retrograde	3600 Feb 14 19:01	14°♑34'17	
opposition	3600 May 02 12:01	13°♑12'17	1°36'27
min. Earth dist.	3600 May 03 08:02	13°♑10'55	29.31712 AU
direct	3600 Jul 22 09:55	11°♑47'23	
evening set	3600 Oct 21 04:37	13°♑43'12	
conjunction	3600 Nov 05 22:56	14°♑18'05	1°30'47
minimum elong	3600 Nov 05 22:56	14°♑18'05	1°30'48
max. Earth dist.	3600 Nov 05 01:01	14°♑16'02	31.31840 AU
morning rise	3600 Nov 21 13:51	14°♑52'41	
	3600 Nov 24 23:01	15°♑	
retrograde	3601 Feb 16 05:12	16°♑44'33	
opposition	3601 May 04 22:59	15°♑22'34	1°37'27
min. Earth dist.	3601 May 05 19:43	15°♑21'08	29.32196 AU
	3601 May 18 19:23	15°℞♑	
direct	3601 Jul 24 21:16	13°♑57'42	
	3601 Sep 27 01:48	15°♑	
evening set	3601 Oct 23 15:40	15°♑53'30	
max. Earth dist.	3601 Nov 07 11:50	16°♑26'20	31.32369 AU
conjunction	3601 Nov 08 09:27	16°♑28'21	1°31'39
minimum elong	3601 Nov 08 09:27	16°♑28'21	1°31'39
morning rise	3601 Nov 23 23:54	17°♑02'55	
retrograde	3602 Feb 18 16:02	18°♑54'48	
opposition	3602 May 07 09:51	17°♑32'52	1°38'18
min. Earth dist.	3602 May 08 05:31	17°♑31'31	29.32755 AU
direct	3602 Jul 27 10:05	16°♑08'03	
evening set	3602 Oct 26 02:41	18°♑03'52	
conjunction	3602 Nov 10 19:56	18°♑38'41	1°32'23
minimum elong	3602 Nov 10 19:56	18°♑38'41	1°32'24
max. Earth dist.	3602 Nov 09 22:10	18°♑36'39	31.32960 AU
morning rise	3602 Nov 26 09:56	19°♑13'14	
retrograde	3603 Feb 21 02:36	21°♑05'09	
opposition	3603 May 09 20:50	19°♑43'15	1°39'00
min. Earth dist.	3603 May 10 16:56	19°♑41'53	29.33376 AU
direct	3603 Jul 29 20:21	18°♑18'31	
evening set	3603 Oct 28 13:28	20°♑14'21	
max. Earth dist.	3603 Nov 12 09:33	20°♑47'12	31.33584 AU
conjunction	3603 Nov 13 06:20	20°♑49'08	1°32'59
minimum elong	3603 Nov 13 06:20	20°♑49'08	1°32'58
morning rise	3603 Nov 28 19:49	21°♑23'39	
retrograde	3604 Feb 23 12:57	23°♑15'36	
opposition	3604 May 11 07:52	21°♑53'46	1°39'34
min. Earth dist.	3604 May 12 03:44	21°♑52'25	29.33974 AU
direct	3604 Jul 31 10:02	20°♑29'07	
evening set	3604 Oct 30 00:30	22°♑24'57	
conjunction	3604 Nov 14 16:44	22°♑59'43	1°33'26
minimum elong	3604 Nov 14 16:44	22°♑59'43	1°33'27
max. Earth dist.	3604 Nov 13 18:57	22°♑57'41	31.34155 AU
morning rise	3604 Nov 30 05:52	23°♑34'12	
retrograde	3605 Feb 25 00:25	25°♑26'12	
opposition	3605 May 13 18:52	24°♑04'25	1°39'59
min. Earth dist.	3605 May 14 14:39	24°♑03'03	29.34514 AU
direct	3605 Aug 02 21:06	22°♑39'49	
evening set	3605 Nov 01 11:21	24°♑35'39	
max. Earth dist.	3605 Nov 16 06:29	25°♑08'27	31.34636 AU
conjunction	3605 Nov 17 03:15	25°♑10'23	1°33'46
minimum elong	3605 Nov 17 03:15	25°♑10'23	1°33'45
morning rise	3605 Dec 02 15:46	25°♑44'52	
retrograde	3606 Feb 27 08:35	27°♑36'53	
opposition	3606 May 16 06:13	26°♑15'08	1°40'16
min. Earth dist.	3606 May 17 02:34	26°♑13'45	29.34930 AU
direct	3606 Aug 05 09:30	24°♑50'36	
evening set	3606 Nov 03 22:10	26°♑46'25	
conjunction	3606 Nov 19 13:26	27°♑21'07	1°33'58
minimum elong	3606 Nov 19 13:26	27°♑21'07	1°33'58
max. Earth dist.	3606 Nov 18 15:35	27°♑19'05	31.34990 AU
morning rise	3606 Dec 05 01:41	27°♑55'35	
retrograde	3607 Mar 01 18:42	29°♑47'38	
opposition	3607 May 18 17:28	28°♑25'54	1°40'24
min. Earth dist.	3607 May 19 13:10	28°♑24'33	29.35215 AU
direct	3607 Aug 07 20:24	27°♑01'23	
evening set	3607 Nov 06 08:54	28°♑57'11	
conjunction	3607 Nov 21 23:52	29°♑31'52	1°34'01
minimum elong	3607 Nov 21 23:52	29°♑31'52	1°34'01
max. Earth dist.	3607 Nov 21 02:49	29°♑29'54	31.35190 AU
	3607 Dec 04 14:46	0°♐	
morning rise	3607 Dec 07 11:33	0°♐06'17	
retrograde	3608 Mar 03 03:36	1°♐58'22	
opposition	3608 May 20 04:45	0°♐36'38	1°40'24
min. Earth dist.	3608 May 21 01:34	0°♐35'13	29.35340 AU
	3608 Jun 12 08:17	30°℞♑	
direct	3608 Aug 09 06:49	29°♑12'08	
	3608 Oct 03 23:21	0°♐	
evening set	3608 Nov 07 19:42	1°♐07'53	
conjunction	3608 Nov 23 10:07	1°♐42'32	1°33'57
minimum elong	3608 Nov 23 10:07	1°♐42'32	1°33'58
max. Earth dist.	3608 Nov 22 12:26	1°♐40'30	31.35247 AU
morning rise	3608 Dec 08 21:33	2°♐16'57	
retrograde	3609 Mar 05 13:42	4°♐09'02	
opposition	3609 May 22 16:03	2°♐47'17	1°40'15
min. Earth dist.	3609 May 23 11:51	2°♐45'56	29.35318 AU
direct	3609 Aug 11 18:58	1°♐22'46	
evening set	3609 Nov 10 06:14	3°♐18'28	
conjunction	3609 Nov 25 20:16	3°♐53'05	1°33'45
minimum elong	3609 Nov 25 20:16	3°♐53'05	1°33'45
max. Earth dist.	3609 Nov 24 22:51	3°♐51'05	31.35156 AU
morning rise	3609 Dec 11 07:13	4°♐27'28	
retrograde	3610 Mar 07 23:31	6°♐19'35	
opposition	3610 May 25 03:32	4°♐57'46	1°39'58
min. Earth dist.	3610 May 26 00:10	4°♐56'22	29.35180 AU
direct	3610 Aug 14 05:53	3°♐33'15	
evening set	3610 Nov 12 16:39	5°♐28'52	
max. Earth dist.	3610 Nov 27 09:16	6°♐01'30	31.34987 AU
conjunction	3610 Nov 28 06:16	6°♐03'28	1°33'24
minimum elong	3610 Nov 28 06:16	6°♐03'28	1°33'25
morning rise	3610 Dec 13 16:53	6°♐37'50	
retrograde	3611 Mar 10 09:40	8°♐29'56	
opposition	3611 May 27 14:50	7°♐08'04	1°39'32
min. Earth dist.	3611 May 28 10:27	7°♐06'44	29.34979 AU
direct	3611 Aug 16 18:07	5°♐43'32	
evening set	3611 Nov 15 02:53	7°♐39'05	
conjunction	3611 Nov 30 16:03	8°♐13'39	1°32'56
minimum elong	3611 Nov 30 16:03	8°♐13'39	1°32'56
max. Earth dist.	3611 Nov 29 18:57	8°♐11'41	31.34777 AU
morning rise	3611 Dec 16 02:24	8°♐47'59	
retrograde	3612 Mar 11 20:16	10°♐40'07	
opposition	3612 May 29 02:15	9°♐18'11	1°38'58
min. Earth dist.	3612 May 29 21:59	9°♐16'51	29.34786 AU
direct	3612 Aug 18 05:06	7°♐53'38	

evening set	3612 Nov 16 13:00	9°♐49'07	
max. Earth dist.	3612 Dec 01 06:12	10°♐21'49	31.34604 AU
conjunction	3612 Dec 02 01:52	10°♐23'40	1°32'21
minimum elong	3612 Dec 02 01:52	10°♐23'40	1°32'21
morning rise	3612 Dec 17 11:45	10°♐57'58	
retrograde	3613 Mar 14 06:21	12°♐50'07	
opposition	3613 May 31 13:38	11°♐28'09	1°38'16
min. Earth dist.	3613 Jun 01 08:36	11°♐26'52	29.34638 AU
direct	3613 Aug 20 19:00	10°♐03'36	
evening set	3613 Nov 18 23:12	11°♐59'03	
conjunction	3613 Dec 04 11:30	12°♐33'34	1°31'37
minimum elong	3613 Dec 04 11:30	12°♐33'34	1°31'36
max. Earth dist.	3613 Dec 03 15:28	12°♐31'42	31.34508 AU
morning rise	3613 Dec 19 21:12	13°♐07'52	
retrograde	3614 Mar 16 17:44	15°♐00'03	
opposition	3614 Jun 03 01:09	13°♐38'04	1°37'25
min. Earth dist.	3614 Jun 03 19:11	13°♐36'50	29.34596 AU
direct	3614 Aug 23 06:06	12°♐13'33	
evening set	3614 Nov 21 08:59	14°♐08'57	
conjunction	3614 Dec 06 21:07	14°♐43'27	1°30'45
minimum elong	3614 Dec 06 21:07	14°♐43'27	1°30'46
max. Earth dist.	3614 Dec 06 02:48	14°♐41'44	31.34506 AU
morning rise	3614 Dec 22 06:21	15°♐17'44	
retrograde	3615 Mar 19 02:12	17°♐09'58	
opposition	3615 Jun 05 12:44	15°♐48'00	1°36'26
min. Earth dist.	3615 Jun 06 06:44	15°♐46'46	29.34619 AU
direct	3615 Aug 25 18:23	14°♐23'33	
evening set	3615 Nov 23 19:02	16°♐18'54	
max. Earth dist.	3615 Dec 08 11:55	16°♐51'39	31.34565 AU
conjunction	3615 Dec 09 06:39	16°♐53'24	1°29'46
minimum elong	3615 Dec 09 06:39	16°♐53'24	1°29'46
morning rise	3615 Dec 24 15:47	17°♐27'40	
retrograde	3616 Mar 20 12:49	19°♐19'58	
opposition	3616 Jun 07 00:07	17°♐58'01	1°35'18
min. Earth dist.	3616 Jun 07 16:54	17°♐56'53	29.34685 AU
direct	3616 Aug 27 05:30	16°♐33'37	
evening set	3616 Nov 25 04:59	18°♐28'58	
conjunction	3616 Dec 10 16:23	19°♐03'27	1°28'39
minimum elong	3616 Dec 10 16:23	19°♐03'27	1°28'39
max. Earth dist.	3616 Dec 09 22:57	19°♐01'49	31.34624 AU
morning rise	3616 Dec 26 01:05	19°♐37'43	
retrograde	3617 Mar 22 22:16	21°♐30'07	
opposition	3617 Jun 09 11:57	20°♐08'10	1°34'02
min. Earth dist.	3617 Jun 10 05:22	20°♐06'59	29.34728 AU
direct	3617 Aug 29 16:10	18°♐43'51	
evening set	3617 Nov 27 14:55	20°♐39'10	
max. Earth dist.	3617 Dec 12 08:27	21°♐12'00	31.34647 AU
conjunction	3617 Dec 13 01:51	21°♐13'38	1°27'24
minimum elong	3617 Dec 13 01:51	21°♐13'38	1°27'24
morning rise	3617 Dec 28 10:24	21°♐47'54	
retrograde	3618 Mar 25 08:40	23°♐40'22	
opposition	3618 Jun 11 23:43	22°♐18'27	1°32'39
min. Earth dist.	3618 Jun 12 15:42	22°♐17'22	29.34705 AU
direct	3618 Sep 01 03:43	20°♐54'11	
evening set	3618 Nov 30 00:51	22°♐49'29	
conjunction	3618 Dec 15 11:30	23°♐23'56	1°26'02
minimum elong	3618 Dec 15 11:31	23°♐23'56	1°26'02
max. Earth dist.	3618 Dec 14 18:30	23°♐22'20	31.34573 AU
morning rise	3618 Dec 30 19:46	23°♐58'12	
retrograde	3619 Mar 27 19:08	25°♐50'47	
opposition	3619 Jun 14 11:37	24°♐28'51	1°31'07
min. Earth dist.	3619 Jun 15 04:15	24°♐27'43	29.34584 AU
direct	3619 Sep 03 13:34	23°♐04'38	
evening set	3619 Dec 02 10:44	24°♐59'54	
conjunction	3619 Dec 17 21:07	25°♐34'21	1°24'32
minimum elong	3619 Dec 17 21:07	25°♐34'21	1°24'32
max. Earth dist.	3619 Dec 17 04:39	25°♐32'48	31.34392 AU
morning rise	3620 Jan 02 05:09	26°♐08'36	
retrograde	3620 Mar 29 05:46	28°♐01'16	
opposition	3620 Jun 15 23:30	26°♐39'19	1°29'27
min. Earth dist.	3620 Jun 16 15:07	26°♐38'16	29.34318 AU
direct	3620 Sep 05 01:08	25°♐15'09	
evening set	3620 Dec 03 20:41	27°♐10'23	
conjunction	3620 Dec 19 06:40	27°♐44'49	1°22'55
minimum elong	3620 Dec 19 06:41	27°♐44'49	1°22'55
max. Earth dist.	3620 Dec 18 13:50	27°♐43'14	31.34055 AU
morning rise	3621 Jan 03 14:33	28°♐19'04	
	3621 Mar 05 05:39	0°♑	
retrograde	3621 Mar 31 17:14	0°♑11'49	
	3621 Apr 27 18:18	30°℞♐	
opposition	3621 Jun 18 11:31	28°♐49'50	1°27'40
min. Earth dist.	3621 Jun 19 03:22	28°♐48'46	29.33916 AU
direct	3621 Sep 07 11:50	27°♐25'42	
evening set	3621 Dec 06 06:28	29°♐20'53	
conjunction	3621 Dec 21 16:19	29°♐55'18	1°21'11
minimum elong	3621 Dec 21 16:19	29°♐55'18	1°21'11
max. Earth dist.	3621 Dec 21 00:46	29°♐53'50	31.33589 AU
	3621 Dec 23 18:24	0°♑	
morning rise	3622 Jan 05 23:53	0°♑29'33	
retrograde	3622 Apr 03 04:10	2°♑22'22	
opposition	3622 Jun 20 23:35	1°♑00'20	1°25'46
min. Earth dist.	3622 Jun 21 14:54	0°♑59'18	29.33378 AU
	3622 Aug 01 09:12	30°℞♐	
direct	3622 Sep 10 01:29	29°♐36'13	
	3622 Oct 18 14:31	0°♑	
evening set	3622 Dec 08 16:10	1°♑31'20	
max. Earth dist.	3622 Dec 23 09:30	2°♑04'13	31.33010 AU
conjunction	3622 Dec 24 01:37	2°♑05'44	1°19'21
minimum elong	3622 Dec 24 01:37	2°♑05'44	1°19'21
morning rise	3623 Jan 08 09:12	2°♑39'59	
retrograde	3623 Apr 05 16:04	4°♑32'52	
opposition	3623 Jun 23 11:35	3°♑10'46	1°23'44
min. Earth dist.	3623 Jun 24 02:09	3°♑09'47	29.32762 AU
direct	3623 Sep 12 12:40	1°♑46'39	
evening set	3623 Dec 11 01:42	3°♑41'41	
conjunction	3623 Dec 26 11:05	4°♑16'05	1°17'24
minimum elong	3623 Dec 26 11:05	4°♑16'05	1°17'23
max. Earth dist.	3623 Dec 25 20:34	4°♑14'43	31.32368 AU
morning rise	3624 Jan 10 18:22	4°♑50'20	
retrograde	3624 Apr 07 00:46	6°♑43'16	
opposition	3624 Jun 24 23:32	5°♑21'07	1°21'36
min. Earth dist.	3624 Jun 25 14:04	5°♑20'08	29.32107 AU
direct	3624 Sep 14 01:24	3°♑56'59	
evening set	3624 Dec 12 11:21	5°♑51'58	
conjunction	3624 Dec 27 20:19	6°♑26'21	1°15'20
minimum elong	3624 Dec 27 20:19	6°♑26'21	1°15'21
max. Earth dist.	3624 Dec 27 05:43	6°♑24'59	31.31737 AU
morning rise	3625 Jan 12 03:37	7°♑00'36	
retrograde	3625 Apr 09 11:41	8°♑53'36	
opposition	3625 Jun 27 11:35	7°♑31'23	1°19'20
min. Earth dist.	3625 Jun 28 00:27	7°♑30'31	29.31502 AU

direct	3625 Sep	16	13:38	6°♓07'16	
evening set	3625 Dec	14	20:41	8°♓02'10	
conjunction	3625 Dec	30	05:32	8°♓36'33	1°13'10
minimum elong	3625 Dec	30	05:32	8°♓36'33	1°13'10
max. Earth dist.	3625 Dec	29	16:34	8°♓35'20	31.31167 AU
morning rise	3626 Jan	14	12:34	9°♓10'48	
retrograde	3626 Apr	11	21:26	11°♓03'54	
opposition	3626 Jun	29	23:51	9°♓41'38	1°16'58
min. Earth dist.	3626 Jun	30	12:45	9°♓40'46	29.30981 AU
direct	3626 Sep	19	01:01	8°♓17'33	
evening set	3626 Dec	17	06:09	10°♓12'24	
conjunction	3627 Jan	01	14:45	10°♓46'46	1°10'54
minimum elong	3627 Jan	01	14:45	10°♓46'46	1°10'55
max. Earth dist.	3627 Jan	01	02:25	10°♓45'37	31.30707 AU
morning rise	3627 Jan	16	21:45	11°♓21'02	
retrograde	3627 Apr	14	07:09	13°♓14'13	
opposition	3627 Jul	02	11:47	11°♓51'56	1°14'29
min. Earth dist.	3627 Jul	02	22:43	11°♓51'11	29.30558 AU
direct	3627 Sep	21	12:24	10°♓27'54	
evening set	3627 Dec	19	15:31	12°♓22'42	
conjunction	3628 Jan	03	23:57	12°♓57'04	1°08'31
minimum elong	3628 Jan	03	23:57	12°♓57'04	1°08'31
max. Earth dist.	3628 Jan	03	12:22	12°♓55'59	31.30322 AU
morning rise	3628 Jan	19	06:53	13°♓31'20	
retrograde	3628 Apr	15	17:23	15°♓24'39	
opposition	3628 Jul	04	00:03	14°♓02'20	1°11'53
min. Earth dist.	3628 Jul	04	11:05	14°♓01'36	29.30203 AU
direct	3628 Sep	22	21:51	12°♓38'22	
evening set	3628 Dec	21	00:52	14°♓33'07	
conjunction	3629 Jan	05	09:10	15°♓07'30	1°06'02
minimum elong	3629 Jan	05	09:10	15°♓07'30	1°06'03
max. Earth dist.	3629 Jan	04	22:50	15°♓06'32	31.29990 AU
morning rise	3629 Jan	20	15:58	15°♓41'47	
retrograde	3629 Apr	18	03:58	17°♓35'12	
opposition	3629 Jul	06	12:18	16°♓12'54	1°09'11
min. Earth dist.	3629 Jul	06	21:49	16°♓12'15	29.29861 AU
direct	3629 Sep	25	08:46	14°♓48'59	
evening set	3629 Dec	23	10:21	16°♓43'42	
conjunction	3630 Jan	07	18:21	17°♓18'05	1°03'28
minimum elong	3630 Jan	07	18:21	17°♓18'05	1°03'27
max. Earth dist.	3630 Jan	07	08:03	17°♓17'07	31.29648 AU
morning rise	3630 Jan	23	01:13	17°♓52'22	
retrograde	3630 Apr	20	16:10	19°♓45'56	
opposition	3630 Jul	09	00:44	18°♓23'36	1°06'23
min. Earth dist.	3630 Jul	09	10:05	18°♓22'58	29.29508 AU
direct	3630 Sep	27	18:55	16°♓59'46	
evening set	3630 Dec	25	19:38	18°♓54'26	
conjunction	3631 Jan	10	03:40	19°♓28'49	1°00'47
minimum elong	3631 Jan	10	03:40	19°♓28'49	1°00'47
max. Earth dist.	3631 Jan	09	19:01	19°♓28'00	31.29263 AU
morning rise	3631 Jan	25	10:21	20°♓03'06	
retrograde	3631 Apr	23	03:34	21°♓56'47	
opposition	3631 Jul	11	13:13	20°♓34'26	1°03'29
min. Earth dist.	3631 Jul	11	21:56	20°♓33'51	29.29067 AU
direct	3631 Sep	30	07:13	19°♓10'39	
evening set	3631 Dec	28	05:16	21°♓05'18	
conjunction	3632 Jan	12	12:59	21°♓39'40	0°58'02
minimum elong	3632 Jan	12	12:59	21°♓39'40	0°58'01
max. Earth dist.	3632 Jan	12	03:45	21°♓38'48	31.28775 AU
morning rise	3632 Jan	27	19:48	22°♓13'58	
retrograde	3632 Apr	24	16:10	24°♓07'47	
opposition	3632 Jul	13	01:38	22°♓45'23	1°00'29
min. Earth dist.	3632 Jul	13	09:35	22°♓44'51	29.28520 AU
direct	3632 Oct	01	17:33	21°♓21'39	
evening set	3632 Dec	29	14:48	23°♓16'15	
conjunction	3633 Jan	13	22:32	23°♓50'38	0°55'11
minimum elong	3633 Jan	13	22:32	23°♓50'38	0°55'11
max. Earth dist.	3633 Jan	13	14:43	23°♓49'54	31.28155 AU
morning rise	3633 Jan	29	05:09	24°♓24'56	
retrograde	3633 Apr	27	02:34	26°♓18'51	
opposition	3633 Jul	15	14:24	24°♓56'25	0°57'24
min. Earth dist.	3633 Jul	15	22:26	24°♓55'53	29.27820 AU
direct	3633 Oct	04	06:23	23°♓32'43	
evening set	3634 Jan	01	00:20	25°♓27'15	
conjunction	3634 Jan	16	07:50	26°♓01'38	0°52'15
minimum elong	3634 Jan	16	07:50	26°♓01'38	0°52'15
max. Earth dist.	3634 Jan	15	23:42	26°♓00'52	31.27393 AU
morning rise	3634 Jan	31	14:37	26°♓35'57	
retrograde	3634 Apr	29	15:00	28°♓29'58	
opposition	3634 Jul	18	03:04	27°♓07'28	0°54'14
min. Earth dist.	3634 Jul	18	09:44	27°♓07'01	29.26980 AU
direct	3634 Oct	06	18:55	25°♓43'46	
evening set	3635 Jan	03	09:50	27°♓38'14	
conjunction	3635 Jan	18	17:21	28°♓12'37	0°49'15
minimum elong	3635 Jan	18	17:21	28°♓12'37	0°49'16
max. Earth dist.	3635 Jan	18	10:18	28°♓11'57	31.26480 AU
morning rise	3635 Feb	03	00:04	28°♓46'57	
	3635 Mar	12	16:07	0°♒	
retrograde	3635 May	02	01:24	0°♒41'04	
	3635 Jun	23	19:28	30°℞♓	
opposition	3635 Jul	20	15:42	29°♓18'29	0°51'00
min. Earth dist.	3635 Jul	20	22:54	29°♓18'00	29.26008 AU
direct	3635 Oct	09	06:46	27°♓54'47	
evening set	3636 Jan	05	19:18	29°♓49'10	
	3636 Jan	10	16:21	0°♒	
conjunction	3636 Jan	21	02:43	0°♒23'33	0°46'12
minimum elong	3636 Jan	21	02:43	0°♒23'33	0°46'11
max. Earth dist.	3636 Jan	20	20:09	0°♒22'56	31.25474 AU
morning rise	3636 Feb	05	09:33	0°♒57'54	
retrograde	3636 May	03	11:38	2°♒52'06	
opposition	3636 Jul	22	04:17	1°♒29'26	0°47'41
min. Earth dist.	3636 Jul	22	09:42	1°♒29'04	29.24961 AU
direct	3636 Oct	10	19:02	0°♒05'43	
evening set	3637 Jan	07	04:38	2°♒00'01	
conjunction	3637 Jan	22	11:55	2°♒34'25	0°43'04
minimum elong	3637 Jan	22	11:55	2°♒34'25	0°43'04
max. Earth dist.	3637 Jan	22	05:59	2°♒33'51	31.24411 AU
morning rise	3637 Feb	06	18:48	3°♒08'47	
retrograde	3637 May	05	21:59	5°♒03'06	
opposition	3637 Jul	24	17:05	3°♒40'19	0°44'18
min. Earth dist.	3637 Jul	24	22:29	3°♒39'57	29.23912 AU
direct	3637 Oct	13	05:21	2°♒16'37	
evening set	3638 Jan	09	13:56	4°♒10'50	
conjunction	3638 Jan	24	21:15	4°♒45'14	0°39'52
minimum elong	3638 Jan	24	21:15	4°♒45'14	0°39'52
max. Earth dist.	3638 Jan	24	16:53	4°♒44'50	31.23392 AU
morning rise	3638 Feb	09	04:07	5°♒19'37	
retrograde	3638 May	08	08:32	7°♒14'03	
opposition	3638 Jul	27	05:43	5°♒51'12	0°40'52
min. Earth dist.	3638 Jul	27	09:18	5°♒50'58	29.22921 AU
direct	3638 Oct	15	16:44	4°♒27'31	

evening set	3639 Jan 11	23:16	6°♒21'41		
conjunction	3639 Jan 27	06:26	6°♒56'05	0°36'37	
minimum elong	3639 Jan 27	06:26	6°♒56'05	0°36'38	
max. Earth dist.	3639 Jan 27	02:16	6°♒55'42	31.22445 AU	
morning rise	3639 Feb 11	13:31	7°♒30'30		
retrograde	3639 May 10	20:45	9°♒25'04		
opposition	3639 Jul 29	18:27	8°♒02'09	0°37'21	
min. Earth dist.	3639 Jul 29	21:28	8°♒01'57	29.22024 AU	
direct	3639 Oct 18	02:41	6°♒38'31		
evening set	3640 Jan 14	08:32	8°♒32'38		
conjunction	3640 Jan 29	15:49	9°♒07'03	0°33'19	
minimum elong	3640 Jan 29	15:49	9°♒07'03	0°33'18	
max. Earth dist.	3640 Jan 29	13:41	9°♒06'51	31.21588 AU	
morning rise	3640 Feb 13	22:49	9°♒41'29		
retrograde	3640 May 12	08:14	11°♒36'12		
opposition	3640 Jul 31	07:05	10°♒13'15	0°33'48	
min. Earth dist.	3640 Jul 31	09:01	10°♒13'07	29.21194 AU	
direct	3640 Oct 19	14:11	8°♒49'39		
evening set	3641 Jan 15	18:00	10°♒43'46		
conjunction	3641 Jan 31	01:06	11°♒18'11	0°29'57	
minimum elong	3641 Jan 31	01:06	11°♒18'11	0°29'58	
max. Earth dist.	3641 Jan 30	22:53	11°♒17'59	31.20803 AU	
morning rise	3641 Feb 15	08:22	11°♒52'38		
retrograde	3641 May 14	21:25	13°♒47'31		
opposition	3641 Aug 02	19:56	12°♒24'32	0°30'10	
min. Earth dist.	3641 Aug 02	20:35	12°♒24'29	29.20434 AU	
direct	3641 Oct 21	23:38	11°♒01'00		
evening set	3642 Jan 18	03:15	12°♒55'05		
conjunction	3642 Feb 02	10:30	13°♒29'32	0°26'33	
minimum elong	3642 Feb 02	10:30	13°♒29'32	0°26'33	
max. Earth dist.	3642 Feb 02	10:08	13°♒29'30	31.20051 AU	
morning rise	3642 Feb 17	17:44	14°♒04'00		
	3642 Mar 17	04:56	15°♒		
retrograde	3642 May 17	08:52	15°♒59'02		
	3642 Jul 21	09:01	15°℞♒		
opposition	3642 Aug 05	08:52	14°♒36'02	0°26'31	
min. Earth dist.	3642 Aug 05	09:17	14°♒36'00	29.19680 AU	
direct	3642 Oct 24	11:59	13°♒12'35		
	3643 Jan 17	12:15	15°♒		
evening set	3643 Jan 20	12:49	15°♒06'38		
conjunction	3643 Feb 04	19:57	15°♒41'06	0°23'06	
minimum elong	3643 Feb 04	19:58	15°♒41'06	0°23'07	
max. Earth dist.	3643 Feb 04	19:40	15°♒41'04	31.19299 AU	
morning rise	3643 Feb 20	03:28	16°♒15'35		
retrograde	3643 May 19	22:45	18°♒10'47		
opposition	3643 Aug 07	21:34	16°♒47'45	0°22'48	
min. Earth dist.	3643 Aug 07	20:30	16°♒47'49	29.18906 AU	
direct	3643 Oct 27	00:08	15°♒24'21		
evening set	3644 Jan 22	22:25	17°♒18'24		
conjunction	3644 Feb 07	05:37	17°♒52'52	0°19'37	
minimum elong	3644 Feb 07	05:37	17°♒52'52	0°19'37	
max. Earth dist.	3644 Feb 07	06:24	17°♒52'57	31.18483 AU	
morning rise	3644 Feb 22	13:11	18°♒27'24		
retrograde	3644 May 21	10:25	20°♒22'45		
opposition	3644 Aug 09	10:38	18°♒59'40	0°19'03	
min. Earth dist.	3644 Aug 09	10:00	18°♒59'43	29.18049 AU	
direct	3644 Oct 28	11:37	17°♒36'19		
evening set	3645 Jan 24	07:59	19°♒30'20		
conjunction	3645 Feb 08	15:12	20°♒04'49	0°16'06	
minimum elong	3645 Feb 08	15:12	20°♒04'49	0°16'07	
behind sun begin	3645 Feb 08	14:20	20°♒04'45		
behind sun end	3645 Feb 08	16:04	20°♒04'54		
max. Earth dist.	3645 Feb 08	16:35	20°♒04'57	31.17581 AU	
morning rise	3645 Feb 23	22:54	20°♒39'22		
retrograde	3645 May 23	21:33	22°♒34'52		
opposition	3645 Aug 11	23:39	21°♒11'45	0°15'17	
min. Earth dist.	3645 Aug 11	21:21	21°♒11'54	29.17081 AU	
direct	3645 Oct 31	00:09	19°♒48'26		
evening set	3646 Jan 26	17:46	21°♒42'24		
conjunction	3646 Feb 11	00:58	22°♒16'54	0°12'34	
minimum elong	3646 Feb 11	00:58	22°♒16'54	0°12'34	
behind sun begin	3646 Feb 10	20:46	22°♒16'31		
behind sun end	3646 Feb 11	05:10	22°♒17'17		
max. Earth dist.	3646 Feb 11	02:28	22°♒17'02	31.16542 AU	
morning rise	3646 Feb 26	08:53	22°♒51'29		
retrograde	3646 May 26	09:02	24°♒47'07		
opposition	3646 Aug 14	12:48	23°♒23'54	0°11'29	
min. Earth dist.	3646 Aug 14	10:54	23°♒24'02	29.15983 AU	
direct	3646 Nov 02	11:07	22°♒00'36		
evening set	3647 Jan 29	03:24	23°♒54'31		
conjunction	3647 Feb 13	10:49	24°♒29'02	0°09'01	
minimum elong	3647 Feb 13	10:49	24°♒29'02	0°09'02	
behind sun begin	3647 Feb 13	05:20	24°♒28'32		
behind sun end	3647 Feb 13	16:19	24°♒29'32		
max. Earth dist.	3647 Feb 13	13:28	24°♒29'15	31.15378 AU	
morning rise	3647 Feb 28	18:50	25°♒03'38		
retrograde	3647 May 28	20:03	26°♒59'22		
opposition	3647 Aug 17	01:48	25°♒36'05	0°07'41	
min. Earth dist.	3647 Aug 16	22:34	25°♒36'18	29.14740 AU	
direct	3647 Nov 04	23:33	24°♒12'46		
evening set	3648 Jan 31	13:11	26°♒06'36		
conjunction	3648 Feb 15	20:30	26°♒41'07	0°05'28	
minimum elong	3648 Feb 15	20:31	26°♒41'07	0°05'28	
behind sun begin	3648 Feb 15	14:20	26°♒40'34		
behind sun end	3648 Feb 16	02:41	26°♒41'41		
max. Earth dist.	3648 Feb 15	22:52	26°♒41'18	31.14083 AU	
morning rise	3648 Mar 02	04:51	27°♒15'45		
retrograde	3648 May 30	07:44	29°♒11'36		
opposition	3648 Aug 18	14:53	27°♒48'11	0°03'51	
min. Earth dist.	3648 Aug 18	11:31	27°♒48'25	29.13412 AU	
direct	3648 Nov 06	09:55	26°♒24'50		
evening set	3649 Feb 01	22:48	28°♒18'36		
conjunction	3649 Feb 17	06:23	28°♒53'08	0°01'53	
minimum elong	3649 Feb 17	06:22	28°♒53'08	0°01'53	
behind sun begin	3649 Feb 16	23:58	28°♒52'33		
behind sun end	3649 Feb 17	12:46	28°♒53'42		
max. Earth dist.	3649 Feb 17	10:37	28°♒53'29	31.12733 AU	
morning rise	3649 Mar 04	14:45	29°♒27'46		
	3649 Mar 19	16:57	0°♓		
retrograde	3649 Jun 01	18:27	1°♓23'44		
opposition	3649 Aug 21	03:58	0°♓00'11	0°00'02	
min. Earth dist.	3649 Aug 20	23:36	0°♓00'29	29.12055 AU	
	3649 Aug 21	06:46	30°℞♒		
desc. node	3649 Aug 23	23:04	29°♒55'38		
direct	3649 Nov 08	21:34	28°♒36'49		
	3650 Jan 21	02:01	0°♓		
evening set	3650 Feb 04	08:27	0°♓30'30		
conjunction	3650 Feb 19	15:57	1°♓05'02	-0°01'48	
minimum elong	3650 Feb 19	15:57	1°♓05'02	0°01'49	
behind sun begin	3650 Feb 19	09:33	1°♓04'27		
behind sun end	3650 Feb 19	22:21	1°♓05'37		
max. Earth dist.	3650 Feb 19	20:09	1°♓05'23	31.11399 AU	

morning rise	3650 Mar 07 00:44	1°♓39'42	
retrograde	3650 Jun 04 07:33	3°♓35'47	
opposition	3650 Aug 23 16:59	2°♓12'07	-0°03'48
min. Earth dist.	3650 Aug 23 11:24	2°♓12'30	29.10760 AU
direct	3650 Nov 11 07:24	0°♓48'43	
evening set	3651 Feb 06 18:07	2°♓42'20	
conjunction	3651 Feb 22 01:52	3°♓16'53	-0°05'24
minimum elong	3651 Feb 22 01:51	3°♓16'53	0°05'23
behind sun begin	3651 Feb 21 19:40	3°♓16'20	
behind sun end	3651 Feb 22 08:03	3°♓17'27	
max. Earth dist.	3651 Feb 22 07:52	3°♓17'26	31.10136 AU
morning rise	3651 Mar 09 10:41	3°♓51'35	
retrograde	3651 Jun 06 19:02	5°♓47'46	
opposition	3651 Aug 26 05:52	4°♓24'01	-0°07'37
min. Earth dist.	3651 Aug 25 23:49	4°♓24'25	29.09550 AU
direct	3651 Nov 13 19:35	3°♓00'37	
evening set	3652 Feb 09 03:53	4°♓54'11	
conjunction	3652 Feb 24 11:39	5°♓28'45	-0°08'57
minimum elong	3652 Feb 24 11:39	5°♓28'45	0°08'57
behind sun begin	3652 Feb 24 06:08	5°♓28'15	
behind sun end	3652 Feb 24 17:09	5°♓29'15	
max. Earth dist.	3652 Feb 24 18:03	5°♓29'21	31.08991 AU
morning rise	3652 Mar 10 20:47	6°♓03'28	
retrograde	3652 Jun 08 09:10	7°♓59'47	
opposition	3652 Aug 27 18:49	6°♓35'57	-0°11'26
min. Earth dist.	3652 Aug 27 10:53	6°♓36'29	29.08462 AU
direct	3652 Nov 15 07:06	5°♓12'34	
evening set	3653 Feb 10 13:32	7°♓06'07	
conjunction	3653 Feb 25 21:25	7°♓40'43	-0°12'30
minimum elong	3653 Feb 25 21:25	7°♓40'43	0°12'29
behind sun begin	3653 Feb 25 17:11	7°♓40'20	
behind sun end	3653 Feb 26 01:39	7°♓41'06	
max. Earth dist.	3653 Feb 26 05:14	7°♓41'26	31.07949 AU
morning rise	3653 Mar 13 06:46	8°♓15'27	
retrograde	3653 Jun 10 21:03	10°♓11'55	
opposition	3653 Aug 30 07:59	8°♓48'01	-0°15'14
min. Earth dist.	3653 Aug 30 00:03	8°♓48'34	29.07476 AU
direct	3653 Nov 17 18:10	7°♓24'41	
evening set	3654 Feb 12 23:20	9°♓18'12	
conjunction	3654 Feb 28 07:25	9°♓52'49	-0°16'02
minimum elong	3654 Feb 28 07:24	9°♓52'49	0°16'02
behind sun begin	3654 Feb 28 06:25	9°♓52'43	
behind sun end	3654 Feb 28 08:24	9°♓52'54	
max. Earth dist.	3654 Feb 28 16:16	9°♓53'39	31.07015 AU
morning rise	3654 Mar 15 16:59	10°♓27'35	
retrograde	3654 Jun 13 09:40	12°♓24'12	
opposition	3654 Sep 01 20:52	11°♓00'16	-0°19'01
min. Earth dist.	3654 Sep 01 11:02	11°♓00'56	29.06575 AU
direct	3654 Nov 20 06:33	9°♓36'58	
evening set	3655 Feb 15 09:16	11°♓30'29	
conjunction	3655 Mar 02 17:25	12°♓05'07	-0°19'34
minimum elong	3655 Mar 02 17:25	12°♓05'07	0°19'34
max. Earth dist.	3655 Mar 03 02:38	12°♓05'59	31.06132 AU
morning rise	3655 Mar 18 03:21	12°♓39'56	
retrograde	3655 Jun 15 22:25	14°♓36'42	
opposition	3655 Sep 04 10:01	13°♓12'44	-0°22'47
min. Earth dist.	3655 Sep 04 00:23	13°♓13'24	29.05714 AU
direct	3655 Nov 22 17:26	11°♓49'30	
evening set	3656 Feb 17 19:12	13°♓43'01	
conjunction	3656 Mar 04 03:37	14°♓17'40	-0°23'04
minimum elong	3656 Mar 04 03:36	14°♓17'40	0°23'05
max. Earth dist.	3656 Mar 04 14:19	14°♓18'41	31.05272 AU
morning rise	3656 Mar 19 13:38	14°♓52'30	
retrograde	3656 Jun 17 10:16	16°♓49'27	
opposition	3656 Sep 05 23:05	15°♓25'27	-0°26'31
min. Earth dist.	3656 Sep 05 11:58	15°♓26'12	29.04840 AU
direct	3656 Nov 24 05:45	14°♓02'16	
evening set	3657 Feb 19 05:29	15°♓55'47	
conjunction	3657 Mar 06 13:52	16°♓30'27	-0°26'32
minimum elong	3657 Mar 06 13:52	16°♓30'27	0°26'32
max. Earth dist.	3657 Mar 07 00:15	16°♓31'26	31.04380 AU
morning rise	3657 Mar 22 00:19	17°♓05'20	
retrograde	3657 Jun 19 22:52	19°♓02'26	
opposition	3657 Sep 08 12:21	17°♓38'24	-0°30'13
min. Earth dist.	3657 Sep 08 01:16	17°♓39'10	29.03929 AU
direct	3657 Nov 26 15:39	16°♓15'16	
evening set	3658 Feb 21 15:38	18°♓08'46	
conjunction	3658 Mar 09 00:23	18°♓43'28	-0°29'58
minimum elong	3658 Mar 09 00:23	18°♓43'28	0°29'59
max. Earth dist.	3658 Mar 09 12:21	18°♓44'36	31.03418 AU
morning rise	3658 Mar 24 10:57	19°♓18'22	
retrograde	3658 Jun 22 10:15	21°♓15'38	
opposition	3658 Sep 11 01:34	19°♓51'33	-0°33'52
min. Earth dist.	3658 Sep 10 13:53	19°♓52'21	29.02911 AU
direct	3658 Nov 29 03:03	18°♓28'27	
evening set	3659 Feb 24 02:10	20°♓21'56	
conjunction	3659 Mar 11 10:57	20°♓56'39	-0°33'22
minimum elong	3659 Mar 11 10:56	20°♓56'39	0°33'21
max. Earth dist.	3659 Mar 11 22:13	20°♓57'43	31.02347 AU
morning rise	3659 Mar 26 21:57	21°♓31'35	
retrograde	3659 Jun 25 00:07	23°♓28'59	
opposition	3659 Sep 13 14:38	22°♓04'50	-0°37'28
min. Earth dist.	3659 Sep 13 02:23	22°♓05'41	29.01789 AU
direct	3659 Dec 01 12:47	20°♓41'44	
evening set	3660 Feb 26 12:32	22°♓35'12	
conjunction	3660 Mar 12 21:38	23°♓09'56	-0°36'42
minimum elong	3660 Mar 12 21:38	23°♓09'56	0°36'43
max. Earth dist.	3660 Mar 13 10:09	23°♓11'07	31.01163 AU
morning rise	3660 Mar 28 08:49	23°♓44'54	
retrograde	3660 Jun 26 12:05	25°♓42'25	
opposition	3660 Sep 15 03:52	24°♓18'10	-0°41'01
min. Earth dist.	3660 Sep 14 15:38	24°♓19'01	29.00562 AU
direct	3660 Dec 03 01:04	22°♓55'03	
evening set	3661 Feb 27 22:52	24°♓48'28	
conjunction	3661 Mar 15 08:08	25°♓23'14	-0°40'00
minimum elong	3661 Mar 15 08:08	25°♓23'14	0°40'00
max. Earth dist.	3661 Mar 15 20:41	25°♓24'25	30.99919 AU
morning rise	3661 Mar 30 19:43	25°♓58'13	
retrograde	3661 Jun 29 02:36	27°♓55'50	
opposition	3661 Sep 17 16:59	26°♓31'30	-0°44'30
min. Earth dist.	3661 Sep 17 03:21	26°♓32'25	28.99308 AU
direct	3661 Dec 05 12:36	25°♓08'20	
evening set	3662 Mar 02 09:18	27°♓01'43	
conjunction	3662 Mar 17 18:48	27°♓36'30	-0°43'14
minimum elong	3662 Mar 17 18:48	27°♓36'30	0°43'14
max. Earth dist.	3662 Mar 18 08:21	27°♓37'47	30.98658 AU
morning rise	3662 Apr 02 06:41	28°♓11'31	
	3662 Jun 07 20:25	0°♈	
retrograde	3662 Jul 01 14:36	0°♈09'14	
	3662 Jul 25 18:09	30°℞♓	
opposition	3662 Sep 20 06:00	28°♓44'47	-0°47'56
min. Earth dist.	3662 Sep 19 16:44	28°♓45'42	28.98080 AU

direct	3662 Dec 07 23:26	27°♓21'36	
evening set	3663 Mar 04 19:44	29°♓14'58	
conjunction	3663 Mar 20 05:32	29°♓49'46	-0°46'24
minimum elong	3663 Mar 20 05:32	29°♓49'46	0°46'24
max. Earth dist.	3663 Mar 20 20:01	29°♓51'08	30.97471 AU
	3663 Mar 24 17:26	0°♈	
morning rise	3663 Apr 04 17:42	0°♈24'48	
retrograde	3663 Jul 04 04:17	2°♈22'36	
opposition	3663 Sep 22 18:56	0°♈58'05	-0°51'17
min. Earth dist.	3663 Sep 22 03:50	0°♈59'07	28.96941 AU
	3663 Oct 31 17:59	30°℞♓	
direct	3663 Dec 10 12:45	29°♓34'53	
	3664 Jan 18 01:39	0°♈	
evening set	3664 Mar 06 06:14	1°♈28'13	
conjunction	3664 Mar 21 16:08	2°♈03'02	-0°49'30
minimum elong	3664 Mar 21 16:08	2°♈03'02	0°49'30
max. Earth dist.	3664 Mar 22 06:56	2°♈04'26	30.96375 AU
morning rise	3664 Apr 06 04:41	2°♈38'07	
retrograde	3664 Jul 05 18:09	4°♈36'01	
opposition	3664 Sep 24 08:03	3°♈11'25	-0°54'34
min. Earth dist.	3664 Sep 23 17:03	3°♈12'26	28.95919 AU
direct	3664 Dec 12 00:26	1°♈48'13	
evening set	3665 Mar 08 16:44	3°♈41'32	
conjunction	3665 Mar 24 03:02	4°♈16'23	-0°52'32
minimum elong	3665 Mar 24 03:02	4°♈16'23	0°52'32
max. Earth dist.	3665 Mar 24 19:29	4°♈17'56	30.95419 AU
morning rise	3665 Apr 08 15:48	4°♈51'29	
retrograde	3665 Jul 08 06:07	6°♈49'30	
opposition	3665 Sep 26 21:00	5°♈24'50	-0°57'46
min. Earth dist.	3665 Sep 26 04:19	5°♈25'59	28.95025 AU
direct	3665 Dec 14 13:08	4°♈01'40	
evening set	3666 Mar 11 03:25	5°♈54'58	
conjunction	3666 Mar 26 13:51	6°♈29'50	-0°55'29
minimum elong	3666 Mar 26 13:51	6°♈29'50	0°55'30
max. Earth dist.	3666 Mar 27 06:07	6°♈31'22	30.94582 AU
morning rise	3666 Apr 11 03:08	7°♈04'58	
retrograde	3666 Jul 10 18:51	9°♈03'06	
opposition	3666 Sep 29 10:04	7°♈38'24	-1°00'53
min. Earth dist.	3666 Sep 28 17:17	7°♈39'33	28.94250 AU
direct	3666 Dec 16 23:27	6°♈15'15	
evening set	3667 Mar 13 14:08	8°♈08'32	
conjunction	3667 Mar 29 00:59	8°♈43'26	-0°58'22
minimum elong	3667 Mar 29 00:59	8°♈43'26	0°58'21
max. Earth dist.	3667 Mar 29 19:02	8°♈45'09	30.93843 AU
morning rise	3667 Apr 13 14:27	9°♈18'37	
retrograde	3667 Jul 13 06:23	11°♈16'51	
opposition	3667 Oct 01 22:56	9°♈52'08	-1°03'55
min. Earth dist.	3667 Oct 01 05:24	9°♈53'20	28.93545 AU
direct	3667 Dec 19 11:18	8°♈29'01	
evening set	3668 Mar 15 01:06	10°♈22'19	
conjunction	3668 Mar 30 12:05	10°♈57'14	-1°01'09
minimum elong	3668 Mar 30 12:05	10°♈57'14	1°01'09
max. Earth dist.	3668 Mar 31 05:43	10°♈58'54	30.93173 AU
morning rise	3668 Apr 15 02:03	11°♈32'26	
retrograde	3668 Jul 14 20:37	13°♈30'48	
opposition	3668 Oct 03 12:02	12°♈06'03	-1°06'51
min. Earth dist.	3668 Oct 02 17:52	12°♈07'18	28.92899 AU
direct	3668 Dec 20 21:20	10°♈42'58	
evening set	3669 Mar 17 12:00	12°♈36'17	
conjunction	3669 Apr 01 23:22	13°♈11'13	-1°03'51
minimum elong	3669 Apr 01 23:22	13°♈11'13	1°03'51
max. Earth dist.	3669 Apr 02 18:19	13°♈13'01	30.92516 AU
morning rise	3669 Apr 17 13:35	13°♈46'28	
retrograde	3669 Jul 17 08:09	15°♈44'57	
min. Earth dist.	3669 Oct 05 07:08	14°♈21'25	28.92233 AU
opposition	3669 Oct 06 01:09	14°♈20'11	-1°09'41
direct	3669 Dec 23 08:52	12°♈57'07	
evening set	3670 Mar 19 23:16	14°♈50'26	
conjunction	3670 Apr 04 10:54	15°♈25'25	-1°06'27
minimum elong	3670 Apr 04 10:54	15°♈25'25	1°06'27
max. Earth dist.	3670 Apr 05 05:32	15°♈27'11	30.91830 AU
morning rise	3670 Apr 20 01:33	16°♈00'41	
retrograde	3670 Jul 19 22:44	17°♈59'16	
opposition	3670 Oct 08 14:04	16°♈34'28	-1°12'25
min. Earth dist.	3670 Oct 07 19:11	16°♈35'46	28.91514 AU
direct	3670 Dec 25 19:32	15°♈11'25	
evening set	3671 Mar 22 10:41	17°♈04'45	
conjunction	3671 Apr 06 22:38	17°♈39'45	-1°08'58
minimum elong	3671 Apr 06 22:37	17°♈39'45	1°08'58
max. Earth dist.	3671 Apr 07 17:35	17°♈41'33	30.91046 AU
morning rise	3671 Apr 22 13:37	18°♈15'03	
retrograde	3671 Jul 22 11:28	20°♈13'44	
min. Earth dist.	3671 Oct 10 09:14	18°♈50'07	28.90681 AU
opposition	3671 Oct 11 03:14	18°♈48'53	-1°15'03
direct	3671 Dec 28 06:20	17°♈25'49	
evening set	3672 Mar 23 21:59	19°♈19'09	
conjunction	3672 Apr 08 10:19	19°♈54'10	-1°11'22
minimum elong	3672 Apr 08 10:19	19°♈54'10	1°11'22
max. Earth dist.	3672 Apr 09 05:35	19°♈56'00	30.90162 AU
morning rise	3672 Apr 24 01:38	20°♈29'30	
retrograde	3672 Jul 24 02:06	22°♈28'15	
opposition	3672 Oct 12 16:16	21°♈03'20	-1°17'34
min. Earth dist.	3672 Oct 11 21:07	21°♈04'39	28.89742 AU
direct	3672 Dec 29 19:49	19°♈40'15	
evening set	3673 Mar 26 09:31	21°♈33'34	
conjunction	3673 Apr 10 22:05	22°♈08'37	-1°13'40
minimum elong	3673 Apr 10 22:05	22°♈08'37	1°13'40
max. Earth dist.	3673 Apr 11 16:59	22°♈10'24	30.89176 AU
morning rise	3673 Apr 26 13:55	22°♈43'58	
retrograde	3673 Jul 26 16:12	24°♈42'47	
min. Earth dist.	3673 Oct 14 11:01	23°♈19'02	28.88738 AU
opposition	3673 Oct 15 05:19	23°♈17'46	-1°19'57
direct	3674 Jan 01 07:36	21°♈54'39	
evening set	3674 Mar 28 20:53	23°♈47'56	
conjunction	3674 Apr 13 09:59	24°♈23'01	-1°15'51
minimum elong	3674 Apr 13 09:59	24°♈23'01	1°15'51
max. Earth dist.	3674 Apr 14 05:57	24°♈24'55	30.88158 AU
morning rise	3674 Apr 29 02:06	24°♈58'24	
retrograde	3674 Jul 29 04:56	26°♈57'15	
opposition	3674 Oct 17 18:07	25°♈32'10	-1°22'14
min. Earth dist.	3674 Oct 16 22:40	25°♈33'31	28.87717 AU
direct	3675 Jan 03 20:54	24°♈09'00	
evening set	3675 Mar 31 08:29	26°♈02'17	
conjunction	3675 Apr 15 21:45	26°♈37'23	-1°17'55
minimum elong	3675 Apr 15 21:45	26°♈37'23	1°17'55
max. Earth dist.	3675 Apr 16 17:08	26°♈39'13	30.87151 AU
morning rise	3675 May 01 14:24	27°♈12'48	
retrograde	3675 Jul 31 18:23	29°♈11'41	
min. Earth dist.	3675 Oct 19 11:44	27°♈47'52	28.86755 AU
opposition	3675 Oct 20 06:54	27°♈46'32	-1°24'23
direct	3676 Jan 06 08:00	26°♈23'20	

evening set	3676 Apr 01	19:58	28°♈16'36	
conjunction	3676 Apr 17	09:45	28°♈51'44	-1°19'52
minimum elong	3676 Apr 17	09:45	28°♈51'44	1°19'52
max. Earth dist.	3676 Apr 18	06:44	28°♈53'44	30.86226 AU
morning rise	3676 May 03	02:37	29°♈27'11	
	3676 May 18	11:01	0°♉	
retrograde	3676 Aug 02	06:41	1°♉26'07	
opposition	3676 Oct 21	19:38	0°♉00'55	-1°26'25
min. Earth dist.	3676 Oct 20	23:42	0°♉02'18	28.85886 AU
	3676 Oct 22	08:53	30°℞♈	
direct	3677 Jan 07	20:36	28°♈37'42	
	3677 Mar 20	19:41	0°♉	
evening set	3677 Apr 04	07:31	0°♉30'58	
conjunction	3677 Apr 19	21:33	1°♉06'08	-1°21'42
minimum elong	3677 Apr 19	21:33	1°♉06'08	1°21'42
max. Earth dist.	3677 Apr 20	18:01	1°♉08'04	30.85422 AU
morning rise	3677 May 05	15:00	1°♉41'37	
retrograde	3677 Aug 04	20:25	3°♉40'36	
min. Earth dist.	3677 Oct 23	11:57	2°♉16'47	28.85153 AU
opposition	3677 Oct 24	08:21	2°♉15'22	-1°28'18
direct	3678 Jan 10	07:11	0°♉52'07	
evening set	3678 Apr 06	19:12	2°♉45'25	
conjunction	3678 Apr 22	09:44	3°♉20'36	-1°23'25
minimum elong	3678 Apr 22	09:44	3°♉20'36	1°23'24
max. Earth dist.	3678 Apr 23	07:28	3°♉22'40	30.84741 AU
morning rise	3678 May 08	03:30	3°♉56'08	
retrograde	3678 Aug 07	07:22	5°♉55'10	
opposition	3678 Oct 26	20:54	4°♉29'55	-1°30'04
min. Earth dist.	3678 Oct 26	00:31	4°♉31'20	28.84538 AU
direct	3679 Jan 12	18:31	3°♉06'41	
evening set	3679 Apr 09	07:00	5°♉00'00	
conjunction	3679 Apr 24	21:53	5°♉35'13	-1°25'00
minimum elong	3679 Apr 24	21:53	5°♉35'13	1°25'00
max. Earth dist.	3679 Apr 25	19:23	5°♉37'16	30.84194 AU
morning rise	3679 May 10	16:08	6°♉10'46	
retrograde	3679 Aug 09	21:46	8°♉09'53	
opposition	3679 Oct 29	09:30	6°♉44'37	-1°31'41
min. Earth dist.	3679 Oct 28	12:05	6°♉46'07	28.84049 AU
direct	3680 Jan 15	04:37	5°♉21'24	
evening set	3680 Apr 10	18:46	7°♉14'46	
conjunction	3680 Apr 26	10:02	7°♉50'00	-1°26'27
minimum elong	3680 Apr 26	10:02	7°♉50'00	1°26'27
max. Earth dist.	3680 Apr 27	08:14	7°♉52'06	30.83743 AU
morning rise	3680 May 12	04:42	8°♉25'36	
retrograde	3680 Aug 11	10:09	10°♉24'46	
opposition	3680 Oct 30	22:16	8°♉59'31	-1°33'10
min. Earth dist.	3680 Oct 30	01:34	9°♉00'58	28.83641 AU
direct	3681 Jan 16	14:48	7°♉36'18	
evening set	3681 Apr 13	06:46	9°♉29'43	
conjunction	3681 Apr 28	22:32	10°♉04'59	-1°27'46
minimum elong	3681 Apr 28	22:32	10°♉04'59	1°27'46
max. Earth dist.	3681 Apr 29	21:04	10°♉07'07	30.83373 AU
morning rise	3681 May 14	17:35	10°♉40'37	
retrograde	3681 Aug 14	00:56	12°♉39'50	
opposition	3681 Nov 02	10:45	11°♉14'36	-1°34'31
min. Earth dist.	3681 Nov 01	13:06	11°♉16'07	28.83285 AU
direct	3682 Jan 19	03:44	9°♉51'24	
evening set	3682 Apr 15	19:03	11°♉44'51	
conjunction	3682 May 01	11:07	12°♉20'10	-1°28'57
minimum elong	3682 May 01	11:07	12°♉20'10	1°28'58
max. Earth dist.	3682 May 02	09:08	12°♉22'15	30.83006 AU
morning rise	3682 May 17	06:42	12°♉55'49	
retrograde	3682 Aug 16	14:59	14°♉55'06	
opposition	3682 Nov 04	23:28	13°♉29'52	-1°35'43
min. Earth dist.	3682 Nov 04	02:58	13°♉31'17	28.82911 AU
direct	3683 Jan 21	14:45	12°♉06'39	
evening set	3683 Apr 18	07:19	14°♉00'09	
conjunction	3683 May 03	23:56	14°♉35'30	-1°30'00
minimum elong	3683 May 03	23:56	14°♉35'30	1°30'00
max. Earth dist.	3683 May 04	22:30	14°♉37'38	30.82600 AU
	3683 May 14	19:25	15°♉	
morning rise	3683 May 19	19:47	15°♉11'11	
retrograde	3683 Aug 19	04:50	17°♉10'29	
opposition	3683 Nov 07	11:58	15°♉45'15	-1°36'46
min. Earth dist.	3683 Nov 06	14:47	15°♉46'43	28.82461 AU
	3683 Dec 06	01:10	15°℞♉	
direct	3684 Jan 24	03:49	14°♉22'01	
	3684 Mar 11	15:33	15°♉	
evening set	3684 Apr 19	19:51	16°♉15'33	
conjunction	3684 May 05	12:44	16°♉50'55	-1°30'55
minimum elong	3684 May 05	12:44	16°♉50'55	1°30'55
max. Earth dist.	3684 May 06	10:03	16°♉52'56	30.82106 AU
morning rise	3684 May 21	09:11	17°♉26'38	
retrograde	3684 Aug 20	19:51	19°♉25'56	
min. Earth dist.	3684 Nov 08	04:22	18°♉02'04	28.81929 AU
opposition	3684 Nov 09	00:39	18°♉00'39	-1°37'40
direct	3685 Jan 25	15:44	16°♉37'23	
evening set	3685 Apr 22	08:10	18°♉30'54	
conjunction	3685 May 08	01:43	19°♉06'19	-1°31'42
minimum elong	3685 May 08	01:43	19°♉06'19	1°31'42
max. Earth dist.	3685 May 08	23:54	19°♉08'25	30.81529 AU
morning rise	3685 May 23	22:28	19°♉42'04	
retrograde	3685 Aug 23	09:08	21°♉41'20	
opposition	3685 Nov 11	13:08	20°♉16'00	-1°38'25
min. Earth dist.	3685 Nov 10	16:47	20°♉17'26	28.81309 AU
direct	3686 Jan 28	05:41	18°♉52'41	
evening set	3686 Apr 24	20:47	20°♉46'11	
conjunction	3686 May 10	14:39	21°♉21'38	-1°32'20
minimum elong	3686 May 10	14:39	21°♉21'38	1°32'20
max. Earth dist.	3686 May 11	11:35	21°♉23'36	30.80894 AU
morning rise	3686 May 26	12:00	21°♉57'24	
retrograde	3686 Aug 25	22:28	23°♉56'37	
min. Earth dist.	3686 Nov 13	05:18	22°♉32'39	28.80672 AU
opposition	3686 Nov 14	01:24	22°♉31'14	-1°39'02
direct	3687 Jan 30	17:01	21°♉07'50	
evening set	3687 Apr 27	09:15	23°♉01'20	
conjunction	3687 May 13	03:40	23°♉36'48	-1°32'50
minimum elong	3687 May 13	03:40	23°♉36'48	1°32'50
max. Earth dist.	3687 May 14	01:27	23°♉38'51	30.80257 AU
morning rise	3687 May 29	01:20	24°♉12'36	
retrograde	3687 Aug 28	09:50	26°♉11'46	
opposition	3687 Nov 16	13:43	24°♉46'20	-1°39'29
min. Earth dist.	3687 Nov 15	17:58	24°♉47'43	28.80060 AU
direct	3688 Feb 02	05:27	23°♉22'52	
evening set	3688 Apr 28	21:39	25°♉16'21	
conjunction	3688 May 14	16:29	25°♉51'50	-1°33'11
minimum elong	3688 May 14	16:29	25°♉51'50	1°33'11
max. Earth dist.	3688 May 15	13:40	25°♉53'50	30.79694 AU
morning rise	3688 May 30	14:41	26°♉27'39	
retrograde	3688 Aug 30	00:05	28°♉26'47	
min. Earth dist.	3688 Nov 17	05:27	27°♉02'44	28.79550 AU

opposition	3688 Nov 18 01:55	27°♉01'18	-1°39'47
direct	3689 Feb 03 16:34	25°♉37'45	
evening set	3689 May 01 10:15	27°♉31'15	
conjunction	3689 May 17 05:33	28°♉06'46	-1°33'24
minimum elong	3689 May 17 05:33	28°♉06'46	1°33'25
max. Earth dist.	3689 May 18 03:13	28°♉08'48	30.79233 AU
morning rise	3689 Jun 02 04:09	28°♉42'36	
	3689 Jul 12 04:42	0°♊	
retrograde	3689 Sep 01 11:05	0°♊41'42	
	3689 Oct 24 05:45	30°℞♉	
opposition	3689 Nov 20 14:01	29°♉16'11	-1°39'57
min. Earth dist.	3689 Nov 19 18:24	29°♉17'33	28.79162 AU
direct	3690 Feb 06 03:22	27°♉52'36	
evening set	3690 May 03 22:51	29°♉46'06	
	3690 May 10 04:48	0°♊	
conjunction	3690 May 19 18:42	0°♊21'38	-1°33'29
minimum elong	3690 May 19 18:42	0°♊21'38	1°33'29
max. Earth dist.	3690 May 20 16:29	0°♊23'42	30.78926 AU
morning rise	3690 Jun 04 17:44	0°♊57'30	
retrograde	3690 Sep 04 00:32	2°♊56'33	
min. Earth dist.	3690 Nov 22 05:23	1°♊32'29	28.78926 AU
opposition	3690 Nov 23 02:00	1°♊31'02	-1°39'57
direct	3691 Feb 08 15:38	0°♊07'25	
evening set	3691 May 06 11:31	2°♊00'57	
conjunction	3691 May 22 07:42	2°♊36'31	-1°33'25
minimum elong	3691 May 22 07:42	2°♊36'31	1°33'25
max. Earth dist.	3691 May 23 05:11	2°♊38'33	30.78758 AU
morning rise	3691 Jun 07 07:13	3°♊12'25	
retrograde	3691 Sep 06 13:13	5°♊11'26	
opposition	3691 Nov 25 14:04	3°♊45'56	-1°39'48
min. Earth dist.	3691 Nov 24 18:23	3°♊47'19	28.78843 AU
direct	3692 Feb 11 01:51	2°♊22'17	
evening set	3692 May 08 00:09	4°♊15'53	
conjunction	3692 May 23 20:58	4°♊51'29	-1°33'12
minimum elong	3692 May 23 20:58	4°♊51'29	1°33'12
max. Earth dist.	3692 May 24 19:10	4°♊53'34	30.78757 AU
morning rise	3692 Jun 08 20:49	5°♊27'24	
retrograde	3692 Sep 08 03:06	7°♊26'23	
min. Earth dist.	3692 Nov 26 05:24	6°♊02'23	28.78901 AU
opposition	3692 Nov 27 01:57	6°♊00'56	-1°39'29
direct	3693 Feb 12 14:28	4°♊37'17	
evening set	3693 May 10 13:03	6°♊30'56	
conjunction	3693 May 26 10:13	7°♊06'34	-1°32'50
minimum elong	3693 May 26 10:13	7°♊06'34	1°32'51
max. Earth dist.	3693 May 27 07:22	7°♊08'34	30.78875 AU
morning rise	3693 Jun 11 10:41	7°♊42'31	
retrograde	3693 Sep 10 17:59	9°♊41'30	
opposition	3693 Nov 29 13:58	8°♊16'05	-1°39'01
min. Earth dist.	3693 Nov 28 18:19	8°♊17'28	28.79067 AU
direct	3694 Feb 15 01:49	6°♊52'27	
evening set	3694 May 13 02:02	8°♊46'10	
conjunction	3694 May 28 23:49	9°♊21'51	-1°32'20
minimum elong	3694 May 28 23:49	9°♊21'51	1°32'20
max. Earth dist.	3694 May 29 21:48	9°♊23'55	30.79067 AU
morning rise	3694 Jun 14 00:31	9°♊57'49	
retrograde	3694 Sep 13 07:31	11°♊56'46	
min. Earth dist.	3694 Dec 01 06:10	10°♊32'48	28.79264 AU
opposition	3694 Dec 02 01:44	10°♊31'25	-1°38'24
direct	3695 Feb 17 15:10	9°♊07'48	
evening set	3695 May 15 15:17	11°♊01'35	

conjunction	3695 May 31 13:23	11°♊37'18	-1°31'41
minimum elong	3695 May 31 13:23	11°♊37'18	1°31'42
max. Earth dist.	3695 Jun 01 09:49	11°♊39'13	30.79270 AU
morning rise	3695 Jun 16 14:40	12°♊13'18	
retrograde	3695 Sep 15 21:58	14°♊12'13	
opposition	3695 Dec 04 13:42	12°♊46'56	-1°37'38
min. Earth dist.	3695 Dec 03 18:44	12°♊48'16	28.79455 AU
direct	3696 Feb 20 02:13	11°♊23'18	
evening set	3696 May 17 04:23	13°♊17'09	
conjunction	3696 Jun 02 03:06	13°♊52'53	-1°30'54
minimum elong	3696 Jun 02 03:06	13°♊52'53	1°30'54
max. Earth dist.	3696 Jun 02 23:55	13°♊54'51	30.79422 AU
morning rise	3696 Jun 18 04:39	14°♊28'55	
retrograde	3696 Sep 17 10:50	16°♊27'47	
min. Earth dist.	3696 Dec 05 07:35	15°♊03'49	28.79563 AU
opposition	3696 Dec 06 01:41	15°♊02'32	-1°36'43
direct	3697 Feb 21 14:59	13°♊38'54	
evening set	3697 May 19 17:48	15°♊32'47	
conjunction	3697 Jun 04 16:57	16°♊08'33	-1°29'59
minimum elong	3697 Jun 04 16:57	16°♊08'33	1°29'59
max. Earth dist.	3697 Jun 05 12:14	16°♊10'22	30.79501 AU
morning rise	3697 Jun 20 19:03	16°♊44'36	
retrograde	3697 Sep 20 01:43	18°♊43'23	
opposition	3697 Dec 08 13:25	17°♊18'09	-1°35'40
min. Earth dist.	3697 Dec 07 19:21	17°♊19'26	28.79599 AU
direct	3698 Feb 24 02:31	15°♊54'28	
evening set	3698 May 22 07:13	17°♊48'23	
conjunction	3698 Jun 07 06:53	18°♊24'11	-1°28'55
minimum elong	3698 Jun 07 06:53	18°♊24'11	1°28'55
max. Earth dist.	3698 Jun 08 01:57	18°♊25'58	30.79499 AU
morning rise	3698 Jun 23 09:19	19°♊00'16	
retrograde	3698 Sep 22 12:26	20°♊58'57	
min. Earth dist.	3698 Dec 10 08:38	19°♊34'54	28.79572 AU
opposition	3698 Dec 11 01:15	19°♊33'43	-1°34'27
direct	3699 Feb 26 13:53	18°♊09'59	
evening set	3699 May 24 20:28	20°♊03'54	
conjunction	3699 Jun 09 20:37	20°♊39'43	-1°27'43
minimum elong	3699 Jun 09 20:37	20°♊39'43	1°27'44
max. Earth dist.	3699 Jun 10 15:06	20°♊41'27	30.79474 AU
morning rise	3699 Jun 25 23:27	21°♊15'49	
retrograde	3699 Sep 25 01:16	23°♊14'23	
opposition	3699 Dec 13 12:50	21°♊49'10	-1°33'06
min. Earth dist.	3699 Dec 12 19:44	21°♊50'23	28.79546 AU
direct	3700 Mar 01 02:10	20°♊25'21	
evening set	3700 May 27 09:51	22°♊19'17	
conjunction	3700 Jun 12 10:23	22°♊55'08	-1°26'24
minimum elong	3700 Jun 12 10:24	22°♊55'08	1°26'24
max. Earth dist.	3700 Jun 13 04:12	22°♊56'48	30.79464 AU
morning rise	3700 Jun 28 13:41	23°♊31'14	
retrograde	3700 Sep 27 13:13	25°♊29'43	
min. Earth dist.	3700 Dec 15 08:45	24°♊05'36	28.79572 AU
opposition	3700 Dec 16 00:25	24°♊04'29	-1°31'37
direct	3701 Mar 03 11:51	22°♊40'35	
evening set	3701 May 29 23:07	24°♊34'33	
conjunction	3701 Jun 15 00:17	25°♊10'25	-1°24'56
minimum elong	3701 Jun 15 00:17	25°♊10'25	1°24'57
max. Earth dist.	3701 Jun 15 18:17	25°♊12'06	30.79539 AU
morning rise	3701 Jul 01 03:52	25°♊46'32	
retrograde	3701 Sep 30 01:48	27°♊44'53	
opposition	3701 Dec 18 11:48	26°♊19'40	-1°29'59
min. Earth dist.	3701 Dec 17 19:34	26°♊20'49	28.79687 AU

direct	3702 Mar 06 01:00	24°♊55'42	
evening set	3702 Jun 01 12:37	26°♊49'42	
conjunction	3702 Jun 17 14:03	27°♊25'35	-1°23'21
minimum elong	3702 Jun 17 14:03	27°♊25'35	1°23'20
max. Earth dist.	3702 Jun 18 06:47	27°♊27'09	30.79711 AU
morning rise	3702 Jul 03 18:08	28°♊01'43	
retrograde	3702 Oct 02 14:53	29°♊59'57	
opposition	3702 Dec 20 23:11	28°♊34'45	-1°28'13
min. Earth dist.	3702 Dec 20 07:55	28°♊35'49	28.79932 AU
direct	3703 Mar 08 12:22	27°♊10'43	
evening set	3703 Jun 04 01:55	29°♊04'45	
conjunction	3703 Jun 20 03:58	29°♊40'39	-1°21'38
minimum elong	3703 Jun 20 03:59	29°♊40'39	1°21'39
max. Earth dist.	3703 Jun 20 21:29	29°♊42'18	30.80030 AU
	3703 Jun 28 18:22	0°♋	
morning rise	3703 Jul 06 08:14	0°♋16'48	
retrograde	3703 Oct 05 03:27	2°♋14'55	
opposition	3703 Dec 23 10:31	0°♋49'45	-1°26'19
min. Earth dist.	3703 Dec 22 19:06	0°♋50'51	28.80316 AU
	3704 Jan 23 18:30	30°℞♊	
direct	3704 Mar 10 01:32	29°♊25'42	
	3704 Apr 24 08:07	0°♋	
evening set	3704 Jun 05 15:18	1°♋19'45	
conjunction	3704 Jun 21 17:39	1°♋55'41	-1°19'48
minimum elong	3704 Jun 21 17:40	1°♋55'41	1°19'47
max. Earth dist.	3704 Jun 22 09:48	1°♋57'12	30.80499 AU
morning rise	3704 Jul 07 22:28	2°♋31'51	
retrograde	3704 Oct 06 17:42	4°♋29'52	
opposition	3704 Dec 24 21:54	3°♋04'44	-1°24'17
min. Earth dist.	3704 Dec 24 06:53	3°♋05'48	28.80857 AU
direct	3705 Mar 12 12:34	1°♋40'40	
evening set	3705 Jun 08 04:48	3°♋34'46	
conjunction	3705 Jun 24 07:45	4°♋10'44	-1°17'50
minimum elong	3705 Jun 24 07:45	4°♋10'44	1°17'51
max. Earth dist.	3705 Jun 25 00:32	4°♋12'18	30.81103 AU
morning rise	3705 Jul 10 12:44	4°♋46'54	
retrograde	3705 Oct 09 06:52	6°♋44'49	
opposition	3705 Dec 27 09:06	5°♋19'45	-1°22'07
min. Earth dist.	3705 Dec 26 18:51	5°♋20'46	28.81508 AU
direct	3706 Mar 15 01:52	3°♋55'41	
evening set	3706 Jun 10 18:30	5°♋49'51	
conjunction	3706 Jun 26 21:45	6°♋25'50	-1°15'45
minimum elong	3706 Jun 26 21:45	6°♋25'50	1°15'45
max. Earth dist.	3706 Jun 27 13:03	6°♋27'16	30.81811 AU
morning rise	3706 Jul 13 03:11	7°♋02'01	
retrograde	3706 Oct 11 21:14	8°♋59'50	
opposition	3706 Dec 29 20:20	7°♋34'51	-1°19'49
min. Earth dist.	3706 Dec 29 06:03	7°♋35'52	28.82240 AU
direct	3707 Mar 17 13:50	6°♋10'46	
evening set	3707 Jun 13 08:07	8°♋05'00	
conjunction	3707 Jun 29 11:47	8°♋41'01	-1°13'33
minimum elong	3707 Jun 29 11:47	8°♋41'01	1°13'33
max. Earth dist.	3707 Jun 30 03:01	8°♋42'26	30.82546 AU
morning rise	3707 Jul 15 17:24	9°♋17'13	
retrograde	3707 Oct 14 08:53	11°♋14'56	
opposition	3708 Jan 01 07:41	9°♋50'02	-1°17'24
min. Earth dist.	3707 Dec 31 18:59	9°♋50'56	28.82967 AU
direct	3708 Mar 19 01:15	8°♋25'58	
evening set	3708 Jun 14 21:58	10°♋20'15	
conjunction	3708 Jul 01 02:02	10°♋56'16	-1°11'13
minimum elong	3708 Jul 01 02:03	10°♋56'16	1°11'13
max. Earth dist.	3708 Jul 01 16:06	10°♋57'35	30.83261 AU
morning rise	3708 Jul 17 07:58	11°♋32'29	
retrograde	3708 Oct 15 22:43	13°♋30'05	
opposition	3709 Jan 02 18:47	12°♋05'16	-1°14'52
min. Earth dist.	3709 Jan 02 06:05	12°♋06'10	28.83638 AU
direct	3709 Mar 21 13:19	10°♋41'10	
evening set	3709 Jun 17 11:57	12°♋35'30	
conjunction	3709 Jul 03 16:22	13°♋11'33	-1°08'48
minimum elong	3709 Jul 03 16:22	13°♋11'33	1°08'49
max. Earth dist.	3709 Jul 04 05:13	13°♋12'45	30.83880 AU
morning rise	3709 Jul 19 22:35	13°♋47'46	
retrograde	3709 Oct 18 10:36	15°♋45'15	
opposition	3710 Jan 05 06:06	14°♋20'29	-1°12'13
min. Earth dist.	3710 Jan 04 19:20	14°♋21'15	28.84207 AU
direct	3710 Mar 23 23:20	12°♋56'20	
evening set	3710 Jun 20 01:50	14°♋50'43	
conjunction	3710 Jul 06 06:44	15°♋26'46	-1°06'16
minimum elong	3710 Jul 06 06:44	15°♋26'46	1°06'16
max. Earth dist.	3710 Jul 06 18:58	15°♋27'55	30.84406 AU
morning rise	3710 Jul 22 13:07	16°♋03'00	
retrograde	3710 Oct 20 22:29	18°♋00'19	
opposition	3711 Jan 07 17:07	16°♋35'37	-1°09'27
min. Earth dist.	3711 Jan 07 06:20	16°♋36'23	28.84676 AU
direct	3711 Mar 26 12:34	15°♋11'24	
evening set	3711 Jun 22 15:49	17°♋05'49	
conjunction	3711 Jul 08 20:54	17°♋41'53	-1°03'39
minimum elong	3711 Jul 08 20:55	17°♋41'53	1°03'39
max. Earth dist.	3711 Jul 09 07:21	17°♋42'52	30.84846 AU
morning rise	3711 Jul 25 03:39	18°♋18'07	
retrograde	3711 Oct 23 10:34	20°♋15'18	
opposition	3712 Jan 10 04:14	18°♋50'37	-1°06'36
min. Earth dist.	3712 Jan 09 18:55	18°♋51'16	28.85098 AU
direct	3712 Mar 27 23:30	17°♋26'20	
evening set	3712 Jun 24 05:30	19°♋20'46	
conjunction	3712 Jul 10 11:08	19°♋56'51	-1°00'56
minimum elong	3712 Jul 10 11:08	19°♋56'51	1°00'55
max. Earth dist.	3712 Jul 10 21:46	19°♋57'51	30.85260 AU
morning rise	3712 Jul 26 17:58	20°♋33'05	
retrograde	3712 Oct 24 22:26	22°♋30'07	
opposition	3713 Jan 11 15:10	21°♋05'27	-1°03'39
min. Earth dist.	3713 Jan 11 06:14	21°♋06'05	28.85496 AU
direct	3713 Mar 30 12:34	19°♋41'06	
evening set	3713 Jun 26 19:30	21°♋35'35	
conjunction	3713 Jul 13 01:17	22°♋11'40	-0°58'07
minimum elong	3713 Jul 13 01:17	22°♋11'40	0°58'08
max. Earth dist.	3713 Jul 13 10:01	22°♋12'29	30.85678 AU
morning rise	3713 Jul 29 08:29	22°♋47'54	
retrograde	3713 Oct 27 11:44	24°♋44'46	
opposition	3714 Jan 14 01:57	23°♋20'08	-1°00'36
min. Earth dist.	3714 Jan 13 17:49	23°♋20'43	28.85939 AU
direct	3714 Apr 01 23:51	21°♋55'43	
evening set	3714 Jun 29 09:17	23°♋50'14	
conjunction	3714 Jul 15 15:31	24°♋26'20	-0°55'14
minimum elong	3714 Jul 15 15:31	24°♋26'20	0°55'13
max. Earth dist.	3714 Jul 16 00:41	24°♋27'11	30.86150 AU
morning rise	3714 Jul 31 22:42	25°♋02'33	
retrograde	3714 Oct 30 00:07	26°♋59'17	
opposition	3715 Jan 16 12:48	25°♋34'40	-0°57'28
min. Earth dist.	3715 Jan 16 05:29	25°♋35'12	28.86450 AU
direct	3715 Apr 04 13:38	24°♋10'12	

evening set	3715 Jul	01	22:58	26°♋04'45	
conjunction	3715 Jul	18	05:20	26°♋40'52	-0°52'15
minimum elong	3715 Jul	18	05:21	26°♋40'52	0°52'16
max. Earth dist.	3715 Jul	18	12:58	26°♋41'34	30.86725 AU
morning rise	3715 Aug	03	12:50	27°♋17'05	
retrograde	3715 Nov	01	13:27	29°♋13'40	
opposition	3716 Jan	18	23:32	27°♋49'06	-0°54'14
min. Earth dist.	3716 Jan	18	16:03	27°♋49'38	28.87086 AU
direct	3716 Apr	06	02:03	26°♋24'35	
evening set	3716 Jul	03	12:43	28°♋19'11	
conjunction	3716 Jul	19	19:26	28°♋55'19	-0°49'13
minimum elong	3716 Jul	19	19:27	28°♋55'19	0°49'13
max. Earth dist.	3716 Jul	20	03:11	28°♋56'02	30.87422 AU
morning rise	3716 Aug	05	02:57	29°♋31'31	
	3716 Aug	18	14:24	0°♌	
retrograde	3716 Nov	03	00:58	1°♌27'58	
opposition	3717 Jan	20	10:14	0°♌03'28	-0°50'56
min. Earth dist.	3717 Jan	20	04:04	0°♌03'55	28.87852 AU
	3717 Jan	22	11:15	30°℞♋	
direct	3717 Apr	08	13:42	28°♋38'56	
	3717 Jun	20	01:44	0°♌	
evening set	3717 Jul	06	02:33	0°♌33'35	
conjunction	3717 Jul	22	09:30	1°♌09'43	-0°46'05
minimum elong	3717 Jul	22	09:30	1°♌09'43	0°46'06
max. Earth dist.	3717 Jul	22	16:15	1°♌10'21	30.88270 AU
morning rise	3717 Aug	07	17:12	1°♌45'56	
retrograde	3717 Nov	05	14:56	3°♌42'14	
opposition	3718 Jan	22	20:50	2°♌17'50	-0°47'34
min. Earth dist.	3718 Jan	22	14:18	2°♌18'18	28.88754 AU
direct	3718 Apr	11	01:57	0°♌53'17	
evening set	3718 Jul	08	16:23	2°♌48'00	
conjunction	3718 Jul	24	23:30	3°♌24'09	-0°42'53
minimum elong	3718 Jul	24	23:30	3°♌24'09	0°42'53
max. Earth dist.	3718 Jul	25	05:39	3°♌24'43	30.89223 AU
morning rise	3718 Aug	10	07:14	4°♌00'21	
retrograde	3718 Nov	08	02:15	5°♌56'32	
opposition	3719 Jan	25	07:32	4°♌32'14	-0°44'06
min. Earth dist.	3719 Jan	25	02:38	4°♌32'35	28.89754 AU
direct	3719 Apr	13	11:40	3°♌07'42	
evening set	3719 Jul	11	06:11	5°♌02'29	
conjunction	3719 Jul	27	13:35	5°♌38'37	-0°39'38
minimum elong	3719 Jul	27	13:35	5°♌38'37	0°39'38
max. Earth dist.	3719 Jul	27	19:19	5°♌39'09	30.90264 AU
morning rise	3719 Aug	12	21:21	6°♌14'50	
retrograde	3719 Nov	10	13:33	8°♌10'54	
opposition	3720 Jan	27	18:04	6°♌46'42	-0°40'35
min. Earth dist.	3720 Jan	27	13:05	6°♌47'03	28.90797 AU
direct	3720 Apr	15	00:26	5°♌22'10	
evening set	3720 Jul	12	20:10	7°♌17'01	
conjunction	3720 Jul	29	03:38	7°♌53'10	-0°36'18
minimum elong	3720 Jul	29	03:38	7°♌53'10	0°36'18
max. Earth dist.	3720 Jul	29	07:38	7°♌53'32	30.91299 AU
morning rise	3720 Aug	14	11:32	8°♌29'22	
retrograde	3720 Nov	12	01:13	10°♌25'19	
opposition	3721 Jan	29	04:49	9°♌01'12	-0°37'00
min. Earth dist.	3721 Jan	29	01:25	9°♌01'27	28.91814 AU
direct	3721 Apr	17	10:20	7°♌36'39	
evening set	3721 Jul	15	10:11	9°♌31'34	
conjunction	3721 Jul	31	17:56	10°♌07'43	-0°32'56
minimum elong	3721 Jul	31	17:56	10°♌07'43	0°32'56
max. Earth dist.	3721 Jul	31	21:41	10°♌08'04	30.92278 AU
morning rise	3721 Aug	17	01:42	10°♌43'54	
retrograde	3721 Nov	14	12:31	12°♌39'42	
opposition	3722 Jan	31	15:22	11°♌15'41	-0°33'22
min. Earth dist.	3722 Jan	31	12:39	11°♌15'52	28.92737 AU
direct	3722 Apr	19	22:27	9°♌51'05	
evening set	3722 Jul	18	00:19	11°♌46'03	
conjunction	3722 Aug	03	08:01	12°♌22'11	-0°29'31
minimum elong	3722 Aug	03	08:01	12°♌22'11	0°29'31
max. Earth dist.	3722 Aug	03	09:32	12°♌22'20	30.93159 AU
morning rise	3722 Aug	19	15:55	12°♌58'22	
retrograde	3722 Nov	17	00:42	14°♌54'01	
opposition	3723 Feb	03	02:03	13°♌30'02	-0°29'42
min. Earth dist.	3723 Feb	03	00:21	13°♌30'10	28.93577 AU
direct	3723 Apr	22	09:52	12°♌05'24	
evening set	3723 Jul	20	14:02	14°♌00'23	
conjunction	3723 Aug	05	22:01	14°♌36'31	-0°26'03
minimum elong	3723 Aug	05	22:01	14°♌36'31	0°26'04
max. Earth dist.	3723 Aug	05	23:37	14°♌36'40	30.93951 AU
	3723 Aug	16	11:02	15°♌	
morning rise	3723 Aug	22	05:43	15°♌12'40	
retrograde	3723 Nov	19	11:42	17°♌08'10	
opposition	3724 Feb	05	12:39	15°♌44'13	-0°25'59
min. Earth dist.	3724 Feb	05	12:11	15°♌44'15	28.94325 AU
	3724 Mar	03	21:53	15°℞♌	
direct	3724 Apr	23	23:33	14°♌19'31	
	3724 Jun	13	01:24	15°♌	
evening set	3724 Jul	22	04:01	16°♌14'32	
conjunction	3724 Aug	07	11:57	16°♌50'39	-0°22'34
minimum elong	3724 Aug	07	11:57	16°♌50'39	0°22'34
max. Earth dist.	3724 Aug	07	11:27	16°♌50'36	30.94683 AU
morning rise	3724 Aug	23	19:47	17°♌26'46	
retrograde	3724 Nov	21	00:23	19°♌22'06	
opposition	3725 Feb	06	22:58	17°♌58'11	-0°22'14
min. Earth dist.	3725 Feb	06	22:46	17°♌58'11	28.95037 AU
direct	3725 Apr	26	11:57	16°♌33'24	
evening set	3725 Jul	24	17:53	18°♌28'26	
conjunction	3725 Aug	10	01:59	19°♌04'33	-0°19'03
minimum elong	3725 Aug	10	01:59	19°♌04'33	0°19'04
max. Earth dist.	3725 Aug	10	01:18	19°♌04'29	30.95381 AU
morning rise	3725 Aug	26	09:35	19°♌40'39	
retrograde	3725 Nov	23	11:32	21°♌35'48	
opposition	3726 Feb	09	09:27	20°♌11'54	-0°18'27
min. Earth dist.	3726 Feb	09	10:53	20°♌11'48	28.95738 AU
direct	3726 Apr	29	00:25	18°♌47'03	
evening set	3726 Jul	27	07:36	20°♌42'06	
conjunction	3726 Aug	12	15:38	21°♌18'12	-0°15'31
minimum elong	3726 Aug	12	15:38	21°♌18'12	0°15'30
behind sun begin	3726 Aug	12	14:26	21°♌18'05	
behind sun end	3726 Aug	12	16:51	21°♌18'18	
max. Earth dist.	3726 Aug	12	13:42	21°♌18'01	30.96105 AU
morning rise	3726 Aug	28	23:13	21°♌54'16	
retrograde	3726 Nov	26	00:35	23°♌49'15	
opposition	3727 Feb	11	19:42	22°♌25'22	-0°14'39
min. Earth dist.	3727 Feb	11	20:50	22°♌25'17	28.96487 AU
direct	3727 May	01	13:45	21°♌00'28	
evening set	3727 Jul	29	21:18	22°♌55'32	
conjunction	3727 Aug	15	05:21	23°♌31'37	-0°11'57
minimum elong	3727 Aug	15	05:20	23°♌31'37	0°11'58
behind sun begin	3727 Aug	15	00:53	23°♌31'13	
behind sun end	3727 Aug	15	09:47	23°♌32'01	

max. Earth dist.	3727 Aug 15	02:53	23°♌31'24	30.96888 AU
morning rise	3727 Aug 31	12:44	24°♌07'39	
retrograde	3727 Nov 28	11:02	26°♌02'29	
opposition	3728 Feb 14	06:02	24°♌38'38	-0°10'50
min. Earth dist.	3728 Feb 14	08:43	24°♌38'27	28.97329 AU
direct	3728 May 03	00:36	23°♌13'41	
evening set	3728 Jul 31	10:52	25°♌08'46	
conjunction	3728 Aug 16	18:57	25°♌44'51	-0°08'23
minimum elong	3728 Aug 16	18:58	25°♌44'51	0°08'23
behind sun begin	3728 Aug 16	13:12	25°♌44'20	
behind sun end	3728 Aug 17	00:44	25°♌45'22	
max. Earth dist.	3728 Aug 16	16:10	25°♌44'37	30.97793 AU
morning rise	3728 Sep 02	02:13	26°♌20'52	
retrograde	3728 Nov 29	22:04	28°♌15'32	
opposition	3729 Feb 15	16:15	26°♌51'45	-0°07'00
min. Earth dist.	3729 Feb 15	18:32	26°♌51'36	28.98289 AU
direct	3729 May 05	13:28	25°♌26'46	
evening set	3729 Aug 03	00:36	27°♌21'54	
conjunction	3729 Aug 19	08:32	27°♌57'58	-0°04'49
minimum elong	3729 Aug 19	08:31	27°♌57'58	0°04'50
behind sun begin	3729 Aug 19	02:05	27°♌57'24	
behind sun end	3729 Aug 19	14:58	27°♌58'32	
max. Earth dist.	3729 Aug 19	04:28	27°♌57'38	30.98818 AU
morning rise	3729 Sep 04	15:38	28°♌33'58	
	3729 Oct 21	20:22	0°♍	
retrograde	3729 Dec 02	09:05	0°♍28'30	
	3730 Jan 13	12:37	30°℞♌	
opposition	3730 Feb 18	02:31	29°♌04'48	-0°03'10
min. Earth dist.	3730 Feb 18	05:53	29°♌04'34	28.99393 AU
direct	3730 May 07	23:07	27°♌39'49	
evening set	3730 Aug 05	14:07	29°♌35'00	
	3730 Aug 16	22:59	0°♍	
conjunction	3730 Aug 21	22:05	0°♍11'03	-0°01'12
minimum elong	3730 Aug 21	22:07	0°♍11'03	0°01'11
behind sun begin	3730 Aug 21	15:31	0°♍10'28	
behind sun end	3730 Aug 22	04:43	0°♍11'38	
max. Earth dist.	3730 Aug 21	18:22	0°♍10'45	30.99992 AU
morning rise	3730 Sep 07	04:54	0°♍47'01	
retrograde	3730 Dec 04	19:33	2°♍41'27	
asc. node	3730 Dec 17	13:07	2°♍38'43	
opposition	3731 Feb 20	12:48	1°♍17'51	0°00'41
min. Earth dist.	3731 Feb 20	16:20	1°♍17'36	29.00616 AU
	3731 Apr 19	16:45	30°℞♌	
direct	3731 May 10	10:36	29°♌52'53	
	3731 May 31	02:56	0°♍	
evening set	3731 Aug 08	03:39	1°♍48'09	
conjunction	3731 Aug 24	11:24	2°♍24'11	0°02'31
minimum elong	3731 Aug 24	11:24	2°♍24'11	0°02'30
behind sun begin	3731 Aug 24	04:48	2°♍23'36	
behind sun end	3731 Aug 24	17:59	2°♍24'46	
max. Earth dist.	3731 Aug 24	06:00	2°♍23'43	31.01266 AU
morning rise	3731 Sep 09	18:08	3°♍00'08	
retrograde	3731 Dec 07	07:03	4°♍54'28	
opposition	3732 Feb 22	23:04	3°♍30'59	0°04'32
min. Earth dist.	3732 Feb 23	03:19	3°♍30'41	29.01924 AU
direct	3732 May 11	21:11	2°♍06'03	
evening set	3732 Aug 09	17:15	4°♍01'23	
conjunction	3732 Aug 26	01:03	4°♍37'24	0°06'06
minimum elong	3732 Aug 26	01:03	4°♍37'24	0°06'07
behind sun begin	3732 Aug 25	18:47	4°♍36'51	
behind sun end	3732 Aug 26	07:18	4°♍37'58	
max. Earth dist.	3732 Aug 25	19:57	4°♍36'58	31.02577 AU
morning rise	3732 Sep 11	07:22	5°♍13'20	
retrograde	3732 Dec 08	17:33	7°♍07'35	
opposition	3733 Feb 24	09:17	5°♍44'12	0°08'22
min. Earth dist.	3733 Feb 24	14:49	5°♍43'49	29.03221 AU
direct	3733 May 14	09:40	4°♍19'17	
evening set	3733 Aug 12	07:04	6°♍14'43	
conjunction	3733 Aug 28	14:33	6°♍50'43	0°09'40
minimum elong	3733 Aug 28	14:33	6°♍50'43	0°09'40
behind sun begin	3733 Aug 28	09:09	6°♍50'14	
behind sun end	3733 Aug 28	19:56	6°♍51'11	
max. Earth dist.	3733 Aug 28	07:21	6°♍50'04	31.03854 AU
morning rise	3733 Sep 13	20:44	7°♍26'36	
retrograde	3733 Dec 11	06:12	9°♍20'46	
opposition	3734 Feb 26	19:36	7°♍57'29	0°12'11
min. Earth dist.	3734 Feb 27	01:20	7°♍57'05	29.04466 AU
direct	3734 May 16	21:10	6°♍32'35	
evening set	3734 Aug 14	20:36	8°♍28'04	
conjunction	3734 Aug 31	04:00	9°♍04'03	0°13'14
minimum elong	3734 Aug 31	04:00	9°♍04'03	0°13'14
behind sun begin	3734 Aug 31	00:17	9°♍03'43	
behind sun end	3734 Aug 31	07:43	9°♍04'23	
max. Earth dist.	3734 Aug 30	20:36	9°♍03'23	31.05039 AU
morning rise	3734 Sep 16	09:43	9°♍39'54	
retrograde	3734 Dec 13	17:18	11°♍33'58	
opposition	3735 Mar 01	06:04	10°♍10'46	0°15'59
min. Earth dist.	3735 Mar 01	13:34	10°♍10'14	29.05604 AU
direct	3735 May 19	09:39	8°♍45'52	
evening set	3735 Aug 17	10:15	10°♍41'24	
conjunction	3735 Sep 02	17:23	11°♍17'21	0°16'46
minimum elong	3735 Sep 02	17:23	11°♍17'21	0°16'46
max. Earth dist.	3735 Sep 02	08:19	11°♍16'31	31.06131 AU
morning rise	3735 Sep 18	22:55	11°♍53'10	
retrograde	3735 Dec 16	06:26	13°♍47'06	
opposition	3736 Mar 02	16:14	12°♍23'58	0°19'46
min. Earth dist.	3736 Mar 02	23:44	12°♍23'26	29.06642 AU
direct	3736 May 20	23:23	10°♍59'03	
evening set	3736 Aug 18	23:50	12°♍54'37	
conjunction	3736 Sep 04	06:48	13°♍30'33	0°20'17
minimum elong	3736 Sep 04	06:48	13°♍30'33	0°20'17
max. Earth dist.	3736 Sep 03	20:55	13°♍29'38	31.07114 AU
morning rise	3736 Sep 20	11:57	14°♍06'20	
retrograde	3736 Dec 17	16:46	16°♍00'08	
opposition	3737 Mar 05	02:38	14°♍37'02	0°23'30
min. Earth dist.	3737 Mar 05	12:01	14°♍36'23	29.07589 AU
direct	3737 May 23	11:01	13°♍12'05	
evening set	3737 Aug 21	13:18	15°♍07'41	
conjunction	3737 Sep 06	20:03	15°♍43'35	0°23'46
minimum elong	3737 Sep 06	20:03	15°♍43'35	0°23'46
max. Earth dist.	3737 Sep 06	09:27	15°♍42'36	31.08028 AU
morning rise	3737 Sep 23	00:51	16°♍19'19	
retrograde	3737 Dec 20	03:42	18°♍12'59	
opposition	3738 Mar 07	12:48	16°♍49'56	0°27'12
min. Earth dist.	3738 Mar 07	22:07	16°♍49'17	29.08470 AU
direct	3738 May 26	00:17	15°♍24'56	
evening set	3738 Aug 24	02:43	17°♍20'32	
conjunction	3738 Sep 09	09:07	17°♍56'25	0°27'12
minimum elong	3738 Sep 09	09:07	17°♍56'25	0°27'13
max. Earth dist.	3738 Sep 08	21:09	17°♍55'19	31.08893 AU
morning rise	3738 Sep 25	13:35	18°♍32'07	
retrograde	3738 Dec 22	14:49	20°♍25'38	
opposition	3739 Mar 09	23:04	19°♍02'37	0°30'51

min. Earth dist.	3739 Mar 10 09:34	19°♑01'52	29.09347 AU
direct	3739 May 28 10:40	17°♑37'35	
evening set	3739 Aug 26 15:44	19°♑33'10	
conjunction	3739 Sep 11 22:00	20°♑09'01	0°30'36
minimum elong	3739 Sep 11 22:00	20°♑09'01	0°30'36
max. Earth dist.	3739 Sep 11 10:16	20°♑07'56	31.09775 AU
morning rise	3739 Sep 28 02:01	20°♑44'41	
retrograde	3739 Dec 24 23:53	22°♑38'04	
opposition	3740 Mar 11 09:17	21°♑15'04	0°34'28
min. Earth dist.	3740 Mar 11 20:04	21°♑14'19	29.10241 AU
direct	3740 May 29 23:01	19°♑50'00	
evening set	3740 Aug 28 05:00	21°♑45'36	
conjunction	3740 Sep 13 10:48	22°♑21'24	0°33'57
minimum elong	3740 Sep 13 10:48	22°♑21'24	0°33'57
max. Earth dist.	3740 Sep 12 21:30	22°♑20'10	31.10699 AU
morning rise	3740 Sep 29 14:32	22°♑57'02	
retrograde	3740 Dec 26 09:47	24°♑50'17	
opposition	3741 Mar 13 19:22	23°♑27'20	0°38'01
min. Earth dist.	3741 Mar 14 06:33	23°♑26'33	29.11218 AU
direct	3741 Jun 01 09:44	22°♑02'13	
evening set	3741 Aug 30 18:01	23°♑57'50	
conjunction	3741 Sep 15 23:39	24°♑33'37	0°37'15
minimum elong	3741 Sep 15 23:39	24°♑33'37	0°37'14
max. Earth dist.	3741 Sep 15 11:04	24°♑32'27	31.11717 AU
morning rise	3741 Oct 02 02:47	25°♑09'11	
retrograde	3741 Dec 28 18:43	27°♑02'20	
opposition	3742 Mar 16 05:40	25°♑39'26	0°41'31
min. Earth dist.	3742 Mar 16 17:37	25°♑38'35	29.12290 AU
direct	3742 Jun 03 21:21	24°♑14'19	
evening set	3742 Sep 02 06:59	26°♑09'57	
conjunction	3742 Sep 18 12:06	26°♑45'41	0°40'29
minimum elong	3742 Sep 18 12:06	26°♑45'41	0°40'29
max. Earth dist.	3742 Sep 17 22:07	26°♑44'24	31.12852 AU
morning rise	3742 Oct 04 14:58	27°♑21'14	
retrograde	3742 Dec 31 06:23	29°♑14'17	
opposition	3743 Mar 18 15:51	27°♑51'27	0°44'57
min. Earth dist.	3743 Mar 19 03:21	27°♑50'39	29.13484 AU
direct	3743 Jun 06 08:03	26°♑26'21	
evening set	3743 Sep 04 19:54	28°♑22'02	
max. Earth dist.	3743 Sep 20 11:14	28°♑56'29	31.14083 AU
conjunction	3743 Sep 21 00:48	28°♑57'44	0°43'40
minimum elong	3743 Sep 21 00:47	28°♑57'44	0°43'40
morning rise	3743 Oct 07 03:03	29°♑33'14	
	3743 Oct 19 20:29	0°♎	
retrograde	3744 Jan 02 16:20	1°♎26'13	
opposition	3744 Mar 20 02:03	0°♎03'27	0°48'19
min. Earth dist.	3744 Mar 20 14:59	0°♎02'33	29.14749 AU
	3744 Mar 22 03:25	30°℞♑	
direct	3744 Jun 07 20:10	28°♑38'23	
	3744 Aug 20 22:50	0°♎	
evening set	3744 Sep 06 08:57	0°♎34'07	
conjunction	3744 Sep 22 13:23	1°♎09'47	0°46'47
minimum elong	3744 Sep 22 13:23	1°♎09'47	0°46'48
max. Earth dist.	3744 Sep 21 22:35	1°♎08'25	31.15368 AU
morning rise	3744 Oct 08 15:19	1°♎45'15	
retrograde	3745 Jan 04 04:42	3°♎38'10	
opposition	3745 Mar 22 12:17	2°♎15'30	0°51'36
min. Earth dist.	3745 Mar 23 00:53	2°♎14'37	29.16027 AU
direct	3745 Jun 10 09:22	0°♎50'27	
evening set	3745 Sep 08 21:56	2°♎46'15	
max. Earth dist.	3745 Sep 24 10:46	3°♎20'29	31.16612 AU
conjunction	3745 Sep 25 01:59	3°♎21'53	0°49'50
minimum elong	3745 Sep 25 01:58	3°♎21'53	0°49'51
morning rise	3745 Oct 11 03:19	3°♎57'18	
retrograde	3746 Jan 06 15:08	5°♎50'10	
opposition	3746 Mar 24 22:42	4°♎27'34	0°54'49
min. Earth dist.	3746 Mar 25 13:01	4°♎26'34	29.17247 AU
direct	3746 Jun 12 20:40	3°♎02'34	
evening set	3746 Sep 11 10:53	4°♎58'24	
conjunction	3746 Sep 27 14:31	5°♎34'00	0°52'49
minimum elong	3746 Sep 27 14:31	5°♎34'00	0°52'49
max. Earth dist.	3746 Sep 26 22:41	5°♎32'32	31.17783 AU
morning rise	3746 Oct 13 15:23	6°♎09'23	
retrograde	3747 Jan 09 02:28	8°♎02'09	
opposition	3747 Mar 27 09:03	6°♎39'39	0°57'57
min. Earth dist.	3747 Mar 27 23:18	6°♎38'39	29.18359 AU
direct	3747 Jun 15 09:56	5°♎14'40	
evening set	3747 Sep 13 23:45	7°♎10'32	
max. Earth dist.	3747 Sep 29 09:41	7°♎44'30	31.18824 AU
conjunction	3747 Sep 30 02:55	7°♎46'06	0°55'42
minimum elong	3747 Sep 30 02:54	7°♎46'06	0°55'42
morning rise	3747 Oct 16 03:20	8°♎21'26	
retrograde	3748 Jan 11 13:49	10°♎14'08	
opposition	3748 Mar 28 19:32	8°♎51'41	1°01'00
min. Earth dist.	3748 Mar 29 11:02	8°♎50'36	29.19344 AU
direct	3748 Jun 16 20:56	7°♎26'42	
evening set	3748 Sep 15 12:34	9°♎22'35	
conjunction	3748 Oct 01 15:25	9°♎58'07	0°58'31
minimum elong	3748 Oct 01 15:25	9°♎58'07	0°58'31
max. Earth dist.	3748 Sep 30 22:07	9°♎56'31	31.19734 AU
morning rise	3748 Oct 17 15:14	10°♎33'25	
retrograde	3749 Jan 12 22:52	12°♎26'02	
opposition	3749 Mar 31 05:54	11°♎03'38	1°03'57
min. Earth dist.	3749 Mar 31 21:59	11°♎02'30	29.20181 AU
direct	3749 Jun 19 09:46	9°♎38'38	
evening set	3749 Sep 18 01:26	11°♎34'32	
max. Earth dist.	3749 Oct 03 08:36	12°♎08'16	31.20511 AU
conjunction	3749 Oct 04 03:40	12°♎10'02	1°01'14
minimum elong	3749 Oct 04 03:40	12°♎10'02	1°01'14
morning rise	3749 Oct 20 03:05	12°♎45'17	
retrograde	3750 Jan 15 08:55	14°♎37'49	
opposition	3750 Apr 02 16:21	13°♎15'26	1°06'49
min. Earth dist.	3750 Apr 03 08:56	13°♎14'17	29.20916 AU
direct	3750 Jun 21 20:32	11°♎50'26	
evening set	3750 Sep 20 13:49	13°♎46'20	
conjunction	3750 Oct 06 15:46	14°♎21'47	1°03'52
minimum elong	3750 Oct 06 15:45	14°♎21'47	1°03'52
max. Earth dist.	3750 Oct 05 21:17	14°♎20'05	31.21194 AU
morning rise	3750 Oct 22 14:30	14°♎57'00	
retrograde	3751 Jan 17 17:19	16°♎49'27	
opposition	3751 Apr 05 02:50	15°♎27'06	1°09'34
min. Earth dist.	3751 Apr 05 20:26	15°♎25'52	29.21562 AU
direct	3751 Jun 24 08:05	14°♎02'04	
evening set	3751 Sep 23 02:21	15°♎57'57	
max. Earth dist.	3751 Oct 08 07:41	16°♎31'31	31.21820 AU
conjunction	3751 Oct 09 03:40	16°♎33'22	1°06'24
minimum elong	3751 Oct 09 03:40	16°♎33'22	1°06'24
morning rise	3751 Oct 25 02:05	17°♎08'32	
retrograde	3752 Jan 20 04:12	19°♎00'55	
opposition	3752 Apr 06 13:01	17°♎38'34	1°12'14
min. Earth dist.	3752 Apr 07 06:16	17°♎37'22	29.22185 AU
direct	3752 Jun 25 18:42	16°♎13'30	

evening set	3752 Sep	24	14:39	18°♎09'24	
conjunction	3752 Oct	10	15:39	18°♎44'46	1°08'50
minimum elong	3752 Oct	10	15:38	18°♎44'46	1°08'50
max. Earth dist.	3752 Oct	09	20:10	18°♎42'58	31.22435 AU
morning rise	3752 Oct	26	13:22	19°♎19'54	
retrograde	3753 Jan	21	13:20	21°♎12'12	
opposition	3753 Apr	08	23:31	19°♎49'52	1°14'46
min. Earth dist.	3753 Apr	09	17:58	19°♎48'35	29.22823 AU
direct	3753 Jun	28	07:06	18°♎24'47	
evening set	3753 Sep	27	02:50	20°♎20'40	
max. Earth dist.	3753 Oct	12	07:00	20°♎54'08	31.23104 AU
conjunction	3753 Oct	13	03:13	20°♎56'00	1°11'10
minimum elong	3753 Oct	13	03:12	20°♎56'00	1°11'10
morning rise	3753 Oct	29	00:30	21°♎31'05	
retrograde	3754 Jan	24	00:39	23°♎23'20	
opposition	3754 Apr	11	09:53	22°♎01'00	1°17'13
min. Earth dist.	3754 Apr	12	03:25	21°♎59'47	29.23535 AU
direct	3754 Jun	30	20:04	20°♎35'56	
evening set	3754 Sep	29	14:55	22°♎31'50	
conjunction	3754 Oct	15	14:50	23°♎07'07	1°13'24
minimum elong	3754 Oct	15	14:50	23°♎07'07	1°13'24
max. Earth dist.	3754 Oct	14	18:49	23°♎05'16	31.23859 AU
morning rise	3754 Oct	31	11:30	23°♎42'10	
retrograde	3755 Jan	26	10:36	25°♎34'22	
opposition	3755 Apr	13	20:22	24°♎12'05	1°19'32
min. Earth dist.	3755 Apr	14	14:53	24°♎10'48	29.24358 AU
direct	3755 Jul	03	06:52	22°♎47'02	
evening set	3755 Oct	02	02:49	24°♎42'57	
max. Earth dist.	3755 Oct	17	06:25	25°♎16'22	31.24734 AU
conjunction	3755 Oct	18	02:17	25°♎18'12	1°15'31
minimum elong	3755 Oct	18	02:17	25°♎18'12	1°15'31
morning rise	3755 Nov	02	22:29	25°♎53'12	
retrograde	3756 Jan	28	21:39	27°♎45'22	
opposition	3756 Apr	15	06:45	26°♎23'09	1°21'45
min. Earth dist.	3756 Apr	16	00:38	26°♎21'55	29.25262 AU
direct	3756 Jul	04	20:20	24°♎58'08	
evening set	3756 Oct	03	14:50	26°♎54'05	
conjunction	3756 Oct	19	13:44	27°♎29'18	1°17'32
minimum elong	3756 Oct	19	13:43	27°♎29'18	1°17'32
max. Earth dist.	3756 Oct	18	17:09	27°♎27'24	31.25663 AU
morning rise	3756 Nov	04	09:24	28°♎04'16	
retrograde	3757 Jan	30	09:22	29°♎56'25	
opposition	3757 Apr	17	17:14	28°♎34'16	1°23'50
min. Earth dist.	3757 Apr	18	11:48	28°♎32'59	29.26217 AU
direct	3757 Jul	07	07:44	27°♎09'18	
evening set	3757 Oct	06	02:43	29°♎05'17	
max. Earth dist.	3757 Oct	21	05:13	29°♎38'37	31.26613 AU
conjunction	3757 Oct	22	01:12	29°♎40'28	1°19'26
minimum elong	3757 Oct	22	01:12	29°♎40'28	1°19'26
	3757 Oct	30	19:53	0°♏	
morning rise	3757 Nov	06	20:15	0°♏15'23	
retrograde	3758 Feb	01	18:10	2°♏07'31	
opposition	3758 Apr	20	03:53	0°♏45'26	1°25'48
min. Earth dist.	3758 Apr	20	22:38	0°♏44'08	29.27144 AU
	3758 May	19	01:41	30°℞♎	
direct	3758 Jul	09	20:29	29°♎20'32	
	3758 Aug	29	02:12	0°♏	
evening set	3758 Oct	08	14:33	1°♏16'31	
conjunction	3758 Oct	24	12:21	1°♏51'40	1°21'13
minimum elong	3758 Oct	24	12:21	1°♏51'40	1°21'13
max. Earth dist.	3758 Oct	23	15:03	1°♏49'41	31.27508 AU
morning rise	3758 Nov	09	07:00	2°♏26'33	
retrograde	3759 Feb	04	04:24	4°♏18'40	
opposition	3759 Apr	22	14:32	2°♏56'38	1°27'39
min. Earth dist.	3759 Apr	23	09:28	2°♏55'20	29.28007 AU
direct	3759 Jul	12	07:08	1°♏31'46	
evening set	3759 Oct	11	02:20	3°♏27'45	
conjunction	3759 Oct	26	23:48	4°♏02'53	1°22'53
minimum elong	3759 Oct	26	23:48	4°♏02'53	1°22'53
max. Earth dist.	3759 Oct	26	03:12	4°♏00'58	31.28306 AU
morning rise	3759 Nov	11	17:45	4°♏37'43	
retrograde	3760 Feb	06	12:55	6°♏29'48	
opposition	3760 Apr	24	01:13	5°♏07'49	1°29'22
min. Earth dist.	3760 Apr	24	21:12	5°♏06'26	29.28742 AU
direct	3760 Jul	13	18:33	3°♏42'58	
evening set	3760 Oct	12	14:17	5°♏38'57	
conjunction	3760 Oct	28	11:03	6°♏14'02	1°24'26
minimum elong	3760 Oct	28	11:03	6°♏14'02	1°24'26
max. Earth dist.	3760 Oct	27	12:59	6°♏11'59	31.28977 AU
morning rise	3760 Nov	13	04:38	6°♏48'50	
retrograde	3761 Feb	07	23:39	8°♏40'53	
opposition	3761 Apr	26	11:57	7°♏18'55	1°30'57
min. Earth dist.	3761 Apr	27	07:29	7°♏17'35	29.29349 AU
direct	3761 Jul	16	05:31	5°♏54'04	
evening set	3761 Oct	15	01:52	7°♏50'02	
conjunction	3761 Oct	30	22:15	8°♏25'05	1°25'51
minimum elong	3761 Oct	30	22:14	8°♏25'05	1°25'52
max. Earth dist.	3761 Oct	30	00:37	8°♏23'04	31.29507 AU
morning rise	3761 Nov	15	15:08	8°♏59'51	
retrograde	3762 Feb	10	08:02	10°♏51'52	
opposition	3762 Apr	28	22:53	9°♏29'54	1°32'25
min. Earth dist.	3762 Apr	29	19:42	9°♏28'28	29.29821 AU
direct	3762 Jul	18	17:18	8°♏05'03	
evening set	3762 Oct	17	13:29	10°♏00'59	
max. Earth dist.	3762 Nov	01	10:47	10°♏33'53	31.29926 AU
conjunction	3762 Nov	02	09:16	10°♏35'59	1°27'10
minimum elong	3762 Nov	02	09:16	10°♏35'59	1°27'10
morning rise	3762 Nov	18	01:46	11°♏10'43	
retrograde	3763 Feb	12	18:39	13°♏02'41	
opposition	3763 May	01	09:31	11°♏40'42	1°33'44
min. Earth dist.	3763 May	02	05:39	11°♏39'19	29.30188 AU
direct	3763 Jul	21	05:26	10°♏15'49	
evening set	3763 Oct	20	00:53	12°♏11'43	
conjunction	3763 Nov	04	20:14	12°♏46'41	1°28'20
minimum elong	3763 Nov	04	20:14	12°♏46'41	1°28'21
max. Earth dist.	3763 Nov	03	21:44	12°♏44'36	31.30245 AU
morning rise	3763 Nov	20	12:11	13°♏21'23	
	3764 Jan	18	06:26	15°♏	
retrograde	3764 Feb	15	04:26	15°♏13'20	
	3764 Mar	14	15:16	15°℞♏	
opposition	3764 May	02	20:23	13°♏51'19	1°34'56
min. Earth dist.	3764 May	03	17:39	13°♏49'52	29.30483 AU
direct	3764 Jul	22	16:21	12°♏26'25	
evening set	3764 Oct	21	12:10	14°♏22'17	
max. Earth dist.	3764 Nov	05	08:48	14°♏55'08	31.30524 AU
conjunction	3764 Nov	06	07:01	14°♏57'12	1°29'23
minimum elong	3764 Nov	06	07:01	14°♏57'12	1°29'23
	3764 Nov	07	13:10	15°♏	
morning rise	3764 Nov	21	22:29	15°♏31'51	
retrograde	3765 Feb	16	14:46	17°♏23'45	
opposition	3765 May	05	07:08	16°♏01'44	1°35'59

min. Earth dist.	3765 May 06 03:39	16°♑00'19	29.30753 AU
	3765 Jun 16 05:05	15°℞♑	
direct	3765 Jul 25 06:20	14°♑36'48	
	3765 Sep 01 12:20	15°♑	
evening set	3765 Oct 23 23:22	16°♑32'38	
conjunction	3765 Nov 08 17:38	17°♑07'31	1°30'19
minimum elong	3765 Nov 08 17:37	17°♑07'31	1°30'19
max. Earth dist.	3765 Nov 07 19:00	17°♑05'25	31.30807 AU
morning rise	3765 Nov 24 08:38	17°♑42'08	
retrograde	3766 Feb 19 02:00	19°♑34'01	
opposition	3766 May 07 18:02	18°♑11'58	1°36'54
min. Earth dist.	3766 May 08 14:41	18°♑10'33	29.31082 AU
direct	3766 Jul 27 17:55	16°♑47'03	
evening set	3766 Oct 26 10:12	18°♑42'51	
max. Earth dist.	3766 Nov 10 06:39	19°♑15'42	31.31173 AU
conjunction	3766 Nov 11 04:05	19°♑17'42	1°31'07
minimum elong	3766 Nov 11 04:05	19°♑17'42	1°31'06
morning rise	3766 Nov 26 18:32	19°♑52'17	
retrograde	3767 Feb 21 10:31	21°♑44'09	
opposition	3767 May 10 04:56	20°♑22'07	1°37'41
min. Earth dist.	3767 May 11 01:13	20°♑20'44	29.31488 AU
direct	3767 Jul 30 06:49	18°♑57'14	
evening set	3767 Oct 28 21:15	20°♑53'01	
conjunction	3767 Nov 13 14:30	21°♑27'50	1°31'47
minimum elong	3767 Nov 13 14:30	21°♑27'50	1°31'47
max. Earth dist.	3767 Nov 12 16:19	21°♑25'46	31.31635 AU
morning rise	3767 Nov 29 04:37	22°♑02'23	
retrograde	3768 Feb 23 20:50	23°♑54'16	
opposition	3768 May 11 15:41	22°♑32'17	1°38'20
min. Earth dist.	3768 May 12 11:25	22°♑30'55	29.32006 AU
direct	3768 Jul 31 17:32	21°♑07'26	
evening set	3768 Oct 30 08:05	23°♑03'13	
max. Earth dist.	3768 Nov 14 04:17	23°♑36'05	31.32191 AU
conjunction	3768 Nov 15 01:01	23°♑38'01	1°32'19
minimum elong	3768 Nov 15 01:01	23°♑38'01	1°32'18
morning rise	3768 Nov 30 14:31	24°♑12'33	
retrograde	3769 Feb 25 05:34	26°♑04'27	
opposition	3769 May 14 02:46	24°♑42'31	1°38'50
min. Earth dist.	3769 May 14 22:56	24°♑41'08	29.32585 AU
direct	3769 Aug 03 04:53	23°♑17'45	
evening set	3769 Nov 01 18:55	25°♑13'32	
conjunction	3769 Nov 17 11:11	25°♑48'18	1°32'43
minimum elong	3769 Nov 17 11:11	25°♑48'18	1°32'43
max. Earth dist.	3769 Nov 16 13:47	25°♑46'19	31.32793 AU
morning rise	3769 Dec 03 00:24	26°♑22'49	
retrograde	3770 Feb 27 16:23	28°♑14'47	
opposition	3770 May 16 13:47	26°♑52'54	1°39'11
min. Earth dist.	3770 May 17 08:53	26°♑51'36	29.33189 AU
direct	3770 Aug 05 15:25	25°♑28'12	
evening set	3770 Nov 04 05:38	27°♑24'00	
conjunction	3770 Nov 19 21:35	27°♑58'45	1°32'59
minimum elong	3770 Nov 19 21:35	27°♑58'45	1°32'59
max. Earth dist.	3770 Nov 19 01:03	27°♑56'50	31.33375 AU
morning rise	3770 Dec 05 10:13	28°♑33'14	
	3771 Jan 22 08:56	0°♐	
retrograde	3771 Mar 02 01:08	0°♐25'15	
	3771 Apr 10 23:40	30°℞♑	
opposition	3771 May 19 00:54	29°♑03'25	1°39'24
min. Earth dist.	3771 May 19 21:01	29°♑02'03	29.33748 AU
direct	3771 Aug 08 02:04	27°♑38'48	
evening set	3771 Nov 06 16:27	29°♑34'36	
	3771 Nov 18 04:04	0°♐	
max. Earth dist.	3771 Nov 21 10:52	0°♐07'21	31.33897 AU
conjunction	3771 Nov 22 07:52	0°♐09'19	1°33'07
minimum elong	3771 Nov 22 07:52	0°♐09'19	1°33'07
morning rise	3771 Dec 07 20:11	0°♐43'47	
retrograde	3772 Mar 03 12:02	2°♐35'51	
opposition	3772 May 20 12:06	1°♐14'03	1°39'28
min. Earth dist.	3772 May 21 07:17	1°♐12'45	29.34208 AU
	3772 Jul 14 14:40	30°℞♑	
direct	3772 Aug 09 13:05	29°♑49'29	
	3772 Sep 04 04:38	0°♐	
evening set	3772 Nov 08 03:12	1°♐45'17	
conjunction	3772 Nov 23 18:10	2°♐19'59	1°33'07
minimum elong	3772 Nov 23 18:10	2°♐19'59	1°33'06
max. Earth dist.	3772 Nov 22 21:13	2°♐18'02	31.34288 AU
morning rise	3772 Dec 09 05:59	2°♐54'26	
retrograde	3773 Mar 05 22:26	4°♐46'32	
opposition	3773 May 22 23:30	3°♐24'46	1°39'24
min. Earth dist.	3773 May 23 19:40	3°♐23'24	29.34542 AU
direct	3773 Aug 11 23:12	2°♐00'15	
evening set	3773 Nov 10 13:54	3°♐56'01	
max. Earth dist.	3773 Nov 25 07:50	4°♐28'46	31.34554 AU
conjunction	3773 Nov 26 04:26	4°♐30'41	1°32'59
minimum elong	3773 Nov 26 04:26	4°♐30'41	1°32'59
morning rise	3773 Dec 11 15:51	5°♐05'07	
retrograde	3774 Mar 08 09:27	6°♐57'15	
opposition	3774 May 25 10:54	5°♐35'29	1°39'11
min. Earth dist.	3774 May 26 06:22	5°♐34'10	29.34727 AU
direct	3774 Aug 14 13:02	4°♐11'00	
evening set	3774 Nov 13 00:28	6°♐06'44	
conjunction	3774 Nov 28 14:31	6°♐41'23	1°32'43
minimum elong	3774 Nov 28 14:31	6°♐41'23	1°32'43
max. Earth dist.	3774 Nov 27 17:14	6°♐39'24	31.34666 AU
morning rise	3774 Dec 14 01:39	7°♐15'47	
retrograde	3775 Mar 10 21:30	9°♐07'57	
opposition	3775 May 27 22:20	7°♐46'10	1°38'50
min. Earth dist.	3775 May 28 18:08	7°♐44'49	29.34776 AU
direct	3775 Aug 17 00:40	6°♐21'41	
evening set	3775 Nov 15 10:57	8°♐17'23	
max. Earth dist.	3775 Nov 30 04:22	8°♐50'06	31.34648 AU
conjunction	3775 Dec 01 00:43	8°♐52'00	1°32'19
minimum elong	3775 Dec 01 00:43	8°♐52'00	1°32'20
morning rise	3775 Dec 16 11:22	9°♐26'22	
retrograde	3776 Mar 12 06:06	11°♐18'33	
opposition	3776 May 29 09:42	9°♐56'44	1°38'21
min. Earth dist.	3776 May 30 05:28	9°♐55'24	29.34687 AU
direct	3776 Aug 18 13:40	8°♐32'16	
evening set	3776 Nov 16 21:28	10°♐27'54	
conjunction	3776 Dec 02 10:39	11°♐02'29	1°31'48
minimum elong	3776 Dec 02 10:39	11°♐02'29	1°31'48
max. Earth dist.	3776 Dec 01 13:30	11°♐00'30	31.34524 AU
morning rise	3776 Dec 17 21:07	11°♐36'50	
retrograde	3777 Mar 14 17:01	13°♐29'01	
opposition	3777 May 31 21:11	12°♐07'10	1°37'43
min. Earth dist.	3777 Jun 01 16:21	12°♐05'51	29.34538 AU
direct	3777 Aug 21 01:48	10°♐42'40	
evening set	3777 Nov 19 07:31	12°♐38'13	
conjunction	3777 Dec 04 20:28	13°♐12'47	1°31'09
minimum elong	3777 Dec 04 20:28	13°♐12'47	1°31'09
max. Earth dist.	3777 Dec 04 00:54	13°♐10'58	31.34355 AU

morning rise	3777 Dec 20 06:26	13°♐47'07	
retrograde	3778 Mar 17 01:52	15°♐39'20	
opposition	3778 Jun 03 08:48	14°♐17'25	1°36'58
min. Earth dist.	3778 Jun 04 04:12	14°♐16'06	29.34369 AU
direct	3778 Aug 23 14:37	12°♐52'55	
evening set	3778 Nov 21 17:44	14°♐48'24	
max. Earth dist.	3778 Dec 06 10:16	15°♐21'05	31.34211 AU
conjunction	3778 Dec 07 06:09	15°♐22'57	1°30'22
minimum elong	3778 Dec 07 06:10	15°♐22'57	1°30'22
morning rise	3778 Dec 22 15:58	15°♐57'16	
retrograde	3779 Mar 19 11:57	17°♐49'29	
opposition	3779 Jun 05 20:07	16°♐27'32	1°36'04
min. Earth dist.	3779 Jun 06 14:01	16°♐26'19	29.34256 AU
direct	3779 Aug 26 02:00	15°♐03'03	
evening set	3779 Nov 24 03:47	16°♐58'28	
conjunction	3779 Dec 09 15:58	17°♐33'00	1°29'27
minimum elong	3779 Dec 09 15:58	17°♐33'00	1°29'28
max. Earth dist.	3779 Dec 08 21:17	17°♐31'15	31.34130 AU
morning rise	3779 Dec 25 01:20	18°♐07'18	
retrograde	3780 Mar 20 20:08	19°♐59'34	
opposition	3780 Jun 07 07:47	18°♐37'36	1°35'01
min. Earth dist.	3780 Jun 08 02:04	18°♐36'21	29.34216 AU
direct	3780 Aug 27 12:46	17°♐13'09	
evening set	3780 Nov 25 13:48	19°♐08'31	
max. Earth dist.	3780 Dec 10 07:12	19°♐41'18	31.34138 AU
conjunction	3780 Dec 11 01:31	19°♐43'01	1°28'25
minimum elong	3780 Dec 11 01:32	19°♐43'01	1°28'25
morning rise	3780 Dec 26 10:41	20°♐17'19	
retrograde	3781 Mar 23 06:27	22°♐09'38	
opposition	3781 Jun 09 19:22	20°♐47'41	1°33'51
min. Earth dist.	3781 Jun 10 12:01	20°♐46'33	29.34245 AU
direct	3781 Aug 29 23:36	19°♐23'16	
evening set	3781 Nov 27 23:46	21°♐18'37	
conjunction	3781 Dec 13 11:09	21°♐53'06	1°27'15
minimum elong	3781 Dec 13 11:09	21°♐53'06	1°27'16
max. Earth dist.	3781 Dec 12 17:24	21°♐51'26	31.34192 AU
morning rise	3781 Dec 28 20:01	22°♐27'23	
retrograde	3782 Mar 25 17:02	24°♐19'48	
opposition	3782 Jun 12 07:07	22°♐57'50	1°32'32
min. Earth dist.	3782 Jun 13 00:09	22°♐56'41	29.34317 AU
direct	3782 Sep 01 09:17	21°♐33'30	
evening set	3782 Nov 30 09:35	23°♐28'49	
conjunction	3782 Dec 15 20:44	24°♐03'17	1°25'58
minimum elong	3782 Dec 15 20:44	24°♐03'17	1°25'57
max. Earth dist.	3782 Dec 15 03:59	24°♐01'43	31.34266 AU
morning rise	3782 Dec 31 05:20	24°♐37'34	
retrograde	3783 Mar 28 03:50	26°♐30'03	
opposition	3783 Jun 14 18:50	25°♐08'07	1°31'05
min. Earth dist.	3783 Jun 15 10:50	25°♐07'01	29.34357 AU
direct	3783 Sep 03 21:57	23°♐43'50	
evening set	3783 Dec 02 19:36	25°♐39'08	
conjunction	3783 Dec 18 06:18	26°♐13'35	1°24'33
minimum elong	3783 Dec 18 06:18	26°♐13'35	1°24'33
max. Earth dist.	3783 Dec 17 13:10	26°♐11'59	31.34276 AU
morning rise	3784 Jan 02 14:44	26°♐47'52	
retrograde	3784 Mar 29 16:08	28°♐40'27	
opposition	3784 Jun 16 06:39	27°♐18'30	1°29'30
min. Earth dist.	3784 Jun 16 22:38	27°♐17'25	29.34333 AU
direct	3784 Sep 05 08:21	25°♐54'17	
evening set	3784 Dec 04 05:31	27°♐49'34	
conjunction	3784 Dec 19 16:02	28°♐24'01	1°23'00
minimum elong	3784 Dec 19 16:03	28°♐24'01	1°23'00
max. Earth dist.	3784 Dec 19 00:11	28°♐22'32	31.34200 AU
morning rise	3785 Jan 04 00:07	28°♐58'17	
	3785 Feb 03 23:52	0°♑	
retrograde	3785 Apr 01 01:52	0°♑50'58	
	3785 May 30 05:29	30°℞♐	
opposition	3785 Jun 18 18:42	29°♐29'01	1°27'48
min. Earth dist.	3785 Jun 19 10:26	29°♐27'57	29.34186 AU
direct	3785 Sep 07 20:52	28°♐04'52	
evening set	3785 Dec 06 15:25	0°♑00'06	
	3785 Dec 06 14:15	0°♑	
max. Earth dist.	3785 Dec 21 08:54	0°♑32'59	31.33992 AU
conjunction	3785 Dec 22 01:29	0°♑34'33	1°21'21
minimum elong	3785 Dec 22 01:29	0°♑34'33	1°21'21
morning rise	3786 Jan 06 09:31	1°♑08'49	
retrograde	3786 Apr 03 13:54	3°♑01'34	
opposition	3786 Jun 21 06:44	1°♑39'37	1°25'58
min. Earth dist.	3786 Jun 21 21:48	1°♑38'36	29.33908 AU
direct	3786 Sep 10 08:44	0°♑15'30	
evening set	3786 Dec 09 01:17	2°♑10'42	
conjunction	3786 Dec 24 11:15	2°♑45'08	1°19'34
minimum elong	3786 Dec 24 11:15	2°♑45'08	1°19'34
max. Earth dist.	3786 Dec 23 19:57	2°♑43'42	31.33632 AU
morning rise	3787 Jan 08 18:56	3°♑19'24	
retrograde	3787 Apr 05 23:45	5°♑12'14	
opposition	3787 Jun 23 18:45	3°♑50'15	1°24'01
min. Earth dist.	3787 Jun 24 10:21	3°♑49'12	29.33463 AU
direct	3787 Sep 12 21:28	2°♑26'10	
evening set	3787 Dec 11 11:14	4°♑21'19	
conjunction	3787 Dec 26 20:48	4°♑55'45	1°17'41
minimum elong	3787 Dec 26 20:48	4°♑55'45	1°17'42
max. Earth dist.	3787 Dec 26 04:57	4°♑54'15	31.33122 AU
morning rise	3788 Jan 11 04:28	5°♑30'01	
retrograde	3788 Apr 07 10:33	7°♑22'55	
opposition	3788 Jun 25 06:48	6°♑00'53	1°21'57
min. Earth dist.	3788 Jun 25 21:06	5°♑59'55	29.32875 AU
direct	3788 Sep 14 09:17	4°♑36'48	
evening set	3788 Dec 12 20:52	6°♑31'54	
conjunction	3788 Dec 28 06:17	7°♑06'19	1°15'42
minimum elong	3788 Dec 28 06:17	7°♑06'19	1°15'42
max. Earth dist.	3788 Dec 27 15:23	7°♑04'55	31.32469 AU
morning rise	3789 Jan 12 13:41	7°♑40'34	
retrograde	3789 Apr 09 19:08	9°♑33'33	
opposition	3789 Jun 27 19:06	8°♑11'28	1°19'46
min. Earth dist.	3789 Jun 28 09:54	8°♑10'28	29.32173 AU
direct	3789 Sep 16 20:38	6°♑47'23	
evening set	3789 Dec 15 06:30	8°♑42'23	
conjunction	3789 Dec 30 15:39	9°♑16'48	1°13'36
minimum elong	3789 Dec 30 15:39	9°♑16'48	1°13'37
max. Earth dist.	3789 Dec 30 01:13	9°♑15'26	31.31747 AU
morning rise	3790 Jan 14 23:00	9°♑51'03	
retrograde	3790 Apr 12 05:20	11°♑44'06	
opposition	3790 Jun 30 07:07	10°♑21'56	1°17'28
min. Earth dist.	3790 Jun 30 20:17	10°♑21'03	29.31428 AU
direct	3790 Sep 19 07:46	8°♑57'51	
evening set	3790 Dec 17 15:59	10°♑52'47	
max. Earth dist.	3791 Jan 01 11:03	11°♑25'53	31.31003 AU
conjunction	3791 Jan 02 00:54	11°♑27'11	1°11'24
minimum elong	3791 Jan 02 00:55	11°♑27'11	1°11'24
morning rise	3791 Jan 17 08:10	12°♑01'27	

retrograde	3791 Apr	14	15:46	13°♓54'35		
opposition	3791 Jul	02	19:20	12°♓32'20	1°15'04	
min. Earth dist.	3791 Jul	03	08:36	12°♓31'26	29.30708	AU
direct	3791 Sep	21	17:53	11°♓08'16		
evening set	3791 Dec	20	01:25	13°♓03'07		
conjunction	3792 Jan	04	10:11	13°♓37'30	1°09'06	
minimum elong	3792 Jan	04	10:12	13°♓37'30	1°09'06	
max. Earth dist.	3792 Jan	03	21:50	13°♓36'21	31.30316	AU
morning rise	3792 Jan	19	17:15	14°♓11'47		
retrograde	3792 Apr	16	02:15	16°♓05'00		
opposition	3792 Jul	04	07:26	14°♓42'42	1°12'33	
min. Earth dist.	3792 Jul	04	19:08	14°♓41'55	29.30050	AU
direct	3792 Sep	23	06:08	13°♓18'39		
evening set	3792 Dec	21	10:56	15°♓13'27		
conjunction	3793 Jan	05	19:23	15°♓47'50	1°06'42	
minimum elong	3793 Jan	05	19:23	15°♓47'50	1°06'42	
max. Earth dist.	3793 Jan	05	07:05	15°♓46'41	31.29713	AU
morning rise	3793 Jan	21	02:28	16°♓22'07		
retrograde	3793 Apr	18	14:46	18°♓15'27		
opposition	3793 Jul	06	19:44	16°♓53'06	1°09'56	
min. Earth dist.	3793 Jul	07	06:41	16°♓52'22	29.29499	AU
direct	3793 Sep	25	15:29	15°♓29'06		
evening set	3793 Dec	23	20:08	17°♓23'51		
conjunction	3794 Jan	08	04:35	17°♓58'15	1°04'12	
minimum elong	3794 Jan	08	04:35	17°♓58'15	1°04'13	
max. Earth dist.	3794 Jan	07	18:14	17°♓57'16	31.29203	AU
morning rise	3794 Jan	23	11:29	18°♓32'32		
retrograde	3794 Apr	21	00:45	20°♓25'58		
opposition	3794 Jul	09	08:02	19°♓03'37	1°07'13	
min. Earth dist.	3794 Jul	09	18:12	19°♓02'55	29.29007	AU
direct	3794 Sep	28	03:31	17°♓39'39		
evening set	3794 Dec	26	05:38	19°♓34'23		
conjunction	3795 Jan	10	13:46	20°♓08'46	1°01'37	
minimum elong	3795 Jan	10	13:46	20°♓08'46	1°01'37	
max. Earth dist.	3795 Jan	10	03:11	20°♓07'46	31.28744	AU
morning rise	3795 Jan	25	20:46	20°♓43'04		
retrograde	3795 Apr	23	13:47	22°♓36'37		
opposition	3795 Jul	11	20:11	21°♓14'14	1°04'24	
min. Earth dist.	3795 Jul	12	05:13	21°♓13'38	29.28558	AU
direct	3795 Sep	30	15:08	19°♓50'21		
evening set	3795 Dec	28	15:02	21°♓45'03		
conjunction	3796 Jan	12	23:09	22°♓19'26	0°58'56	
minimum elong	3796 Jan	12	23:09	22°♓19'26	0°58'56	
max. Earth dist.	3796 Jan	12	14:18	22°♓18'36	31.28290	AU
morning rise	3796 Jan	28	05:56	22°♓53'44		
retrograde	3796 Apr	25	00:42	24°♓47'26		
opposition	3796 Jul	13	08:43	23°♓25'01	1°01'29	
min. Earth dist.	3796 Jul	13	17:50	23°♓24'24	29.28085	AU
direct	3796 Oct	02	03:32	22°♓01'12		
evening set	3796 Dec	30	00:28	23°♓55'51		
conjunction	3797 Jan	14	08:18	24°♓30'14	0°56'10	
minimum elong	3797 Jan	14	08:18	24°♓30'14	0°56'09	
max. Earth dist.	3797 Jan	13	23:29	24°♓29'25	31.27804	AU
morning rise	3797 Jan	29	15:12	25°♓04'33		
retrograde	3797 Apr	27	12:08	26°♓58'22		
opposition	3797 Jul	15	21:13	25°♓35'56	0°58'29	
min. Earth dist.	3797 Jul	16	04:42	25°♓35'26	29.27561	AU
direct	3797 Oct	04	15:07	24°♓12'10		
evening set	3798 Jan	01	09:57	26°♓06'46		
conjunction	3798 Jan	16	17:44	26°♓41'10	0°53'18	
minimum elong	3798 Jan	16	17:44	26°♓41'10	0°53'19	
max. Earth dist.	3798 Jan	16	09:50	26°♓40'26	31.27230	AU
morning rise	3798 Feb	01	00:32	27°♓15'30		
retrograde	3798 Apr	29	21:52	29°♓09'26		
opposition	3798 Jul	18	09:48	27°♓46'58	0°55'24	
min. Earth dist.	3798 Jul	18	17:48	27°♓46'25	29.26939	AU
direct	3798 Oct	07	02:47	26°♓23'14		
evening set	3799 Jan	03	19:28	28°♓17'47		
conjunction	3799 Jan	19	03:09	28°♓52'11	0°50'23	
minimum elong	3799 Jan	19	03:09	28°♓52'11	0°50'22	
max. Earth dist.	3799 Jan	18	19:42	28°♓51'29	31.26556	AU
morning rise	3799 Feb	03	09:59	29°♓26'31		
	3799 Feb	19	04:33	0°♒		
retrograde	3799 May	02	08:59	1°♒20'34		
	3799 Jul	19	17:27	30°℞♓		
opposition	3799 Jul	20	22:21	29°♓58'03	0°52'13	
min. Earth dist.	3799 Jul	21	04:50	29°♓57'36	29.26186	AU
direct	3799 Oct	09	14:51	28°♓34'20		
	3799 Dec	23	16:49	0°♒		
evening set	3800 Jan	06	05:03	0°♒28'49		
conjunction	3800 Jan	21	12:33	1°♒03'14	0°47'22	
minimum elong	3800 Jan	21	12:33	1°♒03'14	0°47'23	
max. Earth dist.	3800 Jan	21	05:14	1°♒02'32	31.25730	AU
morning rise	3800 Feb	05	19:25	1°♒37'35		
retrograde	3800 May	04	19:39	3°♒31'44		
opposition	3800 Jul	23	11:06	2°♒09'09	0°48'59	
min. Earth dist.	3800 Jul	23	17:57	2°♒08'41	29.25297	AU
direct	3800 Oct	12	01:14	0°♒45'27		
evening set	3801 Jan	08	14:31	2°♒39'51		
conjunction	3801 Jan	23	22:03	3°♒14'15	0°44'18	
minimum elong	3801 Jan	23	22:04	3°♒14'16	0°44'18	
max. Earth dist.	3801 Jan	23	16:02	3°♒13'41	31.24787	AU
morning rise	3801 Feb	08	04:52	3°♒48'38		
retrograde	3801 May	07	05:57	5°♒42'53		
opposition	3801 Jul	25	23:47	4°♒20'12	0°45'40	
min. Earth dist.	3801 Jul	26	05:23	4°♒19'49	29.24288	AU
direct	3801 Oct	14	13:23	2°♒56'29		
evening set	3802 Jan	10	23:57	4°♒50'49		
conjunction	3802 Jan	26	07:18	5°♒25'13	0°41'11	
minimum elong	3802 Jan	26	07:18	5°♒25'13	0°41'11	
max. Earth dist.	3802 Jan	26	01:02	5°♒24'38	31.23743	AU
morning rise	3802 Feb	10	14:21	5°♒59'36		
retrograde	3802 May	09	18:16	7°♒53'57		
opposition	3802 Jul	28	12:28	6°♒31'10	0°42'18	
min. Earth dist.	3802 Jul	28	17:36	6°♒30'49	29.23223	AU
direct	3802 Oct	16	22:53	5°♒07'26		
evening set	3803 Jan	13	09:14	7°♒01'41		
conjunction	3803 Jan	28	16:42	7°♒36'06	0°38'00	
minimum elong	3803 Jan	28	16:42	7°♒36'06	0°37'59	
max. Earth dist.	3803 Jan	28	12:16	7°♒35'41	31.22667	AU
morning rise	3803 Feb	12	23:38	8°♒10'29		
retrograde	3803 May	12	04:28	10°♒04'56		
opposition	3803 Jul	31	01:00	8°♒42'03	0°38'51	
min. Earth dist.	3803 Jul	31	05:20	8°♒41'46	29.22147	AU
direct	3803 Oct	19	11:14	7°♒18'20		
evening set	3804 Jan	15	18:42	9°♒12'30		
conjunction	3804 Jan	31	01:56	9°♒46'55	0°34'45	
minimum elong	3804 Jan	31	01:56	9°♒46'55	0°34'45	
max. Earth dist.	3804 Jan	30	21:30	9°♒46'30	31.21629	AU
morning rise	3804 Feb	15	09:06	10°♒21'20		
retrograde	3804 May	13	17:50	12°♒15'53		

opposition	3804 Aug 01 13:43	10°♒52'55	0°35'22
min. Earth dist.	3804 Aug 01 16:33	10°♒52'44	29.21153 AU
direct	3804 Oct 20 22:24	9°♒29'12	
evening set	3805 Jan 17 03:52	11°♒23'20	
conjunction	3805 Feb 01 11:12	11°♒57'45	0°31'28
minimum elong	3805 Feb 01 11:12	11°♒57'45	0°31'27
max. Earth dist.	3805 Feb 01 08:47	11°♒57'32	31.20676 AU
morning rise	3805 Feb 16 18:18	12°♒32'11	
retrograde	3805 May 16 05:02	14°♒26'52	
opposition	3805 Aug 04 02:33	13°♒03'50	0°31'49
min. Earth dist.	3805 Aug 04 05:01	13°♒03'40	29.20252 AU
direct	3805 Oct 23 10:21	11°♒40'10	
evening set	3806 Jan 19 13:15	13°♒34'15	
conjunction	3806 Feb 03 20:29	14°♒08'41	0°28'07
minimum elong	3806 Feb 03 20:29	14°♒08'41	0°28'08
max. Earth dist.	3806 Feb 03 18:32	14°♒08'30	31.19839 AU
morning rise	3806 Feb 19 03:49	14°♒43'08	
	3806 Feb 26 22:01	15°♒	
retrograde	3806 May 18 17:12	16°♒37'58	
opposition	3806 Aug 06 15:06	15°♒14'54	0°28'13
min. Earth dist.	3806 Aug 06 15:34	15°♒14'52	29.19460 AU
	3806 Aug 15 20:19	15°℞♒	
direct	3806 Oct 25 21:39	13°♒51'16	
	3806 Dec 31 03:31	15°♒	
evening set	3807 Jan 21 22:36	15°♒45'20	
conjunction	3807 Feb 06 05:53	16°♒19'47	0°24'44
minimum elong	3807 Feb 06 05:53	16°♒19'47	0°24'44
max. Earth dist.	3807 Feb 06 05:06	16°♒19'43	31.19082 AU
morning rise	3807 Feb 21 13:17	16°♒54'15	
retrograde	3807 May 21 03:59	18°♒49'15	
opposition	3807 Aug 09 03:58	17°♒26'09	0°24'35
min. Earth dist.	3807 Aug 09 04:29	17°♒26'07	29.18735 AU
direct	3807 Oct 28 09:15	16°♒02'36	
evening set	3808 Jan 24 07:56	17°♒56'38	
conjunction	3808 Feb 08 15:14	18°♒31'06	0°21'18
minimum elong	3808 Feb 08 15:14	18°♒31'06	0°21'19
max. Earth dist.	3808 Feb 08 15:32	18°♒31'08	31.18387 AU
morning rise	3808 Feb 23 22:44	19°♒05'36	
retrograde	3808 May 22 15:59	21°♒00'45	
opposition	3808 Aug 10 16:47	19°♒37'38	0°20'54
min. Earth dist.	3808 Aug 10 15:23	19°♒37'44	29.18042 AU
direct	3808 Oct 29 21:16	18°♒14'10	
evening set	3809 Jan 25 17:29	20°♒08'11	
conjunction	3809 Feb 10 00:43	20°♒42'39	0°17'51
minimum elong	3809 Feb 10 00:43	20°♒42'39	0°17'50
max. Earth dist.	3809 Feb 10 01:24	20°♒42'43	31.17694 AU
morning rise	3809 Feb 25 08:25	21°♒17'11	
retrograde	3809 May 25 03:19	23°♒12'31	
opposition	3809 Aug 13 05:49	21°♒49'22	0°17'10
min. Earth dist.	3809 Aug 13 04:34	21°♒49'27	29.17347 AU
direct	3809 Nov 01 07:12	20°♒25'59	
evening set	3810 Jan 28 02:57	22°♒19'58	
conjunction	3810 Feb 12 10:21	22°♒54'27	0°14'21
minimum elong	3810 Feb 12 10:21	22°♒54'27	0°14'22
behind sun begin	3810 Feb 12 07:15	22°♒54'10	
behind sun end	3810 Feb 12 13:27	22°♒54'44	
max. Earth dist.	3810 Feb 12 12:36	22°♒54'39	31.16976 AU
morning rise	3810 Feb 27 18:06	23°♒29'01	
retrograde	3810 May 27 14:05	25°♒24'30	
opposition	3810 Aug 15 18:46	24°♒01'20	0°13'25
min. Earth dist.	3810 Aug 15 16:16	24°♒01'30	29.16583 AU
direct	3810 Nov 03 18:49	22°♒38'00	
evening set	3811 Jan 30 12:46	24°♒31'58	
conjunction	3811 Feb 14 20:00	25°♒06'28	0°10'51
minimum elong	3811 Feb 14 20:01	25°♒06'28	0°10'50
behind sun begin	3811 Feb 14 15:05	25°♒06'02	
behind sun end	3811 Feb 15 00:56	25°♒06'55	
max. Earth dist.	3811 Feb 14 21:48	25°♒06'38	31.16165 AU
morning rise	3811 Mar 02 04:03	25°♒41'03	
retrograde	3811 May 30 03:06	27°♒36'42	
opposition	3811 Aug 18 07:46	26°♒13'30	0°09'39
min. Earth dist.	3811 Aug 18 05:01	26°♒13'41	29.15723 AU
direct	3811 Nov 06 03:39	24°♒50'12	
evening set	3812 Feb 01 22:30	26°♒44'08	
conjunction	3812 Feb 17 05:58	27°♒18'39	0°07'20
minimum elong	3812 Feb 17 05:57	27°♒18'39	0°07'20
behind sun begin	3812 Feb 17 00:05	27°♒18'07	
behind sun end	3812 Feb 17 11:50	27°♒19'11	
max. Earth dist.	3812 Feb 17 09:16	27°♒18'56	31.15237 AU
morning rise	3812 Mar 03 13:59	27°♒53'16	
retrograde	3812 May 31 14:23	29°♒49'03	
opposition	3812 Aug 19 20:57	28°♒25'47	0°05'52
min. Earth dist.	3812 Aug 19 17:40	28°♒26'01	29.14722 AU
direct	3812 Nov 07 16:06	27°♒02'31	
evening set	3813 Feb 03 08:18	28°♒56'24	
conjunction	3813 Feb 18 15:41	29°♒30'56	0°03'48
minimum elong	3813 Feb 18 15:41	29°♒30'56	0°03'48
behind sun begin	3813 Feb 18 09:21	29°♒30'21	
behind sun end	3813 Feb 18 22:01	29°♒31'30	
max. Earth dist.	3813 Feb 18 18:33	29°♒31'09	31.14178 AU
	3813 Mar 03 12:06	0°♓	
morning rise	3813 Mar 06 00:03	0°♓05'33	
retrograde	3813 Jun 03 04:38	2°♓01'29	
opposition	3813 Aug 22 10:06	0°♓38'07	0°02'04
min. Earth dist.	3813 Aug 22 05:53	0°♓38'25	29.13599 AU
	3813 Sep 15 17:29	30°℞♒	
direct	3813 Nov 10 03:00	29°♒14'50	
	3814 Jan 01 21:41	0°♓	
evening set	3814 Feb 05 18:05	1°♓08'40	
conjunction	3814 Feb 21 01:42	1°♓43'13	0°00'11
minimum elong	3814 Feb 21 01:40	1°♓43'13	0°00'12
behind sun begin	3814 Feb 20 19:21	1°♓42'39	
behind sun end	3814 Feb 21 08:00	1°♓43'47	
max. Earth dist.	3814 Feb 21 05:57	1°♓43'35	31.12989 AU
morning rise	3814 Mar 08 10:08	2°♓17'52	
desc. node	3814 Mar 10 23:51	2°♓23'32	
retrograde	3814 Jun 05 16:03	4°♓13'54	
opposition	3814 Aug 24 23:07	2°♓50'26	-0°01'43
min. Earth dist.	3814 Aug 24 19:05	2°♓50'42	29.12364 AU
direct	3814 Nov 12 14:33	1°♓27'08	
evening set	3815 Feb 08 03:53	3°♓20'53	
conjunction	3815 Feb 23 11:31	3°♓55'26	-0°03'27
minimum elong	3815 Feb 23 11:31	3°♓55'26	0°03'27
behind sun begin	3815 Feb 23 05:09	3°♓54'52	
behind sun end	3815 Feb 23 17:52	3°♓56'01	
max. Earth dist.	3815 Feb 23 16:00	3°♓55'50	31.11735 AU
morning rise	3815 Mar 10 20:16	4°♓30'07	
retrograde	3815 Jun 08 05:05	6°♓26'14	
opposition	3815 Aug 27 12:07	5°♓02'40	-0°05'31
min. Earth dist.	3815 Aug 27 06:22	5°♓03'03	29.11096 AU
direct	3815 Nov 15 02:40	3°♓39'20	
evening set	3816 Feb 10 13:33	5°♓33'01	

conjunction	3816 Feb 25 21:15	6°♓07'35	-0°06'59
minimum elong	3816 Feb 25 21:15	6°♓07'35	0°06'59
behind sun begin	3816 Feb 25 15:18	6°♓07'03	
behind sun end	3816 Feb 26 03:12	6°♓08'07	
max. Earth dist.	3816 Feb 26 02:46	6°♓08'05	31.10464 AU
morning rise	3816 Mar 12 06:12	6°♓42'17	
retrograde	3816 Jun 09 16:59	8°♓38'31	
opposition	3816 Aug 29 01:18	7°♓14'49	-0°09'18
min. Earth dist.	3816 Aug 28 19:35	7°♓15'12	29.09858 AU
direct	3816 Nov 16 15:17	5°♓51'29	
evening set	3817 Feb 11 23:19	7°♓45'06	
conjunction	3817 Feb 27 07:11	8°♓19'41	-0°10'30
minimum elong	3817 Feb 27 07:11	8°♓19'41	0°10'31
behind sun begin	3817 Feb 27 02:08	8°♓19'13	
behind sun end	3817 Feb 27 12:13	8°♓20'08	
max. Earth dist.	3817 Feb 27 13:55	8°♓20'18	31.09268 AU
morning rise	3817 Mar 14 16:17	8°♓54'24	
retrograde	3817 Jun 12 05:39	10°♓50'45	
opposition	3817 Aug 31 14:13	9°♓26'57	-0°13'05
min. Earth dist.	3817 Aug 31 06:27	9°♓27'29	29.08706 AU
direct	3817 Nov 19 04:03	8°♓03'37	
evening set	3818 Feb 14 09:08	9°♓57'11	
conjunction	3818 Mar 01 17:01	10°♓31'47	-0°14'01
minimum elong	3818 Mar 01 17:01	10°♓31'47	0°14'01
behind sun begin	3818 Mar 01 13:40	10°♓31'28	
behind sun end	3818 Mar 01 20:22	10°♓32'05	
max. Earth dist.	3818 Mar 02 00:11	10°♓32'27	31.08161 AU
morning rise	3818 Mar 17 02:29	11°♓06'32	
retrograde	3818 Jun 14 16:46	13°♓03'00	
opposition	3818 Sep 03 03:18	11°♓39'08	-0°16'50
min. Earth dist.	3818 Sep 02 19:29	11°♓39'40	29.07659 AU
direct	3818 Nov 21 14:26	10°♓15'49	
evening set	3819 Feb 16 18:56	12°♓09'21	
conjunction	3819 Mar 04 03:06	12°♓43'57	-0°17'31
minimum elong	3819 Mar 04 03:05	12°♓43'57	0°17'31
max. Earth dist.	3819 Mar 04 12:05	12°♓44'48	31.07160 AU
morning rise	3819 Mar 19 12:38	13°♓18'44	
retrograde	3819 Jun 17 03:32	15°♓15'20	
opposition	3819 Sep 05 16:13	13°♓51'25	-0°20'35
min. Earth dist.	3819 Sep 05 06:49	13°♓52'03	29.06696 AU
direct	3819 Nov 24 02:40	12°♓28'07	
evening set	3820 Feb 19 04:57	14°♓21'38	
conjunction	3820 Mar 05 13:04	14°♓56'16	-0°21'00
minimum elong	3820 Mar 05 13:04	14°♓56'16	0°20'59
max. Earth dist.	3820 Mar 05 21:56	14°♓57'06	31.06242 AU
morning rise	3820 Mar 20 23:01	15°♓31'04	
retrograde	3820 Jun 18 16:50	17°♓27'50	
opposition	3820 Sep 07 05:22	16°♓03'52	-0°24'17
min. Earth dist.	3820 Sep 06 19:24	16°♓04'32	29.05819 AU
direct	3820 Nov 25 11:57	14°♓40'37	
evening set	3821 Feb 20 14:47	16°♓34'06	
conjunction	3821 Mar 07 23:14	17°♓08'46	-0°24'27
minimum elong	3821 Mar 07 23:14	17°♓08'46	0°24'27
max. Earth dist.	3821 Mar 08 10:00	17°♓09'46	31.05381 AU
morning rise	3821 Mar 23 09:18	17°♓43'36	
retrograde	3821 Jun 21 04:10	19°♓40'31	
opposition	3821 Sep 09 18:32	18°♓16'31	-0°27'58
min. Earth dist.	3821 Sep 09 07:49	18°♓17'14	29.04965 AU
direct	3821 Nov 27 23:55	16°♓53'19	
evening set	3822 Feb 23 01:02	18°♓46'48	
conjunction	3822 Mar 10 09:31	19°♓21'28	-0°27'52
minimum elong	3822 Mar 10 09:31	19°♓21'28	0°27'52
max. Earth dist.	3822 Mar 10 20:00	19°♓22'28	31.04533 AU
morning rise	3822 Mar 25 20:00	19°♓56'20	
retrograde	3822 Jun 23 18:27	21°♓53'25	
opposition	3822 Sep 12 07:31	20°♓29'23	-0°31'37
min. Earth dist.	3822 Sep 11 19:55	20°♓30'10	29.04111 AU
direct	3822 Nov 30 09:45	19°♓06'14	
evening set	3823 Feb 25 11:17	20°♓59'44	
conjunction	3823 Mar 12 20:01	21°♓34'25	-0°31'15
minimum elong	3823 Mar 12 20:01	21°♓34'25	0°31'16
max. Earth dist.	3823 Mar 13 07:51	21°♓35'32	31.03641 AU
morning rise	3823 Mar 28 06:39	22°♓09'19	
retrograde	3823 Jun 26 06:32	24°♓06'34	
opposition	3823 Sep 14 20:47	22°♓42'29	-0°35'13
min. Earth dist.	3823 Sep 14 09:26	22°♓43'15	29.03186 AU
direct	3823 Dec 02 20:36	21°♓19'23	
evening set	3824 Feb 27 21:36	23°♓12'52	
conjunction	3824 Mar 14 06:29	23°♓47'35	-0°34'36
minimum elong	3824 Mar 14 06:28	23°♓47'35	0°34'35
max. Earth dist.	3824 Mar 14 18:22	23°♓48'42	31.02676 AU
morning rise	3824 Mar 29 17:26	24°♓22'31	
retrograde	3824 Jun 27 21:02	26°♓19'54	
opposition	3824 Sep 16 10:02	24°♓55'46	-0°38'45
min. Earth dist.	3824 Sep 15 21:20	24°♓56'38	29.02168 AU
direct	3824 Dec 04 08:30	23°♓32'41	
evening set	3825 Mar 01 08:09	25°♓26'10	
conjunction	3825 Mar 16 17:12	26°♓00'55	-0°37'53
minimum elong	3825 Mar 16 17:12	26°♓00'55	0°37'53
max. Earth dist.	3825 Mar 17 05:27	26°♓02'04	31.01586 AU
morning rise	3825 Apr 01 04:27	26°♓35'52	
retrograde	3825 Jun 30 10:25	28°♓33'24	
opposition	3825 Sep 18 23:20	27°♓09'11	-0°42'15
min. Earth dist.	3825 Sep 18 11:16	27°♓10'01	29.01025 AU
direct	3825 Dec 06 20:48	25°♓46'06	
evening set	3826 Mar 03 18:37	27°♓39'34	
conjunction	3826 Mar 19 04:00	28°♓14'20	-0°41'07
minimum elong	3826 Mar 19 04:00	28°♓14'20	0°41'07
max. Earth dist.	3826 Mar 19 16:55	28°♓15'33	31.00388 AU
morning rise	3826 Apr 03 15:32	28°♓49'19	
	3826 May 09 09:50	0°♈	
retrograde	3826 Jul 03 00:07	0°♈46'57	
	3826 Aug 28 22:41	30°℞♓	
opposition	3826 Sep 21 12:27	29°♓22'40	-0°45'40
min. Earth dist.	3826 Sep 20 22:56	29°♓23'35	28.99768 AU
direct	3826 Dec 09 10:00	27°♓59'33	
evening set	3827 Mar 06 05:12	29°♓52'59	
	3827 Mar 09 08:45	0°♈	
conjunction	3827 Mar 21 14:39	0°♈27'46	-0°44'18
minimum elong	3827 Mar 21 14:39	0°♈27'46	0°44'18
max. Earth dist.	3827 Mar 22 03:26	0°♈28'58	30.99086 AU
morning rise	3827 Apr 06 02:35	1°♈02'47	
retrograde	3827 Jul 05 11:49	3°♈00'31	
opposition	3827 Sep 24 01:39	1°♈36'07	-0°49'02
min. Earth dist.	3827 Sep 23 12:35	1°♈37'01	28.98454 AU
direct	3827 Dec 11 21:02	0°♈12'59	
evening set	3828 Mar 07 15:39	2°♈06'22	
conjunction	3828 Mar 23 01:29	2°♈41'10	-0°47'24
minimum elong	3828 Mar 23 01:29	2°♈41'10	0°47'24
max. Earth dist.	3828 Mar 23 15:54	2°♈42'32	30.97772 AU
morning rise	3828 Apr 07 13:36	3°♈16'13	
retrograde	3828 Jul 06 23:29	5°♈14'02	

opposition	3828 Sep 25	14:42	3°♈49'32	-0°52'19
min. Earth dist.	3828 Sep 25	00:17	3°♈50'32	28.97156 AU
direct	3828 Dec 13	10:13	2°♈26'23	
evening set	3829 Mar 10	02:13	4°♈19'43	
conjunction	3829 Mar 25	12:08	4°♈54'33	-0°50'26
minimum elong	3829 Mar 25	12:08	4°♈54'33	0°50'27
max. Earth dist.	3829 Mar 26	02:16	4°♈55'53	30.96505 AU
morning rise	3829 Apr 10	00:45	5°♈29'37	
retrograde	3829 Jul 09	12:49	7°♈27'33	
opposition	3829 Sep 28	03:48	6°♈02'57	-0°55'32
min. Earth dist.	3829 Sep 27	13:01	6°♈03'58	28.95945 AU
direct	3829 Dec 15	20:23	4°♈39'46	
evening set	3830 Mar 12	12:47	6°♈33'04	
conjunction	3830 Mar 27	23:06	7°♈07'55	-0°53'24
minimum elong	3830 Mar 27	23:06	7°♈07'55	0°53'23
max. Earth dist.	3830 Mar 28	15:02	7°♈09'26	30.95336 AU
morning rise	3830 Apr 12	11:53	7°♈43'02	
retrograde	3830 Jul 11	23:17	9°♈41'03	
opposition	3830 Sep 30	16:36	8°♈16'23	-0°58'39
min. Earth dist.	3830 Sep 30	00:59	8°♈17'28	28.94838 AU
direct	3830 Dec 18	08:38	6°♈53'12	
evening set	3831 Mar 14	23:30	8°♈46'29	
conjunction	3831 Mar 30	09:57	9°♈21'21	-0°56'17
minimum elong	3831 Mar 30	09:57	9°♈21'21	0°56'17
max. Earth dist.	3831 Mar 31	01:45	9°♈22'51	30.94298 AU
morning rise	3831 Apr 14	23:12	9°♈56'30	
retrograde	3831 Jul 14	12:44	11°♈54'37	
opposition	3831 Oct 03	05:35	10°♈29'54	-1°01'42
min. Earth dist.	3831 Oct 02	12:51	10°♈31'03	28.93873 AU
direct	3831 Dec 20	18:13	9°♈06'42	
evening set	3832 Mar 16	10:04	11°♈00'00	
conjunction	3832 Mar 31	20:52	11°♈34'53	-0°59'05
minimum elong	3832 Mar 31	20:52	11°♈34'53	0°59'05
max. Earth dist.	3832 Apr 01	14:16	11°♈36'32	30.93384 AU
morning rise	3832 Apr 16	10:22	12°♈10'03	
retrograde	3832 Jul 16	00:32	14°♈08'18	
opposition	3832 Oct 04	18:38	12°♈43'32	-1°04'39
min. Earth dist.	3832 Oct 04	01:49	12°♈44'41	28.93023 AU
direct	3832 Dec 22	04:29	11°♈20'21	
evening set	3833 Mar 18	20:54	13°♈13'39	
conjunction	3833 Apr 03	07:59	13°♈48'34	-1°01'48
minimum elong	3833 Apr 03	07:58	13°♈48'34	1°01'49
max. Earth dist.	3833 Apr 04	01:42	13°♈50'14	30.92597 AU
morning rise	3833 Apr 18	21:54	14°♈23'46	
retrograde	3833 Jul 18	15:04	16°♈22'07	
opposition	3833 Oct 07	07:27	14°♈57'19	-1°07'31
min. Earth dist.	3833 Oct 06	13:12	14°♈58'34	28.92284 AU
direct	3833 Dec 24	16:00	13°♈34'09	
evening set	3834 Mar 21	07:53	15°♈27'28	
conjunction	3834 Apr 05	19:14	16°♈02'24	-1°04'26
minimum elong	3834 Apr 05	19:13	16°♈02'24	1°04'26
max. Earth dist.	3834 Apr 06	13:31	16°♈04'08	30.91880 AU
morning rise	3834 Apr 21	09:32	16°♈37'39	
retrograde	3834 Jul 21	04:40	18°♈36'06	
opposition	3834 Oct 09	20:28	17°♈11'16	-1°10'16
min. Earth dist.	3834 Oct 09	02:46	17°♈12'29	28.91598 AU
direct	3834 Dec 27	03:22	15°♈48'09	
evening set	3835 Mar 23	18:51	17°♈41'28	
conjunction	3835 Apr 08	06:33	18°♈16'26	-1°06'58
minimum elong	3835 Apr 08	06:33	18°♈16'26	1°06'59
max. Earth dist.	3835 Apr 09	01:40	18°♈18'15	30.91208 AU
morning rise	3835 Apr 23	21:07	18°♈51'42	
retrograde	3835 Jul 23	18:47	20°♈50'16	
opposition	3835 Oct 12	09:21	19°♈25'25	-1°12'56
min. Earth dist.	3835 Oct 11	14:16	19°♈26'44	28.90924 AU
direct	3835 Dec 29	15:46	18°♈02'19	
evening set	3836 Mar 25	06:12	19°♈55'39	
conjunction	3836 Apr 09	18:05	20°♈30'39	-1°09'24
minimum elong	3836 Apr 09	18:05	20°♈30'39	1°09'23
max. Earth dist.	3836 Apr 10	12:51	20°♈32'26	30.90514 AU
morning rise	3836 Apr 25	09:08	21°♈05'57	
retrograde	3836 Jul 25	08:28	23°♈04'37	
opposition	3836 Oct 13	22:28	21°♈39'44	-1°15'28
min. Earth dist.	3836 Oct 13	04:09	21°♈40'59	28.90217 AU
direct	3836 Dec 31	02:54	20°♈16'38	
evening set	3837 Mar 27	17:29	22°♈09'58	
conjunction	3837 Apr 12	05:52	22°♈45'00	-1°11'43
minimum elong	3837 Apr 12	05:52	22°♈45'00	1°11'44
max. Earth dist.	3837 Apr 13	01:44	22°♈46'53	30.89764 AU
morning rise	3837 Apr 27	21:10	23°♈20'20	
retrograde	3837 Jul 27	22:14	25°♈19'05	
opposition	3837 Oct 16	11:25	23°♈54'09	-1°17'54
min. Earth dist.	3837 Oct 15	16:19	23°♈55'28	28.89416 AU
direct	3838 Jan 02	16:39	22°♈31'03	
evening set	3838 Mar 30	05:07	24°♈24'23	
conjunction	3838 Apr 14	17:40	24°♈59'26	-1°13'57
minimum elong	3838 Apr 14	17:40	24°♈59'26	1°13'56
max. Earth dist.	3838 Apr 15	12:29	25°♈01'13	30.88911 AU
morning rise	3838 Apr 30	09:31	25°♈34'48	
retrograde	3838 Jul 30	11:52	27°♈33'36	
min. Earth dist.	3838 Oct 18	05:39	26°♈09'54	28.88524 AU
opposition	3838 Oct 19	00:20	26°♈08'36	-1°20'13
direct	3839 Jan 05	03:38	24°♈45'28	
evening set	3839 Apr 01	16:33	26°♈38'47	
conjunction	3839 Apr 17	05:38	27°♈13'52	-1°16'03
minimum elong	3839 Apr 17	05:38	27°♈13'52	1°16'04
max. Earth dist.	3839 Apr 18	01:38	27°♈15'46	30.87975 AU
morning rise	3839 May 02	21:43	27°♈49'16	
retrograde	3839 Aug 01	23:04	29°♈48'06	
opposition	3839 Oct 21	13:15	28°♈23'02	-1°22'25
min. Earth dist.	3839 Oct 20	18:15	28°♈24'21	28.87559 AU
direct	3840 Jan 07	16:27	26°♈59'52	
evening set	3840 Apr 03	04:01	28°♈53'09	
conjunction	3840 Apr 18	17:20	29°♈28'15	-1°18'03
minimum elong	3840 Apr 18	17:20	29°♈28'15	1°18'03
max. Earth dist.	3840 Apr 19	12:42	29°♈30'06	30.87008 AU
	3840 May 02	18:13	0°♉	
morning rise	3840 May 04	09:59	0°♉03'41	
retrograde	3840 Aug 03	12:34	2°♉02'34	
min. Earth dist.	3840 Oct 22	06:36	0°♉38'46	28.86604 AU
opposition	3840 Oct 23	02:07	0°♉37'25	-1°24'30
	3840 Nov 15	09:22	30°℞♈	
direct	3841 Jan 09	03:01	29°♈14'11	
	3841 Mar 02	13:36	0°♉	
evening set	3841 Apr 05	15:34	1°♉07'28	
conjunction	3841 Apr 21	05:21	1°♉42'36	-1°19'56
minimum elong	3841 Apr 21	05:21	1°♉42'36	1°19'57
max. Earth dist.	3841 Apr 22	01:53	1°♉44'32	30.86061 AU
morning rise	3841 May 06	22:19	2°♉18'03	
retrograde	3841 Aug 06	00:11	4°♉16'58	
opposition	3841 Oct 25	14:47	2°♉51'45	-1°26'27

min. Earth dist.	3841 Oct 24 19:34	2°♉53'05	28.85697 AU
direct	3842 Jan 11 13:58	1°♉28'29	
evening set	3842 Apr 08 03:12	3°♉21'45	
conjunction	3842 Apr 23 17:20	3°♉56'54	-1°21'42
minimum elong	3842 Apr 23 17:20	3°♉56'54	1°21'41
max. Earth dist.	3842 Apr 24 13:53	3°♉58'51	30.85207 AU
morning rise	3842 May 09 10:45	4°♉32'23	
retrograde	3842 Aug 08 13:59	6°♉31'21	
min. Earth dist.	3842 Oct 27 06:58	5°♉07'30	28.84903 AU
opposition	3842 Oct 28 03:24	5°♉06'05	-1°28'16
direct	3843 Jan 14 01:33	3°♉42'47	
evening set	3843 Apr 10 14:47	5°♉36'04	
conjunction	3843 Apr 26 05:15	6°♉11'15	-1°23'20
minimum elong	3843 Apr 26 05:15	6°♉11'15	1°23'21
max. Earth dist.	3843 Apr 27 02:20	6°♉13'14	30.84462 AU
morning rise	3843 May 11 23:04	6°♉46'45	
retrograde	3843 Aug 11 02:41	8°♉45'46	
opposition	3843 Oct 30 16:09	7°♉20'28	-1°29'57
min. Earth dist.	3843 Oct 29 20:12	7°♉21'51	28.84237 AU
direct	3844 Jan 16 12:32	5°♉57'09	
evening set	3844 Apr 12 02:28	7°♉50'27	
conjunction	3844 Apr 27 17:25	8°♉25'40	-1°24'51
minimum elong	3844 Apr 27 17:25	8°♉25'40	1°24'50
max. Earth dist.	3844 Apr 28 15:17	8°♉27'44	30.83873 AU
morning rise	3844 May 13 11:36	9°♉01'13	
retrograde	3844 Aug 12 16:52	11°♉00'16	
min. Earth dist.	3844 Oct 31 07:15	9°♉36'26	28.83719 AU
opposition	3844 Nov 01 04:39	9°♉34'57	-1°31'30
direct	3845 Jan 18 00:27	8°♉11'39	
evening set	3845 Apr 14 14:19	10°♉04'59	
conjunction	3845 Apr 30 05:35	10°♉40'14	-1°26'14
minimum elong	3845 Apr 30 05:35	10°♉40'14	1°26'15
max. Earth dist.	3845 May 01 03:13	10°♉42'17	30.83417 AU
morning rise	3845 May 16 00:20	11°♉15'49	
retrograde	3845 Aug 15 06:59	13°♉14'55	
opposition	3845 Nov 03 17:20	11°♉49'36	-1°32'54
min. Earth dist.	3845 Nov 02 20:36	11°♉51'03	28.83331 AU
direct	3846 Jan 20 11:33	10°♉26'19	
evening set	3846 Apr 17 02:12	12°♉19'41	
conjunction	3846 May 02 18:01	12°♉54'58	-1°27'29
minimum elong	3846 May 02 18:01	12°♉54'58	1°27'28
max. Earth dist.	3846 May 03 16:54	12°♉57'08	30.83082 AU
morning rise	3846 May 18 13:02	13°♉30'35	
	3846 Jul 05 18:23	15°♉	
retrograde	3846 Aug 17 21:45	15°♉29'44	
	3846 Sep 30 23:51	15°℞♉	
min. Earth dist.	3846 Nov 05 08:06	14°♉05'57	28.83037 AU
opposition	3846 Nov 06 05:44	14°♉04'27	-1°34'10
direct	3847 Jan 23 01:09	12°♉41'11	
evening set	3847 Apr 19 14:21	14°♉34'37	
	3847 Apr 30 21:39	15°♉	
conjunction	3847 May 05 06:25	15°♉09'56	-1°28'36
minimum elong	3847 May 05 06:25	15°♉09'56	1°28'37
max. Earth dist.	3847 May 06 04:26	15°♉12'01	30.82827 AU
morning rise	3847 May 21 02:01	15°♉45'35	
retrograde	3847 Aug 20 11:46	17°♉44'48	
opposition	3847 Nov 08 18:22	16°♉19'31	-1°35'17
min. Earth dist.	3847 Nov 07 21:12	16°♉20'59	28.82814 AU
	3848 Jan 10 18:17	15°℞♉	
direct	3848 Jan 25 11:55	14°♉56'17	
	3848 Feb 09 01:40	15°♉	
evening set	3848 Apr 21 02:25	16°♉49'45	
conjunction	3848 May 06 19:04	17°♉25'06	-1°29'35
minimum elong	3848 May 06 19:04	17°♉25'06	1°29'34
max. Earth dist.	3848 May 07 18:12	17°♉27'17	30.82604 AU
morning rise	3848 May 22 14:56	18°♉00'47	
retrograde	3848 Aug 22 00:27	20°♉00'03	
min. Earth dist.	3848 Nov 09 09:43	18°♉36'16	28.82578 AU
opposition	3848 Nov 10 06:56	18°♉34'48	-1°36'16
direct	3849 Jan 27 00:43	17°♉11'35	
evening set	3849 Apr 23 14:56	19°♉05'05	
conjunction	3849 May 09 07:54	19°♉40'28	-1°30'25
minimum elong	3849 May 09 07:54	19°♉40'28	1°30'26
max. Earth dist.	3849 May 10 05:47	19°♉42'33	30.82349 AU
morning rise	3849 May 25 04:21	20°♉16'11	
retrograde	3849 Aug 24 15:17	22°♉15'28	
opposition	3849 Nov 12 19:21	20°♉50'14	-1°37'06
min. Earth dist.	3849 Nov 11 22:16	20°♉51'42	28.82292 AU
direct	3850 Jan 29 11:41	19°♉27'00	
evening set	3850 Apr 26 03:28	21°♉20'33	
conjunction	3850 May 11 20:57	21°♉55'58	-1°31'08
minimum elong	3850 May 11 20:57	21°♉55'58	1°31'07
max. Earth dist.	3850 May 12 19:19	21°♉58'05	30.82004 AU
morning rise	3850 May 27 17:44	22°♉31'43	
retrograde	3850 Aug 27 03:12	24°♉31'00	
min. Earth dist.	3850 Nov 14 11:43	23°♉07'10	28.81896 AU
opposition	3850 Nov 15 07:56	23°♉05'45	-1°37'46
direct	3851 Jan 31 23:20	21°♉42'30	
evening set	3851 Apr 28 15:57	23°♉36'02	
conjunction	3851 May 14 09:52	24°♉11'29	-1°31'42
minimum elong	3851 May 14 09:52	24°♉11'29	1°31'43
max. Earth dist.	3851 May 15 07:28	24°♉13'31	30.81570 AU
morning rise	3851 May 30 07:08	24°♉47'15	
retrograde	3851 Aug 29 16:13	26°♉46'31	
opposition	3851 Nov 17 20:24	25°♉21'14	-1°38'18
min. Earth dist.	3851 Nov 16 23:42	25°♉22'41	28.81419 AU
direct	3852 Feb 03 11:12	23°♉57'55	
evening set	3852 Apr 30 04:34	25°♉51'28	
conjunction	3852 May 15 22:56	26°♉26'56	-1°32'07
minimum elong	3852 May 15 22:56	26°♉26'56	1°32'08
max. Earth dist.	3852 May 16 20:24	26°♉28'58	30.81059 AU
morning rise	3852 May 31 20:40	27°♉02'44	
retrograde	3852 Aug 31 04:06	29°♉01'58	
opposition	3852 Nov 19 08:47	27°♉36'38	-1°38'41
min. Earth dist.	3852 Nov 18 13:17	27°♉38'00	28.80897 AU
direct	3853 Feb 04 21:52	26°♉13'15	
evening set	3853 May 02 17:09	28°♉06'47	
conjunction	3853 May 18 12:05	28°♉42'17	-1°32'25
minimum elong	3853 May 18 12:05	28°♉42'17	1°32'26
max. Earth dist.	3853 May 19 09:37	28°♉44'19	30.80543 AU
morning rise	3853 Jun 03 10:14	29°♉18'06	
	3853 Jun 23 08:39	0°♊	
retrograde	3853 Sep 02 17:47	1°♊17'16	
	3853 Nov 17 01:05	30°℞♉	
opposition	3853 Nov 21 20:58	29°♉51'54	-1°38'55
min. Earth dist.	3853 Nov 21 00:35	29°♉53'19	28.80387 AU
direct	3854 Feb 07 09:57	28°♉28'26	
	3854 Apr 25 01:12	0°♊	
evening set	3854 May 05 05:52	0°♊21'59	
conjunction	3854 May 21 01:07	0°♊57'30	-1°32'34
minimum elong	3854 May 21 01:07	0°♊57'30	1°32'33

max. Earth dist.	3854 May 21 22:00	0°♊59'28	30.80051 AU
morning rise	3854 Jun 05 23:47	1°♊33'20	
retrograde	3854 Sep 05 06:42	3°♊32'27	
opposition	3854 Nov 24 09:09	2°♊07'02	-1°39'00
min. Earth dist.	3854 Nov 23 13:48	2°♊08'23	28.79943 AU
direct	3855 Feb 09 21:38	0°♊43'30	
evening set	3855 May 07 18:26	2°♊37'03	
conjunction	3855 May 23 14:19	3°♊12'36	-1°32'34
minimum elong	3855 May 23 14:19	3°♊12'36	1°32'35
max. Earth dist.	3855 May 24 12:09	3°♊14'39	30.79660 AU
morning rise	3855 Jun 08 13:16	3°♊48'28	
retrograde	3855 Sep 07 20:27	5°♊47'31	
opposition	3855 Nov 26 21:11	4°♊22'04	-1°38'56
min. Earth dist.	3855 Nov 26 01:03	4°♊23'29	28.79605 AU
direct	3856 Feb 12 11:11	2°♊58'29	
evening set	3856 May 09 07:08	4°♊52'03	
conjunction	3856 May 25 03:21	5°♊27'37	-1°32'26
minimum elong	3856 May 25 03:21	5°♊27'37	1°32'25
max. Earth dist.	3856 May 26 00:12	5°♊29'35	30.79388 AU
morning rise	3856 Jun 10 02:56	6°♊03'31	
retrograde	3856 Sep 09 10:14	8°♊02'31	
opposition	3856 Nov 28 09:18	6°♊37'04	-1°38'43
min. Earth dist.	3856 Nov 27 13:44	6°♊38'26	28.79407 AU
direct	3857 Feb 13 22:09	5°♊13'26	
evening set	3857 May 11 19:53	7°♊07'01	
conjunction	3857 May 27 16:45	7°♊42'38	-1°32'10
minimum elong	3857 May 27 16:45	7°♊42'38	1°32'10
max. Earth dist.	3857 May 28 14:38	7°♊44'42	30.79253 AU
morning rise	3857 Jun 12 16:36	8°♊18'33	
retrograde	3857 Sep 11 23:27	10°♊17'29	
opposition	3857 Nov 30 21:08	8°♊52'03	-1°38'21
min. Earth dist.	3857 Nov 30 01:24	8°♊53'26	28.79334 AU
direct	3858 Feb 16 11:21	7°♊28'24	
evening set	3858 May 14 08:49	9°♊22'02	
conjunction	3858 May 30 06:01	9°♊57'40	-1°31'44
minimum elong	3858 May 30 06:01	9°♊57'40	1°31'44
max. Earth dist.	3858 May 31 02:46	9°♊59'38	30.79257 AU
morning rise	3858 Jun 15 06:28	10°♊33'37	
retrograde	3858 Sep 14 14:32	12°♊32'31	
opposition	3858 Dec 03 09:08	11°♊07'07	-1°37'49
min. Earth dist.	3858 Dec 02 13:18	11°♊08'30	28.79402 AU
direct	3859 Feb 18 22:50	9°♊43'28	
evening set	3859 May 16 21:34	11°♊37'08	
conjunction	3859 Jun 01 19:21	12°♊12'49	-1°31'11
minimum elong	3859 Jun 01 19:21	12°♊12'49	1°31'12
max. Earth dist.	3859 Jun 02 16:56	12°♊14'51	30.79371 AU
morning rise	3859 Jun 17 20:06	12°♊48'47	
retrograde	3859 Sep 17 02:25	14°♊47'40	
opposition	3859 Dec 05 21:08	13°♊22'18	-1°37'08
min. Earth dist.	3859 Dec 05 02:02	13°♊23'39	28.79554 AU
direct	3860 Feb 21 10:39	11°♊58'40	
evening set	3860 May 18 10:41	13°♊52'24	
conjunction	3860 Jun 03 08:55	14°♊28'06	-1°30'28
minimum elong	3860 Jun 03 08:55	14°♊28'06	1°30'29
max. Earth dist.	3860 Jun 04 05:39	14°♊30'03	30.79566 AU
morning rise	3860 Jun 19 10:11	15°♊04'06	
retrograde	3860 Sep 18 16:19	17°♊02'57	
opposition	3860 Dec 07 08:55	15°♊37'39	-1°36'19
min. Earth dist.	3860 Dec 06 13:34	15°♊39'01	28.79760 AU
direct	3861 Feb 22 22:00	14°♊14'00	
evening set	3861 May 20 23:59	16°♊07'49	
conjunction	3861 Jun 05 22:40	16°♊43'33	-1°29'38
minimum elong	3861 Jun 05 22:41	16°♊43'33	1°29'39
max. Earth dist.	3861 Jun 06 19:08	16°♊45'29	30.79758 AU
morning rise	3861 Jun 22 00:20	17°♊19'35	
retrograde	3861 Sep 21 04:43	19°♊18'23	
opposition	3861 Dec 09 20:53	17°♊53'09	-1°35'20
min. Earth dist.	3861 Dec 09 03:04	17°♊54'24	28.79933 AU
direct	3862 Feb 25 08:17	16°♊29'30	
evening set	3862 May 23 13:16	18°♊23'22	
conjunction	3862 Jun 08 12:29	18°♊59'08	-1°28'39
minimum elong	3862 Jun 08 12:29	18°♊59'08	1°28'38
max. Earth dist.	3862 Jun 09 08:20	19°♊01'00	30.79905 AU
morning rise	3862 Jun 24 14:29	19°♊35'11	
retrograde	3862 Sep 23 18:17	21°♊33'56	
opposition	3862 Dec 12 08:40	20°♊08'44	-1°34'12
min. Earth dist.	3862 Dec 11 14:26	20°♊10'01	28.80032 AU
direct	3863 Feb 27 20:06	18°♊45'03	
evening set	3863 May 26 02:44	20°♊38'58	
conjunction	3863 Jun 11 02:19	21°♊14'46	-1°27'32
minimum elong	3863 Jun 11 02:19	21°♊14'46	1°27'33
max. Earth dist.	3863 Jun 11 20:56	21°♊16'31	30.79958 AU
morning rise	3863 Jun 27 04:49	21°♊50'50	
retrograde	3863 Sep 26 06:41	23°♊49'31	
opposition	3863 Dec 14 20:35	22°♊24'20	-1°32'56
min. Earth dist.	3863 Dec 14 03:56	22°♊25'31	28.80048 AU
direct	3864 Mar 01 07:32	21°♊00'37	
evening set	3864 May 27 16:00	22°♊54'33	
conjunction	3864 Jun 12 16:14	23°♊30'22	-1°26'17
minimum elong	3864 Jun 12 16:14	23°♊30'22	1°26'17
max. Earth dist.	3864 Jun 13 11:00	23°♊32'08	30.79946 AU
morning rise	3864 Jun 28 19:03	24°♊06'28	
retrograde	3864 Sep 27 19:52	26°♊05'03	
opposition	3864 Dec 16 08:13	24°♊39'52	-1°31'32
min. Earth dist.	3864 Dec 15 15:26	24°♊41'03	28.79993 AU
direct	3865 Mar 03 20:54	23°♊16'04	
evening set	3865 May 30 05:33	25°♊10'03	
conjunction	3865 Jun 15 06:05	25°♊45'53	-1°24'54
minimum elong	3865 Jun 15 06:06	25°♊45'53	1°24'55
max. Earth dist.	3865 Jun 15 23:14	25°♊47'30	30.79881 AU
morning rise	3865 Jul 01 09:27	26°♊22'00	
retrograde	3865 Sep 30 09:15	28°♊20'28	
opposition	3865 Dec 18 19:46	26°♊55'17	-1°30'00
min. Earth dist.	3865 Dec 18 04:09	26°♊56'23	28.79931 AU
direct	3866 Mar 06 07:46	25°♊31'25	
evening set	3866 Jun 01 18:53	27°♊25'24	
conjunction	3866 Jun 17 20:03	28°♊01'16	-1°23'24
minimum elong	3866 Jun 17 20:03	28°♊01'16	1°23'24
max. Earth dist.	3866 Jun 18 13:47	28°♊02'56	30.79831 AU
morning rise	3866 Jul 03 23:36	28°♊37'24	
	3866 Aug 16 17:41	0°♋	
retrograde	3866 Oct 02 22:30	0°♋35'45	
	3866 Nov 20 03:09	30°℞♊	
opposition	3866 Dec 21 07:13	29°♊10'34	-1°28'19
min. Earth dist.	3866 Dec 20 15:46	29°♊11'39	28.79900 AU
direct	3867 Mar 08 21:42	27°♊46'37	
evening set	3867 Jun 04 08:11	29°♊40'37	
	3867 Jun 13 01:45	0°♋	
conjunction	3867 Jun 20 09:39	0°♋16'31	-1°21'46
minimum elong	3867 Jun 20 09:39	0°♋16'31	1°21'47
max. Earth dist.	3867 Jun 21 01:56	0°♋18'03	30.79850 AU
morning rise	3867 Jul 06 13:45	0°♋52'39	

retrograde	3867 Oct	05	13:04	2°♓50'53		
opposition	3867 Dec	23	18:39	1°♓25'41	-1°26'31	
min. Earth dist.	3867 Dec	23	03:24	1°♓26'46	28.79971	AU
direct	3868 Mar	10	10:12	0°♓01'41		
evening set	3868 Jun	05	21:35	1°♓55'42		
conjunction	3868 Jun	21	23:37	2°♓31'38	-1°20'01	
minimum elong	3868 Jun	21	23:37	2°♓31'38	1°20'01	
max. Earth dist.	3868 Jun	22	16:30	2°♓33'13	30.79973	AU
morning rise	3868 Jul	08	03:56	3°♓07'47		
retrograde	3868 Oct	07	00:27	5°♓05'53		
opposition	3868 Dec	25	05:55	3°♓40'43	-1°24'34	
min. Earth dist.	3868 Dec	24	15:28	3°♓41'44	28.80157	AU
direct	3869 Mar	12	22:33	2°♓16'38		
evening set	3869 Jun	08	11:04	4°♓10'42		
conjunction	3869 Jun	24	13:30	4°♓46'38	-1°18'09	
minimum elong	3869 Jun	24	13:30	4°♓46'38	1°18'10	
max. Earth dist.	3869 Jun	25	05:20	4°♓48'07	30.80243	AU
morning rise	3869 Jul	10	18:15	5°♓22'48		
retrograde	3869 Oct	09	14:32	7°♓20'47		
opposition	3869 Dec	27	17:08	5°♓55'38	-1°22'30	
min. Earth dist.	3869 Dec	27	02:17	5°♓56'42	28.80500	AU
direct	3870 Mar	15	10:32	4°♓31'32		
evening set	3870 Jun	11	00:27	6°♓25'37		
conjunction	3870 Jun	27	03:18	7°♓01'35	-1°16'09	
minimum elong	3870 Jun	27	03:18	7°♓01'35	1°16'09	
max. Earth dist.	3870 Jun	27	19:13	7°♓03'05	30.80656	AU
morning rise	3870 Jul	13	08:19	7°♓37'46		
retrograde	3870 Oct	12	02:42	9°♓35'38		
opposition	3870 Dec	30	04:27	8°♓10'33	-1°20'18	
min. Earth dist.	3870 Dec	29	14:47	8°♓11'31	28.80990	AU
direct	3871 Mar	17	21:12	6°♓46'25		
evening set	3871 Jun	13	13:54	8°♓40'33		
conjunction	3871 Jun	29	17:13	9°♓16'32	-1°14'03	
minimum elong	3871 Jun	29	17:13	9°♓16'32	1°14'03	
max. Earth dist.	3871 Jun	30	08:43	9°♓17'59	30.81235	AU
morning rise	3871 Jul	15	22:34	9°♓52'43		
retrograde	3871 Oct	14	15:16	11°♓50'29		
opposition	3872 Jan	01	15:31	10°♓25'28	-1°17'59	
min. Earth dist.	3872 Jan	01	01:15	10°♓26'28	28.81626	AU
direct	3872 Mar	19	09:00	9°♓01'19		
evening set	3872 Jun	15	03:31	10°♓55'30		
conjunction	3872 Jul	01	07:11	11°♓31'30	-1°11'49	
minimum elong	3872 Jul	01	07:11	11°♓31'31	1°11'49	
max. Earth dist.	3872 Jul	01	21:47	11°♓32'53	30.81924	AU
morning rise	3872 Jul	17	12:54	12°♓07'43		
retrograde	3872 Oct	16	02:42	14°♓05'23		
opposition	3873 Jan	03	02:46	12°♓40'26	-1°15'33	
min. Earth dist.	3873 Jan	02	14:02	12°♓41'20	28.82353	AU
direct	3873 Mar	21	19:28	11°♓16'17		
evening set	3873 Jun	17	17:13	13°♓10'33		
conjunction	3873 Jul	03	21:23	13°♓46'34	-1°09'29	
minimum elong	3873 Jul	03	21:23	13°♓46'34	1°09'29	
max. Earth dist.	3873 Jul	04	11:58	13°♓47'56	30.82677	AU
morning rise	3873 Jul	20	03:15	14°♓22'47		
retrograde	3873 Oct	18	15:24	16°♓20'20		
opposition	3874 Jan	05	13:46	14°♓55'29	-1°12'59	
min. Earth dist.	3874 Jan	05	01:02	14°♓56'23	28.83097	AU
direct	3874 Mar	24	07:28	13°♓31'19		
evening set	3874 Jun	20	07:09	15°♓25'39		
conjunction	3874 Jul	06	11:30	16°♓01'41	-1°07'02	
minimum elong	3874 Jul	06	11:31	16°♓01'41	1°07'02	
max. Earth dist.	3874 Jul	07	00:18	16°♓02'53	30.83411	AU
morning rise	3874 Jul	22	17:46	16°♓37'54		
retrograde	3874 Oct	21	04:19	18°♓35'21		
opposition	3875 Jan	08	01:00	17°♓10'34	-1°10'19	
min. Earth dist.	3875 Jan	07	13:40	17°♓11'22	28.83812	AU
direct	3875 Mar	26	17:54	15°♓46'22		
evening set	3875 Jun	22	20:49	17°♓40'45		
conjunction	3875 Jul	09	01:44	18°♓16'49	-1°04'29	
minimum elong	3875 Jul	09	01:44	18°♓16'49	1°04'29	
max. Earth dist.	3875 Jul	09	14:38	18°♓18'01	30.84089	AU
morning rise	3875 Jul	25	08:06	18°♓53'02		
retrograde	3875 Oct	23	16:46	20°♓50'21		
opposition	3876 Jan	10	12:10	19°♓25'38	-1°07'32	
min. Earth dist.	3876 Jan	10	01:28	19°♓26'23	28.84435	AU
direct	3876 Mar	28	07:39	18°♓01'24		
evening set	3876 Jun	24	10:51	19°♓55'49		
conjunction	3876 Jul	10	15:59	20°♓31'53	-1°01'51	
minimum elong	3876 Jul	10	15:59	20°♓31'53	1°01'51	
max. Earth dist.	3876 Jul	11	02:38	20°♓32'53	30.84679	AU
morning rise	3876 Jul	26	22:46	21°♓08'06		
retrograde	3876 Oct	25	06:39	23°♓05'17		
opposition	3877 Jan	11	23:09	21°♓40'35	-1°04'40	
min. Earth dist.	3877 Jan	11	13:14	21°♓41'17	28.84986	AU
direct	3877 Mar	30	19:57	20°♓16'17		
evening set	3877 Jun	27	00:45	22°♓10'45		
conjunction	3877 Jul	13	06:21	22°♓46'50	-0°59'07	
minimum elong	3877 Jul	13	06:21	22°♓46'50	0°59'07	
max. Earth dist.	3877 Jul	13	17:01	22°♓47'50	30.85196	AU
morning rise	3877 Jul	29	13:10	23°♓23'03		
retrograde	3877 Oct	27	18:20	25°♓20'05		
opposition	3878 Jan	14	10:11	23°♓55'25	-1°01'42	
min. Earth dist.	3878 Jan	14	01:33	23°♓56'01	28.85473	AU
direct	3878 Apr	02	08:36	22°♓31'04		
evening set	3878 Jun	29	14:32	24°♓25'32		
conjunction	3878 Jul	15	20:20	25°♓01'38	-0°56'18	
minimum elong	3878 Jul	15	20:20	25°♓01'38	0°56'18	
max. Earth dist.	3878 Jul	16	05:24	25°♓02'28	30.85687	AU
morning rise	3878 Aug	01	03:28	25°♓37'51		
retrograde	3878 Oct	30	08:28	27°♓34'43		
opposition	3879 Jan	16	21:02	26°♓10'04	-0°58'38	
min. Earth dist.	3879 Jan	16	12:25	26°♓10'41	28.85963	AU
direct	3879 Apr	04	21:22	24°♓45'39		
evening set	3879 Jul	02	04:19	26°♓40'09		
conjunction	3879 Jul	18	10:28	27°♓16'16	-0°53'24	
minimum elong	3879 Jul	18	10:28	27°♓16'16	0°53'24	
max. Earth dist.	3879 Jul	18	19:20	27°♓17'05	30.86186	AU
morning rise	3879 Aug	03	17:42	27°♓52'29		
retrograde	3879 Nov	01	20:05	29°♓49'11		
opposition	3880 Jan	19	07:50	28°♓24'34	-0°55'30	
min. Earth dist.	3880 Jan	19	00:49	28°♓25'04	28.86489	AU
direct	3880 Apr	06	08:49	27°♓00'06		
evening set	3880 Jul	03	18:04	28°♓54'37		
conjunction	3880 Jul	20	00:33	29°♓30'44	-0°50'25	
minimum elong	3880 Jul	20	00:33	29°♓30'44	0°50'25	
max. Earth dist.	3880 Jul	20	08:31	29°♓31'29	30.86758	AU
	3880 Aug	02	03:48	0°♌		
morning rise	3880 Aug	05	07:59	0°♌06'57		
retrograde	3880 Nov	03	08:24	2°♌03'30		
opposition	3881 Jan	20	18:30	0°♌38'56	-0°52'16	
min. Earth dist.	3881 Jan	20	11:03	0°♌39'28	28.87097	AU

	3881 Feb 13 12:59	30°R♋	
direct	3881 Apr 08 21:20	29°♋14'24	
	3881 May 31 20:12	0°♌	
evening set	3881 Jul 06 07:54	1°♌08'58	
conjunction	3881 Jul 22 14:31	1°♌45'05	-0°47'22
minimum elong	3881 Jul 22 14:31	1°♌45'05	0°47'22
max. Earth dist.	3881 Jul 22 21:37	1°♌45'45	30.87413 AU
morning rise	3881 Aug 07 22:04	2°♌21'18	
retrograde	3881 Nov 05 19:09	4°♌17'42	
opposition	3882 Jan 23 05:11	2°♌53'12	-0°48'58
min. Earth dist.	3882 Jan 22 23:09	2°♌53'37	28.87820 AU
direct	3882 Apr 11 07:40	1°♌28'38	
evening set	3882 Jul 08 21:33	3°♌23'14	
conjunction	3882 Jul 25 04:31	3°♌59'22	-0°44'15
minimum elong	3882 Jul 25 04:31	3°♌59'22	0°44'15
max. Earth dist.	3882 Jul 25 11:39	4°♌00'02	30.88212 AU
morning rise	3882 Aug 10 12:05	4°♌35'34	
retrograde	3882 Nov 08 07:11	6°♌31'50	
opposition	3883 Jan 25 15:47	5°♌07'24	-0°45'36
min. Earth dist.	3883 Jan 25 09:25	5°♌07'51	28.88680 AU
direct	3883 Apr 13 19:07	3°♌42'49	
evening set	3883 Jul 11 11:17	5°♌37'29	
conjunction	3883 Jul 27 18:20	6°♌13'37	-0°41'03
minimum elong	3883 Jul 27 18:20	6°♌13'37	0°41'03
max. Earth dist.	3883 Jul 28 00:06	6°♌14'09	30.89148 AU
morning rise	3883 Aug 13 02:08	6°♌49'49	
retrograde	3883 Nov 10 18:42	8°♌45'58	
opposition	3884 Jan 28 02:29	7°♌21'37	-0°42'09
min. Earth dist.	3884 Jan 27 21:12	7°♌22'00	28.89686 AU
direct	3884 Apr 15 05:07	5°♌57'02	
evening set	3884 Jul 13 01:03	7°♌51'46	
conjunction	3884 Jul 29 08:29	8°♌27'54	-0°37'48
minimum elong	3884 Jul 29 08:29	8°♌27'54	0°37'48
max. Earth dist.	3884 Jul 29 14:37	8°♌28'28	30.90214 AU
morning rise	3884 Aug 14 16:11	9°♌04'06	
retrograde	3884 Nov 12 06:03	11°♌00'08	
opposition	3885 Jan 29 12:58	9°♌35'54	-0°38'38
min. Earth dist.	3885 Jan 29 08:09	9°♌36'14	28.90786 AU
direct	3885 Apr 17 18:05	8°♌11'19	
evening set	3885 Jul 15 15:04	10°♌06'09	
conjunction	3885 Jul 31 22:29	10°♌42'17	-0°34'29
minimum elong	3885 Jul 31 22:29	10°♌42'17	0°34'29
max. Earth dist.	3885 Aug 01 02:40	10°♌42'40	30.91355 AU
morning rise	3885 Aug 17 06:23	11°♌18'28	
retrograde	3885 Nov 14 19:24	13°♌14'24	
opposition	3886 Jan 31 23:36	11°♌50'16	-0°35'04
min. Earth dist.	3886 Jan 31 19:24	11°♌50'34	28.91943 AU
direct	3886 Apr 20 05:27	10°♌25'41	
evening set	3886 Jul 18 04:50	12°♌20'36	
conjunction	3886 Aug 03 12:31	12°♌56'44	-0°31'08
minimum elong	3886 Aug 03 12:31	12°♌56'44	0°31'08
max. Earth dist.	3886 Aug 03 16:50	12°♌57'08	30.92499 AU
morning rise	3886 Aug 19 20:15	13°♌32'55	
	3886 Oct 06 12:08	15°♌	
retrograde	3886 Nov 17 07:01	15°♌28'44	
	3886 Dec 29 19:45	15°R♌	
opposition	3887 Feb 03 10:17	14°♌04'42	-0°31'27
min. Earth dist.	3887 Feb 03 07:30	14°♌04'54	28.93062 AU
direct	3887 Apr 22 17:26	12°♌40'09	
evening set	3887 Jul 20 18:55	14°♌35'07	
	3887 Aug 01 01:41	15°♌	
conjunction	3887 Aug 06 02:37	15°♌11'15	-0°27'43
minimum elong	3887 Aug 06 02:37	15°♌11'15	0°27'43
max. Earth dist.	3887 Aug 06 04:53	15°♌11'28	30.93591 AU
morning rise	3887 Aug 22 10:28	15°♌47'25	
retrograde	3887 Nov 19 21:27	17°♌43'06	
opposition	3888 Feb 05 20:48	16°♌19'09	-0°27'46
min. Earth dist.	3888 Feb 05 18:20	16°♌19'20	28.94105 AU
	3888 Apr 06 06:14	15°R♌	
direct	3888 Apr 24 06:49	14°♌54'34	
	3888 May 12 03:55	15°♌	
evening set	3888 Jul 22 08:58	16°♌49'36	
conjunction	3888 Aug 07 16:51	17°♌25'44	-0°24'16
minimum elong	3888 Aug 07 16:51	17°♌25'44	0°24'16
max. Earth dist.	3888 Aug 07 18:32	17°♌25'54	30.94571 AU
morning rise	3888 Aug 24 00:34	18°♌01'53	
retrograde	3888 Nov 21 08:45	19°♌57'25	
opposition	3889 Feb 07 07:31	18°♌33'32	-0°24'04
min. Earth dist.	3889 Feb 07 07:02	18°♌33'34	28.95030 AU
direct	3889 Apr 26 19:13	17°♌08'55	
evening set	3889 Jul 24 22:58	19°♌03'59	
conjunction	3889 Aug 10 06:53	19°♌40'06	-0°20'47
minimum elong	3889 Aug 10 06:53	19°♌40'06	0°20'47
max. Earth dist.	3889 Aug 10 07:05	19°♌40'07	30.95449 AU
morning rise	3889 Aug 26 14:34	20°♌16'13	
retrograde	3889 Nov 23 21:18	22°♌11'36	
opposition	3890 Feb 09 17:58	20°♌47'46	-0°20'20
min. Earth dist.	3890 Feb 09 17:27	20°♌47'48	28.95852 AU
direct	3890 Apr 29 08:21	19°♌23'05	
evening set	3890 Jul 27 12:55	21°♌18'10	
conjunction	3890 Aug 12 20:51	21°♌54'17	-0°17'17
minimum elong	3890 Aug 12 20:51	21°♌54'17	0°17'17
max. Earth dist.	3890 Aug 12 19:50	21°♌54'12	30.96232 AU
morning rise	3890 Aug 29 04:27	22°♌30'23	
retrograde	3890 Nov 26 08:33	24°♌25'36	
opposition	3891 Feb 12 04:32	23°♌01'47	-0°16'34
min. Earth dist.	3891 Feb 12 05:49	23°♌01'42	28.96613 AU
direct	3891 May 01 19:19	21°♌37'03	
evening set	3891 Jul 30 02:38	23°♌32'08	
conjunction	3891 Aug 15 10:44	24°♌08'15	-0°13'46
minimum elong	3891 Aug 15 10:44	24°♌08'15	0°13'45
behind sun begin	3891 Aug 15 07:24	24°♌07'57	
behind sun end	3891 Aug 15 14:04	24°♌08'32	
max. Earth dist.	3891 Aug 15 09:13	24°♌08'07	30.96978 AU
morning rise	3891 Aug 31 18:12	24°♌44'19	
retrograde	3891 Nov 28 20:04	26°♌39'21	
opposition	3892 Feb 14 14:54	25°♌15'34	-0°12'47
min. Earth dist.	3892 Feb 14 16:16	25°♌15'28	28.97337 AU
direct	3892 May 03 07:44	23°♌50'46	
evening set	3892 Jul 31 16:34	25°♌45'52	
conjunction	3892 Aug 17 00:31	26°♌21'57	-0°10'14
minimum elong	3892 Aug 17 00:31	26°♌21'57	0°10'14
behind sun begin	3892 Aug 16 19:20	26°♌21'29	
behind sun end	3892 Aug 17 05:43	26°♌22'25	
max. Earth dist.	3892 Aug 16 21:22	26°♌21'41	30.97704 AU
morning rise	3892 Sep 02 07:57	26°♌58'00	
retrograde	3892 Nov 30 06:04	28°♌52'52	
opposition	3893 Feb 16 01:13	27°♌29'06	-0°09'00
min. Earth dist.	3893 Feb 16 03:54	27°♌28'55	28.98085 AU
direct	3893 May 05 18:28	26°♌04'14	
evening set	3893 Aug 03 06:14	27°♌59'21	
conjunction	3893 Aug 19 14:19	28°♌35'25	-0°06'41

minimum elong	3893 Aug 19 14:19	28°♌35'25	0°06'41
behind sun begin	3893 Aug 19 08:09	28°♌34'52	
behind sun end	3893 Aug 19 20:28	28°♌35'58	
max. Earth dist.	3893 Aug 19 11:28	28°♌35'11	30.98476 AU
morning rise	3893 Sep 04 21:26	29°♌11'26	
	3893 Sep 28 18:18	0°♍	
retrograde	3893 Dec 02 15:49	1°♍06'08	
	3894 Feb 08 00:53	30°℞♌	
opposition	3894 Feb 18 11:35	29°♌42'25	-0°05'12
min. Earth dist.	3894 Feb 18 14:38	29°♌42'12	28.98888 AU
direct	3894 May 08 07:01	28°♌17'29	
	3894 Jul 30 22:13	0°♍	
evening set	3894 Aug 05 19:48	0°♍12'37	
conjunction	3894 Aug 22 03:40	0°♍48'40	-0°03'08
minimum elong	3894 Aug 22 03:39	0°♍48'40	0°03'09
behind sun begin	3894 Aug 21 21:05	0°♍48'05	
behind sun end	3894 Aug 22 10:13	0°♍49'15	
max. Earth dist.	3894 Aug 21 23:05	0°♍48'17	30.99331 AU
morning rise	3894 Sep 07 10:45	1°♍24'40	
retrograde	3894 Dec 05 03:44	3°♍19'13	
opposition	3895 Feb 20 21:53	1°♍55'32	-0°01'23
min. Earth dist.	3895 Feb 21 01:11	1°♍55'18	28.99807 AU
direct	3895 May 10 17:49	0°♍30'34	
asc. node	3895 Jul 04 20:32	1°♍18'36	
evening set	3895 Aug 08 09:19	2°♍25'44	
conjunction	3895 Aug 24 17:16	3°♍01'46	0°00'31
minimum elong	3895 Aug 24 17:16	3°♍01'46	0°00'31
behind sun begin	3895 Aug 24 10:41	3°♍01'11	
behind sun end	3895 Aug 24 23:51	3°♍02'21	
max. Earth dist.	3895 Aug 24 13:12	3°♍01'26	31.00304 AU
morning rise	3895 Sep 10 00:01	3°♍37'44	
retrograde	3895 Dec 07 13:55	5°♍32'10	
opposition	3896 Feb 23 08:08	4°♍08'33	0°02'25
min. Earth dist.	3896 Feb 23 12:27	4°♍08'15	29.00841 AU
direct	3896 May 12 05:40	2°♍43'34	
evening set	3896 Aug 09 23:00	4°♍38'48	
conjunction	3896 Aug 26 06:44	5°♍14'49	0°04'08
minimum elong	3896 Aug 26 06:43	5°♍14'49	0°04'07
behind sun begin	3896 Aug 26 00:13	5°♍14'14	
behind sun end	3896 Aug 26 13:13	5°♍15'23	
max. Earth dist.	3896 Aug 26 01:02	5°♍14'19	31.01408 AU
morning rise	3896 Sep 11 13:24	5°♍50'45	
retrograde	3896 Dec 09 03:06	7°♍45'03	
opposition	3897 Feb 24 18:20	6°♍21'32	0°06'13
min. Earth dist.	3897 Feb 24 22:28	6°♍21'14	29.01997 AU
direct	3897 May 14 18:31	4°♍56'33	
evening set	3897 Aug 12 12:29	6°♍51'52	
conjunction	3897 Aug 28 20:08	7°♍27'52	0°07'40
minimum elong	3897 Aug 28 20:09	7°♍27'52	0°07'40
behind sun begin	3897 Aug 28 14:12	7°♍27'20	
behind sun end	3897 Aug 29 02:05	7°♍28'23	
max. Earth dist.	3897 Aug 28 14:36	7°♍27'22	31.02599 AU
morning rise	3897 Sep 14 02:25	8°♍03'46	
retrograde	3897 Dec 11 13:47	9°♍57'59	
opposition	3898 Feb 27 04:42	8°♍34'34	0°10'01
min. Earth dist.	3898 Feb 27 10:26	8°♍34'09	29.03219 AU
direct	3898 May 17 06:21	7°♍09'37	
evening set	3898 Aug 15 02:04	9°♍05'00	
conjunction	3898 Aug 31 09:32	9°♍40'59	0°11'12
minimum elong	3898 Aug 31 09:32	9°♍40'59	0°11'11
behind sun begin	3898 Aug 31 04:43	9°♍40'33	
behind sun end	3898 Aug 31 14:20	9°♍41'24	
max. Earth dist.	3898 Aug 31 02:49	9°♍40'23	31.03840 AU
morning rise	3898 Sep 16 15:37	10°♍16'51	
retrograde	3898 Dec 14 02:29	12°♍10'59	
opposition	3899 Mar 01 14:51	10°♍47'40	0°13'48
min. Earth dist.	3899 Mar 01 20:24	10°♍47'16	29.04452 AU
direct	3899 May 19 19:02	9°♍22'45	
evening set	3899 Aug 17 15:39	11°♍18'12	
conjunction	3899 Sep 02 22:57	11°♍54'10	0°14'43
minimum elong	3899 Sep 02 22:57	11°♍54'10	0°14'43
behind sun begin	3899 Sep 02 20:30	11°♍53'57	
behind sun end	3899 Sep 03 01:24	11°♍54'23	
max. Earth dist.	3899 Sep 02 15:14	11°♍53'28	31.05041 AU
morning rise	3899 Sep 19 04:44	12°♍30'01	
retrograde	3899 Dec 16 14:08	14°♍24'03	
opposition	3900 Mar 04 01:17	13°♍00'49	0°17'33
min. Earth dist.	3900 Mar 04 08:39	13°♍00'18	29.05623 AU
direct	3900 May 22 06:04	11°♍35'55	
evening set	3900 Aug 20 05:19	13°♍31'26	
conjunction	3900 Sep 05 12:28	14°♍07'23	0°18'12
minimum elong	3900 Sep 05 12:28	14°♍07'23	0°18'12
max. Earth dist.	3900 Sep 05 04:00	14°♍06'37	31.06162 AU
morning rise	3900 Sep 21 17:53	14°♍43'12	
retrograde	3900 Dec 19 01:37	16°♍37'07	
opposition	3901 Mar 06 11:33	15°♍13'59	0°21'16
min. Earth dist.	3901 Mar 06 19:09	15°♍13'27	29.06683 AU
direct	3901 May 24 18:31	13°♍49'05	
evening set	3901 Aug 22 19:00	15°♍44'38	
conjunction	3901 Sep 08 01:49	16°♍20'34	0°21'40
minimum elong	3901 Sep 08 01:48	16°♍20'34	0°21'41
max. Earth dist.	3901 Sep 07 15:35	16°♍19'37	31.07164 AU
morning rise	3901 Sep 24 06:57	16°♍56'21	
retrograde	3901 Dec 21 11:36	18°♍50'10	
opposition	3902 Mar 08 21:59	17°♍27'05	0°24'58
min. Earth dist.	3902 Mar 09 06:56	17°♍26'27	29.07644 AU
direct	3902 May 27 05:15	16°♍02'09	
evening set	3902 Aug 25 08:17	17°♍57'44	
conjunction	3902 Sep 10 15:01	18°♍33'38	0°25'06
minimum elong	3902 Sep 10 15:01	18°♍33'38	0°25'05
max. Earth dist.	3902 Sep 10 04:50	18°♍32'42	31.08071 AU
morning rise	3902 Sep 26 19:41	19°♍09'23	
retrograde	3902 Dec 23 20:49	21°♍03'05	
opposition	3903 Mar 11 08:18	19°♍40'03	0°28'36
min. Earth dist.	3903 Mar 11 18:00	19°♍39'22	29.08498 AU
direct	3903 May 29 17:29	18°♍15'05	
evening set	3903 Aug 27 21:49	20°♍10'41	
conjunction	3903 Sep 13 04:08	20°♍46'34	0°28'29
minimum elong	3903 Sep 13 04:07	20°♍46'34	0°28'30
max. Earth dist.	3903 Sep 12 15:54	20°♍45'26	31.08891 AU
morning rise	3903 Sep 29 08:36	21°♍22'17	
retrograde	3903 Dec 26 08:11	23°♍15'50	
opposition	3904 Mar 12 18:25	21°♍52'50	0°32'12
min. Earth dist.	3904 Mar 13 04:39	21°♍52'07	29.09297 AU
direct	3904 May 31 03:43	20°♍27'49	
evening set	3904 Aug 29 11:06	22°♍23'27	
conjunction	3904 Sep 14 17:18	22°♍59'17	0°31'50
minimum elong	3904 Sep 14 17:18	22°♍59'17	0°31'49
max. Earth dist.	3904 Sep 14 05:19	22°♍58'11	31.09664 AU
morning rise	3904 Sep 30 21:13	23°♍34'58	
retrograde	3904 Dec 27 17:08	25°♍28'24	
opposition	3905 Mar 15 04:43	24°♍05'25	0°35'45
min. Earth dist.	3905 Mar 15 16:12	24°♍04'37	29.10061 AU

direct	3905 Jun	02	15:50	22°♑40'22	
evening set	3905 Sep	01	00:16	24°♑35'59	
conjunction	3905 Sep	17	06:00	25°♑11'47	0°35'07
minimum elong	3905 Sep	17	05:59	25°♑11'47	0°35'08
max. Earth dist.	3905 Sep	16	16:26	25°♑10'32	31.10437 AU
morning rise	3905 Oct	03	09:39	25°♑47'25	
retrograde	3905 Dec	30	04:52	27°♑40'44	
opposition	3906 Mar	17	14:51	26°♑17'46	0°39'14
min. Earth dist.	3906 Mar	18	02:02	26°♑16'59	29.10858 AU
direct	3906 Jun	05	04:57	24°♑52'40	
evening set	3906 Sep	03	13:16	26°♑48'19	
conjunction	3906 Sep	19	18:47	27°♑24'05	0°38'22
minimum elong	3906 Sep	19	18:47	27°♑24'05	0°38'21
max. Earth dist.	3906 Sep	19	05:33	27°♑22'51	31.11255 AU
morning rise	3906 Oct	05	21:53	27°♑59'40	
retrograde	3907 Jan	01	14:22	29°♑52'52	
opposition	3907 Mar	20	01:02	28°♑29'55	0°42'40
min. Earth dist.	3907 Mar	20	13:37	28°♑29'02	29.11729 AU
direct	3907 Jun	07	16:33	27°♑04'47	
evening set	3907 Sep	06	02:15	29°♑00'26	
conjunction	3907 Sep	22	07:23	29°♑36'10	0°41'33
minimum elong	3907 Sep	22	07:23	29°♑36'10	0°41'33
max. Earth dist.	3907 Sep	21	17:20	29°♑34'52	31.12182 AU
	3907 Oct	03	01:18	0°♎	
morning rise	3907 Oct	08	10:10	0°♎11'43	
retrograde	3908 Jan	04	02:21	2°♎04'48	
opposition	3908 Mar	21	11:11	0°♎41'54	0°46'02
min. Earth dist.	3908 Mar	21	23:02	0°♎41'04	29.12710 AU
	3908 Apr	16	11:57	30°℞♑	
direct	3908 Jun	09	05:42	29°♑16'45	
	3908 Jul	31	17:25	0°♎	
evening set	3908 Sep	07	15:13	1°♎12'26	
conjunction	3908 Sep	23	19:59	1°♎48'08	0°44'40
minimum elong	3908 Sep	23	19:59	1°♎48'08	0°44'39
max. Earth dist.	3908 Sep	23	05:35	1°♎46'48	31.13216 AU
morning rise	3908 Oct	09	22:14	2°♎23'38	
retrograde	3909 Jan	05	13:38	4°♎16'37	
opposition	3909 Mar	23	21:26	2°♎53'47	0°49'20
min. Earth dist.	3909 Mar	24	10:27	2°♎52'52	29.13816 AU
direct	3909 Jun	11	17:25	1°♎28'39	
evening set	3909 Sep	10	04:03	3°♎24'22	
conjunction	3909 Sep	26	08:29	4°♎00'02	0°47'43
minimum elong	3909 Sep	26	08:29	4°♎00'02	0°47'44
max. Earth dist.	3909 Sep	25	18:03	3°♎58'42	31.14380 AU
morning rise	3909 Oct	12	10:16	4°♎35'30	
retrograde	3910 Jan	08	00:29	6°♎28'24	
opposition	3910 Mar	26	07:38	5°♎05'39	0°52'33
min. Earth dist.	3910 Mar	26	20:21	5°♎04'45	29.15016 AU
direct	3910 Jun	14	06:27	3°♎40'33	
evening set	3910 Sep	12	16:49	5°♎36'18	
conjunction	3910 Sep	28	20:46	6°♎11'56	0°50'42
minimum elong	3910 Sep	28	20:46	6°♎11'56	0°50'41
max. Earth dist.	3910 Sep	28	05:15	6°♎10'30	31.15607 AU
morning rise	3910 Oct	14	22:10	6°♎47'22	
retrograde	3911 Jan	10	10:41	8°♎40'12	
opposition	3911 Mar	28	17:55	7°♎17'32	0°55'42
min. Earth dist.	3911 Mar	29	07:35	7°♎16'35	29.16264 AU
direct	3911 Jun	16	16:46	5°♎52'28	
evening set	3911 Sep	15	05:36	7°♎48'17	
conjunction	3911 Oct	01	09:17	8°♎23'53	0°53'36
minimum elong	3911 Oct	01	09:17	8°♎23'53	0°53'37
max. Earth dist.	3911 Sep	30	18:07	8°♎22'29	31.16839 AU
morning rise	3911 Oct	17	10:05	8°♎59'16	
retrograde	3912 Jan	12	20:03	10°♎52'02	
opposition	3912 Mar	30	04:09	9°♎29'27	0°58'46
min. Earth dist.	3912 Mar	30	18:30	9°♎28'27	29.17466 AU
direct	3912 Jun	18	04:48	8°♎04'25	
evening set	3912 Sep	16	18:35	10°♎00'16	
conjunction	3912 Oct	02	21:40	10°♎35'50	0°56'26
minimum elong	3912 Oct	02	21:39	10°♎35'50	0°56'25
max. Earth dist.	3912 Oct	02	04:39	10°♎34'16	31.18002 AU
morning rise	3912 Oct	18	22:05	11°♎11'11	
retrograde	3913 Jan	14	07:23	13°♎03'53	
opposition	3913 Apr	01	14:33	11°♎41'23	1°01'45
min. Earth dist.	3913 Apr	02	05:13	11°♎40'21	29.18594 AU
direct	3913 Jun	20	14:56	10°♎16'21	
evening set	3913 Sep	19	07:10	12°♎12'14	
conjunction	3913 Oct	05	09:58	12°♎47'46	0°59'11
minimum elong	3913 Oct	05	09:57	12°♎47'45	0°59'11
max. Earth dist.	3913 Oct	04	17:18	12°♎46'13	31.19062 AU
morning rise	3913 Oct	21	09:42	13°♎23'04	
retrograde	3914 Jan	16	15:52	15°♎15'42	
opposition	3914 Apr	04	01:04	13°♎53'15	1°04'38
min. Earth dist.	3914 Apr	04	17:02	13°♎52'08	29.19596 AU
direct	3914 Jun	23	02:49	12°♎28'15	
evening set	3914 Sep	21	19:57	14°♎24'08	
conjunction	3914 Oct	07	22:08	14°♎59'37	1°01'50
minimum elong	3914 Oct	07	22:08	14°♎59'37	1°01'49
max. Earth dist.	3914 Oct	07	03:43	14°♎57'55	31.20007 AU
morning rise	3914 Oct	23	21:32	15°♎34'53	
retrograde	3915 Jan	19	03:07	17°♎27'27	
opposition	3915 Apr	06	11:21	16°♎05'02	1°07'25
min. Earth dist.	3915 Apr	07	03:11	16°♎03'56	29.20487 AU
direct	3915 Jun	25	14:52	14°♎40'02	
evening set	3915 Sep	24	08:33	16°♎35'56	
conjunction	3915 Oct	10	10:26	17°♎11'23	1°04'24
minimum elong	3915 Oct	10	10:26	17°♎11'23	1°04'25
max. Earth dist.	3915 Oct	09	16:03	17°♎09'41	31.20831 AU
morning rise	3915 Oct	26	09:11	17°♎46'36	
retrograde	3916 Jan	21	12:31	19°♎39'06	
opposition	3916 Apr	07	21:53	18°♎16'43	1°10'06
min. Earth dist.	3916 Apr	08	15:22	18°♎15'30	29.21262 AU
direct	3916 Jun	27	02:08	16°♎51'41	
evening set	3916 Sep	25	21:06	18°♎47'36	
conjunction	3916 Oct	11	22:26	19°♎23'00	1°06'52
minimum elong	3916 Oct	11	22:25	19°♎23'00	1°06'52
max. Earth dist.	3916 Oct	11	03:04	19°♎21'13	31.21563 AU
morning rise	3916 Oct	27	20:45	19°♎58'11	
retrograde	3917 Jan	22	23:54	21°♎50'36	
opposition	3917 Apr	10	08:14	20°♎28'14	1°12'41
min. Earth dist.	3917 Apr	11	01:13	20°♎27'03	29.21956 AU
direct	3917 Jun	29	15:33	19°♎03'12	
evening set	3917 Sep	28	09:29	20°♎59'06	
conjunction	3917 Oct	14	10:21	21°♎34'28	1°09'14
minimum elong	3917 Oct	14	10:21	21°♎34'28	1°09'15
max. Earth dist.	3917 Oct	13	14:35	21°♎32'39	31.22227 AU
morning rise	3917 Oct	30	08:06	22°♎09'36	
retrograde	3918 Jan	25	10:55	24°♎01'57	
opposition	3918 Apr	12	18:44	22°♎39'36	1°15'10
min. Earth dist.	3918 Apr	13	12:55	22°♎38'20	29.22625 AU
direct	3918 Jul	02	03:34	21°♎14'33	

evening set	3918	Sep	30	21:33	23°♎10'26	
conjunction	3918	Oct	16	22:00	23°♎45'46	1°11'30
minimum elong	3918	Oct	16	22:00	23°♎45'46	1°11'30
max. Earth dist.	3918	Oct	16	02:19	23°♎43'57	31.22896 AU
morning rise	3918	Nov	01	19:15	24°♎20'51	
retrograde	3919	Jan	27	21:02	26°♎13'08	
opposition	3919	Apr	15	05:08	24°♎50'48	1°17'32
min. Earth dist.	3919	Apr	15	22:56	24°♎49'34	29.23299 AU
direct	3919	Jul	04	17:16	23°♎25'44	
evening set	3919	Oct	03	09:46	25°♎21'38	
conjunction	3919	Oct	19	09:37	25°♎56'56	1°13'40
minimum elong	3919	Oct	19	09:37	25°♎56'56	1°13'40
max. Earth dist.	3919	Oct	18	13:05	25°♎55'01	31.23592 AU
morning rise	3919	Nov	04	06:23	26°♎31'58	
retrograde	3920	Jan	30	06:55	28°♎24'11	
opposition	3920	Apr	16	15:31	27°♎01'53	1°19'47
min. Earth dist.	3920	Apr	17	09:48	27°♎00'37	29.24048 AU
direct	3920	Jul	06	03:57	25°♎36'49	
evening set	3920	Oct	04	21:46	27°♎32'44	
conjunction	3920	Oct	20	21:15	28°♎07'59	1°15'43
minimum elong	3920	Oct	20	21:14	28°♎07'59	1°15'43
max. Earth dist.	3920	Oct	20	01:39	28°♎06'10	31.24381 AU
morning rise	3920	Nov	05	17:20	28°♎42'59	
	3920	Dec	16	16:36	0°♏	
retrograde	3921	Jan	31	15:51	0°♏35'09	
	3921	Mar	19	23:03	30°℞♎	
opposition	3921	Apr	19	02:06	29°♎12'55	1°21'56
min. Earth dist.	3921	Apr	19	20:25	29°♎11'38	29.24882 AU
direct	3921	Jul	08	16:21	27°♎47'53	
evening set	3921	Oct	07	09:41	29°♎43'48	
	3921	Oct	14	19:12	0°♏	
max. Earth dist.	3921	Oct	22	11:49	0°♏17'07	31.25267 AU
conjunction	3921	Oct	23	08:29	0°♏19'02	1°17'40
minimum elong	3921	Oct	23	08:29	0°♏19'01	1°17'41
morning rise	3921	Nov	08	04:12	0°♏53'59	
retrograde	3922	Feb	03	02:55	2°♏46'08	
opposition	3922	Apr	21	12:35	1°♏23'57	1°23'57
min. Earth dist.	3922	Apr	22	06:30	1°♏22'43	29.25819 AU
	3922	Jul	03	01:57	30°℞♎	
direct	3922	Jul	11	02:20	29°♎58'58	
	3922	Jul	19	01:19	0°♏	
evening set	3922	Oct	09	21:29	1°♏54'55	
conjunction	3922	Oct	25	19:58	2°♏30'07	1°19'30
minimum elong	3922	Oct	25	19:57	2°♏30'07	1°19'30
max. Earth dist.	3922	Oct	25	00:16	2°♏28'17	31.26227 AU
morning rise	3922	Nov	10	14:59	3°♏05'02	
retrograde	3923	Feb	05	10:46	4°♏57'10	
opposition	3923	Apr	23	23:06	3°♏35'04	1°25'50
min. Earth dist.	3923	Apr	24	17:58	3°♏33'46	29.26791 AU
direct	3923	Jul	13	13:43	2°♏10'09	
evening set	3923	Oct	12	09:28	4°♏06'07	
max. Earth dist.	3923	Oct	27	10:22	4°♏39'20	31.27202 AU
conjunction	3923	Oct	28	07:17	4°♏41'17	1°21'13
minimum elong	3923	Oct	28	07:17	4°♏41'17	1°21'14
morning rise	3923	Nov	13	01:58	5°♏16'10	
retrograde	3924	Feb	07	21:40	7°♏08'18	
opposition	3924	Apr	25	09:41	5°♏46'16	1°27'37
min. Earth dist.	3924	Apr	26	04:00	5°♏45'00	29.27748 AU
direct	3924	Jul	15	00:36	4°♏21'24	
evening set	3924	Oct	13	21:15	6°♏17'24	
conjunction	3924	Oct	29	18:39	6°♏52'31	1°22'49
minimum elong	3924	Oct	29	18:39	6°♏52'31	1°22'49
max. Earth dist.	3924	Oct	28	22:11	6°♏50'37	31.28112 AU
morning rise	3924	Nov	14	12:37	7°♏27'23	
retrograde	3925	Feb	09	07:04	9°♏19'31	
opposition	3925	Apr	27	20:33	7°♏57'32	1°29'15
min. Earth dist.	3925	Apr	28	16:16	7°♏56'10	29.28620 AU
direct	3925	Jul	17	10:28	6°♏32'42	
evening set	3925	Oct	16	09:06	8°♏28'43	
max. Earth dist.	3925	Oct	31	08:42	9°♏01'50	31.28930 AU
conjunction	3925	Nov	01	05:54	9°♏03'48	1°24'18
minimum elong	3925	Nov	01	05:54	9°♏03'48	1°24'18
morning rise	3925	Nov	16	23:27	9°♏38'37	
retrograde	3926	Feb	11	18:22	11°♏30'44	
opposition	3926	Apr	30	07:16	10°♏08'48	1°30'46
min. Earth dist.	3926	May	01	02:23	10°♏07'29	29.29373 AU
direct	3926	Jul	19	23:47	8°♏44'00	
evening set	3926	Oct	18	20:45	10°♏40'01	
conjunction	3926	Nov	03	17:06	11°♏15'04	1°25'39
minimum elong	3926	Nov	03	17:06	11°♏15'04	1°25'39
max. Earth dist.	3926	Nov	02	19:26	11°♏13'03	31.29602 AU
morning rise	3926	Nov	19	10:06	11°♏49'51	
retrograde	3927	Feb	14	05:36	13°♏41'57	
opposition	3927	May	02	18:11	12°♏20'01	1°32'09
min. Earth dist.	3927	May	03	14:31	12°♏18'37	29.29981 AU
direct	3927	Jul	22	11:39	10°♏55'14	
evening set	3927	Oct	21	08:26	12°♏51'14	
max. Earth dist.	3927	Nov	05	06:34	13°♏24'14	31.30134 AU
conjunction	3927	Nov	06	04:18	13°♏26'15	1°26'53
minimum elong	3927	Nov	06	04:18	13°♏26'15	1°26'53
morning rise	3927	Nov	21	20:46	14°♏00'59	
	3927	Dec	21	12:40	15°♏	
retrograde	3928	Feb	16	15:35	15°♏53'03	
	3928	Apr	16	08:17	15°℞♏	
opposition	3928	May	04	04:59	14°♏31'08	1°33'24
min. Earth dist.	3928	May	05	01:09	14°♏29'45	29.30430 AU
direct	3928	Jul	24	01:23	13°♏06'21	
	3928	Oct	21	18:19	15°♏	
evening set	3928	Oct	22	20:03	15°♏02'19	
conjunction	3928	Nov	07	15:19	15°♏37'18	1°27'59
minimum elong	3928	Nov	07	15:19	15°♏37'18	1°27'59
max. Earth dist.	3928	Nov	06	16:33	15°♏35'11	31.30514 AU
morning rise	3928	Nov	23	07:21	16°♏12'00	
retrograde	3929	Feb	18	02:10	18°♏04'02	
opposition	3929	May	06	15:57	16°♏42'06	1°34'31
min. Earth dist.	3929	May	07	12:38	16°♏40'41	29.30762 AU
direct	3929	Jul	26	12:39	15°♏17'18	
evening set	3929	Oct	25	07:14	17°♏13'13	
max. Earth dist.	3929	Nov	09	04:16	17°♏46'07	31.30791 AU
conjunction	3929	Nov	10	02:09	17°♏48'09	1°28'58
minimum elong	3929	Nov	10	02:09	17°♏48'09	1°28'59
morning rise	3929	Nov	25	17:35	18°♏22'49	
retrograde	3930	Feb	20	11:15	20°♏14'49	
opposition	3930	May	09	02:54	18°♏52'52	1°35'30
min. Earth dist.	3930	May	09	23:53	18°♏51'25	29.30989 AU
direct	3930	Jul	29	02:29	17°♏28'02	
evening set	3930	Oct	27	18:34	19°♏23'55	
conjunction	3930	Nov	12	12:50	19°♏58'49	1°29'49
minimum elong	3930	Nov	12	12:50	19°♏58'49	1°29'49
max. Earth dist.	3930	Nov	11	13:51	19°♏56'40	31.30994 AU
morning rise	3930	Nov	28	03:58	20°♏33'27	

retrograde	3931 Feb 22 21:45	22°♑25'23	
opposition	3931 May 11 13:37	21°♑03'25	1°36'21
min. Earth dist.	3931 May 12 10:09	21°♑02'00	29.31187 AU
direct	3931 Jul 31 13:42	19°♑38'33	
evening set	3931 Oct 30 05:38	21°♑34'23	
conjunction	3931 Nov 14 23:35	22°♑09'15	1°30'33
minimum elong	3931 Nov 14 23:35	22°♑09'15	1°30'34
max. Earth dist.	3931 Nov 14 01:45	22°♑07'13	31.31186 AU
morning rise	3931 Nov 30 14:03	22°♑43'51	
retrograde	3932 Feb 25 05:12	24°♑35'46	
opposition	3932 May 13 00:41	23°♑13'46	1°37'03
min. Earth dist.	3932 May 13 21:47	23°♑12'19	29.31396 AU
direct	3932 Aug 02 01:43	21°♑48'55	
evening set	3932 Oct 31 16:40	23°♑44'42	
max. Earth dist.	3932 Nov 15 11:31	24°♑17'26	31.31431 AU
conjunction	3932 Nov 16 09:56	24°♑19'31	1°31'09
minimum elong	3932 Nov 16 09:56	24°♑19'31	1°31'09
morning rise	3932 Dec 02 00:05	24°♑54'05	
retrograde	3933 Feb 26 15:21	26°♑46'00	
opposition	3933 May 15 11:38	25°♑24'00	1°37'37
min. Earth dist.	3933 May 16 07:27	25°♑22'38	29.31684 AU
direct	3933 Aug 04 12:38	23°♑59'09	
evening set	3933 Nov 03 03:31	25°♑54'55	
conjunction	3933 Nov 18 20:25	26°♑29'43	1°31'37
minimum elong	3933 Nov 18 20:25	26°♑29'43	1°31'38
max. Earth dist.	3933 Nov 17 23:03	26°♑27'43	31.31760 AU
morning rise	3933 Dec 04 09:59	27°♑04'15	
retrograde	3934 Mar 01 00:23	28°♑56'11	
opposition	3934 May 17 22:40	27°♑34'12	1°38'03
min. Earth dist.	3934 May 18 19:13	27°♑32'47	29.32067 AU
direct	3934 Aug 06 22:13	26°♑09'23	
evening set	3934 Nov 05 14:19	28°♑05'08	
max. Earth dist.	3934 Nov 20 09:26	28°♑37'55	31.32190 AU
conjunction	3934 Nov 21 06:43	28°♑39'55	1°31'57
minimum elong	3934 Nov 21 06:43	28°♑39'55	1°31'57
morning rise	3934 Dec 06 19:57	29°♑14'26	
	3934 Dec 29 00:43	0°♐	
retrograde	3935 Mar 03 11:11	1°♐06'23	
	3935 May 10 21:05	30°℞♑	
opposition	3935 May 20 09:39	29°♑44'27	1°38'20
min. Earth dist.	3935 May 21 04:57	29°♑43'07	29.32513 AU
direct	3935 Aug 09 10:48	28°♑19'41	
	3935 Oct 31 20:04	0°♐	
evening set	3935 Nov 08 01:07	0°♐15'27	
conjunction	3935 Nov 23 17:03	0°♐50'12	1°32'09
minimum elong	3935 Nov 23 17:03	0°♐50'12	1°32'10
max. Earth dist.	3935 Nov 22 19:53	0°♐48'14	31.32647 AU
morning rise	3935 Dec 09 05:48	1°♐24'42	
retrograde	3936 Mar 04 22:31	3°♐16'42	
opposition	3936 May 21 20:47	1°♐54'48	1°38'29
min. Earth dist.	3936 May 22 16:44	1°♐53'26	29.32981 AU
direct	3936 Aug 10 21:25	0°♐30'07	
evening set	3936 Nov 09 11:50	2°♐25'53	
max. Earth dist.	3936 Nov 24 06:51	2°♐58'42	31.33106 AU
conjunction	3936 Nov 25 03:21	3°♐00'37	1°32'13
minimum elong	3936 Nov 25 03:21	3°♐00'37	1°32'13
morning rise	3936 Dec 10 15:40	3°♐35'05	
retrograde	3937 Mar 07 08:45	5°♐27'09	
opposition	3937 May 24 08:03	4°♐05'17	1°38'29
min. Earth dist.	3937 May 25 03:23	4°♐03'58	29.33404 AU
direct	3937 Aug 13 10:08	2°♐40'40	
evening set	3937 Nov 11 22:29	4°♐36'27	
conjunction	3937 Nov 27 13:27	5°♐11'09	1°32'10
minimum elong	3937 Nov 27 13:27	5°♐11'09	1°32'10
max. Earth dist.	3937 Nov 26 16:17	5°♐09'10	31.33491 AU
morning rise	3937 Dec 13 01:27	5°♐45'36	
retrograde	3938 Mar 09 20:08	7°♐37'43	
opposition	3938 May 26 19:22	6°♐15'53	1°38'21
min. Earth dist.	3938 May 27 14:56	6°♐14'33	29.33750 AU
direct	3938 Aug 15 21:02	4°♐51'20	
evening set	3938 Nov 14 09:07	6°♐47'06	
conjunction	3938 Nov 29 23:48	7°♐21'47	1°31'58
minimum elong	3938 Nov 29 23:48	7°♐21'47	1°31'57
max. Earth dist.	3938 Nov 29 03:39	7°♐19'54	31.33774 AU
morning rise	3938 Dec 15 11:15	7°♐56'13	
retrograde	3939 Mar 12 05:56	9°♐48'22	
opposition	3939 May 29 06:40	8°♐26'34	1°38'04
min. Earth dist.	3939 May 30 02:29	8°♐25'13	29.33958 AU
direct	3939 Aug 18 10:47	7°♐02'03	
evening set	3939 Nov 16 19:55	8°♐57'48	
conjunction	3939 Dec 02 09:59	9°♐32'28	1°31'38
minimum elong	3939 Dec 02 09:59	9°♐32'28	1°31'39
max. Earth dist.	3939 Dec 01 12:44	9°♐30'29	31.33918 AU
morning rise	3939 Dec 17 21:13	10°♐06'52	
retrograde	3940 Mar 13 17:19	11°♐59'04	
opposition	3940 May 30 18:06	10°♐37'16	1°37'39
min. Earth dist.	3940 May 31 13:22	10°♐35'57	29.34036 AU
direct	3940 Aug 19 22:10	9°♐12'47	
evening set	3940 Nov 18 06:20	11°♐08'30	
conjunction	3940 Dec 03 20:08	11°♐43'08	1°31'11
minimum elong	3940 Dec 03 20:08	11°♐43'08	1°31'11
max. Earth dist.	3940 Dec 02 23:57	11°♐41'15	31.33918 AU
morning rise	3940 Dec 19 06:50	12°♐17'32	
retrograde	3941 Mar 16 00:57	14°♐09'45	
opposition	3941 Jun 02 05:43	12°♐47'56	1°37'06
min. Earth dist.	3941 Jun 03 01:41	12°♐46'34	29.33966 AU
direct	3941 Aug 22 10:26	11°♐23'28	
evening set	3941 Nov 20 16:52	13°♐19'07	
max. Earth dist.	3941 Dec 05 09:13	13°♐51'47	31.33796 AU
conjunction	3941 Dec 06 06:08	13°♐53'44	1°30'36
minimum elong	3941 Dec 06 06:08	13°♐53'44	1°30'37
morning rise	3941 Dec 21 16:39	14°♐28'07	
retrograde	3942 Mar 18 11:08	16°♐20'21	
opposition	3942 Jun 04 17:02	14°♐58'30	1°36'25
min. Earth dist.	3942 Jun 05 11:57	14°♐57'13	29.33787 AU
direct	3942 Aug 24 21:36	13°♐34'01	
evening set	3942 Nov 23 03:08	15°♐29'37	
conjunction	3942 Dec 08 16:09	16°♐04'13	1°29'54
minimum elong	3942 Dec 08 16:09	16°♐04'13	1°29'54
max. Earth dist.	3942 Dec 07 20:00	16°♐02'19	31.33570 AU
morning rise	3942 Dec 24 02:15	16°♐38'34	
retrograde	3943 Mar 20 20:03	18°♐30'50	
opposition	3943 Jun 07 04:36	17°♐08'56	1°35'36
min. Earth dist.	3943 Jun 08 00:20	17°♐07'35	29.33532 AU
direct	3943 Aug 27 07:43	15°♐44'26	
evening set	3943 Nov 25 13:18	17°♐39'58	
max. Earth dist.	3943 Dec 10 06:05	18°♐12'40	31.33307 AU
conjunction	3943 Dec 11 01:52	18°♐14'31	1°29'04
minimum elong	3943 Dec 11 01:53	18°♐14'31	1°29'04
morning rise	3943 Dec 26 11:43	18°♐48'52	
retrograde	3944 Mar 22 05:52	20°♐41'08	

opposition	3944 Jun 08 16:03	19°♐19'11	1°34'39
min. Earth dist.	3944 Jun 09 10:20	19°♐17'57	29.33264 AU
direct	3944 Aug 28 20:30	17°♐54'41	
evening set	3944 Nov 26 23:23	19°♐50'08	
conjunction	3944 Dec 12 11:34	20°♐24'41	1°28'06
minimum elong	3944 Dec 12 11:34	20°♐24'41	1°28'06
max. Earth dist.	3944 Dec 11 16:09	20°♐22'52	31.33060 AU
morning rise	3944 Dec 27 21:06	20°♐59'00	
retrograde	3945 Mar 24 16:43	22°♐51'19	
opposition	3945 Jun 11 03:43	21°♐29'19	1°33'33
min. Earth dist.	3945 Jun 11 22:03	21°♐28'04	29.33065 AU
direct	3945 Aug 31 06:16	20°♐04'49	
evening set	3945 Nov 29 09:11	22°♐00'13	
conjunction	3945 Dec 14 21:06	22°♐34'44	1°27'01
minimum elong	3945 Dec 14 21:06	22°♐34'44	1°27'02
max. Earth dist.	3945 Dec 14 03:00	22°♐33'02	31.32908 AU
morning rise	3945 Dec 30 06:19	23°♐09'02	
retrograde	3946 Mar 27 02:26	25°♐01'24	
opposition	3946 Jun 13 15:16	23°♐39'22	1°32'20
min. Earth dist.	3946 Jun 14 08:24	23°♐38'12	29.32948 AU
direct	3946 Sep 02 18:26	22°♐14'54	
evening set	3946 Dec 01 19:11	24°♐10'15	
conjunction	3946 Dec 17 06:38	24°♐44'45	1°25'49
minimum elong	3946 Dec 17 06:38	24°♐44'45	1°25'48
max. Earth dist.	3946 Dec 16 12:20	24°♐43'02	31.32845 AU
morning rise	3947 Jan 01 15:41	25°♐19'03	
retrograde	3947 Mar 29 14:11	27°♐11'29	
opposition	3947 Jun 16 02:48	25°♐49'26	1°30'59
min. Earth dist.	3947 Jun 16 19:28	25°♐48'18	29.32932 AU
direct	3947 Sep 05 05:19	24°♐25'01	
evening set	3947 Dec 04 05:01	26°♐20'20	
conjunction	3947 Dec 19 16:18	26°♐54'49	1°24'29
minimum elong	3947 Dec 19 16:18	26°♐54'49	1°24'30
max. Earth dist.	3947 Dec 18 23:46	26°♐53'17	31.32865 AU
morning rise	3948 Jan 04 00:57	27°♐29'07	
retrograde	3948 Mar 31 00:33	29°♐21'36	
opposition	3948 Jun 17 14:37	27°♐59'35	1°29'29
min. Earth dist.	3948 Jun 18 06:55	27°♐58'28	29.32962 AU
direct	3948 Sep 06 18:38	26°♐35'13	
evening set	3948 Dec 05 14:52	28°♐30'31	
max. Earth dist.	3948 Dec 20 08:43	29°♐03'24	31.32915 AU
conjunction	3948 Dec 21 01:39	29°♐04'59	1°23'02
minimum elong	3948 Dec 21 01:39	29°♐04'59	1°23'02
morning rise	3949 Jan 05 10:14	29°♐39'17	
	3949 Jan 15 01:45	0°♑	
retrograde	3949 Apr 02 12:14	1°♑31'52	
opposition	3949 Jun 20 02:26	0°♑09'50	1°27'52
min. Earth dist.	3949 Jun 20 17:36	0°♑08'48	29.33009 AU
	3949 Jun 26 03:57	30°℞♐	
direct	3949 Sep 09 05:31	28°♐45'33	
	3949 Nov 18 09:56	0°♑	
evening set	3949 Dec 08 00:40	0°♑40'49	
conjunction	3949 Dec 23 11:18	1°♑15'17	1°21'27
minimum elong	3949 Dec 23 11:18	1°♑15'17	1°21'28
max. Earth dist.	3949 Dec 22 19:48	1°♑13'50	31.32940 AU
morning rise	3950 Jan 07 19:31	1°♑49'34	
retrograde	3950 Apr 04 21:03	3°♑42'14	
opposition	3950 Jun 22 14:18	2°♑20'13	1°26'07
min. Earth dist.	3950 Jun 23 05:57	2°♑19'09	29.33002 AU
direct	3950 Sep 11 17:40	0°♑56'00	
evening set	3950 Dec 10 10:37	2°♑51'14	

conjunction	3950 Dec 25 20:51	3°♑25'41	1°19'46
minimum elong	3950 Dec 25 20:51	3°♑25'41	1°19'45
max. Earth dist.	3950 Dec 25 04:57	3°♑24'12	31.32900 AU
morning rise	3951 Jan 10 04:59	3°♑59'58	
retrograde	3951 Apr 07 08:11	5°♑52'43	
opposition	3951 Jun 25 02:14	4°♑30'43	1°24'15
min. Earth dist.	3951 Jun 25 16:35	4°♑29'45	29.32902 AU
direct	3951 Sep 14 05:13	3°♑06'33	
evening set	3951 Dec 12 20:27	5°♑01'45	
conjunction	3951 Dec 28 06:27	5°♑36'12	1°17'57
minimum elong	3951 Dec 28 06:27	5°♑36'12	1°17'58
max. Earth dist.	3951 Dec 27 15:20	5°♑34'47	31.32732 AU
morning rise	3952 Jan 12 14:17	6°♑10'29	
retrograde	3952 Apr 08 17:54	8°♑03'20	
opposition	3952 Jun 26 14:27	6°♑41'19	1°22'16
min. Earth dist.	3952 Jun 27 05:33	6°♑40'17	29.32671 AU
direct	3952 Sep 15 15:42	5°♑17'12	
evening set	3952 Dec 14 06:21	7°♑12'21	
conjunction	3952 Dec 29 16:04	7°♑46'47	1°16'02
minimum elong	3952 Dec 29 16:04	7°♑46'47	1°16'02
max. Earth dist.	3952 Dec 29 01:17	7°♑45'24	31.32439 AU
morning rise	3953 Jan 13 23:45	8°♑21'04	
retrograde	3953 Apr 11 04:15	10°♑14'00	
opposition	3953 Jun 29 02:32	8°♑51'57	1°20'09
min. Earth dist.	3953 Jun 29 16:19	8°♑51'01	29.32296 AU
direct	3953 Sep 18 03:52	7°♑27'52	
evening set	3953 Dec 16 16:07	9°♑22'58	
max. Earth dist.	3953 Dec 31 10:42	9°♑56'00	31.31990 AU
conjunction	3954 Jan 01 01:34	9°♑57'24	1°14'00
minimum elong	3954 Jan 01 01:34	9°♑57'24	1°14'01
morning rise	3954 Jan 16 09:10	10°♑31'41	
retrograde	3954 Apr 13 15:31	12°♑24'42	
opposition	3954 Jul 01 14:46	11°♑02'37	1°17'56
min. Earth dist.	3954 Jul 02 04:56	11°♑01'39	29.31778 AU
direct	3954 Sep 20 13:29	9°♑38'33	
evening set	3954 Dec 19 01:49	11°♑33'35	
conjunction	3955 Jan 03 11:09	12°♑08'00	1°11'53
minimum elong	3955 Jan 03 11:09	12°♑08'00	1°11'52
max. Earth dist.	3955 Jan 02 21:21	12°♑06'42	31.31412 AU
morning rise	3955 Jan 18 18:31	12°♑42'17	
retrograde	3955 Apr 16 01:30	14°♑35'22	
opposition	3955 Jul 04 02:51	13°♑13'14	1°15'36
min. Earth dist.	3955 Jul 04 16:08	13°♑12'20	29.31131 AU
direct	3955 Sep 23 01:42	11°♑49'10	
evening set	3955 Dec 21 11:34	13°♑44'08	
conjunction	3956 Jan 05 20:31	14°♑18'32	1°09'39
minimum elong	3956 Jan 05 20:31	14°♑18'32	1°09'39
max. Earth dist.	3956 Jan 05 06:24	14°♑17'13	31.30737 AU
morning rise	3956 Jan 21 03:55	14°♑52'49	
retrograde	3956 Apr 17 13:48	16°♑46'00	
opposition	3956 Jul 05 15:08	15°♑23'46	1°13'10
min. Earth dist.	3956 Jul 06 03:55	15°♑22'54	29.30440 AU
direct	3956 Sep 24 12:44	13°♑59'43	
evening set	3956 Dec 22 20:55	15°♑54'36	
conjunction	3957 Jan 07 05:49	16°♑29'01	1°07'19
minimum elong	3957 Jan 07 05:50	16°♑29'01	1°07'19
max. Earth dist.	3957 Jan 06 17:38	16°♑27'52	31.30041 AU
morning rise	3957 Jan 22 12:58	17°♑03'17	
retrograde	3957 Apr 20 00:28	18°♑56'33	
opposition	3957 Jul 08 03:27	17°♑34'15	1°10'38
min. Earth dist.	3957 Jul 08 15:40	17°♑33'26	29.29750 AU

direct	3957 Sep 27 02:03	16°♓10'12	
evening set	3957 Dec 25 06:31	18°♓05'02	
conjunction	3958 Jan 09 15:04	18°♓39'26	1°04'54
minimum elong	3958 Jan 09 15:04	18°♓39'26	1°04'54
max. Earth dist.	3958 Jan 09 02:44	18°♓38'17	31.29388 AU
morning rise	3958 Jan 24 22:17	19°♓13'43	
retrograde	3958 Apr 22 12:20	21°♓07'04	
opposition	3958 Jul 10 15:30	19°♓44'43	1°08'00
min. Earth dist.	3958 Jul 11 02:12	19°♓44'00	29.29137 AU
direct	3958 Sep 29 12:40	18°♓20'42	
evening set	3958 Dec 27 15:55	20°♓15'29	
conjunction	3959 Jan 12 00:26	20°♓49'53	1°02'23
minimum elong	3959 Jan 12 00:27	20°♓49'53	1°02'23
max. Earth dist.	3959 Jan 11 13:49	20°♓48'53	31.28811 AU
morning rise	3959 Jan 27 07:26	21°♓24'11	
retrograde	3959 Apr 24 21:37	23°♓17'37	
opposition	3959 Jul 13 03:53	21°♓55'15	1°05'16
min. Earth dist.	3959 Jul 13 14:28	21°♓54'32	29.28597 AU
direct	3959 Oct 02 01:19	20°♓31'17	
evening set	3959 Dec 30 01:21	22°♓26'01	
conjunction	3960 Jan 14 09:35	23°♓00'25	0°59'46
minimum elong	3960 Jan 14 09:35	23°♓00'25	0°59'47
max. Earth dist.	3960 Jan 13 23:17	22°♓59'27	31.28321 AU
morning rise	3960 Jan 29 16:38	23°♓34'43	
retrograde	3960 Apr 26 09:23	25°♓28'17	
opposition	3960 Jul 14 16:10	24°♓05'53	1°02'25
min. Earth dist.	3960 Jul 15 00:52	24°♓05'18	29.28130 AU
direct	3960 Oct 03 13:18	22°♓41'59	
evening set	3960 Dec 31 10:44	24°♓36'41	
conjunction	3961 Jan 15 18:53	25°♓11'06	0°57'04
minimum elong	3961 Jan 15 18:53	25°♓11'06	0°57'04
max. Earth dist.	3961 Jan 15 09:44	25°♓10'14	31.27876 AU
morning rise	3961 Jan 31 01:50	25°♓45'25	
retrograde	3961 Apr 28 19:28	27°♓39'06	
opposition	3961 Jul 17 04:38	26°♓16'42	0°59'30
min. Earth dist.	3961 Jul 17 13:37	26°♓16'05	29.27699 AU
direct	3961 Oct 05 23:49	24°♓52'52	
evening set	3962 Jan 02 20:05	26°♓47'32	
conjunction	3962 Jan 18 04:08	27°♓21'56	0°54'17
minimum elong	3962 Jan 18 04:09	27°♓21'56	0°54'18
max. Earth dist.	3962 Jan 17 19:56	27°♓21'10	31.27451 AU
morning rise	3962 Feb 02 11:06	27°♓56'16	
retrograde	3962 May 01 05:35	29°♓50'05	
opposition	3962 Jul 19 17:03	28°♓27'40	0°56'28
min. Earth dist.	3962 Jul 20 00:24	28°♓27'10	29.27245 AU
direct	3962 Oct 08 11:34	27°♓03'54	
evening set	3963 Jan 05 05:38	28°♓58'32	
conjunction	3963 Jan 20 13:27	29°♓32'56	0°51'25
minimum elong	3963 Jan 20 13:27	29°♓32'56	0°51'25
max. Earth dist.	3963 Jan 20 05:20	29°♓32'11	31.26968 AU
	3963 Feb 01 13:40	0°♒	
morning rise	3963 Feb 04 20:26	0°♒07'17	
retrograde	3963 May 03 16:55	2°♒01'15	
opposition	3963 Jul 22 05:38	0°♒38'48	0°53'22
min. Earth dist.	3963 Jul 22 13:08	0°♒38'18	29.26730 AU
	3963 Aug 16 02:32	30°℞♓	
direct	3963 Oct 10 20:33	29°♓15'05	
	3963 Dec 03 00:25	0°♒	
evening set	3964 Jan 07 15:08	1°♒09'40	
conjunction	3964 Jan 22 22:57	1°♒44'05	0°48'29
minimum elong	3964 Jan 22 22:57	1°♒44'05	0°48'29
max. Earth dist.	3964 Jan 22 16:13	1°♒43'27	31.26410 AU
morning rise	3964 Feb 07 05:49	2°♒18'27	
retrograde	3964 May 05 03:42	4°♒12'33	
opposition	3964 Jul 23 18:22	2°♒50'04	0°50'11
min. Earth dist.	3964 Jul 24 00:48	2°♒49'38	29.26105 AU
direct	3964 Oct 12 08:32	1°♒26'24	
evening set	3965 Jan 09 00:43	3°♒20'56	
conjunction	3965 Jan 24 08:17	3°♒55'20	0°45'28
minimum elong	3965 Jan 24 08:17	3°♒55'20	0°45'28
max. Earth dist.	3965 Jan 24 01:06	3°♒54'40	31.25726 AU
morning rise	3965 Feb 08 15:19	4°♒29'43	
retrograde	3965 May 07 16:40	6°♒23'56	
opposition	3965 Jul 26 07:09	5°♒01'24	0°46'56
min. Earth dist.	3965 Jul 26 13:14	5°♒00'59	29.25355 AU
direct	3965 Oct 14 19:00	3°♒37'45	
evening set	3966 Jan 11 10:16	5°♒32'14	
conjunction	3966 Jan 26 17:56	6°♒06'39	0°42'23
minimum elong	3966 Jan 26 17:56	6°♒06'39	0°42'24
max. Earth dist.	3966 Jan 26 12:16	6°♒06'07	31.24896 AU
morning rise	3966 Feb 11 00:50	6°♒41'02	
retrograde	3966 May 10 03:49	8°♒35'22	
opposition	3966 Jul 28 19:48	7°♒12'45	0°43'37
min. Earth dist.	3966 Jul 29 01:44	7°♒12'21	29.24440 AU
direct	3966 Oct 17 07:24	5°♒49'07	
evening set	3967 Jan 13 19:59	7°♒43'32	
conjunction	3967 Jan 29 03:25	8°♒17'57	0°39'15
minimum elong	3967 Jan 29 03:25	8°♒17'57	0°39'15
max. Earth dist.	3967 Jan 28 21:14	8°♒17'22	31.23921 AU
morning rise	3967 Feb 13 10:32	8°♒52'21	
retrograde	3967 May 12 16:22	10°♒46'46	
opposition	3967 Jul 31 08:34	9°♒24'04	0°40'14
min. Earth dist.	3967 Jul 31 13:19	9°♒23'45	29.23397 AU
direct	3967 Oct 19 18:15	8°♒00'25	
evening set	3968 Jan 16 05:21	9°♒54'45	
conjunction	3968 Jan 31 12:52	10°♒29'10	0°36'04
minimum elong	3968 Jan 31 12:52	10°♒29'10	0°36'05
max. Earth dist.	3968 Jan 31 08:06	10°♒28'43	31.22820 AU
morning rise	3968 Feb 15 19:54	11°♒03'35	
retrograde	3968 May 14 02:52	12°♒58'06	
opposition	3968 Aug 01 21:29	11°♒35'17	0°36'48
min. Earth dist.	3968 Aug 02 02:20	11°♒34'57	29.22257 AU
direct	3968 Oct 21 07:32	10°♒11'37	
evening set	3969 Jan 17 14:50	12°♒05'51	
conjunction	3969 Feb 01 22:13	12°♒40'17	0°32'50
minimum elong	3969 Feb 01 22:13	12°♒40'17	0°32'50
max. Earth dist.	3969 Feb 01 17:50	12°♒39'52	31.21675 AU
morning rise	3969 Feb 17 05:27	13°♒14'42	
	3969 Apr 22 21:03	15°♒	
retrograde	3969 May 16 15:16	15°♒09'18	
	3969 Jun 09 16:54	15°℞♒	
opposition	3969 Aug 04 10:06	13°♒46'23	0°33'19
min. Earth dist.	3969 Aug 04 13:06	13°♒46'11	29.21109 AU
direct	3969 Oct 23 20:05	12°♒22'42	
evening set	3970 Jan 20 00:12	14°♒16'52	
conjunction	3970 Feb 04 07:35	14°♒51'18	0°29'32
minimum elong	3970 Feb 04 07:35	14°♒51'18	0°29'33
max. Earth dist.	3970 Feb 04 04:16	14°♒50'59	31.20537 AU
	3970 Feb 08 03:40	15°♒	
morning rise	3970 Feb 19 14:53	15°♒25'45	
retrograde	3970 May 19 01:28	17°♒20'27	

opposition	3970 Aug 06 22:56	15°♒57'26	0°29'46
min. Earth dist.	3970 Aug 07 02:00	15°♒57'13	29.20007 AU
	3970 Sep 14 20:00	15°♒℞	
direct	3970 Oct 26 07:19	14°♒33'45	
	3970 Dec 05 07:35	15°♒	
evening set	3971 Jan 22 09:34	16°♒27'51	
conjunction	3971 Feb 06 16:56	17°♒02'17	0°26'13
minimum elong	3971 Feb 06 16:57	17°♒02'17	0°26'12
max. Earth dist.	3971 Feb 06 14:58	17°♒02'06	31.19480 AU
morning rise	3971 Feb 22 00:16	17°♒36'45	
retrograde	3971 May 21 11:42	19°♒31'35	
opposition	3971 Aug 09 11:36	18°♒08'29	0°26'12
min. Earth dist.	3971 Aug 09 12:36	18°♒08'25	29.18990 AU
direct	3971 Oct 28 19:30	16°♒44'50	
evening set	3972 Jan 24 19:02	18°♒38'53	
conjunction	3972 Feb 09 02:18	19°♒13'20	0°22'51
minimum elong	3972 Feb 09 02:18	19°♒13'20	0°22'51
max. Earth dist.	3972 Feb 09 00:43	19°♒13'11	31.18516 AU
morning rise	3972 Feb 24 09:49	19°♒47'49	
retrograde	3972 May 22 23:17	21°♒42'48	
opposition	3972 Aug 11 00:31	20°♒19'39	0°22'34
min. Earth dist.	3972 Aug 11 01:09	20°♒19'36	29.18083 AU
direct	3972 Oct 30 04:48	18°♒56'02	
evening set	3973 Jan 26 04:17	20°♒50'02	
conjunction	3973 Feb 10 11:43	21°♒24'30	0°19'26
minimum elong	3973 Feb 10 11:43	21°♒24'30	0°19'26
max. Earth dist.	3973 Feb 10 12:03	21°♒24'32	31.17654 AU
morning rise	3973 Feb 25 19:15	21°♒59'00	
retrograde	3973 May 25 10:11	23°♒54'09	
opposition	3973 Aug 13 13:19	22°♒30'58	0°18'55
min. Earth dist.	3973 Aug 13 12:28	22°♒31'01	29.17244 AU
direct	3973 Nov 01 16:35	21°♒07'25	
evening set	3974 Jan 28 13:52	23°♒01'23	
conjunction	3974 Feb 12 21:08	23°♒35'52	0°16'00
minimum elong	3974 Feb 12 21:09	23°♒35'52	0°16'01
behind sun begin	3974 Feb 12 20:01	23°♒35'46	
behind sun end	3974 Feb 12 22:16	23°♒35'58	
max. Earth dist.	3974 Feb 12 21:22	23°♒35'53	31.16848 AU
morning rise	3974 Feb 28 04:58	24°♒10'24	
retrograde	3974 May 27 23:20	26°♒05'42	
opposition	3974 Aug 16 02:03	24°♒42'29	0°15'13
min. Earth dist.	3974 Aug 16 00:33	24°♒42'35	29.16459 AU
direct	3974 Nov 04 02:04	23°♒19'00	
evening set	3975 Jan 30 23:21	25°♒12'58	
conjunction	3975 Feb 15 06:49	25°♒47'27	0°12'33
minimum elong	3975 Feb 15 06:49	25°♒47'27	0°12'33
behind sun begin	3975 Feb 15 02:36	25°♒47'05	
behind sun end	3975 Feb 15 11:01	25°♒47'50	
max. Earth dist.	3975 Feb 15 08:58	25°♒47'39	31.16063 AU
morning rise	3975 Mar 02 14:36	26°♒22'01	
retrograde	3975 May 30 11:06	28°♒17'29	
opposition	3975 Aug 18 15:03	26°♒54'14	0°11'30
min. Earth dist.	3975 Aug 18 13:01	26°♒54'22	29.15664 AU
direct	3975 Nov 06 13:22	25°♒30'49	
evening set	3976 Feb 02 08:56	27°♒24'46	
conjunction	3976 Feb 17 16:16	27°♒59'17	0°09'04
minimum elong	3976 Feb 17 16:16	27°♒59'17	0°09'05
behind sun begin	3976 Feb 17 10:48	27°♒58'47	
behind sun end	3976 Feb 17 21:45	27°♒59'46	
max. Earth dist.	3976 Feb 17 18:18	27°♒59'27	31.15262 AU
morning rise	3976 Mar 04 00:22	28°♒33'51	
	3976 Apr 19 09:09	0°♓	
retrograde	3976 Jun 01 00:39	0°♓29'30	
	3976 Jul 15 04:56	30°♒℞	
opposition	3976 Aug 20 04:04	29°♒06'13	0°07'46
min. Earth dist.	3976 Aug 20 00:44	29°♒06'27	29.14840 AU
direct	3976 Nov 07 23:19	27°♒42'51	
evening set	3977 Feb 03 18:39	29°♒36'48	
	3977 Feb 14 02:37	0°♓	
conjunction	3977 Feb 19 02:09	0°♓11'19	0°05'35
minimum elong	3977 Feb 19 02:08	0°♓11'19	0°05'35
behind sun begin	3977 Feb 18 19:58	0°♓10'46	
behind sun end	3977 Feb 19 08:18	0°♓11'52	
max. Earth dist.	3977 Feb 19 05:26	0°♓11'36	31.14391 AU
morning rise	3977 Mar 06 10:17	0°♓45'56	
retrograde	3977 Jun 03 12:46	2°♓41'44	
opposition	3977 Aug 22 17:05	1°♓18'24	0°04'01
min. Earth dist.	3977 Aug 22 14:01	1°♓18'36	29.13925 AU
	3977 Oct 24 03:46	30°♒℞	
direct	3977 Nov 10 12:07	29°♒55'05	
	3977 Nov 27 15:39	0°♓	
evening set	3978 Feb 06 04:28	1°♓49'00	
conjunction	3978 Feb 21 11:59	2°♓23'32	0°02'04
minimum elong	3978 Feb 21 11:59	2°♓23'32	0°02'04
behind sun begin	3978 Feb 21 05:35	2°♓22'57	
behind sun end	3978 Feb 21 18:22	2°♓24'07	
max. Earth dist.	3978 Feb 21 15:24	2°♓23'49	31.13427 AU
morning rise	3978 Mar 08 20:22	2°♓58'10	
retrograde	3978 Jun 06 02:56	4°♓54'06	
opposition	3978 Aug 25 06:05	3°♓30'43	0°00'15
min. Earth dist.	3978 Aug 25 01:29	3°♓31'02	29.12895 AU
desc. node	3978 Sep 19 01:29	2°♓51'52	
direct	3978 Nov 13 00:40	2°♓07'25	
evening set	3979 Feb 08 14:18	4°♓01'18	
conjunction	3979 Feb 23 21:49	4°♓35'51	-0°01'34
minimum elong	3979 Feb 23 21:51	4°♓35'51	0°01'34
behind sun begin	3979 Feb 23 15:27	4°♓35'16	
behind sun end	3979 Feb 24 04:15	4°♓36'26	
max. Earth dist.	3979 Feb 24 01:47	4°♓36'11	31.12325 AU
morning rise	3979 Mar 11 06:24	5°♓10'31	
retrograde	3979 Jun 08 13:57	7°♓06'35	
opposition	3979 Aug 27 19:20	5°♓43'07	-0°03'30
min. Earth dist.	3979 Aug 27 15:14	5°♓43'23	29.11738 AU
direct	3979 Nov 15 12:08	4°♓19'49	
evening set	3980 Feb 11 00:07	6°♓13'38	
conjunction	3980 Feb 26 07:51	6°♓48'12	-0°05'06
minimum elong	3980 Feb 26 07:50	6°♓48'12	0°05'05
behind sun begin	3980 Feb 26 01:37	6°♓47'38	
behind sun end	3980 Feb 26 14:04	6°♓48'46	
max. Earth dist.	3980 Feb 26 12:48	6°♓48'38	31.11125 AU
morning rise	3980 Mar 12 16:33	7°♓22'53	
retrograde	3980 Jun 10 01:03	9°♓19'04	
opposition	3980 Aug 29 08:23	7°♓55'29	-0°07'16
min. Earth dist.	3980 Aug 29 02:40	7°♓55'52	29.10491 AU
direct	3980 Nov 17 01:14	6°♓32'11	
evening set	3981 Feb 12 09:54	8°♓25'55	
conjunction	3981 Feb 27 17:38	9°♓00'30	-0°08'35
minimum elong	3981 Feb 27 17:38	9°♓00'30	0°08'35
behind sun begin	3981 Feb 27 12:01	8°♓59'59	
behind sun end	3981 Feb 27 23:14	9°♓01'00	
max. Earth dist.	3981 Feb 27 22:36	9°♓00'57	31.09852 AU
morning rise	3981 Mar 15 02:43	9°♓35'13	
retrograde	3981 Jun 12 13:01	11°♓31'30	

opposition	3981 Aug 31 21:31	10°♓07'48	-0°11'00
min. Earth dist.	3981 Aug 31 15:49	10°♓08'11	29.09217 AU
direct	3981 Nov 19 11:53	8°♓44'28	
evening set	3982 Feb 14 19:39	10°♓38'08	
conjunction	3982 Mar 02 03:39	11°♓12'44	-0°12'04
minimum elong	3982 Mar 02 03:38	11°♓12'44	0°12'03
behind sun begin	3982 Mar 01 23:12	11°♓12'20	
behind sun end	3982 Mar 02 08:04	11°♓13'08	
max. Earth dist.	3982 Mar 02 10:23	11°♓13'21	31.08583 AU
morning rise	3982 Mar 17 12:46	11°♓47'28	
retrograde	3982 Jun 14 23:27	13°♓43'51	
opposition	3982 Sep 03 10:23	12°♓20'03	-0°14'44
min. Earth dist.	3982 Sep 03 03:15	12°♓20'32	29.07970 AU
direct	3982 Nov 22 00:28	10°♓56'42	
evening set	3983 Feb 17 05:35	12°♓50'19	
conjunction	3983 Mar 04 13:29	13°♓24'55	-0°15'32
minimum elong	3983 Mar 04 13:29	13°♓24'55	0°15'32
behind sun begin	3983 Mar 04 11:34	13°♓24'44	
behind sun end	3983 Mar 04 15:24	13°♓25'05	
max. Earth dist.	3983 Mar 04 20:12	13°♓25'32	31.07380 AU
morning rise	3983 Mar 19 23:00	13°♓59'40	
retrograde	3983 Jun 17 11:43	15°♓56'11	
opposition	3983 Sep 05 23:28	14°♓32'17	-0°18'26
min. Earth dist.	3983 Sep 05 15:29	14°♓32'49	29.06829 AU
direct	3983 Nov 24 10:10	13°♓08'56	
evening set	3984 Feb 19 15:15	15°♓02'29	
conjunction	3984 Mar 05 23:26	15°♓37'06	-0°18'59
minimum elong	3984 Mar 05 23:26	15°♓37'06	0°18'58
max. Earth dist.	3984 Mar 06 08:17	15°♓37'56	31.06288 AU
morning rise	3984 Mar 21 09:02	16°♓11'53	
retrograde	3984 Jun 18 22:48	18°♓08'31	
opposition	3984 Sep 07 12:33	16°♓44'33	-0°22'07
min. Earth dist.	3984 Sep 07 03:45	16°♓45'09	29.05795 AU
direct	3984 Nov 25 21:11	15°♓21'12	
evening set	3985 Feb 21 01:13	17°♓14'43	
conjunction	3985 Mar 08 09:27	17°♓49'21	-0°22'25
minimum elong	3985 Mar 08 09:26	17°♓49'21	0°22'25
max. Earth dist.	3985 Mar 08 18:24	17°♓50'12	31.05320 AU
morning rise	3985 Mar 23 19:26	18°♓24'10	
retrograde	3985 Jun 21 12:34	20°♓20'56	
opposition	3985 Sep 10 01:25	18°♓56'54	-0°25'47
min. Earth dist.	3985 Sep 09 15:08	18°♓57'36	29.04886 AU
direct	3985 Nov 28 07:07	17°♓33'35	
evening set	3986 Feb 23 11:09	19°♓27'05	
conjunction	3986 Mar 10 19:37	20°♓01'44	-0°25'49
minimum elong	3986 Mar 10 19:37	20°♓01'44	0°25'48
max. Earth dist.	3986 Mar 11 06:02	20°♓02'43	31.04448 AU
morning rise	3986 Mar 26 05:46	20°♓36'34	
retrograde	3986 Jun 24 01:04	22°♓33'29	
opposition	3986 Sep 12 14:31	21°♓09'24	-0°29'24
min. Earth dist.	3986 Sep 12 04:09	21°♓10'07	29.04056 AU
direct	3986 Nov 30 19:01	19°♓46'08	
evening set	3987 Feb 25 21:08	21°♓39'37	
conjunction	3987 Mar 13 05:43	22°♓14'18	-0°29'11
minimum elong	3987 Mar 13 05:43	22°♓14'17	0°29'11
max. Earth dist.	3987 Mar 13 16:45	22°♓15'20	31.03656 AU
morning rise	3987 Mar 28 16:09	22°♓49'09	
retrograde	3987 Jun 26 15:29	24°♓46'13	
opposition	3987 Sep 15 03:36	23°♓22'06	-0°32'59
min. Earth dist.	3987 Sep 14 15:26	23°♓22'56	29.03284 AU
direct	3987 Dec 03 06:42	21°♓58'53	
evening set	3988 Feb 28 07:22	23°♓52'22	
conjunction	3988 Mar 14 16:04	24°♓27'04	-0°32'31
minimum elong	3988 Mar 14 16:03	24°♓27'04	0°32'31
max. Earth dist.	3988 Mar 15 03:47	24°♓28'10	31.02888 AU
morning rise	3988 Mar 30 02:48	25°♓01'57	
retrograde	3988 Jun 28 03:54	26°♓59'11	
opposition	3988 Sep 16 16:49	25°♓35'01	-0°36'31
min. Earth dist.	3988 Sep 16 05:08	25°♓35'49	29.02525 AU
direct	3988 Dec 04 17:36	24°♓11'51	
evening set	3989 Mar 01 17:36	26°♓05'20	
conjunction	3989 Mar 17 02:36	26°♓40'03	-0°35'48
minimum elong	3989 Mar 17 02:36	26°♓40'03	0°35'49
max. Earth dist.	3989 Mar 17 15:24	26°♓41'16	31.02116 AU
morning rise	3989 Apr 01 13:33	27°♓14'59	
retrograde	3989 Jun 30 17:01	29°♓12'20	
opposition	3989 Sep 19 05:55	27°♓48'10	-0°40'01
min. Earth dist.	3989 Sep 18 16:48	27°♓49'03	29.01720 AU
direct	3989 Dec 07 06:40	26°♓25'02	
evening set	3990 Mar 04 04:11	28°♓18'31	
conjunction	3990 Mar 19 13:12	28°♓53'15	-0°39'02
minimum elong	3990 Mar 19 13:12	28°♓53'15	0°39'02
max. Earth dist.	3990 Mar 20 01:36	28°♓54'26	31.01261 AU
morning rise	3990 Apr 04 00:32	29°♓28'13	
	3990 Apr 18 20:29	0°♈	
retrograde	3990 Jul 03 06:28	1°♈25'44	
opposition	3990 Sep 21 19:06	0°♈01'30	-0°43'26
min. Earth dist.	3990 Sep 21 06:25	0°♈02'22	29.00828 AU
	3990 Sep 22 17:06	30°℞♓	
direct	3990 Dec 09 17:28	28°♓38'25	
	3991 Feb 19 16:49	0°♈	
evening set	3991 Mar 06 14:42	0°♈31'52	
conjunction	3991 Mar 22 00:05	1°♈06'39	-0°42'13
minimum elong	3991 Mar 22 00:05	1°♈06'39	0°42'13
max. Earth dist.	3991 Mar 22 13:47	1°♈07'56	31.00310 AU
morning rise	3991 Apr 06 11:32	1°♈41'38	
retrograde	3991 Jul 05 17:55	3°♈39'16	
opposition	3991 Sep 24 08:21	2°♈15'00	-0°46'48
min. Earth dist.	3991 Sep 23 18:41	2°♈15'56	28.99812 AU
direct	3991 Dec 12 06:17	0°♈51'55	
evening set	3992 Mar 08 01:20	2°♈45'21	
conjunction	3992 Mar 23 10:47	3°♈20'08	-0°45'20
minimum elong	3992 Mar 23 10:47	3°♈20'08	0°45'19
max. Earth dist.	3992 Mar 23 23:49	3°♈21'22	30.99238 AU
morning rise	3992 Apr 07 22:45	3°♈55'10	
retrograde	3992 Jul 07 06:43	5°♈52'55	
opposition	3992 Sep 25 21:37	4°♈28'33	-0°50'06
min. Earth dist.	3992 Sep 25 07:50	4°♈29'30	28.98694 AU
direct	3992 Dec 13 16:30	3°♈05'28	
evening set	3993 Mar 10 11:54	4°♈58'52	
conjunction	3993 Mar 25 21:46	5°♈33'40	-0°48'22
minimum elong	3993 Mar 25 21:46	5°♈33'40	0°48'23
max. Earth dist.	3993 Mar 26 12:17	5°♈35'03	30.98070 AU
morning rise	3993 Apr 10 09:55	6°♈08'44	
retrograde	3993 Jul 09 17:55	8°♈06'34	
opposition	3993 Sep 28 10:36	6°♈42'08	-0°53'20
min. Earth dist.	3993 Sep 27 20:36	6°♈43'05	28.97497 AU
direct	3993 Dec 16 03:50	5°♈19'01	
evening set	3994 Mar 12 22:37	7°♈12'23	
conjunction	3994 Mar 28 08:37	7°♈47'12	-0°51'21
minimum elong	3994 Mar 28 08:36	7°♈47'12	0°51'21

max. Earth dist.	3994 Mar 28	22:50	7°♈48'33	30.96871 AU
morning rise	3994 Apr 12	21:13	8°♈22'17	
retrograde	3994 Jul 12	07:43	10°♈20'14	
opposition	3994 Sep 30	23:40	8°♈55'41	-0°56'28
min. Earth dist.	3994 Sep 30	08:36	8°♈56'43	28.96312 AU
direct	3994 Dec 18	14:20	7°♈32'33	
evening set	3995 Mar 15	09:09	9°♈25'53	
conjunction	3995 Mar 30	19:26	10°♈00'44	-0°54'15
minimum elong	3995 Mar 30	19:26	10°♈00'44	0°54'16
max. Earth dist.	3995 Mar 31	10:58	10°♈02'12	30.95693 AU
morning rise	3995 Apr 15	08:16	10°♈35'50	
retrograde	3995 Jul 14	19:57	12°♈33'53	
opposition	3995 Oct 03	12:48	11°♈09'15	-0°59'32
min. Earth dist.	3995 Oct 02	21:44	11°♈10'17	28.95179 AU
direct	3995 Dec 21	02:17	9°♈46'05	
evening set	3996 Mar 16	19:52	11°♈39'24	
conjunction	3996 Apr 01	06:25	12°♈14'16	-0°57'04
minimum elong	3996 Apr 01	06:25	12°♈14'16	0°57'04
max. Earth dist.	3996 Apr 01	22:29	12°♈15'48	30.94615 AU
morning rise	3996 Apr 16	19:37	12°♈49'25	
retrograde	3996 Jul 16	10:16	14°♈47'33	
min. Earth dist.	3996 Oct 04	08:55	13°♈24'00	28.94161 AU
opposition	3996 Oct 05	01:42	13°♈22'51	-1°02'30
direct	3996 Dec 22	13:32	11°♈59'40	
evening set	3997 Mar 19	06:40	13°♈52'59	
conjunction	3997 Apr 03	17:27	14°♈27'53	-0°59'49
minimum elong	3997 Apr 03	17:27	14°♈27'53	0°59'49
max. Earth dist.	3997 Apr 04	10:08	14°♈29'28	30.93642 AU
morning rise	3997 Apr 19	07:03	15°♈03'03	
retrograde	3997 Jul 18	23:04	17°♈01'18	
opposition	3997 Oct 07	14:45	15°♈36'33	-1°05'23
min. Earth dist.	3997 Oct 06	22:20	15°♈37'40	28.93255 AU
direct	3997 Dec 25	00:29	14°♈13'23	
evening set	3998 Mar 21	17:27	16°♈06'41	
conjunction	3998 Apr 06	04:36	16°♈41'37	-1°02'28
minimum elong	3998 Apr 06	04:36	16°♈41'36	1°02'27
max. Earth dist.	3998 Apr 06	22:32	16°♈43'19	30.92793 AU
morning rise	3998 Apr 21	18:26	17°♈16'49	
retrograde	3998 Jul 21	13:18	19°♈15'09	
min. Earth dist.	3998 Oct 09	09:32	17°♈51'36	28.92457 AU
opposition	3998 Oct 10	03:35	17°♈50'21	-1°08'10
direct	3998 Dec 27	13:58	16°♈27'13	
evening set	3999 Mar 24	04:28	18°♈20'32	
conjunction	3999 Apr 08	15:46	18°♈55'29	-1°05'01
minimum elong	3999 Apr 08	15:46	18°♈55'29	1°05'01
max. Earth dist.	3999 Apr 09	09:33	18°♈57'10	30.92043 AU
morning rise	3999 Apr 24	06:06	19°♈30'43	
retrograde	3999 Jul 24	03:43	21°♈29'10	
opposition	3999 Oct 12	16:41	20°♈04'21	-1°10'51
min. Earth dist.	3999 Oct 11	22:52	20°♈05'34	28.91761 AU
direct	3999 Dec 30	01:10	18°♈41'14	
evening set	4000 Mar 25	15:21	20°♈34'33	
conjunction	4000 Apr 10	03:08	21°♈09'32	-1°07'29
minimum elong	4000 Apr 10	03:08	21°♈09'32	1°07'29
max. Earth dist.	4000 Apr 10	22:29	21°♈11'22	30.91376 AU
morning rise	4000 Apr 25	17:42	21°♈44'49	
retrograde	4000 Jul 25	15:32	23°♈43'22	
min. Earth dist.	4000 Oct 13	10:47	22°♈19'49	28.91111 AU
opposition	4000 Oct 14	05:38	22°♈18'31	-1°13'26
direct	4000 Dec 31	13:46	20°♈55'26	
evening set	4001 Mar 28	02:41	22°♈48'47	
conjunction	4001 Apr 12	14:37	23°♈23'47	-1°09'50
minimum elong	4001 Apr 12	14:37	23°♈23'47	1°09'51
max. Earth dist.	4001 Apr 13	09:18	23°♈25'33	30.90736 AU
morning rise	4001 Apr 28	05:44	23°♈59'06	
retrograde	4001 Jul 28	05:11	25°♈57'44	
opposition	4001 Oct 16	18:31	24°♈32'53	-1°15'54
min. Earth dist.	4001 Oct 15	23:44	24°♈34'11	28.90476 AU
direct	4002 Jan 03	00:24	23°♈09'49	
evening set	4002 Mar 30	14:01	25°♈03'10	
conjunction	4002 Apr 15	02:24	25°♈38'13	-1°12'06
minimum elong	4002 Apr 15	02:24	25°♈38'13	1°12'06
max. Earth dist.	4002 Apr 15	22:23	25°♈40'07	30.90070 AU
morning rise	4002 Apr 30	17:43	26°♈13'33	
retrograde	4002 Jul 30	17:23	28°♈12'18	
opposition	4002 Oct 19	07:32	26°♈47'25	-1°18'16
min. Earth dist.	4002 Oct 18	12:45	26°♈48'43	28.89780 AU
direct	4003 Jan 05	12:16	25°♈24'22	
evening set	4003 Apr 02	01:28	27°♈17'43	
conjunction	4003 Apr 17	14:04	27°♈52'47	-1°14'15
minimum elong	4003 Apr 17	14:04	27°♈52'47	1°14'15
max. Earth dist.	4003 Apr 18	09:21	27°♈54'37	30.89338 AU
morning rise	4003 May 03	05:53	28°♈28'09	
	4003 Jun 22	07:30	0°♉	
retrograde	4003 Aug 02	07:06	0°♉26'59	
	4003 Sep 13	08:27	30°℞♈	
opposition	4003 Oct 21	20:36	29°♈02'03	-1°20'30
min. Earth dist.	4003 Oct 21	01:19	29°♈03'23	28.89003 AU
direct	4004 Jan 07	23:15	27°♈38'59	
evening set	4004 Apr 03	13:05	29°♈32'21	
	4004 Apr 15	19:45	0°♉	
conjunction	4004 Apr 19	02:07	0°♉07'26	-1°16'17
minimum elong	4004 Apr 19	02:07	0°♉07'26	1°16'17
max. Earth dist.	4004 Apr 19	21:57	0°♉09'19	30.88493 AU
morning rise	4004 May 04	18:15	0°♉42'50	
retrograde	4004 Aug 03	18:42	2°♉41'43	
opposition	4004 Oct 23	09:35	1°♉16'43	-1°22'37
min. Earth dist.	4004 Oct 22	15:00	1°♉18'01	28.88108 AU
	4004 Dec 21	00:08	30°℞♈	
direct	4005 Jan 09	10:42	29°♈53'37	
	4005 Jan 28	15:44	0°♉	
evening set	4005 Apr 06	00:43	1°♉46'57	
conjunction	4005 Apr 21	14:09	2°♉22'04	-1°18'12
minimum elong	4005 Apr 21	14:09	2°♉22'04	1°18'13
max. Earth dist.	4005 Apr 22	09:46	2°♉23'56	30.87559 AU
morning rise	4005 May 07	06:44	2°♉57'30	
retrograde	4005 Aug 06	08:49	4°♉56'25	
opposition	4005 Oct 25	22:25	3°♉31'20	-1°24'36
min. Earth dist.	4005 Oct 25	02:49	3°♉32'42	28.87135 AU
direct	4006 Jan 11	22:02	2°♉08'10	
evening set	4006 Apr 08	12:22	4°♉01'30	
conjunction	4006 Apr 24	02:05	4°♉36'38	-1°20'00
minimum elong	4006 Apr 24	02:04	4°♉36'38	1°20'00
max. Earth dist.	4006 Apr 24	21:47	4°♉38'30	30.86554 AU
morning rise	4006 May 09	19:06	5°♉12'05	
retrograde	4006 Aug 08	21:24	7°♉11'02	
opposition	4006 Oct 28	11:17	5°♉45'52	-1°26'28
min. Earth dist.	4006 Oct 27	16:33	5°♉47'10	28.86134 AU
direct	4007 Jan 14	09:28	4°♉22'39	
evening set	4007 Apr 10	23:58	6°♉15'57	
conjunction	4007 Apr 26	14:10	6°♉51'06	-1°21'41
minimum elong	4007 Apr 26	14:10	6°♉51'06	1°21'42

max. Earth dist.	4007 Apr 27 10:46	6°♉53'03	30.85572 AU
morning rise	4007 May 12 07:30	7°♉26'35	
retrograde	4007 Aug 11 11:38	9°♉25'32	
opposition	4007 Oct 30 23:55	8°♉00'18	-1°28'12
min. Earth dist.	4007 Oct 30 03:55	8°♉01'42	28.85182 AU
direct	4008 Jan 16 22:58	6°♉37'01	
evening set	4008 Apr 12 11:41	8°♉30'19	
conjunction	4008 Apr 28 02:08	9°♉05'30	-1°23'15
minimum elong	4008 Apr 28 02:08	9°♉05'30	1°23'15
max. Earth dist.	4008 Apr 28 22:19	9°♉07'25	30.84657 AU
morning rise	4008 May 13 20:02	9°♉41'01	
retrograde	4008 Aug 13 01:30	11°♉40'00	
opposition	4008 Nov 01 12:38	10°♉14'42	-1°29'49
min. Earth dist.	4008 Oct 31 17:09	10°♉16'03	28.84332 AU
direct	4009 Jan 18 10:20	8°♉51'22	
evening set	4009 Apr 14 23:24	10°♉44'40	
conjunction	4009 Apr 30 14:25	11°♉19'53	-1°24'41
minimum elong	4009 Apr 30 14:25	11°♉19'53	1°24'41
max. Earth dist.	4009 May 01 11:57	11°♉21'55	30.83862 AU
morning rise	4009 May 16 08:34	11°♉55'26	
retrograde	4009 Aug 15 14:01	13°♉54'26	
min. Earth dist.	4009 Nov 03 04:29	12°♉30'31	28.83602 AU
opposition	4009 Nov 04 00:59	12°♉29'05	-1°31'17
direct	4010 Jan 20 23:12	11°♉05'45	
evening set	4010 Apr 17 11:18	12°♉59'03	
conjunction	4010 May 03 02:33	13°♉34'18	-1°25'59
minimum elong	4010 May 03 02:32	13°♉34'18	1°25'59
max. Earth dist.	4010 May 03 23:25	13°♉36'17	30.83206 AU
morning rise	4010 May 18 21:17	14°♉09'53	
	4010 Jun 12 01:01	15°♉	
retrograde	4010 Aug 18 04:25	16°♉08'55	
	4010 Oct 27 16:00	15°℞♉	
opposition	4010 Nov 06 13:35	14°♉43'33	-1°32'36
min. Earth dist.	4010 Nov 05 17:00	14°♉44'59	28.83028 AU
direct	4011 Jan 23 10:17	13°♉20'12	
	4011 Apr 13 18:08	15°♉	
evening set	4011 Apr 19 22:58	15°♉13'32	
conjunction	4011 May 05 14:48	15°♉48'49	-1°27'10
minimum elong	4011 May 05 14:48	15°♉48'49	1°27'10
max. Earth dist.	4011 May 06 13:13	15°♉50'57	30.82697 AU
morning rise	4011 May 21 09:49	16°♉24'26	
retrograde	4011 Aug 20 16:51	18°♉23'31	
min. Earth dist.	4011 Nov 08 05:17	16°♉59'36	28.82584 AU
opposition	4011 Nov 09 02:09	16°♉58'09	-1°33'47
direct	4012 Jan 25 22:27	15°♉34'49	
evening set	4012 Apr 21 11:02	17°♉28'11	
conjunction	4012 May 07 03:11	18°♉03'30	-1°28'12
minimum elong	4012 May 07 03:11	18°♉03'29	1°28'13
max. Earth dist.	4012 May 08 01:03	18°♉05'34	30.82324 AU
morning rise	4012 May 22 22:47	18°♉39'09	
retrograde	4012 Aug 22 06:32	20°♉38'16	
opposition	4012 Nov 10 14:32	19°♉12'55	-1°34'50
min. Earth dist.	4012 Nov 09 17:10	19°♉14'25	28.82271 AU
direct	4013 Jan 27 09:06	17°♉49'36	
evening set	4013 Apr 23 23:09	19°♉43'01	
conjunction	4013 May 09 15:48	20°♉18'22	-1°29'07
minimum elong	4013 May 09 15:48	20°♉18'22	1°29'07
max. Earth dist.	4013 May 10 14:27	20°♉20'30	30.82042 AU
morning rise	4013 May 25 11:46	20°♉54'03	
retrograde	4013 Aug 24 18:08	22°♉53'14	
min. Earth dist.	4013 Nov 12 06:20	21°♉29'21	28.82019 AU
opposition	4013 Nov 13 03:03	21°♉27'54	-1°35'44
direct	4014 Jan 29 19:53	20°♉04'37	
evening set	4014 Apr 26 11:21	21°♉58'05	
conjunction	4014 May 12 04:25	22°♉33'27	-1°29'53
minimum elong	4014 May 12 04:24	22°♉33'27	1°29'53
max. Earth dist.	4014 May 13 02:46	22°♉35'34	30.81814 AU
morning rise	4014 May 28 00:48	23°♉09'10	
retrograde	4014 Aug 27 08:47	25°♉08'23	
opposition	4014 Nov 15 15:28	23°♉43'06	-1°36'29
min. Earth dist.	4014 Nov 14 17:56	23°♉44'36	28.81793 AU
direct	4015 Feb 01 06:17	22°♉19'49	
evening set	4015 Apr 28 23:50	24°♉13'20	
conjunction	4015 May 14 17:16	24°♉48'45	-1°30'31
minimum elong	4015 May 14 17:16	24°♉48'45	1°30'32
max. Earth dist.	4015 May 15 15:25	24°♉50'50	30.81565 AU
morning rise	4015 May 30 14:08	25°♉24'29	
retrograde	4015 Aug 29 21:17	27°♉23'45	
min. Earth dist.	4015 Nov 17 07:46	25°♉59'53	28.81526 AU
opposition	4015 Nov 18 04:01	25°♉58'28	-1°37'05
direct	4016 Feb 03 17:18	24°♉35'10	
evening set	4016 Apr 30 12:19	26°♉28'44	
conjunction	4016 May 16 06:21	27°♉04'10	-1°31'01
minimum elong	4016 May 16 06:21	27°♉04'10	1°31'01
max. Earth dist.	4016 May 17 04:38	27°♉06'17	30.81266 AU
morning rise	4016 Jun 01 03:35	27°♉39'57	
retrograde	4016 Aug 31 11:40	29°♉39'12	
opposition	4016 Nov 19 16:24	28°♉13'55	-1°37'32
min. Earth dist.	4016 Nov 18 19:32	28°♉15'23	28.81176 AU
direct	4017 Feb 05 06:32	26°♉50'35	
evening set	4017 May 03 01:04	28°♉44'10	
conjunction	4017 May 18 19:25	29°♉19'39	-1°31'22
minimum elong	4017 May 18 19:25	29°♉19'39	1°31'22
max. Earth dist.	4017 May 19 16:32	29°♉21'39	30.80867 AU
morning rise	4017 Jun 03 17:13	29°♉55'27	
	4017 Jun 05 18:50	0°♊	
retrograde	4017 Sep 03 01:14	1°♊54'41	
min. Earth dist.	4017 Nov 21 09:09	0°♊30'44	28.80746 AU
opposition	4017 Nov 22 04:46	0°♊29'22	-1°37'51
	4017 Dec 10 01:13	30°℞♉	
direct	4018 Feb 07 17:38	29°♉05'59	
	4018 Apr 06 01:04	0°♊	
evening set	4018 May 05 13:37	0°♊59'34	
conjunction	4018 May 21 08:36	1°♊35'05	-1°31'36
minimum elong	4018 May 21 08:36	1°♊35'05	1°31'36
max. Earth dist.	4018 May 22 06:24	1°♊37'08	30.80414 AU
morning rise	4018 Jun 06 06:41	2°♊10'54	
retrograde	4018 Sep 05 14:43	4°♊10'05	
opposition	4018 Nov 24 17:00	2°♊44'44	-1°38'01
min. Earth dist.	4018 Nov 23 20:54	2°♊46'08	28.80272 AU
direct	4019 Feb 10 07:03	1°♊21'17	
evening set	4019 May 08 02:13	3°♊14'52	
conjunction	4019 May 23 21:31	3°♊50'24	-1°31'41
minimum elong	4019 May 23 21:31	3°♊50'24	1°31'41
max. Earth dist.	4019 May 24 18:07	3°♊52'21	30.79948 AU
morning rise	4019 Jun 08 20:15	4°♊26'15	
retrograde	4019 Sep 08 05:55	6°♊25'22	
min. Earth dist.	4019 Nov 26 09:41	5°♊01'21	28.79827 AU
opposition	4019 Nov 27 05:16	4°♊59'59	-1°38'01
direct	4020 Feb 12 19:28	3°♊36'27	
evening set	4020 May 09 14:51	5°♊30'02	

conjunction	4020 May 25 10:47	6°♊05'36	-1°31'37
minimum elong	4020 May 25 10:47	6°♊05'36	1°31'38
max. Earth dist.	4020 May 26 08:26	6°♊07'39	30.79526 AU
morning rise	4020 Jun 10 09:48	6°♊41'28	
retrograde	4020 Sep 09 17:52	8°♊40'31	
opposition	4020 Nov 28 17:13	7°♊15'06	-1°37'53
min. Earth dist.	4020 Nov 27 21:46	7°♊16'28	28.79443 AU
direct	4021 Feb 14 08:37	5°♊51'31	
evening set	4021 May 12 03:38	7°♊45'06	
conjunction	4021 May 27 23:56	8°♊20'41	-1°31'25
minimum elong	4021 May 27 23:56	8°♊20'41	1°31'26
max. Earth dist.	4021 May 28 20:37	8°♊22'38	30.79202 AU
morning rise	4021 Jun 12 23:31	8°♊56'35	
retrograde	4021 Sep 12 07:41	10°♊55'34	
min. Earth dist.	4021 Nov 30 09:30	9°♊31'30	28.79183 AU
opposition	4021 Dec 01 05:14	9°♊30'07	-1°37'36
direct	4022 Feb 16 20:04	8°♊06'28	
evening set	4022 May 14 16:13	10°♊00'04	
conjunction	4022 May 30 13:02	10°♊35'41	-1°31'05
minimum elong	4022 May 30 13:02	10°♊35'41	1°31'06
max. Earth dist.	4022 May 31 10:30	10°♊37'42	30.78998 AU
morning rise	4022 Jun 15 12:57	11°♊11'36	
retrograde	4022 Sep 14 19:21	13°♊10'32	
opposition	4022 Dec 03 17:15	11°♊45'04	-1°37'10
min. Earth dist.	4022 Dec 02 22:05	11°♊46'25	28.79053 AU
direct	4023 Feb 19 07:43	10°♊21'24	
evening set	4023 May 17 05:00	12°♊15'00	
conjunction	4023 Jun 02 02:17	12°♊50'39	-1°30'37
minimum elong	4023 Jun 02 02:18	12°♊50'39	1°30'37
max. Earth dist.	4023 Jun 02 23:20	12°♊52'38	30.78957 AU
morning rise	4023 Jun 18 02:41	13°♊26'36	
retrograde	4023 Sep 17 09:33	15°♊25'28	
min. Earth dist.	4023 Dec 05 09:01	14°♊01'26	28.79086 AU
opposition	4023 Dec 06 05:03	14°♊00'01	-1°36'35
direct	4024 Feb 21 18:48	12°♊36'19	
evening set	4024 May 18 17:55	14°♊29'58	
conjunction	4024 Jun 03 15:40	15°♊05'38	-1°30'00
minimum elong	4024 Jun 03 15:40	15°♊05'38	1°30'00
max. Earth dist.	4024 Jun 04 12:41	15°♊07'37	30.79056 AU
morning rise	4024 Jun 19 16:31	15°♊41'37	
retrograde	4024 Sep 18 20:46	17°♊40'26	
opposition	4024 Dec 07 16:59	16°♊15'01	-1°35'51
min. Earth dist.	4024 Dec 06 22:04	16°♊16'21	28.79253 AU
direct	4025 Feb 23 05:31	14°♊51'19	
evening set	4025 May 21 06:50	16°♊45'01	
conjunction	4025 Jun 06 05:09	17°♊20'42	-1°29'14
minimum elong	4025 Jun 06 05:09	17°♊20'42	1°29'14
max. Earth dist.	4025 Jun 07 02:23	17°♊22'42	30.79291 AU
morning rise	4025 Jun 22 06:20	17°♊56'42	
retrograde	4025 Sep 21 10:14	19°♊55'28	
min. Earth dist.	4025 Dec 09 09:02	18°♊31'31	28.79529 AU
opposition	4025 Dec 10 04:39	18°♊30'08	-1°34'58
direct	4026 Feb 25 17:32	17°♊06'25	
evening set	4026 May 23 20:01	19°♊00'11	
conjunction	4026 Jun 08 18:39	19°♊35'55	-1°28'21
minimum elong	4026 Jun 08 18:39	19°♊35'55	1°28'21
max. Earth dist.	4026 Jun 09 14:58	19°♊37'50	30.79605 AU
morning rise	4026 Jun 24 20:23	20°♊11'56	
retrograde	4026 Sep 23 23:33	22°♊10'41	
opposition	4026 Dec 12 16:33	20°♊45'24	-1°33'56
min. Earth dist.	4026 Dec 11 22:15	20°♊46'41	28.79871 AU
direct	4027 Feb 28 03:36	19°♊21'42	
evening set	4027 May 26 09:05	21°♊15'31	
conjunction	4027 Jun 11 08:23	21°♊51'17	-1°27'19
minimum elong	4027 Jun 11 08:23	21°♊51'17	1°27'18
max. Earth dist.	4027 Jun 12 05:08	21°♊53'14	30.79954 AU
morning rise	4027 Jun 27 10:23	22°♊27'20	
retrograde	4027 Sep 26 13:19	24°♊26'02	
min. Earth dist.	4027 Dec 14 09:54	23°♊02'07	28.80196 AU
opposition	4027 Dec 15 04:19	23°♊00'49	-1°32'45
direct	4028 Mar 01 16:45	21°♊37'06	
evening set	4028 May 27 22:39	23°♊31'00	
conjunction	4028 Jun 12 22:15	24°♊06'48	-1°26'09
minimum elong	4028 Jun 12 22:15	24°♊06'48	1°26'09
max. Earth dist.	4028 Jun 13 17:08	24°♊08'34	30.80252 AU
morning rise	4028 Jun 29 00:49	24°♊42'52	
retrograde	4028 Sep 28 04:27	26°♊41'30	
opposition	4028 Dec 16 16:05	25°♊16'20	-1°31'26
min. Earth dist.	4028 Dec 15 22:46	25°♊17'33	28.80459 AU
direct	4029 Mar 04 04:41	23°♊52'36	
evening set	4029 May 30 12:06	25°♊46'33	
conjunction	4029 Jun 15 12:20	26°♊22'23	-1°24'51
minimum elong	4029 Jun 15 12:20	26°♊22'23	1°24'50
max. Earth dist.	4029 Jun 16 07:33	26°♊24'11	30.80465 AU
morning rise	4029 Jul 01 15:07	26°♊58'28	
retrograde	4029 Sep 30 16:56	28°♊57'01	
min. Earth dist.	4029 Dec 18 11:12	27°♊33'04	28.80615 AU
opposition	4029 Dec 19 03:52	27°♊31'53	-1°29'58
direct	4030 Mar 06 17:54	26°♊08'08	
evening set	4030 Jun 02 01:30	28°♊02'07	
conjunction	4030 Jun 18 02:05	28°♊37'58	-1°23'25
minimum elong	4030 Jun 18 02:05	28°♊37'58	1°23'26
max. Earth dist.	4030 Jun 18 19:36	28°♊39'36	30.80592 AU
morning rise	4030 Jul 04 05:25	29°♊14'04	
	4030 Jul 26 08:38	0°♋	
retrograde	4030 Oct 03 07:34	1°♋12'32	
	4030 Dec 14 04:26	30°℞♊	
opposition	4030 Dec 21 15:36	29°♊47'24	-1°28'22
min. Earth dist.	4030 Dec 20 23:18	29°♊48'33	28.80708 AU
direct	4031 Mar 09 05:54	28°♊23'35	
	4031 May 27 11:07	0°♋	
evening set	4031 Jun 04 14:58	0°♋17'36	
conjunction	4031 Jun 20 16:06	0°♋53'28	-1°21'52
minimum elong	4031 Jun 20 16:07	0°♋53'28	1°21'52
max. Earth dist.	4031 Jun 21 09:48	0°♋55'08	30.80658 AU
morning rise	4031 Jul 06 19:43	1°♋29'36	
retrograde	4031 Oct 05 20:00	3°♋27'56	
opposition	4031 Dec 24 03:08	2°♋02'49	-1°26'39
min. Earth dist.	4031 Dec 23 12:05	2°♋03'53	28.80759 AU
direct	4032 Mar 10 18:19	0°♋38'57	
evening set	4032 Jun 06 04:28	2°♋32'58	
conjunction	4032 Jun 22 06:04	3°♋08'52	-1°20'11
minimum elong	4032 Jun 22 06:04	3°♋08'52	1°20'12
max. Earth dist.	4032 Jun 22 22:34	3°♋10'25	30.80725 AU
morning rise	4032 Jul 08 10:08	3°♋45'01	
retrograde	4032 Oct 07 09:51	5°♋43'14	
opposition	4032 Dec 25 14:33	4°♋18'08	-1°24'47
min. Earth dist.	4032 Dec 24 23:09	4°♋19'13	28.80834 AU
direct	4033 Mar 13 06:15	2°♋54'11	
evening set	4033 Jun 08 17:57	4°♋48'14	
conjunction	4033 Jun 24 19:56	5°♋24'09	-1°18'24

minimum elong	4033 Jun	24	19:56	5°♓24'09	1°18'23
max. Earth dist.	4033 Jun	25	12:07	5°♓25'40	30.80817 AU
morning rise	4033 Jul	11	00:19	6°♓00'18	
retrograde	4033 Oct	09	20:13	7°♓58'24	
min. Earth dist.	4033 Dec	27	11:57	6°♓34'18	28.80966 AU
opposition	4033 Dec	28	01:58	6°♓33'19	-1°22'48
direct	4034 Mar	15	17:22	5°♓09'18	
evening set	4034 Jun	11	07:22	7°♓03'22	
conjunction	4034 Jun	27	09:51	7°♓39'19	-1°16'29
minimum elong	4034 Jun	27	09:51	7°♓39'19	1°16'29
max. Earth dist.	4034 Jun	28	01:53	7°♓40'49	30.81009 AU
morning rise	4034 Jul	13	14:32	8°♓15'29	
retrograde	4034 Oct	12	09:12	10°♓13'27	
opposition	4034 Dec	30	13:10	8°♓48'23	-1°20'42
min. Earth dist.	4034 Dec	29	22:33	8°♓49'25	28.81208 AU
direct	4035 Mar	18	05:07	7°♓24'19	
evening set	4035 Jun	13	20:50	9°♓18'25	
conjunction	4035 Jun	29	23:40	9°♓54'23	-1°14'27
minimum elong	4035 Jun	29	23:40	9°♓54'23	1°14'26
max. Earth dist.	4035 Jun	30	14:46	9°♓55'48	30.81312 AU
morning rise	4035 Jul	16	04:47	10°♓30'34	
retrograde	4035 Oct	14	21:02	12°♓28'26	
min. Earth dist.	4036 Jan	01	11:10	11°♓04'20	28.81581 AU
opposition	4036 Jan	02	00:32	11°♓03'23	-1°18'28
direct	4036 Mar	19	14:43	9°♓39'16	
evening set	4036 Jun	15	10:20	11°♓33'25	
conjunction	4036 Jul	01	13:44	12°♓09'24	-1°12'18
minimum elong	4036 Jul	01	13:44	12°♓09'24	1°12'19
max. Earth dist.	4036 Jul	02	05:13	12°♓10'51	30.81758 AU
morning rise	4036 Jul	17	19:02	12°♓45'35	
retrograde	4036 Oct	16	09:10	14°♓43'20	
opposition	4037 Jan	03	11:35	13°♓18'21	-1°16'06
min. Earth dist.	4037 Jan	02	21:54	13°♓19'19	28.82084 AU
direct	4037 Mar	22	04:00	11°♓54'12	
evening set	4037 Jun	17	24:00	13°♓48'24	
conjunction	4037 Jul	04	03:38	14°♓24'24	-1°10'03
minimum elong	4037 Jul	04	03:38	14°♓24'24	1°10'03
max. Earth dist.	4037 Jul	04	17:36	14°♓25'42	30.82336 AU
morning rise	4037 Jul	20	09:23	15°♓00'36	
retrograde	4037 Oct	18	22:45	16°♓58'15	
opposition	4038 Jan	05	22:50	15°♓33'19	-1°13'38
min. Earth dist.	4038 Jan	05	09:55	15°♓34'14	28.82725 AU
direct	4038 Mar	24	15:12	14°♓09'10	
evening set	4038 Jun	20	13:23	16°♓03'25	
conjunction	4038 Jul	06	17:35	16°♓39'26	-1°07'41
minimum elong	4038 Jul	06	17:35	16°♓39'26	1°07'42
max. Earth dist.	4038 Jul	07	08:13	16°♓40'49	30.83027 AU
morning rise	4038 Jul	22	23:27	17°♓15'39	
retrograde	4038 Oct	21	10:59	19°♓13'11	
opposition	4039 Jan	08	10:00	17°♓48'21	-1°11'03
min. Earth dist.	4039 Jan	07	21:37	17°♓49'13	28.83441 AU
direct	4039 Mar	27	03:38	16°♓24'11	
evening set	4039 Jun	23	03:13	18°♓18'30	
conjunction	4039 Jul	09	07:39	18°♓54'33	-1°05'13
minimum elong	4039 Jul	09	07:39	18°♓54'33	1°05'13
max. Earth dist.	4039 Jul	09	20:32	18°♓55'45	30.83776 AU
morning rise	4039 Jul	25	13:57	19°♓30'45	
retrograde	4039 Oct	24	01:48	21°♓28'12	
opposition	4040 Jan	10	21:00	20°♓03'26	-1°08'21
min. Earth dist.	4040 Jan	10	09:11	20°♓04'16	28.84193 AU
direct	4040 Mar	28	15:37	18°♓39'15	
evening set	4040 Jun	24	17:05	20°♓33'38	
conjunction	4040 Jul	10	21:59	21°♓09'42	-1°02'39
minimum elong	4040 Jul	10	21:59	21°♓09'42	1°02'39
max. Earth dist.	4040 Jul	11	10:51	21°♓10'54	30.84505 AU
morning rise	4040 Jul	27	04:22	21°♓45'55	
retrograde	4040 Oct	25	14:27	23°♓43'14	
opposition	4041 Jan	12	08:11	22°♓18'32	-1°05'33
min. Earth dist.	4041 Jan	11	21:51	22°♓19'16	28.84888 AU
direct	4041 Mar	31	04:39	20°♓54'21	
evening set	4041 Jun	27	07:00	22°♓48'47	
conjunction	4041 Jul	13	12:09	23°♓24'51	-0°59'59
minimum elong	4041 Jul	13	12:09	23°♓24'51	0°59'58
max. Earth dist.	4041 Jul	13	23:17	23°♓25'54	30.85168 AU
morning rise	4041 Jul	29	18:50	24°♓01'05	
retrograde	4041 Oct	28	04:08	25°♓58'16	
opposition	4042 Jan	14	19:13	24°♓33'37	-1°02'39
min. Earth dist.	4042 Jan	14	08:55	24°♓34'21	28.85502 AU
direct	4042 Apr	02	17:18	23°♓09'22	
evening set	4042 Jun	29	20:56	25°♓03'51	
conjunction	4042 Jul	16	02:25	25°♓39'56	-0°57'14
minimum elong	4042 Jul	16	02:26	25°♓39'56	0°57'14
max. Earth dist.	4042 Jul	16	12:46	25°♓40'54	30.85733 AU
morning rise	4042 Aug	01	09:16	26°♓16'09	
retrograde	4042 Oct	30	15:31	28°♓13'11	
opposition	4043 Jan	17	06:18	26°♓48'35	-0°59'40
min. Earth dist.	4043 Jan	16	21:51	26°♓49'10	28.86025 AU
direct	4043 Apr	05	04:40	25°♓24'16	
evening set	4043 Jul	02	10:47	27°♓18'46	
conjunction	4043 Jul	18	16:41	27°♓54'52	-0°54'24
minimum elong	4043 Jul	18	16:41	27°♓54'52	0°54'23
max. Earth dist.	4043 Jul	19	02:05	27°♓55'44	30.86234 AU
morning rise	4043 Aug	03	23:45	28°♓31'05	
	4043 Sep	21	18:10	0°♌	
retrograde	4043 Nov	02	04:49	0°♌27'57	
	4043 Dec	14	03:22	30°℞♓	
opposition	4044 Jan	19	17:10	29°♓03'22	-0°56'36
min. Earth dist.	4044 Jan	19	08:39	29°♓03'58	28.86484 AU
direct	4044 Apr	06	17:09	27°♓38'59	
evening set	4044 Jul	04	00:48	29°♓33'30	
	4044 Jul	15	23:56	0°♌	
conjunction	4044 Jul	20	06:52	0°♌09'36	-0°51'29
minimum elong	4044 Jul	20	06:53	0°♌09'37	0°51'29
max. Earth dist.	4044 Jul	20	14:55	0°♌10'21	30.86674 AU
morning rise	4044 Aug	05	14:09	0°♌45'50	
retrograde	4044 Nov	03	15:33	2°♌42'32	
opposition	4045 Jan	21	04:00	1°♌17'58	-0°53'26
min. Earth dist.	4045 Jan	20	21:13	1°♌18'27	28.86925 AU
	4045 Mar	20	14:03	30°℞♓	
direct	4045 Apr	09	03:16	29°♓53'31	
	4045 Apr	28	16:28	0°♌	
evening set	4045 Jul	06	14:34	1°♌48'03	
conjunction	4045 Jul	22	21:03	2°♌24'09	-0°48'30
minimum elong	4045 Jul	22	21:03	2°♌24'09	0°48'29
max. Earth dist.	4045 Jul	23	05:04	2°♌24'54	30.87130 AU
morning rise	4045 Aug	08	04:22	3°♌00'22	
retrograde	4045 Nov	06	02:38	4°♌56'54	
opposition	4046 Jan	23	14:44	3°♌32'22	-0°50'13
min. Earth dist.	4046 Jan	23	07:52	3°♌32'51	28.87391 AU
direct	4046 Apr	11	16:29	2°♌07'51	
evening set	4046 Jul	09	04:17	4°♌02'24	

conjunction	4046 Jul 25 10:52	4°♌38'31	-0°45'26
minimum elong	4046 Jul 25 10:52	4°♌38'31	0°45'27
max. Earth dist.	4046 Jul 25 17:13	4°♌39'06	30.87633 AU
morning rise	4046 Aug 10 18:28	5°♌14'43	
retrograde	4046 Nov 08 14:42	7°♌11'07	
opposition	4047 Jan 26 01:28	5°♌46'36	-0°46'55
min. Earth dist.	4047 Jan 25 19:34	5°♌47'01	28.87942 AU
direct	4047 Apr 14 03:16	4°♌22'00	
evening set	4047 Jul 11 17:59	6°♌16'36	
conjunction	4047 Jul 28 00:59	6°♌52'43	-0°42'19
minimum elong	4047 Jul 28 00:59	6°♌52'43	0°42'19
max. Earth dist.	4047 Jul 28 07:48	6°♌53'21	30.88234 AU
morning rise	4047 Aug 13 08:31	7°♌28'55	
retrograde	4047 Nov 11 01:52	9°♌25'09	
opposition	4048 Jan 28 12:00	8°♌00'41	-0°43'33
min. Earth dist.	4048 Jan 28 06:35	8°♌01'04	28.88595 AU
direct	4048 Apr 15 15:25	6°♌36'03	
evening set	4048 Jul 13 07:51	8°♌30'42	
conjunction	4048 Jul 29 14:54	9°♌06'48	-0°39'08
minimum elong	4048 Jul 29 14:54	9°♌06'48	0°39'09
max. Earth dist.	4048 Jul 29 20:02	9°♌07'17	30.88964 AU
morning rise	4048 Aug 14 22:41	9°♌43'00	
retrograde	4048 Nov 12 15:31	11°♌39'06	
opposition	4049 Jan 29 22:36	10°♌14'41	-0°40'06
min. Earth dist.	4049 Jan 29 17:23	10°♌15'04	28.89400 AU
direct	4049 Apr 18 03:26	8°♌50'01	
evening set	4049 Jul 15 21:25	10°♌44'43	
conjunction	4049 Aug 01 04:46	11°♌20'51	-0°35'54
minimum elong	4049 Aug 01 04:46	11°♌20'51	0°35'54
max. Earth dist.	4049 Aug 01 10:25	11°♌21'22	30.89834 AU
morning rise	4049 Aug 17 12:25	11°♌57'01	
retrograde	4049 Nov 15 03:10	13°♌53'00	
opposition	4050 Feb 01 09:14	12°♌28'41	-0°36'37
min. Earth dist.	4050 Feb 01 05:03	12°♌28'58	28.90338 AU
direct	4050 Apr 20 16:16	11°♌04'01	
evening set	4050 Jul 18 11:10	12°♌58'47	
conjunction	4050 Aug 03 18:36	13°♌34'54	-0°32'36
minimum elong	4050 Aug 03 18:36	13°♌34'54	0°32'37
max. Earth dist.	4050 Aug 03 22:52	13°♌35'18	30.90855 AU
morning rise	4050 Aug 20 02:26	14°♌11'05	
	4050 Sep 13 01:50	15°♌	
retrograde	4050 Nov 17 16:36	16°♌06'56	
	4051 Jan 24 13:57	15°℞♌	
opposition	4051 Feb 03 19:38	14°♌42'43	-0°33'04
min. Earth dist.	4051 Feb 03 15:12	14°♌43'02	28.91410 AU
direct	4051 Apr 23 04:31	13°♌18'03	
	4051 Jul 15 00:44	15°♌	
evening set	4051 Jul 21 00:58	15°♌12'55	
conjunction	4051 Aug 06 08:36	15°♌49'03	-0°29'16
minimum elong	4051 Aug 06 08:36	15°♌49'03	0°29'15
max. Earth dist.	4051 Aug 06 12:31	15°♌49'24	30.91963 AU
morning rise	4051 Aug 22 16:23	16°♌25'12	
retrograde	4051 Nov 20 04:28	18°♌20'57	
opposition	4052 Feb 06 06:15	16°♌56'51	-0°29'28
min. Earth dist.	4052 Feb 06 03:33	16°♌57'02	28.92541 AU
direct	4052 Apr 24 15:43	15°♌32'13	
evening set	4052 Jul 22 14:52	17°♌27'08	
conjunction	4052 Aug 07 22:37	18°♌03'16	-0°25'52
minimum elong	4052 Aug 07 22:37	18°♌03'16	0°25'53
max. Earth dist.	4052 Aug 08 01:30	18°♌03'32	30.93105 AU
morning rise	4052 Aug 24 06:22	18°♌39'25	
retrograde	4052 Nov 21 18:17	20°♌35'03	
opposition	4053 Feb 07 16:39	19°♌11'03	-0°25'49
min. Earth dist.	4053 Feb 07 13:56	19°♌11'15	28.93663 AU
direct	4053 Apr 27 04:01	17°♌46'25	
evening set	4053 Jul 25 04:52	19°♌41'25	
conjunction	4053 Aug 10 12:37	20°♌17'33	-0°22'27
minimum elong	4053 Aug 10 12:37	20°♌17'33	0°22'26
max. Earth dist.	4053 Aug 10 14:09	20°♌17'42	30.94196 AU
morning rise	4053 Aug 26 20:20	20°♌53'42	
retrograde	4053 Nov 24 04:47	22°♌49'13	
opposition	4054 Feb 10 03:20	21°♌25'18	-0°22'08
min. Earth dist.	4054 Feb 10 02:26	21°♌25'22	28.94727 AU
direct	4054 Apr 29 14:02	20°♌00'40	
evening set	4054 Jul 27 18:36	21°♌55'42	
conjunction	4054 Aug 13 02:34	22°♌31'50	-0°18'59
minimum elong	4054 Aug 13 02:34	22°♌31'50	0°19'00
max. Earth dist.	4054 Aug 13 03:39	22°♌31'56	30.95217 AU
morning rise	4054 Aug 29 10:10	23°♌07'57	
retrograde	4054 Nov 26 15:32	25°♌03'20	
opposition	4055 Feb 12 13:51	23°♌39'29	-0°18'25
min. Earth dist.	4055 Feb 12 13:16	23°♌39'32	28.95687 AU
direct	4055 May 02 03:04	22°♌14'49	
evening set	4055 Jul 30 08:39	24°♌09'54	
conjunction	4055 Aug 15 16:31	24°♌46'01	-0°15'31
minimum elong	4055 Aug 15 16:31	24°♌46'01	0°15'30
behind sun begin	4055 Aug 15 15:19	24°♌45'55	
behind sun end	4055 Aug 15 17:43	24°♌46'07	
max. Earth dist.	4055 Aug 15 15:27	24°♌45'55	30.96132 AU
morning rise	4055 Sep 01 00:09	25°♌22'07	
retrograde	4055 Nov 29 03:02	27°♌17'21	
opposition	4056 Feb 15 00:18	25°♌53'33	-0°14'41
min. Earth dist.	4056 Feb 15 01:03	25°♌53'30	28.96565 AU
direct	4056 May 03 13:06	24°♌28'49	
evening set	4056 Jul 31 22:29	26°♌23'56	
conjunction	4056 Aug 17 06:33	27°♌00'03	-0°12'01
minimum elong	4056 Aug 17 06:33	27°♌00'03	0°12'02
behind sun begin	4056 Aug 17 02:08	26°♌59'39	
behind sun end	4056 Aug 17 10:58	27°♌00'26	
max. Earth dist.	4056 Aug 17 05:27	26°♌59'57	30.96971 AU
morning rise	4056 Sep 02 13:54	27°♌36'07	
retrograde	4056 Nov 30 13:14	29°♌31'11	
opposition	4057 Feb 16 10:45	28°♌07'26	-0°10'56
min. Earth dist.	4057 Feb 16 12:23	28°♌07'19	28.97367 AU
direct	4057 May 06 01:12	26°♌42'39	
evening set	4057 Aug 03 12:14	28°♌37'46	
conjunction	4057 Aug 19 20:06	29°♌13'51	-0°08'31
minimum elong	4057 Aug 19 20:06	29°♌13'51	0°08'30
behind sun begin	4057 Aug 19 14:22	29°♌13'21	
behind sun end	4057 Aug 20 01:50	29°♌14'22	
max. Earth dist.	4057 Aug 19 17:01	29°♌13'36	30.97764 AU
morning rise	4057 Sep 05 03:29	29°♌49'55	
	4057 Sep 09 20:03	0°♍	
retrograde	4057 Dec 03 01:07	1°♍44'49	
opposition	4058 Feb 18 21:06	0°♍21'05	-0°07'10
min. Earth dist.	4058 Feb 18 23:12	0°♍20'56	28.98158 AU
	4058 Mar 03 10:26	30°℞♌	
direct	4058 May 08 13:30	28°♌56'14	
	4058 Jul 11 15:36	0°♍	
evening set	4058 Aug 06 01:53	0°♍51'23	
conjunction	4058 Aug 22 09:53	1°♍27'27	-0°05'00
minimum elong	4058 Aug 22 09:53	1°♍27'27	0°05'01

behind sun begin	4058 Aug 22 03:28	1°♑26'53	
behind sun end	4058 Aug 22 16:18	1°♑28'01	
max. Earth dist.	4058 Aug 22 07:03	1°♑27'13	30.98554 AU
morning rise	4058 Sep 07 16:57	2°♑03'28	
retrograde	4058 Dec 05 11:20	3°♑58'12	
opposition	4059 Feb 21 07:23	2°♑34'30	-0°03'24
min. Earth dist.	4059 Feb 21 10:52	2°♑34'15	28.98964 AU
direct	4059 May 11 02:17	1°♑09'35	
evening set	4059 Aug 08 15:36	3°♑04'45	
conjunction	4059 Aug 24 23:26	3°♑40'48	-0°01'28
minimum elong	4059 Aug 24 23:27	3°♑40'48	0°01'27
behind sun begin	4059 Aug 24 16:51	3°♑40'13	
behind sun end	4059 Aug 25 06:02	3°♑41'23	
max. Earth dist.	4059 Aug 24 19:02	3°♑40'26	30.99393 AU
morning rise	4059 Sep 10 06:30	4°♑16'47	
retrograde	4059 Dec 07 23:56	6°♑11'22	
asc. node	4060 Jan 18 19:59	5°♑43'17	
opposition	4060 Feb 23 17:36	4°♑47'41	0°00'22
min. Earth dist.	4060 Feb 23 20:47	4°♑47'28	28.99839 AU
direct	4060 May 12 14:50	3°♑22'43	
evening set	4060 Aug 10 05:10	5°♑17'54	
conjunction	4060 Aug 26 12:59	5°♑53'56	0°02'11
minimum elong	4060 Aug 26 12:59	5°♑53'56	0°02'10
behind sun begin	4060 Aug 26 06:23	5°♑53'21	
behind sun end	4060 Aug 26 19:35	5°♑54'31	
max. Earth dist.	4060 Aug 26 08:26	5°♑53'33	31.00304 AU
morning rise	4060 Sep 11 19:41	6°♑29'53	
retrograde	4060 Dec 09 10:59	8°♑24'19	
opposition	4061 Feb 25 03:55	7°♑00'41	0°04'08
min. Earth dist.	4061 Feb 25 08:32	7°♑00'22	29.00813 AU
direct	4061 May 15 02:56	5°♑35'42	
evening set	4061 Aug 12 18:42	7°♑30'55	
conjunction	4061 Aug 29 02:24	8°♑06'55	0°05'42
minimum elong	4061 Aug 29 02:23	8°♑06'55	0°05'43
behind sun begin	4061 Aug 28 20:04	8°♑06'22	
behind sun end	4061 Aug 29 08:42	8°♑07'29	
max. Earth dist.	4061 Aug 28 21:06	8°♑06'27	31.01349 AU
morning rise	4061 Sep 14 08:54	8°♑42'50	
retrograde	4061 Dec 11 23:43	10°♑37'08	
opposition	4062 Feb 27 14:06	9°♑13'34	0°07'54
min. Earth dist.	4062 Feb 27 18:11	9°♑13'17	29.01919 AU
direct	4062 May 17 16:00	7°♑48'34	
evening set	4062 Aug 15 08:08	9°♑43'49	
conjunction	4062 Aug 31 15:40	10°♑19'49	0°09'12
minimum elong	4062 Aug 31 15:41	10°♑19'49	0°09'12
behind sun begin	4062 Aug 31 10:08	10°♑19'20	
behind sun end	4062 Aug 31 21:13	10°♑20'19	
max. Earth dist.	4062 Aug 31 09:41	10°♑19'17	31.02516 AU
morning rise	4062 Sep 16 21:59	10°♑55'43	
retrograde	4062 Dec 14 10:04	12°♑49'54	
opposition	4063 Mar 02 00:26	11°♑26'25	0°11'39
min. Earth dist.	4063 Mar 02 05:55	11°♑26'02	29.03149 AU
direct	4063 May 20 02:24	10°♑01'26	
evening set	4063 Aug 17 21:39	11°♑56'45	
conjunction	4063 Sep 03 05:09	12°♑32'43	0°12'41
minimum elong	4063 Sep 03 05:09	12°♑32'43	0°12'42
behind sun begin	4063 Sep 03 01:06	12°♑32'22	
behind sun end	4063 Sep 03 09:12	12°♑33'05	
max. Earth dist.	4063 Sep 02 23:05	12°♑32'11	31.03794 AU
morning rise	4063 Sep 19 11:07	13°♑08'35	
retrograde	4063 Dec 16 20:56	15°♑02'40	
opposition	4064 Mar 03 10:33	13°♑39'18	0°15'22
min. Earth dist.	4064 Mar 03 16:07	13°♑38'55	29.04447 AU
direct	4064 May 21 14:50	12°♑14'21	
evening set	4064 Aug 19 11:20	14°♑09'44	
conjunction	4064 Sep 04 18:29	14°♑45'42	0°16'10
minimum elong	4064 Sep 04 18:30	14°♑45'42	0°16'10
max. Earth dist.	4064 Sep 04 10:45	14°♑45'00	31.05107 AU
morning rise	4064 Sep 21 00:16	15°♑21'32	
retrograde	4064 Dec 18 08:29	17°♑15'32	
opposition	4065 Mar 05 20:54	15°♑52'16	0°19'05
min. Earth dist.	4065 Mar 06 03:30	15°♑51'48	29.05767 AU
direct	4065 May 24 00:20	14°♑27'21	
evening set	4065 Aug 22 00:41	16°♑22'48	
conjunction	4065 Sep 07 07:48	16°♑58'45	0°19'37
minimum elong	4065 Sep 07 07:48	16°♑58'45	0°19'37
max. Earth dist.	4065 Sep 07 00:12	16°♑58'03	31.06397 AU
morning rise	4065 Sep 23 13:06	17°♑34'33	
retrograde	4065 Dec 20 18:19	19°♑28'28	
opposition	4066 Mar 08 07:17	18°♑05'19	0°22'46
min. Earth dist.	4066 Mar 08 14:49	18°♑04'47	29.07016 AU
direct	4066 May 26 12:05	16°♑40'25	
evening set	4066 Aug 24 14:22	18°♑35'56	
conjunction	4066 Sep 09 21:05	19°♑11'50	0°23'02
minimum elong	4066 Sep 09 21:05	19°♑11'50	0°23'02
max. Earth dist.	4066 Sep 09 11:18	19°♑10'56	31.07599 AU
morning rise	4066 Sep 26 02:13	19°♑47'37	
retrograde	4066 Dec 23 05:57	21°♑41'26	
opposition	4067 Mar 10 17:31	20°♑18'22	0°26'24
min. Earth dist.	4067 Mar 11 01:40	20°♑17'47	29.08169 AU
direct	4067 May 28 23:33	18°♑53'28	
evening set	4067 Aug 27 03:53	20°♑49'02	
conjunction	4067 Sep 12 10:33	21°♑24'56	0°26'25
minimum elong	4067 Sep 12 10:33	21°♑24'56	0°26'26
max. Earth dist.	4067 Sep 12 00:44	21°♑24'02	31.08679 AU
morning rise	4067 Sep 28 15:09	22°♑00'40	
retrograde	4067 Dec 25 15:53	23°♑54'23	
opposition	4068 Mar 12 04:00	22°♑31'23	0°30'00
min. Earth dist.	4068 Mar 12 13:47	22°♑30'41	29.09185 AU
direct	4068 May 30 11:47	21°♑06'28	
evening set	4068 Aug 28 17:25	23°♑02'05	
conjunction	4068 Sep 13 23:39	23°♑37'56	0°29'46
minimum elong	4068 Sep 13 23:39	23°♑37'56	0°29'46
max. Earth dist.	4068 Sep 13 11:57	23°♑36'52	31.09637 AU
morning rise	4068 Sep 30 04:01	24°♑13'39	
retrograde	4068 Dec 27 04:07	26°♑07'15	
opposition	4069 Mar 14 14:16	24°♑44'18	0°33'33
min. Earth dist.	4069 Mar 14 23:59	24°♑43'37	29.10090 AU
direct	4069 Jun 02 00:07	23°♑19'21	
evening set	4069 Aug 31 06:45	25°♑15'00	
conjunction	4069 Sep 16 12:48	25°♑50'50	0°33'04
minimum elong	4069 Sep 16 12:48	25°♑50'50	0°33'04
max. Earth dist.	4069 Sep 16 00:44	25°♑49'43	31.10487 AU
morning rise	4069 Oct 02 16:39	26°♑26'30	
retrograde	4069 Dec 29 15:00	28°♑19'59	
opposition	4070 Mar 17 00:37	26°♑57'04	0°37'02
min. Earth dist.	4070 Mar 17 12:06	26°♑56'15	29.10909 AU
direct	4070 Jun 04 12:44	25°♑32'06	
evening set	4070 Sep 02 19:56	27°♑27'45	
conjunction	4070 Sep 19 01:42	28°♑03'33	0°36'18
minimum elong	4070 Sep 19 01:41	28°♑03'33	0°36'18
max. Earth dist.	4070 Sep 18 12:34	28°♑02'21	31.11281 AU

morning rise	4070 Oct 05 05:16	28°♑39'11	
	4070 Nov 17 18:27	0°♑	
retrograde	4071 Jan 01 03:13	0°♑32'32	
	4071 Feb 15 07:02	30°℞♑	
opposition	4071 Mar 19 10:50	29°♑09'39	0°40'28
min. Earth dist.	4071 Mar 19 22:05	29°♑08'51	29.11675 AU
direct	4071 Jun 07 02:47	27°♑44'38	
evening set	4071 Sep 05 09:10	29°♑40'19	
	4071 Sep 14 08:51	0°♑	
conjunction	4071 Sep 21 14:34	0°♑16'05	0°39'29
minimum elong	4071 Sep 21 14:33	0°♑16'05	0°39'30
max. Earth dist.	4071 Sep 21 00:36	0°♑14'47	31.12031 AU
morning rise	4071 Oct 07 17:41	0°♑51'40	
retrograde	4072 Jan 03 12:58	2°♑44'54	
opposition	4072 Mar 20 21:03	1°♑22'01	0°43'51
min. Earth dist.	4072 Mar 21 09:46	1°♑21'08	29.12443 AU
	4072 May 25 22:37	30°℞♑	
direct	4072 Jun 08 13:54	29°♑56'59	
	4072 Jun 22 02:20	0°♑	
evening set	4072 Sep 06 22:10	1°♑52'40	
conjunction	4072 Sep 23 03:17	2°♑28'24	0°42'37
minimum elong	4072 Sep 23 03:17	2°♑28'24	0°42'37
max. Earth dist.	4072 Sep 22 13:24	2°♑27'07	31.12816 AU
morning rise	4072 Oct 09 05:56	3°♑03'56	
retrograde	4073 Jan 04 23:23	4°♑57'03	
opposition	4073 Mar 23 07:19	3°♑34'12	0°47'09
min. Earth dist.	4073 Mar 23 19:48	3°♑33'20	29.13254 AU
direct	4073 Jun 11 03:05	2°♑09'08	
evening set	4073 Sep 09 11:02	4°♑04'49	
conjunction	4073 Sep 25 15:39	4°♑40'31	0°45'40
minimum elong	4073 Sep 25 15:39	4°♑40'31	0°45'40
max. Earth dist.	4073 Sep 25 00:35	4°♑39'08	31.13666 AU
morning rise	4073 Oct 11 17:56	5°♑16'01	
retrograde	4074 Jan 07 10:17	7°♑09'02	
opposition	4074 Mar 25 17:35	5°♑46'14	0°50'23
min. Earth dist.	4074 Mar 26 06:34	5°♑45'19	29.14169 AU
direct	4074 Jun 13 13:08	4°♑21'08	
evening set	4074 Sep 11 23:49	6°♑16'51	
conjunction	4074 Sep 28 04:15	6°♑52'31	0°48'40
minimum elong	4074 Sep 28 04:14	6°♑52'31	0°48'39
max. Earth dist.	4074 Sep 27 13:48	6°♑51'10	31.14631 AU
morning rise	4074 Oct 14 05:56	7°♑27'58	
retrograde	4075 Jan 09 18:41	9°♑20'53	
opposition	4075 Mar 28 03:45	7°♑58'09	0°53'32
min. Earth dist.	4075 Mar 28 17:11	7°♑57'12	29.15183 AU
direct	4075 Jun 16 01:16	6°♑33'04	
evening set	4075 Sep 14 12:48	8°♑28'48	
conjunction	4075 Sep 30 16:39	9°♑04'26	0°51'35
minimum elong	4075 Sep 30 16:39	9°♑04'26	0°51'35
max. Earth dist.	4075 Sep 30 00:42	9°♑02'58	31.15699 AU
morning rise	4075 Oct 16 18:02	9°♑39'52	
retrograde	4076 Jan 12 05:08	11°♑32'42	
opposition	4076 Mar 29 14:00	10°♑10'02	0°56'37
min. Earth dist.	4076 Mar 30 03:23	10°♑09'06	29.16297 AU
direct	4076 Jun 17 11:46	8°♑44'59	
evening set	4076 Sep 16 01:27	10°♑40'45	
conjunction	4076 Oct 02 05:03	11°♑16'22	0°54'25
minimum elong	4076 Oct 02 05:02	11°♑16'22	0°54'25
max. Earth dist.	4076 Oct 01 13:48	11°♑14'57	31.16829 AU
morning rise	4076 Oct 18 05:45	11°♑51'44	
retrograde	4077 Jan 13 14:22	13°♑44'32	
opposition	4077 Apr 01 00:23	12°♑21'57	0°59'36
min. Earth dist.	4077 Apr 01 15:02	12°♑20'55	29.17438 AU
direct	4077 Jun 19 22:34	10°♑56'55	
evening set	4077 Sep 18 14:17	12°♑52'44	
conjunction	4077 Oct 04 17:19	13°♑28'18	0°57'11
minimum elong	4077 Oct 04 17:19	13°♑28'18	0°57'11
max. Earth dist.	4077 Oct 04 00:39	13°♑26'46	31.17968 AU
morning rise	4077 Oct 20 17:41	14°♑03'39	
retrograde	4078 Jan 16 01:58	15°♑56'23	
opposition	4078 Apr 03 10:36	14°♑33'52	1°02'31
min. Earth dist.	4078 Apr 04 00:55	14°♑32'52	29.18559 AU
direct	4078 Jun 22 10:07	13°♑08'51	
evening set	4078 Sep 21 02:59	15°♑04'44	
conjunction	4078 Oct 07 05:42	15°♑40'15	0°59'51
minimum elong	4078 Oct 07 05:41	15°♑40'15	0°59'52
max. Earth dist.	4078 Oct 06 12:53	15°♑38'42	31.19038 AU
morning rise	4078 Oct 23 05:27	16°♑15'33	
retrograde	4079 Jan 18 12:21	18°♑08'14	
opposition	4079 Apr 05 21:08	16°♑45'46	1°05'19
min. Earth dist.	4079 Apr 06 13:08	16°♑44'40	29.19587 AU
direct	4079 Jun 24 22:27	15°♑20'47	
evening set	4079 Sep 23 15:46	17°♑16'41	
conjunction	4079 Oct 09 17:58	17°♑52'10	1°02'27
minimum elong	4079 Oct 09 17:58	17°♑52'10	1°02'27
max. Earth dist.	4079 Oct 09 00:06	17°♑50'31	31.20006 AU
morning rise	4079 Oct 25 17:17	18°♑27'26	
retrograde	4080 Jan 20 23:56	20°♑20'02	
opposition	4080 Apr 07 07:30	18°♑57'37	1°08'02
min. Earth dist.	4080 Apr 07 23:16	18°♑56'32	29.20489 AU
direct	4080 Jun 26 12:08	17°♑32'38	
evening set	4080 Sep 25 04:29	19°♑28'33	
max. Earth dist.	4080 Oct 10 11:27	20°♑02'16	31.20838 AU
conjunction	4080 Oct 11 06:12	20°♑04'00	1°04'56
minimum elong	4080 Oct 11 06:11	20°♑04'00	1°04'56
morning rise	4080 Oct 27 04:57	20°♑39'13	
retrograde	4081 Jan 22 10:16	22°♑31'45	
opposition	4081 Apr 09 18:05	21°♑09'23	1°10'39
min. Earth dist.	4081 Apr 10 11:17	21°♑08'11	29.21275 AU
direct	4081 Jun 28 23:17	19°♑44'23	
evening set	4081 Sep 27 16:50	21°♑40'18	
conjunction	4081 Oct 13 18:11	22°♑15'42	1°07'20
minimum elong	4081 Oct 13 18:11	22°♑15'42	1°07'20
max. Earth dist.	4081 Oct 12 23:23	22°♑13'58	31.21563 AU
morning rise	4081 Oct 29 16:24	22°♑50'53	
retrograde	4082 Jan 24 20:42	24°♑43'20	
opposition	4082 Apr 12 04:32	23°♑20'59	1°13'09
min. Earth dist.	4082 Apr 12 21:49	23°♑19'47	29.21936 AU
direct	4082 Jul 01 13:06	21°♑55'58	
evening set	4082 Sep 30 05:22	23°♑51'52	
max. Earth dist.	4082 Oct 15 09:53	24°♑25'23	31.22175 AU
conjunction	4082 Oct 16 06:08	24°♑27'15	1°09'38
minimum elong	4082 Oct 16 06:08	24°♑27'15	1°09'38
morning rise	4082 Nov 01 03:56	25°♑02'23	
retrograde	4083 Jan 27 07:27	26°♑54'45	
opposition	4083 Apr 14 14:52	25°♑32'25	1°15'33
min. Earth dist.	4083 Apr 15 08:51	25°♑31'10	29.22521 AU
direct	4083 Jul 04 00:04	24°♑07'22	
evening set	4083 Oct 02 17:38	26°♑03'16	
conjunction	4083 Oct 18 18:05	26°♑38'37	1°11'50
minimum elong	4083 Oct 18 18:05	26°♑38'37	1°11'50

max. Earth dist.	4083 Oct 17	22:22	26°♎36'47	31.22726 AU
morning rise	4083 Nov 03	15:13	27°♎13'42	
retrograde	4084 Jan 29	15:36	29°♎05'59	
opposition	4084 Apr 16	01:23	27°♎43'40	1°17'51
min. Earth dist.	4084 Apr 16	19:57	27°♎42'22	29.23052 AU
direct	4084 Jul 05	12:51	26°♎18'36	
evening set	4084 Oct 04	05:46	28°♎14'29	
max. Earth dist.	4084 Oct 19	08:31	28°♎47'50	31.23257 AU
conjunction	4084 Oct 20	05:32	28°♎49'47	1°13'55
minimum elong	4084 Oct 20	05:31	28°♎49'47	1°13'55
morning rise	4084 Nov 05	02:18	29°♎24'49	
	4084 Nov 21	23:52	0°♏	
retrograde	4085 Jan 31	01:28	1°♏17'03	
	4085 Apr 15	07:45	30°℞♎	
opposition	4085 Apr 18	11:49	29°♎54'44	1°20'01
min. Earth dist.	4085 Apr 19	06:03	29°♎53'28	29.23607 AU
direct	4085 Jul 07	23:31	28°♎29'38	
	4085 Sep 24	15:03	0°♏	
evening set	4085 Oct 06	17:40	0°♏25'31	
conjunction	4085 Oct 22	17:07	1°♏00'47	1°15'54
minimum elong	4085 Oct 22	17:07	1°♏00'47	1°15'54
max. Earth dist.	4085 Oct 21	21:07	0°♏58'55	31.23829 AU
morning rise	4085 Nov 07	13:11	1°♏35'47	
retrograde	4086 Feb 02	09:56	3°♏27'57	
opposition	4086 Apr 20	22:17	2°♏05'39	1°22'05
min. Earth dist.	4086 Apr 21	17:24	2°♏04'19	29.24224 AU
direct	4086 Jul 10	10:02	0°♏40'34	
evening set	4086 Oct 09	05:37	2°♏36'26	
max. Earth dist.	4086 Oct 24	07:34	3°♏09'43	31.24498 AU
conjunction	4086 Oct 25	04:27	3°♏11'39	1°17'46
minimum elong	4086 Oct 25	04:26	3°♏11'39	1°17'47
morning rise	4086 Nov 10	00:10	3°♏46'38	
retrograde	4087 Feb 04	20:42	5°♏38'45	
opposition	4087 Apr 23	08:42	4°♏16'30	1°24'01
min. Earth dist.	4087 Apr 24	02:47	4°♏15'14	29.24947 AU
direct	4087 Jul 12	21:21	2°♏51'25	
evening set	4087 Oct 11	17:24	4°♏47'19	
conjunction	4087 Oct 27	15:48	5°♏22'31	1°19'32
minimum elong	4087 Oct 27	15:48	5°♏22'31	1°19'32
max. Earth dist.	4087 Oct 26	19:31	5°♏20'38	31.25266 AU
morning rise	4087 Nov 12	10:51	5°♏57'26	
retrograde	4088 Feb 07	06:38	7°♏49'34	
opposition	4088 Apr 24	19:20	6°♏27'21	1°25'50
min. Earth dist.	4088 Apr 25	14:23	6°♏26'01	29.25772 AU
direct	4088 Jul 14	09:00	5°♏02'20	
evening set	4088 Oct 13	05:10	6°♏58'15	
max. Earth dist.	4088 Oct 28	06:31	7°♏31'30	31.26139 AU
conjunction	4088 Oct 29	03:01	7°♏33'24	1°21'11
minimum elong	4088 Oct 29	03:01	7°♏33'24	1°21'11
morning rise	4088 Nov 13	21:38	8°♏08'18	
retrograde	4089 Feb 08	17:57	10°♏00'25	
opposition	4089 Apr 27	05:51	8°♏38'16	1°27'32
min. Earth dist.	4089 Apr 28	00:04	8°♏37'00	29.26667 AU
direct	4089 Jul 16	21:35	7°♏13'18	
evening set	4089 Oct 15	16:45	9°♏09'16	
conjunction	4089 Oct 31	14:07	9°♏44'23	1°22'42
minimum elong	4089 Oct 31	14:07	9°♏44'23	1°22'42
max. Earth dist.	4089 Oct 30	17:23	9°♏42'28	31.27041 AU
morning rise	4089 Nov 16	08:12	10°♏19'15	
retrograde	4090 Feb 11	04:30	12°♏11'23	
opposition	4090 Apr 29	16:33	10°♏49'18	1°29'06
min. Earth dist.	4090 Apr 30	11:46	10°♏47'58	29.27573 AU
direct	4090 Jul 19	08:06	9°♏24'24	
evening set	4090 Oct 18	04:27	11°♏20'23	
max. Earth dist.	4090 Nov 02	04:58	11°♏53'35	31.27922 AU
conjunction	4090 Nov 03	01:22	11°♏55'28	1°24'07
minimum elong	4090 Nov 03	01:22	11°♏55'28	1°24'07
morning rise	4090 Nov 18	18:53	12°♏30'18	
retrograde	4091 Feb 13	15:29	14°♏22'25	
opposition	4091 May 02	03:10	13°♏00'24	1°30'32
min. Earth dist.	4091 May 02	22:18	12°♏59'05	29.28412 AU
direct	4091 Jul 21	22:02	11°♏35'34	
evening set	4091 Oct 20	16:15	13°♏31'34	
conjunction	4091 Nov 05	12:32	14°♏06'37	1°25'24
minimum elong	4091 Nov 05	12:32	14°♏06'37	1°25'24
max. Earth dist.	4091 Nov 04	14:57	14°♏04'37	31.28712 AU
morning rise	4091 Nov 21	05:36	14°♏41'25	
	4091 Nov 29	22:22	15°♏	
retrograde	4092 Feb 16	02:58	16°♏33'32	
opposition	4092 May 03	14:03	15°♏11'34	1°31'51
min. Earth dist.	4092 May 04	09:33	15°♏10'13	29.29161 AU
	4092 May 10	14:38	15°℞♏	
direct	4092 Jul 23	09:27	13°♏46'45	
	4092 Oct 01	08:43	15°♏	
evening set	4092 Oct 22	03:42	15°♏42'46	
conjunction	4092 Nov 06	23:36	16°♏17'47	1°26'34
minimum elong	4092 Nov 06	23:36	16°♏17'47	1°26'34
max. Earth dist.	4092 Nov 06	02:43	16°♏15'51	31.29392 AU
morning rise	4092 Nov 22	16:02	16°♏52'32	
retrograde	4093 Feb 17	11:13	18°♏44'38	
opposition	4093 May 06	01:01	17°♏22'43	1°33'01
min. Earth dist.	4093 May 06	21:06	17°♏21'19	29.29772 AU
direct	4093 Jul 25	22:15	15°♏57'56	
evening set	4093 Oct 24	15:20	17°♏53'55	
conjunction	4093 Nov 09	10:35	18°♏28'54	1°27'36
minimum elong	4093 Nov 09	10:35	18°♏28'54	1°27'36
max. Earth dist.	4093 Nov 08	12:16	18°♏26'50	31.29939 AU
morning rise	4093 Nov 25	02:41	19°♏03'37	
retrograde	4094 Feb 19	21:17	20°♏55'41	
opposition	4094 May 08	11:45	19°♏33'47	1°34'04
min. Earth dist.	4094 May 09	07:38	19°♏32'25	29.30260 AU
direct	4094 Jul 28	09:16	18°♏09'00	
evening set	4094 Oct 27	02:45	20°♏04'58	
conjunction	4094 Nov 11	21:41	20°♏39'55	1°28'31
minimum elong	4094 Nov 11	21:41	20°♏39'55	1°28'31
max. Earth dist.	4094 Nov 11	00:05	20°♏37'55	31.30355 AU
morning rise	4094 Nov 27	13:08	21°♏14'36	
retrograde	4095 Feb 22	06:01	23°♏06'39	
opposition	4095 May 10	22:48	21°♏44'44	1°34'58
min. Earth dist.	4095 May 11	19:49	21°♏43'17	29.30613 AU
direct	4095 Jul 30	20:24	20°♏19'56	
evening set	4095 Oct 29	14:08	22°♏15'52	
max. Earth dist.	4095 Nov 13	09:54	22°♏48'40	31.30662 AU
conjunction	4095 Nov 14	08:25	22°♏50'46	1°29'18
minimum elong	4095 Nov 14	08:25	22°♏50'46	1°29'18
morning rise	4095 Nov 29	23:32	23°♏25'26	
retrograde	4096 Feb 24	15:51	25°♏17'26	
opposition	4096 May 12	09:41	23°♏55'30	1°35'45
min. Earth dist.	4096 May 13	05:48	23°♏54'07	29.30877 AU
direct	4096 Aug 01	08:18	22°♏30'41	
evening set	4096 Oct 31	01:16	24°♏26'33	

conjunction	4096 Nov 15	19:10	25°♏01'26	1°29'57
minimum elong	4096 Nov 15	19:10	25°♏01'26	1°29'58
max. Earth dist.	4096 Nov 14	21:09	24°♏59'23	31.30891 AU
morning rise	4096 Dec 01	09:42	25°♏36'03	
retrograde	4097 Feb 26	00:54	27°♏28'02	
opposition	4097 May 14	20:43	26°♏06'04	1°36'23
min. Earth dist.	4097 May 15	17:48	26°♏04'37	29.31102 AU
direct	4097 Aug 03	19:22	24°♏41'15	
evening set	4097 Nov 02	12:12	26°♏37'03	
max. Earth dist.	4097 Nov 17	07:39	27°♏09'51	31.31121 AU
conjunction	4097 Nov 18	05:36	27°♏11'54	1°30'29
minimum elong	4097 Nov 18	05:36	27°♏11'54	1°30'29
morning rise	4097 Dec 03	19:46	27°♏46'29	
retrograde	4098 Feb 28	11:10	29°♏38'26	
opposition	4098 May 17	07:38	28°♏16'27	1°36'53
min. Earth dist.	4098 May 18	03:38	28°♏15'05	29.31338 AU
direct	4098 Aug 06	07:36	26°♏51'36	
evening set	4098 Nov 04	23:11	28°♏47'23	
conjunction	4098 Nov 20	16:04	29°♏22'12	1°30'54
minimum elong	4098 Nov 20	16:04	29°♏22'12	1°30'53
max. Earth dist.	4098 Nov 19	18:07	29°♏20'09	31.31378 AU
morning rise	4098 Dec 06	05:45	29°♏56'45	
	4098 Dec 07	17:36	0°♐	
retrograde	4099 Mar 02	21:30	1°♐48'42	
opposition	4099 May 19	18:39	0°♐26'42	1°37'15
min. Earth dist.	4099 May 20	15:04	0°♐25'18	29.31645 AU
	4099 Jun 05	06:48	30°℞♏	
direct	4099 Aug 08	18:23	29°♏01'52	
	4099 Oct 09	13:36	0°♐	
evening set	4099 Nov 07	10:00	0°♐57'38	
max. Earth dist.	4099 Nov 22	05:37	1°♐30'28	31.31732 AU
conjunction	4099 Nov 23	02:30	1°♐32'24	1°31'10
minimum elong	4099 Nov 23	02:30	1°♐32'24	1°31'10
morning rise	4099 Dec 08	15:41	2°♐06'55	
retrograde	4100 Mar 05	08:02	3°♐58'53	
opposition	4100 May 22	05:47	2°♐36'54	1°37'28
min. Earth dist.	4100 May 23	01:24	2°♐35'34	29.32034 AU
direct	4100 Aug 11	08:03	1°♐12'07	
evening set	4100 Nov 09	20:43	3°♐07'52	
conjunction	4100 Nov 25	12:38	3°♐42'37	1°31'18
minimum elong	4100 Nov 25	12:37	3°♐42'37	1°31'19
max. Earth dist.	4100 Nov 24	15:16	3°♐40'37	31.32165 AU
morning rise	4100 Dec 11	01:30	4°♐17'07	
retrograde	4101 Mar 07	19:30	6°♐09'06	
opposition	4101 May 24	16:54	4°♐47'09	1°37'33
min. Earth dist.	4101 May 25	12:12	4°♐45'50	29.32505 AU
direct	4101 Aug 13	19:07	3°♐22'26	
evening set	4101 Nov 12	07:20	5°♐18'11	
conjunction	4101 Nov 27	22:58	5°♐52'54	1°31'19
minimum elong	4101 Nov 27	22:58	5°♐52'54	1°31'19
max. Earth dist.	4101 Nov 27	02:56	5°♐51'02	31.32652 AU
morning rise	4101 Dec 13	11:18	6°♐27'23	