morning rise	7600 Jan 03 01:13	29°♐09'45	
	7600 Jan 17 02:15	0°♑	
retrograde	7600 Apr 03 22:08	2°♑32'36	
opposition	7600 Jun 16 16:18	0°♑29'54	0°18'39
min. Earth dist.	7600 Jun 17 06:39	0°♑28'20	17.31442 AU
	7600 Jun 28 05:26	30°℞♐	
direct	7600 Aug 31 18:43	28°♐23'50	
	7600 Nov 01 14:51	0°♑	
evening set	7600 Dec 05 08:57	1°♑53'09	
conjunction	7600 Dec 21 19:45	2°♑54'49	0°14'39
minimum elong	7600 Dec 21 19:45	2°♑54'49	0°14'46
behind sun begin	7600 Dec 21 17:08	2°♑54'25	
behind sun end	7600 Dec 21 22:22	2°♑55'13	
max. Earth dist.	7600 Dec 21 03:24	2°♑52'15	19.32248 AU
morning rise	7601 Jan 07 03:37	3°♑56'02	
retrograde	7601 Apr 08 23:01	7°♑18'38	
opposition	7601 Jun 21 17:16	5°♑16'08	0°14'03
min. Earth dist.	7601 Jun 22 06:21	5°♑14'43	17.33210 AU
direct	7601 Sep 05 23:02	3°♑10'12	
evening set	7601 Dec 10 12:28	6°♑39'25	
conjunction	7601 Dec 26 22:31	7°♑40'56	0°10'30
minimum elong	7601 Dec 26 22:31	7°♑40'56	0°10'36
behind sun begin	7601 Dec 26 17:20	7°♑40'08	
behind sun end	7601 Dec 27 03:42	7°♑41'44	
max. Earth dist.	7601 Dec 26 08:12	7°♑38'41	19.34282 AU
morning rise	7602 Jan 12 05:15	8°♑42'00	
retrograde	7602 Apr 13 22:22	12°♑04'17	
opposition	7602 Jun 26 18:26	10°♑02'00	0°09'22
min. Earth dist.	7602 Jun 27 07:17	10°♑00'36	17.35493 AU
direct	7602 Sep 11 02:03	7°♑56'14	
evening set	7602 Dec 15 15:47	11°♑25'14	
max. Earth dist.	7602 Dec 31 10:08	12°♑24'17	19.36814 AU
conjunction	7603 Jan 01 00:45	12°♑26'34	0°06'17
minimum elong	7603 Jan 01 00:45	12°♑26'34	0°06'25
behind sun begin	7602 Dec 31 18:27	12°♑25'36	
behind sun end	7603 Jan 01 07:03	12°♑27'32	
morning rise	7603 Jan 17 06:41	13°♑27'27	
retrograde	7603 Apr 18 22:14	16°♑49'22	
opposition	7603 Jul 01 19:23	14°♑47'17	0°04'37
min. Earth dist.	7603 Jul 02 07:17	14°♑46'00	17.38260 AU
direct	7603 Sep 16 05:22	12°♑41'41	
evening set	7603 Dec 20 18:26	16°♑10'22	
conjunction	7604 Jan 06 02:39	17°♑11'31	0°02'01
minimum elong	7604 Jan 06 02:37	17°♑11'30	0°02'07
behind sun begin	7604 Jan 05 19:56	17°♑10'29	
behind sun end	7604 Jan 06 09:18	17°♑12'32	
max. Earth dist.	7604 Jan 05 13:54	17°♑09'31	19.39795 AU
morning rise	7604 Jan 22 07:27	18°♑12'11	
retrograde	7604 Apr 22 21:46	21°♑33'40	
desc. node	7604 Jun 25 02:15	19°♑59'22	
opposition	7604 Jul 05 20:27	19°♑31'47	-0°00'08
min. Earth dist.	7604 Jul 06 07:42	19°♑30'35	17.41435 AU
direct	7604 Sep 20 08:30	17°♑26'22	
evening set	7604 Dec 24 20:38	20°♑54'37	
conjunction	7605 Jan 10 03:41	21°♑55'32	-0°02'22
minimum elong	7605 Jan 10 03:40	21°♑55'32	0°02'16
behind sun begin	7605 Jan 09 20:59	21°♑54'31	
behind sun end	7605 Jan 10 10:20	21°♑56'33	
max. Earth dist.	7605 Jan 09 14:51	21°♑53'32	19.43170 AU
morning rise	7605 Jan 26 07:37	22°♑56'00	
retrograde	7605 Apr 27 20:33	26°♑17'00	
opposition	7605 Jul 10 21:19	24°♑15'18	-0°04'53
min. Earth dist.	7605 Jul 11 07:51	24°♑14'10	17.45009 AU
direct	7605 Sep 25 10:38	22°♑10'03	
evening set	7605 Dec 29 21:56	25°♑37'46	
conjunction	7606 Jan 15 04:07	26°♑38'27	-0°06'36
minimum elong	7606 Jan 15 04:07	26°♑38'27	0°06'30
behind sun begin	7606 Jan 14 21:51	26°♑37'29	
behind sun end	7606 Jan 15 10:22	26°♑39'24	
max. Earth dist.	7606 Jan 14 17:10	26°♑36'44	19.46931 AU
morning rise	7606 Jan 31 06:59	27°♑38'40	
	7606 Mar 16 23:30	0°♒	
retrograde	7606 May 02 19:41	0°♒59'08	
	7606 Jun 20 09:52	30°℞♑	
opposition	7606 Jul 15 21:55	28°♑57'36	-0°09'35
min. Earth dist.	7606 Jul 16 07:15	28°♑56'36	17.48940 AU
direct	7606 Sep 30 13:22	26°♑52'34	
	7606 Dec 29 12:40	0°♒	
evening set	7607 Jan 03 22:28	0°♒19'36	
conjunction	7607 Jan 20 03:34	1°♒20'02	-0°10'46
minimum elong	7607 Jan 20 03:34	1°♒20'02	0°10'41
behind sun begin	7607 Jan 19 22:25	1°♒19'15	
behind sun end	7607 Jan 20 08:42	1°♒20'49	
max. Earth dist.	7607 Jan 19 17:01	1°♒18'24	19.51044 AU
morning rise	7607 Feb 05 05:36	2°♒20'00	
retrograde	7607 May 07 17:03	5°♒39'55	
opposition	7607 Jul 20 22:16	3°♒38'31	-0°14'12
min. Earth dist.	7607 Jul 21 07:04	3°♒37'34	17.53232 AU
direct	7607 Oct 05 14:45	1°♒33'39	
evening set	7608 Jan 08 22:09	4°♒59'58	
conjunction	7608 Jan 25 02:20	6°♒00'07	-0°14'51
minimum elong	7608 Jan 25 02:19	6°♒00'07	0°14'45
behind sun begin	7608 Jan 24 23:36	5°♒59'42	
behind sun end	7608 Jan 25 05:02	6°♒00'32	
max. Earth dist.	7608 Jan 24 17:28	5°♒58'45	19.55510 AU
morning rise	7608 Feb 10 03:23	6°♒59'49	
retrograde	7608 May 11 14:32	10°♒19'06	
opposition	7608 Jul 24 22:01	8°♒17'50	-0°18'41
min. Earth dist.	7608 Jul 25 05:08	8°♒17'05	17.57858 AU
direct	7608 Oct 09 17:25	6°♒13'11	
evening set	7609 Jan 12 20:59	9°♒38'39	
conjunction	7609 Jan 29 00:05	10°♒38'31	-0°18'49
minimum elong	7609 Jan 29 00:05	10°♒38'31	0°18'45
max. Earth dist.	7609 Jan 28 16:17	10°♒37'19	19.60315 AU
morning rise	7609 Feb 14 00:15	11°♒37'57	
retrograde	7609 May 16 10:08	14°♒56'35	
opposition	7609 Jul 29 21:37	12°♒55'26	-0°23'02
min. Earth dist.	7609 Jul 30 04:09	12°♒54'44	17.62853 AU
direct	7609 Oct 14 17:55	10°♒51'00	
evening set	7610 Jan 17 18:37	14°♒15'34	
	7610 Jan 29 19:34	15°♒	
conjunction	7610 Feb 02 20:46	15°♒15'07	-0°22'38
minimum elong	7610 Feb 02 20:45	15°♒15'07	0°22'34
max. Earth dist.	7610 Feb 02 14:41	15°♒14'11	19.65497 AU
morning rise	7610 Feb 18 20:03	16°♒14'15	
retrograde	7610 May 21 06:02	19°♒32'14	
opposition	7610 Aug 03 20:35	17°♒31'13	-0°27'12
min. Earth dist.	7610 Aug 04 00:47	17°♒30'46	17.68215 AU
direct	7610 Oct 19 20:06	15°♒27'02	
evening set	7611 Jan 22 15:28	18°♒50'38	

conjunction	7611 Feb 07 16:38	19°♒49'53	-0°26'18
minimum elong	7611 Feb 07 16:38	19°♒49'53	0°26'13
max. Earth dist.	7611 Feb 07 12:15	19°♒49'12	19.71044 AU
morning rise	7611 Feb 23 15:03	20°♒48'43	
retrograde	7611 May 25 23:47	24°♒06'02	
opposition	7611 Aug 08 19:00	22°♒05'09	-0°31'10
min. Earth dist.	7611 Aug 08 22:39	22°♒04'46	17.73957 AU
direct	7611 Oct 24 19:12	20°♒01'16	
evening set	7612 Jan 27 11:24	23°♒23'53	
conjunction	7612 Feb 12 11:37	24°♒22'49	-0°29'46
minimum elong	7612 Feb 12 11:37	24°♒22'49	0°29'42
max. Earth dist.	7612 Feb 12 08:34	24°♒22'21	19.76970 AU
morning rise	7612 Feb 28 09:16	25°♒21'22	
retrograde	7612 May 29 18:36	28°♒38'01	
opposition	7612 Aug 12 16:54	26°♒37'19	-0°34'54
min. Earth dist.	7612 Aug 12 18:00	26°♒37'12	17.80042 AU
direct	7612 Oct 28 19:33	24°♒33'46	
evening set	7613 Jan 31 06:16	27°♒55'22	
conjunction	7613 Feb 16 05:37	28°♒53'59	-0°33'01
minimum elong	7613 Feb 16 05:36	28°♒53'58	0°32'57
max. Earth dist.	7613 Feb 16 04:37	28°♒53'49	19.83205 AU
morning rise	7613 Mar 04 02:25	29°♒52'14	
	7613 Mar 06 06:18	0°♓	
retrograde	7613 Jun 03 11:20	3°♓08'14	
opposition	7613 Aug 17 14:28	1°♓07'45	-0°38'23
min. Earth dist.	7613 Aug 17 15:04	1°♓07'41	17.86421 AU
	7613 Sep 15 04:09	30°℞♒	
direct	7613 Nov 02 16:47	29°♒04'34	
	7613 Dec 19 13:00	0°♓	
evening set	7614 Feb 05 00:19	2°♓25'07	
conjunction	7614 Feb 20 22:43	3°♓23'24	-0°36'03
minimum elong	7614 Feb 20 22:43	3°♓23'24	0°36'00
max. Earth dist.	7614 Feb 20 22:44	3°♓23'24	19.89711 AU
morning rise	7614 Mar 08 18:56	4°♓21'22	
retrograde	7614 Jun 08 05:22	7°♓36'43	
opposition	7614 Aug 22 11:13	5°♓36'26	-0°41'37
min. Earth dist.	7614 Aug 22 09:24	5°♓36'38	17.93023 AU
direct	7614 Nov 07 15:09	3°♓33'39	
evening set	7615 Feb 09 17:22	6°♓53'07	
conjunction	7615 Feb 25 15:03	7°♓51'06	-0°38'51
minimum elong	7615 Feb 25 15:03	7°♓51'06	0°38'48
max. Earth dist.	7615 Feb 25 17:09	7°♓51'25	19.96386 AU
morning rise	7615 Mar 13 10:32	8°♓48'47	
retrograde	7615 Jun 12 21:04	12°♓03'29	
opposition	7615 Aug 27 07:39	10°♓03'26	-0°44'35
min. Earth dist.	7615 Aug 27 05:36	10°♓03'38	17.99759 AU
direct	7615 Nov 12 10:27	8°♓01'03	
evening set	7616 Feb 14 09:42	11°♓19'24	
conjunction	7616 Mar 01 06:28	12°♓17'04	-0°41'24
minimum elong	7616 Mar 01 06:28	12°♓17'04	0°41'23
max. Earth dist.	7616 Mar 01 09:06	12°♓17'28	20.03164 AU
morning rise	7616 Mar 17 01:26	13°♓14'28	
retrograde	7616 Jun 16 14:21	16°♓28'31	
opposition	7616 Aug 31 03:20	14°♓28'40	-0°47'16
min. Earth dist.	7616 Aug 30 23:06	14°♓29'07	18.06559 AU
direct	7616 Nov 16 07:16	12°♓26'41	
evening set	7617 Feb 18 01:05	15°♓43'56	
conjunction	7617 Mar 05 21:13	16°♓41'17	-0°43'42
minimum elong	7617 Mar 05 21:13	16°♓41'17	0°43'41
max. Earth dist.	7617 Mar 06 01:57	16°♓42'00	20.09962 AU
morning rise	7617 Mar 21 15:31	17°♓38'24	
retrograde	7617 Jun 21 04:55	20°♓51'49	
opposition	7617 Sep 04 22:42	18°♓52'10	-0°49'39
min. Earth dist.	7617 Sep 04 18:16	18°♓52'37	18.13352 AU
direct	7617 Nov 21 01:18	16°♓50'34	
evening set	7618 Feb 22 15:34	20°♓06'40	
conjunction	7618 Mar 10 10:56	21°♓03'43	-0°45'44
minimum elong	7618 Mar 10 10:56	21°♓03'43	0°45'42
max. Earth dist.	7618 Mar 10 15:53	21°♓04'28	20.16729 AU
morning rise	7618 Mar 26 04:54	22°♓00'34	
retrograde	7618 Jun 25 20:56	25°♓13'22	
opposition	7618 Sep 09 17:15	23°♓13'52	-0°51'44
min. Earth dist.	7618 Sep 09 10:54	23°♓14'31	18.20077 AU
direct	7618 Nov 25 20:31	21°♓12'38	
evening set	7619 Feb 27 05:14	24°♓27'36	
conjunction	7619 Mar 15 00:07	25°♓24'22	-0°47'29
minimum elong	7619 Mar 15 00:07	25°♓24'22	0°47'29
max. Earth dist.	7619 Mar 15 07:02	25°♓25'24	20.23385 AU
morning rise	7619 Mar 30 17:31	26°♓20'57	
retrograde	7619 Jun 30 10:20	29°♓33'06	
opposition	7619 Sep 14 11:09	27°♓33'45	-0°53'31
min. Earth dist.	7619 Sep 14 04:43	27°♓34'25	18.26663 AU
direct	7619 Nov 30 13:31	25°♓32'52	
evening set	7620 Mar 02 18:10	28°♓46'41	
conjunction	7620 Mar 18 12:21	29°♓43'10	-0°48'57
minimum elong	7620 Mar 18 12:20	29°♓43'10	0°48'56
max. Earth dist.	7620 Mar 18 19:12	29°♓44'12	20.29894 AU
	7620 Mar 23 04:09	0°♈	
morning rise	7620 Apr 03 05:34	0°♈39'30	
retrograde	7620 Jul 04 00:42	3°♈51'02	
opposition	7620 Sep 18 04:26	1°♈51'47	-0°54'59
min. Earth dist.	7620 Sep 17 20:16	1°♈52'37	18.33090 AU
	7620 Nov 15 13:09	30°℞♓	
direct	7620 Dec 04 06:51	29°♓51'13	
	7620 Dec 22 19:54	0°♈	
evening set	7621 Mar 07 05:53	3°♈03'53	
conjunction	7621 Mar 22 23:44	4°♈00'06	-0°50'09
minimum elong	7621 Mar 22 23:44	4°♈00'06	0°50'10
max. Earth dist.	7621 Mar 23 08:43	4°♈01'27	20.36225 AU
morning rise	7621 Apr 07 16:33	4°♈56'11	
retrograde	7621 Jul 08 13:02	8°♈07'06	
opposition	7621 Sep 22 21:06	6°♈07'56	-0°56'08
min. Earth dist.	7621 Sep 22 12:36	6°♈08'48	18.39331 AU
direct	7621 Dec 08 23:04	4°♈07'41	
evening set	7622 Mar 11 16:58	7°♈19'12	
conjunction	7622 Mar 27 10:16	8°♈15'08	-0°51'03
minimum elong	7622 Mar 27 10:16	8°♈15'08	0°51'04
max. Earth dist.	7622 Mar 27 19:15	8°♈16'29	20.42387 AU
morning rise	7622 Apr 12 03:03	9°♈11'01	
retrograde	7622 Jul 13 01:49	12°♈21'19	
opposition	7622 Sep 27 12:45	10°♈22'12	-0°56'58
min. Earth dist.	7622 Sep 27 02:42	10°♈23'14	18.45422 AU
direct	7622 Dec 13 14:01	8°♈22'13	
evening set	7623 Mar 16 02:59	11°♈32'37	
conjunction	7623 Mar 31 20:06	12°♈28'19	-0°51'40
minimum elong	7623 Mar 31 20:06	12°♈28'19	0°51'42
max. Earth dist.	7623 Apr 01 07:19	12°♈29'59	20.48396 AU
morning rise	7623 Apr 16 12:36	13°♈23'58	
retrograde	7623 Jul 17 12:56	16°♈33'42	
opposition	7623 Oct 02 03:53	14°♈34'39	-0°57'28
min. Earth dist.	7623 Oct 01 17:11	14°♈35'44	18.51363 AU
direct	7623 Dec 18 05:13	12°♈34'57	

evening set	7624 Mar 19 12:20	15°♈44'15	
conjunction	7624 Apr 04 04:58	16°♈39'43	-0°52'00
minimum elong	7624 Apr 04 04:58	16°♈39'43	0°52'03
max. Earth dist.	7624 Apr 04 16:17	16°♈41'24	20.54277 AU
morning rise	7624 Apr 19 21:33	17°♈35'10	
retrograde	7624 Jul 21 00:37	20°♈44'23	
opposition	7624 Oct 05 18:21	18°♈45'23	-0°57'40
min. Earth dist.	7624 Oct 05 06:04	18°♈46'37	18.57195 AU
direct	7624 Dec 21 18:19	16°♈45'59	
evening set	7625 Mar 23 20:52	19°♈54'15	
conjunction	7625 Apr 08 13:27	20°♈49'30	-0°52'03
minimum elong	7625 Apr 08 13:27	20°♈49'30	0°52'06
max. Earth dist.	7625 Apr 09 03:01	20°♈51'31	20.60042 AU
morning rise	7625 Apr 24 05:51	21°♈44'46	
retrograde	7625 Jul 25 10:47	24°♈53'29	
opposition	7625 Oct 10 08:08	22°♈54'34	-0°57'33
min. Earth dist.	7625 Oct 09 19:01	22°♈55'54	18.62895 AU
direct	7625 Dec 26 08:07	20°♈55'30	
evening set	7626 Mar 28 04:48	24°♈02'46	
conjunction	7626 Apr 12 21:05	24°♈57'49	-0°51'50
minimum elong	7626 Apr 12 21:05	24°♈57'49	0°51'54
max. Earth dist.	7626 Apr 13 10:37	24°♈59'49	20.65671 AU
morning rise	7626 Apr 28 13:45	25°♈52'55	
retrograde	7626 Jul 29 21:50	29°♈01'11	
opposition	7626 Oct 14 21:18	27°♈02'22	-0°57'09
min. Earth dist.	7626 Oct 14 06:59	27°♈03'48	18.68444 AU
direct	7626 Dec 30 19:29	25°♈03'36	
evening set	7627 Apr 01 12:05	28°♈09'57	
conjunction	7627 Apr 17 04:26	29°♈04'49	-0°51'21
minimum elong	7627 Apr 17 04:26	29°♈04'49	0°51'24
max. Earth dist.	7627 Apr 17 19:59	29°♈07'06	20.71115 AU
morning rise	7627 May 02 21:03	29°♈59'46	
	7627 May 02 22:42	0°♉	
retrograde	7627 Aug 03 06:48	3°♉07'37	
opposition	7627 Oct 19 09:49	1°♉08'54	-0°56'27
min. Earth dist.	7627 Oct 18 18:47	1°♉10'25	18.73772 AU
	7627 Nov 18 21:16	30°℞♈	
direct	7628 Jan 04 07:50	29°♈10'29	
	7628 Feb 17 23:15	0°♉	
evening set	7628 Apr 04 19:00	2°♉15'56	
conjunction	7628 Apr 20 11:09	3°♉10'38	-0°50'36
minimum elong	7628 Apr 20 11:09	3°♉10'38	0°50'40
max. Earth dist.	7628 Apr 21 02:26	3°♉12'52	20.76326 AU
morning rise	7628 May 06 04:07	4°♉05'26	
retrograde	7628 Aug 06 17:28	7°♉12'56	
opposition	7628 Oct 22 22:00	5°♉14'19	-0°55'28
min. Earth dist.	7628 Oct 22 06:11	5°♉15'54	18.78854 AU
direct	7629 Jan 07 17:44	3°♉16'12	
evening set	7629 Apr 09 01:11	6°♉20'49	
conjunction	7629 Apr 24 17:33	7°♉15'22	-0°49'37
minimum elong	7629 Apr 24 17:33	7°♉15'22	0°49'40
max. Earth dist.	7629 Apr 25 10:39	7°♉17'52	20.81252 AU
morning rise	7629 May 10 10:37	8°♉10'03	
retrograde	7629 Aug 11 01:29	11°♉17'12	
opposition	7629 Oct 27 09:37	9°♉18'42	-0°54'13
min. Earth dist.	7629 Oct 26 17:14	9°♉20'20	18.83609 AU
direct	7630 Jan 12 04:35	7°♉20'52	
evening set	7630 Apr 13 07:18	10°♉24'42	
conjunction	7630 Apr 28 23:36	11°♉19'07	-0°48'22
minimum elong	7630 Apr 28 23:36	11°♉19'07	0°48'27
max. Earth dist.	7630 Apr 29 16:05	11°♉21'31	20.85828 AU
morning rise	7630 May 14 17:08	12°♉13'42	
	7630 Jul 17 15:06	15°♉	
retrograde	7630 Aug 15 11:11	15°♉20'33	
	7630 Sep 13 19:58	15°℞♉	
opposition	7630 Oct 31 20:38	13°♉22'07	-0°52'42
min. Earth dist.	7630 Oct 31 04:04	13°♉23'46	18.87997 AU
direct	7631 Jan 16 13:13	11°♉24'33	
evening set	7631 Apr 17 12:55	14°♉27'39	
	7631 Apr 26 22:25	15°♉	
conjunction	7631 May 03 05:32	15°♉21'57	-0°46'54
minimum elong	7631 May 03 05:32	15°♉21'57	0°46'59
max. Earth dist.	7631 May 03 23:24	15°♉24'33	20.89998 AU
morning rise	7631 May 18 23:14	16°♉16'27	
retrograde	7631 Aug 19 19:01	19°♉23'01	
opposition	7631 Nov 05 07:20	17°♉24'39	-0°50'56
min. Earth dist.	7631 Nov 04 14:24	17°♉26'20	18.91936 AU
direct	7632 Jan 20 22:56	15°♉27'19	
evening set	7632 Apr 20 18:18	18°♉29'43	
conjunction	7632 May 06 10:57	19°♉23'55	-0°45'12
minimum elong	7632 May 06 10:57	19°♉23'55	0°45'17
max. Earth dist.	7632 May 07 03:56	19°♉26'23	20.93700 AU
morning rise	7632 May 22 05:13	20°♉18'20	
retrograde	7632 Aug 23 03:37	23°♉24'41	
opposition	7632 Nov 08 17:44	21°♉26'20	-0°48'55
min. Earth dist.	7632 Nov 08 00:57	21°♉28'00	18.95398 AU
direct	7633 Jan 24 06:33	19°♉29'10	
evening set	7633 Apr 24 23:20	22°♉30'56	
conjunction	7633 May 10 16:27	23°♉25'03	-0°43'17
minimum elong	7633 May 10 16:27	23°♉25'03	0°43'23
max. Earth dist.	7633 May 11 10:32	23°♉27'40	20.96901 AU
morning rise	7633 May 26 11:01	24°♉19'25	
retrograde	7633 Aug 27 11:33	27°♉25'31	
min. Earth dist.	7633 Nov 12 10:27	25°♉28'52	18.98333 AU
opposition	7633 Nov 13 03:30	25°♉27'10	-0°46'41
direct	7634 Jan 28 15:37	23°♉30'08	
evening set	7634 Apr 29 04:12	26°♉31'17	
conjunction	7634 May 14 21:31	27°♉25'21	-0°41'09
minimum elong	7634 May 14 21:31	27°♉25'21	0°41'15
max. Earth dist.	7634 May 15 14:29	27°♉27'47	20.99582 AU
morning rise	7634 May 30 16:48	28°♉19'40	
	7634 Jul 02 08:03	0°♊	
retrograde	7634 Aug 31 19:12	1°♊25'35	
	7634 Nov 03 15:13	30°℞♉	
opposition	7634 Nov 17 12:57	29°♉27'10	-0°44'13
min. Earth dist.	7634 Nov 16 20:21	29°♉28'49	19.00762 AU
direct	7635 Feb 01 22:19	27°♉30'13	
	7635 Apr 24 01:04	0°♊	
evening set	7635 May 03 08:37	0°♊30'49	
conjunction	7635 May 19 02:28	1°♊24'49	-0°38'50
minimum elong	7635 May 19 02:28	1°♊24'50	0°38'57
max. Earth dist.	7635 May 19 20:32	1°♊27'26	21.01762 AU
morning rise	7635 Jun 03 22:07	2°♊19'07	
retrograde	7635 Sep 05 02:46	5°♊24'52	
opposition	7635 Nov 21 21:51	3°♊26'22	-0°41'32
min. Earth dist.	7635 Nov 21 04:49	3°♊28'04	19.02702 AU
direct	7636 Feb 06 06:32	1°♊29'29	
evening set	7636 May 06 13:00	4°♊29'36	
conjunction	7636 May 22 07:06	5°♊23'34	-0°36'20
minimum elong	7636 May 22 07:06	5°♊23'34	0°36'26
max. Earth dist.	7636 May 23 00:14	5°♊26'02	21.03493 AU

morning rise	7636 Jun 07 03:31	6°♊17'52	
retrograde	7636 Sep 08 10:03	9°♊23'30	
opposition	7636 Nov 25 06:32	7°♊24'54	-0°38'40
min. Earth dist.	7636 Nov 24 13:54	7°♊26'33	19.04236 AU
direct	7637 Feb 09 12:33	5°♊28'03	
evening set	7637 May 10 16:59	8°♊27'45	
conjunction	7637 May 26 11:46	9°♊21'43	-0°33'40
minimum elong	7637 May 26 11:46	9°♊21'43	0°33'46
max. Earth dist.	7637 May 27 06:04	9°♊24'21	21.04828 AU
morning rise	7637 Jun 11 08:39	10°♊16'02	
retrograde	7637 Sep 12 17:32	13°♊21'35	
opposition	7637 Nov 29 14:42	11°♊22'55	-0°35'37
min. Earth dist.	7637 Nov 28 21:29	11°♊24'38	19.05376 AU
direct	7638 Feb 13 19:29	9°♊26'07	
evening set	7638 May 14 21:11	12°♊25'29	
conjunction	7638 May 30 16:18	13°♊19'28	-0°30'50
minimum elong	7638 May 30 16:18	13°♊19'28	0°30'56
max. Earth dist.	7638 May 31 09:33	13°♊21'56	21.05786 AU
morning rise	7638 Jun 15 14:01	14°♊13'48	
retrograde	7638 Sep 17 00:48	17°♊19'21	
opposition	7638 Dec 03 22:34	15°♊20'37	-0°32'25
min. Earth dist.	7638 Dec 03 05:55	15°♊22'16	19.06160 AU
direct	7639 Feb 18 00:43	13°♊23'51	
evening set	7639 May 19 01:13	16°♊22'59	
conjunction	7639 Jun 03 21:04	17°♊17'00	-0°27'51
minimum elong	7639 Jun 03 21:04	17°♊17'00	0°27'57
max. Earth dist.	7639 Jun 04 15:22	17°♊19'37	21.06390 AU
morning rise	7639 Jun 19 19:18	18°♊11'22	
retrograde	7639 Sep 21 08:32	21°♊16'58	
opposition	7639 Dec 08 06:18	19°♊18'11	-0°29'03
min. Earth dist.	7639 Dec 07 13:04	19°♊19'55	19.06576 AU
direct	7640 Feb 22 06:53	17°♊21'30	
evening set	7640 May 22 05:20	20°♊20'27	
conjunction	7640 Jun 07 01:37	21°♊14'30	-0°24'45
minimum elong	7640 Jun 07 01:37	21°♊14'30	0°24'52
max. Earth dist.	7640 Jun 07 18:50	21°♊16'57	21.06630 AU
morning rise	7640 Jun 23 00:46	22°♊08'57	
retrograde	7640 Sep 24 16:13	25°♊14'40	
opposition	7640 Dec 11 14:02	23°♊15'50	-0°25'33
min. Earth dist.	7640 Dec 10 21:34	23°♊17'29	19.06635 AU
direct	7641 Feb 25 11:19	21°♊19'11	
evening set	7641 May 26 09:36	24°♊18'03	
conjunction	7641 Jun 11 06:43	25°♊12'11	-0°21'32
minimum elong	7641 Jun 11 06:43	25°♊12'11	0°21'39
max. Earth dist.	7641 Jun 12 00:48	25°♊14'46	21.06500 AU
morning rise	7641 Jun 27 06:28	26°♊06'42	
retrograde	7641 Sep 29 00:33	29°♊12'34	
opposition	7641 Dec 15 21:23	27°♊13'43	-0°21'56
min. Earth dist.	7641 Dec 15 04:37	27°♊15'24	19.06300 AU
direct	7642 Mar 01 17:27	25°♊17'07	
evening set	7642 May 30 14:17	28°♊15'59	
conjunction	7642 Jun 15 11:55	29°♊10'11	-0°18'13
minimum elong	7642 Jun 15 11:55	29°♊10'11	0°18'21
max. Earth dist.	7642 Jun 16 04:35	29°♊12'34	21.05967 AU
	7642 Jun 30 02:13	0°♋	
morning rise	7642 Jul 01 12:36	0°♋04'49	
retrograde	7642 Oct 03 08:39	3°♋10'53	
opposition	7642 Dec 20 04:57	1°♋12'01	-0°18'12
min. Earth dist.	7642 Dec 19 13:22	1°♋13'35	19.05558 AU
	7643 Jan 21 09:46	30°℞♊	
direct	7643 Mar 05 21:02	29°♊15'26	
	7643 Apr 17 02:33	0°♋	
evening set	7643 Jun 03 19:02	2°♋14'22	
conjunction	7643 Jun 19 17:30	3°♋08'40	-0°14'49
minimum elong	7643 Jun 19 17:30	3°♋08'40	0°14'55
behind sun begin	7643 Jun 19 14:58	3°♋08'19	
behind sun end	7643 Jun 19 20:03	3°♋09'01	
max. Earth dist.	7643 Jun 20 10:46	3°♋11'08	21.05003 AU
morning rise	7643 Jul 05 18:48	4°♋03'24	
retrograde	7643 Oct 07 17:53	7°♋09'44	
opposition	7643 Dec 24 12:25	5°♋10'50	-0°14'23
min. Earth dist.	7643 Dec 23 20:45	5°♋12'24	19.04355 AU
direct	7644 Mar 09 03:40	3°♋14'16	
evening set	7644 Jun 07 00:27	6°♋13'19	
conjunction	7644 Jun 22 23:28	7°♋07'44	-0°11'19
minimum elong	7644 Jun 22 23:28	7°♋07'44	0°11'27
behind sun begin	7644 Jun 22 18:40	7°♋07'04	
behind sun end	7644 Jun 23 04:16	7°♋08'24	
max. Earth dist.	7644 Jun 23 15:00	7°♋09'57	21.03566 AU
morning rise	7644 Jul 09 01:43	8°♋02'36	
retrograde	7644 Oct 11 02:35	11°♋09'14	
opposition	7644 Dec 27 20:03	9°♋10'16	-0°10'30
min. Earth dist.	7644 Dec 27 06:00	9°♋11'41	19.02674 AU
direct	7645 Mar 13 07:21	7°♋13'40	
evening set	7645 Jun 11 06:05	10°♋12'55	
conjunction	7645 Jun 27 06:04	11°♋07'28	-0°07'47
minimum elong	7645 Jun 27 06:04	11°♋07'28	0°07'54
behind sun begin	7645 Jun 27 00:07	11°♋06'39	
behind sun end	7645 Jun 27 12:00	11°♋08'18	
max. Earth dist.	7645 Jun 27 21:40	11°♋09'42	21.01620 AU
morning rise	7645 Jul 13 08:58	12°♋02'29	
retrograde	7645 Oct 15 12:30	15°♋09'25	
opposition	7646 Jan 01 03:38	13°♋10'22	-0°06'32
min. Earth dist.	7645 Dec 31 13:46	13°♋11'46	19.00448 AU
direct	7646 Mar 17 14:20	11°♋13'41	
evening set	7646 Jun 15 12:24	14°♋13'11	
conjunction	7646 Jul 01 12:58	15°♋07'53	-0°04'12
minimum elong	7646 Jul 01 12:58	15°♋07'53	0°04'18
behind sun begin	7646 Jul 01 06:27	15°♋06'58	
behind sun end	7646 Jul 01 19:29	15°♋08'47	
max. Earth dist.	7646 Jul 02 02:25	15°♋09'48	20.99122 AU
morning rise	7646 Jul 17 16:50	16°♋03'02	
retrograde	7646 Oct 19 21:49	19°♋10'19	
opposition	7647 Jan 05 11:22	17°♋11'08	-0°02'32
min. Earth dist.	7647 Jan 04 23:22	17°♋12'21	18.97680 AU
direct	7647 Mar 21 19:03	15°♋14'18	
evening set	7647 Jun 19 18:54	18°♋14'06	
conjunction	7647 Jul 05 20:26	19°♋08'57	-0°00'30
minimum elong	7647 Jul 05 20:27	19°♋08'57	0°00'37
behind sun begin	7647 Jul 05 13:50	19°♋08'02	
behind sun end	7647 Jul 06 03:04	19°♋09'53	
max. Earth dist.	7647 Jul 06 09:48	19°♋10'52	20.96094 AU
morning rise	7647 Jul 22 00:59	20°♋04'17	
asc. node	7647 Aug 24 02:49	21°♋45'21	
retrograde	7647 Oct 24 07:44	23°♋11'54	
opposition	7648 Jan 09 19:09	21°♋12'33	0°01'31
min. Earth dist.	7648 Jan 09 07:16	21°♋13'45	18.94389 AU
direct	7648 Mar 25 02:11	19°♋15'33	
evening set	7648 Jun 23 01:54	22°♋15'40	
conjunction	7648 Jul 09 04:07	23°♋10'42	0°03'14
minimum elong	7648 Jul 09 04:06	23°♋10'42	0°03'09
behind sun begin	7648 Jul 08 21:30	23°♋09'46	

behind sun end	7648 Jul 09 10:43	23°♋11'37	
max. Earth dist.	7648 Jul 09 15:25	23°♋12'18	20.92573 AU
morning rise	7648 Jul 25 09:39	24°♋06'12	
retrograde	7648 Oct 27 17:48	27°♋14'13	
opposition	7649 Jan 13 03:10	25°♋14'39	0°05'33
min. Earth dist.	7649 Jan 12 17:08	25°♋15'40	18.90647 AU
direct	7649 Mar 29 07:46	23°♋17'24	
evening set	7649 Jun 27 09:21	26°♋17'56	
conjunction	7649 Jul 13 12:34	27°♋13'09	0°06'53
minimum elong	7649 Jul 13 12:33	27°♋13'09	0°06'46
behind sun begin	7649 Jul 13 06:21	27°♋12'17	
behind sun end	7649 Jul 13 18:45	27°♋14'01	
max. Earth dist.	7649 Jul 13 23:51	27°♋14'46	20.88628 AU
morning rise	7649 Jul 29 18:47	28°♋08'50	
	7649 Sep 04 15:41	0°♌	
retrograde	7649 Nov 01 03:57	1°♌17'15	
	7649 Dec 30 16:19	30°℞♋	
opposition	7650 Jan 17 10:58	29°♋17'28	0°09'35
min. Earth dist.	7650 Jan 17 01:00	29°♋18'29	18.86507 AU
direct	7650 Apr 02 15:04	27°♋20'00	
	7650 Jun 25 09:59	0°♌	
evening set	7650 Jul 01 17:28	0°♌20'59	
conjunction	7650 Jul 17 21:20	1°♌16'24	0°10'30
minimum elong	7650 Jul 17 21:20	1°♌16'24	0°10'24
behind sun begin	7650 Jul 17 16:07	1°♌15'41	
behind sun end	7650 Jul 18 02:34	1°♌17'08	
max. Earth dist.	7650 Jul 18 06:40	1°♌17'44	20.84316 AU
morning rise	7650 Aug 03 04:30	2°♌12'18	
retrograde	7650 Nov 05 14:09	5°♌21'09	
opposition	7651 Jan 21 19:15	3°♌21'10	0°13'35
min. Earth dist.	7651 Jan 21 11:05	3°♌22'00	18.82041 AU
direct	7651 Apr 06 21:16	1°♌23'26	
evening set	7651 Jul 06 01:51	4°♌24'57	
conjunction	7651 Jul 22 06:42	5°♌20'36	0°14'04
minimum elong	7651 Jul 22 06:41	5°♌20'36	0°13'59
behind sun begin	7651 Jul 22 03:22	5°♌20'08	
behind sun end	7651 Jul 22 10:01	5°♌21'04	
max. Earth dist.	7651 Jul 22 16:07	5°♌21'56	20.79706 AU
morning rise	7651 Aug 07 14:30	6°♌16'41	
retrograde	7651 Nov 10 01:33	9°♌26'02	
opposition	7652 Jan 26 03:40	7°♌25'50	0°17'31
min. Earth dist.	7652 Jan 25 19:21	7°♌26'41	18.77292 AU
direct	7652 Apr 10 05:09	5°♌27'51	
evening set	7652 Jul 09 11:11	8°♌29'59	
conjunction	7652 Jul 25 16:42	9°♌25'51	0°17'36
minimum elong	7652 Jul 25 16:42	9°♌25'51	0°17'30
max. Earth dist.	7652 Jul 26 00:16	9°♌26'56	20.74832 AU
morning rise	7652 Aug 11 01:26	10°♌22'10	
retrograde	7652 Nov 13 12:00	13°♌32'03	
opposition	7653 Jan 29 12:24	11°♌31'39	0°21'24
min. Earth dist.	7653 Jan 29 05:58	11°♌32'18	18.72310 AU
direct	7653 Apr 14 11:47	9°♌33'24	
evening set	7653 Jul 13 21:03	12°♌36'14	
conjunction	7653 Jul 30 03:34	13°♌32'20	0°21'03
minimum elong	7653 Jul 30 03:34	13°♌32'20	0°20'58
max. Earth dist.	7653 Jul 30 10:59	13°♌33'24	20.69743 AU
morning rise	7653 Aug 15 12:57	14°♌28'52	
	7653 Aug 24 21:37	15°♌	
retrograde	7653 Nov 18 01:01	17°♌39'19	
opposition	7654 Feb 02 21:24	15°♌38'44	0°25'11
min. Earth dist.	7654 Feb 02 14:54	15°♌39'25	18.67110 AU
	7654 Feb 18 19:26	15°℞♌	
direct	7654 Apr 18 20:30	13°♌40'15	
	7654 Jun 14 13:09	15°♌	
evening set	7654 Jul 18 07:49	16°♌43'50	
conjunction	7654 Aug 03 14:59	17°♌40'11	0°24'25
minimum elong	7654 Aug 03 14:59	17°♌40'11	0°24'20
max. Earth dist.	7654 Aug 03 20:31	17°♌40'59	20.64440 AU
morning rise	7654 Aug 20 01:11	18°♌36'58	
retrograde	7654 Nov 22 12:16	21°♌48'01	
opposition	7655 Feb 07 06:56	19°♌47'18	0°28'51
min. Earth dist.	7655 Feb 07 02:23	19°♌47'46	18.61717 AU
direct	7655 Apr 23 03:30	17°♌48'34	
evening set	7655 Jul 22 19:15	20°♌52'59	
conjunction	7655 Aug 08 03:22	21°♌49'35	0°27'40
minimum elong	7655 Aug 08 03:22	21°♌49'35	0°27'36
max. Earth dist.	7655 Aug 08 08:35	21°♌50'21	20.58961 AU
morning rise	7655 Aug 24 14:10	22°♌46'37	
retrograde	7655 Nov 27 02:53	25°♌58'19	
opposition	7656 Feb 11 16:46	23°♌57'28	0°32'24
min. Earth dist.	7656 Feb 11 12:19	23°♌57'55	18.56138 AU
direct	7656 Apr 26 13:30	21°♌58'29	
evening set	7656 Jul 26 07:43	25°♌03'48	
conjunction	7656 Aug 11 16:31	26°♌00'41	0°30'48
minimum elong	7656 Aug 11 16:31	26°♌00'41	0°30'43
max. Earth dist.	7656 Aug 11 19:45	26°♌01'09	20.53281 AU
morning rise	7656 Aug 28 04:08	26°♌57'58	
	7656 Nov 10 10:10	0°♍	
retrograde	7656 Nov 30 15:27	0°♍10'21	
	7656 Dec 21 01:05	30°℞♌	
opposition	7657 Feb 15 03:19	28°♌09'23	0°35'48
min. Earth dist.	7657 Feb 15 01:09	28°♌09'36	18.50355 AU
direct	7657 Apr 30 21:23	26°♌10'09	
evening set	7657 Jul 30 21:08	29°♌16'26	
	7657 Aug 12 10:01	0°♍	
conjunction	7657 Aug 16 06:49	0°♍13'36	0°33'47
minimum elong	7657 Aug 16 06:49	0°♍13'36	0°33'44
max. Earth dist.	7657 Aug 16 09:10	0°♍13'56	20.47389 AU
morning rise	7657 Sep 01 18:58	1°♍11'08	
retrograde	7657 Dec 05 07:26	4°♍24'12	
opposition	7658 Feb 19 14:07	2°♍23'07	0°39'02
min. Earth dist.	7658 Feb 19 12:22	2°♍23'18	18.44340 AU
direct	7658 May 05 09:00	0°♍23'38	
evening set	7658 Aug 04 11:37	3°♍30'55	
conjunction	7658 Aug 20 21:56	4°♍28'22	0°36'36
minimum elong	7658 Aug 20 21:56	4°♍28'22	0°36'33
max. Earth dist.	7658 Aug 20 22:04	4°♍28'23	20.41241 AU
morning rise	7658 Sep 06 10:44	5°♍26'11	
retrograde	7658 Dec 09 21:10	8°♍39'57	
opposition	7659 Feb 24 01:50	6°♍38'43	0°42'05
min. Earth dist.	7659 Feb 24 02:31	6°♍38'39	18.38073 AU
direct	7659 May 09 18:32	4°♍38'56	
evening set	7659 Aug 09 02:45	7°♍47'15	
conjunction	7659 Aug 25 13:54	8°♍44'59	0°39'15
minimum elong	7659 Aug 25 13:54	8°♍44'59	0°39'12
max. Earth dist.	7659 Aug 25 12:48	8°♍44'49	20.34854 AU
morning rise	7659 Sep 11 03:14	9°♍43'04	
retrograde	7659 Dec 14 14:14	12°♍57'32	
opposition	7660 Feb 28 13:58	10°♍56'08	0°44'55
min. Earth dist.	7660 Feb 28 15:06	10°♍56'01	18.31562 AU
direct	7660 May 13 07:41	8°♍56'00	
evening set	7660 Aug 12 19:04	12°♍05'22	

conjunction	7660 Aug 29 06:51	13°♍03'24	0°41'42
minimum elong	7660 Aug 29 06:51	13°♍03'24	0°41'40
max. Earth dist.	7660 Aug 29 03:39	13°♍02'56	20.28227 AU
morning rise	7660 Sep 14 20:45	14°♍01'45	
retrograde	7660 Dec 18 05:09	17°♍16'54	
opposition	7661 Mar 04 02:40	15°♍15'18	0°47'32
min. Earth dist.	7661 Mar 04 06:13	15°♍14'56	18.24845 AU
direct	7661 May 17 19:04	13°♍14'48	
evening set	7661 Aug 17 12:10	16°♍25'15	
conjunction	7661 Sep 03 00:42	17°♍23'35	0°43'55
minimum elong	7661 Sep 03 00:41	17°♍23'35	0°43'53
max. Earth dist.	7661 Sep 02 20:04	17°♍22'54	20.21442 AU
morning rise	7661 Sep 19 15:04	18°♍22'12	
retrograde	7661 Dec 22 23:10	21°♍38'02	
opposition	7662 Mar 08 15:50	19°♍36'13	0°49'53
min. Earth dist.	7662 Mar 08 19:47	19°♍35'48	18.18000 AU
direct	7662 May 22 09:28	17°♍35'19	
evening set	7662 Aug 22 06:03	20°♍46'52	
conjunction	7662 Sep 07 19:09	21°♍45'29	0°45'54
minimum elong	7662 Sep 07 19:09	21°♍45'29	0°45'54
max. Earth dist.	7662 Sep 07 12:59	21°♍44'34	20.14550 AU
morning rise	7662 Sep 24 09:54	22°♍44'22	
retrograde	7662 Dec 27 15:19	26°♍00'52	
opposition	7663 Mar 13 05:43	23°♍58'50	0°51'58
min. Earth dist.	7663 Mar 13 11:44	23°♍58'12	18.11099 AU
direct	7663 May 26 22:09	21°♍57'32	
evening set	7663 Aug 27 00:50	25°♍10'12	
conjunction	7663 Sep 12 14:32	26°♍09'07	0°47'38
minimum elong	7663 Sep 12 14:31	26°♍09'07	0°47'37
max. Earth dist.	7663 Sep 12 06:57	26°♍07'59	20.07664 AU
morning rise	7663 Sep 29 05:42	27°♍08'16	
	7663 Dec 01 02:31	0°♎	
retrograde	7664 Jan 01 10:52	0°♎25'25	
	7664 Feb 02 02:17	30°℞♍	
opposition	7664 Mar 16 19:57	28°♍23'10	0°53'45
min. Earth dist.	7664 Mar 17 02:15	28°♍22'30	18.04238 AU
direct	7664 May 30 13:49	26°♍21'27	
evening set	7664 Aug 30 20:30	29°♍35'15	
	7664 Sep 06 20:19	0°♎	
conjunction	7664 Sep 16 10:47	0°♎34'27	0°49'05
minimum elong	7664 Sep 16 10:47	0°♎34'27	0°49'05
max. Earth dist.	7664 Sep 16 02:09	0°♎33'10	20.00832 AU
morning rise	7664 Oct 03 02:13	1°♎33'53	
retrograde	7665 Jan 05 04:22	4°♎51'39	
opposition	7665 Mar 21 11:00	2°♎49'13	0°55'14
min. Earth dist.	7665 Mar 21 19:05	2°♎48'21	17.97470 AU
direct	7665 Jun 04 03:39	0°♎47'06	
evening set	7665 Sep 04 17:04	4°♎02'03	
conjunction	7665 Sep 21 07:46	5°♎01'32	0°50'15
minimum elong	7665 Sep 21 07:46	5°♎01'32	0°50'16
max. Earth dist.	7665 Sep 20 21:34	5°♎00'00	19.94145 AU
morning rise	7665 Oct 07 23:31	6°♎01'12	
retrograde	7666 Jan 10 01:16	9°♎19'37	
opposition	7666 Mar 26 02:28	7°♎17'00	0°56'23
min. Earth dist.	7666 Mar 26 10:46	7°♎16'06	17.90880 AU
direct	7666 Jun 08 20:38	5°♎14'29	
evening set	7666 Sep 09 14:26	8°♎30'36	
conjunction	7666 Sep 26 05:37	9°♎30'22	0°51'07
minimum elong	7666 Sep 26 05:37	9°♎30'22	0°51'08
max. Earth dist.	7666 Sep 25 18:58	9°♎28'46	19.87653 AU
morning rise	7666 Oct 12 21:25	10°♎30'18	
retrograde	7667 Jan 14 20:10	13°♎49'19	
opposition	7667 Mar 30 18:49	11°♎46'33	0°57'12
min. Earth dist.	7667 Mar 31 04:29	11°♎45'30	17.84521 AU
direct	7667 Jun 13 11:58	9°♎43'41	
evening set	7667 Sep 14 12:35	13°♎00'57	
conjunction	7667 Oct 01 04:05	14°♎00'59	0°51'41
minimum elong	7667 Oct 01 04:05	14°♎00'59	0°51'43
max. Earth dist.	7667 Sep 30 15:47	13°♎59'08	19.81439 AU
morning rise	7667 Oct 17 20:10	15°♎01'09	
retrograde	7668 Jan 19 17:59	18°♎20'47	
opposition	7668 Apr 03 11:44	16°♎17'53	0°57'39
min. Earth dist.	7668 Apr 03 21:41	16°♎16'49	17.78455 AU
direct	7668 Jun 17 06:28	14°♎14'42	
evening set	7668 Sep 18 11:43	17°♎33'08	
conjunction	7668 Oct 05 03:39	18°♎33'27	0°51'55
minimum elong	7668 Oct 05 03:39	18°♎33'27	0°51'56
max. Earth dist.	7668 Oct 04 15:16	18°♎31'34	19.75516 AU
morning rise	7668 Oct 21 19:38	19°♎33'50	
retrograde	7669 Jan 23 13:59	22°♎54'02	
opposition	7669 Apr 08 05:20	20°♎51'05	0°57'46
min. Earth dist.	7669 Apr 08 16:29	20°♎49'52	17.72689 AU
direct	7669 Jun 21 23:59	18°♎47'36	
evening set	7669 Sep 23 11:48	22°♎07'12	
conjunction	7669 Oct 10 03:49	23°♎07'45	0°51'50
minimum elong	7669 Oct 10 03:49	23°♎07'45	0°51'52
max. Earth dist.	7669 Oct 09 13:34	23°♎05'35	19.69915 AU
morning rise	7669 Oct 26 19:57	24°♎08'22	
retrograde	7670 Jan 28 12:18	27°♎29'08	
opposition	7670 Apr 12 23:40	25°♎26'07	0°57'30
min. Earth dist.	7670 Apr 13 11:24	25°♎24'51	17.67247 AU
direct	7670 Jun 26 19:58	23°♎22'23	
evening set	7670 Sep 28 12:25	26°♎43'07	
conjunction	7670 Oct 15 04:45	27°♎43'55	0°51'25
minimum elong	7670 Oct 15 04:45	27°♎43'55	0°51'28
max. Earth dist.	7670 Oct 14 14:41	27°♎41'46	19.64613 AU
morning rise	7670 Oct 31 20:36	28°♎44'42	
	7670 Nov 22 23:14	0°♏	
retrograde	7671 Feb 02 09:46	2°♏06'00	
opposition	7671 Apr 17 18:48	0°♏02'58	0°56'52
min. Earth dist.	7671 Apr 18 07:29	0°♏01'36	17.62090 AU
	7671 Apr 18 22:07	30°℞♎	
direct	7671 Jul 01 16:16	27°♎58'59	
	7671 Sep 09 18:07	0°♏	
evening set	7671 Oct 03 14:11	1°♏20'49	
conjunction	7671 Oct 20 06:27	2°♏21'49	0°50'40
minimum elong	7671 Oct 20 06:27	2°♏21'49	0°50'43
max. Earth dist.	7671 Oct 19 14:12	2°♏19'20	19.59600 AU
morning rise	7671 Nov 05 22:18	3°♏22'48	
retrograde	7672 Feb 07 08:17	6°♏44'34	
opposition	7672 Apr 21 14:30	4°♏41'30	0°55'52
min. Earth dist.	7672 Apr 22 04:10	4°♏40'01	17.57222 AU
direct	7672 Jul 05 13:43	2°♏37'15	
evening set	7672 Oct 07 16:31	6°♏00'07	
conjunction	7672 Oct 24 09:00	7°♏01'21	0°49'35
minimum elong	7672 Oct 24 09:00	7°♏01'21	0°49'40
max. Earth dist.	7672 Oct 23 16:51	6°♏58'51	19.54858 AU
morning rise	7672 Nov 10 00:27	8°♏02'28	
retrograde	7673 Feb 11 07:24	11°♏24'38	
opposition	7673 Apr 26 10:59	9°♏21'33	0°54'30
min. Earth dist.	7673 Apr 27 01:17	9°♏20'00	17.52616 AU
direct	7673 Jul 10 12:28	7°♏17'02	

evening set	7673 Oct 12 19:34	10°♏40'53	
conjunction	7673 Oct 29 11:47	11°♏42'16	0°48'10
minimum elong	7673 Oct 29 11:47	11°♏42'16	0°48'14
max. Earth dist.	7673 Oct 28 17:34	11°♏39'27	19.50399 AU
morning rise	7673 Nov 15 03:04	12°♏43'32	
	7673 Dec 28 06:06	15°♏	
retrograde	7674 Feb 16 06:13	16°♏06'04	
	7674 Apr 08 16:28	15°℞♏	
opposition	7674 May 01 08:05	14°♏02'56	0°52'45
min. Earth dist.	7674 May 01 23:27	14°♏01'15	17.48321 AU
direct	7674 Jul 15 11:20	11°♏58'08	
	7674 Oct 11 13:38	15°♏	
evening set	7674 Oct 17 22:56	15°♏22'54	
conjunction	7674 Nov 03 15:12	16°♏24'27	0°46'25
minimum elong	7674 Nov 03 15:12	16°♏24'27	0°46'30
max. Earth dist.	7674 Nov 02 21:18	16°♏21'40	19.46269 AU
morning rise	7674 Nov 20 05:58	17°♏25'50	
retrograde	7675 Feb 21 06:25	20°♏48'37	
opposition	7675 May 06 05:37	18°♏45'28	0°50'39
min. Earth dist.	7675 May 06 21:04	18°♏43'46	17.44366 AU
direct	7675 Jul 20 11:48	16°♏40'24	
evening set	7675 Oct 23 02:50	20°♏06'00	
conjunction	7675 Nov 08 18:48	21°♏07'40	0°44'21
minimum elong	7675 Nov 08 18:48	21°♏07'40	0°44'27
max. Earth dist.	7675 Nov 07 23:20	21°♏04'39	19.42509 AU
morning rise	7675 Nov 25 09:16	22°♏09'10	
retrograde	7676 Feb 26 05:34	25°♏32'11	
opposition	7676 May 10 03:46	23°♏28'59	0°48'11
min. Earth dist.	7676 May 10 20:21	23°♏27'10	17.40816 AU
direct	7676 Jul 24 11:36	21°♏23'39	
evening set	7676 Oct 27 06:59	24°♏50'01	
conjunction	7676 Nov 12 22:47	25°♏51'48	0°41'59
minimum elong	7676 Nov 12 22:47	25°♏51'48	0°42'04
max. Earth dist.	7676 Nov 12 03:43	25°♏48'50	19.39177 AU
morning rise	7676 Nov 29 12:40	26°♏53'21	
	7677 Feb 05 20:42	0°♐	
retrograde	7677 Mar 02 06:28	0°♐16'31	
	7677 Mar 26 22:00	30°℞♏	
opposition	7677 May 15 02:12	28°♏13'18	0°45'23
min. Earth dist.	7677 May 15 18:18	28°♏11'33	17.37708 AU
direct	7677 Jul 29 13:16	26°♏07'45	
evening set	7677 Nov 01 11:26	29°♏34'47	
	7677 Nov 08 07:35	0°♐	
max. Earth dist.	7677 Nov 17 06:58	0°♐33'33	19.36317 AU
conjunction	7677 Nov 18 02:47	0°♐36'39	0°39'18
minimum elong	7677 Nov 18 02:47	0°♐36'39	0°39'25
morning rise	7677 Dec 04 16:07	1°♐38'15	
retrograde	7678 Mar 07 06:09	5°♐01'31	
opposition	7678 May 20 01:16	2°♐58'17	0°42'15
min. Earth dist.	7678 May 20 18:17	2°♐56'26	17.35120 AU
direct	7678 Aug 03 13:41	0°♐52'31	
evening set	7678 Nov 06 15:43	4°♐20'07	
max. Earth dist.	7678 Nov 22 11:24	5°♐19'01	19.34009 AU
conjunction	7678 Nov 23 06:42	5°♐22'03	0°36'22
minimum elong	7678 Nov 23 06:42	5°♐22'03	0°36'28
morning rise	7678 Dec 09 19:26	6°♐23'41	
retrograde	7679 Mar 12 07:21	9°♐47'00	
opposition	7679 May 25 00:33	7°♐43'46	0°38'50
min. Earth dist.	7679 May 25 16:29	7°♐42'02	17.33093 AU
direct	7679 Aug 08 15:51	5°♐37'50	
evening set	7679 Nov 11 20:19	9°♐05'56	
conjunction	7679 Nov 28 10:47	10°♐07'53	0°33'10
minimum elong	7679 Nov 28 10:47	10°♐07'53	0°33'16
max. Earth dist.	7679 Nov 27 15:39	10°♐04'53	19.32279 AU
morning rise	7679 Dec 14 22:46	11°♐09'30	
retrograde	7680 Mar 16 07:14	14°♐32'49	
opposition	7680 May 29 00:13	12°♐29'38	0°35'08
min. Earth dist.	7680 May 29 16:53	12°♐27'49	17.31683 AU
direct	7680 Aug 12 16:39	10°♐23'34	
evening set	7680 Nov 16 00:55	13°♐52'05	
conjunction	7680 Dec 02 14:47	14°♐54'02	0°29'44
minimum elong	7680 Dec 02 14:47	14°♐54'02	0°29'51
max. Earth dist.	7680 Dec 01 19:56	14°♐51'05	19.31197 AU
morning rise	7680 Dec 19 02:05	15°♐55'38	
retrograde	7681 Mar 21 08:27	19°♐18'53	
opposition	7681 Jun 03 00:12	17°♐15'47	0°31'11
min. Earth dist.	7681 Jun 03 15:22	17°♐14'08	17.30923 AU
direct	7681 Aug 17 19:32	15°♐09'41	
evening set	7681 Nov 21 05:17	18°♐38'31	
conjunction	7681 Dec 07 18:33	19°♐40'26	0°26'06
minimum elong	7681 Dec 07 18:33	19°♐40'26	0°26'12
max. Earth dist.	7681 Dec 07 00:48	19°♐37'39	19.30765 AU
morning rise	7681 Dec 24 04:56	20°♐41'58	
retrograde	7682 Mar 26 08:06	24°♐05'08	
opposition	7682 Jun 08 00:36	22°♐02'10	0°27'02
min. Earth dist.	7682 Jun 08 16:11	22°♐00'28	17.30821 AU
direct	7682 Aug 22 21:16	19°♐56'05	
evening set	7682 Nov 26 09:40	23°♐25'08	
conjunction	7682 Dec 12 22:08	24°♐27'00	0°22'17
minimum elong	7682 Dec 12 22:08	24°♐27'00	0°22'25
max. Earth dist.	7682 Dec 12 04:26	24°♐24'13	19.30997 AU
morning rise	7682 Dec 29 07:50	25°♐28'27	
retrograde	7683 Mar 31 08:38	28°♐51'28	
opposition	7683 Jun 13 00:56	26°♐48'40	0°22'41
min. Earth dist.	7683 Jun 13 15:04	26°♐47'08	17.31356 AU
direct	7683 Aug 28 00:49	24°♐42'38	
evening set	7683 Dec 01 13:51	28°♐11'51	
max. Earth dist.	7683 Dec 17 09:28	29°♐11'05	19.31826 AU
conjunction	7683 Dec 18 01:41	29°♐13'37	0°18'19
minimum elong	7683 Dec 18 01:41	29°♐13'37	0°18'26
	7683 Dec 30 09:30	0°♑	
morning rise	7684 Jan 03 10:22	0°♑14'57	
retrograde	7684 Apr 04 08:13	3°♑37'47	
opposition	7684 Jun 17 01:46	1°♑35'11	0°18'12
min. Earth dist.	7684 Jun 17 16:16	1°♑33'36	17.32462 AU
	7684 Jul 28 11:21	30°℞♐	
direct	7684 Sep 01 03:46	29°♐29'15	
	7684 Oct 05 07:53	0°♑	
evening set	7684 Dec 05 17:53	2°♑58'28	
conjunction	7684 Dec 22 04:43	4°♑00'07	0°14'14
minimum elong	7684 Dec 22 04:43	4°♑00'07	0°14'21
behind sun begin	7684 Dec 22 01:41	3°♑59'39	
behind sun end	7684 Dec 22 07:44	4°♑00'35	
max. Earth dist.	7684 Dec 21 12:11	3°♑57'32	19.33205 AU
morning rise	7685 Jan 07 12:37	5°♑01'19	
retrograde	7685 Apr 09 08:17	8°♑23'54	
opposition	7685 Jun 22 02:36	6°♑21'28	0°13'35
min. Earth dist.	7685 Jun 22 15:47	6°♑20'03	17.34096 AU
direct	7685 Sep 06 08:03	4°♑15'39	
evening set	7685 Dec 10 21:26	7°♑44'47	
conjunction	7685 Dec 27 07:32	8°♑46'17	0°10'04
minimum elong	7685 Dec 27 07:32	8°♑46'17	0°10'11

behind sun begin	7685 Dec 27	02:12	8°♉45'28		
behind sun end	7685 Dec 27	12:52	8°♉47'06		
max. Earth dist.	7685 Dec 26	16:49	8°♉43'59	19.35081 AU	
morning rise	7686 Jan 12	14:19	9°♉47'20		
retrograde	7686 Apr 14	07:33	13°♉09'35		
opposition	7686 Jun 27	03:40	11°♉07'21	0°08'52	
min. Earth dist.	7686 Jun 27	16:52	11°♉05'55	17.36203 AU	
direct	7686 Sep 11	11:06	9°♉01'39		
evening set	7686 Dec 16	00:35	12°♉30'33		
conjunction	7687 Jan 01	09:38	13°♉31'53	0°05'51	
minimum elong	7687 Jan 01	09:38	13°♉31'53	0°05'57	
behind sun begin	7687 Jan 01	03:15	13°♉30'54		
behind sun end	7687 Jan 01	16:01	13°♉32'51		
max. Earth dist.	7686 Dec 31	18:31	13°♉29'31	19.37418 AU	
morning rise	7687 Jan 17	15:39	14°♉32'45		
retrograde	7687 Apr 19	07:26	17°♉54'37		
opposition	7687 Jul 02	04:36	15°♉52'33	0°04'07	
min. Earth dist.	7687 Jul 02	16:43	15°♉51'15	17.38755 AU	
direct	7687 Sep 16	14:40	13°♉46'58		
evening set	7687 Dec 21	03:11	17°♉15'33		
conjunction	7688 Jan 06	11:26	18°♉16'41	0°01'33	
minimum elong	7688 Jan 06	11:26	18°♉16'41	0°01'40	
behind sun begin	7688 Jan 06	04:45	18°♉15'40		
behind sun end	7688 Jan 06	18:07	18°♉17'42		
max. Earth dist.	7688 Jan 05	22:13	18°♉14'37	19.40172 AU	
morning rise	7688 Jan 22	16:19	19°♉17'21		
retrograde	7688 Apr 23	06:28	22°♉38'46		
desc. node	7688 May 16	01:12	22°♉24'43		
opposition	7688 Jul 06	05:29	20°♉36'52	-0°00'40	
min. Earth dist.	7688 Jul 06	17:12	20°♉35'37	17.41701 AU	
direct	7688 Sep 20	17:26	18°♉31'25		
evening set	7688 Dec 25	05:20	21°♉59'34		
conjunction	7689 Jan 10	12:26	23°♉00'28	-0°02'51	
minimum elong	7689 Jan 10	12:26	23°♉00'28	0°02'44	
behind sun begin	7689 Jan 10	05:46	22°♉59'27		
behind sun end	7689 Jan 10	19:06	23°♉01'29		
max. Earth dist.	7689 Jan 09	23:01	22°♉58'23	19.43325 AU	
morning rise	7689 Jan 26	16:29	24°♉00'56		
retrograde	7689 Apr 28	05:27	27°♉21'52		
opposition	7689 Jul 11	06:16	25°♉20'05	-0°05'25	
min. Earth dist.	7689 Jul 11	17:02	25°♉18'56	17.45055 AU	
direct	7689 Sep 25	19:53	23°♉14'47		
evening set	7689 Dec 30	06:24	26°♉42'22		
conjunction	7690 Jan 15	12:41	27°♉43'03	-0°07'05	
minimum elong	7690 Jan 15	12:41	27°♉43'03	0°06'58	
behind sun begin	7690 Jan 15	06:30	27°♉42'06		
behind sun end	7690 Jan 15	18:51	27°♉43'59		
max. Earth dist.	7690 Jan 15	01:20	27°♉41'17	19.46874 AU	
morning rise	7690 Jan 31	15:39	28°♉43'16		
	7690 Feb 22	17:07	0°♒		
retrograde	7690 May 03	03:55	2°♒03'39		
opposition	7690 Jul 16	06:47	0°♒02'01	-0°10'07	
min. Earth dist.	7690 Jul 16	16:30	0°♒00'59	17.48784 AU	
	7690 Jul 17	01:36	30°℞♉		
direct	7690 Sep 30	22:41	27°♉56'52		
	7690 Dec 10	23:26	0°♒		
evening set	7691 Jan 04	06:57	1°♒23'48		
conjunction	7691 Jan 20	12:08	2°♒24'13	-0°11'15	
minimum elong	7691 Jan 20	12:07	2°♒24'13	0°11'08	
behind sun begin	7691 Jan 20	07:10	2°♒23'27		
behind sun end	7691 Jan 20	17:05	2°♒24'58		
max. Earth dist.	7691 Jan 20	01:05	2°♒22'30	19.50803 AU	
morning rise	7691 Feb 05	14:16	3°♒24'11		
retrograde	7691 May 08	00:59	6°♒43'59		
opposition	7691 Jul 21	06:49	4°♒42'28	-0°14'43	
min. Earth dist.	7691 Jul 21	15:48	4°♒41'30	17.52917 AU	
direct	7691 Oct 05	23:53	2°♒37'28		
evening set	7692 Jan 09	06:33	6°♒03'40		
conjunction	7692 Jan 25	10:50	7°♒03'49	-0°15'19	
minimum elong	7692 Jan 25	10:49	7°♒03'49	0°15'14	
behind sun begin	7692 Jan 25	08:39	7°♒03'29		
behind sun end	7692 Jan 25	13:00	7°♒04'09		
max. Earth dist.	7692 Jan 25	01:49	7°♒02'26	19.55136 AU	
morning rise	7692 Feb 10	11:58	8°♒03'31		
retrograde	7692 May 11	22:39	11°♒22'43		
opposition	7692 Jul 25	06:36	9°♒21'18	-0°19'13	
min. Earth dist.	7692 Jul 25	13:55	9°♒20'32	17.57441 AU	
direct	7692 Oct 10	02:38	7°♒16'31		
evening set	7693 Jan 13	05:13	10°♒41'54		
conjunction	7693 Jan 29	08:23	11°♒41'45	-0°19'17	
minimum elong	7693 Jan 29	08:23	11°♒41'45	0°19'11	
max. Earth dist.	7693 Jan 29	00:26	11°♒40'31	19.59869 AU	
morning rise	7693 Feb 14	08:38	12°♒41'11		
	7693 Mar 30	10:57	15°♒		
retrograde	7693 May 16	17:46	15°♒59'46		
	7693 Jul 04	22:34	15°℞♒		
opposition	7693 Jul 30	06:05	13°♒58'29	-0°23'33	
min. Earth dist.	7693 Jul 30	12:33	13°♒57'47	17.62400 AU	
direct	7693 Oct 15	02:36	11°♒53'55		
	7694 Jan 13	00:10	15°♒		
evening set	7694 Jan 18	02:57	15°♒18'26		
conjunction	7694 Feb 03	05:11	16°♒18'00	-0°23'06	
minimum elong	7694 Feb 03	05:11	16°♒18'00	0°23'01	
max. Earth dist.	7694 Feb 02	23:14	16°♒17'05	19.65046 AU	
morning rise	7694 Feb 19	04:32	17°♒17'08		
retrograde	7694 May 21	14:35	20°♒35'05		
opposition	7694 Aug 04	04:54	18°♒33'58	-0°27'42	
min. Earth dist.	7694 Aug 04	09:07	18°♒33'31	17.67782 AU	
direct	7694 Oct 20	04:17	16°♒29'41		
evening set	7695 Jan 22	23:48	19°♒53'18		
conjunction	7695 Feb 08	01:04	20°♒52'33	-0°26'44	
minimum elong	7695 Feb 08	01:04	20°♒52'33	0°26'40	
max. Earth dist.	7695 Feb 07	20:35	20°♒51'52	19.70634 AU	
morning rise	7695 Feb 23	23:34	21°♒51'25		
retrograde	7695 May 26	08:19	25°♒08'44		
opposition	7695 Aug 09	03:26	23°♒07'49	-0°31'39	
min. Earth dist.	7695 Aug 09	06:57	23°♒07'26	17.73571 AU	
direct	7695 Oct 25	02:39	21°♒03'53		
evening set	7696 Jan 27	19:45	24°♒26'33		
conjunction	7696 Feb 12	20:04	25°♒25'30	-0°30'11	
minimum elong	7696 Feb 12	20:04	25°♒25'30	0°30'07	
max. Earth dist.	7696 Feb 12	17:11	25°♒25'03	19.76606 AU	
morning rise	7696 Feb 28	17:47	26°♒24'04		
retrograde	7696 May 30	04:05	29°♒40'46		
opposition	7696 Aug 13	01:20	27°♒40'04	-0°35'22	
min. Earth dist.	7696 Aug 13	02:27	27°♒39'57	17.79695 AU	
direct	7696 Oct 29	03:25	25°♒36'31		
evening set	7697 Jan 31	14:50	28°♒58'12		
conjunction	7697 Feb 16	14:15	29°♒56'51	-0°33'26	
minimum elong	7697 Feb 16	14:15	29°♒56'51	0°33'23	
max. Earth dist.	7697 Feb 16	13:09	29°♒56'41	19.82876 AU	
	7697 Feb 17	10:46	0°♓		
morning rise	7697 Mar 04	11:09	0°♓55'07		

retrograde	7697 Jun 03 20:31	4°♓11'12	
opposition	7697 Aug 17 22:57	2°♓10'45	-0°38'51
min. Earth dist.	7697 Aug 17 23:38	2°♓10'40	17.86099 AU
direct	7697 Nov 03 00:17	0°♓07'36	
evening set	7698 Feb 05 08:55	3°♓28'16	
conjunction	7698 Feb 21 07:26	4°♓26'35	-0°36'27
minimum elong	7698 Feb 21 07:26	4°♓26'35	0°36'24
max. Earth dist.	7698 Feb 21 07:31	4°♓26'36	19.89387 AU
morning rise	7698 Mar 09 03:43	5°♓24'35	
retrograde	7698 Jun 08 15:12	8°♓40'02	
opposition	7698 Aug 22 19:52	6°♓39'49	-0°42'04
min. Earth dist.	7698 Aug 22 18:14	6°♓39'59	17.92686 AU
direct	7698 Nov 07 23:24	4°♓37'05	
evening set	7699 Feb 10 02:15	7°♓56'41	
conjunction	7699 Feb 25 23:59	8°♓54'42	-0°39'15
minimum elong	7699 Feb 25 23:59	8°♓54'42	0°39'13
max. Earth dist.	7699 Feb 26 01:52	8°♓54'59	19.96029 AU
morning rise	7699 Mar 13 19:31	9°♓52'24	
retrograde	7699 Jun 13 06:21	13°♓07'14	
opposition	7699 Aug 27 16:19	11°♓07'14	-0°45'01
min. Earth dist.	7699 Aug 27 14:33	11°♓07'25	17.99379 AU
direct	7699 Nov 12 19:08	9°♓04'54	
evening set	7700 Feb 14 18:46	12°♓23'26	
conjunction	7700 Mar 02 15:38	13°♓21'07	-0°41'47
minimum elong	7700 Mar 02 15:37	13°♓21'07	0°41'45
max. Earth dist.	7700 Mar 02 18:09	13°♓21'30	20.02750 AU
morning rise	7700 Mar 18 10:39	14°♓18'33	
retrograde	7700 Jun 17 23:46	17°♓32'44	
opposition	7700 Sep 01 12:12	15°♓32'57	-0°47'41
min. Earth dist.	7700 Sep 01 08:14	15°♓33'22	18.06106 AU
direct	7700 Nov 17 16:02	13°♓31'00	
evening set	7701 Feb 19 10:12	16°♓48'25	
conjunction	7701 Mar 07 06:25	17°♓45'48	-0°44'04
minimum elong	7701 Mar 07 06:25	17°♓45'48	0°44'02
max. Earth dist.	7701 Mar 07 10:51	17°♓46'29	20.09460 AU
morning rise	7701 Mar 23 00:47	18°♓42'57	
retrograde	7701 Jun 22 14:07	21°♓56'31	
opposition	7701 Sep 06 07:39	19°♓56'54	-0°50'03
min. Earth dist.	7701 Sep 06 03:37	19°♓57'19	18.12798 AU
direct	7701 Nov 22 10:25	17°♓55'20	
evening set	7702 Feb 24 00:55	21°♓11'36	
conjunction	7702 Mar 11 20:22	22°♓08'41	-0°46'04
minimum elong	7702 Mar 11 20:21	22°♓08'41	0°46'03
max. Earth dist.	7702 Mar 12 01:01	22°♓09'24	20.16114 AU
morning rise	7702 Mar 27 14:23	23°♓05'34	
retrograde	7702 Jun 27 06:16	26°♓18'29	
opposition	7702 Sep 11 02:06	24°♓19'01	-0°52'07
min. Earth dist.	7702 Sep 10 20:06	24°♓19'38	18.19401 AU
direct	7702 Nov 27 05:16	22°♓17'47	
evening set	7703 Feb 28 14:39	25°♓32'55	
conjunction	7703 Mar 16 09:37	26°♓29'43	-0°47'48
minimum elong	7703 Mar 16 09:37	26°♓29'43	0°47'47
max. Earth dist.	7703 Mar 16 16:05	26°♓30'41	20.22645 AU
morning rise	7703 Apr 01 03:06	27°♓26'20	
	7703 May 24 05:11	0°♈	
retrograde	7703 Jul 01 19:17	0°♈38'36	
	7703 Aug 10 18:42	30°♑♓	
opposition	7703 Sep 15 20:12	28°♓39'15	-0°53'52
min. Earth dist.	7703 Sep 15 14:08	28°♓39'52	18.25863 AU
direct	7703 Dec 01 22:25	26°♓38'20	
evening set	7704 Mar 04 03:30	29°♓52'17	
	7704 Mar 06 07:52	0°♈	
conjunction	7704 Mar 19 21:46	0°♈48'48	-0°49'15
minimum elong	7704 Mar 19 21:46	0°♈48'48	0°49'16
max. Earth dist.	7704 Mar 20 04:21	0°♈49'48	20.29039 AU
morning rise	7704 Apr 04 15:04	1°♈45'10	
retrograde	7704 Jul 05 10:26	4°♈56'48	
opposition	7704 Sep 19 13:28	2°♈57'31	-0°55'18
min. Earth dist.	7704 Sep 19 05:29	2°♈58'20	18.32188 AU
direct	7704 Dec 05 15:57	0°♈56'54	
evening set	7705 Mar 08 15:20	4°♈09'41	
conjunction	7705 Mar 24 09:16	5°♈05'56	-0°50'25
minimum elong	7705 Mar 24 09:16	5°♈05'56	0°50'25
max. Earth dist.	7705 Mar 24 17:57	5°♈07'14	20.35291 AU
morning rise	7705 Apr 09 02:09	6°♈02'04	
retrograde	7705 Jul 09 21:57	9°♈13'03	
opposition	7705 Sep 24 06:06	7°♈13'50	-0°56'25
min. Earth dist.	7705 Sep 23 21:49	7°♈14'40	18.38382 AU
direct	7705 Dec 10 07:35	5°♈13'30	
evening set	7706 Mar 13 02:20	8°♈25'07	
conjunction	7706 Mar 28 19:43	9°♈21'06	-0°51'17
minimum elong	7706 Mar 28 19:43	9°♈21'06	0°51'19
max. Earth dist.	7706 Mar 29 04:37	9°♈22'25	20.41433 AU
morning rise	7706 Apr 13 12:35	10°♈17'00	
retrograde	7706 Jul 14 11:40	13°♈27'23	
opposition	7706 Sep 28 21:54	11°♈28'12	-0°57'12
min. Earth dist.	7706 Sep 28 11:44	11°♈29'14	18.44479 AU
direct	7706 Dec 14 23:46	9°♈28'09	
evening set	7707 Mar 17 12:28	12°♈38'39	
conjunction	7707 Apr 02 05:37	13°♈34'23	-0°51'52
minimum elong	7707 Apr 02 05:37	13°♈34'23	0°51'54
max. Earth dist.	7707 Apr 02 16:46	13°♈36'03	20.47472 AU
morning rise	7707 Apr 17 22:09	14°♈30'04	
retrograde	7707 Jul 18 22:07	17°♈39'52	
opposition	7707 Oct 03 13:04	15°♈40'46	-0°57'40
min. Earth dist.	7707 Oct 03 02:21	15°♈41'52	18.50476 AU
direct	7707 Dec 19 13:51	13°♈41'01	
evening set	7708 Mar 20 22:00	16°♈50'27	
conjunction	7708 Apr 05 14:42	17°♈45'57	-0°52'10
minimum elong	7708 Apr 05 14:41	17°♈45'57	0°52'12
max. Earth dist.	7708 Apr 06 02:01	17°♈47'38	20.53431 AU
morning rise	7708 Apr 21 07:18	18°♈41'26	
retrograde	7708 Jul 22 10:24	21°♈50'43	
opposition	7708 Oct 07 03:38	19°♈51'41	-0°57'50
min. Earth dist.	7708 Oct 06 15:09	19°♈52'57	18.56391 AU
direct	7708 Dec 23 04:09	17°♈52'15	
evening set	7709 Mar 25 06:32	21°♈00'39	
conjunction	7709 Apr 09 23:11	21°♈55'56	-0°52'11
minimum elong	7709 Apr 09 23:11	21°♈55'56	0°52'14
max. Earth dist.	7709 Apr 10 12:47	21°♈57'57	20.59278 AU
morning rise	7709 Apr 25 15:38	22°♈51'14	
retrograde	7709 Jul 26 20:24	26°♈00'02	
opposition	7709 Oct 11 17:36	24°♈01'07	-0°57'41
min. Earth dist.	7709 Oct 11 04:32	24°♈02'26	18.62164 AU
direct	7709 Dec 27 16:52	22°♈02'01	
evening set	7710 Mar 29 14:43	25°♈09'26	
conjunction	7710 Apr 14 07:04	26°♈04'30	-0°51'56
minimum elong	7710 Apr 14 07:04	26°♈04'30	0°51'59
max. Earth dist.	7710 Apr 14 20:35	26°♈06'30	20.64972 AU
morning rise	7710 Apr 29 23:46	26°♈59'38	
	7710 Jul 13 12:19	0°♉	

retrograde	7710 Jul 31 07:24	0°♉07'59	
	7710 Aug 18 06:02	30°℞♈	
opposition	7710 Oct 16 06:46	28°♈09'11	-0°57'15
min. Earth dist.	7710 Oct 15 16:27	28°♈10'38	18.67765 AU
direct	7711 Jan 01 05:03	26°♈10'25	
evening set	7711 Apr 02 22:13	29°♈16'54	
	7711 Apr 15 06:20	0°♉	
conjunction	7711 Apr 18 14:37	0°♉11'49	-0°51'25
minimum elong	7711 Apr 18 14:37	0°♉11'49	0°51'29
max. Earth dist.	7711 Apr 19 06:07	0°♉14'05	20.70453 AU
morning rise	7711 May 04 07:16	1°♉06'47	
retrograde	7711 Aug 04 17:08	4°♉14'44	
opposition	7711 Oct 20 19:37	2°♉16'02	-0°56'31
min. Earth dist.	7711 Oct 20 04:51	2°♉17'32	18.73115 AU
direct	7712 Jan 05 16:40	0°♉17'37	
evening set	7712 Apr 06 05:15	3°♉23'13	
conjunction	7712 Apr 21 21:26	4°♉17'57	-0°50'39
minimum elong	7712 Apr 21 21:26	4°♉17'57	0°50'42
max. Earth dist.	7712 Apr 22 12:39	4°♉20'10	20.75667 AU
morning rise	7712 May 07 14:25	5°♉12'47	
retrograde	7712 Aug 08 03:13	8°♉20'23	
opposition	7712 Oct 24 07:59	6°♉21'48	-0°55'30
min. Earth dist.	7712 Oct 23 16:20	6°♉23'22	18.78181 AU
direct	7713 Jan 09 03:14	4°♉23'40	
evening set	7713 Apr 10 11:48	7°♉28'27	
conjunction	7713 Apr 26 04:11	8°♉23'02	-0°49'37
minimum elong	7713 Apr 26 04:11	8°♉23'02	0°49'42
max. Earth dist.	7713 Apr 26 21:06	8°♉25'30	20.80555 AU
morning rise	7713 May 11 21:15	9°♉17'45	
retrograde	7713 Aug 12 12:37	12°♉25'00	
opposition	7713 Oct 28 19:43	10°♉26'32	-0°54'12
min. Earth dist.	7713 Oct 28 03:48	10°♉28'07	18.82881 AU
direct	7714 Jan 13 13:59	8°♉28'42	
evening set	7714 Apr 14 18:07	11°♉32'41	
conjunction	7714 Apr 30 10:27	12°♉27'09	-0°48'20
minimum elong	7714 Apr 30 10:26	12°♉27'09	0°48'25
max. Earth dist.	7714 May 01 02:35	12°♉29'30	20.85054 AU
morning rise	7714 May 16 03:59	13°♉21'46	
	7714 Jun 16 16:06	15°♉	
retrograde	7714 Aug 16 21:59	16°♉28'44	
	7714 Oct 20 18:56	15°℞♉	
opposition	7714 Nov 02 07:03	14°♉30'19	-0°52'39
min. Earth dist.	7714 Nov 01 14:48	14°♉31'56	18.87171 AU
direct	7715 Jan 17 23:10	12°♉32'44	
	7715 Apr 08 04:09	15°♉	
evening set	7715 Apr 18 23:54	15°♉36'00	
conjunction	7715 May 04 16:31	16°♉30'20	-0°46'50
minimum elong	7715 May 04 16:31	16°♉30'20	0°46'55
max. Earth dist.	7715 May 05 09:58	16°♉32'53	20.89104 AU
morning rise	7715 May 20 10:12	17°♉24'52	
retrograde	7715 Aug 21 06:32	20°♉31'34	
opposition	7715 Nov 06 17:56	18°♉33'12	-0°50'50
min. Earth dist.	7715 Nov 06 01:30	18°♉34'50	18.90975 AU
direct	7716 Jan 22 09:24	16°♉35'50	
evening set	7716 Apr 22 05:33	19°♉38'24	
conjunction	7716 May 07 22:14	20°♉32'39	-0°45'05
minimum elong	7716 May 07 22:14	20°♉32'39	0°45'11
max. Earth dist.	7716 May 08 14:40	20°♉35'02	20.92668 AU
morning rise	7716 May 23 16:30	21°♉27'06	
retrograde	7716 Aug 24 15:33	24°♉33'34	
min. Earth dist.	7716 Nov 09 11:55	22°♉36'50	18.94297 AU
opposition	7716 Nov 10 04:24	22°♉35'11	-0°48'47
direct	7717 Jan 25 17:31	20°♉37'59	
evening set	7717 Apr 26 10:34	23°♉39'54	
conjunction	7717 May 12 03:44	24°♉34'04	-0°43'08
minimum elong	7717 May 12 03:44	24°♉34'04	0°43'13
max. Earth dist.	7717 May 12 21:21	24°♉36'37	20.95737 AU
morning rise	7717 May 27 22:19	25°♉28'28	
retrograde	7717 Aug 28 22:51	28°♉34'41	
opposition	7717 Nov 14 14:18	26°♉36'17	-0°46'30
min. Earth dist.	7717 Nov 13 21:38	26°♉37'57	18.97111 AU
direct	7718 Jan 30 02:43	24°♉39'12	
evening set	7718 Apr 30 15:32	27°♉40'31	
conjunction	7718 May 16 08:52	28°♉34'37	-0°40'58
minimum elong	7718 May 16 08:52	28°♉34'37	0°41'05
max. Earth dist.	7718 May 17 01:27	28°♉37'00	20.98323 AU
morning rise	7718 Jun 01 04:08	29°♉28'58	
	7718 Jun 10 12:29	0°♊	
retrograde	7718 Sep 02 07:17	2°♊35'00	
opposition	7718 Nov 18 23:40	0°♊36'32	-0°43'59
min. Earth dist.	7718 Nov 18 07:09	0°♊38'10	18.99479 AU
	7718 Dec 04 11:45	30°℞♉	
direct	7719 Feb 03 09:46	28°♉39'31	
	7719 Apr 02 01:08	0°♊	
evening set	7719 May 04 20:00	1°♊40'17	
conjunction	7719 May 20 13:52	2°♊34'21	-0°38'36
minimum elong	7719 May 20 13:52	2°♊34'21	0°38'42
max. Earth dist.	7719 May 21 07:48	2°♊36'56	21.00478 AU
morning rise	7719 Jun 05 09:31	3°♊28'41	
retrograde	7719 Sep 06 13:51	6°♊34'32	
opposition	7719 Nov 23 08:42	4°♊36'00	-0°41'16
min. Earth dist.	7719 Nov 22 15:44	4°♊37'42	19.01432 AU
direct	7720 Feb 07 17:49	2°♊39'04	
evening set	7720 May 08 00:19	5°♊39'22	
conjunction	7720 May 23 18:26	6°♊33'22	-0°36'04
minimum elong	7720 May 23 18:27	6°♊33'23	0°36'11
max. Earth dist.	7720 May 24 11:34	6°♊35'50	21.02249 AU
morning rise	7720 Jun 08 14:52	7°♊27'43	
retrograde	7720 Sep 09 21:48	10°♊33'29	
opposition	7720 Nov 26 17:27	8°♊34'52	-0°38'21
min. Earth dist.	7720 Nov 26 00:38	8°♊36'32	19.03030 AU
direct	7721 Feb 10 23:31	6°♊37'59	
evening set	7721 May 12 04:29	9°♊37'52	
conjunction	7721 May 27 23:15	10°♊31'53	-0°33'21
minimum elong	7721 May 27 23:15	10°♊31'53	0°33'28
max. Earth dist.	7721 May 28 17:41	10°♊34'32	21.03666 AU
morning rise	7721 Jun 12 20:08	11°♊26'14	
retrograde	7721 Sep 14 04:44	14°♊31'56	
min. Earth dist.	7721 Nov 30 08:23	12°♊34'59	19.04267 AU
opposition	7721 Dec 01 01:37	12°♊33'16	-0°35'16
direct	7722 Feb 15 06:47	10°♊36'27	
evening set	7722 May 16 08:44	13°♊36'01	
conjunction	7722 Jun 01 03:52	14°♊30'02	-0°30'29
minimum elong	7722 Jun 01 03:52	14°♊30'02	0°30'36
max. Earth dist.	7722 Jun 01 21:16	14°♊32'32	21.04734 AU
morning rise	7722 Jun 17 01:35	15°♊24'25	
retrograde	7722 Sep 18 12:26	18°♊30'07	
opposition	7722 Dec 05 09:45	16°♊31'24	-0°32'01
min. Earth dist.	7722 Dec 04 16:54	16°♊33'05	19.05163 AU
direct	7723 Feb 19 11:17	14°♊34'38	
evening set	7723 May 20 12:44	17°♊33'57	

conjunction	7723 Jun 05	08:36	18°♊28'00	-0°27'29	
minimum elong	7723 Jun 05	08:36	18°♊28'00	0°27'36	
max. Earth dist.	7723 Jun 06	03:09	18°♊30'39	21.05447 AU	
morning rise	7723 Jun 21	06:49	19°♊22'25		
retrograde	7723 Sep 22	20:03	22°♊28'10		
opposition	7723 Dec 09	17:38	20°♊29'25	-0°28'37	
min. Earth dist.	7723 Dec 09	00:24	20°♊31'08	19.05684 AU	
direct	7724 Feb 23	18:08	18°♊32'44		
evening set	7724 May 23	17:07	21°♊31'52		
conjunction	7724 Jun 08	13:24	22°♊25'57	-0°24'21	
minimum elong	7724 Jun 08	13:24	22°♊25'57	0°24'28	
max. Earth dist.	7724 Jun 09	06:46	22°♊28'26	21.05789 AU	
morning rise	7724 Jun 24	12:32	23°♊20'26		
retrograde	7724 Sep 26	04:08	26°♊26'17		
min. Earth dist.	7724 Dec 12	08:54	24°♊29'09	19.05838 AU	
opposition	7724 Dec 13	01:26	24°♊27'29	-0°25'05	
direct	7725 Feb 26	22:32	22°♊30'51		
evening set	7725 May 27	21:28	25°♊29'53		
conjunction	7725 Jun 12	18:35	26°♊24'02	-0°21'06	
minimum elong	7725 Jun 12	18:35	26°♊24'02	0°21'14	
max. Earth dist.	7725 Jun 13	12:46	26°♊26'38	21.05738 AU	
morning rise	7725 Jun 28	18:19	27°♊18'35		
	7725 Aug 29	15:36	0°♋		
retrograde	7725 Sep 30	12:23	0°♋24'34		
	7725 Nov 02	00:39	30°℞♊		
opposition	7725 Dec 17	09:02	28°♊25'45	-0°21'26	
min. Earth dist.	7725 Dec 16	16:22	28°♊27'26	19.05564 AU	
direct	7726 Mar 03	04:35	26°♊29'10		
evening set	7726 Jun 01	02:18	29°♊28'09		
	7726 Jun 10	11:30	0°♋		
conjunction	7726 Jun 16	23:53	0°♋22'23	-0°17'45	
minimum elong	7726 Jun 16	23:53	0°♋22'23	0°17'52	
max. Earth dist.	7726 Jun 17	16:30	0°♋24'46	21.05246 AU	
morning rise	7726 Jul 03	00:31	1°♋17'02		
retrograde	7726 Oct 04	20:56	4°♋23'13		
opposition	7726 Dec 21	16:39	2°♋24'21	-0°17'41	
min. Earth dist.	7726 Dec 21	01:08	2°♋25'55	19.04844 AU	
direct	7727 Mar 07	09:27	0°♋27'46		
evening set	7727 Jun 05	07:17	3°♋26'49		
conjunction	7727 Jun 21	05:44	4°♋21'08	-0°14'19	
minimum elong	7727 Jun 21	05:44	4°♋21'08	0°14'26	
behind sun begin	7727 Jun 21	02:44	4°♋20'43		
behind sun end	7727 Jun 21	08:44	4°♋21'33		
max. Earth dist.	7727 Jun 21	22:49	4°♋23'35	21.04283 AU	
morning rise	7727 Jul 07	06:58	5°♋15'54		
retrograde	7727 Oct 09	05:50	8°♋22'18		
min. Earth dist.	7727 Dec 25	08:51	6°♋24'56	19.03620 AU	
opposition	7727 Dec 26	00:16	6°♋23'23	-0°13'50	
direct	7728 Mar 10	15:18	4°♋26'47		
evening set	7728 Jun 08	12:44	7°♋25'55		
conjunction	7728 Jun 24	11:45	8°♋20'21	-0°10'48	
minimum elong	7728 Jun 24	11:45	8°♋20'21	0°10'55	
behind sun begin	7728 Jun 24	06:44	8°♋19'39		
behind sun end	7728 Jun 24	16:46	8°♋21'03		
max. Earth dist.	7728 Jun 25	02:54	8°♋22'31	21.02800 AU	
morning rise	7728 Jul 10	13:58	9°♋15'14		
retrograde	7728 Oct 12	14:46	12°♋21'55		
opposition	7728 Dec 29	08:03	10°♋22'54	-0°09'54	
min. Earth dist.	7728 Dec 28	18:08	10°♋24'18	19.01867 AU	
direct	7729 Mar 14	20:29	8°♋26'12		
evening set	7729 Jun 12	18:31	11°♋25'31		
conjunction	7729 Jun 28	18:28	12°♋20'05	-0°07'14	
minimum elong	7729 Jun 28	18:28	12°♋20'05	0°07'21	
behind sun begin	7729 Jun 28	12:24	12°♋19'14		
behind sun end	7729 Jun 29	00:32	12°♋20'56		
max. Earth dist.	7729 Jun 29	09:41	12°♋22'15	21.00768 AU	
morning rise	7729 Jul 14	21:19	13°♋15'06		
retrograde	7729 Oct 17	00:12	16°♋22'03		
opposition	7730 Jan 02	15:34	14°♋22'54	-0°05'55	
min. Earth dist.	7730 Jan 02	01:57	14°♋24'17	18.99549 AU	
direct	7730 Mar 19	03:00	12°♋26'06		
evening set	7730 Jun 17	00:48	15°♋25'37		
conjunction	7730 Jul 03	01:22	16°♋20'20	-0°03'38	
minimum elong	7730 Jul 03	01:21	16°♋20'19	0°03'45	
behind sun begin	7730 Jul 02	18:48	16°♋19'25		
behind sun end	7730 Jul 03	07:55	16°♋21'14		
max. Earth dist.	7730 Jul 03	14:28	16°♋22'11	20.98189 AU	
morning rise	7730 Jul 19	05:12	17°♋15'29		
retrograde	7730 Oct 21	09:01	20°♋22'45		
opposition	7731 Jan 06	23:25	18°♋23'26	-0°01'53	
min. Earth dist.	7731 Jan 06	11:27	18°♋24'39	18.96714 AU	
direct	7731 Mar 23	08:03	16°♋26'28		
evening set	7731 Jun 21	07:06	19°♋26'15		
asc. node	7731 Jun 27	07:09	19°♋46'34		
conjunction	7731 Jul 07	08:38	20°♋21'06	0°00'06	
minimum elong	7731 Jul 07	08:37	20°♋21'07	0°00'01	
behind sun begin	7731 Jul 07	04:30	20°♋20'34		
behind sun end	7731 Jul 07	12:44	20°♋21'40		
max. Earth dist.	7731 Jul 07	21:57	20°♋23'01	20.95115 AU	
morning rise	7731 Jul 23	13:07	21°♋16'26		
retrograde	7731 Oct 25	19:15	24°♋24'02		
opposition	7732 Jan 11	07:10	22°♋24'32	0°02'10	
min. Earth dist.	7732 Jan 10	19:20	22°♋25'44	18.93406 AU	
direct	7732 Mar 26	15:18	20°♋27'23		
evening set	7732 Jun 24	14:08	23°♋27'29		
conjunction	7732 Jul 10	16:18	24°♋22'32	0°03'50	
minimum elong	7732 Jul 10	16:18	24°♋22'32	0°03'43	
behind sun begin	7732 Jul 10	09:43	24°♋21'36		
behind sun end	7732 Jul 10	22:53	24°♋23'27		
max. Earth dist.	7732 Jul 11	03:41	24°♋24'09	20.91605 AU	
morning rise	7732 Jul 26	21:48	25°♋18'02		
retrograde	7732 Oct 29	04:12	28°♋26'01		
opposition	7733 Jan 14	15:01	26°♋26'19	0°06'13	
min. Earth dist.	7733 Jan 14	04:52	26°♋27'20	18.89710 AU	
direct	7733 Mar 30	20:03	24°♋28'56		
evening set	7733 Jun 28	21:30	27°♋29'28		
conjunction	7733 Jul 15	00:40	28°♋24'41	0°07'29	
minimum elong	7733 Jul 15	00:40	28°♋24'41	0°07'22	
behind sun begin	7733 Jul 14	18:35	28°♋23'50		
behind sun end	7733 Jul 15	06:44	28°♋25'32		
max. Earth dist.	7733 Jul 15	12:14	28°♋26'20	20.87730 AU	
morning rise	7733 Jul 31	06:49	29°♋20'22		
	7733 Aug 12	08:44	0°♌		
retrograde	7733 Nov 02	15:24	2°♌28'46		
opposition	7734 Jan 18	22:53	0°♌28'53	0°10'15	
min. Earth dist.	7734 Jan 18	12:47	0°♌29'55	18.85664 AU	
	7734 Jan 30	20:53	30°℞♋		
direct	7734 Apr 04	03:43	28°♋31'17		
	7734 Jun 03	10:22	0°♌		
evening set	7734 Jul 03	05:29	1°♌32'18		
conjunction	7734 Jul 19	09:16	2°♌27'44	0°11'05	
minimum elong	7734 Jul 19	09:15	2°♌27'44	0°10'59	
behind sun begin	7734 Jul 19	04:16	2°♌27'02		

behind sun end	7734 Jul 19 14:15	2°♌28'26	
max. Earth dist.	7734 Jul 19 18:56	2°♌29'06	20.83531 AU
morning rise	7734 Aug 04 16:21	3°♌23'37	
retrograde	7734 Nov 07 01:07	6°♌32'30	
opposition	7735 Jan 23 07:07	4°♌32'25	0°14'14
min. Earth dist.	7735 Jan 22 22:38	4°♌33'17	18.81330 AU
direct	7735 Apr 08 08:52	2°♌34'36	
evening set	7735 Jul 07 13:57	5°♌36'11	
conjunction	7735 Jul 23 18:43	6°♌31'49	0°14'40
minimum elong	7735 Jul 23 18:43	6°♌31'49	0°14'34
behind sun begin	7735 Jul 23 15:55	6°♌31'26	
behind sun end	7735 Jul 23 21:31	6°♌32'13	
max. Earth dist.	7735 Jul 24 04:32	6°♌33'13	20.79068 AU
morning rise	7735 Aug 09 02:27	7°♌27'55	
retrograde	7735 Nov 11 13:04	10°♌37'18	
opposition	7736 Jan 27 15:28	8°♌37'04	0°18'11
min. Earth dist.	7736 Jan 27 06:55	8°♌37'56	18.76739 AU
direct	7736 Apr 11 17:00	6°♌39'02	
evening set	7736 Jul 10 23:11	9°♌41'14	
conjunction	7736 Jul 27 04:39	10°♌37'07	0°18'11
minimum elong	7736 Jul 27 04:39	10°♌37'07	0°18'06
max. Earth dist.	7736 Jul 27 12:31	10°♌38'14	20.74361 AU
morning rise	7736 Aug 12 13:20	11°♌33'26	
retrograde	7736 Nov 15 00:23	14°♌43'22	
opposition	7737 Jan 31 00:18	12°♌42'58	0°22'03
min. Earth dist.	7737 Jan 30 17:31	12°♌43'40	18.71921 AU
direct	7737 Apr 15 23:02	10°♌44'44	
evening set	7737 Jul 15 09:06	13°♌47'39	
conjunction	7737 Jul 31 15:33	14°♌43'45	0°21'38
minimum elong	7737 Jul 31 15:33	14°♌43'45	0°21'33
max. Earth dist.	7737 Jul 31 23:19	14°♌44'53	20.69434 AU
	7737 Aug 05 07:34	15°♌	
morning rise	7737 Aug 17 00:50	15°♌40'18	
retrograde	7737 Nov 19 12:57	18°♌50'49	
opposition	7738 Feb 04 09:14	16°♌50'18	0°25'49
min. Earth dist.	7738 Feb 04 02:29	16°♌51'00	18.66881 AU
	7738 Apr 02 13:26	15°℞♌	
direct	7738 Apr 20 07:45	14°♌51'51	
	7738 May 07 22:26	15°♌	
evening set	7738 Jul 19 19:56	17°♌55'33	
conjunction	7738 Aug 05 03:02	18°♌51'54	0°24'59
minimum elong	7738 Aug 05 03:02	18°♌51'54	0°24'55
max. Earth dist.	7738 Aug 05 08:46	18°♌52'44	20.64290 AU
morning rise	7738 Aug 21 13:11	19°♌48'42	
retrograde	7738 Nov 24 01:29	22°♌59'51	
opposition	7739 Feb 08 18:54	20°♌59'12	0°29'29
min. Earth dist.	7739 Feb 08 14:05	20°♌59'42	18.61635 AU
direct	7739 Apr 24 15:02	19°♌00'32	
evening set	7739 Jul 24 07:19	22°♌05'03	
conjunction	7739 Aug 09 15:23	23°♌01'41	0°28'14
minimum elong	7739 Aug 09 15:23	23°♌01'41	0°28'09
max. Earth dist.	7739 Aug 09 20:53	23°♌02'29	20.58937 AU
morning rise	7739 Aug 26 02:09	23°♌58'43	
retrograde	7739 Nov 28 15:15	27°♌10'32	
opposition	7740 Feb 13 04:53	25°♌09'46	0°33'01
min. Earth dist.	7740 Feb 13 00:18	25°♌10'15	18.56157 AU
direct	7740 Apr 28 00:40	23°♌10'53	
evening set	7740 Jul 27 20:00	26°♌16'18	
conjunction	7740 Aug 13 04:43	27°♌13'11	0°31'21
minimum elong	7740 Aug 13 04:43	27°♌13'11	0°31'17
max. Earth dist.	7740 Aug 13 07:55	27°♌13'39	20.53331 AU
morning rise	7740 Aug 29 16:16	28°♌10'30	
	7740 Oct 04 03:55	0°♍	
retrograde	7740 Dec 02 04:35	1°♍22'58	
	7741 Feb 01 04:47	30°℞♌	
opposition	7741 Feb 16 15:24	29°♌22'04	0°36'24
min. Earth dist.	7741 Feb 16 13:12	29°♌22'18	18.50425 AU
direct	7741 May 02 09:40	27°♌22'56	
	7741 Jul 23 16:38	0°♍	
evening set	7741 Aug 01 09:29	0°♍29'17	
conjunction	7741 Aug 17 19:06	1°♍26'28	0°34'19
minimum elong	7741 Aug 17 19:06	1°♍26'28	0°34'16
max. Earth dist.	7741 Aug 17 21:28	1°♍26'48	20.47461 AU
morning rise	7741 Sep 03 07:10	2°♍24'00	
retrograde	7741 Dec 06 19:36	5°♍37'09	
opposition	7742 Feb 21 02:25	3°♍36'06	0°39'38
min. Earth dist.	7742 Feb 21 00:38	3°♍36'18	18.44409 AU
direct	7742 May 06 20:47	1°♍36'41	
evening set	7742 Aug 05 23:51	4°♍44'00	
conjunction	7742 Aug 22 10:04	5°♍41'26	0°37'08
minimum elong	7742 Aug 22 10:04	5°♍41'26	0°37'05
max. Earth dist.	7742 Aug 22 10:05	5°♍41'26	20.41297 AU
morning rise	7742 Sep 07 22:48	6°♍39'15	
retrograde	7742 Dec 11 09:41	9°♍53'03	
opposition	7743 Feb 25 14:10	7°♍51'50	0°42'39
min. Earth dist.	7743 Feb 25 14:48	7°♍51'46	18.38116 AU
direct	7743 May 11 07:12	5°♍52'04	
evening set	7743 Aug 10 15:03	9°♍00'22	
conjunction	7743 Aug 27 02:08	9°♍58'06	0°39'46
minimum elong	7743 Aug 27 02:08	9°♍58'06	0°39'43
max. Earth dist.	7743 Aug 27 01:07	9°♍57'57	20.34889 AU
morning rise	7743 Sep 12 15:23	10°♍56'10	
retrograde	7743 Dec 16 02:02	14°♍10'37	
opposition	7744 Mar 01 02:10	12°♍09'11	0°45'28
min. Earth dist.	7744 Mar 01 03:13	12°♍09'04	18.31595 AU
direct	7744 May 14 20:04	10°♍09'02	
evening set	7744 Aug 14 07:13	13°♍18'21	
conjunction	7744 Aug 30 18:56	14°♍16'22	0°42'11
minimum elong	7744 Aug 30 18:56	14°♍16'22	0°42'08
max. Earth dist.	7744 Aug 30 15:47	14°♍15'54	20.28271 AU
morning rise	7744 Sep 16 08:47	15°♍14'42	
retrograde	7744 Dec 19 17:00	18°♍29'48	
opposition	7745 Mar 05 14:53	16°♍28'09	0°48'03
min. Earth dist.	7745 Mar 05 18:17	16°♍27'47	18.24907 AU
direct	7745 May 19 07:29	14°♍27'36	
evening set	7745 Aug 19 00:09	17°♍37'57	
conjunction	7745 Sep 04 12:35	18°♍36'15	0°44'23
minimum elong	7745 Sep 04 12:35	18°♍36'15	0°44'22
max. Earth dist.	7745 Sep 04 08:20	18°♍35'37	20.21531 AU
morning rise	7745 Sep 21 02:52	19°♍34'51	
retrograde	7745 Dec 24 10:44	22°♍50'35	
opposition	7746 Mar 10 03:53	20°♍48'42	0°50'23
min. Earth dist.	7746 Mar 10 07:34	20°♍48'18	18.18129 AU
direct	7746 May 23 21:45	18°♍47'45	
evening set	7746 Aug 23 17:59	21°♍59'10	
conjunction	7746 Sep 09 06:59	22°♍57'46	0°46'20
minimum elong	7746 Sep 09 06:59	22°♍57'45	0°46'19
max. Earth dist.	7746 Sep 09 01:05	22°♍56'53	20.14730 AU
morning rise	7746 Sep 25 21:41	23°♍56'37	
retrograde	7746 Dec 29 02:58	27°♍13'00	
opposition	7747 Mar 14 17:40	25°♍10'53	0°52'25
min. Earth dist.	7747 Mar 14 23:26	25°♍10'16	18.11339 AU

direct	7747 May 28	10:25	23°♍09'31	
evening set	7747 Aug 28	12:31	26°♍22'03	
conjunction	7747 Sep 14	02:10	27°♍20'55	0°48'02
minimum elong	7747 Sep 14	02:10	27°♍20'55	0°48'02
max. Earth dist.	7747 Sep 13	19:08	27°♍19'52	20.07965 AU
morning rise	7747 Sep 30	17:17	28°♍20'03	
	7747 Oct 31	19:06	0°♎	
retrograde	7748 Jan 02	21:57	1°♎37'04	
	7748 Mar 08	09:53	30°℞♍	
opposition	7748 Mar 18	07:54	29°♍34'45	0°54'10
min. Earth dist.	7748 Mar 18	13:49	29°♍34'07	18.04608 AU
direct	7748 Jun 01	01:52	27°♍32'59	
	7748 Aug 18	15:13	0°♎	
evening set	7748 Sep 01	08:08	0°♎46'38	
conjunction	7748 Sep 17	22:18	1°♎45'48	0°49'27
minimum elong	7748 Sep 17	22:18	1°♎45'48	0°49'27
max. Earth dist.	7748 Sep 17	14:04	1°♎44'34	20.01271 AU
morning rise	7748 Oct 04	13:40	2°♎45'11	
retrograde	7749 Jan 06	15:41	6°♎02'50	
opposition	7749 Mar 22	22:45	4°♎00'21	0°55'37
min. Earth dist.	7749 Mar 23	06:34	3°♎59'30	17.97989 AU
direct	7749 Jun 05	16:04	1°♎58'12	
evening set	7749 Sep 06	04:33	5°♎13'00	
conjunction	7749 Sep 22	19:11	6°♎12'27	0°50'35
minimum elong	7749 Sep 22	19:11	6°♎12'27	0°50'35
max. Earth dist.	7749 Sep 22	09:37	6°♎11'01	19.94740 AU
morning rise	7749 Oct 09	10:52	7°♎12'06	
retrograde	7750 Jan 11	11:49	10°♎30'23	
opposition	7750 Mar 27	14:17	8°♎27'45	0°56'43
min. Earth dist.	7750 Mar 27	22:07	8°♎26'54	17.91557 AU
direct	7750 Jun 10	08:45	6°♎25'15	
evening set	7750 Sep 11	01:43	9°♎41'13	
conjunction	7750 Sep 27	16:49	10°♎40'57	0°51'25
minimum elong	7750 Sep 27	16:49	10°♎40'57	0°51'26
max. Earth dist.	7750 Sep 27	06:38	10°♎39'25	19.88406 AU
morning rise	7750 Oct 14	08:35	11°♎40'50	
retrograde	7751 Jan 16	07:13	14°♎59'47	
opposition	7751 Apr 01	06:38	12°♎57'02	0°57'30
min. Earth dist.	7751 Apr 01	15:59	12°♎56'01	17.85347 AU
direct	7751 Jun 15	00:24	10°♎54'14	
evening set	7751 Sep 15	23:57	14°♎11'23	
conjunction	7751 Oct 02	15:23	15°♎11'24	0°51'56
minimum elong	7751 Oct 02	15:23	15°♎11'23	0°51'57
max. Earth dist.	7751 Oct 02	03:37	15°♎09'37	19.82332 AU
morning rise	7751 Oct 19	07:25	16°♎11'31	
retrograde	7752 Jan 21	04:42	19°♎31'05	
opposition	7752 Apr 04	23:25	17°♎28'16	0°57'55
min. Earth dist.	7752 Apr 05	09:02	17°♎27'14	17.79404 AU
direct	7752 Jun 18	18:27	15°♎25'11	
evening set	7752 Sep 19	23:08	18°♎43'32	
conjunction	7752 Oct 06	14:59	19°♎43'49	0°52'08
minimum elong	7752 Oct 06	14:59	19°♎43'49	0°52'11
max. Earth dist.	7752 Oct 06	02:50	19°♎41'58	19.76508 AU
morning rise	7752 Oct 23	06:55	20°♎44'11	
retrograde	7753 Jan 25	01:50	24°♎04'21	
opposition	7753 Apr 09	17:08	22°♎01'30	0°57'59
min. Earth dist.	7753 Apr 10	04:13	22°♎00'18	17.73706 AU
direct	7753 Jun 23	11:44	19°♎58'10	
evening set	7753 Sep 24	23:11	23°♎17'42	
conjunction	7753 Oct 11	15:07	24°♎18'14	0°52'01
minimum elong	7753 Oct 11	15:07	24°♎18'14	0°52'04
max. Earth dist.	7753 Oct 11	01:03	24°♎16'05	19.70938 AU
morning rise	7753 Oct 28	07:10	25°♎18'48	
retrograde	7754 Jan 30	00:04	28°♎39'34	
opposition	7754 Apr 14	11:30	26°♎36'41	0°57'41
min. Earth dist.	7754 Apr 14	23:07	26°♎35'25	17.68260 AU
direct	7754 Jun 28	07:38	24°♎33'05	
evening set	7754 Sep 30	00:02	27°♎53'46	
conjunction	7754 Oct 16	16:17	28°♎54'33	0°51'33
minimum elong	7754 Oct 16	16:17	28°♎54'33	0°51'37
max. Earth dist.	7754 Oct 16	02:03	28°♎52'22	19.65596 AU
morning rise	7754 Nov 02	08:05	29°♎55'19	
	7754 Nov 03	15:30	0°♏	
retrograde	7755 Feb 03	22:13	3°♏16'36	
opposition	7755 Apr 19	06:38	1°♏13'42	0°57'01
min. Earth dist.	7755 Apr 19	19:30	1°♏12'18	17.63035 AU
	7755 May 19	13:25	30°℞♎	
direct	7755 Jul 03	02:59	29°♎09'50	
	7755 Aug 15	23:29	0°♏	
evening set	7755 Oct 05	01:46	2°♏31'37	
conjunction	7755 Oct 21	18:00	3°♏32'37	0°50'46
minimum elong	7755 Oct 21	18:00	3°♏32'37	0°50'51
max. Earth dist.	7755 Oct 21	01:29	3°♏30'05	19.60489 AU
morning rise	7755 Nov 07	09:50	4°♏33'34	
retrograde	7756 Feb 08	20:47	7°♏55'20	
opposition	7756 Apr 23	02:26	5°♏52'22	0°55'58
min. Earth dist.	7756 Apr 23	16:08	5°♏50'52	17.58051 AU
direct	7756 Jul 07	01:19	3°♏48'13	
evening set	7756 Oct 09	04:05	7°♏11'03	
conjunction	7756 Oct 25	20:31	8°♏12'15	0°49'39
minimum elong	7756 Oct 25	20:31	8°♏12'15	0°49'43
max. Earth dist.	7756 Oct 25	04:04	8°♏09'43	19.55620 AU
morning rise	7756 Nov 11	11:55	9°♏13'21	
retrograde	7757 Feb 12	19:19	12°♏35'30	
opposition	7757 Apr 27	22:50	10°♏32'30	0°54'33
min. Earth dist.	7757 Apr 28	13:19	10°♏30'55	17.53315 AU
direct	7757 Jul 11	23:18	8°♏28'04	
evening set	7757 Oct 14	07:05	11°♏51'52	
conjunction	7757 Oct 30	23:17	12°♏53'15	0°48'11
minimum elong	7757 Oct 30	23:17	12°♏53'15	0°48'17
max. Earth dist.	7757 Oct 30	04:46	12°♏50'23	19.51041 AU
morning rise	7757 Nov 16	14:34	13°♏54'30	
	7757 Dec 05	11:21	15°♏	
retrograde	7758 Feb 17	18:02	17°♏17'00	
opposition	7758 May 02	19:52	15°♏13'56	0°52'45
min. Earth dist.	7758 May 03	11:13	15°♏12'15	17.48908 AU
	7758 May 08	03:49	15°℞♏	
direct	7758 Jul 16	23:06	13°♏09'12	
	7758 Sep 21	14:35	15°♏	
evening set	7758 Oct 19	10:13	16°♏33'54	
max. Earth dist.	7758 Nov 04	08:28	17°♏32'38	19.46809 AU
conjunction	7758 Nov 05	02:30	17°♏35'26	0°46'24
minimum elong	7758 Nov 05	02:30	17°♏35'26	0°46'29
morning rise	7758 Nov 21	17:17	18°♏36'48	
retrograde	7759 Feb 22	17:43	21°♏59'34	
opposition	7759 May 07	17:23	19°♏56'27	0°50'36
min. Earth dist.	7759 May 08	08:54	19°♏54'45	17.44860 AU
direct	7759 Jul 21	23:15	17°♏51'26	
evening set	7759 Oct 24	14:05	21°♏16'57	
max. Earth dist.	7759 Nov 09	10:25	22°♏15'34	19.42972 AU
conjunction	7759 Nov 10	06:02	22°♏18'37	0°44'17

minimum elong	7759 Nov 10	06:02	22°♏18'37	0°44'23
morning rise	7759 Nov 26	20:31	23°♏20'05	
retrograde	7760 Feb 27	16:44	26°♏43'04	
opposition	7760 May 11	15:19	24°♏39'53	0°48'05
min. Earth dist.	7760 May 12	07:47	24°♏38'05	17.41253 AU
direct	7760 Jul 25	23:21	22°♏34'35	
evening set	7760 Oct 28	18:06	26°♏00'52	
conjunction	7760 Nov 14	09:55	27°♏02'38	0°41'52
minimum elong	7760 Nov 14	09:55	27°♏02'38	0°41'59
max. Earth dist.	7760 Nov 13	14:57	26°♏59'41	19.39600 AU
morning rise	7760 Nov 30	23:48	28°♏04'10	
	7761 Jan 05	01:06	0°♐	
retrograde	7761 Mar 03	17:54	1°♐27'18	
	7761 May 02	16:49	30°℞♏	
opposition	7761 May 16	13:45	29°♏24'05	0°45'14
min. Earth dist.	7761 May 17	05:46	29°♏22'20	17.38126 AU
direct	7761 Jul 31	00:52	27°♏18'32	
	7761 Oct 21	03:32	0°♐	
evening set	7761 Nov 02	22:17	0°♐45'27	
conjunction	7761 Nov 19	13:37	1°♐47'18	0°39'09
minimum elong	7761 Nov 19	13:37	1°♐47'18	0°39'15
max. Earth dist.	7761 Nov 18	17:56	1°♐44'14	19.36740 AU
morning rise	7761 Dec 06	02:59	2°♐48'54	
retrograde	7762 Mar 08	16:56	6°♐12'07	
opposition	7762 May 21	12:44	4°♐08'52	0°42'03
min. Earth dist.	7762 May 22	05:28	4°♐07'02	17.35559 AU
direct	7762 Aug 05	00:44	2°♐03'06	
evening set	7762 Nov 08	02:36	5°♐30'36	
conjunction	7762 Nov 24	17:35	6°♐32'30	0°36'10
minimum elong	7762 Nov 24	17:36	6°♐32'30	0°36'17
max. Earth dist.	7762 Nov 23	22:39	6°♐29'32	19.34471 AU
morning rise	7762 Dec 11	06:19	7°♐34'07	
retrograde	7763 Mar 13	18:59	10°♐57'22	
opposition	7763 May 26	11:51	8°♐54'08	0°38'35
min. Earth dist.	7763 May 27	03:33	8°♐52'25	17.33590 AU
direct	7763 Aug 10	03:17	6°♐48'13	
evening set	7763 Nov 13	07:08	10°♐16'12	
conjunction	7763 Nov 29	21:36	11°♐18'08	0°32'56
minimum elong	7763 Nov 29	21:36	11°♐18'08	0°33'03
max. Earth dist.	7763 Nov 29	02:39	11°♐15'10	19.32816 AU
morning rise	7763 Dec 16	09:38	12°♐19'44	
retrograde	7764 Mar 17	17:51	15°♐42'59	
opposition	7764 May 30	11:35	13°♐39'49	0°34'51
min. Earth dist.	7764 May 31	03:54	13°♐38'02	17.32263 AU
direct	7764 Aug 14	03:36	11°♐33'47	
evening set	7764 Nov 17	11:37	15°♐02'12	
max. Earth dist.	7764 Dec 03	07:04	16°♐01'14	19.31820 AU
conjunction	7764 Dec 04	01:30	16°♐04'07	0°29'28
minimum elong	7764 Dec 04	01:30	16°♐04'07	0°29'35
morning rise	7764 Dec 20	12:49	17°♐05'41	
retrograde	7765 Mar 22	19:47	20°♐28'54	
opposition	7765 Jun 04	11:29	18°♐25'50	0°30'52
min. Earth dist.	7765 Jun 05	02:24	18°♐24'12	17.31579 AU
direct	7765 Aug 19	07:05	16°♐19'47	
evening set	7765 Nov 22	16:05	19°♐48'31	
max. Earth dist.	7765 Dec 08	11:44	20°♐47'39	19.31454 AU
conjunction	7765 Dec 09	05:21	20°♐50'25	0°25'47
minimum elong	7765 Dec 09	05:21	20°♐50'25	0°25'56
morning rise	7765 Dec 25	15:48	21°♐51'55	
retrograde	7766 Mar 27	18:41	25°♐15'02	
opposition	7766 Jun 09	11:49	23°♐12'07	0°26'40
min. Earth dist.	7766 Jun 10	03:19	23°♐10'26	17.31524 AU
direct	7766 Aug 24	08:05	21°♐06'05	
evening set	7766 Nov 27	20:25	24°♐35'04	
conjunction	7766 Dec 14	08:56	25°♐36'54	0°21'56
minimum elong	7766 Dec 14	08:56	25°♐36'54	0°22'03
max. Earth dist.	7766 Dec 13	15:24	25°♐34'08	19.31701 AU
morning rise	7766 Dec 30	18:42	26°♐38'20	
	7767 Mar 26	01:12	0°♑	
retrograde	7767 Apr 01	20:26	0°♑01'18	
	7767 Apr 08	14:43	30°℞♐	
opposition	7767 Jun 14	12:16	27°♐58'33	0°22'17
min. Earth dist.	7767 Jun 15	02:25	27°♐57'00	17.32041 AU
direct	7767 Aug 29	12:26	25°♐52'34	
evening set	7767 Dec 03	00:43	29°♐21'40	
	7767 Dec 13	07:31	0°♑	
conjunction	7767 Dec 19	12:33	0°♑23'26	0°17'57
minimum elong	7767 Dec 19	12:33	0°♑23'26	0°18'04
max. Earth dist.	7767 Dec 18	20:13	0°♑20'52	19.32478 AU
morning rise	7768 Jan 04	21:15	1°♑24'45	
retrograde	7768 Apr 05	19:10	4°♑47'31	
opposition	7768 Jun 18	13:04	2°♑44'56	0°17'45
min. Earth dist.	7768 Jun 19	03:47	2°♑43'20	17.33072 AU
direct	7768 Sep 02	14:24	0°♑39'02	
evening set	7768 Dec 07	04:49	4°♑08'10	
conjunction	7768 Dec 23	15:40	5°♑09'48	0°13'50
minimum elong	7768 Dec 23	15:40	5°♑09'48	0°13'57
behind sun begin	7768 Dec 23	12:19	5°♑09'17	
behind sun end	7768 Dec 23	19:02	5°♑10'19	
max. Earth dist.	7768 Dec 22	23:03	5°♑07'11	19.33761 AU
morning rise	7769 Jan 08	23:37	6°♑10'59	
retrograde	7769 Apr 10	20:14	9°♑33'30	
opposition	7769 Jun 23	13:57	7°♑31'05	0°13'06
min. Earth dist.	7769 Jun 24	03:19	7°♑29'38	17.34589 AU
direct	7769 Sep 07	19:03	5°♑25'16	
evening set	7769 Dec 12	08:15	8°♑54'18	
conjunction	7769 Dec 28	18:23	9°♑55'47	0°09'38
minimum elong	7769 Dec 28	18:23	9°♑55'47	0°09'44
behind sun begin	7769 Dec 28	12:54	9°♑54'56	
behind sun end	7769 Dec 28	23:53	9°♑56'37	
max. Earth dist.	7769 Dec 28	03:27	9°♑53'27	19.35501 AU
morning rise	7770 Jan 14	01:14	10°♑56'49	
retrograde	7770 Apr 15	18:51	14°♑19'00	
opposition	7770 Jun 28	15:01	12°♑16'46	0°08'22
min. Earth dist.	7770 Jun 29	04:35	12°♑15'17	17.36545 AU
direct	7770 Sep 12	21:56	10°♑11'03	
evening set	7770 Dec 17	11:31	13°♑39'52	
conjunction	7771 Jan 02	20:35	14°♑41'10	0°05'22
minimum elong	7771 Jan 02	20:36	14°♑41'10	0°05'30
behind sun begin	7771 Jan 02	14:09	14°♑40'11	
behind sun end	7771 Jan 03	03:03	14°♑42'10	
max. Earth dist.	7771 Jan 02	05:13	14°♑38'46	19.37679 AU
morning rise	7771 Jan 19	02:40	15°♑42'02	
retrograde	7771 Apr 20	18:36	19°♑03'51	
opposition	7771 Jul 03	15:46	17°♑01'45	0°03'35
min. Earth dist.	7771 Jul 04	04:09	17°♑00'25	17.38934 AU
direct	7771 Sep 18	02:02	14°♑56'08	
evening set	7771 Dec 22	14:07	18°♑24'38	
conjunction	7772 Jan 07	22:24	19°♑25'46	0°01'03
minimum elong	7772 Jan 07	22:25	19°♑25'46	0°01'10
behind sun begin	7772 Jan 07	15:44	19°♑24'45	
behind sun end	7772 Jan 08	05:06	19°♑26'47	

max. Earth dist.	7772 Jan 07	08:57	19°♉23'40	19.40273 AU
morning rise	7772 Jan 24	03:21	20°♉26'26	
desc. node	7772 Apr 04	05:44	23°♉36'03	
retrograde	7772 Apr 24	17:03	23°♉47'48	
opposition	7772 Jul 07	16:40	21°♉45'51	-0°01'13
min. Earth dist.	7772 Jul 08	04:45	21°♉44'33	17.41725 AU
direct	7772 Sep 22	04:54	19°♉40'22	
evening set	7772 Dec 26	16:04	23°♉08'26	
conjunction	7773 Jan 11	23:12	24°♉09'20	-0°03'22
minimum elong	7773 Jan 11	23:13	24°♉09'20	0°03'14
behind sun begin	7773 Jan 11	16:35	24°♉08'19	
behind sun end	7773 Jan 12	05:52	24°♉10'21	
max. Earth dist.	7773 Jan 11	09:37	24°♉07'12	19.43278 AU
morning rise	7773 Jan 28	03:21	25°♉09'47	
retrograde	7773 Apr 29	15:53	28°♉30'41	
opposition	7773 Jul 12	17:17	26°♉28'51	-0°06'00
min. Earth dist.	7773 Jul 13	04:12	26°♉27'41	17.44944 AU
direct	7773 Sep 27	07:41	24°♉23'29	
evening set	7773 Dec 31	17:09	27°♉51'01	
conjunction	7774 Jan 16	23:30	28°♉51'41	-0°07'36
minimum elong	7774 Jan 16	23:30	28°♉51'41	0°07'29
behind sun begin	7774 Jan 16	17:25	28°♉50'46	
behind sun end	7774 Jan 17	05:34	28°♉52'37	
max. Earth dist.	7774 Jan 16	12:06	28°♉49'55	19.46708 AU
morning rise	7774 Feb 02	02:32	29°♉51'55	
	7774 Feb 04	07:38	0°♒	
retrograde	7774 May 04	13:52	3°♒12'16	
opposition	7774 Jul 17	17:32	1°♒10'34	-0°10'42
min. Earth dist.	7774 Jul 18	03:33	1°♒09'30	17.48577 AU
	7774 Aug 15	21:14	30°℞♉	
direct	7774 Oct 02	09:39	29°♉05'21	
	7774 Nov 17	13:21	0°♒	
evening set	7775 Jan 05	17:33	2°♒32'14	
conjunction	7775 Jan 21	22:47	3°♒32'40	-0°11'46
minimum elong	7775 Jan 21	22:47	3°♒32'40	0°11'41
behind sun begin	7775 Jan 21	18:03	3°♒31'56	
behind sun end	7775 Jan 22	03:30	3°♒33'23	
max. Earth dist.	7775 Jan 21	11:40	3°♒30'56	19.50565 AU
morning rise	7775 Feb 07	01:01	4°♒32'38	
retrograde	7775 May 09	11:39	7°♒52'26	
opposition	7775 Jul 22	17:34	5°♒50'50	-0°15'19
min. Earth dist.	7775 Jul 23	02:30	5°♒49'53	17.52662 AU
direct	7775 Oct 07	11:10	3°♒45'46	
evening set	7776 Jan 10	16:58	7°♒11'58	
conjunction	7776 Jan 26	21:18	8°♒12'07	-0°15'51
minimum elong	7776 Jan 26	21:18	8°♒12'07	0°15'45
behind sun begin	7776 Jan 26	19:58	8°♒11'55	
behind sun end	7776 Jan 26	22:38	8°♒12'19	
max. Earth dist.	7776 Jan 26	12:31	8°♒10'45	19.54873 AU
morning rise	7776 Feb 11	22:29	9°♒11'49	
retrograde	7776 May 13	08:40	12°♒31'01	
opposition	7776 Jul 26	17:13	10°♒29'34	-0°19'48
min. Earth dist.	7776 Jul 27	00:29	10°♒28'47	17.57193 AU
direct	7776 Oct 11	12:31	8°♒24'44	
evening set	7777 Jan 14	15:39	11°♒50'07	
conjunction	7777 Jan 30	18:52	12°♒49'59	-0°19'49
minimum elong	7777 Jan 30	18:52	12°♒50'00	0°19'44
max. Earth dist.	7777 Jan 30	10:59	12°♒48'46	19.59643 AU
morning rise	7777 Feb 15	19:12	13°♒49'26	
	7777 Mar 08	02:34	15°♒	
retrograde	7777 May 18	05:11	17°♒08'02	
opposition	7777 Jul 31	16:34	15°♒06'44	-0°24'08
min. Earth dist.	7777 Jul 31	22:44	15°♒06'04	17.62207 AU
	7777 Aug 03	07:53	15°℞♒	
direct	7777 Oct 16	12:53	13°♒02'09	
	7777 Dec 25	02:53	15°♒	
evening set	7778 Jan 19	13:13	16°♒26'42	
conjunction	7778 Feb 04	15:34	17°♒26'17	-0°23'37
minimum elong	7778 Feb 04	15:34	17°♒26'17	0°23'32
max. Earth dist.	7778 Feb 04	09:51	17°♒25'24	19.64886 AU
morning rise	7778 Feb 20	14:59	18°♒25'26	
retrograde	7778 May 23	00:56	21°♒43'26	
opposition	7778 Aug 05	15:23	19°♒42'20	-0°28'17
min. Earth dist.	7778 Aug 05	19:26	19°♒41'54	17.67651 AU
direct	7778 Oct 21	13:52	17°♒38'05	
evening set	7779 Jan 24	10:09	21°♒01'44	
conjunction	7779 Feb 09	11:28	22°♒01'01	-0°27'15
minimum elong	7779 Feb 09	11:28	22°♒01'01	0°27'11
max. Earth dist.	7779 Feb 09	06:57	22°♒00'19	19.70530 AU
morning rise	7779 Feb 25	10:04	22°♒59'53	
retrograde	7779 May 27	19:39	26°♒17'16	
opposition	7779 Aug 10	13:46	24°♒16'23	-0°32'13
min. Earth dist.	7779 Aug 10	17:08	24°♒16'01	17.73485 AU
direct	7779 Oct 26	13:01	22°♒12'29	
evening set	7780 Jan 29	06:10	25°♒35'13	
conjunction	7780 Feb 14	06:34	26°♒34'11	-0°30'42
minimum elong	7780 Feb 14	06:34	26°♒34'11	0°30'38
max. Earth dist.	7780 Feb 14	03:48	26°♒33'45	19.76533 AU
morning rise	7780 Mar 01	04:21	27°♒32'46	
	7780 Apr 18	10:13	0°♓	
retrograde	7780 May 31	14:32	0°♓49'31	
	7780 Jul 15	07:46	30°℞♒	
opposition	7780 Aug 14	11:46	28°♒48'52	-0°35'56
min. Earth dist.	7780 Aug 14	12:54	28°♒48'45	17.79620 AU
direct	7780 Oct 30	13:08	26°♒45'21	
	7781 Jan 31	01:51	0°♓	
evening set	7781 Feb 02	01:11	0°♓07'06	
conjunction	7781 Feb 18	00:40	1°♓05'45	-0°33'56
minimum elong	7781 Feb 18	00:40	1°♓05'45	0°33'52
max. Earth dist.	7781 Feb 17	23:24	1°♓05'33	19.82790 AU
morning rise	7781 Mar 05	21:40	2°♓04'03	
retrograde	7781 Jun 05	07:41	5°♓20'11	
opposition	7781 Aug 19	09:24	3°♓19'45	-0°39'24
min. Earth dist.	7781 Aug 19	10:09	3°♓19'40	17.85991 AU
direct	7781 Nov 04	10:51	1°♓16'37	
evening set	7782 Feb 06	19:27	4°♓37'20	
conjunction	7782 Feb 22	18:03	5°♓35'40	-0°36'57
minimum elong	7782 Feb 22	18:03	5°♓35'40	0°36'54
max. Earth dist.	7782 Feb 22	18:00	5°♓35'40	19.89246 AU
morning rise	7782 Mar 10	14:23	6°♓33'41	
retrograde	7782 Jun 10	01:37	9°♓49'10	
opposition	7782 Aug 24	06:15	7°♓48'57	-0°42'36
min. Earth dist.	7782 Aug 24	04:51	7°♓49'05	17.92507 AU
direct	7782 Nov 09	09:35	5°♓46'12	
evening set	7783 Feb 11	12:54	9°♓05'51	
conjunction	7783 Feb 27	10:41	10°♓03'53	-0°39'43
minimum elong	7783 Feb 27	10:41	10°♓03'53	0°39'40
max. Earth dist.	7783 Feb 27	12:09	10°♓04'06	19.95803 AU
morning rise	7783 Mar 15	06:18	11°♓01'36	
retrograde	7783 Jun 14	17:27	14°♓16'27	
opposition	7783 Aug 29	02:52	12°♓16'25	-0°45'32
min. Earth dist.	7783 Aug 29	01:22	12°♓16'35	17.99102 AU
direct	7783 Nov 14	05:24	10°♓14'03	

evening set	7784 Feb 16 05:24	13°♓32'36	
conjunction	7784 Mar 03 02:19	14°♓30'19	-0°42'14
minimum elong	7784 Mar 03 02:19	14°♓30'19	0°42'12
max. Earth dist.	7784 Mar 03 04:33	14°♓30'39	20.02411 AU
morning rise	7784 Mar 18 21:23	15°♓27'45	
retrograde	7784 Jun 18 10:36	18°♓41'57	
opposition	7784 Sep 01 22:47	16°♓42'06	-0°48'11
min. Earth dist.	7784 Sep 01 19:06	16°♓42'29	18.05706 AU
direct	7784 Nov 18 02:47	14°♓40'05	
evening set	7785 Feb 19 21:01	17°♓57'30	
conjunction	7785 Mar 07 17:17	18°♓54'55	-0°44'30
minimum elong	7785 Mar 07 17:16	18°♓54'55	0°44'28
max. Earth dist.	7785 Mar 07 21:10	18°♓55'30	20.08995 AU
morning rise	7785 Mar 23 11:42	19°♓52'04	
retrograde	7785 Jun 23 00:58	23°♓05'37	
opposition	7785 Sep 06 18:11	21°♓05'55	-0°50'31
min. Earth dist.	7785 Sep 06 14:29	21°♓06'18	18.12274 AU
direct	7785 Nov 22 21:05	19°♓04'15	
evening set	7786 Feb 24 11:42	22°♓20'31	
conjunction	7786 Mar 12 07:14	23°♓17'38	-0°46'29
minimum elong	7786 Mar 12 07:14	23°♓17'38	0°46'28
max. Earth dist.	7786 Mar 12 11:33	23°♓18'17	20.15531 AU
morning rise	7786 Mar 28 01:20	24°♓14'31	
retrograde	7786 Jun 27 16:55	27°♓27'24	
opposition	7786 Sep 11 12:45	25°♓27'50	-0°52'34
min. Earth dist.	7786 Sep 11 06:59	25°♓28'25	18.18763 AU
direct	7786 Nov 27 16:39	23°♓26'29	
evening set	7787 Mar 01 01:25	26°♓41'35	
conjunction	7787 Mar 16 20:27	27°♓38'24	-0°48'11
minimum elong	7787 Mar 16 20:26	27°♓38'24	0°48'12
max. Earth dist.	7787 Mar 17 02:36	27°♓39'20	20.21966 AU
morning rise	7787 Apr 01 13:59	28°♓35'02	
	7787 Apr 27 06:53	0°♈	
retrograde	7787 Jul 02 05:49	1°♈47'16	
	7787 Sep 11 07:20	30°℞♓	
opposition	7787 Sep 16 06:45	29°♓47'47	-0°54'17
min. Earth dist.	7787 Sep 16 00:56	29°♓48'23	18.25156 AU
direct	7787 Dec 02 09:47	27°♓46'45	
	7788 Feb 15 15:11	0°♈	
evening set	7788 Mar 04 14:17	1°♈00'41	
conjunction	7788 Mar 20 08:38	1°♈57'12	-0°49'36
minimum elong	7788 Mar 20 08:38	1°♈57'12	0°49'36
max. Earth dist.	7788 Mar 20 15:14	1°♈58'12	20.28326 AU
morning rise	7788 Apr 05 01:59	2°♈53'35	
retrograde	7788 Jul 05 20:13	6°♈05'10	
opposition	7788 Sep 19 23:59	4°♈05'46	-0°55'41
min. Earth dist.	7788 Sep 19 16:00	4°♈06'35	18.31483 AU
direct	7788 Dec 06 03:11	2°♈05'01	
evening set	7789 Mar 09 01:58	5°♈17'48	
conjunction	7789 Mar 24 19:58	6°♈14'03	-0°50'44
minimum elong	7789 Mar 24 19:58	6°♈14'03	0°50'46
max. Earth dist.	7789 Mar 25 04:49	6°♈15'23	20.34614 AU
morning rise	7789 Apr 09 12:55	7°♈10'11	
retrograde	7789 Jul 10 08:05	10°♈21'10	
opposition	7789 Sep 24 16:37	8°♈21'50	-0°56'45
min. Earth dist.	7789 Sep 24 08:17	8°♈22'41	18.37751 AU
direct	7789 Dec 10 18:55	6°♈21'24	
evening set	7790 Mar 13 13:04	9°♈33'03	
conjunction	7790 Mar 29 06:30	10°♈29'02	-0°51'35
minimum elong	7790 Mar 29 06:30	10°♈29'02	0°51'35
max. Earth dist.	7790 Mar 29 15:42	10°♈30'25	20.40861 AU
morning rise	7790 Apr 13 23:22	11°♈24'57	
retrograde	7790 Jul 14 21:17	14°♈35'20	
opposition	7790 Sep 29 08:15	12°♈36'06	-0°57'30
min. Earth dist.	7790 Sep 28 21:50	12°♈37'10	18.43979 AU
direct	7790 Dec 15 09:47	10°♈35'59	
evening set	7791 Mar 17 23:15	13°♈46'33	
conjunction	7791 Apr 02 16:27	14°♈42'19	-0°52'08
minimum elong	7791 Apr 02 16:27	14°♈42'18	0°52'09
max. Earth dist.	7791 Apr 03 03:53	14°♈44'01	20.47052 AU
morning rise	7791 Apr 18 09:01	15°♈38'00	
retrograde	7791 Jul 19 08:12	18°♈47'50	
opposition	7791 Oct 03 23:32	16°♈48'44	-0°57'56
min. Earth dist.	7791 Oct 03 12:37	16°♈49'51	18.50136 AU
direct	7791 Dec 20 00:22	14°♈48'59	
evening set	7792 Mar 21 08:42	17°♈58'29	
conjunction	7792 Apr 06 01:27	18°♈54'01	-0°52'24
minimum elong	7792 Apr 06 01:27	18°♈54'01	0°52'26
max. Earth dist.	7792 Apr 06 13:06	18°♈55'44	20.53169 AU
morning rise	7792 Apr 21 18:05	19°♈49'30	
retrograde	7792 Jul 22 21:02	22°♈58'51	
opposition	7792 Oct 07 14:06	20°♈59'52	-0°58'04
min. Earth dist.	7792 Oct 07 01:18	21°♈01'10	18.56199 AU
direct	7792 Dec 23 13:27	19°♈00'29	
evening set	7793 Mar 25 17:26	22°♈08'59	
conjunction	7793 Apr 10 10:07	23°♈04'17	-0°52'23
minimum elong	7793 Apr 10 10:07	23°♈04'17	0°52'25
max. Earth dist.	7793 Apr 10 23:51	23°♈06'19	20.59151 AU
morning rise	7793 Apr 26 02:36	23°♈59'36	
retrograde	7793 Jul 27 07:02	27°♈08'28	
opposition	7793 Oct 12 04:00	25°♈09'39	-0°57'53
min. Earth dist.	7793 Oct 11 14:54	25°♈10'58	18.62092 AU
direct	7793 Dec 28 02:44	23°♈10'37	
evening set	7794 Mar 30 01:41	26°♈18'09	
conjunction	7794 Apr 14 18:04	27°♈13'16	-0°52'06
minimum elong	7794 Apr 14 18:04	27°♈13'16	0°52'10
max. Earth dist.	7794 Apr 15 07:39	27°♈15'16	20.64946 AU
morning rise	7794 Apr 30 10:47	28°♈08'25	
	7794 Jun 05 12:38	0°♉	
retrograde	7794 Jul 31 19:16	1°♉16'51	
	7794 Sep 29 00:42	30°℞♈	
opposition	7794 Oct 16 17:22	29°♈18'09	-0°57'24
min. Earth dist.	7794 Oct 16 02:55	29°♈19'36	18.67769 AU
direct	7795 Jan 01 14:44	27°♈19'28	
	7795 Mar 26 16:28	0°♉	
evening set	7795 Apr 03 09:15	0°♉26'06	
conjunction	7795 Apr 19 01:39	1°♉21'01	-0°51'33
minimum elong	7795 Apr 19 01:39	1°♉21'01	0°51'36
max. Earth dist.	7795 Apr 19 17:05	1°♉23'17	20.70475 AU
morning rise	7795 May 04 18:18	2°♉16'01	
retrograde	7795 Aug 05 04:19	5°♉24'03	
opposition	7795 Oct 21 06:18	3°♉25'29	-0°56'38
min. Earth dist.	7795 Oct 20 15:40	3°♉26'57	18.73147 AU
direct	7796 Jan 06 02:46	1°♉27'09	
evening set	7796 Apr 06 16:30	4°♉32'53	
conjunction	7796 Apr 22 08:43	5°♉27'39	-0°50'44
minimum elong	7796 Apr 22 08:43	5°♉27'39	0°50'49
max. Earth dist.	7796 Apr 22 23:42	5°♉29'50	20.75694 AU
morning rise	7796 May 08 01:42	6°♉22'30	
retrograde	7796 Aug 08 15:46	9°♉30'11	
opposition	7796 Oct 24 18:41	7°♉31'42	-0°55'35

min. Earth dist.	7796 Oct 24 03:09	7°♉33'16	18.78193 AU
direct	7797 Jan 09 13:43	5°♉33'40	
evening set	7797 Apr 10 23:07	8°♉38'34	
conjunction	7797 Apr 26 15:32	9°♉33'11	-0°49'40
minimum elong	7797 Apr 26 15:32	9°♉33'11	0°49'45
max. Earth dist.	7797 Apr 27 08:03	9°♉35'36	20.80533 AU
morning rise	7797 May 12 08:36	10°♉27'55	
retrograde	7797 Aug 12 23:55	13°♉35'16	
opposition	7797 Oct 29 06:36	11°♉36'52	-0°54'15
min. Earth dist.	7797 Oct 28 15:05	11°♉38'25	18.82817 AU
direct	7798 Jan 14 00:32	9°♉39'06	
evening set	7798 Apr 15 05:34	12°♉43'12	
conjunction	7798 Apr 30 21:55	13°♉37'40	-0°48'22
minimum elong	7798 Apr 30 21:55	13°♉37'40	0°48'27
max. Earth dist.	7798 May 01 13:35	13°♉39'57	20.84934 AU
morning rise	7798 May 16 15:26	14°♉32'18	
	7798 May 24 21:20	15°♉	
retrograde	7798 Aug 17 10:02	17°♉39'20	
opposition	7798 Nov 02 17:55	15°♉40'58	-0°52'39
min. Earth dist.	7798 Nov 02 01:58	15°♉42'34	18.86988 AU
	7798 Nov 20 04:26	15°℞♉	
direct	7799 Jan 18 10:26	13°♉43'25	
	7799 Mar 15 13:38	15°♉	
evening set	7799 Apr 19 11:29	16°♉46'46	
conjunction	7799 May 05 04:08	17°♉41'08	-0°46'49
minimum elong	7799 May 05 04:08	17°♉41'08	0°46'55
max. Earth dist.	7799 May 05 21:05	17°♉43'35	20.88858 AU
morning rise	7799 May 20 21:50	18°♉35'40	
retrograde	7799 Aug 21 17:46	21°♉42'23	
opposition	7799 Nov 07 04:56	19°♉44'02	-0°50'49
min. Earth dist.	7799 Nov 06 12:59	19°♉45'37	18.90662 AU
direct	7800 Jan 22 20:16	17°♉46'39	
evening set	7800 Apr 23 17:00	20°♉49'16	
conjunction	7800 May 09 09:44	21°♉43'31	-0°45'02
minimum elong	7800 May 09 09:44	21°♉43'31	0°45'08
max. Earth dist.	7800 May 10 01:49	21°♉45'51	20.92299 AU
morning rise	7800 May 25 04:02	22°♉37'59	
retrograde	7800 Aug 26 02:29	25°♉44'27	
opposition	7800 Nov 11 15:25	23°♉46'02	-0°48'43
min. Earth dist.	7800 Nov 10 23:13	23°♉47'39	18.93870 AU
direct	7801 Jan 27 04:57	21°♉48'46	
evening set	7801 Apr 27 22:05	24°♉50'43	
conjunction	7801 May 13 15:16	25°♉44'53	-0°43'03
minimum elong	7801 May 13 15:16	25°♉44'53	0°43'09
max. Earth dist.	7801 May 14 08:41	25°♉47'24	20.95274 AU
morning rise	7801 May 29 09:53	26°♉39'18	
retrograde	7801 Aug 30 10:02	29°♉45'29	
min. Earth dist.	7801 Nov 15 08:55	27°♉48'39	18.96624 AU
opposition	7801 Nov 16 01:12	27°♉47'01	-0°46'23
direct	7802 Jan 31 13:47	25°♉49'51	
evening set	7802 May 02 03:00	28°♉51'11	
conjunction	7802 May 17 20:21	29°♉45'17	-0°40'51
minimum elong	7802 May 17 20:21	29°♉45'17	0°40'57
max. Earth dist.	7802 May 18 12:55	29°♉47'40	20.97831 AU
	7802 May 22 02:15	0°♊	
morning rise	7802 Jun 02 15:38	0°♊39'39	
retrograde	7802 Sep 03 17:44	3°♊45'38	
opposition	7802 Nov 20 10:42	1°♊47'06	-0°43'50
min. Earth dist.	7802 Nov 19 18:12	1°♊48'45	18.98995 AU
	7803 Jan 15 17:59	30°℞♉	
direct	7803 Feb 04 21:03	29°♉50'00	
	7803 Feb 24 16:52	0°♊	
evening set	7803 May 06 07:24	2°♊50'47	
conjunction	7803 May 22 01:15	3°♊44'50	-0°38'27
minimum elong	7803 May 22 01:15	3°♊44'50	0°38'34
max. Earth dist.	7803 May 22 19:17	3°♊47'26	21.00011 AU
morning rise	7803 Jun 06 20:54	4°♊39'11	
retrograde	7803 Sep 08 01:13	7°♊45'01	
opposition	7803 Nov 24 19:48	5°♊46'25	-0°41'04
min. Earth dist.	7803 Nov 24 02:55	5°♊48'06	19.00996 AU
direct	7804 Feb 09 04:56	3°♊49'25	
evening set	7804 May 09 11:52	6°♊49'43	
conjunction	7804 May 25 05:59	7°♊43'45	-0°35'52
minimum elong	7804 May 25 05:59	7°♊43'45	0°35'59
max. Earth dist.	7804 May 25 23:10	7°♊46'13	21.01849 AU
morning rise	7804 Jun 10 02:23	8°♊38'05	
retrograde	7804 Sep 11 09:00	11°♊43'50	
min. Earth dist.	7804 Nov 27 11:32	9°♊46'52	19.02672 AU
opposition	7804 Nov 28 04:30	9°♊45'11	-0°38'08
direct	7805 Feb 12 11:05	7°♊48'15	
evening set	7805 May 13 16:01	10°♊48'11	
conjunction	7805 May 29 10:49	11°♊42'12	-0°33'08
minimum elong	7805 May 29 10:49	11°♊42'12	0°33'15
max. Earth dist.	7805 May 30 05:15	11°♊44'51	21.03346 AU
morning rise	7805 Jun 14 07:41	12°♊36'33	
retrograde	7805 Sep 15 16:24	15°♊42'15	
opposition	7805 Dec 02 12:52	13°♊43'34	-0°35'00
min. Earth dist.	7805 Dec 01 19:37	13°♊45'18	19.03985 AU
direct	7806 Feb 16 17:55	11°♊46'45	
evening set	7806 May 17 20:20	14°♊46'21	
conjunction	7806 Jun 02 15:27	15°♊40'23	-0°30'14
minimum elong	7806 Jun 02 15:27	15°♊40'23	0°30'21
max. Earth dist.	7806 Jun 03 08:50	15°♊42'52	21.04485 AU
morning rise	7806 Jun 18 13:08	16°♊34'46	
retrograde	7806 Sep 20 00:33	19°♊40'29	
opposition	7806 Dec 06 21:02	17°♊41'47	-0°31'43
min. Earth dist.	7806 Dec 06 04:01	17°♊43'29	19.04944 AU
direct	7807 Feb 20 23:24	15°♊45'02	
evening set	7807 May 22 00:32	18°♊44'25	
conjunction	7807 Jun 06 20:22	19°♊38'29	-0°27'11
minimum elong	7807 Jun 06 20:23	19°♊38'29	0°27'19
max. Earth dist.	7807 Jun 07 14:52	19°♊41'07	21.05255 AU
morning rise	7807 Jun 22 18:35	20°♊32'54	
retrograde	7807 Sep 24 08:02	23°♊38'41	
min. Earth dist.	7807 Dec 10 11:52	21°♊41'42	19.05510 AU
opposition	7807 Dec 11 05:04	21°♊39'59	-0°28'17
direct	7808 Feb 25 05:41	19°♊43'20	
evening set	7808 May 25 04:56	22°♊42'32	
conjunction	7808 Jun 10 01:13	23°♊36'39	-0°24'01
minimum elong	7808 Jun 10 01:13	23°♊36'39	0°24'09
max. Earth dist.	7808 Jun 10 18:28	23°♊39'07	21.05626 AU
morning rise	7808 Jun 26 00:20	24°♊31'08	
retrograde	7808 Sep 27 16:36	27°♊37'03	
opposition	7808 Dec 14 13:01	25°♊38'19	-0°24'43
min. Earth dist.	7808 Dec 13 20:28	25°♊39'59	19.05669 AU
direct	7809 Feb 28 10:28	23°♊41'44	
evening set	7809 May 29 09:31	26°♊40'52	
conjunction	7809 Jun 14 06:36	27°♊35'03	-0°20'45
minimum elong	7809 Jun 14 06:36	27°♊35'03	0°20'51
max. Earth dist.	7809 Jun 15 00:36	27°♊37'37	21.05556 AU
morning rise	7809 Jun 30 06:17	28°♊29'37	

	7809 Jul	29	10:55	0°♋	
retrograde	7809 Oct	02	00:27	1°♋35'41	
	7809 Dec	09	05:01	30°℞♊	
opposition	7809 Dec	18	20:38	29°♊36'56	-0°21'01
min. Earth dist.	7809 Dec	18	04:17	29°♊38'35	19.05355 AU
direct	7810 Mar	04	16:47	27°♊40'24	
	7810 May	21	11:58	0°♋	
evening set	7810 Jun	02	14:32	0°♋39'32	
conjunction	7810 Jun	18	12:06	1°♋33'47	-0°17'22
minimum elong	7810 Jun	18	12:06	1°♋33'47	0°17'30
max. Earth dist.	7810 Jun	19	04:24	1°♋36'06	21.05001 AU
morning rise	7810 Jul	04	12:41	2°♋28'27	
retrograde	7810 Oct	06	09:11	5°♋34'43	
opposition	7810 Dec	23	04:28	3°♋35'56	-0°17'14
min. Earth dist.	7810 Dec	22	13:13	3°♋37'27	19.04548 AU
direct	7811 Mar	08	20:57	1°♋39'23	
evening set	7811 Jun	06	19:33	4°♋38'33	
conjunction	7811 Jun	22	17:57	5°♋32'54	-0°13'53
minimum elong	7811 Jun	22	17:58	5°♋32'55	0°14'00
behind sun begin	7811 Jun	22	14:36	5°♋32'26	
behind sun end	7811 Jun	22	21:19	5°♋33'23	
max. Earth dist.	7811 Jun	23	10:42	5°♋35'18	21.03922 AU
morning rise	7811 Jul	08	19:09	6°♋27'41	
retrograde	7811 Oct	10	17:47	9°♋34'12	
opposition	7811 Dec	27	12:15	7°♋35'19	-0°13'21
min. Earth dist.	7811 Dec	26	21:19	7°♋36'49	19.03185 AU
direct	7812 Mar	12	03:51	5°♋38'44	
evening set	7812 Jun	10	01:12	8°♋38'00	
conjunction	7812 Jun	26	00:11	9°♋32'28	-0°10'21
minimum elong	7812 Jun	26	00:11	9°♋32'28	0°10'29
behind sun begin	7812 Jun	25	19:01	9°♋31'45	
behind sun end	7812 Jun	26	05:22	9°♋33'11	
max. Earth dist.	7812 Jun	26	14:53	9°♋34'34	21.02288 AU
morning rise	7812 Jul	12	02:21	10°♋27'22	
retrograde	7812 Oct	14	02:46	13°♋34'08	
opposition	7812 Dec	30	19:57	11°♋35'08	-0°09'23
min. Earth dist.	7812 Dec	30	06:27	11°♋36'29	19.01278 AU
direct	7813 Mar	16	08:14	9°♋38'26	
evening set	7813 Jun	14	06:56	12°♋37'51	
conjunction	7813 Jun	30	06:53	13°♋32'26	-0°06'45
minimum elong	7813 Jun	30	06:52	13°♋32'26	0°06'53
behind sun begin	7813 Jun	30	00:43	13°♋31'35	
behind sun end	7813 Jun	30	13:01	13°♋33'18	
max. Earth dist.	7813 Jun	30	21:43	13°♋34'33	21.00109 AU
morning rise	7813 Jul	16	09:41	14°♋27'28	
retrograde	7813 Oct	18	11:43	17°♋34'30	
opposition	7814 Jan	04	03:36	15°♋35'20	-0°05'22
min. Earth dist.	7814 Jan	03	14:26	15°♋36'40	18.98828 AU
direct	7814 Mar	20	15:06	13°♋38'30	
evening set	7814 Jun	18	13:04	16°♋38'07	
conjunction	7814 Jul	04	13:35	17°♋32'50	-0°03'07
minimum elong	7814 Jul	04	13:35	17°♋32'50	0°03'14
behind sun begin	7814 Jul	04	07:00	17°♋31'55	
behind sun end	7814 Jul	04	20:11	17°♋33'45	
max. Earth dist.	7814 Jul	05	02:28	17°♋34'40	20.97423 AU
morning rise	7814 Jul	20	17:23	18°♋28'01	
retrograde	7814 Oct	22	21:07	21°♋35'21	
opposition	7815 Jan	08	11:23	19°♋36'00	-0°01'19
min. Earth dist.	7815 Jan	07	23:36	19°♋37'12	18.95918 AU
direct	7815 Mar	24	20:22	17°♋38'58	
asc. node	7815 May	07	09:01	18°♋26'34	
evening set	7815 Jun	22	19:27	20°♋38'51	
conjunction	7815 Jul	08	20:55	21°♋33'44	0°00'39
minimum elong	7815 Jul	08	20:56	21°♋33'44	0°00'31
behind sun begin	7815 Jul	08	14:19	21°♋32'48	
behind sun end	7815 Jul	09	03:33	21°♋34'39	
max. Earth dist.	7815 Jul	09	10:09	21°♋35'37	20.94305 AU
morning rise	7815 Jul	25	01:22	22°♋29'04	
retrograde	7815 Oct	27	06:31	25°♋36'43	
opposition	7816 Jan	12	19:03	23°♋37'11	0°02'45
min. Earth dist.	7816 Jan	12	07:23	23°♋38'22	18.92601 AU
direct	7816 Mar	28	02:48	21°♋39'58	
evening set	7816 Jun	26	02:23	24°♋40'09	
conjunction	7816 Jul	12	04:32	25°♋35'12	0°04'22
minimum elong	7816 Jul	12	04:31	25°♋35'12	0°04'16
behind sun begin	7816 Jul	11	21:59	25°♋34'17	
behind sun end	7816 Jul	12	11:03	25°♋36'07	
max. Earth dist.	7816 Jul	12	15:51	25°♋36'49	20.90814 AU
morning rise	7816 Jul	28	09:58	26°♋30'43	
retrograde	7816 Oct	30	16:42	29°♋38'46	
opposition	7817 Jan	16	02:57	27°♋39'00	0°06'49
min. Earth dist.	7817 Jan	15	16:41	27°♋40'03	18.88946 AU
direct	7817 Apr	01	08:37	25°♋41'34	
evening set	7817 Jun	30	09:43	28°♋42'10	
conjunction	7817 Jul	16	12:49	29°♋37'25	0°08'01
minimum elong	7817 Jul	16	12:49	29°♋37'25	0°07'54
behind sun begin	7817 Jul	16	06:51	29°♋36'35	
behind sun end	7817 Jul	16	18:47	29°♋38'15	
max. Earth dist.	7817 Jul	17	00:27	29°♋39'04	20.86996 AU
	7817 Jul	23	01:49	0°♌	
morning rise	7817 Aug	01	18:53	0°♌33'06	
retrograde	7817 Nov	04	02:47	3°♌41'33	
opposition	7818 Jan	20	10:46	1°♌41'37	0°10'51
min. Earth dist.	7818 Jan	20	00:31	1°♌42'40	18.84975 AU
	7818 Mar	11	11:00	30°℞♋	
direct	7818 Apr	05	15:18	29°♋43'59	
	7818 Apr	30	12:48	0°♌	
evening set	7818 Jul	04	17:44	2°♌45'04	
conjunction	7818 Jul	20	21:28	3°♌40'30	0°11'39
minimum elong	7818 Jul	20	21:28	3°♌40'30	0°11'33
behind sun begin	7818 Jul	20	16:42	3°♌39'50	
behind sun end	7818 Jul	21	02:13	3°♌41'10	
max. Earth dist.	7818 Jul	21	07:12	3°♌41'53	20.82893 AU
morning rise	7818 Aug	06	04:30	4°♌36'23	
retrograde	7818 Nov	08	13:22	7°♌45'18	
opposition	7819 Jan	24	19:05	5°♌45'11	0°14'51
min. Earth dist.	7819 Jan	24	10:16	5°♌46'06	18.80747 AU
direct	7819 Apr	09	21:24	3°♌47'20	
evening set	7819 Jul	09	02:04	6°♌48'58	
conjunction	7819 Jul	25	06:49	7°♌44'37	0°15'14
minimum elong	7819 Jul	25	06:49	7°♌44'37	0°15'07
behind sun begin	7819 Jul	25	04:37	7°♌44'18	
behind sun end	7819 Jul	25	09:01	7°♌44'55	
max. Earth dist.	7819 Jul	25	16:51	7°♌46'03	20.78540 AU
morning rise	7819 Aug	10	14:30	8°♌40'43	
retrograde	7819 Nov	13	01:04	11°♌50'08	
opposition	7820 Jan	29	03:33	9°♌49'52	0°18'48
min. Earth dist.	7820 Jan	28	18:45	9°♌50'46	18.76265 AU
direct	7820 Apr	13	05:03	7°♌51'48	
evening set	7820 Jul	12	11:26	10°♌54'03	
conjunction	7820 Jul	28	16:51	11°♌49'56	0°18'45
minimum elong	7820 Jul	28	16:51	11°♌49'56	0°18'39
max. Earth dist.	7820 Jul	29	00:52	11°♌51'05	20.73944 AU
morning rise	7820 Aug	14	01:29	12°♌46'16	

	7820 Sep 29 01:46	15°♌	
retrograde	7820 Nov 16 11:57	15°♌56'13	
	7821 Jan 05 01:41	15°℞♌	
opposition	7821 Feb 01 12:19	13°♌55'48	0°22'40
min. Earth dist.	7821 Feb 01 05:17	13°♌56'32	18.71556 AU
direct	7821 Apr 17 11:25	11°♌57'32	
evening set	7821 Jul 16 21:22	15°♌00'30	
	7821 Jul 16 17:50	15°♌	
conjunction	7821 Aug 02 03:47	15°♌56'37	0°22'12
minimum elong	7821 Aug 02 03:47	15°♌56'37	0°22'06
max. Earth dist.	7821 Aug 02 11:50	15°♌57'46	20.69117 AU
morning rise	7821 Aug 18 13:00	16°♌53'10	
retrograde	7821 Nov 21 01:23	20°♌03'43	
opposition	7822 Feb 05 21:28	18°♌03'11	0°26'26
min. Earth dist.	7822 Feb 05 14:37	18°♌03'53	18.66601 AU
direct	7822 Apr 21 20:09	16°♌04'43	
evening set	7822 Jul 21 08:10	19°♌08'27	
conjunction	7822 Aug 06 15:12	20°♌04'48	0°25'33
minimum elong	7822 Aug 06 15:12	20°♌04'48	0°25'27
max. Earth dist.	7822 Aug 06 21:07	20°♌05'39	20.64039 AU
morning rise	7822 Aug 23 01:18	21°♌01'36	
retrograde	7822 Nov 25 13:05	24°♌12'47	
opposition	7823 Feb 10 07:14	22°♌12'07	0°30'06
min. Earth dist.	7823 Feb 10 02:24	22°♌12'37	18.61399 AU
direct	7823 Apr 26 03:13	20°♌13'27	
evening set	7823 Jul 25 19:49	23°♌18'00	
conjunction	7823 Aug 11 03:49	24°♌14'37	0°28'47
minimum elong	7823 Aug 11 03:49	24°♌14'37	0°28'43
max. Earth dist.	7823 Aug 11 09:25	24°♌15'26	20.58701 AU
morning rise	7823 Aug 27 14:29	25°♌11'40	
retrograde	7823 Nov 30 03:54	28°♌23'29	
opposition	7824 Feb 14 17:13	26°♌22'43	0°33'38
min. Earth dist.	7824 Feb 14 12:50	26°♌23'10	18.55911 AU
direct	7824 Apr 29 13:24	24°♌23'48	
evening set	7824 Jul 29 08:35	27°♌29'14	
conjunction	7824 Aug 14 17:13	28°♌26'08	0°31'54
minimum elong	7824 Aug 14 17:13	28°♌26'08	0°31'49
max. Earth dist.	7824 Aug 14 20:14	28°♌26'34	20.53059 AU
morning rise	7824 Aug 31 04:41	29°♌23'25	
	7824 Sep 11 03:16	0°♍	
retrograde	7824 Dec 03 16:44	2°♍35'54	
opposition	7825 Feb 18 03:57	0°♍34'58	0°37'00
min. Earth dist.	7825 Feb 18 01:54	0°♍35'11	18.50120 AU
	7825 Mar 04 08:16	30°℞♌	
direct	7825 May 03 21:42	28°♌35'47	
	7825 Jul 01 03:38	0°♍	
evening set	7825 Aug 02 22:00	1°♍42'09	
conjunction	7825 Aug 19 07:33	2°♍39'18	0°34'51
minimum elong	7825 Aug 19 07:33	2°♍39'18	0°34'48
max. Earth dist.	7825 Aug 19 09:49	2°♍39'38	20.47111 AU
morning rise	7825 Sep 04 19:30	3°♍36'51	
retrograde	7825 Dec 08 08:21	6°♍49'59	
opposition	7826 Feb 22 14:56	4°♍48'53	0°40'12
min. Earth dist.	7826 Feb 22 13:19	4°♍49'03	18.44020 AU
direct	7826 May 08 09:36	2°♍49'24	
evening set	7826 Aug 07 12:25	5°♍56'42	
conjunction	7826 Aug 23 22:34	6°♍54'08	0°37'39
minimum elong	7826 Aug 23 22:34	6°♍54'08	0°37'36
max. Earth dist.	7826 Aug 23 22:21	6°♍54'06	20.40878 AU
morning rise	7826 Sep 09 11:15	7°♍51'56	
retrograde	7826 Dec 12 22:02	11°♍05'44	
opposition	7827 Feb 27 02:39	9°♍04'26	0°43'13
min. Earth dist.	7827 Feb 27 03:21	9°♍04'21	18.37674 AU
direct	7827 May 12 19:24	7°♍04'35	
evening set	7827 Aug 12 03:25	10°♍12'52	
conjunction	7827 Aug 28 14:29	11°♍10'35	0°40'15
minimum elong	7827 Aug 28 14:28	11°♍10'35	0°40'12
max. Earth dist.	7827 Aug 28 13:30	11°♍10'27	20.34435 AU
morning rise	7827 Sep 14 03:40	12°♍08'39	
retrograde	7827 Dec 17 14:31	15°♍23'06	
opposition	7828 Mar 02 14:37	13°♍21'35	0°46'00
min. Earth dist.	7828 Mar 02 15:38	13°♍21'29	18.31140 AU
direct	7828 May 16 08:33	11°♍21'22	
evening set	7828 Aug 15 19:33	14°♍30'40	
conjunction	7828 Sep 01 07:11	15°♍28'40	0°42'39
minimum elong	7828 Sep 01 07:11	15°♍28'40	0°42'37
max. Earth dist.	7828 Sep 01 04:01	15°♍28'12	20.27831 AU
morning rise	7828 Sep 17 20:58	16°♍27'00	
retrograde	7828 Dec 21 05:07	19°♍42'06	
opposition	7829 Mar 07 03:08	17°♍40'22	0°48'33
min. Earth dist.	7829 Mar 07 06:24	17°♍40'01	18.24497 AU
direct	7829 May 20 20:01	15°♍39'46	
evening set	7829 Aug 20 12:23	18°♍50'06	
conjunction	7829 Sep 06 00:46	19°♍48'25	0°44'49
minimum elong	7829 Sep 06 00:46	19°♍48'24	0°44'47
max. Earth dist.	7829 Sep 05 20:50	19°♍47'50	20.21165 AU
morning rise	7829 Sep 22 14:58	20°♍47'00	
retrograde	7829 Dec 25 22:35	24°♍02'44	
opposition	7830 Mar 11 16:10	22°♍00'48	0°50'50
min. Earth dist.	7830 Mar 11 19:30	22°♍00'27	18.17822 AU
direct	7830 May 25 10:09	19°♍59'49	
evening set	7830 Aug 25 05:59	23°♍11'14	
conjunction	7830 Sep 10 18:54	24°♍09'49	0°46'44
minimum elong	7830 Sep 10 18:54	24°♍09'49	0°46'44
max. Earth dist.	7830 Sep 10 13:21	24°♍09'00	20.14492 AU
morning rise	7830 Sep 27 09:33	25°♍08'41	
retrograde	7830 Dec 30 14:36	28°♍25'05	
opposition	7831 Mar 16 05:56	26°♍22'56	0°52'51
min. Earth dist.	7831 Mar 16 11:16	26°♍22'22	18.11183 AU
direct	7831 May 29 22:54	24°♍21'35	
evening set	7831 Aug 30 00:33	27°♍34'06	
conjunction	7831 Sep 15 14:08	28°♍32'58	0°48'23
minimum elong	7831 Sep 15 14:08	28°♍32'58	0°48'23
max. Earth dist.	7831 Sep 15 07:42	28°♍32'01	20.07899 AU
morning rise	7831 Oct 02 05:10	29°♍32'05	
	7831 Oct 10 07:42	0°♎	
retrograde	7832 Jan 04 09:46	2°♎49'08	
opposition	7832 Mar 19 20:00	0°♎46'49	0°54'33
min. Earth dist.	7832 Mar 20 01:21	0°♎46'15	18.04647 AU
	7832 Apr 07 13:46	30°℞♍	
direct	7832 Jun 02 14:23	28°♍45'05	
	7832 Jul 26 20:14	0°♎	
evening set	7832 Sep 02 20:06	1°♎58'45	
conjunction	7832 Sep 19 10:11	2°♎57'54	0°49'46
minimum elong	7832 Sep 19 10:11	2°♎57'54	0°49'46
max. Earth dist.	7832 Sep 19 02:27	2°♎56'45	20.01420 AU
morning rise	7832 Oct 06 01:30	3°♎57'17	
retrograde	7833 Jan 08 03:09	7°♎14'57	
opposition	7833 Mar 24 10:59	5°♎12'31	0°55'57
min. Earth dist.	7833 Mar 24 18:10	5°♎11'44	17.98258 AU
direct	7833 Jun 07 04:04	3°♎10'26	
evening set	7833 Sep 07 16:23	6°♎25'14	

conjunction	7833 Sep 24 06:57	7°♎24'40	0°50'52
minimum elong	7833 Sep 24 06:57	7°♎24'40	0°50'53
max. Earth dist.	7833 Sep 23 22:08	7°♎23'21	19.95129 AU
morning rise	7833 Oct 10 22:32	8°♎24'18	
retrograde	7834 Jan 13 00:11	11°♎42'37	
opposition	7834 Mar 29 02:28	9°♎40'03	0°57'01
min. Earth dist.	7834 Mar 29 09:36	9°♎39'17	17.92069 AU
direct	7834 Jun 11 20:52	7°♎37'40	
evening set	7834 Sep 12 13:40	10°♎53'38	
conjunction	7834 Sep 29 04:41	11°♎53'21	0°51'40
minimum elong	7834 Sep 29 04:41	11°♎53'21	0°51'40
max. Earth dist.	7834 Sep 28 19:02	11°♎51'53	19.89041 AU
morning rise	7834 Oct 15 20:24	12°♎53'13	
retrograde	7835 Jan 17 19:14	16°♎12'10	
opposition	7835 Apr 02 18:44	14°♎09'32	0°57'45
min. Earth dist.	7835 Apr 03 03:37	14°♎08'34	17.86095 AU
direct	7835 Jun 16 12:02	12°♎06'51	
evening set	7835 Sep 17 11:53	15°♎23'59	
conjunction	7835 Oct 04 03:16	16°♎23'58	0°52'08
minimum elong	7835 Oct 04 03:16	16°♎23'58	0°52'11
max. Earth dist.	7835 Oct 03 16:08	16°♎22'17	19.83183 AU
morning rise	7835 Oct 20 19:15	17°♎24'05	
retrograde	7836 Jan 22 17:29	20°♎43'38	
opposition	7836 Apr 06 11:37	18°♎40'56	0°58'08
min. Earth dist.	7836 Apr 06 20:48	18°♎39'57	17.80338 AU
direct	7836 Jun 20 06:15	16°♎37'59	
evening set	7836 Sep 21 11:06	19°♎56'17	
conjunction	7836 Oct 08 02:50	20°♎56'33	0°52'18
minimum elong	7836 Oct 08 02:50	20°♎56'33	0°52'21
max. Earth dist.	7836 Oct 07 15:03	20°♎54'45	19.77509 AU
morning rise	7836 Oct 24 18:42	21°♎56'52	
retrograde	7837 Jan 26 13:49	25°♎17'00	
opposition	7837 Apr 11 05:18	23°♎14'16	0°58'09
min. Earth dist.	7837 Apr 11 16:15	23°♎13'05	17.74760 AU
direct	7837 Jun 24 23:40	21°♎11'02	
evening set	7837 Sep 26 11:12	24°♎30'29	
conjunction	7837 Oct 13 03:05	25°♎30'59	0°52'09
minimum elong	7837 Oct 13 03:05	25°♎30'59	0°52'12
max. Earth dist.	7837 Oct 12 13:18	25°♎28'53	19.72024 AU
morning rise	7837 Oct 29 19:04	26°♎31'31	
retrograde	7838 Jan 31 12:28	29°♎52'12	
opposition	7838 Apr 15 23:41	27°♎49'24	0°57'49
min. Earth dist.	7838 Apr 16 11:08	27°♎48'09	17.69367 AU
direct	7838 Jun 29 19:40	25°♎45'53	
evening set	7838 Oct 01 11:53	29°♎06'25	
	7838 Oct 16 05:23	0°♏	
conjunction	7838 Oct 18 04:05	0°♏07'09	0°51'39
minimum elong	7838 Oct 18 04:05	0°♏07'09	0°51'43
max. Earth dist.	7838 Oct 17 13:57	0°♏04'59	19.66706 AU
morning rise	7838 Nov 03 19:51	1°♏07'53	
retrograde	7839 Feb 05 09:48	4°♏29'02	
opposition	7839 Apr 20 18:51	2°♏26'10	0°57'06
min. Earth dist.	7839 Apr 21 07:45	2°♏24'46	17.64139 AU
direct	7839 Jul 04 15:49	0°♏22'21	
evening set	7839 Oct 06 13:34	3°♏43'56	
conjunction	7839 Oct 23 05:45	4°♏44'53	0°50'50
minimum elong	7839 Oct 23 05:45	4°♏44'53	0°50'53
max. Earth dist.	7839 Oct 22 13:21	4°♏42'22	19.61584 AU
morning rise	7839 Nov 08 21:32	5°♏45'48	
retrograde	7840 Feb 10 08:17	9°♏07'23	
opposition	7840 Apr 24 14:26	7°♏04'26	0°56'00
min. Earth dist.	7840 Apr 25 04:03	7°♏02'57	17.59131 AU
direct	7840 Jul 08 13:26	5°♏00'17	
evening set	7840 Oct 10 15:43	8°♏22'53	
conjunction	7840 Oct 27 08:06	9°♏24'02	0°49'40
minimum elong	7840 Oct 27 08:06	9°♏24'02	0°49'45
max. Earth dist.	7840 Oct 26 15:45	9°♏21'31	19.56690 AU
morning rise	7840 Nov 12 23:29	10°♏25'06	
retrograde	7841 Feb 14 06:49	13°♏47'03	
opposition	7841 Apr 29 10:47	11°♏44'02	0°54'32
min. Earth dist.	7841 Apr 30 01:19	11°♏42'27	17.54374 AU
direct	7841 Jul 13 11:54	9°♏39'36	
evening set	7841 Oct 15 18:22	13°♏03'08	
conjunction	7841 Nov 01 10:33	14°♏04'27	0°48'10
minimum elong	7841 Nov 01 10:33	14°♏04'27	0°48'15
max. Earth dist.	7841 Oct 31 16:15	14°♏01'37	19.52096 AU
	7841 Nov 16 12:25	15°♏	
morning rise	7841 Nov 18 01:49	15°♏05'39	
retrograde	7842 Feb 19 05:22	18°♏27'57	
opposition	7842 May 04 07:39	16°♏24'50	0°52'42
min. Earth dist.	7842 May 04 22:51	16°♏23'11	17.49958 AU
	7842 Jun 08 23:33	15°℞♏	
direct	7842 Jul 18 10:49	14°♏20'05	
	7842 Aug 26 08:17	15°♏	
evening set	7842 Oct 20 21:25	17°♏44'31	
conjunction	7842 Nov 06 13:40	18°♏45'59	0°46'20
minimum elong	7842 Nov 06 13:41	18°♏45'59	0°46'26
max. Earth dist.	7842 Nov 05 19:55	18°♏43'14	19.47864 AU
morning rise	7842 Nov 23 04:27	19°♏47'18	
retrograde	7843 Feb 24 04:49	23°♏09'51	
opposition	7843 May 09 04:52	21°♏06'41	0°50'30
min. Earth dist.	7843 May 09 20:24	21°♏05'00	17.45926 AU
direct	7843 Jul 23 10:56	19°♏01'40	
evening set	7843 Oct 26 01:04	22°♏26'54	
conjunction	7843 Nov 11 16:59	23°♏28'31	0°44'11
minimum elong	7843 Nov 11 16:59	23°♏28'31	0°44'18
max. Earth dist.	7843 Nov 10 21:39	23°♏25'31	19.44056 AU
morning rise	7843 Nov 28 07:29	24°♏29'56	
retrograde	7844 Feb 29 03:41	27°♏52'42	
opposition	7844 May 13 02:45	25°♏49'29	0°47'57
min. Earth dist.	7844 May 13 18:58	25°♏47'42	17.42361 AU
direct	7844 Jul 27 10:49	23°♏44'10	
evening set	7844 Oct 30 04:48	27°♏10'11	
conjunction	7844 Nov 15 20:34	28°♏11'54	0°41'44
minimum elong	7844 Nov 15 20:34	28°♏11'54	0°41'50
max. Earth dist.	7844 Nov 15 02:06	28°♏09'01	19.40736 AU
morning rise	7844 Dec 02 10:26	29°♏13'23	
	7844 Dec 15 13:40	0°♐	
retrograde	7845 Mar 05 03:59	2°♐36'18	
opposition	7845 May 18 01:00	0°♐33'05	0°45'03
min. Earth dist.	7845 May 18 16:47	0°♐31'21	17.39304 AU
	7845 May 30 18:49	30°℞♏	
direct	7845 Aug 01 12:14	28°♏27'34	
	7845 Sep 30 21:07	0°♐	
evening set	7845 Nov 04 08:55	1°♐54'14	
max. Earth dist.	7845 Nov 20 04:52	2°♐53'01	19.37964 AU
conjunction	7845 Nov 21 00:12	2°♐56'02	0°38'59
minimum elong	7845 Nov 21 00:12	2°♐56'02	0°39'06
morning rise	7845 Dec 07 13:35	3°♐57'34	
retrograde	7846 Mar 10 03:28	7°♐20'37	
opposition	7846 May 22 23:46	5°♐17'24	0°41'50
min. Earth dist.	7846 May 23 16:06	5°♐15'37	17.36839 AU

direct	7846 Aug 06 12:26	3°♐11'42	
evening set	7846 Nov 09 13:02	6°♐38'59	
max. Earth dist.	7846 Nov 25 09:34	7°♐37'57	19.35806 AU
conjunction	7846 Nov 26 04:02	7°♐40'50	0°35'58
minimum elong	7846 Nov 26 04:02	7°♐40'50	0°36'04
morning rise	7846 Dec 12 16:46	8°♐42'24	
retrograde	7847 Mar 15 04:38	12°♐05'31	
opposition	7847 May 27 22:53	10°♐02'22	0°38'20
min. Earth dist.	7847 May 28 14:13	10°♐00'42	17.34981 AU
direct	7847 Aug 11 14:16	7°♐56'34	
evening set	7847 Nov 14 17:31	11°♐24'23	
conjunction	7847 Dec 01 07:57	12°♐26'16	0°32'41
minimum elong	7847 Dec 01 07:57	12°♐26'16	0°32'49
max. Earth dist.	7847 Nov 30 13:16	12°♐23'21	19.34261 AU
morning rise	7847 Dec 17 20:00	13°♐27'50	
retrograde	7848 Mar 19 04:50	16°♐50'58	
opposition	7848 May 31 22:26	14°♐47'56	0°34'34
min. Earth dist.	7848 Jun 01 14:24	14°♐46'12	17.33753 AU
direct	7848 Aug 15 14:41	12°♐42'04	
evening set	7848 Nov 18 21:58	16°♐10'21	
conjunction	7848 Dec 05 11:52	17°♐12'14	0°29'12
minimum elong	7848 Dec 05 11:52	17°♐12'14	0°29'20
max. Earth dist.	7848 Dec 04 17:49	17°♐09'24	19.33349 AU
morning rise	7848 Dec 21 23:12	18°♐13'47	
retrograde	7849 Mar 24 06:27	21°♐36'54	
opposition	7849 Jun 05 22:19	19°♐34'00	0°30'33
min. Earth dist.	7849 Jun 06 13:01	19°♐32'24	17.33127 AU
direct	7849 Aug 20 17:16	17°♐28'09	
evening set	7849 Nov 24 02:18	20°♐56'46	
conjunction	7849 Dec 10 15:34	21°♐58'38	0°25'30
minimum elong	7849 Dec 10 15:35	21°♐58'38	0°25'37
max. Earth dist.	7849 Dec 09 22:00	21°♐55'53	19.33007 AU
morning rise	7849 Dec 27 02:05	23°♐00'07	
retrograde	7850 Mar 29 06:21	26°♐23'10	
opposition	7850 Jun 10 22:38	24°♐20'26	0°26'19
min. Earth dist.	7850 Jun 11 14:06	24°♐18'45	17.33061 AU
direct	7850 Aug 25 18:18	22°♐14'36	
evening set	7850 Nov 29 06:45	25°♐43'28	
conjunction	7850 Dec 15 19:17	26°♐45'16	0°21'37
minimum elong	7850 Dec 15 19:17	26°♐45'16	0°21'45
max. Earth dist.	7850 Dec 15 01:47	26°♐42'32	19.33207 AU
morning rise	7851 Jan 01 05:03	27°♐46'41	
	7851 Feb 11 10:01	0°♑	
retrograde	7851 Apr 03 07:21	1°♑09'36	
	7851 May 25 23:27	30°℞♐	
opposition	7851 Jun 15 22:56	29°♐07'00	0°21'55
min. Earth dist.	7851 Jun 16 13:11	29°♐05'27	17.33504 AU
direct	7851 Aug 30 22:06	27°♐01'12	
	7851 Nov 26 02:43	0°♑	
evening set	7851 Dec 04 11:04	0°♑30'13	
conjunction	7851 Dec 20 22:54	1°♑31'56	0°17'36
minimum elong	7851 Dec 20 22:54	1°♑31'56	0°17'43
max. Earth dist.	7851 Dec 20 06:16	1°♑29'20	19.33885 AU
morning rise	7852 Jan 06 07:39	2°♑33'14	
retrograde	7852 Apr 07 06:38	5°♑55'56	
opposition	7852 Jun 19 23:47	3°♑53'30	0°17'21
min. Earth dist.	7852 Jun 20 14:41	3°♑51'53	17.34416 AU
direct	7852 Sep 04 00:34	1°♑47'45	
evening set	7852 Dec 08 15:00	5°♑16'45	
max. Earth dist.	7852 Dec 24 09:01	6°♑15'42	19.35029 AU
conjunction	7852 Dec 25 01:53	6°♑18'21	0°13'27
minimum elong	7852 Dec 25 01:53	6°♑18'21	0°13'35
behind sun begin	7852 Dec 24 22:15	6°♑17'47	
behind sun end	7852 Dec 25 05:31	6°♑18'54	
morning rise	7853 Jan 10 09:51	7°♑19'30	
retrograde	7853 Apr 12 06:43	10°♑41'57	
opposition	7853 Jun 25 00:34	8°♑39'38	0°12'40
min. Earth dist.	7853 Jun 25 14:03	8°♑38'10	17.35778 AU
direct	7853 Sep 09 05:21	6°♑33'56	
evening set	7853 Dec 13 18:30	10°♑02'50	
conjunction	7853 Dec 30 04:40	11°♑04'17	0°09'13
minimum elong	7853 Dec 30 04:40	11°♑04'17	0°09'22
behind sun begin	7853 Dec 29 23:03	11°♑03'26	
behind sun end	7853 Dec 30 10:16	11°♑05'09	
max. Earth dist.	7853 Dec 29 13:17	11°♑01'53	19.36607 AU
morning rise	7854 Jan 15 11:33	12°♑05'18	
retrograde	7854 Apr 17 05:14	15°♑27'23	
opposition	7854 Jun 30 01:23	13°♑25'12	0°07'54
min. Earth dist.	7854 Jun 30 15:15	13°♑23'42	17.37572 AU
direct	7854 Sep 14 08:11	11°♑19'33	
evening set	7854 Dec 18 21:39	14°♑48'14	
conjunction	7855 Jan 04 06:48	15°♑49'31	0°04'57
minimum elong	7855 Jan 04 06:47	15°♑49'31	0°05'04
behind sun begin	7855 Jan 04 00:17	15°♑48'31	
behind sun end	7855 Jan 04 13:17	15°♑50'31	
max. Earth dist.	7855 Jan 03 15:01	15°♑47'03	19.38624 AU
morning rise	7855 Jan 20 12:55	16°♑50'21	
retrograde	7855 Apr 22 04:52	20°♑12'02	
opposition	7855 Jul 05 02:06	18°♑09'58	0°03'06
min. Earth dist.	7855 Jul 05 14:37	18°♑08'37	17.39799 AU
direct	7855 Sep 19 12:31	16°♑04'22	
evening set	7855 Dec 24 00:03	19°♑32'43	
conjunction	7856 Jan 09 08:25	20°♑33'49	0°00'36
minimum elong	7856 Jan 09 08:24	20°♑33'49	0°00'44
behind sun begin	7856 Jan 09 01:44	20°♑32'47	
behind sun end	7856 Jan 09 15:05	20°♑34'50	
max. Earth dist.	7856 Jan 08 18:36	20°♑31'39	19.41062 AU
morning rise	7856 Jan 25 13:24	21°♑34'26	
desc. node	7856 Feb 27 01:55	23°♑23'32	
retrograde	7856 Apr 26 02:56	24°♑55'40	
opposition	7856 Jul 09 02:47	22°♑53'43	-0°01'43
min. Earth dist.	7856 Jul 09 15:09	22°♑52'23	17.42448 AU
direct	7856 Sep 23 15:09	20°♑48'12	
evening set	7856 Dec 28 01:55	24°♑16'05	
conjunction	7857 Jan 13 09:09	25°♑16'58	-0°03'49
minimum elong	7857 Jan 13 09:08	25°♑16'58	0°03'42
behind sun begin	7857 Jan 13 02:31	25°♑15'57	
behind sun end	7857 Jan 13 15:45	25°♑17'58	
max. Earth dist.	7857 Jan 12 19:14	25°♑14'47	19.43944 AU
morning rise	7857 Jan 29 13:21	26°♑17'23	
retrograde	7857 May 01 01:36	29°♑38'07	
opposition	7857 Jul 14 03:11	27°♑36'14	-0°06'30
min. Earth dist.	7857 Jul 14 14:10	27°♑35'03	17.45562 AU
direct	7857 Sep 28 17:47	25°♑30'49	
evening set	7858 Jan 02 02:41	28°♑58'09	
conjunction	7858 Jan 18 09:08	29°♑58'48	-0°08'04
minimum elong	7858 Jan 18 09:08	29°♑58'48	0°07'57
behind sun begin	7858 Jan 18 03:10	29°♑57'53	
behind sun end	7858 Jan 18 15:06	29°♑59'43	
max. Earth dist.	7858 Jan 17 21:37	29°♑57'00	19.47287 AU
	7858 Jan 18 16:56	0°♒	
morning rise	7858 Feb 03 12:16	0°♒58'59	

retrograde	7858 May 05 23:22	4°♒19'10	
opposition	7858 Jul 19 03:22	2°♒17'24	-0°11'13
min. Earth dist.	7858 Jul 19 13:31	2°♒16'19	17.49130 AU
direct	7858 Oct 03 19:59	0°♒12'07	
evening set	7859 Jan 07 03:00	3°♒38'49	
conjunction	7859 Jan 23 08:17	4°♒39'12	-0°12'14
minimum elong	7859 Jan 23 08:16	4°♒39'12	0°12'08
behind sun begin	7859 Jan 23 03:46	4°♒38'30	
behind sun end	7859 Jan 23 12:47	4°♒39'53	
max. Earth dist.	7859 Jan 22 21:04	4°♒37'27	19.51102 AU
morning rise	7859 Feb 08 10:35	5°♒39'09	
retrograde	7859 May 10 20:31	8°♒58'46	
opposition	7859 Jul 24 03:09	6°♒57'06	-0°15'50
min. Earth dist.	7859 Jul 24 11:56	6°♒56'10	17.53198 AU
direct	7859 Oct 08 20:59	4°♒51'59	
evening set	7860 Jan 12 02:19	8°♒18'00	
conjunction	7860 Jan 28 06:44	9°♒18'07	-0°16'19
minimum elong	7860 Jan 28 06:44	9°♒18'07	0°16'14
max. Earth dist.	7860 Jan 27 22:02	9°♒16'46	19.55417 AU
morning rise	7860 Feb 13 07:58	10°♒17'48	
retrograde	7860 May 14 17:54	13°♒36'50	
opposition	7860 Jul 28 02:46	11°♒35'21	-0°20'20
min. Earth dist.	7860 Jul 28 10:00	11°♒34'34	17.57752 AU
direct	7860 Oct 12 22:50	9°♒30'28	
evening set	7861 Jan 16 00:48	12°♒55'43	
conjunction	7861 Feb 01 04:05	13°♒55'33	-0°20'17
minimum elong	7861 Feb 01 04:04	13°♒55'33	0°20'10
max. Earth dist.	7861 Jan 31 20:11	13°♒54'20	19.60218 AU
morning rise	7861 Feb 17 04:30	14°♒54'58	
	7861 Feb 18 13:40	15°♒	
retrograde	7861 May 19 13:35	18°♒13'27	
opposition	7861 Aug 02 02:00	16°♒12'08	-0°24'39
min. Earth dist.	7861 Aug 02 08:01	16°♒11'30	17.62791 AU
	7861 Sep 01 06:36	15°℞♒	
direct	7861 Oct 17 22:11	14°♒07'34	
	7861 Dec 02 07:09	15°♒	
evening set	7862 Jan 20 22:26	17°♒32'00	
conjunction	7862 Feb 06 00:52	18°♒31'34	-0°24'05
minimum elong	7862 Feb 06 00:52	18°♒31'33	0°24'00
max. Earth dist.	7862 Feb 05 19:16	18°♒30'42	19.65475 AU
morning rise	7862 Feb 22 00:21	19°♒30'42	
retrograde	7862 May 24 10:30	22°♒48'35	
opposition	7862 Aug 07 00:37	20°♒47'30	-0°28'47
min. Earth dist.	7862 Aug 07 04:54	20°♒47'03	17.68232 AU
direct	7862 Oct 22 23:18	18°♒43'16	
evening set	7863 Jan 25 19:24	22°♒06'51	
conjunction	7863 Feb 10 20:47	23°♒06'07	-0°27'43
minimum elong	7863 Feb 10 20:47	23°♒06'07	0°27'37
max. Earth dist.	7863 Feb 10 16:06	23°♒05'24	19.71096 AU
morning rise	7863 Feb 26 19:28	24°♒04'59	
retrograde	7863 May 29 04:47	27°♒22'18	
opposition	7863 Aug 11 23:06	25°♒21'26	-0°32'43
min. Earth dist.	7863 Aug 12 02:39	25°♒21'04	17.74019 AU
direct	7863 Oct 27 21:28	23°♒17'34	
evening set	7864 Jan 30 15:21	26°♒40'15	
conjunction	7864 Feb 15 15:50	27°♒39'12	-0°31'09
minimum elong	7864 Feb 15 15:50	27°♒39'12	0°31'04
max. Earth dist.	7864 Feb 15 13:01	27°♒38'46	19.77022 AU
morning rise	7864 Mar 02 13:40	28°♒37'47	
	7864 Mar 26 17:29	0°♓	
retrograde	7864 Jun 02 00:38	1°♓54'30	
	7864 Aug 13 10:51	30°℞♒	
opposition	7864 Aug 15 21:05	29°♒53'53	-0°36'25
min. Earth dist.	7864 Aug 15 22:38	29°♒53'43	17.80056 AU
direct	7864 Oct 31 22:10	27°♒50'24	
	7865 Jan 13 09:49	0°♓	
evening set	7865 Feb 03 10:35	1°♓12'07	
conjunction	7865 Feb 19 10:06	2°♓10'46	-0°34'23
minimum elong	7865 Feb 19 10:06	2°♓10'46	0°34'19
max. Earth dist.	7865 Feb 19 08:25	2°♓10'31	19.83159 AU
morning rise	7865 Mar 07 07:10	3°♓09'04	
retrograde	7865 Jun 06 17:28	6°♓25'11	
opposition	7865 Aug 20 18:38	4°♓24'46	-0°39'53
min. Earth dist.	7865 Aug 20 19:48	4°♓24'39	17.86291 AU
direct	7865 Nov 05 19:05	2°♓21'40	
evening set	7866 Feb 08 04:50	5°♓42'23	
conjunction	7866 Feb 24 03:32	6°♓40'44	-0°37'23
minimum elong	7866 Feb 24 03:31	6°♓40'44	0°37'19
max. Earth dist.	7866 Feb 24 03:09	6°♓40'40	19.89460 AU
morning rise	7866 Mar 11 23:55	7°♓38'44	
retrograde	7866 Jun 11 11:53	10°♓54'14	
opposition	7866 Aug 25 15:35	8°♓54'02	-0°43'05
min. Earth dist.	7866 Aug 25 14:42	8°♓54'08	17.92630 AU
direct	7866 Nov 10 18:47	6°♓51'18	
evening set	7867 Feb 12 22:19	10°♓10'59	
conjunction	7867 Feb 28 20:09	11°♓09'01	-0°40'08
minimum elong	7867 Feb 28 20:08	11°♓09'01	0°40'06
max. Earth dist.	7867 Feb 28 21:01	11°♓09'09	19.95823 AU
morning rise	7867 Mar 16 15:48	12°♓06'44	
retrograde	7867 Jun 16 03:10	15°♓21'36	
opposition	7867 Aug 30 12:08	13°♓21'35	-0°46'00
min. Earth dist.	7867 Aug 30 11:06	13°♓21'41	17.99023 AU
direct	7867 Nov 15 14:42	11°♓19'13	
evening set	7868 Feb 17 14:53	14°♓37'48	
conjunction	7868 Mar 04 11:54	15°♓35'32	-0°42'38
minimum elong	7868 Mar 04 11:54	15°♓35'32	0°42'36
max. Earth dist.	7868 Mar 04 13:41	15°♓35'48	20.02227 AU
morning rise	7868 Mar 20 07:00	16°♓32'59	
retrograde	7868 Jun 19 20:11	19°♓47'12	
opposition	7868 Sep 03 08:00	17°♓47'21	-0°48'37
min. Earth dist.	7868 Sep 03 04:48	17°♓47'40	18.05418 AU
direct	7868 Nov 19 12:22	15°♓45'19	
evening set	7869 Feb 21 06:22	19°♓02'47	
conjunction	7869 Mar 09 02:43	20°♓00'12	-0°44'53
minimum elong	7869 Mar 09 02:43	20°♓00'12	0°44'51
max. Earth dist.	7869 Mar 09 06:01	20°♓00'42	20.08604 AU
morning rise	7869 Mar 24 21:14	20°♓57'23	
retrograde	7869 Jun 24 10:16	24°♓10'57	
opposition	7869 Sep 08 03:21	22°♓11'13	-0°50'56
min. Earth dist.	7869 Sep 08 00:06	22°♓11'33	18.11785 AU
direct	7869 Nov 24 06:42	20°♓09'30	
evening set	7870 Feb 25 21:03	23°♓25'50	
conjunction	7870 Mar 13 16:42	24°♓22'57	-0°46'50
minimum elong	7870 Mar 13 16:41	24°♓22'57	0°46'50
max. Earth dist.	7870 Mar 13 20:38	24°♓23'33	20.14954 AU
morning rise	7870 Mar 29 10:50	25°♓19'51	
retrograde	7870 Jun 29 01:46	28°♓32'46	
opposition	7870 Sep 12 21:41	26°♓33'08	-0°52'57
min. Earth dist.	7870 Sep 12 16:18	26°♓33'41	18.18108 AU
direct	7870 Nov 29 02:20	24°♓31'42	
evening set	7871 Mar 02 10:44	27°♓46'52	

conjunction	7871 Mar 18 05:49	28°♓43'42	-0°48'31
minimum elong	7871 Mar 18 05:49	28°♓43'42	0°48'30
max. Earth dist.	7871 Mar 18 11:36	28°♓44'35	20.21255 AU
morning rise	7871 Apr 02 23:27	29°♓40'21	
	7871 Apr 08 14:03	0°♈	
retrograde	7871 Jul 03 14:31	2°♈52'37	
opposition	7871 Sep 17 15:42	0°♈53'04	-0°54'38
min. Earth dist.	7871 Sep 17 10:07	0°♈53'38	18.24406 AU
	7871 Oct 09 22:48	30°℞♓	
direct	7871 Dec 03 18:48	28°♓51'56	
	7872 Jan 25 05:43	0°♈	
evening set	7872 Mar 05 23:24	2°♈05'55	
conjunction	7872 Mar 21 17:50	3°♈02'28	-0°49'54
minimum elong	7872 Mar 21 17:50	3°♈02'28	0°49'55
max. Earth dist.	7872 Mar 22 00:22	3°♈03'27	20.27552 AU
morning rise	7872 Apr 06 11:13	3°♈58'52	
retrograde	7872 Jul 07 05:15	7°♈10'30	
opposition	7872 Sep 21 08:51	5°♈11'01	-0°56'00
min. Earth dist.	7872 Sep 21 00:51	5°♈11'50	18.30705 AU
direct	7872 Dec 07 12:34	3°♈10'11	
evening set	7873 Mar 10 11:13	6°♈23'02	
conjunction	7873 Mar 26 05:14	7°♈19'19	-0°51'00
minimum elong	7873 Mar 26 05:14	7°♈19'19	0°51'00
max. Earth dist.	7873 Mar 26 13:54	7°♈20'37	20.33843 AU
morning rise	7873 Apr 10 22:13	8°♈15'29	
retrograde	7873 Jul 11 16:44	11°♈26'29	
opposition	7873 Sep 26 01:18	9°♈27'07	-0°57'02
min. Earth dist.	7873 Sep 25 16:58	9°♈27'58	18.37006 AU
direct	7873 Dec 12 03:07	7°♈26'37	
evening set	7874 Mar 14 22:18	10°♈38'21	
conjunction	7874 Mar 30 15:49	11°♈34'22	-0°51'48
minimum elong	7874 Mar 30 15:49	11°♈34'22	0°51'50
max. Earth dist.	7874 Mar 31 00:58	11°♈35'44	20.40143 AU
morning rise	7874 Apr 15 08:43	12°♈30'18	
retrograde	7874 Jul 16 06:35	15°♈40'44	
opposition	7874 Sep 30 17:02	13°♈41'29	-0°57'45
min. Earth dist.	7874 Sep 30 06:29	13°♈42'33	18.43292 AU
direct	7874 Dec 16 19:16	11°♈41'19	
evening set	7875 Mar 19 08:27	14°♈51'59	
conjunction	7875 Apr 04 01:41	15°♈47'46	-0°52'20
minimum elong	7875 Apr 04 01:41	15°♈47'46	0°52'22
max. Earth dist.	7875 Apr 04 13:01	15°♈49'27	20.46395 AU
morning rise	7875 Apr 19 18:18	16°♈43'29	
retrograde	7875 Jul 20 17:29	19°♈53'23	
opposition	7875 Oct 05 08:21	17°♈54'16	-0°58'09
min. Earth dist.	7875 Oct 04 21:29	17°♈55'22	18.49509 AU
direct	7875 Dec 21 08:30	15°♈54'29	
evening set	7876 Mar 22 18:04	19°♈04'06	
conjunction	7876 Apr 07 10:54	19°♈59'39	-0°52'34
minimum elong	7876 Apr 07 10:54	19°♈59'39	0°52'37
max. Earth dist.	7876 Apr 07 22:31	20°♈01'22	20.52569 AU
morning rise	7876 Apr 23 03:34	20°♈55'10	
retrograde	7876 Jul 24 06:09	24°♈04'34	
opposition	7876 Oct 08 22:57	22°♈05'35	-0°58'15
min. Earth dist.	7876 Oct 08 10:11	22°♈06'53	18.55619 AU
direct	7876 Dec 24 23:05	20°♈06'10	
evening set	7877 Mar 27 02:51	23°♈14'47	
conjunction	7877 Apr 11 19:36	24°♈10'07	-0°52'31
minimum elong	7877 Apr 11 19:36	24°♈10'07	0°52'35
max. Earth dist.	7877 Apr 12 09:13	24°♈12'08	20.58587 AU
morning rise	7877 Apr 27 12:09	25°♈05'27	
retrograde	7877 Jul 28 16:37	28°♈14'23	
opposition	7877 Oct 13 13:05	26°♈15'33	-0°58'02
min. Earth dist.	7877 Oct 13 00:14	26°♈16'51	18.61534 AU
direct	7877 Dec 29 11:24	24°♈16'30	
evening set	7878 Mar 31 11:16	27°♈24'09	
conjunction	7878 Apr 16 03:42	28°♈19'16	-0°52'13
minimum elong	7878 Apr 16 03:42	28°♈19'16	0°52'16
max. Earth dist.	7878 Apr 16 17:13	28°♈21'16	20.64388 AU
morning rise	7878 May 01 20:26	29°♈14'27	
	7878 May 15 10:21	0°♉	
retrograde	7878 Aug 02 04:06	2°♉22'56	
opposition	7878 Oct 18 02:31	0°♉24'14	-0°57'31
min. Earth dist.	7878 Oct 17 12:14	0°♉25'40	18.67205 AU
	7878 Oct 28 04:58	30°℞♈	
direct	7879 Jan 03 00:09	28°♈25'32	
	7879 Mar 06 17:13	0°♉	
evening set	7879 Apr 04 19:04	1°♉32'15	
conjunction	7879 Apr 20 11:31	2°♉27'12	-0°51'38
minimum elong	7879 Apr 20 11:31	2°♉27'12	0°51'43
max. Earth dist.	7879 Apr 21 02:46	2°♉29'27	20.69901 AU
morning rise	7879 May 06 04:11	3°♉22'13	
retrograde	7879 Aug 06 13:57	6°♉30'19	
opposition	7879 Oct 22 15:40	4°♉31'44	-0°56'43
min. Earth dist.	7879 Oct 22 01:25	4°♉33'10	18.72555 AU
direct	7880 Jan 07 11:50	2°♉33'21	
evening set	7880 Apr 08 02:23	5°♉39'11	
conjunction	7880 Apr 23 18:39	6°♉33'58	-0°50'47
minimum elong	7880 Apr 23 18:39	6°♉33'58	0°50'51
max. Earth dist.	7880 Apr 24 09:28	6°♉36'08	20.75074 AU
morning rise	7880 May 09 11:39	7°♉28'51	
retrograde	7880 Aug 10 00:43	10°♉36'35	
opposition	7880 Oct 26 04:13	8°♉38'05	-0°55'37
min. Earth dist.	7880 Oct 25 12:56	8°♉39'37	18.77538 AU
direct	7881 Jan 10 22:53	6°♉39'59	
evening set	7881 Apr 12 09:15	9°♉44'59	
conjunction	7881 Apr 28 01:42	10°♉39'37	-0°49'42
minimum elong	7881 Apr 28 01:42	10°♉39'37	0°49'47
max. Earth dist.	7881 Apr 28 17:52	10°♉41'59	20.79836 AU
morning rise	7881 May 13 18:47	11°♉34'22	
retrograde	7881 Aug 14 09:39	14°♉41'44	
opposition	7881 Oct 30 16:07	12°♉43'19	-0°54'16
min. Earth dist.	7881 Oct 30 01:04	12°♉44'49	18.82076 AU
direct	7882 Jan 15 09:55	10°♉45'29	
evening set	7882 Apr 16 15:48	13°♉49'40	
conjunction	7882 May 02 08:12	14°♉44'10	-0°48'21
minimum elong	7882 May 02 08:12	14°♉44'10	0°48'26
max. Earth dist.	7882 May 02 23:31	14°♉46'24	20.84150 AU
	7882 May 06 20:44	15°♉	
morning rise	7882 May 18 01:44	15°♉38'49	
retrograde	7882 Aug 18 19:41	18°♉45'52	
min. Earth dist.	7882 Nov 03 11:52	16°♉49'02	18.86159 AU
opposition	7882 Nov 04 03:37	16°♉47'27	-0°52'38
	7882 Dec 30 11:42	15°℞♉	
direct	7883 Jan 19 19:44	14°♉49'49	
	7883 Feb 08 21:02	15°♉	
evening set	7883 Apr 20 21:37	17°♉53'14	
conjunction	7883 May 06 14:19	18°♉47'37	-0°46'46
minimum elong	7883 May 06 14:19	18°♉47'37	0°46'52
max. Earth dist.	7883 May 07 06:58	18°♉50'02	20.87995 AU
morning rise	7883 May 22 08:02	19°♉42'11	
retrograde	7883 Aug 23 03:38	22°♉48'55	

opposition	7883 Nov 08 14:39	20°♉50'30	-0°50'44
min. Earth dist.	7883 Nov 07 22:59	20°♉52'04	18.89774 AU
direct	7884 Jan 24 06:07	18°♉53'02	
evening set	7884 Apr 24 03:13	21°♉55'43	
conjunction	7884 May 09 20:00	22°♉50'00	-0°44'57
minimum elong	7884 May 09 20:00	22°♉50'00	0°45'04
max. Earth dist.	7884 May 10 11:55	22°♉52'19	20.91402 AU
morning rise	7884 May 25 14:18	23°♉44'29	
retrograde	7884 Aug 26 13:08	26°♉50'58	
min. Earth dist.	7884 Nov 11 08:48	24°♉54'07	18.92981 AU
opposition	7884 Nov 12 01:01	24°♉52'30	-0°48'36
direct	7885 Jan 27 14:41	22°♉55'09	
evening set	7885 Apr 28 08:16	25°♉57'11	
conjunction	7885 May 14 01:28	26°♉51'23	-0°42'56
minimum elong	7885 May 14 01:28	26°♉51'23	0°43'02
max. Earth dist.	7885 May 14 18:49	26°♉53'54	20.94405 AU
morning rise	7885 May 29 20:05	27°♉45'49	
	7885 Jul 15 08:07	0°♊	
retrograde	7885 Aug 30 19:54	0°♊52'03	
	7885 Oct 18 00:27	30°℞♉	
opposition	7885 Nov 16 10:56	28°♉53'33	-0°46'14
min. Earth dist.	7885 Nov 15 18:39	28°♉55'11	18.95793 AU
direct	7886 Jan 31 23:42	26°♉56'20	
evening set	7886 May 02 13:09	29°♉57'46	
	7886 May 03 04:59	0°♊	
conjunction	7886 May 18 06:29	0°♊51'54	-0°40'42
minimum elong	7886 May 18 06:30	0°♊51'54	0°40'49
max. Earth dist.	7886 May 18 23:09	0°♊54'18	20.97044 AU
morning rise	7886 Jun 03 01:44	1°♊46'17	
retrograde	7886 Sep 04 05:01	4°♊52'21	
opposition	7886 Nov 20 20:25	2°♊53'48	-0°43'39
min. Earth dist.	7886 Nov 20 03:37	2°♊55'29	18.98265 AU
direct	7887 Feb 05 07:05	0°♊56'42	
evening set	7887 May 06 17:41	3°♊57'37	
conjunction	7887 May 22 11:33	4°♊51'43	-0°38'16
minimum elong	7887 May 22 11:33	4°♊51'43	0°38'23
max. Earth dist.	7887 May 23 05:40	4°♊54'19	20.99342 AU
morning rise	7887 Jun 07 07:09	5°♊46'04	
retrograde	7887 Sep 08 11:25	8°♊52'01	
opposition	7887 Nov 25 05:35	6°♊53'27	-0°40'52
min. Earth dist.	7887 Nov 24 12:35	6°♊55'09	19.00394 AU
direct	7888 Feb 09 14:43	4°♊56'28	
evening set	7888 May 09 22:07	7°♊56'56	
conjunction	7888 May 25 16:16	8°♊50'59	-0°35'40
minimum elong	7888 May 25 16:16	8°♊50'59	0°35'48
max. Earth dist.	7888 May 26 09:36	8°♊53'29	21.01309 AU
morning rise	7888 Jun 10 12:39	9°♊45'21	
retrograde	7888 Sep 11 20:05	12°♊51'13	
opposition	7888 Nov 28 14:24	10°♊52'38	-0°37'53
min. Earth dist.	7888 Nov 27 21:11	10°♊54'21	19.02189 AU
direct	7889 Feb 12 20:56	8°♊55'46	
evening set	7889 May 14 02:27	11°♊55'51	
conjunction	7889 May 29 21:13	12°♊49'55	-0°32'54
minimum elong	7889 May 29 21:13	12°♊49'55	0°33'01
max. Earth dist.	7889 May 30 15:46	12°♊52'35	21.02918 AU
morning rise	7889 Jun 14 18:03	13°♊44'17	
retrograde	7889 Sep 16 03:02	16°♊50'07	
opposition	7889 Dec 02 22:46	14°♊51'32	-0°34'44
min. Earth dist.	7889 Dec 02 05:34	14°♊53'15	19.03606 AU
direct	7890 Feb 17 03:49	12°♊54'47	
evening set	7890 May 18 06:53	15°♊54'34	

conjunction	7890 Jun 03 02:00	16°♊48'38	-0°29'58
minimum elong	7890 Jun 03 02:00	16°♊48'38	0°30'06
max. Earth dist.	7890 Jun 03 19:30	16°♊51'08	21.04155 AU
morning rise	7890 Jun 18 23:39	17°♊43'02	
retrograde	7890 Sep 20 11:15	20°♊48'54	
opposition	7890 Dec 07 07:09	18°♊50'18	-0°31'25
min. Earth dist.	7890 Dec 06 14:03	18°♊52'00	19.04647 AU
direct	7891 Feb 21 09:07	16°♊53'38	
evening set	7891 May 22 11:09	19°♊53'11	
conjunction	7891 Jun 07 06:58	20°♊47'17	-0°26'54
minimum elong	7891 Jun 07 06:58	20°♊47'17	0°27'02
max. Earth dist.	7891 Jun 08 01:32	20°♊49'56	21.04985 AU
morning rise	7891 Jun 23 05:09	21°♊41'44	
retrograde	7891 Sep 24 19:04	24°♊47'39	
opposition	7891 Dec 11 15:22	22°♊49'03	-0°27'57
min. Earth dist.	7891 Dec 10 22:24	22°♊50'44	19.05254 AU
direct	7892 Feb 25 15:41	20°♊52'29	
evening set	7892 May 25 15:50	23°♊51'51	
conjunction	7892 Jun 10 12:06	24°♊45'59	-0°23'42
minimum elong	7892 Jun 10 12:06	24°♊45'59	0°23'50
max. Earth dist.	7892 Jun 11 05:15	24°♊48'27	21.05374 AU
morning rise	7892 Jun 26 11:10	25°♊40'30	
retrograde	7892 Sep 28 03:27	28°♊46'32	
opposition	7892 Dec 14 23:19	26°♊47'54	-0°24'21
min. Earth dist.	7892 Dec 14 06:59	26°♊49'32	19.05408 AU
direct	7893 Feb 28 20:50	24°♊51'22	
evening set	7893 May 29 20:37	27°♊50'40	
conjunction	7893 Jun 14 17:40	28°♊44'51	-0°20'24
minimum elong	7893 Jun 14 17:40	28°♊44'51	0°20'33
max. Earth dist.	7893 Jun 15 11:22	28°♊47'23	21.05270 AU
morning rise	7893 Jun 30 17:18	29°♊39'27	
	7893 Jul 06 22:06	0°♋	
retrograde	7893 Oct 02 11:38	2°♋45'37	
opposition	7893 Dec 19 07:16	0°♋46'56	-0°20'37
min. Earth dist.	7893 Dec 18 15:22	0°♋48'32	19.05034 AU
	7894 Jan 08 09:18	30°℞♊	
direct	7894 Mar 05 02:54	28°♊50'25	
	7894 Apr 27 08:42	0°♋	
evening set	7894 Jun 03 01:43	1°♋49'40	
conjunction	7894 Jun 18 23:14	2°♋43'56	-0°16'59
minimum elong	7894 Jun 18 23:14	2°♋43'56	0°17'07
max. Earth dist.	7894 Jun 19 15:08	2°♋46'12	21.04628 AU
morning rise	7894 Jul 04 23:46	3°♋38'37	
retrograde	7894 Oct 06 20:29	6°♋44'58	
opposition	7894 Dec 23 15:17	4°♋46'12	-0°16'48
min. Earth dist.	7894 Dec 23 00:17	4°♋47'42	19.04117 AU
direct	7895 Mar 09 08:34	2°♋49'38	
evening set	7895 Jun 07 06:58	5°♋48'53	
conjunction	7895 Jun 23 05:22	6°♋43'16	-0°13'29
minimum elong	7895 Jun 23 05:22	6°♋43'15	0°13'38
behind sun begin	7895 Jun 23 01:44	6°♋42'45	
behind sun end	7895 Jun 23 08:59	6°♋43'46	
max. Earth dist.	7895 Jun 23 21:34	6°♋45'34	21.03427 AU
morning rise	7895 Jul 09 06:31	7°♋38'02	
retrograde	7895 Oct 11 04:58	10°♋44'35	
opposition	7895 Dec 27 23:08	8°♋45'41	-0°12'53
min. Earth dist.	7895 Dec 27 08:36	8°♋47'09	19.02629 AU
direct	7896 Mar 12 14:40	6°♋49'02	
evening set	7896 Jun 10 12:34	9°♋48'21	
conjunction	7896 Jun 26 11:34	10°♋42'49	-0°09'55
minimum elong	7896 Jun 26 11:33	10°♋42'49	0°10'03

behind sun begin	7896 Jun	26	06:14	10°♋42'05	
behind sun end	7896 Jun	26	16:53	10°♋43'34	
max. Earth dist.	7896 Jun	27	01:49	10°♋44'51	21.01677 AU
morning rise	7896 Jul	12	13:43	11°♋37'44	
retrograde	7896 Oct	14	13:55	14°♋44'29	
opposition	7896 Dec	31	06:58	12°♋45'25	-0°08'54
min. Earth dist.	7896 Dec	30	17:35	12°♋46'46	19.00615 AU
direct	7897 Mar	16	20:22	10°♋48'38	
evening set	7897 Jun	14	18:18	13°♋48'04	
conjunction	7897 Jun	30	18:11	14°♋42'40	-0°06'19
minimum elong	7897 Jun	30	18:11	14°♋42'40	0°06'26
behind sun begin	7897 Jun	30	11:57	14°♋41'48	
behind sun end	7897 Jul	01	00:26	14°♋43'32	
max. Earth dist.	7897 Jul	01	08:48	14°♋44'45	20.99413 AU
morning rise	7897 Jul	16	20:57	15°♋37'41	
retrograde	7897 Oct	18	22:37	18°♋44'42	
opposition	7898 Jan	04	14:35	16°♋45'27	-0°04'52
min. Earth dist.	7898 Jan	04	01:34	16°♋46'46	18.98112 AU
direct	7898 Mar	21	02:55	14°♋48'30	
evening set	7898 Jun	19	00:28	17°♋48'08	
conjunction	7898 Jul	05	00:58	18°♋42'51	-0°02'39
minimum elong	7898 Jul	05	00:57	18°♋42'51	0°02'47
behind sun begin	7898 Jul	04	18:21	18°♋41'56	
behind sun end	7898 Jul	05	07:34	18°♋43'47	
max. Earth dist.	7898 Jul	05	13:47	18°♋44'41	20.96707 AU
morning rise	7898 Jul	21	04:42	19°♋38'02	
retrograde	7898 Oct	23	07:40	22°♋45'21	
opposition	7899 Jan	08	22:24	20°♋45'54	-0°00'47
min. Earth dist.	7899 Jan	08	10:28	20°♋47'06	18.95214 AU
asc. node	7899 Mar	20	21:29	18°♋49'17	
direct	7899 Mar	25	08:00	18°♋48'46	
evening set	7899 Jun	23	06:44	21°♋48'39	
conjunction	7899 Jul	09	08:11	22°♋43'33	0°01'09
minimum elong	7899 Jul	09	08:11	22°♋43'33	0°01'02
behind sun begin	7899 Jul	09	01:33	22°♋42'37	
behind sun end	7899 Jul	09	14:49	22°♋44'28	
max. Earth dist.	7899 Jul	09	21:32	22°♋45'27	20.93622 AU
morning rise	7899 Jul	25	12:35	23°♋38'53	
retrograde	7899 Oct	27	17:15	26°♋46'32	
opposition	7900 Jan	13	06:09	24°♋46'54	0°03'18
min. Earth dist.	7900 Jan	12	18:25	24°♋48'06	18.91950 AU
direct	7900 Mar	29	15:02	22°♋49'36	
evening set	7900 Jun	27	13:46	25°♋49'49	
conjunction	7900 Jul	13	15:50	26°♋44'53	0°04'52
minimum elong	7900 Jul	13	15:50	26°♋44'53	0°04'45
behind sun begin	7900 Jul	13	09:21	26°♋43'58	
behind sun end	7900 Jul	13	22:20	26°♋45'47	
max. Earth dist.	7900 Jul	14	03:20	26°♋46'31	20.90203 AU
morning rise	7900 Jul	29	21:14	27°♋40'24	
	7900 Sep	17	02:48	0°♌	
retrograde	7900 Nov	01	02:49	0°♌48'27	
	7900 Dec	17	05:31	30°℞♋	
opposition	7901 Jan	17	13:57	28°♋48'38	0°07'22
min. Earth dist.	7901 Jan	17	03:29	28°♋49'42	18.88382 AU
direct	7901 Apr	02	19:43	26°♋51'08	
evening set	7901 Jul	01	21:06	29°♋51'48	
	7901 Jul	04	07:25	0°♌	
conjunction	7901 Jul	18	00:09	0°♌47'02	0°08'32
minimum elong	7901 Jul	18	00:09	0°♌47'02	0°08'25
behind sun begin	7901 Jul	17	18:19	0°♌46'13	
behind sun end	7901 Jul	18	05:59	0°♌47'51	
max. Earth dist.	7901 Jul	18	12:03	0°♌48'44	20.86484 AU
morning rise	7901 Aug	03	06:10	1°♌42'44	
retrograde	7901 Nov	05	13:27	4°♌51'13	
opposition	7902 Jan	21	21:58	2°♌51'16	0°11'25
min. Earth dist.	7902 Jan	21	11:38	2°♌52'19	18.84518 AU
direct	7902 Apr	07	03:03	0°♌53'36	
evening set	7902 Jul	06	05:00	3°♌54'44	
conjunction	7902 Jul	22	08:42	4°♌50'11	0°12'10
minimum elong	7902 Jul	22	08:41	4°♌50'11	0°12'02
behind sun begin	7902 Jul	22	04:10	4°♌49'33	
behind sun end	7902 Jul	22	13:13	4°♌50'49	
max. Earth dist.	7902 Jul	22	18:42	4°♌51'37	20.82491 AU
morning rise	7902 Aug	07	15:40	5°♌46'05	
retrograde	7902 Nov	10	00:13	8°♌55'04	
opposition	7903 Jan	26	06:22	6°♌54'58	0°15'26
min. Earth dist.	7903 Jan	25	21:21	6°♌55'53	18.80399 AU
direct	7903 Apr	11	08:27	4°♌57'07	
evening set	7903 Jul	10	13:32	7°♌58'50	
conjunction	7903 Jul	26	18:13	8°♌54'30	0°15'45
minimum elong	7903 Jul	26	18:13	8°♌54'30	0°15'38
behind sun begin	7903 Jul	26	16:51	8°♌54'18	
behind sun end	7903 Jul	26	19:35	8°♌54'41	
max. Earth dist.	7903 Jul	27	04:30	8°♌55'58	20.78243 AU
morning rise	7903 Aug	12	01:50	9°♌50'36	
retrograde	7903 Nov	14	11:56	13°♌00'07	
opposition	7904 Jan	30	14:50	10°♌59'53	0°19'23
min. Earth dist.	7904 Jan	30	06:01	11°♌00'48	18.76017 AU
direct	7904 Apr	14	15:56	9°♌01'53	
evening set	7904 Jul	13	22:56	12°♌04'14	
conjunction	7904 Jul	30	04:17	13°♌00'07	0°19'16
minimum elong	7904 Jul	30	04:17	13°♌00'07	0°19'10
max. Earth dist.	7904 Jul	30	12:26	13°♌01'17	20.73736 AU
morning rise	7904 Aug	15	12:52	13°♌56'27	
	7904 Sep	04	04:23	15°♌	
retrograde	7904 Nov	18	00:14	17°♌06'32	
opposition	7905 Feb	02	23:48	15°♌06'12	0°23'15
min. Earth dist.	7905 Feb	02	16:40	15°♌06'56	18.71378 AU
	7905 Feb	05	11:59	15°℞♌	
direct	7905 Apr	18	22:28	13°♌08'00	
	7905 Jun	26	05:18	15°♌	
evening set	7905 Jul	18	08:55	16°♌11'05	
conjunction	7905 Aug	03	15:14	17°♌07'12	0°22'43
minimum elong	7905 Aug	03	15:14	17°♌07'12	0°22'38
max. Earth dist.	7905 Aug	03	23:22	17°♌08'23	20.68954 AU
morning rise	7905 Aug	20	00:21	18°♌03'46	
retrograde	7905 Nov	22	12:45	21°♌14'27	
opposition	7906 Feb	07	09:00	19°♌14'00	0°27'01
min. Earth dist.	7906 Feb	07	02:14	19°♌14'42	18.66444 AU
direct	7906 Apr	23	06:41	17°♌15'37	
evening set	7906 Jul	22	19:57	20°♌19'28	
conjunction	7906 Aug	08	02:53	21°♌15'50	0°26'04
minimum elong	7906 Aug	08	02:53	21°♌15'50	0°26'00
max. Earth dist.	7906 Aug	08	08:36	21°♌16'40	20.63872 AU
morning rise	7906 Aug	24	12:53	22°♌12'39	
retrograde	7906 Nov	27	02:07	25°♌23'58	
opposition	7907 Feb	11	18:48	23°♌23'22	0°30'41
min. Earth dist.	7907 Feb	11	14:04	23°♌23'52	18.61210 AU
direct	7907 Apr	27	14:34	21°♌24'46	
evening set	7907 Jul	27	07:37	24°♌29'26	
conjunction	7907 Aug	12	15:32	25°♌26'04	0°29'19
minimum elong	7907 Aug	12	15:32	25°♌26'04	0°29'14
max. Earth dist.	7907 Aug	12	20:50	25°♌26'50	20.58468 AU

morning rise	7907 Aug 29 02:07	26°♌23'07	
retrograde	7907 Dec 01 15:40	29°♌35'03	
opposition	7908 Feb 16 04:57	27°♌34'19	0°34'13
min. Earth dist.	7908 Feb 16 00:45	27°♌34'45	18.55627 AU
direct	7908 May 01 00:16	25°♌35'26	
evening set	7908 Jul 30 20:27	28°♌40'58	
conjunction	7908 Aug 16 04:59	29°♌37'51	0°32'25
minimum elong	7908 Aug 16 04:59	29°♌37'51	0°32'21
max. Earth dist.	7908 Aug 16 07:33	29°♌38'14	20.52715 AU
	7908 Aug 22 12:41	0°♍	
morning rise	7908 Sep 01 16:22	0°♍35'10	
retrograde	7908 Dec 05 05:06	3°♍47'43	
opposition	7909 Feb 19 15:35	1°♍46'47	0°37'35
min. Earth dist.	7909 Feb 19 13:41	1°♍46'59	18.49716 AU
	7909 Apr 13 12:56	30°℞♌	
direct	7909 May 05 09:45	29°♌47'36	
	7909 May 27 03:14	0°♍	
evening set	7909 Aug 04 09:50	2°♍54'00	
conjunction	7909 Aug 20 19:19	3°♍51'10	0°35'22
minimum elong	7909 Aug 20 19:18	3°♍51'10	0°35'18
max. Earth dist.	7909 Aug 20 21:19	3°♍51'28	20.46656 AU
morning rise	7909 Sep 06 07:12	4°♍48'43	
retrograde	7909 Dec 09 19:46	8°♍01'54	
opposition	7910 Feb 24 02:38	6°♍00'45	0°40'46
min. Earth dist.	7910 Feb 24 01:08	6°♍00'55	18.43515 AU
direct	7910 May 09 21:03	4°♍01'13	
evening set	7910 Aug 09 00:01	7°♍08'32	
conjunction	7910 Aug 25 10:07	8°♍05'58	0°38'09
minimum elong	7910 Aug 25 10:07	8°♍05'58	0°38'05
max. Earth dist.	7910 Aug 25 09:44	8°♍05'55	20.40340 AU
morning rise	7910 Sep 10 22:45	9°♍03'47	
retrograde	7910 Dec 14 09:33	12°♍17'36	
opposition	7911 Feb 28 14:17	10°♍16'13	0°43'45
min. Earth dist.	7911 Feb 28 15:01	10°♍16'08	18.37106 AU
direct	7911 May 14 07:37	8°♍16'17	
evening set	7911 Aug 13 15:02	11°♍24'33	
conjunction	7911 Aug 30 02:02	12°♍22'17	0°40'44
minimum elong	7911 Aug 30 02:01	12°♍22'17	0°40'41
max. Earth dist.	7911 Aug 30 01:09	12°♍22'09	20.33854 AU
morning rise	7911 Sep 15 15:08	13°♍20'21	
retrograde	7911 Dec 19 01:29	16°♍34'46	
opposition	7912 Mar 04 02:05	14°♍33'09	0°46'31
min. Earth dist.	7912 Mar 04 03:07	14°♍33'03	18.30557 AU
direct	7912 May 17 20:28	12°♍32'51	
evening set	7912 Aug 17 07:04	15°♍42'07	
conjunction	7912 Sep 02 18:37	16°♍40'07	0°43'06
minimum elong	7912 Sep 02 18:36	16°♍40'07	0°43'03
max. Earth dist.	7912 Sep 02 15:33	16°♍39'40	20.27258 AU
morning rise	7912 Sep 19 08:20	17°♍38'27	
retrograde	7912 Dec 22 16:07	20°♍53'31	
opposition	7913 Mar 08 14:40	18°♍51'40	0°49'02
min. Earth dist.	7913 Mar 08 17:49	18°♍51'20	18.23944 AU
direct	7913 May 22 07:43	16°♍50'57	
evening set	7913 Aug 21 23:38	20°♍01'15	
conjunction	7913 Sep 07 11:57	20°♍59'33	0°45'14
minimum elong	7913 Sep 07 11:57	20°♍59'32	0°45'13
max. Earth dist.	7913 Sep 07 08:26	20°♍59'01	20.20637 AU
morning rise	7913 Sep 24 02:03	21°♍58'08	
retrograde	7913 Dec 27 09:38	25°♍13'50	
opposition	7914 Mar 13 03:38	23°♍11'47	0°51'18
min. Earth dist.	7914 Mar 13 06:47	23°♍11'27	18.17333 AU
direct	7914 May 26 22:01	21°♍10'42	
evening set	7914 Aug 26 17:18	24°♍22'03	
conjunction	7914 Sep 12 06:08	25°♍20'38	0°47'07
minimum elong	7914 Sep 12 06:08	25°♍20'38	0°47'06
max. Earth dist.	7914 Sep 12 00:49	25°♍19'51	20.14046 AU
morning rise	7914 Sep 28 20:44	26°♍19'29	
retrograde	7915 Jan 01 01:34	29°♍35'50	
opposition	7915 Mar 17 17:17	27°♍33'36	0°53'16
min. Earth dist.	7915 Mar 17 22:24	27°♍33'03	18.10792 AU
direct	7915 May 31 10:20	25°♍32'08	
evening set	7915 Aug 31 11:45	28°♍44'36	
conjunction	7915 Sep 17 01:17	29°♍43'28	0°48'45
minimum elong	7915 Sep 17 01:17	29°♍43'28	0°48'45
max. Earth dist.	7915 Sep 16 19:17	29°♍42'34	20.07560 AU
	7915 Sep 21 16:00	0°♎	
morning rise	7915 Oct 03 16:14	0°♎42'35	
retrograde	7916 Jan 05 20:42	3°♎59'35	
opposition	7916 Mar 21 07:28	1°♎57'11	0°54'56
min. Earth dist.	7916 Mar 21 12:30	1°♎56'39	18.04367 AU
	7916 May 21 21:11	30°℞♍	
direct	7916 Jun 04 01:49	29°♍55'24	
	7916 Jun 17 02:48	0°♎	
evening set	7916 Sep 04 07:15	3°♎09'00	
conjunction	7916 Sep 20 21:14	4°♎08'09	0°50'06
minimum elong	7916 Sep 20 21:14	4°♎08'09	0°50'06
max. Earth dist.	7916 Sep 20 13:46	4°♎07'02	20.01200 AU
morning rise	7916 Oct 07 12:29	5°♎07'31	
retrograde	7917 Jan 09 14:17	8°♎25'11	
opposition	7917 Mar 25 22:24	6°♎22'40	0°56'18
min. Earth dist.	7917 Mar 26 05:19	6°♎21'55	17.98098 AU
direct	7917 Jun 08 15:40	4°♎20'34	
evening set	7917 Sep 09 03:34	7°♎35'20	
conjunction	7917 Sep 25 18:05	8°♎34'46	0°51'10
minimum elong	7917 Sep 25 18:05	8°♎34'46	0°51'10
max. Earth dist.	7917 Sep 25 09:43	8°♎33'30	19.95028 AU
morning rise	7917 Oct 12 09:38	9°♎34'23	
retrograde	7918 Jan 14 10:53	12°♎52'43	
opposition	7918 Mar 30 13:55	10°♎50'07	0°57'20
min. Earth dist.	7918 Mar 30 20:47	10°♎49'23	17.92016 AU
direct	7918 Jun 13 08:28	8°♎47'45	
evening set	7918 Sep 14 00:48	12°♎03'41	
conjunction	7918 Sep 30 15:47	13°♎03'24	0°51'55
minimum elong	7918 Sep 30 15:46	13°♎03'24	0°51'57
max. Earth dist.	7918 Sep 30 06:19	13°♎01'59	19.89027 AU
morning rise	7918 Oct 17 07:29	14°♎03'16	
retrograde	7919 Jan 19 06:14	17°♎22'15	
opposition	7919 Apr 04 06:19	15°♎19'37	0°58'01
min. Earth dist.	7919 Apr 04 15:08	15°♎18'40	17.86104 AU
direct	7919 Jun 17 23:50	13°♎16'58	
evening set	7919 Sep 18 23:11	16°♎34'06	
conjunction	7919 Oct 05 14:30	17°♎34'06	0°52'22
minimum elong	7919 Oct 05 14:30	17°♎34'06	0°52'24
max. Earth dist.	7919 Oct 05 03:34	17°♎32'26	19.83200 AU
morning rise	7919 Oct 22 06:25	18°♎34'12	
retrograde	7920 Jan 24 04:21	21°♎53'49	
opposition	7920 Apr 07 23:10	19°♎51'08	0°58'22
min. Earth dist.	7920 Apr 08 08:18	19°♎50'08	17.80351 AU
direct	7920 Jun 21 18:24	17°♎48'12	
evening set	7920 Sep 22 22:28	21°♎06'31	
conjunction	7920 Oct 09 14:09	22°♎06'46	0°52'30

minimum elong	7920 Oct 09 14:09	22°♎06'46	0°52'33
max. Earth dist.	7920 Oct 09 02:14	22°♎04'58	19.77503 AU
morning rise	7920 Oct 26 05:59	23°♎07'06	
retrograde	7921 Jan 28 01:03	26°♎27'17	
opposition	7921 Apr 12 17:03	24°♎24'34	0°58'21
min. Earth dist.	7921 Apr 13 04:02	24°♎23'23	17.74731 AU
direct	7921 Jun 26 11:23	22°♎21'22	
evening set	7921 Sep 27 22:25	25°♎40'48	
conjunction	7921 Oct 14 14:16	26°♎41'18	0°52'18
minimum elong	7921 Oct 14 14:16	26°♎41'18	0°52'22
max. Earth dist.	7921 Oct 14 00:29	26°♎39'12	19.71962 AU
morning rise	7921 Oct 31 06:13	27°♎41'51	
	7921 Dec 14 19:15	0°♏	
retrograde	7922 Feb 01 23:58	1°♏02'35	
	7922 Mar 24 06:07	30°℞♎	
opposition	7922 Apr 17 11:27	28°♎59'47	0°57'58
min. Earth dist.	7922 Apr 17 22:47	28°♎58'33	17.69270 AU
direct	7922 Jul 01 07:48	26°♎56'16	
	7922 Sep 28 05:30	0°♏	
evening set	7922 Oct 02 23:13	0°♏16'49	
conjunction	7922 Oct 19 15:22	1°♏17'33	0°51'47
minimum elong	7922 Oct 19 15:22	1°♏17'33	0°51'50
max. Earth dist.	7922 Oct 19 01:04	1°♏15'21	19.66578 AU
morning rise	7922 Nov 05 07:07	2°♏18'17	
retrograde	7923 Feb 06 21:27	5°♏39'29	
opposition	7923 Apr 22 06:30	3°♏36'37	0°57'13
min. Earth dist.	7923 Apr 22 19:25	3°♏35'12	17.63987 AU
direct	7923 Jul 06 02:40	1°♏32'48	
evening set	7923 Oct 08 00:49	4°♏54'23	
conjunction	7923 Oct 24 16:59	5°♏55'20	0°50'55
minimum elong	7923 Oct 24 16:59	5°♏55'20	0°51'00
max. Earth dist.	7923 Oct 24 00:37	5°♏52'49	19.61417 AU
morning rise	7923 Nov 10 08:45	6°♏56'15	
retrograde	7924 Feb 11 20:28	10°♏17'53	
opposition	7924 Apr 26 02:07	8°♏14'54	0°56'04
min. Earth dist.	7924 Apr 26 15:30	8°♏13'27	17.58957 AU
direct	7924 Jul 10 01:12	6°♏10'46	
evening set	7924 Oct 12 02:48	9°♏33'21	
conjunction	7924 Oct 28 19:08	10°♏34'30	0°49'42
minimum elong	7924 Oct 28 19:08	10°♏34'30	0°49'47
max. Earth dist.	7924 Oct 28 02:55	10°♏32'01	19.56520 AU
morning rise	7924 Nov 14 10:30	11°♏35'34	
retrograde	7925 Feb 15 18:06	14°♏57'34	
opposition	7925 Apr 30 22:22	12°♏54'31	0°54'34
min. Earth dist.	7925 May 01 12:44	12°♏52'57	17.54220 AU
direct	7925 Jul 14 22:17	10°♏50'05	
evening set	7925 Oct 17 05:29	14°♏13'36	
	7925 Oct 29 21:08	15°♏	
conjunction	7925 Nov 02 21:37	15°♏14'55	0°48'10
minimum elong	7925 Nov 02 21:38	15°♏14'55	0°48'16
max. Earth dist.	7925 Nov 02 03:35	15°♏12'08	19.51970 AU
morning rise	7925 Nov 19 12:53	16°♏16'07	
retrograde	7926 Feb 20 17:06	19°♏38'26	
opposition	7926 May 05 19:04	17°♏35'18	0°52'41
min. Earth dist.	7926 May 06 09:53	17°♏33'41	17.49871 AU
direct	7926 Jul 19 22:24	15°♏30'33	
evening set	7926 Oct 22 08:23	18°♏54'56	
max. Earth dist.	7926 Nov 07 07:13	19°♏53'43	19.47822 AU
conjunction	7926 Nov 08 00:38	19°♏56'25	0°46'17
minimum elong	7926 Nov 08 00:38	19°♏56'25	0°46'24
morning rise	7926 Nov 24 15:25	20°♏57'44	

retrograde	7927 Feb 25 15:40	24°♏20'18	
opposition	7927 May 10 16:21	22°♏17'06	0°50'26
min. Earth dist.	7927 May 11 07:33	22°♏15'27	17.45939 AU
direct	7927 Jul 24 21:50	20°♏12'05	
evening set	7927 Oct 27 11:58	23°♏37'17	
max. Earth dist.	7927 Nov 12 08:54	24°♏35'56	19.44131 AU
conjunction	7927 Nov 13 03:50	24°♏38'52	0°44'06
minimum elong	7927 Nov 13 03:50	24°♏38'52	0°44'12
morning rise	7927 Nov 29 18:20	25°♏40'17	
retrograde	7928 Mar 01 14:42	29°♏03'03	
opposition	7928 May 14 14:03	26°♏59'49	0°47'50
min. Earth dist.	7928 May 15 05:43	26°♏58'06	17.42509 AU
direct	7928 Jul 28 22:24	24°♏54'31	
evening set	7928 Oct 31 15:38	28°♏20'29	
conjunction	7928 Nov 17 07:24	29°♏22'11	0°41'36
minimum elong	7928 Nov 17 07:24	29°♏22'11	0°41'44
max. Earth dist.	7928 Nov 16 13:27	29°♏19'23	19.40964 AU
	7928 Nov 27 10:48	0°♐	
morning rise	7928 Dec 03 21:15	0°♐23'39	
retrograde	7929 Mar 06 15:00	3°♐46'34	
opposition	7929 May 19 12:20	1°♐43'21	0°44'54
min. Earth dist.	7929 May 20 03:38	1°♐41'40	17.39617 AU
	7929 Jul 04 20:44	30°℞♏	
direct	7929 Aug 02 23:10	29°♏37'52	
	7929 Aug 31 16:54	0°♐	
evening set	7929 Nov 05 19:34	3°♐04'28	
conjunction	7929 Nov 22 10:52	4°♐06'15	0°38'50
minimum elong	7929 Nov 22 10:52	4°♐06'15	0°38'56
max. Earth dist.	7929 Nov 21 15:59	4°♐03'18	19.38364 AU
morning rise	7929 Dec 09 00:17	5°♐07'47	
retrograde	7930 Mar 11 14:26	8°♐30'49	
opposition	7930 May 24 11:06	6°♐27'38	0°41'39
min. Earth dist.	7930 May 25 02:51	6°♐25'54	17.37320 AU
direct	7930 Aug 07 23:20	4°♐21'59	
evening set	7930 Nov 10 23:45	7°♐49'12	
conjunction	7930 Nov 27 14:47	8°♐51'03	0°35'46
minimum elong	7930 Nov 27 14:47	8°♐51'03	0°35'54
max. Earth dist.	7930 Nov 26 20:53	8°♐48'15	19.36367 AU
morning rise	7930 Dec 14 03:31	9°♐52'36	
retrograde	7931 Mar 16 16:18	13°♐15'42	
opposition	7931 May 29 10:05	11°♐12'36	0°38'07
min. Earth dist.	7931 May 30 01:08	11°♐10'57	17.35606 AU
direct	7931 Aug 13 01:10	9°♐06'53	
evening set	7931 Nov 16 04:18	12°♐34'38	
conjunction	7931 Dec 02 18:44	13°♐36'30	0°32'28
minimum elong	7931 Dec 02 18:44	13°♐36'30	0°32'36
max. Earth dist.	7931 Dec 02 00:21	13°♐33'38	19.34946 AU
morning rise	7931 Dec 19 06:50	14°♐38'04	
retrograde	7932 Mar 20 15:45	18°♐01'11	
opposition	7932 Jun 02 09:44	15°♐58'13	0°34'18
min. Earth dist.	7932 Jun 03 01:29	15°♐56'30	17.34473 AU
direct	7932 Aug 17 01:32	13°♐52'27	
evening set	7932 Nov 20 08:41	17°♐20'39	
conjunction	7932 Dec 06 22:36	18°♐22'31	0°28'57
minimum elong	7932 Dec 06 22:36	18°♐22'31	0°29'05
max. Earth dist.	7932 Dec 06 04:55	18°♐19'45	19.34088 AU
morning rise	7932 Dec 23 09:57	19°♐24'02	
retrograde	7933 Mar 25 17:56	22°♐47'09	
opposition	7933 Jun 07 09:39	20°♐44'19	0°30'15
min. Earth dist.	7933 Jun 08 00:23	20°♐42'43	17.33867 AU
direct	7933 Aug 22 04:30	18°♐38'33	

evening set	7933 Nov 25 13:17	22°♐07'05	
max. Earth dist.	7933 Dec 11 08:53	23°♐06'10	19.33731 AU
conjunction	7933 Dec 12 02:32	23°♐08'56	0°25'13
minimum elong	7933 Dec 12 02:32	23°♐08'56	0°25'22
morning rise	7933 Dec 28 13:04	24°♐10'24	
retrograde	7934 Mar 30 17:08	27°♐33'25	
opposition	7934 Jun 12 09:54	25°♐30'43	0°26'00
min. Earth dist.	7934 Jun 13 01:30	25°♐29'01	17.33760 AU
direct	7934 Aug 27 05:45	23°♐24'56	
evening set	7934 Nov 30 17:47	26°♐53'44	
conjunction	7934 Dec 17 06:21	27°♐55'31	0°21'19
minimum elong	7934 Dec 17 06:21	27°♐55'31	0°21'27
max. Earth dist.	7934 Dec 16 12:49	27°♐52'46	19.33863 AU
morning rise	7935 Jan 02 16:08	28°♐56'54	
	7935 Jan 20 12:31	0°♑	
retrograde	7935 Apr 04 18:53	2°♑19'45	
opposition	7935 Jun 17 10:23	0°♑17'12	0°21'33
min. Earth dist.	7935 Jun 18 00:48	0°♑15'38	17.34110 AU
	7935 Jun 24 00:54	30°℞♐	
direct	7935 Sep 01 09:48	28°♐11'26	
	7935 Nov 06 10:08	0°♑	
evening set	7935 Dec 05 22:05	1°♑40'20	
conjunction	7935 Dec 22 09:55	2°♑42'02	0°17'15
minimum elong	7935 Dec 22 09:55	2°♑42'02	0°17'24
max. Earth dist.	7935 Dec 21 17:03	2°♑39'24	19.34431 AU
morning rise	7936 Jan 07 18:42	3°♑43'19	
retrograde	7936 Apr 08 17:37	7°♑05'57	
opposition	7936 Jun 21 11:11	5°♑03'32	0°16'57
min. Earth dist.	7936 Jun 22 02:18	5°♑01'53	17.34903 AU
direct	7936 Sep 05 11:49	2°♑57'47	
evening set	7936 Dec 10 02:05	6°♑26'42	
conjunction	7936 Dec 26 13:01	7°♑28'17	0°13'05
minimum elong	7936 Dec 26 13:01	7°♑28'17	0°13'14
behind sun begin	7936 Dec 26 09:09	7°♑27'41	
behind sun end	7936 Dec 26 16:53	7°♑28'52	
max. Earth dist.	7936 Dec 25 20:02	7°♑25'37	19.35454 AU
morning rise	7937 Jan 11 21:02	8°♑29'26	
retrograde	7937 Apr 13 18:34	11°♑51'48	
opposition	7937 Jun 26 11:53	9°♑49'29	0°12'15
min. Earth dist.	7937 Jun 27 01:35	9°♑48'00	17.36143 AU
direct	7937 Sep 10 16:20	7°♑43'46	
evening set	7937 Dec 15 05:28	11°♑12'34	
conjunction	7937 Dec 31 15:42	12°♑14'01	0°08'50
minimum elong	7937 Dec 31 15:42	12°♑14'01	0°08'58
behind sun begin	7937 Dec 31 09:59	12°♑13'09	
behind sun end	7937 Dec 31 21:26	12°♑14'54	
max. Earth dist.	7937 Dec 31 00:07	12°♑11'35	19.36912 AU
morning rise	7938 Jan 16 22:41	13°♑15'01	
retrograde	7938 Apr 18 16:44	16°♑37'03	
opposition	7938 Jul 01 12:47	14°♑34'51	0°07'27
min. Earth dist.	7938 Jul 02 02:52	14°♑33'19	17.37819 AU
direct	7938 Sep 15 19:07	12°♑29'11	
evening set	7938 Dec 20 08:35	15°♑57'47	
conjunction	7939 Jan 05 17:47	16°♑59'03	0°04'33
minimum elong	7939 Jan 05 17:47	16°♑59'03	0°04'41
behind sun begin	7939 Jan 05 11:14	16°♑58'03	
behind sun end	7939 Jan 06 00:20	17°♑00'03	
max. Earth dist.	7939 Jan 05 01:58	16°♑56'35	19.38822 AU
morning rise	7939 Jan 21 23:59	17°♑59'53	
retrograde	7939 Apr 23 16:15	21°♑21'31	
opposition	7939 Jul 06 13:19	19°♑19'25	0°02'38
min. Earth dist.	7939 Jul 07 01:55	19°♑18'03	17.39953 AU
direct	7939 Sep 20 23:28	17°♑13'48	
evening set	7939 Dec 25 10:56	20°♑42'04	
conjunction	7940 Jan 10 19:20	21°♑43'10	0°00'09
minimum elong	7940 Jan 10 19:21	21°♑43'10	0°00'16
behind sun begin	7940 Jan 10 12:43	21°♑42'09	
behind sun end	7940 Jan 11 01:59	21°♑44'11	
max. Earth dist.	7940 Jan 10 05:33	21°♑41'01	19.41188 AU
desc. node	7940 Jan 22 14:47	22°♑27'31	
morning rise	7940 Jan 27 00:26	22°♑43'47	
retrograde	7940 Apr 27 13:57	26°♑04'59	
opposition	7940 Jul 10 14:01	24°♑02'59	-0°02'12
min. Earth dist.	7940 Jul 11 02:27	24°♑01'39	17.42554 AU
direct	7940 Sep 25 02:13	21°♑57'28	
evening set	7940 Dec 29 12:34	25°♑25'17	
conjunction	7941 Jan 14 19:51	26°♑26'10	-0°04'15
minimum elong	7941 Jan 14 19:51	26°♑26'10	0°04'08
behind sun begin	7941 Jan 14 13:16	26°♑25'09	
behind sun end	7941 Jan 15 02:27	26°♑27'10	
max. Earth dist.	7941 Jan 14 06:10	26°♑24'02	19.44043 AU
morning rise	7941 Jan 31 00:10	27°♑26'35	
	7941 Mar 21 21:24	0°♒	
retrograde	7941 May 02 12:31	0°♒47'18	
	7941 Jun 14 11:40	30°℞♑	
opposition	7941 Jul 15 14:21	28°♑45'24	-0°07'00
min. Earth dist.	7941 Jul 16 01:07	28°♑44'15	17.45664 AU
direct	7941 Sep 30 05:24	26°♑39'59	
	7942 Jan 01 13:29	0°♒	
evening set	7942 Jan 03 13:26	0°♒07'17	
conjunction	7942 Jan 19 19:55	1°♒07'56	-0°08'31
minimum elong	7942 Jan 19 19:56	1°♒07'56	0°08'24
behind sun begin	7942 Jan 19 14:04	1°♒07'02	
behind sun end	7942 Jan 20 01:47	1°♒08'50	
max. Earth dist.	7942 Jan 19 08:42	1°♒06'11	19.47407 AU
morning rise	7942 Feb 04 23:06	2°♒08'07	
retrograde	7942 May 07 09:41	5°♒28'19	
opposition	7942 Jul 20 14:24	3°♒26'33	-0°11'44
min. Earth dist.	7942 Jul 21 00:24	3°♒25'29	17.49284 AU
direct	7942 Oct 05 06:51	1°♒21'18	
evening set	7943 Jan 08 13:47	4°♒48'00	
conjunction	7943 Jan 24 19:06	5°♒48'24	-0°12'42
minimum elong	7943 Jan 24 19:06	5°♒48'24	0°12'35
behind sun begin	7943 Jan 24 14:50	5°♒47'45	
behind sun end	7943 Jan 24 23:22	5°♒49'03	
max. Earth dist.	7943 Jan 24 08:10	5°♒46'42	19.51297 AU
morning rise	7943 Feb 09 21:29	6°♒48'21	
retrograde	7943 May 12 07:48	10°♒08'00	
opposition	7943 Jul 25 14:16	8°♒06'24	-0°16'21
min. Earth dist.	7943 Jul 25 22:38	8°♒05'30	17.53442 AU
direct	7943 Oct 10 08:21	6°♒01'21	
evening set	7944 Jan 13 13:03	9°♒27'23	
conjunction	7944 Jan 29 17:31	10°♒27'31	-0°16'47
minimum elong	7944 Jan 29 17:31	10°♒27'31	0°16'40
max. Earth dist.	7944 Jan 29 09:11	10°♒26'14	19.55709 AU
morning rise	7944 Feb 14 18:48	11°♒27'13	
retrograde	7944 May 16 04:39	14°♒46'19	
opposition	7944 Jul 29 13:51	12°♒44'55	-0°20'50
min. Earth dist.	7944 Jul 29 20:54	12°♒44'10	17.58088 AU
direct	7944 Oct 14 08:38	10°♒40'09	
evening set	7945 Jan 17 11:43	14°♒05'27	
	7945 Feb 01 04:59	15°♒	

conjunction	7945 Feb 02 15:03	15°♒05'18	-0°20'44
minimum elong	7945 Feb 02 15:03	15°♒05'18	0°20'39
max. Earth dist.	7945 Feb 02 07:17	15°♒04'06	19.60595 AU
morning rise	7945 Feb 18 15:34	16°♒04'44	
retrograde	7945 May 21 01:54	19°♒23'17	
opposition	7945 Aug 03 12:59	17°♒22'05	-0°25'10
min. Earth dist.	7945 Aug 03 18:47	17°♒21'28	17.63196 AU
direct	7945 Oct 19 08:58	15°♒17'37	
evening set	7946 Jan 22 09:24	18°♒42'08	
conjunction	7946 Feb 07 11:56	19°♒41'43	-0°24'33
minimum elong	7946 Feb 07 11:55	19°♒41'43	0°24'27
max. Earth dist.	7946 Feb 07 06:26	19°♒40'52	19.65896 AU
morning rise	7946 Feb 23 11:28	20°♒40'52	
retrograde	7946 May 25 21:45	23°♒58'49	
opposition	7946 Aug 08 11:48	21°♒57'51	-0°29'18
min. Earth dist.	7946 Aug 08 16:07	21°♒57'24	17.68655 AU
direct	7946 Oct 24 09:06	19°♒53'45	
evening set	7947 Jan 27 06:28	23°♒17'23	
conjunction	7947 Feb 12 07:53	24°♒16'40	-0°28'11
minimum elong	7947 Feb 12 07:53	24°♒16'40	0°28'06
max. Earth dist.	7947 Feb 12 03:02	24°♒15'55	19.71508 AU
morning rise	7947 Feb 28 06:38	25°♒15'32	
retrograde	7947 May 30 17:13	28°♒32'54	
opposition	7947 Aug 13 10:17	26°♒32'09	-0°33'14
min. Earth dist.	7947 Aug 13 13:48	26°♒31'47	17.74412 AU
direct	7947 Oct 29 08:36	24°♒28'23	
evening set	7948 Feb 01 02:35	27°♒51'06	
conjunction	7948 Feb 17 03:08	28°♒50'04	-0°31'37
minimum elong	7948 Feb 17 03:08	28°♒50'04	0°31'33
max. Earth dist.	7948 Feb 17 00:10	28°♒49'37	19.77383 AU
morning rise	7948 Mar 04 01:00	29°♒48'39	
	7948 Mar 07 04:42	0°♓	
retrograde	7948 Jun 03 12:00	3°♓05'24	
opposition	7948 Aug 17 08:20	1°♓04'51	-0°36'57
min. Earth dist.	7948 Aug 17 10:05	1°♓04'40	17.80379 AU
	7948 Sep 13 10:54	30°℞♒	
direct	7948 Nov 02 08:34	29°♒01'27	
	7948 Dec 20 12:15	0°♓	
evening set	7949 Feb 04 21:48	2°♓23'11	
conjunction	7949 Feb 20 21:22	3°♓21'50	-0°34'50
minimum elong	7949 Feb 20 21:22	3°♓21'50	0°34'46
max. Earth dist.	7949 Feb 20 19:17	3°♓21'31	19.83430 AU
morning rise	7949 Mar 08 18:31	4°♓20'08	
retrograde	7949 Jun 08 05:20	7°♓36'16	
opposition	7949 Aug 22 05:57	5°♓35'53	-0°40'24
min. Earth dist.	7949 Aug 22 07:17	5°♓35'45	17.86503 AU
direct	7949 Nov 07 06:47	3°♓32'48	
evening set	7950 Feb 09 16:12	6°♓53'31	
conjunction	7950 Feb 25 14:57	7°♓51'52	-0°37'50
minimum elong	7950 Feb 25 14:56	7°♓51'52	0°37'47
max. Earth dist.	7950 Feb 25 14:14	7°♓51'45	19.89602 AU
morning rise	7950 Mar 13 11:21	8°♓49'52	
retrograde	7950 Jun 12 23:02	12°♓05'20	
opposition	7950 Aug 27 02:49	10°♓05'08	-0°43'35
min. Earth dist.	7950 Aug 27 02:18	10°♓05'11	17.92703 AU
direct	7950 Nov 12 05:47	8°♓02'23	
evening set	7951 Feb 14 09:46	11°♓22'02	
conjunction	7951 Mar 02 07:38	12°♓20'04	-0°40'35
minimum elong	7951 Mar 02 07:38	12°♓20'03	0°40'31
max. Earth dist.	7951 Mar 02 07:57	12°♓20'06	19.95824 AU
morning rise	7951 Mar 18 03:22	13°♓17'47	
retrograde	7951 Jun 17 14:38	16°♓32'36	
opposition	7951 Aug 31 23:24	14°♓32'32	-0°46'29
min. Earth dist.	7951 Aug 31 22:41	14°♓32'36	17.98951 AU
direct	7951 Nov 17 02:05	12°♓30'06	
evening set	7952 Feb 19 02:11	15°♓48'37	
conjunction	7952 Mar 05 23:17	16°♓46'21	-0°43'04
minimum elong	7952 Mar 05 23:17	16°♓46'21	0°43'02
max. Earth dist.	7952 Mar 06 00:45	16°♓46'34	20.02083 AU
morning rise	7952 Mar 21 18:26	17°♓43'47	
retrograde	7952 Jun 21 07:22	20°♓57'56	
opposition	7952 Sep 04 19:11	18°♓57'59	-0°49'05
min. Earth dist.	7952 Sep 04 16:22	18°♓58'16	18.05207 AU
direct	7952 Nov 20 23:44	16°♓55'51	
evening set	7953 Feb 22 17:44	20°♓13'14	
conjunction	7953 Mar 10 14:08	21°♓10'39	-0°45'17
minimum elong	7953 Mar 10 14:08	21°♓10'39	0°45'15
max. Earth dist.	7953 Mar 10 17:00	21°♓11'05	20.08338 AU
morning rise	7953 Mar 26 08:44	22°♓07'49	
retrograde	7953 Jun 25 21:11	25°♓21'17	
opposition	7953 Sep 09 14:15	23°♓21'26	-0°51'22
min. Earth dist.	7953 Sep 09 11:21	23°♓21'44	18.11474 AU
direct	7953 Nov 25 18:05	21°♓19'35	
evening set	7954 Feb 27 08:16	24°♓35'49	
conjunction	7954 Mar 15 03:59	25°♓32'56	-0°47'13
minimum elong	7954 Mar 15 03:59	25°♓32'56	0°47'12
max. Earth dist.	7954 Mar 15 07:51	25°♓33'31	20.14613 AU
morning rise	7954 Mar 30 22:10	26°♓29'50	
retrograde	7954 Jun 30 12:44	29°♓42'37	
opposition	7954 Sep 14 08:36	27°♓42'51	-0°53'21
min. Earth dist.	7954 Sep 14 03:24	27°♓43'24	18.17754 AU
direct	7954 Nov 30 13:45	25°♓41'18	
evening set	7955 Mar 03 21:46	28°♓56'22	
conjunction	7955 Mar 19 16:52	29°♓53'12	-0°48'52
minimum elong	7955 Mar 19 16:52	29°♓53'12	0°48'52
max. Earth dist.	7955 Mar 19 22:37	29°♓54'04	20.20901 AU
	7955 Mar 21 13:53	0°♈	
morning rise	7955 Apr 04 10:33	0°♈49'50	
retrograde	7955 Jul 05 01:10	4°♈02'00	
opposition	7955 Sep 19 02:31	2°♈02'19	-0°55'00
min. Earth dist.	7955 Sep 18 20:56	2°♈02'54	18.24074 AU
direct	7955 Dec 05 06:33	0°♈01'04	
evening set	7956 Mar 07 10:26	3°♈15'01	
conjunction	7956 Mar 23 04:56	4°♈11'33	-0°50'13
minimum elong	7956 Mar 23 04:56	4°♈11'33	0°50'13
max. Earth dist.	7956 Mar 23 11:39	4°♈12'34	20.27248 AU
morning rise	7956 Apr 07 22:21	5°♈07'57	
retrograde	7956 Jul 08 15:37	8°♈19'30	
opposition	7956 Sep 22 19:30	6°♈19'56	-0°56'20
min. Earth dist.	7956 Sep 22 11:26	6°♈20'46	18.30444 AU
direct	7956 Dec 08 23:45	4°♈19'01	
evening set	7957 Mar 11 22:08	7°♈31'51	
conjunction	7957 Mar 27 16:14	8°♈28'08	-0°51'17
minimum elong	7957 Mar 27 16:14	8°♈28'08	0°51'19
max. Earth dist.	7957 Mar 28 00:58	8°♈29'27	20.33625 AU
morning rise	7957 Apr 12 09:17	9°♈24'17	
retrograde	7957 Jul 13 03:16	12°♈35'16	
opposition	7957 Sep 27 12:01	10°♈35'51	-0°57'20
min. Earth dist.	7957 Sep 27 03:38	10°♈36'42	18.36831 AU
direct	7957 Dec 13 14:47	8°♈35'18	
evening set	7958 Mar 16 09:12	11°♈47'04	

conjunction	7958 Apr 01 02:46	12°♈43'05	-0°52'04
minimum elong	7958 Apr 01 02:46	12°♈43'05	0°52'05
max. Earth dist.	7958 Apr 01 12:09	12°♈44'29	20.40009 AU
morning rise	7958 Apr 16 19:42	13°♈39'01	
retrograde	7958 Jul 17 16:53	16°♈49'27	
opposition	7958 Oct 02 03:42	14°♈50'12	-0°58'01
min. Earth dist.	7958 Oct 01 17:03	14°♈51'17	18.43190 AU
direct	7958 Dec 18 05:49	12°♈50'02	
evening set	7959 Mar 20 19:27	16°♈00'45	
conjunction	7959 Apr 05 12:45	16°♈56'32	-0°52'33
minimum elong	7959 Apr 05 12:45	16°♈56'32	0°52'35
max. Earth dist.	7959 Apr 06 00:05	16°♈58'14	20.46327 AU
morning rise	7959 Apr 21 05:24	17°♈52'16	
retrograde	7959 Jul 22 03:50	21°♈02'11	
opposition	7959 Oct 06 19:05	19°♈03'06	-0°58'23
min. Earth dist.	7959 Oct 06 08:15	19°♈04'12	18.49462 AU
direct	7959 Dec 22 19:36	17°♈03'21	
evening set	7960 Mar 24 04:59	20°♈13'02	
conjunction	7960 Apr 08 21:53	21°♈08'35	-0°52'45
minimum elong	7960 Apr 08 21:53	21°♈08'35	0°52'48
max. Earth dist.	7960 Apr 09 09:35	21°♈10'19	20.52536 AU
morning rise	7960 Apr 24 14:37	22°♈04'07	
retrograde	7960 Jul 25 17:14	25°♈13'35	
opposition	7960 Oct 10 09:43	23°♈14'39	-0°58'26
min. Earth dist.	7960 Oct 09 20:58	23°♈15'56	18.55584 AU
direct	7960 Dec 26 09:06	21°♈15'16	
evening set	7961 Mar 28 13:58	24°♈23'58	
conjunction	7961 Apr 13 06:44	25°♈19'19	-0°52'41
minimum elong	7961 Apr 13 06:44	25°♈19'19	0°52'44
max. Earth dist.	7961 Apr 13 20:08	25°♈21'18	20.58546 AU
morning rise	7961 Apr 28 23:18	26°♈14'41	
retrograde	7961 Jul 30 03:05	29°♈23'40	
opposition	7961 Oct 14 23:45	27°♈24'54	-0°58'11
min. Earth dist.	7961 Oct 14 11:08	27°♈26'10	18.61478 AU
direct	7961 Dec 30 21:42	25°♈25'54	
evening set	7962 Apr 01 22:29	28°♈33'38	
conjunction	7962 Apr 17 14:57	29°♈28'47	-0°52'20
minimum elong	7962 Apr 17 14:57	29°♈28'47	0°52'25
max. Earth dist.	7962 Apr 18 04:14	29°♈30'45	20.64308 AU
	7962 Apr 26 10:46	0°♉	
morning rise	7962 May 03 07:41	0°♉23'58	
retrograde	7962 Aug 03 15:55	3°♉32'32	
opposition	7962 Oct 19 13:19	1°♉33'54	-0°57'38
min. Earth dist.	7962 Oct 18 23:12	1°♉35'19	18.67092 AU
	7962 Dec 03 08:39	30°℞♈	
direct	7963 Jan 04 10:28	29°♈35'14	
	7963 Feb 04 19:18	0°♉	
evening set	7963 Apr 06 06:16	2°♉42'03	
conjunction	7963 Apr 21 22:43	3°♉37'01	-0°51'43
minimum elong	7963 Apr 21 22:43	3°♉37'01	0°51'47
max. Earth dist.	7963 Apr 22 13:32	3°♉39'12	20.69743 AU
morning rise	7963 May 07 15:24	4°♉32'03	
retrograde	7963 Aug 08 00:59	7°♉40'13	
opposition	7963 Oct 24 02:31	5°♉41'41	-0°56'48
min. Earth dist.	7963 Oct 23 12:37	5°♉43'05	18.72348 AU
direct	7964 Jan 08 21:53	3°♉43'20	
evening set	7964 Apr 09 13:44	6°♉49'15	
conjunction	7964 Apr 25 06:03	7°♉44'03	-0°50'51
minimum elong	7964 Apr 25 06:03	7°♉44'03	0°50'56
max. Earth dist.	7964 Apr 25 20:24	7°♉46'09	20.74809 AU
morning rise	7964 May 10 23:03	8°♉38'57	
retrograde	7964 Aug 11 12:31	11°♉46'43	
opposition	7964 Oct 27 14:55	9°♉48'14	-0°55'40
min. Earth dist.	7964 Oct 26 23:57	9°♉49'45	18.77212 AU
direct	7965 Jan 12 09:59	7°♉50'08	
evening set	7965 Apr 13 20:35	10°♉55'12	
conjunction	7965 Apr 29 13:04	11°♉49'52	-0°49'43
minimum elong	7965 Apr 29 13:04	11°♉49'52	0°49'48
max. Earth dist.	7965 Apr 30 04:42	11°♉52'09	20.79449 AU
morning rise	7965 May 15 06:10	12°♉44'38	
	7965 Jun 30 17:11	15°♉	
retrograde	7965 Aug 15 20:45	15°♉52'01	
	7965 Oct 02 18:54	15°℞♉	
opposition	7965 Nov 01 02:57	13°♉53'34	-0°54'16
min. Earth dist.	7965 Oct 31 12:19	13°♉55'03	18.81632 AU
direct	7966 Jan 16 20:23	11°♉55'42	
evening set	7966 Apr 18 03:00	14°♉59'55	
	7966 Apr 18 03:32	15°♉	
conjunction	7966 May 03 19:26	15°♉54'26	-0°48'20
minimum elong	7966 May 03 19:26	15°♉54'26	0°48'27
max. Earth dist.	7966 May 04 10:30	15°♉56'37	20.83659 AU
morning rise	7966 May 19 12:57	16°♉49'05	
retrograde	7966 Aug 20 06:42	19°♉56'08	
opposition	7966 Nov 05 14:21	17°♉57'40	-0°52'36
min. Earth dist.	7966 Nov 04 22:47	17°♉59'13	18.85632 AU
direct	7967 Jan 21 07:23	15°♉59'57	
evening set	7967 Apr 22 08:49	19°♉03'23	
conjunction	7967 May 08 01:32	19°♉57'47	-0°46'43
minimum elong	7967 May 08 01:32	19°♉57'47	0°46'50
max. Earth dist.	7967 May 08 18:03	20°♉00'11	20.87455 AU
morning rise	7967 May 23 19:17	20°♉52'20	
retrograde	7967 Aug 24 14:20	23°♉59'03	
min. Earth dist.	7967 Nov 09 09:52	22°♉02'06	18.89238 AU
opposition	7967 Nov 10 01:18	22°♉00'33	-0°50'40
direct	7968 Jan 25 16:50	20°♉02'59	
evening set	7968 Apr 25 14:15	23°♉05'40	
conjunction	7968 May 11 07:03	23°♉59'57	-0°44'53
minimum elong	7968 May 11 07:03	23°♉59'57	0°44'59
max. Earth dist.	7968 May 11 23:07	24°♉02'17	20.90889 AU
morning rise	7968 May 27 01:22	24°♉54'27	
retrograde	7968 Aug 27 23:06	28°♉00'52	
opposition	7968 Nov 13 11:38	26°♉02'19	-0°48'30
min. Earth dist.	7968 Nov 12 19:17	26°♉03'57	18.92505 AU
direct	7969 Jan 29 01:59	24°♉04'53	
evening set	7969 Apr 29 19:18	27°♉06'54	
conjunction	7969 May 15 12:29	28°♉01'06	-0°42'49
minimum elong	7969 May 15 12:29	28°♉01'06	0°42'56
max. Earth dist.	7969 May 16 06:00	28°♉03'38	20.93981 AU
morning rise	7969 May 31 07:04	28°♉55'32	
	7969 Jun 20 06:06	0°♊	
retrograde	7969 Sep 01 06:27	2°♊01'43	
opposition	7969 Nov 17 21:24	0°♊03'09	-0°46'06
min. Earth dist.	7969 Nov 17 05:03	0°♊04'47	18.95437 AU
	7969 Nov 19 04:50	30°℞♉	
direct	7970 Feb 02 10:16	28°♉05'51	
	7970 Apr 13 00:58	0°♊	
evening set	7970 May 04 00:12	1°♊07'16	
conjunction	7970 May 19 17:33	2°♊01'24	-0°40'33
minimum elong	7970 May 19 17:33	2°♊01'24	0°40'40
max. Earth dist.	7970 May 20 10:29	2°♊03'51	20.96764 AU
morning rise	7970 Jun 04 12:46	2°♊55'47	
retrograde	7970 Sep 05 14:41	6°♊01'48	

opposition	7970 Nov 22 06:54	4°♊03'12	-0°43'29
min. Earth dist.	7970 Nov 21 13:46	4°♊04'55	18.98066 AU
direct	7971 Feb 06 17:46	2°♊06'02	
evening set	7971 May 08 04:36	5°♊06'57	
conjunction	7971 May 23 22:28	6°♊01'02	-0°38'06
minimum elong	7971 May 23 22:28	6°♊01'02	0°38'14
max. Earth dist.	7971 May 24 16:48	6°♊03'40	20.99224 AU
morning rise	7971 Jun 08 18:05	6°♊55'24	
retrograde	7971 Sep 09 22:08	10°♊01'16	
opposition	7971 Nov 26 16:04	8°♊02'41	-0°40'39
min. Earth dist.	7971 Nov 25 22:57	8°♊04'24	19.00355 AU
direct	7972 Feb 11 01:12	6°♊05'41	
evening set	7972 May 11 09:09	9°♊06'08	
conjunction	7972 May 27 03:18	10°♊00'11	-0°35'28
minimum elong	7972 May 27 03:18	10°♊00'11	0°35'35
max. Earth dist.	7972 May 27 20:50	10°♊02'43	21.01349 AU
morning rise	7972 Jun 11 23:40	10°♊54'33	
retrograde	7972 Sep 13 06:39	14°♊00'21	
min. Earth dist.	7972 Nov 29 07:18	12°♊03'31	19.02300 AU
opposition	7972 Nov 30 00:47	12°♊01'46	-0°37'39
direct	7973 Feb 14 07:34	10°♊04'53	
evening set	7973 May 15 13:31	13°♊04'59	
conjunction	7973 May 31 08:17	13°♊59'02	-0°32'40
minimum elong	7973 May 31 08:17	13°♊59'02	0°32'48
max. Earth dist.	7973 Jun 01 02:54	14°♊01'43	21.03097 AU
morning rise	7973 Jun 16 05:06	14°♊53'25	
retrograde	7973 Sep 17 13:57	17°♊59'11	
opposition	7973 Dec 04 09:23	16°♊00'38	-0°34'28
min. Earth dist.	7973 Dec 03 16:08	16°♊02'21	19.03841 AU
direct	7974 Feb 18 14:21	14°♊03'54	
evening set	7974 May 19 17:55	17°♊03'41	
conjunction	7974 Jun 04 13:02	17°♊57'45	-0°29'43
minimum elong	7974 Jun 04 13:02	17°♊57'45	0°29'51
max. Earth dist.	7974 Jun 05 06:37	18°♊00'16	21.04437 AU
morning rise	7974 Jun 20 10:39	18°♊52'09	
retrograde	7974 Sep 21 23:06	21°♊57'58	
opposition	7974 Dec 08 17:51	19°♊59'25	-0°31'07
min. Earth dist.	7974 Dec 08 00:36	20°♊01'08	19.04963 AU
direct	7975 Feb 22 20:14	18°♊02'48	
evening set	7975 May 23 22:25	21°♊02'22	
conjunction	7975 Jun 08 18:12	21°♊56'27	-0°26'37
minimum elong	7975 Jun 08 18:12	21°♊56'27	0°26'46
max. Earth dist.	7975 Jun 09 12:39	21°♊59'06	21.05322 AU
morning rise	7975 Jun 24 16:21	22°♊50'54	
retrograde	7975 Sep 26 06:15	25°♊56'48	
min. Earth dist.	7975 Dec 12 09:20	23°♊59'56	19.05601 AU
opposition	7975 Dec 13 02:05	23°♊58'15	-0°27'37
direct	7976 Feb 27 02:37	22°♊01'44	
evening set	7976 May 27 03:09	25°♊01'09	
conjunction	7976 Jun 11 23:25	25°♊55'16	-0°23'24
minimum elong	7976 Jun 11 23:25	25°♊55'16	0°23'33
max. Earth dist.	7976 Jun 12 16:22	25°♊57'42	21.05710 AU
morning rise	7976 Jun 27 22:26	26°♊49'47	
retrograde	7976 Sep 29 15:34	29°♊55'48	
opposition	7976 Dec 16 10:14	27°♊57'14	-0°24'00
min. Earth dist.	7976 Dec 15 18:02	27°♊58'51	19.05720 AU
direct	7977 Mar 02 08:06	26°♊00'45	
evening set	7977 May 31 08:01	29°♊00'04	
conjunction	7977 Jun 16 05:01	29°♊54'16	-0°20'04
minimum elong	7977 Jun 16 05:01	29°♊54'16	0°20'12
max. Earth dist.	7977 Jun 16 22:23	29°♊56'45	21.05539 AU
	7977 Jun 17 21:00	0°♋	
morning rise	7977 Jul 02 04:35	0°♋48'51	
retrograde	7977 Oct 03 22:53	3°♋55'01	
opposition	7977 Dec 20 18:13	1°♋56'24	-0°20'15
min. Earth dist.	7977 Dec 20 02:40	1°♋57'57	19.05256 AU
	7978 Mar 04 17:42	30°℞♊	
direct	7978 Mar 06 14:35	29°♊59'55	
	7978 Mar 08 11:12	0°♋	
evening set	7978 Jun 04 13:11	2°♋59'12	
conjunction	7978 Jun 20 10:42	3°♋53'28	-0°16'38
minimum elong	7978 Jun 20 10:42	3°♋53'28	0°16'47
max. Earth dist.	7978 Jun 21 02:16	3°♋55'41	21.04798 AU
morning rise	7978 Jul 06 11:11	4°♋48'08	
retrograde	7978 Oct 08 07:53	7°♋54'29	
min. Earth dist.	7978 Dec 24 11:28	5°♋57'14	19.04230 AU
opposition	7978 Dec 25 02:15	5°♋55'45	-0°16'24
direct	7979 Mar 10 19:43	3°♋59'12	
evening set	7979 Jun 08 18:17	6°♋58'29	
conjunction	7979 Jun 24 16:40	7°♋52'51	-0°13'07
minimum elong	7979 Jun 24 16:40	7°♋52'51	0°13'15
behind sun begin	7979 Jun 24 12:48	7°♋52'19	
behind sun end	7979 Jun 24 20:33	7°♋53'24	
max. Earth dist.	7979 Jun 25 08:36	7°♋55'08	21.03491 AU
morning rise	7979 Jul 10 17:48	8°♋47'38	
retrograde	7979 Oct 12 15:47	11°♋54'10	
opposition	7979 Dec 29 10:07	9°♋55'18	-0°12'28
min. Earth dist.	7979 Dec 28 19:57	9°♋56'43	19.02645 AU
direct	7980 Mar 14 02:27	7°♋58'39	
evening set	7980 Jun 11 23:52	10°♋58'00	
conjunction	7980 Jun 27 22:50	11°♋52'28	-0°09'32
minimum elong	7980 Jun 27 22:50	11°♋52'28	0°09'40
behind sun begin	7980 Jun 27 17:23	11°♋51'42	
behind sun end	7980 Jun 28 04:17	11°♋53'14	
max. Earth dist.	7980 Jun 28 12:57	11°♋54'29	21.01666 AU
morning rise	7980 Jul 14 00:56	12°♋47'22	
retrograde	7980 Oct 16 00:38	15°♋54'08	
opposition	7981 Jan 01 17:45	13°♋55'05	-0°08'27
min. Earth dist.	7981 Jan 01 04:30	13°♋56'25	19.00586 AU
direct	7981 Mar 18 07:29	11°♋58'17	
evening set	7981 Jun 16 05:32	14°♋57'46	
conjunction	7981 Jul 02 05:24	15°♋52'22	-0°05'54
minimum elong	7981 Jul 02 05:23	15°♋52'22	0°06'02
behind sun begin	7981 Jul 01 23:05	15°♋51'29	
behind sun end	7981 Jul 02 11:41	15°♋53'14	
max. Earth dist.	7981 Jul 02 19:57	15°♋54'26	20.99382 AU
morning rise	7981 Jul 18 08:06	16°♋47'23	
retrograde	7981 Oct 20 09:00	19°♋54'24	
opposition	7982 Jan 06 01:27	17°♋55'11	-0°04'24
min. Earth dist.	7982 Jan 05 12:35	17°♋56'29	18.98093 AU
direct	7982 Mar 22 13:48	15°♋58'15	
evening set	7982 Jun 20 11:32	18°♋57'54	
conjunction	7982 Jul 06 11:58	19°♋52'38	-0°02'13
minimum elong	7982 Jul 06 11:58	19°♋52'38	0°02'21
behind sun begin	7982 Jul 06 05:21	19°♋51'43	
behind sun end	7982 Jul 06 18:35	19°♋53'34	
max. Earth dist.	7982 Jul 07 00:53	19°♋54'29	20.96708 AU
morning rise	7982 Jul 22 15:40	20°♋47'49	
retrograde	7982 Oct 24 18:34	23°♋55'09	
opposition	7983 Jan 10 09:16	21°♋55'45	-0°00'19
min. Earth dist.	7983 Jan 09 21:13	21°♋56'58	18.95244 AU
asc. node	7983 Feb 07 23:08	20°♋50'16	

direct	7983 Mar	26	19:22	19°♋58'38	
evening set	7983 Jun	24	17:55	22°♋58'34	
conjunction	7983 Jul	10	19:16	23°♋53'27	0°01'35
minimum elong	7983 Jul	10	19:17	23°♋53'28	0°01'27
behind sun begin	7983 Jul	10	12:39	23°♋52'32	
behind sun end	7983 Jul	11	01:55	23°♋54'23	
max. Earth dist.	7983 Jul	11	08:41	23°♋55'22	20.93685 AU
morning rise	7983 Jul	26	23:37	24°♋48'48	
retrograde	7983 Oct	29	03:44	27°♋56'28	
opposition	7984 Jan	14	16:56	25°♋56'54	0°03'46
min. Earth dist.	7984 Jan	14	05:11	25°♋58'05	18.92057 AU
direct	7984 Mar	30	01:06	23°♋59'38	
evening set	7984 Jun	28	00:53	26°♋59'54	
conjunction	7984 Jul	14	02:55	27°♋54'58	0°05'19
minimum elong	7984 Jul	14	02:54	27°♋54'58	0°05'11
behind sun begin	7984 Jul	13	20:28	27°♋54'04	
behind sun end	7984 Jul	14	09:21	27°♋55'52	
max. Earth dist.	7984 Jul	14	14:29	27°♋56'36	20.90350 AU
morning rise	7984 Jul	30	08:14	28°♋50'28	
	7984 Aug	21	03:13	0°♌	
retrograde	7984 Nov	01	14:09	1°♌58'33	
	7985 Jan	17	13:09	30°℞♋	
opposition	7985 Jan	18	00:53	29°♋58'48	0°07'52
min. Earth dist.	7985 Jan	17	14:08	29°♋59'54	18.88574 AU
direct	7985 Apr	03	07:08	28°♋01'21	
	7985 Jun	13	00:40	0°♌	
evening set	7985 Jul	02	08:10	1°♌02'04	
conjunction	7985 Jul	18	11:08	1°♌57'18	0°08'59
minimum elong	7985 Jul	18	11:08	1°♌57'18	0°08'51
behind sun begin	7985 Jul	18	05:25	1°♌56'30	
behind sun end	7985 Jul	18	16:51	1°♌58'06	
max. Earth dist.	7985 Jul	18	23:08	1°♌59'01	20.86715 AU
morning rise	7985 Aug	03	17:03	2°♌53'00	
retrograde	7985 Nov	06	00:26	6°♌01'31	
opposition	7986 Jan	22	08:56	4°♌01'38	0°11'55
min. Earth dist.	7986 Jan	21	22:26	4°♌02'42	18.84790 AU
direct	7986 Apr	07	13:24	2°♌04'02	
evening set	7986 Jul	06	16:13	5°♌05'13	
conjunction	7986 Jul	22	19:50	6°♌00'39	0°12'37
minimum elong	7986 Jul	22	19:50	6°♌00'39	0°12'30
behind sun begin	7986 Jul	22	15:33	6°♌00'03	
behind sun end	7986 Jul	23	00:07	6°♌01'15	
max. Earth dist.	7986 Jul	23	05:56	6°♌02'05	20.82803 AU
morning rise	7986 Aug	08	02:44	6°♌56'33	
retrograde	7986 Nov	10	11:30	10°♌05'33	
opposition	7987 Jan	26	17:20	8°♌05'31	0°15'56
min. Earth dist.	7987 Jan	26	08:06	8°♌06'28	18.80742 AU
direct	7987 Apr	11	19:34	6°♌07'45	
evening set	7987 Jul	11	00:46	9°♌09'30	
conjunction	7987 Jul	27	05:24	10°♌05'09	0°16'13
minimum elong	7987 Jul	27	05:24	10°♌05'09	0°16'06
max. Earth dist.	7987 Jul	27	15:44	10°♌06'38	20.78609 AU
morning rise	7987 Aug	12	12:57	11°♌01'15	
retrograde	7987 Nov	14	23:28	14°♌10'47	
opposition	7988 Jan	31	01:58	12°♌10'38	0°19'54
min. Earth dist.	7988 Jan	30	17:10	12°♌11'32	18.76392 AU
direct	7988 Apr	15	03:10	10°♌12'41	
evening set	7988 Jul	14	10:20	13°♌15'05	
conjunction	7988 Jul	30	15:35	14°♌10'57	0°19'44
minimum elong	7988 Jul	30	15:35	14°♌10'57	0°19'39
max. Earth dist.	7988 Jul	30	23:41	14°♌12'07	20.74111 AU
	7988 Aug	13	20:36	15°♌	
morning rise	7988 Aug	16	00:03	15°♌07'17	
retrograde	7988 Nov	18	10:59	18°♌17'22	
opposition	7989 Feb	03	10:56	16°♌17'06	0°23'46
min. Earth dist.	7989 Feb	03	03:52	16°♌17'49	18.71738 AU
	7989 Mar	09	10:48	15°℞♌	
direct	7989 Apr	19	09:37	14°♌18'57	
	7989 May	29	12:03	15°♌	
evening set	7989 Jul	18	20:30	17°♌22'03	
conjunction	7989 Aug	04	02:44	18°♌18'10	0°23'12
minimum elong	7989 Aug	04	02:44	18°♌18'10	0°23'06
max. Earth dist.	7989 Aug	04	10:42	18°♌19'19	20.69285 AU
morning rise	7989 Aug	20	11:46	19°♌14'43	
retrograde	7989 Nov	23	00:27	22°♌25'24	
opposition	7990 Feb	07	20:20	20°♌25'00	0°27'33
min. Earth dist.	7990 Feb	07	13:53	20°♌25'39	18.66732 AU
direct	7990 Apr	23	18:36	18°♌26'38	
evening set	7990 Jul	23	07:32	21°♌30'29	
conjunction	7990 Aug	08	14:24	22°♌26'50	0°26'33
minimum elong	7990 Aug	08	14:24	22°♌26'50	0°26'27
max. Earth dist.	7990 Aug	08	19:49	22°♌27'37	20.64102 AU
morning rise	7990 Aug	25	00:20	23°♌23'38	
retrograde	7990 Nov	27	12:38	26°♌34'56	
opposition	7991 Feb	12	06:18	24°♌34'21	0°31'13
min. Earth dist.	7991 Feb	12	01:52	24°♌34'48	18.61369 AU
direct	7991 Apr	28	02:07	22°♌35'43	
evening set	7991 Jul	27	19:21	25°♌40'22	
conjunction	7991 Aug	13	03:13	26°♌36'59	0°29'47
minimum elong	7991 Aug	13	03:13	26°♌36'59	0°29'43
max. Earth dist.	7991 Aug	13	08:11	26°♌37'42	20.58553 AU
morning rise	7991 Aug	29	13:42	27°♌34'01	
	7991 Oct	19	17:49	0°♍	
retrograde	7991 Dec	02	03:01	0°♍45'54	
	7992 Jan	15	05:24	30°℞♌	
opposition	7992 Feb	16	16:24	28°♌45'08	0°34'44
min. Earth dist.	7992 Feb	16	12:39	28°♌45'32	18.55638 AU
direct	7992 May	01	12:29	26°♌46'13	
evening set	7992 Jul	31	08:06	29°♌51'42	
	7992 Aug	02	18:15	0°♍	
conjunction	7992 Aug	16	16:35	0°♍48'34	0°32'53
minimum elong	7992 Aug	16	16:35	0°♍48'34	0°32'48
max. Earth dist.	7992 Aug	16	18:50	0°♍48'54	20.52662 AU
morning rise	7992 Sep	02	03:55	1°♍45'52	
retrograde	7992 Dec	05	16:01	4°♍58'22	
opposition	7993 Feb	20	03:07	2°♍57'22	0°38'06
min. Earth dist.	7993 Feb	20	01:28	2°♍57'33	18.49603 AU
direct	7993 May	05	21:17	0°♍58'07	
evening set	7993 Aug	04	21:16	4°♍04'27	
conjunction	7993 Aug	21	06:42	5°♍01'36	0°35'50
minimum elong	7993 Aug	21	06:41	5°♍01'36	0°35'46
max. Earth dist.	7993 Aug	21	08:37	5°♍01'53	20.46497 AU
morning rise	7993 Sep	06	18:30	5°♍59'09	
retrograde	7993 Dec	10	06:58	9°♍12'16	
opposition	7994 Feb	24	14:08	7°♍11'03	0°41'16
min. Earth dist.	7994 Feb	24	12:50	7°♍11'11	18.43322 AU
direct	7994 May	10	08:50	5°♍11'27	
evening set	7994 Aug	09	11:30	8°♍18'42	
conjunction	7994 Aug	25	21:31	9°♍16'08	0°38'35
minimum elong	7994 Aug	25	21:31	9°♍16'08	0°38'32
max. Earth dist.	7994 Aug	25	21:02	9°♍16'04	20.40129 AU
morning rise	7994 Sep	11	10:06	10°♍13'56	

retrograde	7994 Dec 14 20:58	13°♑27'42	
opposition	7995 Mar 01 01:37	11°♑26'14	0°44'14
min. Earth dist.	7995 Mar 01 02:22	11°♑26'10	18.36892 AU
direct	7995 May 14 18:51	9°♑26'15	
evening set	7995 Aug 14 02:23	12°♑34'28	
conjunction	7995 Aug 30 13:18	13°♑32'11	0°41'09
minimum elong	7995 Aug 30 13:18	13°♑32'11	0°41'06
max. Earth dist.	7995 Aug 30 12:31	13°♑32'05	20.33642 AU
morning rise	7995 Sep 16 02:21	14°♑30'15	
retrograde	7995 Dec 19 12:49	17°♑44'39	
opposition	7996 Mar 04 13:29	15°♑42'59	0°46'59
min. Earth dist.	7996 Mar 04 14:25	15°♑42'53	18.30362 AU
direct	7996 May 18 07:29	13°♑42'38	
evening set	7996 Aug 17 18:16	16°♑51'52	
conjunction	7996 Sep 03 05:42	17°♑49'51	0°43'30
minimum elong	7996 Sep 03 05:42	17°♑49'51	0°43'28
max. Earth dist.	7996 Sep 03 02:43	17°♑49'25	20.27086 AU
morning rise	7996 Sep 19 19:21	18°♑48'11	
retrograde	7996 Dec 23 03:42	22°♑03'15	
opposition	7997 Mar 09 01:58	20°♑01'21	0°49'28
min. Earth dist.	7997 Mar 09 04:50	20°♑01'03	18.23810 AU
direct	7997 May 22 19:03	18°♑00'38	
evening set	7997 Aug 22 10:49	21°♑10'55	
conjunction	7997 Sep 07 23:04	22°♑09'13	0°45'36
minimum elong	7997 Sep 07 23:04	22°♑09'13	0°45'35
max. Earth dist.	7997 Sep 07 19:49	22°♑08'44	20.20545 AU
morning rise	7997 Sep 24 13:05	23°♑07'47	
retrograde	7997 Dec 27 20:42	26°♑23'31	
opposition	7998 Mar 13 14:55	24°♑21'27	0°51'41
min. Earth dist.	7998 Mar 13 17:43	24°♑21'09	18.17294 AU
direct	7998 May 27 08:45	22°♑20'23	
evening set	7998 Aug 27 04:20	25°♑31'45	
conjunction	7998 Sep 12 17:06	26°♑30'19	0°47'28
minimum elong	7998 Sep 12 17:05	26°♑30'19	0°47'28
max. Earth dist.	7998 Sep 12 11:58	26°♑29'34	20.14061 AU
morning rise	7998 Sep 29 07:39	27°♑29'10	
	7998 Nov 20 03:34	0°♎	
retrograde	7999 Jan 01 12:57	0°♎45'34	
	7999 Feb 13 17:00	30°℞♑	
opposition	7999 Mar 18 04:38	28°♑43'21	0°53'38
min. Earth dist.	7999 Mar 18 09:21	28°♑42'51	18.10865 AU
direct	7999 May 31 21:41	26°♑41'57	
evening set	7999 Aug 31 22:47	29°♑54'26	
	7999 Sep 02 12:59	0°♎	
conjunction	7999 Sep 17 12:16	0°♎53'18	0°49'04
minimum elong	7999 Sep 17 12:15	0°♎53'18	0°49'03
max. Earth dist.	7999 Sep 17 06:40	0°♎52'28	20.07690 AU
morning rise	7999 Oct 04 03:08	1°♎52'24	
retrograde	8000 Jan 06 07:44	5°♎09'28	
opposition	8000 Mar 21 18:43	3°♎07'07	0°55'16
min. Earth dist.	8000 Mar 21 23:23	3°♎06'37	18.04554 AU
direct	8000 Jun 04 12:54	1°♎05'25	
evening set	8000 Sep 04 18:17	4°♎19'03	
conjunction	8000 Sep 21 08:11	5°♎18'12	0°50'23
minimum elong	8000 Sep 21 08:11	5°♎18'12	0°50'23
max. Earth dist.	8000 Sep 21 00:58	5°♎17'07	20.01443 AU
morning rise	8000 Oct 07 23:25	6°♎17'34	
retrograde	8001 Jan 10 01:23	9°♎35'18	
opposition	8001 Mar 26 09:45	7°♎32'53	0°56'35
min. Earth dist.	8001 Mar 26 16:22	7°♎32'10	17.98383 AU
direct	8001 Jun 09 02:44	5°♎30'53	
evening set	8001 Sep 09 14:27	8°♎45'41	
conjunction	8001 Sep 26 04:56	9°♎45'07	0°51'24
minimum elong	8001 Sep 26 04:55	9°♎45'07	0°51'26
max. Earth dist.	8001 Sep 25 20:58	9°♎43'55	19.95346 AU
morning rise	8001 Oct 12 20:24	10°♎44'44	
retrograde	8002 Jan 14 22:23	14°♎03'09	
opposition	8002 Mar 31 01:18	12°♎00'38	0°57'35
min. Earth dist.	8002 Mar 31 08:01	11°♎59'55	17.92348 AU
direct	8002 Jun 13 19:36	9°♎58'22	
evening set	8002 Sep 14 11:55	13°♎14'20	
conjunction	8002 Oct 01 02:47	14°♎14'03	0°52'08
minimum elong	8002 Oct 01 02:47	14°♎14'03	0°52'09
max. Earth dist.	8002 Sep 30 17:20	14°♎12'37	19.89361 AU
morning rise	8002 Oct 17 18:26	15°♎13'55	
retrograde	8003 Jan 19 17:35	18°♎32'57	
opposition	8003 Apr 04 17:37	16°♎30'23	0°58'14
min. Earth dist.	8003 Apr 05 02:31	16°♎29'26	17.86425 AU
direct	8003 Jun 18 11:03	14°♎27'48	
evening set	8003 Sep 19 10:18	17°♎44'57	
conjunction	8003 Oct 06 01:33	18°♎44'55	0°52'33
minimum elong	8003 Oct 06 01:33	18°♎44'55	0°52'36
max. Earth dist.	8003 Oct 05 14:40	18°♎43'17	19.83490 AU
morning rise	8003 Oct 22 17:23	19°♎45'02	
retrograde	8004 Jan 24 15:48	23°♎04'40	
opposition	8004 Apr 08 10:37	21°♎02'01	0°58'33
min. Earth dist.	8004 Apr 08 19:47	21°♎01'01	17.80603 AU
direct	8004 Jun 22 05:26	18°♎59'07	
evening set	8004 Sep 23 09:29	22°♎17'24	
conjunction	8004 Oct 10 01:04	23°♎17'38	0°52'39
minimum elong	8004 Oct 10 01:03	23°♎17'38	0°52'42
max. Earth dist.	8004 Oct 09 12:58	23°♎15'48	19.77706 AU
morning rise	8004 Oct 26 16:51	24°♎17'57	
retrograde	8005 Jan 28 12:13	27°♎38'08	
opposition	8005 Apr 13 04:27	25°♎35'23	0°58'29
min. Earth dist.	8005 Apr 13 15:35	25°♎34'11	17.74885 AU
direct	8005 Jun 26 23:07	23°♎32'10	
evening set	8005 Sep 28 09:29	26°♎51'32	
max. Earth dist.	8005 Oct 14 11:30	27°♎49'55	19.72069 AU
conjunction	8005 Oct 15 01:16	27°♎52'01	0°52'24
minimum elong	8005 Oct 15 01:16	27°♎52'01	0°52'29
morning rise	8005 Oct 31 17:10	28°♎52'33	
	8005 Nov 20 11:06	0°♏	
retrograde	8006 Feb 02 10:43	2°♏13'13	
opposition	8006 Apr 17 22:42	0°♏10'22	0°58'04
min. Earth dist.	8006 Apr 18 10:07	0°♏09'08	17.69335 AU
	8006 Apr 21 22:22	30°℞♎	
direct	8006 Jul 01 19:10	28°♎06'48	
	8006 Sep 07 09:17	0°♏	
evening set	8006 Oct 03 10:08	1°♏27'14	
max. Earth dist.	8006 Oct 19 11:52	2°♏25'45	19.66608 AU
conjunction	8006 Oct 20 02:15	2°♏27'57	0°51'50
minimum elong	8006 Oct 20 02:15	2°♏27'57	0°51'55
morning rise	8006 Nov 05 17:59	3°♏28'40	
retrograde	8007 Feb 07 07:54	6°♏49'47	
opposition	8007 Apr 22 17:45	4°♏46'49	0°57'15
min. Earth dist.	8007 Apr 23 06:48	4°♏45'24	17.63987 AU
direct	8007 Jul 06 14:59	2°♏42'55	
evening set	8007 Oct 08 11:35	6°♏04'22	
max. Earth dist.	8007 Oct 24 11:32	7°♏02'48	19.61399 AU
conjunction	8007 Oct 25 03:42	7°♏05'17	0°50'56

minimum elong	8007 Oct 25 03:42	7°♏05'17	0°51'00
morning rise	8007 Nov 10 19:26	8°♏06'11	
retrograde	8008 Feb 12 06:24	11°♏27'42	
opposition	8008 Apr 26 13:10	9°♏24'37	0°56'04
min. Earth dist.	8008 Apr 27 02:26	9°♏23'10	17.58929 AU
direct	8008 Jul 10 12:36	7°♏20'23	
evening set	8008 Oct 12 13:28	10°♏42'49	
conjunction	8008 Oct 29 05:46	11°♏43'56	0°49'41
minimum elong	8008 Oct 29 05:46	11°♏43'56	0°49'47
max. Earth dist.	8008 Oct 28 13:44	11°♏41'28	19.56499 AU
morning rise	8008 Nov 14 21:08	12°♏44'58	
	8008 Dec 27 16:02	15°♏	
retrograde	8009 Feb 16 04:33	16°♏06'51	
	8009 Apr 09 00:27	15°℞♏	
opposition	8009 May 01 09:20	14°♏03'41	0°54'31
min. Earth dist.	8009 May 01 23:38	14°♏02'07	17.54215 AU
direct	8009 Jul 15 10:24	11°♏59'08	
	8009 Oct 11 08:39	15°♏	
evening set	8009 Oct 17 15:49	15°♏22'28	
conjunction	8009 Nov 03 07:58	16°♏23'46	0°48'06
minimum elong	8009 Nov 03 07:58	16°♏23'46	0°48'11
max. Earth dist.	8009 Nov 02 14:19	16°♏21'02	19.51992 AU
morning rise	8009 Nov 19 23:15	17°♏24'57	
retrograde	8010 Feb 21 03:06	20°♏47'08	
opposition	8010 May 06 05:56	18°♏43'53	0°52'35
min. Earth dist.	8010 May 06 20:24	18°♏42'18	17.49927 AU
direct	8010 Jul 20 09:14	16°♏39'02	
evening set	8010 Oct 22 18:40	20°♏03'15	
conjunction	8010 Nov 08 10:54	21°♏04'42	0°46'11
minimum elong	8010 Nov 08 10:54	21°♏04'42	0°46'18
max. Earth dist.	8010 Nov 07 17:55	21°♏02'05	19.47926 AU
morning rise	8010 Nov 25 01:40	22°♏06'00	
retrograde	8011 Feb 26 02:10	25°♏28'26	
opposition	8011 May 11 03:01	23°♏25'09	0°50'17
min. Earth dist.	8011 May 11 17:57	23°♏23'31	17.46106 AU
direct	8011 Jul 25 08:41	21°♏20'03	
evening set	8011 Oct 27 22:07	24°♏45'06	
conjunction	8011 Nov 13 13:58	25°♏46'40	0°43'58
minimum elong	8011 Nov 13 13:58	25°♏46'40	0°44'05
max. Earth dist.	8011 Nov 12 19:34	25°♏43'49	19.44371 AU
morning rise	8011 Nov 30 04:28	26°♏48'03	
	8012 Feb 11 09:47	0°♐	
retrograde	8012 Mar 02 01:04	0°♐10'44	
	8012 Mar 21 21:03	30°℞♏	
opposition	8012 May 15 00:44	28°♏07'26	0°47'39
min. Earth dist.	8012 May 15 15:48	28°♏05'47	17.42832 AU
direct	8012 Jul 29 08:35	26°♏02'07	
evening set	8012 Nov 01 01:33	29°♏27'56	
	8012 Nov 09 18:44	0°♐	
conjunction	8012 Nov 17 17:19	0°♐29'37	0°41'26
minimum elong	8012 Nov 17 17:19	0°♐29'37	0°41'33
max. Earth dist.	8012 Nov 17 00:03	0°♐26'56	19.41375 AU
morning rise	8012 Dec 04 07:10	1°♐31'04	
retrograde	8013 Mar 07 01:05	4°♐53'55	
opposition	8013 May 19 22:57	2°♐50'41	0°44'41
min. Earth dist.	8013 May 20 13:47	2°♐49'04	17.40122 AU
direct	8013 Aug 03 09:27	0°♐45'14	
evening set	8013 Nov 06 05:35	4°♐11'45	
conjunction	8013 Nov 22 20:52	5°♐13'30	0°38'37
minimum elong	8013 Nov 22 20:52	5°♐13'30	0°38'46
max. Earth dist.	8013 Nov 22 02:31	5°♐10'39	19.38966 AU
morning rise	8013 Dec 09 10:19	6°♐15'01	
retrograde	8014 Mar 12 00:41	9°♐38'00	
opposition	8014 May 24 21:32	7°♐34'52	0°41'24
min. Earth dist.	8014 May 25 12:45	7°♐33'12	17.38009 AU
direct	8014 Aug 08 09:46	5°♐29'19	
evening set	8014 Nov 11 09:45	8°♐56'28	
max. Earth dist.	8014 Nov 27 07:28	9°♐55'35	19.37138 AU
conjunction	8014 Nov 28 00:48	9°♐58'17	0°35'32
minimum elong	8014 Nov 28 00:48	9°♐58'17	0°35'40
morning rise	8014 Dec 14 13:34	10°♐59'49	
retrograde	8015 Mar 17 01:55	14°♐22'54	
opposition	8015 May 29 20:38	12°♐19'54	0°37'50
min. Earth dist.	8015 May 30 11:21	12°♐18'18	17.36443 AU
direct	8015 Aug 13 11:30	10°♐14'18	
evening set	8015 Nov 16 14:15	13°♐42'00	
max. Earth dist.	8015 Dec 02 10:33	14°♐41'01	19.35835 AU
conjunction	8015 Dec 03 04:40	14°♐43'51	0°32'12
minimum elong	8015 Dec 03 04:40	14°♐43'51	0°32'21
morning rise	8015 Dec 19 16:48	15°♐45'23	
retrograde	8016 Mar 21 02:17	19°♐08'30	
opposition	8016 Jun 02 20:12	17°♐05'39	0°33'59
min. Earth dist.	8016 Jun 03 11:36	17°♐03'58	17.35402 AU
direct	8016 Aug 17 12:07	15°♐00'00	
evening set	8016 Nov 20 18:43	18°♐28'09	
conjunction	8016 Dec 07 08:40	19°♐30'00	0°28'39
minimum elong	8016 Dec 07 08:40	19°♐30'00	0°28'48
max. Earth dist.	8016 Dec 06 15:14	19°♐27'17	19.35040 AU
morning rise	8016 Dec 23 20:02	20°♐31'31	
retrograde	8017 Mar 26 04:05	23°♐54'36	
opposition	8017 Jun 07 20:05	21°♐51'53	0°29'55
min. Earth dist.	8017 Jun 08 10:40	21°♐50'17	17.34834 AU
direct	8017 Aug 22 14:45	19°♐46'13	
evening set	8017 Nov 25 23:12	23°♐14'42	
conjunction	8017 Dec 12 12:29	24°♐16'31	0°24'54
minimum elong	8017 Dec 12 12:29	24°♐16'31	0°25'02
max. Earth dist.	8017 Dec 11 18:47	24°♐13'45	19.34698 AU
morning rise	8017 Dec 28 23:06	25°♐17'59	
retrograde	8018 Mar 31 04:00	28°♐40'57	
opposition	8018 Jun 12 20:23	26°♐38'22	0°25'37
min. Earth dist.	8018 Jun 13 11:49	26°♐36'41	17.34717 AU
direct	8018 Aug 27 15:37	24°♐32'41	
evening set	8018 Dec 01 03:39	28°♐01'23	
conjunction	8018 Dec 17 16:15	29°♐03'09	0°20'58
minimum elong	8018 Dec 17 16:15	29°♐03'09	0°21'07
max. Earth dist.	8018 Dec 16 22:47	29°♐00'25	19.34799 AU
	8019 Jan 01 20:37	0°♑	
morning rise	8019 Jan 03 02:03	0°♑04'31	
retrograde	8019 Apr 05 05:21	3°♑27'19	
opposition	8019 Jun 17 20:42	1°♑24'51	0°21'09
min. Earth dist.	8019 Jun 18 11:03	1°♑23'17	17.35022 AU
	8019 Jul 23 14:16	30°℞♐	
direct	8019 Sep 01 19:39	29°♐19'10	
	8019 Oct 11 07:29	0°♑	
evening set	8019 Dec 06 07:53	2°♑47'58	
conjunction	8019 Dec 22 19:45	3°♑49'38	0°16'53
minimum elong	8019 Dec 22 19:45	3°♑49'38	0°17'02
max. Earth dist.	8019 Dec 22 02:42	3°♑46'58	19.35318 AU
morning rise	8020 Jan 08 04:36	4°♑50'54	
retrograde	8020 Apr 09 04:12	8°♑13'28	
opposition	8020 Jun 21 21:25	6°♑11'06	0°16'32
min. Earth dist.	8020 Jun 22 12:28	6°♑09'28	17.35762 AU

direct	8020 Sep 05 21:26	4°♉05'25	
evening set	8020 Dec 10 11:36	7°♉34'11	
conjunction	8020 Dec 26 22:36	8°♉35'45	0°12'42
minimum elong	8020 Dec 26 22:37	8°♉35'45	0°12'51
behind sun begin	8020 Dec 26 18:30	8°♉35'07	
behind sun end	8020 Dec 27 02:43	8°♉36'23	
max. Earth dist.	8020 Dec 26 05:39	8°♉33'06	19.36284 AU
morning rise	8021 Jan 12 06:42	9°♉36'52	
retrograde	8021 Apr 14 04:27	12°♉59'09	
opposition	8021 Jun 26 21:59	10°♉56'52	0°11'48
min. Earth dist.	8021 Jun 27 11:37	10°♉55'23	17.36939 AU
direct	8021 Sep 11 02:21	8°♉51'11	
evening set	8021 Dec 15 15:00	12°♉19'51	
max. Earth dist.	8021 Dec 31 09:30	13°♉18'48	19.37683 AU
conjunction	8022 Jan 01 01:16	13°♉21'16	0°08'26
minimum elong	8022 Jan 01 01:16	13°♉21'16	0°08'35
behind sun begin	8021 Dec 31 19:26	13°♉20'22	
behind sun end	8022 Jan 01 07:06	13°♉22'09	
morning rise	8022 Jan 17 08:19	14°♉22'14	
retrograde	8022 Apr 19 02:18	17°♉44'09	
opposition	8022 Jul 01 22:34	15°♉41'57	0°07'00
min. Earth dist.	8022 Jul 02 12:42	15°♉40'25	17.38567 AU
direct	8022 Sep 16 04:41	13°♉36'17	
evening set	8022 Dec 20 17:59	17°♉04'43	
max. Earth dist.	8023 Jan 05 11:27	18°♉03'29	19.39556 AU
conjunction	8023 Jan 06 03:15	18°♉05'58	0°04'08
minimum elong	8023 Jan 06 03:14	18°♉05'57	0°04'16
behind sun begin	8023 Jan 05 20:39	18°♉04'57	
behind sun end	8023 Jan 06 09:50	18°♉06'58	
morning rise	8023 Jan 22 09:30	19°♉06'45	
retrograde	8023 Apr 24 01:50	22°♉28'15	
opposition	8023 Jul 06 23:03	20°♉26'08	0°02'10
min. Earth dist.	8023 Jul 07 11:32	20°♉24'47	17.40677 AU
direct	8023 Sep 21 09:32	18°♉20'31	
desc. node	8023 Dec 18 10:15	21°♉21'46	
evening set	8023 Dec 25 20:05	21°♉48'36	
conjunction	8024 Jan 11 04:33	22°♉49'39	-0°00'17
minimum elong	8024 Jan 11 04:32	22°♉49'39	0°00'08
behind sun begin	8024 Jan 10 21:59	22°♉48'39	
behind sun end	8024 Jan 11 11:06	22°♉50'39	
max. Earth dist.	8024 Jan 10 14:49	22°♉47'31	19.41911 AU
morning rise	8024 Jan 27 09:41	23°♉50'15	
retrograde	8024 Apr 27 23:03	27°♉11'18	
opposition	8024 Jul 10 23:34	25°♉09'17	-0°02'40
min. Earth dist.	8024 Jul 11 11:56	25°♉07'57	17.43289 AU
direct	8024 Sep 25 11:39	23°♉03'44	
evening set	8024 Dec 29 21:43	26°♉31'23	
conjunction	8025 Jan 15 05:04	27°♉32'13	-0°04'40
minimum elong	8025 Jan 15 05:03	27°♉32'13	0°04'33
behind sun begin	8025 Jan 14 22:30	27°♉31'13	
behind sun end	8025 Jan 15 11:36	27°♉33'13	
max. Earth dist.	8025 Jan 14 15:32	27°♉30'06	19.44797 AU
morning rise	8025 Jan 31 09:24	28°♉32'36	
	8025 Feb 25 19:26	0°♒	
retrograde	8025 May 02 21:48	1°♒53'10	
	8025 Jul 12 14:12	30°℞♉	
opposition	8025 Jul 15 23:39	29°♉51'15	-0°07'28
min. Earth dist.	8025 Jul 16 10:10	29°♉50'07	17.46451 AU
direct	8025 Sep 30 14:39	27°♉45'49	
	8025 Dec 13 23:59	0°♒	
evening set	8026 Jan 03 22:30	1°♒12'58	

conjunction	8026 Jan 20 05:03	2°♒13'35	-0°08'56
minimum elong	8026 Jan 20 05:03	2°♒13'35	0°08'48
behind sun begin	8026 Jan 19 23:17	2°♒12'42	
behind sun end	8026 Jan 20 10:48	2°♒14'27	
max. Earth dist.	8026 Jan 19 17:58	2°♒11'51	19.48228 AU
morning rise	8026 Feb 05 08:17	3°♒13'44	
retrograde	8026 May 07 19:03	6°♒33'47	
opposition	8026 Jul 20 23:45	4°♒32'02	-0°12'11
min. Earth dist.	8026 Jul 21 09:37	4°♒30'59	17.50145 AU
direct	8026 Oct 05 16:09	2°♒26'48	
evening set	8027 Jan 08 22:45	5°♒53'22	
conjunction	8027 Jan 25 04:07	6°♒53'43	-0°13'07
minimum elong	8027 Jan 25 04:07	6°♒53'43	0°12'59
behind sun begin	8027 Jan 25 00:04	6°♒53'06	
behind sun end	8027 Jan 25 08:10	6°♒54'20	
max. Earth dist.	8027 Jan 24 17:20	6°♒52'03	19.52195 AU
morning rise	8027 Feb 10 06:33	7°♒53'38	
retrograde	8027 May 12 16:47	11°♒13'11	
opposition	8027 Jul 25 23:28	9°♒11'37	-0°16'49
min. Earth dist.	8027 Jul 26 07:36	9°♒10'45	17.54369 AU
direct	8027 Oct 10 17:18	7°♒06'37	
evening set	8028 Jan 13 22:05	10°♒32'33	
conjunction	8028 Jan 30 02:38	11°♒32'39	-0°17'12
minimum elong	8028 Jan 30 02:38	11°♒32'39	0°17'05
max. Earth dist.	8028 Jan 29 18:25	11°♒31'23	19.56662 AU
morning rise	8028 Feb 15 03:58	12°♒32'19	
	8028 Apr 02 22:37	15°♒	
retrograde	8028 May 16 13:57	15°♒51'19	
	8028 Jun 30 18:16	15°℞♒	
opposition	8028 Jul 29 23:01	13°♒49'59	-0°21'18
min. Earth dist.	8028 Jul 30 06:10	13°♒49'13	17.59052 AU
direct	8028 Oct 14 18:21	11°♒45'18	
	8029 Jan 14 23:10	15°♒	
evening set	8029 Jan 17 20:42	15°♒10'29	
conjunction	8029 Feb 03 00:07	16°♒10'19	-0°21'09
minimum elong	8029 Feb 03 00:06	16°♒10'19	0°21'02
max. Earth dist.	8029 Feb 02 16:17	16°♒09'07	19.61557 AU
morning rise	8029 Feb 19 00:43	17°♒09'44	
retrograde	8029 May 21 10:31	20°♒28'12	
opposition	8029 Aug 03 22:13	18°♒27'05	-0°25'37
min. Earth dist.	8029 Aug 04 04:04	18°♒26'28	17.64138 AU
direct	8029 Oct 19 17:53	16°♒22'42	
evening set	8030 Jan 22 18:32	19°♒47'08	
conjunction	8030 Feb 07 21:07	20°♒46'42	-0°24'57
minimum elong	8030 Feb 07 21:07	20°♒46'42	0°24'52
max. Earth dist.	8030 Feb 07 15:33	20°♒45'50	19.66805 AU
morning rise	8030 Feb 23 20:42	21°♒45'49	
retrograde	8030 May 26 07:08	25°♒03'43	
opposition	8030 Aug 08 20:59	23°♒02'50	-0°29'46
min. Earth dist.	8030 Aug 09 01:41	23°♒02'20	17.69522 AU
direct	8030 Oct 24 18:40	20°♒58'48	
evening set	8031 Jan 27 15:45	24°♒22'23	
conjunction	8031 Feb 12 17:12	25°♒21'39	-0°28'35
minimum elong	8031 Feb 12 17:12	25°♒21'39	0°28'30
max. Earth dist.	8031 Feb 12 12:03	25°♒20'51	19.72322 AU
morning rise	8031 Feb 28 16:02	26°♒20'31	
retrograde	8031 May 31 02:13	29°♒37'50	
opposition	8031 Aug 13 19:34	27°♒37'09	-0°33'41
min. Earth dist.	8031 Aug 13 23:21	27°♒36'45	17.75164 AU
direct	8031 Oct 29 17:10	25°♒33'27	
evening set	8032 Feb 01 11:49	28°♒56'08	

conjunction	8032 Feb 17 12:27	29°♒55'05	-0°32'01
minimum elong	8032 Feb 17 12:26	29°♒55'05	0°31'57
max. Earth dist.	8032 Feb 17 09:17	29°♒54'36	19.78060 AU
	8032 Feb 18 20:13	0°♓	
morning rise	8032 Mar 04 10:21	0°♓53'40	
retrograde	8032 Jun 03 21:48	4°♓10'23	
opposition	8032 Aug 17 17:38	2°♓09'54	-0°37'23
min. Earth dist.	8032 Aug 17 19:54	2°♓09'40	17.80977 AU
direct	8032 Nov 02 17:34	0°♓06'33	
evening set	8033 Feb 05 07:13	3°♓28'15	
conjunction	8033 Feb 21 06:51	4°♓26'55	-0°35'14
minimum elong	8033 Feb 21 06:50	4°♓26'55	0°35'10
max. Earth dist.	8033 Feb 21 04:14	4°♓26'31	19.83938 AU
morning rise	8033 Mar 09 04:04	5°♓25'12	
retrograde	8033 Jun 08 15:12	8°♓41'18	
opposition	8033 Aug 22 15:05	6°♓40'59	-0°40'50
min. Earth dist.	8033 Aug 22 16:52	6°♓40'48	17.86923 AU
direct	8033 Nov 07 14:57	4°♓37'57	
evening set	8034 Feb 10 01:38	7°♓58'40	
conjunction	8034 Feb 26 00:29	8°♓57'01	-0°38'13
minimum elong	8034 Feb 26 00:29	8°♓57'01	0°38'09
max. Earth dist.	8034 Feb 25 23:24	8°♓56'51	19.89927 AU
morning rise	8034 Mar 13 20:56	9°♓55'01	
retrograde	8034 Jun 13 09:02	13°♓10'28	
opposition	8034 Aug 27 12:04	11°♓10'19	-0°44'00
min. Earth dist.	8034 Aug 27 12:05	11°♓10'19	17.92935 AU
direct	8034 Nov 12 14:45	9°♓07'36	
evening set	8035 Feb 14 19:07	12°♓27'15	
conjunction	8035 Mar 02 17:03	13°♓25'17	-0°40'57
minimum elong	8035 Mar 02 17:03	13°♓25'17	0°40'55
max. Earth dist.	8035 Mar 02 16:50	13°♓25'15	19.95965 AU
morning rise	8035 Mar 18 12:52	14°♓23'01	
retrograde	8035 Jun 18 00:43	17°♓37'50	
opposition	8035 Sep 01 08:35	15°♓37'47	-0°46'53
min. Earth dist.	8035 Sep 01 08:12	15°♓37'49	17.99008 AU
direct	8035 Nov 17 11:00	13°♓35'21	
evening set	8036 Feb 19 11:33	16°♓53'54	
conjunction	8036 Mar 06 08:46	17°♓51'38	-0°43'25
minimum elong	8036 Mar 06 08:45	17°♓51'38	0°43'23
max. Earth dist.	8036 Mar 06 09:58	17°♓51'49	20.02065 AU
morning rise	8036 Mar 22 03:59	18°♓49'05	
retrograde	8036 Jun 21 16:51	22°♓03'13	
opposition	8036 Sep 05 04:13	20°♓03'16	-0°49'28
min. Earth dist.	8036 Sep 05 01:46	20°♓03'32	18.05127 AU
direct	8036 Nov 21 08:58	18°♓01'07	
evening set	8037 Feb 23 02:58	21°♓18'32	
conjunction	8037 Mar 10 23:27	22°♓15'58	-0°45'37
minimum elong	8037 Mar 10 23:27	22°♓15'58	0°45'36
max. Earth dist.	8037 Mar 11 01:59	22°♓16'21	20.08208 AU
morning rise	8037 Mar 26 18:09	23°♓13'09	
retrograde	8037 Jun 26 06:53	26°♓26'37	
opposition	8037 Sep 09 23:22	24°♓26'45	-0°51'44
min. Earth dist.	8037 Sep 09 20:33	24°♓27'02	18.11311 AU
direct	8037 Nov 26 03:25	22°♓24'53	
evening set	8038 Feb 27 17:26	25°♓41'09	
conjunction	8038 Mar 15 13:14	26°♓38'17	-0°47'32
minimum elong	8038 Mar 15 13:14	26°♓38'17	0°47'32
max. Earth dist.	8038 Mar 15 17:07	26°♓38'52	20.14428 AU
morning rise	8038 Mar 31 07:27	27°♓35'11	
	8038 May 18 19:54	0°♈	
retrograde	8038 Jun 30 21:41	0°♈48'01	
	8038 Aug 14 14:51	30°℞♓	
opposition	8038 Sep 14 17:39	28°♓48'14	-0°53'41
min. Earth dist.	8038 Sep 14 12:26	28°♓48'46	18.17568 AU
direct	8038 Nov 30 23:15	26°♓46'40	
	8039 Mar 03 18:49	0°♈	
evening set	8039 Mar 04 07:02	0°♈01'48	
conjunction	8039 Mar 20 02:12	0°♈58'38	-0°49'09
minimum elong	8039 Mar 20 02:12	0°♈58'38	0°49'09
max. Earth dist.	8039 Mar 20 07:47	0°♈59'29	20.20724 AU
morning rise	8039 Apr 04 19:57	1°♈55'18	
retrograde	8039 Jul 05 10:34	5°♈07'29	
opposition	8039 Sep 19 11:33	3°♈07'49	-0°55'18
min. Earth dist.	8039 Sep 19 05:52	3°♈08'25	18.23918 AU
direct	8039 Dec 05 15:15	1°♈06'35	
evening set	8040 Mar 07 19:37	4°♈20'35	
conjunction	8040 Mar 23 14:12	5°♈17'09	-0°50'28
minimum elong	8040 Mar 23 14:12	5°♈17'09	0°50'30
max. Earth dist.	8040 Mar 23 20:59	5°♈18'10	20.27112 AU
morning rise	8040 Apr 08 07:40	6°♈13'33	
retrograde	8040 Jul 09 00:55	9°♈25'09	
opposition	8040 Sep 23 04:34	7°♈25'37	-0°56'36
min. Earth dist.	8040 Sep 22 20:25	7°♈26'27	18.30325 AU
direct	8040 Dec 09 09:02	5°♈24'44	
evening set	8041 Mar 12 07:29	8°♈37'39	
conjunction	8041 Mar 28 01:37	9°♈33'57	-0°51'31
minimum elong	8041 Mar 28 01:37	9°♈33'57	0°51'31
max. Earth dist.	8041 Mar 28 10:08	9°♈35'13	20.33524 AU
morning rise	8041 Apr 12 18:44	10°♈30'07	
retrograde	8041 Jul 13 12:40	13°♈41'08	
opposition	8041 Sep 27 20:58	11°♈41'46	-0°57'34
min. Earth dist.	8041 Sep 27 12:39	11°♈42'37	18.36738 AU
direct	8041 Dec 13 23:06	9°♈41'15	
evening set	8042 Mar 16 18:37	12°♈53'05	
conjunction	8042 Apr 01 12:17	13°♈49'07	-0°52'15
minimum elong	8042 Apr 01 12:17	13°♈49'07	0°52'18
max. Earth dist.	8042 Apr 01 21:34	13°♈50'31	20.39921 AU
morning rise	8042 Apr 17 05:14	14°♈45'04	
retrograde	8042 Jul 18 02:31	17°♈55'32	
opposition	8042 Oct 02 12:47	15°♈56'19	-0°58'13
min. Earth dist.	8042 Oct 02 02:17	15°♈57'24	18.43095 AU
direct	8042 Dec 18 15:17	13°♈56'12	
evening set	8043 Mar 21 04:54	17°♈06'58	
conjunction	8043 Apr 05 22:13	18°♈02'47	-0°52'43
minimum elong	8043 Apr 05 22:13	18°♈02'47	0°52'45
max. Earth dist.	8043 Apr 06 09:16	18°♈04'25	20.46218 AU
morning rise	8043 Apr 21 14:56	18°♈58'31	
retrograde	8043 Jul 22 13:41	22°♈08'28	
opposition	8043 Oct 07 04:15	20°♈09'25	-0°58'33
min. Earth dist.	8043 Oct 06 17:43	20°♈10'29	18.49328 AU
direct	8043 Dec 23 04:19	18°♈09'40	
evening set	8044 Mar 24 14:39	21°♈19'25	
conjunction	8044 Apr 09 07:37	22°♈14'59	-0°52'54
minimum elong	8044 Apr 09 07:37	22°♈14'59	0°52'57
max. Earth dist.	8044 Apr 09 19:05	22°♈16'41	20.52368 AU
morning rise	8044 Apr 25 00:20	23°♈10'31	
retrograde	8044 Jul 26 02:24	26°♈19'59	
opposition	8044 Oct 10 18:48	24°♈21'04	-0°58'34
min. Earth dist.	8044 Oct 10 06:27	24°♈22'19	18.55376 AU
direct	8044 Dec 26 19:00	22°♈21'40	
evening set	8045 Mar 28 23:45	25°♈30'26	

conjunction	8045 Apr 13 16:32	26°♈25'47	-0°52'47
minimum elong	8045 Apr 13 16:32	26°♈25'47	0°52'52
max. Earth dist.	8045 Apr 14 05:30	26°♈27'42	20.58283 AU
morning rise	8045 Apr 29 09:09	27°♈21'09	
	8045 Jun 25 23:42	0°♉	
retrograde	8045 Jul 30 12:57	0°♉30'09	
	8045 Sep 04 01:54	30°℞♈	
opposition	8045 Oct 15 09:04	28°♈31'22	-0°58'17
min. Earth dist.	8045 Oct 14 21:00	28°♈32'35	18.61157 AU
direct	8045 Dec 31 07:16	26°♈32'19	
evening set	8046 Apr 02 08:17	29°♈40'06	
	8046 Apr 08 01:23	0°♉	
conjunction	8046 Apr 18 00:48	0°♉35'15	-0°52'25
minimum elong	8046 Apr 18 00:48	0°♉35'15	0°52'29
max. Earth dist.	8046 Apr 18 13:44	0°♉37'10	20.63913 AU
morning rise	8046 May 03 17:31	1°♉30'27	
retrograde	8046 Aug 04 00:37	4°♉39'00	
opposition	8046 Oct 19 22:41	2°♉40'19	-0°57'42
min. Earth dist.	8046 Oct 19 09:03	2°♉41'42	18.66621 AU
direct	8047 Jan 04 20:23	0°♉41'35	
evening set	8047 Apr 06 16:16	3°♉48'26	
conjunction	8047 Apr 22 08:46	4°♉43'25	-0°51'46
minimum elong	8047 Apr 22 08:46	4°♉43'25	0°51'51
max. Earth dist.	8047 Apr 22 23:01	4°♉45'31	20.69188 AU
morning rise	8047 May 08 01:28	5°♉38'27	
retrograde	8047 Aug 08 10:09	8°♉46'36	
opposition	8047 Oct 24 11:53	6°♉47'59	-0°56'50
min. Earth dist.	8047 Oct 23 22:36	6°♉49'19	18.71711 AU
direct	8048 Jan 09 08:02	4°♉49'32	
evening set	8048 Apr 09 23:39	7°♉55'28	
conjunction	8048 Apr 25 16:03	8°♉50'17	-0°50'51
minimum elong	8048 Apr 25 16:03	8°♉50'17	0°50'56
max. Earth dist.	8048 Apr 26 05:57	8°♉52'19	20.74087 AU
morning rise	8048 May 11 09:04	9°♉45'11	
retrograde	8048 Aug 11 21:07	12°♉52'56	
min. Earth dist.	8048 Oct 27 09:46	10°♉55'49	18.76406 AU
opposition	8048 Oct 28 00:20	10°♉54'21	-0°55'40
direct	8049 Jan 12 19:23	8°♉56'07	
evening set	8049 Apr 14 06:31	12°♉01'12	
conjunction	8049 Apr 29 23:01	12°♉55'52	-0°49'41
minimum elong	8049 Apr 29 23:02	12°♉55'52	0°49'48
max. Earth dist.	8049 Apr 30 14:09	12°♉58'04	20.78573 AU
morning rise	8049 May 15 16:09	13°♉50'38	
	8049 Jun 06 00:31	15°♉	
retrograde	8049 Aug 16 05:16	16°♉58'00	
opposition	8049 Nov 01 12:13	14°♉59'26	-0°54'13
min. Earth dist.	8049 Oct 31 22:01	15°♉00'51	18.80698 AU
	8049 Nov 01 06:34	15°℞♉	
direct	8050 Jan 17 06:21	13°♉01'24	
	8050 Mar 29 07:44	15°♉	
evening set	8050 Apr 18 12:52	16°♉05'39	
conjunction	8050 May 04 05:21	17°♉00'10	-0°48'16
minimum elong	8050 May 04 05:21	17°♉00'10	0°48'23
max. Earth dist.	8050 May 04 20:11	17°♉02'20	20.82690 AU
morning rise	8050 May 19 22:54	17°♉54'51	
retrograde	8050 Aug 20 15:42	21°♉01'52	
opposition	8050 Nov 05 23:35	19°♉03'17	-0°52'30
min. Earth dist.	8050 Nov 05 08:05	19°♉04'50	18.84643 AU
direct	8051 Jan 21 16:22	17°♉05'25	
evening set	8051 Apr 22 18:32	20°♉08'53	
conjunction	8051 May 08 11:16	21°♉03'18	-0°46'37
minimum elong	8051 May 08 11:16	21°♉03'18	0°46'44
max. Earth dist.	8051 May 09 03:36	21°♉05'40	20.86464 AU
morning rise	8051 May 24 05:02	21°♉57'53	
retrograde	8051 Aug 24 23:04	25°♉04'36	
opposition	8051 Nov 10 10:31	23°♉06'00	-0°50'32
min. Earth dist.	8051 Nov 09 19:08	23°♉07'32	18.88264 AU
direct	8052 Jan 26 02:04	21°♉08'19	
evening set	8052 Apr 26 00:01	24°♉11'05	
conjunction	8052 May 11 16:51	25°♉05'23	-0°44'44
minimum elong	8052 May 11 16:51	25°♉05'23	0°44'52
max. Earth dist.	8052 May 12 08:54	25°♉07'43	20.89943 AU
morning rise	8052 May 27 11:09	25°♉59'54	
retrograde	8052 Aug 28 09:03	29°♉06'21	
opposition	8052 Nov 13 20:40	27°♉07'45	-0°48'20
min. Earth dist.	8052 Nov 13 04:09	27°♉09'24	18.91601 AU
direct	8053 Jan 29 10:53	25°♉10'14	
evening set	8053 Apr 30 05:05	28°♉12'22	
conjunction	8053 May 15 22:17	29°♉06'36	-0°42'39
minimum elong	8053 May 15 22:17	29°♉06'36	0°42'46
max. Earth dist.	8053 May 16 15:45	29°♉09'08	20.93125 AU
morning rise	8053 May 31 16:53	0°♊01'03	
	8053 May 31 09:26	0°♊	
retrograde	8053 Sep 01 15:50	3°♊07'18	
opposition	8053 Nov 18 06:37	1°♊08'43	-0°45'54
min. Earth dist.	8053 Nov 17 14:13	1°♊10'21	18.94634 AU
	8053 Dec 18 20:30	30°℞♉	
direct	8054 Feb 02 19:02	29°♉11'23	
	8054 Mar 19 01:25	0°♊	
evening set	8054 May 04 09:53	2°♊12'57	
conjunction	8054 May 20 03:16	3°♊07'06	-0°40'21
minimum elong	8054 May 20 03:16	3°♊07'06	0°40'30
max. Earth dist.	8054 May 20 20:20	3°♊09'34	20.96015 AU
morning rise	8054 Jun 04 22:28	4°♊01'32	
retrograde	8054 Sep 06 01:30	7°♊07'38	
opposition	8054 Nov 22 16:12	5°♊09'04	-0°43'15
min. Earth dist.	8054 Nov 21 22:51	5°♊10'48	18.97368 AU
direct	8055 Feb 07 03:02	3°♊11'55	
evening set	8055 May 08 14:29	6°♊12'58	
conjunction	8055 May 24 08:21	7°♊07'06	-0°37'52
minimum elong	8055 May 24 08:21	7°♊07'06	0°38'00
max. Earth dist.	8055 May 25 02:44	7°♊09'45	20.98579 AU
morning rise	8055 Jun 09 03:58	8°♊01'29	
retrograde	8055 Sep 10 08:12	11°♊07'29	
min. Earth dist.	8055 Nov 26 08:20	9°♊10'39	18.99759 AU
opposition	8055 Nov 27 01:24	9°♊08'57	-0°40'24
direct	8056 Feb 11 10:05	7°♊11'59	
evening set	8056 May 11 19:03	10°♊12'36	
conjunction	8056 May 27 13:14	11°♊06'41	-0°35'13
minimum elong	8056 May 27 13:14	11°♊06'41	0°35'22
max. Earth dist.	8056 May 28 06:55	11°♊09'14	21.00798 AU
morning rise	8056 Jun 12 09:36	12°♊01'05	
retrograde	8056 Sep 13 17:22	15°♊07'01	
opposition	8056 Nov 30 10:20	13°♊08'31	-0°37'21
min. Earth dist.	8056 Nov 29 16:45	13°♊10'16	19.01784 AU
direct	8057 Feb 14 17:08	11°♊11'41	
evening set	8057 May 15 23:31	14°♊11'57	
conjunction	8057 May 31 18:15	15°♊06'02	-0°32'23
minimum elong	8057 May 31 18:15	15°♊06'02	0°32'32
max. Earth dist.	8057 Jun 01 12:56	15°♊08'44	21.02610 AU
morning rise	8057 Jun 16 15:03	16°♊00'26	
retrograde	8057 Sep 18 00:34	19°♊06'21	

opposition	8057 Dec 04 19:01	17°♊07'52	-0°34'08
min. Earth dist.	8057 Dec 04 01:56	17°♊09'34	19.03378 AU
direct	8058 Feb 18 23:44	15°♊11'12	
evening set	8058 May 20 04:08	18°♊11'09	
conjunction	8058 Jun 04 23:15	19°♊05'14	-0°29'24
minimum elong	8058 Jun 04 23:15	19°♊05'14	0°29'33
max. Earth dist.	8058 Jun 05 16:52	19°♊07'46	21.03991 AU
morning rise	8058 Jun 20 20:49	19°♊59'40	
retrograde	8058 Sep 22 09:08	23°♊05'37	
min. Earth dist.	8058 Dec 08 10:25	21°♊08'51	19.04525 AU
opposition	8058 Dec 09 03:36	21°♊07'08	-0°30'46
direct	8059 Feb 23 06:02	19°♊10'33	
evening set	8059 May 24 08:42	22°♊10'17	
conjunction	8059 Jun 09 04:28	23°♊04'23	-0°26'17
minimum elong	8059 Jun 09 04:28	23°♊04'23	0°26'26
max. Earth dist.	8059 Jun 09 22:45	23°♊07'00	21.04878 AU
morning rise	8059 Jun 25 02:36	23°♊58'51	
retrograde	8059 Sep 26 16:58	27°♊04'52	
opposition	8059 Dec 13 12:01	25°♊06'21	-0°27'15
min. Earth dist.	8059 Dec 12 19:33	25°♊08'00	19.05143 AU
direct	8060 Feb 27 12:25	23°♊09'51	
evening set	8060 May 27 13:38	26°♊09'23	
conjunction	8060 Jun 12 09:52	27°♊03'32	-0°23'03
minimum elong	8060 Jun 12 09:52	27°♊03'32	0°23'11
max. Earth dist.	8060 Jun 13 02:33	27°♊05'55	21.05230 AU
morning rise	8060 Jun 28 08:49	27°♊58'03	
	8060 Aug 08 20:41	0°♋	
retrograde	8060 Sep 30 01:21	1°♋04'08	
	8060 Nov 23 06:24	30°℞♊	
opposition	8060 Dec 16 20:07	29°♊05'34	-0°23'35
min. Earth dist.	8060 Dec 16 04:03	29°♊07'11	19.05214 AU
direct	8061 Mar 02 18:27	27°♊09'03	
	8061 May 29 05:47	0°♋	
evening set	8061 May 31 18:34	0°♋08'28	
conjunction	8061 Jun 16 15:33	1°♋02'40	-0°19'41
minimum elong	8061 Jun 16 15:33	1°♋02'40	0°19'51
max. Earth dist.	8061 Jun 17 08:33	1°♋05'06	21.05009 AU
morning rise	8061 Jul 02 15:05	1°♋57'16	
retrograde	8061 Oct 04 09:05	5°♋03'27	
opposition	8061 Dec 21 04:16	3°♋04'47	-0°19'49
min. Earth dist.	8061 Dec 20 12:58	3°♋06'19	19.04702 AU
direct	8062 Mar 07 00:38	1°♋08'14	
evening set	8062 Jun 04 23:34	4°♋07'33	
conjunction	8062 Jun 20 21:05	5°♋01'49	-0°16'14
minimum elong	8062 Jun 20 21:05	5°♋01'49	0°16'23
max. Earth dist.	8062 Jun 21 12:30	5°♋04'01	21.04236 AU
morning rise	8062 Jul 06 21:32	5°♋56'30	
retrograde	8062 Oct 08 17:54	9°♋02'49	
opposition	8062 Dec 25 12:16	7°♋04'00	-0°15'57
min. Earth dist.	8062 Dec 24 21:27	7°♋05'29	19.03664 AU
direct	8063 Mar 11 06:44	5°♋07'22	
evening set	8063 Jun 09 04:44	8°♋06'38	
conjunction	8063 Jun 25 03:05	9°♋01'00	-0°12'42
minimum elong	8063 Jun 25 03:05	9°♋01'00	0°12'52
behind sun begin	8063 Jun 24 22:58	9°♋00'26	
behind sun end	8063 Jun 25 07:11	9°♋01'34	
max. Earth dist.	8063 Jun 25 18:56	9°♋03'16	21.02944 AU
morning rise	8063 Jul 11 04:10	9°♋55'47	
retrograde	8063 Oct 13 01:30	13°♋02'15	
opposition	8063 Dec 29 19:59	11°♋03'17	-0°11'59
min. Earth dist.	8063 Dec 29 05:51	11°♋04'42	19.02132 AU
direct	8064 Mar 14 12:42	9°♋06'32	
evening set	8064 Jun 12 10:14	12°♋05'51	
conjunction	8064 Jun 28 09:10	13°♋00'18	-0°09'06
minimum elong	8064 Jun 28 09:09	13°♋00'18	0°09'15
behind sun begin	8064 Jun 28 03:34	12°♋59'32	
behind sun end	8064 Jun 28 14:44	13°♋01'05	
max. Earth dist.	8064 Jun 28 23:27	13°♋02'21	21.01200 AU
morning rise	8064 Jul 14 11:11	13°♋55'12	
retrograde	8064 Oct 16 10:41	17°♋01'53	
opposition	8065 Jan 02 03:41	15°♋02'44	-0°07'58
min. Earth dist.	8065 Jan 01 14:06	15°♋04'06	19.00182 AU
direct	8065 Mar 18 18:23	13°♋05'51	
evening set	8065 Jun 16 15:46	16°♋05'17	
conjunction	8065 Jul 02 15:31	16°♋59'53	-0°05'28
minimum elong	8065 Jul 02 15:31	16°♋59'53	0°05'36
behind sun begin	8065 Jul 02 09:09	16°♋58'59	
behind sun end	8065 Jul 02 21:53	17°♋00'46	
max. Earth dist.	8065 Jul 03 06:22	17°♋02'00	20.99046 AU
morning rise	8065 Jul 18 18:10	17°♋54'53	
retrograde	8065 Oct 20 18:43	21°♋01'50	
opposition	8066 Jan 06 11:21	19°♋02'32	-0°03'54
min. Earth dist.	8066 Jan 05 22:14	19°♋03'52	18.97839 AU
direct	8066 Mar 23 00:32	17°♋05'31	
evening set	8066 Jun 20 21:50	20°♋05'10	
conjunction	8066 Jul 06 22:11	20°♋59'53	-0°01'46
minimum elong	8066 Jul 06 22:13	20°♋59'53	0°01'54
behind sun begin	8066 Jul 06 15:35	20°♋58'57	
behind sun end	8066 Jul 07 04:50	21°♋00'48	
max. Earth dist.	8066 Jul 07 11:30	21°♋01'46	20.96539 AU
morning rise	8066 Jul 23 01:49	21°♋55'03	
retrograde	8066 Oct 25 04:21	25°♋02'19	
asc. node	8066 Dec 25 06:23	23°♋42'14	
opposition	8067 Jan 10 19:05	23°♋02'51	0°00'11
min. Earth dist.	8067 Jan 10 06:36	23°♋04'07	18.95168 AU
direct	8067 Mar 27 05:39	21°♋05'42	
evening set	8067 Jun 25 04:08	24°♋05'37	
conjunction	8067 Jul 11 05:28	25°♋00'30	0°02'03
minimum elong	8067 Jul 11 05:27	25°♋00'30	0°01'56
behind sun begin	8067 Jul 10 22:49	24°♋59'34	
behind sun end	8067 Jul 11 12:05	25°♋01'25	
max. Earth dist.	8067 Jul 11 19:12	25°♋02'28	20.93696 AU
morning rise	8067 Jul 27 09:43	25°♋55'49	
retrograde	8067 Oct 29 13:25	29°♋03'27	
opposition	8068 Jan 15 02:53	27°♋03'52	0°04'17
min. Earth dist.	8068 Jan 14 14:54	27°♋05'05	18.92156 AU
direct	8068 Mar 30 12:09	25°♋06'36	
evening set	8068 Jun 28 11:07	28°♋06'52	
conjunction	8068 Jul 14 13:05	29°♋01'55	0°05'46
minimum elong	8068 Jul 14 13:05	29°♋01'55	0°05'38
behind sun begin	8068 Jul 14 06:42	29°♋01'02	
behind sun end	8068 Jul 14 19:27	29°♋02'48	
max. Earth dist.	8068 Jul 15 01:02	29°♋03'37	20.90534 AU
morning rise	8068 Jul 30 18:18	29°♋57'25	
	8068 Jul 31 12:47	0°♌	
retrograde	8068 Nov 01 23:45	3°♌05'28	
opposition	8069 Jan 18 10:47	1°♌05'46	0°08'22
min. Earth dist.	8069 Jan 17 23:41	1°♌06'53	18.88839 AU
	8069 Feb 16 00:25	30°℞♋	
direct	8069 Apr 03 17:10	29°♋08'21	
	8069 May 19 00:52	0°♌	
evening set	8069 Jul 02 18:30	2°♌09'05	

conjunction	8069 Jul 18 21:23	3°♌04'19	0°09'26
minimum elong	8069 Jul 18 21:24	3°♌04'19	0°09'19
behind sun begin	8069 Jul 18 15:49	3°♌03'32	
behind sun end	8069 Jul 19 02:59	3°♌05'06	
max. Earth dist.	8069 Jul 19 09:41	3°♌06'04	20.87058 AU
morning rise	8069 Aug 04 03:15	4°♌00'00	
retrograde	8069 Nov 06 10:00	7°♌08'31	
opposition	8070 Jan 22 19:00	5°♌08'42	0°12'26
min. Earth dist.	8070 Jan 22 08:24	5°♌09'47	18.85202 AU
direct	8070 Apr 07 23:58	3°♌11'11	
evening set	8070 Jul 07 02:31	6°♌12'25	
conjunction	8070 Jul 23 06:06	7°♌07'50	0°13'05
minimum elong	8070 Jul 23 06:05	7°♌07'50	0°12'57
behind sun begin	8070 Jul 23 02:03	7°♌07'16	
behind sun end	8070 Jul 23 10:07	7°♌08'24	
max. Earth dist.	8070 Jul 23 16:26	7°♌09'19	20.83274 AU
morning rise	8070 Aug 08 12:56	8°♌03'44	
retrograde	8070 Nov 10 21:43	11°♌12'46	
opposition	8071 Jan 27 03:32	9°♌12'51	0°16'27
min. Earth dist.	8071 Jan 26 18:09	9°♌13'49	18.81256 AU
direct	8071 Apr 12 05:52	7°♌15'11	
evening set	8071 Jul 11 11:17	10°♌17'00	
conjunction	8071 Jul 27 15:49	11°♌12'39	0°16'41
minimum elong	8071 Jul 27 15:49	11°♌12'39	0°16'34
max. Earth dist.	8071 Jul 28 02:12	11°♌14'08	20.79152 AU
morning rise	8071 Aug 12 23:17	12°♌08'45	
	8071 Oct 19 02:37	15°♌	
retrograde	8071 Nov 15 09:10	15°♌18'19	
	8071 Dec 12 23:33	15°℞♌	
opposition	8072 Jan 31 12:10	13°♌18'19	0°20'25
min. Earth dist.	8072 Jan 31 03:34	13°♌19'12	18.76950 AU
direct	8072 Apr 15 12:50	11°♌20'30	
evening set	8072 Jul 14 20:57	14°♌22'58	
	8072 Jul 25 15:56	15°♌	
conjunction	8072 Jul 31 02:08	15°♌18'50	0°20'13
minimum elong	8072 Jul 31 02:08	15°♌18'50	0°20'06
max. Earth dist.	8072 Jul 31 10:06	15°♌19'59	20.74667 AU
morning rise	8072 Aug 16 10:31	16°♌15'09	
retrograde	8072 Nov 18 22:10	19°♌25'19	
opposition	8073 Feb 03 21:21	17°♌25'10	0°24'18
min. Earth dist.	8073 Feb 03 14:23	17°♌25'53	18.72276 AU
direct	8073 Apr 19 20:10	15°♌27'08	
evening set	8073 Jul 19 07:06	18°♌30'18	
conjunction	8073 Aug 04 13:14	19°♌26'25	0°23'40
minimum elong	8073 Aug 04 13:14	19°♌26'25	0°23'34
max. Earth dist.	8073 Aug 04 20:57	19°♌27'32	20.69785 AU
morning rise	8073 Aug 20 22:10	20°♌22'58	
retrograde	8073 Nov 23 10:33	23°♌33'42	
opposition	8074 Feb 08 06:54	21°♌33'24	0°28'05
min. Earth dist.	8074 Feb 08 00:42	21°♌34'03	18.67187 AU
direct	8074 Apr 24 04:05	19°♌35'09	
evening set	8074 Jul 23 18:16	22°♌39'02	
conjunction	8074 Aug 09 01:04	23°♌35'23	0°27'01
minimum elong	8074 Aug 09 01:03	23°♌35'23	0°26'56
max. Earth dist.	8074 Aug 09 06:06	23°♌36'07	20.64506 AU
morning rise	8074 Aug 25 10:55	24°♌32'11	
retrograde	8074 Nov 28 00:12	27°♌43'30	
opposition	8075 Feb 12 16:47	25°♌43'00	0°31'44
min. Earth dist.	8075 Feb 12 12:27	25°♌43'27	18.61721 AU
direct	8075 Apr 28 12:45	23°♌44'26	
evening set	8075 Jul 28 05:59	26°♌49'06	
conjunction	8075 Aug 13 13:47	27°♌45'43	0°30'15
minimum elong	8075 Aug 13 13:47	27°♌45'43	0°30'10
max. Earth dist.	8075 Aug 13 18:28	27°♌46'23	20.58857 AU
morning rise	8075 Aug 30 00:12	28°♌42'44	
	8075 Sep 23 01:18	0°♍	
retrograde	8075 Dec 02 13:24	1°♍54'38	
	8076 Feb 14 16:25	30°℞♌	
opposition	8076 Feb 17 02:58	29°♌53'55	0°35'15
min. Earth dist.	8076 Feb 16 23:21	29°♌54'17	18.55899 AU
direct	8076 May 01 22:21	27°♌55'02	
	8076 Jul 13 06:46	0°♍	
evening set	8076 Jul 31 18:35	1°♍00'30	
conjunction	8076 Aug 17 02:58	1°♍57'21	0°33'21
minimum elong	8076 Aug 17 02:58	1°♍57'21	0°33'17
max. Earth dist.	8076 Aug 17 05:06	1°♍57'40	20.52894 AU
morning rise	8076 Sep 02 14:13	2°♍54'38	
retrograde	8076 Dec 06 02:50	6°♍07'08	
opposition	8077 Feb 20 13:35	4°♍06'09	0°38'36
min. Earth dist.	8077 Feb 20 11:50	4°♍06'20	18.49815 AU
direct	8077 May 06 07:55	2°♍06'55	
evening set	8077 Aug 05 07:44	5°♍13'14	
conjunction	8077 Aug 21 17:04	6°♍10'22	0°36'16
minimum elong	8077 Aug 21 17:04	6°♍10'22	0°36'12
max. Earth dist.	8077 Aug 21 19:03	6°♍10'39	20.46703 AU
morning rise	8077 Sep 07 04:48	7°♍07'53	
retrograde	8077 Dec 10 17:20	10°♍20'59	
opposition	8078 Feb 25 00:30	8°♍19'46	0°41'45
min. Earth dist.	8078 Feb 24 23:11	8°♍19'54	18.43534 AU
direct	8078 May 10 19:04	6°♍20'09	
evening set	8078 Aug 09 21:47	9°♍27'22	
conjunction	8078 Aug 26 07:43	10°♍24'46	0°39'01
minimum elong	8078 Aug 26 07:43	10°♍24'46	0°38'58
max. Earth dist.	8078 Aug 26 07:22	10°♍24'43	20.40355 AU
morning rise	8078 Sep 11 20:14	11°♍22'33	
retrograde	8078 Dec 15 07:01	14°♍36'17	
opposition	8079 Mar 01 12:01	12°♍34'48	0°44'42
min. Earth dist.	8079 Mar 01 12:33	12°♍34'45	18.37139 AU
direct	8079 May 15 05:26	10°♍34'49	
evening set	8079 Aug 14 12:37	13°♍42'58	
conjunction	8079 Aug 30 23:26	14°♍40'40	0°41'33
minimum elong	8079 Aug 30 23:26	14°♍40'40	0°41'31
max. Earth dist.	8079 Aug 30 22:57	14°♍40'35	20.33915 AU
morning rise	8079 Sep 16 12:22	15°♍38'42	
retrograde	8079 Dec 19 22:51	18°♍53'02	
opposition	8080 Mar 04 23:43	16°♍51'21	0°47'25
min. Earth dist.	8080 Mar 05 00:30	16°♍51'16	18.30674 AU
direct	8080 May 18 18:05	14°♍50'59	
evening set	8080 Aug 18 04:25	18°♍00'08	
conjunction	8080 Sep 03 15:45	18°♍58'07	0°43'53
minimum elong	8080 Sep 03 15:45	18°♍58'07	0°43'50
max. Earth dist.	8080 Sep 03 13:03	18°♍57'43	20.27441 AU
morning rise	8080 Sep 20 05:20	19°♍56'24	
retrograde	8080 Dec 23 13:22	23°♍11'24	
opposition	8081 Mar 09 12:15	21°♍09'30	0°49'53
min. Earth dist.	8081 Mar 09 14:49	21°♍09'14	18.24214 AU
direct	8081 May 23 05:11	19°♍08'47	
evening set	8081 Aug 22 20:46	22°♍18'58	
conjunction	8081 Sep 08 08:56	23°♍17'13	0°45'58
minimum elong	8081 Sep 08 08:55	23°♍17'13	0°45'57
max. Earth dist.	8081 Sep 08 06:09	23°♍16'49	20.20996 AU
morning rise	8081 Sep 24 22:52	24°♍15'47	

retrograde	8081 Dec 28 06:51	27°♍31'26	
opposition	8082 Mar 14 01:13	25°♍29'22	0°52'04
min. Earth dist.	8082 Mar 14 03:48	25°♍29'05	18.17795 AU
direct	8082 May 27 19:20	23°♍28'19	
evening set	8082 Aug 27 14:21	26°♍39'35	
conjunction	8082 Sep 13 03:01	27°♍38'07	0°47'48
minimum elong	8082 Sep 13 03:01	27°♍38'07	0°47'46
max. Earth dist.	8082 Sep 12 22:11	27°♍37'24	20.14612 AU
morning rise	8082 Sep 29 17:30	28°♍36'57	
	8082 Oct 25 03:01	0°♎	
retrograde	8083 Jan 01 22:47	1°♎53'17	
	8083 Mar 15 02:45	30°℞♍	
opposition	8083 Mar 18 14:49	29°♍51'04	0°53'59
min. Earth dist.	8083 Mar 18 19:20	29°♍50'35	18.11461 AU
direct	8083 Jun 01 07:31	27°♍49'41	
	8083 Aug 13 19:28	0°♎	
evening set	8083 Sep 01 08:47	1°♎02'05	
conjunction	8083 Sep 17 22:11	2°♎00'55	0°49'22
minimum elong	8083 Sep 17 22:11	2°♎00'55	0°49'22
max. Earth dist.	8083 Sep 17 16:57	2°♎00'09	20.08325 AU
morning rise	8083 Oct 04 12:58	3°♎00'00	
retrograde	8084 Jan 06 18:02	6°♎17'00	
opposition	8084 Mar 22 05:00	4°♎14'42	0°55'35
min. Earth dist.	8084 Mar 22 09:35	4°♎14'12	18.05214 AU
direct	8084 Jun 04 23:00	2°♎13'03	
evening set	8084 Sep 05 04:13	5°♎26'35	
conjunction	8084 Sep 21 18:01	6°♎25'42	0°50'40
minimum elong	8084 Sep 21 18:01	6°♎25'42	0°50'40
max. Earth dist.	8084 Sep 21 10:52	6°♎24'38	20.02117 AU
morning rise	8084 Oct 08 09:10	7°♎25'03	
retrograde	8085 Jan 10 11:35	10°♎42'45	
opposition	8085 Mar 26 20:02	8°♎40'21	0°56'53
min. Earth dist.	8085 Mar 27 02:42	8°♎39'38	17.99055 AU
direct	8085 Jun 09 12:53	6°♎38'24	
evening set	8085 Sep 10 00:36	9°♎53'08	
conjunction	8085 Sep 26 14:59	10°♎52'32	0°51'40
minimum elong	8085 Sep 26 14:59	10°♎52'32	0°51'41
max. Earth dist.	8085 Sep 26 07:03	10°♎51'20	19.95996 AU
morning rise	8085 Oct 13 06:22	11°♎52'07	
retrograde	8086 Jan 15 08:17	15°♎10'29	
opposition	8086 Mar 31 11:34	13°♎08'01	0°57'51
min. Earth dist.	8086 Mar 31 18:27	13°♎07'17	17.92965 AU
direct	8086 Jun 14 05:58	11°♎05'47	
evening set	8086 Sep 14 22:04	14°♎21'40	
conjunction	8086 Oct 01 12:51	15°♎21'21	0°52'21
minimum elong	8086 Oct 01 12:50	15°♎21'21	0°52'24
max. Earth dist.	8086 Oct 01 03:01	15°♎19'52	19.89922 AU
morning rise	8086 Oct 18 04:27	16°♎21'12	
retrograde	8087 Jan 20 03:20	19°♎40'11	
opposition	8087 Apr 05 04:03	17°♎37'38	0°58'28
min. Earth dist.	8087 Apr 05 13:09	17°♎36'39	17.86923 AU
direct	8087 Jun 18 21:40	15°♎35'05	
evening set	8087 Sep 19 20:24	18°♎52'08	
conjunction	8087 Oct 06 11:35	19°♎52'05	0°52'45
minimum elong	8087 Oct 06 11:35	19°♎52'05	0°52'47
max. Earth dist.	8087 Oct 06 00:28	19°♎50'24	19.83911 AU
morning rise	8087 Oct 23 03:19	20°♎52'09	
retrograde	8088 Jan 25 01:21	24°♎11'45	
opposition	8088 Apr 08 20:57	22°♎09'05	0°58'44
min. Earth dist.	8088 Apr 09 06:16	22°♎08'04	17.80948 AU
direct	8088 Jun 22 16:41	20°♎06'12	
evening set	8088 Sep 23 19:32	23°♎24'23	
conjunction	8088 Oct 10 11:03	24°♎24'35	0°52'48
minimum elong	8088 Oct 10 11:03	24°♎24'35	0°52'52
max. Earth dist.	8088 Oct 09 22:31	24°♎22'41	19.77979 AU
morning rise	8088 Oct 27 02:48	25°♎24'53	
retrograde	8089 Jan 28 21:18	28°♎45'01	
opposition	8089 Apr 13 14:44	26°♎42'15	0°58'39
min. Earth dist.	8089 Apr 14 02:02	26°♎41'01	17.75088 AU
direct	8089 Jun 27 09:39	24°♎39'01	
evening set	8089 Sep 28 19:15	27°♎58'17	
conjunction	8089 Oct 15 11:02	28°♎58'45	0°52'32
minimum elong	8089 Oct 15 11:02	28°♎58'45	0°52'36
max. Earth dist.	8089 Oct 14 21:08	28°♎56'38	19.72208 AU
morning rise	8089 Nov 01 02:55	29°♎59'16	
	8089 Nov 01 07:54	0°♏	
retrograde	8090 Feb 02 20:29	3°♏19'54	
opposition	8090 Apr 18 08:56	1°♏17'00	0°58'10
min. Earth dist.	8090 Apr 18 20:20	1°♏15'46	17.69411 AU
	8090 May 20 08:07	30°℞♎	
direct	8090 Jul 02 06:17	29°♎13'25	
	8090 Aug 13 09:24	0°♏	
evening set	8090 Oct 03 19:51	2°♏33'46	
conjunction	8090 Oct 20 11:54	3°♏34'27	0°51'55
minimum elong	8090 Oct 20 11:54	3°♏34'27	0°52'00
max. Earth dist.	8090 Oct 19 21:16	3°♏32'13	19.66637 AU
morning rise	8090 Nov 06 03:38	4°♏35'10	
retrograde	8091 Feb 07 17:13	7°♏56'15	
opposition	8091 Apr 23 03:44	5°♏53'15	0°57'19
min. Earth dist.	8091 Apr 23 16:51	5°♏51'49	17.63975 AU
direct	8091 Jul 07 00:41	3°♏49'19	
evening set	8091 Oct 08 21:06	7°♏10'41	
conjunction	8091 Oct 25 13:13	8°♏11'36	0°50'58
minimum elong	8091 Oct 25 13:13	8°♏11'36	0°51'04
max. Earth dist.	8091 Oct 24 21:05	8°♏09'07	19.61359 AU
morning rise	8091 Nov 11 04:56	9°♏12'29	
retrograde	8092 Feb 12 16:43	12°♏33'59	
opposition	8092 Apr 26 23:06	10°♏30'51	0°56'06
min. Earth dist.	8092 Apr 27 12:12	10°♏29'26	17.58867 AU
direct	8092 Jul 10 22:53	8°♏26'35	
evening set	8092 Oct 12 22:41	11°♏48'57	
conjunction	8092 Oct 29 14:56	12°♏50'04	0°49'41
minimum elong	8092 Oct 29 14:56	12°♏50'04	0°49'46
max. Earth dist.	8092 Oct 28 22:57	12°♏47'36	19.56424 AU
morning rise	8092 Nov 15 06:19	13°♏51'06	
	8092 Dec 05 06:18	15°♏	
retrograde	8093 Feb 16 13:50	17°♏12'58	
opposition	8093 May 01 19:10	15°♏09'45	0°54'29
min. Earth dist.	8093 May 02 09:22	15°♏08'12	17.54138 AU
	8093 May 05 12:38	15°℞♏	
direct	8093 Jul 15 19:07	13°♏05'11	
	8093 Sep 21 20:53	15°♏	
evening set	8093 Oct 18 01:01	16°♏28'28	
conjunction	8093 Nov 03 17:08	17°♏29'45	0°48'03
minimum elong	8093 Nov 03 17:08	17°♏29'45	0°48'10
max. Earth dist.	8093 Nov 02 23:44	17°♏27'04	19.51921 AU
morning rise	8093 Nov 20 08:25	18°♏30'56	
retrograde	8094 Feb 21 13:23	21°♏53'08	
opposition	8094 May 06 15:34	19°♏49'50	0°52'31
min. Earth dist.	8094 May 07 05:43	19°♏48'18	17.49874 AU
direct	8094 Jul 20 18:59	17°♏44'59	
evening set	8094 Oct 23 03:44	21°♏09'10	

conjunction	8094 Nov 08 19:56	22°♏10'37	0°46'07
minimum elong	8094 Nov 08 19:56	22°♏10'37	0°46'14
max. Earth dist.	8094 Nov 08 03:12	22°♏08'01	19.47896 AU
morning rise	8094 Nov 25 10:42	23°♏11'54	
retrograde	8095 Feb 26 11:11	26°♏34'22	
opposition	8095 May 11 12:43	24°♏31'03	0°50'11
min. Earth dist.	8095 May 12 03:25	24°♏29'27	17.46107 AU
direct	8095 Jul 25 17:27	22°♏25'58	
evening set	8095 Oct 28 07:00	25°♏50'59	
conjunction	8095 Nov 13 22:50	26°♏52'33	0°43'51
minimum elong	8095 Nov 13 22:50	26°♏52'33	0°43'58
max. Earth dist.	8095 Nov 13 04:47	26°♏49'45	19.44405 AU
morning rise	8095 Nov 30 13:20	27°♏53'56	
	8096 Jan 08 11:45	0°♐	
retrograde	8096 Mar 02 10:44	1°♐16'39	
	8096 Apr 27 05:00	30°℞♏	
opposition	8096 May 15 10:20	29°♏13'21	0°47'30
min. Earth dist.	8096 May 16 00:58	29°♏11'46	17.42901 AU
direct	8096 Jul 29 18:09	27°♏08'05	
	8096 Oct 22 22:58	0°♐	
evening set	8096 Nov 01 10:29	0°♐33'52	
max. Earth dist.	8096 Nov 17 09:18	1°♐32'55	19.41480 AU
conjunction	8096 Nov 18 02:15	1°♐35'33	0°41'17
minimum elong	8096 Nov 18 02:15	1°♐35'33	0°41'26
morning rise	8096 Dec 04 16:08	2°♐37'01	
retrograde	8097 Mar 07 10:19	5°♐59'55	
opposition	8097 May 20 08:28	3°♐56'42	0°44'30
min. Earth dist.	8097 May 20 23:10	3°♐55'05	17.40251 AU
direct	8097 Aug 03 18:16	1°♐51'18	
evening set	8097 Nov 06 14:27	5°♐17'48	
max. Earth dist.	8097 Nov 22 11:36	6°♐16'44	19.39113 AU
conjunction	8097 Nov 23 05:45	6°♐19'33	0°38'26
minimum elong	8097 Nov 23 05:45	6°♐19'33	0°38'34
morning rise	8097 Dec 09 19:17	7°♐21'05	
retrograde	8098 Mar 12 10:21	10°♐44'07	
opposition	8098 May 25 07:08	8°♐41'00	0°41'11
min. Earth dist.	8098 May 25 22:10	8°♐39'22	17.38152 AU
direct	8098 Aug 08 19:05	6°♐35'30	
evening set	8098 Nov 11 18:43	10°♐02'39	
conjunction	8098 Nov 28 09:46	11°♐04'28	0°35'20
minimum elong	8098 Nov 28 09:46	11°♐04'28	0°35'29
max. Earth dist.	8098 Nov 27 16:35	11°♐01'47	19.37265 AU
morning rise	8098 Dec 14 22:32	12°♐06'00	
retrograde	8099 Mar 17 11:37	15°♐29'07	
opposition	8099 May 30 06:12	13°♐26'08	0°37'35
min. Earth dist.	8099 May 30 21:04	13°♐24'31	17.36542 AU
direct	8099 Aug 13 20:36	11°♐20'34	
evening set	8099 Nov 16 23:20	14°♐48'14	
conjunction	8099 Dec 03 13:44	15°♐50'05	0°31'58
minimum elong	8099 Dec 03 13:44	15°♐50'05	0°32'07
max. Earth dist.	8099 Dec 02 19:32	15°♐47'14	19.35896 AU
morning rise	8099 Dec 20 01:55	16°♐51'38	
retrograde	8100 Mar 22 11:38	20°♐14'46	
opposition	8100 Jun 04 05:52	18°♐11'54	0°33'43
min. Earth dist.	8100 Jun 04 21:20	18°♐10'12	17.35414 AU
direct	8100 Aug 18 21:38	16°♐06'15	
evening set	8100 Nov 22 03:43	19°♐34'21	
conjunction	8100 Dec 08 17:42	20°♐36'12	0°28'23
minimum elong	8100 Dec 08 17:42	20°♐36'12	0°28'32
max. Earth dist.	8100 Dec 08 00:19	20°♐33'29	19.34993 AU
morning rise	8100 Dec 25 05:06	21°♐37'42	
retrograde	8101 Mar 27 13:28	25°♐00'48	
opposition	8101 Jun 09 05:48	22°♐58'02	0°29'36
min. Earth dist.	8101 Jun 09 20:38	22°♐56'25	17.34724 AU
direct	8101 Aug 24 00:21	20°♐52'21	
evening set	8101 Nov 27 08:23	24°♐20'45	
conjunction	8101 Dec 13 21:40	25°♐22'35	0°24'36
minimum elong	8101 Dec 13 21:40	25°♐22'35	0°24'45
max. Earth dist.	8101 Dec 13 03:43	25°♐19'46	19.34524 AU
morning rise	8101 Dec 30 08:20	26°♐24'02	