

evening set	3600 Feb 29 05:04	24° $\mathbf{\text{H}}$ 51'16	conjunction	3606 Apr 09 03:26	19° $\mathbf{\text{Y}}$ 36'11 -0°40'31
			minimum elong	3606 Apr 09 03:26	19° $\mathbf{\text{Y}}$ 36'11 0°40'31
conjunction	3600 Mar 15 22:01	25° $\mathbf{\text{H}}$ 45'16 -0°45'19	max. Earth dist.	3606 Apr 10 02:09	19° $\mathbf{\text{Y}}$ 39'25 21.07126 AU
minimum elong	3600 Mar 15 22:01	25° $\mathbf{\text{H}}$ 45'16 0°45'20	morning rise	3606 Apr 25 03:28	20° $\mathbf{\text{Y}}$ 30'41
max. Earth dist.	3600 Mar 16 21:01	25° $\mathbf{\text{H}}$ 48'35 20.99060 AU	retrograde	3606 Jul 28 07:20	23° $\mathbf{\text{Y}}$ 37'07
morning rise	3600 Mar 31 17:20	26° $\mathbf{\text{H}}$ 39'37	min. Earth dist.	3606 Oct 13 11:00	21° $\mathbf{\text{Y}}$ 40'00 19.07205 AU
retrograde	3600 Jul 03 07:11	29° $\mathbf{\text{H}}$ 46'24	opposition	3606 Oct 14 07:32	21° $\mathbf{\text{Y}}$ 37'57 -0°43'56
min. Earth dist.	3600 Sep 18 09:33	27° $\mathbf{\text{H}}$ 49'51 19.00392 AU	direct	3606 Dec 28 20:41	19° $\mathbf{\text{Y}}$ 41'35
opposition	3600 Sep 19 06:58	27° $\mathbf{\text{H}}$ 47'42 -0°49'58	evening set	3607 Mar 28 11:05	22° $\mathbf{\text{Y}}$ 39'44
direct	3600 Dec 04 07:58	25° $\mathbf{\text{H}}$ 51'05			
evening set	3601 Mar 04 09:40	28° $\mathbf{\text{H}}$ 51'06	conjunction	3607 Apr 13 08:36	23° $\mathbf{\text{Y}}$ 33'51 -0°39'01
			minimum elong	3607 Apr 13 08:36	23° $\mathbf{\text{Y}}$ 33'51 0°39'02
conjunction	3601 Mar 20 03:04	29° $\mathbf{\text{H}}$ 45'04 -0°45'03	max. Earth dist.	3607 Apr 14 06:05	23° $\mathbf{\text{Y}}$ 36'55 21.07117 AU
minimum elong	3601 Mar 20 03:04	29° $\mathbf{\text{H}}$ 45'04 0°45'03	morning rise	3607 Apr 29 09:38	24° $\mathbf{\text{Y}}$ 28'26
max. Earth dist.	3601 Mar 21 01:13	29° $\mathbf{\text{H}}$ 48'15 21.01518 AU	retrograde	3607 Aug 01 16:22	27° $\mathbf{\text{Y}}$ 34'58
	3601 Mar 24 10:39	0° $\mathbf{\text{Y}}$	opposition	3607 Oct 18 14:43	25° $\mathbf{\text{Y}}$ 35'45 -0°42'10
morning rise	3601 Apr 04 23:11	0° $\mathbf{\text{Y}}$ 39'24	min. Earth dist.	3607 Oct 17 18:16	25° $\mathbf{\text{Y}}$ 37'48 19.07007 AU
retrograde	3601 Jul 07 16:24	3° $\mathbf{\text{Y}}$ 46'02	direct	3608 Jan 02 01:14	23° $\mathbf{\text{Y}}$ 39'24
opposition	3601 Sep 23 16:04	1° $\mathbf{\text{Y}}$ 47'16 -0°49'32	evening set	3608 Mar 31 15:35	26° $\mathbf{\text{Y}}$ 37'31
min. Earth dist.	3601 Sep 22 18:12	1° $\mathbf{\text{Y}}$ 49'27 19.02596 AU			
	3601 Nov 19 09:00	30° $\mathbf{\text{H}}$	conjunction	3608 Apr 16 14:00	27° $\mathbf{\text{Y}}$ 31'43 -0°37'20
direct	3601 Dec 08 15:37	29° $\mathbf{\text{H}}$ 50'43	minimum elong	3608 Apr 16 14:00	27° $\mathbf{\text{Y}}$ 31'43 0°37'19
	3601 Dec 27 16:53	0° $\mathbf{\text{Y}}$	max. Earth dist.	3608 Apr 17 11:57	27° $\mathbf{\text{Y}}$ 34'51 21.06720 AU
evening set	3602 Mar 08 13:55	2° $\mathbf{\text{Y}}$ 50'15	morning rise	3608 May 02 15:48	28° $\mathbf{\text{Y}}$ 26'25
				3608 Jun 02 02:28	0° $\mathbf{\text{H}}$
conjunction	3602 Mar 24 07:59	3° $\mathbf{\text{Y}}$ 44'12 -0°44'34	retrograde	3608 Aug 04 23:44	1° $\mathbf{\text{H}}$ 33'05
minimum elong	3602 Mar 24 07:59	3° $\mathbf{\text{Y}}$ 44'12 0°44'35		3608 Oct 10 23:25	30° $\mathbf{\text{H}}$
max. Earth dist.	3602 Mar 25 06:58	3° $\mathbf{\text{Y}}$ 47'30 21.03470 AU	opposition	3608 Oct 21 21:50	29° $\mathbf{\text{Y}}$ 33'49 -0°40'12
morning rise	3602 Apr 09 04:46	4° $\mathbf{\text{Y}}$ 38'32	min. Earth dist.	3608 Oct 21 02:09	29° $\mathbf{\text{Y}}$ 35'48 19.06408 AU
retrograde	3602 Jul 11 23:42	7° $\mathbf{\text{Y}}$ 45'02	direct	3609 Jan 05 06:50	27° $\mathbf{\text{Y}}$ 37'31
min. Earth dist.	3602 Sep 27 03:34	5° $\mathbf{\text{Y}}$ 48'18 19.04312 AU		3609 Mar 24 22:26	0° $\mathbf{\text{H}}$
opposition	3602 Sep 28 00:44	5° $\mathbf{\text{Y}}$ 46'11 -0°48'52	evening set	3609 Apr 04 20:34	0° $\mathbf{\text{H}}$ 35'39
direct	3602 Dec 12 21:37	3° $\mathbf{\text{Y}}$ 49'42			
evening set	3603 Mar 12 18:13	6° $\mathbf{\text{Y}}$ 48'48	conjunction	3609 Apr 20 19:46	1° $\mathbf{\text{H}}$ 29'57 -0°35'28
			minimum elong	3609 Apr 20 19:46	1° $\mathbf{\text{H}}$ 29'57 0°35'29
conjunction	3603 Mar 28 12:49	7° $\mathbf{\text{Y}}$ 42'43 -0°43'52	max. Earth dist.	3609 Apr 21 16:14	1° $\mathbf{\text{H}}$ 32'52 21.05935 AU
minimum elong	3603 Mar 28 12:49	7° $\mathbf{\text{Y}}$ 42'43 0°43'51	morning rise	3609 May 06 22:37	2° $\mathbf{\text{H}}$ 24'46
max. Earth dist.	3603 Mar 29 10:56	7° $\mathbf{\text{Y}}$ 45'54 21.04972 AU	retrograde	3609 Aug 09 09:30	5° $\mathbf{\text{H}}$ 31'38
morning rise	3603 Apr 13 10:28	8° $\mathbf{\text{Y}}$ 37'05	min. Earth dist.	3609 Oct 25 09:41	3° $\mathbf{\text{H}}$ 34'15 19.05412 AU
retrograde	3603 Jul 16 08:08	11° $\mathbf{\text{Y}}$ 43'30	opposition	3609 Oct 26 04:52	3° $\mathbf{\text{H}}$ 32'19 -0°38'02
min. Earth dist.	3603 Oct 01 11:18	9° $\mathbf{\text{Y}}$ 46'42 19.05607 AU	direct	3610 Jan 09 11:41	1° $\mathbf{\text{H}}$ 35'59
opposition	3603 Oct 02 08:47	9° $\mathbf{\text{Y}}$ 44'33 -0°47'58	evening set	3610 Apr 09 01:52	4° $\mathbf{\text{H}}$ 34'15
direct	3603 Dec 17 03:58	7° $\mathbf{\text{Y}}$ 48'06			
evening set	3604 Mar 15 22:21	10° $\mathbf{\text{Y}}$ 46'51	conjunction	3610 Apr 25 02:03	5° $\mathbf{\text{H}}$ 28'40 -0°33'25
			minimum elong	3610 Apr 25 02:03	5° $\mathbf{\text{H}}$ 28'40 0°33'25
conjunction	3604 Mar 31 17:41	11° $\mathbf{\text{Y}}$ 40'48 -0°42'57	max. Earth dist.	3610 Apr 25 22:40	5° $\mathbf{\text{H}}$ 31'37 21.04712 AU
minimum elong	3604 Mar 31 17:41	11° $\mathbf{\text{Y}}$ 40'48 0°42'57	morning rise	3610 May 11 05:44	6° $\mathbf{\text{H}}$ 23'37
max. Earth dist.	3604 Apr 01 16:37	11° $\mathbf{\text{Y}}$ 44'05 21.06059 AU	retrograde	3610 Aug 13 17:02	9° $\mathbf{\text{H}}$ 30'42
morning rise	3604 Apr 16 16:00	12° $\mathbf{\text{Y}}$ 35'11	opposition	3610 Oct 30 11:53	7° $\mathbf{\text{H}}$ 31'21 -0°35'42
retrograde	3604 Jul 19 15:29	15° $\mathbf{\text{Y}}$ 41'33	min. Earth dist.	3610 Oct 29 17:51	7° $\mathbf{\text{H}}$ 33'10 19.03949 AU
opposition	3604 Oct 05 16:41	13° $\mathbf{\text{Y}}$ 42'31 -0°46'51	direct	3611 Jan 13 16:54	5° $\mathbf{\text{H}}$ 35'00
min. Earth dist.	3604 Oct 04 19:44	13° $\mathbf{\text{Y}}$ 44'37 19.06502 AU	evening set	3611 Apr 13 07:47	8° $\mathbf{\text{H}}$ 33'26
direct	3604 Dec 20 09:49	11° $\mathbf{\text{Y}}$ 46'06			
evening set	3605 Mar 20 02:25	14° $\mathbf{\text{Y}}$ 44'34	conjunction	3611 Apr 29 08:45	9° $\mathbf{\text{H}}$ 28'00 -0°31'13
			minimum elong	3611 Apr 29 08:45	9° $\mathbf{\text{H}}$ 28'00 0°31'13
conjunction	3605 Apr 04 22:22	15° $\mathbf{\text{Y}}$ 38'33 -0°41'50	max. Earth dist.	3611 Apr 30 03:23	9° $\mathbf{\text{H}}$ 30'40 21.03015 AU
minimum elong	3605 Apr 04 22:22	15° $\mathbf{\text{Y}}$ 38'33 0°41'50	morning rise	3611 May 15 13:29	10° $\mathbf{\text{H}}$ 23'06
max. Earth dist.	3605 Apr 05 20:25	15° $\mathbf{\text{Y}}$ 41'42 21.06778 AU	retrograde	3611 Aug 18 03:11	13° $\mathbf{\text{H}}$ 30'27
morning rise	3605 Apr 20 21:38	16° $\mathbf{\text{Y}}$ 32'59	opposition	3611 Nov 03 18:53	11° $\mathbf{\text{H}}$ 31'01 -0°33'10
retrograde	3605 Jul 24 00:03	19° $\mathbf{\text{Y}}$ 39'22	min. Earth dist.	3611 Nov 03 01:53	11° $\mathbf{\text{H}}$ 32'44 19.01997 AU
min. Earth dist.	3605 Oct 09 03:06	17° $\mathbf{\text{Y}}$ 42'23 19.07041 AU	direct	3612 Jan 17 22:21	9° $\mathbf{\text{H}}$ 34'35
opposition	3605 Oct 10 00:18	17° $\mathbf{\text{Y}}$ 40'16 -0°45'30	evening set	3612 Apr 16 14:04	12° $\mathbf{\text{H}}$ 33'16
direct	3605 Dec 24 14:52	15° $\mathbf{\text{Y}}$ 43'52			
evening set	3606 Mar 24 06:38	18° $\mathbf{\text{Y}}$ 42'09	conjunction	3612 May 02 16:04	13° $\mathbf{\text{H}}$ 28'00 -0°28'51
			minimum elong	3612 May 02 16:04	13° $\mathbf{\text{H}}$ 28'00 0°28'51

max. Earth dist.	3612 May 03 10:24	13°♄30'37	21.00794 AU	minimum elong	3618 May 27 22:24	7°♄43'30	0°11'57
morning rise	3612 May 18 21:35	14°♄23'15		behind sun begin	3618 May 27 17:50	7°♄42'52	
	3612 May 30 03:29	15°♄		behind sun end	3618 May 28 02:58	7°♄44'08	
retrograde	3612 Aug 21 11:03	17°♄30'52		max. Earth dist.	3618 May 28 08:27	7°♄44'56	20.77377 AU
min. Earth dist.	3612 Nov 06 10:22	15°♄32'57	18.99502 AU	morning rise	3618 Jun 13 09:28	8°♄39'57	
opposition	3612 Nov 07 02:04	15°♄31'21	-0°30'28	retrograde	3618 Sep 15 23:20	11°♄49'43	
	3612 Nov 20 03:16	15°♄♄		opposition	3618 Dec 01 23:03	9°♄49'10	-0°11'24
direct	3613 Jan 21 03:45	13°♄34'48		min. Earth dist.	3618 Dec 01 14:59	9°♄50'00	18.74843 AU
	3613 Mar 21 06:10	15°♄		direct	3619 Feb 14 18:50	7°♄51'05	
evening set	3613 Apr 20 20:48	16°♄33'47		evening set	3619 May 16 00:47	10°♄53'14	
conjunction	3613 May 06 23:40	17°♄28'41	-0°26'20	conjunction	3619 Jun 01 09:27	11°♄49'27	-0°08'48
minimum elong	3613 May 06 23:41	17°♄28'41	0°26'20	minimum elong	3619 Jun 01 09:27	11°♄49'27	0°08'48
max. Earth dist.	3613 May 07 15:41	17°♄30'58	20.98042 AU	behind sun begin	3619 Jun 01 03:41	11°♄48'39	
morning rise	3613 May 23 06:18	18°♄24'06		behind sun end	3619 Jun 01 15:13	11°♄50'16	
retrograde	3613 Aug 25 21:14	21°♄32'01		max. Earth dist.	3619 Jun 01 17:00	11°♄50'31	20.72268 AU
opposition	3613 Nov 11 09:21	19°♄32'22	-0°27'37	morning rise	3619 Jun 17 21:30	12°♄46'08	
min. Earth dist.	3613 Nov 10 18:58	19°♄33'49	18.96475 AU	retrograde	3619 Sep 20 10:39	15°♄56'24	
direct	3614 Jan 25 09:49	17°♄35'37		opposition	3619 Dec 06 07:18	13°♄55'41	-0°07'53
evening set	3614 Apr 25 04:06	20°♄34'58		min. Earth dist.	3619 Dec 06 00:43	13°♄56'22	18.69623 AU
				direct	3620 Feb 19 01:51	11°♄57'18	
conjunction	3614 May 11 08:05	21°♄30'03	-0°23'41	evening set	3620 May 19 11:39	15°♄00'16	
minimum elong	3614 May 11 08:05	21°♄30'03	0°23'41				
max. Earth dist.	3614 May 11 23:35	21°♄32'16	20.94749 AU	conjunction	3620 Jun 04 21:24	15°♄56'45	-0°05'36
morning rise	3614 May 27 15:31	22°♄25'39		minimum elong	3620 Jun 04 21:25	15°♄56'45	0°05'36
retrograde	3614 Aug 30 06:00	25°♄33'52		behind sun begin	3620 Jun 04 14:58	15°♄55'50	
opposition	3614 Nov 15 16:31	23°♄34'03	-0°24'37	behind sun end	3620 Jun 05 03:52	15°♄57'39	
min. Earth dist.	3614 Nov 15 03:31	23°♄35'23	18.92923 AU	max. Earth dist.	3620 Jun 05 04:41	15°♄57'46	20.66940 AU
direct	3615 Jan 29 15:52	21°♄37'05		morning rise	3620 Jun 21 10:06	16°♄53'41	
evening set	3615 Apr 29 11:56	24°♄36'51		retrograde	3620 Sep 23 22:48	20°♄04'27	
				opposition	3620 Dec 09 15:53	18°♄03'37	-0°04'18
conjunction	3615 May 15 16:46	25°♄32'08	-0°20'54	min. Earth dist.	3620 Dec 09 10:11	18°♄04'13	18.64191 AU
minimum elong	3615 May 15 16:47	25°♄32'08	0°20'54	direct	3621 Feb 22 10:01	16°♄04'58	
max. Earth dist.	3615 May 16 05:51	25°♄33'59	20.90977 AU	evening set	3621 May 23 23:26	19°♄08'47	
morning rise	3615 Jun 01 01:18	26°♄27'56					
retrograde	3615 Sep 03 15:59	29°♄36'29		conjunction	3621 Jun 09 10:00	20°♄05'32	-0°02'20
opposition	3615 Nov 19 23:55	27°♄36'28	-0°21'28	minimum elong	3621 Jun 09 10:00	20°♄05'32	0°02'21
min. Earth dist.	3615 Nov 19 12:19	27°♄37'39	18.88929 AU	behind sun begin	3621 Jun 09 03:17	20°♄04'35	
direct	3616 Feb 02 22:05	25°♄39'14		behind sun end	3621 Jun 09 16:42	20°♄06'29	
evening set	3616 May 02 20:04	28°♄39'29		max. Earth dist.	3621 Jun 09 14:39	20°♄06'10	20.61426 AU
				morning rise	3621 Jun 25 23:38	21°♄02'44	
conjunction	3616 May 19 01:59	29°♄34'59	-0°18'00	retrograde	3621 Sep 28 11:33	24°♄14'04	
minimum elong	3616 May 19 01:59	29°♄34'59	0°18'01	opposition	3621 Dec 14 01:00	22°♄13'07	-0°00'40
max. Earth dist.	3616 May 19 14:46	29°♄36'48	20.86778 AU	min. Earth dist.	3621 Dec 13 21:01	22°♄13'32	18.58584 AU
	3616 May 26 08:30	0°♄		asc. node	3622 Feb 19 13:24	20°♄15'33	
morning rise	3616 Jun 04 11:16	0°♄30'59		direct	3622 Feb 26 17:50	20°♄14'11	
retrograde	3616 Sep 07 01:56	3°♄39'54		evening set	3622 May 28 12:06	23°♄18'56	
opposition	3616 Nov 23 07:29	1°♄39'42	-0°18'13				
min. Earth dist.	3616 Nov 22 20:58	1°♄40'47	18.84538 AU	conjunction	3622 Jun 13 23:41	24°♄15'59	0°01'04
	3617 Jan 10 15:43	30°♄♄		minimum elong	3622 Jun 13 23:42	24°♄15'59	0°01'04
direct	3617 Feb 06 04:53	29°♄42'12		behind sun begin	3622 Jun 13 16:59	24°♄15'02	
	3617 Mar 04 08:36	0°♄		behind sun end	3622 Jun 14 06:25	24°♄16'56	
evening set	3617 May 07 05:01	2°♄43'00		max. Earth dist.	3622 Jun 14 03:54	24°♄16'33	20.55724 AU
				morning rise	3622 Jun 30 13:52	25°♄13'26	
conjunction	3617 May 23 11:47	3°♄38'44	-0°15'01	retrograde	3622 Oct 03 01:19	28°♄25'21	
minimum elong	3617 May 23 11:47	3°♄38'44	0°15'01	opposition	3622 Dec 18 10:23	26°♄24'20	0°02'59
behind sun begin	3617 May 23 09:31	3°♄38'24		min. Earth dist.	3622 Dec 18 07:25	26°♄24'39	18.52784 AU
behind sun end	3617 May 23 14:04	3°♄39'03		direct	3623 Mar 03 03:03	24°♄25'08	
max. Earth dist.	3617 May 23 22:11	3°♄40'12	20.82230 AU	evening set	3623 Jun 02 01:49	27°♄30'54	
morning rise	3617 Jun 08 22:09	4°♄34'57					
retrograde	3617 Sep 11 12:20	7°♄44'17		conjunction	3623 Jun 18 14:05	28°♄28'13	0°04'24
opposition	3617 Nov 27 15:08	5°♄43'53	-0°14'51	minimum elong	3623 Jun 18 14:05	28°♄28'13	0°04'23
min. Earth dist.	3617 Nov 27 06:04	5°♄44'49	18.79837 AU	behind sun begin	3623 Jun 18 07:28	28°♄27'17	
direct	3618 Feb 10 11:19	3°♄46'05		behind sun end	3623 Jun 18 20:42	28°♄29'10	
evening set	3618 May 11 14:30	6°♄47'32		max. Earth dist.	3623 Jun 18 15:27	28°♄28'23	20.49839 AU
				morning rise	3623 Jul 05 05:06	29°♄25'57	
conjunction	3618 May 27 22:24	7°♄43'30	-0°11'56		3623 Jul 15 09:17	0°♄	

retrograde	3623 Oct 07 15:24	2°♄38'30		morning rise	3629 Jul 31 17:44	25°♄19'40	
opposition	3623 Dec 22 20:31	0°♄37'23	0°06'40	retrograde	3629 Nov 02 18:00	28°♄35'52	
min. Earth dist.	3623 Dec 22 19:37	0°♄37'29	18.46803 AU	opposition	3630 Jan 16 21:14	26°♄33'51	0°27'47
	3624 Jan 06 23:04	30°♄II		min. Earth dist.	3630 Jan 17 06:35	26°♄32'51	18.06833 AU
direct	3624 Mar 06 11:39	28°♄II37'54		direct	3630 Apr 01 13:23	24°♄31'59	
	3624 May 02 22:21	0°♄		evening set	3630 Jul 03 03:44	27°♄45'42	
evening set	3624 Jun 05 16:13	1°♄44'43					
				conjunction	3630 Jul 19 20:44	28°♄45'06	0°26'27
conjunction	3624 Jun 22 05:28	2°♄42'21	0°07'42	minimum elong	3630 Jul 19 20:44	28°♄45'06	0°26'27
minimum elong	3624 Jun 22 05:28	2°♄42'21	0°07'42	max. Earth dist.	3630 Jul 19 09:32	28°♄43'26	20.03389 AU
behind sun begin	3624 Jun 21 23:23	2°♄41'29		morning rise	3630 Aug 05 14:28	29°♄44'40	
behind sun end	3624 Jun 22 11:32	2°♄43'12			3630 Aug 10 00:38	0°♄	
max. Earth dist.	3624 Jun 22 06:11	2°♄42'26	20.43750 AU	retrograde	3630 Nov 07 12:50	3°♄01'26	
morning rise	3624 Jul 08 20:55	3°♄40'20		opposition	3631 Jan 21 11:16	0°♄59'15	0°30'56
retrograde	3624 Oct 11 07:21	6°♄53'31		min. Earth dist.	3631 Jan 21 21:03	0°♄58'11	17.99940 AU
opposition	3624 Dec 26 07:10	4°♄52'19	0°10'19		3631 Feb 14 11:12	30°♄R♄	
min. Earth dist.	3624 Dec 26 07:22	4°♄52'18	18.40599 AU	direct	3631 Apr 06 05:33	28°♄56'55	
direct	3625 Mar 10 22:42	2°♄52'31			3631 May 25 21:15	0°♄	
evening set	3625 Jun 10 07:59	6°♄00'26		evening set	3631 Jul 08 00:46	2°♄11'51	
conjunction	3625 Jun 26 21:49	6°♄58'21	0°10'58	conjunction	3631 Jul 24 18:02	3°♄11'32	0°29'13
minimum elong	3625 Jun 26 21:50	6°♄58'21	0°10'58	minimum elong	3631 Jul 24 18:02	3°♄11'32	0°29'13
behind sun begin	3625 Jun 26 16:48	6°♄57'38		max. Earth dist.	3631 Jul 24 04:32	3°♄09'31	19.96547 AU
behind sun end	3625 Jun 27 02:51	6°♄59'04		morning rise	3631 Aug 10 11:56	4°♄11'20	
max. Earth dist.	3625 Jun 26 19:21	6°♄58'00	20.37434 AU	retrograde	3631 Nov 12 06:02	7°♄28'41	
morning rise	3625 Jul 13 14:00	7°♄56'38		opposition	3632 Jan 26 02:12	5°♄26'19	0°33'55
retrograde	3625 Oct 15 22:19	11°♄10'26		min. Earth dist.	3632 Jan 26 14:08	5°♄25'01	17.93188 AU
opposition	3625 Dec 30 18:24	9°♄09'07	0°13'57	direct	3632 Apr 09 20:48	3°♄23'33	
min. Earth dist.	3625 Dec 30 21:04	9°♄08'50	18.34174 AU	evening set	3632 Jul 11 22:23	6°♄39'42	
direct	3626 Mar 15 08:27	7°♄08'57					
evening set	3626 Jun 15 00:33	10°♄18'00		conjunction	3632 Jul 28 16:05	7°♄39'39	0°31'48
				minimum elong	3632 Jul 28 16:05	7°♄39'39	0°31'49
conjunction	3626 Jul 01 15:18	11°♄16'14	0°14'13	max. Earth dist.	3632 Jul 28 01:50	7°♄37'31	19.89886 AU
minimum elong	3626 Jul 01 15:18	11°♄16'14	0°14'13	morning rise	3632 Aug 14 10:00	8°♄39'41	
behind sun begin	3626 Jul 01 12:16	11°♄15'47		retrograde	3632 Nov 16 02:04	11°♄57'36	
behind sun end	3626 Jul 01 18:21	11°♄16'40		opposition	3633 Jan 29 17:39	9°♄55'05	0°36'43
max. Earth dist.	3626 Jul 01 11:49	11°♄15'44	20.30890 AU	min. Earth dist.	3633 Jan 30 05:42	9°♄53'47	17.86634 AU
morning rise	3626 Jul 18 07:47	12°♄14'46		direct	3633 Apr 14 14:40	7°♄51'55	
retrograde	3626 Oct 20 16:03	15°♄29'10		evening set	3633 Jul 16 21:09	11°♄09'17	
opposition	3627 Jan 04 06:13	13°♄27'44	0°17'33				
min. Earth dist.	3627 Jan 04 09:57	13°♄27'20	18.27518 AU	conjunction	3633 Aug 02 15:02	12°♄09'31	0°34'13
direct	3627 Mar 19 21:30	11°♄27'11		minimum elong	3633 Aug 02 15:02	12°♄09'31	0°34'13
evening set	3627 Jun 19 18:03	14°♄37'21		max. Earth dist.	3633 Aug 01 22:58	12°♄07'05	19.83446 AU
				morning rise	3633 Aug 19 08:52	13°♄09'45	
conjunction	3627 Jul 06 09:17	15°♄35'53	0°17'25		3633 Sep 22 16:04	15°♄	
minimum elong	3627 Jul 06 09:16	15°♄35'53	0°17'25	retrograde	3633 Nov 20 20:34	16°♄28'14	
max. Earth dist.	3627 Jul 06 02:39	15°♄34'55	20.24141 AU		3634 Jan 20 23:46	15°♄R♄	
morning rise	3627 Jul 23 02:18	16°♄34'41		opposition	3634 Feb 03 09:52	14°♄25'36	0°39'19
retrograde	3627 Oct 25 07:23	19°♄49'42		min. Earth dist.	3634 Feb 03 23:57	14°♄24'04	17.80343 AU
opposition	3628 Jan 08 18:43	17°♄48'05	0°21'04	direct	3634 Apr 19 07:34	12°♄22'03	
min. Earth dist.	3628 Jan 09 00:53	17°♄47'26	18.20698 AU		3634 Jul 10 02:46	15°♄	
direct	3628 Mar 23 09:11	15°♄47'06		evening set	3634 Jul 21 20:39	15°♄40'40	
evening set	3628 Jun 23 12:20	18°♄58'26					
				conjunction	3634 Aug 07 14:43	16°♄41'08	0°36'26
conjunction	3628 Jul 10 04:20	19°♄57'16	0°20'32	minimum elong	3634 Aug 07 14:43	16°♄41'08	0°36'26
minimum elong	3628 Jul 10 04:20	19°♄57'16	0°20'31	max. Earth dist.	3634 Aug 06 21:45	16°♄38'34	19.77308 AU
max. Earth dist.	3628 Jul 09 20:49	19°♄56'10	20.17262 AU	morning rise	3634 Aug 24 08:25	17°♄41'35	
morning rise	3628 Jul 26 21:35	20°♄56'20		retrograde	3634 Nov 25 17:54	21°♄00'37	
retrograde	3628 Oct 29 01:46	24°♄11'56		opposition	3635 Feb 08 02:48	18°♄57'55	0°41'40
opposition	3629 Jan 12 07:36	22°♄10'08	0°24'29	min. Earth dist.	3635 Feb 08 16:47	18°♄56'24	17.74366 AU
min. Earth dist.	3629 Jan 12 14:32	22°♄09'23	18.13774 AU	direct	3635 Apr 24 02:52	16°♄54'02	
direct	3629 Mar 27 23:41	20°♄08'43		evening set	3635 Jul 26 20:50	20°♄13'54	
evening set	3629 Jun 28 07:40	23°♄21'13					
				conjunction	3635 Aug 12 14:57	21°♄14'36	0°38'26
conjunction	3629 Jul 15 00:05	24°♄20'21	0°23'34	minimum elong	3635 Aug 12 14:57	21°♄14'36	0°38'26
minimum elong	3629 Jul 15 00:05	24°♄20'21	0°23'34	max. Earth dist.	3635 Aug 11 20:53	21°♄11'51	19.71489 AU
max. Earth dist.	3629 Jul 14 13:43	24°♄18'49	20.10316 AU	morning rise	3635 Aug 29 08:22	22°♄15'14	

retrograde	3635 Nov 30 14:00	25° $\Omega$ 34'50	evening set	3642 Aug 29 18:24	22° $\Pi$ 54'19	
opposition	3636 Feb 12 20:37	23° $\Omega$ 32'06 0°43'47	max. Earth dist.	3642 Sep 14 09:19	23° $\Pi$ 52'13	19.39888 AU
min. Earth dist.	3636 Feb 13 12:26	23° $\Omega$ 30'23 17.68726 AU				
direct	3636 Apr 27 21:23	21° $\Omega$ 27'56	conjunction	3642 Sep 15 10:28	23° $\Pi$ 56'08 0°45'11	
evening set	3636 Jul 30 21:57	24° $\Omega$ 49'01	minimum elong	3642 Sep 15 10:28	23° $\Pi$ 56'08 0°45'12	
			morning rise	3642 Oct 02 00:07	24° $\Pi$ 57'37	
conjunction	3636 Aug 16 16:02	25° $\Omega$ 49'56 0°40'12	retrograde	3643 Jan 02 09:11	28° $\Pi$ 19'56	
minimum elong	3636 Aug 16 16:02	25° $\Omega$ 49'56 0°40'12	opposition	3643 Mar 16 20:44	26° $\Pi$ 17'10 0°50'18	
max. Earth dist.	3636 Aug 15 20:46	25° $\Omega$ 47'00 19.66024 AU	min. Earth dist.	3643 Mar 17 17:29	26° $\Pi$ 14'54 17.38349 AU	
morning rise	3636 Sep 02 09:15	26° $\Omega$ 50'46	direct	3643 May 31 11:28	24° $\Pi$ 11'18	
	3636 Nov 14 13:27	0° $\Pi$	evening set	3643 Sep 03 22:49	27° $\Pi$ 39'16	
retrograde	3636 Dec 04 12:39	0° $\Pi$ 10'53				
	3636 Dec 24 14:35	30° $\mathcal{R}$ $\Omega$	conjunction	3643 Sep 20 14:27	28° $\Pi$ 41'10 0°44'58	
opposition	3637 Feb 16 14:53	28° $\Omega$ 08'09 0°45'38	minimum elong	3643 Sep 20 14:27	28° $\Pi$ 41'10 0°44'58	
min. Earth dist.	3637 Feb 17 06:46	28° $\Omega$ 06'26 17.63428 AU	max. Earth dist.	3643 Sep 19 14:18	28° $\Pi$ 37'23 19.36843 AU	
direct	3637 May 02 18:26	26° $\Omega$ 03'43	morning rise	3643 Oct 07 03:09	29° $\Pi$ 42'39	
evening set	3637 Aug 04 23:56	29° $\Omega$ 26'01		3643 Oct 11 22:00	0° $\Omega$	
	3637 Aug 14 08:41	0° $\Pi$	retrograde	3644 Jan 07 08:49	3° $\Omega$ 05'09	
conjunction	3637 Aug 21 17:58	0° $\Pi$ 27'09 0°41'44	opposition	3644 Mar 20 19:46	1° $\Omega$ 02'22 0°49'54	
minimum elong	3637 Aug 21 17:58	0° $\Pi$ 27'09 0°41'44	min. Earth dist.	3644 Mar 21 16:45	1° $\Omega$ 00'03 17.35541 AU	
max. Earth dist.	3637 Aug 20 21:56	0° $\Pi$ 24'05 19.60873 AU		3644 Apr 14 15:48	30° $\mathcal{R}$ $\Pi$	
morning rise	3637 Sep 07 10:39	1° $\Pi$ 28'08	direct	3644 Jun 04 13:07	28° $\Pi$ 56'17	
retrograde	3637 Dec 09 10:06	4° $\Pi$ 48'45	evening set	3644 Jul 24 07:09	0° $\Omega$	
opposition	3638 Feb 21 10:13	2° $\Pi$ 46'03 0°47'12		3644 Sep 08 03:39	2° $\Omega$ 24'53	
min. Earth dist.	3638 Feb 22 03:58	2° $\Pi$ 44'07 17.58438 AU	conjunction	3644 Sep 24 18:27	3° $\Omega$ 26'48 0°44'27	
direct	3638 May 07 14:33	0° $\Pi$ 41'22	minimum elong	3644 Sep 24 18:27	3° $\Omega$ 26'48 0°44'27	
evening set	3638 Aug 10 02:37	4° $\Pi$ 04'48	max. Earth dist.	3644 Sep 23 17:11	3° $\Omega$ 22'50 19.34294 AU	
			morning rise	3644 Oct 11 06:26	4° $\Omega$ 28'18	
conjunction	3638 Aug 26 20:19	5° $\Pi$ 06'07 0°43'00	retrograde	3645 Jan 11 08:06	7° $\Omega$ 50'53	
minimum elong	3638 Aug 26 20:19	5° $\Pi$ 06'07 0°43'00	opposition	3645 Mar 25 19:04	5° $\Omega$ 48'05 0°49'09	
max. Earth dist.	3638 Aug 25 22:35	5° $\Pi$ 02'47 19.56034 AU	min. Earth dist.	3645 Mar 26 16:12	5° $\Omega$ 45'46 17.33270 AU	
morning rise	3638 Sep 12 12:37	6° $\Pi$ 07'15	direct	3645 Jun 09 14:52	3° $\Omega$ 41'50	
retrograde	3638 Dec 14 10:02	9° $\Pi$ 28'20	evening set	3645 Sep 13 08:21	7° $\Omega$ 10'57	
opposition	3639 Feb 26 06:09	7° $\Pi$ 25'38 0°48'28				
min. Earth dist.	3639 Feb 27 00:03	7° $\Pi$ 23'40 17.53754 AU	conjunction	3645 Sep 29 22:33	8° $\Omega$ 12'52 0°43'37	
direct	3639 May 12 13:30	5° $\Pi$ 20'42	minimum elong	3645 Sep 29 22:33	8° $\Omega$ 12'52 0°43'37	
evening set	3639 Aug 15 05:50	8° $\Pi$ 45'13	max. Earth dist.	3645 Sep 28 22:38	8° $\Omega$ 09'07 19.32302 AU	
			morning rise	3645 Oct 16 09:28	9° $\Omega$ 14'20	
conjunction	3639 Aug 31 23:23	9° $\Pi$ 46'42 0°43'59	retrograde	3646 Jan 16 08:03	12° $\Omega$ 36'58	
minimum elong	3639 Aug 31 23:23	9° $\Pi$ 46'42 0°44'00	opposition	3646 Mar 30 18:59	10° $\Omega$ 34'10 0°48'04	
max. Earth dist.	3639 Aug 31 01:24	9° $\Pi$ 43'19 19.51489 AU	min. Earth dist.	3646 Mar 31 15:32	10° $\Omega$ 31'54 17.31567 AU	
morning rise	3639 Sep 17 14:57	10° $\Pi$ 47'57	direct	3646 Jun 14 18:37	8° $\Omega$ 27'48	
retrograde	3639 Dec 19 08:40	14° $\Pi$ 09'25	evening set	3646 Sep 18 12:59	11° $\Omega$ 57'18	
opposition	3640 Mar 02 02:55	12° $\Pi$ 06'44 0°49'26	max. Earth dist.	3646 Oct 04 02:01	12° $\Omega$ 55'24 19.30911 AU	
min. Earth dist.	3640 Mar 02 22:20	12° $\Pi$ 04'37 17.49370 AU				
direct	3640 May 16 11:13	10° $\Pi$ 01'33	conjunction	3646 Oct 05 02:13	12° $\Omega$ 59'12 0°42'29	
evening set	3640 Aug 19 09:38	13° $\Pi$ 27'05	minimum elong	3646 Oct 05 02:13	12° $\Omega$ 59'12 0°42'28	
max. Earth dist.	3640 Sep 04 02:51	14° $\Pi$ 25'00 19.47267 AU	morning rise	3646 Oct 21 12:14	14° $\Omega$ 00'37	
			retrograde	3647 Jan 21 06:53	17° $\Omega$ 23'16	
conjunction	3640 Sep 05 02:42	14° $\Pi$ 28'41 0°44'41	opposition	3647 Apr 04 19:17	15° $\Omega$ 20'29 0°46'38	
minimum elong	3640 Sep 05 02:42	14° $\Pi$ 28'41 0°44'41	min. Earth dist.	3647 Apr 05 15:45	15° $\Omega$ 18'14 17.30509 AU	
morning rise	3640 Sep 21 17:51	15° $\Pi$ 30'03	direct	3647 Jun 19 21:13	13° $\Omega$ 14'02	
retrograde	3640 Dec 23 09:20	18° $\Pi$ 51'52	evening set	3647 Sep 23 17:26	16° $\Omega$ 43'52	
opposition	3641 Mar 07 00:15	16° $\Pi$ 49'09 0°50'04	max. Earth dist.	3647 Oct 09 07:13	17° $\Omega$ 42'08 19.30185 AU	
min. Earth dist.	3641 Mar 07 19:53	16° $\Pi$ 47'00 17.45317 AU				
direct	3641 May 21 11:13	14° $\Pi$ 43'44	conjunction	3647 Oct 10 05:54	17° $\Omega$ 45'42 0°41'03	
evening set	3641 Aug 24 13:49	18° $\Pi$ 10'10	minimum elong	3647 Oct 10 05:54	17° $\Omega$ 45'42 0°41'03	
max. Earth dist.	3641 Sep 09 07:03	19° $\Pi$ 08'15 19.43379 AU	morning rise	3647 Oct 26 14:52	18° $\Omega$ 47'03	
			retrograde	3648 Jan 26 07:24	22° $\Omega$ 09'38	
conjunction	3641 Sep 10 06:35	19° $\Pi$ 11'54 0°45'05	opposition	3648 Apr 08 19:44	20° $\Omega$ 06'56 0°44'53	
minimum elong	3641 Sep 10 06:35	19° $\Pi$ 11'54 0°45'05	min. Earth dist.	3648 Apr 09 14:56	20° $\Omega$ 04'50 17.30107 AU	
morning rise	3641 Sep 26 20:50	20° $\Pi$ 13'20	direct	3648 Jun 24 01:36	18° $\Omega$ 00'29	
retrograde	3641 Dec 28 08:44	23° $\Pi$ 35'25	evening set	3648 Sep 27 21:52	21° $\Omega$ 30'31	
opposition	3642 Mar 11 22:13	21° $\Pi$ 32'42 0°50'21	max. Earth dist.	3648 Oct 13 11:02	22° $\Omega$ 28'46 19.30121 AU	
min. Earth dist.	3642 Mar 12 18:51	21° $\Pi$ 30'27 17.41617 AU				
direct	3642 May 26 10:42	19° $\Pi$ 27'03	conjunction	3648 Oct 14 09:21	22° $\Omega$ 32'17 0°39'21	

minimum elong	3648 Oct 14 09:21	22° <u>♁</u> 32'17	0°39'20	morning rise	3654 Nov 28 23:11	22° <u>♁</u> 06'53	
morning rise	3648 Oct 30 17:20	23° <u>♁</u> 33'33		retrograde	3655 Feb 28 05:42	25° <u>♁</u> 27'46	
retrograde	3649 Jan 30 06:35	26° <u>♁</u> 56'02		opposition	3655 May 13 05:41	23° <u>♁</u> 26'11	0°25'01
opposition	3649 Apr 13 20:42	24° <u>♁</u> 53'27	0°42'50	min. Earth dist.	3655 May 13 19:22	23° <u>♁</u> 24'42	17.43437 AU
min. Earth dist.	3649 Apr 14 15:54	24° <u>♁</u> 51'22	17.30376 AU	direct	3655 Jul 29 00:19	21° <u>♁</u> 20'49	
direct	3649 Jun 29 03:57	22° <u>♁</u> 47'04		evening set	3655 Nov 01 17:23	24° <u>♁</u> 49'11	
evening set	3649 Oct 03 01:57	26° <u>♁</u> 17'13					
conjunction	3649 Oct 19 12:29	27° <u>♁</u> 18'52	0°37'22	conjunction	3655 Nov 17 21:30	25° <u>♁</u> 49'44	0°20'48
minimum elong	3649 Oct 19 12:29	27° <u>♁</u> 18'52	0°37'23	minimum elong	3655 Nov 17 21:31	25° <u>♁</u> 49'44	0°20'48
max. Earth dist.	3649 Oct 18 15:27	27° <u>♁</u> 15'33	19.30717 AU	max. Earth dist.	3655 Nov 17 06:48	25° <u>♁</u> 47'26	19.45229 AU
morning rise	3649 Nov 04 19:26	28° <u>♁</u> 20'01		morning rise	3655 Dec 03 22:17	26° <u>♁</u> 49'48	
	3649 Dec 04 02:20	0° <u>♁</u>			3656 Feb 14 00:54	0° <u>♁</u>	
retrograde	3650 Feb 04 07:48	1° <u>♁</u> 42'22		retrograde	3656 Mar 04 04:31	0° <u>♁</u> 10'13	
	3650 Apr 11 04:38	30° <u>♁</u>			3656 Mar 23 12:30	30° <u>♁</u>	
opposition	3650 Apr 18 21:47	29° <u>♁</u> 39'57	0°40'29	opposition	3656 May 17 06:49	28° <u>♁</u> 08'45	0°21'20
min. Earth dist.	3650 Apr 19 15:18	29° <u>♁</u> 38'03	17.31269 AU	min. Earth dist.	3656 May 17 18:29	28° <u>♁</u> 07'30	17.47126 AU
direct	3650 Jul 04 08:13	27° <u>♁</u> 33'41		direct	3656 Aug 02 03:56	26° <u>♁</u> 03'36	
	3650 Sep 20 05:13	0° <u>♁</u>		evening set	3656 Nov 05 17:37	29° <u>♁</u> 31'18	
evening set	3650 Oct 08 05:47	1° <u>♁</u> 03'49			3656 Nov 13 11:13	0° <u>♁</u>	
conjunction	3650 Oct 24 15:19	2° <u>♁</u> 05'21	0°35'08	conjunction	3656 Nov 21 20:50	0° <u>♁</u> 31'36	0°17'27
minimum elong	3650 Oct 24 15:19	2° <u>♁</u> 05'21	0°35'09	minimum elong	3656 Nov 21 20:51	0° <u>♁</u> 31'36	0°17'27
max. Earth dist.	3650 Oct 23 19:20	2° <u>♁</u> 02'13	19.31911 AU	max. Earth dist.	3656 Nov 21 08:35	0° <u>♁</u> 29'41	19.49103 AU
morning rise	3650 Nov 09 21:09	3° <u>♁</u> 06'23		morning rise	3656 Dec 07 20:29	1° <u>♁</u> 31'25	
retrograde	3651 Feb 09 07:21	6° <u>♁</u> 28'32		retrograde	3657 Mar 09 01:44	4° <u>♁</u> 51'20	
opposition	3651 Apr 23 23:16	4° <u>♁</u> 26'18	0°37'52	opposition	3657 May 22 08:01	2° <u>♁</u> 50'00	0°17'32
min. Earth dist.	3651 Apr 24 16:53	4° <u>♁</u> 24'23	17.32752 AU	min. Earth dist.	3657 May 22 19:07	2° <u>♁</u> 48'49	17.51176 AU
direct	3651 Jul 09 10:29	2° <u>♁</u> 20'10		direct	3657 Aug 07 07:00	0° <u>♁</u> 45'05	
evening set	3651 Oct 13 09:07	5° <u>♁</u> 50'11		evening set	3657 Nov 10 16:59	4° <u>♁</u> 11'59	
conjunction	3651 Oct 29 17:36	6° <u>♁</u> 51'34	0°32'40	conjunction	3657 Nov 26 18:58	5° <u>♁</u> 12'01	0°14'00
minimum elong	3651 Oct 29 17:36	6° <u>♁</u> 51'34	0°32'40	minimum elong	3657 Nov 26 18:59	5° <u>♁</u> 12'01	0°14'01
max. Earth dist.	3651 Oct 28 22:28	6° <u>♁</u> 48'33	19.33670 AU	behind sun begin	3657 Nov 26 15:35	5° <u>♁</u> 11'30	
morning rise	3651 Nov 14 22:30	7° <u>♁</u> 52'26		behind sun end	3657 Nov 26 22:22	5° <u>♁</u> 12'32	
retrograde	3652 Feb 14 08:18	11° <u>♁</u> 14'21		max. Earth dist.	3657 Nov 26 07:15	5° <u>♁</u> 10'11	19.53348 AU
opposition	3652 Apr 28 00:43	9° <u>♁</u> 12'17	0°34'59	morning rise	3657 Dec 12 17:51	6° <u>♁</u> 11'34	
min. Earth dist.	3652 Apr 28 16:30	9° <u>♁</u> 10'35	17.34754 AU	retrograde	3658 Mar 13 22:53	9° <u>♁</u> 30'58	
direct	3652 Jul 13 14:42	7° <u>♁</u> 06'20		opposition	3658 May 27 08:46	7° <u>♁</u> 29'44	0°13'38
evening set	3652 Oct 17 12:07	10° <u>♁</u> 36'07		min. Earth dist.	3658 May 27 17:43	7° <u>♁</u> 28'47	17.55609 AU
conjunction	3652 Nov 02 19:36	11° <u>♁</u> 37'20	0°29'59	direct	3658 Aug 12 09:59	5° <u>♁</u> 25'02	
minimum elong	3652 Nov 02 19:36	11° <u>♁</u> 37'20	0°29'59	evening set	3658 Nov 15 15:17	8° <u>♁</u> 51'04	
max. Earth dist.	3652 Nov 02 02:01	11° <u>♁</u> 34'34	19.35910 AU	conjunction	3658 Dec 01 16:25	9° <u>♁</u> 50'49	0°10'28
morning rise	3652 Nov 18 23:18	12° <u>♁</u> 38'01		minimum elong	3658 Dec 01 16:26	9° <u>♁</u> 50'49	0°10'28
	3653 Jan 02 13:24	15° <u>♁</u>		behind sun begin	3658 Dec 01 11:13	9° <u>♁</u> 50'01	
retrograde	3653 Feb 18 07:19	15° <u>♁</u> 59'38		behind sun end	3658 Dec 01 21:38	9° <u>♁</u> 51'36	
	3653 Apr 07 20:20	15° <u>♁</u>		max. Earth dist.	3658 Dec 01 07:37	9° <u>♁</u> 49'27	19.57975 AU
opposition	3653 May 03 02:23	13° <u>♁</u> 57'44	0°31'52	morning rise	3658 Dec 17 14:15	10° <u>♁</u> 50'07	
min. Earth dist.	3653 May 03 18:17	13° <u>♁</u> 56'02	17.37226 AU	retrograde	3659 Mar 18 18:41	14° <u>♁</u> 08'55	
direct	3653 Jul 18 17:15	11° <u>♁</u> 51'58		opposition	3659 Jun 01 09:04	12° <u>♁</u> 07'48	0°09'40
	3653 Oct 16 17:41	15° <u>♁</u>		min. Earth dist.	3659 Jun 01 16:52	12° <u>♁</u> 06'59	17.60427 AU
evening set	3653 Oct 22 14:39	15° <u>♁</u> 21'24		direct	3659 Aug 17 12:16	10° <u>♁</u> 03'22	
conjunction	3653 Nov 07 20:56	16° <u>♁</u> 22'24	0°27'05	evening set	3659 Nov 20 12:43	13° <u>♁</u> 28'27	
minimum elong	3653 Nov 07 20:56	16° <u>♁</u> 22'25	0°27'05	conjunction	3659 Dec 06 12:42	14° <u>♁</u> 27'54	0°06'55
max. Earth dist.	3653 Nov 07 03:48	16° <u>♁</u> 19'43	19.38612 AU	minimum elong	3659 Dec 06 12:42	14° <u>♁</u> 27'54	0°06'55
morning rise	3653 Nov 23 23:43	17° <u>♁</u> 22'54		behind sun begin	3659 Dec 06 06:33	14° <u>♁</u> 26'58	
retrograde	3654 Feb 23 07:32	20° <u>♁</u> 44'10		behind sun end	3659 Dec 06 18:51	14° <u>♁</u> 28'50	
opposition	3654 May 08 04:01	18° <u>♁</u> 42'26	0°28'32	max. Earth dist.	3659 Dec 06 04:42	14° <u>♁</u> 26'40	19.62999 AU
min. Earth dist.	3654 May 08 17:52	18° <u>♁</u> 40'57	17.40133 AU	morning rise	3659 Dec 22 09:52	15° <u>♁</u> 26'56	
direct	3654 Jul 23 21:28	16° <u>♁</u> 36'52		retrograde	3660 Mar 22 14:32	18° <u>♁</u> 45'10	
evening set	3654 Oct 27 16:15	20° <u>♁</u> 05'49		opposition	3660 Jun 05 08:55	16° <u>♁</u> 44'09	0°05'40
conjunction	3654 Nov 12 21:35	21° <u>♁</u> 06'37	0°24'01	min. Earth dist.	3660 Jun 05 14:36	16° <u>♁</u> 43'33	17.65656 AU
minimum elong	3654 Nov 12 21:35	21° <u>♁</u> 06'37	0°24'01	direct	3660 Aug 21 13:19	14° <u>♁</u> 39'59	
max. Earth dist.	3654 Nov 12 06:35	21° <u>♁</u> 04'16	19.41722 AU	evening set	3660 Nov 24 09:05	18° <u>♁</u> 04'05	
				conjunction	3660 Dec 10 08:15	19° <u>♁</u> 03'14	0°03'20

minimum elong	3660 Dec 10 08:14	19° $\mathring{\text{A}}$ 03'14	0°03'19	max. Earth dist.	3666 Jan 02 00:04	11° $\mathring{\text{Z}}$ 34'55	20.00259 AU
behind sun begin	3660 Dec 10 01:41	19° $\mathring{\text{A}}$ 02'15		morning rise	3666 Jan 17 13:23	12° $\mathring{\text{Z}}$ 31'44	
behind sun end	3660 Dec 10 14:48	19° $\mathring{\text{A}}$ 04'14		retrograde	3666 Apr 19 03:16	15° $\mathring{\text{Z}}$ 46'23	
max. Earth dist.	3660 Dec 10 03:17	19° $\mathring{\text{A}}$ 02'30	19.68429 AU	opposition	3666 Jul 03 21:45	13° $\mathring{\text{Z}}$ 46'30	-0°17'40
morning rise	3660 Dec 26 04:25	20° $\mathring{\text{A}}$ 02'00		min. Earth dist.	3666 Jul 03 17:14	13° $\mathring{\text{Z}}$ 46'58	18.03639 AU
retrograde	3661 Mar 27 09:21	23° $\mathring{\text{A}}$ 19'37		direct	3666 Sep 19 01:03	11° $\mathring{\text{Z}}$ 44'41	
opposition	3661 Jun 10 08:21	21° $\mathring{\text{A}}$ 18'47	0°01'39	evening set	3666 Dec 21 16:26	15° $\mathring{\text{Z}}$ 02'05	
min. Earth dist.	3661 Jun 10 12:14	21° $\mathring{\text{A}}$ 18'23	17.71275 AU				
direct	3661 Aug 26 13:55	19° $\mathring{\text{A}}$ 14'57		conjunction	3667 Jan 06 10:39	15° $\mathring{\text{Z}}$ 59'24	-0°17'34
desc. node	3661 Nov 10 03:55	21° $\mathring{\text{A}}$ 31'53		minimum elong	3667 Jan 06 10:39	15° $\mathring{\text{Z}}$ 59'24	0°17'33
evening set	3661 Nov 29 04:40	22° $\mathring{\text{A}}$ 38'00		max. Earth dist.	3667 Jan 06 16:27	16° $\mathring{\text{Z}}$ 00'17	20.07055 AU
				morning rise	3667 Jan 22 03:19	16° $\mathring{\text{Z}}$ 56'31	
conjunction	3661 Dec 15 02:46	23° $\mathring{\text{A}}$ 36'51	-0°00'21	retrograde	3667 Apr 23 20:55	20° $\mathring{\text{Z}}$ 10'33	
minimum elong	3661 Dec 15 02:44	23° $\mathring{\text{A}}$ 36'51	0°00'21	opposition	3667 Jul 08 17:44	18° $\mathring{\text{Z}}$ 10'51	-0°21'14
behind sun begin	3661 Dec 14 20:10	23° $\mathring{\text{A}}$ 35'51		min. Earth dist.	3667 Jul 08 11:05	18° $\mathring{\text{Z}}$ 11'32	18.10420 AU
behind sun end	3661 Dec 15 09:18	23° $\mathring{\text{A}}$ 37'50		direct	3667 Sep 23 22:20	16° $\mathring{\text{Z}}$ 09'26	
max. Earth dist.	3661 Dec 14 22:51	23° $\mathring{\text{A}}$ 36'17	19.74249 AU	evening set	3667 Dec 26 06:42	19° $\mathring{\text{Z}}$ 25'38	
morning rise	3661 Dec 30 22:18	24° $\mathring{\text{A}}$ 35'20					
retrograde	3662 Apr 01 04:13	27° $\mathring{\text{A}}$ 52'23		conjunction	3668 Jan 11 00:14	20° $\mathring{\text{Z}}$ 22'40	-0°20'43
opposition	3662 Jun 15 07:19	25° $\mathring{\text{A}}$ 51'42	-0°02'20	minimum elong	3668 Jan 11 00:14	20° $\mathring{\text{Z}}$ 22'40	0°20'42
min. Earth dist.	3662 Jun 15 09:16	25° $\mathring{\text{A}}$ 51'30	17.77285 AU	max. Earth dist.	3668 Jan 11 07:09	20° $\mathring{\text{Z}}$ 23'43	20.13803 AU
direct	3662 Aug 31 12:26	23° $\mathring{\text{A}}$ 48'14		morning rise	3668 Jan 26 16:34	21° $\mathring{\text{Z}}$ 19'31	
evening set	3662 Dec 03 23:01	27° $\mathring{\text{A}}$ 10'12		retrograde	3668 Apr 27 11:17	24° $\mathring{\text{Z}}$ 32'58	
				opposition	3668 Jul 12 13:20	22° $\mathring{\text{Z}}$ 33'24	-0°24'39
conjunction	3662 Dec 19 20:21	28° $\mathring{\text{A}}$ 08'45	-0°03'59	min. Earth dist.	3668 Jul 12 06:12	22° $\mathring{\text{Z}}$ 34'08	18.17138 AU
minimum elong	3662 Dec 19 20:22	28° $\mathring{\text{A}}$ 08'45	0°03'58	direct	3668 Sep 27 16:02	20° $\mathring{\text{Z}}$ 32'21	
behind sun begin	3662 Dec 19 13:51	28° $\mathring{\text{A}}$ 07'47		evening set	3668 Dec 29 19:59	23° $\mathring{\text{Z}}$ 47'21	
behind sun end	3662 Dec 20 02:52	28° $\mathring{\text{A}}$ 09'44					
max. Earth dist.	3662 Dec 19 19:23	28° $\mathring{\text{A}}$ 08'38	19.80427 AU	conjunction	3669 Jan 14 13:00	24° $\mathring{\text{Z}}$ 44'05	-0°23'43
morning rise	3663 Jan 04 15:09	29° $\mathring{\text{A}}$ 06'58		minimum elong	3669 Jan 14 13:00	24° $\mathring{\text{Z}}$ 44'05	0°23'43
	3663 Jan 19 18:21	0° $\mathring{\text{Z}}$		max. Earth dist.	3669 Jan 14 21:26	24° $\mathring{\text{Z}}$ 45'22	20.20463 AU
retrograde	3663 Apr 05 22:56	2° $\mathring{\text{Z}}$ 23'24		morning rise	3669 Jan 30 04:59	25° $\mathring{\text{Z}}$ 40'41	
opposition	3663 Jun 20 05:43	0° $\mathring{\text{Z}}$ 22'57	-0°06'17	retrograde	3669 May 02 03:11	28° $\mathring{\text{Z}}$ 53'32	
min. Earth dist.	3663 Jun 20 05:36	0° $\mathring{\text{Z}}$ 22'57	17.83595 AU	opposition	3669 Jul 17 08:10	26° $\mathring{\text{Z}}$ 54'05	-0°27'54
	3663 Jun 29 10:53	30° $\mathring{\text{R}}$ $\mathring{\text{A}}$		min. Earth dist.	3669 Jul 16 22:46	26° $\mathring{\text{Z}}$ 55'02	18.23726 AU
direct	3663 Sep 05 11:28	28° $\mathring{\text{A}}$ 19'52		direct	3669 Oct 02 12:20	24° $\mathring{\text{Z}}$ 53'23	
	3663 Nov 08 08:16	0° $\mathring{\text{Z}}$		evening set	3670 Jan 03 08:30	28° $\mathring{\text{Z}}$ 07'10	
evening set	3663 Dec 08 16:46	1° $\mathring{\text{Z}}$ 40'45					
				conjunction	3670 Jan 19 01:01	29° $\mathring{\text{Z}}$ 03'38	-0°26'35
conjunction	3663 Dec 24 13:08	2° $\mathring{\text{Z}}$ 38'59	-0°07'29	minimum elong	3670 Jan 19 01:01	29° $\mathring{\text{Z}}$ 03'38	0°26'34
minimum elong	3663 Dec 24 13:08	2° $\mathring{\text{Z}}$ 38'59	0°07'30	max. Earth dist.	3670 Jan 19 10:40	29° $\mathring{\text{Z}}$ 05'05	20.26974 AU
behind sun begin	3663 Dec 24 07:08	2° $\mathring{\text{Z}}$ 38'05		morning rise	3670 Feb 03 16:46	29° $\mathring{\text{Z}}$ 59'59	
behind sun end	3663 Dec 24 19:09	2° $\mathring{\text{Z}}$ 39'53			3670 Feb 03 16:55	0° $\mathring{\text{Z}}$	
max. Earth dist.	3663 Dec 24 13:17	2° $\mathring{\text{Z}}$ 39'00	19.86868 AU	retrograde	3670 May 06 16:13	3° $\mathring{\text{Z}}$ 12'14	
morning rise	3664 Jan 09 07:24	3° $\mathring{\text{Z}}$ 36'55		opposition	3670 Jul 22 02:23	1° $\mathring{\text{Z}}$ 12'51	-0°30'58
retrograde	3664 Apr 09 16:34	6° $\mathring{\text{Z}}$ 52'46		min. Earth dist.	3670 Jul 21 16:42	1° $\mathring{\text{Z}}$ 13'50	18.30170 AU
opposition	3664 Jun 24 03:29	4° $\mathring{\text{Z}}$ 52'30	-0°10'10		3670 Aug 23 02:16	30° $\mathring{\text{R}}$ $\mathring{\text{Z}}$	
min. Earth dist.	3664 Jun 24 02:03	4° $\mathring{\text{Z}}$ 52'39	17.90151 AU	direct	3670 Oct 07 04:23	29° $\mathring{\text{Z}}$ 12'28	
direct	3664 Sep 09 07:46	2° $\mathring{\text{Z}}$ 49'51			3670 Nov 19 16:26	0° $\mathring{\text{Z}}$	
evening set	3664 Dec 12 09:32	6° $\mathring{\text{Z}}$ 09'35		evening set	3671 Jan 07 20:00	2° $\mathring{\text{Z}}$ 25'03	
conjunction	3664 Dec 28 05:12	7° $\mathring{\text{Z}}$ 07'32	-0°10'56	conjunction	3671 Jan 23 12:10	3° $\mathring{\text{Z}}$ 21'14	-0°29'16
minimum elong	3664 Dec 28 05:12	7° $\mathring{\text{Z}}$ 07'32	0°10'55	minimum elong	3671 Jan 23 12:10	3° $\mathring{\text{Z}}$ 21'14	0°29'16
behind sun begin	3664 Dec 28 00:11	7° $\mathring{\text{Z}}$ 06'46		max. Earth dist.	3671 Jan 23 23:06	3° $\mathring{\text{Z}}$ 22'53	20.33339 AU
behind sun end	3664 Dec 28 10:13	7° $\mathring{\text{Z}}$ 08'17		morning rise	3671 Feb 08 03:48	4° $\mathring{\text{Z}}$ 17'21	
max. Earth dist.	3664 Dec 28 07:48	7° $\mathring{\text{Z}}$ 07'55	19.93512 AU	retrograde	3671 May 11 06:24	7° $\mathring{\text{Z}}$ 29'00	
morning rise	3665 Jan 12 22:48	8° $\mathring{\text{Z}}$ 05'11		opposition	3671 Jul 26 19:40	5° $\mathring{\text{Z}}$ 29'41	-0°33'51
retrograde	3665 Apr 14 11:11	11° $\mathring{\text{Z}}$ 20'25		min. Earth dist.	3671 Jul 26 07:42	5° $\mathring{\text{Z}}$ 30'54	18.36448 AU
opposition	3665 Jun 29 00:52	9° $\mathring{\text{Z}}$ 20'22	-0°13'58	direct	3671 Oct 11 22:47	3° $\mathring{\text{Z}}$ 29'35	
min. Earth dist.	3665 Jun 28 21:16	9° $\mathring{\text{Z}}$ 20'45	17.96851 AU	evening set	3672 Jan 12 06:44	6° $\mathring{\text{Z}}$ 40'58	
direct	3665 Sep 14 06:05	7° $\mathring{\text{Z}}$ 18'08					
evening set	3665 Dec 17 01:24	10° $\mathring{\text{Z}}$ 36'43		conjunction	3672 Jan 27 22:31	7° $\mathring{\text{Z}}$ 36'54	-0°31'46
				minimum elong	3672 Jan 27 22:31	7° $\mathring{\text{Z}}$ 36'54	0°31'46
conjunction	3666 Jan 01 20:13	11° $\mathring{\text{Z}}$ 34'20	-0°14'18	max. Earth dist.	3672 Jan 28 10:56	7° $\mathring{\text{Z}}$ 38'45	20.39532 AU
minimum elong	3666 Jan 01 20:13	11° $\mathring{\text{Z}}$ 34'20	0°14'18	morning rise	3672 Feb 12 14:03	8° $\mathring{\text{Z}}$ 32'47	
behind sun begin	3666 Jan 01 17:01	11° $\mathring{\text{Z}}$ 33'51		retrograde	3672 May 14 18:04	11° $\mathring{\text{Z}}$ 43'52	
behind sun end	3666 Jan 01 23:26	11° $\mathring{\text{Z}}$ 34'49		opposition	3672 Jul 30 12:19	9° $\mathring{\text{Z}}$ 44'34	-0°36'31

min. Earth dist.	3672 Jul 30 00:04	9° <del>45</del> '49	18.42584 AU	direct	3678 Nov 10 16:13	2° <del>42</del> '13	
direct	3672 Oct 15 13:21	7° <del>44</del> '45		evening set	3679 Feb 09 14:01	5° <del>46</del> '30	
evening set	3673 Jan 15 16:37	10° <del>54</del> '59					
conjunction	3673 Jan 31 08:07	11° <del>50</del> '40	-0°34'05	conjunction	3679 Feb 25 05:18	6° <del>41</del> '02	-0°43'33
minimum elong	3673 Jan 31 08:07	11° <del>50</del> '40	0°34'05	minimum elong	3679 Feb 25 05:18	6° <del>41</del> '02	0°43'33
max. Earth dist.	3673 Jan 31 21:48	11° <del>52</del> '42	20.45610 AU	max. Earth dist.	3679 Feb 26 01:51	6° <del>44</del> '02	20.79123 AU
morning rise	3673 Feb 15 23:38	12° <del>46</del> '20		morning rise	3679 Mar 12 22:05	7° <del>35</del> '45	
	3673 Apr 01 11:48	15° <del></del>		retrograde	3679 Jun 13 22:43	10° <del>43</del> '51	
retrograde	3673 May 19 06:59	15° <del>56</del> '52		opposition	3679 Aug 30 13:17	8° <del>45</del> '05	-0°48'40
	3673 Jul 08 03:17	15° <del>44</del>		min. Earth dist.	3679 Aug 29 16:17	8° <del>47</del> '11	18.81550 AU
opposition	3673 Aug 04 04:11	13° <del>57</del> '36	-0°38'57	direct	3679 Nov 15 02:40	6° <del>47</del> '28	
min. Earth dist.	3673 Aug 03 13:25	13° <del>59</del> '06	18.48608 AU	evening set	3680 Feb 13 19:55	9° <del>50</del> '57	
direct	3673 Oct 20 05:21	11° <del>58</del> '05		conjunction	3680 Feb 29 11:24	10° <del>45</del> '21	-0°44'22
	3674 Jan 18 00:02	15° <del></del>		minimum elong	3680 Feb 29 11:24	10° <del>45</del> '21	0°44'23
evening set	3674 Jan 20 01:39	15° <del>07</del> '11		max. Earth dist.	3680 Mar 01 09:09	10° <del>48</del> '31	20.83822 AU
conjunction	3674 Feb 04 16:56	16° <del>02</del> '37	-0°36'12	morning rise	3680 Mar 16 04:31	11° <del>39</del> '58	
minimum elong	3674 Feb 04 16:56	16° <del>02</del> '37	0°36'12	retrograde	3680 Jun 17 06:52	14° <del>47</del> '47	
max. Earth dist.	3674 Feb 05 08:22	16° <del>04</del> '55	20.51572 AU	min. Earth dist.	3680 Sep 02 04:25	12° <del>51</del> '09	18.86061 AU
morning rise	3674 Feb 20 08:28	16° <del>58</del> '06		opposition	3680 Sep 03 00:56	12° <del>49</del> '06	-0°49'26
retrograde	3674 May 23 17:44	20° <del>08</del> '08		direct	3680 Nov 18 11:07	10° <del>51</del> '45	
opposition	3674 Aug 08 19:26	18° <del>08</del> '55	-0°41'10	evening set	3681 Feb 17 01:36	13° <del>54</del> '29	
min. Earth dist.	3674 Aug 08 04:20	18° <del>10</del> '27	18.54531 AU	conjunction	3681 Mar 04 17:18	14° <del>48</del> '45	-0°44'58
direct	3674 Oct 24 18:14	16° <del>09</del> '42		minimum elong	3681 Mar 04 17:18	14° <del>48</del> '45	0°44'58
evening set	3675 Jan 24 10:05	19° <del>17</del> '44		max. Earth dist.	3681 Mar 05 14:55	14° <del>51</del> '54	20.88131 AU
conjunction	3675 Feb 09 01:14	20° <del>12</del> '57	-0°38'06	morning rise	3681 Mar 20 10:57	15° <del>43</del> '18	
minimum elong	3675 Feb 09 01:14	20° <del>12</del> '57	0°38'05	retrograde	3681 Jun 21 17:30	18° <del>50</del> '51	
max. Earth dist.	3675 Feb 09 17:39	20° <del>15</del> '23	20.57441 AU	opposition	3681 Sep 07 11:59	16° <del>52</del> '12	-0°49'57
morning rise	3675 Feb 24 16:55	21° <del>08</del> '15		min. Earth dist.	3681 Sep 06 14:19	16° <del>54</del> '22	18.90150 AU
retrograde	3675 May 28 05:32	24° <del>17</del> '48		direct	3681 Nov 22 20:13	14° <del>55</del> '05	
opposition	3675 Aug 13 09:38	22° <del>18</del> '40	-0°43'09	evening set	3682 Feb 21 06:54	17° <del>57</del> '07	
min. Earth dist.	3675 Aug 12 16:13	22° <del>20</del> '25	18.60337 AU	conjunction	3682 Mar 08 23:00	18° <del>51</del> '17	-0°45'20
direct	3675 Oct 29 07:54	20° <del>19</del> '45		minimum elong	3682 Mar 08 23:00	18° <del>51</del> '17	0°45'20
evening set	3676 Jan 28 17:54	23° <del>26</del> '47		max. Earth dist.	3682 Mar 09 21:27	18° <del>54</del> '33	20.91970 AU
conjunction	3676 Feb 13 09:00	24° <del>21</del> '49	-0°39'47	morning rise	3682 Mar 24 17:07	19° <del>45</del> '46	
minimum elong	3676 Feb 13 09:00	24° <del>21</del> '49	0°39'47	retrograde	3682 Jun 26 01:25	22° <del>53</del> '04	
max. Earth dist.	3676 Feb 14 03:02	24° <del>24</del> '29	20.63167 AU	opposition	3682 Sep 11 22:39	20° <del>54</del> '26	-0°50'13
morning rise	3676 Feb 29 00:48	25° <del>16</del> '57		min. Earth dist.	3682 Sep 11 01:44	20° <del>56</del> '32	18.93745 AU
retrograde	3676 May 31 15:25	28° <del>26</del> '05		direct	3682 Nov 27 04:15	18° <del>57</del> '31	
opposition	3676 Aug 16 23:31	26° <del>27</del> '02	-0°44'53	evening set	3683 Feb 25 12:04	21° <del>58</del> '52	
min. Earth dist.	3676 Aug 16 05:58	26° <del>28</del> '48	18.65991 AU	conjunction	3683 Mar 13 04:30	22° <del>52</del> '57	-0°45'28
direct	3676 Nov 01 18:54	24° <del>28</del> '28		minimum elong	3683 Mar 13 04:30	22° <del>52</del> '57	0°45'28
evening set	3677 Feb 01 01:00	27° <del>34</del> '31		max. Earth dist.	3683 Mar 14 02:21	22° <del>56</del> '07	20.95315 AU
conjunction	3677 Feb 16 16:04	28° <del>29</del> '21	-0°41'16	morning rise	3683 Mar 28 23:17	23° <del>47</del> '22	
minimum elong	3677 Feb 16 16:04	28° <del>29</del> '21	0°41'15	retrograde	3683 Jun 30 11:09	26° <del>54</del> '27	
max. Earth dist.	3677 Feb 17 10:51	28° <del>32</del> '07	20.68732 AU	min. Earth dist.	3683 Sep 15 10:52	24° <del>57</del> '57	18.96832 AU
morning rise	3677 Mar 04 08:09	29° <del>24</del> '20		opposition	3683 Sep 16 08:34	24° <del>55</del> '47	-0°50'14
	3677 Mar 14 21:50	0° <del>33</del> '06		direct	3683 Dec 01 12:03	22° <del>58</del> '59	
retrograde	3677 Jun 05 02:42	2° <del>33</del> '06		evening set	3684 Feb 29 16:52	25° <del>59</del> '43	
opposition	3677 Aug 21 12:41	0° <del>34</del> '09	-0°46'23	conjunction	3684 Mar 16 09:48	26° <del>53</del> '44	-0°45'23
min. Earth dist.	3677 Aug 20 17:02	0° <del>36</del> '07	18.71450 AU	minimum elong	3684 Mar 16 09:48	26° <del>53</del> '44	0°45'22
	3677 Sep 04 21:40	30° <del>35</del> '54		max. Earth dist.	3684 Mar 17 08:21	26° <del>57</del> '00	20.98141 AU
direct	3677 Nov 06 06:53	28° <del>35</del> '54		morning rise	3684 Apr 01 05:08	27° <del>48</del> '08	
	3678 Jan 03 23:25	0° <del>41</del> '03			3684 May 16 17:55	0° <del>55</del> '00	
evening set	3678 Feb 05 07:44	1° <del>41</del> '03		retrograde	3684 Jul 03 18:22	0° <del>55</del> '00	
conjunction	3678 Feb 20 22:54	2° <del>35</del> '44	-0°42'31		3684 Aug 22 15:46	30° <del>44</del> '00	
minimum elong	3678 Feb 20 22:54	2° <del>35</del> '44	0°42'31	opposition	3684 Sep 19 18:14	28° <del>56</del> '15	-0°50'00
max. Earth dist.	3678 Feb 21 19:10	2° <del>38</del> '42	20.74063 AU	min. Earth dist.	3684 Sep 18 21:16	28° <del>58</del> '21	18.99412 AU
morning rise	3678 Mar 08 15:15	3° <del>30</del> '35		direct	3684 Dec 04 19:49	26° <del>59</del> '34	
retrograde	3678 Jun 09 11:39	6° <del>38</del> '59		evening set	3685 Mar 04 21:18	29° <del>59</del> '41	
min. Earth dist.	3678 Aug 25 05:52	4° <del>42</del> '05	18.76656 AU		3685 Mar 04 23:33	0° <del>59</del> '41	
opposition	3678 Aug 26 01:18	4° <del>40</del> '08	-0°47'39	conjunction	3685 Mar 20 14:42	0° <del>53</del> '40	-0°45'04

minimum elong	3685 Mar 20 14:42	0° $\Upsilon$ 53'40	0°45'05	evening set	3692 Apr 01 03:33	27° $\Upsilon$ 46'01	
max. Earth dist.	3685 Mar 21 12:43	0° $\Upsilon$ 56'50	21.00497 AU				
morning rise	3685 Apr 05 10:49	1° $\Upsilon$ 48'02		conjunction	3692 Apr 17 01:54	28° $\Upsilon$ 40'14	-0°37'04
retrograde	3685 Jul 08 03:54	4° $\Upsilon$ 54'44		minimum elong	3692 Apr 17 01:54	28° $\Upsilon$ 40'14	0°37'05
min. Earth dist.	3685 Sep 23 05:37	2° $\Upsilon$ 58'03	19.01546 AU	max. Earth dist.	3692 Apr 17 23:54	28° $\Upsilon$ 43'22	21.06097 AU
opposition	3685 Sep 24 03:19	2° $\Upsilon$ 55'53	-0°49'32	morning rise	3692 May 03 03:40	29° $\Upsilon$ 34'56	
direct	3685 Dec 09 02:44	0° $\Upsilon$ 59'14			3692 May 10 18:12	0° $\mathcal{B}$	
evening set	3686 Mar 09 01:38	3° $\Upsilon$ 58'51		retrograde	3692 Aug 05 11:14	2° $\mathcal{B}$ 41'40	
				opposition	3692 Oct 22 09:27	0° $\mathcal{B}$ 42'23	-0°39'54
conjunction	3686 Mar 24 19:40	4° $\Upsilon$ 52'49	-0°44'33	min. Earth dist.	3692 Oct 21 13:54	0° $\mathcal{B}$ 44'21	19.05805 AU
minimum elong	3686 Mar 24 19:40	4° $\Upsilon$ 52'49	0°44'32		3692 Nov 09 08:33	30° $\mathcal{R}\Upsilon$	
max. Earth dist.	3686 Mar 25 18:27	4° $\Upsilon$ 56'05	21.02409 AU	direct	3693 Jan 05 18:02	28° $\Upsilon$ 46'03	
morning rise	3686 Apr 09 16:26	5° $\Upsilon$ 47'11			3693 Mar 01 15:53	0° $\mathcal{B}$	
retrograde	3686 Jul 12 10:20	8° $\Upsilon$ 53'43		evening set	3693 Apr 05 08:34	1° $\mathcal{B}$ 44'16	
opposition	3686 Sep 28 11:51	6° $\Upsilon$ 54'46	-0°48'49				
min. Earth dist.	3686 Sep 27 14:50	6° $\Upsilon$ 56'53	19.03259 AU	conjunction	3693 Apr 21 07:44	2° $\mathcal{B}$ 38'35	-0°35'10
direct	3686 Dec 13 09:29	4° $\Upsilon$ 58'11		minimum elong	3693 Apr 21 07:44	2° $\mathcal{B}$ 38'35	0°35'10
evening set	3687 Mar 13 05:53	7° $\Upsilon$ 57'21		max. Earth dist.	3693 Apr 22 04:18	2° $\mathcal{B}$ 41'31	21.05341 AU
				morning rise	3693 May 07 10:31	3° $\mathcal{B}$ 33'25	
conjunction	3687 Mar 29 00:28	8° $\Upsilon$ 51'18	-0°43'48	retrograde	3693 Aug 09 20:39	6° $\mathcal{B}$ 40'21	
minimum elong	3687 Mar 29 00:28	8° $\Upsilon$ 51'18	0°43'48	opposition	3693 Oct 26 16:36	4° $\mathcal{B}$ 41'02	-0°37'42
max. Earth dist.	3687 Mar 29 22:37	8° $\Upsilon$ 54'29	21.03938 AU	min. Earth dist.	3693 Oct 25 21:31	4° $\mathcal{B}$ 42'57	19.04811 AU
morning rise	3687 Apr 13 22:04	9° $\Upsilon$ 45'40		direct	3694 Jan 09 23:10	2° $\mathcal{B}$ 44'41	
retrograde	3687 Jul 16 19:46	12° $\Upsilon$ 52'07		evening set	3694 Apr 09 14:04	5° $\mathcal{B}$ 43'02	
opposition	3687 Oct 02 20:02	10° $\Upsilon$ 53'05	-0°47'53				
min. Earth dist.	3687 Oct 01 22:21	10° $\Upsilon$ 55'15	19.04605 AU	conjunction	3694 Apr 25 14:11	6° $\mathcal{B}$ 37'29	-0°33'06
direct	3687 Dec 17 15:52	8° $\Upsilon$ 56'31		minimum elong	3694 Apr 25 14:11	6° $\mathcal{B}$ 37'29	0°33'06
evening set	3688 Mar 16 09:56	11° $\Upsilon$ 55'20		max. Earth dist.	3694 Apr 26 10:34	6° $\mathcal{B}$ 40'23	21.04092 AU
				morning rise	3694 May 11 17:48	7° $\mathcal{B}$ 32'26	
conjunction	3688 Apr 01 05:13	12° $\Upsilon$ 49'18	-0°42'51	retrograde	3694 Aug 14 05:09	10° $\mathcal{B}$ 39'35	
minimum elong	3688 Apr 01 05:13	12° $\Upsilon$ 49'18	0°42'51	opposition	3694 Oct 30 23:37	8° $\mathcal{B}$ 40'14	-0°35'19
max. Earth dist.	3688 Apr 02 04:08	12° $\Upsilon$ 52'35	21.05092 AU	min. Earth dist.	3694 Oct 30 05:59	8° $\mathcal{B}$ 42'01	19.03300 AU
morning rise	3688 Apr 17 03:30	13° $\Upsilon$ 43'42		direct	3695 Jan 14 04:28	6° $\mathcal{B}$ 43'51	
retrograde	3688 Jul 20 02:08	16° $\Upsilon$ 50'06		evening set	3695 Apr 13 20:04	9° $\mathcal{B}$ 42'24	
min. Earth dist.	3688 Oct 05 06:57	14° $\Upsilon$ 53'06	19.05582 AU				
opposition	3688 Oct 06 04:01	14° $\Upsilon$ 50'59	-0°46'42	conjunction	3695 Apr 29 21:01	10° $\mathcal{B}$ 36'59	-0°30'51
direct	3688 Dec 20 21:18	12° $\Upsilon$ 54'30		minimum elong	3695 Apr 29 21:01	10° $\mathcal{B}$ 36'59	0°30'51
evening set	3689 Mar 20 14:08	15° $\Upsilon$ 53'01		max. Earth dist.	3695 Apr 30 15:23	10° $\mathcal{B}$ 39'36	21.02326 AU
				morning rise	3695 May 16 01:40	11° $\mathcal{B}$ 32'05	
conjunction	3689 Apr 05 10:04	16° $\Upsilon$ 47'00	-0°41'41	retrograde	3695 Aug 18 14:45	14° $\mathcal{B}$ 39'30	
minimum elong	3689 Apr 05 10:04	16° $\Upsilon$ 47'00	0°41'41	opposition	3695 Nov 04 06:49	12° $\mathcal{B}$ 40'04	-0°32'45
max. Earth dist.	3689 Apr 06 08:14	16° $\Upsilon$ 50'11	21.05906 AU	min. Earth dist.	3695 Nov 03 14:01	12° $\mathcal{B}$ 41'45	19.01259 AU
morning rise	3689 Apr 21 09:17	17° $\Upsilon$ 41'28		direct	3696 Jan 18 09:34	10° $\mathcal{B}$ 43'35	
retrograde	3689 Jul 24 11:22	20° $\Upsilon$ 47'52		evening set	3696 Apr 17 02:17	13° $\mathcal{B}$ 42'22	
opposition	3689 Oct 10 11:36	18° $\Upsilon$ 48'41	-0°45'19				
min. Earth dist.	3689 Oct 09 14:08	18° $\Upsilon$ 50'50	19.06219 AU	conjunction	3696 May 03 04:14	14° $\mathcal{B}$ 37'06	-0°28'27
direct	3689 Dec 25 03:20	16° $\Upsilon$ 52'14		minimum elong	3696 May 03 04:15	14° $\mathcal{B}$ 37'06	0°28'27
evening set	3690 Mar 24 18:22	19° $\Upsilon$ 50'34		max. Earth dist.	3696 May 03 22:10	14° $\mathcal{B}$ 39'40	21.00003 AU
					3696 May 09 20:25	15° $\mathcal{B}$	
conjunction	3690 Apr 09 15:09	20° $\Upsilon$ 44'37	-0°40'20	morning rise	3696 May 19 09:43	15° $\mathcal{B}$ 32'23	
minimum elong	3690 Apr 09 15:09	20° $\Upsilon$ 44'37	0°40'21	retrograde	3696 Aug 21 23:36	18° $\mathcal{B}$ 40'04	
max. Earth dist.	3690 Apr 10 13:53	20° $\Upsilon$ 47'52	21.06353 AU	opposition	3696 Nov 07 14:07	16° $\mathcal{B}$ 40'30	-0°30'01
morning rise	3690 Apr 25 15:08	21° $\Upsilon$ 39'08		min. Earth dist.	3696 Nov 06 22:45	16° $\mathcal{B}$ 42'04	18.98657 AU
retrograde	3690 Jul 28 18:21	24° $\Upsilon$ 45'36			3696 Dec 27 07:56	15° $\mathcal{R}\mathcal{B}$	
opposition	3690 Oct 14 19:03	22° $\Upsilon$ 46'22	-0°43'43	direct	3697 Jan 21 15:50	14° $\mathcal{B}$ 43'54	
min. Earth dist.	3690 Oct 13 22:26	22° $\Upsilon$ 48'27	19.06476 AU		3697 Feb 15 15:20	15° $\mathcal{B}$	
direct	3690 Dec 29 07:50	20° $\Upsilon$ 49'58		evening set	3697 Apr 21 09:07	17° $\mathcal{B}$ 42'57	
evening set	3691 Mar 28 22:52	23° $\Upsilon$ 48'11					
				conjunction	3697 May 07 11:58	18° $\mathcal{B}$ 37'53	-0°25'54
conjunction	3691 Apr 13 20:21	24° $\Upsilon$ 42'17	-0°38'48	minimum elong	3697 May 07 11:58	18° $\mathcal{B}$ 37'53	0°25'55
minimum elong	3691 Apr 13 20:21	24° $\Upsilon$ 42'17	0°38'47	max. Earth dist.	3697 May 08 03:42	18° $\mathcal{B}$ 40'07	20.97154 AU
max. Earth dist.	3691 Apr 14 18:01	24° $\Upsilon$ 45'23	21.06429 AU	morning rise	3697 May 23 18:33	19° $\mathcal{B}$ 33'19	
morning rise	3691 Apr 29 21:18	25° $\Upsilon$ 36'54		retrograde	3697 Aug 26 09:27	22° $\mathcal{B}$ 41'18	
retrograde	3691 Aug 02 03:23	28° $\Upsilon$ 43'28		opposition	3697 Nov 11 21:17	20° $\mathcal{B}$ 41'35	-0°27'08
min. Earth dist.	3691 Oct 18 05:36	26° $\Upsilon$ 46'17	19.06353 AU	min. Earth dist.	3697 Nov 11 07:00	20° $\mathcal{B}$ 43'02	18.95552 AU
opposition	3691 Oct 19 02:13	26° $\Upsilon$ 44'13	-0°41'54	direct	3698 Jan 25 21:32	18° $\mathcal{B}$ 44'46	
direct	3692 Jan 02 13:28	24° $\Upsilon$ 47'50		evening set	3698 Apr 25 16:20	21° $\mathcal{B}$ 44'11	



conjunction	3698 May 11 20:15	22° <b>8</b> 39'17 -0°23'14	evening set	3704 May 20 23:32	16° <b>II</b> 10'11	
minimum elong	3698 May 11 20:16	22° <b>8</b> 39'18 0°23'14				
max. Earth dist.	3698 May 12 11:32	22° <b>8</b> 41'28 20.93808 AU	conjunction	3704 Jun 06 09:16	17° <b>II</b> 06'41 -0°05'03	
morning rise	3698 May 28 03:40	23° <b>8</b> 34'55	minimum elong	3704 Jun 06 09:15	17° <b>II</b> 06'41 0°05'04	
retrograde	3698 Aug 30 18:11	26° <b>8</b> 43'12	behind sun begin	3704 Jun 06 02:44	17° <b>II</b> 05'46	
opposition	3698 Nov 16 04:34	24° <b>8</b> 43'19 -0°24'06	behind sun end	3704 Jun 06 15:46	17° <b>II</b> 07'36	
min. Earth dist.	3698 Nov 15 15:39	24° <b>8</b> 44'38 18.91976 AU	max. Earth dist.	3704 Jun 06 17:05	17° <b>II</b> 07'47 20.66718 AU	
direct	3699 Jan 30 03:57	22° <b>8</b> 46'17	morning rise	3704 Jun 22 21:54	18° <b>II</b> 03'37	
evening set	3699 Apr 30 00:01	25° <b>8</b> 46'07	retrograde	3704 Sep 25 10:45	21° <b>II</b> 14'28	
			opposition	3704 Dec 11 04:04	19° <b>II</b> 13'40 -0°03'41	
conjunction	3699 May 16 04:48	26° <b>8</b> 41'25 -0°20'25	min. Earth dist.	3704 Dec 10 22:01	19° <b>II</b> 14'17 18.64064 AU	
minimum elong	3699 May 16 04:48	26° <b>8</b> 41'25 0°20'26	direct	3705 Feb 23 21:50	17° <b>II</b> 15'03	
max. Earth dist.	3699 May 16 17:58	26° <b>8</b> 43'18 20.90040 AU	evening set	3705 May 25 11:29	20° <b>II</b> 18'54	
morning rise	3699 Jun 01 13:15	27° <b>8</b> 37'14				
	3699 Jul 22 08:35	0° <b>II</b>	conjunction	3705 Jun 10 21:58	21° <b>II</b> 15'40 -0°01'47	
retrograde	3699 Sep 04 04:44	0° <b>II</b> 45'51	minimum elong	3705 Jun 10 21:59	21° <b>II</b> 15'40 0°01'46	
	3699 Oct 18 19:44	30° <b>8</b>	behind sun begin	3705 Jun 10 15:16	21° <b>II</b> 14'43	
opposition	3699 Nov 20 11:54	28° <b>8</b> 45'47 -0°20'56	behind sun end	3705 Jun 11 04:42	21° <b>II</b> 16'37	
min. Earth dist.	3699 Nov 20 00:02	28° <b>8</b> 47'00 18.88019 AU	max. Earth dist.	3705 Jun 11 03:12	21° <b>II</b> 16'23 20.61392 AU	
direct	3700 Feb 03 10:18	26° <b>8</b> 48'29	morning rise	3705 Jun 27 11:34	22° <b>II</b> 12'52	
evening set	3700 May 04 08:12	29° <b>8</b> 48'49	retrograde	3705 Sep 29 23:55	25° <b>II</b> 24'15	
	3700 May 07 15:41	0° <b>II</b>	opposition	3705 Dec 15 13:08	23° <b>II</b> 23'21 -0°00'03	
			min. Earth dist.	3705 Dec 15 08:46	23° <b>II</b> 23'48 18.58636 AU	
conjunction	3700 May 20 14:03	0° <b>II</b> 44'20 -0°17'31	asc. node	3705 Dec 21 08:07	23° <b>II</b> 08'54	
minimum elong	3700 May 20 14:03	0° <b>II</b> 44'20 0°17'30	direct	3706 Feb 28 05:52	21° <b>II</b> 24'28	
max. Earth dist.	3700 May 21 02:58	0° <b>II</b> 46'11 20.85907 AU	evening set	3706 May 30 00:14	24° <b>II</b> 29'15	
morning rise	3700 Jun 05 23:17	1° <b>II</b> 40'22				
retrograde	3700 Sep 08 13:32	4° <b>II</b> 49'21	conjunction	3706 Jun 15 11:45	25° <b>II</b> 26'18 0°01'38	
opposition	3700 Nov 24 19:24	2° <b>II</b> 49'07 -0°17'40	minimum elong	3706 Jun 15 11:45	25° <b>II</b> 26'17 0°01'37	
min. Earth dist.	3700 Nov 24 08:42	2° <b>II</b> 50'12 18.83725 AU	behind sun begin	3706 Jun 15 05:02	25° <b>II</b> 25'20	
direct	3701 Feb 07 16:45	0° <b>II</b> 51'34	behind sun end	3706 Jun 15 18:29	25° <b>II</b> 27'15	
evening set	3701 May 08 17:01	3° <b>II</b> 52'26	max. Earth dist.	3706 Jun 15 16:24	25° <b>II</b> 26'56 20.55852 AU	
			morning rise	3706 Jul 02 01:53	26° <b>II</b> 23'45	
conjunction	3701 May 24 23:45	4° <b>II</b> 48'11 -0°14'30	retrograde	3706 Oct 04 13:35	29° <b>II</b> 35'42	
minimum elong	3701 May 24 23:45	4° <b>II</b> 48'11 0°14'31	opposition	3706 Dec 19 22:43	27° <b>II</b> 34'43 0°03'36	
behind sun begin	3701 May 24 20:55	4° <b>II</b> 47'47	min. Earth dist.	3706 Dec 19 19:37	27° <b>II</b> 35'03 18.52977 AU	
behind sun end	3701 May 25 02:35	4° <b>II</b> 48'35	direct	3707 Mar 04 14:57	25° <b>II</b> 35'34	
max. Earth dist.	3701 May 25 10:31	4° <b>II</b> 49'43 20.81479 AU	evening set	3707 Jun 03 13:56	28° <b>II</b> 41'20	
morning rise	3701 Jun 10 10:03	5° <b>II</b> 44'26				
retrograde	3701 Sep 13 00:57	8° <b>II</b> 53'50	conjunction	3707 Jun 20 02:08	29° <b>II</b> 38'39 0°04'57	
opposition	3701 Nov 29 03:08	6° <b>II</b> 53'25 -0°14'17	minimum elong	3707 Jun 20 02:07	29° <b>II</b> 38'39 0°04'58	
min. Earth dist.	3701 Nov 28 17:35	6° <b>II</b> 54'23 18.79158 AU	behind sun begin	3707 Jun 19 19:34	29° <b>II</b> 37'43	
direct	3702 Feb 11 23:39	4° <b>II</b> 55'35	behind sun end	3707 Jun 20 08:40	29° <b>II</b> 39'35	
evening set	3702 May 13 02:31	7° <b>II</b> 57'06	max. Earth dist.	3707 Jun 20 03:49	29° <b>II</b> 38'52 20.50080 AU	
				3707 Jun 26 04:35	0° <b>III</b>	
conjunction	3702 May 29 10:19	8° <b>II</b> 53'06 -0°11'25	morning rise	3707 Jul 06 17:03	0° <b>III</b> 36'22	
minimum elong	3702 May 29 10:19	8° <b>II</b> 53'06 0°11'25	retrograde	3707 Oct 09 04:02	3° <b>III</b> 48'56	
behind sun begin	3702 May 29 05:30	8° <b>II</b> 52'25	opposition	3707 Dec 24 08:57	1° <b>III</b> 47'51 0°07'17	
behind sun end	3702 May 29 15:08	8° <b>II</b> 53'46	min. Earth dist.	3707 Dec 24 07:52	1° <b>III</b> 47'58 18.47084 AU	
max. Earth dist.	3702 May 29 20:45	8° <b>II</b> 54'35 20.76776 AU		3708 Feb 15 21:03	30° <b>8</b> <b>II</b>	
morning rise	3702 Jun 14 21:19	9° <b>II</b> 49'34	direct	3708 Mar 08 00:25	29° <b>II</b> 48'23	
retrograde	3702 Sep 17 10:50	12° <b>II</b> 59'24		3708 Mar 28 23:14	0° <b>III</b>	
opposition	3702 Dec 03 10:59	10° <b>II</b> 58'50 -0°10'49	evening set	3708 Jun 07 04:35	2° <b>III</b> 55'11	
min. Earth dist.	3702 Dec 03 02:34	10° <b>II</b> 59'42 18.74331 AU				
direct	3703 Feb 16 06:37	9° <b>II</b> 00'45	conjunction	3708 Jun 23 17:43	3° <b>III</b> 52'47 0°08'15	
evening set	3703 May 17 12:46	12° <b>II</b> 02'59	minimum elong	3708 Jun 23 17:43	3° <b>III</b> 52'47 0°08'15	
			behind sun begin	3708 Jun 23 11:47	3° <b>III</b> 51'57	
conjunction	3703 Jun 02 21:23	12° <b>II</b> 59'12 -0°08'16	behind sun end	3708 Jun 23 23:40	3° <b>III</b> 53'38	
minimum elong	3703 Jun 02 21:24	12° <b>II</b> 59'12 0°08'16	max. Earth dist.	3708 Jun 23 18:34	3° <b>III</b> 52'54 20.44050 AU	
behind sun begin	3703 Jun 02 15:29	12° <b>II</b> 58'23	morning rise	3708 Jul 10 09:05	4° <b>III</b> 50'46	
behind sun end	3703 Jun 03 03:18	13° <b>II</b> 00'02	retrograde	3708 Oct 12 19:08	8° <b>III</b> 03'55	
max. Earth dist.	3703 Jun 03 05:30	13° <b>II</b> 00'21 20.71851 AU	opposition	3708 Dec 27 19:34	6° <b>III</b> 02'44 0°10'57	
morning rise	3703 Jun 19 09:23	13° <b>II</b> 55'55	min. Earth dist.	3708 Dec 27 19:48	6° <b>III</b> 02'42 18.40918 AU	
retrograde	3703 Sep 21 22:52	17° <b>II</b> 06'14	direct	3709 Mar 12 10:56	4° <b>III</b> 02'56	
opposition	3703 Dec 07 19:20	15° <b>II</b> 05'32 -0°07'17	evening set	3709 Jun 11 20:18	7° <b>III</b> 10'47	
min. Earth dist.	3703 Dec 07 12:12	15° <b>II</b> 06'17 18.69303 AU				
direct	3704 Feb 20 13:52	13° <b>II</b> 07'11	conjunction	3709 Jun 28 10:05	8° <b>III</b> 08'41 0°11'32	

minimum elong	3709 Jun 28 10:04	8°☾08'41	0°11'32	morning rise	3715 Aug 11 23:24	5°♊19'44	
behind sun begin	3709 Jun 28 05:18	8°☾08'00		retrograde	3715 Nov 13 18:09	8°♊37'01	
behind sun end	3709 Jun 28 14:51	8°☾09'22		opposition	3716 Jan 27 14:16	6°♊34'41	0°34'24
max. Earth dist.	3709 Jun 28 07:35	8°☾08'20	20.37757 AU	min. Earth dist.	3716 Jan 28 01:41	6°♊33'28	17.94054 AU
morning rise	3709 Jul 15 02:10	9°☾06'56		direct	3716 Apr 11 08:02	4°♊32'00	
retrograde	3709 Oct 17 10:37	12°☾20'40		evening set	3716 Jul 13 09:59	7°♊48'03	
opposition	3710 Jan 01 06:54	10°☾19'20	0°14'34				
min. Earth dist.	3710 Jan 01 09:24	10°☾19'04	18.34500 AU	conjunction	3716 Jul 30 03:38	8°♊47'58	0°32'14
direct	3710 Mar 16 22:02	8°☾19'09		minimum elong	3716 Jul 30 03:38	8°♊47'58	0°32'13
evening set	3710 Jun 16 12:47	11°☾28'06		max. Earth dist.	3716 Jul 29 14:03	8°♊45'56	19.90838 AU
				morning rise	3716 Aug 15 21:28	9°♊47'58	
conjunction	3710 Jul 03 03:26	12°☾26'18	0°14'46	retrograde	3716 Nov 17 14:34	13°♊05'50	
minimum elong	3710 Jul 03 03:26	12°☾26'18	0°14'47	opposition	3717 Jan 31 05:34	11°♊03'24	0°37'10
behind sun begin	3710 Jul 03 00:59	12°☾25'57		min. Earth dist.	3717 Jan 31 17:10	11°♊02'08	17.87677 AU
behind sun end	3710 Jul 03 05:53	12°☾26'39		direct	3717 Apr 16 02:07	9°♊00'20	
max. Earth dist.	3710 Jul 03 00:00	12°☾25'48	20.31218 AU	evening set	3717 Jul 18 08:40	12°♊17'38	
morning rise	3710 Jul 19 19:49	13°☾24'48		max. Earth dist.	3717 Aug 03 10:56	13°♊15'29	19.84581 AU
retrograde	3710 Oct 22 02:47	16°☾39'07					
opposition	3711 Jan 05 18:36	14°☾37'38	0°18'09	conjunction	3717 Aug 04 02:28	13°♊17'49	0°34'37
min. Earth dist.	3711 Jan 05 22:13	14°☾37'15	18.27856 AU	minimum elong	3717 Aug 04 02:28	13°♊17'49	0°34'37
direct	3711 Mar 21 10:18	12°☾37'03		morning rise	3717 Aug 20 20:17	14°♊18'03	
evening set	3711 Jun 21 06:15	15°☾47'07			3717 Sep 02 00:11	15°♊	
				retrograde	3717 Nov 22 08:46	17°♊36'29	
conjunction	3711 Jul 07 21:24	16°☾45'36	0°17'57	opposition	3718 Feb 04 21:52	15°♊33'59	0°39'43
minimum elong	3711 Jul 07 21:24	16°☾45'36	0°17'57	min. Earth dist.	3718 Feb 05 11:27	15°♊32'30	17.81567 AU
max. Earth dist.	3711 Jul 07 14:50	16°☾44'39	20.24500 AU		3718 Feb 18 03:40	15°♊	
morning rise	3711 Jul 24 14:22	17°☾44'23		direct	3718 Apr 20 18:10	13°♊30'35	
retrograde	3711 Oct 26 19:04	20°☾59'17			3718 Jun 19 11:39	15°♊	
opposition	3712 Jan 10 06:59	18°☾57'37	0°21'39	evening set	3718 Jul 23 08:00	16°♊49'08	
min. Earth dist.	3712 Jan 10 12:52	18°☾57'00	18.21083 AU	max. Earth dist.	3718 Aug 08 09:45	17°♊47'06	19.78613 AU
direct	3712 Mar 24 22:26	16°☾56'37					
evening set	3712 Jun 25 00:20	20°☾07'49		conjunction	3718 Aug 09 02:01	17°♊49'34	0°36'48
				minimum elong	3718 Aug 09 02:01	17°♊49'34	0°36'47
conjunction	3712 Jul 11 16:17	21°☾06'37	0°21'04	morning rise	3718 Aug 25 19:40	18°♊49'59	
minimum elong	3712 Jul 11 16:17	21°☾06'37	0°21'04	retrograde	3718 Nov 27 06:23	22°♊09'00	
max. Earth dist.	3712 Jul 11 09:01	21°☾05'33	20.17681 AU	opposition	3719 Feb 09 14:42	20°♊06'27	0°42'03
morning rise	3712 Jul 28 09:29	22°☾05'38		min. Earth dist.	3719 Feb 10 04:18	20°♊04'59	17.75742 AU
retrograde	3712 Oct 30 12:46	25°☾21'08		direct	3719 Apr 25 14:25	18°♊02'46	
opposition	3713 Jan 13 19:51	23°☾19'18	0°25'03	evening set	3719 Jul 28 08:19	21°♊22'33	
min. Earth dist.	3713 Jan 14 02:32	23°☾18'35	18.14233 AU	max. Earth dist.	3719 Aug 13 08:39	22°♊20'33	19.72928 AU
direct	3713 Mar 29 12:38	21°☾17'51					
evening set	3713 Jun 29 19:37	24°☾30'14		conjunction	3719 Aug 14 02:22	22°♊23'14	0°38'46
				minimum elong	3719 Aug 14 02:21	22°♊23'14	0°38'46
conjunction	3713 Jul 16 11:57	25°☾29'19	0°24'03	morning rise	3719 Aug 30 19:45	23°♊23'51	
minimum elong	3713 Jul 16 11:57	25°☾29'19	0°24'03	retrograde	3719 Dec 02 01:46	26°♊43'25	
max. Earth dist.	3713 Jul 16 01:50	25°☾27'49	20.10825 AU	opposition	3720 Feb 14 08:25	24°♊40'52	0°44'08
morning rise	3713 Aug 02 05:33	26°☾28'36		min. Earth dist.	3720 Feb 15 00:05	24°♊39'09	17.70210 AU
retrograde	3713 Nov 04 05:33	29°☾44'42		direct	3720 Apr 29 08:12	22°♊36'53	
opposition	3714 Jan 18 09:19	27°☾42'41	0°28'19	evening set	3720 Aug 01 09:25	25°♊57'54	
min. Earth dist.	3714 Jan 18 18:15	27°☾41'43	18.07399 AU	max. Earth dist.	3720 Aug 17 08:33	26°♊55'54	19.67534 AU
direct	3714 Apr 03 01:36	25°☾40'48					
evening set	3714 Jul 04 15:34	28°☾54'24		conjunction	3720 Aug 18 03:28	26°♊58'47	0°40'30
				minimum elong	3720 Aug 18 03:28	26°♊58'47	0°40'31
conjunction	3714 Jul 21 08:31	29°☾53'46	0°26'56	morning rise	3720 Sep 03 20:39	27°♊59'35	
minimum elong	3714 Jul 21 08:31	29°☾53'46	0°26'56		3720 Oct 11 10:21	0°♐	
max. Earth dist.	3714 Jul 20 21:49	29°☾52'11	20.04020 AU	retrograde	3720 Dec 06 00:46	1°♐19'40	
	3714 Jul 23 02:13	0°♊			3721 Feb 01 07:51	30°♐	
morning rise	3714 Aug 07 02:11	0°♊53'18		opposition	3721 Feb 18 02:48	29°♊17'06	0°45'57
retrograde	3714 Nov 09 00:51	4°♊09'58		min. Earth dist.	3721 Feb 18 18:38	29°♊15'23	17.64945 AU
opposition	3715 Jan 22 23:23	2°♊07'48	0°31'27	direct	3721 May 04 06:11	27°♊12'51	
min. Earth dist.	3715 Jan 23 08:45	2°♊06'47	18.00645 AU		3721 Jul 27 12:10	0°♐	
direct	3715 Apr 07 17:44	0°♊05'30		evening set	3721 Aug 06 11:25	0°♐35'02	
evening set	3715 Jul 09 12:20	3°♊20'19		max. Earth dist.	3721 Aug 22 09:21	1°♐33'04	19.62380 AU
conjunction	3715 Jul 26 05:32	4°♊19'58	0°29'40	conjunction	3721 Aug 23 05:22	1°♐36'08	0°42'00
minimum elong	3715 Jul 26 05:32	4°♊19'58	0°29'40	minimum elong	3721 Aug 23 05:22	1°♐36'08	0°42'00
max. Earth dist.	3715 Jul 25 16:32	4°♊18'01	19.97330 AU	morning rise	3721 Sep 08 22:01	2°♐37'04	

retrograde	3721 Dec 10 21:54	5° $\mathbb{M}$ 57'38	conjunction	3728 Sep 26 04:42	4° $\mathbb{A}$ 32'31	0°44'24
opposition	3722 Feb 22 22:04	3° $\mathbb{M}$ 55'03 0°47'28	minimum elong	3728 Sep 26 04:42	4° $\mathbb{A}$ 32'31	0°44'24
min. Earth dist.	3722 Feb 23 15:55	3° $\mathbb{M}$ 53'07 17.59927 AU	morning rise	3728 Oct 12 16:43	5° $\mathbb{A}$ 33'58	
direct	3722 May 09 02:10	1° $\mathbb{M}$ 50'31	retrograde	3729 Jan 12 18:14	8° $\mathbb{A}$ 56'18	
evening set	3722 Aug 11 14:03	5° $\mathbb{M}$ 13'50	opposition	3729 Mar 27 05:47	6° $\mathbb{A}$ 53'27	0°49'04
max. Earth dist.	3722 Aug 27 10:06	6° $\mathbb{M}$ 11'46 19.57493 AU	min. Earth dist.	3729 Mar 28 02:32	6° $\mathbb{A}$ 51'10	17.34508 AU
			direct	3729 Jun 11 02:38	4° $\mathbb{A}$ 47'11	
conjunction	3722 Aug 28 07:44	6° $\mathbb{M}$ 15'05 0°43'13	evening set	3729 Sep 14 18:21	8° $\mathbb{A}$ 15'59	
minimum elong	3722 Aug 28 07:44	6° $\mathbb{M}$ 15'05 0°43'14	max. Earth dist.	3729 Sep 30 09:00	9° $\mathbb{A}$ 14'09	19.33572 AU
morning rise	3722 Sep 14 00:01	7° $\mathbb{M}$ 16'11				
retrograde	3722 Dec 15 21:39	10° $\mathbb{M}$ 37'09	conjunction	3729 Oct 01 08:33	9° $\mathbb{A}$ 17'50	0°43'32
opposition	3723 Feb 27 18:00	8° $\mathbb{M}$ 34'33 0°48'42	minimum elong	3729 Oct 01 08:33	9° $\mathbb{A}$ 17'50	0°43'32
min. Earth dist.	3723 Feb 28 11:54	8° $\mathbb{M}$ 32'36 17.55177 AU	morning rise	3729 Oct 17 19:28	10° $\mathbb{A}$ 19'15	
direct	3723 May 14 01:17	6° $\mathbb{M}$ 29'43	retrograde	3730 Jan 17 17:54	13° $\mathbb{A}$ 41'39	
evening set	3723 Aug 16 17:01	9° $\mathbb{M}$ 54'03	opposition	3730 Apr 01 05:29	11° $\mathbb{A}$ 38'49	0°47'56
			min. Earth dist.	3730 Apr 02 01:45	11° $\mathbb{A}$ 36'36	17.32882 AU
conjunction	3723 Sep 02 10:33	10° $\mathbb{M}$ 55'28 0°44'10	direct	3730 Jun 16 04:40	9° $\mathbb{A}$ 32'28	
minimum elong	3723 Sep 02 10:32	10° $\mathbb{M}$ 55'28 0°44'10	evening set	3730 Sep 19 22:55	13° $\mathbb{A}$ 01'42	
max. Earth dist.	3723 Sep 01 12:30	10° $\mathbb{M}$ 52'05 19.52870 AU				
morning rise	3723 Sep 19 02:09	11° $\mathbb{M}$ 56'40	conjunction	3730 Oct 06 12:09	14° $\mathbb{A}$ 03'32	0°42'21
retrograde	3723 Dec 20 20:07	15° $\mathbb{M}$ 18'01	minimum elong	3730 Oct 06 12:09	14° $\mathbb{A}$ 03'32	0°42'21
opposition	3724 Mar 03 14:41	13° $\mathbb{M}$ 15'22 0°49'37	max. Earth dist.	3730 Oct 05 12:09	13° $\mathbb{A}$ 59'46	19.32274 AU
min. Earth dist.	3724 Mar 04 10:13	13° $\mathbb{M}$ 13'14 17.50707 AU	morning rise	3730 Oct 22 22:14	15° $\mathbb{A}$ 04'54	
direct	3724 May 17 22:51	11° $\mathbb{M}$ 10'16	retrograde	3731 Jan 22 17:21	18° $\mathbb{A}$ 27'20	
evening set	3724 Aug 20 20:43	14° $\mathbb{M}$ 35'33	opposition	3731 Apr 06 05:33	16° $\mathbb{A}$ 24'34	0°46'28
			min. Earth dist.	3731 Apr 07 01:33	16° $\mathbb{A}$ 22'22	17.31921 AU
conjunction	3724 Sep 06 13:47	15° $\mathbb{M}$ 37'06 0°44'50	direct	3731 Jun 21 07:23	14° $\mathbb{A}$ 18'10	
minimum elong	3724 Sep 06 13:47	15° $\mathbb{M}$ 37'06 0°44'50	evening set	3731 Sep 25 03:08	17° $\mathbb{A}$ 47'45	
max. Earth dist.	3724 Sep 05 13:59	15° $\mathbb{M}$ 33'25 19.48565 AU				
morning rise	3724 Sep 23 04:56	16° $\mathbb{M}$ 38'24	conjunction	3731 Oct 11 15:40	18° $\mathbb{A}$ 49'32	0°40'53
retrograde	3724 Dec 24 20:10	20° $\mathbb{M}$ 00'03	minimum elong	3731 Oct 11 15:40	18° $\mathbb{A}$ 49'32	0°40'53
opposition	3725 Mar 08 11:44	17° $\mathbb{M}$ 57'21 0°50'11	max. Earth dist.	3731 Oct 10 17:16	18° $\mathbb{A}$ 46'01	19.31641 AU
min. Earth dist.	3725 Mar 09 07:20	17° $\mathbb{M}$ 55'12 17.46577 AU	morning rise	3731 Oct 28 00:42	19° $\mathbb{A}$ 50'51	
direct	3725 May 22 23:12	15° $\mathbb{M}$ 51'57	retrograde	3732 Jan 27 17:32	23° $\mathbb{A}$ 13'14	
evening set	3725 Aug 26 00:43	19° $\mathbb{M}$ 18'07	opposition	3732 Apr 10 05:56	21° $\mathbb{A}$ 10'36	0°44'41
			min. Earth dist.	3732 Apr 11 00:53	21° $\mathbb{A}$ 08'32	17.31594 AU
conjunction	3725 Sep 11 17:29	20° $\mathbb{M}$ 19'48 0°45'11	direct	3732 Jun 25 10:49	19° $\mathbb{A}$ 04'16	
minimum elong	3725 Sep 11 17:29	20° $\mathbb{M}$ 19'48 0°45'11	evening set	3732 Sep 29 07:28	22° $\mathbb{A}$ 34'05	
max. Earth dist.	3725 Sep 10 17:57	20° $\mathbb{M}$ 16'09 19.44612 AU				
morning rise	3725 Sep 28 07:45	21° $\mathbb{M}$ 21'10	conjunction	3732 Oct 15 19:00	23° $\mathbb{A}$ 35'47	0°39'08
retrograde	3725 Dec 29 19:18	24° $\mathbb{M}$ 43'03	minimum elong	3732 Oct 15 19:00	23° $\mathbb{A}$ 35'47	0°39'09
opposition	3726 Mar 13 09:35	22° $\mathbb{M}$ 40'18 0°50'26	max. Earth dist.	3732 Oct 14 20:41	23° $\mathbb{A}$ 32'17	19.31632 AU
min. Earth dist.	3726 Mar 14 06:15	22° $\mathbb{M}$ 38'03 17.42826 AU	morning rise	3732 Nov 01 03:03	24° $\mathbb{A}$ 37'01	
direct	3726 May 27 22:16	20° $\mathbb{M}$ 34'39	retrograde	3733 Jan 31 16:42	27° $\mathbb{A}$ 59'21	
evening set	3726 Aug 31 04:56	24° $\mathbb{M}$ 01'37	opposition	3733 Apr 15 06:39	25° $\mathbb{A}$ 56'52	0°42'35
			min. Earth dist.	3733 Apr 16 01:39	25° $\mathbb{A}$ 54'48	17.31892 AU
conjunction	3726 Sep 16 20:59	25° $\mathbb{M}$ 03'22 0°45'14	direct	3733 Jun 30 13:40	23° $\mathbb{A}$ 50'36	
minimum elong	3726 Sep 16 20:59	25° $\mathbb{M}$ 03'22 0°45'14	evening set	3733 Oct 04 11:30	27° $\mathbb{A}$ 20'34	
max. Earth dist.	3726 Sep 15 20:02	24° $\mathbb{M}$ 59'29 19.41081 AU				
morning rise	3726 Oct 03 10:40	26° $\mathbb{M}$ 04'47	conjunction	3733 Oct 20 22:06	28° $\mathbb{A}$ 22'11	0°37'08
retrograde	3727 Jan 03 19:06	29° $\mathbb{M}$ 26'53	minimum elong	3733 Oct 20 22:06	28° $\mathbb{A}$ 22'11	0°37'07
opposition	3727 Mar 18 07:51	27° $\mathbb{M}$ 24'04 0°50'20	max. Earth dist.	3733 Oct 20 01:09	28° $\mathbb{A}$ 18'53	19.32226 AU
min. Earth dist.	3727 Mar 19 04:23	27° $\mathbb{M}$ 21'50 17.39532 AU	morning rise	3733 Nov 06 05:07	29° $\mathbb{A}$ 23'18	
direct	3727 Jun 01 23:43	25° $\mathbb{M}$ 18'10		3733 Nov 16 08:40	0° $\mathbb{M}$	
evening set	3727 Sep 05 09:16	28° $\mathbb{M}$ 45'50	retrograde	3734 Feb 05 17:37	2° $\mathbb{M}$ 45'31	
max. Earth dist.	3727 Sep 21 00:58	29° $\mathbb{M}$ 43'55 19.38026 AU	opposition	3734 Apr 20 07:41	0° $\mathbb{M}$ 43'13	0°40'12
			min. Earth dist.	3734 Apr 21 01:15	0° $\mathbb{M}$ 41'18	17.32752 AU
conjunction	3727 Sep 22 00:54	29° $\mathbb{M}$ 47'40 0°44'59		3734 May 07 05:56	30° $\mathbb{R}$ $\mathbb{A}$	
minimum elong	3727 Sep 22 00:54	29° $\mathbb{M}$ 47'40 0°44'59	direct	3734 Jul 05 17:56	28° $\mathbb{A}$ 37'05	
	3727 Sep 25 07:58	0° $\mathbb{A}$		3734 Aug 31 23:11	0° $\mathbb{M}$	
morning rise	3727 Oct 08 13:37	0° $\mathbb{A}$ 49'06	evening set	3734 Oct 09 15:08	2° $\mathbb{M}$ 07'03	
retrograde	3728 Jan 08 18:33	4° $\mathbb{A}$ 11'20	max. Earth dist.	3734 Oct 25 04:28	3° $\mathbb{M}$ 05'21	19.33352 AU
opposition	3728 Mar 22 06:33	2° $\mathbb{A}$ 08'30 0°49'52				
min. Earth dist.	3728 Mar 23 03:29	2° $\mathbb{A}$ 06'12 17.36734 AU	conjunction	3734 Oct 26 00:42	3° $\mathbb{M}$ 08'32	0°34'52
direct	3728 Jun 06 00:14	0° $\mathbb{A}$ 02'24	minimum elong	3734 Oct 26 00:43	3° $\mathbb{M}$ 08'32	0°34'52
evening set	3728 Sep 09 13:54	3° $\mathbb{A}$ 30'40	morning rise	3734 Nov 11 06:39	4° $\mathbb{M}$ 09'32	
max. Earth dist.	3728 Sep 25 03:40	4° $\mathbb{A}$ 28'37 19.35506 AU	retrograde	3735 Feb 10 16:34	7° $\mathbb{M}$ 31'35	

opposition	3735 Apr 25 09:02	5° <del>ℳ</del> 29'27	0°37'32	min. Earth dist.	3741 May 24 04:04	3° <del>♂</del> 50'24	17.51501 AU
min. Earth dist.	3735 Apr 26 02:47	5° <del>ℳ</del> 27'31	17.34138 AU	direct	3741 Aug 08 15:21	1° <del>♂</del> 46'37	
direct	3735 Jul 10 20:08	3° <del>ℳ</del> 23'26		evening set	3741 Nov 12 01:23	5° <del>♂</del> 13'23	
evening set	3735 Oct 14 18:30	6° <del>ℳ</del> 53'18					
max. Earth dist.	3735 Oct 30 07:40	7° <del>ℳ</del> 51'36	19.34984 AU	conjunction	3741 Nov 28 03:30	6° <del>♂</del> 13'23	0°13'33
				minimum elong	3741 Nov 28 03:30	6° <del>♂</del> 13'23	0°13'33
conjunction	3735 Oct 31 03:03	7° <del>ℳ</del> 54'39	0°32'21	behind sun begin	3741 Nov 27 23:47	6° <del>♂</del> 12'49	
minimum elong	3735 Oct 31 03:03	7° <del>ℳ</del> 54'39	0°32'22	behind sun end	3741 Nov 28 07:12	6° <del>♂</del> 13'57	
morning rise	3735 Nov 16 08:00	8° <del>ℳ</del> 55'29		max. Earth dist.	3741 Nov 27 15:33	6° <del>♂</del> 11'32	19.53621 AU
retrograde	3736 Feb 15 18:03	12° <del>ℳ</del> 17'18		morning rise	3741 Dec 14 02:29	7° <del>♂</del> 12'56	
opposition	3736 Apr 29 10:14	10° <del>ℳ</del> 15'19	0°34'37	retrograde	3742 Mar 15 07:21	10° <del>♂</del> 32'10	
min. Earth dist.	3736 Apr 30 02:20	10° <del>ℳ</del> 13'35	17.35989 AU	opposition	3742 May 28 17:04	8° <del>♂</del> 30'51	0°13'08
direct	3736 Jul 15 00:43	8° <del>ℳ</del> 09'28		min. Earth dist.	3742 May 29 02:10	8° <del>♂</del> 29'53	17.55846 AU
evening set	3736 Oct 18 21:27	11° <del>ℳ</del> 39'06		direct	3742 Aug 13 18:56	6° <del>♂</del> 26'04	
max. Earth dist.	3736 Nov 03 10:49	12° <del>ℳ</del> 37'26	19.37057 AU	evening set	3742 Nov 16 23:23	9° <del>♂</del> 51'57	
conjunction	3736 Nov 04 04:59	12° <del>ℳ</del> 40'17	0°29'38	conjunction	3742 Dec 03 00:39	10° <del>♂</del> 51'41	0°10'01
minimum elong	3736 Nov 04 04:59	12° <del>ℳ</del> 40'17	0°29'38	minimum elong	3742 Dec 03 00:39	10° <del>♂</del> 51'41	0°10'02
morning rise	3736 Nov 20 08:46	13° <del>ℳ</del> 40'57		behind sun begin	3742 Dec 02 19:17	10° <del>♂</del> 50'52	
	3736 Dec 13 00:05	15° <del>ℳ</del>		behind sun end	3742 Dec 03 06:00	10° <del>♂</del> 52'30	
retrograde	3737 Feb 19 16:19	17° <del>ℳ</del> 02'27		max. Earth dist.	3742 Dec 02 15:45	10° <del>♂</del> 50'19	19.58184 AU
opposition	3737 May 04 11:51	15° <del>ℳ</del> 00'38	0°31'27	morning rise	3742 Dec 18 22:35	11° <del>♂</del> 50'58	
	3737 May 04 17:42	15° <del>♂</del> ℳ		retrograde	3743 Mar 20 02:26	15° <del>♂</del> 09'38	
min. Earth dist.	3737 May 05 04:07	14° <del>ℳ</del> 58'53	17.38280 AU	opposition	3743 Jun 02 17:17	13° <del>♂</del> 08'26	0°09'09
direct	3737 Jul 20 02:21	12° <del>ℳ</del> 54'55		min. Earth dist.	3743 Jun 03 01:15	13° <del>♂</del> 07'36	17.60624 AU
	3737 Sep 29 17:07	15° <del>ℳ</del>		direct	3743 Aug 18 20:23	11° <del>♂</del> 03'54	
evening set	3737 Oct 23 23:45	16° <del>ℳ</del> 24'13		evening set	3743 Nov 21 20:47	14° <del>♂</del> 28'52	
conjunction	3737 Nov 09 06:07	17° <del>ℳ</del> 25'12	0°26'43	conjunction	3743 Dec 07 20:51	15° <del>♂</del> 28'18	0°06'28
minimum elong	3737 Nov 09 06:07	17° <del>ℳ</del> 25'12	0°26'43	minimum elong	3743 Dec 07 20:52	15° <del>♂</del> 28'18	0°06'27
max. Earth dist.	3737 Nov 08 12:33	17° <del>ℳ</del> 22'26	19.39565 AU	behind sun begin	3743 Dec 07 14:38	15° <del>♂</del> 27'21	
morning rise	3737 Nov 25 08:57	18° <del>ℳ</del> 25'40		behind sun end	3743 Dec 08 03:06	15° <del>♂</del> 29'15	
retrograde	3738 Feb 24 17:17	21° <del>ℳ</del> 46'49		max. Earth dist.	3743 Dec 07 12:48	15° <del>♂</del> 27'04	19.63192 AU
opposition	3738 May 09 13:16	19° <del>ℳ</del> 45'07	0°28'06	morning rise	3743 Dec 23 18:06	16° <del>♂</del> 27'20	
min. Earth dist.	3738 May 10 03:30	19° <del>ℳ</del> 43'36	17.40984 AU	retrograde	3744 Mar 23 22:28	19° <del>♂</del> 45'26	
direct	3738 Jul 25 06:59	17° <del>ℳ</del> 39'35		opposition	3744 Jun 06 16:54	17° <del>♂</del> 44'22	0°05'09
evening set	3738 Oct 29 01:19	21° <del>ℳ</del> 08'24		min. Earth dist.	3744 Jun 06 22:30	17° <del>♂</del> 43'47	17.65854 AU
				direct	3744 Aug 22 21:32	15° <del>♂</del> 40'08	
conjunction	3738 Nov 14 06:44	22° <del>ℳ</del> 09'10	0°23'37	evening set	3744 Nov 25 17:09	19° <del>♂</del> 04'08	
minimum elong	3738 Nov 14 06:44	22° <del>ℳ</del> 09'10	0°23'37				
max. Earth dist.	3738 Nov 13 15:06	22° <del>ℳ</del> 06'43	19.42471 AU	conjunction	3744 Dec 11 16:24	20° <del>♂</del> 03'17	0°02'52
morning rise	3738 Nov 30 08:26	23° <del>ℳ</del> 09'26		minimum elong	3744 Dec 11 16:25	20° <del>♂</del> 03'17	0°02'53
retrograde	3739 Mar 01 14:31	26° <del>ℳ</del> 30'10		behind sun begin	3744 Dec 11 09:50	20° <del>♂</del> 02'17	
opposition	3739 May 14 14:35	24° <del>ℳ</del> 28'36	0°24'33	behind sun end	3744 Dec 11 23:00	20° <del>♂</del> 04'17	
min. Earth dist.	3739 May 15 04:46	24° <del>ℳ</del> 27'04	17.44091 AU	max. Earth dist.	3744 Dec 11 11:29	20° <del>♂</del> 02'33	19.68637 AU
direct	3739 Jul 30 08:34	22° <del>ℳ</del> 23'13		morning rise	3744 Dec 27 12:40	21° <del>♂</del> 02'02	
evening set	3739 Nov 03 02:14	25° <del>ℳ</del> 51'27		retrograde	3745 Mar 28 17:25	24° <del>♂</del> 19'34	
				opposition	3745 Jun 11 16:19	22° <del>♂</del> 18'41	0°01'09
conjunction	3739 Nov 19 06:29	26° <del>ℳ</del> 52'00	0°20'22	min. Earth dist.	3745 Jun 11 20:20	22° <del>♂</del> 18'16	17.71489 AU
minimum elong	3739 Nov 19 06:29	26° <del>ℳ</del> 51'59	0°20'23	direct	3745 Aug 27 21:42	20° <del>♂</del> 14'49	
max. Earth dist.	3739 Nov 18 15:19	26° <del>ℳ</del> 49'37	19.45788 AU	desc. node	3745 Sep 25 20:29	20° <del>♂</del> 36'32	
morning rise	3739 Dec 05 07:22	27° <del>ℳ</del> 52'02		evening set	3745 Nov 30 12:37	23° <del>♂</del> 37'48	
	3740 Jan 13 14:50	0° <del>♂</del>					
retrograde	3740 Mar 05 13:53	1° <del>♂</del> 12'18		conjunction	3745 Dec 16 10:47	24° <del>♂</del> 36'39	-0°00'49
	3740 Apr 28 21:51	30° <del>♂</del> ℳ		minimum elong	3745 Dec 16 10:47	24° <del>♂</del> 36'39	0°00'49
opposition	3740 May 18 15:38	29° <del>ℳ</del> 10'49	0°20'51	behind sun begin	3745 Dec 16 04:11	24° <del>♂</del> 35'39	
min. Earth dist.	3740 May 19 03:39	29° <del>ℳ</del> 09'32	17.47596 AU	behind sun end	3745 Dec 16 17:22	24° <del>♂</del> 37'38	
direct	3740 Aug 03 13:23	27° <del>ℳ</del> 05'37		max. Earth dist.	3745 Dec 16 06:52	24° <del>♂</del> 36'05	19.74468 AU
	3740 Oct 28 21:27	0° <del>♂</del>		morning rise	3746 Jan 01 06:27	25° <del>♂</del> 35'07	
evening set	3740 Nov 07 02:11	0° <del>♂</del> 33'10		retrograde	3746 Apr 02 12:32	28° <del>♂</del> 52'06	
				opposition	3746 Jun 16 15:13	26° <del>♂</del> 51'25	-0°02'50
conjunction	3740 Nov 23 05:31	1° <del>♂</del> 33'27	0°17'00	min. Earth dist.	3746 Jun 16 17:12	26° <del>♂</del> 51'12	17.77495 AU
minimum elong	3740 Nov 23 05:31	1° <del>♂</del> 33'27	0°17'01	direct	3746 Sep 01 20:35	24° <del>♂</del> 47'55	
max. Earth dist.	3740 Nov 22 16:52	1° <del>♂</del> 31'29	19.49493 AU	evening set	3746 Dec 05 07:09	28° <del>♂</del> 09'52	
morning rise	3740 Dec 09 05:15	2° <del>♂</del> 33'15					
retrograde	3741 Mar 10 09:42	5° <del>♂</del> 53'01		conjunction	3746 Dec 21 04:36	29° <del>♂</del> 08'25	-0°04'26
opposition	3741 May 23 16:34	3° <del>♂</del> 51'37	0°17'02	minimum elong	3746 Dec 21 04:35	29° <del>♂</del> 08'25	0°04'26

behind sun begin	3746 Dec 20 22:07	29° $\mathbb{A}$ 07'27	evening set	3752 Dec 31 04:39	24° $\mathbb{B}$ 47'21
behind sun end	3746 Dec 21 11:03	29° $\mathbb{A}$ 09'24			
max. Earth dist.	3746 Dec 21 03:36	29° $\mathbb{A}$ 08'18 19.80624 AU	conjunction	3753 Jan 15 21:46	25° $\mathbb{B}$ 44'07 -0°24'09
	3747 Jan 04 03:43	0° $\mathbb{B}$	minimum elong	3753 Jan 15 21:46	25° $\mathbb{B}$ 44'07 0°24'08
morning rise	3747 Jan 05 23:27	0° $\mathbb{B}$ 06'37	max. Earth dist.	3753 Jan 16 05:46	25° $\mathbb{B}$ 45'19 20.19964 AU
retrograde	3747 Apr 07 06:53	3° $\mathbb{B}$ 23'00	morning rise	3753 Jan 31 13:47	26° $\mathbb{B}$ 40'44
opposition	3747 Jun 21 13:28	1° $\mathbb{B}$ 22'33 -0°06'47	retrograde	3753 May 03 11:32	29° $\mathbb{B}$ 53'36
min. Earth dist.	3747 Jun 21 13:46	1° $\mathbb{B}$ 22'31 17.83769 AU	opposition	3753 Jul 18 16:13	27° $\mathbb{B}$ 54'09 -0°28'22
	3747 Jul 27 17:17	30° $\mathbb{R}$ $\mathbb{A}$	min. Earth dist.	3753 Jul 18 07:13	27° $\mathbb{B}$ 55'04 18.23164 AU
direct	3747 Sep 06 19:23	29° $\mathbb{A}$ 19'29	direct	3753 Oct 03 19:30	25° $\mathbb{B}$ 53'23
	3747 Oct 16 15:29	0° $\mathbb{B}$	evening set	3754 Jan 04 17:03	29° $\mathbb{B}$ 07'16
evening set	3747 Dec 10 01:00	2° $\mathbb{B}$ 40'21		3754 Jan 19 08:48	0° $\mathbb{B}$
conjunction	3747 Dec 25 21:26	3° $\mathbb{B}$ 38'35 -0°07'56	conjunction	3754 Jan 20 09:39	0° $\mathbb{B}$ 03'45 -0°26'59
minimum elong	3747 Dec 25 21:27	3° $\mathbb{B}$ 38'36 0°07'55	minimum elong	3754 Jan 20 09:38	0° $\mathbb{B}$ 03'45 0°26'59
behind sun begin	3747 Dec 25 15:32	3° $\mathbb{B}$ 37'42	max. Earth dist.	3754 Jan 20 18:47	0° $\mathbb{B}$ 05'08 20.26360 AU
behind sun end	3747 Dec 26 03:22	3° $\mathbb{B}$ 39'29	morning rise	3754 Feb 05 01:29	1° $\mathbb{B}$ 00'08
max. Earth dist.	3747 Dec 25 21:20	3° $\mathbb{B}$ 38'35 19.87011 AU	retrograde	3754 May 08 00:43	4° $\mathbb{B}$ 12'25
morning rise	3748 Jan 10 15:48	4° $\mathbb{B}$ 36'31	opposition	3754 Jul 23 10:26	2° $\mathbb{B}$ 13'00 -0°31'25
retrograde	3748 Apr 11 00:59	7° $\mathbb{B}$ 52'20	min. Earth dist.	3754 Jul 23 00:58	2° $\mathbb{B}$ 13'58 18.29513 AU
opposition	3748 Jun 25 11:25	5° $\mathbb{B}$ 52'06 -0°10'40	direct	3754 Oct 08 12:38	0° $\mathbb{B}$ 12'34
min. Earth dist.	3748 Jun 25 10:13	5° $\mathbb{B}$ 52'13 17.90254 AU	evening set	3755 Jan 09 04:37	3° $\mathbb{B}$ 25'14
direct	3748 Sep 10 16:37	3° $\mathbb{B}$ 49'26			
evening set	3748 Dec 13 17:46	7° $\mathbb{B}$ 09'12	conjunction	3755 Jan 24 20:51	4° $\mathbb{B}$ 21'27 -0°29'39
conjunction	3748 Dec 29 13:31	8° $\mathbb{B}$ 07'08 -0°11'23	minimum elong	3755 Jan 24 20:51	4° $\mathbb{B}$ 21'27 0°29'39
minimum elong	3748 Dec 29 13:31	8° $\mathbb{B}$ 07'08 0°11'23	max. Earth dist.	3755 Jan 25 07:36	4° $\mathbb{B}$ 23'04 20.32656 AU
behind sun begin	3748 Dec 29 08:41	8° $\mathbb{B}$ 06'25	morning rise	3755 Feb 09 12:30	5° $\mathbb{B}$ 17'35
behind sun end	3748 Dec 29 18:22	8° $\mathbb{B}$ 07'52	retrograde	3755 May 12 15:24	8° $\mathbb{B}$ 29'16
max. Earth dist.	3748 Dec 29 15:57	8° $\mathbb{B}$ 07'30 19.93563 AU	opposition	3755 Jul 28 03:31	6° $\mathbb{B}$ 29'55 -0°34'16
morning rise	3749 Jan 14 07:09	9° $\mathbb{B}$ 04'48	min. Earth dist.	3755 Jul 27 15:47	6° $\mathbb{B}$ 31'06 18.35756 AU
retrograde	3749 Apr 15 18:36	12° $\mathbb{B}$ 20'02	direct	3755 Oct 13 06:15	4° $\mathbb{B}$ 29'45
opposition	3749 Jun 30 08:49	10° $\mathbb{B}$ 20'00 -0°14'28	evening set	3756 Jan 13 15:21	7° $\mathbb{B}$ 41'16
min. Earth dist.	3749 Jun 30 05:42	10° $\mathbb{B}$ 20'19 17.96849 AU	conjunction	3756 Jan 29 07:10	8° $\mathbb{B}$ 37'13 -0°32'08
direct	3749 Sep 15 14:05	8° $\mathbb{B}$ 17'46	minimum elong	3756 Jan 29 07:10	8° $\mathbb{B}$ 37'13 0°32'09
evening set	3749 Dec 18 09:52	11° $\mathbb{B}$ 36'23	max. Earth dist.	3756 Jan 29 19:21	8° $\mathbb{B}$ 39'02 20.38849 AU
conjunction	3750 Jan 03 04:45	12° $\mathbb{B}$ 34'01 -0°14'45	morning rise	3756 Feb 13 22:44	9° $\mathbb{B}$ 33'08
minimum elong	3750 Jan 03 04:45	12° $\mathbb{B}$ 34'01 0°14'44	retrograde	3756 May 16 02:34	12° $\mathbb{B}$ 44'15
behind sun begin	3750 Jan 03 01:54	12° $\mathbb{B}$ 33'36	opposition	3756 Jul 31 20:14	10° $\mathbb{B}$ 44'56 -0°36'54
behind sun end	3750 Jan 03 07:36	12° $\mathbb{B}$ 34'27	min. Earth dist.	3756 Jul 31 08:01	10° $\mathbb{B}$ 46'10 18.41924 AU
max. Earth dist.	3750 Jan 03 08:05	12° $\mathbb{B}$ 34'31 20.00194 AU	direct	3756 Oct 16 21:17	8° $\mathbb{B}$ 45'05
morning rise	3750 Jan 18 21:58	13° $\mathbb{B}$ 31'25	evening set	3757 Jan 17 01:08	11° $\mathbb{B}$ 55'26
retrograde	3750 Apr 20 11:35	16° $\mathbb{B}$ 46'04	conjunction	3757 Feb 01 16:41	12° $\mathbb{B}$ 51'08 -0°34'25
opposition	3750 Jul 05 05:40	14° $\mathbb{B}$ 46'13 -0°18'09	minimum elong	3757 Feb 01 16:41	12° $\mathbb{B}$ 51'08 0°34'25
min. Earth dist.	3750 Jul 05 01:29	14° $\mathbb{B}$ 46'39 18.03512 AU	max. Earth dist.	3757 Feb 02 06:27	12° $\mathbb{B}$ 53'11 20.44981 AU
direct	3750 Sep 20 09:45	12° $\mathbb{B}$ 44'22	morning rise	3757 Feb 17 08:11	13° $\mathbb{B}$ 46'49
evening set	3750 Dec 23 00:55	16° $\mathbb{B}$ 01'50		3757 Mar 11 10:54	15° $\mathbb{B}$
conjunction	3751 Jan 07 19:14	16° $\mathbb{B}$ 59'11 -0°18'00	retrograde	3757 May 20 16:08	16° $\mathbb{B}$ 57'25
minimum elong	3751 Jan 07 19:14	16° $\mathbb{B}$ 59'11 0°18'01		3757 Aug 04 17:59	15° $\mathbb{R}$ $\mathbb{B}$
max. Earth dist.	3751 Jan 08 00:37	17° $\mathbb{B}$ 00'00 20.06852 AU	opposition	3757 Aug 05 12:06	14° $\mathbb{B}$ 58'10 -0°39'19
morning rise	3751 Jan 23 11:57	17° $\mathbb{B}$ 56'18	min. Earth dist.	3757 Aug 04 21:22	14° $\mathbb{B}$ 59'39 18.48019 AU
retrograde	3751 Apr 25 04:18	21° $\mathbb{B}$ 10'22	direct	3757 Oct 21 13:19	12° $\mathbb{B}$ 58'38
opposition	3751 Jul 10 01:48	19° $\mathbb{B}$ 10'41 -0°21'43		3757 Dec 31 22:47	15° $\mathbb{B}$
min. Earth dist.	3751 Jul 09 19:38	19° $\mathbb{B}$ 11'19 18.10143 AU	evening set	3758 Jan 21 10:19	16° $\mathbb{B}$ 07'52
direct	3751 Sep 25 05:59	17° $\mathbb{B}$ 09'14	conjunction	3758 Feb 06 01:38	17° $\mathbb{B}$ 03'20 -0°36'31
evening set	3751 Dec 27 15:16	20° $\mathbb{B}$ 25'31	minimum elong	3758 Feb 06 01:38	17° $\mathbb{B}$ 03'20 0°36'30
conjunction	3752 Jan 12 08:52	21° $\mathbb{B}$ 22'34 -0°21'09	max. Earth dist.	3758 Feb 06 16:55	17° $\mathbb{B}$ 05'37 20.51027 AU
minimum elong	3752 Jan 12 08:52	21° $\mathbb{B}$ 22'34 0°21'09	morning rise	3758 Feb 21 17:11	17° $\mathbb{B}$ 58'51
max. Earth dist.	3752 Jan 12 15:07	21° $\mathbb{B}$ 23'31 20.13447 AU	retrograde	3758 May 25 02:05	21° $\mathbb{B}$ 08'57
morning rise	3752 Jan 28 01:14	22° $\mathbb{B}$ 19'26	opposition	3758 Aug 10 03:16	19° $\mathbb{B}$ 09'46 -0°41'30
retrograde	3752 Apr 28 19:41	25° $\mathbb{B}$ 32'54	min. Earth dist.	3758 Aug 09 12:14	19° $\mathbb{B}$ 11'17 18.54030 AU
opposition	3752 Jul 13 21:23	23° $\mathbb{B}$ 33'21 -0°25'07	direct	3758 Oct 26 01:52	17° $\mathbb{B}$ 10'33
min. Earth dist.	3752 Jul 13 14:33	23° $\mathbb{B}$ 34'03 18.16708 AU	evening set	3759 Jan 25 18:46	20° $\mathbb{B}$ 18'45
direct	3752 Sep 29 00:21	21° $\mathbb{B}$ 32'16	conjunction	3759 Feb 10 09:59	21° $\mathbb{B}$ 14'00 -0°38'23

minimum elong	3759 Feb 10 09:58	21° $\approx$ 14'00	0°38'23	opposition	3765 Sep 08 21:08	17° $\mathbf{H}$ 55'20	-0°50'06
max. Earth dist.	3759 Feb 11 02:28	21° $\approx$ 16'26	20.56979 AU	min. Earth dist.	3765 Sep 07 23:52	17° $\mathbf{H}$ 57'28	18.89340 AU
morning rise	3759 Feb 26 01:39	22° $\approx$ 09'19		direct	3765 Nov 24 06:15	15° $\mathbf{H}$ 58'10	
retrograde	3759 May 29 14:40	25° $\approx$ 18'57		evening set	3766 Feb 22 16:48	19° $\mathbf{H}$ 00'18	
opposition	3759 Aug 14 17:43	23° $\approx$ 19'52	-0°43'28				
min. Earth dist.	3759 Aug 14 00:22	23° $\approx$ 21'37	18.59907 AU	conjunction	3766 Mar 10 08:53	19° $\mathbf{H}$ 54'30	-0°45'27
direct	3759 Oct 30 15:49	21° $\approx$ 21'00		minimum elong	3766 Mar 10 08:53	19° $\mathbf{H}$ 54'30	0°45'26
evening set	3760 Jan 30 02:37	24° $\approx$ 28'10		max. Earth dist.	3766 Mar 11 06:35	19° $\mathbf{H}$ 57'39	20.91073 AU
				morning rise	3766 Mar 26 02:59	20° $\mathbf{H}$ 49'00	
conjunction	3760 Feb 14 17:43	25° $\approx$ 23'14	-0°40'03	retrograde	3766 Jun 27 11:01	23° $\mathbf{H}$ 56'22	
minimum elong	3760 Feb 14 17:43	25° $\approx$ 23'14	0°40'03	min. Earth dist.	3766 Sep 12 11:23	21° $\mathbf{H}$ 59'42	18.92762 AU
max. Earth dist.	3760 Feb 15 11:38	25° $\approx$ 25'52	20.62762 AU	opposition	3766 Sep 13 07:47	21° $\mathbf{H}$ 57'40	-0°50'20
morning rise	3760 Mar 01 09:32	26° $\approx$ 18'23		direct	3766 Nov 28 13:52	20° $\mathbf{H}$ 00'40	
retrograde	3760 Jun 01 23:58	29° $\approx$ 27'37		evening set	3767 Feb 26 21:59	23° $\mathbf{H}$ 02'07	
opposition	3760 Aug 18 07:45	27° $\approx$ 28'38	-0°45'11				
min. Earth dist.	3760 Aug 17 14:21	27° $\approx$ 30'22	18.65601 AU	conjunction	3767 Mar 14 14:27	23° $\mathbf{H}$ 56'14	-0°45'33
direct	3760 Nov 03 02:55	25° $\approx$ 30'05		minimum elong	3767 Mar 14 14:27	23° $\mathbf{H}$ 56'14	0°45'33
evening set	3761 Feb 02 09:58	28° $\approx$ 36'18		max. Earth dist.	3767 Mar 15 11:50	23° $\mathbf{H}$ 59'19	20.94258 AU
				morning rise	3767 Mar 30 09:12	24° $\mathbf{H}$ 50'40	
conjunction	3761 Feb 18 01:04	29° $\approx$ 31'10	-0°41'31	retrograde	3767 Jul 01 20:45	27° $\mathbf{H}$ 57'48	
minimum elong	3761 Feb 18 01:04	29° $\approx$ 31'10	0°41'31	opposition	3767 Sep 17 17:54	25° $\mathbf{H}$ 59'03	-0°50'19
max. Earth dist.	3761 Feb 18 19:51	29° $\approx$ 33'56	20.68351 AU	min. Earth dist.	3767 Sep 16 20:30	26° $\mathbf{H}$ 01'11	18.95706 AU
	3761 Feb 26 04:56	0° $\mathbf{H}$		direct	3767 Dec 02 22:52	24° $\mathbf{H}$ 02'09	
morning rise	3761 Mar 05 17:09	0° $\mathbf{H}$ 26'10		evening set	3768 Mar 02 02:43	27° $\mathbf{H}$ 02'59	
retrograde	3761 Jun 06 11:51	3° $\mathbf{H}$ 35'01					
opposition	3761 Aug 22 21:03	1° $\mathbf{H}$ 36'08	-0°46'39	conjunction	3768 Mar 17 19:38	27° $\mathbf{H}$ 57'02	-0°45'26
min. Earth dist.	3761 Aug 22 01:39	1° $\mathbf{H}$ 38'05	18.71066 AU	minimum elong	3768 Mar 17 19:38	27° $\mathbf{H}$ 57'02	0°45'27
	3761 Oct 08 09:39	30° $\mathbf{R}$ $\approx$		max. Earth dist.	3768 Mar 18 17:46	28° $\mathbf{H}$ 00'14	20.96966 AU
direct	3761 Nov 07 14:55	29° $\approx$ 37'55		morning rise	3768 Apr 02 14:58	28° $\mathbf{H}$ 51'26	
	3761 Dec 07 01:29	0° $\mathbf{H}$			3768 Apr 23 23:38	0° $\mathbf{Y}$	
evening set	3762 Feb 06 16:48	2° $\mathbf{H}$ 43'13		retrograde	3768 Jul 05 03:48	1° $\mathbf{Y}$ 58'23	
				min. Earth dist.	3768 Sep 20 06:59	0° $\mathbf{Y}$ 01'37	18.98203 AU
conjunction	3762 Feb 22 07:59	3° $\mathbf{H}$ 37'55	-0°42'45		3768 Sep 20 23:09	30° $\mathbf{R}$ $\mathbf{H}$	
minimum elong	3762 Feb 22 07:59	3° $\mathbf{H}$ 37'55	0°42'44	opposition	3768 Sep 21 03:40	29° $\mathbf{H}$ 59'33	-0°50'03
max. Earth dist.	3762 Feb 23 03:58	3° $\mathbf{H}$ 40'51	20.73664 AU	direct	3768 Dec 06 05:28	28° $\mathbf{H}$ 02'45	
morning rise	3762 Mar 10 00:21	4° $\mathbf{H}$ 32'47			3769 Feb 14 17:21	0° $\mathbf{Y}$	
retrograde	3762 Jun 10 20:58	7° $\mathbf{H}$ 41'17		evening set	3769 Mar 06 07:19	1° $\mathbf{Y}$ 03'00	
opposition	3762 Aug 27 09:57	5° $\mathbf{H}$ 42'29	-0°47'53				
min. Earth dist.	3762 Aug 26 14:52	5° $\mathbf{H}$ 44'24	18.76230 AU	conjunction	3769 Mar 22 00:43	1° $\mathbf{Y}$ 57'00	-0°45'05
direct	3762 Nov 12 00:48	3° $\mathbf{H}$ 44'35		minimum elong	3769 Mar 22 00:43	1° $\mathbf{Y}$ 57'00	0°45'05
evening set	3763 Feb 10 23:20	6° $\mathbf{H}$ 49'01		max. Earth dist.	3769 Mar 22 22:39	2° $\mathbf{Y}$ 00'10	20.99271 AU
				morning rise	3769 Apr 06 20:46	2° $\mathbf{Y}$ 51'24	
conjunction	3763 Feb 26 14:38	7° $\mathbf{H}$ 43'34	-0°43'45	retrograde	3769 Jul 09 12:59	5° $\mathbf{Y}$ 58'10	
minimum elong	3763 Feb 26 14:38	7° $\mathbf{H}$ 43'34	0°43'46	opposition	3769 Sep 25 12:44	3° $\mathbf{Y}$ 59'15	-0°49'32
max. Earth dist.	3763 Feb 27 10:56	7° $\mathbf{H}$ 46'33	20.78656 AU	min. Earth dist.	3769 Sep 24 15:06	4° $\mathbf{Y}$ 01'25	19.00319 AU
morning rise	3763 Mar 14 07:21	8° $\mathbf{H}$ 38'19		direct	3769 Dec 10 13:15	2° $\mathbf{Y}$ 02'32	
retrograde	3763 Jun 15 07:59	11° $\mathbf{H}$ 46'30		evening set	3770 Mar 10 11:42	5° $\mathbf{Y}$ 02'17	
opposition	3763 Aug 31 22:01	9° $\mathbf{H}$ 47'46	-0°48'52				
min. Earth dist.	3763 Aug 31 01:24	9° $\mathbf{H}$ 49'50	18.81034 AU	conjunction	3770 Mar 26 05:42	5° $\mathbf{Y}$ 56'17	-0°44'31
direct	3763 Nov 16 11:33	7° $\mathbf{H}$ 50'09		minimum elong	3770 Mar 26 05:42	5° $\mathbf{Y}$ 56'17	0°44'32
evening set	3764 Feb 15 05:32	10° $\mathbf{H}$ 53'47		max. Earth dist.	3770 Mar 27 04:22	5° $\mathbf{Y}$ 59'33	21.01191 AU
				morning rise	3770 Apr 11 02:26	6° $\mathbf{Y}$ 50'40	
conjunction	3764 Mar 01 21:00	11° $\mathbf{H}$ 48'11	-0°44'33	retrograde	3770 Jul 13 20:02	9° $\mathbf{Y}$ 57'20	
minimum elong	3764 Mar 01 21:00	11° $\mathbf{H}$ 48'11	0°44'32	opposition	3770 Sep 29 21:29	7° $\mathbf{Y}$ 58'21	-0°48'47
max. Earth dist.	3764 Mar 02 18:09	11° $\mathbf{H}$ 51'17	20.83248 AU	min. Earth dist.	3770 Sep 29 00:33	8° $\mathbf{Y}$ 00'26	19.02063 AU
morning rise	3764 Mar 17 14:05	12° $\mathbf{H}$ 42'50		direct	3770 Dec 14 19:02	6° $\mathbf{Y}$ 01'42	
retrograde	3764 Jun 18 16:44	15° $\mathbf{H}$ 50'43		evening set	3771 Mar 14 15:59	9° $\mathbf{Y}$ 01'03	
opposition	3764 Sep 04 09:55	13° $\mathbf{H}$ 52'03	-0°49'37				
min. Earth dist.	3764 Sep 03 13:53	13° $\mathbf{H}$ 54'03	18.85419 AU	conjunction	3771 Mar 30 10:32	9° $\mathbf{Y}$ 55'02	-0°43'44
direct	3764 Nov 19 20:19	11° $\mathbf{H}$ 54'41		minimum elong	3771 Mar 30 10:32	9° $\mathbf{Y}$ 55'02	0°43'44
evening set	3765 Feb 18 11:16	14° $\mathbf{H}$ 57'32		max. Earth dist.	3771 Mar 31 08:50	9° $\mathbf{Y}$ 58'14	21.02766 AU
				morning rise	3771 Apr 15 08:03	10° $\mathbf{Y}$ 49'26	
conjunction	3765 Mar 06 02:59	15° $\mathbf{H}$ 51'49	-0°45'07	retrograde	3771 Jul 18 04:52	13° $\mathbf{Y}$ 56'02	
minimum elong	3765 Mar 06 02:59	15° $\mathbf{H}$ 51'49	0°45'06	min. Earth dist.	3771 Oct 03 07:58	11° $\mathbf{Y}$ 59'10	19.03466 AU
max. Earth dist.	3765 Mar 07 00:06	15° $\mathbf{H}$ 54'54	20.87408 AU	opposition	3771 Oct 04 05:43	11° $\mathbf{Y}$ 56'59	-0°47'48
morning rise	3765 Mar 21 20:36	16° $\mathbf{H}$ 46'23		direct	3771 Dec 19 01:22	10° $\mathbf{Y}$ 00'25	
retrograde	3765 Jun 23 03:12	19° $\mathbf{H}$ 54'01		evening set	3772 Mar 17 20:16	12° $\mathbf{Y}$ 59'26	

conjunction	3772 Apr 02 15:30	13° $\Upsilon$ 53'26	-0°42'45	retrograde	3778 Aug 15 16:09	11° $\mathcal{B}$ 47'30
minimum elong	3772 Apr 02 15:30	13° $\Upsilon$ 53'26	0°42'45	opposition	3778 Nov 01 10:39	9° $\mathcal{B}$ 48'07 -0°34'56
max. Earth dist.	3772 Apr 03 14:24	13° $\Upsilon$ 56'43	21.03990 AU	min. Earth dist.	3778 Oct 31 17:21	9° $\mathcal{B}$ 49'52 19.02162 AU
morning rise	3772 Apr 18 13:44	14° $\Upsilon$ 47'52		direct	3779 Jan 15 14:53	7° $\mathcal{B}$ 51'42
retrograde	3772 Jul 21 12:11	17° $\Upsilon$ 54'27		evening set	3779 Apr 15 07:23	10° $\mathcal{B}$ 50'23
opposition	3772 Oct 07 13:50	15° $\Upsilon$ 55'21	-0°46'35			
min. Earth dist.	3772 Oct 06 16:51	15° $\Upsilon$ 57'28	19.04519 AU	conjunction	3779 May 01 08:17	11° $\mathcal{B}$ 45'00 -0°30'30
direct	3772 Dec 22 06:57	13° $\Upsilon$ 58'52		minimum elong	3779 May 01 08:17	11° $\mathcal{B}$ 45'00 0°30'30
evening set	3773 Mar 22 00:28	16° $\Upsilon$ 57'37		max. Earth dist.	3779 May 02 02:22	11° $\mathcal{B}$ 47'35 21.01125 AU
				morning rise	3779 May 17 12:52	12° $\mathcal{B}$ 40'09
conjunction	3773 Apr 06 20:24	17° $\Upsilon$ 51'39	-0°41'34		3779 Jul 06 04:28	15° $\mathcal{B}$
minimum elong	3773 Apr 06 20:24	17° $\Upsilon$ 51'39	0°41'34	retrograde	3779 Aug 20 02:25	15° $\mathcal{B}$ 47'41
max. Earth dist.	3773 Apr 07 18:44	17° $\Upsilon$ 54'51	21.04877 AU		3779 Oct 04 22:59	15° $\mathcal{R}\mathcal{B}$
morning rise	3773 Apr 22 19:34	18° $\Upsilon$ 46'09		opposition	3779 Nov 05 17:57	13° $\mathcal{B}$ 48'10 -0°32'20
retrograde	3773 Jul 25 21:34	21° $\Upsilon$ 52'45		min. Earth dist.	3779 Nov 05 01:18	13° $\mathcal{B}$ 49'51 18.99996 AU
opposition	3773 Oct 11 21:37	19° $\Upsilon$ 53'37	-0°45'09	direct	3780 Jan 19 21:37	11° $\mathcal{B}$ 51'37
min. Earth dist.	3773 Oct 11 00:05	19° $\Upsilon$ 55'47	19.05219 AU	evening set	3780 Apr 18 13:44	14° $\mathcal{B}$ 50'30
direct	3773 Dec 26 12:09	17° $\Upsilon$ 57'12			3780 Apr 21 09:35	15° $\mathcal{B}$
evening set	3774 Mar 26 04:56	20° $\Upsilon$ 55'46				
				conjunction	3780 May 04 15:39	15° $\mathcal{B}$ 45'16 -0°28'04
conjunction	3774 Apr 11 01:39	21° $\Upsilon$ 49'51	-0°40'10	minimum elong	3780 May 04 15:39	15° $\mathcal{B}$ 45'16 0°28'04
minimum elong	3774 Apr 11 01:39	21° $\Upsilon$ 49'51	0°40'10	max. Earth dist.	3780 May 05 09:14	15° $\mathcal{B}$ 47'47 20.98691 AU
max. Earth dist.	3774 Apr 12 00:17	21° $\Upsilon$ 53'06	21.05380 AU	morning rise	3780 May 20 21:06	16° $\mathcal{B}$ 40'34
morning rise	3774 Apr 27 01:36	22° $\Upsilon$ 44'25		retrograde	3780 Aug 23 10:08	19° $\mathcal{B}$ 48'20
retrograde	3774 Jul 30 04:41	25° $\Upsilon$ 51'05		min. Earth dist.	3780 Nov 08 10:10	17° $\mathcal{B}$ 50'11 18.97305 AU
min. Earth dist.	3774 Oct 15 08:39	23° $\Upsilon$ 54'00	19.05523 AU	opposition	3780 Nov 09 01:15	17° $\mathcal{B}$ 48'40 -0°29'34
opposition	3774 Oct 16 05:07	23° $\Upsilon$ 51'56	-0°43'31	direct	3781 Jan 23 02:51	15° $\mathcal{B}$ 51'55
direct	3774 Dec 30 17:44	21° $\Upsilon$ 55'35		evening set	3781 Apr 22 20:28	18° $\mathcal{B}$ 51'03
evening set	3775 Mar 30 09:36	24° $\Upsilon$ 54'02				
				conjunction	3781 May 08 23:18	19° $\mathcal{B}$ 45'59 -0°25'29
conjunction	3775 Apr 15 07:03	25° $\Upsilon$ 48'12	-0°38'36	minimum elong	3781 May 08 23:18	19° $\mathcal{B}$ 45'59 0°25'29
minimum elong	3775 Apr 15 07:03	25° $\Upsilon$ 48'12	0°38'36	max. Earth dist.	3781 May 09 15:03	19° $\mathcal{B}$ 48'14 20.95780 AU
max. Earth dist.	3775 Apr 16 04:43	25° $\Upsilon$ 51'18	21.05493 AU	morning rise	3781 May 25 05:50	20° $\mathcal{B}$ 41'28
morning rise	3775 May 01 07:57	26° $\Upsilon$ 42'51		retrograde	3781 Aug 27 20:15	23° $\mathcal{B}$ 49'29
retrograde	3775 Aug 03 14:51	29° $\Upsilon$ 49'38		opposition	3781 Nov 13 08:30	21° $\mathcal{B}$ 49'37 -0°26'39
opposition	3775 Oct 20 12:35	27° $\Upsilon$ 50'27	-0°41'40	min. Earth dist.	3781 Nov 12 18:12	21° $\mathcal{B}$ 51'05 18.94165 AU
min. Earth dist.	3775 Oct 19 15:59	27° $\Upsilon$ 52'31	19.05420 AU	direct	3782 Jan 27 09:31	19° $\mathcal{B}$ 52'40
direct	3776 Jan 03 22:52	25° $\Upsilon$ 54'08		evening set	3782 Apr 27 03:40	22° $\mathcal{B}$ 52'08
evening set	3776 Apr 02 14:23	28° $\Upsilon$ 52'33				
				conjunction	3782 May 13 07:31	23° $\mathcal{B}$ 47'15 -0°22'46
conjunction	3776 Apr 18 12:41	29° $\Upsilon$ 46'48	-0°36'50	minimum elong	3782 May 13 07:31	23° $\mathcal{B}$ 47'15 0°22'47
minimum elong	3776 Apr 18 12:41	29° $\Upsilon$ 46'48	0°36'49	max. Earth dist.	3782 May 13 22:51	23° $\mathcal{B}$ 49'27 20.92424 AU
max. Earth dist.	3776 Apr 19 10:26	29° $\Upsilon$ 49'55	21.05160 AU	morning rise	3782 May 29 14:52	24° $\mathcal{B}$ 42'54
	3776 Apr 22 08:53	0° $\mathcal{B}$		retrograde	3782 Sep 01 04:46	27° $\mathcal{B}$ 51'12
morning rise	3776 May 04 14:24	0° $\mathcal{B}$ 41'34		opposition	3782 Nov 17 15:42	25° $\mathcal{B}$ 51'10 -0°23'35
retrograde	3776 Aug 06 22:09	3° $\mathcal{B}$ 48'30		min. Earth dist.	3782 Nov 17 02:50	25° $\mathcal{B}$ 52'29 18.90614 AU
opposition	3776 Oct 23 20:04	1° $\mathcal{B}$ 49'17	-0°39'37	direct	3783 Jan 31 15:19	23° $\mathcal{B}$ 53'59
min. Earth dist.	3776 Oct 23 00:46	1° $\mathcal{B}$ 51'14	19.04850 AU	evening set	3783 May 01 11:21	26° $\mathcal{B}$ 53'51
	3776 Dec 21 12:57	30° $\mathcal{R}\Upsilon$				
direct	3777 Jan 07 04:07	29° $\Upsilon$ 52'59		conjunction	3783 May 17 16:05	27° $\mathcal{B}$ 49'10 -0°19'57
	3777 Jan 23 17:05	0° $\mathcal{B}$		minimum elong	3783 May 17 16:05	27° $\mathcal{B}$ 49'10 0°19'56
evening set	3777 Apr 06 19:43	2° $\mathcal{B}$ 51'26		max. Earth dist.	3783 May 18 05:33	27° $\mathcal{B}$ 51'06 20.88713 AU
				morning rise	3783 Jun 03 00:28	28° $\mathcal{B}$ 45'01
conjunction	3777 Apr 22 18:50	3° $\mathcal{B}$ 45'47	-0°34'53		3783 Jun 26 16:59	0° $\mathcal{I}$
minimum elong	3777 Apr 22 18:50	3° $\mathcal{B}$ 45'47	0°34'54	retrograde	3783 Sep 05 14:58	1° $\mathcal{I}$ 53'40
max. Earth dist.	3777 Apr 23 15:09	3° $\mathcal{B}$ 48'41	21.04355 AU		3783 Nov 19 06:57	30° $\mathcal{R}\mathcal{B}$
morning rise	3777 May 08 21:33	4° $\mathcal{B}$ 40'39		opposition	3783 Nov 21 23:06	29° $\mathcal{B}$ 53'26 -0°20'24
retrograde	3777 Aug 11 08:41	7° $\mathcal{B}$ 47'47		min. Earth dist.	3783 Nov 21 10:58	29° $\mathcal{B}$ 54'41 18.86740 AU
min. Earth dist.	3777 Oct 27 08:24	5° $\mathcal{B}$ 50'24	19.03785 AU	direct	3784 Feb 04 21:38	27° $\mathcal{B}$ 56'00
opposition	3777 Oct 28 03:18	5° $\mathcal{B}$ 48'29	-0°37'22		3784 Apr 17 07:52	0° $\mathcal{I}$
direct	3778 Jan 11 09:59	3° $\mathcal{B}$ 52'09		evening set	3784 May 04 19:25	0° $\mathcal{I}$ 56'22
evening set	3778 Apr 11 01:24	6° $\mathcal{B}$ 50'42				
				conjunction	3784 May 21 01:13	1° $\mathcal{I}$ 51'54 -0°17'01
conjunction	3778 Apr 27 01:28	7° $\mathcal{B}$ 45'11	-0°32'46	minimum elong	3784 May 21 01:13	1° $\mathcal{I}$ 51'54 0°17'01
minimum elong	3778 Apr 27 01:28	7° $\mathcal{B}$ 45'11	0°32'46	max. Earth dist.	3784 May 21 14:22	1° $\mathcal{I}$ 53'47 20.84681 AU
max. Earth dist.	3778 Apr 27 21:20	7° $\mathcal{B}$ 48'01	21.03012 AU	morning rise	3784 Jun 06 10:24	2° $\mathcal{I}$ 47'56
morning rise	3778 May 13 05:01	8° $\mathcal{B}$ 40'11		retrograde	3784 Sep 09 00:51	5° $\mathcal{I}$ 56'58

opposition	3784 Nov 25 06:42	3°II56'35 -0°17'06	minimum elong	3790 Jun 15 23:18	26°II34'33 0°02'14
min. Earth dist.	3784 Nov 24 19:50	3°II57'42 18.82561 AU	behind sun begin	3790 Jun 15 16:34	26°II33'36
direct	3785 Feb 08 04:07	1°II58'55	behind sun end	3790 Jun 16 06:01	26°II35'30
evening set	3785 May 09 04:19	4°II59'50	max. Earth dist.	3790 Jun 16 04:00	26°II35'11 20.55328 AU
			morning rise	3790 Jul 02 13:19	27°II32'01
conjunction	3785 May 25 11:00	5°II55'36 -0°13'59		3790 Aug 23 17:00	0°☾
minimum elong	3785 May 25 11:00	5°II55'36 0°13'59	retrograde	3790 Oct 05 01:21	0°☾44'07
behind sun begin	3785 May 25 07:42	5°II55'08		3790 Nov 17 03:36	30°R II
behind sun end	3785 May 25 14:18	5°II56'04	opposition	3790 Dec 20 10:29	28°II43'10 0°04'15
max. Earth dist.	3785 May 25 22:06	5°II57'11 20.80380 AU	min. Earth dist.	3790 Dec 20 07:24	28°II43'30 18.52458 AU
morning rise	3785 Jun 10 21:13	6°II51'52	direct	3791 Mar 05 02:44	26°II44'03
retrograde	3785 Sep 13 11:39	10°II01'19	evening set	3791 Jun 04 01:48	29°II49'56
opposition	3785 Nov 29 14:20	8°II00'47 -0°13'42		3791 Jun 07 00:16	0°☾
min. Earth dist.	3785 Nov 29 04:25	8°II01'48 18.78133 AU			
direct	3786 Feb 12 10:37	6°II02'52	conjunction	3791 Jun 20 13:54	0°☾47'17 0°05'32
evening set	3786 May 13 13:49	9°II04'27	minimum elong	3791 Jun 20 13:54	0°☾47'17 0°05'32
			behind sun begin	3791 Jun 20 07:25	0°☾46'22
conjunction	3786 May 29 21:33	10°II00'27 -0°10'53	behind sun end	3791 Jun 20 20:22	0°☾48'12
minimum elong	3786 May 29 21:34	10°II00'27 0°10'54	max. Earth dist.	3791 Jun 20 15:34	0°☾47'29 20.49551 AU
behind sun begin	3786 May 29 16:31	9°II59'44	morning rise	3791 Jul 07 04:44	1°☾45'01
behind sun end	3786 May 30 02:36	10°II01'09	retrograde	3791 Oct 09 15:50	4°☾57'43
max. Earth dist.	3786 May 30 08:14	10°II01'58 20.75825 AU	opposition	3791 Dec 24 20:47	2°☾56'39 0°07'56
morning rise	3786 Jun 15 08:30	10°II56'56	min. Earth dist.	3791 Dec 24 19:37	2°☾56'46 18.46540 AU
retrograde	3786 Sep 17 22:36	14°II06'50	direct	3792 Mar 08 12:17	0°☾57'12
opposition	3786 Dec 03 22:25	12°II06'12 -0°10'13	evening set	3792 Jun 07 16:24	4°☾04'06
min. Earth dist.	3786 Dec 03 13:44	12°II07'06 18.73457 AU			
direct	3787 Feb 16 17:47	10°II08'05	conjunction	3792 Jun 24 05:30	5°☾01'44 0°08'50
evening set	3787 May 17 23:59	13°II10'22	minimum elong	3792 Jun 24 05:29	5°☾01'44 0°08'50
			behind sun begin	3792 Jun 23 23:43	5°☾00'55
conjunction	3787 Jun 03 08:33	14°II06'37 -0°07'43	behind sun end	3792 Jun 24 11:16	5°☾02'33
minimum elong	3787 Jun 03 08:33	14°II06'37 0°07'44	max. Earth dist.	3792 Jun 24 06:15	5°☾01'50 20.43483 AU
behind sun begin	3787 Jun 03 02:31	14°II05'46	morning rise	3792 Jul 10 20:48	5°☾59'44
behind sun end	3787 Jun 03 14:35	14°II07'28	retrograde	3792 Oct 13 06:53	9°☾12'59
max. Earth dist.	3787 Jun 03 17:03	14°II07'49 20.71051 AU	opposition	3792 Dec 28 07:34	7°☾11'48 0°11'36
morning rise	3787 Jun 19 20:28	15°II03'20	min. Earth dist.	3792 Dec 28 07:51	7°☾11'46 18.40325 AU
retrograde	3787 Sep 22 10:39	18°II13'46	direct	3793 Mar 12 23:16	5°☾12'00
opposition	3787 Dec 08 06:51	16°II13'01 -0°06'40	evening set	3793 Jun 12 08:09	8°☾19'56
min. Earth dist.	3787 Dec 07 23:15	16°II13'48 18.68572 AU			
direct	3788 Feb 21 01:07	14°II14'39	conjunction	3793 Jun 28 21:52	9°☾17'51 0°12'07
evening set	3788 May 21 11:00	17°II17'45	minimum elong	3793 Jun 28 21:52	9°☾17'51 0°12'07
			behind sun begin	3793 Jun 28 17:23	9°☾17'12
conjunction	3788 Jun 06 20:36	18°II14'16 -0°04'30	behind sun end	3793 Jun 29 02:21	9°☾18'29
minimum elong	3788 Jun 06 20:37	18°II14'16 0°04'30	max. Earth dist.	3793 Jun 28 19:24	9°☾17'30 20.37150 AU
behind sun begin	3788 Jun 06 14:02	18°II13'20	morning rise	3793 Jul 15 13:54	10°☾16'06
behind sun end	3788 Jun 07 03:12	18°II15'12	retrograde	3793 Oct 17 22:01	13°☾29'56
max. Earth dist.	3788 Jun 07 04:41	18°II15'25 20.66052 AU	opposition	3794 Jan 01 18:47	11°☾28'35 0°15'13
morning rise	3788 Jun 23 09:12	19°II11'14	min. Earth dist.	3794 Jan 01 21:11	11°☾28'20 18.33885 AU
retrograde	3788 Sep 25 22:35	22°II22'11	direct	3794 Mar 17 09:53	9°☾28'22
opposition	3788 Dec 11 15:34	20°II21'23 -0°03'04	evening set	3794 Jun 17 00:34	12°☾37'22
min. Earth dist.	3788 Dec 11 09:22	20°II22'02 18.63454 AU			
direct	3789 Feb 24 09:04	18°II22'48	conjunction	3794 Jul 03 15:10	13°☾35'35 0°15'21
evening set	3789 May 25 23:02	21°II26'46	minimum elong	3794 Jul 03 15:10	13°☾35'35 0°15'20
			behind sun begin	3794 Jul 03 13:32	13°☾35'21
conjunction	3789 Jun 11 09:28	22°II23'33 -0°01'12	behind sun end	3794 Jul 03 16:49	13°☾35'49
minimum elong	3789 Jun 11 09:28	22°II23'33 0°01'13	max. Earth dist.	3794 Jul 03 11:56	13°☾35'07 20.30613 AU
behind sun begin	3789 Jun 11 02:45	22°II22'36	morning rise	3794 Jul 20 07:31	14°☾34'06
behind sun end	3789 Jun 11 16:10	22°II24'29	retrograde	3794 Oct 22 14:40	17°☾48'30
max. Earth dist.	3789 Jun 11 14:54	22°II24'18 20.60826 AU	opposition	3795 Jan 06 06:33	15°☾46'58 0°18'47
morning rise	3789 Jun 27 22:58	23°II20'46	min. Earth dist.	3795 Jan 06 10:06	15°☾46'35 18.27269 AU
retrograde	3789 Sep 30 12:08	26°II32'17	direct	3795 Mar 21 22:26	13°☾46'21
asc. node	3789 Oct 18 15:59	26°II24'05	evening set	3795 Jun 21 17:49	16°☾56'26
opposition	3789 Dec 16 00:49	24°II31'25 0°00'35			
min. Earth dist.	3789 Dec 15 20:13	24°II31'53 18.58100 AU	conjunction	3795 Jul 08 08:55	17°☾54'56 0°18'31
direct	3790 Feb 28 17:30	22°II32'34	minimum elong	3795 Jul 08 08:55	17°☾54'56 0°18'32
evening set	3790 May 30 11:54	25°II37'29	max. Earth dist.	3795 Jul 08 02:44	17°☾54'02 20.23949 AU
			morning rise	3795 Jul 25 01:52	18°☾53'42
conjunction	3790 Jun 15 23:17	26°II34'33 0°02'13	retrograde	3795 Oct 27 06:32	22°☾08'41



opposition	3796 Jan 10 18:55	20° $\Omega$ 06'57	0°22'16	direct	3802 Apr 22 06:20	14° $\Omega$ 39'08	
min. Earth dist.	3796 Jan 11 00:31	20° $\Omega$ 06'21	18.20577 AU		3802 May 20 07:29	15° $\Omega$	
direct	3796 Mar 25 10:29	18° $\Omega$ 05'53		evening set	3802 Jul 24 19:19	17° $\Omega$ 57'36	
evening set	3796 Jun 25 11:56	21° $\Omega$ 17'06					
				conjunction	3802 Aug 10 13:18	18° $\Omega$ 58'01	0°37'12
conjunction	3796 Jul 12 03:50	22° $\Omega$ 15'54	0°21'36	minimum elong	3802 Aug 10 13:18	18° $\Omega$ 58'01	0°37'12
minimum elong	3796 Jul 12 03:49	22° $\Omega$ 15'54	0°21'36	max. Earth dist.	3802 Aug 09 21:32	18° $\Omega$ 55'37	19.79319 AU
max. Earth dist.	3796 Jul 11 21:05	22° $\Omega$ 14'54	20.17233 AU	morning rise	3802 Aug 27 06:55	19° $\Omega$ 58'24	
morning rise	3796 Jul 28 20:59	23° $\Omega$ 14'56		retrograde	3802 Nov 28 17:53	23° $\Omega$ 17'23	
retrograde	3796 Oct 31 00:17	26° $\Omega$ 30'27		opposition	3803 Feb 11 02:30	21° $\Omega$ 14'54	0°42'29
opposition	3797 Jan 14 07:38	24° $\Omega$ 28'33	0°25'39	min. Earth dist.	3803 Feb 11 15:47	21° $\Omega$ 13'27	17.76500 AU
min. Earth dist.	3797 Jan 14 14:04	24° $\Omega$ 27'51	18.13859 AU	direct	3803 Apr 27 01:22	19° $\Omega$ 11'17	
direct	3797 Mar 30 00:12	22° $\Omega$ 27'04		evening set	3803 Jul 29 19:35	22° $\Omega$ 30'58	
evening set	3797 Jun 30 07:07	25° $\Omega$ 39'25					
				conjunction	3803 Aug 15 13:35	23° $\Omega$ 31'37	0°39'09
conjunction	3797 Jul 16 23:23	26° $\Omega$ 38'30	0°24'35	minimum elong	3803 Aug 15 13:35	23° $\Omega$ 31'37	0°39'09
minimum elong	3797 Jul 16 23:23	26° $\Omega$ 38'30	0°24'35	max. Earth dist.	3803 Aug 14 20:01	23° $\Omega$ 28'57	19.73716 AU
max. Earth dist.	3797 Jul 16 13:50	26° $\Omega$ 37'05	20.10532 AU	morning rise	3803 Sep 01 06:59	24° $\Omega$ 32'13	
morning rise	3797 Aug 02 16:57	27° $\Omega$ 37'47		retrograde	3803 Dec 03 14:11	27° $\Omega$ 51'45	
	3797 Sep 19 13:08	0° $\Omega$		opposition	3804 Feb 15 20:20	25° $\Omega$ 49'15	0°44'32
retrograde	3797 Nov 04 17:11	0° $\Omega$ 53'53		min. Earth dist.	3804 Feb 16 11:51	25° $\Omega$ 47'34	17.71008 AU
	3797 Dec 21 15:46	30° $\Omega$		direct	3804 Apr 30 19:55	23° $\Omega$ 45'21	
opposition	3798 Jan 18 21:09	28° $\Omega$ 51'48	0°28'54	evening set	3804 Aug 02 20:49	27° $\Omega$ 06'15	
min. Earth dist.	3798 Jan 19 05:36	28° $\Omega$ 50'53	18.07202 AU				
direct	3798 Apr 03 14:00	26° $\Omega$ 49'52		conjunction	3804 Aug 19 14:50	28° $\Omega$ 07'07	0°40'51
	3798 Jul 04 03:17	0° $\Omega$		minimum elong	3804 Aug 19 14:50	28° $\Omega$ 07'07	0°40'51
evening set	3798 Jul 05 02:52	0° $\Omega$ 03'25		max. Earth dist.	3804 Aug 18 20:02	28° $\Omega$ 04'15	19.68322 AU
				morning rise	3804 Sep 05 07:58	29° $\Omega$ 07'53	
conjunction	3798 Jul 21 19:44	1° $\Omega$ 02'47	0°27'26		3804 Sep 20 09:05	0° $\Omega$	
minimum elong	3798 Jul 21 19:44	1° $\Omega$ 02'47	0°27'26	retrograde	3804 Dec 07 12:37	2° $\Omega$ 27'56	
max. Earth dist.	3798 Jul 21 09:46	1° $\Omega$ 01'18	20.03917 AU	opposition	3805 Feb 19 14:40	0° $\Omega$ 25'24	0°46'19
morning rise	3798 Aug 07 13:20	2° $\Omega$ 02'18		min. Earth dist.	3805 Feb 20 06:25	0° $\Omega$ 23'42	17.65712 AU
retrograde	3798 Nov 09 11:40	5° $\Omega$ 18'58			3805 Mar 01 10:00	30° $\Omega$	
opposition	3799 Jan 23 11:11	3° $\Omega$ 16'44	0°32'00	direct	3805 May 05 17:15	28° $\Omega$ 21'13	
min. Earth dist.	3799 Jan 23 20:02	3° $\Omega$ 15'47	18.00652 AU		3805 Jul 07 13:55	0° $\Omega$	
direct	3799 Apr 08 05:13	1° $\Omega$ 14'26		evening set	3805 Aug 07 22:51	1° $\Omega$ 43'18	
evening set	3799 Jul 09 23:42	4° $\Omega$ 29'10					
				conjunction	3805 Aug 24 16:45	2° $\Omega$ 44'22	0°42'19
conjunction	3799 Jul 26 16:49	5° $\Omega$ 28'48	0°30'09	minimum elong	3805 Aug 24 16:45	2° $\Omega$ 44'22	0°42'19
minimum elong	3799 Jul 26 16:49	5° $\Omega$ 28'48	0°30'08	max. Earth dist.	3805 Aug 23 20:32	2° $\Omega$ 41'16	19.63114 AU
max. Earth dist.	3799 Jul 26 04:23	5° $\Omega$ 26'57	19.97447 AU	morning rise	3805 Sep 10 09:24	3° $\Omega$ 45'17	
morning rise	3799 Aug 12 10:39	6° $\Omega$ 28'33		retrograde	3805 Dec 12 09:44	7° $\Omega$ 05'47	
retrograde	3799 Nov 14 05:37	9° $\Omega$ 45'48		opposition	3806 Feb 24 10:02	5° $\Omega$ 03'15	0°47'49
opposition	3800 Jan 28 01:58	7° $\Omega$ 43'27	0°34'55	min. Earth dist.	3806 Feb 25 03:52	5° $\Omega$ 01'18	17.60623 AU
min. Earth dist.	3800 Jan 28 12:46	7° $\Omega$ 42'17	17.94288 AU	direct	3806 May 10 13:34	2° $\Omega$ 58'46	
direct	3800 Apr 12 20:28	5° $\Omega$ 40'45		evening set	3806 Aug 13 01:18	6° $\Omega$ 21'57	
evening set	3800 Jul 14 21:15	8° $\Omega$ 56'43					
				conjunction	3806 Aug 29 18:58	7° $\Omega$ 23'11	0°43'31
conjunction	3800 Jul 31 14:52	9° $\Omega$ 56'38	0°32'41	minimum elong	3806 Aug 29 18:58	7° $\Omega$ 23'11	0°43'30
minimum elong	3800 Jul 31 14:52	9° $\Omega$ 56'38	0°32'41	max. Earth dist.	3806 Aug 28 21:20	7° $\Omega$ 19'52	19.58144 AU
max. Earth dist.	3800 Jul 31 01:57	9° $\Omega$ 54'42	19.91183 AU	morning rise	3806 Sep 15 11:14	8° $\Omega$ 24'15	
morning rise	3800 Aug 17 08:40	10° $\Omega$ 56'37		retrograde	3806 Dec 17 09:11	11° $\Omega$ 45'11	
retrograde	3800 Nov 19 01:30	14° $\Omega$ 14'26		opposition	3807 Mar 01 05:53	9° $\Omega$ 42'35	0°49'00
opposition	3801 Feb 01 17:23	12° $\Omega$ 12'00	0°37'40	min. Earth dist.	3807 Mar 01 23:44	9° $\Omega$ 40'38	17.55782 AU
min. Earth dist.	3801 Feb 02 04:25	12° $\Omega$ 10'49	17.88128 AU	direct	3807 May 15 13:00	7° $\Omega$ 37'49	
direct	3801 Apr 17 13:36	10° $\Omega$ 08'59		evening set	3807 Aug 18 04:23	11° $\Omega$ 02'02	
evening set	3801 Jul 19 19:56	13° $\Omega$ 26'11					
				conjunction	3807 Sep 03 21:52	12° $\Omega$ 03'26	0°44'25
conjunction	3801 Aug 05 13:39	14° $\Omega$ 26'21	0°35'02	minimum elong	3807 Sep 03 21:52	12° $\Omega$ 03'26	0°44'25
minimum elong	3801 Aug 05 13:39	14° $\Omega$ 26'21	0°35'02	max. Earth dist.	3807 Sep 02 23:38	12° $\Omega$ 00'00	19.53435 AU
max. Earth dist.	3801 Aug 04 22:34	14° $\Omega$ 24'04	19.85130 AU	morning rise	3807 Sep 20 13:29	13° $\Omega$ 04'36	
	3801 Aug 14 21:02	15° $\Omega$		retrograde	3807 Dec 22 07:06	16° $\Omega$ 25'54	
morning rise	3801 Aug 22 07:27	15° $\Omega$ 26'33		opposition	3808 Mar 05 02:23	14° $\Omega$ 23'16	0°49'52
retrograde	3801 Nov 23 20:32	18° $\Omega$ 44'56		min. Earth dist.	3808 Mar 05 22:00	14° $\Omega$ 21'07	17.51236 AU
opposition	3802 Feb 06 09:37	16° $\Omega$ 42'28	0°40'11	direct	3808 May 19 10:44	12° $\Omega$ 18'11	
min. Earth dist.	3802 Feb 06 22:42	16° $\Omega$ 41'03	17.82201 AU	evening set	3808 Aug 22 08:01	15° $\Omega$ 43'23	
	3802 Mar 25 01:24	15° $\Omega$		max. Earth dist.	3808 Sep 07 01:18	16° $\Omega$ 41'14	19.49065 AU

conjunction	3808 Sep 08 01:04	16° <u>17</u> 44'55	0°45'02	opposition	3815 Apr 07 16:50	17° <u>03</u> 32'13	0°46'23
minimum elong	3808 Sep 08 01:04	16° <u>17</u> 44'55	0°45'02	min. Earth dist.	3815 Apr 08 12:31	17° <u>03</u> 30'04	17.32742 AU
morning rise	3808 Sep 24 16:13	17° <u>17</u> 46'12		direct	3815 Jun 22 17:46	15° <u>02</u> 55'58	
retrograde	3808 Dec 26 07:20	21° <u>17</u> 07'47		evening set	3815 Sep 26 13:56	18° <u>05</u> 55'29	
opposition	3809 Mar 09 23:27	19° <u>17</u> 05'06	0°50'24	max. Earth dist.	3815 Oct 12 04:31	19° <u>05</u> 53'49	19.32499 AU
min. Earth dist.	3809 Mar 10 18:57	19° <u>17</u> 02'58	17.47051 AU				
direct	3809 May 24 11:02	16° <u>17</u> 59'44		conjunction	3815 Oct 13 02:31	19° <u>05</u> 57'16	0°40'48
evening set	3809 Aug 27 11:51	20° <u>17</u> 25'49		minimum elong	3815 Oct 13 02:31	19° <u>05</u> 57'16	0°40'48
max. Earth dist.	3809 Sep 12 05:06	21° <u>17</u> 23'50	19.45070 AU	morning rise	3815 Oct 29 11:36	20° <u>05</u> 58'34	
				retrograde	3816 Jan 29 05:03	24° <u>05</u> 20'57	
conjunction	3809 Sep 13 04:34	21° <u>17</u> 27'28	0°45'21	opposition	3816 Apr 11 17:06	22° <u>05</u> 18'26	0°44'33
minimum elong	3809 Sep 13 04:34	21° <u>17</u> 27'28	0°45'21	min. Earth dist.	3816 Apr 12 12:06	22° <u>05</u> 16'21	17.32471 AU
morning rise	3809 Sep 29 18:51	22° <u>05</u> 28'49		direct	3816 Jun 26 21:48	20° <u>05</u> 12'13	
retrograde	3809 Dec 31 06:20	25° <u>05</u> 50'40		evening set	3816 Sep 30 18:22	23° <u>05</u> 41'59	
opposition	3810 Mar 14 21:11	23° <u>05</u> 47'56	0°50'35	max. Earth dist.	3816 Oct 16 07:43	24° <u>05</u> 40'12	19.32519 AU
min. Earth dist.	3810 Mar 15 17:50	23° <u>05</u> 45'41	17.43277 AU				
direct	3810 May 29 10:14	21° <u>05</u> 42'19		conjunction	3816 Oct 17 05:55	24° <u>05</u> 43'41	0°39'00
evening set	3810 Sep 01 16:02	25° <u>05</u> 09'11		minimum elong	3816 Oct 17 05:55	24° <u>05</u> 43'41	0°39'00
max. Earth dist.	3810 Sep 17 07:22	26° <u>05</u> 07'04	19.41537 AU	morning rise	3816 Nov 02 14:04	25° <u>05</u> 44'54	
				retrograde	3817 Feb 02 04:09	29° <u>05</u> 07'12	
conjunction	3810 Sep 18 08:06	26° <u>05</u> 10'55	0°45'21	opposition	3817 Apr 16 17:55	27° <u>05</u> 04'49	0°42'24
minimum elong	3810 Sep 18 08:06	26° <u>05</u> 10'55	0°45'22	min. Earth dist.	3817 Apr 17 12:55	27° <u>05</u> 02'45	17.32772 AU
morning rise	3810 Oct 04 21:49	27° <u>05</u> 12'20		direct	3817 Jul 02 00:23	24° <u>05</u> 58'40	
	3810 Nov 30 20:54	0° <u>05</u>		evening set	3817 Oct 05 22:19	28° <u>05</u> 28'33	
retrograde	3811 Jan 05 06:35	0° <u>05</u> 34'23					
	3811 Feb 10 04:44	30° <u>05</u>		conjunction	3817 Oct 22 08:59	29° <u>05</u> 30'09	0°36'57
opposition	3811 Mar 19 19:17	28° <u>05</u> 31'36	0°50'26	minimum elong	3817 Oct 22 08:59	29° <u>05</u> 30'09	0°36'58
min. Earth dist.	3811 Mar 20 15:37	28° <u>05</u> 29'23	17.40002 AU	max. Earth dist.	3817 Oct 21 12:10	29° <u>05</u> 26'53	19.33081 AU
direct	3811 Jun 03 10:47	26° <u>05</u> 25'44			3817 Oct 30 06:42	0° <u>05</u>	
evening set	3811 Sep 06 20:11	29° <u>05</u> 53'19		morning rise	3817 Nov 07 16:02	0° <u>05</u> 31'15	
	3811 Sep 08 16:00	0° <u>05</u>		retrograde	3818 Feb 07 04:58	3° <u>05</u> 53'26	
				opposition	3818 Apr 21 18:58	1° <u>05</u> 51'12	0°39'58
conjunction	3811 Sep 23 11:51	0° <u>05</u> 55'08	0°45'03	min. Earth dist.	3818 Apr 22 12:45	1° <u>05</u> 49'16	17.33575 AU
minimum elong	3811 Sep 23 11:51	0° <u>05</u> 55'08	0°45'03		3818 Jun 13 05:18	30° <u>05</u>	
max. Earth dist.	3811 Sep 22 12:10	0° <u>05</u> 51'27	19.38518 AU	direct	3818 Jul 07 04:54	29° <u>05</u> 45'08	
morning rise	3811 Oct 10 00:37	1° <u>05</u> 56'34			3818 Jul 30 20:16	0° <u>05</u>	
retrograde	3812 Jan 10 06:10	5° <u>05</u> 18'46		evening set	3818 Oct 11 02:08	3° <u>05</u> 15'00	
opposition	3812 Mar 23 18:02	3° <u>05</u> 15'58	0°49'56				
min. Earth dist.	3812 Mar 24 14:48	3° <u>05</u> 13'41	17.37259 AU	conjunction	3818 Oct 27 11:45	4° <u>05</u> 16'29	0°34'38
direct	3812 Jun 07 11:35	1° <u>05</u> 09'55		minimum elong	3818 Oct 27 11:45	4° <u>05</u> 16'29	0°34'39
evening set	3812 Sep 11 00:45	4° <u>05</u> 38'07		max. Earth dist.	3818 Oct 26 15:17	4° <u>05</u> 13'16	19.34128 AU
				morning rise	3818 Nov 12 17:45	5° <u>05</u> 17'27	
conjunction	3812 Sep 27 15:34	5° <u>05</u> 39'57	0°44'26	retrograde	3819 Feb 12 04:05	8° <u>05</u> 39'26	
minimum elong	3812 Sep 27 15:34	5° <u>05</u> 39'57	0°44'27	opposition	3819 Apr 26 20:12	6° <u>05</u> 37'19	0°37'16
max. Earth dist.	3812 Sep 26 14:53	5° <u>05</u> 36'06	19.36069 AU	min. Earth dist.	3819 Apr 27 14:09	6° <u>05</u> 35'23	17.34863 AU
morning rise	3812 Oct 14 03:36	6° <u>05</u> 41'24		direct	3819 Jul 12 07:22	4° <u>05</u> 31'21	
retrograde	3813 Jan 14 05:42	10° <u>05</u> 03'43		evening set	3819 Oct 16 05:29	8° <u>05</u> 01'06	
opposition	3813 Mar 28 17:07	8° <u>05</u> 00'54	0°49'05				
min. Earth dist.	3813 Mar 29 13:28	7° <u>05</u> 58'41	17.35121 AU	conjunction	3819 Nov 01 14:07	9° <u>05</u> 02'26	0°32'06
direct	3813 Jun 12 12:49	5° <u>05</u> 54'43		minimum elong	3819 Nov 01 14:07	9° <u>05</u> 02'26	0°32'06
evening set	3813 Sep 16 05:11	9° <u>05</u> 23'28		max. Earth dist.	3819 Oct 31 18:36	8° <u>05</u> 59'22	19.35646 AU
				morning rise	3819 Nov 17 19:07	10° <u>05</u> 03'15	
conjunction	3813 Oct 02 19:25	10° <u>05</u> 25'19	0°43'31	retrograde	3820 Feb 17 04:43	13° <u>05</u> 24'57	
minimum elong	3813 Oct 02 19:25	10° <u>05</u> 25'19	0°43'31	opposition	3820 Apr 30 21:31	11° <u>05</u> 22'59	0°34'17
max. Earth dist.	3813 Oct 01 20:17	10° <u>05</u> 21'41	19.34241 AU	min. Earth dist.	3820 May 01 13:52	11° <u>05</u> 21'13	17.36585 AU
morning rise	3813 Oct 19 06:22	11° <u>05</u> 26'43		direct	3820 Jul 16 11:51	9° <u>05</u> 17'08	
retrograde	3814 Jan 19 05:44	14° <u>05</u> 49'06		evening set	3820 Oct 20 08:22	12° <u>05</u> 46'38	
opposition	3814 Apr 02 16:49	12° <u>05</u> 46'21	0°47'54				
min. Earth dist.	3814 Apr 03 12:49	12° <u>05</u> 44'10	17.33607 AU	conjunction	3820 Nov 05 15:57	13° <u>05</u> 47'47	0°29'20
direct	3814 Jun 17 15:35	10° <u>05</u> 40'07		minimum elong	3820 Nov 05 15:57	13° <u>05</u> 47'47	0°29'20
evening set	3814 Sep 21 09:35	14° <u>05</u> 09'17		max. Earth dist.	3820 Nov 04 21:27	13° <u>05</u> 44'53	19.37580 AU
				morning rise	3820 Nov 21 19:49	14° <u>05</u> 48'26	
conjunction	3814 Oct 07 22:52	15° <u>05</u> 11'06	0°42'18		3820 Nov 24 23:29	15° <u>05</u>	
minimum elong	3814 Oct 07 22:52	15° <u>05</u> 11'06	0°42'18	retrograde	3821 Feb 21 03:18	18° <u>05</u> 09'49	
max. Earth dist.	3814 Oct 06 23:15	15° <u>05</u> 07'24	19.33055 AU	opposition	3821 May 05 23:01	16° <u>05</u> 07'58	0°31'06
morning rise	3814 Oct 24 09:02	16° <u>05</u> 12'28		min. Earth dist.	3821 May 06 15:28	16° <u>05</u> 06'12	17.38734 AU
retrograde	3815 Jan 24 04:41	19° <u>05</u> 34'53			3821 Jun 02 17:51	15° <u>05</u>	

direct	3821 Jul 21 14:18	14° $\mathbb{M}$ 02'14		min. Earth dist.	3827 Jun 04 11:24	14° $\mathbb{A}$ 12'36	17.60815 AU
	3821 Sep 07 02:12	15° $\mathbb{M}$		direct	3827 Aug 20 06:12	12° $\mathbb{A}$ 08'53	
evening set	3821 Oct 25 10:39	17° $\mathbb{M}$ 31'22		evening set	3827 Nov 23 07:10	15° $\mathbb{A}$ 33'50	
conjunction	3821 Nov 10 17:07	18° $\mathbb{M}$ 32'20	0°26'22	conjunction	3827 Dec 09 07:19	16° $\mathbb{A}$ 33'16	0°05'58
minimum elong	3821 Nov 10 17:07	18° $\mathbb{M}$ 32'20	0°26'22	minimum elong	3827 Dec 09 07:19	16° $\mathbb{A}$ 33'16	0°05'59
max. Earth dist.	3821 Nov 09 23:25	18° $\mathbb{M}$ 29'33	19.39950 AU	behind sun begin	3827 Dec 09 01:01	16° $\mathbb{A}$ 32'19	
morning rise	3821 Nov 26 20:03	19° $\mathbb{M}$ 32'47		behind sun end	3827 Dec 09 13:38	16° $\mathbb{A}$ 34'14	
retrograde	3822 Feb 26 03:18	22° $\mathbb{M}$ 53'49		max. Earth dist.	3827 Dec 08 23:19	16° $\mathbb{A}$ 32'03	19.63420 AU
opposition	3822 May 11 00:18	20° $\mathbb{M}$ 52'04	0°27'41	morning rise	3827 Dec 25 04:38	17° $\mathbb{A}$ 32'17	
min. Earth dist.	3822 May 11 14:44	20° $\mathbb{M}$ 50'31	17.41305 AU	retrograde	3828 Mar 25 09:42	20° $\mathbb{A}$ 50'22	
direct	3822 Jul 26 18:36	18° $\mathbb{M}$ 46'28		opposition	3828 Jun 08 03:11	18° $\mathbb{A}$ 49'20	0°04'36
evening set	3822 Oct 30 12:02	22° $\mathbb{M}$ 15'07		min. Earth dist.	3828 Jun 08 08:33	18° $\mathbb{A}$ 48'46	17.66111 AU
				direct	3828 Aug 24 07:36	16° $\mathbb{A}$ 45'08	
conjunction	3822 Nov 15 17:33	23° $\mathbb{M}$ 15'52	0°23'14	evening set	3828 Nov 27 03:24	20° $\mathbb{A}$ 09'09	
minimum elong	3822 Nov 15 17:33	23° $\mathbb{M}$ 15'52	0°23'15				
max. Earth dist.	3822 Nov 15 01:40	23° $\mathbb{M}$ 13'23	19.42733 AU	conjunction	3828 Dec 13 02:46	21° $\mathbb{A}$ 08'19	0°02'22
morning rise	3822 Dec 01 19:22	24° $\mathbb{M}$ 16'07		minimum elong	3828 Dec 13 02:45	21° $\mathbb{A}$ 08'19	0°02'22
retrograde	3823 Mar 03 00:48	27° $\mathbb{M}$ 36'44		behind sun begin	3828 Dec 12 20:09	21° $\mathbb{A}$ 07'19	
opposition	3823 May 16 01:35	25° $\mathbb{M}$ 35'04	0°24'06	behind sun end	3828 Dec 13 09:21	21° $\mathbb{A}$ 09'19	
min. Earth dist.	3823 May 16 15:55	25° $\mathbb{M}$ 33'32	17.44297 AU	max. Earth dist.	3828 Dec 12 21:52	21° $\mathbb{A}$ 07'35	19.68919 AU
direct	3823 Jul 31 20:38	23° $\mathbb{M}$ 29'37		morning rise	3828 Dec 28 23:04	22° $\mathbb{A}$ 07'03	
evening set	3823 Nov 04 12:52	26° $\mathbb{M}$ 57'42		retrograde	3829 Mar 30 03:56	25° $\mathbb{A}$ 24'36	
				opposition	3829 Jun 13 02:32	23° $\mathbb{A}$ 23'47	0°00'35
conjunction	3823 Nov 20 17:12	27° $\mathbb{M}$ 58'13	0°19'58	min. Earth dist.	3829 Jun 13 06:37	23° $\mathbb{A}$ 23'21	17.71787 AU
minimum elong	3823 Nov 20 17:13	27° $\mathbb{M}$ 58'13	0°19'57	desc. node	3829 Aug 05 16:15	21° $\mathbb{A}$ 34'01	
max. Earth dist.	3823 Nov 20 02:00	27° $\mathbb{M}$ 55'50	19.45951 AU	direct	3829 Aug 29 07:46	21° $\mathbb{A}$ 19'58	
morning rise	3823 Dec 06 18:10	28° $\mathbb{M}$ 58'14		evening set	3829 Dec 01 23:00	24° $\mathbb{A}$ 43'00	
	3823 Dec 24 05:15	0° $\mathbb{A}$					
retrograde	3824 Mar 06 23:47	2° $\mathbb{A}$ 18'23		conjunction	3829 Dec 17 21:13	25° $\mathbb{A}$ 41'51	-0°01'21
opposition	3824 May 20 02:22	0° $\mathbb{A}$ 16'49	0°20'23	minimum elong	3829 Dec 17 21:14	25° $\mathbb{A}$ 41'51	0°01'20
min. Earth dist.	3824 May 20 14:26	0° $\mathbb{A}$ 15'31	17.47724 AU	behind sun begin	3829 Dec 17 14:38	25° $\mathbb{A}$ 40'52	
	3824 May 26 16:06	30° $\mathbb{R}$ $\mathbb{M}$		behind sun end	3829 Dec 18 03:50	25° $\mathbb{A}$ 42'51	
direct	3824 Aug 05 00:20	28° $\mathbb{M}$ 11'31		max. Earth dist.	3829 Dec 17 17:10	25° $\mathbb{A}$ 41'16	19.74772 AU
	3824 Oct 10 09:26	0° $\mathbb{A}$		morning rise	3830 Jan 02 16:59	26° $\mathbb{A}$ 40'20	
evening set	3824 Nov 08 12:45	1° $\mathbb{A}$ 38'56		retrograde	3830 Apr 03 23:27	29° $\mathbb{A}$ 57'20	
				opposition	3830 Jun 18 01:17	27° $\mathbb{A}$ 56'43	-0°03'25
conjunction	3824 Nov 24 16:08	2° $\mathbb{A}$ 39'12	0°16'34	min. Earth dist.	3830 Jun 18 03:19	27° $\mathbb{A}$ 56'31	17.77794 AU
minimum elong	3824 Nov 24 16:09	2° $\mathbb{A}$ 39'12	0°16'34	direct	3830 Sep 03 06:44	25° $\mathbb{A}$ 53'18	
max. Earth dist.	3824 Nov 24 03:27	2° $\mathbb{A}$ 37'13	19.49604 AU	evening set	3830 Dec 06 17:30	29° $\mathbb{A}$ 15'18	
morning rise	3824 Dec 10 15:59	3° $\mathbb{A}$ 38'59			3830 Dec 18 21:23	0° $\mathbb{B}$	
retrograde	3825 Mar 11 20:13	6° $\mathbb{A}$ 58'38					
opposition	3825 May 25 03:14	4° $\mathbb{A}$ 57'10	0°16'32	conjunction	3830 Dec 22 15:01	0° $\mathbb{B}$ 13'52	-0°04'57
min. Earth dist.	3825 May 25 14:42	4° $\mathbb{A}$ 55'57	17.51607 AU	minimum elong	3830 Dec 22 15:01	0° $\mathbb{B}$ 13'52	0°04'57
direct	3825 Aug 10 02:11	2° $\mathbb{A}$ 52'05		behind sun begin	3830 Dec 22 08:36	0° $\mathbb{B}$ 12'54	
evening set	3825 Nov 13 11:42	6° $\mathbb{A}$ 18'43		behind sun end	3830 Dec 22 21:27	0° $\mathbb{B}$ 14'50	
				max. Earth dist.	3830 Dec 22 13:49	0° $\mathbb{B}$ 13'43	19.80905 AU
conjunction	3825 Nov 29 13:54	7° $\mathbb{A}$ 18'43	0°13'05	morning rise	3831 Jan 07 09:57	1° $\mathbb{B}$ 12'05	
minimum elong	3825 Nov 29 13:54	7° $\mathbb{A}$ 18'43	0°13'06	retrograde	3831 Apr 08 17:20	4° $\mathbb{B}$ 28'30	
behind sun begin	3825 Nov 29 09:54	7° $\mathbb{A}$ 18'07		opposition	3831 Jun 22 23:41	2° $\mathbb{B}$ 28'07	-0°07'22
behind sun end	3825 Nov 29 17:53	7° $\mathbb{A}$ 19'20		min. Earth dist.	3831 Jun 23 00:17	2° $\mathbb{B}$ 28'03	17.84022 AU
max. Earth dist.	3825 Nov 29 02:06	7° $\mathbb{A}$ 16'53	19.53733 AU	direct	3831 Sep 08 05:36	0° $\mathbb{B}$ 25'06	
morning rise	3825 Dec 15 12:58	8° $\mathbb{A}$ 18'16		evening set	3831 Dec 11 11:23	3° $\mathbb{B}$ 46'02	
retrograde	3826 Mar 16 17:52	11° $\mathbb{A}$ 37'25					
opposition	3826 May 30 03:36	9° $\mathbb{A}$ 36'02	0°12'36	conjunction	3831 Dec 27 07:53	4° $\mathbb{B}$ 44'17	-0°08'28
min. Earth dist.	3826 May 30 12:26	9° $\mathbb{A}$ 35'06	17.55975 AU	minimum elong	3831 Dec 27 07:52	4° $\mathbb{B}$ 44'17	0°08'28
direct	3826 Aug 15 05:03	7° $\mathbb{A}$ 31'12		behind sun begin	3831 Dec 27 02:05	4° $\mathbb{B}$ 43'25	
evening set	3826 Nov 18 09:46	10° $\mathbb{A}$ 57'01		behind sun end	3831 Dec 27 13:40	4° $\mathbb{B}$ 45'09	
				max. Earth dist.	3831 Dec 27 07:22	4° $\mathbb{B}$ 44'12	19.87222 AU
conjunction	3826 Dec 04 11:06	11° $\mathbb{A}$ 56'45	0°09'33	morning rise	3832 Jan 12 02:16	5° $\mathbb{B}$ 42'13	
minimum elong	3826 Dec 04 11:06	11° $\mathbb{A}$ 56'45	0°09'32	retrograde	3832 Apr 12 11:25	8° $\mathbb{B}$ 58'04	
behind sun begin	3826 Dec 04 05:35	11° $\mathbb{A}$ 55'54		opposition	3832 Jun 26 21:32	6° $\mathbb{B}$ 57'53	-0°11'16
behind sun end	3826 Dec 04 16:37	11° $\mathbb{A}$ 57'35		min. Earth dist.	3832 Jun 26 20:33	6° $\mathbb{B}$ 57'59	17.90418 AU
max. Earth dist.	3826 Dec 04 02:17	11° $\mathbb{A}$ 55'23	19.58340 AU	direct	3832 Sep 12 02:17	4° $\mathbb{B}$ 55'15	
morning rise	3826 Dec 20 09:06	12° $\mathbb{A}$ 56'01		evening set	3832 Dec 15 04:15	8° $\mathbb{B}$ 15'04	
retrograde	3827 Mar 21 13:07	16° $\mathbb{A}$ 14'38					
opposition	3827 Jun 04 03:34	14° $\mathbb{A}$ 13'26	0°08'37	conjunction	3832 Dec 31 00:05	9° $\mathbb{B}$ 13'02	-0°11'55

minimum elong	3832 Dec 31 00:05	9° $\overline{3}$ 13'02	0°11'54	minimum elong	3839 Jan 26 07:06	5° $\approx$ 26'18	0°30'07
behind sun begin	3832 Dec 30 19:28	9° $\overline{3}$ 12'20		max. Earth dist.	3839 Jan 26 17:58	5° $\approx$ 27'56	20.32128 AU
behind sun end	3832 Dec 31 04:42	9° $\overline{3}$ 13'43		morning rise	3839 Feb 10 22:47	6° $\approx$ 22'26	
max. Earth dist.	3832 Dec 31 02:08	9° $\overline{3}$ 13'20	19.93671 AU	retrograde	3839 May 13 23:58	9° $\approx$ 34'02	
morning rise	3833 Jan 15 17:45	10° $\overline{3}$ 10'41		opposition	3839 Jul 29 13:16	7° $\approx$ 34'34	-0°34'46
retrograde	3833 Apr 17 05:09	13° $\overline{3}$ 25'56		min. Earth dist.	3839 Jul 29 01:34	7° $\approx$ 35'45	18.35256 AU
opposition	3833 Jul 01 18:57	11° $\overline{3}$ 25'56	-0°15'04	direct	3839 Oct 14 16:41	5° $\approx$ 34'16	
min. Earth dist.	3833 Jul 01 16:19	11° $\overline{3}$ 26'13	17.96897 AU	evening set	3840 Jan 15 01:28	8° $\approx$ 45'45	
direct	3833 Sep 17 00:26	9° $\overline{3}$ 23'43					
evening set	3833 Dec 19 20:17	12° $\overline{3}$ 42'22		conjunction	3840 Jan 30 17:17	9° $\approx$ 41'42	-0°32'34
				minimum elong	3840 Jan 30 17:17	9° $\approx$ 41'42	0°32'34
conjunction	3834 Jan 04 15:14	13° $\overline{3}$ 40'01	-0°15'16	max. Earth dist.	3840 Jan 31 05:29	9° $\approx$ 43'32	20.38386 AU
minimum elong	3834 Jan 04 15:14	13° $\overline{3}$ 40'01	0°15'17	morning rise	3840 Feb 15 08:53	10° $\approx$ 37'37	
behind sun begin	3834 Jan 04 12:57	13° $\overline{3}$ 39'40		retrograde	3840 May 17 12:25	13° $\approx$ 48'41	
behind sun end	3834 Jan 04 17:31	13° $\overline{3}$ 40'21		opposition	3840 Aug 02 05:57	11° $\approx$ 49'17	-0°37'22
max. Earth dist.	3834 Jan 04 18:01	13° $\overline{3}$ 40'26	20.00169 AU	min. Earth dist.	3840 Aug 01 17:31	11° $\approx$ 50'33	18.41516 AU
morning rise	3834 Jan 20 08:32	14° $\overline{3}$ 37'25		direct	3840 Oct 18 06:58	9° $\approx$ 49'20	
retrograde	3834 Apr 21 21:50	17° $\overline{3}$ 52'04		evening set	3841 Jan 18 11:19	12° $\approx$ 59'41	
opposition	3834 Jul 06 15:47	15° $\overline{3}$ 52'13	-0°18'44				
min. Earth dist.	3834 Jul 06 11:58	15° $\overline{3}$ 52'36	18.03411 AU	conjunction	3841 Feb 03 02:56	13° $\approx$ 55'23	-0°34'50
direct	3834 Sep 21 19:22	13° $\overline{3}$ 50'21		minimum elong	3841 Feb 03 02:56	13° $\approx$ 55'23	0°34'50
evening set	3834 Dec 24 11:25	17° $\overline{3}$ 07'50		max. Earth dist.	3841 Feb 03 16:55	13° $\approx$ 57'29	20.44631 AU
				morning rise	3841 Feb 18 18:26	14° $\approx$ 51'05	
conjunction	3835 Jan 09 05:49	18° $\overline{3}$ 05'11	-0°18'32		3841 Feb 21 07:54	15° $\approx$	
minimum elong	3835 Jan 09 05:49	18° $\overline{3}$ 05'11	0°18'31	retrograde	3841 May 22 01:16	18° $\approx$ 01'39	
max. Earth dist.	3835 Jan 09 10:46	18° $\overline{3}$ 05'56	20.06670 AU	opposition	3841 Aug 06 21:45	16° $\approx$ 02'21	-0°39'46
morning rise	3835 Jan 24 22:32	19° $\overline{3}$ 02'18		min. Earth dist.	3841 Aug 06 06:50	16° $\approx$ 03'51	18.47733 AU
retrograde	3835 Apr 26 14:34	22° $\overline{3}$ 16'20			3841 Sep 02 21:06	15° $\approx$	
opposition	3835 Jul 11 11:44	20° $\overline{3}$ 16'37	-0°22'17	direct	3841 Oct 22 22:41	14° $\approx$ 02'45	
min. Earth dist.	3835 Jul 11 06:10	20° $\overline{3}$ 17'11	18.09883 AU		3841 Dec 09 19:54	15° $\approx$	
direct	3835 Sep 26 16:39	18° $\overline{3}$ 15'06		evening set	3842 Jan 22 20:28	17° $\approx$ 12'01	
evening set	3835 Dec 29 01:47	21° $\overline{3}$ 31'23					
				conjunction	3842 Feb 07 11:49	18° $\approx$ 07'30	-0°36'54
conjunction	3836 Jan 13 19:26	22° $\overline{3}$ 28'26	-0°21'39	minimum elong	3842 Feb 07 11:49	18° $\approx$ 07'30	0°36'54
minimum elong	3836 Jan 13 19:26	22° $\overline{3}$ 28'26	0°21'39	max. Earth dist.	3842 Feb 08 03:06	18° $\approx$ 09'46	20.50803 AU
max. Earth dist.	3836 Jan 14 01:09	22° $\overline{3}$ 29'18	20.13116 AU	morning rise	3842 Feb 23 03:25	19° $\approx$ 03'00	
morning rise	3836 Jan 29 11:53	23° $\overline{3}$ 25'19		retrograde	3842 May 26 12:39	22° $\approx$ 13'06	
retrograde	3836 Apr 30 05:36	26° $\overline{3}$ 38'44		opposition	3842 Aug 11 13:03	20° $\approx$ 13'55	-0°41'55
opposition	3836 Jul 15 07:20	24° $\overline{3}$ 39'05	-0°25'41	min. Earth dist.	3842 Aug 10 21:47	20° $\approx$ 15'27	18.53863 AU
min. Earth dist.	3836 Jul 15 00:55	24° $\overline{3}$ 39'45	18.16308 AU	direct	3842 Oct 27 11:29	18° $\approx$ 14'41	
direct	3836 Sep 30 10:30	22° $\overline{3}$ 37'53		evening set	3843 Jan 27 04:59	21° $\approx$ 22'55	
evening set	3837 Jan 01 14:56	25° $\overline{3}$ 52'58					
				conjunction	3843 Feb 11 20:14	22° $\approx$ 18'11	-0°38'45
conjunction	3837 Jan 17 08:09	26° $\overline{3}$ 49'43	-0°24'38	minimum elong	3843 Feb 11 20:14	22° $\approx$ 18'11	0°38'45
minimum elong	3837 Jan 17 08:09	26° $\overline{3}$ 49'43	0°24'38	max. Earth dist.	3843 Feb 12 12:53	22° $\approx$ 20'39	20.56866 AU
max. Earth dist.	3837 Jan 17 15:58	26° $\overline{3}$ 50'54	20.19508 AU	morning rise	3843 Feb 27 11:53	23° $\approx$ 13'30	
morning rise	3837 Feb 02 00:13	27° $\overline{3}$ 46'20		retrograde	3843 May 31 00:52	26° $\approx$ 23'10	
	3837 Mar 17 15:35	0° $\approx$		min. Earth dist.	3843 Aug 15 10:01	24° $\approx$ 25'52	18.59839 AU
retrograde	3837 May 04 20:48	0° $\approx$ 59'08		opposition	3843 Aug 16 03:28	24° $\approx$ 24'06	-0°43'51
	3837 Jun 24 06:28	30° $\overline{R}$ $\overline{3}$		direct	3843 Nov 01 01:18	22° $\approx$ 25'15	
opposition	3837 Jul 20 02:05	28° $\overline{3}$ 59'34	-0°28'54	evening set	3844 Jan 31 13:01	25° $\approx$ 32'30	
min. Earth dist.	3837 Jul 19 17:32	29° $\overline{3}$ 00'27	18.22661 AU				
direct	3837 Oct 05 06:34	26° $\overline{3}$ 58'40		conjunction	3844 Feb 16 04:07	26° $\approx$ 27'34	-0°40'24
	3838 Jan 02 13:53	0° $\approx$		minimum elong	3844 Feb 16 04:07	26° $\approx$ 27'34	0°40'24
evening set	3838 Jan 06 03:22	0° $\approx$ 12'31		max. Earth dist.	3844 Feb 16 21:56	26° $\approx$ 30'11	20.62741 AU
				morning rise	3844 Mar 02 19:57	27° $\approx$ 22'44	
conjunction	3838 Jan 21 20:00	1° $\approx$ 09'00	-0°27'28		3844 Apr 28 15:39	0° $\approx$	
minimum elong	3838 Jan 21 20:00	1° $\approx$ 09'00	0°27'27	retrograde	3844 Jun 03 11:07	0° $\approx$ 31'59	
max. Earth dist.	3838 Jan 22 04:55	1° $\approx$ 10'20	20.25831 AU		3844 Jul 10 07:23	30° $\overline{R}$ $\approx$	
morning rise	3838 Feb 06 11:55	2° $\approx$ 05'22		opposition	3844 Aug 19 17:38	28° $\approx$ 33'03	-0°45'33
retrograde	3838 May 09 10:20	5° $\approx$ 17'34		min. Earth dist.	3844 Aug 19 00:11	28° $\approx$ 34'48	18.65614 AU
opposition	3838 Jul 24 20:04	3° $\approx$ 18'02	-0°31'56	direct	3844 Nov 04 12:38	26° $\approx$ 34'34	
min. Earth dist.	3838 Jul 24 10:47	3° $\approx$ 18'59	18.28978 AU	evening set	3845 Feb 03 20:21	29° $\approx$ 40'51	
direct	3838 Oct 09 22:36	1° $\approx$ 17'26			3845 Feb 09 08:31	0° $\approx$	
evening set	3839 Jan 10 14:48	4° $\approx$ 30'05					
				conjunction	3845 Feb 19 11:29	0° $\approx$ 35'44	-0°41'50
conjunction	3839 Jan 26 07:06	5° $\approx$ 26'18	-0°30'07	minimum elong	3845 Feb 19 11:29	0° $\approx$ 35'44	0°41'49

max. Earth dist.	3845 Feb 20 06:18	0° $\mathbf{\text{H}}$ 38'30	20.68388 AU	conjunction	3852 Mar 19 06:16	29° $\mathbf{\text{H}}$ 02'59	-0°45'32
morning rise	3845 Mar 07 03:33	1° $\mathbf{\text{H}}$ 30'45		minimum elong	3852 Mar 19 06:16	29° $\mathbf{\text{H}}$ 02'59	0°45'32
retrograde	3845 Jun 07 22:57	4° $\mathbf{\text{H}}$ 39'38		max. Earth dist.	3852 Mar 20 04:14	29° $\mathbf{\text{H}}$ 06'09	20.96642 AU
min. Earth dist.	3845 Aug 23 11:43	2° $\mathbf{\text{H}}$ 42'45	18.71114 AU	morning rise	3852 Apr 04 01:33	29° $\mathbf{\text{H}}$ 57'23	
opposition	3845 Aug 24 07:02	2° $\mathbf{\text{H}}$ 40'49	-0°46'59		3852 Apr 04 20:05	0° $\mathbf{\text{Y}}$	
direct	3845 Nov 09 01:07	0° $\mathbf{\text{H}}$ 42'40		retrograde	3852 Jul 06 13:41	3° $\mathbf{\text{Y}}$ 04'19	
evening set	3846 Feb 08 03:27	3° $\mathbf{\text{H}}$ 48'04		opposition	3852 Sep 22 13:39	1° $\mathbf{\text{Y}}$ 05'29	-0°50'08
				min. Earth dist.	3852 Sep 21 17:05	1° $\mathbf{\text{Y}}$ 07'32	18.97900 AU
conjunction	3846 Feb 23 18:36	4° $\mathbf{\text{H}}$ 42'47	-0°43'02		3852 Oct 21 12:32	30° $\mathbf{\text{R}}$ $\mathbf{\text{H}}$	
minimum elong	3846 Feb 23 18:36	4° $\mathbf{\text{H}}$ 42'47	0°43'03	direct	3852 Dec 07 16:01	29° $\mathbf{\text{H}}$ 08'39	
max. Earth dist.	3846 Feb 24 14:16	4° $\mathbf{\text{H}}$ 45'40	20.73715 AU		3853 Jan 22 01:53	0° $\mathbf{\text{Y}}$	
morning rise	3846 Mar 11 10:57	5° $\mathbf{\text{H}}$ 37'40		evening set	3853 Mar 07 17:51	2° $\mathbf{\text{Y}}$ 08'56	
retrograde	3846 Jun 12 07:55	8° $\mathbf{\text{H}}$ 46'12					
opposition	3846 Aug 28 19:51	6° $\mathbf{\text{H}}$ 47'29	-0°48'12	conjunction	3853 Mar 23 11:15	3° $\mathbf{\text{Y}}$ 02'57	-0°45'09
min. Earth dist.	3846 Aug 28 01:02	6° $\mathbf{\text{H}}$ 49'22	18.76273 AU	minimum elong	3853 Mar 23 11:15	3° $\mathbf{\text{Y}}$ 02'57	0°45'10
direct	3846 Nov 13 10:52	4° $\mathbf{\text{H}}$ 49'39		max. Earth dist.	3853 Mar 24 09:16	3° $\mathbf{\text{Y}}$ 06'08	20.98993 AU
evening set	3847 Feb 12 10:04	7° $\mathbf{\text{H}}$ 54'12		morning rise	3853 Apr 08 07:15	3° $\mathbf{\text{Y}}$ 57'21	
				retrograde	3853 Jul 10 23:15	7° $\mathbf{\text{Y}}$ 04'08	
conjunction	3847 Feb 28 01:22	8° $\mathbf{\text{H}}$ 48'45	-0°44'02	opposition	3853 Sep 26 22:46	5° $\mathbf{\text{Y}}$ 05'12	-0°49'35
minimum elong	3847 Feb 28 01:22	8° $\mathbf{\text{H}}$ 48'45	0°44'01	min. Earth dist.	3853 Sep 26 01:01	5° $\mathbf{\text{Y}}$ 07'23	19.00074 AU
max. Earth dist.	3847 Feb 28 21:28	8° $\mathbf{\text{H}}$ 51'42	20.78678 AU	direct	3853 Dec 11 23:27	3° $\mathbf{\text{Y}}$ 08'27	
morning rise	3847 Mar 15 18:03	9° $\mathbf{\text{H}}$ 43'30		evening set	3854 Mar 11 22:20	6° $\mathbf{\text{Y}}$ 08'16	
retrograde	3847 Jun 16 19:13	12° $\mathbf{\text{H}}$ 51'44					
min. Earth dist.	3847 Sep 01 11:48	10° $\mathbf{\text{H}}$ 55'07	18.81025 AU	conjunction	3854 Mar 27 16:16	7° $\mathbf{\text{Y}}$ 02'16	-0°44'33
opposition	3847 Sep 02 08:07	10° $\mathbf{\text{H}}$ 53'05	-0°49'09	minimum elong	3854 Mar 27 16:16	7° $\mathbf{\text{Y}}$ 02'16	0°44'32
direct	3847 Nov 17 21:58	8° $\mathbf{\text{H}}$ 55'31		max. Earth dist.	3854 Mar 28 14:47	7° $\mathbf{\text{Y}}$ 05'30	21.00983 AU
evening set	3848 Feb 16 16:15	11° $\mathbf{\text{H}}$ 59'15		morning rise	3854 Apr 12 12:56	7° $\mathbf{\text{Y}}$ 56'39	
				retrograde	3854 Jul 15 05:55	11° $\mathbf{\text{Y}}$ 03'19	
conjunction	3848 Mar 03 07:41	12° $\mathbf{\text{H}}$ 53'40	-0°44'47	min. Earth dist.	3854 Sep 30 10:29	9° $\mathbf{\text{Y}}$ 06'26	19.01897 AU
minimum elong	3848 Mar 03 07:41	12° $\mathbf{\text{H}}$ 53'40	0°44'47	opposition	3854 Oct 01 07:27	9° $\mathbf{\text{Y}}$ 04'20	-0°48'48
max. Earth dist.	3848 Mar 04 04:24	12° $\mathbf{\text{H}}$ 56'41	20.83195 AU	direct	3854 Dec 16 05:17	7° $\mathbf{\text{Y}}$ 07'41	
morning rise	3848 Mar 19 00:45	13° $\mathbf{\text{H}}$ 48'20		evening set	3855 Mar 16 02:39	10° $\mathbf{\text{Y}}$ 07'05	
retrograde	3848 Jun 20 03:10	16° $\mathbf{\text{H}}$ 56'16					
opposition	3848 Sep 05 20:04	14° $\mathbf{\text{H}}$ 57'38	-0°49'51	conjunction	3855 Mar 31 21:12	11° $\mathbf{\text{Y}}$ 01'04	-0°43'44
min. Earth dist.	3848 Sep 05 00:28	14° $\mathbf{\text{H}}$ 59'36	18.85317 AU	minimum elong	3855 Mar 31 21:12	11° $\mathbf{\text{Y}}$ 01'04	0°43'45
direct	3848 Nov 21 06:53	13° $\mathbf{\text{H}}$ 00'18		max. Earth dist.	3855 Apr 01 19:32	11° $\mathbf{\text{Y}}$ 04'17	21.02643 AU
evening set	3849 Feb 19 22:06	16° $\mathbf{\text{H}}$ 03'15		morning rise	3855 Apr 16 18:39	11° $\mathbf{\text{Y}}$ 55'28	
				retrograde	3855 Jul 19 15:39	15° $\mathbf{\text{Y}}$ 02'04	
conjunction	3849 Mar 07 13:50	16° $\mathbf{\text{H}}$ 57'33	-0°45'19	opposition	3855 Oct 05 15:52	13° $\mathbf{\text{Y}}$ 03'03	-0°47'47
minimum elong	3849 Mar 07 13:50	16° $\mathbf{\text{H}}$ 57'33	0°45'18	min. Earth dist.	3855 Oct 04 17:54	13° $\mathbf{\text{Y}}$ 05'15	19.03381 AU
max. Earth dist.	3849 Mar 08 10:39	17° $\mathbf{\text{H}}$ 00'35	20.87253 AU	direct	3855 Dec 20 12:10	11° $\mathbf{\text{Y}}$ 06'29	
morning rise	3849 Mar 23 07:24	17° $\mathbf{\text{H}}$ 52'07		evening set	3856 Mar 19 06:52	14° $\mathbf{\text{Y}}$ 05'33	
retrograde	3849 Jun 24 13:42	20° $\mathbf{\text{H}}$ 59'46					
min. Earth dist.	3849 Sep 09 10:20	19° $\mathbf{\text{H}}$ 03'13	18.89132 AU	conjunction	3856 Apr 04 02:03	14° $\mathbf{\text{Y}}$ 59'33	-0°42'43
opposition	3849 Sep 10 07:10	19° $\mathbf{\text{H}}$ 01'08	-0°50'18	minimum elong	3856 Apr 04 02:03	14° $\mathbf{\text{Y}}$ 59'33	0°42'43
direct	3849 Nov 25 16:30	17° $\mathbf{\text{H}}$ 03'58		max. Earth dist.	3856 Apr 05 00:52	15° $\mathbf{\text{Y}}$ 02'49	21.03941 AU
evening set	3850 Feb 24 03:32	20° $\mathbf{\text{H}}$ 06'10		morning rise	3856 Apr 20 00:17	15° $\mathbf{\text{Y}}$ 54'00	
				retrograde	3856 Jul 22 22:30	19° $\mathbf{\text{Y}}$ 00'35	
conjunction	3850 Mar 11 19:37	21° $\mathbf{\text{H}}$ 00'23	-0°45'37	min. Earth dist.	3856 Oct 08 03:07	17° $\mathbf{\text{Y}}$ 03'38	19.04495 AU
minimum elong	3850 Mar 11 19:37	21° $\mathbf{\text{H}}$ 00'23	0°45'37	opposition	3856 Oct 09 00:08	17° $\mathbf{\text{Y}}$ 01'32	-0°46'32
max. Earth dist.	3850 Mar 12 16:53	21° $\mathbf{\text{H}}$ 03'28	20.90820 AU	direct	3856 Dec 23 17:00	15° $\mathbf{\text{Y}}$ 05'04	
morning rise	3850 Mar 27 13:43	21° $\mathbf{\text{H}}$ 54'53		evening set	3857 Mar 23 11:16	18° $\mathbf{\text{Y}}$ 03'51	
retrograde	3850 Jun 28 21:01	25° $\mathbf{\text{H}}$ 02'15					
opposition	3850 Sep 14 17:54	23° $\mathbf{\text{H}}$ 03'34	-0°50'30	conjunction	3857 Apr 08 07:11	18° $\mathbf{\text{Y}}$ 57'53	-0°41'30
min. Earth dist.	3850 Sep 13 21:54	23° $\mathbf{\text{H}}$ 05'34	18.92469 AU	minimum elong	3857 Apr 08 07:11	18° $\mathbf{\text{Y}}$ 57'53	0°41'30
direct	3850 Nov 30 00:34	21° $\mathbf{\text{H}}$ 06'32		max. Earth dist.	3857 Apr 09 05:32	19° $\mathbf{\text{Y}}$ 01'06	21.04877 AU
evening set	3851 Feb 28 08:35	24° $\mathbf{\text{H}}$ 08'02		morning rise	3857 Apr 24 06:16	19° $\mathbf{\text{Y}}$ 52'23	
				retrograde	3857 Jul 27 08:05	22° $\mathbf{\text{Y}}$ 59'00	
conjunction	3851 Mar 16 01:03	25° $\mathbf{\text{H}}$ 02'10	-0°45'41	min. Earth dist.	3857 Oct 12 10:23	21° $\mathbf{\text{Y}}$ 02'05	19.05229 AU
minimum elong	3851 Mar 16 01:03	25° $\mathbf{\text{H}}$ 02'10	0°45'42	opposition	3857 Oct 13 07:55	20° $\mathbf{\text{Y}}$ 59'55	-0°45'04
max. Earth dist.	3851 Mar 16 22:22	25° $\mathbf{\text{H}}$ 05'15	20.93940 AU	direct	3857 Dec 27 23:35	19° $\mathbf{\text{Y}}$ 03'32	
morning rise	3851 Mar 31 19:44	25° $\mathbf{\text{H}}$ 56'36		evening set	3858 Mar 27 15:51	22° $\mathbf{\text{Y}}$ 02'09	
retrograde	3851 Jul 03 06:39	29° $\mathbf{\text{H}}$ 03'45					
min. Earth dist.	3851 Sep 18 06:41	27° $\mathbf{\text{H}}$ 07'06	18.95377 AU	conjunction	3858 Apr 12 12:31	22° $\mathbf{\text{Y}}$ 56'15	-0°40'04
opposition	3851 Sep 19 03:55	27° $\mathbf{\text{H}}$ 04'59	-0°50'27	minimum elong	3858 Apr 12 12:31	22° $\mathbf{\text{Y}}$ 56'15	0°40'05
direct	3851 Dec 04 08:57	25° $\mathbf{\text{H}}$ 08'03		max. Earth dist.	3858 Apr 13 10:58	22° $\mathbf{\text{Y}}$ 59'27	21.05394 AU
evening set	3852 Mar 03 13:23	28° $\mathbf{\text{H}}$ 08'55		morning rise	3858 Apr 28 12:26	23° $\mathbf{\text{Y}}$ 50'49	

retrograde	3858 Jul 31 15:33	26° $\Upsilon$ 57'30	opposition	3864 Nov 10 12:23	18° $\mathcal{S}$ 55'45 -0°29'12
opposition	3858 Oct 17 15:43	24° $\Upsilon$ 58'24 -0°43'23	min. Earth dist.	3864 Nov 09 21:33	18° $\mathcal{S}$ 57'15 18.96560 AU
min. Earth dist.	3858 Oct 16 19:29	25° $\Upsilon$ 00'26 19.05527 AU	direct	3865 Jan 24 14:05	16° $\mathcal{S}$ 58'57
direct	3859 Jan 01 03:59	23° $\Upsilon$ 02'05	evening set	3865 Apr 24 07:46	19° $\mathcal{S}$ 58'09
evening set	3859 Mar 31 20:33	26° $\Upsilon$ 00'36			
			conjunction	3865 May 10 10:33	20° $\mathcal{S}$ 53'06 -0°25'08
conjunction	3859 Apr 16 17:58	26° $\Upsilon$ 54'45 -0°38'28	minimum elong	3865 May 10 10:33	20° $\mathcal{S}$ 53'06 0°25'08
minimum elong	3859 Apr 16 17:58	26° $\Upsilon$ 54'45 0°38'28	max. Earth dist.	3865 May 11 02:12	20° $\mathcal{S}$ 55'20 20.95011 AU
max. Earth dist.	3859 Apr 17 15:35	26° $\Upsilon$ 57'51 21.05474 AU	morning rise	3865 May 26 17:00	21° $\mathcal{S}$ 48'35
morning rise	3859 May 02 18:46	27° $\Upsilon$ 49'25	retrograde	3865 Aug 29 07:38	24° $\mathcal{S}$ 56'40
	3859 Jun 17 03:08	0° $\mathcal{S}$	opposition	3865 Nov 14 19:28	22° $\mathcal{S}$ 56'46 -0°26'14
retrograde	3859 Aug 05 01:03	0° $\mathcal{S}$ 56'14	min. Earth dist.	3865 Nov 14 05:08	22° $\mathcal{S}$ 58'14 18.93385 AU
	3859 Sep 24 10:39	30° $\mathcal{R}\Upsilon$	direct	3866 Jan 28 20:13	20° $\mathcal{S}$ 59'46
opposition	3859 Oct 21 23:20	28° $\Upsilon$ 57'06 -0°41'30	evening set	3866 Apr 28 14:58	23° $\mathcal{S}$ 59'19
min. Earth dist.	3859 Oct 21 02:58	28° $\Upsilon$ 59'08 19.05364 AU			
direct	3860 Jan 05 10:16	27° $\Upsilon$ 00'48	conjunction	3866 May 14 18:44	24° $\mathcal{S}$ 54'28 -0°22'24
evening set	3860 Apr 04 01:39	29° $\Upsilon$ 59'17	minimum elong	3866 May 14 18:44	24° $\mathcal{S}$ 54'28 0°22'23
	3860 Apr 04 06:45	0° $\mathcal{S}$	max. Earth dist.	3866 May 15 09:55	24° $\mathcal{S}$ 56'38 20.91648 AU
			morning rise	3866 May 31 02:01	25° $\mathcal{S}$ 50'08
conjunction	3860 Apr 19 23:53	0° $\mathcal{S}$ 53'33 -0°36'40	retrograde	3866 Sep 02 15:53	28° $\mathcal{S}$ 58'31
minimum elong	3860 Apr 19 23:53	0° $\mathcal{S}$ 53'33 0°36'41	opposition	3866 Nov 19 02:48	26° $\mathcal{S}$ 58'27 -0°23'09
max. Earth dist.	3860 Apr 20 21:14	0° $\mathcal{S}$ 56'36 21.05053 AU	min. Earth dist.	3866 Nov 18 13:54	26° $\mathcal{S}$ 59'46 18.89852 AU
morning rise	3860 May 06 01:33	1° $\mathcal{S}$ 48'18	direct	3867 Feb 02 01:48	25° $\mathcal{S}$ 01'14
retrograde	3860 Aug 08 09:10	4° $\mathcal{S}$ 55'17	evening set	3867 May 02 22:29	28° $\mathcal{S}$ 01'12
opposition	3860 Oct 25 06:56	2° $\mathcal{S}$ 56'06 -0°39'24			
min. Earth dist.	3860 Oct 24 12:09	2° $\mathcal{S}$ 57'59 19.04681 AU	conjunction	3867 May 19 03:09	28° $\mathcal{S}$ 56'32 -0°19'32
direct	3861 Jan 08 15:04	0° $\mathcal{S}$ 59'48	minimum elong	3867 May 19 03:09	28° $\mathcal{S}$ 56'32 0°19'33
evening set	3861 Apr 08 07:03	3° $\mathcal{S}$ 58'19	max. Earth dist.	3867 May 19 16:47	28° $\mathcal{S}$ 58'29 20.87971 AU
			morning rise	3867 Jun 04 11:26	29° $\mathcal{S}$ 52'24
conjunction	3861 Apr 24 06:09	4° $\mathcal{S}$ 52'41 -0°34'41		3867 Jun 06 18:01	0° $\mathcal{I}$
minimum elong	3861 Apr 24 06:09	4° $\mathcal{S}$ 52'41 0°34'41	retrograde	3867 Sep 07 03:10	3° $\mathcal{I}$ 01'09
max. Earth dist.	3861 Apr 25 02:06	4° $\mathcal{S}$ 55'32 21.04109 AU	opposition	3867 Nov 23 10:14	1° $\mathcal{I}$ 00'55 -0°19'56
morning rise	3861 May 10 08:47	5° $\mathcal{S}$ 47'33	min. Earth dist.	3867 Nov 22 21:49	1° $\mathcal{I}$ 02'11 18.86027 AU
retrograde	3861 Aug 12 18:56	8° $\mathcal{S}$ 54'43		3867 Dec 19 11:34	30° $\mathcal{R}\mathcal{S}$
opposition	3861 Oct 29 14:23	6° $\mathcal{S}$ 55'26 -0°37'07	direct	3868 Feb 06 08:49	29° $\mathcal{S}$ 03'29
min. Earth dist.	3861 Oct 28 19:53	6° $\mathcal{S}$ 57'18 19.03453 AU		3868 Mar 24 18:25	0° $\mathcal{I}$
direct	3862 Jan 12 20:49	4° $\mathcal{S}$ 59'05	evening set	3868 May 06 06:42	2° $\mathcal{I}$ 03'57
evening set	3862 Apr 12 12:48	7° $\mathcal{S}$ 57'41			
			conjunction	3868 May 22 12:24	2° $\mathcal{I}$ 59'30 -0°16'35
conjunction	3862 Apr 28 12:47	8° $\mathcal{S}$ 52'11 -0°32'32	minimum elong	3868 May 22 12:24	2° $\mathcal{I}$ 59'30 0°16'35
minimum elong	3862 Apr 28 12:48	8° $\mathcal{S}$ 52'11 0°32'32	max. Earth dist.	3868 May 23 01:37	3° $\mathcal{I}$ 01'23 20.84001 AU
max. Earth dist.	3862 Apr 29 08:05	8° $\mathcal{S}$ 54'56 21.02591 AU	morning rise	3868 Jun 07 21:31	3° $\mathcal{I}$ 55'34
morning rise	3862 May 14 16:17	9° $\mathcal{S}$ 47'11	retrograde	3868 Sep 10 11:50	7° $\mathcal{I}$ 04'42
retrograde	3862 Aug 17 03:00	12° $\mathcal{S}$ 54'32	opposition	3868 Nov 26 17:48	5° $\mathcal{I}$ 04'20 -0°16'36
opposition	3862 Nov 02 21:44	10° $\mathcal{S}$ 55'09 -0°34'39	min. Earth dist.	3868 Nov 26 06:50	5° $\mathcal{I}$ 05'27 18.81921 AU
min. Earth dist.	3862 Nov 02 04:57	10° $\mathcal{S}$ 56'51 19.01653 AU	direct	3869 Feb 09 14:28	3° $\mathcal{I}$ 06'40
direct	3863 Jan 17 02:27	8° $\mathcal{S}$ 58'41	evening set	3869 May 10 15:35	6° $\mathcal{I}$ 07'43
evening set	3863 Apr 16 18:49	11° $\mathcal{S}$ 57'26			
			conjunction	3869 May 26 22:13	7° $\mathcal{I}$ 03'29 -0°13'32
conjunction	3863 May 02 19:41	12° $\mathcal{S}$ 52'03 -0°30'13	minimum elong	3869 May 26 22:13	7° $\mathcal{I}$ 03'29 0°13'33
minimum elong	3863 May 02 19:41	12° $\mathcal{S}$ 52'03 0°30'13	behind sun begin	3869 May 26 18:36	7° $\mathcal{I}$ 02'59
max. Earth dist.	3863 May 03 13:25	12° $\mathcal{S}$ 54'35 21.00542 AU	behind sun end	3869 May 27 01:51	7° $\mathcal{I}$ 04'00
morning rise	3863 May 19 00:12	13° $\mathcal{S}$ 47'12	max. Earth dist.	3869 May 27 09:35	7° $\mathcal{I}$ 05'07 20.79780 AU
	3863 Jun 11 00:29	15° $\mathcal{S}$	morning rise	3869 Jun 12 08:22	7° $\mathcal{I}$ 59'47
retrograde	3863 Aug 21 13:03	16° $\mathcal{S}$ 54'47	retrograde	3869 Sep 14 23:55	11° $\mathcal{I}$ 09'21
	3863 Nov 05 05:57	15° $\mathcal{R}\mathcal{S}$	opposition	3869 Dec 01 01:38	9° $\mathcal{I}$ 08'51 -0°13'11
opposition	3863 Nov 07 05:04	14° $\mathcal{S}$ 55'14 -0°32'00	min. Earth dist.	3869 Nov 30 15:25	9° $\mathcal{I}$ 09'54 18.77571 AU
min. Earth dist.	3863 Nov 06 12:39	14° $\mathcal{S}$ 56'54 18.99343 AU	direct	3870 Feb 13 22:04	7° $\mathcal{I}$ 10'57
direct	3864 Jan 21 08:05	12° $\mathcal{S}$ 58'37	evening set	3870 May 15 01:06	10° $\mathcal{I}$ 12'39
	3864 Apr 02 02:22	15° $\mathcal{S}$			
evening set	3864 Apr 20 01:01	15° $\mathcal{S}$ 57'33	conjunction	3870 May 31 08:45	11° $\mathcal{I}$ 08'40 -0°10'25
			minimum elong	3870 May 31 08:45	11° $\mathcal{I}$ 08'40 0°10'25
conjunction	3864 May 06 02:53	16° $\mathcal{S}$ 52'20 -0°27'45	behind sun begin	3870 May 31 03:31	11° $\mathcal{I}$ 07'56
minimum elong	3864 May 06 02:53	16° $\mathcal{S}$ 52'20 0°27'45	behind sun end	3870 May 31 13:58	11° $\mathcal{I}$ 09'24
max. Earth dist.	3864 May 06 20:06	16° $\mathcal{S}$ 54'48 20.97988 AU	max. Earth dist.	3870 May 31 19:37	11° $\mathcal{I}$ 10'14 20.75299 AU
morning rise	3864 May 22 08:18	17° $\mathcal{S}$ 47'39	morning rise	3870 Jun 16 19:36	12° $\mathcal{I}$ 05'11
retrograde	3864 Aug 24 21:08	20° $\mathcal{S}$ 55'27	retrograde	3870 Sep 19 09:47	15° $\mathcal{I}$ 15'12



























































































































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min. Earth dist.	3870 Dec 05 01:01	13° $\Pi$ 15'31	18.72963 AU				
direct	3871 Feb 18 04:38	11° $\Pi$ 16'31		conjunction	3876 Jun 25 17:14	6° $\mathfrak{D}$ 10'58	0°09'24
evening set	3871 May 19 11:26	14° $\Pi$ 18'55		minimum elong	3876 Jun 25 17:15	6° $\mathfrak{D}$ 10'58	0°09'23
				behind sun begin	3876 Jun 25 11:38	6° $\mathfrak{D}$ 10'10	
conjunction	3871 Jun 04 19:56	15° $\Pi$ 15'11	-0°07'14	behind sun end	3876 Jun 25 22:51	6° $\mathfrak{D}$ 11'46	
minimum elong	3871 Jun 04 19:57	15° $\Pi$ 15'11	0°07'14	max. Earth dist.	3876 Jun 25 17:42	6° $\mathfrak{D}$ 11'02	20.42675 AU
behind sun begin	3871 Jun 04 13:48	15° $\Pi$ 14'19		morning rise	3876 Jul 12 08:31	7° $\mathfrak{D}$ 08'59	
behind sun end	3871 Jun 05 02:06	15° $\Pi$ 16'03		retrograde	3876 Oct 14 18:11	10° $\mathfrak{D}$ 22'15	
max. Earth dist.	3871 Jun 05 04:42	15° $\Pi$ 16'26	20.70586 AU	opposition	3876 Dec 29 19:26	8° $\mathfrak{D}$ 20'56	0°12'13
morning rise	3871 Jun 21 07:47	16° $\Pi$ 11'56		min. Earth dist.	3876 Dec 29 19:57	8° $\mathfrak{D}$ 20'53	18.39470 AU
retrograde	3871 Sep 23 22:27	19° $\Pi$ 22'28		direct	3877 Mar 14 11:18	6° $\mathfrak{D}$ 21'00	
opposition	3871 Dec 09 18:16	17° $\Pi$ 21'47	-0°06'07	evening set	3877 Jun 13 19:53	9° $\mathfrak{D}$ 28'55	
min. Earth dist.	3871 Dec 09 10:35	17° $\Pi$ 22'34	18.68123 AU				
direct	3872 Feb 22 12:34	15° $\Pi$ 23'27		conjunction	3877 Jun 30 09:34	10° $\mathfrak{D}$ 26'51	0°12'40
evening set	3872 May 22 22:31	18° $\Pi$ 26'39		minimum elong	3877 Jun 30 09:33	10° $\mathfrak{D}$ 26'51	0°12'40
				behind sun begin	3877 Jun 30 05:23	10° $\mathfrak{D}$ 26'15	
conjunction	3872 Jun 08 08:05	19° $\Pi$ 23'11	-0°03'59	behind sun end	3877 Jun 30 13:44	10° $\mathfrak{D}$ 27'26	
minimum elong	3872 Jun 08 08:05	19° $\Pi$ 23'11	0°04'00	max. Earth dist.	3877 Jun 30 06:59	10° $\mathfrak{D}$ 26'29	20.36263 AU
behind sun begin	3872 Jun 08 01:27	19° $\Pi$ 22'15		morning rise	3877 Jul 17 01:33	11° $\mathfrak{D}$ 25'07	
behind sun end	3872 Jun 08 14:42	19° $\Pi$ 24'07		retrograde	3877 Oct 19 09:33	14° $\mathfrak{D}$ 38'56	
max. Earth dist.	3872 Jun 08 16:10	19° $\Pi$ 24'20	20.65607 AU	opposition	3878 Jan 03 06:43	12° $\mathfrak{D}$ 37'26	0°15'50
morning rise	3872 Jun 24 20:37	20° $\Pi$ 20'10		min. Earth dist.	3878 Jan 03 09:02	12° $\mathfrak{D}$ 37'11	18.32974 AU
retrograde	3872 Sep 27 10:21	23° $\Pi$ 31'14		direct	3878 Mar 18 22:40	10° $\mathfrak{D}$ 37'06	
opposition	3872 Dec 13 03:12	21° $\Pi$ 30'27	-0°02'29	evening set	3878 Jun 18 12:07	13° $\mathfrak{D}$ 46'04	
min. Earth dist.	3872 Dec 12 21:12	21° $\Pi$ 31'05	18.62998 AU				
direct	3873 Feb 25 20:24	19° $\Pi$ 31'53		conjunction	3878 Jul 05 02:39	14° $\mathfrak{D}$ 44'17	0°15'54
evening set	3873 May 27 10:44	22° $\Pi$ 35'57		minimum elong	3878 Jul 05 02:39	14° $\mathfrak{D}$ 44'17	0°15'54
				max. Earth dist.	3878 Jul 04 23:28	14° $\mathfrak{D}$ 43'50	20.29691 AU
conjunction	3873 Jun 12 21:04	23° $\Pi$ 32'45	-0°00'39	morning rise	3878 Jul 21 18:57	15° $\mathfrak{D}$ 42'48	
minimum elong	3873 Jun 12 21:05	23° $\Pi$ 32'45	0°00'38	retrograde	3878 Oct 24 01:17	18° $\mathfrak{D}$ 57'12	
behind sun begin	3873 Jun 12 14:23	23° $\Pi$ 31'48		opposition	3879 Jan 07 18:27	16° $\mathfrak{D}$ 55'32	0°19'24
behind sun end	3873 Jun 13 03:47	23° $\Pi$ 33'41		min. Earth dist.	3879 Jan 07 21:55	16° $\mathfrak{D}$ 55'10	18.26353 AU
max. Earth dist.	3873 Jun 13 02:27	23° $\Pi$ 33'29	20.60345 AU	direct	3879 Mar 23 10:49	14° $\mathfrak{D}$ 54'47	
morning rise	3873 Jun 29 10:30	24° $\Pi$ 29'59		evening set	3879 Jun 23 05:25	18° $\mathfrak{D}$ 04'51	
asc. node	3873 Aug 21 03:06	26° $\Pi$ 58'39					
retrograde	3873 Oct 01 23:46	27° $\Pi$ 41'36		conjunction	3879 Jul 09 20:27	19° $\mathfrak{D}$ 03'21	0°19'04
opposition	3873 Dec 17 12:27	25° $\Pi$ 40'43	0°01'11	minimum elong	3879 Jul 09 20:27	19° $\mathfrak{D}$ 03'21	0°19'03
min. Earth dist.	3873 Dec 17 08:01	25° $\Pi$ 41'11	18.57581 AU	max. Earth dist.	3879 Jul 09 14:27	19° $\mathfrak{D}$ 02'28	20.23050 AU
direct	3874 Mar 02 05:12	23° $\Pi$ 41'51		morning rise	3879 Jul 26 13:21	20° $\mathfrak{D}$ 02'08	
evening set	3874 May 31 23:43	26° $\Pi$ 46'50		retrograde	3879 Oct 28 17:31	23° $\mathfrak{D}$ 17'07	
				opposition	3880 Jan 12 06:42	21° $\mathfrak{D}$ 15'15	0°22'52
conjunction	3874 Jun 17 11:03	27° $\Pi$ 43'55	0°02'46	min. Earth dist.	3880 Jan 12 11:57	21° $\mathfrak{D}$ 14'41	18.19711 AU
minimum elong	3874 Jun 17 11:03	27° $\Pi$ 43'55	0°02'46	direct	3880 Mar 26 23:01	19° $\mathfrak{D}$ 14'04	
behind sun begin	3874 Jun 17 04:20	27° $\Pi$ 42'58		evening set	3880 Jun 26 23:26	22° $\mathfrak{D}$ 25'17	
behind sun end	3874 Jun 17 17:45	27° $\Pi$ 44'51					
max. Earth dist.	3874 Jun 17 15:25	27° $\Pi$ 44'30	20.54759 AU	conjunction	3880 Jul 13 15:16	23° $\mathfrak{D}$ 24'05	0°22'08
morning rise	3874 Jul 04 01:00	28° $\Pi$ 41'24		minimum elong	3880 Jul 13 15:16	23° $\mathfrak{D}$ 24'05	0°22'09
	3874 Jul 28 13:13	0° $\mathfrak{D}$		max. Earth dist.	3880 Jul 13 08:50	23° $\mathfrak{D}$ 23'08	20.16406 AU
retrograde	3874 Oct 06 13:11	1° $\mathfrak{D}$ 53'33		morning rise	3880 Jul 30 08:23	24° $\mathfrak{D}$ 23'07	
	3874 Dec 18 23:09	30° $\mathfrak{R}$ $\Pi$		retrograde	3880 Nov 01 11:04	27° $\mathfrak{D}$ 38'41	
opposition	3874 Dec 21 22:21	29° $\Pi$ 52'34	0°04'52	opposition	3881 Jan 15 19:32	25° $\mathfrak{D}$ 36'40	0°26'14
min. Earth dist.	3874 Dec 21 19:35	29° $\Pi$ 52'51	18.51832 AU	min. Earth dist.	3881 Jan 16 01:37	25° $\mathfrak{D}$ 36'01	18.13085 AU
direct	3875 Mar 06 14:26	27° $\Pi$ 53'24		direct	3881 Mar 31 12:47	23° $\mathfrak{D}$ 35'06	
	3875 May 18 10:45	0° $\mathfrak{D}$		evening set	3881 Jul 01 18:32	26° $\mathfrak{D}$ 47'29	
evening set	3875 Jun 05 13:30	0° $\mathfrak{D}$ 59'18					
				conjunction	3881 Jul 18 10:42	27° $\mathfrak{D}$ 46'33	0°25'06
conjunction	3875 Jun 22 01:35	1° $\mathfrak{D}$ 56'39	0°06'06	minimum elong	3881 Jul 18 10:42	27° $\mathfrak{D}$ 46'33	0°25'05
minimum elong	3875 Jun 22 01:34	1° $\mathfrak{D}$ 56'39	0°06'06	max. Earth dist.	3881 Jul 18 01:34	27° $\mathfrak{D}$ 45'12	20.09818 AU
behind sun begin	3875 Jun 21 19:11	1° $\mathfrak{D}$ 55'45		morning rise	3881 Aug 04 04:13	28° $\mathfrak{D}$ 45'51	
behind sun end	3875 Jun 22 07:57	1° $\mathfrak{D}$ 57'34			3881 Aug 26 15:00	0° $\mathfrak{D}$	
max. Earth dist.	3875 Jun 22 02:59	1° $\mathfrak{D}$ 56'50	20.48864 AU	retrograde	3881 Nov 06 04:07	2° $\mathfrak{D}$ 02'00	
morning rise	3875 Jul 08 16:22	2° $\mathfrak{D}$ 54'24		opposition	3882 Jan 20 08:58	29° $\mathfrak{D}$ 59'51	0°29'27
retrograde	3875 Oct 11 03:41	6° $\mathfrak{D}$ 07'08			3882 Jan 20 07:33	30° $\mathfrak{R}$ $\mathfrak{D}$	
opposition	3875 Dec 26 08:45	4° $\mathfrak{D}$ 05'59	0°08'33	min. Earth dist.	3882 Jan 20 16:51	29° $\mathfrak{D}$ 59'00	18.06563 AU
min. Earth dist.	3875 Dec 26 07:42	4° $\mathfrak{D}$ 06'05	18.45787 AU	direct	3882 Apr 05 01:40	27° $\mathfrak{D}$ 57'53	
direct	3876 Mar 10 00:37	2° $\mathfrak{D}$ 06'26			3882 Jun 15 01:19	0° $\mathfrak{D}$	

evening set	3882 Jul 06 14:17	1°Ω11'28		minimum elong	3888 Aug 20 02:44	29°Ω17'14	0°41'11
					3888 Aug 31 19:46	0°♊	
conjunction	3882 Jul 23 07:07	2°Ω10'50	0°27'55	morning rise	3888 Sep 05 19:50	0°♊18'00	
minimum elong	3882 Jul 23 07:06	2°Ω10'50	0°27'55	retrograde	3888 Dec 08 01:06	3°♊38'05	
max. Earth dist.	3882 Jul 22 21:42	2°Ω09'26	20.03358 AU	opposition	3889 Feb 20 03:01	1°♊35'36	0°46'40
morning rise	3882 Aug 09 00:40	3°Ω10'22		min. Earth dist.	3889 Feb 20 18:38	1°♊33'54	17.65919 AU
retrograde	3882 Nov 10 23:41	6°Ω27'07			3889 Apr 03 00:28	30°♋	
opposition	3883 Jan 24 23:04	4°Ω24'52	0°32'32	direct	3889 May 06 05:32	29°Ω31'28	
min. Earth dist.	3883 Jan 25 07:25	4°Ω23'58	18.00183 AU		3889 Jun 08 00:45	0°♊	
direct	3883 Apr 09 17:15	2°Ω22'34		evening set	3889 Aug 08 10:41	2°♊53'32	
evening set	3883 Jul 11 11:03	5°Ω37'22		max. Earth dist.	3889 Aug 24 08:26	3°♊51'31	19.63331 AU
conjunction	3883 Jul 28 04:08	6°Ω37'00	0°30'36	conjunction	3889 Aug 25 04:32	3°♊54'35	0°42'37
minimum elong	3883 Jul 28 04:08	6°Ω37'00	0°30'36	minimum elong	3889 Aug 25 04:31	3°♊54'35	0°42'37
max. Earth dist.	3883 Jul 27 16:17	6°Ω35'14	19.97071 AU	morning rise	3889 Sep 10 21:09	4°♊55'30	
morning rise	3883 Aug 13 21:58	7°Ω36'47		retrograde	3889 Dec 12 21:32	8°♊16'01	
retrograde	3883 Nov 15 17:28	10°Ω54'08		opposition	3890 Feb 24 22:18	6°♊13'29	0°48'07
opposition	3884 Jan 29 13:58	8°Ω51'49	0°35'26	min. Earth dist.	3890 Feb 25 16:00	6°♊11'33	17.60855 AU
min. Earth dist.	3884 Jan 30 00:11	8°Ω50'43	17.94001 AU	direct	3890 May 11 01:52	4°♊09'01	
direct	3884 Apr 13 07:21	6°Ω49'10		evening set	3890 Aug 13 13:09	7°♊32'08	
evening set	3884 Jul 15 08:45	10°Ω05'13		max. Earth dist.	3890 Aug 29 09:31	8°♊30'05	19.58395 AU
conjunction	3884 Aug 01 02:19	11°Ω05'08	0°33'07	conjunction	3890 Aug 30 06:49	8°♊33'21	0°43'46
minimum elong	3884 Aug 01 02:19	11°Ω05'08	0°33'07	minimum elong	3890 Aug 30 06:49	8°♊33'21	0°43'47
max. Earth dist.	3884 Jul 31 14:05	11°Ω03'18	19.90987 AU	morning rise	3890 Sep 15 23:04	9°♊34'24	
morning rise	3884 Aug 17 20:04	12°Ω05'08		retrograde	3890 Dec 17 21:01	12°♊55'18	
	3884 Oct 20 23:11	15°Ω		opposition	3891 Mar 01 18:00	10°♊52'41	0°49'16
retrograde	3884 Nov 19 14:30	15°Ω23'05		min. Earth dist.	3891 Mar 02 11:40	10°♊50'45	17.56057 AU
	3884 Dec 19 08:32	15°♋		direct	3891 May 16 01:14	8°♊47'54	
opposition	3885 Feb 02 05:20	13°Ω20'44	0°38'08	evening set	3891 Aug 18 16:05	12°♊12'00	
min. Earth dist.	3885 Feb 02 16:01	13°Ω19'34	17.88015 AU	max. Earth dist.	3891 Sep 03 11:32	13°♊09'59	19.53740 AU
direct	3885 Apr 18 00:57	11°Ω17'48		conjunction	3891 Sep 04 09:35	13°♊13'23	0°44'38
evening set	3885 Jul 20 07:34	14°Ω35'06		minimum elong	3891 Sep 04 09:34	13°♊13'23	0°44'38
	3885 Jul 27 07:03	15°Ω		morning rise	3891 Sep 21 01:13	14°♊14'32	
max. Earth dist.	3885 Aug 05 10:40	15°Ω33'05	19.85098 AU	retrograde	3891 Dec 22 18:43	17°♊35'45	
conjunction	3885 Aug 06 01:14	15°Ω35'17	0°35'28	opposition	3892 Mar 05 14:31	15°♊33'04	0°50'05
minimum elong	3885 Aug 06 01:14	15°Ω35'17	0°35'28	min. Earth dist.	3892 Mar 06 09:56	15°♊30'57	17.51573 AU
morning rise	3885 Aug 22 19:01	16°Ω35'30		direct	3892 May 19 22:54	13°♊27'58	
retrograde	3885 Nov 24 09:03	19°Ω54'02		evening set	3892 Aug 22 19:35	16°♊53'00	
opposition	3886 Feb 06 21:43	17°Ω51'39	0°40'38	conjunction	3892 Sep 08 12:38	17°♊54'31	0°45'13
min. Earth dist.	3886 Feb 07 10:30	17°Ω50'16	17.82234 AU	minimum elong	3892 Sep 08 12:38	17°♊54'31	0°45'13
direct	3886 Apr 22 17:07	15°Ω48'26		max. Earth dist.	3892 Sep 07 13:19	17°♊50'54	19.49441 AU
evening set	3886 Jul 25 06:57	19°Ω06'59		morning rise	3892 Sep 25 03:47	18°♊55'46	
max. Earth dist.	3886 Aug 10 09:42	20°Ω05'07	19.79404 AU	retrograde	3892 Dec 26 18:50	22°♊17'15	
conjunction	3886 Aug 11 00:53	20°Ω07'25	0°37'36	opposition	3893 Mar 10 11:23	20°♊14'29	0°50'34
minimum elong	3886 Aug 11 00:53	20°Ω07'25	0°37'35	min. Earth dist.	3893 Mar 11 06:32	20°♊12'24	17.47473 AU
morning rise	3886 Aug 27 18:27	21°Ω07'49		direct	3893 May 24 23:26	18°♊09'05	
retrograde	3886 Nov 29 06:57	24°Ω26'56		evening set	3893 Aug 27 23:18	21°♊34'59	
opposition	3887 Feb 11 14:44	22°Ω24'32	0°42'55	conjunction	3893 Sep 13 16:02	22°♊36'36	0°45'29
min. Earth dist.	3887 Feb 12 03:51	22°Ω23'06	17.76626 AU	minimum elong	3893 Sep 13 16:02	22°♊36'36	0°45'29
direct	3887 Apr 27 13:03	20°Ω21'02		max. Earth dist.	3893 Sep 12 16:54	22°♊33'01	19.45546 AU
evening set	3887 Jul 30 07:30	23°Ω40'47		morning rise	3893 Sep 30 06:21	23°♊37'56	
max. Earth dist.	3887 Aug 15 08:03	24°Ω38'49	19.73871 AU	retrograde	3893 Dec 31 17:12	26°♊59'38	
conjunction	3887 Aug 16 01:25	24°Ω41'27	0°39'31	opposition	3894 Mar 15 09:03	24°♊56'50	0°50'42
minimum elong	3887 Aug 16 01:25	24°Ω41'27	0°39'31	min. Earth dist.	3894 Mar 16 05:20	24°♊54'37	17.43816 AU
morning rise	3887 Sep 01 18:48	25°Ω42'03		direct	3894 May 29 22:00	22°♊51'10	
retrograde	3887 Dec 04 02:16	29°Ω01'40		evening set	3894 Sep 02 03:11	26°♊17'50	
opposition	3888 Feb 16 08:32	26°Ω59'14	0°44'56	conjunction	3894 Sep 18 19:17	27°♊19'32	0°45'26
min. Earth dist.	3888 Feb 16 23:56	26°Ω57'34	17.71188 AU	minimum elong	3894 Sep 18 19:17	27°♊19'32	0°45'26
direct	3888 May 01 07:22	24°Ω55'25		max. Earth dist.	3894 Sep 17 19:05	27°♊15'47	19.42142 AU
evening set	3888 Aug 03 08:45	28°Ω16'22		morning rise	3894 Oct 05 09:02	28°♊20'55	
max. Earth dist.	3888 Aug 19 08:14	29°Ω14'24	19.68515 AU		3894 Nov 03 18:34	0°♋	
conjunction	3888 Aug 20 02:44	29°Ω17'14	0°41'11	retrograde	3895 Jan 05 17:36	1°♋42'50	



	3895 Mar 12 15:21	30° <u>8</u> <u>19</u>	evening set	3901 Oct 07 09:25	29° <u>5</u> 35'49	
opposition	3895 Mar 20 07:04	29° <u>19</u> 39'59 0°50'30		3901 Oct 13 21:49	0° <u>1</u>	
min. Earth dist.	3895 Mar 21 02:49	29° <u>19</u> 37'49 17.40678 AU				
direct	3895 Jun 03 23:26	27° <u>19</u> 34'06	conjunction	3901 Oct 23 20:07	0° <u>1</u> 37'24 0°36'46	
	3895 Aug 20 18:32	0° <u>5</u>	minimum elong	3901 Oct 23 20:07	0° <u>1</u> 37'24 0°36'46	
evening set	3895 Sep 07 07:20	1° <u>5</u> 01'29	max. Earth dist.	3901 Oct 22 23:14	0° <u>1</u> 34'07 19.34319 AU	
			morning rise	3901 Nov 09 03:12	1° <u>1</u> 38'28	
conjunction	3895 Sep 23 23:00	2° <u>5</u> 03'14 0°45'06	retrograde	3902 Feb 08 16:28	5° <u>1</u> 00'35	
minimum elong	3895 Sep 23 23:00	2° <u>5</u> 03'14 0°45'06	opposition	3902 Apr 23 06:22	2° <u>1</u> 58'27 0°39'44	
max. Earth dist.	3895 Sep 22 23:47	1° <u>5</u> 59'37 19.39271 AU	min. Earth dist.	3902 Apr 24 00:16	2° <u>1</u> 56'30 17.34776 AU	
morning rise	3895 Oct 10 11:47	3° <u>5</u> 04'38	direct	3902 Jul 08 15:34	0° <u>1</u> 52'31	
retrograde	3896 Jan 10 16:34	6° <u>5</u> 26'41	evening set	3902 Oct 12 13:08	4° <u>1</u> 22'17	
opposition	3896 Mar 24 05:38	4° <u>5</u> 23'52 0°49'57				
min. Earth dist.	3896 Mar 25 01:56	4° <u>5</u> 21'38 17.38097 AU	conjunction	3902 Oct 28 22:48	5° <u>1</u> 23'44 0°34'25	
direct	3896 Jun 07 23:05	2° <u>5</u> 17'50	minimum elong	3902 Oct 28 22:48	5° <u>1</u> 23'44 0°34'25	
evening set	3896 Sep 11 11:48	5° <u>5</u> 45'50	max. Earth dist.	3902 Oct 28 02:00	5° <u>1</u> 20'28 19.35282 AU	
max. Earth dist.	3896 Sep 27 02:27	6° <u>5</u> 43'52 19.36995 AU	morning rise	3902 Nov 14 04:53	6° <u>1</u> 24'41	
			retrograde	3903 Feb 13 15:23	9° <u>1</u> 46'36	
conjunction	3896 Sep 28 02:38	6° <u>5</u> 47'38 0°44'26	opposition	3903 Apr 28 07:36	7° <u>1</u> 44'35 0°36'59	
minimum elong	3896 Sep 28 02:38	6° <u>5</u> 47'38 0°44'26	min. Earth dist.	3903 Apr 29 01:37	7° <u>1</u> 42'38 17.35963 AU	
morning rise	3896 Oct 14 14:43	7° <u>5</u> 49'02	direct	3903 Jul 13 18:39	5° <u>1</u> 38'44	
retrograde	3897 Jan 14 17:07	11° <u>5</u> 11'13	evening set	3903 Oct 17 16:29	9° <u>1</u> 08'23	
opposition	3897 Mar 29 04:42	9° <u>5</u> 08'26 0°49'04	max. Earth dist.	3903 Nov 02 05:29	10° <u>1</u> 06'35 19.36689 AU	
min. Earth dist.	3897 Mar 30 00:24	9° <u>5</u> 06'17 17.36131 AU				
direct	3897 Jun 13 01:15	7° <u>5</u> 02'19	conjunction	3903 Nov 03 01:10	10° <u>1</u> 09'41 0°31'50	
evening set	3897 Sep 16 16:02	10° <u>5</u> 30'52	minimum elong	3903 Nov 03 01:10	10° <u>1</u> 09'41 0°31'50	
max. Earth dist.	3897 Oct 02 07:40	11° <u>5</u> 29'09 19.35332 AU	morning rise	3903 Nov 19 06:12	11° <u>1</u> 10'28	
			retrograde	3904 Feb 18 15:56	14° <u>1</u> 32'07	
conjunction	3897 Oct 03 06:18	11° <u>5</u> 32'41 0°43'29	opposition	3904 May 02 08:45	12° <u>1</u> 30'13 0°33'59	
minimum elong	3897 Oct 03 06:18	11° <u>5</u> 32'41 0°43'29	min. Earth dist.	3904 May 03 01:19	12° <u>1</u> 28'26 17.37572 AU	
morning rise	3897 Oct 19 17:18	12° <u>5</u> 34'04	direct	3904 Jul 17 23:19	10° <u>1</u> 24'27	
retrograde	3898 Jan 19 16:36	15° <u>5</u> 56'20	evening set	3904 Oct 21 19:20	13° <u>1</u> 53'51	
opposition	3898 Apr 03 04:20	13° <u>5</u> 53'39 0°47'50	max. Earth dist.	3904 Nov 06 08:07	14° <u>1</u> 52'01 19.38517 AU	
min. Earth dist.	3898 Apr 03 23:59	13° <u>5</u> 51'31 17.34766 AU				
direct	3898 Jun 18 02:09	11° <u>5</u> 47'31	conjunction	3904 Nov 07 02:58	14° <u>1</u> 54'59 0°29'02	
evening set	3898 Sep 21 20:34	15° <u>5</u> 16'32	minimum elong	3904 Nov 07 02:58	14° <u>1</u> 54'59 0°29'01	
max. Earth dist.	3898 Oct 07 10:32	16° <u>5</u> 14'40 19.34274 AU		3904 Nov 08 10:50	15° <u>1</u>	
			morning rise	3904 Nov 23 06:54	15° <u>1</u> 55'37	
conjunction	3898 Oct 08 09:52	16° <u>5</u> 18'20 0°42'14	retrograde	3905 Feb 22 14:03	19° <u>1</u> 16'55	
minimum elong	3898 Oct 08 09:52	16° <u>5</u> 18'20 0°42'14	opposition	3905 May 07 10:08	17° <u>1</u> 15'08 0°30'44	
morning rise	3898 Oct 24 20:06	17° <u>5</u> 19'40	min. Earth dist.	3905 May 08 02:44	17° <u>1</u> 13'21 17.39622 AU	
retrograde	3899 Jan 24 16:58	20° <u>5</u> 41'59	direct	3905 Jul 23 01:19	15° <u>1</u> 09'27	
opposition	3899 Apr 08 04:11	18° <u>5</u> 39'26 0°46'17	evening set	3905 Oct 26 21:20	18° <u>1</u> 38'28	
min. Earth dist.	3899 Apr 08 23:32	18° <u>5</u> 37'19 17.34002 AU	max. Earth dist.	3905 Nov 11 10:08	19° <u>1</u> 36'37 19.40796 AU	
direct	3899 Jun 23 04:58	16° <u>5</u> 33'18				
evening set	3899 Sep 27 00:55	20° <u>5</u> 02'42	conjunction	3905 Nov 12 03:54	19° <u>1</u> 39'25 0°26'02	
			minimum elong	3905 Nov 12 03:54	19° <u>1</u> 39'25 0°26'03	
conjunction	3899 Oct 13 13:33	21° <u>5</u> 04'27 0°40'41	morning rise	3905 Nov 28 06:54	20° <u>1</u> 39'51	
minimum elong	3899 Oct 13 13:34	21° <u>5</u> 04'27 0°40'41	retrograde	3906 Feb 27 14:24	24° <u>1</u> 00'47	
max. Earth dist.	3899 Oct 12 15:44	21° <u>5</u> 01'02 19.33785 AU	opposition	3906 May 12 11:15	21° <u>1</u> 59'04 0°27'18	
morning rise	3899 Oct 29 22:41	22° <u>5</u> 05'44	min. Earth dist.	3906 May 13 01:51	21° <u>1</u> 57'30 17.42110 AU	
retrograde	3900 Jan 29 16:45	25° <u>5</u> 28'02	direct	3906 Jul 28 05:35	19° <u>1</u> 53'30	
opposition	3900 Apr 13 04:36	23° <u>5</u> 25'38 0°44'24	evening set	3906 Oct 31 22:44	23° <u>1</u> 22'02	
min. Earth dist.	3900 Apr 13 23:32	23° <u>5</u> 23'34 17.33766 AU				
direct	3900 Jun 28 07:48	21° <u>5</u> 19'34	conjunction	3906 Nov 17 04:18	24° <u>1</u> 22'46 0°22'53	
evening set	3900 Oct 02 05:22	24° <u>5</u> 49'13	minimum elong	3906 Nov 17 04:18	24° <u>1</u> 22'46 0°22'52	
			max. Earth dist.	3906 Nov 16 12:12	24° <u>1</u> 20'14 19.43513 AU	
conjunction	3900 Oct 18 16:55	25° <u>5</u> 50'53 0°38'52	morning rise	3906 Dec 03 06:12	25° <u>1</u> 22'59	
minimum elong	3900 Oct 18 16:55	25° <u>5</u> 50'53 0°38'52	retrograde	3907 Mar 04 11:30	28° <u>1</u> 43'28	
max. Earth dist.	3900 Oct 17 18:38	25° <u>5</u> 47'23 19.33806 AU	opposition	3907 May 17 12:13	26° <u>1</u> 41'50 0°23'41	
morning rise	3900 Nov 04 01:06	26° <u>5</u> 52'04	min. Earth dist.	3907 May 18 02:41	26° <u>1</u> 40'17 17.45060 AU	
	3901 Jan 12 03:51	0° <u>1</u>	direct	3907 Aug 02 07:05	24° <u>1</u> 36'23	
retrograde	3901 Feb 03 16:21	0° <u>1</u> 14'19	evening set	3907 Nov 05 23:25	28° <u>1</u> 04'20	
	3901 Feb 26 12:33	30° <u>8</u> <u>5</u>				
opposition	3901 Apr 18 05:22	28° <u>5</u> 12'03 0°42'13	conjunction	3907 Nov 22 03:50	29° <u>1</u> 04'50 0°19'34	
min. Earth dist.	3901 Apr 19 00:15	28° <u>5</u> 10'00 17.34040 AU	minimum elong	3907 Nov 22 03:50	29° <u>1</u> 04'50 0°19'35	
direct	3901 Jul 03 11:22	26° <u>5</u> 06'03	max. Earth dist.	3907 Nov 21 12:43	29° <u>1</u> 02'28 19.46710 AU	

	3907 Dec 06 21:22	0°♏	evening set	3913 Dec 03 09:04	25°♏48'10	
morning rise	3907 Dec 08 04:52	0°♏04'50				
retrograde	3908 Mar 08 10:29	3°♏24'51	conjunction	3913 Dec 19 07:24	26°♏47'00 -0°01'51	
opposition	3908 May 21 12:59	1°♏23'17 0°19'56	minimum elong	3913 Dec 19 07:24	26°♏47'00 0°01'51	
min. Earth dist.	3908 May 22 01:00	1°♏22'00 17.48491 AU	behind sun begin	3913 Dec 19 00:48	26°♏46'00	
	3908 Jun 26 02:18	30°♏	behind sun end	3913 Dec 19 14:00	26°♏48'00	
direct	3908 Aug 06 11:07	29°♏18'00	max. Earth dist.	3913 Dec 19 03:12	26°♏46'24 19.75750 AU	
	3908 Sep 15 20:09	0°♏	morning rise	3914 Jan 04 03:14	27°♏45'28	
evening set	3908 Nov 09 23:05	2°♏45'16		3914 Feb 15 19:47	0°♏	
			retrograde	3914 Apr 05 09:40	1°♏02'19	
conjunction	3908 Nov 26 02:31	3°♏45'31 0°16'10		3914 May 26 06:41	30°♏	
minimum elong	3908 Nov 26 02:31	3°♏45'31 0°16'10	opposition	3914 Jun 19 11:18	29°♏01'46 -0°03'58	
max. Earth dist.	3908 Nov 25 13:56	3°♏43'33 19.50388 AU	min. Earth dist.	3914 Jun 19 13:28	29°♏01'32 17.78733 AU	
morning rise	3908 Dec 12 02:25	4°♏45'16	direct	3914 Sep 04 16:49	26°♏58'22	
retrograde	3909 Mar 13 06:31	8°♏04'47		3914 Dec 02 11:55	0°♏	
opposition	3909 May 26 13:41	6°♏03'19 0°16'04	evening set	3914 Dec 08 03:40	0°♏20'15	
min. Earth dist.	3909 May 27 01:04	6°♏02'07 17.52424 AU				
direct	3909 Aug 11 12:25	3°♏58'15	conjunction	3914 Dec 24 01:16	1°♏18'48 -0°05'27	
evening set	3909 Nov 14 22:04	7°♏24'45	minimum elong	3914 Dec 24 01:16	1°♏18'48 0°05'27	
			behind sun begin	3914 Dec 23 18:54	1°♏17'50	
conjunction	3909 Dec 01 00:19	8°♏24'44 0°12'40	behind sun end	3914 Dec 24 07:37	1°♏19'45	
minimum elong	3909 Dec 01 00:19	8°♏24'44 0°12'40	max. Earth dist.	3914 Dec 23 23:49	1°♏18'36 19.81792 AU	
behind sun begin	3909 Nov 30 20:05	8°♏24'05	morning rise	3915 Jan 08 20:13	2°♏16'59	
behind sun end	3909 Dec 01 04:33	8°♏25'23	retrograde	3915 Apr 10 03:36	5°♏33'15	
max. Earth dist.	3909 Nov 30 12:45	8°♏22'56 19.54586 AU	opposition	3915 Jun 24 09:34	3°♏32'54 -0°07'56	
morning rise	3909 Dec 16 23:26	9°♏24'15	min. Earth dist.	3915 Jun 24 10:38	3°♏32'48 17.84852 AU	
retrograde	3910 Mar 18 04:09	12°♏43'15	direct	3915 Sep 09 15:33	1°♏29'54	
opposition	3910 May 31 13:48	10°♏41'55 0°12'07	evening set	3915 Dec 12 21:37	4°♏50'44	
min. Earth dist.	3910 May 31 22:29	10°♏40'59 17.56872 AU				
direct	3910 Aug 16 15:28	8°♏37'06	conjunction	3915 Dec 28 18:10	5°♏48'57 -0°08'58	
evening set	3910 Nov 19 20:01	12°♏02'47	minimum elong	3915 Dec 28 18:10	5°♏48'57 0°08'57	
			behind sun begin	3915 Dec 28 12:30	5°♏48'06	
conjunction	3910 Dec 05 21:26	13°♏02'30 0°09'06	behind sun end	3915 Dec 28 23:50	5°♏49'48	
minimum elong	3910 Dec 05 21:26	13°♏02'30 0°09'07	max. Earth dist.	3915 Dec 28 17:14	5°♏48'49 19.87984 AU	
behind sun begin	3910 Dec 05 15:48	13°♏01'38	morning rise	3916 Jan 13 12:37	6°♏46'52	
behind sun end	3910 Dec 06 03:04	13°♏03'21	retrograde	3916 Apr 13 21:40	10°♏02'35	
max. Earth dist.	3910 Dec 05 12:44	13°♏01'09 19.59277 AU	opposition	3916 Jun 28 07:27	8°♏02'24 -0°11'49	
morning rise	3910 Dec 21 19:31	14°♏01'45	min. Earth dist.	3916 Jun 28 06:46	8°♏02'28 17.91105 AU	
retrograde	3911 Mar 22 23:21	17°♏20'14	direct	3916 Sep 13 13:18	5°♏59'46	
opposition	3911 Jun 05 13:47	15°♏19'04 0°08'07	evening set	3916 Dec 16 14:21	9°♏19'29	
min. Earth dist.	3911 Jun 05 21:37	15°♏18'14 17.61785 AU				
direct	3911 Aug 21 16:16	13°♏14'34	conjunction	3917 Jan 01 10:16	10°♏17'25 -0°12'25	
evening set	3911 Nov 24 17:19	16°♏39'23	minimum elong	3917 Jan 01 10:15	10°♏17'25 0°12'25	
			behind sun begin	3917 Jan 01 05:53	10°♏16'46	
conjunction	3911 Dec 10 17:32	17°♏38'48 0°05'31	behind sun end	3917 Jan 01 14:38	10°♏18'04	
minimum elong	3911 Dec 10 17:33	17°♏38'48 0°05'30	max. Earth dist.	3917 Jan 01 11:55	10°♏17'40 19.94270 AU	
behind sun begin	3911 Dec 10 11:10	17°♏37'50	morning rise	3917 Jan 17 03:58	11°♏15'04	
behind sun end	3911 Dec 10 23:55	17°♏39'47	retrograde	3917 Apr 18 14:41	14°♏30'11	
max. Earth dist.	3911 Dec 10 09:40	17°♏37'36 19.64416 AU	opposition	3917 Jul 03 04:49	12°♏30'11 -0°15'37	
morning rise	3911 Dec 26 14:55	18°♏37'48	min. Earth dist.	3917 Jul 03 02:43	12°♏30'24 17.97407 AU	
retrograde	3912 Mar 26 19:40	21°♏55'45	direct	3917 Sep 18 10:37	10°♏27'55	
opposition	3912 Jun 09 13:16	19°♏54'47 0°04'05	evening set	3917 Dec 21 06:29	13°♏46'29	
min. Earth dist.	3912 Jun 09 18:36	19°♏54'13 17.67118 AU				
direct	3912 Aug 25 17:35	17°♏50'38	conjunction	3918 Jan 06 01:29	14°♏44'07 -0°15'46	
evening set	3912 Nov 28 13:37	21°♏14'32	minimum elong	3918 Jan 06 01:29	14°♏44'07 0°15'45	
			behind sun begin	3918 Jan 05 23:52	14°♏43'52	
conjunction	3912 Dec 14 13:02	22°♏13'40 0°01'53	behind sun end	3918 Jan 06 03:06	14°♏44'21	
minimum elong	3912 Dec 14 13:02	22°♏13'40 0°01'54	max. Earth dist.	3918 Jan 06 03:38	14°♏44'26 20.00585 AU	
behind sun begin	3912 Dec 14 06:26	22°♏12'40	morning rise	3918 Jan 21 18:50	15°♏41'30	
behind sun end	3912 Dec 14 19:38	22°♏14'40	retrograde	3918 Apr 23 07:21	18°♏56'01	
max. Earth dist.	3912 Dec 14 08:08	22°♏12'56 19.69931 AU	opposition	3918 Jul 08 01:23	16°♏56'09 -0°19'18	
morning rise	3912 Dec 30 09:26	23°♏12'23	min. Earth dist.	3918 Jul 07 21:59	16°♏56'30 18.03734 AU	
retrograde	3913 Mar 31 14:31	26°♏29'47	direct	3918 Sep 23 06:35	14°♏54'13	
opposition	3913 Jun 14 12:34	24°♏29'02 0°00'03	evening set	3918 Dec 25 21:30	18°♏11'38	
min. Earth dist.	3913 Jun 14 16:52	24°♏28'35 17.72789 AU				
desc. node	3913 Jun 19 01:20	24°♏17'37	conjunction	3919 Jan 10 15:59	19°♏08'58 -0°19'01	
direct	3913 Aug 30 17:23	22°♏25'16	minimum elong	3919 Jan 10 15:59	19°♏08'58 0°19'01	

max. Earth dist.	3919 Jan 10 20:26	19°  09'38	20.06902 AU	opposition	3925 Aug 08 06:41	17°  05'18	-0°40'10
morning rise	3919 Jan 26 08:46	20°  06'05		min. Earth dist.	3925 Aug 07 15:57	17°  06'47	18.47770 AU
retrograde	3919 Apr 27 23:26	23°  20'00		direct	3925 Oct 24 07:37	15°  05'44	
opposition	3919 Jul 12 21:23	21°  20'14	-0°22'50	evening set	3926 Jan 24 05:59	18°  15'05	
min. Earth dist.	3919 Jul 12 16:19	21°  20'46	18.10029 AU				
direct	3919 Sep 28 02:29	19°  18'39		conjunction	3926 Feb 08 21:21	19°  10'34	-0°37'15
evening set	3919 Dec 30 11:39	22°  34'52		minimum elong	3926 Feb 08 21:21	19°  10'34	0°37'14
				max. Earth dist.	3926 Feb 09 12:26	19°  12'49	20.50853 AU
conjunction	3920 Jan 15 05:22	23°  31'54	-0°22'08	morning rise	3926 Feb 24 12:58	20°  06'05	
minimum elong	3920 Jan 15 05:21	23°  31'54	0°22'08	retrograde	3926 May 27 21:58	23°  16'12	
max. Earth dist.	3920 Jan 15 10:31	23°  32'41	20.13187 AU	opposition	3926 Aug 12 21:50	21°  17'04	-0°42'18
morning rise	3920 Jan 30 21:52	24°  28'46		min. Earth dist.	3926 Aug 12 06:47	21°  18'35	18.53916 AU
retrograde	3920 May 01 14:32	27°  42'05		direct	3926 Oct 28 19:52	19°  17'53	
opposition	3920 Jul 16 16:46	25°  42'23	-0°26'13	evening set	3927 Jan 28 14:33	22°  26'12	
min. Earth dist.	3920 Jul 16 10:34	25°  43'01	18.16316 AU				
direct	3920 Oct 01 20:43	23°  41'06		conjunction	3927 Feb 13 05:50	23°  21'29	-0°39'05
evening set	3921 Jan 03 00:43	26°  56'07		minimum elong	3927 Feb 13 05:50	23°  21'28	0°39'04
				max. Earth dist.	3927 Feb 13 22:27	23°  23'56	20.56919 AU
conjunction	3921 Jan 18 18:01	27°  52'53	-0°25'06	morning rise	3927 Feb 28 21:29	24°  16'49	
minimum elong	3921 Jan 18 18:01	27°  52'53	0°25'06	retrograde	3927 Jun 01 10:27	27°  26'29	
max. Earth dist.	3921 Jan 19 01:34	27°  54'01	20.19469 AU	opposition	3927 Aug 17 12:24	25°  27'29	-0°44'12
morning rise	3921 Feb 03 10:06	28°  49'29		min. Earth dist.	3927 Aug 16 19:17	25°  29'13	18.59879 AU
	3921 Feb 24 08:06	0°  00'00		direct	3927 Nov 02 10:30	23°  28'40	
retrograde	3921 May 06 05:52	2°  02'12		evening set	3928 Feb 01 22:34	26°  35'59	
opposition	3921 Jul 21 11:18	0°  02'34	-0°29'24				
min. Earth dist.	3921 Jul 21 03:01	0°  03'25	18.22595 AU	conjunction	3928 Feb 17 13:40	27°  31'04	-0°40'42
	3921 Jul 22 12:27	30°  00'00		minimum elong	3928 Feb 17 13:40	27°  31'04	0°40'42
direct	3921 Oct 06 15:29	28°  01'36		max. Earth dist.	3928 Feb 18 07:11	27°  33'39	20.62760 AU
	3921 Dec 15 22:54	0°  00'00		morning rise	3928 Mar 04 05:30	28°  26'14	
evening set	3922 Jan 07 12:57	1°  15'25			3928 Apr 02 15:16	0°  00'00	
				retrograde	3928 Jun 04 20:33	1°  35'31	
conjunction	3922 Jan 23 05:38	2°  11'54	-0°27'54		3928 Aug 11 08:27	30°  00'00	
minimum elong	3922 Jan 23 05:38	2°  11'54	0°27'55	min. Earth dist.	3928 Aug 20 09:31	29°  38'20	18.65605 AU
max. Earth dist.	3922 Jan 23 14:15	2°  13'12	20.25749 AU	opposition	3928 Aug 21 02:36	29°  36'37	-0°45'52
morning rise	3922 Feb 07 21:36	3°  08'16		direct	3928 Nov 05 21:27	27°  38'09	
retrograde	3922 May 10 19:09	6°  20'24			3929 Jan 22 23:23	0°  00'00	
opposition	3922 Jul 26 05:13	4°  20'51	-0°32'25	evening set	3929 Feb 05 06:05	0°  44'31	
min. Earth dist.	3922 Jul 25 19:55	4°  21'48	18.28897 AU				
direct	3922 Oct 11 07:49	2°  20'12		conjunction	3929 Feb 20 21:14	1°  39'24	-0°42'06
evening set	3923 Jan 12 00:18	5°  32'51		minimum elong	3929 Feb 20 21:14	1°  39'24	0°42'07
				max. Earth dist.	3929 Feb 21 15:49	1°  42'08	20.68340 AU
conjunction	3923 Jan 27 16:38	6°  29'04	-0°30'32	morning rise	3929 Mar 08 13:15	2°  34'25	
minimum elong	3923 Jan 27 16:38	6°  29'04	0°30'31	retrograde	3929 Jun 09 08:03	5°  43'18	
max. Earth dist.	3923 Jan 28 03:30	6°  30'41	20.32054 AU	opposition	3929 Aug 25 15:55	3°  44'31	-0°47'17
morning rise	3923 Feb 12 08:18	7°  25'11		min. Earth dist.	3929 Aug 24 21:05	3°  46'24	18.71022 AU
retrograde	3923 May 15 09:51	10°  36'46		direct	3929 Nov 10 10:14	1°  46'21	
opposition	3923 Jul 30 22:16	8°  37'18	-0°35'13	evening set	3930 Feb 09 13:14	4°  51'49	
min. Earth dist.	3923 Jul 30 10:38	8°  38'29	18.35203 AU				
direct	3923 Oct 16 01:11	6°  37'00		conjunction	3930 Feb 25 04:23	5°  46'32	-0°43'17
evening set	3924 Jan 16 10:59	9°  48'31		minimum elong	3930 Feb 25 04:23	5°  46'32	0°43'17
				max. Earth dist.	3930 Feb 25 23:29	5°  49'20	20.73567 AU
conjunction	3924 Feb 01 02:51	10°  44'28	-0°32'58	morning rise	3930 Mar 12 20:44	6°  41'25	
minimum elong	3924 Feb 01 02:51	10°  44'28	0°32'58	retrograde	3930 Jun 13 17:35	9°  49'57	
max. Earth dist.	3924 Feb 01 14:52	10°  46'16	20.38361 AU	min. Earth dist.	3930 Aug 29 10:34	7°  53'04	18.76065 AU
morning rise	3924 Feb 16 18:28	11°  40'23		opposition	3930 Aug 30 04:56	7°  51'13	-0°48'28
retrograde	3924 May 18 21:33	14°  51'27		direct	3930 Nov 14 20:05	5°  53'21	
opposition	3924 Aug 03 14:54	12°  52'05	-0°37'48	evening set	3931 Feb 13 19:51	8°  57'55	
min. Earth dist.	3924 Aug 03 02:26	12°  53'21	18.41516 AU				
direct	3924 Oct 19 15:33	10°  52'08		conjunction	3931 Mar 01 11:09	9°  52'29	-0°44'15
evening set	3925 Jan 19 20:42	14°  02'33		minimum elong	3931 Mar 01 11:09	9°  52'29	0°44'16
				max. Earth dist.	3931 Mar 02 06:51	9°  55'22	20.78400 AU
conjunction	3925 Feb 04 12:22	14°  58'16	-0°35'12	morning rise	3931 Mar 17 03:47	10°  47'15	
minimum elong	3925 Feb 04 12:22	14°  58'16	0°35'12	retrograde	3931 Jun 18 04:11	13°  55'27	
	3925 Feb 04 23:59	15°  00'00		opposition	3931 Sep 03 17:14	11°  56'45	-0°49'23
max. Earth dist.	3925 Feb 05 02:26	15°  00'22	20.44654 AU	min. Earth dist.	3931 Sep 02 21:20	11°  58'45	18.80678 AU
morning rise	3925 Feb 20 03:54	15°  53'58		direct	3931 Nov 19 07:40	9°  59'07	
retrograde	3925 May 23 11:21	19°  04'33		evening set	3932 Feb 18 02:09	13°  02'51	

conjunction	3932 Mar 04 17:35	13° $\text{H}57'17''$	-0°44'59"	retrograde	3938 Jul 16 15:13	12° $\text{Y}05'49''$	
minimum elong	3932 Mar 04 17:35	13° $\text{H}57'17''$	0°44'58"	opposition	3938 Oct 02 16:38	10° $\text{Y}06'53''$	-0°48'47"
max. Earth dist.	3932 Mar 05 13:39	14° $\text{H}00'12''$	20.82785 AU	min. Earth dist.	3938 Oct 01 19:35	10° $\text{Y}08'59''$	19.01778 AU
morning rise	3932 Mar 20 10:39	14° $\text{H}51'56''$		direct	3938 Dec 17 14:50	8° $\text{Y}10'16''$	
retrograde	3932 Jun 21 12:56	17° $\text{H}59'49''$		evening set	3939 Mar 17 12:13	11° $\text{Y}09'45''$	
min. Earth dist.	3932 Sep 06 09:56	16° $\text{H}03'03''$	18.84849 AU				
opposition	3932 Sep 07 05:12	16° $\text{H}01'07''$	-0°50'03"	conjunction	3939 Apr 02 06:45	12° $\text{Y}03'45''$	-0°43'43"
direct	3932 Nov 22 16:24	14° $\text{H}03'41''$		minimum elong	3939 Apr 02 06:45	12° $\text{Y}03'45''$	0°43'43"
evening set	3933 Feb 21 07:51	17° $\text{H}06'36''$		max. Earth dist.	3939 Apr 03 05:25	12° $\text{Y}07'00''$	21.02583 AU
				morning rise	3939 Apr 18 04:07	12° $\text{Y}58'10''$	
conjunction	3933 Mar 08 23:38	18° $\text{H}00'55''$	-0°45'29"	retrograde	3939 Jul 21 00:38	16° $\text{Y}04'49''$	
minimum elong	3933 Mar 08 23:38	18° $\text{H}00'55''$	0°45'29"	min. Earth dist.	3939 Oct 06 03:04	14° $\text{Y}08'05''$	19.03373 AU
max. Earth dist.	3933 Mar 09 20:08	18° $\text{H}03'54''$	20.86740 AU	opposition	3939 Oct 07 01:07	14° $\text{Y}05'53''$	-0°47'44"
morning rise	3933 Mar 24 17:11	18° $\text{H}55'29''$		direct	3939 Dec 21 21:15	12° $\text{Y}09'23''$	
retrograde	3933 Jun 25 22:50	22° $\text{H}03'04''$		evening set	3940 Mar 20 16:39	15° $\text{Y}08'33''$	
opposition	3933 Sep 11 16:21	20° $\text{H}04'19''$	-0°50'28"				
min. Earth dist.	3933 Sep 10 19:42	20° $\text{H}06'23''$	18.88582 AU	conjunction	3940 Apr 05 11:47	16° $\text{Y}02'34''$	-0°42'40"
direct	3933 Nov 27 02:51	18° $\text{H}07'02''$		minimum elong	3940 Apr 05 11:47	16° $\text{Y}02'34''$	0°42'40"
evening set	3934 Feb 25 13:18	21° $\text{H}09'13''$		max. Earth dist.	3940 Apr 06 10:36	16° $\text{Y}05'51''$	21.03980 AU
				morning rise	3940 Apr 21 09:58	16° $\text{Y}57'02''$	
conjunction	3934 Mar 13 05:21	22° $\text{H}03'26''$	-0°45'45"	retrograde	3940 Jul 24 07:57	20° $\text{Y}03'42''$	
minimum elong	3934 Mar 13 05:21	22° $\text{H}03'26''$	0°45'45"	opposition	3940 Oct 10 09:27	18° $\text{Y}04'45''$	-0°46'27"
max. Earth dist.	3934 Mar 14 02:17	22° $\text{H}06'28''$	20.90256 AU	min. Earth dist.	3940 Oct 09 12:32	18° $\text{Y}06'51''$	19.04571 AU
morning rise	3934 Mar 28 23:26	22° $\text{H}57'56''$		direct	3940 Dec 25 02:31	16° $\text{Y}08'23''$	
retrograde	3934 Jun 30 06:25	26° $\text{H}05'14''$		evening set	3941 Mar 24 21:05	19° $\text{Y}07'18''$	
min. Earth dist.	3934 Sep 15 07:02	24° $\text{H}08'26''$	18.91909 AU				
opposition	3934 Sep 16 02:56	24° $\text{H}06'26''$	-0°50'38"	conjunction	3941 Apr 09 16:59	20° $\text{Y}01'21''$	-0°41'25"
direct	3934 Dec 01 10:18	22° $\text{H}09'17''$		minimum elong	3941 Apr 09 16:59	20° $\text{Y}01'21''$	0°41'25"
evening set	3935 Mar 01 18:19	25° $\text{H}10'47''$		max. Earth dist.	3941 Apr 10 15:26	20° $\text{Y}04'34''$	21.04976 AU
				morning rise	3941 Apr 25 16:00	20° $\text{Y}55'52''$	
conjunction	3935 Mar 17 10:46	26° $\text{H}04'55''$	-0°45'47"	retrograde	3941 Jul 28 17:53	24° $\text{Y}02'36''$	
minimum elong	3935 Mar 17 10:46	26° $\text{H}04'55''$	0°45'47"	opposition	3941 Oct 14 17:26	22° $\text{Y}03'38''$	-0°44'58"
max. Earth dist.	3935 Mar 18 08:10	26° $\text{H}08'01''$	20.93404 AU	min. Earth dist.	3941 Oct 13 19:57	22° $\text{Y}05'47''$	19.05338 AU
morning rise	3935 Apr 02 05:24	26° $\text{H}59'21''$		direct	3941 Dec 29 08:20	20° $\text{Y}07'21''$	
	3935 Jun 18 11:27	0° $\text{Y}$		evening set	3942 Mar 29 01:50	23° $\text{Y}06'07''$	
retrograde	3935 Jul 04 15:54	0° $\text{Y}06'26''$					
	3935 Jul 20 23:52	30° $\text{R}8''$		conjunction	3942 Apr 13 22:23	24° $\text{Y}00'13''$	-0°39'58"
opposition	3935 Sep 20 13:00	28° $\text{H}07'35''$	-0°50'32"	minimum elong	3942 Apr 13 22:24	24° $\text{Y}00'13''$	0°39'58"
min. Earth dist.	3935 Sep 19 15:39	28° $\text{H}09'43''$	18.94880 AU	max. Earth dist.	3942 Apr 14 20:35	24° $\text{Y}03'24''$	21.05498 AU
direct	3935 Dec 05 19:22	26° $\text{H}10'33''$		morning rise	3942 Apr 29 22:13	24° $\text{Y}54'48''$	
evening set	3936 Mar 04 22:59	29° $\text{H}11'26''$		retrograde	3942 Aug 02 01:06	28° $\text{Y}01'37''$	
	3936 Mar 19 01:47	0° $\text{Y}$		min. Earth dist.	3942 Oct 18 05:20	26° $\text{Y}04'39''$	19.05615 AU
				opposition	3942 Oct 19 01:19	26° $\text{Y}02'38''$	-0°43'15"
conjunction	3936 Mar 20 15:50	0° $\text{Y}05'30''$	-0°45'36"	direct	3943 Jan 02 13:30	24° $\text{Y}06'25''$	
minimum elong	3936 Mar 20 15:50	0° $\text{Y}05'30''$	0°45'36"	evening set	3943 Apr 02 06:45	27° $\text{Y}05'05''$	
max. Earth dist.	3936 Mar 21 13:49	0° $\text{Y}08'40''$	20.96195 AU				
morning rise	3936 Apr 05 11:05	0° $\text{Y}59'54''$		conjunction	3943 Apr 18 04:06	27° $\text{Y}59'15''$	-0°38'19"
retrograde	3936 Jul 07 22:53	4° $\text{Y}06'49''$		minimum elong	3943 Apr 18 04:06	27° $\text{Y}59'15''$	0°38'20"
opposition	3936 Sep 23 22:45	2° $\text{Y}07'55''$	-0°50'11"	max. Earth dist.	3943 Apr 19 01:28	28° $\text{Y}02'19''$	21.05531 AU
min. Earth dist.	3936 Sep 23 02:04	2° $\text{Y}09'59''$	18.97514 AU	morning rise	3943 May 04 04:48	28° $\text{Y}53'55''$	
direct	3936 Dec 09 01:44	0° $\text{Y}11'02''$			3943 May 24 22:07	0° $\text{B}$	
evening set	3937 Mar 09 03:32	3° $\text{Y}11'22''$		retrograde	3943 Aug 06 11:46	2° $\text{B}00'51''$	
				opposition	3943 Oct 23 09:03	0° $\text{B}01'50''$	-0°41'19"
conjunction	3937 Mar 24 20:55	4° $\text{Y}05'23''$	-0°45'11"	min. Earth dist.	3943 Oct 22 12:53	0° $\text{B}03'51''$	19.05378 AU
minimum elong	3937 Mar 24 20:55	4° $\text{Y}05'23''$	0°45'10"		3943 Oct 24 03:16	30° $\text{R}8''$	
max. Earth dist.	3937 Mar 25 19:12	4° $\text{Y}08'36''$	20.98670 AU	direct	3944 Jan 06 19:35	28° $\text{Y}05'37''$	
morning rise	3937 Apr 09 16:51	4° $\text{Y}59'46''$			3944 Mar 16 07:55	0° $\text{B}$	
retrograde	3937 Jul 12 08:17	8° $\text{Y}06'32''$		evening set	3944 Apr 05 11:53	1° $\text{B}04'14''$	
min. Earth dist.	3937 Sep 27 09:49	6° $\text{Y}09'48''$	18.99821 AU				
opposition	3937 Sep 28 07:44	6° $\text{Y}07'37''$	-0°49'36"	conjunction	3944 Apr 21 10:03	1° $\text{B}58'30''$	-0°36'29"
direct	3937 Dec 13 09:15	4° $\text{Y}10'52''$		minimum elong	3944 Apr 21 10:03	1° $\text{B}58'30''$	0°36'29"
evening set	3938 Mar 13 08:00	7° $\text{Y}10'44''$		max. Earth dist.	3944 Apr 22 06:49	2° $\text{B}01'28''$	21.05009 AU
				morning rise	3944 May 07 11:39	2° $\text{B}53'16''$	
conjunction	3938 Mar 29 01:54	8° $\text{Y}04'44''$	-0°44'33"	retrograde	3944 Aug 09 18:59	6° $\text{B}00'20''$	
minimum elong	3938 Mar 29 01:54	8° $\text{Y}04'44''$	0°44'34"	opposition	3944 Oct 26 16:49	4° $\text{B}01'13''$	-0°39'12"
max. Earth dist.	3938 Mar 30 00:31	8° $\text{Y}08'00''$	21.00798 AU	min. Earth dist.	3944 Oct 25 22:23	4° $\text{B}03'05''$	19.04570 AU
morning rise	3938 Apr 13 22:32	8° $\text{Y}59'08''$		direct	3945 Jan 10 00:26	2° $\text{B}04'59''$	




















































































































evening set	3945 Apr 09 17:24	5°803'35		conjunction	3951 May 20 13:23	0°II01'34 -0°19'10
				minimum elong	3951 May 20 13:23	0°II01'34 0°19'10
conjunction	3945 Apr 25 16:27	5°857'57 -0°34'29			3951 May 20 02:22	0°II
minimum elong	3945 Apr 25 16:27	5°857'57 0°34'29		max. Earth dist.	3951 May 21 03:17	0°II03'34 20.87689 AU
max. Earth dist.	3945 Apr 26 11:59	6°800'45 21.03929 AU		morning rise	3951 Jun 05 21:35	0°II57'26
morning rise	3945 May 11 18:59	6°852'50		retrograde	3951 Sep 08 12:21	4°II06'11
retrograde	3945 Aug 14 05:31	10°800'03		opposition	3951 Nov 24 20:21	2°II05'55 -0°19'31
min. Earth dist.	3945 Oct 30 05:55	8°802'39 19.03201 AU		min. Earth dist.	3951 Nov 24 07:43	2°II07'13 18.85790 AU
opposition	3945 Oct 31 00:10	8°800'49 -0°36'53		direct	3952 Feb 07 18:39	0°II08'27
direct	3946 Jan 14 07:16	6°804'28		evening set	3952 May 07 16:58	3°II08'56
evening set	3946 Apr 13 23:08	9°803'08				
				conjunction	3952 May 23 22:35	4°II04'29 -0°16'12
conjunction	3946 Apr 29 23:03	9°857'38 -0°32'18		minimum elong	3952 May 23 22:36	4°II04'29 0°16'12
minimum elong	3946 Apr 29 23:03	9°857'38 0°32'17		max. Earth dist.	3952 May 24 11:53	4°II06'23 20.83806 AU
max. Earth dist.	3946 Apr 30 17:51	10°800'19 21.02283 AU		morning rise	3952 Jun 09 07:40	5°II00'33
morning rise	3946 May 16 02:30	10°852'38		retrograde	3952 Sep 11 22:16	8°II09'42
retrograde	3946 Aug 18 12:49	14°800'01		opposition	3952 Nov 28 04:07	6°II09'19 -0°16'10
opposition	3946 Nov 04 07:39	12°800'37 -0°34'22		min. Earth dist.	3952 Nov 27 17:02	6°II10'28 18.81768 AU
min. Earth dist.	3946 Nov 03 15:09	12°802'17 19.01292 AU		direct	3953 Feb 11 00:55	4°II11'40
direct	3947 Jan 18 11:51	10°804'08		evening set	3953 May 12 01:55	7°II12'43
evening set	3947 Apr 18 04:58	13°802'54				
				conjunction	3953 May 28 08:29	8°II08'30 -0°13'08
conjunction	3947 May 04 05:48	13°857'31 -0°29'57		minimum elong	3953 May 28 08:29	8°II08'30 0°13'07
minimum elong	3947 May 04 05:49	13°857'31 0°29'58		behind sun begin	3953 May 28 04:34	8°II07'57
max. Earth dist.	3947 May 04 23:29	14°800'03 21.00146 AU		behind sun end	3953 May 28 12:24	8°II09'03
morning rise	3947 May 20 10:14	14°852'41		max. Earth dist.	3953 May 28 20:03	8°II10'10 20.79665 AU
	3947 May 22 14:55	15°8		morning rise	3953 Jun 13 18:31	9°II04'47
retrograde	3947 Aug 22 22:52	18°800'15		retrograde	3953 Sep 16 09:53	12°II14'23
opposition	3947 Nov 08 15:00	16°800'40 -0°31'42		opposition	3953 Dec 02 11:55	10°II13'55 -0°12'43
min. Earth dist.	3947 Nov 07 22:40	16°802'19 18.98920 AU		min. Earth dist.	3953 Dec 02 01:28	10°II14'59 18.77488 AU
	3947 Dec 04 20:52	15°88		direct	3954 Feb 15 07:42	8°II16'03
direct	3948 Jan 22 19:09	14°804'00		evening set	3954 May 16 11:33	11°II17'47
	3948 Mar 10 02:42	15°8				
evening set	3948 Apr 21 11:18	17°802'57		conjunction	3954 Jun 01 19:06	12°II13'48 -0°09'59
				minimum elong	3954 Jun 01 19:07	12°II13'49 0°10'00
conjunction	3948 May 07 13:05	17°857'44 -0°27'27		behind sun begin	3954 Jun 01 13:44	12°II13'03
minimum elong	3948 May 07 13:05	17°857'44 0°27'27		behind sun end	3954 Jun 02 00:30	12°II14'34
max. Earth dist.	3948 May 08 06:11	18°800'11 20.97556 AU		max. Earth dist.	3954 Jun 02 05:57	12°II15'22 20.75245 AU
morning rise	3948 May 23 18:26	18°853'03		morning rise	3954 Jun 18 05:55	13°II10'19
retrograde	3948 Aug 26 06:46	22°800'51		retrograde	3954 Sep 20 20:50	16°II20'24
opposition	3948 Nov 11 22:15	20°801'04 -0°28'52		opposition	3954 Dec 06 20:15	14°II19'51 -0°09'12
min. Earth dist.	3948 Nov 11 07:35	20°802'34 18.96134 AU		min. Earth dist.	3954 Dec 06 11:29	14°II20'45 18.72926 AU
direct	3949 Jan 25 24:00	18°804'13		direct	3955 Feb 19 14:32	12°II21'48
evening set	3949 Apr 25 18:01	21°803'25		evening set	3955 May 20 21:53	15°II24'16
conjunction	3949 May 11 20:44	21°858'22 -0°24'49		conjunction	3955 Jun 06 06:21	16°II20'33 -0°06'47
minimum elong	3949 May 11 20:45	21°858'23 0°24'49		minimum elong	3955 Jun 06 06:21	16°II20'33 0°06'47
max. Earth dist.	3949 May 12 12:35	22°800'38 20.94598 AU		behind sun begin	3955 Jun 06 00:06	16°II19'40
morning rise	3949 May 28 03:06	22°853'51		behind sun end	3955 Jun 06 12:35	16°II21'25
retrograde	3949 Aug 30 16:55	26°801'55		max. Earth dist.	3955 Jun 06 15:10	16°II21'48 20.70553 AU
opposition	3949 Nov 16 05:30	24°801'58 -0°25'52		morning rise	3955 Jun 22 18:06	17°II17'18
min. Earth dist.	3949 Nov 15 15:03	24°803'27 18.92996 AU		retrograde	3955 Sep 25 09:51	20°II27'55
direct	3950 Jan 30 06:48	22°804'54		opposition	3955 Dec 11 04:54	18°II27'16 -0°05'36
evening set	3950 Apr 30 01:08	25°804'28		min. Earth dist.	3955 Dec 10 21:09	18°II28'04 18.68078 AU
				direct	3956 Feb 23 22:38	16°II29'00
conjunction	3950 May 16 04:47	25°859'36 -0°22'03		evening set	3956 May 24 09:15	19°II32'16
minimum elong	3950 May 16 04:47	25°859'36 0°22'04				
max. Earth dist.	3950 May 16 20:05	26°801'47 20.91286 AU		conjunction	3956 Jun 09 18:41	20°II28'49 -0°03'31
morning rise	3950 Jun 01 12:00	26°855'15		minimum elong	3956 Jun 09 18:42	20°II28'49 0°03'31
	3950 Aug 22 21:02	0°II		behind sun begin	3956 Jun 09 12:02	20°II27'53
retrograde	3950 Sep 04 01:38	0°II03'38		behind sun end	3956 Jun 10 01:21	20°II29'45
	3950 Sep 16 06:33	30°88		max. Earth dist.	3956 Jun 10 02:31	20°II29'56 20.65535 AU
opposition	3950 Nov 20 12:53	28°803'32 -0°22'45		morning rise	3956 Jun 26 07:09	21°II25'49
min. Earth dist.	3950 Nov 19 23:57	28°804'51 18.89529 AU		retrograde	3956 Sep 28 21:29	24°II36'57
direct	3951 Feb 03 12:19	26°806'16		opposition	3956 Dec 14 13:52	22°II36'14 -0°01'57
evening set	3951 May 04 08:46	29°806'14		min. Earth dist.	3956 Dec 14 08:07	22°II36'50 18.62887 AU
				direct	3957 Feb 27 06:21	20°II37'43

evening set	3957 May 28 21:32	23° $\Pi$ 41'51		minimum elong	3962 Jul 06 13:02	15° $\mathfrak{D}$ 50'41	0°16'24
				max. Earth dist.	3962 Jul 06 10:02	15° $\mathfrak{D}$ 50'15	20.29136 AU
conjunction	3957 Jun 14 07:49	24° $\Pi$ 38'39	-0°00'08	morning rise	3962 Jul 23 05:16	16° $\mathfrak{D}$ 49'12	
minimum elong	3957 Jun 14 07:49	24° $\Pi$ 38'39	0°00'09	retrograde	3962 Oct 25 11:17	20° $\mathfrak{D}$ 03'39	
behind sun begin	3957 Jun 14 01:12	24° $\Pi$ 37'43		opposition	3963 Jan 09 05:08	18° $\mathfrak{D}$ 01'55	0°19'58
behind sun end	3957 Jun 14 14:26	24° $\Pi$ 39'35		min. Earth dist.	3963 Jan 09 08:32	18° $\mathfrak{D}$ 01'33	18.25817 AU
max. Earth dist.	3957 Jun 14 12:59	24° $\Pi$ 39'22	20.60180 AU	direct	3963 Mar 24 21:36	16° $\mathfrak{D}$ 01'07	
asc. node	3957 Jun 29 00:59	25° $\Pi$ 29'58		evening set	3963 Jun 24 15:42	19° $\mathfrak{D}$ 11'12	
morning rise	3957 Jun 30 21:09	25° $\Pi$ 35'54					
retrograde	3957 Oct 03 11:38	28° $\Pi$ 47'36		conjunction	3963 Jul 11 06:41	20° $\mathfrak{D}$ 09'42	0°19'34
opposition	3957 Dec 18 23:22	26° $\Pi$ 46'45	0°01'44	minimum elong	3963 Jul 11 06:40	20° $\mathfrak{D}$ 09'42	0°19'34
min. Earth dist.	3957 Dec 18 19:00	26° $\Pi$ 47'12	18.57355 AU	max. Earth dist.	3963 Jul 11 00:59	20° $\mathfrak{D}$ 08'53	20.22538 AU
direct	3958 Mar 03 15:57	24° $\Pi$ 47'55		morning rise	3963 Jul 27 23:32	21° $\mathfrak{D}$ 08'30	
evening set	3958 Jun 02 10:25	27° $\Pi$ 52'57		retrograde	3963 Oct 30 03:50	24° $\mathfrak{D}$ 23'32	
				opposition	3964 Jan 13 17:24	22° $\mathfrak{D}$ 21'36	0°23'25
conjunction	3958 Jun 18 21:38	28° $\Pi$ 50'02	0°03'16	min. Earth dist.	3964 Jan 13 22:21	22° $\mathfrak{D}$ 21'04	18.19231 AU
minimum elong	3958 Jun 18 21:39	28° $\Pi$ 50'02	0°03'17	direct	3964 Mar 28 10:03	20° $\mathfrak{D}$ 20'23	
behind sun begin	3958 Jun 18 14:58	28° $\Pi$ 49'06		evening set	3964 Jun 28 09:44	23° $\mathfrak{D}$ 31'36	
behind sun end	3958 Jun 19 04:20	28° $\Pi$ 50'59					
max. Earth dist.	3958 Jun 19 01:44	28° $\Pi$ 50'36	20.54465 AU	conjunction	3964 Jul 15 01:29	24° $\mathfrak{D}$ 30'24	0°22'37
morning rise	3958 Jul 05 11:33	29° $\Pi$ 47'32		minimum elong	3964 Jul 15 01:29	24° $\mathfrak{D}$ 30'24	0°22'37
	3958 Jul 09 03:58	0° $\mathfrak{D}$		max. Earth dist.	3964 Jul 14 19:21	24° $\mathfrak{D}$ 29'30	20.15963 AU
retrograde	3958 Oct 07 23:57	2° $\mathfrak{D}$ 59'47		morning rise	3964 Jul 31 18:31	25° $\mathfrak{D}$ 29'26	
opposition	3958 Dec 23 09:19	0° $\mathfrak{D}$ 58'47	0°05'26	retrograde	3964 Nov 02 20:59	28° $\mathfrak{D}$ 45'01	
min. Earth dist.	3958 Dec 23 06:48	0° $\mathfrak{D}$ 59'03	18.51472 AU	opposition	3965 Jan 17 06:07	26° $\mathfrak{D}$ 42'58	0°26'46
	3959 Jan 16 21:26	30° $\mathfrak{R}$ $\Pi$		min. Earth dist.	3965 Jan 17 12:02	26° $\mathfrak{D}$ 42'20	18.12690 AU
direct	3959 Mar 08 01:10	28° $\Pi$ 59'37		direct	3965 Apr 01 23:02	24° $\mathfrak{D}$ 41'21	
	3959 Apr 25 20:07	0° $\mathfrak{D}$		evening set	3965 Jul 03 04:47	27° $\mathfrak{D}$ 53'44	
evening set	3959 Jun 07 00:16	2° $\mathfrak{D}$ 05'35					
				conjunction	3965 Jul 19 20:54	28° $\mathfrak{D}$ 52'49	0°25'34
conjunction	3959 Jun 23 12:16	3° $\mathfrak{D}$ 02'56	0°06'36	minimum elong	3965 Jul 19 20:54	28° $\mathfrak{D}$ 52'49	0°25'34
minimum elong	3959 Jun 23 12:16	3° $\mathfrak{D}$ 02'56	0°06'35	max. Earth dist.	3965 Jul 19 12:06	28° $\mathfrak{D}$ 51'30	20.09475 AU
behind sun begin	3959 Jun 23 05:59	3° $\mathfrak{D}$ 02'03		morning rise	3965 Aug 05 14:23	29° $\mathfrak{D}$ 52'06	
behind sun end	3959 Jun 23 18:34	3° $\mathfrak{D}$ 03'50			3965 Aug 07 20:58	0° $\mathfrak{D}$	
max. Earth dist.	3959 Jun 23 13:35	3° $\mathfrak{D}$ 03'06	20.48446 AU	retrograde	3965 Nov 07 14:49	3° $\mathfrak{D}$ 08'18	
morning rise	3959 Jul 10 03:00	4° $\mathfrak{D}$ 00'42		opposition	3966 Jan 21 19:39	1° $\mathfrak{D}$ 06'06	0°29'58
retrograde	3959 Oct 12 14:35	7° $\mathfrak{D}$ 13'29		min. Earth dist.	3966 Jan 22 03:08	1° $\mathfrak{D}$ 05'18	18.06273 AU
opposition	3959 Dec 27 19:36	5° $\mathfrak{D}$ 12'19	0°09'07		3966 Feb 17 23:51	30° $\mathfrak{R}$ $\mathfrak{D}$	
min. Earth dist.	3959 Dec 27 18:36	5° $\mathfrak{D}$ 12'25	18.45317 AU	direct	3966 Apr 06 12:55	29° $\mathfrak{D}$ 04'06	
direct	3960 Mar 11 11:47	3° $\mathfrak{D}$ 12'45			3966 May 23 03:21	0° $\mathfrak{D}$	
evening set	3960 Jun 10 14:51	6° $\mathfrak{D}$ 19'41		evening set	3966 Jul 08 00:24	2° $\mathfrak{D}$ 17'41	
conjunction	3960 Jun 27 03:50	7° $\mathfrak{D}$ 17'21	0°09'55	conjunction	3966 Jul 24 17:10	3° $\mathfrak{D}$ 17'03	0°28'23
minimum elong	3960 Jun 27 03:49	7° $\mathfrak{D}$ 17'20	0°09'55	minimum elong	3966 Jul 24 17:10	3° $\mathfrak{D}$ 17'03	0°28'22
behind sun begin	3960 Jun 26 22:23	7° $\mathfrak{D}$ 16'34		max. Earth dist.	3966 Jul 24 08:10	3° $\mathfrak{D}$ 15'42	20.03121 AU
behind sun end	3960 Jun 27 09:15	7° $\mathfrak{D}$ 18'07		morning rise	3966 Aug 10 10:41	4° $\mathfrak{D}$ 16'35	
max. Earth dist.	3960 Jun 27 04:12	7° $\mathfrak{D}$ 17'24	20.42166 AU	retrograde	3966 Nov 12 09:18	7° $\mathfrak{D}$ 33'22	
morning rise	3960 Jul 13 19:02	8° $\mathfrak{D}$ 15'21		opposition	3967 Jan 26 09:48	5° $\mathfrak{D}$ 31'05	0°33'01
retrograde	3960 Oct 16 04:28	11° $\mathfrak{D}$ 28'41		min. Earth dist.	3967 Jan 26 17:55	5° $\mathfrak{D}$ 30'13	17.99994 AU
opposition	3960 Dec 31 06:19	9° $\mathfrak{D}$ 27'19	0°12'47	direct	3967 Apr 11 03:24	3° $\mathfrak{D}$ 28'46	
min. Earth dist.	3960 Dec 31 06:58	9° $\mathfrak{D}$ 27'15	18.38931 AU	evening set	3967 Jul 12 21:19	6° $\mathfrak{D}$ 43'34	
direct	3961 Mar 15 22:25	7° $\mathfrak{D}$ 27'22					
evening set	3961 Jun 15 06:22	10° $\mathfrak{D}$ 35'19		conjunction	3967 Jul 29 14:20	7° $\mathfrak{D}$ 43'12	0°31'03
				minimum elong	3967 Jul 29 14:20	7° $\mathfrak{D}$ 43'12	0°31'02
conjunction	3961 Jul 01 19:57	11° $\mathfrak{D}$ 33'14	0°13'11	max. Earth dist.	3967 Jul 29 02:44	7° $\mathfrak{D}$ 41'28	19.96927 AU
minimum elong	3961 Jul 01 19:57	11° $\mathfrak{D}$ 33'14	0°13'11	morning rise	3967 Aug 15 08:08	8° $\mathfrak{D}$ 42'58	
behind sun begin	3961 Jul 01 16:06	11° $\mathfrak{D}$ 32'41		retrograde	3967 Nov 17 04:17	12° $\mathfrak{D}$ 00'22	
behind sun end	3961 Jul 01 23:47	11° $\mathfrak{D}$ 33'47		opposition	3968 Jan 31 00:36	9° $\mathfrak{D}$ 58'01	0°35'54
max. Earth dist.	3961 Jul 01 17:33	11° $\mathfrak{D}$ 32'54	20.35705 AU	min. Earth dist.	3968 Jan 31 10:34	9° $\mathfrak{D}$ 56'57	17.93891 AU
morning rise	3961 Jul 18 11:52	12° $\mathfrak{D}$ 31'31		direct	3968 Apr 14 18:48	7° $\mathfrak{D}$ 55'23	
retrograde	3961 Oct 20 19:42	15° $\mathfrak{D}$ 45'24		evening set	3968 Jul 16 19:04	11° $\mathfrak{D}$ 11'26	
opposition	3962 Jan 04 17:27	13° $\mathfrak{D}$ 43'51	0°16'25				
min. Earth dist.	3962 Jan 04 19:37	13° $\mathfrak{D}$ 43'37	18.32412 AU	conjunction	3968 Aug 02 12:35	12° $\mathfrak{D}$ 11'21	0°33'33
direct	3962 Mar 20 09:47	11° $\mathfrak{D}$ 43'28		minimum elong	3968 Aug 02 12:35	12° $\mathfrak{D}$ 11'21	0°33'33
evening set	3962 Jun 19 22:36	14° $\mathfrak{D}$ 52'28		max. Earth dist.	3968 Aug 02 00:34	12° $\mathfrak{D}$ 09'33	19.90897 AU
				morning rise	3968 Aug 19 06:18	13° $\mathfrak{D}$ 11'21	
conjunction	3962 Jul 06 13:02	15° $\mathfrak{D}$ 50'41	0°16'25		3968 Sep 22 03:33	15° $\mathfrak{D}$	

retrograde	3968 Nov 21 00:12	16°Ω29'20		min. Earth dist.	3975 Mar 03 22:22	11°Π56'11	17.55544 AU
	3969 Jan 21 17:59	15°κΩ		direct	3975 May 17 11:50	9°Π53'15	
opposition	3969 Feb 03 16:09	14°Ω26'57	0°38'36	evening set	3975 Aug 20 02:16	13°Π17'20	
min. Earth dist.	3969 Feb 04 02:45	14°Ω25'49	17.87931 AU				
direct	3969 Apr 19 11:31	12°Ω24'02		conjunction	3975 Sep 05 19:45	14°Π18'43	0°44'51
	3969 Jul 09 18:05	15°Ω		minimum elong	3975 Sep 05 19:45	14°Π18'43	0°44'51
evening set	3969 Jul 21 17:52	15°Ω41'19		max. Earth dist.	3975 Sep 04 21:49	14°Π15'20	19.53236 AU
				morning rise	3975 Sep 22 11:26	15°Π19'53	
conjunction	3969 Aug 07 11:26	16°Ω41'29	0°35'52	retrograde	3975 Dec 24 04:51	18°Π41'08	
minimum elong	3969 Aug 07 11:26	16°Ω41'29	0°35'51	opposition	3976 Mar 07 01:11	16°Π38'22	0°50'18
max. Earth dist.	3969 Aug 06 20:50	16°Ω39'17	19.85001 AU	min. Earth dist.	3976 Mar 07 20:25	16°Π36'16	17.51088 AU
morning rise	3969 Aug 24 05:11	17°Ω41'42		direct	3976 May 21 09:23	14°Π33'12	
retrograde	3969 Nov 25 19:56	21°Ω00'17		evening set	3976 Aug 24 05:39	17°Π58'14	
opposition	3970 Feb 08 08:34	18°Ω57'52	0°41'04				
min. Earth dist.	3970 Feb 08 21:15	18°Ω56'30	17.82114 AU	conjunction	3976 Sep 09 22:44	18°Π59'44	0°45'23
direct	3970 Apr 24 04:28	16°Ω54'38		minimum elong	3976 Sep 09 22:44	18°Π59'44	0°45'23
evening set	3970 Jul 26 17:25	20°Ω13'09		max. Earth dist.	3976 Sep 08 23:54	18°Π56'13	19.48991 AU
				morning rise	3976 Sep 26 13:55	20°Π01'00	
conjunction	3970 Aug 12 11:18	21°Ω13'35	0°37'58	retrograde	3976 Dec 28 04:48	23°Π22'32	
minimum elong	3970 Aug 12 11:18	21°Ω13'35	0°37'59	opposition	3977 Mar 11 22:06	21°Π19'43	0°50'44
max. Earth dist.	3970 Aug 11 20:02	21°Ω11'16	19.79244 AU	min. Earth dist.	3977 Mar 12 16:51	21°Π17'40	17.47070 AU
morning rise	3970 Aug 29 04:50	22°Ω13'59		direct	3977 May 26 10:03	19°Π14'17	
retrograde	3970 Nov 30 17:13	25°Ω33'07		evening set	3977 Aug 29 09:10	22°Π40'10	
opposition	3971 Feb 13 01:34	23°Ω30'40	0°43'19	max. Earth dist.	3977 Sep 14 03:15	23°Π38'18	19.45203 AU
min. Earth dist.	3971 Feb 13 14:46	23°Ω29'14	17.76421 AU				
direct	3971 Apr 28 23:38	21°Ω27'07		conjunction	3977 Sep 15 01:53	23°Π41'48	0°45'37
evening set	3971 Jul 31 17:56	24°Ω46'50		minimum elong	3977 Sep 15 01:53	23°Π41'48	0°45'37
				morning rise	3977 Oct 01 16:15	24°Π43'08	
conjunction	3971 Aug 17 11:50	25°Ω47'29	0°39'52	retrograde	3978 Jan 02 03:26	28°Π04'55	
minimum elong	3971 Aug 17 11:49	25°Ω47'29	0°39'52	opposition	3978 Mar 16 19:42	26°Π02'04	0°50'50
max. Earth dist.	3971 Aug 16 18:09	25°Ω44'48	19.73612 AU	min. Earth dist.	3978 Mar 17 15:36	25°Π59'53	17.43547 AU
morning rise	3971 Sep 03 05:14	26°Ω48'05		direct	3978 May 31 08:51	23°Π56'24	
	3971 Nov 18 17:13	0°Π		evening set	3978 Sep 03 13:07	27°Π23'05	
retrograde	3971 Dec 05 13:34	0°Π07'44		max. Earth dist.	3978 Sep 19 05:45	28°Π21'08	19.41956 AU
	3971 Dec 22 12:19	30°κΩ					
opposition	3972 Feb 17 19:31	28°Ω05'13	0°45'18	conjunction	3978 Sep 20 05:14	28°Π24'47	0°45'32
min. Earth dist.	3972 Feb 18 10:55	28°Ω03'33	17.70872 AU	minimum elong	3978 Sep 20 05:14	28°Π24'47	0°45'33
direct	3972 May 02 18:20	26°Ω01'20		morning rise	3978 Oct 06 19:01	29°Π26'11	
evening set	3972 Aug 04 19:10	29°Ω22'14			3978 Oct 16 05:59	0°Ω	
	3972 Aug 15 05:49	0°Π		retrograde	3979 Jan 07 03:45	2°Ω48'09	
conjunction	3972 Aug 21 13:08	0°Π23'06	0°41'31	opposition	3979 Mar 21 17:36	0°Ω45'19	0°50'36
minimum elong	3972 Aug 21 13:08	0°Π23'06	0°41'31	min. Earth dist.	3979 Mar 22 12:48	0°Ω43'13	17.40585 AU
max. Earth dist.	3972 Aug 20 18:34	0°Π20'16	19.68143 AU	direct	3979 Apr 08 09:05	30°κΠ	
morning rise	3972 Sep 07 06:11	1°Π23'52			3979 Jun 05 09:31	28°Π39'28	
retrograde	3972 Dec 09 11:42	4°Π43'58		evening set	3979 Jul 31 15:42	0°Ω	
opposition	3973 Feb 21 13:54	2°Π41'24	0°47'01	max. Earth dist.	3979 Sep 08 17:17	2°Ω06'52	
min. Earth dist.	3973 Feb 22 05:32	2°Π39'42	17.65497 AU		3979 Sep 24 10:22	3°Ω05'08	19.39276 AU
direct	3973 May 07 15:54	0°Π37'12		conjunction	3979 Sep 25 08:58	3°Ω08'39	0°45'09
evening set	3973 Aug 09 21:05	3°Π59'12		minimum elong	3979 Sep 25 08:58	3°Ω08'39	0°45'09
				morning rise	3979 Oct 11 21:48	4°Ω10'03	
conjunction	3973 Aug 26 14:55	5°Π00'16	0°42'54	retrograde	3980 Jan 12 03:33	7°Ω32'12	
minimum elong	3973 Aug 26 14:54	5°Π00'16	0°42'54	opposition	3980 Mar 25 16:17	5°Ω29'24	0°50'00
max. Earth dist.	3973 Aug 25 18:39	4°Π57'10	19.62875 AU	min. Earth dist.	3980 Mar 26 12:10	5°Ω27'14	17.38198 AU
morning rise	3973 Sep 12 07:35	6°Π01'11		direct	3980 Jun 09 09:29	3°Ω23'27	
retrograde	3973 Dec 14 08:28	9°Π21'43		evening set	3980 Sep 12 21:44	6°Ω51'30	
opposition	3974 Feb 26 09:10	7°Π19'04	0°48'25				
min. Earth dist.	3974 Feb 27 02:47	7°Π17'09	17.60369 AU	conjunction	3980 Sep 29 12:35	7°Ω53'18	0°44'28
direct	3974 May 12 12:10	5°Π14'32		minimum elong	3980 Sep 29 12:35	7°Ω53'18	0°44'29
evening set	3974 Aug 14 23:19	8°Π37'37		max. Earth dist.	3980 Sep 28 13:05	7°Ω49'37	19.37191 AU
				morning rise	3980 Oct 16 00:43	8°Ω54'43	
conjunction	3974 Aug 31 17:02	9°Π38'51	0°44'01	retrograde	3981 Jan 16 03:49	12°Ω16'59	
minimum elong	3974 Aug 31 17:02	9°Π38'51	0°44'01	opposition	3981 Mar 30 15:19	10°Ω14'17	0°49'04
max. Earth dist.	3974 Aug 30 19:57	9°Π35'36	19.57893 AU	min. Earth dist.	3981 Mar 31 10:31	10°Ω12'11	17.36407 AU
morning rise	3974 Sep 17 09:19	10°Π39'54		direct	3981 Jun 14 10:40	8°Ω08'16	
retrograde	3974 Dec 19 07:31	14°Π00'49		evening set	3981 Sep 18 02:09	11°Ω36'52	
opposition	3975 Mar 03 04:52	11°Π58'06	0°49'31				

conjunction	3981 Oct 04 16:27	12° <u>♄</u> 38'41	0°43'29		3988 Jan 12 20:31	15° <u>♄</u>	
minimum elong	3981 Oct 04 16:27	12° <u>♄</u> 38'41	0°43'29	retrograde	3988 Feb 19 02:15	15° <u>♄</u> 38'25	
max. Earth dist.	3981 Oct 03 18:20	12° <u>♄</u> 35'13	19.35683 AU		3988 Mar 28 07:56	15° <u>♄</u>	
morning rise	3981 Oct 21 03:30	13° <u>♄</u> 40'04		opposition	3988 May 02 19:26	13° <u>♄</u> 36'28	0°33'43
retrograde	3982 Jan 21 04:09	17° <u>♄</u> 02'25		min. Earth dist.	3988 May 03 12:10	13° <u>♄</u> 34'40	17.37663 AU
opposition	3982 Apr 04 14:57	14° <u>♄</u> 59'50	0°47'49	direct	3988 Jul 18 09:57	11° <u>♄</u> 30'39	
min. Earth dist.	3982 Apr 05 10:26	14° <u>♄</u> 57'42	17.35172 AU	evening set	3988 Oct 22 05:40	14° <u>♄</u> 59'56	
direct	3982 Jun 19 12:25	12° <u>♄</u> 53'48			3988 Oct 22 06:03	15° <u>♄</u>	
evening set	3982 Sep 23 06:42	16° <u>♄</u> 22'51					
conjunction	3982 Oct 09 20:04	17° <u>♄</u> 24'39	0°42'11	conjunction	3988 Nov 07 13:21	16° <u>♄</u> 01'04	0°28'47
minimum elong	3982 Oct 09 20:04	17° <u>♄</u> 24'39	0°42'11	minimum elong	3988 Nov 07 13:21	16° <u>♄</u> 01'04	0°28'47
max. Earth dist.	3982 Oct 08 21:03	17° <u>♄</u> 21'02	19.34718 AU	max. Earth dist.	3988 Nov 06 18:19	15° <u>♄</u> 58'05	19.38569 AU
morning rise	3982 Oct 26 06:22	18° <u>♄</u> 26'00		morning rise	3988 Nov 23 17:24	17° <u>♄</u> 01'41	
retrograde	3983 Jan 26 03:37	21° <u>♄</u> 48'23		retrograde	3989 Feb 23 00:25	20° <u>♄</u> 22'55	
opposition	3983 Apr 09 14:56	19° <u>♄</u> 45'54	0°46'13	opposition	3989 May 07 20:44	18° <u>♄</u> 21'03	0°30'26
min. Earth dist.	3983 Apr 10 10:06	19° <u>♄</u> 43'49	17.34463 AU	min. Earth dist.	3989 May 08 13:20	18° <u>♄</u> 19'16	17.39642 AU
direct	3983 Jun 24 14:44	17° <u>♄</u> 39'53		direct	3989 Jul 23 12:26	16° <u>♄</u> 15'18	
evening set	3983 Sep 28 11:13	21° <u>♄</u> 09'17		evening set	3989 Oct 27 07:43	19° <u>♄</u> 44'14	
conjunction	3983 Oct 14 23:53	22° <u>♄</u> 11'02	0°40'36	conjunction	3989 Nov 12 14:23	20° <u>♄</u> 45'10	0°25'45
minimum elong	3983 Oct 14 23:53	22° <u>♄</u> 11'02	0°40'37	minimum elong	3989 Nov 12 14:23	20° <u>♄</u> 45'10	0°25'45
max. Earth dist.	3983 Oct 14 02:15	22° <u>♄</u> 07'38	19.34245 AU	max. Earth dist.	3989 Nov 11 20:42	20° <u>♄</u> 42'23	19.40795 AU
morning rise	3983 Oct 31 09:03	23° <u>♄</u> 12'18		morning rise	3989 Nov 28 17:28	21° <u>♄</u> 45'35	
retrograde	3984 Jan 31 03:57	26° <u>♄</u> 34'38		retrograde	3990 Feb 28 00:05	25° <u>♄</u> 06'26	
opposition	3984 Apr 13 15:21	24° <u>♄</u> 32'18	0°44'18	opposition	3990 May 12 21:41	23° <u>♄</u> 04'38	0°26'58
min. Earth dist.	3984 Apr 14 10:24	24° <u>♄</u> 30'13	17.34214 AU	min. Earth dist.	3990 May 13 12:17	23° <u>♄</u> 03'04	17.42100 AU
direct	3984 Jun 28 18:30	22° <u>♄</u> 26'19		direct	3990 Jul 28 16:42	20° <u>♄</u> 59'00	
evening set	3984 Oct 02 15:46	25° <u>♄</u> 55'55		evening set	3990 Nov 01 09:01	24° <u>♄</u> 27'26	
max. Earth dist.	3984 Oct 18 05:01	26° <u>♄</u> 54'05	19.34229 AU				
conjunction	3984 Oct 19 03:21	26° <u>♄</u> 57'36	0°38'45	conjunction	3990 Nov 17 14:41	25° <u>♄</u> 28'10	0°22'34
minimum elong	3984 Oct 19 03:21	26° <u>♄</u> 57'36	0°38'44	minimum elong	3990 Nov 17 14:41	25° <u>♄</u> 28'10	0°22'35
morning rise	3984 Nov 04 11:37	27° <u>♄</u> 58'47		max. Earth dist.	3990 Nov 16 22:34	25° <u>♄</u> 25'39	19.43505 AU
	3984 Dec 11 04:13	0° <u>♄</u>		morning rise	3990 Dec 03 16:42	26° <u>♄</u> 28'23	
retrograde	3985 Feb 04 03:01	1° <u>♄</u> 21'02		retrograde	3991 Mar 04 21:16	29° <u>♄</u> 48'48	
	3985 Apr 02 13:25	30° <u>♄</u>		opposition	3991 May 17 22:43	27° <u>♄</u> 47'06	0°23'20
opposition	3985 Apr 18 16:10	29° <u>♄</u> 18'47	0°42'04	min. Earth dist.	3991 May 18 13:00	27° <u>♄</u> 45'34	17.45069 AU
min. Earth dist.	3985 Apr 19 11:03	29° <u>♄</u> 16'44	17.34430 AU	direct	3991 Aug 02 18:09	25° <u>♄</u> 41'37	
direct	3985 Jul 03 21:42	27° <u>♄</u> 12'49		evening set	3991 Nov 06 09:37	29° <u>♄</u> 09'29	
	3985 Sep 25 23:30	0° <u>♄</u>			3991 Nov 19 22:36	0° <u>♄</u>	
evening set	3985 Oct 07 19:42	0° <u>♄</u> 42'32		conjunction	3991 Nov 22 14:08	0° <u>♄</u> 09'59	0°19'15
max. Earth dist.	3985 Oct 23 09:37	1° <u>♄</u> 40'49	19.34663 AU	minimum elong	3991 Nov 22 14:08	0° <u>♄</u> 09'59	0°19'14
conjunction	3985 Oct 24 06:29	1° <u>♄</u> 44'06	0°36'37	max. Earth dist.	3991 Nov 21 23:19	0° <u>♄</u> 07'40	19.46743 AU
minimum elong	3985 Oct 24 06:29	1° <u>♄</u> 44'06	0°36'37	morning rise	3991 Dec 08 15:13	1° <u>♄</u> 09'59	
morning rise	3985 Nov 09 13:38	2° <u>♄</u> 45'10		retrograde	3992 Mar 08 20:34	4° <u>♄</u> 29'57	
retrograde	3986 Feb 09 03:19	6° <u>♄</u> 07'15		opposition	3992 May 21 23:25	2° <u>♄</u> 28'22	0°19'33
opposition	3986 Apr 23 17:11	4° <u>♄</u> 05'08	0°39'33	min. Earth dist.	3992 May 22 11:08	2° <u>♄</u> 27'06	17.48565 AU
min. Earth dist.	3986 Apr 24 11:18	4° <u>♄</u> 03'10	17.35069 AU	direct	3992 Aug 06 21:47	0° <u>♄</u> 23'03	
direct	3986 Jul 09 02:21	1° <u>♄</u> 59'12		evening set	3992 Nov 10 09:22	3° <u>♄</u> 50'18	
evening set	3986 Oct 12 23:35	5° <u>♄</u> 28'53					
conjunction	3986 Oct 29 09:17	6° <u>♄</u> 30'20	0°34'14	conjunction	3992 Nov 26 12:53	4° <u>♄</u> 50'33	0°15'49
minimum elong	3986 Oct 29 09:17	6° <u>♄</u> 30'20	0°34'13	minimum elong	3992 Nov 26 12:53	4° <u>♄</u> 50'33	0°15'49
max. Earth dist.	3986 Oct 28 12:14	6° <u>♄</u> 27'01	19.35522 AU	behind sun begin	3992 Nov 26 11:39	4° <u>♄</u> 50'21	
morning rise	3986 Nov 14 15:28	7° <u>♄</u> 31'16		behind sun end	3992 Nov 26 14:08	4° <u>♄</u> 50'44	
retrograde	3987 Feb 14 02:03	10° <u>♄</u> 53'08		max. Earth dist.	3992 Nov 26 00:25	4° <u>♄</u> 48'36	19.50510 AU
opposition	3987 Apr 28 18:14	8° <u>♄</u> 51'05	0°36'45	morning rise	3992 Dec 12 12:53	5° <u>♄</u> 50'18	
min. Earth dist.	3987 Apr 29 12:21	8° <u>♄</u> 49'08	17.36151 AU	retrograde	3993 Mar 13 16:47	9° <u>♄</u> 09'49	
direct	3987 Jul 14 05:17	6° <u>♄</u> 45'12		opposition	3993 May 27 00:04	7° <u>♄</u> 08'22	0°15'40
evening set	3987 Oct 18 02:56	10° <u>♄</u> 14'46		min. Earth dist.	3993 May 27 11:08	7° <u>♄</u> 07'12	17.52603 AU
conjunction	3987 Nov 03 11:43	11° <u>♄</u> 16'04	0°31'37	direct	3993 Aug 11 22:19	5° <u>♄</u> 03'20	
minimum elong	3987 Nov 03 11:43	11° <u>♄</u> 16'04	0°31'37	evening set	3993 Nov 15 08:15	8° <u>♄</u> 29'51	
max. Earth dist.	3987 Nov 02 15:58	11° <u>♄</u> 12'57	19.36828 AU				
morning rise	3987 Nov 19 16:49	12° <u>♄</u> 16'51		conjunction	3993 Dec 01 10:38	9° <u>♄</u> 29'50	0°12'17
				minimum elong	3993 Dec 01 10:38	9° <u>♄</u> 29'50	0°12'18
				behind sun begin	3993 Dec 01 06:12	9° <u>♄</u> 29'10	
				behind sun end	3993 Dec 01 15:04	9° <u>♄</u> 30'31	
				max. Earth dist.	3993 Nov 30 23:18	9° <u>♄</u> 28'05	19.54818 AU



morning rise	3993 Dec 17 09:52	10°  29'22	min. Earth dist.	3999 Jun 24 21:55	4°  40'03	17.85041 AU
retrograde	3994 Mar 18 15:19	13°  48'24	direct	3999 Sep 10 02:11	2°  37'17	
opposition	3994 Jun 01 00:16	11°  47'08 0°11'42	evening set	3999 Dec 13 08:38	5°  58'11	
min. Earth dist.	3994 Jun 01 08:38	11°  46'14 17.57145 AU				
direct	3994 Aug 17 01:05	9°  42'24	conjunction	3999 Dec 29 05:15	6°  56'25 -0°09'26	
evening set	3994 Nov 20 06:22	13°  08'08	minimum elong	3999 Dec 29 05:14	6°  56'25 0°09'26	
			behind sun begin	3999 Dec 28 23:42	6°  55'35	
conjunction	3994 Dec 06 07:52	14°  07'52 0°08'43	behind sun end	3999 Dec 29 10:46	6°  57'15	
minimum elong	3994 Dec 06 07:52	14°  07'52 0°08'43	max. Earth dist.	3999 Dec 29 03:54	6°  56'14 19.88112 AU	
behind sun begin	3994 Dec 06 02:06	14°  06'59	morning rise	4000 Jan 13 23:45	7°  54'21	
behind sun end	3994 Dec 06 13:37	14°  08'44	retrograde	4000 Apr 14 09:05	11°  51'06	
max. Earth dist.	3994 Dec 05 23:11	14°  06'32 19.59592 AU	opposition	4000 Jun 28 18:20	9°  51'00 -0°12'21	
morning rise	3994 Dec 22 06:02	15°  07'08	min. Earth dist.	4000 Jun 28 17:56	9°  51'02 17.91170 AU	
retrograde	3995 Mar 23 10:31	18°  25'39	direct	4000 Sep 13 23:53	7°  50'24	
opposition	3995 Jun 06 00:12	16°  24'37 0°07'40	evening set	4000 Dec 17 01:32	10°  50'27'10	
min. Earth dist.	3995 Jun 06 07:58	16°  23'47 17.62127 AU				
direct	3995 Aug 22 01:12	14°  20'14	conjunction	4001 Jan 01 21:30	11°  50'07 -0°12'53	
evening set	3995 Nov 25 03:49	17°  20'45'08	minimum elong	4001 Jan 01 21:30	11°  50'07 0°12'52	
			behind sun begin	4001 Jan 01 17:22	11°  50'30	
conjunction	3995 Dec 11 04:10	18°  20'44'34 0°05'06	behind sun end	4001 Jan 02 01:39	11°  50'44	
minimum elong	3995 Dec 11 04:09	18°  20'44'34 0°05'07	max. Earth dist.	4001 Jan 01 22:46	11°  50'18 19.94268 AU	
behind sun begin	3995 Dec 10 21:43	18°  20'43'36	morning rise	4001 Jan 17 15:16	12°  50'22'46	
behind sun end	3995 Dec 11 10:34	18°  20'45'33	retrograde	4001 Apr 19 01:39	15°  50'37'54	
max. Earth dist.	3995 Dec 10 20:18	18°  20'43'22 19.64780 AU	opposition	4001 Jul 03 15:36	13°  50'37'55 -0°16'09	
morning rise	3995 Dec 27 01:37	19°  20'43'35	min. Earth dist.	4001 Jul 03 14:01	13°  50'38'05 17.97343 AU	
retrograde	3996 Mar 27 07:54	23°  20'01'36	direct	4001 Sep 18 21:41	11°  50'35'39	
opposition	3996 Jun 09 23:51	21°  20'00'45 0°03'37	evening set	4001 Dec 21 17:34	14°  50'34'15	
min. Earth dist.	3996 Jun 10 05:07	21°  20'00'12 17.67487 AU				
direct	3996 Aug 26 03:23	18°  20'56'44	conjunction	4002 Jan 06 12:40	15°  50'51'53 -0°16'15	
evening set	3996 Nov 29 00:09	22°  20'44	minimum elong	4002 Jan 06 12:40	15°  50'51'53 0°16'15	
			max. Earth dist.	4002 Jan 06 14:24	15°  50'52'08 20.00459 AU	
conjunction	3996 Dec 14 23:39	23°  20'19'53 0°01'27	morning rise	4002 Jan 22 06:06	16°  50'49'16	
minimum elong	3996 Dec 14 23:39	23°  20'19'53 0°01'27	retrograde	4002 Apr 23 18:25	20°  50'03'47	
behind sun begin	3996 Dec 14 17:03	23°  20'18'53	opposition	4002 Jul 08 12:12	18°  50'03'53 -0°19'50	
behind sun end	3996 Dec 15 06:16	23°  20'20'53	min. Earth dist.	4002 Jul 08 09:04	18°  50'04'12 18.03550 AU	
max. Earth dist.	3996 Dec 14 18:40	23°  20'19'09 19.70295 AU	direct	4002 Sep 23 17:06	16°  50'01'54	
morning rise	3996 Dec 30 20:08	24°  20'18'37	evening set	4002 Dec 26 08:32	19°  50'19'18	
retrograde	3997 Apr 01 01:49	27°  20'36'07				
desc. node	3997 May 06 02:55	27°  20'04'44	conjunction	4003 Jan 11 03:05	20°  50'16'39 -0°19'30	
opposition	3997 Jun 14 23:16	25°  20'35'29 -0°00'26	minimum elong	4003 Jan 11 03:05	20°  50'16'39 0°19'30	
min. Earth dist.	3997 Jun 15 03:47	25°  20'35'01 17.73137 AU	max. Earth dist.	4003 Jan 11 07:22	20°  50'17'17 20.06672 AU	
direct	3997 Aug 31 03:08	23°  20'31'51	morning rise	4003 Jan 26 19:54	21°  50'13'46	
evening set	3997 Dec 03 19:55	26°  20'54'51	retrograde	4003 Apr 28 09:55	24°  50'27'37	
			opposition	4003 Jul 13 08:05	22°  50'27'48 -0°23'22	
conjunction	3997 Dec 19 18:18	27°  20'53'42 -0°02'18	min. Earth dist.	4003 Jul 13 03:23	22°  50'28'17 18.09765 AU	
minimum elong	3997 Dec 19 18:18	27°  20'53'42 0°02'17	direct	4003 Sep 28 13:55	20°  50'26'07	
behind sun begin	3997 Dec 19 11:43	27°  20'52'42	evening set	4003 Dec 30 22:40	23°  50'42'18	
behind sun end	3997 Dec 20 00:54	27°  20'54'42				
max. Earth dist.	3997 Dec 19 13:53	27°  20'53'03 19.76071 AU	conjunction	4004 Jan 15 16:26	24°  50'39'21 -0°22'36	
morning rise	3998 Jan 04 14:13	28°  20'52'10	minimum elong	4004 Jan 15 16:26	24°  50'39'21 0°22'37	
	3998 Jan 24 03:43	0°  50'30'06	max. Earth dist.	4004 Jan 15 21:30	24°  50'40'06 20.12908 AU	
retrograde	3998 Apr 05 21:45	2°  50'09'06	morning rise	4004 Jan 31 09:00	25°  50'36'12	
opposition	3998 Jun 19 21:57	0°  50'08'40 -0°04'28	retrograde	4004 May 02 01:16	28°  50'49'26	
min. Earth dist.	3998 Jun 20 00:21	0°  50'08'25 17.79018 AU	opposition	4004 Jul 17 03:24	26°  50'49'39 -0°26'44	
	3998 Jun 23 08:55	30°  50'08'25	min. Earth dist.	4004 Jul 16 21:14	26°  50'50'18 18.16038 AU	
direct	3998 Sep 05 03:19	28°  50'05'23	direct	4004 Oct 02 07:47	24°  50'48'16	
	3998 Nov 12 19:11	0°  50'30'06	evening set	4005 Jan 03 11:35	28°  50'03'14	
evening set	3998 Dec 08 14:40	1°  50'27'22				
			conjunction	4005 Jan 19 04:56	28°  50'59'59 -0°25'34	
conjunction	3998 Dec 24 12:20	2°  50'25'55 -0°05'54	minimum elong	4005 Jan 19 04:56	28°  50'59'59 0°25'34	
minimum elong	3998 Dec 24 12:20	2°  50'25'55 0°05'53	max. Earth dist.	4005 Jan 19 12:40	29°  50'01'09 20.19203 AU	
behind sun begin	3998 Dec 24 06:02	2°  50'24'58	morning rise	4005 Feb 03 21:03	29°  50'56'36	
behind sun end	3998 Dec 24 18:38	2°  50'26'52		4005 Feb 04 20:09	0°  50'30'06	
max. Earth dist.	3998 Dec 24 10:33	2°  50'25'41 19.82032 AU	retrograde	4005 May 06 15:39	3°  50'09'13	
morning rise	3999 Jan 09 07:21	3°  50'24'07	opposition	4005 Jul 21 21:54	1°  50'09'30 -0°29'54	
retrograde	3999 Apr 10 14:48	6°  50'40'28	min. Earth dist.	4005 Jul 21 13:40	1°  50'10'21 18.22357 AU	
opposition	3999 Jun 24 20:26	4°  50'40'12 -0°08'27		4005 Aug 21 00:48	30°  50'08'27	

direct	4005 Oct 07 02:54	29°30'26"	conjunction	4012 Feb 18 00:45	28°37'13" -0°41'01"
	4005 Nov 21 10:15	0°00'	minimum elong	4012 Feb 18 00:44	28°37'13" 0°41'02"
evening set	4006 Jan 07 23:54	2°22'12"	max. Earth dist.	4012 Feb 18 17:50	28°39'45" 20.62837 AU
			morning rise	4012 Mar 04 16:35	29°32'24"
conjunction	4006 Jan 23 16:36	3°18'41" -0°28'21"		4012 Mar 12 19:04	0°00'
minimum elong	4006 Jan 23 16:36	3°18'41" 0°28'20"	retrograde	4012 Jun 05 07:45	2°41'40"
max. Earth dist.	4006 Jan 24 01:14	3°19'59" 20.25549 AU	opposition	4012 Aug 21 13:04	0°42'48" -0°46'12"
morning rise	4006 Feb 08 08:35	4°15'03"	min. Earth dist.	4012 Aug 20 20:14	0°44'30" 18.65652 AU
retrograde	4006 May 11 05:40	7°27'05"		4012 Sep 08 16:29	30°00'
opposition	4006 Jul 26 15:35	5°27'27" -0°32'53"	direct	4012 Nov 06 07:55	28°44'20"
min. Earth dist.	4006 Jul 26 06:08	5°28'25" 18.28744 AU		4012 Dec 31 20:35	0°00'
direct	4006 Oct 11 18:52	3°26'43"	evening set	4013 Feb 05 17:08	1°50'45"
evening set	4007 Jan 12 11:15	6°39'21"			
			conjunction	4013 Feb 21 08:20	2°45'38" -0°42'24"
conjunction	4007 Jan 28 03:39	7°35'34" -0°30'57"	minimum elong	4013 Feb 21 08:20	2°45'38" 0°42'24"
minimum elong	4007 Jan 28 03:39	7°35'34" 0°30'57"	max. Earth dist.	4013 Feb 22 02:36	2°48'20" 20.68342 AU
max. Earth dist.	4007 Jan 28 14:40	7°37'13" 20.31953 AU	morning rise	4013 Mar 09 00:20	3°40'39"
morning rise	4007 Feb 12 19:19	8°31'41"	retrograde	4013 Jun 09 19:50	6°49'33"
retrograde	4007 May 15 19:05	11°43'10"	min. Earth dist.	4013 Aug 25 08:03	4°52'38" 18.70972 AU
opposition	4007 Jul 31 08:40	9°43'40" -0°35'40"	opposition	4013 Aug 26 02:30	4°50'47" -0°47'36"
min. Earth dist.	4007 Jul 30 21:01	9°44'51" 18.35151 AU	direct	4013 Nov 10 20:45	2°52'37"
direct	4007 Oct 16 12:01	7°43'19"	evening set	4014 Feb 10 00:22	5°58'08"
evening set	4008 Jan 16 21:49	10°54'48"			
			conjunction	4014 Feb 25 15:30	6°52'51" -0°43'33"
conjunction	4008 Feb 01 13:42	11°50'46" -0°33'22"	minimum elong	4014 Feb 25 15:30	6°52'51" 0°43'34"
minimum elong	4008 Feb 01 13:42	11°50'46" 0°33'21"	max. Earth dist.	4014 Feb 26 10:03	6°55'34" 20.73457 AU
max. Earth dist.	4008 Feb 02 01:42	11°52'33" 20.38356 AU	morning rise	4014 Mar 13 07:50	7°47'44"
morning rise	4008 Feb 17 05:22	12°46'40"	retrograde	4014 Jun 14 04:35	10°56'16"
	4008 Apr 01 08:54	15°00'	opposition	4014 Aug 30 15:25	8°57'33" -0°48'44"
retrograde	4008 May 19 08:12	15°57'40"	min. Earth dist.	4014 Aug 29 21:26	8°59'21" 18.75894 AU
	4008 Jul 08 10:18	15°00'	direct	4014 Nov 15 06:53	6°59'39"
opposition	4008 Aug 04 01:15	13°58'17" -0°38'14"	evening set	4015 Feb 14 07:00	10°04'17"
min. Earth dist.	4008 Aug 03 12:40	13°59'34" 18.41551 AU			
direct	4008 Oct 20 02:12	11°58'18"	conjunction	4015 Mar 01 22:20	10°58'51" -0°44'29"
	4009 Jan 17 19:34	15°00'	minimum elong	4015 Mar 01 22:20	10°58'51" 0°44'28"
evening set	4009 Jan 20 07:38	15°08'43"	max. Earth dist.	4015 Mar 02 17:42	11°01'41" 20.78173 AU
			morning rise	4015 Mar 17 14:56	11°53'37"
conjunction	4009 Feb 04 23:22	16°04'26" -0°35'35"	retrograde	4015 Jun 18 15:37	15°01'48"
minimum elong	4009 Feb 04 23:21	16°04'26" 0°35'35"	min. Earth dist.	4015 Sep 03 08:13	13°05'03" 18.80395 AU
max. Earth dist.	4009 Feb 05 13:27	16°06'32" 20.44723 AU	opposition	4015 Sep 04 03:44	13°03'06" -0°49'37"
morning rise	4009 Feb 20 14:53	17°00'08"	direct	4015 Nov 19 18:37	11°05'25"
retrograde	4009 May 23 21:02	20°10'38"	evening set	4016 Feb 18 13:05	14°09'11"
opposition	4009 Aug 08 16:56	18°11'24" -0°40'34"			
min. Earth dist.	4009 Aug 08 02:18	18°12'54" 18.47864 AU	conjunction	4016 Mar 05 04:32	15°03'37" -0°45'11"
direct	4009 Oct 24 17:26	16°11'50"	minimum elong	4016 Mar 05 04:32	15°03'37" 0°45'11"
evening set	4010 Jan 24 16:54	19°21'11"	max. Earth dist.	4016 Mar 06 00:15	15°06'30" 20.82461 AU
			morning rise	4016 Mar 20 21:38	15°58'17"
conjunction	4010 Feb 09 08:18	20°16'40" -0°37'37"	retrograde	4016 Jun 21 23:20	19°06'09"
minimum elong	4010 Feb 09 08:18	20°16'40" 0°37'36"	opposition	4016 Sep 07 15:35	17°07'25" -0°50'15"
max. Earth dist.	4010 Feb 09 23:09	20°18'53" 20.50964 AU	min. Earth dist.	4016 Sep 06 20:38	17°09'18" 18.84491 AU
morning rise	4010 Feb 24 23:58	21°12'11"	direct	4016 Nov 23 03:29	15°09'55"
retrograde	4010 May 28 08:51	24°22'15"	evening set	4017 Feb 21 18:44	18°12'52"
opposition	4010 Aug 13 08:14	22°23'09" -0°42'41"			
min. Earth dist.	4010 Aug 12 17:14	22°24'40" 18.54034 AU	conjunction	4017 Mar 09 10:32	19°07'11" -0°45'39"
direct	4010 Oct 29 06:21	20°23'58"	minimum elong	4017 Mar 09 10:32	19°07'11" 0°45'38"
evening set	4011 Jan 29 01:27	23°32'18"	max. Earth dist.	4017 Mar 10 07:01	19°10'10" 20.86368 AU
			morning rise	4017 Mar 25 04:03	20°01'45"
conjunction	4011 Feb 13 16:46	24°27'35" -0°39'25"	retrograde	4017 Jun 26 09:14	23°09'18"
minimum elong	4011 Feb 13 16:46	24°27'35" 0°39'25"	min. Earth dist.	4017 Sep 11 06:01	21°12'34" 18.88212 AU
max. Earth dist.	4011 Feb 14 09:16	24°30'02" 20.57030 AU	opposition	4017 Sep 12 02:28	21°10'31" -0°50'38"
morning rise	4011 Mar 01 08:23	25°22'55"	direct	4017 Nov 27 13:30	19°13'10"
retrograde	4011 Jun 01 21:24	28°32'34"	evening set	4018 Feb 26 00:04	22°15'23"
opposition	4011 Aug 17 22:52	26°33'36" -0°44'34"			
min. Earth dist.	4011 Aug 17 05:57	26°35'18" 18.59978 AU	conjunction	4018 Mar 13 16:05	23°09'36" -0°45'53"
direct	4011 Nov 02 20:14	24°34'47"	minimum elong	4018 Mar 13 16:05	23°09'36" 0°45'53"
evening set	4012 Feb 02 09:38	27°42'09"	max. Earth dist.	4018 Mar 14 12:58	23°12'38" 20.89907 AU
			morning rise	4018 Mar 29 10:10	24°04'06"

retrograde	4018 Jun 30 16:26	27° $\text{K}$ 11'23	evening set	4025 Mar 25 07:49	20° $\text{Y}$ 13'20
opposition	4018 Sep 16 13:06	25° $\text{K}$ 12'33 -0°50'45			
min. Earth dist.	4018 Sep 15 17:11	25° $\text{K}$ 14'32 18.91598 AU	conjunction	4025 Apr 10 03:39	21° $\text{Y}$ 07'22 -0°41'20
direct	4018 Dec 01 21:07	23° $\text{K}$ 15'21	minimum elong	4025 Apr 10 03:39	21° $\text{Y}$ 07'22 0°41'20
evening set	4019 Mar 02 04:52	26° $\text{K}$ 16'52	max. Earth dist.	4025 Apr 11 02:10	21° $\text{Y}$ 10'36 21.05401 AU
			morning rise	4025 Apr 26 02:33	22° $\text{Y}$ 01'52
conjunction	4019 Mar 17 21:19	27° $\text{K}$ 11'00 -0°45'53	retrograde	4025 Jul 29 03:58	25° $\text{Y}$ 08'31
minimum elong	4019 Mar 17 21:19	27° $\text{K}$ 11'00 0°45'53	min. Earth dist.	4025 Oct 14 06:05	23° $\text{Y}$ 11'44 19.05777 AU
max. Earth dist.	4019 Mar 18 18:58	27° $\text{K}$ 14'08 20.93137 AU	opposition	4025 Oct 15 03:29	23° $\text{Y}$ 09'36 -0°44'51
morning rise	4019 Apr 02 15:53	28° $\text{K}$ 05'26	direct	4025 Dec 29 19:35	21° $\text{Y}$ 13'20
	4019 May 10 16:07	0° $\text{Y}$	evening set	4026 Mar 29 12:39	24° $\text{Y}$ 12'04
retrograde	4019 Jul 05 01:46	1° $\text{Y}$ 12'30			
	4019 Sep 01 02:28	30° $\text{R}$ $\text{K}$	conjunction	4026 Apr 14 09:08	25° $\text{Y}$ 06'10 -0°39'51
opposition	4019 Sep 20 23:07	29° $\text{K}$ 13'38 -0°50'37	minimum elong	4026 Apr 14 09:08	25° $\text{Y}$ 06'10 0°39'51
min. Earth dist.	4019 Sep 20 01:36	29° $\text{K}$ 15'47 18.94673 AU	max. Earth dist.	4026 Apr 15 07:06	25° $\text{Y}$ 09'18 21.05942 AU
direct	4019 Dec 06 05:46	27° $\text{K}$ 16'35	morning rise	4026 Apr 30 08:54	26° $\text{Y}$ 00'43
	4020 Feb 29 04:24	0° $\text{Y}$	retrograde	4026 Aug 02 11:32	29° $\text{Y}$ 07'28
evening set	4020 Mar 05 09:37	0° $\text{Y}$ 17'29	opposition	4026 Oct 19 11:32	27° $\text{Y}$ 08'30 -0°43'06
			min. Earth dist.	4026 Oct 18 15:47	27° $\text{Y}$ 10'29 19.06050 AU
conjunction	4020 Mar 21 02:25	1° $\text{Y}$ 11'33 -0°45'39	direct	4027 Jan 03 00:14	25° $\text{Y}$ 12'17
minimum elong	4020 Mar 21 02:25	1° $\text{Y}$ 11'33 0°45'39	evening set	4027 Apr 02 17:28	28° $\text{Y}$ 10'54
max. Earth dist.	4020 Mar 22 00:26	1° $\text{Y}$ 14'44 20.96052 AU			
morning rise	4020 Apr 05 21:39	2° $\text{Y}$ 05'57	conjunction	4027 Apr 18 14:47	29° $\text{Y}$ 05'03 -0°38'11
retrograde	4020 Jul 08 09:03	5° $\text{Y}$ 12'51	minimum elong	4027 Apr 18 14:47	29° $\text{Y}$ 05'03 0°38'10
min. Earth dist.	4020 Sep 23 11:52	3° $\text{Y}$ 16'02 18.97443 AU	max. Earth dist.	4027 Apr 19 12:04	29° $\text{Y}$ 08'06 21.05944 AU
opposition	4020 Sep 24 08:45	3° $\text{Y}$ 13'56 -0°50'14	morning rise	4027 May 04 15:24	29° $\text{Y}$ 59'42
direct	4020 Dec 09 11:59	1° $\text{Y}$ 17'03		4027 May 04 17:36	0° $\text{B}$
evening set	4021 Mar 09 14:03	4° $\text{Y}$ 17'24	retrograde	4027 Aug 06 21:07	3° $\text{B}$ 06'32
			opposition	4027 Oct 23 19:20	1° $\text{B}$ 07'31 -0°41'09
conjunction	4021 Mar 25 07:26	5° $\text{Y}$ 11'25 -0°45'13	min. Earth dist.	4027 Oct 22 23:23	1° $\text{B}$ 09'31 19.05760 AU
minimum elong	4021 Mar 25 07:26	5° $\text{Y}$ 11'25 0°45'14		4027 Nov 22 16:37	30° $\text{R}$ $\text{Y}$
max. Earth dist.	4021 Mar 26 05:57	5° $\text{Y}$ 14'40 20.98668 AU	direct	4028 Jan 07 06:48	29° $\text{Y}$ 11'17
morning rise	4021 Apr 10 03:19	6° $\text{Y}$ 05'48		4028 Feb 20 09:16	0° $\text{B}$
retrograde	4021 Jul 12 18:21	9° $\text{Y}$ 12'34	evening set	4028 Apr 05 22:42	2° $\text{B}$ 09'50
opposition	4021 Sep 28 17:50	7° $\text{Y}$ 13'39 -0°49'37			
min. Earth dist.	4021 Sep 27 19:39	7° $\text{Y}$ 15'52 18.99887 AU	conjunction	4028 Apr 21 20:48	3° $\text{B}$ 04'05 -0°36'19
direct	4021 Dec 13 19:46	5° $\text{Y}$ 16'54	minimum elong	4028 Apr 21 20:48	3° $\text{B}$ 04'05 0°36'19
evening set	4022 Mar 13 18:30	8° $\text{Y}$ 16'47	max. Earth dist.	4028 Apr 22 17:12	3° $\text{B}$ 07'00 21.05360 AU
			morning rise	4028 May 07 22:20	3° $\text{B}$ 58'49
conjunction	4022 Mar 29 12:20	9° $\text{Y}$ 10'47 -0°44'34	retrograde	4028 Aug 10 04:50	7° $\text{B}$ 05'47
minimum elong	4022 Mar 29 12:20	9° $\text{Y}$ 10'47 0°44'33	min. Earth dist.	4028 Oct 26 08:54	5° $\text{B}$ 08'28 19.04889 AU
max. Earth dist.	4022 Mar 30 11:00	9° $\text{Y}$ 14'03 21.00931 AU	opposition	4028 Oct 27 02:59	5° $\text{B}$ 06'39 -0°38'59
morning rise	4022 Apr 14 08:55	10° $\text{Y}$ 05'10	direct	4029 Jan 10 11:45	3° $\text{B}$ 10'22
retrograde	4022 Jul 17 01:29	13° $\text{Y}$ 11'50	evening set	4029 Apr 10 04:02	6° $\text{B}$ 08'54
min. Earth dist.	4022 Oct 02 05:26	11° $\text{Y}$ 15'03 19.01976 AU			
opposition	4022 Oct 03 02:42	11° $\text{Y}$ 12'55 -0°48'46	conjunction	4029 Apr 26 03:04	7° $\text{B}$ 03'15 -0°34'17
direct	4022 Dec 18 00:53	9° $\text{Y}$ 16'19	minimum elong	4029 Apr 26 03:04	7° $\text{B}$ 03'15 0°34'16
evening set	4023 Mar 17 22:50	12° $\text{Y}$ 15'49	max. Earth dist.	4029 Apr 26 22:30	7° $\text{B}$ 06'02 21.04224 AU
			morning rise	4029 May 12 05:32	7° $\text{B}$ 58'06
conjunction	4023 Apr 02 17:19	13° $\text{Y}$ 09'48 -0°43'41	retrograde	4029 Aug 14 14:29	11° $\text{B}$ 05'12
minimum elong	4023 Apr 02 17:19	13° $\text{Y}$ 09'48 0°43'42	opposition	4029 Oct 31 10:23	9° $\text{B}$ 05'56 -0°36'38
max. Earth dist.	4023 Apr 03 16:12	13° $\text{Y}$ 13'05 21.02845 AU	min. Earth dist.	4029 Oct 30 16:17	9° $\text{B}$ 07'46 19.03477 AU
morning rise	4023 Apr 18 14:37	14° $\text{Y}$ 04'12	direct	4030 Jan 14 17:49	7° $\text{B}$ 09'32
retrograde	4023 Jul 21 11:05	17° $\text{Y}$ 10'50	evening set	4030 Apr 14 09:34	10° $\text{B}$ 08'08
opposition	4023 Oct 07 11:13	15° $\text{Y}$ 11'55 -0°47'41			
min. Earth dist.	4023 Oct 06 12:57	15° $\text{Y}$ 14'08 19.03688 AU	conjunction	4030 Apr 30 09:24	11° $\text{B}$ 02'36 -0°32'04
direct	4023 Dec 22 08:08	13° $\text{Y}$ 15'27	minimum elong	4030 Apr 30 09:24	11° $\text{B}$ 02'36 0°32'05
evening set	4024 Mar 21 03:15	16° $\text{Y}$ 14'37	max. Earth dist.	4030 May 01 04:04	11° $\text{B}$ 05'16 21.02554 AU
			morning rise	4030 May 16 12:47	11° $\text{B}$ 57'35
conjunction	4024 Apr 05 22:20	17° $\text{Y}$ 08'37 -0°42'37		4030 Aug 04 19:35	15° $\text{B}$
minimum elong	4024 Apr 05 22:20	17° $\text{Y}$ 08'37 0°42'36	retrograde	4030 Aug 18 21:59	15° $\text{B}$ 04'52
max. Earth dist.	4024 Apr 06 21:08	17° $\text{Y}$ 11'53 21.04344 AU		4030 Sep 02 03:49	15° $\text{R}$ $\text{B}$
morning rise	4024 Apr 21 20:28	18° $\text{Y}$ 03'03	opposition	4030 Nov 04 17:49	13° $\text{B}$ 05'26 -0°34'06
retrograde	4024 Jul 24 18:22	21° $\text{Y}$ 09'41	min. Earth dist.	4030 Nov 04 01:24	13° $\text{B}$ 07'06 19.01571 AU
opposition	4024 Oct 10 19:37	19° $\text{Y}$ 10'46 -0°46'23	direct	4031 Jan 18 23:05	11° $\text{B}$ 08'55
min. Earth dist.	4024 Oct 09 22:40	19° $\text{Y}$ 12'52 19.04971 AU	evening set	4031 Apr 18 15:23	14° $\text{B}$ 07'38
direct	4024 Dec 25 12:44	17° $\text{Y}$ 14'25			

conjunction	4031 May 04 16:10	15°802'14 -0°29'42	minimum elong	4037 May 28 18:32	9°11'13'49 0°12'47
minimum elong	4031 May 04 16:10	15°802'14 0°29'42	behind sun begin	4037 May 28 14:26	9°11'13'15
	4031 May 04 00:31	15°8	behind sun end	4037 May 28 22:39	9°11'14'24
max. Earth dist.	4031 May 05 09:58	15°804'47 21.00444 AU	max. Earth dist.	4037 May 29 06:22	9°11'15'31 20.80482 AU
morning rise	4031 May 20 20:30	15°857'22	morning rise	4037 Jun 14 04:29	10°11'10'06
retrograde	4031 Aug 23 08:24	19°804'51	retrograde	4037 Sep 16 21:00	13°11'19'44
min. Earth dist.	4031 Nov 08 08:31	17°806'56 18.99252 AU	opposition	4037 Dec 02 22:04	11°11'19'24 -0°12'19
opposition	4031 Nov 09 01:00	17°805'16 -0°31'24	min. Earth dist.	4037 Dec 02 11:34	11°11'20'29 18.78313 AU
direct	4032 Jan 23 04:58	15°808'35	direct	4038 Feb 15 17:48	9°11'21'42
evening set	4032 Apr 21 21:34	18°807'30	evening set	4038 May 16 21:39	12°11'23'27
conjunction	4032 May 07 23:15	19°802'16 -0°27'11	conjunction	4038 Jun 02 05:06	13°11'19'28 -0°09'37
minimum elong	4032 May 07 23:15	19°802'16 0°27'11	minimum elong	4038 Jun 02 05:05	13°11'19'28 0°09'37
max. Earth dist.	4032 May 08 16:21	19°804'42 20.97924 AU	behind sun begin	4038 Jun 01 23:35	13°11'18'41
morning rise	4032 May 24 04:33	19°857'34	behind sun end	4038 Jun 02 10:36	13°11'20'14
retrograde	4032 Aug 26 16:05	23°805'18	max. Earth dist.	4038 Jun 02 15:56	13°11'21'01 20.76066 AU
opposition	4032 Nov 12 08:18	21°805'34 -0°28'33	morning rise	4038 Jun 18 15:49	14°11'15'58
min. Earth dist.	4032 Nov 11 17:28	21°807'04 18.96547 AU	retrograde	4038 Sep 21 07:17	17°11'26'05
direct	4033 Jan 26 10:04	19°808'44	opposition	4038 Dec 07 06:32	15°11'25'40 -0°08'46
evening set	4033 Apr 26 04:12	22°807'55	min. Earth dist.	4038 Dec 06 22:01	15°11'26'33 18.73725 AU
			direct	4039 Feb 20 00:17	13°11'27'45
conjunction	4033 May 12 06:50	23°802'51 -0°24'31	evening set	4039 May 21 08:13	16°11'30'13
minimum elong	4033 May 12 06:50	23°802'51 0°24'31	conjunction	4039 Jun 06 16:34	17°11'26'29 -0°06'23
max. Earth dist.	4033 May 12 22:54	23°805'09 20.95056 AU	minimum elong	4039 Jun 06 16:34	17°11'26'29 0°06'24
morning rise	4033 May 28 13:03	23°858'19	behind sun begin	4039 Jun 06 10:16	17°11'25'36
retrograde	4033 Aug 31 03:19	27°806'21	behind sun end	4039 Jun 06 22:52	17°11'27'22
opposition	4033 Nov 16 15:24	25°806'28 -0°25'32	max. Earth dist.	4039 Jun 07 01:21	17°11'27'44 20.71314 AU
min. Earth dist.	4033 Nov 16 00:36	25°807'58 18.93509 AU	morning rise	4039 Jun 23 04:12	18°11'23'13
direct	4034 Jan 30 16:29	23°809'28	retrograde	4039 Sep 25 20:14	21°11'33'51
evening set	4034 Apr 30 11:18	26°809'01	opposition	4039 Dec 11 15:09	19°11'33'19 -0°05'09
conjunction	4034 May 16 14:51	27°804'09 -0°21'45	min. Earth dist.	4039 Dec 11 07:39	19°11'34'05 18.68787 AU
minimum elong	4034 May 16 14:51	27°804'09 0°21'44	direct	4040 Feb 24 08:50	17°11'35'08
max. Earth dist.	4034 May 17 06:13	27°806'20 20.91854 AU	evening set	4040 May 24 19:36	20°11'38'24
morning rise	4034 Jun 01 21:59	27°859'48			
	4034 Jul 12 13:31	0°11	conjunction	4040 Jun 10 04:57	21°11'34'55 -0°03'06
retrograde	4034 Sep 04 11:32	1°11'08'10	minimum elong	4040 Jun 10 04:56	21°11'34'55 0°03'07
	4034 Oct 30 00:42	30°8	behind sun begin	4040 Jun 09 22:15	21°11'33'58
opposition	4034 Nov 20 22:51	29°808'09 -0°22'24	behind sun end	4040 Jun 10 11:37	21°11'35'51
min. Earth dist.	4034 Nov 20 09:41	29°809'30 18.90153 AU	max. Earth dist.	4040 Jun 10 12:21	21°11'35'58 20.66175 AU
direct	4035 Feb 03 21:06	27°811'00	morning rise	4040 Jun 26 17:18	22°11'31'53
	4035 May 01 11:44	0°11	retrograde	4040 Sep 29 08:00	25°11'43'01
evening set	4035 May 04 18:46	0°11'10'59	opposition	4040 Dec 15 00:18	23°11'42'21 -0°01'29
			min. Earth dist.	4040 Dec 14 18:57	23°11'42'54 18.63452 AU
conjunction	4035 May 20 23:20	1°11'06'18 -0°18'51	direct	4041 Feb 27 16:58	21°11'43'52
minimum elong	4035 May 20 23:20	1°11'06'18 0°18'52	asc. node	4041 May 12 22:52	23°11'54'22
max. Earth dist.	4035 May 21 13:33	1°11'08'20 20.88364 AU	evening set	4041 May 29 07:49	24°11'47'57
morning rise	4035 Jun 06 07:26	2°11'02'09			
retrograde	4035 Sep 08 23:28	5°11'10'55	conjunction	4041 Jun 14 17:59	25°11'44'44 0°00'19
opposition	4035 Nov 25 06:23	3°11'10'46 -0°19'09	minimum elong	4041 Jun 14 17:59	25°11'44'44 0°00'19
min. Earth dist.	4035 Nov 24 17:26	3°11'12'06 18.86508 AU	behind sun begin	4041 Jun 14 11:18	25°11'43'48
direct	4036 Feb 08 04:38	1°11'13'26	behind sun end	4041 Jun 15 00:40	25°11'45'41
evening set	4036 May 08 03:05	4°11'13'56	max. Earth dist.	4041 Jun 14 22:53	25°11'45'24 20.60662 AU
conjunction	4036 May 24 08:37	5°11'09'29 -0°15'51	morning rise	4041 Jul 01 07:11	26°11'41'57
minimum elong	4036 May 24 08:37	5°11'09'29 0°15'51	retrograde	4041 Oct 03 21:14	29°11'53'36
behind sun begin	4036 May 24 07:56	5°11'09'23	opposition	4041 Dec 19 09:43	27°11'52'46 0°02'13
behind sun end	4036 May 24 09:17	5°11'09'34	min. Earth dist.	4041 Dec 19 05:32	27°11'53'12 18.57756 AU
max. Earth dist.	4036 May 24 21:59	5°11'11'24 20.84567 AU	direct	4042 Mar 04 02:26	25°11'53'56
morning rise	4036 Jun 09 17:37	6°11'05'32	evening set	4042 Jun 02 20:43	28°11'58'52
retrograde	4036 Sep 12 08:31	9°11'14'43			
opposition	4036 Nov 28 14:05	7°11'14'29 -0°15'47	conjunction	4042 Jun 19 07:51	29°11'55'56 0°03'43
min. Earth dist.	4036 Nov 28 02:59	7°11'15'37 18.82560 AU	minimum elong	4042 Jun 19 07:51	29°11'55'56 0°03'42
direct	4037 Feb 11 09:37	5°11'16'58	behind sun begin	4042 Jun 19 01:11	29°11'54'59
evening set	4037 May 12 12:03	8°11'18'03	behind sun end	4042 Jun 19 14:30	29°11'56'52
			max. Earth dist.	4042 Jun 19 11:30	29°11'56'25 20.54796 AU
conjunction	4037 May 28 18:32	9°11'13'49 -0°12'46		4042 Jun 20 11:50	0°0
			morning rise	4042 Jul 05 21:40	0°05'53'24

retrograde	4042 Oct 08 10:07	4° $\Omega$ 05'34		opposition	4049 Jan 17 16:16	27° $\Omega$ 46'43	0°27'13
opposition	4042 Dec 23 19:36	2° $\Omega$ 04'32	0°05'55	min. Earth dist.	4049 Jan 17 21:55	27° $\Omega$ 46'07	18.12988 AU
min. Earth dist.	4042 Dec 23 17:22	2° $\Omega$ 04'46	18.51739 AU	direct	4049 Apr 02 09:35	25° $\Omega$ 45'09	
direct	4043 Mar 08 11:45	0° $\Omega$ 05'20		evening set	4049 Jul 03 14:19	28° $\Omega$ 57'29	
evening set	4043 Jun 07 10:23	3° $\Omega$ 11'10					
				conjunction	4049 Jul 20 06:21	29° $\Omega$ 56'32	0°25'58
conjunction	4043 Jun 23 22:19	4° $\Omega$ 08'30	0°07'03	minimum elong	4049 Jul 20 06:21	29° $\Omega$ 56'32	0°25'58
minimum elong	4043 Jun 23 22:20	4° $\Omega$ 08'30	0°07'03	max. Earth dist.	4049 Jul 19 21:57	29° $\Omega$ 55'18	20.09812 AU
behind sun begin	4043 Jun 23 16:07	4° $\Omega$ 07'37			4049 Jul 21 05:38	0° $\Omega$	
behind sun end	4043 Jun 24 04:32	4° $\Omega$ 09'23		morning rise	4049 Aug 05 23:46	0° $\Omega$ 55'49	
max. Earth dist.	4043 Jun 23 23:28	4° $\Omega$ 08'39	20.48663 AU	retrograde	4049 Nov 07 24:00	4° $\Omega$ 12'02	
morning rise	4043 Jul 10 12:59	5° $\Omega$ 06'14		opposition	4050 Jan 22 05:46	2° $\Omega$ 09'52	0°30'25
retrograde	4043 Oct 13 00:21	8° $\Omega$ 18'56		min. Earth dist.	4050 Jan 22 12:50	2° $\Omega$ 09'07	18.06645 AU
opposition	4043 Dec 28 05:51	6° $\Omega$ 17'41	0°09'37	direct	4050 Apr 06 22:50	0° $\Omega$ 07'57	
min. Earth dist.	4043 Dec 28 04:51	6° $\Omega$ 17'47	18.45488 AU	evening set	4050 Jul 08 10:03	3° $\Omega$ 21'31	
direct	4044 Mar 11 22:19	4° $\Omega$ 18'04					
evening set	4044 Jun 11 00:57	7° $\Omega$ 24'53		conjunction	4050 Jul 25 02:45	4° $\Omega$ 20'53	0°28'47
				minimum elong	4050 Jul 25 02:45	4° $\Omega$ 20'53	0°28'46
conjunction	4044 Jun 27 13:48	8° $\Omega$ 22'30	0°10'21	max. Earth dist.	4050 Jul 24 18:05	4° $\Omega$ 19'35	20.03525 AU
minimum elong	4044 Jun 27 13:48	8° $\Omega$ 22'30	0°10'21	morning rise	4050 Aug 10 20:13	5° $\Omega$ 20'24	
behind sun begin	4044 Jun 27 08:32	8° $\Omega$ 21'45		retrograde	4050 Nov 12 19:31	8° $\Omega$ 37'14	
behind sun end	4044 Jun 27 19:04	8° $\Omega$ 23'15		opposition	4051 Jan 26 19:52	6° $\Omega$ 35'02	0°33'27
max. Earth dist.	4044 Jun 27 13:58	8° $\Omega$ 22'31	20.42307 AU	min. Earth dist.	4051 Jan 27 03:55	6° $\Omega$ 34'10	18.00418 AU
morning rise	4044 Jul 14 04:56	9° $\Omega$ 20'29		direct	4051 Apr 11 13:45	4° $\Omega$ 32'49	
retrograde	4044 Oct 16 14:09	12° $\Omega$ 33'42		evening set	4051 Jul 13 06:58	7° $\Omega$ 47'37	
opposition	4044 Dec 31 16:25	10° $\Omega$ 32'16	0°13'17				
min. Earth dist.	4044 Dec 31 17:09	10° $\Omega$ 32'12	18.39054 AU	conjunction	4051 Jul 29 23:56	8° $\Omega$ 47'15	0°31'26
direct	4045 Mar 16 08:44	8° $\Omega$ 32'15		minimum elong	4051 Jul 29 23:56	8° $\Omega$ 47'15	0°31'26
evening set	4045 Jun 15 16:21	11° $\Omega$ 40'04		max. Earth dist.	4051 Jul 29 12:32	8° $\Omega$ 45'33	19.97359 AU
				morning rise	4051 Aug 15 17:43	9° $\Omega$ 47'02	
conjunction	4045 Jul 02 05:52	12° $\Omega$ 37'58	0°13'38	retrograde	4051 Nov 17 14:07	13° $\Omega$ 04'29	
minimum elong	4045 Jul 02 05:52	12° $\Omega$ 37'58	0°13'38	opposition	4052 Jan 31 10:48	11° $\Omega$ 02'14	0°36'20
behind sun begin	4045 Jul 02 02:20	12° $\Omega$ 37'28		min. Earth dist.	4052 Jan 31 20:40	11° $\Omega$ 01'11	17.94312 AU
behind sun end	4045 Jul 02 09:24	12° $\Omega$ 38'29		direct	4052 Apr 15 04:15	8° $\Omega$ 59'42	
max. Earth dist.	4045 Jul 02 03:32	12° $\Omega$ 37'38	20.35825 AU	evening set	4052 Jul 17 04:47	12° $\Omega$ 15'47	
morning rise	4045 Jul 18 21:42	13° $\Omega$ 36'13					
retrograde	4045 Oct 21 05:31	16° $\Omega$ 50'01		conjunction	4052 Aug 02 22:13	13° $\Omega$ 15'42	0°33'55
opposition	4046 Jan 05 03:34	14° $\Omega$ 48'22	0°16'54	minimum elong	4052 Aug 02 22:13	13° $\Omega$ 15'42	0°33'55
min. Earth dist.	4046 Jan 05 05:30	14° $\Omega$ 48'10	18.32535 AU	max. Earth dist.	4052 Aug 02 10:19	13° $\Omega$ 13'54	19.91289 AU
direct	4046 Mar 20 20:16	12° $\Omega$ 47'56		morning rise	4052 Aug 19 15:52	14° $\Omega$ 15'41	
evening set	4046 Jun 20 08:20	15° $\Omega$ 56'49			4052 Sep 01 13:49	15° $\Omega$	
				retrograde	4052 Nov 21 11:17	17° $\Omega$ 33'45	
conjunction	4046 Jul 06 22:41	16° $\Omega$ 55'01	0°16'51	opposition	4053 Feb 04 02:20	15° $\Omega$ 31'28	0°39'00
minimum elong	4046 Jul 06 22:41	16° $\Omega$ 55'01	0°16'51	min. Earth dist.	4053 Feb 04 13:08	15° $\Omega$ 30'18	17.88285 AU
max. Earth dist.	4046 Jul 06 19:49	16° $\Omega$ 54'36	20.29271 AU		4053 Feb 16 09:25	15° $\Omega$	
morning rise	4046 Jul 23 14:52	17° $\Omega$ 53'31		direct	4053 Apr 19 21:20	13° $\Omega$ 28'38	
retrograde	4046 Oct 25 20:44	21° $\Omega$ 07'53			4053 Jun 19 07:06	15° $\Omega$	
opposition	4047 Jan 09 15:17	19° $\Omega$ 06'05	0°20'27	evening set	4053 Jul 22 03:40	16° $\Omega$ 45'57	
min. Earth dist.	4047 Jan 09 18:33	19° $\Omega$ 05'44	18.25973 AU				
direct	4047 Mar 25 07:59	17° $\Omega$ 05'15		conjunction	4053 Aug 07 21:11	17° $\Omega$ 46'07	0°36'13
evening set	4047 Jun 25 01:28	20° $\Omega$ 15'14		minimum elong	4053 Aug 07 21:11	17° $\Omega$ 46'07	0°36'13
				max. Earth dist.	4053 Aug 07 06:27	17° $\Omega$ 43'54	19.85304 AU
conjunction	4047 Jul 11 16:22	21° $\Omega$ 13'43	0°20'00	morning rise	4053 Aug 24 14:54	18° $\Omega$ 46'20	
minimum elong	4047 Jul 11 16:22	21° $\Omega$ 13'43	0°19'59	retrograde	4053 Nov 26 06:18	22° $\Omega$ 04'59	
max. Earth dist.	4047 Jul 11 10:58	21° $\Omega$ 12'56	20.22722 AU	opposition	4054 Feb 08 18:49	20° $\Omega$ 02'37	0°41'27
morning rise	4047 Jul 28 09:10	22° $\Omega$ 12'29		min. Earth dist.	4054 Feb 09 07:38	20° $\Omega$ 01'14	17.82358 AU
retrograde	4047 Oct 30 13:11	25° $\Omega$ 27'27		direct	4054 Apr 24 14:03	17° $\Omega$ 59'27	
opposition	4048 Jan 14 03:24	23° $\Omega$ 25'30	0°23'53	evening set	4054 Jul 27 03:04	21° $\Omega$ 17'58	
min. Earth dist.	4048 Jan 14 07:59	23° $\Omega$ 25'00	18.19450 AU				
direct	4048 Mar 28 20:26	21° $\Omega$ 24'16		conjunction	4054 Aug 12 20:56	22° $\Omega$ 18'23	0°38'18
evening set	4048 Jun 28 19:25	24° $\Omega$ 35'25		minimum elong	4054 Aug 12 20:56	22° $\Omega$ 18'23	0°38'17
				max. Earth dist.	4054 Aug 12 05:36	22° $\Omega$ 16'04	19.79418 AU
conjunction	4048 Jul 15 11:06	25° $\Omega$ 34'12	0°23'02	morning rise	4054 Aug 29 14:27	23° $\Omega$ 18'48	
minimum elong	4048 Jul 15 11:05	25° $\Omega$ 34'12	0°23'03	retrograde	4054 Dec 01 03:59	26° $\Omega$ 37'59	
max. Earth dist.	4048 Jul 15 05:15	25° $\Omega$ 33'20	20.16219 AU	opposition	4055 Feb 13 11:53	24° $\Omega$ 35'33	0°43'40
morning rise	4048 Aug 01 04:04	26° $\Omega$ 33'13		min. Earth dist.	4055 Feb 14 01:18	24° $\Omega$ 34'06	17.76523 AU
retrograde	4048 Nov 03 06:23	29° $\Omega$ 48'47		direct	4055 Apr 29 09:21	22° $\Omega$ 32'03	

evening set	4055 Aug 01 03:36	25° $\Omega$ 51'44		max. Earth dist.	4061 Sep 14 12:29	24° $\eta$ 41'37	19.45123 AU
				morning rise	4061 Oct 02 01:14	25° $\eta$ 46'24	
conjunction	4055 Aug 17 21:26	26° $\Omega$ 52'23	0°40'10	retrograde	4062 Jan 02 11:59	29° $\eta$ 08'07	
minimum elong	4055 Aug 17 21:26	26° $\Omega$ 52'23	0°40'10	opposition	4062 Mar 17 05:14	27° $\eta$ 05'11	0°50'54
max. Earth dist.	4055 Aug 17 03:32	26° $\Omega$ 49'40	19.73646 AU	min. Earth dist.	4062 Mar 18 00:41	27° $\eta$ 03'03	17.43529 AU
morning rise	4055 Sep 03 14:50	27° $\Omega$ 52'59		direct	4062 May 31 18:05	24° $\eta$ 59'28	
	4055 Oct 13 20:54	0° $\eta$		evening set	4062 Sep 03 21:58	28° $\eta$ 26'02	
retrograde	4055 Dec 05 23:21	1° $\eta$ 12'39					
	4056 Jan 29 12:15	30° $\kappa$ $\delta$		conjunction	4062 Sep 20 14:08	29° $\eta$ 27'44	0°45'35
opposition	4056 Feb 18 05:38	29° $\Omega$ 10'08	0°45'37	minimum elong	4062 Sep 20 14:08	29° $\eta$ 27'44	0°45'35
min. Earth dist.	4056 Feb 18 21:10	29° $\Omega$ 08'26	17.70842 AU	max. Earth dist.	4062 Sep 19 15:06	29° $\eta$ 24'09	19.42002 AU
direct	4056 May 03 04:18	27° $\Omega$ 06'14			4062 Sep 29 05:58	0° $\Omega$	
	4056 Jul 28 11:52	0° $\eta$		morning rise	4062 Oct 07 03:58	0° $\Omega$ 29'07	
evening set	4056 Aug 05 04:41	0° $\eta$ 27'06		retrograde	4063 Jan 07 12:59	3° $\Omega$ 51'03	
				opposition	4063 Mar 22 03:10	1° $\Omega$ 48'09	0°50'37
conjunction	4056 Aug 21 22:39	1° $\eta$ 27'57	0°41'47	min. Earth dist.	4063 Mar 22 21:48	1° $\Omega$ 46'07	17.40692 AU
minimum elong	4056 Aug 21 22:39	1° $\eta$ 27'57	0°41'46		4063 May 10 19:08	30° $\kappa$ $\eta$	
max. Earth dist.	4056 Aug 21 04:07	1° $\eta$ 25'08	19.68059 AU	direct	4063 Jun 05 19:26	29° $\eta$ 42'18	
morning rise	4056 Sep 07 15:42	2° $\eta$ 28'43			4063 Jul 01 12:47	0° $\Omega$	
retrograde	4056 Dec 09 21:36	5° $\eta$ 48'50		evening set	4063 Sep 09 02:10	3° $\Omega$ 09'36	
opposition	4057 Feb 22 00:01	3° $\eta$ 46'12	0°47'17				
min. Earth dist.	4057 Feb 22 15:44	3° $\eta$ 44'30	17.65364 AU	conjunction	4063 Sep 25 17:52	4° $\Omega$ 11'22	0°45'10
direct	4057 May 08 01:54	1° $\eta$ 41'59		minimum elong	4063 Sep 25 17:52	4° $\Omega$ 11'22	0°45'11
evening set	4057 Aug 10 06:20	5° $\eta$ 03'54		max. Earth dist.	4063 Sep 24 19:33	4° $\Omega$ 07'53	19.39447 AU
max. Earth dist.	4057 Aug 26 03:50	6° $\eta$ 01'51	19.62705 AU	morning rise	4063 Oct 12 06:45	5° $\Omega$ 12'46	
				retrograde	4064 Jan 12 11:53	8° $\Omega$ 34'53	
conjunction	4057 Aug 27 00:07	6° $\eta$ 04'57	0°43'08	opposition	4064 Mar 26 01:45	6° $\Omega$ 32'05	0°50'00
minimum elong	4057 Aug 27 00:07	6° $\eta$ 04'57	0°43'08	min. Earth dist.	4064 Mar 26 21:17	6° $\Omega$ 29'57	17.38424 AU
morning rise	4057 Sep 12 16:50	7° $\eta$ 05'52		direct	4064 Jun 09 18:44	4° $\Omega$ 26'09	
retrograde	4057 Dec 14 17:38	10° $\eta$ 26'24		evening set	4064 Sep 13 06:40	7° $\Omega$ 54'07	
opposition	4058 Feb 26 19:08	8° $\eta$ 23'40	0°48'40				
min. Earth dist.	4058 Feb 27 12:42	8° $\eta$ 21'45	17.60171 AU	conjunction	4064 Sep 29 21:34	8° $\Omega$ 55'55	0°44'27
direct	4058 May 12 22:30	6° $\eta$ 19'04		minimum elong	4064 Sep 29 21:34	8° $\Omega$ 55'55	0°44'26
evening set	4058 Aug 15 08:34	9° $\eta$ 42'03		max. Earth dist.	4064 Sep 28 22:25	8° $\Omega$ 52'18	19.37469 AU
max. Earth dist.	4058 Aug 31 05:26	10° $\eta$ 40'04	19.57678 AU	morning rise	4064 Oct 16 09:46	9° $\Omega$ 57'19	
				retrograde	4065 Jan 16 13:21	13° $\Omega$ 19'35	
conjunction	4058 Sep 01 02:16	10° $\eta$ 43'16	0°44'13	opposition	4065 Mar 31 00:50	11° $\Omega$ 16'53	0°49'02
minimum elong	4058 Sep 01 02:16	10° $\eta$ 43'16	0°44'13	min. Earth dist.	4065 Mar 31 19:38	11° $\Omega$ 14'50	17.36720 AU
morning rise	4058 Sep 17 18:33	11° $\eta$ 44'19		direct	4065 Jun 14 20:48	9° $\Omega$ 10'55	
retrograde	4058 Dec 19 16:41	15° $\eta$ 05'12		evening set	4065 Sep 18 11:01	12° $\Omega$ 39'27	
opposition	4059 Mar 03 14:36	13° $\eta$ 02'23	0°49'43	max. Earth dist.	4065 Oct 04 03:26	13° $\Omega$ 37'50	19.36021 AU
min. Earth dist.	4059 Mar 04 08:00	13° $\eta$ 00'29	17.55324 AU				
direct	4059 May 17 21:37	10° $\eta$ 57'27		conjunction	4065 Oct 05 01:22	13° $\Omega$ 41'16	0°43'25
evening set	4059 Aug 20 11:24	14° $\eta$ 21'25		minimum elong	4065 Oct 05 01:22	13° $\Omega$ 41'16	0°43'26
max. Earth dist.	4059 Sep 05 07:03	15° $\eta$ 19'26	19.53021 AU	morning rise	4065 Oct 21 12:30	14° $\Omega$ 42'40	
				retrograde	4066 Jan 21 12:53	18° $\Omega$ 05'01	
conjunction	4059 Sep 06 04:51	15° $\eta$ 22'47	0°45'00	opposition	4066 Apr 05 00:31	16° $\Omega$ 02'27	0°47'44
minimum elong	4059 Sep 06 04:51	15° $\eta$ 22'47	0°45'00	min. Earth dist.	4066 Apr 05 19:55	16° $\Omega$ 00'20	17.35521 AU
morning rise	4059 Sep 22 20:35	16° $\eta$ 23'57		direct	4066 Jun 19 21:21	13° $\Omega$ 56'29	
retrograde	4059 Dec 24 13:55	19° $\eta$ 45'09		evening set	4066 Sep 23 15:46	17° $\Omega$ 25'29	
opposition	4060 Mar 07 10:57	17° $\eta$ 42'15	0°50'27	max. Earth dist.	4066 Oct 09 06:12	18° $\Omega$ 23'40	19.35070 AU
min. Earth dist.	4060 Mar 08 05:55	17° $\eta$ 40'11	17.50893 AU				
direct	4060 May 21 19:24	15° $\eta$ 37'01		conjunction	4066 Oct 10 05:10	18° $\Omega$ 27'16	0°42'06
evening set	4060 Aug 24 14:35	19° $\eta$ 01'55		minimum elong	4066 Oct 10 05:10	18° $\Omega$ 27'16	0°42'06
max. Earth dist.	4060 Sep 09 09:18	19° $\eta$ 59'58	19.48821 AU	morning rise	4066 Oct 26 15:32	19° $\Omega$ 28'37	
				retrograde	4067 Jan 26 14:02	22° $\Omega$ 51'00	
conjunction	4060 Sep 10 07:39	20° $\eta$ 03'25	0°45'30	opposition	4067 Apr 10 00:25	20° $\Omega$ 48'33	0°46'06
minimum elong	4060 Sep 10 07:39	20° $\eta$ 03'25	0°45'31	min. Earth dist.	4067 Apr 10 19:25	20° $\Omega$ 46'29	17.34809 AU
morning rise	4060 Sep 26 22:50	21° $\eta$ 04'40		direct	4067 Jun 25 00:23	18° $\Omega$ 42'34	
retrograde	4060 Dec 28 13:56	24° $\eta$ 26'09		evening set	4067 Sep 28 20:21	22° $\Omega$ 11'56	
opposition	4061 Mar 12 07:43	22° $\eta$ 23'13	0°50'51	max. Earth dist.	4067 Oct 14 11:26	23° $\Omega$ 10'17	19.34579 AU
min. Earth dist.	4061 Mar 13 02:03	22° $\eta$ 21'12	17.46940 AU				
direct	4061 May 26 19:45	20° $\eta$ 17'42		conjunction	4067 Oct 15 09:04	23° $\Omega$ 13'41	0°40'29
evening set	4061 Aug 29 18:08	23° $\eta$ 43'28		minimum elong	4067 Oct 15 09:04	23° $\Omega$ 13'41	0°40'29
				morning rise	4067 Oct 31 18:17	24° $\Omega$ 14'57	
conjunction	4061 Sep 15 10:50	24° $\eta$ 45'05	0°45'42	retrograde	4068 Jan 31 13:27	27° $\Omega$ 37'17	
minimum elong	4061 Sep 15 10:50	24° $\eta$ 45'05	0°45'42	opposition	4068 Apr 14 00:56	25° $\Omega$ 34'58	0°44'08

min. Earth dist.	4068 Apr 14 20:02	25° $\underline{\text{A}}$ 32'54	17.34535 AU	direct	4074 Jul 29 01:27	22° $\text{M}$ 01'10	
direct	4068 Jun 29 02:50	23° $\underline{\text{A}}$ 29'01		evening set	4074 Nov 01 17:32	25° $\text{M}$ 29'31	
evening set	4068 Oct 03 00:47	26° $\underline{\text{A}}$ 58'35					
				conjunction	4074 Nov 17 23:14	26° $\text{M}$ 30'14	0°22'15
conjunction	4068 Oct 19 12:25	28° $\underline{\text{A}}$ 00'15	0°38'35	minimum elong	4074 Nov 17 23:14	26° $\text{M}$ 30'14	0°22'14
minimum elong	4068 Oct 19 12:26	28° $\underline{\text{A}}$ 00'15	0°38'36	max. Earth dist.	4074 Nov 17 07:21	26° $\text{M}$ 27'45	19.43943 AU
max. Earth dist.	4068 Oct 18 14:01	27° $\underline{\text{A}}$ 56'44	19.34532 AU	morning rise	4074 Dec 04 01:21	27° $\text{M}$ 30'27	
morning rise	4068 Nov 04 20:46	29° $\underline{\text{A}}$ 01'26			4075 Jan 21 03:31	0° $\text{A}$	
	4068 Nov 21 08:37	0° $\text{M}$		retrograde	4075 Mar 05 06:08	0° $\text{A}$ 50'48	
retrograde	4069 Feb 04 13:28	2° $\text{M}$ 23'41			4075 Apr 18 21:54	30° $\text{R}$ $\text{M}$	
opposition	4069 Apr 19 01:41	0° $\text{M}$ 21'28	0°41'53	opposition	4075 May 18 07:27	28° $\text{M}$ 49'07	0°22'58
min. Earth dist.	4069 Apr 19 20:25	0° $\text{M}$ 19'25	17.34715 AU	min. Earth dist.	4075 May 18 21:26	28° $\text{M}$ 47'37	17.45569 AU
	4069 Apr 27 08:12	30° $\text{R}$ $\underline{\text{A}}$		direct	4075 Aug 03 02:55	26° $\text{M}$ 43'38	
direct	4069 Jul 04 06:44	28° $\underline{\text{A}}$ 15'31			4075 Nov 03 14:50	0° $\text{A}$	
	4069 Sep 07 02:39	0° $\text{M}$		evening set	4075 Nov 06 18:06	0° $\text{A}$ 11'26	
evening set	4069 Oct 08 04:49	1° $\text{M}$ 45'11					
				conjunction	4075 Nov 22 22:42	1° $\text{A}$ 11'55	0°18'55
conjunction	4069 Oct 24 15:41	2° $\text{M}$ 46'46	0°36'25	minimum elong	4075 Nov 22 22:42	1° $\text{A}$ 11'55	0°18'55
minimum elong	4069 Oct 24 15:41	2° $\text{M}$ 46'46	0°36'25	max. Earth dist.	4075 Nov 22 08:20	1° $\text{A}$ 09'40	19.47309 AU
max. Earth dist.	4069 Oct 23 18:49	2° $\text{M}$ 43'29	19.34932 AU	morning rise	4075 Dec 08 23:52	2° $\text{A}$ 11'55	
morning rise	4069 Nov 09 22:54	3° $\text{M}$ 47'50		retrograde	4076 Mar 09 05:05	5° $\text{A}$ 31'49	
retrograde	4070 Feb 09 12:45	7° $\text{M}$ 09'53		opposition	4076 May 22 08:08	3° $\text{A}$ 30'16	0°19'11
opposition	4070 Apr 24 02:31	5° $\text{M}$ 07'46	0°39'19	min. Earth dist.	4076 May 22 19:34	3° $\text{A}$ 29'03	17.49195 AU
min. Earth dist.	4070 Apr 24 20:43	5° $\text{M}$ 05'48	17.35326 AU	direct	4076 Aug 07 05:56	1° $\text{A}$ 25'02	
direct	4070 Jul 09 10:48	3° $\text{M}$ 01'52		evening set	4076 Nov 10 17:44	4° $\text{A}$ 52'11	
evening set	4070 Oct 13 08:37	6° $\text{M}$ 31'30					
				conjunction	4076 Nov 26 21:20	5° $\text{A}$ 52'26	0°15'28
conjunction	4070 Oct 29 18:25	7° $\text{M}$ 32'57	0°34'00	minimum elong	4076 Nov 26 21:20	5° $\text{A}$ 52'26	0°15'28
minimum elong	4070 Oct 29 18:25	7° $\text{M}$ 32'57	0°34'01	behind sun begin	4076 Nov 26 19:28	5° $\text{A}$ 52'09	
max. Earth dist.	4070 Oct 28 21:15	7° $\text{M}$ 29'37	19.35773 AU	behind sun end	4076 Nov 26 23:12	5° $\text{A}$ 52'43	
morning rise	4070 Nov 15 00:43	8° $\text{M}$ 33'54		max. Earth dist.	4076 Nov 26 09:06	5° $\text{A}$ 50'32	19.51203 AU
retrograde	4071 Feb 14 11:37	11° $\text{M}$ 55'43		morning rise	4076 Dec 12 21:26	6° $\text{A}$ 52'11	
opposition	4071 Apr 29 03:35	9° $\text{M}$ 53'41	0°36'29	retrograde	4077 Mar 14 01:55	10° $\text{A}$ 11'39	
min. Earth dist.	4071 Apr 29 21:34	9° $\text{M}$ 51'44	17.36397 AU	opposition	4077 May 27 08:43	8° $\text{A}$ 10'16	0°15'17
direct	4071 Jul 14 14:37	7° $\text{M}$ 47'48		min. Earth dist.	4077 May 27 19:36	8° $\text{A}$ 09'06	17.53343 AU
evening set	4071 Oct 18 11:48	11° $\text{M}$ 17'18		direct	4077 Aug 12 06:47	6° $\text{A}$ 05'18	
				evening set	4077 Nov 15 16:45	9° $\text{A}$ 31'46	
conjunction	4071 Nov 03 20:40	12° $\text{M}$ 18'36	0°31'21				
minimum elong	4071 Nov 03 20:40	12° $\text{M}$ 18'36	0°31'22	conjunction	4077 Dec 01 19:15	10° $\text{A}$ 31'44	0°11'56
max. Earth dist.	4071 Nov 03 01:07	12° $\text{M}$ 15'31	19.37075 AU	minimum elong	4077 Dec 01 19:15	10° $\text{A}$ 31'45	0°11'57
morning rise	4071 Nov 20 01:51	13° $\text{M}$ 19'22		behind sun begin	4077 Dec 01 14:39	10° $\text{A}$ 31'02	
	4071 Dec 19 15:33	15° $\text{M}$		behind sun end	4077 Dec 01 23:51	10° $\text{A}$ 32'27	
retrograde	4072 Feb 19 11:05	16° $\text{M}$ 40'54		max. Earth dist.	4077 Dec 01 08:13	10° $\text{A}$ 30'02	19.55601 AU
	4072 Apr 25 00:54	15° $\text{R}$ $\text{M}$		morning rise	4077 Dec 17 18:33	11° $\text{A}$ 31'15	
opposition	4072 May 03 04:36	14° $\text{M}$ 38'57	0°33'25	retrograde	4078 Mar 18 23:48	14° $\text{A}$ 50'13	
min. Earth dist.	4072 May 03 21:20	14° $\text{M}$ 37'08	17.37920 AU	opposition	4078 Jun 01 08:44	12° $\text{A}$ 49'03	0°11'18
direct	4072 Jul 18 19:10	12° $\text{M}$ 33'08		min. Earth dist.	4078 Jun 01 17:06	12° $\text{A}$ 48'10	17.57951 AU
	4072 Oct 04 23:14	15° $\text{M}$		direct	4078 Aug 17 09:18	10° $\text{A}$ 44'24	
evening set	4072 Oct 22 14:28	16° $\text{M}$ 02'21		evening set	4078 Nov 20 14:59	14° $\text{A}$ 10'05	
conjunction	4072 Nov 07 22:14	17° $\text{M}$ 03'28	0°28'30	conjunction	4078 Dec 06 16:33	15° $\text{A}$ 09'48	0°08'21
minimum elong	4072 Nov 07 22:14	17° $\text{M}$ 03'28	0°28'30	minimum elong	4078 Dec 06 16:34	15° $\text{A}$ 09'49	0°08'22
max. Earth dist.	4072 Nov 07 03:16	17° $\text{M}$ 00'30	19.38848 AU	behind sun begin	4078 Dec 06 10:43	15° $\text{A}$ 08'55	
morning rise	4072 Nov 24 02:25	18° $\text{M}$ 04'05		behind sun end	4078 Dec 06 22:24	15° $\text{A}$ 10'42	
retrograde	4073 Feb 23 09:08	21° $\text{M}$ 25'16		max. Earth dist.	4078 Dec 06 07:55	15° $\text{A}$ 08'29	19.60412 AU
opposition	4073 May 08 05:44	19° $\text{M}$ 23'23	0°30'07	morning rise	4078 Dec 22 14:50	16° $\text{A}$ 09'04	
min. Earth dist.	4073 May 08 22:08	19° $\text{M}$ 21'37	17.39949 AU	retrograde	4079 Mar 23 19:34	19° $\text{A}$ 27'32	
direct	4073 Jul 23 21:36	17° $\text{M}$ 17'38		opposition	4079 Jun 06 08:50	17° $\text{A}$ 26'34	0°07'16
evening set	4073 Oct 27 16:14	20° $\text{M}$ 46'28		min. Earth dist.	4079 Jun 06 16:45	17° $\text{A}$ 25'44	17.62946 AU
				direct	4079 Aug 22 09:56	15° $\text{A}$ 22'15	
conjunction	4073 Nov 12 23:02	21° $\text{M}$ 47'23	0°25'27	evening set	4079 Nov 25 12:26	18° $\text{A}$ 47'06	
minimum elong	4073 Nov 12 23:02	21° $\text{M}$ 47'23	0°25'28				
max. Earth dist.	4073 Nov 12 05:45	21° $\text{M}$ 44'41	19.41138 AU	conjunction	4079 Dec 11 12:51	19° $\text{A}$ 46'32	0°04'44
morning rise	4073 Nov 29 02:13	22° $\text{M}$ 47'49		minimum elong	4079 Dec 11 12:51	19° $\text{A}$ 46'32	0°04'44
retrograde	4074 Feb 28 08:45	26° $\text{M}$ 08'36		behind sun begin	4079 Dec 11 06:23	19° $\text{A}$ 45'33	
opposition	4074 May 13 06:38	24° $\text{M}$ 06'48	0°26'38	behind sun end	4079 Dec 11 19:19	19° $\text{A}$ 47'30	
min. Earth dist.	4074 May 13 21:04	24° $\text{M}$ 05'15	17.42486 AU	max. Earth dist.	4079 Dec 11 05:01	19° $\text{A}$ 45'20	19.65580 AU

morning rise	4079 Dec 27 10:23	20° $\mathbb{A}$ 45'32	min. Earth dist.	4085 Jul 03 23:03	14° $\mathbb{B}$ 39'23	17.97429 AU
retrograde	4080 Mar 27 16:19	24° $\mathbb{A}$ 03'29	direct	4085 Sep 19 06:36	12° $\mathbb{B}$ 36'57	
opposition	4080 Jun 10 08:29	22° $\mathbb{A}$ 02'43 0°03'12	evening set	4085 Dec 22 02:32	15° $\mathbb{B}$ 55'31	
min. Earth dist.	4080 Jun 10 13:55	22° $\mathbb{A}$ 02'08 17.68259 AU				
direct	4080 Aug 26 11:33	19° $\mathbb{A}$ 58'45	conjunction	4086 Jan 06 21:43	16° $\mathbb{B}$ 53'09 -0°16'39	
evening set	4080 Nov 29 08:59	23° $\mathbb{A}$ 22'41	minimum elong	4086 Jan 06 21:43	16° $\mathbb{B}$ 53'09 0°16'38	
			max. Earth dist.	4086 Jan 06 22:59	16° $\mathbb{B}$ 53'21 20.00487 AU	
conjunction	4080 Dec 15 08:34	24° $\mathbb{A}$ 21'49 0°01'03	morning rise	4086 Jan 22 15:13	17° $\mathbb{B}$ 50'32	
minimum elong	4080 Dec 15 08:33	24° $\mathbb{A}$ 21'49 0°01'04	retrograde	4086 Apr 24 03:03	21° $\mathbb{B}$ 04'58	
behind sun begin	4080 Dec 15 01:57	24° $\mathbb{A}$ 20'49	opposition	4086 Jul 08 20:35	19° $\mathbb{B}$ 05'02 -0°20'16	
behind sun end	4080 Dec 15 15:09	24° $\mathbb{A}$ 22'49	min. Earth dist.	4086 Jul 08 17:39	19° $\mathbb{B}$ 05'21 18.03529 AU	
max. Earth dist.	4080 Dec 15 03:18	24° $\mathbb{A}$ 21'02 19.71024 AU	direct	4086 Sep 24 02:55	17° $\mathbb{B}$ 03'01	
morning rise	4080 Dec 31 05:07	25° $\mathbb{A}$ 20'33	evening set	4086 Dec 26 17:27	20° $\mathbb{B}$ 20'25	
desc. node	4081 Mar 28 00:27	28° $\mathbb{A}$ 37'25				
retrograde	4081 Apr 01 11:07	28° $\mathbb{A}$ 37'57	conjunction	4087 Jan 11 12:06	21° $\mathbb{B}$ 17'46 -0°19'54	
opposition	4081 Jun 15 07:50	26° $\mathbb{A}$ 37'23 -0°00'52	minimum elong	4087 Jan 11 12:06	21° $\mathbb{B}$ 17'46 0°19'54	
min. Earth dist.	4081 Jun 15 12:44	26° $\mathbb{A}$ 36'52 17.73820 AU	max. Earth dist.	4087 Jan 11 16:09	21° $\mathbb{B}$ 18'22 20.06620 AU	
direct	4081 Aug 31 11:32	24° $\mathbb{A}$ 33'47	morning rise	4087 Jan 27 04:58	22° $\mathbb{B}$ 14'52	
evening set	4081 Dec 04 04:46	27° $\mathbb{A}$ 56'44	retrograde	4087 Apr 28 18:15	25° $\mathbb{B}$ 28'41	
			opposition	4087 Jul 13 16:30	23° $\mathbb{B}$ 28'51 -0°23'48	
conjunction	4081 Dec 20 03:16	28° $\mathbb{A}$ 55'34 -0°02'42	min. Earth dist.	4087 Jul 13 12:04	23° $\mathbb{B}$ 29'18 18.09699 AU	
minimum elong	4081 Dec 20 03:15	28° $\mathbb{A}$ 55'34 0°02'42	direct	4087 Sep 28 22:34	21° $\mathbb{B}$ 27'07	
behind sun begin	4081 Dec 19 20:40	28° $\mathbb{A}$ 54'34	evening set	4087 Dec 31 07:27	24° $\mathbb{B}$ 43'20	
behind sun end	4081 Dec 20 09:50	28° $\mathbb{A}$ 56'34				
max. Earth dist.	4081 Dec 19 22:29	28° $\mathbb{A}$ 54'52 19.76690 AU	conjunction	4088 Jan 16 01:17	25° $\mathbb{B}$ 40'22 -0°22'59	
morning rise	4082 Jan 04 23:14	29° $\mathbb{A}$ 54'02	minimum elong	4088 Jan 16 01:16	25° $\mathbb{B}$ 40'22 0°22'59	
	4082 Jan 06 14:49	0° $\mathbb{B}$	max. Earth dist.	4088 Jan 16 06:09	25° $\mathbb{B}$ 41'06 20.12840 AU	
retrograde	4082 Apr 06 06:30	3° $\mathbb{B}$ 10'53	morning rise	4088 Jan 31 17:54	26° $\mathbb{B}$ 37'14	
opposition	4082 Jun 20 06:39	1° $\mathbb{B}$ 10'28 -0°04'54	retrograde	4088 May 02 09:27	29° $\mathbb{B}$ 50'28	
min. Earth dist.	4082 Jun 20 09:17	1° $\mathbb{B}$ 10'12 17.79569 AU	opposition	4088 Jul 17 11:46	27° $\mathbb{B}$ 50'41 -0°27'09	
	4082 Jul 20 04:19	30° $\mathbb{A}$ 8'1	min. Earth dist.	4088 Jul 17 05:31	27° $\mathbb{B}$ 51'20 18.15983 AU	
direct	4082 Sep 05 11:42	29° $\mathbb{A}$ 07'12	direct	4088 Oct 02 16:33	25° $\mathbb{B}$ 49'17	
	4082 Oct 21 02:49	0° $\mathbb{B}$	evening set	4089 Jan 03 20:28	29° $\mathbb{B}$ 04'19	
evening set	4082 Dec 08 23:35	2° $\mathbb{B}$ 29'08				
			conjunction	4089 Jan 19 13:54	0° $\mathbb{B}$ 01'05 -0°25'56	
conjunction	4082 Dec 24 21:18	3° $\mathbb{B}$ 27'40 -0°06'18	minimum elong	4089 Jan 19 13:53	0° $\mathbb{B}$ 01'05 0°25'55	
minimum elong	4082 Dec 24 21:18	3° $\mathbb{B}$ 27'41 0°06'18		4089 Jan 19 06:44	0° $\mathbb{B}$	
behind sun begin	4082 Dec 24 15:04	3° $\mathbb{B}$ 26'44	max. Earth dist.	4089 Jan 19 21:34	0° $\mathbb{B}$ 02'14 20.19168 AU	
behind sun end	4082 Dec 25 03:33	3° $\mathbb{B}$ 28'37	morning rise	4089 Feb 04 06:02	0° $\mathbb{B}$ 57'41	
max. Earth dist.	4082 Dec 24 19:05	3° $\mathbb{B}$ 27'22 19.82502 AU	retrograde	4089 May 07 00:11	4° $\mathbb{B}$ 10'19	
morning rise	4083 Jan 09 16:22	4° $\mathbb{B}$ 25'52	opposition	4089 Jul 22 06:08	2° $\mathbb{B}$ 10'40 -0°30'19	
retrograde	4083 Apr 11 00:09	7° $\mathbb{B}$ 42'07	min. Earth dist.	4089 Jul 21 22:02	2° $\mathbb{B}$ 11'29 18.22353 AU	
opposition	4083 Jun 25 05:05	5° $\mathbb{B}$ 41'53 -0°08'54	direct	4089 Oct 07 10:49	0° $\mathbb{B}$ 09'37	
min. Earth dist.	4083 Jun 25 07:01	5° $\mathbb{B}$ 41'41 17.85435 AU	evening set	4090 Jan 08 08:47	3° $\mathbb{B}$ 23'29	
direct	4083 Sep 10 10:43	3° $\mathbb{B}$ 38'57				
evening set	4083 Dec 13 17:39	6° $\mathbb{B}$ 59'48	conjunction	4090 Jan 24 01:33	4° $\mathbb{B}$ 19'58 -0°28'42	
			minimum elong	4090 Jan 24 01:33	4° $\mathbb{B}$ 19'58 0°28'42	
conjunction	4083 Dec 29 14:21	7° $\mathbb{B}$ 58'02 -0°09'50	max. Earth dist.	4090 Jan 24 10:02	4° $\mathbb{B}$ 21'15 20.25576 AU	
minimum elong	4083 Dec 29 14:21	7° $\mathbb{B}$ 58'02 0°09'49	morning rise	4090 Feb 08 17:36	5° $\mathbb{B}$ 16'21	
behind sun begin	4083 Dec 29 08:56	7° $\mathbb{B}$ 57'14	retrograde	4090 May 11 14:10	8° $\mathbb{B}$ 28'26	
behind sun end	4083 Dec 29 19:45	7° $\mathbb{B}$ 58'51	opposition	4090 Jul 26 23:59	6° $\mathbb{B}$ 28'54 -0°33'17	
max. Earth dist.	4083 Dec 29 12:30	7° $\mathbb{B}$ 57'46 19.88425 AU	min. Earth dist.	4090 Jul 26 14:26	6° $\mathbb{B}$ 29'52 18.28797 AU	
morning rise	4084 Jan 14 08:55	8° $\mathbb{B}$ 55'57	direct	4090 Oct 12 02:26	4° $\mathbb{B}$ 28'13	
retrograde	4084 Apr 14 18:14	12° $\mathbb{B}$ 11'38	evening set	4091 Jan 12 20:06	7° $\mathbb{B}$ 40'58	
opposition	4084 Jun 29 02:56	10° $\mathbb{B}$ 11'31 -0°12'48				
min. Earth dist.	4084 Jun 29 02:48	10° $\mathbb{B}$ 11'31 17.91404 AU	conjunction	4091 Jan 28 12:34	8° $\mathbb{B}$ 37'11 -0°31'18	
direct	4084 Sep 14 09:08	8° $\mathbb{B}$ 08'53	minimum elong	4091 Jan 28 12:33	8° $\mathbb{B}$ 37'11 0°31'17	
evening set	4084 Dec 17 10:26	11° $\mathbb{B}$ 28'37	max. Earth dist.	4091 Jan 28 23:36	8° $\mathbb{B}$ 38'51 20.32028 AU	
			morning rise	4091 Feb 13 04:15	9° $\mathbb{B}$ 33'20	
conjunction	4085 Jan 02 06:31	12° $\mathbb{B}$ 26'34 -0°13'18	retrograde	4091 May 16 04:35	12° $\mathbb{B}$ 44'53	
minimum elong	4085 Jan 02 06:31	12° $\mathbb{B}$ 26'34 0°13'18	opposition	4091 Jul 31 17:09	10° $\mathbb{B}$ 45'29 -0°36'03	
behind sun begin	4085 Jan 02 02:37	12° $\mathbb{B}$ 25'59	min. Earth dist.	4091 Jul 31 05:40	10° $\mathbb{B}$ 46'40 18.35241 AU	
behind sun end	4085 Jan 02 10:24	12° $\mathbb{B}$ 27'09	direct	4091 Oct 16 19:45	8° $\mathbb{B}$ 45'13	
max. Earth dist.	4085 Jan 02 07:20	12° $\mathbb{B}$ 26'41 19.94426 AU	evening set	4092 Jan 17 06:52	11° $\mathbb{B}$ 56'50	
morning rise	4085 Jan 18 00:22	13° $\mathbb{B}$ 24'12				
retrograde	4085 Apr 19 10:31	16° $\mathbb{B}$ 39'16	conjunction	4092 Feb 01 22:48	12° $\mathbb{B}$ 52'49 -0°33'42	
opposition	4085 Jul 04 00:12	14° $\mathbb{B}$ 39'16 -0°16'36	minimum elong	4092 Feb 01 22:48	12° $\mathbb{B}$ 52'49 0°33'42	



max. Earth dist.	4092 Feb 02 10:38	12° $\approx$ 54'35	20.38457 AU	morning rise	4098 Mar 13 17:31	8° $\times$ 51'10	
morning rise	4092 Feb 17 14:31	13° $\approx$ 48'44		retrograde	4098 Jun 14 13:55	11° $\times$ 59'39	
	4092 Mar 10 00:18	15° $\approx$		min. Earth dist.	4098 Aug 30 06:45	10° $\times$ 02'37	18.75302 AU
retrograde	4092 May 19 17:17	16° $\approx$ 59'49		opposition	4098 Aug 31 00:20	10° $\times$ 00'51	-0°48'57
opposition	4092 Aug 04 09:46	15° $\approx$ 00'32	-0°38'36	direct	4098 Nov 15 16:14	8° $\times$ 02'50	
min. Earth dist.	4092 Aug 03 21:19	15° $\approx$ 01'48	18.41651 AU	evening set	4099 Feb 14 16:27	11° $\times$ 07'27	
	4092 Aug 04 15:03	15° $\approx$					
direct	4092 Oct 20 09:42	13° $\approx$ 00'39		conjunction	4099 Mar 02 07:49	12° $\times$ 02'01	-0°44'39
	4092 Dec 30 05:30	15° $\approx$		minimum elong	4099 Mar 02 07:49	12° $\times$ 02'01	0°44'40
evening set	4093 Jan 20 16:43	16° $\approx$ 11'11		max. Earth dist.	4099 Mar 03 02:50	12° $\times$ 04'48	20.77516 AU
				morning rise	4099 Mar 18 00:24	12° $\times$ 56'47	
conjunction	4093 Feb 05 08:30	17° $\approx$ 06'55	-0°35'54	retrograde	4099 Jun 18 23:48	16° $\times$ 04'55	
minimum elong	4093 Feb 05 08:30	17° $\approx$ 06'55	0°35'54	opposition	4099 Sep 04 12:35	14° $\times$ 06'05	-0°49'48
max. Earth dist.	4093 Feb 05 22:32	17° $\approx$ 09'01	20.44811 AU	min. Earth dist.	4099 Sep 03 17:25	14° $\times$ 08'00	18.79685 AU
morning rise	4093 Feb 21 00:04	18° $\approx$ 02'38		direct	4099 Nov 20 04:02	12° $\times$ 08'15	
retrograde	4093 May 24 06:48	21° $\approx$ 13'13		evening set	4100 Feb 18 22:34	15° $\times$ 12'00	
min. Earth dist.	4093 Aug 08 11:24	19° $\approx$ 15'32	18.47928 AU				
opposition	4093 Aug 09 01:38	19° $\approx$ 14'06	-0°40'55	conjunction	4100 Mar 06 14:00	16° $\times$ 06'26	-0°45'19
direct	4093 Oct 25 01:57	17° $\approx$ 14'35		minimum elong	4100 Mar 06 14:00	16° $\times$ 06'26	0°45'19
evening set	4094 Jan 25 02:10	20° $\approx$ 24'04		max. Earth dist.	4100 Mar 07 09:18	16° $\times$ 09'15	20.81719 AU
				morning rise	4100 Mar 22 07:06	17° $\times$ 01'06	
conjunction	4094 Feb 09 17:34	21° $\approx$ 19'34	-0°37'55	retrograde	4100 Jun 23 08:21	20° $\times$ 08'53	
minimum elong	4094 Feb 09 17:34	21° $\approx$ 19'34	0°37'55	min. Earth dist.	4100 Sep 08 05:28	18° $\times$ 11'53	18.83736 AU
max. Earth dist.	4094 Feb 10 08:05	21° $\approx$ 21'44	20.50996 AU	opposition	4100 Sep 09 00:16	18° $\times$ 10'00	-0°50'24
morning rise	4094 Feb 25 09:14	22° $\approx$ 15'06		direct	4100 Nov 24 12:44	16° $\times$ 12'21	
retrograde	4094 May 28 18:24	25° $\approx$ 25'14		evening set	4101 Feb 23 04:05	19° $\times$ 15'17	
opposition	4094 Aug 13 16:57	23° $\approx$ 26'13	-0°43'01				
min. Earth dist.	4094 Aug 13 02:19	23° $\approx$ 27'42	18.54025 AU	conjunction	4101 Mar 10 19:54	20° $\times$ 09'36	-0°45'45
direct	4094 Oct 29 14:27	21° $\approx$ 27'04		minimum elong	4101 Mar 10 19:54	20° $\times$ 09'36	0°45'45
evening set	4095 Jan 29 10:55	24° $\approx$ 35'32		max. Earth dist.	4101 Mar 11 16:20	20° $\times$ 12'35	20.85612 AU
				morning rise	4101 Mar 26 13:22	21° $\times$ 04'10	
conjunction	4095 Feb 14 02:16	25° $\approx$ 30'49	-0°39'42	retrograde	4101 Jun 27 17:54	24° $\times$ 11'39	
minimum elong	4095 Feb 14 02:15	25° $\approx$ 30'49	0°39'42	opposition	4101 Sep 13 11:12	22° $\times$ 12'45	-0°50'44
max. Earth dist.	4095 Feb 14 18:29	25° $\approx$ 33'13	20.56970 AU	min. Earth dist.	4101 Sep 12 14:47	22° $\times$ 14'47	18.87474 AU
morning rise	4095 Mar 01 17:52	26° $\approx$ 26'09		direct	4101 Nov 28 22:59	20° $\times$ 15'16	
retrograde	4095 Jun 02 06:29	29° $\approx$ 35'51					
opposition	4095 Aug 18 07:43	27° $\approx$ 36'56	-0°44'52				
min. Earth dist.	4095 Aug 17 15:21	27° $\approx$ 38'35	18.59860 AU				
direct	4095 Nov 03 05:34	25° $\approx$ 38'09					
evening set	4096 Feb 02 19:07	28° $\approx$ 45'35					
conjunction	4096 Feb 18 10:14	29° $\approx$ 40'40	-0°41'17				
minimum elong	4096 Feb 18 10:14	29° $\approx$ 40'40	0°41'16				
max. Earth dist.	4096 Feb 19 02:47	29° $\approx$ 43'07	20.62649 AU				
	4096 Feb 23 20:59	0° $\times$					
morning rise	4096 Mar 05 02:06	0° $\times$ 35'51					
retrograde	4096 Jun 05 17:26	3° $\times$ 45'08					
opposition	4096 Aug 21 21:59	1° $\times$ 46'17	-0°46'29				
min. Earth dist.	4096 Aug 21 05:37	1° $\times$ 47'56	18.65387 AU				
	4096 Oct 15 11:01	30° $\approx$					
direct	4096 Nov 06 16:46	29° $\approx$ 47'47					
	4096 Nov 28 14:25	0° $\times$					
evening set	4097 Feb 06 02:47	2° $\times$ 54'15					
conjunction	4097 Feb 21 18:00	3° $\times$ 49'10	-0°42'38				
minimum elong	4097 Feb 21 18:00	3° $\times$ 49'10	0°42'38				
max. Earth dist.	4097 Feb 22 11:46	3° $\times$ 51'47	20.67992 AU				
morning rise	4097 Mar 09 09:59	4° $\times$ 44'11					
retrograde	4097 Jun 10 04:08	7° $\times$ 53'03					
opposition	4097 Aug 26 11:18	5° $\times$ 54'15	-0°47'51				
min. Earth dist.	4097 Aug 25 17:27	5° $\times$ 56'03	18.70537 AU				
direct	4097 Nov 11 06:08	3° $\times$ 56'01					
evening set	4098 Feb 10 10:01	7° $\times$ 01'33					
conjunction	4098 Feb 26 01:10	7° $\times$ 56'17	-0°43'46				
minimum elong	4098 Feb 26 01:10	7° $\times$ 56'17	0°43'45				
max. Earth dist.	4098 Feb 26 19:00	7° $\times$ 58'54	20.72942 AU				