22	18:36	2°♊08'21	
behind sun end	2947 May 23	02:25	2°♊09'27	
max. Earth dist.	2947 May 23	05:50	2°♊09'57	20.71403 AU
morning rise	2947 Jun 08	11:01	3°♊05'42	
retrograde	2947 Sep 11	01:49	6°♊16'14	
opposition	2947 Nov 26	20:29	4°♊15'37	-0°12'43
min. Earth dist.	2947 Nov 26	14:56	4°♊16'11	18.68633 AU
direct	2948 Feb 09	11:57	2°♊17'19	
evening set	2948 May 10	00:45	5°♊20'35	
conjunction	2948 May 26	11:02	6°♊17'10	-0°09'59
minimum elong	2948 May 26	11:02	6°♊17'10	0°09'58
behind sun begin	2948 May 26	05:38	6°♊16'25	
behind sun end	2948 May 26	16:26	6°♊17'56	
max. Earth dist.	2948 May 26	17:10	6°♊18'02	20.65797 AU
morning rise	2948 Jun 12	00:18	7°♊14'14	
retrograde	2948 Sep 14	15:40	10°♊25'20	
opposition	2948 Nov 30	05:18	8°♊24'37	-0°09'13
min. Earth dist.	2948 Nov 30	00:28	8°♊25'07	18.62836 AU
direct	2949 Feb 12	20:45	6°♊26'02	
evening set	2949 May 14	13:21	9°♊30'14	
conjunction	2949 May 31	00:26	10°♊27'06	-0°06'48
minimum elong	2949 May 31	00:26	10°♊27'06	0°06'48
behind sun begin	2949 May 30	18:10	10°♊26'13	
behind sun end	2949 May 31	06:41	10°♊27'59	
max. Earth dist.	2949 May 31	03:49	10°♊27'34	20.59811 AU
morning rise	2949 Jun 16	14:30	11°♊24'26	
retrograde	2949 Sep 19	04:32	14°♊36'08	
opposition	2949 Dec 04	14:41	12°♊35'16	-0°05'38
min. Earth dist.	2949 Dec 04	12:38	12°♊35'29	18.56669 AU
direct	2950 Feb 17	04:39	10°♊36'21	
evening set	2950 May 19	02:37	13°♊41'31	
conjunction	2950 Jun 04	14:42	14°♊38'42	-0°03'33
minimum elong	2950 Jun 04	14:42	14°♊38'42	0°03'32
behind sun begin	2950 Jun 04	08:02	14°♊37'45	
behind sun end	2950 Jun 04	21:22	14°♊39'39	
max. Earth dist.	2950 Jun 04	16:34	14°♊38'55	20.53480 AU
morning rise	2950 Jun 21	05:26	15°♊36'18	
retrograde	2950 Sep 23	19:17	18°♊48'36	
opposition	2950 Dec 09	00:28	16°♊47'33	-0°02'00
min. Earth dist.	2950 Dec 08	23:07	16°♊47'41	18.50169 AU
direct	2951 Feb 21	14:46	14°♊48'16	
evening set	2951 May 23	16:42	17°♊54'26	
conjunction	2951 Jun 09	05:35	18°♊51'55	-0°00'11
minimum elong	2951 Jun 09	05:34	18°♊51'55	0°00'11
behind sun begin	2951 Jun 08	22:54	18°♊50'59	
behind sun end	2951 Jun 09	12:14	18°♊52'52	
max. Earth dist.	2951 Jun 09	05:00	18°♊51'53	20.46831 AU
morning rise	2951 Jun 25	21:02	19°♊49'49	
asc. node	2951 Jun 28	22:28	20°♊00'13	
retrograde	2951 Sep 28	08:54	23°♊02'43	
opposition	2951 Dec 13	10:53	21°♊01'28	0°01'40
min. Earth dist.	2951 Dec 13	12:12	21°♊01'19	18.43391 AU
direct	2952 Feb 26	00:11	19°♊01'46	
evening set	2952 May 27	07:45	22°♊09'00	
conjunction	2952 Jun 12	21:32	23°♊06'48	0°03'13
minimum elong	2952 Jun 12	21:33	23°♊06'48	0°03'13
behind sun begin	2952 Jun 12	14:50	23°♊05'51	
behind sun end	2952 Jun 13	04:15	23°♊07'45	
max. Earth dist.	2952 Jun 12	19:25	23°♊06'32	20.39952 AU
morning rise	2952 Jun 29	13:36	24°♊04'58	
retrograde	2952 Oct 02	00:37	27°♊18'28	
opposition	2952 Dec 16	21:29	25°♊17'00	0°05'21
min. Earth dist.	2952 Dec 16	23:30	25°♊16'48	18.36416 AU
direct	2953 Mar 01	11:53	23°♊16'52	
evening set	2953 May 31	23:47	26°♊25'13	
conjunction	2953 Jun 17	14:18	27°♊23'20	0°06'31
minimum elong	2953 Jun 17	14:18	27°♊23'20	0°06'32
behind sun begin	2953 Jun 17	07:58	27°♊22'26	
behind sun end	2953 Jun 17	20:37	27°♊24'14	
max. Earth dist.	2953 Jun 17	10:04	27°♊22'44	20.32898 AU
morning rise	2953 Jul 04	06:53	28°♊21'47	
	2953 Aug 04	07:16	0°♋	
retrograde	2953 Oct 06	14:57	1°♋35'53	
	2953 Dec 11	03:32	30°℞♊	
opposition	2953 Dec 21	08:53	29°♊34'14	0°09'02
min. Earth dist.	2953 Dec 21	13:20	29°♊33'45	18.29314 AU
direct	2954 Mar 05	22:37	27°♊33'40	
	2954 May 23	20:05	0°♋	
evening set	2954 Jun 05	16:29	0°♋43'09	
conjunction	2954 Jun 22	07:44	1°♋41'35	0°09'49
minimum elong	2954 Jun 22	07:43	1°♋41'35	0°09'48
behind sun begin	2954 Jun 22	02:15	1°♋40'47	
behind sun end	2954 Jun 22	13:12	1°♋42'22	
max. Earth dist.	2954 Jun 22	01:56	1°♋40'44	20.25769 AU
morning rise	2954 Jul 09	00:48	2°♋40'17	
retrograde	2954 Oct 11	07:34	5°♋55'03	
opposition	2954 Dec 25	20:42	3°♋53'10	0°12'41
min. Earth dist.	2954 Dec 26	01:38	3°♋52'39	18.22170 AU
direct	2955 Mar 10	12:09	1°♋52'10	

evening set	2955 Jun	10	10:15	5°♋02'50	
conjunction	2955 Jun	27	02:08	6°♋01'35	0°13'04
minimum elong	2955 Jun	27	02:08	6°♋01'35	0°13'05
behind sun begin	2955 Jun	26	22:13	6°♋01'01	
behind sun end	2955 Jun	27	06:03	6°♋02'09	
max. Earth dist.	2955 Jun	26	18:44	6°♋00'30	20.18618 AU
morning rise	2955 Jul	13	19:33	7°♋00'35	
retrograde	2955 Oct	15	22:50	10°♋15'57	
opposition	2955 Dec	30	09:12	8°♋13'54	0°16'17
min. Earth dist.	2955 Dec	30	16:20	8°♋13'09	18.15046 AU
direct	2956 Mar	13	24:00	6°♋12'28	
evening set	2956 Jun	14	04:56	9°♋24'22	
conjunction	2956 Jun	30	21:25	10°♋23'25	0°16'16
minimum elong	2956 Jun	30	21:25	10°♋23'25	0°16'16
max. Earth dist.	2956 Jun	30	12:15	10°♋22'04	20.11535 AU
morning rise	2956 Jul	17	15:16	11°♋22'41	
retrograde	2956 Oct	19	16:56	14°♋38'42	
opposition	2957 Jan	02	22:17	12°♋36'30	0°19'48
min. Earth dist.	2957 Jan	03	05:55	12°♋35'41	18.08010 AU
direct	2957 Mar	18	15:35	10°♋34'38	
evening set	2957 Jun	19	00:36	13°♋47'49	
conjunction	2957 Jul	05	17:38	14°♋47'10	0°19'24
minimum elong	2957 Jul	05	17:38	14°♋47'10	0°19'24
max. Earth dist.	2957 Jul	05	07:15	14°♋45'38	20.04545 AU
morning rise	2957 Jul	22	11:35	15°♋46'41	
retrograde	2957 Oct	24	09:20	19°♋03'22	
opposition	2958 Jan	07	12:09	17°♋01'02	0°23'15
min. Earth dist.	2958 Jan	07	21:44	17°♋00'00	18.01098 AU
direct	2958 Mar	23	04:58	14°♋58'47	
evening set	2958 Jun	23	21:13	18°♋13'16	
conjunction	2958 Jul	10	14:39	19°♋12'55	0°22'26
minimum elong	2958 Jul	10	14:39	19°♋12'55	0°22'26
max. Earth dist.	2958 Jul	10	02:21	19°♋11'04	19.97725 AU
morning rise	2958 Jul	27	08:53	20°♋12'42	
retrograde	2958 Oct	29	05:00	23°♋30'01	
opposition	2959 Jan	12	02:41	21°♋27'36	0°26'34
min. Earth dist.	2959 Jan	12	12:50	21°♋26'31	17.94369 AU
direct	2959 Mar	27	21:51	19°♋24'59	
evening set	2959 Jun	28	18:43	22°♋40'47	
conjunction	2959 Jul	15	12:38	23°♋40'44	0°25'22
minimum elong	2959 Jul	15	12:38	23°♋40'44	0°25'22
max. Earth dist.	2959 Jul	14	23:33	23°♋38'46	19.91075 AU
morning rise	2959 Aug	01	06:51	24°♋40'46	
retrograde	2959 Nov	02	23:39	27°♋58'44	
opposition	2960 Jan	16	18:08	25°♋56'16	0°29'46
min. Earth dist.	2960 Jan	17	06:07	25°♋54'58	17.87809 AU
direct	2960 Mar	31	13:19	23°♋53'19	
evening set	2960 Jul	02	17:30	27°♋10'27	
conjunction	2960 Jul	19	11:36	28°♋10'40	0°28'10
minimum elong	2960 Jul	19	11:35	28°♋10'40	0°28'10
max. Earth dist.	2960 Jul	18	20:09	28°♋08'20	19.84607 AU
morning rise	2960 Aug	05	05:56	29°♋10'56	
	2960 Aug	19	13:00	0°♌	
retrograde	2960 Nov	06	20:35	2°♌29'34	
opposition	2961 Jan	20	10:10	0°♌27'02	0°32'48
min. Earth dist.	2961 Jan	20	23:06	0°♌25'38	17.81428 AU
	2961 Jan	30	21:59	30°℞♋	
direct	2961 Apr	05	07:22	28°♋23'44	
	2961 Jun	06	07:50	0°♌	
evening set	2961 Jul	07	17:10	1°♌42'12	
conjunction	2961 Jul	24	11:35	2°♌42'42	0°30'49
minimum elong	2961 Jul	24	11:35	2°♌42'42	0°30'48
max. Earth dist.	2961 Jul	23	19:28	2°♌40'16	19.78288 AU
morning rise	2961 Aug	10	05:38	3°♌43'12	
retrograde	2961 Nov	11	17:31	7°♌02'26	
opposition	2962 Jan	25	03:15	4°♌59'52	0°35'40
min. Earth dist.	2962 Jan	25	17:51	4°♌58'17	17.75191 AU
direct	2962 Apr	10	00:58	2°♌56'14	
evening set	2962 Jul	12	17:42	6°♌15'59	
conjunction	2962 Jul	29	12:03	7°♌16'44	0°33'17
minimum elong	2962 Jul	29	12:03	7°♌16'44	0°33'17
max. Earth dist.	2962 Jul	28	17:20	7°♌13'53	19.72129 AU
morning rise	2962 Aug	15	06:05	8°♌17'27	
retrograde	2962 Nov	16	15:22	11°♌37'16	
opposition	2963 Jan	29	21:04	9°♌34'38	0°38'19
min. Earth dist.	2963 Jan	30	12:46	9°♌32'56	17.69121 AU
direct	2963 Apr	14	20:35	7°♌30'38	
evening set	2963 Jul	17	19:04	10°♌51'39	
conjunction	2963 Aug	03	13:38	11°♌52'39	0°35'34
minimum elong	2963 Aug	03	13:38	11°♌52'39	0°35'34
max. Earth dist.	2963 Aug	02	18:28	11°♌49'43	19.66132 AU
morning rise	2963 Aug	20	07:12	12°♌53'33	
	2963 Sep	29	03:10	15°♌	
retrograde	2963 Nov	21	13:43	16°♌13'54	
	2964 Jan	15	10:25	15°℞♌	
opposition	2964 Feb	03	15:33	14°♌11'12	0°40'46
min. Earth dist.	2964 Feb	04	08:34	14°♌09'21	17.63219 AU
direct	2964 Apr	18	16:21	12°♌06'51	
	2964 Jul	13	15:38	15°♌	
evening set	2964 Jul	21	21:24	15°♌29'05	
conjunction	2964 Aug	07	15:44	16°♌30'17	0°37'38
minimum elong	2964 Aug	07	15:44	16°♌30'17	0°37'37
max. Earth dist.	2964 Aug	06	17:57	16°♌26'57	19.60339 AU
morning rise	2964 Aug	24	09:07	17°♌31'22	
retrograde	2964 Nov	25	11:59	20°♌52'13	
opposition	2965 Feb	07	10:52	18°♌49'25	0°42'56
min. Earth dist.	2965 Feb	08	05:06	18°♌47'26	17.57557 AU
direct	2965 Apr	23	13:36	16°♌44'42	
evening set	2965 Jul	27	00:06	20°♌08'06	
conjunction	2965 Aug	12	18:26	21°♌09'31	0°39'27
minimum elong	2965 Aug	12	18:26	21°♌09'31	0°39'28
max. Earth dist.	2965 Aug	11	20:39	21°♌06'10	19.54803 AU
morning rise	2965 Aug	29	11:10	22°♌10'45	
retrograde	2965 Nov	30	11:16	25°♌32'02	
opposition	2966 Feb	12	06:49	23°♌29'10	0°44'51
min. Earth dist.	2966 Feb	13	01:42	23°♌27'06	17.52176 AU
direct	2966 Apr	28	11:20	21°♌24'07	
evening set	2966 Aug	01	03:34	24°♌48'36	
conjunction	2966 Aug	17	21:30	25°♌50'12	0°41'02
minimum elong	2966 Aug	17	21:29	25°♌50'12	0°41'01
max. Earth dist.	2966 Aug	16	21:38	25°♌46'31	19.49598 AU
morning rise	2966 Sep	03	13:50	26°♌51'34	
	2966 Nov	13	11:55	0°♍	
retrograde	2966 Dec	05	09:51	0°♍13'16	
	2966 Dec	27	10:51	30°℞♌	
opposition	2967 Feb	17	03:25	28°♌10'18	0°46'28
min. Earth dist.	2967 Feb	17	23:28	28°♌08'06	17.47176 AU
direct	2967 May	03	10:02	26°♌04'54	
evening set	2967 Aug	06	07:21	29°♌30'27	
	2967 Aug	14	09:00	0°♍	
max. Earth dist.	2967 Aug	22	01:36	0°♍28'33	19.44799 AU

conjunction	2967 Aug 23	01:07	0°♍32'12	0°42'20
minimum elong	2967 Aug 23	01:07	0°♍32'12	0°42'21
morning rise	2967 Sep 08	16:47	1°♍33'40	
retrograde	2967 Dec 10	09:47	4°♍55'43	
opposition	2968 Feb 22	00:39	2°♍52'42	0°47'47
min. Earth dist.	2968 Feb 22	20:42	2°♍50'30	17.42595 AU
direct	2968 May 07	09:34	0°♍47'00	
evening set	2968 Aug 10	11:47	4°♍13'31	
max. Earth dist.	2968 Aug 26	04:04	5°♍11'31	19.40455 AU
conjunction	2968 Aug 27	04:59	5°♍15'23	0°43'22
minimum elong	2968 Aug 27	04:59	5°♍15'23	0°43'22
morning rise	2968 Sep 12	20:00	6°♍16'57	
retrograde	2968 Dec 14	08:29	9°♍39'19	
opposition	2969 Feb 25	22:32	7°♍36'15	0°48'47
min. Earth dist.	2969 Feb 26	19:37	7°♍33'56	17.38522 AU
direct	2969 May 12	09:42	5°♍30'16	
evening set	2969 Aug 15	16:24	8°♍57'42	
max. Earth dist.	2969 Aug 31	08:48	9°♍55'52	19.36655 AU
conjunction	2969 Sep 01	09:10	9°♍59'40	0°44'05
minimum elong	2969 Sep 01	09:10	9°♍59'40	0°44'05
morning rise	2969 Sep 17	23:23	11°♍01'17	
retrograde	2969 Dec 19	08:59	14°♍23'55	
opposition	2970 Mar 02	21:02	12°♍20'50	0°49'26
min. Earth dist.	2970 Mar 03	17:23	12°♍18'36	17.35012 AU
direct	2970 May 17	11:18	10°♍14'39	
evening set	2970 Aug 20	21:14	13°♍42'53	
conjunction	2970 Sep 06	13:21	14°♍44'55	0°44'31
minimum elong	2970 Sep 06	13:21	14°♍44'55	0°44'32
max. Earth dist.	2970 Sep 05	12:33	14°♍41'03	19.33444 AU
morning rise	2970 Sep 23	02:45	15°♍46'35	
retrograde	2970 Dec 24	07:55	19°♍09'27	
opposition	2971 Mar 07	20:12	17°♍06'22	0°49'46
min. Earth dist.	2971 Mar 08	17:21	17°♍04'03	17.32126 AU
direct	2971 May 22	12:37	15°♍00'03	
evening set	2971 Aug 26	02:24	18°♍29'00	
conjunction	2971 Sep 11	17:53	19°♍31'05	0°44'39
minimum elong	2971 Sep 11	17:53	19°♍31'05	0°44'38
max. Earth dist.	2971 Sep 10	17:31	19°♍27'16	19.30882 AU
morning rise	2971 Sep 28	06:26	20°♍32'46	
retrograde	2971 Dec 29	09:08	23°♍55'49	
opposition	2972 Mar 11	19:41	21°♍52'48	0°49'45
min. Earth dist.	2972 Mar 12	15:43	21°♍50'36	17.29880 AU
direct	2972 May 26	15:45	19°♍46'24	
evening set	2972 Aug 30	07:48	23°♍16'00	
conjunction	2972 Sep 15	22:32	24°♍18'06	0°44'29
minimum elong	2972 Sep 15	22:32	24°♍18'06	0°44'29
max. Earth dist.	2972 Sep 14	22:31	24°♍14'20	19.28957 AU
morning rise	2972 Oct 02	10:04	25°♍19'46	
retrograde	2973 Jan 02	08:51	28°♍42'57	
opposition	2973 Mar 16	19:58	26°♍40'04	0°49'24
min. Earth dist.	2973 Mar 17	16:46	26°♍37'47	17.28280 AU
direct	2973 May 31	17:37	24°♍33'37	
evening set	2973 Sep 04	13:07	28°♍03'45	
max. Earth dist.	2973 Sep 20	03:10	29°♍02'06	19.27674 AU
conjunction	2973 Sep 21	02:58	29°♍05'51	0°44'00
minimum elong	2973 Sep 21	02:58	29°♍05'51	0°44'00
	2973 Oct 05	13:02	0°♎	
morning rise	2973 Oct 07	13:37	0°♎07'29	
retrograde	2974 Jan 07	11:20	3°♎30'45	
opposition	2974 Mar 21	20:35	1°♎28'00	0°48'42
min. Earth dist.	2974 Mar 22	16:04	1°♎25'52	17.27292 AU
	2974 Apr 27	23:11	30°℞♍	
direct	2974 Jun 05	21:47	29°♍21'34	
	2974 Jul 14	02:23	0°♎	
evening set	2974 Sep 09	18:32	2°♎52'07	
max. Earth dist.	2974 Sep 25	08:47	3°♎50'35	19.26972 AU
conjunction	2974 Sep 26	07:35	3°♎54'11	0°43'13
minimum elong	2974 Sep 26	07:35	3°♎54'11	0°43'12
morning rise	2974 Oct 12	17:05	4°♎55'46	
retrograde	2975 Jan 12	11:23	8°♎19'01	
opposition	2975 Mar 26	21:40	6°♎16'25	0°47'39
min. Earth dist.	2975 Mar 27	17:53	6°♎14'13	17.26874 AU
direct	2975 Jun 10	23:34	4°♎10'01	
evening set	2975 Sep 14	23:59	7°♎40'52	
conjunction	2975 Oct 01	12:00	8°♎42'52	0°42'07
minimum elong	2975 Oct 01	12:00	8°♎42'52	0°42'08
max. Earth dist.	2975 Sep 30	12:53	8°♎39'13	19.26829 AU
morning rise	2975 Oct 17	20:36	9°♎44'21	
retrograde	2976 Jan 17	14:19	13°♎07'34	
opposition	2976 Mar 30	23:08	11°♎05'05	0°46'17
min. Earth dist.	2976 Mar 31	18:04	11°♎03'01	17.26988 AU
direct	2976 Jun 15	04:18	8°♎58'43	
evening set	2976 Sep 19	05:06	12°♎29'44	
conjunction	2976 Oct 05	16:14	13°♎31'38	0°40'45
minimum elong	2976 Oct 05	16:14	13°♎31'38	0°40'44
max. Earth dist.	2976 Oct 04	18:40	13°♎28'14	19.27190 AU
morning rise	2976 Oct 21	23:34	14°♎33'01	
retrograde	2977 Jan 21	14:17	17°♎56'05	
opposition	2977 Apr 05	01:03	15°♎53'44	0°44'34
min. Earth dist.	2977 Apr 05	20:18	15°♎51'38	17.27597 AU
direct	2977 Jun 20	06:52	13°♎47'26	
evening set	2977 Sep 24	10:01	17°♎18'28	
conjunction	2977 Oct 10	19:57	18°♎20'14	0°39'04
minimum elong	2977 Oct 10	19:58	18°♎20'14	0°39'05
max. Earth dist.	2977 Oct 09	22:04	18°♎16'46	19.28055 AU
morning rise	2977 Oct 27	02:23	19°♎21'28	
retrograde	2978 Jan 26	16:12	22°♎44'21	
opposition	2978 Apr 10	02:59	20°♎42'05	0°42'33
min. Earth dist.	2978 Apr 10	20:55	20°♎40'09	17.28707 AU
direct	2978 Jun 25	12:14	18°♎35'52	
evening set	2978 Sep 29	14:12	22°♎06'46	
conjunction	2978 Oct 15	23:18	23°♎08'23	0°37'08
minimum elong	2978 Oct 15	23:19	23°♎08'23	0°37'08
max. Earth dist.	2978 Oct 15	03:25	23°♎05'15	19.29405 AU
morning rise	2978 Nov 01	04:30	24°♎09'28	
retrograde	2979 Jan 31	15:18	27°♎32'04	
opposition	2979 Apr 15	05:09	25°♎29'55	0°40'15
min. Earth dist.	2979 Apr 15	22:53	25°♎27'59	17.30286 AU
direct	2979 Jun 30	16:03	23°♎23'46	
evening set	2979 Oct 04	18:09	26°♎54'25	
max. Earth dist.	2979 Oct 20	05:58	27°♎52'41	19.31233 AU
conjunction	2979 Oct 21	02:01	27°♎55'51	0°34'56
minimum elong	2979 Oct 21	02:01	27°♎55'51	0°34'55
morning rise	2979 Nov 06	06:16	28°♎56'45	
	2979 Nov 24	01:02	0°♏	
retrograde	2980 Feb 05	15:31	2°♏19'01	
opposition	2980 Apr 19	07:09	0°♏16'57	0°37'39
min. Earth dist.	2980 Apr 19	23:38	0°♏15'10	17.32358 AU
	2980 Apr 25	20:23	30°℞♎	
direct	2980 Jul 04	21:39	28°♎10'54	
	2980 Sep 09	06:26	0°♏	
evening set	2980 Oct 08	21:14	1°♏41'10	

max. Earth dist.	2980 Oct 24 10:29	2°♏39'37	19.33556 AU
conjunction	2980 Oct 25 04:10	2°♏42'24	0°32'30
minimum elong	2980 Oct 25 04:10	2°♏42'24	0°32'30
morning rise	2980 Nov 10 07:12	3°♏43'06	
retrograde	2981 Feb 09 14:07	7°♏04'57	
opposition	2981 Apr 24 09:16	5°♏02'58	0°34'48
min. Earth dist.	2981 Apr 25 00:47	5°♏01'18	17.34919 AU
direct	2981 Jul 10 02:23	2°♏57'03	
evening set	2981 Oct 13 23:32	6°♏26'48	
conjunction	2981 Oct 30 05:14	7°♏27'48	0°29'50
minimum elong	2981 Oct 30 05:14	7°♏27'48	0°29'50
max. Earth dist.	2981 Oct 29 12:04	7°♏25'06	19.36382 AU
morning rise	2981 Nov 15 07:22	8°♏28'17	
retrograde	2982 Feb 14 12:44	11°♏49'43	
opposition	2982 Apr 29 11:10	9°♏47'47	0°31'43
min. Earth dist.	2982 Apr 30 01:23	9°♏46'16	17.38010 AU
direct	2982 Jul 15 06:47	7°♏42'00	
evening set	2982 Oct 19 01:00	11°♏11'08	
conjunction	2982 Nov 04 05:44	12°♏11'54	0°26'59
minimum elong	2982 Nov 04 05:44	12°♏11'54	0°26'59
max. Earth dist.	2982 Nov 03 15:08	12°♏09'37	19.39741 AU
morning rise	2982 Nov 20 06:45	13°♏12'09	
	2982 Dec 22 06:02	15°♏	
retrograde	2983 Feb 19 11:03	16°♏33'04	
	2983 Apr 23 06:16	15°℞♏	
opposition	2983 May 04 12:42	14°♏31'16	0°28'27
min. Earth dist.	2983 May 05 01:14	14°♏29'55	17.41624 AU
direct	2983 Jul 20 11:09	12°♏25'40	
	2983 Oct 08 21:15	15°♏	
evening set	2983 Oct 24 01:49	15°♏54'06	
conjunction	2983 Nov 09 05:19	16°♏54'36	0°23'59
minimum elong	2983 Nov 09 05:19	16°♏54'36	0°23'59
max. Earth dist.	2983 Nov 08 15:49	16°♏52'29	19.43634 AU
morning rise	2983 Nov 25 05:23	17°♏54'37	
retrograde	2984 Feb 24 08:28	21°♏15'01	
opposition	2984 May 08 14:13	19°♏13'20	0°25'00
min. Earth dist.	2984 May 09 01:27	19°♏12'08	17.45799 AU
direct	2984 Jul 24 13:44	17°♏07'58	
evening set	2984 Oct 28 01:32	20°♏35'38	
conjunction	2984 Nov 13 04:01	21°♏35'51	0°20'49
minimum elong	2984 Nov 13 04:01	21°♏35'51	0°20'49
max. Earth dist.	2984 Nov 12 17:03	21°♏34'09	19.48086 AU
morning rise	2984 Nov 29 03:03	22°♏35'36	
retrograde	2985 Feb 28 06:36	25°♏55'29	
opposition	2985 May 13 15:21	23°♏53'58	0°21'24
min. Earth dist.	2985 May 14 00:12	23°♏53'02	17.50501 AU
direct	2985 Jul 29 17:12	21°♏48'55	
evening set	2985 Nov 02 00:31	25°♏15'44	
conjunction	2985 Nov 18 01:54	26°♏15'41	0°17'32
minimum elong	2985 Nov 18 01:54	26°♏15'41	0°17'33
max. Earth dist.	2985 Nov 17 16:33	26°♏14'13	19.53049 AU
morning rise	2985 Dec 04 00:02	27°♏15'10	
	2986 Jan 28 16:07	0°♐	
retrograde	2986 Mar 05 03:04	0°♐34'30	
	2986 Apr 10 16:54	30°℞♏	
opposition	2986 May 18 16:06	28°♏33'11	0°17'41
min. Earth dist.	2986 May 18 23:54	28°♏32'22	17.55709 AU
direct	2986 Aug 03 17:53	26°♏28'28	
evening set	2986 Nov 06 22:32	29°♏54'24	
	2986 Nov 08 11:14	0°♐	
conjunction	2986 Nov 22 22:56	0°♐54'03	0°14'10
minimum elong	2986 Nov 22 22:56	0°♐54'03	0°14'10
behind sun begin	2986 Nov 22 19:40	0°♐53'33	
behind sun end	2986 Nov 23 02:13	0°♐54'33	
max. Earth dist.	2986 Nov 22 15:39	0°♐52'55	19.58487 AU
morning rise	2986 Dec 08 20:14	1°♐53'16	
retrograde	2987 Mar 10 00:47	5°♐12'02	
opposition	2987 May 23 16:27	3°♐10'58	0°13'52
min. Earth dist.	2987 May 23 21:42	3°♐10'24	17.61330 AU
direct	2987 Aug 08 19:47	1°♐06'38	
evening set	2987 Nov 11 19:43	4°♐31'35	
conjunction	2987 Nov 27 19:05	5°♐30'57	0°10'44
minimum elong	2987 Nov 27 19:06	5°♐30'57	0°10'44
behind sun begin	2987 Nov 27 13:59	5°♐30'10	
behind sun end	2987 Nov 28 00:12	5°♐31'44	
max. Earth dist.	2987 Nov 27 13:44	5°♐30'08	19.64290 AU
morning rise	2987 Dec 13 15:30	6°♐29'53	
retrograde	2988 Mar 13 20:38	9°♐48'05	
opposition	2988 May 27 16:33	7°♐47'15	0°09'59
min. Earth dist.	2988 May 27 21:03	7°♐46'46	17.67301 AU
direct	2988 Aug 12 19:19	5°♐43'19	
evening set	2988 Nov 15 16:01	9°♐07'15	
conjunction	2988 Dec 01 14:24	10°♐06'18	0°07'15
minimum elong	2988 Dec 01 14:24	10°♐06'18	0°07'15
behind sun begin	2988 Dec 01 08:19	10°♐05'23	
behind sun end	2988 Dec 01 20:28	10°♐07'13	
max. Earth dist.	2988 Dec 01 10:39	10°♐05'45	19.70413 AU
morning rise	2988 Dec 17 10:04	11°♐04'58	
retrograde	2989 Mar 18 17:21	14°♐22'34	
opposition	2989 Jun 01 16:07	12°♐21'57	0°06'04
min. Earth dist.	2989 Jun 01 17:56	12°♐21'46	17.73542 AU
direct	2989 Aug 17 20:00	10°♐18'26	
evening set	2989 Nov 20 11:16	13°♐41'16	
conjunction	2989 Dec 06 08:47	14°♐40'01	0°03'44
minimum elong	2989 Dec 06 08:47	14°♐40'01	0°03'43
behind sun begin	2989 Dec 06 02:15	14°♐39'02	
behind sun end	2989 Dec 06 15:19	14°♐41'00	
max. Earth dist.	2989 Dec 06 07:12	14°♐39'49	19.76759 AU
morning rise	2989 Dec 22 03:40	15°♐38'24	
retrograde	2990 Mar 23 12:09	18°♐55'23	
opposition	2990 Jun 06 15:18	16°♐54'59	0°02'08
min. Earth dist.	2990 Jun 06 16:34	16°♐54'51	17.79981 AU
direct	2990 Aug 22 18:41	14°♐51'52	
evening set	2990 Nov 25 05:46	18°♐13'35	
conjunction	2990 Dec 11 02:21	19°♐12'00	0°00'08
minimum elong	2990 Dec 11 02:20	19°♐12'00	0°00'08
behind sun begin	2990 Dec 10 19:53	19°♐11'02	
behind sun end	2990 Dec 11 08:46	19°♐12'58	
max. Earth dist.	2990 Dec 11 01:47	19°♐11'57	19.83273 AU
desc. node	2990 Dec 24 10:07	20°♐01'13	
morning rise	2990 Dec 26 20:38	20°♐10'05	
retrograde	2991 Mar 28 07:20	23°♐26'27	
opposition	2991 Jun 11 13:39	21°♐26'13	-0°01'48
min. Earth dist.	2991 Jun 11 12:22	21°♐26'21	17.86546 AU
direct	2991 Aug 27 18:22	19°♐23'30	
evening set	2991 Nov 29 23:17	22°♐44'02	
conjunction	2991 Dec 15 19:05	23°♐42'08	-0°03'28
minimum elong	2991 Dec 15 19:06	23°♐42'08	0°03'28
behind sun begin	2991 Dec 15 12:34	23°♐41'09	
behind sun end	2991 Dec 16 01:37	23°♐43'07	
max. Earth dist.	2991 Dec 15 20:49	23°♐42'21	19.89876 AU
morning rise	2991 Dec 31 12:40	24°♐39'56	

retrograde	2992 Apr 01	00:17	27°♐55'39		
opposition	2992 Jun 15	11:45	25°♐55'35	-0°05'41	
min. Earth dist.	2992 Jun 15	09:57	25°♐55'46	17.93183 AU	
direct	2992 Aug 31	16:39	23°♐53'15		
evening set	2992 Dec 03	15:45	27°♐12'33		
conjunction	2992 Dec 19	10:42	28°♐10'20	-0°06'55	
minimum elong	2992 Dec 19	10:42	28°♐10'19	0°06'55	
behind sun begin	2992 Dec 19	04:35	28°♐09'25		
behind sun end	2992 Dec 19	16:48	28°♐11'14		
max. Earth dist.	2992 Dec 19	13:13	28°♐10'41	19.96538 AU	
morning rise	2993 Jan 04	03:53	29°♐07'51		
	2993 Jan 19	03:33	0°♑		
retrograde	2993 Apr 05	17:46	2°♑22'54		
opposition	2993 Jun 20	09:00	0°♑22'57	-0°09'30	
min. Earth dist.	2993 Jun 20	04:39	0°♑23'24	17.99854 AU	
	2993 Jun 29	16:46	30°℞♐		
direct	2993 Sep 05	14:55	28°♐20'57		
	2993 Nov 08	06:06	0°♑		
evening set	2993 Dec 08	07:13	1°♑39'00		
conjunction	2993 Dec 24	01:36	2°♑36'28	-0°10'19	
minimum elong	2993 Dec 24	01:36	2°♑36'28	0°10'18	
behind sun begin	2993 Dec 23	20:21	2°♑35'41		
behind sun end	2993 Dec 24	06:50	2°♑37'15		
max. Earth dist.	2993 Dec 24	06:31	2°♑37'12	20.03210 AU	
morning rise	2994 Jan 08	18:12	3°♑33'42		
retrograde	2994 Apr 10	08:47	6°♑48'05		
opposition	2994 Jun 25	05:28	4°♑48'14	-0°13'15	
min. Earth dist.	2994 Jun 25	00:36	4°♑48'44	18.06530 AU	
direct	2994 Sep 10	11:35	2°♑46'34		
evening set	2994 Dec 12	21:46	6°♑03'20		
conjunction	2994 Dec 28	15:23	7°♑00'29	-0°13'37	
minimum elong	2994 Dec 28	15:23	7°♑00'29	0°13'37	
behind sun begin	2994 Dec 28	11:41	6°♑59'56		
behind sun end	2994 Dec 28	19:05	7°♑01'02		
max. Earth dist.	2994 Dec 28	20:57	7°♑01'19	20.09895 AU	
morning rise	2995 Jan 13	07:45	7°♑57'27		
retrograde	2995 Apr 15	00:32	11°♑11'08		
opposition	2995 Jun 30	01:10	9°♑11'21	-0°16'53	
min. Earth dist.	2995 Jun 29	17:49	9°♑12'07	18.13220 AU	
direct	2995 Sep 15	07:48	7°♑09'59		
evening set	2995 Dec 17	11:04	10°♑25'28		
conjunction	2996 Jan 02	04:14	11°♑22'19	-0°16'50	
minimum elong	2996 Jan 02	04:14	11°♑22'19	0°16'50	
max. Earth dist.	2996 Jan 02	12:34	11°♑23'34	20.16587 AU	
morning rise	2996 Jan 17	20:06	12°♑19'00		
retrograde	2996 Apr 18	13:48	15°♑32'02		
opposition	2996 Jul 03	20:17	13°♑32'19	-0°20'23	
min. Earth dist.	2996 Jul 03	12:01	13°♑33'10	18.19931 AU	
direct	2996 Sep 19	02:14	11°♑31'16		
evening set	2996 Dec 20	23:38	14°♑45'28		
conjunction	2997 Jan 05	16:07	15°♑42'00	-0°19'55	
minimum elong	2997 Jan 05	16:07	15°♑42'00	0°19'56	
max. Earth dist.	2997 Jan 06	01:12	15°♑43'22	20.23321 AU	
morning rise	2997 Jan 21	07:53	16°♑38'26		
retrograde	2997 Apr 23	04:34	19°♑50'49		
opposition	2997 Jul 08	14:25	17°♑51'10	-0°23'44	
min. Earth dist.	2997 Jul 08	03:42	17°♑52'16	18.26695 AU	
direct	2997 Sep 23	19:47	15°♑50'26		
evening set	2997 Dec 25	11:02	19°♑03'23		
conjunction	2998 Jan 10	03:15	19°♑59'39	-0°22'52	
minimum elong	2998 Jan 10	03:15	19°♑59'39	0°22'52	
max. Earth dist.	2998 Jan 10	15:10	20°♑01'26	20.30093 AU	
morning rise	2998 Jan 25	18:41	20°♑55'50		
retrograde	2998 Apr 27	16:38	24°♑07'34		
opposition	2998 Jul 13	07:53	22°♑08'03	-0°26'55	
min. Earth dist.	2998 Jul 12	20:06	22°♑09'14	18.33477 AU	
direct	2998 Sep 28	11:58	20°♑07'40		
evening set	2998 Dec 29	21:49	23°♑19'24		
conjunction	2999 Jan 14	13:29	24°♑15'23	-0°25'40	
minimum elong	2999 Jan 14	13:29	24°♑15'23	0°25'41	
max. Earth dist.	2999 Jan 15	01:58	24°♑17'15	20.36878 AU	
morning rise	2999 Jan 30	04:56	25°♑11'20		
retrograde	2999 May 02	06:23	28°♑22'29		
min. Earth dist.	2999 Jul 17	10:39	26°♑24'29	18.40260 AU	
opposition	2999 Jul 18	00:32	26°♑23'04	-0°29'56	
direct	2999 Oct 03	03:09	24°♑23'04		
evening set	3000 Jan 03	07:40	27°♑33'37		
conjunction	3000 Jan 18	23:11	28°♑29'21	-0°28'19	
minimum elong	3000 Jan 18	23:10	28°♑29'21	0°28'19	
max. Earth dist.	3000 Jan 19	14:21	28°♑31'37	20.43633 AU	
morning rise	3000 Feb 03	14:24	29°♑25'04		
	3000 Feb 13	18:58	0°♒		
retrograde	3000 May 06	18:01	2°♒35'40		
opposition	3000 Jul 22	16:40	0°♒36'23	-0°32'45	
min. Earth dist.	3000 Jul 22	01:42	0°♒37'54	18.46976 AU	
	3000 Aug 06	21:53	30°℞♑		
direct	3000 Oct 07	17:55	28°♑36'47		
	3000 Dec 05	00:54	0°♒		
evening set	3001 Jan 07	16:50	1°♒46'10		
conjunction	3001 Jan 23	07:57	2°♒41'40	-0°30'47	
minimum elong	3001 Jan 23	07:57	2°♒41'39	0°30'47	
max. Earth dist.	3001 Jan 23	23:32	2°♒43'59	20.50299 AU	
morning rise	3001 Feb 07	23:24	3°♒37'11		
retrograde	3001 May 11	06:46	6°♒47'16		
opposition	3001 Jul 27	08:03	4°♒48'07	-0°35'24	
min. Earth dist.	3001 Jul 26	15:28	4°♒49'47	18.53580 AU	
direct	3001 Oct 12	06:50	2°♒48'53		
evening set	3002 Jan 12	01:19	5°♒57'11		
conjunction	3002 Jan 27	16:26	6°♒52'27	-0°33'05	
minimum elong	3002 Jan 27	16:26	6°♒52'27	0°33'05	
max. Earth dist.	3002 Jan 28	10:21	6°♒55'06	20.56804 AU	
morning rise	3002 Feb 12	07:47	7°♒47'46		
retrograde	3002 May 15	17:40	10°♒57'21		
opposition	3002 Jul 31	22:37	8°♒58'21	-0°37'50	
min. Earth dist.	3002 Jul 31	05:13	9°♒00'06	18.59977 AU	
direct	3002 Oct 16	20:30	6°♒59'30		
evening set	3003 Jan 16	09:23	10°♒06'45		
conjunction	3003 Feb 01	00:12	11°♒01'47	-0°35'12	
minimum elong	3003 Feb 01	00:12	11°♒01'47	0°35'11	
max. Earth dist.	3003 Feb 01	18:06	11°♒04'26	20.63079 AU	
morning rise	3003 Feb 16	15:51	11°♒56'56		
	3003 May 04	17:47	15°♒		
retrograde	3003 May 20	05:31	15°♒06'04		
	3003 Jun 04	21:52	15°℞♒		
opposition	3003 Aug 05	12:44	13°♒07'11	-0°40'03	
min. Earth dist.	3003 Aug 04	18:16	13°♒09'03	18.66125 AU	
direct	3003 Oct 21	07:35	11°♒08'42		
evening set	3004 Jan 20	16:36	14°♒14'56		
	3004 Feb 02	13:17	15°♒		
conjunction	3004 Feb 05	07:33	15°♒09'46	-0°37'07	
minimum elong	3004 Feb 05	07:33	15°♒09'46	0°37'08	
max. Earth dist.	3004 Feb 06	03:29	15°♒12'42	20.69061 AU	

morning rise	3004 Feb 20 23:13	16°♒04'44	
retrograde	3004 May 23 15:41	19°♒13'27	
min. Earth dist.	3004 Aug 08 07:01	17°♒16'37	18.71935 AU
opposition	3004 Aug 09 02:15	17°♒14'41	-0°42'03
direct	3004 Oct 24 20:07	15°♒16'32	
evening set	3005 Jan 23 23:36	18°♒21'47	
conjunction	3005 Feb 08 14:24	19°♒16'27	-0°38'50
minimum elong	3005 Feb 08 14:24	19°♒16'27	0°38'49
max. Earth dist.	3005 Feb 09 09:57	19°♒19'19	20.74682 AU
morning rise	3005 Feb 24 06:32	20°♒11'16	
retrograde	3005 May 28 02:44	23°♒19'35	
opposition	3005 Aug 13 15:01	21°♒20'53	-0°43'50
min. Earth dist.	3005 Aug 12 19:17	21°♒22'52	18.77369 AU
direct	3005 Oct 29 06:00	19°♒23'01	
evening set	3006 Jan 28 05:55	22°♒27'21	
conjunction	3006 Feb 12 21:00	23°♒21'51	-0°40'21
minimum elong	3006 Feb 12 21:00	23°♒21'51	0°40'22
max. Earth dist.	3006 Feb 13 18:06	23°♒24'56	20.79891 AU
morning rise	3006 Feb 28 13:18	24°♒16'32	
retrograde	3006 Jun 01 12:03	27°♒24'27	
min. Earth dist.	3006 Aug 17 06:49	25°♒27'51	18.82352 AU
opposition	3006 Aug 18 03:11	25°♒25'48	-0°45'23
direct	3006 Nov 02 17:03	23°♒28'12	
evening set	3007 Feb 01 11:50	26°♒31'38	
conjunction	3007 Feb 17 02:55	27°♒25'58	-0°41'39
minimum elong	3007 Feb 17 02:55	27°♒25'58	0°41'39
max. Earth dist.	3007 Feb 17 23:24	27°♒28'58	20.84651 AU
morning rise	3007 Mar 04 19:46	28°♒20'33	
	3007 Apr 05 17:57	0°♓	
retrograde	3007 Jun 05 22:08	1°♓28'07	
	3007 Aug 09 17:28	30°℞♒	
opposition	3007 Aug 22 14:48	29°♒29'28	-0°46'42
min. Earth dist.	3007 Aug 21 18:13	29°♒31'31	18.86898 AU
direct	3007 Nov 07 02:09	27°♒32'03	
	3008 Jan 26 07:41	0°♓	
evening set	3008 Feb 05 17:08	0°♓34'38	
conjunction	3008 Feb 21 08:38	1°♓28'51	-0°42'44
minimum elong	3008 Feb 21 08:38	1°♓28'51	0°42'45
max. Earth dist.	3008 Feb 22 06:41	1°♓32'04	20.88976 AU
morning rise	3008 Mar 08 01:47	2°♓23'19	
retrograde	3008 Jun 09 06:38	5°♓30'32	
min. Earth dist.	3008 Aug 25 04:24	3°♓34'00	18.91011 AU
opposition	3008 Aug 26 01:43	3°♓31'52	-0°47'46
direct	3008 Nov 10 11:48	1°♓34'39	
evening set	3009 Feb 08 22:04	4°♓36'25	
conjunction	3009 Feb 24 13:43	5°♓30'31	-0°43'36
minimum elong	3009 Feb 24 13:43	5°♓30'31	0°43'37
max. Earth dist.	3009 Feb 25 11:15	5°♓33'38	20.92892 AU
morning rise	3009 Mar 12 07:35	6°♓24'54	
retrograde	3009 Jun 13 15:35	9°♓31'49	
opposition	3009 Aug 30 12:04	7°♓33'05	-0°48'35
min. Earth dist.	3009 Aug 29 14:41	7°♓35'14	18.94747 AU
direct	3009 Nov 14 19:48	5°♓36'01	
evening set	3010 Feb 13 02:34	8°♓37'04	
conjunction	3010 Feb 28 18:43	9°♓31'04	-0°44'15
minimum elong	3010 Feb 28 18:43	9°♓31'04	0°44'15
max. Earth dist.	3010 Mar 01 17:49	9°♓34'25	20.96436 AU
morning rise	3010 Mar 16 12:57	10°♓25'23	
retrograde	3010 Jun 17 23:39	13°♓32'02	
opposition	3010 Sep 03 21:37	11°♓33'16	-0°49'10
min. Earth dist.	3010 Sep 02 23:25	11°♓35'29	18.98115 AU
direct	3010 Nov 19 04:05	9°♓36'21	
evening set	3011 Feb 17 06:54	12°♓36'44	
conjunction	3011 Mar 04 23:18	13°♓30'40	-0°44'41
minimum elong	3011 Mar 04 23:18	13°♓30'40	0°44'41
max. Earth dist.	3011 Mar 05 21:50	13°♓33'55	20.99639 AU
morning rise	3011 Mar 20 18:17	14°♓24'56	
retrograde	3011 Jun 22 07:26	17°♓31'22	
min. Earth dist.	3011 Sep 07 08:48	15°♓34'47	19.01163 AU
opposition	3011 Sep 08 06:57	15°♓32'34	-0°49'31
direct	3011 Nov 23 10:52	13°♓35'48	
evening set	3012 Feb 21 10:43	16°♓35'36	
conjunction	3012 Mar 08 03:46	17°♓29'28	-0°44'53
minimum elong	3012 Mar 08 03:46	17°♓29'28	0°44'52
max. Earth dist.	3012 Mar 09 03:50	17°♓32'56	21.02514 AU
morning rise	3012 Mar 23 23:15	18°♓23'42	
retrograde	3012 Jun 25 15:56	21°♓29'59	
opposition	3012 Sep 11 15:41	19°♓31'10	-0°49'37
min. Earth dist.	3012 Sep 10 16:45	19°♓33'27	19.03864 AU
direct	3012 Nov 26 18:10	17°♓34'33	
evening set	3013 Feb 24 14:40	20°♓33'50	
conjunction	3013 Mar 12 08:06	21°♓27'40	-0°44'53
minimum elong	3013 Mar 12 08:06	21°♓27'40	0°44'53
max. Earth dist.	3013 Mar 13 07:23	21°♓31'01	21.05044 AU
morning rise	3013 Mar 28 04:28	22°♓21'54	
retrograde	3013 Jun 29 22:47	25°♓28'03	
opposition	3013 Sep 15 23:58	23°♓29'13	-0°49'29
min. Earth dist.	3013 Sep 15 01:31	23°♓31'28	19.06222 AU
direct	3013 Nov 30 23:28	21°♓32'45	
evening set	3014 Feb 28 18:24	24°♓31'37	
conjunction	3014 Mar 16 12:36	25°♓25'26	-0°44'40
minimum elong	3014 Mar 16 12:36	25°♓25'26	0°44'39
max. Earth dist.	3014 Mar 17 13:02	25°♓28'57	21.07210 AU
morning rise	3014 Apr 01 09:33	26°♓19'40	
retrograde	3014 Jul 04 07:13	29°♓25'44	
min. Earth dist.	3014 Sep 19 08:56	27°♓29'13	19.08184 AU
opposition	3014 Sep 20 07:56	27°♓26'55	-0°49'08
direct	3014 Dec 05 06:15	25°♓30'36	
evening set	3015 Mar 04 22:10	28°♓29'06	
conjunction	3015 Mar 20 16:49	29°♓22'55	-0°44'14
minimum elong	3015 Mar 20 16:49	29°♓22'55	0°44'15
max. Earth dist.	3015 Mar 21 16:13	29°♓26'16	21.08971 AU
	3015 Mar 31 12:40	0°♈	
morning rise	3015 Apr 05 14:42	0°♈17'10	
retrograde	3015 Jul 08 14:09	3°♈23'14	
opposition	3015 Sep 24 15:49	1°♈24'24	-0°48'32
min. Earth dist.	3015 Sep 23 17:37	1°♈26'37	19.09737 AU
	3015 Nov 03 00:23	30°℞♓	
direct	3015 Dec 09 10:33	29°♓28'12	
	3016 Jan 13 21:56	0°♈	
evening set	3016 Mar 08 02:00	2°♈26'25	
conjunction	3016 Mar 23 21:30	3°♈20'16	-0°43'36
minimum elong	3016 Mar 23 21:30	3°♈20'16	0°43'37
max. Earth dist.	3016 Mar 24 21:44	3°♈23'44	21.10299 AU
morning rise	3016 Apr 08 20:02	4°♈14'34	
retrograde	3016 Jul 11 22:14	7°♈20'38	
opposition	3016 Sep 27 23:15	5°♈21'48	-0°47'43
min. Earth dist.	3016 Sep 27 00:50	5°♈24'03	19.10823 AU
direct	3016 Dec 12 17:01	3°♈25'42	
evening set	3017 Mar 12 06:09	6°♈23'42	
conjunction	3017 Mar 28 02:13	7°♈17'35	-0°42'46

minimum elong	3017 Mar 28 02:14	7°♈17'35	0°42'46
max. Earth dist.	3017 Mar 29 00:56	7°♈20'50	21.11138 AU
morning rise	3017 Apr 13 01:48	8°♈11'57	
retrograde	3017 Jul 16 05:52	11°♈18'05	
min. Earth dist.	3017 Oct 01 09:35	9°♈21'20	19.11403 AU
opposition	3017 Oct 02 06:41	9°♈19'13	-0°46'40
direct	3017 Dec 16 20:56	7°♈23'10	
evening set	3018 Mar 16 10:22	10°♈21'02	
conjunction	3018 Apr 01 07:21	11°♈14'59	-0°41'44
minimum elong	3018 Apr 01 07:21	11°♈14'59	0°41'44
max. Earth dist.	3018 Apr 02 06:23	11°♈18'16	21.11436 AU
morning rise	3018 Apr 17 07:36	12°♈09'25	
retrograde	3018 Jul 20 13:40	15°♈15'37	
opposition	3018 Oct 06 13:46	13°♈16'44	-0°45'25
min. Earth dist.	3018 Oct 05 16:43	13°♈18'50	19.11408 AU
direct	3018 Dec 21 03:08	11°♈20'42	
evening set	3019 Mar 20 14:59	14°♈18'29	
conjunction	3019 Apr 05 12:37	15°♈12'30	-0°40'29
minimum elong	3019 Apr 05 12:37	15°♈12'30	0°40'29
max. Earth dist.	3019 Apr 06 09:43	15°♈15'30	21.11155 AU
morning rise	3019 Apr 21 13:55	16°♈07'01	
retrograde	3019 Jul 24 21:36	19°♈13'21	
opposition	3019 Oct 10 20:59	17°♈14'22	-0°43'56
min. Earth dist.	3019 Oct 10 01:33	17°♈16'18	19.10836 AU
direct	3019 Dec 25 07:06	15°♈18'18	
evening set	3020 Mar 23 19:33	18°♈16'02	
conjunction	3020 Apr 08 18:14	19°♈10'10	-0°39'03
minimum elong	3020 Apr 08 18:14	19°♈10'10	0°39'03
max. Earth dist.	3020 Apr 09 15:27	19°♈13'11	21.10292 AU
morning rise	3020 Apr 24 20:20	20°♈04'47	
retrograde	3020 Jul 28 05:34	23°♈11'14	
min. Earth dist.	3020 Oct 13 08:36	21°♈14'04	19.09671 AU
opposition	3020 Oct 14 03:52	21°♈12'08	-0°42'14
direct	3020 Dec 28 13:13	19°♈15'59	
evening set	3021 Mar 28 00:38	22°♈13'45	
conjunction	3021 Apr 13 00:03	23°♈07'59	-0°37'25
minimum elong	3021 Apr 13 00:04	23°♈07'59	0°37'25
max. Earth dist.	3021 Apr 13 19:15	23°♈10'43	21.08855 AU
morning rise	3021 Apr 29 03:16	24°♈02'44	
retrograde	3021 Aug 01 13:10	27°♈09'21	
opposition	3021 Oct 18 10:36	25°♈10'05	-0°40'20
min. Earth dist.	3021 Oct 17 17:11	25°♈11'51	19.07970 AU
direct	3022 Jan 01 17:13	23°♈13'49	
evening set	3022 Apr 01 05:46	26°♈11'41	
conjunction	3022 Apr 17 06:17	27°♈06'03	-0°35'37
minimum elong	3022 Apr 17 06:17	27°♈06'03	0°35'37
max. Earth dist.	3022 Apr 18 01:36	27°♈08'48	21.06910 AU
morning rise	3022 May 03 10:16	28°♈00'56	
	3022 Jun 12 22:19	0°♉	
retrograde	3022 Aug 05 21:33	1°♉07'44	
	3022 Sep 30 15:21	30°℞♈	
opposition	3022 Oct 22 17:13	29°♈08'19	-0°38'14
min. Earth dist.	3022 Oct 21 23:52	29°♈10'04	19.05783 AU
direct	3023 Jan 05 23:17	27°♈11'54	
	3023 Apr 02 11:21	0°♉	
evening set	3023 Apr 05 11:15	0°♉09'56	
conjunction	3023 Apr 21 12:31	1°♉04'27	-0°33'38
minimum elong	3023 Apr 21 12:31	1°♉04'27	0°33'38
max. Earth dist.	3023 Apr 22 06:01	1°♉06'56	21.04510 AU
morning rise	3023 May 07 17:38	1°♉59'30	
retrograde	3023 Aug 10 05:12	5°♉06'33	
opposition	3023 Oct 26 23:59	3°♉06'57	-0°35'57
min. Earth dist.	3023 Oct 26 08:23	3°♉08'32	19.03181 AU
direct	3024 Jan 10 03:17	1°♉10'22	
evening set	3024 Apr 08 17:08	4°♉08'40	
conjunction	3024 Apr 24 19:31	5°♉03'21	-0°31'28
minimum elong	3024 Apr 24 19:32	5°♉03'21	0°31'28
max. Earth dist.	3024 Apr 25 13:08	5°♉05'51	21.01717 AU
morning rise	3024 May 11 01:27	5°♉58'33	
retrograde	3024 Aug 13 14:23	9°♉05'53	
opposition	3024 Oct 30 06:27	7°♉06'09	-0°33'29
min. Earth dist.	3024 Oct 29 14:57	7°♉07'43	19.00198 AU
direct	3025 Jan 13 09:19	5°♉09'24	
evening set	3025 Apr 12 23:38	8°♉08'02	
conjunction	3025 Apr 29 02:51	9°♉02'54	-0°29'10
minimum elong	3025 Apr 29 02:51	9°♉02'54	0°29'11
max. Earth dist.	3025 Apr 29 18:25	9°♉05'07	20.98560 AU
morning rise	3025 May 15 09:54	9°♉58'18	
retrograde	3025 Aug 17 22:27	13°♉05'57	
opposition	3025 Nov 03 13:15	11°♉06'05	-0°30'52
min. Earth dist.	3025 Nov 02 23:36	11°♉07'29	18.96872 AU
direct	3026 Jan 17 13:27	9°♉09'09	
evening set	3026 Apr 17 06:24	12°♉08'14	
conjunction	3026 May 03 10:44	13°♉03'17	-0°26'43
minimum elong	3026 May 03 10:44	13°♉03'17	0°26'42
max. Earth dist.	3026 May 04 02:16	13°♉05'30	20.95072 AU
morning rise	3026 May 19 18:33	13°♉58'52	
	3026 Jun 07 20:51	15°♉	
retrograde	3026 Aug 22 08:34	17°♉06'54	
opposition	3026 Nov 07 20:02	15°♉06'55	-0°28'04
min. Earth dist.	3026 Nov 07 06:26	15°♉08'19	18.93215 AU
	3026 Nov 10 15:55	15°℞♉	
direct	3027 Jan 21 19:29	13°♉09'50	
	3027 Mar 30 16:27	15°♉	
evening set	3027 Apr 21 13:58	16°♉09'24	
conjunction	3027 May 07 19:08	17°♉04'40	-0°24'07
minimum elong	3027 May 07 19:08	17°♉04'40	0°24'08
max. Earth dist.	3027 May 08 08:33	17°♉06'35	20.91264 AU
morning rise	3027 May 24 04:04	18°♉00'28	
retrograde	3027 Aug 26 17:41	21°♉08'56	
opposition	3027 Nov 12 03:10	19°♉08'50	-0°25'08
min. Earth dist.	3027 Nov 11 15:35	19°♉10'01	18.89253 AU
direct	3028 Jan 26 00:07	17°♉11'34	
evening set	3028 Apr 24 22:02	20°♉11'43	
conjunction	3028 May 11 04:23	21°♉07'13	-0°21'24
minimum elong	3028 May 11 04:23	21°♉07'13	0°21'24
max. Earth dist.	3028 May 11 17:29	21°♉09'06	20.87151 AU
morning rise	3028 May 27 14:07	22°♉03'15	
retrograde	3028 Aug 30 05:08	25°♉12'09	
opposition	3028 Nov 15 10:25	23°♉11'59	-0°22'04
min. Earth dist.	3028 Nov 14 23:08	23°♉13'09	18.84966 AU
direct	3029 Jan 29 06:35	21°♉14'32	
evening set	3029 Apr 29 07:07	24°♉15'21	
conjunction	3029 May 15 14:16	25°♉11'06	-0°18'34
minimum elong	3029 May 15 14:16	25°♉11'06	0°18'34
max. Earth dist.	3029 May 16 00:58	25°♉12'37	20.82698 AU
morning rise	3029 Jun 01 01:01	26°♉07'21	
retrograde	3029 Sep 03 15:27	29°♉16'46	
opposition	3029 Nov 19 18:02	27°♉16'30	-0°18'52
min. Earth dist.	3029 Nov 19 09:07	27°♉17'25	18.80342 AU
direct	3030 Feb 02 11:46	25°♉18'50	
evening set	3030 May 03 16:47	28°♉20'24	

conjunction	3030 May 20	01:04	29°♉16'24	-0°15'37
minimum elong	3030 May 20	01:04	29°♉16'24	0°15'37
behind sun begin	3030 May 19	23:49	29°♉16'14	
behind sun end	3030 May 20	02:19	29°♉16'35	
max. Earth dist.	3030 May 20	11:03	29°♉17'50	20.77902 AU
	3030 Jun 01	17:06	0°♊	
morning rise	3030 Jun 05	12:33	0°♊12'54	
retrograde	3030 Sep 08	04:26	3°♊22'50	
opposition	3030 Nov 24	01:58	1°♊22'29	-0°15'33
min. Earth dist.	3030 Nov 23	17:38	1°♊23'21	18.75349 AU
	3030 Dec 30	23:11	30°℞♉	
direct	3031 Feb 06	19:34	29°♉24'36	
	3031 Mar 15	21:55	0°♊	
evening set	3031 May 08	03:25	2°♊26'57	
conjunction	3031 May 24	12:31	3°♊23'13	-0°12'34
minimum elong	3031 May 24	12:31	3°♊23'13	0°12'34
behind sun begin	3031 May 24	08:16	3°♊22'37	
behind sun end	3031 May 24	16:45	3°♊23'49	
max. Earth dist.	3031 May 24	19:51	3°♊24'16	20.72714 AU
morning rise	3031 Jun 10	00:58	4°♊19'59	
retrograde	3031 Sep 12	15:41	7°♊30'28	
opposition	3031 Nov 28	10:32	5°♊29'59	-0°12'07
min. Earth dist.	3031 Nov 28	04:53	5°♊30'34	18.69960 AU
direct	3032 Feb 11	01:30	3°♊31'50	
evening set	3032 May 11	14:54	6°♊35'01	
conjunction	3032 May 28	01:07	7°♊31'34	-0°09'27
minimum elong	3032 May 28	01:07	7°♊31'34	0°09'27
behind sun begin	3032 May 27	19:33	7°♊30'47	
behind sun end	3032 May 28	06:41	7°♊32'21	
max. Earth dist.	3032 May 28	07:14	7°♊32'26	20.67124 AU
morning rise	3032 Jun 13	14:16	8°♊28'35	
retrograde	3032 Sep 16	06:17	11°♊39'37	
opposition	3032 Dec 01	19:13	9°♊38'59	-0°08'37
min. Earth dist.	3032 Dec 01	14:23	9°♊39'29	18.64157 AU
direct	3033 Feb 14	11:02	7°♊40'30	
evening set	3033 May 16	03:24	10°♊44'35	
conjunction	3033 Jun 01	14:24	11°♊41'26	-0°06'15
minimum elong	3033 Jun 01	14:24	11°♊41'26	0°06'15
behind sun begin	3033 Jun 01	08:03	11°♊40'32	
behind sun end	3033 Jun 01	20:45	11°♊42'19	
max. Earth dist.	3033 Jun 01	17:41	11°♊41'52	20.61124 AU
morning rise	3033 Jun 18	04:25	12°♊38'43	
retrograde	3033 Sep 20	17:54	15°♊50'17	
opposition	3033 Dec 06	04:37	13°♊49'28	-0°05'02
min. Earth dist.	3033 Dec 06	02:33	13°♊49'42	18.57972 AU
direct	3034 Feb 18	18:13	11°♊50'37	
evening set	3034 May 20	16:22	14°♊55'38	
conjunction	3034 Jun 06	04:24	15°♊52'46	-0°03'00
minimum elong	3034 Jun 06	04:23	15°♊52'46	0°03'01
behind sun begin	3034 Jun 05	21:41	15°♊51'49	
behind sun end	3034 Jun 06	11:05	15°♊53'42	
max. Earth dist.	3034 Jun 06	06:26	15°♊53'00	20.54778 AU
morning rise	3034 Jun 22	19:02	16°♊50'19	
retrograde	3034 Sep 25	09:13	20°♊02'27	
opposition	3034 Dec 10	14:17	18°♊01'26	-0°01'24
min. Earth dist.	3034 Dec 10	12:52	18°♊01'34	18.51467 AU
direct	3035 Feb 23	05:17	16°♊02'11	
asc. node	3035 May 01	02:17	17°♊50'35	
evening set	3035 May 25	06:26	19°♊08'09	
conjunction	3035 Jun 10	19:12	20°♊05'35	0°00'23
minimum elong	3035 Jun 10	19:13	20°♊05'35	0°00'23
behind sun begin	3035 Jun 10	12:30	20°♊04'38	
behind sun end	3035 Jun 11	01:55	20°♊06'32	
max. Earth dist.	3035 Jun 10	18:44	20°♊05'33	20.48142 AU
morning rise	3035 Jun 27	10:36	21°♊03'25	
retrograde	3035 Sep 29	21:39	24°♊16'07	
opposition	3035 Dec 15	00:27	22°♊14'52	0°02'16
min. Earth dist.	3035 Dec 15	01:41	22°♊14'44	18.44723 AU
direct	3036 Feb 27	14:01	20°♊15'11	
evening set	3036 May 28	21:14	23°♊22'12	
conjunction	3036 Jun 14	10:58	24°♊19'56	0°03'45
minimum elong	3036 Jun 14	10:58	24°♊19'56	0°03'45
behind sun begin	3036 Jun 14	04:18	24°♊18'59	
behind sun end	3036 Jun 14	17:38	24°♊20'53	
max. Earth dist.	3036 Jun 14	09:10	24°♊19'43	20.41313 AU
morning rise	3036 Jul 01	02:56	25°♊18'02	
retrograde	3036 Oct 03	13:32	28°♊31'19	
opposition	3036 Dec 18	10:59	26°♊29'51	0°05'56
min. Earth dist.	3036 Dec 18	12:48	26°♊29'40	18.37814 AU
direct	3037 Mar 03	02:17	24°♊29'44	
evening set	3037 Jun 02	13:01	27°♊37'50	
conjunction	3037 Jun 19	03:25	28°♊35'53	0°07'03
minimum elong	3037 Jun 19	03:24	28°♊35'53	0°07'03
behind sun begin	3037 Jun 18	21:11	28°♊34'59	
behind sun end	3037 Jun 19	09:38	28°♊36'46	
max. Earth dist.	3037 Jun 18	23:26	28°♊35'19	20.34338 AU
morning rise	3037 Jul 05	19:55	29°♊34'15	
	3037 Jul 13	10:18	0°♋	
retrograde	3037 Oct 08	03:07	2°♋48'07	
opposition	3037 Dec 22	22:10	0°♋46'28	0°09'36
min. Earth dist.	3037 Dec 23	02:24	0°♋46'01	18.30808 AU
	3038 Jan 10	16:32	30°℞♊	
direct	3038 Mar 07	12:32	28°♊45'54	
	3038 Apr 30	20:06	0°♋	
evening set	3038 Jun 07	05:34	1°♋55'08	
conjunction	3038 Jun 23	20:44	2°♋53'29	0°10'19
minimum elong	3038 Jun 23	20:44	2°♋53'29	0°10'20
behind sun begin	3038 Jun 23	15:27	2°♋52'44	
behind sun end	3038 Jun 24	02:01	2°♋54'15	
max. Earth dist.	3038 Jun 23	15:24	2°♋52'43	20.27320 AU
morning rise	3038 Jul 10	13:43	3°♋52'08	
retrograde	3038 Oct 12	20:00	7°♋06'38	
opposition	3038 Dec 27	09:48	5°♋04'47	0°13'14
min. Earth dist.	3038 Dec 27	14:26	5°♋04'17	18.23788 AU
direct	3039 Mar 12	01:44	3°♋03'48	
evening set	3039 Jun 11	23:04	6°♋14'12	
conjunction	3039 Jun 28	14:52	7°♋12'52	0°13'34
minimum elong	3039 Jun 28	14:52	7°♋12'52	0°13'33
behind sun begin	3039 Jun 28	11:18	7°♋12'21	
behind sun end	3039 Jun 28	18:27	7°♋13'23	
max. Earth dist.	3039 Jun 28	07:47	7°♋11'50	20.20301 AU
morning rise	3039 Jul 15	08:16	8°♋11'48	
retrograde	3039 Oct 17	11:18	11°♋26'55	
opposition	3039 Dec 31	22:16	9°♋24'55	0°16'49
min. Earth dist.	3040 Jan 01	05:07	9°♋24'11	18.16797 AU
direct	3040 Mar 15	13:42	7°♋23'31	
evening set	3040 Jun 15	17:36	10°♋35'10	
conjunction	3040 Jul 02	10:02	11°♋34'08	0°16'45
minimum elong	3040 Jul 02	10:02	11°♋34'08	0°16'45
max. Earth dist.	3040 Jul 02	01:21	11°♋32'52	20.13352 AU
morning rise	3040 Jul 19	03:47	12°♋33'20	
retrograde	3040 Oct 21	05:17	15°♋49'07	
opposition	3041 Jan 04	11:08	13°♋46'59	0°20'19
min. Earth dist.	3041 Jan 04	18:24	13°♋46'12	18.09894 AU

direct	3041 Mar 20	04:01	11°♋45'12	
evening set	3041 Jun 20	13:09	14°♋58'08	
conjunction	3041 Jul 07	06:07	15°♋57'25	0°19'52
minimum elong	3041 Jul 07	06:06	15°♋57'25	0°19'51
max. Earth dist.	3041 Jul 06	20:00	15°♋55'55	20.06494 AU
morning rise	3041 Jul 24	00:02	16°♋56'52	
retrograde	3041 Oct 25	22:26	20°♋13'19	
opposition	3042 Jan 09	01:01	18°♋11'06	0°23'45
min. Earth dist.	3042 Jan 09	10:19	18°♋10'06	18.03102 AU
direct	3042 Mar 24	17:52	16°♋08'59	
evening set	3042 Jun 25	09:30	19°♋23'12	
conjunction	3042 Jul 12	02:53	20°♋22'47	0°22'53
minimum elong	3042 Jul 12	02:52	20°♋22'47	0°22'53
max. Earth dist.	3042 Jul 11	14:59	20°♋21'01	19.99774 AU
morning rise	3042 Jul 28	21:04	21°♋22'30	
retrograde	3042 Oct 30	17:35	24°♋39'39	
opposition	3043 Jan 13	15:28	22°♋37'21	0°27'03
min. Earth dist.	3043 Jan 14	01:20	22°♋36'18	17.96443 AU
direct	3043 Mar 29	09:52	20°♋34'54	
evening set	3043 Jun 30	07:05	23°♋50'28	
max. Earth dist.	3043 Jul 16	11:50	24°♋48'23	19.93161 AU
conjunction	3043 Jul 17	00:53	24°♋50'21	0°25'47
minimum elong	3043 Jul 17	00:53	24°♋50'21	0°25'48
morning rise	3043 Aug 02	19:03	25°♋50'19	
retrograde	3043 Nov 04	12:21	29°♋08'07	
opposition	3044 Jan 18	06:43	27°♋05'47	0°30'13
min. Earth dist.	3044 Jan 18	18:45	27°♋04'30	17.89891 AU
direct	3044 Apr 02	01:36	25°♋03'00	
evening set	3044 Jul 04	05:45	28°♋19'55	
conjunction	3044 Jul 20	23:46	29°♋20'04	0°28'34
minimum elong	3044 Jul 20	23:46	29°♋20'04	0°28'33
max. Earth dist.	3044 Jul 20	08:18	29°♋17'45	19.86662 AU
	3044 Aug 01	01:12	0°♌	
morning rise	3044 Aug 06	18:02	0°♌20'17	
retrograde	3044 Nov 08	09:01	3°♌38'44	
opposition	3045 Jan 21	22:45	1°♌36'21	0°33'14
min. Earth dist.	3045 Jan 22	11:40	1°♌34'58	17.83444 AU
	3045 Mar 05	15:52	30°℞♋	
direct	3045 Apr 06	19:45	29°♋33'13	
	3045 May 08	14:13	0°♌	
evening set	3045 Jul 09	05:12	2°♌51'28	
conjunction	3045 Jul 25	23:30	3°♌51'53	0°31'11
minimum elong	3045 Jul 25	23:30	3°♌51'53	0°31'12
max. Earth dist.	3045 Jul 25	07:06	3°♌49'25	19.80245 AU
morning rise	3045 Aug 11	17:28	4°♌52'19	
retrograde	3045 Nov 13	05:09	8°♌11'23	
opposition	3046 Jan 26	15:43	6°♌08'57	0°36'04
min. Earth dist.	3046 Jan 27	06:29	6°♌07'21	17.77084 AU
direct	3046 Apr 11	13:28	4°♌05'27	
evening set	3046 Jul 14	05:39	7°♌24'59	
conjunction	3046 Jul 30	23:57	8°♌25'39	0°33'38
minimum elong	3046 Jul 30	23:57	8°♌25'39	0°33'38
max. Earth dist.	3046 Jul 30	04:58	8°♌22'46	19.73951 AU
morning rise	3046 Aug 16	17:54	9°♌26'18	
retrograde	3046 Nov 18	03:05	12°♌45'57	
opposition	3047 Jan 31	09:15	10°♌43'25	0°38'42
min. Earth dist.	3047 Feb 01	01:01	10°♌41'42	17.70870 AU
direct	3047 Apr 16	09:10	8°♌39'32	
evening set	3047 Jul 19	06:46	12°♌00'19	
max. Earth dist.	3047 Aug 04	05:48	12°♌58'16	19.67807 AU
conjunction	3047 Aug 05	01:17	13°♌01'15	0°35'53
minimum elong	3047 Aug 05	01:17	13°♌01'15	0°35'53
morning rise	3047 Aug 21	18:50	14°♌02'05	
	3047 Sep 07	14:08	15°♌	
retrograde	3047 Nov 23	00:52	17°♌22'15	
opposition	3048 Feb 05	03:39	15°♌19'38	0°41'05
min. Earth dist.	3048 Feb 05	20:51	15°♌17'46	17.64822 AU
	3048 Feb 12	16:32	15°℞♌	
direct	3048 Apr 20	04:48	13°♌15'22	
	3048 Jun 24	00:33	15°♌	
evening set	3048 Jul 23	08:51	16°♌37'22	
max. Earth dist.	3048 Aug 08	05:09	17°♌35'08	19.61877 AU
conjunction	3048 Aug 09	03:07	17°♌38'30	0°37'55
minimum elong	3048 Aug 09	03:07	17°♌38'30	0°37'55
morning rise	3048 Aug 25	20:27	18°♌39'32	
retrograde	3048 Nov 26	23:29	22°♌00'11	
opposition	3049 Feb 08	22:37	19°♌57'27	0°43'14
min. Earth dist.	3049 Feb 09	16:51	19°♌55'28	17.59034 AU
direct	3049 Apr 25	01:34	17°♌52'48	
evening set	3049 Jul 28	11:20	21°♌15'57	
max. Earth dist.	3049 Aug 13	07:44	22°♌13'56	19.56231 AU
conjunction	3049 Aug 14	05:38	22°♌17'18	0°39'42
minimum elong	3049 Aug 14	05:38	22°♌17'18	0°39'41
morning rise	3049 Aug 30	22:21	23°♌18'28	
retrograde	3049 Dec 01	22:23	26°♌39'34	
opposition	3050 Feb 13	18:22	24°♌36'44	0°45'06
min. Earth dist.	3050 Feb 14	13:21	24°♌34'40	17.53559 AU
direct	3050 Apr 29	23:13	22°♌31'44	
evening set	3050 Aug 02	14:25	25°♌55'58	
max. Earth dist.	3050 Aug 18	08:26	26°♌53'48	19.50945 AU
conjunction	3050 Aug 19	08:19	26°♌57'29	0°41'14
minimum elong	3050 Aug 19	08:19	26°♌57'29	0°41'15
morning rise	3050 Sep 05	00:41	27°♌58'49	
	3050 Oct 12	10:18	0°♍	
retrograde	3050 Dec 06	20:53	1°♍20'19	
	3051 Feb 02	00:59	30°℞♌	
opposition	3051 Feb 18	14:46	29°♌17'22	0°46'40
min. Earth dist.	3051 Feb 19	10:42	29°♌15'11	17.48488 AU
direct	3051 May 04	20:55	27°♌12'00	
	3051 Jul 28	05:40	0°♍	
evening set	3051 Aug 07	17:59	0°♍37'17	
conjunction	3051 Aug 24	11:44	1°♍38'58	0°42'30
minimum elong	3051 Aug 24	11:44	1°♍38'58	0°42'29
max. Earth dist.	3051 Aug 23	12:20	1°♍35'21	19.46087 AU
morning rise	3051 Sep 10	03:22	2°♍40'23	
retrograde	3051 Dec 11	20:34	6°♍02'14	
opposition	3052 Feb 23	11:41	3°♍59'13	0°47'56
min. Earth dist.	3052 Feb 24	07:45	3°♍57'01	17.43867 AU
direct	3052 May 08	21:04	1°♍53'33	
evening set	3052 Aug 11	22:11	5°♍19'48	
conjunction	3052 Aug 28	15:21	6°♍21'37	0°43'29
minimum elong	3052 Aug 28	15:21	6°♍21'37	0°43'28
max. Earth dist.	3052 Aug 27	14:32	6°♍17'45	19.41719 AU
morning rise	3052 Sep 14	06:23	7°♍23'07	
retrograde	3052 Dec 15	18:47	10°♍45'18	
opposition	3053 Feb 27	09:26	8°♍42'13	0°48'53
min. Earth dist.	3053 Feb 28	06:18	8°♍39'55	17.39786 AU
direct	3053 May 13	20:15	6°♍36'16	
evening set	3053 Aug 17	02:25	10°♍03'26	
conjunction	3053 Sep 02	19:10	11°♍05'20	0°44'10
minimum elong	3053 Sep 02	19:10	11°♍05'20	0°44'10

max. Earth dist.	3053 Sep 01	19:09	11°♍01'36		19.37920 AU
morning rise	3053 Sep 19	09:23	12°♍06'54		
retrograde	3053 Dec 20	19:11	15°♍29'22		
opposition	3054 Mar 04	07:43	13°♍26'16	0°49'30	
min. Earth dist.	3054 Mar 05	03:59	13°♍24'03		17.36281 AU
direct	3054 May 18	22:23	11°♍20'09		
evening set	3054 Aug 22	07:13	14°♍48'07		
conjunction	3054 Sep 07	23:19	15°♍50'06	0°44'34	
minimum elong	3054 Sep 07	23:18	15°♍50'06	0°44'33	
max. Earth dist.	3054 Sep 06	22:36	15°♍46'14		19.34719 AU
morning rise	3054 Sep 24	12:44	16°♍51'43		
retrograde	3054 Dec 25	17:52	20°♍14'24		
opposition	3055 Mar 09	06:34	18°♍11'21	0°49'47	
min. Earth dist.	3055 Mar 10	03:38	18°♍09'02		17.33399 AU
direct	3055 May 23	22:42	16°♍05'04		
evening set	3055 Aug 27	12:14	19°♍33'48		
max. Earth dist.	3055 Sep 12	03:36	20°♍32'04		19.32148 AU
conjunction	3055 Sep 13	03:45	20°♍35'50	0°44'39	
minimum elong	3055 Sep 13	03:45	20°♍35'50	0°44'40	
morning rise	3055 Sep 29	16:19	21°♍37'28		
retrograde	3055 Dec 30	19:25	25°♍00'21		
opposition	3056 Mar 13	06:00	22°♍57'23	0°49'44	
min. Earth dist.	3056 Mar 14	02:09	22°♍55'11		17.31121 AU
direct	3056 May 28	02:11	20°♍51'02		
evening set	3056 Aug 31	17:30	24°♍20'25		
max. Earth dist.	3056 Sep 16	08:05	25°♍18'42		19.30160 AU
conjunction	3056 Sep 17	08:13	25°♍22'29	0°44'27	
minimum elong	3056 Sep 17	08:13	25°♍22'29	0°44'27	
morning rise	3056 Oct 03	19:48	26°♍24'07		
retrograde	3057 Jan 03	18:57	29°♍47'09		
opposition	3057 Mar 18	06:08	27°♍44'17	0°49'20	
min. Earth dist.	3057 Mar 19	03:09	27°♍41'59		17.29429 AU
direct	3057 Jun 02	03:25	25°♍37'54		
evening set	3057 Sep 05	22:51	29°♍07'50		
	3057 Sep 19	21:52	0°♎		
conjunction	3057 Sep 22	12:44	0°♎09'53	0°43'55	
minimum elong	3057 Sep 22	12:44	0°♎09'53	0°43'56	
max. Earth dist.	3057 Sep 21	12:50	0°♎06'08		19.28752 AU
morning rise	3057 Oct 08	23:25	1°♎11'29		
retrograde	3058 Jan 08	21:04	4°♎34'37		
opposition	3058 Mar 23	06:37	2°♎31'52	0°48'35	
min. Earth dist.	3058 Mar 24	02:28	2°♎29'42		17.28288 AU
direct	3058 Jun 07	07:39	0°♎25'28		
evening set	3058 Sep 11	04:09	3°♎55'50		
conjunction	3058 Sep 27	17:16	4°♎57'52	0°43'06	
minimum elong	3058 Sep 27	17:16	4°♎57'52	0°43'07	
max. Earth dist.	3058 Sep 26	18:00	4°♎54'12		19.27866 AU
morning rise	3058 Oct 14	02:51	5°♎59'24		
retrograde	3059 Jan 13	21:16	9°♎22'33		
opposition	3059 Mar 28	07:45	7°♎19'56	0°47'30	
min. Earth dist.	3059 Mar 29	04:25	7°♎17'40		17.27659 AU
direct	3059 Jun 12	09:55	5°♎13'31		
evening set	3059 Sep 16	09:32	8°♎44'12		
conjunction	3059 Oct 02	21:36	9°♎46'09	0°41'59	
minimum elong	3059 Oct 02	21:36	9°♎46'09	0°41'58	
max. Earth dist.	3059 Oct 01	22:08	9°♎42'27		19.27490 AU
morning rise	3059 Oct 19	06:15	10°♎47'38		
retrograde	3060 Jan 18	23:11	14°♎10'43		
opposition	3060 Apr 01	09:02	12°♎08'12	0°46'05	
min. Earth dist.	3060 Apr 02	04:24	12°♎06'06		17.27524 AU
direct	3060 Jun 16	14:43	10°♎01'49		
evening set	3060 Sep 20	14:35	13°♎32'40		
max. Earth dist.	3060 Oct 06	03:40	14°♎31'03		19.27597 AU
conjunction	3060 Oct 07	01:47	14°♎34'33	0°40'34	
minimum elong	3060 Oct 07	01:47	14°♎34'33	0°40'34	
morning rise	3060 Oct 23	09:13	15°♎35'54		
retrograde	3061 Jan 22	23:30	18°♎58'53		
opposition	3061 Apr 06	10:53	16°♎56'29	0°44'21	
min. Earth dist.	3061 Apr 07	06:38	16°♎54'20		17.27877 AU
direct	3061 Jun 21	17:31	14°♎50'08		
evening set	3061 Sep 25	19:13	18°♎21'01		
max. Earth dist.	3061 Oct 11	06:58	19°♎19'15		19.28206 AU
conjunction	3061 Oct 12	05:16	19°♎22'46	0°38'51	
minimum elong	3061 Oct 12	05:16	19°♎22'46	0°38'51	
morning rise	3061 Oct 28	11:49	20°♎24'01		
retrograde	3062 Jan 28	00:53	23°♎46'49		
opposition	3062 Apr 11	12:40	21°♎44'30	0°42'18	
min. Earth dist.	3062 Apr 12	06:57	21°♎42'30		17.28730 AU
direct	3062 Jun 26	22:15	19°♎38'12		
evening set	3062 Sep 30	23:24	23°♎09'00		
conjunction	3062 Oct 17	08:36	24°♎10'37	0°36'53	
minimum elong	3062 Oct 17	08:36	24°♎10'37	0°36'53	
max. Earth dist.	3062 Oct 16	12:15	24°♎07'24		19.29308 AU
morning rise	3062 Nov 02	13:54	25°♎11'42		
retrograde	3063 Feb 02	00:47	28°♎34'14		
opposition	3063 Apr 16	14:35	26°♎32'01	0°39'57	
min. Earth dist.	3063 Apr 17	08:48	26°♎30'03		17.30078 AU
direct	3063 Jul 02	01:49	24°♎25'48		
evening set	3063 Oct 06	03:15	27°♎56'23		
conjunction	3063 Oct 22	11:13	28°♎57'50	0°34'39	
minimum elong	3063 Oct 22	11:13	28°♎57'50	0°34'40	
max. Earth dist.	3063 Oct 21	14:50	28°♎54'37		19.30927 AU
morning rise	3063 Nov 07	15:36	29°♎58'45		
	3063 Nov 07	23:46	0°♏		
retrograde	3064 Feb 07	00:45	3°♏20'59		
opposition	3064 Apr 20	16:33	1°♏18'49	0°37'19	
min. Earth dist.	3064 Apr 21	09:12	1°♏17'01		17.31961 AU
	3064 May 23	12:33	30°℞♎		
direct	3064 Jul 06	06:36	29°♎12'42		
	3064 Aug 18	00:58	0°♏		
evening set	3064 Oct 10	06:07	2°♏42'56		
conjunction	3064 Oct 26	13:09	3°♏44'11	0°32'11	
minimum elong	3064 Oct 26	13:09	3°♏44'11	0°32'11	
max. Earth dist.	3064 Oct 25	19:21	3°♏41'23		19.33082 AU
morning rise	3064 Nov 11	16:18	4°♏44'54		
retrograde	3065 Feb 10	23:48	8°♏06'46		
opposition	3065 Apr 25	18:34	6°♏04'42	0°34'27	
min. Earth dist.	3065 Apr 26	10:20	6°♏03'00		17.34386 AU
direct	3065 Jul 11	11:10	3°♏58'43		
evening set	3065 Oct 15	08:30	7°♏28'28		
conjunction	3065 Oct 31	14:17	8°♏29'30	0°29'31	
minimum elong	3065 Oct 31	14:17	8°♏29'30	0°29'31	
max. Earth dist.	3065 Oct 30	21:00	8°♏26'47		19.35803 AU
morning rise	3065 Nov 16	16:32	9°♏30'01		
retrograde	3066 Feb 15	22:16	12°♏51'29		
opposition	3066 Apr 30	20:15	10°♏49'30	0°31'21	
min. Earth dist.	3066 May 01	10:25	10°♏47'58		17.37405 AU
direct	3066 Jul 16	15:31	8°♏43'39		
evening set	3066 Oct 20	09:58	12°♏12'52		
conjunction	3066 Nov 05	14:48	13°♏13'40	0°26'39	
minimum elong	3066 Nov 05	14:48	13°♏13'40	0°26'39	

max. Earth dist.	3066 Nov 05 00:16	13°♏11'23	19.39119 AU
morning rise	3066 Nov 21 15:55	14°♏13'56	
	3066 Dec 04 11:22	15°♏	
retrograde	3067 Feb 20 20:26	17°♏34'57	
opposition	3067 May 05 21:56	15°♏33'06	0°28'03
min. Earth dist.	3067 May 06 10:27	15°♏31'46	17.41003 AU
	3067 May 18 22:09	15°℞♏	
direct	3067 Jul 21 20:05	13°♏27'30	
	3067 Sep 20 15:24	15°♏	
evening set	3067 Oct 25 10:48	16°♏56'02	
conjunction	3067 Nov 10 14:23	17°♏56'35	0°23'37
minimum elong	3067 Nov 10 14:23	17°♏56'35	0°23'37
max. Earth dist.	3067 Nov 10 00:50	17°♏54'27	19.43019 AU
morning rise	3067 Nov 26 14:34	18°♏56'37	
retrograde	3068 Feb 25 17:59	22°♏17'09	
opposition	3068 May 09 23:24	20°♏15'29	0°24'35
min. Earth dist.	3068 May 10 10:23	20°♏14'18	17.45196 AU
direct	3068 Jul 25 22:45	18°♏10'08	
evening set	3068 Oct 29 10:40	21°♏37'57	
conjunction	3068 Nov 14 13:18	22°♏38'14	0°20'27
minimum elong	3068 Nov 14 13:18	22°♏38'14	0°20'27
max. Earth dist.	3068 Nov 14 02:25	22°♏36'31	19.47499 AU
morning rise	3068 Nov 30 12:26	23°♏38'01	
retrograde	3069 Mar 01 16:09	26°♏58'02	
opposition	3069 May 15 00:34	24°♏56'34	0°20'58
min. Earth dist.	3069 May 15 09:24	24°♏55'38	17.49924 AU
direct	3069 Jul 31 01:59	22°♏51'34	
evening set	3069 Nov 03 09:42	26°♏18'33	
conjunction	3069 Nov 19 11:13	27°♏18'32	0°17'09
minimum elong	3069 Nov 19 11:13	27°♏18'32	0°17'09
max. Earth dist.	3069 Nov 19 01:42	27°♏17'04	19.52481 AU
morning rise	3069 Dec 05 09:30	28°♏18'05	
	3070 Jan 04 13:17	0°♐	
retrograde	3070 Mar 06 12:57	1°♐37'35	
	3070 May 10 16:47	30°℞♏	
opposition	3070 May 20 01:29	29°♏36'19	0°17'14
min. Earth dist.	3070 May 20 09:11	29°♏35'30	17.55135 AU
direct	3070 Aug 05 02:32	27°♏31'39	
	3070 Oct 22 23:24	0°♐	
evening set	3070 Nov 08 07:57	0°♐57'45	
conjunction	3070 Nov 24 08:28	1°♐57'28	0°13'46
minimum elong	3070 Nov 24 08:28	1°♐57'28	0°13'46
behind sun begin	3070 Nov 24 04:54	1°♐56'55	
behind sun end	3070 Nov 24 12:02	1°♐58'00	
max. Earth dist.	3070 Nov 24 01:09	1°♐56'20	19.57902 AU
morning rise	3070 Dec 10 05:50	2°♐56'43	
retrograde	3071 Mar 11 11:06	6°♐15'39	
opposition	3071 May 25 01:54	4°♐14'38	0°13'24
min. Earth dist.	3071 May 25 07:19	4°♐14'03	17.60726 AU
direct	3071 Aug 10 05:02	2°♐10'20	
evening set	3071 Nov 13 05:25	5°♐35'28	
conjunction	3071 Nov 29 04:53	6°♐34'52	0°10'19
minimum elong	3071 Nov 29 04:52	6°♐34'52	0°10'18
behind sun begin	3071 Nov 28 23:37	6°♐34'04	
behind sun end	3071 Nov 29 10:08	6°♐35'40	
max. Earth dist.	3071 Nov 28 23:12	6°♐34'00	19.63663 AU
morning rise	3071 Dec 15 01:23	7°♐33'52	
retrograde	3072 Mar 15 06:36	10°♐52'12	
opposition	3072 May 29 02:13	8°♐51'23	0°09'31
min. Earth dist.	3072 May 29 06:51	8°♐50'54	17.66643 AU
direct	3072 Aug 14 04:11	6°♐47'29	
evening set	3072 Nov 17 01:48	10°♐11'34	
conjunction	3072 Dec 03 00:17	11°♐10'39	0°06'49
minimum elong	3072 Dec 03 00:17	11°♐10'39	0°06'49
behind sun begin	3072 Dec 02 18:08	11°♐09'43	
behind sun end	3072 Dec 03 06:26	11°♐11'35	
max. Earth dist.	3072 Dec 02 20:22	11°♐10'05	19.69715 AU
morning rise	3072 Dec 18 20:02	12°♐09'21	
retrograde	3073 Mar 20 04:12	15°♐27'05	
opposition	3073 Jun 03 01:56	13°♐26'28	0°05'35
min. Earth dist.	3073 Jun 03 04:04	13°♐26'15	17.72797 AU
direct	3073 Aug 19 06:02	11°♐22'56	
evening set	3073 Nov 21 21:24	14°♐45'55	
conjunction	3073 Dec 07 18:58	15°♐44'42	0°03'17
minimum elong	3073 Dec 07 18:59	15°♐44'42	0°03'17
behind sun begin	3073 Dec 07 12:26	15°♐43'42	
behind sun end	3073 Dec 08 01:32	15°♐45'41	
max. Earth dist.	3073 Dec 07 16:53	15°♐44'25	19.75959 AU
morning rise	3073 Dec 23 13:57	16°♐43'07	
retrograde	3074 Mar 24 21:50	20°♐00'12	
opposition	3074 Jun 08 01:06	17°♐59'46	0°01'38
min. Earth dist.	3074 Jun 08 02:45	17°♐59'35	17.79127 AU
direct	3074 Aug 24 04:15	15°♐56'36	
desc. node	3074 Nov 07 21:34	18°♐13'22	
evening set	3074 Nov 26 16:05	19°♐18'26	
conjunction	3074 Dec 12 12:45	20°♐16'53	-0°00'21
minimum elong	3074 Dec 12 12:45	20°♐16'53	0°00'21
behind sun begin	3074 Dec 12 06:12	20°♐15'54	
behind sun end	3074 Dec 12 19:18	20°♐17'52	
max. Earth dist.	3074 Dec 12 11:49	20°♐16'48	19.82356 AU
morning rise	3074 Dec 28 07:07	21°♐15'00	
retrograde	3075 Mar 29 17:49	24°♐31'27	
opposition	3075 Jun 12 23:41	22°♐31'09	-0°02'18
min. Earth dist.	3075 Jun 12 22:48	22°♐31'15	17.85564 AU
direct	3075 Aug 29 05:08	20°♐28'21	
evening set	3075 Dec 01 09:40	23°♐48'59	
conjunction	3075 Dec 17 05:33	24°♐47'07	-0°03'55
minimum elong	3075 Dec 17 05:33	24°♐47'07	0°03'54
behind sun begin	3075 Dec 16 23:03	24°♐46'09	
behind sun end	3075 Dec 17 12:03	24°♐48'06	
max. Earth dist.	3075 Dec 17 06:43	24°♐47'16	19.88829 AU
morning rise	3076 Jan 01 23:13	25°♐44'57	
retrograde	3076 Apr 02 10:00	29°♐00'44	
opposition	3076 Jun 16 21:51	27°♐00'34	-0°06'12
min. Earth dist.	3076 Jun 16 20:27	27°♐00'43	17.92074 AU
direct	3076 Sep 02 02:13	24°♐58'06	
evening set	3076 Dec 05 02:17	28°♐17'30	
conjunction	3076 Dec 20 21:20	29°♐15'19	-0°07'23
minimum elong	3076 Dec 20 21:20	29°♐15'19	0°07'23
behind sun begin	3076 Dec 20 15:19	29°♐14'25	
behind sun end	3076 Dec 21 03:22	29°♐16'13	
max. Earth dist.	3076 Dec 20 23:31	29°♐15'38	19.95373 AU
	3077 Jan 02 01:14	0°♑	
morning rise	3077 Jan 05 14:35	0°♑12'52	
retrograde	3077 Apr 07 04:07	3°♑27'58	
opposition	3077 Jun 21 19:00	1°♑27'54	-0°10'01
min. Earth dist.	3077 Jun 21 15:02	1°♑28'19	17.98640 AU
	3077 Jul 31 08:36	30°℞♐	
direct	3077 Sep 07 01:24	29°♐25'46	
	3077 Oct 13 16:12	0°♑	
evening set	3077 Dec 09 17:43	2°♑43'53	
conjunction	3077 Dec 25 12:12	3°♑41'24	-0°10'46
minimum elong	3077 Dec 25 12:12	3°♑41'24	0°10'46
behind sun begin	3077 Dec 25 07:07	3°♑40'39	

behind sun end	3077 Dec 25 17:16	3°♉42'10	
max. Earth dist.	3077 Dec 25 16:48	3°♉42'05	20.01958 AU
morning rise	3078 Jan 10 04:54	4°♉38'41	
retrograde	3078 Apr 11 18:53	7°♉53'05	
opposition	3078 Jun 26 15:40	5°♉53'07	-0°13'45
min. Earth dist.	3078 Jun 26 11:06	5°♉53'35	18.05252 AU
direct	3078 Sep 11 21:08	3°♉51'18	
evening set	3078 Dec 14 08:15	7°♉08'10	
conjunction	3078 Dec 30 01:57	8°♉05'21	-0°14'04
minimum elong	3078 Dec 30 01:57	8°♉05'21	0°14'05
behind sun begin	3078 Dec 29 22:34	8°♉04'51	
behind sun end	3078 Dec 30 05:20	8°♉05'51	
max. Earth dist.	3078 Dec 30 07:32	8°♉06'11	20.08603 AU
morning rise	3079 Jan 14 18:22	9°♉02'21	
retrograde	3079 Apr 16 11:15	12°♉16'06	
opposition	3079 Jul 01 11:23	10°♉16'13	-0°17'22
min. Earth dist.	3079 Jul 01 04:07	10°♉16'58	18.11933 AU
direct	3079 Sep 16 18:02	8°♉14'43	
evening set	3079 Dec 18 21:44	11°♉30'19	
conjunction	3080 Jan 03 14:57	12°♉27'13	-0°17'16
minimum elong	3080 Jan 03 14:57	12°♉27'13	0°17'17
max. Earth dist.	3080 Jan 03 23:18	12°♉28'29	20.15317 AU
morning rise	3080 Jan 19 06:53	13°♉23'57	
retrograde	3080 Apr 20 00:55	16°♉37'03	
opposition	3080 Jul 05 06:37	14°♉37'16	-0°20'51
min. Earth dist.	3080 Jul 04 22:24	14°♉38'07	18.18694 AU
direct	3080 Sep 20 12:12	12°♉36'08	
evening set	3080 Dec 22 10:17	15°♉50'30	
conjunction	3081 Jan 07 02:52	16°♉47'05	-0°20'20
minimum elong	3081 Jan 07 02:52	16°♉47'05	0°20'20
max. Earth dist.	3081 Jan 07 12:08	16°♉48'29	20.22120 AU
morning rise	3081 Jan 22 18:42	17°♉43'34	
retrograde	3081 Apr 24 15:42	20°♉56'04	
opposition	3081 Jul 10 00:55	18°♉56'24	-0°24'11
min. Earth dist.	3081 Jul 09 14:03	18°♉57'31	18.25531 AU
direct	3081 Sep 25 06:17	16°♉55'38	
evening set	3081 Dec 26 21:58	20°♉08'48	
conjunction	3082 Jan 11 14:15	21°♉05'07	-0°23'17
minimum elong	3082 Jan 11 14:14	21°♉05'07	0°23'17
max. Earth dist.	3082 Jan 12 02:12	21°♉06'55	20.28970 AU
morning rise	3082 Jan 27 05:43	22°♉01'20	
retrograde	3082 Apr 29 04:30	25°♉13'15	
opposition	3082 Jul 14 18:27	23°♉13'44	-0°27'22
min. Earth dist.	3082 Jul 14 06:43	23°♉14'56	18.32391 AU
direct	3082 Sep 29 22:27	21°♉13'23	
evening set	3082 Dec 31 08:59	24°♉25'21	
conjunction	3083 Jan 16 00:43	25°♉21'24	-0°26'04
minimum elong	3083 Jan 16 00:43	25°♉21'24	0°26'03
max. Earth dist.	3083 Jan 16 13:16	25°♉23'17	20.35830 AU
morning rise	3083 Jan 31 16:13	26°♉17'24	
retrograde	3083 May 03 18:04	29°♉28'46	
opposition	3083 Jul 19 11:24	27°♉29'24	-0°30'22
min. Earth dist.	3083 Jul 18 21:24	27°♉30'49	18.39235 AU
direct	3083 Oct 04 14:05	25°♉29'27	
evening set	3084 Jan 04 18:58	28°♉40'16	
conjunction	3084 Jan 20 10:31	29°♉36'04	-0°28'42
minimum elong	3084 Jan 20 10:31	29°♉36'04	0°28'42
max. Earth dist.	3084 Jan 21 01:41	29°♉38'19	20.42629 AU
	3084 Jan 27 02:29	0°♒	
morning rise	3084 Feb 05 01:48	0°♒31'50	
retrograde	3084 May 07 06:02	3°♒42'40	
opposition	3084 Jul 23 03:46	1°♒43'29	-0°33'10
min. Earth dist.	3084 Jul 22 12:57	1°♒44'59	18.45981 AU
	3084 Sep 12 14:14	30°℞♉	
direct	3084 Oct 08 04:23	29°♉43'56	
	3084 Nov 02 06:06	0°♒	
evening set	3085 Jan 08 04:30	2°♒53'37	
conjunction	3085 Jan 23 19:40	3°♒49'10	-0°31'09
minimum elong	3085 Jan 23 19:40	3°♒49'10	0°31'09
max. Earth dist.	3085 Jan 24 11:06	3°♒51'28	20.49306 AU
morning rise	3085 Feb 08 11:08	4°♒44'44	
retrograde	3085 May 11 18:57	7°♒55'04	
opposition	3085 Jul 27 19:14	5°♒56'01	-0°35'48
min. Earth dist.	3085 Jul 27 02:45	5°♒57'41	18.52579 AU
direct	3085 Oct 12 18:13	3°♒56'51	
evening set	3086 Jan 12 13:15	7°♒05'28	
conjunction	3086 Jan 28 04:23	8°♒00'47	-0°33'26
minimum elong	3086 Jan 28 04:23	8°♒00'47	0°33'26
max. Earth dist.	3086 Jan 28 22:02	8°♒03'24	20.55784 AU
morning rise	3086 Feb 12 19:46	8°♒56'10	
retrograde	3086 May 16 06:02	12°♒06'00	
opposition	3086 Aug 01 10:12	10°♒07'06	-0°38'13
min. Earth dist.	3086 Jul 31 17:07	10°♒08'49	18.58932 AU
direct	3086 Oct 17 06:46	8°♒08'19	
evening set	3087 Jan 16 21:29	11°♒15'51	
conjunction	3087 Feb 01 12:20	12°♒10'57	-0°35'32
minimum elong	3087 Feb 01 12:20	12°♒10'57	0°35'33
max. Earth dist.	3087 Feb 02 05:53	12°♒13'32	20.61994 AU
morning rise	3087 Feb 17 03:59	13°♒06'08	
	3087 Mar 25 23:33	15°♒	
retrograde	3087 May 20 18:04	16°♒15'32	
	3087 Jul 18 15:30	15°℞♒	
min. Earth dist.	3087 Aug 05 06:18	14°♒18'33	18.64994 AU
opposition	3087 Aug 06 00:33	14°♒16'43	-0°40'25
direct	3087 Oct 21 19:26	12°♒18'16	
	3088 Jan 13 22:27	15°♒	
evening set	3088 Jan 21 05:05	15°♒24'47	
conjunction	3088 Feb 05 20:03	16°♒19'41	-0°37'26
minimum elong	3088 Feb 05 20:02	16°♒19'41	0°37'25
max. Earth dist.	3088 Feb 06 15:31	16°♒22'33	20.67874 AU
morning rise	3088 Feb 21 11:43	17°♒14'42	
retrograde	3088 May 24 04:39	20°♒23'38	
opposition	3088 Aug 09 14:15	18°♒24'55	-0°42'24
min. Earth dist.	3088 Aug 08 19:29	18°♒26'48	18.70690 AU
direct	3088 Oct 25 07:09	16°♒26'46	
evening set	3089 Jan 24 12:13	19°♒32'16	
conjunction	3089 Feb 09 03:04	20°♒26'58	-0°39'08
minimum elong	3089 Feb 09 03:04	20°♒26'58	0°39'08
max. Earth dist.	3089 Feb 09 22:05	20°♒29'46	20.73372 AU
morning rise	3089 Feb 24 19:12	21°♒21'51	
retrograde	3089 May 28 15:26	24°♒30'22	
min. Earth dist.	3089 Aug 13 07:49	22°♒33'36	18.75990 AU
opposition	3089 Aug 14 03:17	22°♒31'39	-0°44'09
direct	3089 Oct 29 18:09	20°♒33'45	
evening set	3090 Jan 28 18:41	23°♒38'18	
conjunction	3090 Feb 13 09:48	24°♒32'50	-0°40'37
minimum elong	3090 Feb 13 09:48	24°♒32'50	0°40'36
max. Earth dist.	3090 Feb 14 06:29	24°♒35'52	20.78450 AU
morning rise	3090 Mar 01 02:05	25°♒27'34	
retrograde	3090 Jun 02 01:05	28°♒35'39	
opposition	3090 Aug 18 15:31	26°♒36'57	-0°45'39
min. Earth dist.	3090 Aug 17 19:35	26°♒38'57	18.80855 AU

direct	3090 Nov 03 05:28	24°♒39'16	
evening set	3091 Feb 02 00:45	27°♒42'52	
conjunction	3091 Feb 17 15:52	28°♒37'15	-0°41'53
minimum elong	3091 Feb 17 15:52	28°♒37'15	0°41'53
max. Earth dist.	3091 Feb 18 12:05	28°♒40'12	20.83119 AU
morning rise	3091 Mar 05 08:44	29°♒31'52	
	3091 Mar 13 17:30	0°♓	
retrograde	3091 Jun 06 10:34	2°♓39'33	
min. Earth dist.	3091 Aug 22 06:48	0°♓42'51	18.85340 AU
opposition	3091 Aug 23 03:15	0°♓40'48	-0°46'56
	3091 Sep 09 11:47	30°℞♒	
direct	3091 Nov 07 14:39	28°♒43'17	
	3092 Jan 02 15:56	0°♓	
evening set	3092 Feb 06 05:59	1°♓46'01	
conjunction	3092 Feb 21 21:31	2°♓40'16	-0°42'56
minimum elong	3092 Feb 21 21:31	2°♓40'16	0°42'56
max. Earth dist.	3092 Feb 22 19:34	2°♓43'29	20.87412 AU
morning rise	3092 Mar 08 14:40	3°♓34'46	
retrograde	3092 Jun 09 19:13	6°♓42'05	
opposition	3092 Aug 26 14:15	4°♓43'18	-0°47'57
min. Earth dist.	3092 Aug 25 17:07	4°♓45'25	18.89456 AU
direct	3092 Nov 11 01:00	2°♓45'57	
evening set	3093 Feb 09 11:07	5°♓47'51	
conjunction	3093 Feb 25 02:46	6°♓41'59	-0°43'45
minimum elong	3093 Feb 25 02:46	6°♓41'59	0°43'45
max. Earth dist.	3093 Feb 26 00:22	6°♓45'07	20.91361 AU
morning rise	3093 Mar 12 20:37	7°♓36'25	
retrograde	3093 Jun 14 03:52	10°♓43'25	
min. Earth dist.	3093 Aug 30 03:04	8°♓46'43	18.93257 AU
opposition	3093 Aug 31 00:30	8°♓44'34	-0°48'44
direct	3093 Nov 15 08:22	6°♓47'22	
evening set	3094 Feb 13 15:41	9°♓48'33	
conjunction	3094 Mar 01 07:51	10°♓42'35	-0°44'22
minimum elong	3094 Mar 01 07:51	10°♓42'35	0°44'22
max. Earth dist.	3094 Mar 02 07:06	10°♓45'57	20.94995 AU
morning rise	3094 Mar 17 02:04	11°♓36'56	
retrograde	3094 Jun 18 11:43	14°♓43'39	
opposition	3094 Sep 04 10:17	12°♓44'48	-0°49'16
min. Earth dist.	3094 Sep 03 12:04	12°♓47'01	18.96733 AU
direct	3094 Nov 19 17:20	10°♓47'46	
evening set	3095 Feb 17 20:00	13°♓48'17	
conjunction	3095 Mar 05 12:24	14°♓42'15	-0°44'45
minimum elong	3095 Mar 05 12:24	14°♓42'15	0°44'44
max. Earth dist.	3095 Mar 06 11:07	14°♓45'31	20.98317 AU
morning rise	3095 Mar 21 07:23	15°♓36'32	
retrograde	3095 Jun 22 20:23	18°♓43'04	
opposition	3095 Sep 08 19:44	16°♓44'11	-0°49'34
min. Earth dist.	3095 Sep 07 21:21	16°♓46'25	18.99904 AU
direct	3095 Nov 23 23:26	14°♓47'20	
evening set	3096 Feb 22 00:02	17°♓47'16	
conjunction	3096 Mar 08 17:06	18°♓41'10	-0°44'55
minimum elong	3096 Mar 08 17:06	18°♓41'10	0°44'56
max. Earth dist.	3096 Mar 09 17:19	18°♓44'39	21.01318 AU
morning rise	3096 Mar 24 12:35	19°♓35'26	
retrograde	3096 Jun 26 03:54	22°♓41'48	
min. Earth dist.	3096 Sep 11 05:32	20°♓45'14	19.02730 AU
opposition	3096 Sep 12 04:32	20°♓42'56	-0°49'38
direct	3096 Nov 27 07:00	18°♓46'15	
evening set	3097 Feb 25 04:05	21°♓45'41	
conjunction	3097 Mar 12 21:32	22°♓39'33	-0°44'53
minimum elong	3097 Mar 12 21:32	22°♓39'33	0°44'52
max. Earth dist.	3097 Mar 13 20:52	22°♓42'54	21.03968 AU
morning rise	3097 Mar 28 17:55	23°♓33'49	
retrograde	3097 Jun 30 12:38	26°♓40'04	
opposition	3097 Sep 16 13:07	24°♓41'13	-0°49'28
min. Earth dist.	3097 Sep 15 14:26	24°♓43'28	19.05195 AU
direct	3097 Dec 01 12:14	22°♓44'42	
evening set	3098 Mar 01 07:55	25°♓43'42	
conjunction	3098 Mar 17 02:06	26°♓37'34	-0°44'37
minimum elong	3098 Mar 17 02:06	26°♓37'34	0°44'38
max. Earth dist.	3098 Mar 18 02:37	26°♓41'05	21.06225 AU
morning rise	3098 Apr 01 23:01	27°♓31'49	
	3098 May 25 21:51	0°♈	
retrograde	3098 Jul 04 20:06	0°♈38'01	
	3098 Aug 14 17:54	30°℞♓	
opposition	3098 Sep 20 21:15	28°♓39'11	-0°49'03
min. Earth dist.	3098 Sep 19 22:11	28°♓41'29	19.07235 AU
direct	3098 Dec 05 18:47	26°♓42'51	
evening set	3099 Mar 05 11:58	29°♓41'30	
	3099 Mar 10 23:18	0°♈	
conjunction	3099 Mar 21 06:36	0°♈35'21	-0°44'09
minimum elong	3099 Mar 21 06:36	0°♈35'21	0°44'09
max. Earth dist.	3099 Mar 22 05:58	0°♈38'41	21.08052 AU
morning rise	3099 Apr 06 04:28	1°♈29'38	
retrograde	3099 Jul 09 04:30	4°♈35'49	
min. Earth dist.	3099 Sep 24 07:00	2°♈39'14	19.08836 AU
opposition	3099 Sep 25 05:17	2°♈37'00	-0°48'25
direct	3099 Dec 09 23:46	0°♈40'47	
evening set	3100 Mar 09 15:53	3°♈39'10	
conjunction	3100 Mar 25 11:23	4°♈33'03	-0°43'29
minimum elong	3100 Mar 25 11:23	4°♈33'03	0°43'29
max. Earth dist.	3100 Mar 26 11:33	4°♈36'30	21.09402 AU
morning rise	3100 Apr 10 09:55	5°♈27'22	
retrograde	3100 Jul 13 12:41	8°♈33'35	
opposition	3100 Sep 29 12:56	6°♈34'46	-0°47'33
min. Earth dist.	3100 Sep 28 14:40	6°♈36'59	19.09917 AU
direct	3100 Dec 14 05:49	4°♈38'39	
evening set	3101 Mar 13 20:16	7°♈36'49	
conjunction	3101 Mar 29 16:19	8°♈30'44	-0°42'36
minimum elong	3101 Mar 29 16:19	8°♈30'44	0°42'36
max. Earth dist.	3101 Mar 30 14:46	8°♈33'56	21.10211 AU
morning rise	3101 Apr 14 15:50	9°♈25'07	
retrograde	3101 Jul 17 20:08	12°♈31'23	
opposition	3101 Oct 03 20:21	10°♈32'32	-0°46'28
min. Earth dist.	3101 Oct 02 23:25	10°♈34'37	19.10448 AU
direct	3101 Dec 18 10:36	8°♈36'28	