

evening set	7600 Mar 20 20:21	16° Υ 55'16	morning rise	7605 May 01 15:13	29° Υ 02'38
				7605 May 29 18:52	0° \mathcal{B}
conjunction	7600 Apr 05 05:18	17° Υ 29'50 -0°04'17	retrograde	7605 Jul 29 10:20	0° \mathcal{B} 58'19
minimum elong	7600 Apr 05 05:17	17° Υ 29'50 0°04'19		7605 Oct 01 20:48	30° $\mathcal{R}\Upsilon$
behind sun begin	7600 Apr 04 22:59	17° Υ 29'16	opposition	7605 Oct 17 11:40	29° Υ 34'55 -0°20'16
behind sun end	7600 Apr 05 11:36	17° Υ 30'24	min. Earth dist.	7605 Oct 17 10:45	29° Υ 34'59 29.10987 AU
max. Earth dist.	7600 Apr 05 01:06	17° Υ 29'28 31.16540 AU	direct	7606 Jan 05 08:26	28° Υ 11'25
morning rise	7600 Apr 20 14:11	18° Υ 04'24		7606 Mar 31 18:12	0° \mathcal{B}
retrograde	7600 Jul 18 02:20	19° Υ 59'19	evening set	7606 Apr 03 07:22	0° \mathcal{B} 05'36
opposition	7600 Oct 05 19:40	18° Υ 36'07 -0°05'57			
min. Earth dist.	7600 Oct 05 23:15	18° Υ 35'52 29.15922 AU	conjunction	7606 Apr 18 16:06	0° \mathcal{B} 40'15 -0°20'17
direct	7600 Dec 25 00:07	17° Υ 12'21	minimum elong	7606 Apr 18 16:06	0° \mathcal{B} 40'15 0°20'21
evening set	7601 Mar 23 06:04	19° Υ 06'35	max. Earth dist.	7606 Apr 18 17:19	0° \mathcal{B} 40'21 31.10542 AU
			morning rise	7606 May 04 01:24	1° \mathcal{B} 14'58
conjunction	7601 Apr 07 15:03	19° Υ 41'09 -0°06'58	retrograde	7606 Jul 31 23:32	3° \mathcal{B} 10'48
minimum elong	7601 Apr 07 15:03	19° Υ 41'09 0°07'01	opposition	7606 Oct 20 00:26	1° \mathcal{B} 47'23 -0°23'04
behind sun begin	7601 Apr 07 09:06	19° Υ 40'37	min. Earth dist.	7606 Oct 19 22:00	1° \mathcal{B} 47'33 29.10084 AU
behind sun end	7601 Apr 07 20:59	19° Υ 41'42	direct	7607 Jan 07 18:18	0° \mathcal{B} 23'56
max. Earth dist.	7601 Apr 07 12:35	19° Υ 40'57 31.15325 AU	evening set	7607 Apr 05 17:32	2° \mathcal{B} 18'08
morning rise	7601 Apr 22 23:51	20° Υ 15'45			
retrograde	7601 Jul 20 12:37	22° Υ 10'47	conjunction	7607 Apr 21 02:17	2° \mathcal{B} 52'47 -0°22'54
opposition	7601 Oct 08 08:20	20° Υ 47'31 -0°08'50	minimum elong	7607 Apr 21 02:17	2° \mathcal{B} 52'47 0°22'57
min. Earth dist.	7601 Oct 08 10:11	20° Υ 47'23 29.14760 AU	max. Earth dist.	7607 Apr 21 04:13	2° \mathcal{B} 52'58 31.09595 AU
direct	7601 Dec 27 12:59	19° Υ 23'47	morning rise	7607 May 06 11:39	3° \mathcal{B} 27'32
evening set	7602 Mar 25 15:50	21° Υ 17'59	retrograde	7607 Aug 03 11:54	5° \mathcal{B} 23'32
			opposition	7607 Oct 22 13:36	4° \mathcal{B} 00'05 -0°25'50
conjunction	7602 Apr 10 00:38	21° Υ 52'34 -0°09'39	min. Earth dist.	7607 Oct 22 11:43	4° \mathcal{B} 00'13 29.09100 AU
minimum elong	7602 Apr 10 00:38	21° Υ 52'34 0°09'42	direct	7608 Jan 10 05:51	2° \mathcal{B} 36'41
behind sun begin	7602 Apr 09 19:19	21° Υ 52'05	evening set	7608 Apr 07 03:41	4° \mathcal{B} 30'52
behind sun end	7602 Apr 10 05:56	21° Υ 53'03			
max. Earth dist.	7602 Apr 09 22:10	21° Υ 52'21 31.14223 AU	conjunction	7608 Apr 22 12:27	5° \mathcal{B} 05'32 -0°25'28
morning rise	7602 Apr 25 09:40	22° Υ 27'11	minimum elong	7608 Apr 22 12:27	5° \mathcal{B} 05'32 0°25'32
retrograde	7602 Jul 23 00:35	24° Υ 22'21	max. Earth dist.	7608 Apr 22 15:05	5° \mathcal{B} 05'47 31.08563 AU
opposition	7602 Oct 10 21:06	22° Υ 59'02 -0°11'43	morning rise	7608 May 07 21:53	5° \mathcal{B} 40'18
min. Earth dist.	7602 Oct 10 22:15	22° Υ 58'57 29.13719 AU	retrograde	7608 Aug 05 01:46	7° \mathcal{B} 36'27
direct	7602 Dec 29 23:38	21° Υ 35'21	opposition	7608 Oct 24 02:42	6° \mathcal{B} 12'57 -0°28'34
evening set	7603 Mar 28 01:34	23° Υ 29'32	min. Earth dist.	7608 Oct 23 23:19	6° \mathcal{B} 13'11 29.08006 AU
			direct	7609 Jan 11 18:42	4° \mathcal{B} 49'34
conjunction	7603 Apr 12 10:29	24° Υ 04'08 -0°12'20	evening set	7609 Apr 09 14:02	6° \mathcal{B} 43'45
minimum elong	7603 Apr 12 10:29	24° Υ 04'08 0°12'23			
behind sun begin	7603 Apr 12 06:12	24° Υ 03'45	conjunction	7609 Apr 24 22:45	7° \mathcal{B} 18'26 -0°28'00
behind sun end	7603 Apr 12 14:46	24° Υ 04'31	minimum elong	7609 Apr 24 22:45	7° \mathcal{B} 18'26 0°28'04
max. Earth dist.	7603 Apr 12 10:00	24° Υ 04'05 31.13226 AU	max. Earth dist.	7609 Apr 25 01:18	7° \mathcal{B} 18'40 31.07405 AU
morning rise	7603 Apr 27 19:24	24° Υ 38'46	morning rise	7609 May 10 08:25	7° \mathcal{B} 53'13
retrograde	7603 Jul 25 11:04	26° Υ 34'06	retrograde	7609 Aug 07 14:36	9° \mathcal{B} 49'30
opposition	7603 Oct 13 09:46	25° Υ 10'45 -0°14'35	opposition	7609 Oct 26 15:56	8° \mathcal{B} 25'55 -0°31'16
min. Earth dist.	7603 Oct 13 10:07	25° Υ 10'43 29.12757 AU	min. Earth dist.	7609 Oct 26 13:00	8° \mathcal{B} 26'07 29.06800 AU
direct	7604 Jan 01 11:38	23° Υ 47'07	direct	7610 Jan 14 05:39	7° \mathcal{B} 02'32
evening set	7604 Mar 29 11:31	25° Υ 41'18	evening set	7610 Apr 12 00:12	8° \mathcal{B} 56'40
conjunction	7604 Apr 13 20:14	26° Υ 15'54 -0°15'00	conjunction	7610 Apr 27 09:09	9° \mathcal{B} 31'22 -0°30'30
minimum elong	7604 Apr 13 20:14	26° Υ 15'54 0°15'03	minimum elong	7610 Apr 27 09:08	9° \mathcal{B} 31'22 0°30'34
behind sun begin	7604 Apr 13 17:46	26° Υ 15'41	max. Earth dist.	7610 Apr 27 12:57	9° \mathcal{B} 31'43 31.06147 AU
behind sun end	7604 Apr 13 22:43	26° Υ 16'08	morning rise	7610 May 12 18:51	10° \mathcal{B} 06'11
max. Earth dist.	7604 Apr 13 19:41	26° Υ 15'52 31.12309 AU	retrograde	7610 Aug 10 02:12	12° \mathcal{B} 02'34
morning rise	7604 Apr 29 05:23	26° Υ 50'35	opposition	7610 Oct 29 05:01	10° \mathcal{B} 38'53 -0°33'55
retrograde	7604 Jul 26 23:27	28° Υ 46'04	min. Earth dist.	7610 Oct 29 00:51	10° \mathcal{B} 39'10 29.05488 AU
opposition	7604 Oct 14 22:39	27° Υ 22'42 -0°17'26	direct	7611 Jan 16 19:26	9° \mathcal{B} 15'29
min. Earth dist.	7604 Oct 14 21:46	27° Υ 22'46 29.11869 AU	evening set	7611 Apr 14 10:32	11° \mathcal{B} 09'34
direct	7605 Jan 02 21:46	25° Υ 59'08			
evening set	7605 Mar 31 21:18	27° Υ 53'19	conjunction	7611 Apr 29 19:22	11° \mathcal{B} 44'17 -0°32'57
			minimum elong	7611 Apr 29 19:22	11° \mathcal{B} 44'17 0°33'01
conjunction	7605 Apr 16 06:07	28° Υ 27'57 -0°17'39	max. Earth dist.	7611 Apr 29 22:46	11° \mathcal{B} 44'36 31.04809 AU
minimum elong	7605 Apr 16 06:07	28° Υ 27'57 0°17'43	morning rise	7611 May 15 05:23	12° \mathcal{B} 19'07
max. Earth dist.	7605 Apr 16 07:16	28° Υ 28'03 31.11425 AU	retrograde	7611 Aug 12 15:29	14° \mathcal{B} 15'36

opposition	7611 Oct 31 18:06	12° 8 51'49 -0°36'30	conjunction	7618 May 14 20:35	27° 8 15'17 -0°48'35
min. Earth dist.	7611 Oct 31 13:37	12° 8 52'07 29.04150 AU	minimum elong	7618 May 14 20:35	27° 8 15'17 0°48'41
direct	7612 Jan 19 07:34	11° 8 28'23	max. Earth dist.	7618 May 15 06:11	27° 8 16'12 30.97415 AU
evening set	7612 Apr 15 20:42	13° 8 22'24	morning rise	7618 May 30 08:01	27° 8 50'18
			retrograde	7618 Aug 28 05:05	29° 8 47'40
conjunction	7612 May 01 05:46	13° 8 57'08 -0°35'21	opposition	7618 Nov 16 14:09	28° 8 23'28 -0°53'01
minimum elong	7612 May 01 05:45	13° 8 57'08 0°35'26	min. Earth dist.	7618 Nov 16 04:22	28° 8 24'08 28.97035 AU
max. Earth dist.	7612 May 01 11:05	13° 8 57'38 31.03476 AU	direct	7619 Feb 03 14:44	27° 8 00'09
morning rise	7612 May 16 15:46	14° 8 31'59	evening set	7619 May 01 21:39	28° 8 54'04
	7612 May 29 15:58	15° 8			
retrograde	7612 Aug 14 02:15	16° 8 28'34	conjunction	7619 May 17 07:31	29° 8 28'55 -0°50'34
opposition	7612 Nov 02 07:17	15° 8 04'41 -0°39'03	minimum elong	7619 May 17 07:31	29° 8 28'55 0°50'40
min. Earth dist.	7612 Nov 02 01:55	15° 8 05'03 29.02843 AU	max. Earth dist.	7619 May 17 18:28	29° 8 29'58 30.96585 AU
	7612 Nov 05 04:00	15° 8		7619 May 31 00:15	0° II
direct	7613 Jan 20 20:41	13° 8 41'14	morning rise	7619 Jun 01 19:01	0° II 03'58
	7613 Apr 01 17:25	15° 8	retrograde	7619 Aug 30 18:16	2° II 01'27
evening set	7613 Apr 18 06:56	15° 8 35'12	opposition	7619 Nov 19 03:21	0° II 37'15 -0°55'05
			min. Earth dist.	7619 Nov 18 16:24	0° II 38'00 28.96175 AU
conjunction	7613 May 03 15:55	16° 8 09'56 -0°37'42		7619 Dec 12 14:58	30° 8
minimum elong	7613 May 03 15:55	16° 8 09'56 0°37'47	direct	7620 Feb 06 04:14	29° 8 13'58
max. Earth dist.	7613 May 03 21:15	16° 8 10'27 31.02215 AU		7620 Mar 30 02:34	0° II
morning rise	7613 May 19 02:17	16° 8 44'49	evening set	7620 May 03 08:38	1° II 07'54
retrograde	7613 Aug 16 14:17	18° 8 41'31			
opposition	7613 Nov 04 20:23	17° 8 17'32 -0°41'32	conjunction	7620 May 18 18:29	1° II 42'47 -0°52'28
min. Earth dist.	7613 Nov 04 13:46	17° 8 17'59 29.01641 AU	minimum elong	7620 May 18 18:29	1° II 42'47 0°52'34
direct	7614 Jan 23 07:42	15° 8 54'05	max. Earth dist.	7620 May 19 04:47	1° II 43'45 30.95690 AU
evening set	7614 Apr 20 17:12	17° 8 48'00	morning rise	7620 Jun 03 06:24	2° II 17'51
			retrograde	7620 Sep 01 09:17	4° II 15'29
conjunction	7614 May 06 02:24	18° 8 22'46 -0°40'00	opposition	7620 Nov 20 16:46	2° II 51'14 -0°57'05
minimum elong	7614 May 06 02:24	18° 8 22'46 0°40'05	min. Earth dist.	7620 Nov 20 05:51	2° II 51'59 28.95247 AU
max. Earth dist.	7614 May 06 09:26	18° 8 23'26 31.01056 AU	direct	7621 Feb 07 15:57	1° II 27'58
morning rise	7614 May 21 12:49	18° 8 57'40	evening set	7621 May 05 19:27	3° II 21'54
retrograde	7614 Aug 19 00:43	20° 8 54'28			
opposition	7614 Nov 07 09:23	19° 8 30'26 -0°43'58	conjunction	7621 May 21 05:40	3° II 56'49 -0°54'17
min. Earth dist.	7614 Nov 07 02:33	19° 8 30'54 29.00543 AU	minimum elong	7621 May 21 05:40	3° II 56'49 0°54'23
direct	7615 Jan 25 19:07	18° 8 06'59	max. Earth dist.	7621 May 21 17:21	3° II 57'55 30.94699 AU
evening set	7615 Apr 23 03:35	20° 8 00'53	morning rise	7621 Jun 05 17:42	4° II 31'55
			retrograde	7621 Sep 03 21:12	6° II 29'39
conjunction	7615 May 08 12:49	20° 8 35'40 -0°42'14	opposition	7621 Nov 23 06:08	5° II 05'22 -0°58'59
minimum elong	7615 May 08 12:49	20° 8 35'40 0°42'20	min. Earth dist.	7621 Nov 22 18:52	5° II 06'08 28.94190 AU
max. Earth dist.	7615 May 08 20:12	20° 8 36'21 31.00025 AU	direct	7622 Feb 10 05:12	3° II 42'06
morning rise	7615 May 23 23:31	21° 8 10'35	evening set	7622 May 08 06:36	5° II 36'02
retrograde	7615 Aug 21 14:06	23° 8 07'31			
opposition	7615 Nov 09 22:27	21° 8 43'26 -0°46'20	conjunction	7622 May 23 16:54	6° II 10'57 -0°56'02
min. Earth dist.	7615 Nov 09 13:46	21° 8 44'01 28.99565 AU	minimum elong	7622 May 23 16:54	6° II 10'57 0°56'08
direct	7616 Jan 28 05:48	20° 8 20'00	max. Earth dist.	7622 May 24 03:51	6° II 11'59 30.93590 AU
evening set	7616 Apr 24 13:53	22° 8 13'53	morning rise	7622 Jun 08 05:22	6° II 46'06
			retrograde	7622 Sep 06 10:34	8° II 43'55
conjunction	7616 May 09 23:14	22° 8 48'41 -0°44'25	opposition	7622 Nov 25 19:18	7° II 19'34 -1°00'49
minimum elong	7616 May 09 23:14	22° 8 48'41 0°44'31	min. Earth dist.	7622 Nov 25 07:31	7° II 20'22 28.93032 AU
max. Earth dist.	7616 May 10 07:40	22° 8 49'29 30.99086 AU	direct	7623 Feb 12 16:50	5° II 56'17
morning rise	7616 May 25 10:07	23° 8 23'38	evening set	7623 May 10 17:34	7° II 50'10
retrograde	7616 Aug 23 01:55	25° 8 20'43			
opposition	7616 Nov 11 11:46	23° 8 56'35 -0°48'38	conjunction	7623 May 26 04:11	8° II 25'08 -0°57'41
min. Earth dist.	7616 Nov 11 03:15	23° 8 57'10 28.98676 AU	minimum elong	7623 May 26 04:11	8° II 25'08 0°57'47
direct	7617 Jan 29 16:48	22° 8 33'11	max. Earth dist.	7623 May 26 16:19	8° II 26'17 30.92382 AU
evening set	7617 Apr 27 00:21	24° 8 27'04	morning rise	7623 Jun 10 16:50	9° II 00'18
			retrograde	7623 Sep 08 21:52	10° II 58'12
conjunction	7617 May 12 09:54	25° 8 01'53 -0°46'32	opposition	7623 Nov 28 08:37	9° II 33'46 -1°02'32
minimum elong	7617 May 12 09:54	25° 8 01'53 0°46'38	min. Earth dist.	7623 Nov 27 21:03	9° II 34'33 28.91800 AU
max. Earth dist.	7617 May 12 19:23	25° 8 02'47 30.98237 AU	direct	7624 Feb 15 05:11	8° II 10'27
morning rise	7617 May 27 20:59	25° 8 36'52	evening set	7624 May 12 04:28	10° II 04'18
retrograde	7617 Aug 25 15:36	27° 8 34'04			
opposition	7617 Nov 14 00:50	26° 8 09'55 -0°50'52	conjunction	7624 May 27 15:16	10° II 39'17 -0°59'15
min. Earth dist.	7617 Nov 13 14:39	26° 8 10'37 28.97848 AU	minimum elong	7624 May 27 15:16	10° II 39'17 0°59'22
direct	7618 Feb 01 04:29	24° 8 46'33	max. Earth dist.	7624 May 28 03:29	10° II 40'26 30.91154 AU
evening set	7618 Apr 29 11:00	26° 8 40'27	morning rise	7624 Jun 12 04:18	11° II 14'29

retrograde	7624 Sep 10 11:27	13° Π 12'28	minimum elong	7631 Jun 12 23:27	26° Π 19'41	1°07'46
opposition	7624 Nov 29 21:50	11° Π 47'56 -1°04'10	max. Earth dist.	7631 Jun 13 15:54	26° Π 21'15	30.85124 AU
min. Earth dist.	7624 Nov 29 08:47	11° Π 48'50 28.90585 AU	morning rise	7631 Jun 28 14:56	26° Π 55'06	
direct	7625 Feb 16 16:47	10° Π 24'35	retrograde	7631 Sep 27 09:14	28° Π 53'40	
evening set	7625 May 14 15:31	12° Π 18'25	opposition	7631 Dec 16 17:31	27° Π 28'52	-1°12'48
			min. Earth dist.	7631 Dec 16 00:45	27° Π 30'01	28.84898 AU
conjunction	7625 May 30 02:32	12° Π 53'24 -1°00'44	direct	7632 Mar 04 02:26	26° Π 05'31	
minimum elong	7625 May 30 02:32	12° Π 53'24 1°00'51	evening set	7632 May 29 22:13	27° Π 59'23	
max. Earth dist.	7625 May 30 15:33	12° Π 54'39 30.89954 AU				
morning rise	7625 Jun 14 15:53	13° Π 28'38	conjunction	7632 Jun 14 11:19	28° Π 34'34	-1°08'27
retrograde	7625 Sep 12 22:31	15° Π 26'42	minimum elong	7632 Jun 14 11:19	28° Π 34'34	1°08'34
opposition	7625 Dec 02 10:59	14° Π 02'06 -1°05'43	max. Earth dist.	7632 Jun 15 04:56	28° Π 36'14	30.84549 AU
min. Earth dist.	7625 Dec 01 22:18	14° Π 02'58 28.89438 AU	morning rise	7632 Jun 30 03:03	29° Π 10'01	
direct	7626 Feb 19 03:56	12° Π 38'43		7632 Jul 24 03:10	0° Θ	
evening set	7626 May 17 02:31	14° Π 32'32	retrograde	7632 Sep 28 22:12	1° Θ 08'40	
				7632 Dec 08 11:37	30° \mathbb{R} Π	
conjunction	7626 Jun 01 13:53	15° Π 07'33 -1°02'08	opposition	7632 Dec 18 06:44	29° Π 43'50	-1°13'36
minimum elong	7626 Jun 01 13:53	15° Π 07'33 1°02'15	min. Earth dist.	7632 Dec 17 14:23	29° Π 44'58	28.84306 AU
max. Earth dist.	7626 Jun 02 03:52	15° Π 08'52 30.88863 AU	direct	7633 Mar 06 15:28	28° Π 20'31	
morning rise	7626 Jun 17 03:31	15° Π 42'48		7633 May 25 20:25	0° Θ	
retrograde	7626 Sep 15 11:41	17° Π 40'57	evening set	7633 Jun 01 10:00	0° Θ 14'22	
min. Earth dist.	7626 Dec 04 09:37	16° Π 17'16 28.88402 AU				
opposition	7626 Dec 05 00:02	16° Π 16'17 -1°07'09	conjunction	7633 Jun 16 23:25	0° Θ 49'35	-1°09'09
direct	7627 Feb 21 15:18	14° Π 52'53	minimum elong	7633 Jun 16 23:25	0° Θ 49'35	1°09'16
evening set	7627 May 19 13:38	16° Π 46'41	max. Earth dist.	7633 Jun 17 16:35	0° Θ 51'13	30.83933 AU
			morning rise	7633 Jul 02 15:36	1° Θ 25'04	
conjunction	7627 Jun 04 01:07	17° Π 21'44 -1°03'26	retrograde	7633 Oct 01 12:18	3° Θ 23'46	
minimum elong	7627 Jun 04 01:07	17° Π 21'44 1°03'32	opposition	7633 Dec 20 19:43	1° Θ 58'55	-1°14'17
max. Earth dist.	7627 Jun 04 15:17	17° Π 23'04 30.87880 AU	min. Earth dist.	7633 Dec 20 02:30	2° Θ 00'06	28.83651 AU
morning rise	7627 Jun 19 15:09	17° Π 57'01	direct	7634 Mar 09 03:33	0° Θ 35'33	
retrograde	7627 Sep 18 00:49	19° Π 55'15	evening set	7634 Jun 03 21:54	2° Θ 29'25	
opposition	7627 Dec 07 13:13	18° Π 30'32 -1°08'29				
min. Earth dist.	7627 Dec 06 23:03	18° Π 31'30 28.87496 AU	conjunction	7634 Jun 19 11:39	3° Θ 04'39	-1°09'45
direct	7628 Feb 24 01:09	17° Π 07'08	minimum elong	7634 Jun 19 11:39	3° Θ 04'39	1°09'52
evening set	7628 May 21 00:42	19° Π 00'56	max. Earth dist.	7634 Jun 20 04:55	3° Θ 06'18	30.83220 AU
			morning rise	7634 Jul 05 04:13	3° Θ 40'10	
conjunction	7628 Jun 05 12:37	19° Π 36'00 -1°04'38	retrograde	7634 Oct 03 23:42	5° Θ 38'55	
minimum elong	7628 Jun 05 12:37	19° Π 36'00 1°04'45	opposition	7634 Dec 23 08:55	4° Θ 14'00	-1°14'52
max. Earth dist.	7628 Jun 06 04:22	19° Π 37'30 30.87042 AU	min. Earth dist.	7634 Dec 22 16:37	4° Θ 15'08	28.82895 AU
morning rise	7628 Jun 21 02:51	20° Π 11'19	direct	7635 Mar 11 15:07	2° Θ 50'37	
retrograde	7628 Sep 19 14:28	22° Π 09'39	evening set	7635 Jun 06 09:37	4° Θ 44'27	
min. Earth dist.	7628 Dec 08 10:39	20° Π 45'58 28.86718 AU				
opposition	7628 Dec 09 02:16	20° Π 44'53 -1°09'44	conjunction	7635 Jun 21 23:48	5° Θ 19'42	-1°10'14
direct	7629 Feb 25 14:39	19° Π 21'30	minimum elong	7635 Jun 21 23:48	5° Θ 19'42	1°10'21
evening set	7629 May 23 11:56	21° Π 15'19	max. Earth dist.	7635 Jun 22 17:25	5° Θ 21'23	30.82433 AU
			morning rise	7635 Jul 07 16:42	5° Θ 55'14	
conjunction	7629 Jun 08 00:01	21° Π 50'24 -1°05'45	retrograde	7635 Oct 06 13:06	7° Θ 54'00	
minimum elong	7629 Jun 08 00:01	21° Π 50'24 1°05'51	opposition	7635 Dec 25 21:54	6° Θ 29'02	-1°15'20
max. Earth dist.	7629 Jun 08 15:22	21° Π 51'51 30.86323 AU	min. Earth dist.	7635 Dec 25 04:27	6° Θ 30'15	28.82074 AU
morning rise	7629 Jun 23 14:48	22° Π 25'45	direct	7636 Mar 13 03:14	5° Θ 05'35	
retrograde	7629 Sep 22 05:53	24° Π 24'10	evening set	7636 Jun 07 21:31	6° Θ 59'24	
opposition	7629 Dec 11 15:25	22° Π 59'23 -1°10'51				
min. Earth dist.	7629 Dec 10 23:40	23° Π 00'28 28.86056 AU	conjunction	7636 Jun 23 11:58	7° Θ 34'41	-1°10'37
direct	7630 Feb 28 01:54	21° Π 36'00	minimum elong	7636 Jun 23 11:58	7° Θ 34'41	1°10'45
evening set	7630 May 25 23:13	23° Π 29'50	max. Earth dist.	7636 Jun 24 05:17	7° Θ 36'19	30.81600 AU
			morning rise	7636 Jul 09 05:24	8° Θ 10'14	
conjunction	7630 Jun 10 11:45	24° Π 04'57 -1°06'45	retrograde	7636 Oct 08 01:37	10° Θ 09'01	
minimum elong	7630 Jun 10 11:45	24° Π 04'57 1°06'52	opposition	7636 Dec 27 10:55	8° Θ 43'58	-1°15'41
max. Earth dist.	7630 Jun 11 04:43	24° Π 06'34 30.85695 AU	min. Earth dist.	7636 Dec 26 18:17	8° Θ 45'07	28.81256 AU
morning rise	7630 Jun 26 02:43	24° Π 40'20	direct	7637 Mar 15 13:41	7° Θ 20'28	
retrograde	7630 Sep 24 18:04	26° Π 38'50	evening set	7637 Jun 10 09:15	9° Θ 14'15	
opposition	7630 Dec 14 04:22	25° Π 14'02 -1°11'53				
min. Earth dist.	7630 Dec 13 12:06	25° Π 15'10 28.85455 AU	conjunction	7637 Jun 26 00:15	9° Θ 49'33	-1°10'54
direct	7631 Mar 02 14:25	23° Π 50'41	minimum elong	7637 Jun 26 00:15	9° Θ 49'33	1°11'00
evening set	7631 May 28 10:45	25° Π 44'32	max. Earth dist.	7637 Jun 26 18:45	9° Θ 51'18	30.80803 AU
			morning rise	7637 Jul 11 17:58	10° Θ 25'08	
conjunction	7631 Jun 12 23:27	26° Π 19'41 -1°07'39	retrograde	7637 Oct 10 14:26	12° Θ 23'55	

opposition	7637 Dec 29 23:40	10°☾58'48	-1°15'56	max. Earth dist.	7644 Jul 12 11:58	25°☾36'28	30.78614 AU
min. Earth dist.	7637 Dec 29 05:56	11°☾00'02	28.80488 AU	morning rise	7644 Jul 27 12:11	26°☾10'19	
direct	7638 Mar 18 02:57	9°☾35'15		retrograde	7644 Oct 26 15:41	28°☾09'16	
evening set	7638 Jun 12 21:13	11°☾29'02		opposition	7645 Jan 14 16:15	26°☾44'10	-1°14'21
				min. Earth dist.	7645 Jan 13 20:38	26°☾45'32	28.78685 AU
conjunction	7638 Jun 28 12:25	12°☾04'21	-1°11'04	direct	7645 Apr 02 13:53	25°☾20'39	
minimum elong	7638 Jun 28 12:25	12°☾04'21	1°11'11	evening set	7645 Jun 28 10:13	27°☾14'36	
max. Earth dist.	7638 Jun 29 06:14	12°☾06'02	30.80081 AU				
morning rise	7638 Jul 14 06:41	12°☾39'57		conjunction	7645 Jul 14 04:23	27°☾50'08	-1°09'13
retrograde	7638 Oct 13 04:38	14°☾38'45		minimum elong	7645 Jul 14 04:23	27°☾50'08	1°09'18
opposition	7639 Jan 01 12:23	13°☾13'35	-1°16'03	max. Earth dist.	7645 Jul 15 00:16	27°☾52'01	30.78620 AU
min. Earth dist.	7638 Dec 31 18:48	13°☾14'48	28.79836 AU	morning rise	7645 Jul 30 01:39	28°☾25'58	
direct	7639 Mar 20 13:41	11°☾49'59			7645 Sep 19 21:46	0°♂	
evening set	7639 Jun 15 09:04	13°☾43'46		retrograde	7645 Oct 29 03:52	0°♂24'56	
					7645 Dec 08 06:10	30°☾	
conjunction	7639 Jul 01 00:49	14°☾19'07	-1°11'08	min. Earth dist.	7646 Jan 16 10:38	29°☾01'09	28.78670 AU
minimum elong	7639 Jul 01 00:49	14°☾19'07	1°11'14	opposition	7646 Jan 17 04:58	28°☾59'52	-1°13'39
max. Earth dist.	7639 Jul 01 20:10	14°☾20'57	30.79492 AU	direct	7646 Apr 05 00:15	27°☾36'21	
morning rise	7639 Jul 16 19:19	14°☾54'45		evening set	7646 Jun 30 22:49	29°☾30'19	
retrograde	7639 Oct 15 17:12	16°☾53'34			7646 Jul 14 03:29	0°♂	
min. Earth dist.	7640 Jan 03 06:50	15°☾29'39	28.79317 AU				
opposition	7640 Jan 04 01:06	15°☾28'22	-1°16'04	conjunction	7646 Jul 16 17:33	0°♂05'53	-1°08'31
direct	7640 Mar 22 02:08	14°☾04'46		minimum elong	7646 Jul 16 17:33	0°♂05'53	1°08'37
evening set	7640 Jun 16 20:57	15°☾58'33		max. Earth dist.	7646 Jul 17 13:54	0°♂07'48	30.78566 AU
				morning rise	7646 Aug 01 15:05	0°♂41'44	
conjunction	7640 Jul 02 12:59	16°☾33'55	-1°11'05	retrograde	7646 Oct 31 16:23	2°♂40'42	
minimum elong	7640 Jul 02 12:59	16°☾33'55	1°11'12	opposition	7647 Jan 19 17:28	1°♂15'38	-1°12'51
max. Earth dist.	7640 Jul 03 07:50	16°☾35'43	30.79059 AU	min. Earth dist.	7647 Jan 18 22:36	1°♂16'57	28.78565 AU
morning rise	7640 Jul 18 08:06	17°☾09'36			7647 Mar 16 21:56	30°☾	
retrograde	7640 Oct 17 08:42	19°☾08'26		direct	7647 Apr 07 13:06	29°☾52'05	
opposition	7641 Jan 05 13:49	17°☾43'13	-1°15'57		7647 Apr 28 21:03	0°♂	
min. Earth dist.	7641 Jan 04 19:02	17°☾44'31	28.78966 AU	evening set	7647 Jul 03 11:36	1°♂46'04	
direct	7641 Mar 24 14:07	16°☾19'36					
evening set	7641 Jun 19 08:59	18°☾13'24		conjunction	7647 Jul 19 06:37	2°♂21'39	-1°07'42
				minimum elong	7647 Jul 19 06:37	2°♂21'39	1°07'48
conjunction	7641 Jul 05 01:32	18°☾48'49	-1°10'56	max. Earth dist.	7647 Jul 20 01:36	2°♂23'27	30.78423 AU
minimum elong	7641 Jul 05 01:32	18°☾48'49	1°11'02	morning rise	7647 Aug 04 04:45	2°♂57'32	
max. Earth dist.	7641 Jul 05 21:40	18°☾50'44	30.78773 AU	retrograde	7647 Nov 03 06:07	4°♂56'28	
morning rise	7641 Jul 20 20:58	19°☾24'31		opposition	7648 Jan 22 06:06	3°♂31'23	-1°11'56
retrograde	7641 Oct 19 21:53	21°☾23'23		min. Earth dist.	7648 Jan 21 12:04	3°♂32'38	28.78389 AU
min. Earth dist.	7642 Jan 07 07:50	19°☾59'28	28.78750 AU	direct	7648 Apr 08 23:09	2°♂07'47	
opposition	7642 Jan 08 02:23	19°☾58'11	-1°15'44	evening set	7648 Jul 05 00:07	4°♂01'46	
direct	7642 Mar 27 02:54	18°☾34'35					
evening set	7642 Jun 21 21:08	20°☾28'25		conjunction	7648 Jul 20 19:47	4°♂37'22	-1°06'48
				minimum elong	7648 Jul 20 19:47	4°♂37'22	1°06'54
conjunction	7642 Jul 07 14:04	21°☾03'52	-1°10'40	max. Earth dist.	7648 Jul 21 15:37	4°♂39'15	30.78219 AU
minimum elong	7642 Jul 07 14:04	21°☾03'52	1°10'47	morning rise	7648 Aug 05 18:13	5°♂13'16	
max. Earth dist.	7642 Jul 08 09:54	21°☾05'45	30.78634 AU	retrograde	7648 Nov 04 18:40	7°♂12'09	
morning rise	7642 Jul 23 10:01	21°☾39'36		opposition	7649 Jan 23 18:33	5°♂47'02	-1°10'54
retrograde	7642 Oct 22 12:27	23°☾38'29		min. Earth dist.	7649 Jan 23 00:28	5°♂48'18	28.78158 AU
opposition	7643 Jan 10 14:59	22°☾13'19	-1°15'23	direct	7649 Apr 11 11:58	4°♂23'23	
min. Earth dist.	7643 Jan 09 19:26	22°☾14'40	28.78667 AU	evening set	7649 Jul 07 12:57	6°♂17'20	
direct	7643 Mar 29 14:46	20°☾49'44					
evening set	7643 Jun 24 09:16	22°☾43'37		conjunction	7649 Jul 23 08:56	6°♂52'58	-1°05'47
				minimum elong	7649 Jul 23 08:56	6°♂52'58	1°05'52
conjunction	7643 Jul 10 02:35	23°☾19'05	-1°10'17	max. Earth dist.	7649 Jul 24 03:33	6°♂54'43	30.77995 AU
minimum elong	7643 Jul 10 02:36	23°☾19'05	1°10'24	morning rise	7649 Aug 08 07:57	7°♂28'53	
max. Earth dist.	7643 Jul 10 22:54	23°☾21'01	30.78589 AU	retrograde	7649 Nov 07 09:29	9°♂27'42	
morning rise	7643 Jul 25 22:56	23°☾54'51		opposition	7650 Jan 26 06:46	8°♂02'32	-1°09'46
retrograde	7643 Oct 25 00:47	25°☾53'47		min. Earth dist.	7650 Jan 25 12:50	8°♂03'47	28.77948 AU
min. Earth dist.	7644 Jan 12 09:00	24°☾29'57	28.78660 AU	direct	7650 Apr 14 00:15	6°♂38'49	
opposition	7644 Jan 13 03:45	24°☾28'38	-1°14'55	evening set	7650 Jul 10 01:38	8°♂32'45	
direct	7644 Mar 31 02:11	23°☾05'06					
evening set	7644 Jun 25 21:37	24°☾59'00		conjunction	7650 Jul 25 22:10	9°♂08'25	-1°04'41
				minimum elong	7650 Jul 25 22:10	9°♂08'25	1°04'47
conjunction	7644 Jul 11 15:27	25°☾34'31	-1°09'48	max. Earth dist.	7650 Jul 26 17:42	9°♂10'15	30.77802 AU
minimum elong	7644 Jul 11 15:27	25°☾34'31	1°09'55	morning rise	7650 Aug 10 21:28	9°♂44'20	

retrograde	7650 Nov 09 21:47	11°♏43'05		evening set	7657 Jul 25 19:48	24°♏19'14	
opposition	7651 Jan 28 19:04	10°♏17'53	-1°08'32				
min. Earth dist.	7651 Jan 28 01:38	10°♏19'06	28.77792 AU	conjunction	7657 Aug 10 19:28	24°♏55'04	-0°54'16
direct	7651 Apr 16 13:16	8°♏54'07		minimum elong	7657 Aug 10 19:28	24°♏55'04	0°54'19
evening set	7651 Jul 12 14:15	10°♏48'02		max. Earth dist.	7657 Aug 11 14:25	24°♏56'50	30.79656 AU
				morning rise	7657 Aug 26 21:31	25°♏31'08	
conjunction	7651 Jul 28 11:10	11°♏23'43	-1°03'29	retrograde	7657 Nov 25 18:16	27°♏29'30	
minimum elong	7651 Jul 28 11:10	11°♏23'43	1°03'34	opposition	7658 Feb 13 07:06	26°♏04'29	-0°57'02
max. Earth dist.	7651 Jul 29 06:05	11°♏25'30	30.77705 AU	min. Earth dist.	7658 Feb 12 14:25	26°♏05'39	28.79944 AU
morning rise	7651 Aug 13 10:58	11°♏59'40		direct	7658 May 01 23:26	24°♏40'39	
retrograde	7651 Nov 12 12:24	13°♏58'21		evening set	7658 Jul 28 09:14	26°♏34'46	
opposition	7652 Jan 31 07:15	12°♏33'07	-1°07'12				
min. Earth dist.	7652 Jan 30 13:02	12°♏34'23	28.77752 AU	conjunction	7658 Aug 13 09:09	27°♏10'36	-0°52'25
direct	7652 Apr 18 01:32	11°♏09'17		minimum elong	7658 Aug 13 09:10	27°♏10'36	0°52'29
evening set	7652 Jul 14 03:01	13°♏03'13		max. Earth dist.	7658 Aug 14 02:22	27°♏12'13	30.80137 AU
				morning rise	7658 Aug 29 11:43	27°♏46'41	
conjunction	7652 Jul 30 00:23	13°♏38'55	-1°02'11	retrograde	7658 Nov 28 08:35	29°♏45'00	
minimum elong	7652 Jul 30 00:23	13°♏38'55	1°02'16	opposition	7659 Feb 15 19:06	28°♏20'02	-0°55'01
max. Earth dist.	7652 Jul 30 19:40	13°♏40'44	30.77721 AU	min. Earth dist.	7659 Feb 15 02:58	28°♏21'10	28.80387 AU
morning rise	7652 Aug 15 00:34	14°♏14'53		direct	7659 May 04 10:49	26°♏56'11	
	7652 Sep 05 15:45	15°♏		evening set	7659 Jul 30 22:26	28°♏50'20	
retrograde	7652 Nov 14 01:18	16°♏13'29					
	7653 Jan 25 19:34	15°♏		conjunction	7659 Aug 15 22:54	29°♏26'12	-0°50'29
opposition	7653 Feb 01 19:21	14°♏48'15	-1°05'45	minimum elong	7659 Aug 15 22:54	29°♏26'12	0°50'32
min. Earth dist.	7653 Feb 01 02:01	14°♏49'28	28.77841 AU	max. Earth dist.	7659 Aug 16 16:28	29°♏27'51	30.80525 AU
direct	7653 Apr 20 13:56	13°♏24'24			7659 Aug 31 00:44	0°♏	
	7653 Jul 08 04:33	15°♏		morning rise	7659 Sep 01 01:41	0°♏02'17	
evening set	7653 Jul 16 15:47	15°♏18'19		retrograde	7659 Nov 30 20:44	2°♏00'33	
				opposition	7660 Feb 18 07:05	0°♏35'35	-0°52'55
conjunction	7653 Aug 01 13:41	15°♏54'03	-1°00'47	min. Earth dist.	7660 Feb 17 15:59	0°♏36'39	28.80720 AU
minimum elong	7653 Aug 01 13:41	15°♏54'03	1°00'51		7660 Mar 11 00:32	30°♏	
max. Earth dist.	7653 Aug 02 08:58	15°♏55'52	30.77890 AU	direct	7660 May 05 23:21	29°♏11'43	
morning rise	7653 Aug 17 14:16	16°♏30'02			7660 Jun 29 04:11	0°♏	
retrograde	7653 Nov 16 15:56	18°♏28'35		evening set	7660 Aug 01 11:52	1°♏05'53	
opposition	7654 Feb 04 07:19	17°♏03'21	-1°04'12				
min. Earth dist.	7654 Feb 03 12:59	17°♏04'38	28.78072 AU	conjunction	7660 Aug 17 12:42	1°♏41'45	-0°48'29
direct	7654 Apr 23 02:44	15°♏39'29		minimum elong	7660 Aug 17 12:43	1°♏41'45	0°48'33
evening set	7654 Jul 19 04:41	17°♏33'25		max. Earth dist.	7660 Aug 18 04:48	1°♏43'16	30.80828 AU
				morning rise	7660 Sep 02 15:58	2°♏17'52	
conjunction	7654 Aug 04 02:53	18°♏09'10	-0°59'17	retrograde	7660 Dec 02 11:27	4°♏16'01	
minimum elong	7654 Aug 04 02:53	18°♏09'10	0°59'22	opposition	7661 Feb 19 18:45	2°♏51'05	-0°50'44
max. Earth dist.	7654 Aug 04 21:48	18°♏10'57	30.78184 AU	min. Earth dist.	7661 Feb 19 03:39	2°♏52'08	28.80982 AU
morning rise	7654 Aug 20 03:55	18°♏45'11		direct	7661 May 08 11:37	1°♏27'09	
retrograde	7654 Nov 19 03:40	20°♏43'40		evening set	7661 Aug 04 01:17	3°♏21'20	
opposition	7655 Feb 06 19:23	19°♏18'29	-1°02'33				
min. Earth dist.	7655 Feb 06 02:06	19°♏19'42	28.78436 AU	conjunction	7661 Aug 20 02:33	3°♏57'14	-0°46'25
direct	7655 Apr 25 13:16	17°♏54'37		minimum elong	7661 Aug 20 02:34	3°♏57'14	0°46'28
evening set	7655 Jul 21 17:31	19°♏48'35		max. Earth dist.	7661 Aug 20 18:25	3°♏58'43	30.81059 AU
				morning rise	7661 Sep 05 06:05	4°♏33'21	
conjunction	7655 Aug 06 16:19	20°♏24'21	-0°57'42	retrograde	7661 Dec 05 00:27	6°♏31'23	
minimum elong	7655 Aug 06 16:19	20°♏24'21	0°57'46	opposition	7662 Feb 22 06:31	5°♏06'26	-0°48'29
max. Earth dist.	7655 Aug 07 11:54	20°♏26'12	30.78616 AU	min. Earth dist.	7662 Feb 21 16:48	5°♏07'24	28.81199 AU
morning rise	7655 Aug 22 17:37	21°♏00'23		direct	7662 May 11 00:42	3°♏42'28	
retrograde	7655 Nov 21 16:32	22°♏58'49		evening set	7662 Aug 06 14:31	5°♏36'38	
opposition	7656 Feb 09 07:17	21°♏33'41	-1°00'48				
min. Earth dist.	7656 Feb 08 13:21	21°♏34'57	28.78908 AU	conjunction	7662 Aug 22 16:12	6°♏12'33	-0°44'16
direct	7656 Apr 27 01:31	20°♏09'50		minimum elong	7662 Aug 22 16:12	6°♏12'33	0°44'20
evening set	7656 Jul 23 06:37	22°♏03'50		max. Earth dist.	7662 Aug 23 07:30	6°♏13'59	30.81287 AU
				morning rise	7662 Sep 07 20:02	6°♏48'40	
conjunction	7656 Aug 08 05:42	22°♏39'38	-0°56'01	retrograde	7662 Dec 07 14:34	8°♏46'36	
minimum elong	7656 Aug 08 05:42	22°♏39'38	0°56'06	opposition	7663 Feb 24 18:00	7°♏21'39	-0°46'09
max. Earth dist.	7656 Aug 09 00:04	22°♏41'22	30.79127 AU	min. Earth dist.	7663 Feb 24 03:41	7°♏22'39	28.81436 AU
morning rise	7656 Aug 24 07:34	23°♏15'41		direct	7663 May 13 14:16	5°♏57'37	
retrograde	7656 Nov 23 06:03	25°♏14'06		evening set	7663 Aug 09 03:53	7°♏51'47	
opposition	7657 Feb 10 19:19	23°♏49'01	-0°58'58				
min. Earth dist.	7657 Feb 10 02:22	23°♏50'13	28.79439 AU	conjunction	7663 Aug 25 05:51	8°♏27'43	-0°42'04
direct	7657 Apr 29 11:05	22°♏25'11		minimum elong	7663 Aug 25 05:52	8°♏27'43	0°42'06

max. Earth dist.	7663 Aug 25 20:31	8° <u>11</u> 29'05	30.81549 AU	conjunction	7670 Sep 10 05:51	24° <u>11</u> 11'37	-0°25'05
morning rise	7663 Sep 10 10:02	9° <u>11</u> 03'51		minimum elong	7670 Sep 10 05:51	24° <u>11</u> 11'37	0°25'06
retrograde	7663 Dec 10 02:14	11° <u>11</u> 01'40		max. Earth dist.	7670 Sep 10 17:59	24° <u>11</u> 12'45	30.86591 AU
opposition	7664 Feb 27 05:32	9° <u>11</u> 36'43	-0°43'46	morning rise	7670 Sep 26 11:35	24° <u>11</u> 47'47	
min. Earth dist.	7664 Feb 26 16:35	9° <u>11</u> 37'38	28.81745 AU	retrograde	7670 Dec 25 16:30	26° <u>11</u> 44'52	
direct	7664 May 15 01:21	8° <u>11</u> 12'38		opposition	7671 Mar 14 12:16	25° <u>11</u> 20'15	-0°25'24
evening set	7664 Aug 10 17:05	10° <u>11</u> 06'48		min. Earth dist.	7671 Mar 14 02:20	25° <u>11</u> 20'57	28.87065 AU
				direct	7671 May 31 10:20	23° <u>11</u> 56'05	
conjunction	7664 Aug 26 19:35	10° <u>11</u> 42'44	-0°39'48	evening set	7671 Aug 27 15:12	25° <u>11</u> 50'27	
minimum elong	7664 Aug 26 19:35	10° <u>11</u> 42'44	0°39'51				
max. Earth dist.	7664 Aug 27 10:35	10° <u>11</u> 44'09	30.81913 AU	conjunction	7671 Sep 12 19:48	26° <u>11</u> 26'28	-0°22'29
morning rise	7664 Sep 11 23:59	11° <u>11</u> 18'53		minimum elong	7671 Sep 12 19:48	26° <u>11</u> 26'28	0°22'29
retrograde	7664 Dec 11 15:21	13° <u>11</u> 16'34		max. Earth dist.	7671 Sep 13 06:45	26° <u>11</u> 27'29	30.87496 AU
opposition	7665 Feb 28 16:51	11° <u>11</u> 51'38	-0°41'19	morning rise	7671 Sep 29 01:45	27° <u>11</u> 02'37	
min. Earth dist.	7665 Feb 28 03:23	11° <u>11</u> 52'35	28.82154 AU	retrograde	7671 Dec 28 06:14	28° <u>11</u> 59'35	
direct	7665 May 17 14:15	10° <u>11</u> 27'30		opposition	7672 Mar 15 23:18	27° <u>11</u> 35'01	-0°22'36
evening set	7665 Aug 13 06:32	12° <u>11</u> 21'41		min. Earth dist.	7672 Mar 15 13:11	27° <u>11</u> 35'44	28.87922 AU
				direct	7672 Jun 01 23:39	26° <u>11</u> 10'49	
conjunction	7665 Aug 29 09:13	12° <u>11</u> 57'38	-0°37'29	evening set	7672 Aug 29 04:56	28° <u>11</u> 05'12	
minimum elong	7665 Aug 29 09:13	12° <u>11</u> 57'38	0°37'30				
max. Earth dist.	7665 Aug 29 22:57	12° <u>11</u> 58'55	30.82385 AU	conjunction	7672 Sep 14 09:45	28° <u>11</u> 41'13	-0°19'50
morning rise	7665 Sep 14 13:59	13° <u>11</u> 33'47		minimum elong	7672 Sep 14 09:45	28° <u>11</u> 41'13	0°19'51
retrograde	7665 Dec 14 03:49	15° <u>11</u> 31'21		max. Earth dist.	7672 Sep 14 19:33	28° <u>11</u> 42'08	30.88303 AU
opposition	7666 Mar 03 04:09	14° <u>11</u> 06'26	-0°38'48	morning rise	7672 Sep 30 15:52	29° <u>11</u> 17'22	
min. Earth dist.	7666 Mar 02 15:34	14° <u>11</u> 07'20	28.82704 AU		7672 Oct 21 05:34	0° <u>11</u>	
direct	7666 May 19 24:00	12° <u>11</u> 42'17		retrograde	7672 Dec 29 18:32	1° <u>11</u> 14'12	
evening set	7666 Aug 15 19:46	14° <u>11</u> 36'28			7673 Mar 12 07:45	30° <u>11</u>	
				opposition	7673 Mar 18 10:29	29° <u>11</u> 49'40	-0°19'45
conjunction	7666 Aug 31 22:57	15° <u>11</u> 12'26	-0°35'06	min. Earth dist.	7673 Mar 18 02:13	29° <u>11</u> 50'15	28.88689 AU
minimum elong	7666 Aug 31 22:58	15° <u>11</u> 12'26	0°35'09	direct	7673 Jun 04 11:08	28° <u>11</u> 25'25	
max. Earth dist.	7666 Sep 01 13:27	15° <u>11</u> 13'47	30.83009 AU		7673 Aug 22 12:02	0° <u>11</u>	
morning rise	7666 Sep 17 03:49	15° <u>11</u> 48'35		evening set	7673 Aug 31 18:34	0° <u>11</u> 19'49	
retrograde	7666 Dec 16 14:30	17° <u>11</u> 46'03					
opposition	7667 Mar 05 15:27	16° <u>11</u> 21'11	-0°36'13	conjunction	7673 Sep 16 23:44	0° <u>11</u> 55'50	-0°17'11
min. Earth dist.	7667 Mar 05 02:41	16° <u>11</u> 22'05	28.83394 AU	minimum elong	7673 Sep 16 23:44	0° <u>11</u> 55'50	0°17'10
direct	7667 May 22 12:34	14° <u>11</u> 57'01		max. Earth dist.	7673 Sep 17 09:09	0° <u>11</u> 56'42	30.89039 AU
evening set	7667 Aug 18 09:02	16° <u>11</u> 51'13		morning rise	7673 Oct 03 05:53	1° <u>11</u> 31'58	
				retrograde	7674 Jan 01 07:46	3° <u>11</u> 28'38	
conjunction	7667 Sep 03 12:25	17° <u>11</u> 27'11	-0°32'40	opposition	7674 Mar 20 21:21	2° <u>11</u> 04'08	-0°16'54
minimum elong	7667 Sep 03 12:25	17° <u>11</u> 27'11	0°32'41	min. Earth dist.	7674 Mar 20 13:03	2° <u>11</u> 04'43	28.89387 AU
max. Earth dist.	7667 Sep 04 01:31	17° <u>11</u> 28'25	30.83782 AU	direct	7674 Jun 07 00:50	0° <u>11</u> 39'50	
morning rise	7667 Sep 19 17:43	18° <u>11</u> 03'21		evening set	7674 Sep 03 08:16	2° <u>11</u> 34'14	
retrograde	7667 Dec 19 03:07	20° <u>11</u> 00'43					
opposition	7668 Mar 07 02:44	18° <u>11</u> 35'54	-0°33'35	conjunction	7674 Sep 19 13:29	3° <u>11</u> 10'15	-0°14'30
min. Earth dist.	7668 Mar 06 14:16	18° <u>11</u> 36'47	28.84235 AU	minimum elong	7674 Sep 19 13:29	3° <u>11</u> 10'15	0°14'29
direct	7668 May 23 22:50	17° <u>11</u> 11'44		behind sun begin	7674 Sep 19 10:47	3° <u>11</u> 10'01	
evening set	7668 Aug 19 22:26	19° <u>11</u> 05'58		behind sun end	7674 Sep 19 16:12	3° <u>11</u> 10'30	
				max. Earth dist.	7674 Sep 19 21:18	3° <u>11</u> 10'58	30.89726 AU
conjunction	7668 Sep 05 02:17	19° <u>11</u> 41'58	-0°30'11	morning rise	7674 Oct 05 19:52	3° <u>11</u> 46'23	
minimum elong	7668 Sep 05 02:17	19° <u>11</u> 41'58	0°30'13	retrograde	7675 Jan 03 19:45	5° <u>11</u> 42'54	
max. Earth dist.	7668 Sep 05 16:03	19° <u>11</u> 43'15	30.84675 AU	opposition	7675 Mar 23 08:19	4° <u>11</u> 18'24	-0°14'01
morning rise	7668 Sep 21 07:38	20° <u>11</u> 18'07		min. Earth dist.	7675 Mar 23 01:17	4° <u>11</u> 18'54	28.90080 AU
retrograde	7668 Dec 20 14:39	22° <u>11</u> 15'24		direct	7675 Jun 09 11:32	2° <u>11</u> 54'04	
opposition	7669 Mar 09 13:52	20° <u>11</u> 50'39	-0°30'54	evening set	7675 Sep 05 21:37	4° <u>11</u> 48'27	
min. Earth dist.	7669 Mar 09 02:20	20° <u>11</u> 51'28	28.85163 AU				
direct	7669 May 26 09:55	19° <u>11</u> 26'29		conjunction	7675 Sep 22 03:14	5° <u>11</u> 24'28	-0°11'48
evening set	7669 Aug 22 12:01	21° <u>11</u> 20'47		minimum elong	7675 Sep 22 03:14	5° <u>11</u> 24'28	0°11'46
				behind sun begin	7675 Sep 21 22:41	5° <u>11</u> 24'04	
conjunction	7669 Sep 07 16:03	21° <u>11</u> 56'46	-0°27'39	behind sun end	7675 Sep 22 07:47	5° <u>11</u> 24'52	
minimum elong	7669 Sep 07 16:04	21° <u>11</u> 56'46	0°27'40	max. Earth dist.	7675 Sep 22 11:23	5° <u>11</u> 25'13	30.90427 AU
max. Earth dist.	7669 Sep 08 04:23	21° <u>11</u> 57'55	30.85640 AU	morning rise	7675 Oct 08 09:35	6° <u>11</u> 00'35	
morning rise	7669 Sep 23 21:45	22° <u>11</u> 32'56		retrograde	7676 Jan 06 06:17	7° <u>11</u> 56'57	
retrograde	7669 Dec 23 04:23	24° <u>11</u> 30'07		opposition	7676 Mar 24 19:07	6° <u>11</u> 32'29	-0°11'07
opposition	7670 Mar 12 00:59	23° <u>11</u> 05'27	-0°28'10	min. Earth dist.	7676 Mar 24 12:20	6° <u>11</u> 32'58	28.90789 AU
min. Earth dist.	7670 Mar 11 13:28	23° <u>11</u> 06'16	28.86135 AU	direct	7676 Jun 11 00:30	5° <u>11</u> 08'06	
direct	7670 May 28 21:40	21° <u>11</u> 41'17		evening set	7676 Sep 07 11:16	7° <u>11</u> 02'29	
evening set	7670 Aug 25 01:31	23° <u>11</u> 35'37					

conjunction	7676 Sep 23 16:54	7° <u>♁</u> 38'30	-0°09'05	retrograde	7682 Jan 19 05:00	21° <u>♁</u> 19'01	
minimum elong	7676 Sep 23 16:54	7° <u>♁</u> 38'30	0°09'05	opposition	7682 Apr 07 10:53	19° <u>♁</u> 54'57	0°06'28
behind sun begin	7676 Sep 23 11:20	7° <u>♁</u> 38'00		min. Earth dist.	7682 Apr 07 07:31	19° <u>♁</u> 55'12	28.97304 AU
behind sun end	7676 Sep 23 22:28	7° <u>♁</u> 39'00		direct	7682 Jun 24 20:37	18° <u>♁</u> 30'32	
max. Earth dist.	7676 Sep 23 23:17	7° <u>♁</u> 39'04	30.91170 AU	evening set	7682 Sep 21 19:58	20° <u>♁</u> 25'12	
morning rise	7676 Oct 09 23:29	8° <u>♁</u> 14'36					
retrograde	7677 Jan 07 18:11	10° <u>♁</u> 10'50		conjunction	7682 Oct 08 02:23	21° <u>♁</u> 01'12	0°07'28
opposition	7677 Mar 27 05:45	8° <u>♁</u> 46'23	-0°08'12	minimum elong	7682 Oct 08 02:23	21° <u>♁</u> 01'11	0°07'30
min. Earth dist.	7677 Mar 26 23:29	8° <u>♁</u> 46'50	28.91578 AU	behind sun begin	7682 Oct 07 20:24	21° <u>♁</u> 00'40	
direct	7677 Jun 13 10:47	7° <u>♁</u> 21'56		behind sun end	7682 Oct 08 08:21	21° <u>♁</u> 01'43	
evening set	7677 Sep 10 00:42	9° <u>♁</u> 16'22		max. Earth dist.	7682 Oct 08 06:18	21° <u>♁</u> 01'32	30.97982 AU
				morning rise	7682 Oct 24 08:46	21° <u>♁</u> 37'12	
conjunction	7677 Sep 26 06:39	9° <u>♁</u> 52'22	-0°06'22	retrograde	7683 Jan 21 18:43	23° <u>♁</u> 32'46	
minimum elong	7677 Sep 26 06:39	9° <u>♁</u> 52'22	0°06'21	opposition	7683 Apr 09 21:23	22° <u>♁</u> 08'49	0°09'23
behind sun begin	7677 Sep 26 00:26	9° <u>♁</u> 51'49		min. Earth dist.	7683 Apr 09 18:03	22° <u>♁</u> 09'03	28.98642 AU
behind sun end	7677 Sep 26 12:51	9° <u>♁</u> 52'56		direct	7683 Jun 27 10:21	20° <u>♁</u> 44'25	
max. Earth dist.	7677 Sep 26 13:36	9° <u>♁</u> 53'00	30.92001 AU	evening set	7683 Sep 24 09:35	22° <u>♁</u> 39'08	
morning rise	7677 Oct 12 13:05	10° <u>♁</u> 28'28					
retrograde	7678 Jan 10 04:36	12° <u>♁</u> 24'33		conjunction	7683 Oct 10 15:55	23° <u>♁</u> 15'07	0°10'11
opposition	7678 Mar 29 16:29	11° <u>♁</u> 00'09	-0°05'16	minimum elong	7683 Oct 10 15:55	23° <u>♁</u> 15'07	0°10'14
min. Earth dist.	7678 Mar 29 11:02	11° <u>♁</u> 00'32	28.92463 AU	behind sun begin	7683 Oct 10 10:44	23° <u>♁</u> 14'40	
direct	7678 Jun 15 21:44	9° <u>♁</u> 35'41		behind sun end	7683 Oct 10 21:07	23° <u>♁</u> 15'35	
evening set	7678 Sep 12 14:03	11° <u>♁</u> 30'07		max. Earth dist.	7683 Oct 10 18:08	23° <u>♁</u> 15'19	30.99286 AU
				morning rise	7683 Oct 26 22:21	23° <u>♁</u> 51'07	
conjunction	7678 Sep 28 19:59	12° <u>♁</u> 06'07	-0°03'38	retrograde	7684 Jan 24 06:41	25° <u>♁</u> 46'34	
minimum elong	7678 Sep 28 20:00	12° <u>♁</u> 06'07	0°03'37	opposition	7684 Apr 11 08:05	24° <u>♁</u> 22'42	0°12'17
behind sun begin	7678 Sep 28 13:28	12° <u>♁</u> 05'32		min. Earth dist.	7684 Apr 11 06:14	24° <u>♁</u> 22'50	28.99912 AU
behind sun end	7678 Sep 29 02:32	12° <u>♁</u> 06'42		direct	7684 Jun 28 21:27	22° <u>♁</u> 58'19	
max. Earth dist.	7678 Sep 29 01:40	12° <u>♁</u> 06'37	30.92960 AU	evening set	7684 Sep 25 23:12	24° <u>♁</u> 53'04	
morning rise	7678 Oct 15 02:37	12° <u>♁</u> 42'12					
retrograde	7679 Jan 12 16:52	14° <u>♁</u> 38'10		conjunction	7684 Oct 12 05:43	25° <u>♁</u> 29'02	0°12'52
opposition	7679 Apr 01 03:07	13° <u>♁</u> 13'50	-0°02'20	minimum elong	7684 Oct 12 05:43	25° <u>♁</u> 29'02	0°12'55
min. Earth dist.	7679 Mar 31 21:19	13° <u>♁</u> 14'14	28.93495 AU	behind sun begin	7684 Oct 12 01:47	25° <u>♁</u> 28'41	
direct	7679 Jun 18 09:16	11° <u>♁</u> 49'20		behind sun end	7684 Oct 12 09:38	25° <u>♁</u> 29'23	
evening set	7679 Sep 15 03:27	13° <u>♁</u> 43'49		max. Earth dist.	7684 Oct 12 07:45	25° <u>♁</u> 29'13	31.00498 AU
				morning rise	7684 Oct 28 11:53	26° <u>♁</u> 05'01	
conjunction	7679 Oct 01 09:37	14° <u>♁</u> 19'49	-0°00'51	retrograde	7685 Jan 25 17:34	28° <u>♁</u> 00'19	
minimum elong	7679 Oct 01 09:36	14° <u>♁</u> 19'49	0°00'49	opposition	7685 Apr 13 18:33	26° <u>♁</u> 36'32	0°15'10
behind sun begin	7679 Oct 01 03:01	14° <u>♁</u> 19'14		min. Earth dist.	7685 Apr 13 17:22	26° <u>♁</u> 36'37	29.01060 AU
behind sun end	7679 Oct 01 16:11	14° <u>♁</u> 20'24		direct	7685 Jul 01 10:26	25° <u>♁</u> 12'07	
max. Earth dist.	7679 Oct 01 15:29	14° <u>♁</u> 20'20	30.94057 AU	evening set	7685 Sep 28 12:55	27° <u>♁</u> 06'54	
morning rise	7679 Oct 17 16:07	14° <u>♁</u> 55'53					
retrograde	7680 Jan 15 03:47	16° <u>♁</u> 51'44		conjunction	7685 Oct 14 19:15	27° <u>♁</u> 42'51	0°15'33
asc. node	7680 Jan 19 08:06	16° <u>♁</u> 51'27		minimum elong	7685 Oct 14 19:15	27° <u>♁</u> 42'51	0°15'36
opposition	7680 Apr 02 13:44	15° <u>♁</u> 27'29	0°00'36	behind sun begin	7685 Oct 14 18:15	27° <u>♁</u> 42'46	
min. Earth dist.	7680 Apr 02 09:12	15° <u>♁</u> 27'48	28.94665 AU	behind sun end	7685 Oct 14 20:15	27° <u>♁</u> 42'57	
direct	7680 Jun 19 21:08	14° <u>♁</u> 03'00		max. Earth dist.	7685 Oct 14 19:05	27° <u>♁</u> 42'50	31.01598 AU
evening set	7680 Sep 16 16:55	15° <u>♁</u> 57'32		morning rise	7685 Oct 31 01:28	28° <u>♁</u> 18'49	
					7685 Dec 30 07:24	0° <u>♁</u>	
conjunction	7680 Oct 02 23:10	16° <u>♁</u> 33'32	0°01'59	retrograde	7686 Jan 28 05:53	0° <u>♁</u> 13'58	
minimum elong	7680 Oct 02 23:11	16° <u>♁</u> 33'32	0°02'01		7686 Feb 26 08:05	30° <u>♁</u>	
behind sun begin	7680 Oct 02 16:36	16° <u>♁</u> 32'57		opposition	7686 Apr 16 05:08	28° <u>♁</u> 50'14	0°18'01
behind sun end	7680 Oct 03 05:46	16° <u>♁</u> 34'07		min. Earth dist.	7686 Apr 16 04:44	28° <u>♁</u> 50'15	29.02118 AU
max. Earth dist.	7680 Oct 03 04:08	16° <u>♁</u> 33'57	30.95302 AU	direct	7686 Jul 03 21:08	27° <u>♁</u> 25'47	
morning rise	7680 Oct 19 05:46	17° <u>♁</u> 09'35		evening set	7686 Oct 01 02:13	29° <u>♁</u> 20'33	
retrograde	7681 Jan 16 16:52	19° <u>♁</u> 05'20					
opposition	7681 Apr 05 00:15	17° <u>♁</u> 41'11	0°03'32	conjunction	7686 Oct 17 08:42	29° <u>♁</u> 56'30	0°18'12
min. Earth dist.	7681 Apr 04 19:14	17° <u>♁</u> 41'32	28.95954 AU	minimum elong	7686 Oct 17 08:42	29° <u>♁</u> 56'30	0°18'16
direct	7681 Jun 22 09:38	16° <u>♁</u> 16'43		max. Earth dist.	7686 Oct 17 08:44	29° <u>♁</u> 56'30	31.02607 AU
evening set	7681 Sep 19 06:28	18° <u>♁</u> 11'20			7686 Oct 18 22:20	0° <u>♁</u>	
				morning rise	7686 Nov 02 14:37	0° <u>♁</u> 32'26	
conjunction	7681 Oct 05 12:44	18° <u>♁</u> 47'19	0°04'44	retrograde	7687 Jan 30 15:32	2° <u>♁</u> 27'27	
minimum elong	7681 Oct 05 12:44	18° <u>♁</u> 47'19	0°04'47	opposition	7687 Apr 18 15:40	1° <u>♁</u> 03'44	0°20'51
behind sun begin	7681 Oct 05 06:18	18° <u>♁</u> 46'45		min. Earth dist.	7687 Apr 18 16:32	1° <u>♁</u> 03'41	29.03089 AU
behind sun end	7681 Oct 05 19:10	18° <u>♁</u> 47'53			7687 May 31 09:52	30° <u>♁</u>	
max. Earth dist.	7681 Oct 05 17:00	18° <u>♁</u> 47'41	30.96623 AU	direct	7687 Jul 06 08:34	29° <u>♁</u> 39'15	
morning rise	7681 Oct 21 19:14	19° <u>♁</u> 23'21			7687 Aug 10 21:02	0° <u>♁</u>	

evening set	7687 Oct 03 15:44	1° \mathbb{M} 34'01		max. Earth dist.	7693 Nov 02 00:28	15° \mathbb{M} 25'47	31.10125 AU
				morning rise	7693 Nov 18 09:22	16° \mathbb{M} 01'55	
conjunction	7687 Oct 19 22:04	2° \mathbb{M} 09'56	0°20'50	retrograde	7694 Feb 14 20:29	17° \mathbb{M} 55'57	
minimum elong	7687 Oct 19 22:04	2° \mathbb{M} 09'56	0°20'54	opposition	7694 May 03 15:30	16° \mathbb{M} 32'37	0°39'26
max. Earth dist.	7687 Oct 19 20:16	2° \mathbb{M} 09'46	31.03561 AU	min. Earth dist.	7694 May 03 19:52	16° \mathbb{M} 32'18	29.10812 AU
morning rise	7687 Nov 05 04:00	2° \mathbb{M} 45'51		direct	7694 Jul 21 20:33	15° \mathbb{M} 07'58	
retrograde	7688 Feb 02 02:20	4° \mathbb{M} 40'41		evening set	7694 Oct 19 12:08	17° \mathbb{M} 02'54	
opposition	7688 Apr 20 01:54	3° \mathbb{M} 17'01	0°23'38				
min. Earth dist.	7688 Apr 20 02:52	3° \mathbb{M} 16'56	29.04028 AU	conjunction	7694 Nov 04 17:38	17° \mathbb{M} 38'41	0°38'04
direct	7688 Jul 07 20:19	1° \mathbb{M} 52'27		minimum elong	7694 Nov 04 17:38	17° \mathbb{M} 38'40	0°38'09
evening set	7688 Oct 05 05:09	3° \mathbb{M} 47'14		max. Earth dist.	7694 Nov 04 11:26	17° \mathbb{M} 38'06	31.11484 AU
				morning rise	7694 Nov 20 22:00	18° \mathbb{M} 14'22	
conjunction	7688 Oct 21 11:31	4° \mathbb{M} 23'08	0°23'25	retrograde	7695 Feb 17 08:55	20° \mathbb{M} 08'19	
minimum elong	7688 Oct 21 11:31	4° \mathbb{M} 23'08	0°23'29	opposition	7695 May 06 01:45	18° \mathbb{M} 45'05	0°41'53
max. Earth dist.	7688 Oct 21 09:39	4° \mathbb{M} 22'58	31.04485 AU	min. Earth dist.	7695 May 06 06:41	18° \mathbb{M} 44'44	29.12170 AU
morning rise	7688 Nov 06 17:09	4° \mathbb{M} 59'00		direct	7695 Jul 24 07:14	17° \mathbb{M} 20'28	
retrograde	7689 Feb 03 11:45	6° \mathbb{M} 53'41		evening set	7695 Oct 22 01:15	19° \mathbb{M} 15'27	
opposition	7689 Apr 22 12:19	5° \mathbb{M} 30'02	0°26'23				
min. Earth dist.	7689 Apr 22 14:50	5° \mathbb{M} 29'51	29.04960 AU	conjunction	7695 Nov 07 06:44	19° \mathbb{M} 51'13	0°40'19
direct	7689 Jul 10 07:41	4° \mathbb{M} 05'26		minimum elong	7695 Nov 07 06:44	19° \mathbb{M} 51'13	0°40'25
evening set	7689 Oct 07 18:25	6° \mathbb{M} 00'12		max. Earth dist.	7695 Nov 07 00:46	19° \mathbb{M} 50'40	31.12805 AU
				morning rise	7695 Nov 23 10:38	20° \mathbb{M} 26'53	
conjunction	7689 Oct 24 00:38	6° \mathbb{M} 36'04	0°25'58	retrograde	7696 Feb 19 18:35	22° \mathbb{M} 20'44	
minimum elong	7689 Oct 24 00:38	6° \mathbb{M} 36'04	0°26'03	opposition	7696 May 07 11:59	20° \mathbb{M} 57'36	0°44'15
max. Earth dist.	7689 Oct 23 21:41	6° \mathbb{M} 35'48	31.05437 AU	min. Earth dist.	7696 May 07 18:21	20° \mathbb{M} 57'10	29.13448 AU
morning rise	7689 Nov 09 06:09	7° \mathbb{M} 11'55		direct	7696 Jul 25 18:35	19° \mathbb{M} 33'01	
retrograde	7690 Feb 05 23:25	9° \mathbb{M} 06'27		evening set	7696 Oct 23 14:34	21° \mathbb{M} 28'03	
opposition	7690 Apr 24 22:31	7° \mathbb{M} 42'49	0°29'05				
min. Earth dist.	7690 Apr 25 00:32	7° \mathbb{M} 42'41	29.05938 AU	conjunction	7696 Nov 08 19:41	22° \mathbb{M} 03'47	0°42'31
direct	7690 Jul 12 19:48	6° \mathbb{M} 18'09		minimum elong	7696 Nov 08 19:41	22° \mathbb{M} 03'47	0°42'37
evening set	7690 Oct 10 07:39	8° \mathbb{M} 12'56		max. Earth dist.	7696 Nov 08 11:44	22° \mathbb{M} 03'03	31.14032 AU
				morning rise	7696 Nov 24 23:26	22° \mathbb{M} 39'25	
conjunction	7690 Oct 26 13:45	8° \mathbb{M} 48'47	0°28'29	retrograde	7697 Feb 21 05:35	24° \mathbb{M} 33'11	
minimum elong	7690 Oct 26 13:45	8° \mathbb{M} 48'47	0°28'33	opposition	7697 May 09 22:16	23° \mathbb{M} 10'08	0°46'34
max. Earth dist.	7690 Oct 26 10:16	8° \mathbb{M} 48'28	31.06446 AU	min. Earth dist.	7697 May 10 04:45	23° \mathbb{M} 09'41	29.14618 AU
morning rise	7690 Nov 11 19:01	9° \mathbb{M} 24'36		direct	7697 Jul 28 05:56	21° \mathbb{M} 45'33	
retrograde	7691 Feb 08 10:02	11° \mathbb{M} 18'59		evening set	7697 Oct 26 03:35	23° \mathbb{M} 40'37	
opposition	7691 Apr 27 08:50	9° \mathbb{M} 55'24	0°31'45				
min. Earth dist.	7691 Apr 27 12:15	9° \mathbb{M} 55'09	29.07008 AU	conjunction	7697 Nov 11 08:34	24° \mathbb{M} 16'20	0°44'39
direct	7691 Jul 15 07:12	8° \mathbb{M} 30'42		minimum elong	7697 Nov 11 08:34	24° \mathbb{M} 16'20	0°44'45
evening set	7691 Oct 12 20:43	10° \mathbb{M} 25'30		max. Earth dist.	7697 Nov 11 00:26	24° \mathbb{M} 15'35	31.15125 AU
				morning rise	7697 Nov 27 11:50	24° \mathbb{M} 51'56	
conjunction	7691 Oct 29 02:49	11° \mathbb{M} 01'20	0°30'57	retrograde	7698 Feb 23 14:48	26° \mathbb{M} 45'36	
minimum elong	7691 Oct 29 02:49	11° \mathbb{M} 01'20	0°31'02	opposition	7698 May 12 08:40	25° \mathbb{M} 22'37	0°48'49
max. Earth dist.	7691 Oct 28 23:12	11° \mathbb{M} 01'00	31.07572 AU	min. Earth dist.	7698 May 12 16:53	25° \mathbb{M} 22'02	29.15653 AU
morning rise	7691 Nov 14 07:51	11° \mathbb{M} 37'06		direct	7698 Jul 30 16:37	23° \mathbb{M} 58'01	
retrograde	7692 Feb 10 22:06	13° \mathbb{M} 31'22		evening set	7698 Oct 28 16:38	25° \mathbb{M} 53'06	
opposition	7692 Apr 28 19:03	12° \mathbb{M} 07'50	0°34'22				
min. Earth dist.	7692 Apr 28 22:06	12° \mathbb{M} 07'37	29.08180 AU	conjunction	7698 Nov 13 21:21	26° \mathbb{M} 28'48	0°46'43
direct	7692 Jul 16 20:57	10° \mathbb{M} 43'08		minimum elong	7698 Nov 13 21:20	26° \mathbb{M} 28'48	0°46'49
evening set	7692 Oct 14 09:59	12° \mathbb{M} 37'57		max. Earth dist.	7698 Nov 13 11:47	26° \mathbb{M} 27'55	31.16106 AU
				morning rise	7698 Nov 30 00:24	27° \mathbb{M} 04'22	
conjunction	7692 Oct 30 15:50	13° \mathbb{M} 13'46	0°33'22	retrograde	7699 Feb 26 02:04	28° \mathbb{M} 57'55	
minimum elong	7692 Oct 30 15:49	13° \mathbb{M} 13'46	0°33'27	opposition	7699 May 14 18:47	27° \mathbb{M} 34'59	0°50'59
max. Earth dist.	7692 Oct 30 11:01	13° \mathbb{M} 13'20	31.08798 AU	min. Earth dist.	7699 May 15 02:48	27° \mathbb{M} 34'25	29.16576 AU
morning rise	7692 Nov 15 20:41	13° \mathbb{M} 49'31		direct	7699 Aug 02 04:04	26° \mathbb{M} 10'20	
	7692 Dec 22 11:01	15° \mathbb{M}		evening set	7699 Oct 31 05:34	28° \mathbb{M} 05'28	
retrograde	7693 Feb 12 09:30	15° \mathbb{M} 43'40					
	7693 Apr 06 14:44	15° \mathbb{R} \mathbb{M}		conjunction	7699 Nov 16 10:04	28° \mathbb{M} 41'07	0°48'43
opposition	7693 May 01 05:15	14° \mathbb{M} 20'12	0°36'55	minimum elong	7699 Nov 16 10:04	28° \mathbb{M} 41'07	0°48'49
min. Earth dist.	7693 May 01 09:19	14° \mathbb{M} 19'55	29.09466 AU	max. Earth dist.	7699 Nov 15 23:39	28° \mathbb{M} 40'10	31.16972 AU
direct	7693 Jul 19 07:53	12° \mathbb{M} 55'32		morning rise	7699 Dec 02 12:46	29° \mathbb{M} 16'39	
evening set	7693 Oct 16 23:03	14° \mathbb{M} 50'24			7699 Dec 23 16:19	0° \mathbb{X}	
	7693 Oct 21 08:52	15° \mathbb{M}		retrograde	7700 Feb 28 12:06	1° \mathbb{X} 10'06	
					7700 May 09 12:50	30° \mathbb{R} \mathbb{M}	
conjunction	7693 Nov 02 04:53	15° \mathbb{M} 26'12	0°35'45	opposition	7700 May 17 05:05	29° \mathbb{M} 47'11	0°53'04
minimum elong	7693 Nov 02 04:53	15° \mathbb{M} 26'12	0°35'50	min. Earth dist.	7700 May 17 14:49	29° \mathbb{M} 46'30	29.17407 AU

direct	7700 Aug 04 15:42	28° \nearrow 22'31		morning rise	7706 Dec 18 23:35	14° \nearrow 37'40	
	7700 Oct 25 11:03	0° \nearrow		retrograde	7707 Mar 16 12:50	16° \nearrow 30'23	
evening set	7700 Nov 02 18:24	0° \nearrow 17'38		opposition	7707 Jun 02 03:51	15° \nearrow 07'48	1°05'21
				min. Earth dist.	7707 Jun 02 16:24	15° \nearrow 06'55	29.23985 AU
conjunction	7700 Nov 18 22:41	0° \nearrow 53'16	0°50'38	direct	7707 Aug 21 02:32	13° \nearrow 43'03	
minimum elong	7700 Nov 18 22:41	0° \nearrow 53'16	0°50'44	evening set	7707 Nov 19 09:30	15° \nearrow 38'17	
max. Earth dist.	7700 Nov 18 11:51	0° \nearrow 52'16	31.17771 AU				
morning rise	7700 Dec 05 01:01	1° \nearrow 28'45		conjunction	7707 Dec 05 11:34	16° \nearrow 13'42	1°01'50
retrograde	7701 Mar 02 23:17	3° \nearrow 22'04		minimum elong	7707 Dec 05 11:34	16° \nearrow 13'42	1°01'57
opposition	7701 May 19 15:10	1° \nearrow 59'11	0°55'05	max. Earth dist.	7707 Dec 04 21:35	16° \nearrow 12'25	31.24516 AU
min. Earth dist.	7701 May 20 00:48	1° \nearrow 58'31	29.18177 AU	morning rise	7707 Dec 21 11:17	16° \nearrow 48'57	
direct	7701 Aug 07 05:32	0° \nearrow 34'28		retrograde	7708 Mar 17 23:32	18° \nearrow 41'35	
evening set	7701 Nov 05 07:10	2° \nearrow 29'36		opposition	7708 Jun 03 14:00	17° \nearrow 19'06	1°06'45
				min. Earth dist.	7708 Jun 04 02:06	17° \nearrow 18'15	29.25108 AU
conjunction	7701 Nov 21 11:04	3° \nearrow 05'12	0°52'29	direct	7708 Aug 22 13:38	15° \nearrow 54'21	
minimum elong	7701 Nov 21 11:04	3° \nearrow 05'12	0°52'35	evening set	7708 Nov 20 21:51	17° \nearrow 49'38	
max. Earth dist.	7701 Nov 20 23:02	3° \nearrow 04'05	31.18531 AU				
morning rise	7701 Dec 07 13:06	3° \nearrow 40'39		conjunction	7708 Dec 06 23:34	18° \nearrow 25'02	1°03'06
retrograde	7702 Mar 05 09:59	5° \nearrow 33'51		minimum elong	7708 Dec 06 23:33	18° \nearrow 25'02	1°03'13
opposition	7702 May 22 01:20	4° \nearrow 10'59	0°57'01	max. Earth dist.	7708 Dec 06 08:56	18° \nearrow 23'41	31.25589 AU
min. Earth dist.	7702 May 22 11:55	4° \nearrow 10'14	29.18957 AU	morning rise	7708 Dec 22 22:46	19° \nearrow 00'14	
direct	7702 Aug 09 16:31	2° \nearrow 46'13		retrograde	7709 Mar 20 08:54	20° \nearrow 52'49	
evening set	7702 Nov 07 19:30	4° \nearrow 41'21		opposition	7709 Jun 06 00:19	19° \nearrow 30'23	1°08'02
				min. Earth dist.	7709 Jun 06 13:59	19° \nearrow 29'26	29.26145 AU
conjunction	7702 Nov 23 23:17	5° \nearrow 16'55	0°54'15	direct	7709 Aug 25 00:25	18° \nearrow 05'40	
minimum elong	7702 Nov 23 23:17	5° \nearrow 16'55	0°54'21	evening set	7709 Nov 23 10:07	20° \nearrow 00'57	
max. Earth dist.	7702 Nov 23 11:46	5° \nearrow 15'51	31.19324 AU				
morning rise	7702 Dec 10 00:51	5° \nearrow 52'20		conjunction	7709 Dec 09 11:30	20° \nearrow 36'20	1°04'16
retrograde	7703 Mar 07 20:24	7° \nearrow 45'24		minimum elong	7709 Dec 09 11:30	20° \nearrow 36'20	1°04'23
opposition	7703 May 24 11:27	6° \nearrow 22'33	0°58'52	max. Earth dist.	7709 Dec 08 20:32	20° \nearrow 34'56	31.26570 AU
min. Earth dist.	7703 May 24 22:13	6° \nearrow 21'48	29.19773 AU	morning rise	7709 Dec 25 10:17	21° \nearrow 11'30	
direct	7703 Aug 12 05:51	4° \nearrow 57'46		retrograde	7710 Mar 22 19:22	23° \nearrow 04'00	
evening set	7703 Nov 10 08:07	6° \nearrow 52'54		opposition	7710 Jun 08 10:35	21° \nearrow 41'38	1°09'14
				min. Earth dist.	7710 Jun 09 00:13	21° \nearrow 40'41	29.27058 AU
conjunction	7703 Nov 26 11:26	7° \nearrow 28'26	0°55'56	direct	7710 Aug 27 13:02	20° \nearrow 16'54	
minimum elong	7703 Nov 26 11:26	7° \nearrow 28'26	0°56'02	evening set	7710 Nov 25 22:17	22° \nearrow 12'13	
max. Earth dist.	7703 Nov 25 22:26	7° \nearrow 27'14	31.20181 AU				
morning rise	7703 Dec 12 12:46	8° \nearrow 03'48		conjunction	7710 Dec 11 23:14	22° \nearrow 47'33	1°05'20
retrograde	7704 Mar 09 08:29	9° \nearrow 56'46		minimum elong	7710 Dec 11 23:14	22° \nearrow 47'33	1°05'27
opposition	7704 May 25 21:26	8° \nearrow 33'57	1°00'37	max. Earth dist.	7710 Dec 11 06:56	22° \nearrow 46'02	31.27417 AU
min. Earth dist.	7704 May 26 08:15	8° \nearrow 33'12	29.20690 AU	morning rise	7710 Dec 27 21:41	23° \nearrow 22'41	
direct	7704 Aug 13 17:38	7° \nearrow 09'09		retrograde	7711 Mar 25 06:14	25° \nearrow 15'08	
evening set	7704 Nov 11 20:31	9° \nearrow 04'18		opposition	7711 Jun 10 20:56	23° \nearrow 52'47	1°10'19
				min. Earth dist.	7711 Jun 11 11:35	23° \nearrow 51'46	29.27851 AU
conjunction	7704 Nov 27 23:40	9° \nearrow 39'49	0°57'32	direct	7711 Aug 29 23:34	22° \nearrow 28'03	
minimum elong	7704 Nov 27 23:40	9° \nearrow 39'48	0°57'39	evening set	7711 Nov 28 10:24	24° \nearrow 23'21	
max. Earth dist.	7704 Nov 27 11:28	9° \nearrow 38'41	31.21146 AU				
morning rise	7704 Dec 14 00:26	10° \nearrow 15'09		conjunction	7711 Dec 14 11:08	24° \nearrow 58'40	1°06'19
retrograde	7705 Mar 11 17:13	12° \nearrow 08'00		minimum elong	7711 Dec 14 11:08	24° \nearrow 58'40	1°06'25
opposition	7705 May 28 07:39	10° \nearrow 45'16	1°02'17	max. Earth dist.	7711 Dec 13 19:03	24° \nearrow 57'11	31.28142 AU
min. Earth dist.	7705 May 28 19:17	10° \nearrow 44'27	29.21708 AU	morning rise	7711 Dec 30 09:02	25° \nearrow 33'45	
direct	7705 Aug 16 05:34	9° \nearrow 20'27		retrograde	7712 Mar 26 16:23	27° \nearrow 26'07	
evening set	7705 Nov 14 08:51	11° \nearrow 15'37		opposition	7712 Jun 12 07:09	26° \nearrow 03'48	1°11'19
				min. Earth dist.	7712 Jun 12 22:20	26° \nearrow 02'45	29.28509 AU
conjunction	7705 Nov 30 11:31	11° \nearrow 51'06	0°59'03	direct	7712 Aug 31 13:02	24° \nearrow 39'03	
minimum elong	7705 Nov 30 11:31	11° \nearrow 51'06	0°59'10	evening set	7712 Nov 29 22:34	26° \nearrow 34'22	
max. Earth dist.	7705 Nov 29 22:08	11° \nearrow 49'52	31.22223 AU				
morning rise	7705 Dec 16 12:03	12° \nearrow 26'25		conjunction	7712 Dec 15 22:45	27° \nearrow 09'38	1°07'11
retrograde	7706 Mar 14 03:42	14° \nearrow 19'11		minimum elong	7712 Dec 15 22:45	27° \nearrow 09'38	1°07'19
opposition	7706 May 30 17:44	12° \nearrow 56'31	1°03'52	max. Earth dist.	7712 Dec 15 04:59	27° \nearrow 08'00	31.28754 AU
min. Earth dist.	7706 May 31 04:50	12° \nearrow 55'45	29.22828 AU	morning rise	7712 Dec 31 20:23	27° \nearrow 44'41	
direct	7706 Aug 18 16:36	11° \nearrow 31'44		retrograde	7713 Mar 29 04:18	29° \nearrow 36'58	
evening set	7706 Nov 16 21:07	13° \nearrow 26'56		opposition	7713 Jun 14 17:27	28° \nearrow 14'40	1°12'12
				min. Earth dist.	7713 Jun 15 08:47	28° \nearrow 13'36	29.29088 AU
conjunction	7706 Dec 02 23:35	14° \nearrow 02'24	1°00'30	direct	7713 Sep 03 01:03	26° \nearrow 49'53	
minimum elong	7706 Dec 02 23:35	14° \nearrow 02'24	1°00'37	evening set	7713 Dec 02 10:15	28° \nearrow 45'12	
max. Earth dist.	7706 Dec 02 10:38	14° \nearrow 01'12	31.23363 AU				

conjunction	7713 Dec 18 10:13	29° 2 20'26	1°07'59	retrograde	7720 Apr 12 23:50	14° 3 50'06	
minimum elong	7713 Dec 18 10:13	29° 2 20'26	1°08'06	opposition	7720 Jun 29 17:42	13° 3 28'06	1°15'30
max. Earth dist.	7713 Dec 17 17:11	29° 2 18'52	31.29295 AU	min. Earth dist.	7720 Jun 30 10:23	13° 3 26'58	29.33811 AU
morning rise	7714 Jan 03 07:17	29° 2 55'28		direct	7720 Sep 18 05:05	12° 3 03'27	
	7714 Jan 05 09:49	0° 3		evening set	7720 Dec 17 18:51	13° 3 58'51	
retrograde	7714 Mar 31 12:53	1° 3 47'40					
opposition	7714 Jun 17 03:48	0° 3 25'22	1°13'00	conjunction	7721 Jan 02 16:04	14° 3 33'54	1°10'43
min. Earth dist.	7714 Jun 17 20:09	0° 3 24'15	29.29607 AU	minimum elong	7721 Jan 02 16:04	14° 3 33'54	1°10'50
	7714 Jul 02 15:53	30° 8 2		max. Earth dist.	7721 Jan 01 22:20	14° 3 32'15	31.34135 AU
direct	7714 Sep 05 13:24	29° 2 00'35		morning rise	7721 Jan 18 10:13	15° 3 08'43	
	7714 Nov 06 21:32	0° 3		retrograde	7721 Apr 15 10:23	17° 3 00'43	
evening set	7714 Dec 04 22:04	0° 3 55'52		opposition	7721 Jul 02 04:21	15° 3 38'47	1°15'32
				min. Earth dist.	7721 Jul 02 21:21	15° 3 37'37	29.34554 AU
conjunction	7714 Dec 20 21:31	1° 3 31'05	1°08'40	direct	7721 Sep 20 18:12	14° 3 14'11	
minimum elong	7714 Dec 20 21:31	1° 3 31'05	1°08'48	evening set	7721 Dec 20 06:11	16° 3 09'36	
max. Earth dist.	7714 Dec 20 03:18	1° 3 29'23	31.29814 AU	max. Earth dist.	7722 Jan 04 07:41	16° 3 42'51	31.34828 AU
morning rise	7715 Jan 05 18:20	2° 3 06'04					
retrograde	7715 Apr 02 23:07	3° 3 58'11		conjunction	7722 Jan 05 02:50	16° 3 44'37	1°10'42
opposition	7715 Jun 19 13:53	2° 3 35'55	1°13'41	minimum elong	7722 Jan 05 02:50	16° 3 44'37	1°10'48
min. Earth dist.	7715 Jun 20 05:38	2° 3 34'49	29.30137 AU	morning rise	7722 Jan 20 20:44	17° 3 19'24	
direct	7715 Sep 08 00:55	1° 3 11'05		retrograde	7722 Apr 17 22:48	19° 3 11'25	
evening set	7715 Dec 07 09:42	3° 3 06'22		opposition	7722 Jul 04 14:58	17° 3 49'31	1°15'28
				min. Earth dist.	7722 Jul 05 07:54	17° 3 48'21	29.35192 AU
conjunction	7715 Dec 23 08:53	3° 3 41'34	1°09'16	direct	7722 Sep 23 06:08	16° 3 24'56	
minimum elong	7715 Dec 23 08:53	3° 3 41'34	1°09'22	evening set	7722 Dec 22 17:29	18° 3 20'22	
max. Earth dist.	7715 Dec 22 15:17	3° 3 39'56	31.30355 AU				
morning rise	7716 Jan 08 05:08	4° 3 16'31		conjunction	7723 Jan 07 13:54	18° 3 55'22	1°10'35
retrograde	7716 Apr 04 07:57	6° 3 08'35		minimum elong	7723 Jan 07 13:54	18° 3 55'22	1°10'42
opposition	7716 Jun 21 00:17	4° 3 46'20	1°14'15	max. Earth dist.	7723 Jan 06 19:23	18° 3 53'39	31.35388 AU
min. Earth dist.	7716 Jun 21 17:04	4° 3 45'10	29.30717 AU	morning rise	7723 Jan 23 07:14	19° 3 30'07	
direct	7716 Sep 09 11:17	3° 3 21'30		retrograde	7723 Apr 20 07:44	21° 3 22'07	
evening set	7716 Dec 08 21:14	5° 3 16'47		opposition	7723 Jul 07 01:36	20° 3 00'15	1°15'17
				min. Earth dist.	7723 Jul 07 19:44	19° 3 59'00	29.35675 AU
conjunction	7716 Dec 24 19:56	5° 3 51'57	1°09'45	direct	7723 Sep 25 18:06	18° 3 35'41	
minimum elong	7716 Dec 24 19:56	5° 3 51'57	1°09'53	evening set	7723 Dec 25 04:55	20° 3 31'07	
max. Earth dist.	7716 Dec 24 01:56	5° 3 50'17	31.30981 AU	max. Earth dist.	7724 Jan 09 04:57	21° 3 04'14	31.35801 AU
morning rise	7717 Jan 09 15:51	6° 3 26'52					
retrograde	7717 Apr 06 17:47	8° 3 18'53		conjunction	7724 Jan 10 00:48	21° 3 06'05	1°10'21
opposition	7717 Jun 23 10:32	6° 3 56'41	1°14'44	minimum elong	7724 Jan 10 00:48	21° 3 06'05	1°10'28
min. Earth dist.	7717 Jun 24 02:13	6° 3 55'36	29.31388 AU	morning rise	7724 Jan 25 17:53	21° 3 40'49	
direct	7717 Sep 11 22:19	5° 3 31'53		retrograde	7724 Apr 21 18:47	23° 3 32'46	
evening set	7717 Dec 11 08:42	7° 3 27'11		opposition	7724 Jul 08 12:17	22° 3 10'55	1°15'00
				min. Earth dist.	7724 Jul 09 05:53	22° 3 09'42	29.36010 AU
conjunction	7717 Dec 27 07:01	8° 3 02'18	1°10'09	direct	7724 Sep 27 06:33	20° 3 46'21	
minimum elong	7717 Dec 27 07:01	8° 3 02'18	1°10'16	evening set	7724 Dec 26 16:02	22° 3 41'45	
max. Earth dist.	7717 Dec 26 13:01	8° 3 00'38	31.31701 AU				
morning rise	7718 Jan 12 02:27	8° 3 37'12		conjunction	7725 Jan 11 11:37	23° 3 16'42	1°10'02
retrograde	7718 Apr 09 02:50	10° 3 29'13		minimum elong	7725 Jan 11 11:37	23° 3 16'42	1°10'10
opposition	7718 Jun 25 20:57	9° 3 07'04	1°15'06	max. Earth dist.	7725 Jan 10 16:09	23° 3 14'54	31.36053 AU
min. Earth dist.	7718 Jun 26 13:30	9° 3 05'55	29.32165 AU	morning rise	7725 Jan 27 04:10	23° 3 51'24	
direct	7718 Sep 14 08:19	7° 3 42'18		retrograde	7725 Apr 24 04:15	25° 3 43'20	
evening set	7718 Dec 13 19:59	9° 3 37'37		opposition	7725 Jul 10 23:09	24° 3 21'28	1°14'36
				min. Earth dist.	7725 Jul 11 18:00	24° 3 20'10	29.36198 AU
conjunction	7718 Dec 29 17:59	10° 3 12'44	1°10'26	direct	7725 Sep 29 18:04	22° 3 56'53	
minimum elong	7718 Dec 29 17:59	10° 3 12'44	1°10'34	evening set	7725 Dec 29 03:09	24° 3 52'15	
max. Earth dist.	7718 Dec 29 00:23	10° 3 11'06	31.32518 AU				
morning rise	7719 Jan 14 13:02	10° 3 47'36		conjunction	7726 Jan 13 22:17	25° 3 27'10	1°09'38
retrograde	7719 Apr 11 12:51	12° 3 39'36		minimum elong	7726 Jan 13 22:18	25° 3 27'10	1°09'44
opposition	7719 Jun 28 07:18	11° 3 17'32	1°15'21	max. Earth dist.	7726 Jan 13 02:17	25° 3 25'19	31.36190 AU
min. Earth dist.	7719 Jun 28 23:23	11° 3 16'25	29.32988 AU	morning rise	7726 Jan 29 14:33	26° 3 01'51	
direct	7719 Sep 16 19:42	9° 3 52'49		retrograde	7726 Apr 26 13:36	27° 3 53'44	
evening set	7719 Dec 16 07:29	11° 3 48'11		opposition	7726 Jul 13 09:46	26° 3 31'51	1°14'07
max. Earth dist.	7719 Dec 31 10:31	12° 3 21'33	31.33344 AU	min. Earth dist.	7726 Jul 14 03:48	26° 3 30'37	29.36278 AU
				direct	7726 Oct 02 06:13	25° 3 07'14	
conjunction	7720 Jan 01 04:58	12° 3 23'16	1°10'37	evening set	7726 Dec 31 14:03	27° 3 02'34	
minimum elong	7720 Jan 01 04:58	12° 3 23'16	1°10'44				
morning rise	7720 Jan 16 23:40	12° 3 58'06		conjunction	7727 Jan 16 08:51	27° 3 37'27	1°09'07

minimum elong	7727 Jan 16 08:51	27°33'27"	1°09'14"	morning rise	7733 Feb 13 12:12	11°11'37"	
max. Earth dist.	7727 Jan 15 12:37	27°33'34"	31.36227 AU	retrograde	7733 May 11 12:06	13°03'36"	
morning rise	7727 Feb 01 00:45	28°31'20"		opposition	7733 Jul 28 13:51	11°41'46"	1°07'46"
	7727 Apr 13 17:36	0°00'00"		min. Earth dist.	7733 Jul 29 06:47	11°40'36"	29.37156 AU
retrograde	7727 Apr 28 22:05	0°03'57"		direct	7733 Oct 17 12:34	10°17'18"	
	7727 May 14 07:03	30°08'30"		evening set	7734 Jan 15 16:22	12°12'34"	
opposition	7727 Jul 15 20:34	28°34'20"	1°13'31"				
min. Earth dist.	7727 Jul 16 15:32	28°34'45"	29.36296 AU	conjunction	7734 Jan 31 08:34	12°47'18"	1°02'50"
direct	7727 Oct 04 16:30	27°31'24"		minimum elong	7734 Jan 31 08:34	12°47'18"	1°02'56"
evening set	7728 Jan 03 00:53	29°31'24"		max. Earth dist.	7734 Jan 30 14:17	12°45'36"	31.37165 AU
				morning rise	7734 Feb 15 21:59	13°21'49"	
conjunction	7728 Jan 18 19:19	29°34'32"	1°08'30"		7734 Apr 15 05:41	15°00'00"	
minimum elong	7728 Jan 18 19:19	29°34'32"	1°08'36"	retrograde	7734 May 13 22:22	15°13'52"	
max. Earth dist.	7728 Jan 17 23:41	29°34'43"	31.36236 AU		7734 Jun 12 02:42	15°00'00"	
	7728 Jan 24 09:26	0°00'00"		opposition	7734 Jul 31 00:59	13°52'02"	1°06'28"
morning rise	7728 Feb 03 10:48	0°22'09"		min. Earth dist.	7734 Jul 31 18:59	13°50'49"	29.37260 AU
retrograde	7728 Apr 30 06:55	2°13'59"		direct	7734 Oct 19 23:43	12°27'38"	
opposition	7728 Jul 17 07:17	0°52'03"	1°12'49"	evening set	7735 Jan 18 02:53	14°22'54"	
min. Earth dist.	7728 Jul 18 01:35	0°50'47"	29.36301 AU				
	7728 Aug 20 09:01	30°08'30"		conjunction	7735 Feb 02 18:42	14°57'38"	1°01'34"
direct	7728 Oct 06 04:05	29°32'23"		minimum elong	7735 Feb 02 18:42	14°57'38"	1°01'40"
	7728 Nov 20 16:37	0°00'00"		max. Earth dist.	7735 Feb 02 00:10	14°55'54"	31.37213 AU
evening set	7729 Jan 04 11:42	1°22'37"			7735 Feb 03 20:11	15°00'00"	
max. Earth dist.	7729 Jan 19 09:31	1°55'35"	31.36265 AU	morning rise	7735 Feb 18 07:53	15°32'08"	
				retrograde	7735 May 16 08:15	17°24'14"	
conjunction	7729 Jan 20 05:38	1°57'27"	1°07'48"	opposition	7735 Aug 02 12:10	16°02'26"	1°05'04"
minimum elong	7729 Jan 20 05:38	1°57'27"	1°07'54"	min. Earth dist.	7735 Aug 03 05:12	16°01'16"	29.37230 AU
morning rise	7729 Feb 04 20:49	2°32'03"			7735 Sep 14 11:04	15°00'00"	
retrograde	7729 May 02 17:32	4°23'52"		direct	7735 Oct 22 11:54	14°38'04"	
opposition	7729 Jul 19 18:10	3°01'55"	1°12'00"		7735 Nov 28 12:08	15°00'00"	
min. Earth dist.	7729 Jul 20 12:22	3°00'40"	29.36377 AU	evening set	7736 Jan 20 13:25	16°33'20"	
direct	7729 Oct 08 13:39	1°37'15"		max. Earth dist.	7736 Feb 04 10:00	17°06'17"	31.37106 AU
evening set	7730 Jan 06 22:08	3°32'28"					
				conjunction	7736 Feb 05 04:50	17°08'02"	1°00'13"
conjunction	7730 Jan 22 15:51	4°07'17"	1°07'00"	minimum elong	7736 Feb 05 04:51	17°08'02"	1°00'17"
minimum elong	7730 Jan 22 15:51	4°07'17"	1°07'05"	morning rise	7736 Feb 20 17:41	17°42'32"	
max. Earth dist.	7730 Jan 21 21:07	4°05'32"	31.36378 AU	retrograde	7736 May 17 17:23	19°34'41"	
morning rise	7730 Feb 07 06:34	4°41'51"		opposition	7736 Aug 03 23:31	18°12'53"	1°03'34"
retrograde	7730 May 05 03:09	6°33'42"		min. Earth dist.	7736 Aug 04 17:25	18°11'40"	29.37055 AU
opposition	7730 Jul 22 05:03	5°11'45"	1°11'06"	direct	7736 Oct 23 21:58	16°48'33"	
min. Earth dist.	7730 Jul 22 23:01	5°10'31"	29.36521 AU	evening set	7737 Jan 21 23:50	18°43'47"	
direct	7730 Oct 11 02:11	3°47'06"					
evening set	7731 Jan 09 08:50	5°42'20"		conjunction	7737 Feb 06 15:00	19°18'29"	0°58'46"
max. Earth dist.	7731 Jan 24 06:27	6°15'18"	31.36568 AU	minimum elong	7737 Feb 06 15:00	19°18'29"	0°58'52"
				max. Earth dist.	7737 Feb 05 20:44	19°16'47"	31.36860 AU
conjunction	7731 Jan 25 02:02	6°17'07"	1°06'06"	morning rise	7737 Feb 22 03:29	19°52'58"	
minimum elong	7731 Jan 25 02:02	6°17'07"	1°06'12"	retrograde	7737 May 20 02:31	21°45'10"	
morning rise	7731 Feb 09 16:34	6°51'40"		opposition	7737 Aug 06 10:53	20°23'21"	1°01'59"
retrograde	7731 May 07 15:12	8°43'33"		min. Earth dist.	7737 Aug 07 04:16	20°22'10"	29.36723 AU
opposition	7731 Jul 24 15:45	7°21'37"	1°10'06"	direct	7737 Oct 26 09:13	18°59'01"	
min. Earth dist.	7731 Jul 25 09:02	7°20'26"	29.36739 AU	evening set	7738 Jan 24 10:10	20°54'13"	
direct	7731 Oct 13 13:03	5°57'01"		max. Earth dist.	7738 Feb 08 05:52	21°27'08"	31.36463 AU
evening set	7732 Jan 11 19:22	7°52'16"					
				conjunction	7738 Feb 09 00:54	21°28'54"	0°57'15"
conjunction	7732 Jan 27 12:21	8°27'02"	1°05'06"	minimum elong	7738 Feb 09 00:54	21°28'54"	0°57'19"
minimum elong	7732 Jan 27 12:21	8°27'02"	1°05'12"	morning rise	7738 Feb 24 13:15	22°03'23"	
max. Earth dist.	7732 Jan 26 18:01	8°25'20"	31.36797 AU	retrograde	7738 May 22 13:23	23°55'38"	
morning rise	7732 Feb 12 02:23	9°01'35"		opposition	7738 Aug 08 22:14	22°33'46"	1°00'19"
retrograde	7732 May 09 00:36	10°53'30"		min. Earth dist.	7738 Aug 09 15:45	22°32'34"	29.36268 AU
opposition	7732 Jul 26 02:50	9°31'37"	1°08'59"	direct	7738 Oct 28 19:00	21°09'25"	
min. Earth dist.	7732 Jul 26 20:47	9°30'23"	29.36964 AU	evening set	7739 Jan 26 20:23	23°04'35"	
direct	7732 Oct 15 00:26	8°07'06"					
evening set	7733 Jan 13 05:54	10°02'21"		conjunction	7739 Feb 11 10:58	23°39'14"	0°55'39"
				minimum elong	7739 Feb 11 10:58	23°39'14"	0°55'44"
conjunction	7733 Jan 28 22:21	10°37'06"	1°04'01"	max. Earth dist.	7739 Feb 10 17:06	23°37'34"	31.35951 AU
minimum elong	7733 Jan 28 22:21	10°37'06"	1°04'07"	morning rise	7739 Feb 26 22:54	24°13'42"	
max. Earth dist.	7733 Jan 28 03:25	10°35'20"	31.37018 AU	retrograde	7739 May 24 22:44	26°05'59"	

opposition	7739 Aug 11 09:31	24° 44 '04	0°58'34	direct	7745 Nov 13 04:22	6° 4 '20'21	
min. Earth dist.	7739 Aug 12 03:03	24° 44 '52	29.35704 AU	evening set	7746 Feb 10 18:03	8° 4 '15'16	
direct	7739 Oct 31 07:34	23° 4 '19'42					
evening set	7740 Jan 29 06:40	25° 4 '14'49		conjunction	7746 Feb 26 06:32	8° 4 '49'51	0°42'24
				minimum elong	7746 Feb 26 06:32	8° 4 '49'51	0°42'26
conjunction	7740 Feb 13 20:45	25° 4 '49'27	0°53'59	max. Earth dist.	7746 Feb 25 16:27	8° 4 '48'32	31.32984 AU
minimum elong	7740 Feb 13 20:45	25° 4 '49'27	0°54'02	morning rise	7746 Mar 13 16:55	9° 4 '24'16	
max. Earth dist.	7740 Feb 13 02:08	25° 4 '47'43	31.35374 AU	retrograde	7746 Jun 08 23:19	11° 4 '17'01	
morning rise	7740 Feb 29 08:35	26° 4 '23'54		opposition	7746 Aug 26 18:12	9° 4 '54'54	0°44'09
retrograde	7740 May 26 10:35	28° 4 '16'13		min. Earth dist.	7746 Aug 27 07:46	9° 4 '53'58	29.32837 AU
opposition	7740 Aug 12 20:54	26° 4 '54'13	0°56'44	direct	7746 Nov 15 16:06	8° 4 '30'44	
min. Earth dist.	7740 Aug 13 13:29	26° 4 '53'06	29.35124 AU	evening set	7747 Feb 13 04:06	10° 4 '25'39	
direct	7740 Nov 01 18:19	25° 4 '29'51					
evening set	7741 Jan 30 16:32	27° 4 '24'54		conjunction	7747 Feb 28 16:09	11° 4 '00'13	0°40'15
				minimum elong	7747 Feb 28 16:09	11° 4 '00'13	0°40'17
conjunction	7741 Feb 15 06:27	27° 4 '59'32	0°52'14	max. Earth dist.	7747 Feb 28 01:30	10° 4 '58'51	31.32623 AU
minimum elong	7741 Feb 15 06:27	27° 4 '59'32	0°52'18	morning rise	7747 Mar 16 02:28	11° 4 '34'38	
max. Earth dist.	7741 Feb 14 13:24	27° 4 '57'56	31.34799 AU	retrograde	7747 Jun 11 10:34	13° 4 '27'30	
morning rise	7741 Mar 02 17:52	28° 4 '33'58		opposition	7747 Aug 29 05:56	12° 4 '05'21	0°41'49
	7741 Apr 19 01:29	0° 4		min. Earth dist.	7747 Aug 29 19:22	12° 4 '04'27	29.32438 AU
retrograde	7741 May 28 19:46	0° 4 '26'20		direct	7747 Nov 18 01:48	10° 4 '41'14	
	7741 Jul 08 20:52	30° 4		evening set	7748 Feb 15 14:02	12° 4 '36'08	
opposition	7741 Aug 15 08:27	29° 4 '04'16	0°54'50				
min. Earth dist.	7741 Aug 16 01:17	29° 4 '03'08	29.34576 AU	conjunction	7748 Mar 02 02:00	13° 4 '10'42	0°38'01
direct	7741 Nov 04 05:35	27° 4 '39'54		minimum elong	7748 Mar 02 02:00	13° 4 '10'42	0°38'03
evening set	7742 Feb 02 02:35	29° 4 '34'55		max. Earth dist.	7748 Mar 01 12:42	13° 4 '09'27	31.32168 AU
	7742 Feb 13 10:14	0° 4		morning rise	7748 Mar 17 11:57	13° 4 '45'07	
				retrograde	7748 Jun 12 20:07	15° 4 '38'05	
conjunction	7742 Feb 17 16:03	0° 4 '09'31	0°50'24	opposition	7748 Aug 30 17:58	14° 4 '15'55	0°39'24
minimum elong	7742 Feb 17 16:04	0° 4 '09'31	0°50'28	min. Earth dist.	7748 Aug 31 07:19	14° 4 '15'01	29.31915 AU
max. Earth dist.	7742 Feb 16 22:56	0° 4 '07'55	31.34300 AU	direct	7748 Nov 19 13:33	12° 4 '51'51	
morning rise	7742 Mar 05 03:23	0° 4 '43'56		evening set	7749 Feb 16 23:59	14° 4 '46'42	
retrograde	7742 May 31 07:28	2° 4 '36'21					
opposition	7742 Aug 17 19:42	1° 4 '14'16	0°52'51	conjunction	7749 Mar 04 11:31	15° 4 '21'16	0°35'45
min. Earth dist.	7742 Aug 18 10:56	1° 4 '13'13	29.34121 AU	minimum elong	7749 Mar 04 11:31	15° 4 '21'16	0°35'47
	7742 Oct 12 08:53	30° 4		max. Earth dist.	7749 Mar 03 21:26	15° 4 '19'57	31.31588 AU
direct	7742 Nov 06 18:23	29° 4 '49'53		morning rise	7749 Mar 19 21:29	15° 4 '55'41	
	7742 Dec 01 18:22	0° 4		retrograde	7749 Jun 15 08:21	17° 4 '48'46	
evening set	7743 Feb 04 12:29	1° 4 '44'53		opposition	7749 Sep 02 05:56	16° 4 '26'33	0°36'57
max. Earth dist.	7743 Feb 19 09:43	2° 4 '17'59	31.33889 AU	min. Earth dist.	7749 Sep 02 18:23	16° 4 '25'42	29.31269 AU
				direct	7749 Nov 21 23:41	15° 4 '02'30	
conjunction	7743 Feb 20 01:46	2° 4 '19'29	0°48'31	evening set	7750 Feb 19 09:52	16° 4 '57'20	
minimum elong	7743 Feb 20 01:46	2° 4 '19'29	0°48'35				
morning rise	7743 Mar 07 12:47	2° 4 '53'54		conjunction	7750 Mar 06 21:20	17° 4 '31'53	0°33'25
retrograde	7743 Jun 02 18:17	4° 4 '46'23		minimum elong	7750 Mar 06 21:21	17° 4 '31'53	0°33'27
opposition	7743 Aug 20 07:17	3° 4 '24'16	0°50'47	max. Earth dist.	7750 Mar 06 08:24	17° 4 '30'41	31.30866 AU
min. Earth dist.	7743 Aug 20 22:54	3° 4 '23'12	29.33755 AU	morning rise	7750 Mar 22 07:01	18° 4 '06'18	
direct	7743 Nov 09 05:58	1° 4 '59'56		retrograde	7750 Jun 17 18:20	19° 4 '59'29	
evening set	7744 Feb 06 22:22	3° 4 '54'54		opposition	7750 Sep 04 17:56	18° 4 '37'13	0°34'26
				min. Earth dist.	7750 Sep 05 07:01	18° 4 '36'20	29.30476 AU
conjunction	7744 Feb 22 11:20	4° 4 '29'30	0°46'33	direct	7750 Nov 24 10:54	17° 4 '13'11	
minimum elong	7744 Feb 22 11:20	4° 4 '29'30	0°46'35	evening set	7751 Feb 21 19:51	19° 4 '07'58	
max. Earth dist.	7744 Feb 21 19:51	4° 4 '28'03	31.33566 AU				
morning rise	7744 Mar 08 22:09	5° 4 '03'54		conjunction	7751 Mar 09 07:01	19° 4 '42'31	0°31'03
retrograde	7744 Jun 04 04:02	6° 4 '56'28		minimum elong	7751 Mar 09 07:01	19° 4 '42'31	0°31'05
opposition	7744 Aug 21 18:47	5° 4 '34'21	0°48'39	max. Earth dist.	7751 Mar 08 17:46	19° 4 '41'17	31.30022 AU
min. Earth dist.	7744 Aug 22 08:50	5° 4 '33'24	29.33446 AU	morning rise	7751 Mar 24 16:41	20° 4 '16'56	
direct	7744 Nov 10 18:14	4° 4 '10'04		retrograde	7751 Jun 20 06:36	22° 4 '10'11	
evening set	7745 Feb 08 08:17	6° 4 '05'02		opposition	7751 Sep 07 05:55	20° 4 '47'52	0°31'53
				min. Earth dist.	7751 Sep 07 17:39	20° 4 '47'04	29.29571 AU
conjunction	7745 Feb 23 20:55	6° 4 '39'37	0°44'30	direct	7751 Nov 26 23:45	19° 4 '23'49	
minimum elong	7745 Feb 23 20:56	6° 4 '39'37	0°44'34	evening set	7752 Feb 24 05:35	21° 4 '18'34	
max. Earth dist.	7745 Feb 23 05:39	6° 4 '38'11	31.33274 AU				
morning rise	7745 Mar 11 07:34	7° 4 '14'01		conjunction	7752 Mar 10 16:34	21° 4 '53'06	0°28'38
retrograde	7745 Jun 06 13:53	9° 4 '06'41		minimum elong	7752 Mar 10 16:34	21° 4 '53'06	0°28'38
opposition	7745 Aug 24 06:30	7° 4 '44'34	0°46'26	max. Earth dist.	7752 Mar 10 04:10	21° 4 '51'57	31.29074 AU
min. Earth dist.	7745 Aug 24 20:51	7° 4 '43'35	29.33165 AU	morning rise	7752 Mar 26 02:02	22° 4 '27'32	

retrograde	7752 Jun 21 17:51	24° ✕ 20'53		retrograde	7758 Jul 05 09:22	7° ✓ 25'56	
opposition	7752 Sep 08 18:08	22° ✕ 58'28	0°29'16	opposition	7758 Sep 22 19:20	6° ✓ 03'18	0°12'52
min. Earth dist.	7752 Sep 09 06:20	22° ✕ 57'38	29.28605 AU	min. Earth dist.	7758 Sep 23 01:54	6° ✓ 02'51	29.23973 AU
direct	7752 Nov 28 11:36	21° ✕ 34'26		direct	7758 Dec 12 05:29	4° ✓ 39'32	
evening set	7753 Feb 25 15:19	23° ✕ 29'07		evening set	7759 Mar 11 01:28	6° ✓ 34'05	
conjunction	7753 Mar 13 02:06	24° ✕ 03'39	0°26'10	conjunction	7759 Mar 26 11:15	7° ✓ 08'38	0°10'45
minimum elong	7753 Mar 13 02:06	24° ✕ 03'39	0°26'12	minimum elong	7759 Mar 26 11:15	7° ✓ 08'38	0°10'45
max. Earth dist.	7753 Mar 12 14:30	24° ✕ 02'34	31.28113 AU	behind sun begin	7759 Mar 26 06:17	7° ✓ 08'11	
morning rise	7753 Mar 28 11:28	24° ✕ 38'05		behind sun end	7759 Mar 26 16:12	7° ✓ 09'05	
retrograde	7753 Jun 24 03:56	26° ✕ 31'31		max. Earth dist.	7759 Mar 26 04:30	7° ✓ 08'01	31.23626 AU
opposition	7753 Sep 11 06:09	25° ✕ 09'02	0°26'38	morning rise	7759 Apr 10 20:07	7° ✓ 43'08	
min. Earth dist.	7753 Sep 11 16:37	25° ✕ 08'19	29.27653 AU	retrograde	7759 Jul 07 20:07	9° ✓ 37'23	
direct	7753 Dec 01 00:15	23° ✕ 45'00		opposition	7759 Sep 25 07:56	8° ✓ 14'43	0°10'02
evening set	7754 Feb 28 00:58	25° ✕ 39'38		min. Earth dist.	7759 Sep 25 14:52	8° ✓ 14'15	29.23272 AU
conjunction	7754 Mar 15 11:30	26° ✕ 14'10	0°23'41	direct	7759 Dec 14 16:16	6° ✓ 51'01	
minimum elong	7754 Mar 15 11:30	26° ✕ 14'10	0°23'41	evening set	7760 Mar 12 11:18	8° ✓ 45'33	
max. Earth dist.	7754 Mar 15 00:13	26° ✕ 13'07	31.27187 AU	conjunction	7760 Mar 27 20:49	9° ✓ 20'06	0°08'06
morning rise	7754 Mar 30 20:51	26° ✕ 48'37		minimum elong	7760 Mar 27 20:50	9° ✓ 20'06	0°08'05
retrograde	7754 Jun 26 14:13	28° ✕ 42'09		behind sun begin	7760 Mar 27 15:06	9° ✓ 19'35	
opposition	7754 Sep 13 18:21	27° ✕ 19'36	0°23'57	behind sun end	7760 Mar 28 02:33	9° ✓ 20'37	
min. Earth dist.	7754 Sep 14 04:43	27° ✕ 18'54	29.26774 AU	max. Earth dist.	7760 Mar 27 14:11	9° ✓ 19'30	31.22894 AU
direct	7754 Dec 03 11:04	25° ✕ 55'36		morning rise	7760 Apr 12 05:45	9° ✓ 54'37	
evening set	7755 Mar 02 10:36	27° ✕ 50'12		retrograde	7760 Jul 09 09:25	11° ✓ 49'00	
conjunction	7755 Mar 17 21:03	28° ✕ 24'45	0°21'09	opposition	7760 Sep 26 20:30	10° ✓ 26'19	0°07'11
minimum elong	7755 Mar 17 21:03	28° ✕ 24'45	0°21'10	min. Earth dist.	7760 Sep 27 01:57	10° ✓ 25'57	29.22489 AU
max. Earth dist.	7755 Mar 17 11:25	28° ✕ 23'51	31.26354 AU	direct	7760 Dec 16 04:41	9° ✓ 02'39	
morning rise	7755 Apr 02 06:10	28° ✕ 59'11		evening set	7761 Mar 14 21:14	10° ✓ 57'11	
retrograde	7755 May 02 15:09	0° ✓		conjunction	7761 Mar 30 06:40	11° ✓ 31'44	0°05'27
	7755 Jun 28 23:49	0° ✓ 52'50		minimum elong	7761 Mar 30 06:40	11° ✓ 31'44	0°05'26
	7755 Aug 28 14:08	30° ✕		behind sun begin	7761 Mar 30 00:28	11° ✓ 31'10	
opposition	7755 Sep 16 06:27	29° ✕ 30'16	0°21'13	behind sun end	7761 Mar 30 12:51	11° ✓ 32'17	
min. Earth dist.	7755 Sep 16 15:31	29° ✕ 29'39	29.25977 AU	max. Earth dist.	7761 Mar 30 00:36	11° ✓ 31'11	31.22046 AU
direct	7755 Dec 05 23:15	28° ✕ 06'18		morning rise	7761 Apr 14 15:31	12° ✓ 06'16	
evening set	7756 Mar 03 20:23	0° ✓ 00'54		retrograde	7761 Jul 11 21:43	14° ✓ 00'47	
	7756 Mar 03 10:39	0° ✓		opposition	7761 Sep 29 09:12	12° ✓ 38'02	0°04'19
conjunction	7756 Mar 19 06:30	0° ✓ 35'26	0°18'36	min. Earth dist.	7761 Sep 29 15:17	12° ✓ 37'37	29.21585 AU
minimum elong	7756 Mar 19 06:29	0° ✓ 35'26	0°18'35	direct	7761 Dec 18 15:41	11° ✓ 14'24	
max. Earth dist.	7756 Mar 18 20:47	0° ✓ 34'31	31.25611 AU	evening set	7762 Mar 17 07:09	13° ✓ 08'54	
morning rise	7756 Apr 03 15:40	1° ✓ 09'54		conjunction	7762 Apr 01 16:31	13° ✓ 43'27	0°02'46
retrograde	7756 Jun 30 11:26	3° ✓ 03'41		minimum elong	7762 Apr 01 16:32	13° ✓ 43'28	0°02'44
opposition	7756 Sep 17 18:46	1° ✓ 41'05	0°18'28	behind sun begin	7762 Apr 01 10:08	13° ✓ 42'53	
min. Earth dist.	7756 Sep 18 03:03	1° ✓ 40'31	29.25280 AU	behind sun end	7762 Apr 01 22:55	13° ✓ 44'02	
direct	7756 Dec 07 09:04	0° ✓ 17'11		max. Earth dist.	7762 Apr 01 11:02	13° ✓ 42'58	31.21076 AU
evening set	7757 Mar 06 05:52	2° ✓ 11'45		morning rise	7762 Apr 17 01:22	14° ✓ 18'00	
conjunction	7757 Mar 21 15:59	2° ✓ 46'17	0°16'00	retrograde	7762 Jul 14 08:59	16° ✓ 12'38	
minimum elong	7757 Mar 21 15:59	2° ✓ 46'17	0°16'01	opposition	7762 Oct 01 21:50	14° ✓ 49'50	0°01'27
behind sun begin	7757 Mar 21 14:57	2° ✓ 46'12		min. Earth dist.	7762 Oct 02 02:32	14° ✓ 49'31	29.20529 AU
behind sun end	7757 Mar 21 17:01	2° ✓ 46'23		direct	7762 Dec 21 04:43	13° ✓ 26'12	
max. Earth dist.	7757 Mar 21 08:12	2° ✓ 45'34	31.24941 AU	evening set	7763 Mar 19 17:12	15° ✓ 20'39	
morning rise	7757 Apr 06 00:57	3° ✓ 20'46		conjunction	7763 Apr 04 02:23	15° ✓ 55'13	0°00'01
retrograde	7757 Jul 02 20:53	5° ✓ 14'42		minimum elong	7763 Apr 04 02:21	15° ✓ 55'13	0°00'01
opposition	7757 Sep 20 07:08	3° ✓ 52'05	0°15'41	behind sun begin	7763 Apr 03 21:51	15° ✓ 54'50	
min. Earth dist.	7757 Sep 20 14:55	3° ✓ 51'33	29.24620 AU	behind sun end	7763 Apr 04 06:51	15° ✓ 55'36	
direct	7757 Dec 09 20:18	2° ✓ 28'15		max. Earth dist.	7763 Apr 03 20:36	15° ✓ 54'42	31.19944 AU
evening set	7758 Mar 08 15:42	4° ✓ 22'49		desc. node	7763 Apr 05 12:43	15° ✓ 58'27	
conjunction	7758 Mar 24 01:30	4° ✓ 57'21	0°13'23	morning rise	7763 Apr 19 11:15	16° ✓ 29'46	
minimum elong	7758 Mar 24 01:30	4° ✓ 57'21	0°13'22	retrograde	7763 Jul 16 20:52	18° ✓ 24'31	
behind sun begin	7758 Mar 23 21:45	4° ✓ 57'01		opposition	7763 Oct 04 10:37	17° ✓ 01'37	-0°01'25
behind sun end	7758 Mar 24 05:15	4° ✓ 57'42		min. Earth dist.	7763 Oct 04 15:37	17° ✓ 01'17	29.19337 AU
max. Earth dist.	7758 Mar 23 17:22	4° ✓ 56'36	31.24298 AU	direct	7763 Dec 23 16:38	15° ✓ 37'59	
morning rise	7758 Apr 08 10:35	5° ✓ 31'51		evening set	7764 Mar 21 03:03	17° ✓ 32'22	

conjunction	7764 Apr 05 12:16	18° Υ 06'56	-0°02'44	retrograde	7769 Jul 29 16:18	1° \mathcal{S} 35'02
minimum elong	7764 Apr 05 12:16	18° Υ 06'56	0°02'48	opposition	7769 Oct 17 15:07	0° \mathcal{S} 11'38 -0°18'28
behind sun begin	7764 Apr 05 05:53	18° Υ 06'22		min. Earth dist.	7769 Oct 17 14:16	0° \mathcal{S} 11'42 29.12168 AU
behind sun end	7764 Apr 05 18:39	18° Υ 07'31			7769 Oct 24 18:48	30° $\mathcal{R}\Upsilon$
max. Earth dist.	7764 Apr 05 07:56	18° Υ 06'34	31.18700 AU	direct	7770 Jan 05 13:35	28° Υ 48'03
morning rise	7764 Apr 20 21:04	18° Υ 41'30			7770 Mar 14 10:25	0° \mathcal{S}
retrograde	7764 Jul 18 07:26	20° Υ 36'20		evening set	7770 Apr 03 14:06	0° \mathcal{S} 42'11
opposition	7764 Oct 05 23:23	19° Υ 13'20	-0°04'17			
min. Earth dist.	7764 Oct 06 03:21	19° Υ 13'04	29.18042 AU	conjunction	7770 Apr 18 22:56	1° \mathcal{S} 16'49 -0°18'36
direct	7764 Dec 25 06:15	17° Υ 49'41		minimum elong	7770 Apr 18 22:56	1° \mathcal{S} 16'49 0°18'40
evening set	7765 Mar 23 12:54	19° Υ 44'00		max. Earth dist.	7770 Apr 18 23:20	1° \mathcal{S} 16'51 31.11683 AU
				morning rise	7770 May 04 08:11	1° \mathcal{S} 51'30
conjunction	7765 Apr 07 21:53	20° Υ 18'34	-0°05'25	retrograde	7770 Aug 01 04:53	3° \mathcal{S} 47'07
minimum elong	7765 Apr 07 21:53	20° Υ 18'34	0°05'27	opposition	7770 Oct 20 04:06	2° \mathcal{S} 23'42 -0°21'14
behind sun begin	7765 Apr 07 15:42	20° Υ 18'01		min. Earth dist.	7770 Oct 20 03:30	2° \mathcal{S} 23'44 29.11217 AU
behind sun end	7765 Apr 08 04:04	20° Υ 19'08		direct	7771 Jan 07 23:50	1° \mathcal{S} 00'09
max. Earth dist.	7765 Apr 07 17:19	20° Υ 18'10	31.17387 AU	evening set	7771 Apr 06 00:01	2° \mathcal{S} 54'18
morning rise	7765 Apr 23 06:54	20° Υ 53'09				
retrograde	7765 Jul 20 18:50	22° Υ 48'05		conjunction	7771 Apr 21 08:53	3° \mathcal{S} 28'56 -0°21'10
opposition	7765 Oct 08 12:09	21° Υ 24'58	-0°07'09	minimum elong	7771 Apr 21 08:53	3° \mathcal{S} 28'56 0°21'14
min. Earth dist.	7765 Oct 08 15:31	21° Υ 24'45	29.16730 AU	max. Earth dist.	7771 Apr 21 10:23	3° \mathcal{S} 29'05 31.10745 AU
direct	7765 Dec 27 16:57	20° Υ 01'18		morning rise	7771 May 06 18:09	4° \mathcal{S} 03'39
evening set	7766 Mar 25 22:40	21° Υ 55'33		retrograde	7771 Aug 03 17:13	5° \mathcal{S} 59'26
				opposition	7771 Oct 22 17:01	4° \mathcal{S} 36'00 -0°23'59
conjunction	7766 Apr 10 07:45	22° Υ 30'07	-0°08'05	min. Earth dist.	7771 Oct 22 14:41	4° \mathcal{S} 36'09 29.10272 AU
minimum elong	7766 Apr 10 07:45	22° Υ 30'07	0°08'08	direct	7772 Jan 10 12:25	3° \mathcal{S} 12'31
behind sun begin	7766 Apr 10 02:02	22° Υ 29'36		evening set	7772 Apr 07 10:10	5° \mathcal{S} 06'40
behind sun end	7766 Apr 10 13:28	22° Υ 30'38				
max. Earth dist.	7766 Apr 10 05:02	22° Υ 29'53	31.16077 AU	conjunction	7772 Apr 22 18:55	5° \mathcal{S} 41'19 -0°23'44
morning rise	7766 Apr 25 16:38	23° Υ 04'43		minimum elong	7772 Apr 22 18:55	5° \mathcal{S} 41'19 0°23'49
retrograde	7766 Jul 23 03:55	24° Υ 59'45		max. Earth dist.	7772 Apr 22 20:25	5° \mathcal{S} 41'28 31.09791 AU
opposition	7766 Oct 11 00:46	23° Υ 36'33	-0°10'00	morning rise	7772 May 08 04:23	6° \mathcal{S} 16'04
min. Earth dist.	7766 Oct 11 03:30	23° Υ 36'22	29.15446 AU	retrograde	7772 Aug 05 06:47	8° \mathcal{S} 12'01
direct	7766 Dec 30 05:09	22° Υ 12'52		opposition	7772 Oct 24 06:10	6° \mathcal{S} 48'32 -0°26'42
evening set	7767 Mar 28 08:36	24° Υ 07'03		min. Earth dist.	7772 Oct 24 03:58	6° \mathcal{S} 48'41 29.09310 AU
				direct	7773 Jan 11 23:54	5° \mathcal{S} 25'07
conjunction	7767 Apr 12 17:27	24° Υ 41'38	-0°10'43	evening set	7773 Apr 09 20:13	7° \mathcal{S} 19'16
minimum elong	7767 Apr 12 17:28	24° Υ 41'38	0°10'46			
behind sun begin	7767 Apr 12 12:30	24° Υ 41'12		conjunction	7773 Apr 25 05:08	7° \mathcal{S} 53'57 -0°26'15
behind sun end	7767 Apr 12 22:25	24° Υ 42'05		minimum elong	7773 Apr 25 05:07	7° \mathcal{S} 53'57 0°26'19
max. Earth dist.	7767 Apr 12 14:41	24° Υ 41'24	31.14840 AU	max. Earth dist.	7773 Apr 25 08:09	7° \mathcal{S} 54'14 31.08793 AU
morning rise	7767 Apr 28 02:31	25° Υ 16'15		morning rise	7773 May 10 14:35	8° \mathcal{S} 28'42
retrograde	7767 Jul 25 16:25	27° Υ 11'25		retrograde	7773 Aug 07 18:54	10° \mathcal{S} 24'49
opposition	7767 Oct 13 13:32	25° Υ 48'08	-0°12'50	opposition	7773 Oct 26 19:14	9° \mathcal{S} 01'18 -0°29'23
min. Earth dist.	7767 Oct 13 14:39	25° Υ 48'03	29.14260 AU	min. Earth dist.	7773 Oct 26 16:05	9° \mathcal{S} 01'31 29.08262 AU
direct	7768 Jan 01 15:11	24° Υ 24'27		direct	7774 Jan 14 13:25	7° \mathcal{S} 37'56
evening set	7768 Mar 29 18:18	26° Υ 18'37		evening set	7774 Apr 12 06:37	9° \mathcal{S} 32'05
conjunction	7768 Apr 14 03:13	26° Υ 53'13	-0°13'22	conjunction	7774 Apr 27 15:23	10° \mathcal{S} 06'46 -0°28'44
minimum elong	7768 Apr 14 03:13	26° Υ 53'12	0°13'25	minimum elong	7774 Apr 27 15:23	10° \mathcal{S} 06'46 0°28'49
behind sun begin	7768 Apr 13 23:29	26° Υ 52'52		max. Earth dist.	7774 Apr 27 17:48	10° \mathcal{S} 07'00 31.07693 AU
behind sun end	7768 Apr 14 06:56	26° Υ 53'33		morning rise	7774 May 13 01:07	10° \mathcal{S} 41'34
max. Earth dist.	7768 Apr 14 02:10	26° Υ 53'07	31.13696 AU	retrograde	7774 Aug 10 07:18	12° \mathcal{S} 37'49
morning rise	7768 Apr 29 12:13	27° Υ 27'51		opposition	7774 Oct 29 08:17	11° \mathcal{S} 14'15 -0°32'01
retrograde	7768 Jul 27 03:03	29° Υ 23'09		min. Earth dist.	7774 Oct 29 04:54	11° \mathcal{S} 14'29 29.07112 AU
opposition	7768 Oct 15 02:28	27° Υ 59'48	-0°15'39	direct	7775 Jan 17 00:07	9° \mathcal{S} 50'54
min. Earth dist.	7768 Oct 15 03:26	27° Υ 59'44	29.13168 AU	evening set	7775 Apr 14 16:55	11° \mathcal{S} 45'02
direct	7769 Jan 03 02:13	26° Υ 36'10				
evening set	7769 Apr 01 04:11	28° Υ 30'19		conjunction	7775 Apr 30 01:53	12° \mathcal{S} 19'44 -0°31'10
				minimum elong	7775 Apr 30 01:52	12° \mathcal{S} 19'44 0°31'15
conjunction	7769 Apr 16 13:02	29° Υ 04'55	-0°15'59	max. Earth dist.	7775 Apr 30 05:44	12° \mathcal{S} 20'06 31.06474 AU
minimum elong	7769 Apr 16 13:02	29° Υ 04'55	0°16'02	morning rise	7775 May 15 11:35	12° \mathcal{S} 54'33
behind sun begin	7769 Apr 16 12:02	29° Υ 04'49		retrograde	7775 Aug 12 17:22	14° \mathcal{S} 50'56
behind sun end	7769 Apr 16 14:02	29° Υ 05'00		opposition	7775 Oct 31 21:32	13° \mathcal{S} 27'18 -0°34'36
max. Earth dist.	7769 Apr 16 12:33	29° Υ 04'52	31.12660 AU	min. Earth dist.	7775 Oct 31 17:52	13° \mathcal{S} 27'33 29.05829 AU
morning rise	7769 May 01 22:11	29° Υ 39'34		direct	7776 Jan 19 13:06	12° \mathcal{S} 03'57
	7769 May 11 08:18	0° \mathcal{S}		evening set	7776 Apr 16 03:14	13° \mathcal{S} 58'02

conjunction	7776 May 01 12:07	14° 8 32'46 -0°33'34		7782 Jul 22 01:46	0° II
minimum elong	7776 May 01 12:07	14° 8 32'46 0°33'40	retrograde	7782 Aug 28 08:48	0° II 22'38
max. Earth dist.	7776 May 01 15:32	14° 8 33'05 31.05146 AU		7782 Oct 05 15:38	30° R 8
	7776 May 13 12:26	15° 8	opposition	7782 Nov 16 17:00	28° 8 58'25 -0°51'07
morning rise	7776 May 16 22:08	15° 8 07'36	min. Earth dist.	7782 Nov 16 07:22	28° 8 59'05 28.97269 AU
retrograde	7776 Aug 14 06:42	17° 8 04'06	direct	7783 Feb 03 22:05	27° 8 34'59
opposition	7776 Nov 02 10:42	15° 8 40'22 -0°37'08	evening set	7783 May 02 03:39	29° 8 28'52
min. Earth dist.	7776 Nov 02 05:55	15° 8 40'42 29.04459 AU		7783 May 15 22:16	0° II
	7776 Nov 28 04:34	15° R 8			
direct	7777 Jan 20 24:00	14° 8 16'59	conjunction	7783 May 17 13:15	0° II 03'42 -0°48'47
	7777 Mar 13 07:19	15° 8	minimum elong	7783 May 17 13:15	0° II 03'42 0°48'53
evening set	7777 Apr 18 13:30	16° 8 11'02	max. Earth dist.	7783 May 17 22:27	0° II 04'35 30.96821 AU
			morning rise	7783 Jun 02 00:43	0° II 38'43
conjunction	7777 May 03 22:34	16° 8 45'46 -0°35'55	retrograde	7783 Aug 30 22:19	2° II 36'01
minimum elong	7777 May 03 22:34	16° 8 45'46 0°36'00	opposition	7783 Nov 19 06:14	1° II 11'45 -0°53'12
max. Earth dist.	7777 May 04 03:16	16° 8 46'12 31.03738 AU	min. Earth dist.	7783 Nov 18 20:03	1° II 12'27 28.96438 AU
morning rise	7777 May 19 08:41	17° 8 20'38		7784 Jan 10 15:45	30° R 8
retrograde	7777 Aug 16 16:51	19° 8 17'14	direct	7784 Feb 06 08:45	29° 8 48'21
opposition	7777 Nov 04 23:46	17° 8 53'24 -0°39'37		7784 Mar 03 13:47	0° II
min. Earth dist.	7777 Nov 04 19:12	17° 8 53'43 29.03042 AU	evening set	7784 May 03 14:04	1° II 42'15
direct	7778 Jan 23 11:44	16° 8 29'59			
evening set	7778 Apr 20 23:50	18° 8 23'58	conjunction	7784 May 18 24:00	2° II 17'06 -0°50'42
			minimum elong	7784 May 18 24:00	2° II 17'06 0°50'49
conjunction	7778 May 06 08:56	18° 8 58'43 -0°38'12	max. Earth dist.	7784 May 19 11:00	2° II 18'09 30.96006 AU
minimum elong	7778 May 06 08:56	18° 8 58'43 0°38'19	morning rise	7784 Jun 03 11:33	2° II 52'09
max. Earth dist.	7778 May 06 14:06	18° 8 59'12 31.02335 AU	retrograde	7784 Sep 01 10:06	4° II 49'34
morning rise	7778 May 21 19:17	19° 8 33'36	opposition	7784 Nov 20 19:29	3° II 25'17 -0°55'13
retrograde	7778 Aug 19 05:29	21° 8 30'18	min. Earth dist.	7784 Nov 20 08:52	3° II 26'01 28.95634 AU
opposition	7778 Nov 07 12:45	20° 8 06'21 -0°42'03	direct	7785 Feb 07 22:03	2° II 01'56
min. Earth dist.	7778 Nov 07 06:27	20° 8 06'47 29.01664 AU	evening set	7785 May 06 00:55	3° II 55'49
direct	7779 Jan 25 23:06	18° 8 42'54			
evening set	7779 Apr 23 10:04	20° 8 36'51	conjunction	7785 May 21 10:53	4° II 30'42 -0°52'33
			minimum elong	7785 May 21 10:53	4° II 30'42 0°52'39
conjunction	7779 May 08 19:13	21° 8 11'36 -0°40'27	max. Earth dist.	7785 May 21 21:31	4° II 31'43 30.95209 AU
minimum elong	7779 May 08 19:13	21° 8 11'36 0°40'32	morning rise	7785 Jun 05 22:50	5° II 05'47
max. Earth dist.	7779 May 09 01:16	21° 8 12'11 31.00985 AU	retrograde	7785 Sep 04 00:28	7° II 03'20
morning rise	7779 May 24 05:43	21° 8 46'31	opposition	7785 Nov 23 08:32	5° II 39'02 -0°57'08
retrograde	7779 Aug 21 17:25	23° 8 43'20	min. Earth dist.	7785 Nov 22 20:58	5° II 39'50 28.94830 AU
opposition	7779 Nov 10 01:57	22° 8 19'17 -0°44'25	direct	7786 Feb 10 09:10	4° II 15'42
min. Earth dist.	7779 Nov 09 19:44	22° 8 19'43 29.00377 AU	evening set	7786 May 08 11:48	6° II 09'37
direct	7780 Jan 28 08:54	20° 8 55'49			
evening set	7780 Apr 24 20:22	22° 8 49'44	conjunction	7786 May 23 22:01	6° II 44'31 -0°54'19
			minimum elong	7786 May 23 22:01	6° II 44'31 0°54'26
conjunction	7780 May 10 05:42	23° 8 24'30 -0°42'38	max. Earth dist.	7786 May 24 09:40	6° II 45'37 30.94365 AU
minimum elong	7780 May 10 05:42	23° 8 24'30 0°42'44	morning rise	7786 Jun 08 10:08	7° II 19'38
max. Earth dist.	7780 May 10 13:06	23° 8 25'12 30.99764 AU	retrograde	7786 Sep 06 11:26	9° II 17'18
morning rise	7780 May 25 16:21	23° 8 59'26	opposition	7786 Nov 25 21:54	7° II 52'59 -0°58'59
retrograde	7780 Aug 23 06:19	25° 8 56'21	min. Earth dist.	7786 Nov 25 10:46	7° II 53'45 28.93954 AU
opposition	7780 Nov 11 14:55	24° 8 32'14 -0°46'43	direct	7787 Feb 12 20:56	6° II 29'41
min. Earth dist.	7780 Nov 11 06:44	24° 8 32'48 28.99220 AU	evening set	7787 May 10 22:43	8° II 23'35
direct	7781 Jan 29 21:46	23° 8 08'45			
evening set	7781 Apr 27 06:43	25° 8 02'39	conjunction	7787 May 26 09:06	8° II 58'30 -0°56'00
			minimum elong	7787 May 26 09:06	8° II 58'30 0°56'06
conjunction	7781 May 12 16:04	25° 8 37'27 -0°44'45	max. Earth dist.	7787 May 26 20:50	8° II 59'37 30.93449 AU
minimum elong	7781 May 12 16:04	25° 8 37'27 0°44'50	morning rise	7787 Jun 10 21:31	9° II 33'39
max. Earth dist.	7781 May 12 23:37	25° 8 38'09 30.98668 AU	retrograde	7787 Sep 09 00:44	11° II 31'26
morning rise	7781 May 28 03:04	26° 8 12'24	opposition	7787 Nov 28 11:12	10° II 07'04 -1°00'45
retrograde	7781 Aug 25 20:26	28° 8 09'27	min. Earth dist.	7787 Nov 27 22:48	10° II 07'55 28.92985 AU
opposition	7781 Nov 14 04:03	26° 8 45'16 -0°48'57	direct	7788 Feb 15 08:26	8° II 43'46
min. Earth dist.	7781 Nov 13 19:44	26° 8 45'50 28.98196 AU	evening set	7788 May 12 09:49	10° II 37'39
direct	7782 Feb 01 08:59	25° 8 21'48			
evening set	7782 Apr 29 17:04	27° 8 15'41	conjunction	7788 May 27 20:24	11° II 12'36 -0°57'36
			minimum elong	7788 May 27 20:24	11° II 12'36 0°57'44
conjunction	7782 May 15 02:42	27° 8 50'30 -0°46'48	max. Earth dist.	7788 May 28 08:20	11° II 13'44 30.92421 AU
minimum elong	7782 May 15 02:42	27° 8 50'30 0°46'55	morning rise	7788 Jun 12 09:08	11° II 47'46
max. Earth dist.	7782 May 15 12:05	27° 8 51'23 30.97697 AU	retrograde	7788 Sep 10 13:06	13° II 45'40
morning rise	7782 May 30 13:45	28° 8 25'29	opposition	7788 Nov 30 00:34	12° II 21'14 -1°02'25

min. Earth dist.	7788 Nov 29 12:56	12°II22'02	28.91918 AU	morning rise	7795 Jun 28 19:03	27°II27'33	
direct	7789 Feb 16 18:27	10°II57'55		retrograde	7795 Sep 27 10:08	29°II26'00	
evening set	7789 May 14 20:48	12°II51'47		opposition	7795 Dec 16 20:20	28°II01'12	-1°11'21
				min. Earth dist.	7795 Dec 16 04:24	28°II02'18	28.85601 AU
conjunction	7789 May 30 07:44	13°II26'45	-0°59'07	direct	7796 Mar 04 08:10	26°II37'50	
minimum elong	7789 May 30 07:44	13°II26'45	0°59'14	evening set	7796 May 30 02:57	28°II31'39	
max. Earth dist.	7789 May 30 20:27	13°II27'58	30.91320 AU				
morning rise	7789 Jun 14 20:44	14°II01'57		conjunction	7796 Jun 14 15:45	29°II06'48	-1°07'07
retrograde	7789 Sep 13 02:24	15°II59'55		minimum elong	7796 Jun 14 15:45	29°II06'48	1°07'16
opposition	7789 Dec 02 13:43	14°II35'25	-1°03'59	max. Earth dist.	7796 Jun 15 08:39	29°II08'25	30.85301 AU
min. Earth dist.	7789 Dec 02 00:41	14°II36'18	28.90784 AU	morning rise	7796 Jun 30 07:11	29°II42'13	
direct	7790 Feb 19 07:38	13°II12'03			7796 Jul 08 10:34	0°☾	
evening set	7790 May 17 07:55	15°II05'54		retrograde	7796 Sep 29 00:00	1°☾40'45	
				opposition	7796 Dec 18 09:15	0°☾15'57	-1°12'12
conjunction	7790 Jun 01 18:56	15°II40'54	-1°00'32	min. Earth dist.	7796 Dec 17 16:03	0°☾17'09	28.85118 AU
minimum elong	7790 Jun 01 18:56	15°II40'54	1°00'40		7796 Dec 28 01:42	30°R II	
max. Earth dist.	7790 Jun 02 07:22	15°II42'04	30.90174 AU	direct	7797 Mar 06 19:37	28°II52'36	
morning rise	7790 Jun 17 08:21	16°II16'07			7797 May 10 08:24	0°☾	
retrograde	7790 Sep 15 16:27	18°II14'10		evening set	7797 Jun 01 14:32	0°☾46'28	
opposition	7790 Dec 05 02:55	16°II49'34	-1°05'28				
min. Earth dist.	7790 Dec 04 14:11	16°II50'27	28.89659 AU	conjunction	7797 Jun 17 03:37	1°☾21'39	-1°07'52
direct	7791 Feb 21 18:45	15°II26'11		minimum elong	7797 Jun 17 03:37	1°☾21'39	1°08'00
evening set	7791 May 19 18:54	17°II20'01		max. Earth dist.	7797 Jun 17 20:52	1°☾23'17	30.84830 AU
				morning rise	7797 Jul 02 19:28	1°☾57'06	
conjunction	7791 Jun 04 06:19	17°II55'02	-1°01'52	retrograde	7797 Oct 01 12:43	3°☾55'43	
minimum elong	7791 Jun 04 06:19	17°II55'02	1°01'59	opposition	7797 Dec 20 22:24	2°☾30'55	-1°12'57
max. Earth dist.	7791 Jun 04 20:26	17°II56'22	30.89075 AU	min. Earth dist.	7797 Dec 20 06:02	2°☾32'03	28.84659 AU
morning rise	7791 Jun 19 19:54	18°II30'16		direct	7798 Mar 09 05:38	1°☾07'36	
retrograde	7791 Sep 18 05:09	20°II28'24		evening set	7798 Jun 04 02:08	3°☾01'28	
opposition	7791 Dec 07 16:02	19°II03'44	-1°06'51				
min. Earth dist.	7791 Dec 07 02:02	19°II04'42	28.88599 AU	conjunction	7798 Jun 19 15:37	3°☾36'40	-1°08'31
direct	7792 Feb 24 07:48	17°II40'19		minimum elong	7798 Jun 19 15:37	3°☾36'40	1°08'39
evening set	7792 May 21 06:00	19°II34'08		max. Earth dist.	7798 Jun 20 09:32	3°☾38'22	30.84367 AU
				morning rise	7798 Jul 05 07:44	4°☾12'09	
conjunction	7792 Jun 05 17:31	20°II09'10	-1°03'07	retrograde	7798 Oct 04 01:38	6°☾10'51	
minimum elong	7792 Jun 05 17:31	20°II09'10	1°03'15	opposition	7798 Dec 23 11:24	4°☾46'03	-1°13'35
max. Earth dist.	7792 Jun 06 07:21	20°II10'29	30.88070 AU	min. Earth dist.	7798 Dec 22 17:53	4°☾47'15	28.84172 AU
morning rise	7792 Jun 21 07:37	20°II44'27		direct	7799 Mar 11 18:25	3°☾22'44	
retrograde	7792 Sep 19 19:23	22°II42'39		evening set	7799 Jun 06 14:03	5°☾16'38	
opposition	7792 Dec 09 05:12	21°II17'56	-1°08'08				
min. Earth dist.	7792 Dec 08 14:49	21°II18'55	28.87664 AU	conjunction	7799 Jun 22 03:45	5°☾51'51	-1°09'04
direct	7793 Feb 25 18:50	19°II54'30		minimum elong	7799 Jun 22 03:44	5°☾51'51	1°09'11
evening set	7793 May 23 17:06	21°II48'19		max. Earth dist.	7799 Jun 22 20:56	5°☾53'29	30.83843 AU
				morning rise	7799 Jul 07 20:21	6°☾27'22	
conjunction	7793 Jun 08 05:04	22°II23'23	-1°04'16	retrograde	7799 Oct 06 15:17	8°☾26'08	
minimum elong	7793 Jun 08 05:04	22°II23'23	1°04'23	min. Earth dist.	7799 Dec 25 07:56	7°☾02'27	28.83616 AU
max. Earth dist.	7793 Jun 08 20:38	22°II24'52	30.87188 AU	opposition	7799 Dec 26 00:39	7°☾01'18	-1°14'06
morning rise	7793 Jun 23 19:20	22°II58'42		direct	7800 Mar 14 04:36	5°☾37'58	
retrograde	7793 Sep 22 08:15	24°II56'58		evening set	7800 Jun 09 01:50	7°☾31'52	
opposition	7793 Dec 11 18:06	23°II32'12	-1°09'18				
min. Earth dist.	7793 Dec 11 03:11	23°II33'14	28.86848 AU	conjunction	7800 Jun 24 16:05	8°☾07'07	-1°09'30
direct	7794 Feb 28 08:39	22°II08'47		minimum elong	7800 Jun 24 16:05	8°☾07'07	1°09'37
evening set	7794 May 26 04:23	24°II02'36		max. Earth dist.	7800 Jun 25 10:15	8°☾08'51	30.83235 AU
				morning rise	7800 Jul 10 08:58	8°☾42'39	
conjunction	7794 Jun 10 16:31	24°II37'42	-1°05'19	retrograde	7800 Oct 09 04:27	10°☾41'27	
minimum elong	7794 Jun 10 16:31	24°II37'42	1°05'27	opposition	7800 Dec 28 13:43	9°☾16'35	-1°14'30
max. Earth dist.	7794 Jun 11 07:49	24°II39'09	30.86445 AU	min. Earth dist.	7800 Dec 27 20:23	9°☾17'47	28.82945 AU
morning rise	7794 Jun 26 07:16	25°II13'03		direct	7801 Mar 16 17:21	7°☾53'13	
retrograde	7794 Sep 24 22:59	27°II11'24		evening set	7801 Jun 11 13:56	9°☾47'06	
opposition	7794 Dec 14 07:10	25°II46'37	-1°10'23				
min. Earth dist.	7794 Dec 13 15:07	25°II47'43	28.86173 AU	conjunction	7801 Jun 27 04:24	10°☾22'23	-1°09'49
direct	7795 Mar 02 20:11	24°II23'13		minimum elong	7801 Jun 27 04:24	10°☾22'23	1°09'56
evening set	7795 May 28 15:33	26°II17'02		max. Earth dist.	7801 Jun 27 21:28	10°☾24'00	30.82519 AU
				morning rise	7801 Jul 12 21:51	10°☾57'57	
conjunction	7795 Jun 13 04:02	26°II52'10	-1°06'16	retrograde	7801 Oct 11 19:04	12°☾56'45	
minimum elong	7795 Jun 13 04:02	26°II52'10	1°06'23	min. Earth dist.	7801 Dec 30 09:45	11°☾32'59	28.82194 AU
max. Earth dist.	7795 Jun 13 20:39	26°II53'45	30.85818 AU	opposition	7801 Dec 31 02:41	11°☾31'49	-1°14'48

direct	7802 Mar 19 04:57	10°08'24	retrograde	7808 Oct 27 15:33	28°04'58
evening set	7802 Jun 14 01:50	12°02'15	opposition	7809 Jan 15 19:57	27°06'47 -1°13'41
			min. Earth dist.	7809 Jan 15 01:27	27°08'05 28.78645 AU
conjunction	7802 Jun 29 16:50	12°03'33 -1°10'03	direct	7809 Apr 03 16:47	25°05'11
minimum elong	7802 Jun 29 16:50	12°03'33 1°10'11	evening set	7809 Jun 29 14:15	27°04'04
max. Earth dist.	7802 Jun 30 11:06	12°03'17 30.81739 AU			
morning rise	7802 Jul 15 10:32	13°01'308	conjunction	7809 Jul 15 08:09	28°02'34 -1°08'38
retrograde	7802 Oct 14 08:20	15°01'157	minimum elong	7809 Jul 15 08:09	28°02'34 1°08'44
opposition	7803 Jan 02 15:39	13°04'56 -1°14'59	max. Earth dist.	7809 Jul 16 04:38	28°02'430 30.78548 AU
min. Earth dist.	7803 Jan 01 22:37	13°04'807 28.81402 AU	morning rise	7809 Jul 31 04:51	28°05'820
direct	7803 Mar 21 18:57	12°02'328		7809 Aug 30 15:51	0°02
evening set	7803 Jun 16 13:42	14°01'17	retrograde	7809 Oct 30 04:40	0°05'14
				7810 Jan 01 09:00	30°08
conjunction	7803 Jul 02 04:59	14°05'237 -1°10'10	opposition	7810 Jan 18 08:22	29°03'206 -1°13'04
minimum elong	7803 Jul 02 04:59	14°05'237 1°10'17	min. Earth dist.	7810 Jan 17 13:09	29°03'327 28.78585 AU
max. Earth dist.	7803 Jul 02 22:36	14°05'417 30.80964 AU	direct	7810 Apr 06 04:36	28°08'31
morning rise	7803 Jul 17 23:15	15°02'813		7810 Jul 01 00:15	0°02
retrograde	7803 Oct 16 22:44	17°02'702	evening set	7810 Jul 02 02:46	0°02'26
min. Earth dist.	7804 Jan 04 10:53	16°03'10 28.80655 AU			
opposition	7804 Jan 05 04:33	16°01'56 -1°15'03	conjunction	7810 Jul 17 20:55	0°03'758 -1°08'00
direct	7804 Mar 23 06:54	14°03'24	minimum elong	7810 Jul 17 20:55	0°03'758 1°08'07
evening set	7804 Jun 18 01:41	16°03'213	max. Earth dist.	7810 Jul 18 16:25	0°03'948 30.78517 AU
			morning rise	7810 Aug 02 18:12	1°01'347
conjunction	7804 Jul 03 17:26	17°07'34 -1°10'11	retrograde	7810 Nov 01 19:14	3°01'242
minimum elong	7804 Jul 03 17:26	17°07'34 1°10'19	opposition	7811 Jan 20 21:01	1°04'736 -1°12'20
max. Earth dist.	7804 Jul 04 12:04	17°09'20 30.80244 AU	min. Earth dist.	7811 Jan 20 02:18	1°04'854 28.78570 AU
morning rise	7804 Jul 19 12:02	17°04'312	direct	7811 Apr 08 15:26	0°02'402
retrograde	7804 Oct 18 10:57	19°04'200	evening set	7811 Jul 04 15:09	2°01'759
opposition	7805 Jan 06 17:17	18°06'52 -1°15'01			
min. Earth dist.	7805 Jan 05 23:58	18°06'1804 28.79987 AU	conjunction	7811 Jul 20 09:54	2°05'333 -1°07'16
direct	7805 Mar 25 19:38	16°05'317	minimum elong	7811 Jul 20 09:54	2°05'333 1°07'22
evening set	7805 Jun 20 13:43	18°04'705	max. Earth dist.	7811 Jul 21 06:25	2°05'529 30.78490 AU
			morning rise	7811 Aug 05 07:27	3°02'923
conjunction	7805 Jul 06 05:52	19°02'228 -1°10'05	retrograde	7811 Nov 04 08:49	5°02'820
minimum elong	7805 Jul 06 05:52	19°02'228 1°10'12	opposition	7812 Jan 23 09:37	4°03'15 -1°11'30
max. Earth dist.	7805 Jul 07 00:30	19°02'414 30.79641 AU	min. Earth dist.	7812 Jan 22 15:09	4°04'32 28.78515 AU
morning rise	7805 Jul 22 00:56	19°05'808	direct	7812 Apr 10 04:42	2°03'941
retrograde	7805 Oct 21 01:31	21°05'655	evening set	7812 Jul 06 03:59	4°03'341
min. Earth dist.	7806 Jan 08 11:25	20°03'302 28.79447 AU			
opposition	7806 Jan 09 05:56	20°03'145 -1°14'51	conjunction	7812 Jul 21 23:03	5°02'0916 -1°06'26
direct	7806 Mar 28 08:01	19°08'08	minimum elong	7812 Jul 21 23:03	5°02'0916 1°06'32
evening set	7806 Jun 23 01:44	21°01'56	max. Earth dist.	7812 Jul 22 18:13	5°01'105 30.78409 AU
			morning rise	7812 Aug 06 21:10	5°04'508
conjunction	7806 Jul 08 18:13	21°03'721 -1°09'53	retrograde	7812 Nov 05 23:35	7°04'404
minimum elong	7806 Jul 08 18:13	21°03'721 1°10'00	opposition	7813 Jan 24 22:03	6°01'859 -1°10'33
max. Earth dist.	7806 Jul 09 13:17	21°03'909 30.79158 AU	min. Earth dist.	7813 Jan 24 03:37	6°02'016 28.78397 AU
morning rise	7806 Jul 24 13:42	22°01'302	direct	7813 Apr 12 15:58	4°05'523
retrograde	7806 Oct 23 13:41	24°01'152	evening set	7813 Jul 08 16:44	6°04'924
opposition	7807 Jan 11 18:42	22°04'640 -1°14'35			
min. Earth dist.	7807 Jan 11 00:50	22°04'754 28.79041 AU	conjunction	7813 Jul 24 12:20	7°02'501 -1°05'29
direct	7807 Mar 30 18:51	21°02'303	minimum elong	7813 Jul 24 12:20	7°02'501 1°05'35
evening set	7807 Jun 25 13:47	23°01'651	max. Earth dist.	7813 Jul 25 07:49	7°02'652 30.78238 AU
			morning rise	7813 Aug 09 10:47	8°00'055
conjunction	7807 Jul 11 06:48	23°05'217 -1°09'34	retrograde	7813 Nov 08 12:56	9°05'948
minimum elong	7807 Jul 11 06:48	23°05'217 1°09'41	opposition	7814 Jan 27 10:34	8°03'442 -1°09'29
max. Earth dist.	7807 Jul 12 02:36	23°05'410 30.78833 AU	min. Earth dist.	7814 Jan 26 17:03	8°03'556 28.78183 AU
morning rise	7807 Jul 27 02:39	24°02'801	direct	7814 Apr 15 05:21	7°01'105
retrograde	7807 Oct 26 02:28	26°02'651	evening set	7814 Jul 11 05:24	9°02'0505
opposition	7808 Jan 14 07:15	25°01'39 -1°14'12			
min. Earth dist.	7808 Jan 13 12:04	25°03'00 28.78781 AU	conjunction	7814 Jul 27 01:25	9°04'403 -1°04'27
direct	7808 Apr 01 07:12	23°03'802	minimum elong	7814 Jul 27 01:25	9°04'403 1°04'33
evening set	7808 Jun 27 02:00	25°03'152	max. Earth dist.	7814 Jul 27 20:11	9°04'230 30.78009 AU
			morning rise	7814 Aug 12 00:20	10°01'638
conjunction	7808 Jul 12 19:19	26°07'20 -1°09'09	retrograde	7814 Nov 11 04:18	12°01'528
minimum elong	7808 Jul 12 19:19	26°07'20 1°09'17	opposition	7815 Jan 29 22:55	10°05'020 -1°08'19
max. Earth dist.	7808 Jul 13 14:42	26°09'11 30.78636 AU	min. Earth dist.	7815 Jan 29 04:47	10°05'136 28.77932 AU
morning rise	7808 Jul 28 15:45	26°04'306	direct	7815 Apr 17 18:49	9°02'639

evening set	7815 Jul 13 18:10	11°Ω20'38		max. Earth dist.	7821 Aug 12 16:20	25°Ω29'03	30.78365 AU
				morning rise	7821 Aug 27 23:57	26°Ω03'22	
conjunction	7815 Jul 29 14:37	11°Ω56'18 -1°03'19		retrograde	7821 Nov 26 21:04	28°Ω01'44	
minimum elong	7815 Jul 29 14:37	11°Ω56'18 1°03'25		opposition	7822 Feb 14 11:08	26°Ω36'35 -0°57'24	
max. Earth dist.	7815 Jul 30 09:22	11°Ω58'04 30.77752 AU		min. Earth dist.	7822 Feb 13 17:44	26°Ω37'48 28.78679 AU	
morning rise	7815 Aug 14 13:58	12°Ω32'14		direct	7822 May 03 03:13	25°Ω12'39	
retrograde	7815 Nov 13 16:11	14°Ω31'00		evening set	7822 Jul 29 11:53	27°Ω06'40	
opposition	7816 Feb 01 11:14	13°Ω05'49 -1°07'03					
min. Earth dist.	7816 Jan 31 18:18	13°Ω07'00 28.77694 AU		conjunction	7822 Aug 14 11:29	27°Ω42'29 -0°52'48	
direct	7816 Apr 19 06:38	11°Ω42'04		minimum elong	7822 Aug 14 11:30	27°Ω42'29 0°52'53	
evening set	7816 Jul 15 06:51	13°Ω36'02		max. Earth dist.	7822 Aug 15 06:24	27°Ω44'16 30.78924 AU	
				morning rise	7822 Aug 30 13:34	28°Ω18'33	
conjunction	7816 Jul 31 03:52	14°Ω11'43 -1°02'05			7822 Oct 28 08:45	0°♊	
minimum elong	7816 Jul 31 03:52	14°Ω11'43 1°02'11		retrograde	7822 Nov 29 10:00	0°♊16'52	
max. Earth dist.	7816 Jul 31 22:49	14°Ω13'30 30.77549 AU			7822 Dec 31 22:42	30°♋	
morning rise	7816 Aug 16 03:36	14°Ω47'41		opposition	7823 Feb 16 23:04	28°Ω51'46 -0°55'28	
	7816 Aug 21 19:13	15°Ω		min. Earth dist.	7823 Feb 16 06:31	28°Ω52'56 28.79266 AU	
retrograde	7816 Nov 15 05:08	16°Ω46'21		direct	7823 May 05 16:00	27°Ω27'51	
opposition	7817 Feb 02 23:19	15°Ω21'09 -1°05'42		evening set	7823 Aug 01 01:05	29°Ω21'55	
min. Earth dist.	7817 Feb 02 05:29	15°Ω22'24 28.77520 AU					
	7817 Feb 15 15:45	15°♌		conjunction	7823 Aug 17 01:05	29°Ω57'45 -0°50'57	
direct	7817 Apr 21 19:34	13°Ω57'20		minimum elong	7823 Aug 17 01:05	29°Ω57'46 0°51'01	
	7817 Jun 22 20:46	15°Ω		max. Earth dist.	7823 Aug 17 19:00	29°Ω59'27 30.79539 AU	
evening set	7817 Jul 17 19:41	15°Ω51'17			7823 Aug 18 00:55	0°♊	
				morning rise	7823 Sep 02 03:35	0°♊33'50	
conjunction	7817 Aug 02 17:00	16°Ω27'00 -1°00'46		retrograde	7823 Dec 02 01:15	2°♊32'06	
minimum elong	7817 Aug 02 17:00	16°Ω27'00 1°00'50		opposition	7824 Feb 19 10:48	1°♊07'04 -0°53'26	
max. Earth dist.	7817 Aug 03 11:16	16°Ω28'43 30.77419 AU		min. Earth dist.	7824 Feb 18 17:58	1°♊08'15 28.79874 AU	
morning rise	7817 Aug 18 17:13	17°Ω02'58			7824 Apr 05 08:33	30°♋	
retrograde	7817 Nov 17 17:55	19°Ω01'35		direct	7824 May 07 04:46	29°Ω43'10	
opposition	7818 Feb 05 11:24	17°Ω36'21 -1°04'14			7824 Jun 07 12:33	0°♊	
min. Earth dist.	7818 Feb 04 18:28	17°Ω37'32 28.77458 AU		evening set	7824 Aug 02 14:27	1°♊37'17	
direct	7818 Apr 24 05:48	16°Ω12'29					
evening set	7818 Jul 20 08:22	18°Ω06'25		conjunction	7824 Aug 18 14:51	2°♊13'08 -0°49'01	
				minimum elong	7824 Aug 18 14:51	2°♊13'08 0°49'05	
conjunction	7818 Aug 05 06:16	18°Ω42'09 -0°59'21		max. Earth dist.	7824 Aug 19 08:23	2°♊14'47 30.80116 AU	
minimum elong	7818 Aug 05 06:16	18°Ω42'09 0°59'26		morning rise	7824 Sep 03 17:41	2°♊49'14	
max. Earth dist.	7818 Aug 06 01:28	18°Ω43'58 30.77429 AU		retrograde	7824 Dec 03 13:54	4°♊47'27	
morning rise	7818 Aug 21 06:45	19°Ω18'08		opposition	7825 Feb 20 22:45	3°♊22'27 -0°51'20	
retrograde	7818 Nov 20 05:51	21°Ω16'41		min. Earth dist.	7825 Feb 20 07:32	3°♊23'31 28.80420 AU	
opposition	7819 Feb 07 23:22	19°Ω51'26 -1°02'40		direct	7825 May 09 16:29	1°♊58'33	
min. Earth dist.	7819 Feb 07 05:38	19°Ω52'41 28.77535 AU		evening set	7825 Aug 05 03:47	3°♊52'42	
direct	7819 Apr 26 18:09	18°Ω27'32					
evening set	7819 Jul 22 21:09	20°Ω21'28		conjunction	7825 Aug 21 04:39	4°♊28'34 -0°47'01	
				minimum elong	7825 Aug 21 04:39	4°♊28'34 0°47'03	
conjunction	7819 Aug 07 19:21	20°Ω57'13 -0°57'51		max. Earth dist.	7825 Aug 21 21:37	4°♊30'10 30.80626 AU	
minimum elong	7819 Aug 07 19:21	20°Ω57'13 0°57'55		morning rise	7825 Sep 06 07:45	5°♊04'41	
max. Earth dist.	7819 Aug 08 13:35	20°Ω58'56 30.77588 AU		retrograde	7825 Dec 06 04:03	7°♊02'48	
morning rise	7819 Aug 23 20:25	21°Ω33'14		opposition	7826 Feb 23 10:27	5°♊37'51 -0°49'09	
retrograde	7819 Nov 22 18:32	23°Ω31'42		min. Earth dist.	7826 Feb 22 18:53	5°♊38'57 28.80876 AU	
opposition	7820 Feb 10 11:25	22°Ω06'28 -1°01'00		direct	7826 May 12 05:40	4°♊13'56	
min. Earth dist.	7820 Feb 09 18:07	22°Ω07'41 28.77777 AU		evening set	7826 Aug 07 17:14	6°♊08'06	
direct	7820 Apr 28 04:41	20°Ω42'32					
evening set	7820 Jul 24 09:59	22°Ω36'30		conjunction	7826 Aug 23 18:23	6°♊44'00 -0°44'56	
				minimum elong	7826 Aug 23 18:23	6°♊44'00 0°44'59	
conjunction	7820 Aug 09 08:48	23°Ω12'16 -0°56'15		max. Earth dist.	7826 Aug 24 10:07	6°♊45'28 30.81042 AU	
minimum elong	7820 Aug 09 08:48	23°Ω12'16 0°56'20		morning rise	7826 Sep 08 21:54	7°♊20'07	
max. Earth dist.	7820 Aug 10 04:09	23°Ω14'05 30.77904 AU		retrograde	7826 Dec 08 17:23	9°♊18'09	
morning rise	7820 Aug 25 10:05	23°Ω48'17		opposition	7827 Feb 25 22:17	7°♊53'12 -0°46'54	
retrograde	7820 Nov 24 06:33	25°Ω46'42		min. Earth dist.	7827 Feb 25 08:13	7°♊54'12 28.81263 AU	
opposition	7821 Feb 11 23:13	24°Ω21'30 -0°59'15		direct	7827 May 14 16:27	6°♊29'15	
min. Earth dist.	7821 Feb 11 05:56	24°Ω22'43 28.78159 AU		evening set	7827 Aug 10 06:27	8°♊23'24	
direct	7821 Apr 30 16:39	22°Ω57'33					
evening set	7821 Jul 26 23:00	24°Ω51'33		conjunction	7827 Aug 26 08:10	8°♊59'20 -0°42'48	
				minimum elong	7827 Aug 26 08:10	8°♊59'20 0°42'50	
conjunction	7821 Aug 11 22:07	25°Ω27'20 -0°54'34		max. Earth dist.	7827 Aug 27 00:05	9°♊00'49 30.81412 AU	
minimum elong	7821 Aug 11 22:07	25°Ω27'20 0°54'39		morning rise	7827 Sep 11 11:55	9°♊35'27	

retrograde	7827 Dec 11 05:08	11° <u>17</u> 33'23		minimum elong	7834 Sep 11 08:03	24° <u>17</u> 43'47	0°26'15
opposition	7828 Feb 28 09:51	10° <u>17</u> 08'27	-0°44'34	max. Earth dist.	7834 Sep 11 20:54	24° <u>17</u> 44'59	30.85713 AU
min. Earth dist.	7828 Feb 27 19:34	10° <u>17</u> 09'27	28.81606 AU	morning rise	7834 Sep 27 13:35	25° <u>17</u> 19'56	
direct	7828 May 16 05:23	8° <u>17</u> 44'27		retrograde	7834 Dec 26 21:45	27° <u>17</u> 17'07	
evening set	7828 Aug 11 19:57	10° <u>17</u> 38'37		opposition	7835 Mar 15 16:54	25° <u>17</u> 52'27	-0°26'39
				min. Earth dist.	7835 Mar 15 05:04	25° <u>17</u> 53'17	28.86234 AU
conjunction	7828 Aug 27 21:53	11° <u>17</u> 14'32	-0°40'35	direct	7835 Jun 01 16:07	24° <u>17</u> 28'17	
minimum elong	7828 Aug 27 21:53	11° <u>17</u> 14'32	0°40'38	evening set	7835 Aug 28 17:34	26° <u>17</u> 22'38	
max. Earth dist.	7828 Aug 28 12:13	11° <u>17</u> 15'53	30.81757 AU				
morning rise	7828 Sep 13 02:04	11° <u>17</u> 50'41		conjunction	7835 Sep 13 21:49	26° <u>17</u> 58'38	-0°23'40
retrograde	7828 Dec 12 17:07	13° <u>17</u> 48'29		minimum elong	7835 Sep 13 21:49	26° <u>17</u> 58'38	0°23'41
opposition	7829 Mar 01 21:17	12° <u>17</u> 23'34	-0°42'11	max. Earth dist.	7835 Sep 14 09:39	26° <u>17</u> 59'44	30.86742 AU
min. Earth dist.	7829 Mar 01 08:01	12° <u>17</u> 24'30	28.81967 AU	morning rise	7835 Sep 30 03:37	27° <u>17</u> 34'48	
direct	7829 May 18 15:56	10° <u>17</u> 59'31		retrograde	7835 Dec 29 11:06	29° <u>17</u> 31'53	
evening set	7829 Aug 14 09:15	12° <u>17</u> 53'41		opposition	7836 Mar 17 04:09	28° <u>17</u> 07'17	-0°23'54
				min. Earth dist.	7836 Mar 16 17:56	28° <u>17</u> 08'00	28.87272 AU
conjunction	7829 Aug 30 11:43	13° <u>17</u> 29'38	-0°38'20	direct	7836 Jun 03 03:33	26° <u>17</u> 43'09	
minimum elong	7829 Aug 30 11:43	13° <u>17</u> 29'38	0°38'22	evening set	7836 Aug 30 07:13	28° <u>17</u> 37'32	
max. Earth dist.	7829 Aug 31 02:46	13° <u>17</u> 31'02	30.82140 AU				
morning rise	7829 Sep 15 16:00	14° <u>17</u> 05'46		conjunction	7836 Sep 15 11:51	29° <u>17</u> 13'33	-0°21'05
retrograde	7829 Dec 15 04:25	16° <u>17</u> 03'28		minimum elong	7836 Sep 15 11:51	29° <u>17</u> 13'33	0°21'05
opposition	7830 Mar 04 08:43	14° <u>17</u> 38'33	-0°39'44	max. Earth dist.	7836 Sep 15 23:31	29° <u>17</u> 14'38	30.87767 AU
min. Earth dist.	7830 Mar 03 19:42	14° <u>17</u> 39'28	28.82378 AU	morning rise	7836 Oct 01 17:40	29° <u>17</u> 49'42	
direct	7830 May 21 03:39	13° <u>17</u> 14'27			7836 Oct 06 12:01	0° <u>17</u>	
evening set	7830 Aug 16 22:30	15° <u>17</u> 08'38		retrograde	7836 Dec 30 23:09	1° <u>17</u> 46'40	
				opposition	7837 Mar 19 15:10	0° <u>17</u> 22'09	-0°21'06
conjunction	7830 Sep 02 01:09	15° <u>17</u> 44'35	-0°36'01	min. Earth dist.	7837 Mar 19 05:02	0° <u>17</u> 22'52	28.88259 AU
minimum elong	7830 Sep 02 01:10	15° <u>17</u> 44'35	0°36'03		7837 Apr 01 20:37	30° <u>17</u>	
max. Earth dist.	7830 Sep 02 14:50	15° <u>17</u> 45'52	30.82604 AU	direct	7837 Jun 05 16:34	28° <u>17</u> 58'01	
morning rise	7830 Sep 18 05:54	16° <u>17</u> 20'44			7837 Aug 07 00:42	0° <u>17</u>	
retrograde	7830 Dec 17 17:39	18° <u>17</u> 18'19		evening set	7837 Sep 01 21:03	0° <u>17</u> 52'26	
opposition	7831 Mar 06 20:05	16° <u>17</u> 53'26	-0°37'13				
min. Earth dist.	7831 Mar 06 07:08	16° <u>17</u> 54'20	28.82899 AU	conjunction	7837 Sep 18 01:45	1° <u>17</u> 48'27	-0°18'28
direct	7831 May 23 14:05	15° <u>17</u> 29'17		minimum elong	7837 Sep 18 01:45	1° <u>17</u> 48'27	0°18'27
evening set	7831 Aug 19 11:50	17° <u>17</u> 23'29		max. Earth dist.	7837 Sep 18 11:28	1° <u>17</u> 49'21	30.88713 AU
				morning rise	7837 Oct 04 07:51	2° <u>17</u> 04'36	
conjunction	7831 Sep 04 14:56	17° <u>17</u> 59'26	-0°33'38	retrograde	7838 Jan 02 11:55	4° <u>17</u> 01'28	
minimum elong	7831 Sep 04 14:56	17° <u>17</u> 59'26	0°33'40	opposition	7838 Mar 22 02:25	2° <u>17</u> 43'00	-0°18'17
max. Earth dist.	7831 Sep 05 05:12	18° <u>17</u> 00'46	30.83178 AU	min. Earth dist.	7838 Mar 21 17:33	2° <u>17</u> 43'37	28.89164 AU
morning rise	7831 Sep 20 19:47	18° <u>17</u> 35'35		direct	7838 Jun 08 03:13	1° <u>17</u> 42'50	
retrograde	7831 Dec 20 05:08	20° <u>17</u> 33'04		evening set	7838 Sep 04 10:34	3° <u>17</u> 40'16	
opposition	7832 Mar 08 07:20	19° <u>17</u> 08'12	-0°34'39				
min. Earth dist.	7832 Mar 07 19:13	19° <u>17</u> 09'04	28.83537 AU	conjunction	7838 Sep 20 15:41	3° <u>17</u> 43'17	-0°15'49
direct	7832 May 25 02:56	17° <u>17</u> 44'02		minimum elong	7838 Sep 20 15:41	3° <u>17</u> 43'17	0°15'48
evening set	7832 Aug 21 01:15	19° <u>17</u> 38'16		max. Earth dist.	7838 Sep 21 01:34	3° <u>17</u> 44'12	30.89563 AU
				morning rise	7838 Oct 06 21:44	4° <u>17</u> 19'26	
conjunction	7832 Sep 06 04:38	20° <u>17</u> 14'14	-0°31'13	retrograde	7839 Jan 04 23:14	6° <u>17</u> 16'09	
minimum elong	7832 Sep 06 04:38	20° <u>17</u> 14'14	0°31'14	opposition	7839 Mar 24 13:33	4° <u>17</u> 51'43	-0°15'27
max. Earth dist.	7832 Sep 06 17:49	20° <u>17</u> 15'27	30.83896 AU	min. Earth dist.	7839 Mar 24 05:28	4° <u>17</u> 52'18	28.89951 AU
morning rise	7832 Sep 22 09:50	20° <u>17</u> 50'22		direct	7839 Jun 10 15:19	3° <u>17</u> 42'31	
retrograde	7832 Dec 21 19:06	22° <u>17</u> 47'45		evening set	7839 Sep 07 00:23	5° <u>17</u> 42'57	
opposition	7833 Mar 10 18:32	21° <u>17</u> 22'56	-0°32'02				
min. Earth dist.	7833 Mar 10 05:53	21° <u>17</u> 23'50	28.84320 AU	conjunction	7839 Sep 23 05:35	5° <u>17</u> 57'58	-0°13'09
direct	7833 May 27 15:25	19° <u>17</u> 58'45		minimum elong	7839 Sep 23 05:34	5° <u>17</u> 57'58	0°13'09
evening set	7833 Aug 23 14:36	21° <u>17</u> 53'01		behind sun begin	7839 Sep 23 01:47	5° <u>17</u> 57'38	
				behind sun end	7839 Sep 23 09:21	5° <u>17</u> 58'18	
conjunction	7833 Sep 08 18:17	22° <u>17</u> 29'00	-0°28'45	max. Earth dist.	7839 Sep 23 13:24	5° <u>17</u> 58'41	30.90314 AU
minimum elong	7833 Sep 08 18:17	22° <u>17</u> 29'00	0°28'46	morning rise	7839 Oct 09 11:56	6° <u>17</u> 34'06	
max. Earth dist.	7833 Sep 09 07:30	22° <u>17</u> 30'13	30.84738 AU	retrograde	7840 Jan 07 11:18	8° <u>17</u> 30'41	
morning rise	7833 Sep 24 23:37	23° <u>17</u> 05'09		opposition	7840 Mar 26 00:28	7° <u>17</u> 06'16	-0°12'35
retrograde	7833 Dec 24 07:10	25° <u>17</u> 02'26		min. Earth dist.	7840 Mar 25 17:00	7° <u>17</u> 06'48	28.90667 AU
opposition	7834 Mar 13 05:49	23° <u>17</u> 37'40	-0°29'22	direct	7840 Jun 12 02:18	5° <u>17</u> 42'00	
min. Earth dist.	7834 Mar 12 18:28	23° <u>17</u> 38'28	28.85226 AU	evening set	7840 Sep 08 14:01	7° <u>17</u> 43'26	
direct	7834 May 30 02:43	22° <u>17</u> 13'30					
evening set	7834 Aug 26 04:00	24° <u>17</u> 07'48		conjunction	7840 Sep 24 19:33	8° <u>17</u> 42'27	-0°10'28
				minimum elong	7840 Sep 24 19:33	8° <u>17</u> 42'27	0°10'27
conjunction	7834 Sep 11 08:03	24° <u>17</u> 43'47	-0°26'14	behind sun begin	7840 Sep 24 14:27	8° <u>17</u> 42'00	

behind sun end	7840 Sep 25 00:40	8° <u>♂</u> 12'55		direct	7846 Jun 26 04:22	19° <u>♂</u> 04'58	
max. Earth dist.	7840 Sep 25 03:27	8° <u>♂</u> 13'10	30.90994 AU	evening set	7846 Sep 22 22:49	20° <u>♂</u> 59'31	
morning rise	7840 Oct 11 01:50	8° <u>♂</u> 48'35					
retrograde	7841 Jan 08 21:20	10° <u>♂</u> 45'00		conjunction	7846 Oct 09 04:59	21° <u>♂</u> 35'30	0°05'51
opposition	7841 Mar 28 11:25	9° <u>♂</u> 20'36	-0°09'42	minimum elong	7846 Oct 09 04:58	21° <u>♂</u> 35'30	0°05'54
min. Earth dist.	7841 Mar 28 05:14	9° <u>♂</u> 21'02	28.91326 AU	behind sun begin	7846 Oct 08 22:41	21° <u>♂</u> 34'57	
direct	7841 Jun 14 14:41	7° <u>♂</u> 56'16		behind sun end	7846 Oct 09 11:15	21° <u>♂</u> 36'04	
evening set	7841 Sep 11 03:34	9° <u>♂</u> 50'42		max. Earth dist.	7846 Oct 09 08:30	21° <u>♂</u> 35'48	30.96121 AU
				morning rise	7846 Oct 25 11:29	22° <u>♂</u> 11'32	
conjunction	7841 Sep 27 09:10	10° <u>♂</u> 26'43	-0°07'48	retrograde	7847 Jan 22 22:45	24° <u>♂</u> 07'09	
minimum elong	7841 Sep 27 09:10	10° <u>♂</u> 26'43	0°07'46	opposition	7847 Apr 11 03:22	22° <u>♂</u> 43'02	0°07'38
behind sun begin	7841 Sep 27 03:15	10° <u>♂</u> 26'11		min. Earth dist.	7847 Apr 10 23:49	22° <u>♂</u> 43'17	28.96735 AU
behind sun end	7841 Sep 27 15:05	10° <u>♂</u> 27'14		direct	7847 Jun 28 14:54	21° <u>♂</u> 18'33	
max. Earth dist.	7841 Sep 27 15:33	10° <u>♂</u> 27'17	30.91659 AU	evening set	7847 Sep 25 12:15	23° <u>♂</u> 13'09	
morning rise	7841 Oct 13 15:37	11° <u>♂</u> 02'49					
retrograde	7842 Jan 11 10:08	12° <u>♂</u> 59'06		conjunction	7847 Oct 11 18:38	23° <u>♂</u> 49'09	0°08'32
opposition	7842 Mar 30 22:12	11° <u>♂</u> 34'42	-0°06'49	minimum elong	7847 Oct 11 18:39	23° <u>♂</u> 49'09	0°08'34
min. Earth dist.	7842 Mar 30 15:47	11° <u>♂</u> 35'09	28.91998 AU	behind sun begin	7847 Oct 11 12:56	23° <u>♂</u> 48'39	
direct	7842 Jun 17 02:46	10° <u>♂</u> 10'19		behind sun end	7847 Oct 12 00:22	23° <u>♂</u> 49'40	
evening set	7842 Sep 13 17:04	12° <u>♂</u> 04'45		max. Earth dist.	7847 Oct 11 22:39	23° <u>♂</u> 49'30	30.97362 AU
				morning rise	7847 Oct 28 00:57	24° <u>♂</u> 25'10	
conjunction	7842 Sep 29 22:51	12° <u>♂</u> 40'45	-0°05'06	retrograde	7848 Jan 25 09:57	26° <u>♂</u> 20'41	
minimum elong	7842 Sep 29 22:52	12° <u>♂</u> 40'45	0°05'04	opposition	7848 Apr 12 13:48	24° <u>♂</u> 56'40	0°10'30
behind sun begin	7842 Sep 29 16:28	12° <u>♂</u> 40'11		min. Earth dist.	7848 Apr 12 10:55	24° <u>♂</u> 56'52	28.97993 AU
behind sun end	7842 Sep 30 05:16	12° <u>♂</u> 41'20		direct	7848 Jun 30 02:30	23° <u>♂</u> 32'13	
max. Earth dist.	7842 Sep 30 05:06	12° <u>♂</u> 41'19	30.92344 AU	evening set	7848 Sep 27 01:56	25° <u>♂</u> 26'54	
morning rise	7842 Oct 16 05:18	13° <u>♂</u> 16'51					
retrograde	7843 Jan 13 20:59	15° <u>♂</u> 12'58		conjunction	7848 Oct 13 08:11	26° <u>♂</u> 02'52	0°11'12
opposition	7843 Apr 02 08:56	13° <u>♂</u> 48'36	-0°03'56	minimum elong	7848 Oct 13 08:11	26° <u>♂</u> 02'52	0°11'15
min. Earth dist.	7843 Apr 02 04:04	13° <u>♂</u> 48'57	28.92719 AU	behind sun begin	7848 Oct 13 03:24	26° <u>♂</u> 02'27	
direct	7843 Jun 19 14:08	12° <u>♂</u> 24'09		behind sun end	7848 Oct 13 12:58	26° <u>♂</u> 03'18	
evening set	7843 Sep 16 06:31	14° <u>♂</u> 18'36		max. Earth dist.	7848 Oct 13 10:18	26° <u>♂</u> 03'03	30.98633 AU
				morning rise	7848 Oct 29 14:34	26° <u>♂</u> 38'53	
conjunction	7843 Oct 02 12:30	14° <u>♂</u> 54'36	-0°02'24	retrograde	7849 Jan 26 21:43	28° <u>♂</u> 34'18	
minimum elong	7843 Oct 02 12:30	14° <u>♂</u> 54'36	0°02'22	opposition	7849 Apr 15 00:22	27° <u>♂</u> 10'23	0°13'21
behind sun begin	7843 Oct 02 05:55	14° <u>♂</u> 54'01		min. Earth dist.	7849 Apr 14 22:00	27° <u>♂</u> 10'33	28.99260 AU
behind sun end	7843 Oct 02 19:05	14° <u>♂</u> 55'11		direct	7849 Jul 02 13:04	25° <u>♂</u> 45'58	
max. Earth dist.	7843 Oct 02 18:06	14° <u>♂</u> 55'06	30.93113 AU	evening set	7849 Sep 29 15:20	27° <u>♂</u> 40'41	
morning rise	7843 Oct 18 19:00	15° <u>♂</u> 30'41					
retrograde	7844 Jan 16 10:16	17° <u>♂</u> 26'39		conjunction	7849 Oct 15 21:44	28° <u>♂</u> 16'40	0°13'51
opposition	7844 Apr 03 19:33	16° <u>♂</u> 02'19	-0°01'02	minimum elong	7849 Oct 15 21:44	28° <u>♂</u> 16'40	0°13'54
min. Earth dist.	7844 Apr 03 14:11	16° <u>♂</u> 02'42	28.93530 AU	behind sun begin	7849 Oct 15 18:30	28° <u>♂</u> 16'22	
direct	7844 Jun 21 03:55	14° <u>♂</u> 37'50		behind sun end	7849 Oct 16 00:58	28° <u>♂</u> 16'57	
asc. node	7844 Aug 13 08:15	15° <u>♂</u> 23'28		max. Earth dist.	7849 Oct 15 23:58	28° <u>♂</u> 16'51	30.99862 AU
evening set	7844 Sep 17 20:04	16° <u>♂</u> 32'19		morning rise	7849 Nov 01 03:49	28° <u>♂</u> 52'39	
					7849 Dec 05 15:53	0° <u>♂</u>	
conjunction	7844 Oct 04 02:06	17° <u>♂</u> 08'18	0°00'24	retrograde	7850 Jan 29 07:16	0° <u>♂</u> 47'58	
minimum elong	7844 Oct 04 02:04	17° <u>♂</u> 08'18	0°00'27		7850 Mar 26 12:39	30° <u>♂</u>	
behind sun begin	7844 Oct 03 19:30	17° <u>♂</u> 07'43		opposition	7850 Apr 17 11:01	29° <u>♂</u> 24'09	0°16'11
behind sun end	7844 Oct 04 08:38	17° <u>♂</u> 08'53		min. Earth dist.	7850 Apr 17 10:04	29° <u>♂</u> 24'13	29.00451 AU
max. Earth dist.	7844 Oct 04 06:51	17° <u>♂</u> 08'43	30.93974 AU	direct	7850 Jul 05 00:33	27° <u>♂</u> 59'43	
morning rise	7844 Oct 20 08:34	17° <u>♂</u> 44'21		evening set	7850 Oct 02 04:59	29° <u>♂</u> 54'29	
retrograde	7845 Jan 17 22:14	19° <u>♂</u> 40'13			7850 Oct 04 17:47	0° <u>♂</u>	
opposition	7845 Apr 06 06:11	18° <u>♂</u> 15'55	0°01'51				
min. Earth dist.	7845 Apr 06 02:07	18° <u>♂</u> 16'12	28.94466 AU	conjunction	7850 Oct 18 11:16	0° <u>♂</u> 30'27	0°16'29
direct	7845 Jun 23 15:29	16° <u>♂</u> 51'25		minimum elong	7850 Oct 18 11:16	0° <u>♂</u> 30'27	0°16'33
evening set	7845 Sep 20 09:25	18° <u>♂</u> 45'55		max. Earth dist.	7850 Oct 18 11:34	0° <u>♂</u> 30'28	31.01014 AU
				morning rise	7850 Nov 03 17:23	1° <u>♂</u> 06'25	
conjunction	7845 Oct 06 15:38	19° <u>♂</u> 21'55	0°03'09	retrograde	7851 Jan 31 19:57	3° <u>♂</u> 01'36	
minimum elong	7845 Oct 06 15:38	19° <u>♂</u> 21'55	0°03'11	opposition	7851 Apr 19 21:26	1° <u>♂</u> 37'51	0°18'59
behind sun begin	7845 Oct 06 09:05	19° <u>♂</u> 21'20		min. Earth dist.	7851 Apr 19 20:33	1° <u>♂</u> 37'55	29.01554 AU
behind sun end	7845 Oct 06 22:11	19° <u>♂</u> 22'30		direct	7851 Jul 07 11:30	0° <u>♂</u> 13'24	
max. Earth dist.	7845 Oct 06 20:34	19° <u>♂</u> 22'20	30.94983 AU	evening set	7851 Oct 04 18:33	2° <u>♂</u> 08'12	
morning rise	7845 Oct 22 22:02	19° <u>♂</u> 57'57					
retrograde	7846 Jan 20 10:01	21° <u>♂</u> 53'41		conjunction	7851 Oct 21 00:55	2° <u>♂</u> 44'09	0°19'05
opposition	7846 Apr 08 16:44	20° <u>♂</u> 29'28	0°04'45	minimum elong	7851 Oct 21 00:54	2° <u>♂</u> 44'09	0°19'09
min. Earth dist.	7846 Apr 08 12:16	20° <u>♂</u> 29'47	28.95535 AU	max. Earth dist.	7851 Oct 21 00:39	2° <u>♂</u> 44'07	31.02056 AU

morning rise	7851 Nov 06 06:48	3° \mathbb{M} 20'05	direct	7858 Jul 23 01:16	15° \mathbb{M} 43'41	
retrograde	7852 Feb 03 05:53	5° \mathbb{M} 15'09	evening set	7858 Oct 20 15:05	17° \mathbb{M} 38'32	
opposition	7852 Apr 21 08:02	3° \mathbb{M} 51'27 0°21'45				
min. Earth dist.	7852 Apr 21 09:03	3° \mathbb{M} 51'22 29.02549 AU	conjunction	7858 Nov 05 20:51	18° \mathbb{M} 14'20 0°36'15	
direct	7852 Jul 08 22:41	2° \mathbb{M} 26'57	minimum elong	7858 Nov 05 20:51	18° \mathbb{M} 14'20 0°36'21	
evening set	7852 Oct 06 08:04	4° \mathbb{M} 21'46	max. Earth dist.	7858 Nov 05 16:23	18° \mathbb{M} 13'55 31.08984 AU	
			morning rise	7858 Nov 22 01:16	18° \mathbb{M} 50'03	
conjunction	7852 Oct 22 14:22	4° \mathbb{M} 57'42 0°21'39	retrograde	7859 Feb 18 11:15	20° \mathbb{M} 44'05	
minimum elong	7852 Oct 22 14:21	4° \mathbb{M} 57'42 0°21'45	opposition	7859 May 07 07:54	19° \mathbb{M} 20'39 0°39'57	
max. Earth dist.	7852 Oct 22 12:58	4° \mathbb{M} 57'34 31.03014 AU	min. Earth dist.	7859 May 07 12:38	19° \mathbb{M} 20'19 29.09653 AU	
morning rise	7852 Nov 07 20:08	5° \mathbb{M} 33'36	direct	7859 Jul 25 12:20	17° \mathbb{M} 55'56	
retrograde	7853 Feb 04 18:04	7° \mathbb{M} 28'31	evening set	7859 Oct 23 04:12	19° \mathbb{M} 50'49	
opposition	7853 Apr 23 18:21	6° \mathbb{M} 04'50 0°24'30				
min. Earth dist.	7853 Apr 23 19:14	6° \mathbb{M} 04'47 29.03468 AU	conjunction	7859 Nov 08 09:41	20° \mathbb{M} 26'36 0°38'31	
direct	7853 Jul 11 12:44	4° \mathbb{M} 40'18	minimum elong	7859 Nov 08 09:41	20° \mathbb{M} 26'36 0°38'37	
evening set	7853 Oct 08 21:30	6° \mathbb{M} 35'08	max. Earth dist.	7859 Nov 08 03:46	20° \mathbb{M} 26'03 31.10322 AU	
			morning rise	7859 Nov 24 14:00	21° \mathbb{M} 02'17	
conjunction	7853 Oct 25 03:42	7° \mathbb{M} 11'02 0°24'12	retrograde	7860 Feb 20 23:22	22° \mathbb{M} 56'13	
minimum elong	7853 Oct 25 03:42	7° \mathbb{M} 11'02 0°24'16	opposition	7860 May 08 18:01	21° \mathbb{M} 32'54 0°42'20	
max. Earth dist.	7853 Oct 25 01:15	7° \mathbb{M} 10'49 31.03906 AU	min. Earth dist.	7860 May 08 22:24	21° \mathbb{M} 32'35 29.11026 AU	
morning rise	7853 Nov 10 09:18	7° \mathbb{M} 46'55	direct	7860 Jul 26 22:49	20° \mathbb{M} 08'11	
retrograde	7854 Feb 07 05:07	9° \mathbb{M} 41'41	evening set	7860 Oct 24 17:12	22° \mathbb{M} 03'08	
opposition	7854 Apr 26 04:47	8° \mathbb{M} 18'01 0°27'11				
min. Earth dist.	7854 Apr 26 07:16	8° \mathbb{M} 17'51 29.04357 AU	conjunction	7860 Nov 09 22:33	22° \mathbb{M} 38'54 0°40'43	
direct	7854 Jul 14 00:27	6° \mathbb{M} 53'26	minimum elong	7860 Nov 09 22:33	22° \mathbb{M} 38'54 0°40'50	
evening set	7854 Oct 11 10:38	8° \mathbb{M} 48'15	max. Earth dist.	7860 Nov 09 16:36	22° \mathbb{M} 38'21 31.11704 AU	
			morning rise	7860 Nov 26 02:25	23° \mathbb{M} 14'34	
conjunction	7854 Oct 27 16:54	9° \mathbb{M} 24'08 0°26'42	retrograde	7861 Feb 22 08:35	25° \mathbb{M} 08'25	
minimum elong	7854 Oct 27 16:54	9° \mathbb{M} 24'08 0°26'47	opposition	7861 May 11 04:19	23° \mathbb{M} 45'12 0°44'40	
max. Earth dist.	7854 Oct 27 14:16	9° \mathbb{M} 23'54 31.04794 AU	min. Earth dist.	7861 May 11 10:22	23° \mathbb{M} 44'46 29.12416 AU	
morning rise	7854 Nov 12 22:18	9° \mathbb{M} 59'59	direct	7861 Jul 29 09:18	22° \mathbb{M} 20'32	
retrograde	7855 Feb 09 16:33	11° \mathbb{M} 54'35	evening set	7861 Oct 27 06:17	24° \mathbb{M} 15'32	
opposition	7855 Apr 28 15:02	10° \mathbb{M} 30'57 0°29'50				
min. Earth dist.	7855 Apr 28 17:27	10° \mathbb{M} 30'47 29.05243 AU	conjunction	7861 Nov 12 11:24	24° \mathbb{M} 51'16 0°42'52	
direct	7855 Jul 16 13:45	9° \mathbb{M} 06'18	minimum elong	7861 Nov 12 11:24	24° \mathbb{M} 51'16 0°42'58	
evening set	7855 Oct 14 00:00	11° \mathbb{M} 01'08	max. Earth dist.	7861 Nov 12 04:27	24° \mathbb{M} 50'37 31.13084 AU	
			morning rise	7861 Nov 28 15:02	25° \mathbb{M} 26'54	
conjunction	7855 Oct 30 06:01	11° \mathbb{M} 37'00 0°29'09	retrograde	7862 Feb 24 20:15	27° \mathbb{M} 20'40	
minimum elong	7855 Oct 30 06:01	11° \mathbb{M} 37'00 0°29'14	opposition	7862 May 13 14:28	25° \mathbb{M} 57'33 0°46'55	
max. Earth dist.	7855 Oct 30 01:50	11° \mathbb{M} 36'36 31.05697 AU	min. Earth dist.	7862 May 13 20:22	25° \mathbb{M} 57'08 29.13763 AU	
morning rise	7855 Nov 15 11:19	12° \mathbb{M} 12'48	direct	7862 Jul 31 22:00	24° \mathbb{M} 32'54	
retrograde	7856 Feb 12 04:55	14° \mathbb{M} 07'15	evening set	7862 Oct 29 19:20	26° \mathbb{M} 27'57	
opposition	7856 Apr 30 01:14	12° \mathbb{M} 43'38 0°32'27				
min. Earth dist.	7856 Apr 30 04:35	12° \mathbb{M} 43'24 29.06187 AU	conjunction	7862 Nov 15 00:13	27° \mathbb{M} 03'40 0°44'57	
direct	7856 Jul 18 01:32	11° \mathbb{M} 18'56	minimum elong	7862 Nov 15 00:13	27° \mathbb{M} 03'40 0°45'04	
evening set	7856 Oct 15 13:06	13° \mathbb{M} 13'46	max. Earth dist.	7862 Nov 14 16:13	27° \mathbb{M} 02'56 31.14377 AU	
			morning rise	7862 Dec 01 03:33	27° \mathbb{M} 39'16	
conjunction	7856 Oct 31 19:10	13° \mathbb{M} 49'37 0°31'34	retrograde	7863 Feb 27 07:11	29° \mathbb{M} 32'58	
minimum elong	7856 Oct 31 19:10	13° \mathbb{M} 49'37 0°31'40	opposition	7863 May 16 00:51	28° \mathbb{M} 09'55 0°49'06	
max. Earth dist.	7856 Oct 31 15:31	13° \mathbb{M} 49'17 31.06677 AU	min. Earth dist.	7863 May 16 08:27	28° \mathbb{M} 09'23 29.15012 AU	
morning rise	7856 Nov 17 00:04	14° \mathbb{M} 25'23	direct	7863 Aug 03 08:53	26° \mathbb{M} 45'17	
	7856 Dec 03 14:56	15° \mathbb{M}	evening set	7863 Nov 01 08:25	28° \mathbb{M} 40'23	
retrograde	7857 Feb 13 15:03	16° \mathbb{M} 19'40				
	7857 Apr 30 04:11	15° \mathbb{K} \mathbb{M}	conjunction	7863 Nov 17 13:09	29° \mathbb{M} 16'05 0°46'58	
opposition	7857 May 02 11:30	14° \mathbb{M} 56'06 0°35'00	minimum elong	7863 Nov 17 13:09	29° \mathbb{M} 16'05 0°47'03	
min. Earth dist.	7857 May 02 15:15	14° \mathbb{M} 55'51 29.07213 AU	max. Earth dist.	7863 Nov 17 04:39	29° \mathbb{M} 15'18 31.15562 AU	
direct	7857 Jul 20 14:22	13° \mathbb{M} 31'23	morning rise	7863 Dec 03 16:05	29° \mathbb{M} 51'39	
	7857 Oct 05 14:54	15° \mathbb{M}		7863 Dec 07 13:21	0° \mathbb{M}	
evening set	7857 Oct 18 02:07	15° \mathbb{M} 26'13	retrograde	7864 Feb 29 18:29	1° \mathbb{M} 45'13	
			opposition	7864 May 17 11:03	0° \mathbb{M} 22'16 0°51'13	
conjunction	7857 Nov 03 07:52	16° \mathbb{M} 02'01 0°33'56	min. Earth dist.	7864 May 17 18:51	0° \mathbb{M} 21'43 29.16126 AU	
minimum elong	7857 Nov 03 07:51	16° \mathbb{M} 02'01 0°34'01		7864 May 30 21:07	30° \mathbb{K} \mathbb{M}	
max. Earth dist.	7857 Nov 03 02:45	16° \mathbb{M} 01'33 31.07765 AU	direct	7864 Aug 04 21:58	28° \mathbb{M} 57'37	
morning rise	7857 Nov 19 12:41	16° \mathbb{M} 37'47		7864 Oct 07 14:54	0° \mathbb{M}	
retrograde	7858 Feb 16 02:07	18° \mathbb{M} 31'56	evening set	7864 Nov 02 21:31	0° \mathbb{M} 52'46	
opposition	7858 May 04 21:43	17° \mathbb{M} 08'25 0°37'30				
min. Earth dist.	7858 May 05 01:26	17° \mathbb{M} 08'09 29.08375 AU	conjunction	7864 Nov 19 01:52	1° \mathbb{M} 28'26 0°48'54	

minimum elong	7864 Nov 19 01:52	1°♏28'26	0°49'01	evening set	7871 Nov 19 13:33	16°♏15'17	
max. Earth dist.	7864 Nov 18 15:33	1°♏27'28	31.16615 AU				
morning rise	7864 Dec 05 04:34	2°♏03'57		conjunction	7871 Dec 05 15:55	16°♏50'45	1°00'18
retrograde	7865 Mar 03 07:01	3°♏57'26		minimum elong	7871 Dec 05 15:55	16°♏50'45	1°00'25
opposition	7865 May 19 21:24	2°♏34'31	0°53'15	max. Earth dist.	7871 Dec 05 02:22	16°♏49'30	31.22999 AU
min. Earth dist.	7865 May 20 06:16	2°♏33'54	29.17133 AU	morning rise	7871 Dec 21 15:58	17°♏26'02	
direct	7865 Aug 07 09:52	1°♏09'52		retrograde	7872 Mar 18 04:23	19°♏18'47	
evening set	7865 Nov 05 10:12	3°♏05'02		opposition	7872 Jun 03 20:35	17°♏56'12	1°05'07
				min. Earth dist.	7872 Jun 04 08:55	17°♏55'20	29.23605 AU
conjunction	7865 Nov 21 14:28	3°♏40'40	0°50'46	direct	7872 Aug 22 16:57	16°♏31'26	
minimum elong	7865 Nov 21 14:27	3°♏40'40	0°50'52	evening set	7872 Nov 21 01:48	18°♏26'41	
max. Earth dist.	7865 Nov 21 04:24	3°♏39'44	31.17566 AU				
morning rise	7865 Dec 07 16:41	4°♏16'10		conjunction	7872 Dec 07 03:55	19°♏02'07	1°01'35
retrograde	7866 Mar 05 16:57	6°♏09'31		minimum elong	7872 Dec 07 03:55	19°♏02'07	1°01'44
opposition	7866 May 22 07:40	4°♏46'39	0°55'12	max. Earth dist.	7872 Dec 06 14:32	19°♏00'53	31.24134 AU
min. Earth dist.	7866 May 22 17:21	4°♏45'59	29.18032 AU	morning rise	7872 Dec 23 03:32	19°♏37'22	
direct	7866 Aug 09 23:08	3°♏21'59		retrograde	7873 Mar 20 15:07	21°♏30'03	
evening set	7866 Nov 07 23:06	5°♏17'09		opposition	7873 Jun 06 06:48	20°♏07'33	1°06'27
				min. Earth dist.	7873 Jun 06 18:56	20°♏06'43	29.24740 AU
conjunction	7866 Nov 24 02:56	5°♏52'45	0°52'33	direct	7873 Aug 25 05:43	18°♏42'50	
minimum elong	7866 Nov 24 02:56	5°♏52'45	0°52'41	evening set	7873 Nov 23 14:02	20°♏38'08	
max. Earth dist.	7866 Nov 23 15:03	5°♏51'40	31.18433 AU				
morning rise	7866 Dec 10 04:59	6°♏28'13		conjunction	7873 Dec 09 15:40	21°♏13'32	1°02'48
retrograde	7867 Mar 08 03:57	8°♏21'27		minimum elong	7873 Dec 09 15:40	21°♏13'32	1°02'55
opposition	7867 May 24 17:43	6°♏58'38	0°57'04	max. Earth dist.	7873 Dec 09 00:58	21°♏12'10	31.25259 AU
min. Earth dist.	7867 May 25 03:43	6°♏57'56	29.18880 AU	morning rise	7873 Dec 25 14:59	21°♏48'45	
direct	7867 Aug 12 10:28	5°♏33'55		retrograde	7874 Mar 23 03:27	23°♏41'23	
evening set	7867 Nov 10 11:46	7°♏29'06		opposition	7874 Jun 08 17:05	22°♏18'57	1°07'41
				min. Earth dist.	7874 Jun 09 06:01	22°♏18'03	29.25850 AU
conjunction	7867 Nov 26 15:30	8°♏04'41	0°54'16	direct	7874 Aug 27 17:16	20°♏54'15	
minimum elong	7867 Nov 26 15:30	8°♏04'41	0°54'23	evening set	7874 Nov 26 02:15	22°♏49'35	
max. Earth dist.	7867 Nov 26 04:02	8°♏03'37	31.19254 AU				
morning rise	7867 Dec 12 17:01	8°♏40'06		conjunction	7874 Dec 12 03:42	23°♏24'58	1°03'54
retrograde	7868 Mar 09 12:47	10°♏33'13		minimum elong	7874 Dec 12 03:42	23°♏24'58	1°04'02
opposition	7868 May 26 03:59	9°♏10'25	0°58'52	max. Earth dist.	7874 Dec 11 13:22	23°♏23'38	31.26318 AU
min. Earth dist.	7868 May 26 15:10	9°♏09'39	29.19696 AU	morning rise	7874 Dec 28 02:28	24°♏00'08	
direct	7868 Aug 13 22:10	7°♏45'41		retrograde	7875 Mar 25 13:07	25°♏52'43	
evening set	7868 Nov 12 00:20	9°♏40'51		opposition	7875 Jun 11 03:19	24°♏30'21	1°08'49
				min. Earth dist.	7875 Jun 11 17:08	24°♏29'23	29.26849 AU
conjunction	7868 Nov 28 03:37	10°♏16'24	0°55'54	direct	7875 Aug 30 06:12	23°♏05'40	
minimum elong	7868 Nov 28 03:37	10°♏16'24	0°56'02	evening set	7875 Nov 28 14:39	25°♏01'01	
max. Earth dist.	7868 Nov 27 14:48	10°♏15'13	31.20081 AU				
morning rise	7868 Dec 14 04:53	10°♏51'47		conjunction	7875 Dec 14 15:34	25°♏36'22	1°04'55
retrograde	7869 Mar 12 00:09	12°♏44'48		minimum elong	7875 Dec 14 15:33	25°♏36'22	1°05'02
opposition	7869 May 28 14:05	11°♏22'02	1°00'34	max. Earth dist.	7875 Dec 13 23:26	25°♏34'52	31.27256 AU
min. Earth dist.	7869 May 29 00:41	11°♏21'18	29.20547 AU	morning rise	7875 Dec 30 14:03	26°♏11'31	
direct	7869 Aug 16 08:57	9°♏57'16		retrograde	7876 Mar 27 00:48	28°♏04'01	
evening set	7869 Nov 14 12:46	11°♏52'26		opposition	7876 Jun 12 13:43	26°♏41'42	1°09'51
				min. Earth dist.	7876 Jun 13 03:41	26°♏40'44	29.27727 AU
conjunction	7869 Nov 30 15:49	12°♏27'57	0°57'27	direct	7876 Aug 31 17:39	25°♏17'01	
minimum elong	7869 Nov 30 15:49	12°♏27'57	0°57'34	evening set	7876 Nov 30 02:41	27°♏12'23	
max. Earth dist.	7869 Nov 30 03:14	12°♏26'47	31.20956 AU	max. Earth dist.	7876 Dec 15 11:39	27°♏46'15	31.28052 AU
morning rise	7869 Dec 16 16:35	13°♏03'19					
retrograde	7870 Mar 14 07:56	14°♏56'13		conjunction	7876 Dec 16 03:22	27°♏47'42	1°05'50
opposition	7870 May 31 00:17	13°♏33'30	1°02'10	minimum elong	7876 Dec 16 03:22	27°♏47'42	1°05'59
min. Earth dist.	7870 May 31 12:10	13°♏32'40	29.21476 AU	morning rise	7877 Jan 01 01:16	28°♏22'48	
direct	7870 Aug 18 19:29	12°♏08'42			7877 Feb 27 09:41	0°♏	
evening set	7870 Nov 17 01:08	14°♏03'53		retrograde	7877 Mar 29 10:09	0°♏15'14	
					7877 Apr 28 20:59	30°♏♏	
conjunction	7870 Dec 03 03:51	14°♏39'23	0°58'55	opposition	7877 Jun 15 00:13	28°♏52'57	1°10'47
minimum elong	7870 Dec 03 03:51	14°♏39'23	0°59'03	min. Earth dist.	7877 Jun 15 15:30	28°♏51'54	29.28453 AU
max. Earth dist.	7870 Dec 02 14:45	14°♏38'10	31.21937 AU	direct	7877 Sep 03 06:06	27°♏28'16	
morning rise	7870 Dec 19 04:20	15°♏14'42		evening set	7877 Dec 02 14:51	29°♏23'37	
retrograde	7871 Mar 16 18:14	17°♏07'31					
opposition	7871 Jun 02 10:24	15°♏44'51	1°03'42	conjunction	7877 Dec 18 15:02	29°♏58'54	1°06'40
min. Earth dist.	7871 Jun 02 21:35	15°♏44'04	29.22497 AU	minimum elong	7877 Dec 18 15:02	29°♏58'54	1°06'47
direct	7871 Aug 21 07:30	14°♏20'04		max. Earth dist.	7877 Dec 17 21:46	29°♏57'18	31.28716 AU

	7877 Dec 19 02:52	0°3	direct	7884 Sep 18 14:09	12°342'32	
morning rise	7878 Jan 03 12:40	0°333'58	evening set	7884 Dec 18 00:15	14°337'53	
retrograde	7878 Mar 31 21:18	2°326'19				
opposition	7878 Jun 17 10:26	1°304'04 1°11'36	conjunction	7885 Jan 02 21:43	15°312'57 1°09'43	
min. Earth dist.	7878 Jun 18 01:21	1°303'02 29.29053 AU	minimum elong	7885 Jan 02 21:43	15°312'57 1°09'52	
	7878 Jul 31 04:53	30°37'21	max. Earth dist.	7885 Jan 02 03:01	15°311'13 31.32247 AU	
direct	7878 Sep 05 17:47	29°339'21	morning rise	7885 Jan 18 16:29	15°347'48	
	7878 Oct 11 14:53	0°3	retrograde	7885 Apr 15 18:44	17°339'47	
evening set	7878 Dec 05 02:49	1°334'42	opposition	7885 Jul 02 11:04	16°317'42 1°14'31	
max. Earth dist.	7878 Dec 20 09:24	2°308'21 31.29250 AU	min. Earth dist.	7885 Jul 03 03:19	16°316'35 29.32659 AU	
			direct	7885 Sep 21 01:10	14°352'58	
conjunction	7878 Dec 21 02:46	2°309'57 1°07'23	evening set	7885 Dec 20 11:29	16°348'20	
minimum elong	7878 Dec 21 02:45	2°309'57 1°07'32				
morning rise	7879 Jan 05 23:53	2°344'59	conjunction	7886 Jan 05 08:45	17°323'24 1°09'46	
retrograde	7879 Apr 03 05:13	4°337'15	minimum elong	7886 Jan 05 08:45	17°323'24 1°09'53	
opposition	7879 Jun 19 20:53	3°315'01 1°12'20	max. Earth dist.	7886 Jan 04 15:01	17°321'45 31.32952 AU	
min. Earth dist.	7879 Jun 20 13:22	3°313'52 29.29539 AU	morning rise	7886 Jan 21 02:57	17°358'13	
direct	7879 Sep 08 04:41	1°350'15	retrograde	7886 Apr 18 04:32	19°350'13	
evening set	7879 Dec 07 14:44	3°345'35	opposition	7886 Jul 04 21:31	18°328'11 1°14'30	
			min. Earth dist.	7886 Jul 05 14:48	18°327'00 29.33360 AU	
conjunction	7879 Dec 23 14:14	4°320'49 1°08'01	direct	7886 Sep 23 13:24	17°303'30	
minimum elong	7879 Dec 23 14:14	4°320'49 1°08'09	evening set	7886 Dec 22 22:54	18°358'55	
max. Earth dist.	7879 Dec 22 20:16	4°319'09 31.29698 AU				
morning rise	7880 Jan 08 11:00	4°355'48	conjunction	7887 Jan 07 19:38	19°333'57 1°09'42	
retrograde	7880 Apr 04 14:48	6°347'59	minimum elong	7887 Jan 07 19:38	19°333'57 1°09'50	
opposition	7880 Jun 21 07:08	5°325'45 1°12'58	max. Earth dist.	7887 Jan 07 00:50	19°332'13 31.33638 AU	
min. Earth dist.	7880 Jun 21 23:06	5°324'39 29.29951 AU	morning rise	7887 Jan 23 13:36	20°308'45	
direct	7880 Sep 09 16:38	4°300'58	retrograde	7887 Apr 20 16:05	22°300'45	
evening set	7880 Dec 09 02:30	5°356'16	opposition	7887 Jul 07 08:02	20°338'47 1°14'23	
max. Earth dist.	7880 Dec 24 07:12	6°329'46 31.30092 AU	min. Earth dist.	7887 Jul 08 00:36	20°337'39 29.34007 AU	
			direct	7887 Sep 26 01:07	19°314'09	
conjunction	7880 Dec 25 01:35	6°331'28 1°08'33	evening set	7887 Dec 25 10:10	21°309'35	
minimum elong	7880 Dec 25 01:35	6°331'28 1°08'42	max. Earth dist.	7888 Jan 09 11:56	21°342'52 31.34228 AU	
morning rise	7881 Jan 09 21:55	7°306'26				
retrograde	7881 Apr 07 00:23	8°358'33	conjunction	7888 Jan 10 06:34	21°344'36 1°09'33	
opposition	7881 Jun 23 17:34	7°336'19 1°13'29	minimum elong	7888 Jan 10 06:34	21°344'36 1°09'39	
min. Earth dist.	7881 Jun 24 10:28	7°335'09 29.30359 AU	morning rise	7888 Jan 25 23:58	22°319'22	
direct	7881 Sep 12 02:03	6°311'29	retrograde	7888 Apr 22 00:03	24°311'22	
evening set	7881 Dec 11 13:54	8°306'47	opposition	7888 Jul 08 18:47	22°349'27 1°14'10	
			min. Earth dist.	7888 Jul 09 12:42	22°348'13 29.34550 AU	
conjunction	7881 Dec 27 12:43	8°341'57 1°09'00	direct	7888 Sep 27 11:40	21°324'51	
minimum elong	7881 Dec 27 12:43	8°341'57 1°09'07	evening set	7888 Dec 26 21:26	23°320'17	
max. Earth dist.	7881 Dec 26 18:50	8°340'17 31.30514 AU				
morning rise	7882 Jan 12 08:37	9°316'53	conjunction	7889 Jan 11 17:25	23°355'16 1°09'17	
retrograde	7882 Apr 09 10:02	11°308'56	minimum elong	7889 Jan 11 17:25	23°355'16 1°09'25	
opposition	7882 Jun 26 03:53	9°346'42 1°13'54	max. Earth dist.	7889 Jan 10 22:22	23°353'30 31.34715 AU	
min. Earth dist.	7882 Jun 26 20:20	9°345'34 29.30800 AU	morning rise	7889 Jan 27 10:29	24°330'01	
direct	7882 Sep 14 14:56	8°321'52	retrograde	7889 Apr 24 09:43	26°322'00	
evening set	7882 Dec 14 01:31	10°317'10	opposition	7889 Jul 11 05:26	25°300'08 1°13'50	
			min. Earth dist.	7889 Jul 11 22:46	24°358'56 29.34966 AU	
conjunction	7882 Dec 29 23:48	10°352'18 1°09'20	direct	7889 Sep 29 23:06	23°335'32	
minimum elong	7882 Dec 29 23:48	10°352'18 1°09'28	evening set	7889 Dec 29 08:33	25°330'58	
max. Earth dist.	7882 Dec 29 04:59	10°350'33 31.30993 AU	max. Earth dist.	7890 Jan 13 08:31	26°304'06 31.35058 AU	
morning rise	7883 Jan 14 19:22	11°327'12				
retrograde	7883 Apr 11 21:41	13°319'13	conjunction	7890 Jan 14 04:08	26°305'56 1°08'56	
opposition	7883 Jun 28 14:10	11°357'01 1°14'13	minimum elong	7890 Jan 14 04:08	26°305'56 1°09'02	
min. Earth dist.	7883 Jun 29 06:44	11°355'52 29.31337 AU	morning rise	7890 Jan 29 20:51	26°340'39	
direct	7883 Sep 17 01:53	10°332'11	retrograde	7890 Apr 26 19:29	28°332'38	
evening set	7883 Dec 16 12:55	12°327'30	opposition	7890 Jul 13 16:13	27°310'45 1°13'24	
			min. Earth dist.	7890 Jul 14 10:35	27°309'30 29.35247 AU	
conjunction	7884 Jan 01 10:58	13°302'36 1°09'35	direct	7890 Oct 02 08:06	25°346'10	
minimum elong	7884 Jan 01 10:57	13°302'36 1°09'42	evening set	7890 Dec 31 19:39	27°341'34	
max. Earth dist.	7883 Dec 31 17:14	13°300'58 31.31577 AU				
morning rise	7884 Jan 17 05:58	13°337'28	conjunction	7891 Jan 16 14:56	28°316'30 1°08'28	
retrograde	7884 Apr 13 07:00	15°329'28	minimum elong	7891 Jan 16 14:56	28°316'30 1°08'36	
opposition	7884 Jun 30 00:40	14°307'19 1°14'25	max. Earth dist.	7891 Jan 15 19:38	28°314'43 31.35271 AU	
min. Earth dist.	7884 Jun 30 17:26	14°306'10 29.31959 AU	morning rise	7891 Feb 01 07:12	28°351'12	

	7891 Mar 08 22:02	0° \approx	evening set	7898 Jan 15 22:21	12° \approx 51'57	
retrograde	7891 Apr 29 04:32	0° \approx 43'09				
	7891 Jun 21 14:43	30° \approx 21'17	conjunction	7898 Jan 31 14:59	13° \approx 26'42	1°02'40
opposition	7891 Jul 16 02:54	29° \approx 21'17	minimum elong	7898 Jan 31 14:59	13° \approx 26'42	1°02'45
min. Earth dist.	7891 Jul 16 21:05	29° \approx 20'02	max. Earth dist.	7898 Jan 30 20:47	13° \approx 25'01	31.35937 AU
direct	7891 Oct 04 21:12	27° \approx 56'41	morning rise	7898 Feb 16 04:53	14° \approx 01'14	
evening set	7892 Jan 03 06:46	29° \approx 52'03		7898 Mar 17 17:41	15° \approx	
	7892 Jan 06 22:07	0° \approx	retrograde	7898 May 14 03:14	15° \approx 53'12	
max. Earth dist.	7892 Jan 18 05:06	0° \approx 25'04		7898 Jul 13 09:24	15° \approx	
			opposition	7898 Jul 31 06:54	14° \approx 31'17	1°06'19
conjunction	7892 Jan 19 01:32	0° \approx 26'57	min. Earth dist.	7898 Jul 31 23:34	14° \approx 30'08	29.36117 AU
minimum elong	7892 Jan 19 01:32	0° \approx 26'58	direct	7898 Oct 20 06:07	13° \approx 06'44	
morning rise	7892 Feb 03 17:32	1° \approx 01'38		7899 Jan 17 11:12	15° \approx	
retrograde	7892 Apr 30 15:44	2° \approx 53'34	evening set	7899 Jan 18 08:54	15° \approx 01'58	
opposition	7892 Jul 17 13:43	1° \approx 31'39	max. Earth dist.	7899 Feb 02 06:44	15° \approx 35'00	31.36194 AU
min. Earth dist.	7892 Jul 18 08:05	1° \approx 30'24				
direct	7892 Oct 06 07:34	0° \approx 07'01	conjunction	7899 Feb 03 01:07	15° \approx 36'43	1°01'28
evening set	7893 Jan 04 17:24	2° \approx 02'21	minimum elong	7899 Feb 03 01:07	15° \approx 36'43	1°01'34
			morning rise	7899 Feb 18 14:41	16° \approx 11'14	
conjunction	7893 Jan 20 11:57	2° \approx 37'14	retrograde	7899 May 16 13:25	18° \approx 03'16	
minimum elong	7893 Jan 20 11:58	2° \approx 37'14	opposition	7899 Aug 02 17:59	16° \approx 41'23	1°04'59
max. Earth dist.	7893 Jan 19 16:38	2° \approx 35'26	min. Earth dist.	7899 Aug 03 11:15	16° \approx 40'12	29.36362 AU
morning rise	7893 Feb 05 03:28	3° \approx 11'52	direct	7899 Oct 22 15:05	15° \approx 16'54	
retrograde	7893 May 03 00:31	5° \approx 03'47	evening set	7900 Jan 20 19:21	17° \approx 12'08	
opposition	7893 Jul 20 00:35	3° \approx 41'50				
min. Earth dist.	7893 Jul 20 19:16	3° \approx 40'33	conjunction	7900 Feb 05 11:18	17° \approx 46'52	1°00'10
direct	7893 Oct 08 19:39	2° \approx 17'11	minimum elong	7900 Feb 05 11:19	17° \approx 46'52	1°00'15
evening set	7894 Jan 07 04:14	4° \approx 12'28	max. Earth dist.	7900 Feb 04 17:46	17° \approx 45'14	31.36409 AU
			morning rise	7900 Feb 21 00:29	18° \approx 21'23	
conjunction	7894 Jan 22 22:15	4° \approx 47'19	retrograde	7900 May 18 22:49	20° \approx 13'29	
minimum elong	7894 Jan 22 22:15	4° \approx 47'19	opposition	7900 Aug 05 05:14	18° \approx 51'37	1°03'33
max. Earth dist.	7894 Jan 22 02:03	4° \approx 45'26	min. Earth dist.	7900 Aug 05 22:04	18° \approx 50'29	29.36522 AU
morning rise	7894 Feb 07 13:35	5° \approx 21'56	direct	7900 Oct 25 03:19	17° \approx 27'13	
retrograde	7894 May 05 12:02	7° \approx 13'49	evening set	7901 Jan 23 05:48	19° \approx 22'27	
opposition	7894 Jul 22 11:11	5° \approx 51'50				
min. Earth dist.	7894 Jul 23 05:08	5° \approx 50'36	conjunction	7901 Feb 07 21:15	19° \approx 57'10	0°58'48
direct	7894 Oct 11 07:14	4° \approx 27'09	minimum elong	7901 Feb 07 21:15	19° \approx 57'10	0°58'53
evening set	7895 Jan 09 14:51	6° \approx 22'24	max. Earth dist.	7901 Feb 07 02:48	19° \approx 55'27	31.36517 AU
			morning rise	7901 Feb 23 10:16	20° \approx 31'40	
conjunction	7895 Jan 25 08:39	6° \approx 57'13	retrograde	7901 May 21 10:31	22° \approx 23'51	
minimum elong	7895 Jan 25 08:39	6° \approx 57'13	opposition	7901 Aug 07 16:32	21° \approx 02'00	1°02'02
max. Earth dist.	7895 Jan 24 13:42	6° \approx 55'28	min. Earth dist.	7901 Aug 08 09:21	21° \approx 00'51	29.36575 AU
morning rise	7895 Feb 09 23:27	7° \approx 31'49	direct	7901 Oct 27 12:50	19° \approx 37'38	
retrograde	7895 May 07 21:43	9° \approx 23'41	evening set	7902 Jan 25 16:13	21° \approx 32'52	
opposition	7895 Jul 24 22:09	8° \approx 01'41				
min. Earth dist.	7895 Jul 25 16:37	8° \approx 00'25	conjunction	7902 Feb 10 07:30	22° \approx 07'34	0°57'20
direct	7895 Oct 13 20:01	6° \approx 37'00	minimum elong	7902 Feb 10 07:30	22° \approx 07'34	0°57'25
evening set	7896 Jan 12 01:28	8° \approx 32'14	max. Earth dist.	7902 Feb 09 14:04	22° \approx 05'57	31.36494 AU
			morning rise	7902 Feb 25 20:04	22° \approx 42'04	
conjunction	7896 Jan 27 18:44	9° \approx 07'02	retrograde	7902 May 23 19:52	24° \approx 34'18	
minimum elong	7896 Jan 27 18:44	9° \approx 07'02	opposition	7902 Aug 10 03:48	23° \approx 12'28	1°00'26
max. Earth dist.	7896 Jan 26 23:26	9° \approx 05'14	min. Earth dist.	7902 Aug 10 21:08	23° \approx 11'17	29.36468 AU
morning rise	7896 Feb 12 09:18	9° \approx 41'36	direct	7902 Oct 30 00:08	21° \approx 48'08	
retrograde	7896 May 09 08:43	11° \approx 33'29	evening set	7903 Jan 28 02:48	23° \approx 43'22	
opposition	7896 Jul 26 09:00	10° \approx 11'29				
min. Earth dist.	7896 Jul 27 02:00	10° \approx 10'19	conjunction	7903 Feb 12 17:35	24° \approx 18'03	0°55'48
direct	7896 Oct 15 08:01	8° \approx 46'50	minimum elong	7903 Feb 12 17:36	24° \approx 18'03	0°55'53
evening set	7897 Jan 13 11:56	10° \approx 42'03	max. Earth dist.	7903 Feb 11 23:05	24° \approx 16'19	31.36316 AU
max. Earth dist.	7897 Jan 28 10:23	11° \approx 15'06	morning rise	7903 Feb 28 06:02	24° \approx 52'32	
			retrograde	7903 May 26 08:11	26° \approx 44'49	
conjunction	7897 Jan 29 04:55	11° \approx 16'50	opposition	7903 Aug 12 15:12	25° \approx 22'58	0°58'45
minimum elong	7897 Jan 29 04:56	11° \approx 16'50	min. Earth dist.	7903 Aug 13 07:52	25° \approx 21'50	29.36213 AU
morning rise	7897 Feb 13 19:04	11° \approx 51'23	direct	7903 Nov 01 11:45	23° \approx 58'40	
retrograde	7897 May 11 17:22	13° \approx 43'18	evening set	7904 Jan 30 13:03	25° \approx 53'52	
opposition	7897 Jul 28 19:58	12° \approx 21'20	max. Earth dist.	7904 Feb 14 10:07	26° \approx 26'54	31.35980 AU
min. Earth dist.	7897 Jul 29 13:41	12° \approx 20'07				
direct	7897 Oct 17 18:28	10° \approx 56'44	conjunction	7904 Feb 15 03:40	26° \approx 28'32	0°54'10



























































































































minimum elong	7904 Feb 15 03:40	26° \approx 28'32	0°54'15	min. Earth dist.	7910 Aug 28 13:43	10° \mathbf{H} 34'08	29.32975 AU
morning rise	7904 Mar 01 15:40	27° \approx 03'00		direct	7910 Nov 16 19:56	9° \mathbf{H} 10'52	
retrograde	7904 May 27 18:40	28° \approx 55'21		evening set	7911 Feb 14 11:12	11° \mathbf{H} 05'48	
opposition	7904 Aug 14 02:46	27° \approx 33'27	0°56'59				
min. Earth dist.	7904 Aug 14 20:14	27° \approx 32'16	29.35805 AU	conjunction	7911 Mar 01 23:47	11° \mathbf{H} 40'23	0°40'51
direct	7904 Nov 03 00:40	26° \approx 09'10		minimum elong	7911 Mar 01 23:47	11° \mathbf{H} 40'23	0°40'55
evening set	7905 Jan 31 23:22	28° \approx 04'19		max. Earth dist.	7911 Mar 01 09:47	11° \mathbf{H} 39'05	31.32784 AU
				morning rise	7911 Mar 17 10:13	12° \mathbf{H} 14'49	
conjunction	7905 Feb 16 13:34	28° \approx 38'59	0°52'29	retrograde	7911 Jun 12 15:50	14° \mathbf{H} 07'37	
minimum elong	7905 Feb 16 13:34	28° \approx 38'59	0°52'34	opposition	7911 Aug 30 11:38	12° \mathbf{H} 45'29	0°42'30
max. Earth dist.	7905 Feb 15 19:32	28° \approx 37'18	31.35524 AU	min. Earth dist.	7911 Aug 31 01:34	12° \mathbf{H} 44'32	29.32637 AU
morning rise	7905 Mar 04 01:27	29° \approx 13'26		direct	7911 Nov 19 06:51	11° \mathbf{H} 21'20	
	7905 Mar 26 18:01	0° \mathbf{H}		evening set	7912 Feb 16 21:07	13° \mathbf{H} 16'15	
retrograde	7905 May 30 05:56	1° \mathbf{H} 05'49					
	7905 Aug 06 15:37	30° \mathbf{R} \approx		conjunction	7912 Mar 03 09:16	13° \mathbf{H} 50'49	0°38'42
opposition	7905 Aug 16 14:03	29° \approx 43'52	0°55'08	minimum elong	7912 Mar 03 09:16	13° \mathbf{H} 50'49	0°38'44
min. Earth dist.	7905 Aug 17 06:19	29° \approx 42'46	29.35296 AU	max. Earth dist.	7912 Mar 02 18:51	13° \mathbf{H} 49'29	31.32441 AU
direct	7905 Nov 05 13:00	28° \approx 19'34		morning rise	7912 Mar 18 19:41	14° \mathbf{H} 25'15	
	7906 Jan 27 13:43	0° \mathbf{H}		retrograde	7912 Jun 14 04:17	16° \mathbf{H} 18'10	
evening set	7906 Feb 03 09:28	0° \mathbf{H} 14'41		opposition	7912 Aug 31 23:28	14° \mathbf{H} 56'01	0°40'09
				min. Earth dist.	7912 Sep 01 12:16	14° \mathbf{H} 55'09	29.32270 AU
conjunction	7906 Feb 18 23:26	0° \mathbf{H} 49'19	0°50'43	direct	7912 Nov 20 17:53	13° \mathbf{H} 31'55	
minimum elong	7906 Feb 18 23:26	0° \mathbf{H} 49'19	0°50'46	evening set	7913 Feb 18 07:01	15° \mathbf{H} 26'49	
max. Earth dist.	7906 Feb 18 05:56	0° \mathbf{H} 47'42	31.34976 AU				
morning rise	7906 Mar 06 11:02	1° \mathbf{H} 23'46		conjunction	7913 Mar 05 19:03	16° \mathbf{H} 01'23	0°36'28
retrograde	7906 Jun 01 14:44	3° \mathbf{H} 16'11		minimum elong	7913 Mar 05 19:03	16° \mathbf{H} 01'23	0°36'31
opposition	7906 Aug 19 01:36	1° \mathbf{H} 54'12	0°53'12	max. Earth dist.	7913 Mar 05 05:49	16° \mathbf{H} 00'09	31.32030 AU
min. Earth dist.	7906 Aug 19 18:34	1° \mathbf{H} 53'02	29.34733 AU	morning rise	7913 Mar 21 05:08	16° \mathbf{H} 35'49	
direct	7906 Nov 08 00:26	0° \mathbf{H} 29'53		retrograde	7913 Jun 16 15:14	18° \mathbf{H} 28'50	
evening set	7907 Feb 05 19:30	2° \mathbf{H} 24'56		opposition	7913 Sep 03 11:22	17° \mathbf{H} 06'40	0°37'45
				min. Earth dist.	7913 Sep 04 00:50	17° \mathbf{H} 05'45	29.31814 AU
conjunction	7907 Feb 21 09:09	2° \mathbf{H} 59'34	0°48'53	direct	7913 Nov 23 05:33	15° \mathbf{H} 42'37	
minimum elong	7907 Feb 21 09:09	2° \mathbf{H} 59'34	0°48'56	evening set	7914 Feb 20 17:03	17° \mathbf{H} 37'30	
max. Earth dist.	7907 Feb 20 16:20	2° \mathbf{H} 58'00	31.34418 AU				
morning rise	7907 Mar 08 20:30	3° \mathbf{H} 34'00		conjunction	7914 Mar 08 04:45	18° \mathbf{H} 12'04	0°34'12
retrograde	7907 Jun 04 00:28	5° \mathbf{H} 26'27		minimum elong	7914 Mar 08 04:45	18° \mathbf{H} 12'04	0°34'13
opposition	7907 Aug 21 13:01	4° \mathbf{H} 04'25	0°51'12	max. Earth dist.	7914 Mar 07 15:16	18° \mathbf{H} 10'48	31.31525 AU
min. Earth dist.	7907 Aug 22 04:36	4° \mathbf{H} 03'21	29.34182 AU	morning rise	7914 Mar 23 14:47	18° \mathbf{H} 46'29	
direct	7907 Nov 10 13:13	2° \mathbf{H} 40'06		retrograde	7914 Jun 19 03:06	20° \mathbf{H} 39'36	
evening set	7908 Feb 08 05:33	4° \mathbf{H} 35'07		opposition	7914 Sep 05 23:18	19° \mathbf{H} 17'24	0°35'18
				min. Earth dist.	7914 Sep 06 11:26	19° \mathbf{H} 16'35	29.31237 AU
conjunction	7908 Feb 23 18:49	5° \mathbf{H} 09'43	0°46'58	direct	7914 Nov 25 17:28	17° \mathbf{H} 53'23	
minimum elong	7908 Feb 23 18:49	5° \mathbf{H} 09'43	0°47'01	evening set	7915 Feb 23 03:02	19° \mathbf{H} 48'15	
max. Earth dist.	7908 Feb 23 02:09	5° \mathbf{H} 08'10	31.33898 AU				
morning rise	7908 Mar 10 05:58	5° \mathbf{H} 44'09		conjunction	7915 Mar 10 14:30	20° \mathbf{H} 22'48	0°31'53
retrograde	7908 Jun 05 10:35	7° \mathbf{H} 36'41		minimum elong	7915 Mar 10 14:30	20° \mathbf{H} 22'48	0°31'54
opposition	7908 Aug 23 00:41	6° \mathbf{H} 14'35	0°49'08	max. Earth dist.	7915 Mar 10 01:20	20° \mathbf{H} 21'34	31.30870 AU
min. Earth dist.	7908 Aug 23 16:12	6° \mathbf{H} 13'32	29.33712 AU	morning rise	7915 Mar 26 00:18	20° \mathbf{H} 57'14	
direct	7908 Nov 11 22:58	4° \mathbf{H} 50'18		retrograde	7915 Jun 21 13:29	22° \mathbf{H} 50'27	
evening set	7909 Feb 09 15:18	6° \mathbf{H} 45'16		opposition	7915 Sep 08 11:30	21° \mathbf{H} 28'12	0°32'48
				min. Earth dist.	7915 Sep 09 00:23	21° \mathbf{H} 27'20	29.30514 AU
conjunction	7909 Feb 25 04:26	7° \mathbf{H} 19'52	0°45'00	direct	7915 Nov 28 05:14	20° \mathbf{H} 04'12	
minimum elong	7909 Feb 25 04:26	7° \mathbf{H} 19'52	0°45'04	evening set	7916 Feb 25 13:01	21° \mathbf{H} 59'01	
max. Earth dist.	7909 Feb 24 13:16	7° \mathbf{H} 18'27	31.33472 AU	max. Earth dist.	7916 Mar 11 11:43	22° \mathbf{H} 32'24	31.30082 AU
morning rise	7909 Mar 12 15:17	7° \mathbf{H} 54'18					
retrograde	7909 Jun 07 19:06	9° \mathbf{H} 46'54		conjunction	7916 Mar 12 00:17	22° \mathbf{H} 33'35	0°29'31
opposition	7909 Aug 25 12:16	8° \mathbf{H} 24'47	0°47'00	minimum elong	7916 Mar 12 00:18	22° \mathbf{H} 33'35	0°29'32
min. Earth dist.	7909 Aug 26 02:48	8° \mathbf{H} 23'48	29.33312 AU	morning rise	7916 Mar 27 09:57	23° \mathbf{H} 08'00	
direct	7909 Nov 14 11:07	7° \mathbf{H} 00'32		retrograde	7916 Jun 23 00:20	25° \mathbf{H} 01'18	
evening set	7910 Feb 12 01:19	8° \mathbf{H} 55'29		opposition	7916 Sep 09 23:36	23° \mathbf{H} 39'00	0°30'15
				min. Earth dist.	7916 Sep 10 11:20	23° \mathbf{H} 38'12	29.29643 AU
conjunction	7910 Feb 27 14:01	9° \mathbf{H} 30'05	0°42'58	direct	7916 Nov 29 18:34	22° \mathbf{H} 15'01	
minimum elong	7910 Feb 27 14:01	9° \mathbf{H} 30'05	0°43'00	evening set	7917 Feb 26 22:55	24° \mathbf{H} 09'47	
max. Earth dist.	7910 Feb 26 22:24	9° \mathbf{H} 28'37	31.33111 AU				
morning rise	7910 Mar 15 00:49	10° \mathbf{H} 04'30		conjunction	7917 Mar 14 09:54	24° \mathbf{H} 44'20	0°27'06
retrograde	7910 Jun 10 06:14	11° \mathbf{H} 57'12		minimum elong	7917 Mar 14 09:55	24° \mathbf{H} 44'20	0°27'08
opposition	7910 Aug 27 23:47	10° \mathbf{H} 35'04	0°44'47	max. Earth dist.	7917 Mar 13 21:04	24° \mathbf{H} 43'08	31.29145 AU

morning rise	7917 Mar 29 19:33	25° $\mathbf{\text{H}}$ 18'46		morning rise	7923 Apr 12 04:10	8° $\mathbf{\text{V}}$ 22'48	
retrograde	7917 Jun 25 10:59	27° $\mathbf{\text{H}}$ 12'09		retrograde	7923 Jul 09 04:09	10° $\mathbf{\text{V}}$ 16'52	
opposition	7917 Sep 12 11:46	25° $\mathbf{\text{H}}$ 49'46	0°27'39	opposition	7923 Sep 26 12:54	8° $\mathbf{\text{V}}$ 54'08	0°11'25
min. Earth dist.	7917 Sep 12 23:47	25° $\mathbf{\text{H}}$ 48'57	29.28652 AU	min. Earth dist.	7923 Sep 26 19:25	8° $\mathbf{\text{V}}$ 53'42	29.23046 AU
direct	7917 Dec 02 05:12	24° $\mathbf{\text{H}}$ 25'46		direct	7923 Dec 15 23:26	7° $\mathbf{\text{V}}$ 30'17	
evening set	7918 Mar 01 08:43	26° $\mathbf{\text{H}}$ 20'29		evening set	7924 Mar 13 18:52	9° $\mathbf{\text{V}}$ 24'49	
conjunction	7918 Mar 16 19:39	26° $\mathbf{\text{H}}$ 55'01	0°24'40	conjunction	7924 Mar 29 04:39	9° $\mathbf{\text{V}}$ 59'22	0°09'25
minimum elong	7918 Mar 16 19:39	26° $\mathbf{\text{H}}$ 55'01	0°24'40	minimum elong	7924 Mar 29 04:38	9° $\mathbf{\text{V}}$ 59'22	0°09'23
max. Earth dist.	7918 Mar 16 08:07	26° $\mathbf{\text{H}}$ 53'57	31.28109 AU	behind sun begin	7924 Mar 28 23:14	9° $\mathbf{\text{V}}$ 58'53	
morning rise	7918 Apr 01 05:03	27° $\mathbf{\text{H}}$ 29'28		behind sun end	7924 Mar 29 10:02	9° $\mathbf{\text{V}}$ 59'51	
retrograde	7918 Jun 27 19:38	29° $\mathbf{\text{H}}$ 22'55		max. Earth dist.	7924 Mar 28 21:25	9° $\mathbf{\text{V}}$ 58'42	31.22682 AU
opposition	7918 Sep 14 23:48	28° $\mathbf{\text{H}}$ 00'28	0°25'01	morning rise	7924 Apr 13 13:40	10° $\mathbf{\text{V}}$ 33'52	
min. Earth dist.	7918 Sep 15 11:01	27° $\mathbf{\text{H}}$ 59'42	29.27574 AU	retrograde	7924 Jul 10 15:41	12° $\mathbf{\text{V}}$ 28'05	
direct	7918 Dec 04 17:55	26° $\mathbf{\text{H}}$ 36'27		opposition	7924 Sep 28 01:23	11° $\mathbf{\text{V}}$ 05'20	0°08'37
evening set	7919 Mar 03 18:36	28° $\mathbf{\text{H}}$ 31'06		min. Earth dist.	7924 Sep 28 08:13	11° $\mathbf{\text{V}}$ 04'52	29.22331 AU
conjunction	7919 Mar 19 05:10	29° $\mathbf{\text{H}}$ 05'39	0°22'11	direct	7924 Dec 17 10:59	9° $\mathbf{\text{V}}$ 41'33	
minimum elong	7919 Mar 19 05:10	29° $\mathbf{\text{H}}$ 05'39	0°22'12	evening set	7925 Mar 16 04:30	11° $\mathbf{\text{V}}$ 36'04	
max. Earth dist.	7919 Mar 18 17:15	29° $\mathbf{\text{H}}$ 04'32	31.27029 AU	conjunction	7925 Mar 31 14:14	12° $\mathbf{\text{V}}$ 10'38	0°06'48
morning rise	7919 Apr 03 14:36	29° $\mathbf{\text{H}}$ 40'05		minimum elong	7925 Mar 31 14:14	12° $\mathbf{\text{V}}$ 10'38	0°06'46
	7919 Apr 12 20:24	0° $\mathbf{\text{V}}$		behind sun begin	7925 Mar 31 08:14	12° $\mathbf{\text{V}}$ 10'05	
retrograde	7919 Jun 30 06:48	1° $\mathbf{\text{V}}$ 33'38		behind sun end	7925 Mar 31 20:13	12° $\mathbf{\text{V}}$ 11'10	
opposition	7919 Sep 17 12:00	0° $\mathbf{\text{V}}$ 11'06	0°22'22	max. Earth dist.	7925 Mar 31 08:08	12° $\mathbf{\text{V}}$ 10'05	31.21967 AU
min. Earth dist.	7919 Sep 17 22:23	0° $\mathbf{\text{V}}$ 10'23	29.26510 AU	morning rise	7925 Apr 15 23:11	12° $\mathbf{\text{V}}$ 45'09	
	7919 Sep 24 07:53	30° $\mathbf{\text{R}}$ $\mathbf{\text{H}}$		retrograde	7925 Jul 13 03:59	14° $\mathbf{\text{V}}$ 39'30	
direct	7919 Dec 07 03:29	28° $\mathbf{\text{H}}$ 47'04		opposition	7925 Sep 30 13:50	13° $\mathbf{\text{V}}$ 16'44	0°05'48
	7920 Feb 14 03:40	0° $\mathbf{\text{V}}$		min. Earth dist.	7925 Sep 30 19:15	13° $\mathbf{\text{V}}$ 16'22	29.21587 AU
evening set	7920 Mar 05 04:07	0° $\mathbf{\text{V}}$ 41'40		direct	7925 Dec 20 00:22	11° $\mathbf{\text{V}}$ 53'01	
conjunction	7920 Mar 20 14:39	1° $\mathbf{\text{V}}$ 16'12	0°19'41	evening set	7926 Mar 18 14:26	13° $\mathbf{\text{V}}$ 47'32	
minimum elong	7920 Mar 20 14:39	1° $\mathbf{\text{V}}$ 16'12	0°19'41	conjunction	7926 Apr 02 23:53	14° $\mathbf{\text{V}}$ 22'06	0°04'11
max. Earth dist.	7920 Mar 20 04:40	1° $\mathbf{\text{V}}$ 15'17	31.25984 AU	minimum elong	7926 Apr 02 23:53	14° $\mathbf{\text{V}}$ 22'06	0°04'08
morning rise	7920 Apr 04 23:49	1° $\mathbf{\text{V}}$ 50'40		behind sun begin	7926 Apr 02 17:34	14° $\mathbf{\text{V}}$ 21'31	
retrograde	7920 Jul 01 16:16	3° $\mathbf{\text{V}}$ 44'19		behind sun end	7926 Apr 03 06:12	14° $\mathbf{\text{V}}$ 22'40	
opposition	7920 Sep 19 00:17	2° $\mathbf{\text{V}}$ 21'42	0°19'40	max. Earth dist.	7926 Apr 02 17:38	14° $\mathbf{\text{V}}$ 21'32	31.21191 AU
min. Earth dist.	7920 Sep 19 10:14	2° $\mathbf{\text{V}}$ 21'02	29.25502 AU	morning rise	7926 Apr 18 08:54	14° $\mathbf{\text{V}}$ 56'38	
direct	7920 Dec 08 14:43	0° $\mathbf{\text{V}}$ 57'42		retrograde	7926 Jul 15 15:26	16° $\mathbf{\text{V}}$ 51'08	
evening set	7921 Mar 07 13:54	2° $\mathbf{\text{V}}$ 52'15		opposition	7926 Oct 03 02:23	15° $\mathbf{\text{V}}$ 28'20	0°02'58
conjunction	7921 Mar 23 00:06	3° $\mathbf{\text{V}}$ 26'47	0°17'09	min. Earth dist.	7926 Oct 03 07:57	15° $\mathbf{\text{V}}$ 27'57	29.20784 AU
minimum elong	7921 Mar 23 00:06	3° $\mathbf{\text{V}}$ 26'47	0°17'09	direct	7926 Dec 22 10:55	14° $\mathbf{\text{V}}$ 04'40	
max. Earth dist.	7921 Mar 22 14:07	3° $\mathbf{\text{V}}$ 25'51	31.25033 AU	evening set	7927 Mar 21 00:18	15° $\mathbf{\text{V}}$ 59'10	
morning rise	7921 Apr 07 09:21	4° $\mathbf{\text{V}}$ 01'15		conjunction	7927 Apr 05 09:46	16° $\mathbf{\text{V}}$ 33'44	0°01'30
retrograde	7921 Jul 04 04:38	5° $\mathbf{\text{V}}$ 55'02		minimum elong	7927 Apr 05 09:46	16° $\mathbf{\text{V}}$ 33'44	0°01'29
opposition	7921 Sep 21 12:17	4° $\mathbf{\text{V}}$ 32'22	0°16'56	behind sun begin	7927 Apr 05 03:22	16° $\mathbf{\text{V}}$ 33'09	
min. Earth dist.	7921 Sep 21 20:39	4° $\mathbf{\text{V}}$ 31'48	29.24604 AU	behind sun end	7927 Apr 05 16:10	16° $\mathbf{\text{V}}$ 34'18	
direct	7921 Dec 11 01:18	3° $\mathbf{\text{V}}$ 08'23		max. Earth dist.	7927 Apr 05 04:56	16° $\mathbf{\text{V}}$ 33'19	31.20340 AU
evening set	7922 Mar 09 23:31	5° $\mathbf{\text{V}}$ 02'56		morning rise	7927 Apr 20 18:36	17° $\mathbf{\text{V}}$ 08'17	
conjunction	7922 Mar 25 09:41	5° $\mathbf{\text{V}}$ 37'28	0°14'36	retrograde	7927 Jul 18 01:00	19° $\mathbf{\text{V}}$ 02'55	
minimum elong	7922 Mar 25 09:40	5° $\mathbf{\text{V}}$ 37'28	0°14'35	opposition	7927 Oct 05 15:07	17° $\mathbf{\text{V}}$ 40'05	0°00'09
behind sun begin	7922 Mar 25 06:46	5° $\mathbf{\text{V}}$ 37'13		min. Earth dist.	7927 Oct 05 19:52	17° $\mathbf{\text{V}}$ 39'46	29.19870 AU
behind sun end	7922 Mar 25 12:34	5° $\mathbf{\text{V}}$ 37'44		desc. node	7927 Oct 24 07:03	17° $\mathbf{\text{V}}$ 10'22	
max. Earth dist.	7922 Mar 25 01:14	5° $\mathbf{\text{V}}$ 36'41	31.24177 AU	direct	7927 Dec 24 23:49	16° $\mathbf{\text{V}}$ 16'27	
morning rise	7922 Apr 09 18:44	6° $\mathbf{\text{V}}$ 11'57		evening set	7928 Mar 22 10:15	18° $\mathbf{\text{V}}$ 10'55	
retrograde	7922 Jul 06 15:54	8° $\mathbf{\text{V}}$ 05'52		conjunction	7928 Apr 06 19:26	18° $\mathbf{\text{V}}$ 45'29	-0°01'14
opposition	7922 Sep 24 00:37	6° $\mathbf{\text{V}}$ 43'09	0°14'11	minimum elong	7928 Apr 06 19:27	18° $\mathbf{\text{V}}$ 45'29	0°01'16
min. Earth dist.	7922 Sep 24 09:02	6° $\mathbf{\text{V}}$ 42'35	29.23791 AU	behind sun begin	7928 Apr 06 13:02	18° $\mathbf{\text{V}}$ 44'55	
direct	7922 Dec 13 12:16	5° $\mathbf{\text{V}}$ 19'14		behind sun end	7928 Apr 07 01:51	18° $\mathbf{\text{V}}$ 46'04	
evening set	7923 Mar 12 09:09	7° $\mathbf{\text{V}}$ 13'46		max. Earth dist.	7928 Apr 06 13:59	18° $\mathbf{\text{V}}$ 45'00	31.19372 AU
conjunction	7923 Mar 27 19:05	7° $\mathbf{\text{V}}$ 48'19	0°12'01	morning rise	7928 Apr 22 04:27	19° $\mathbf{\text{V}}$ 20'04	
minimum elong	7923 Mar 27 19:05	7° $\mathbf{\text{V}}$ 48'19	0°12'00	retrograde	7928 Jul 19 12:55	21° $\mathbf{\text{V}}$ 14'50	
behind sun begin	7923 Mar 27 14:38	7° $\mathbf{\text{V}}$ 47'55		opposition	7928 Oct 07 03:53	19° $\mathbf{\text{V}}$ 51'56	-0°02'41
behind sun end	7923 Mar 27 23:33	7° $\mathbf{\text{V}}$ 48'43		min. Earth dist.	7928 Oct 07 08:03	19° $\mathbf{\text{V}}$ 51'39	29.18844 AU
max. Earth dist.	7923 Mar 27 11:08	7° $\mathbf{\text{V}}$ 47'35	31.23412 AU	direct	7928 Dec 26 10:13	18° $\mathbf{\text{V}}$ 28'18	
				evening set	7929 Mar 24 20:10	20° $\mathbf{\text{V}}$ 22'43	

conjunction	7929 Apr 09 05:28	20° Υ 57'18	-0°03'55	max. Earth dist.	7934 Apr 20 06:17	1° δ 55'41	31.12270 AU
minimum elong	7929 Apr 09 05:27	20° Υ 57'18	0°03'57	morning rise	7934 May 05 15:33	2° δ 30'21	
behind sun begin	7929 Apr 08 23:07	20° Υ 56'44		retrograde	7934 Aug 02 10:32	4° δ 25'47	
behind sun end	7929 Apr 09 11:47	20° Υ 57'53		opposition	7934 Oct 21 08:20	3° δ 02'21	-0°19'27
max. Earth dist.	7929 Apr 09 01:25	20° Υ 56'58	31.18273 AU	min. Earth dist.	7934 Oct 21 07:39	3° δ 02'24	29.11770 AU
morning rise	7929 Apr 24 14:19	21° Υ 31'54		direct	7935 Jan 09 08:14	1° δ 38'42	
retrograde	7929 Jul 21 22:53	23° Υ 26'46		evening set	7935 Apr 07 07:27	3° δ 32'50	
opposition	7929 Oct 09 16:32	22° Υ 03'47	-0°05'31				
min. Earth dist.	7929 Oct 09 20:46	22° Υ 03'30	29.17679 AU	conjunction	7935 Apr 22 16:15	4° δ 07'27	-0°19'30
direct	7929 Dec 28 22:17	20° Υ 40'10		minimum elong	7935 Apr 22 16:15	4° δ 07'27	0°19'34
evening set	7930 Mar 27 06:12	22° Υ 34'31		max. Earth dist.	7935 Apr 22 16:17	4° δ 07'27	31.11293 AU
				morning rise	7935 May 08 01:34	4° δ 42'08	
conjunction	7930 Apr 11 15:17	23° Υ 09'06	-0°06'32	retrograde	7935 Aug 04 22:47	6° δ 37'43	
minimum elong	7930 Apr 11 15:17	23° Υ 09'06	0°06'36	opposition	7935 Oct 23 21:18	5° δ 14'14	-0°22'11
behind sun begin	7930 Apr 11 09:16	23° Υ 08'33		min. Earth dist.	7935 Oct 23 20:18	5° δ 14'18	29.10848 AU
behind sun end	7930 Apr 11 21:18	23° Υ 09'38		direct	7936 Jan 11 18:42	3° δ 50'39	
max. Earth dist.	7930 Apr 11 10:55	23° Υ 08'43	31.17068 AU	evening set	7936 Apr 08 17:13	5° δ 44'45	
morning rise	7930 Apr 27 00:20	23° Υ 43'42					
retrograde	7930 Jul 24 10:48	25° Υ 38'41		conjunction	7936 Apr 24 02:11	6° δ 19'23	-0°22'02
opposition	7930 Oct 12 05:15	24° Υ 15'36	-0°08'20	minimum elong	7936 Apr 24 02:11	6° δ 19'23	0°22'07
min. Earth dist.	7930 Oct 12 08:12	24° Υ 15'24	29.16432 AU	max. Earth dist.	7936 Apr 24 04:07	6° δ 19'34	31.10405 AU
direct	7930 Dec 31 09:11	22° Υ 51'57		morning rise	7936 May 09 11:28	6° δ 54'06	
evening set	7931 Mar 29 15:57	24° Υ 46'14		retrograde	7936 Aug 06 09:34	8° δ 49'50	
				opposition	7936 Oct 25 10:11	7° δ 26'20	-0°24'53
conjunction	7931 Apr 14 01:03	25° Υ 20'49	-0°09'09	min. Earth dist.	7936 Oct 25 08:03	7° δ 26'28	29.09979 AU
minimum elong	7931 Apr 14 01:03	25° Υ 20'49	0°09'13	direct	7937 Jan 13 07:42	6° δ 02'48	
behind sun begin	7931 Apr 13 19:36	25° Υ 20'20		evening set	7937 Apr 11 03:21	7° δ 56'54	
behind sun end	7931 Apr 14 06:29	25° Υ 21'19					
max. Earth dist.	7931 Apr 13 22:02	25° Υ 20'33	31.15790 AU	conjunction	7937 Apr 26 12:09	8° δ 31'34	-0°24'32
morning rise	7931 Apr 29 10:01	25° Υ 55'26		minimum elong	7937 Apr 26 12:09	8° δ 31'34	0°24'37
retrograde	7931 Jul 26 21:33	27° Υ 50'31		max. Earth dist.	7937 Apr 26 13:45	8° δ 31'43	31.09557 AU
opposition	7931 Oct 14 18:09	26° Υ 27'19	-0°11'08	morning rise	7937 May 11 21:43	9° δ 06'18	
min. Earth dist.	7931 Oct 14 21:15	26° Υ 27'07	29.15155 AU	retrograde	7937 Aug 08 22:34	11° δ 02'11	
direct	7932 Jan 02 20:03	25° Υ 03'39		opposition	7937 Oct 27 23:00	9° δ 38'40	-0°27'33
evening set	7932 Mar 31 01:49	26° Υ 57'52		min. Earth dist.	7937 Oct 27 20:07	9° δ 38'52	29.09143 AU
				direct	7938 Jan 15 18:10	8° δ 15'11	
conjunction	7932 Apr 15 10:49	27° Υ 32'27	-0°11'46	evening set	7938 Apr 13 13:27	10° δ 09'19	
minimum elong	7932 Apr 15 10:48	27° Υ 32'27	0°11'50				
behind sun begin	7932 Apr 15 06:16	27° Υ 32'03		conjunction	7938 Apr 28 22:24	10° δ 43'59	-0°27'01
behind sun end	7932 Apr 15 15:20	27° Υ 32'52		minimum elong	7938 Apr 28 22:24	10° δ 43'59	0°27'06
max. Earth dist.	7932 Apr 15 08:25	27° Υ 32'15	31.14536 AU	max. Earth dist.	7938 Apr 29 01:40	10° δ 44'17	31.08705 AU
morning rise	7932 Apr 30 19:53	28° Υ 07'05		morning rise	7938 May 14 07:55	11° δ 18'45	
	7932 Jul 16 17:40	0° δ		retrograde	7938 Aug 11 09:25	13° δ 14'48	
retrograde	7932 Jul 28 09:52	0° δ 02'16		opposition	7938 Oct 30 12:06	11° δ 51'16	-0°30'10
	7932 Aug 09 05:27	30° κ Υ		min. Earth dist.	7938 Oct 30 09:04	11° δ 51'28	29.08271 AU
opposition	7932 Oct 16 06:47	28° Υ 38'59	-0°13'56	direct	7939 Jan 18 06:09	10° δ 27'51	
min. Earth dist.	7932 Oct 16 07:54	28° Υ 38'54	29.13932 AU	evening set	7939 Apr 15 23:38	12° δ 21'58	
direct	7933 Jan 04 07:28	27° Υ 15'17					
evening set	7933 Apr 02 11:38	29° Υ 09'28		conjunction	7939 May 01 08:29	12° δ 56'39	-0°29'27
				minimum elong	7939 May 01 08:29	12° δ 56'39	0°29'32
conjunction	7933 Apr 17 20:34	29° Υ 44'03	-0°14'22	max. Earth dist.	7939 May 01 11:35	12° δ 56'57	31.07812 AU
minimum elong	7933 Apr 17 20:34	29° Υ 44'03	0°14'26	morning rise	7939 May 16 18:14	13° δ 31'27	
behind sun begin	7933 Apr 17 17:32	29° Υ 43'47			7939 Jul 03 17:59	15° δ	
behind sun end	7933 Apr 17 23:36	29° Υ 44'20		retrograde	7939 Aug 13 22:08	15° δ 27'40	
max. Earth dist.	7933 Apr 17 18:56	29° Υ 43'55	31.13346 AU		7939 Sep 25 13:31	15° κ δ	
	7933 Apr 24 21:15	0° δ		opposition	7939 Nov 02 01:13	14° δ 04'07	-0°32'45
morning rise	7933 May 03 05:44	0° δ 18'42		min. Earth dist.	7939 Nov 01 20:58	14° δ 04'24	29.07341 AU
retrograde	7933 Jul 30 21:59	2° δ 14'01		direct	7940 Jan 20 16:44	12° δ 40'45	
opposition	7933 Oct 18 19:39	0° δ 50'38	-0°16'42	evening set	7940 Apr 17 09:58	14° δ 34'52	
min. Earth dist.	7933 Oct 18 20:47	0° δ 50'33	29.12801 AU		7940 Apr 28 14:01	15° δ	
	7933 Nov 21 02:07	30° κ Υ					
direct	7934 Jan 06 19:09	29° Υ 26'57		conjunction	7940 May 02 18:55	15° δ 09'34	-0°31'50
	7934 Feb 20 20:14	0° δ		minimum elong	7940 May 02 18:55	15° δ 09'34	0°31'56
evening set	7934 Apr 04 21:28	1° δ 21'06		max. Earth dist.	7940 May 02 23:00	15° δ 09'57	31.06819 AU
				morning rise	7940 May 18 04:44	15° δ 44'23	
conjunction	7934 Apr 20 06:26	1° δ 55'42	-0°16'56	retrograde	7940 Aug 15 09:41	17° δ 40'46	
minimum elong	7934 Apr 20 06:25	1° δ 55'42	0°17'01	opposition	7940 Nov 03 14:25	16° δ 17'10	-0°35'17

min. Earth dist.	7940 Nov 03 10:42	16° 8 17'25	29.06296 AU	evening set	7947 May 03 10:42	0° II 06'48	
	7941 Jan 02 17:01	15° 8					
direct	7941 Jan 22 03:03	14° 8 53'49		conjunction	7947 May 18 20:21	0° II 41'37	-0°47'05
	7941 Feb 10 08:11	15° 8		minimum elong	7947 May 18 20:21	0° II 41'37	0°47'12
evening set	7941 Apr 19 20:23	16° 8 47'56		max. Earth dist.	7947 May 19 05:20	0° II 42'28	30.98135 AU
				morning rise	7947 Jun 03 07:27	1° II 16'37	
conjunction	7941 May 05 05:24	17° 8 22'39	-0°34'11	retrograde	7947 Sep 01 02:18	3° II 13'46	
minimum elong	7941 May 05 05:24	17° 8 22'39	0°34'17	opposition	7947 Nov 20 10:30	1° II 49'35	-0°51'23
max. Earth dist.	7941 May 05 09:38	17° 8 23'03	31.05715 AU	min. Earth dist.	7947 Nov 20 01:38	1° II 50'11	28.97650 AU
morning rise	7941 May 20 15:24	17° 8 57'30		direct	7948 Feb 07 16:40	0° II 26'10	
retrograde	7941 Aug 17 22:56	19° 8 54'01		evening set	7948 May 04 21:16	2° II 20'04	
opposition	7941 Nov 06 03:32	18° 8 30'21	-0°37'46				
min. Earth dist.	7941 Nov 05 22:20	18° 8 30'42	29.05119 AU	conjunction	7948 May 20 06:59	2° II 54'54	-0°49'01
direct	7942 Jan 24 14:29	17° 8 07'00		minimum elong	7948 May 20 06:59	2° II 54'54	0°49'08
evening set	7942 Apr 22 06:49	19° 8 01'06		max. Earth dist.	7948 May 20 16:05	2° II 55'46	30.97147 AU
				morning rise	7948 Jun 04 18:27	3° II 29'55	
conjunction	7942 May 07 15:50	19° 8 35'50	-0°36'29	retrograde	7948 Sep 02 14:49	5° II 27'11	
minimum elong	7942 May 07 15:50	19° 8 35'50	0°36'35	opposition	7948 Nov 21 23:29	4° II 02'58	-0°53'25
max. Earth dist.	7942 May 07 20:13	19° 8 36'15	31.04467 AU	min. Earth dist.	7948 Nov 21 13:13	4° II 03'40	28.96713 AU
morning rise	7942 May 23 02:02	20° 8 10'42		direct	7949 Feb 09 03:42	2° II 39'34	
retrograde	7942 Aug 20 11:51	22° 8 07'20		evening set	7949 May 07 07:51	4° II 33'27	
opposition	7942 Nov 08 16:51	20° 8 43'35	-0°40'12				
min. Earth dist.	7942 Nov 08 12:11	20° 8 43'54	29.03824 AU	conjunction	7949 May 22 17:47	5° II 08'19	-0°50'52
direct	7943 Jan 27 02:28	19° 8 20'14		minimum elong	7949 May 22 17:46	5° II 08'19	0°51'00
evening set	7943 Apr 24 17:11	21° 8 14'17		max. Earth dist.	7949 May 23 04:06	5° II 09'18	30.96237 AU
				morning rise	7949 Jun 07 05:26	5° II 43'22	
conjunction	7943 May 10 02:24	21° 8 49'02	-0°38'43	retrograde	7949 Sep 05 02:30	7° II 40'46	
minimum elong	7943 May 10 02:24	21° 8 49'02	0°38'50	opposition	7949 Nov 24 12:43	6° II 16'30	-0°55'21
max. Earth dist.	7943 May 10 07:57	21° 8 49'33	31.03140 AU	min. Earth dist.	7949 Nov 24 02:42	6° II 17'12	28.95838 AU
morning rise	7943 May 25 12:41	22° 8 23'55		direct	7950 Feb 11 14:25	4° II 53'09	
retrograde	7943 Aug 23 01:18	24° 8 20'39		evening set	7950 May 09 18:28	6° II 47'02	
opposition	7943 Nov 11 05:59	22° 8 56'48	-0°42'34				
min. Earth dist.	7943 Nov 10 23:51	22° 8 57'13	29.02469 AU	conjunction	7950 May 25 04:33	7° II 21'55	-0°52'39
direct	7944 Jan 29 15:38	21° 8 33'25		minimum elong	7950 May 25 04:33	7° II 21'55	0°52'47
evening set	7944 Apr 26 03:33	23° 8 27'25		max. Earth dist.	7950 May 25 15:28	7° II 22'57	30.95390 AU
				morning rise	7950 Jun 09 16:28	7° II 56'59	
conjunction	7944 May 11 12:44	24° 8 02'11	-0°40'54	retrograde	7950 Sep 07 15:44	9° II 54'31	
minimum elong	7944 May 11 12:44	24° 8 02'11	0°41'01	opposition	7950 Nov 27 01:53	8° II 30'14	-0°57'13
max. Earth dist.	7944 May 11 18:13	24° 8 02'42	31.01779 AU	min. Earth dist.	7950 Nov 26 14:11	8° II 31'02	28.94999 AU
morning rise	7944 May 26 23:22	24° 8 37'06		direct	7951 Feb 14 01:57	7° II 06'54	
retrograde	7944 Aug 24 13:48	26° 8 33'56		evening set	7951 May 12 05:21	9° II 00'47	
opposition	7944 Nov 12 19:12	25° 8 09'59	-0°44'52				
min. Earth dist.	7944 Nov 12 13:01	25° 8 10'24	29.01133 AU	conjunction	7951 May 27 15:32	9° II 35'41	-0°54'21
direct	7945 Jan 31 02:30	23° 8 46'34		minimum elong	7951 May 27 15:32	9° II 35'41	0°54'29
evening set	7945 Apr 28 13:54	25° 8 40'32		max. Earth dist.	7951 May 28 02:42	9° II 36'45	30.94545 AU
				morning rise	7951 Jun 12 03:45	10° II 10'48	
conjunction	7945 May 13 23:20	26° 8 15'19	-0°43'02	retrograde	7951 Sep 10 04:35	12° II 08'27	
minimum elong	7945 May 13 23:20	26° 8 15'19	0°43'08	opposition	7951 Nov 29 15:13	10° II 44'08	-0°59'00
max. Earth dist.	7945 May 14 06:38	26° 8 16'00	31.00464 AU	min. Earth dist.	7951 Nov 29 04:06	10° II 44'54	28.94154 AU
morning rise	7945 May 29 10:00	26° 8 50'15		direct	7952 Feb 16 12:40	9° II 20'49	
retrograde	7945 Aug 27 01:39	28° 8 47'10		evening set	7952 May 13 16:11	11° II 14'43	
opposition	7945 Nov 15 08:09	27° 8 23'08	-0°47'07				
min. Earth dist.	7945 Nov 15 00:47	27° 8 23'38	28.99857 AU	conjunction	7952 May 29 02:42	11° II 49'38	-0°55'58
direct	7946 Feb 02 16:30	25° 8 59'42		minimum elong	7952 May 29 02:42	11° II 49'38	0°56'07
evening set	7946 May 01 00:25	27° 8 53'39		max. Earth dist.	7952 May 29 14:56	11° II 50'48	30.93676 AU
				morning rise	7952 Jun 13 15:06	12° II 24'47	
conjunction	7946 May 16 09:48	28° 8 28'27	-0°45'05	retrograde	7952 Sep 11 18:07	14° II 22'33	
minimum elong	7946 May 16 09:48	28° 8 28'27	0°45'12	opposition	7952 Dec 01 04:25	12° II 58'12	-1°00'41
max. Earth dist.	7946 May 16 16:53	28° 8 29'07	30.99242 AU	min. Earth dist.	7952 Nov 30 16:05	12° II 59'03	28.93242 AU
morning rise	7946 May 31 20:50	29° 8 03'24		direct	7953 Feb 18 00:55	11° II 34'54	
	7946 Jun 28 11:34	0° II		evening set	7953 May 16 03:24	13° II 28'48	
retrograde	7946 Aug 29 15:38	1° II 00'26					
	7946 Nov 03 06:11	30° 8		conjunction	7953 May 31 13:57	14° II 03'45	-0°57'31
opposition	7946 Nov 17 21:18	29° 8 36'19	-0°49'17	minimum elong	7953 May 31 13:57	14° II 03'45	0°57'38
min. Earth dist.	7946 Nov 17 12:58	29° 8 36'53	28.98701 AU	max. Earth dist.	7953 Jun 01 01:34	14° II 04'51	30.92710 AU
direct	7947 Feb 05 04:13	28° 8 12'53		morning rise	7953 Jun 16 02:46	14° II 38'55	
	7947 Apr 30 08:47	0° II		retrograde	7953 Sep 14 07:52	16° II 36'47	

opposition	7953 Dec 03 17:40	15°II12'23	-1°02'17	conjunction	7960 Jun 15 21:48	29°II42'59	-1°05'46
min. Earth dist.	7953 Dec 03 05:50	15°II13'12	28.92234 AU	minimum elong	7960 Jun 15 21:48	29°II42'59	1°05'54
direct	7954 Feb 20 11:43	13°II49'04		max. Earth dist.	7960 Jun 16 13:27	29°II44'28	30.85364 AU
evening set	7954 May 18 14:27	15°II42'58			7960 Jun 23 08:58	0°☾	
				morning rise	7960 Jul 01 12:56	0°☾18'22	
conjunction	7954 Jun 03 01:24	16°II17'56	-0°58'58	retrograde	7960 Sep 30 01:32	2°☾16'45	
minimum elong	7954 Jun 03 01:24	16°II17'56	0°59'06	opposition	7960 Dec 19 13:27	0°☾51'54	-1°10'46
max. Earth dist.	7954 Jun 03 14:17	16°II19'10	30.91646 AU	min. Earth dist.	7960 Dec 18 22:04	0°☾52'57	28.85082 AU
morning rise	7954 Jun 18 14:20	16°II53'08			7961 Jan 22 06:04	30°☾II	
retrograde	7954 Sep 16 21:07	18°II51'05		direct	7961 Mar 08 00:04	29°II28'26	
opposition	7954 Dec 06 06:56	17°II26'37	-1°03'48		7961 Apr 20 06:55	0°☾	
min. Earth dist.	7954 Dec 05 18:23	17°II27'28	28.91114 AU	evening set	7961 Jun 02 20:34	1°☾22'14	
direct	7955 Feb 23 01:46	16°II03'17					
evening set	7955 May 21 01:34	17°II57'09		conjunction	7961 Jun 18 09:29	1°☾57'23	-1°06'34
				minimum elong	7961 Jun 18 09:29	1°☾57'23	1°06'42
conjunction	7955 Jun 05 12:37	18°II32'08	-1°00'20	max. Earth dist.	7961 Jun 19 02:23	1°☾58'59	30.84721 AU
minimum elong	7955 Jun 05 12:37	18°II32'08	1°00'28	morning rise	7961 Jul 04 00:51	2°☾32'47	
max. Earth dist.	7955 Jun 06 00:46	18°II33'18	30.90493 AU	retrograde	7961 Oct 02 14:43	4°☾31'16	
morning rise	7955 Jun 21 02:04	19°II07'22		min. Earth dist.	7961 Dec 21 09:25	3°☾07'34	28.84494 AU
retrograde	7955 Sep 19 11:49	21°II05'24		opposition	7961 Dec 22 02:18	3°☾06'24	-1°11'34
opposition	7955 Dec 08 20:13	19°II40'50	-1°05'12	direct	7962 Mar 10 11:13	1°☾42'57	
min. Earth dist.	7955 Dec 08 07:20	19°II41'43	28.89940 AU	evening set	7962 Jun 05 08:04	3°☾36'48	
direct	7956 Feb 25 13:48	18°II17'27					
evening set	7956 May 22 12:38	20°II11'17		conjunction	7962 Jun 20 21:08	4°☾11'58	-1°07'15
				minimum elong	7962 Jun 20 21:08	4°☾11'58	1°07'24
conjunction	7956 Jun 07 00:06	20°II46'19	-1°01'36	max. Earth dist.	7962 Jun 21 13:48	4°☾13'33	30.84189 AU
minimum elong	7956 Jun 07 00:06	20°II46'19	1°01'44	morning rise	7962 Jul 06 13:02	4°☾47'24	
max. Earth dist.	7956 Jun 07 13:42	20°II47'36	30.89300 AU	retrograde	7962 Oct 05 04:49	6°☾45'58	
morning rise	7956 Jun 22 13:45	21°II21'34		opposition	7962 Dec 24 15:25	5°☾21'06	-1°12'15
retrograde	7956 Sep 20 23:06	23°II19'39		min. Earth dist.	7962 Dec 23 22:50	5°☾22'15	28.84018 AU
opposition	7956 Dec 10 09:14	21°II55'00	-1°06'31	direct	7963 Mar 12 21:32	3°☾57'41	
min. Earth dist.	7956 Dec 09 20:13	21°II55'54	28.88754 AU	evening set	7963 Jun 07 19:25	5°☾51'33	
direct	7957 Feb 27 02:40	20°II31'35					
evening set	7957 May 24 23:50	22°II25'24		conjunction	7963 Jun 23 09:01	6°☾26'45	-1°07'51
				minimum elong	7963 Jun 23 09:01	6°☾26'45	1°07'59
conjunction	7957 Jun 09 11:28	23°II00'26	-1°02'47	max. Earth dist.	7963 Jun 24 03:13	6°☾28'28	30.83744 AU
minimum elong	7957 Jun 09 11:28	23°II00'26	1°02'55	morning rise	7963 Jul 09 01:09	7°☾02'13	
max. Earth dist.	7957 Jun 10 00:55	23°II01'43	30.88147 AU	retrograde	7963 Oct 07 18:52	9°☾00'52	
morning rise	7957 Jun 25 01:33	23°II35'44		min. Earth dist.	7963 Dec 26 11:06	7°☾37'12	28.83587 AU
retrograde	7957 Sep 23 12:30	25°II33'52		opposition	7963 Dec 27 04:25	7°☾36'00	-1°12'50
opposition	7957 Dec 12 22:18	24°II09'09	-1°07'44	direct	7964 Mar 14 10:54	6°☾12'37	
min. Earth dist.	7957 Dec 12 08:06	24°II10'08	28.87645 AU	evening set	7964 Jun 09 07:15	8°☾06'30	
direct	7958 Mar 01 14:37	22°II45'42					
evening set	7958 May 27 10:53	24°II39'30		conjunction	7964 Jun 24 21:01	8°☾41'44	-1°08'20
				minimum elong	7964 Jun 24 21:01	8°☾41'44	1°08'28
conjunction	7958 Jun 11 22:48	25°II14'34	-1°03'52	max. Earth dist.	7964 Jun 25 14:21	8°☾43'23	30.83324 AU
minimum elong	7958 Jun 11 22:48	25°II14'34	1°04'01	morning rise	7964 Jul 10 13:42	9°☾17'14	
max. Earth dist.	7958 Jun 12 13:29	25°II15'57	30.87075 AU	retrograde	7964 Oct 09 10:01	11°☾15'58	
morning rise	7958 Jun 27 13:09	25°II49'52		opposition	7964 Dec 28 17:19	9°☾51'06	-1°13'18
retrograde	7958 Sep 26 00:30	27°II48'06		min. Earth dist.	7964 Dec 28 00:01	9°☾52'17	28.83165 AU
opposition	7958 Dec 15 11:27	26°II23'19	-1°08'51	direct	7965 Mar 16 22:09	8°☾27'43	
min. Earth dist.	7958 Dec 14 21:25	26°II24'17	28.86643 AU	evening set	7965 Jun 11 19:05	10°☾21'38	
direct	7959 Mar 04 02:02	24°II59'51					
evening set	7959 May 29 22:03	26°II53'38		conjunction	7965 Jun 27 09:20	10°☾56'54	-1°08'43
				minimum elong	7965 Jun 27 09:20	10°☾56'54	1°08'52
conjunction	7959 Jun 14 10:18	27°II28'43	-1°04'52	max. Earth dist.	7965 Jun 28 03:42	10°☾58'38	30.82868 AU
minimum elong	7959 Jun 14 10:17	27°II28'43	1°05'01	morning rise	7965 Jul 13 02:15	11°☾32'26	
max. Earth dist.	7959 Jun 15 01:34	27°II30'11	30.86151 AU	retrograde	7965 Oct 11 22:45	13°☾31'12	
morning rise	7959 Jun 30 01:00	28°II04'04		opposition	7965 Dec 31 06:24	12°☾06'20	-1°13'39
	7959 Sep 16 13:29	0°☾		min. Earth dist.	7965 Dec 30 13:18	12°☾07'31	28.82674 AU
retrograde	7959 Sep 28 13:24	0°☾02'22		direct	7966 Mar 19 10:49	10°☾42'57	
	7959 Oct 10 16:18	30°☾II		evening set	7966 Jun 14 06:58	12°☾36'52	
min. Earth dist.	7959 Dec 17 08:37	28°II38'38	28.85793 AU				
opposition	7959 Dec 18 00:23	28°II37'33	-1°09'52	conjunction	7966 Jun 29 21:30	13°☾12'09	-1°09'00
direct	7960 Mar 05 13:44	27°II14'04		minimum elong	7966 Jun 29 21:30	13°☾12'09	1°09'08
evening set	7960 May 31 09:19	29°II07'52		max. Earth dist.	7966 Jun 30 15:07	13°☾13'50	30.82342 AU
				morning rise	7966 Jul 15 14:54	13°☾47'43	

retrograde	7966 Oct 14 14:08	15°  46'32		minimum elong	7973 Jul 15 12:40	28°  57'26	1°08'10
opposition	7967 Jan 02 19:29	14°  21'37	-1°13'54	max. Earth dist.	7973 Jul 16 07:43	28°  59'14	30.78680 AU
min. Earth dist.	7967 Jan 02 01:49	14°  22'50	28.82104 AU	morning rise	7973 Jul 31 09:05	29°  33'11	
direct	7967 Mar 21 23:55	12°  58'13			7973 Aug 12 19:56	0° 	
evening set	7967 Jun 16 18:59	14°  52'07		retrograde	7973 Oct 30 08:51	1°  31'59	
				opposition	7974 Jan 18 12:31	0°  06'47	-1°12'28
conjunction	7967 Jul 02 09:56	15°  27'26	-1°09'11	min. Earth dist.	7974 Jan 17 17:46	0°  08'05	28.78687 AU
minimum elong	7967 Jul 02 09:56	15°  27'26	1°09'19		7974 Jan 22 13:43	30°  R 	
max. Earth dist.	7967 Jul 03 04:05	15°  29'09	30.81721 AU	direct	7974 Apr 06 09:47	28°  43'07	
morning rise	7967 Jul 18 03:43	16°  03'02			7974 Jun 14 20:18	0° 	
retrograde	7967 Oct 17 02:51	18°  01'51		evening set	7974 Jul 02 07:23	0°  36'58	
opposition	7968 Jan 05 08:28	16°  36'52	-1°14'02				
min. Earth dist.	7968 Jan 04 15:41	16°  38'02	28.81449 AU	conjunction	7974 Jul 18 01:17	1°  12'28	-1°07'28
direct	7968 Mar 23 12:27	15°  13'26		minimum elong	7974 Jul 18 01:17	1°  12'28	1°07'35
evening set	7968 Jun 18 06:57	17°  07'18		max. Earth dist.	7974 Jul 18 21:41	1°  14'24	30.78597 AU
				morning rise	7974 Aug 02 21:59	1°  48'14	
conjunction	7968 Jul 03 22:21	17°  42'38	-1°09'15	retrograde	7974 Nov 01 21:58	3°  47'04	
minimum elong	7968 Jul 03 22:21	17°  42'38	1°09'23	min. Earth dist.	7975 Jan 20 06:20	2°  23'12	28.78658 AU
max. Earth dist.	7968 Jul 04 16:24	17°  44'21	30.81055 AU	opposition	7975 Jan 21 01:09	2°  21'53	-1°11'48
morning rise	7968 Jul 19 16:35	18°  18'15		direct	7975 Apr 08 22:11	0°  58'15	
retrograde	7968 Oct 18 15:54	20°  17'04		evening set	7975 Jul 04 19:49	2°  52'08	
opposition	7969 Jan 06 21:15	18°  52'02	-1°14'03				
min. Earth dist.	7969 Jan 06 03:24	18°  53'16	28.80769 AU	conjunction	7975 Jul 20 14:04	3°  27'39	-1°06'48
direct	7969 Mar 26 01:05	17°  28'31		minimum elong	7975 Jul 20 14:04	3°  27'39	1°06'56
evening set	7969 Jun 20 18:58	19°  22'22		max. Earth dist.	7975 Jul 21 09:48	3°  29'31	30.78632 AU
				morning rise	7975 Aug 05 11:20	4°  03'28	
conjunction	7969 Jul 06 10:39	19°  57'43	-1°09'13	retrograde	7975 Nov 04 13:59	6°  02'18	
minimum elong	7969 Jul 06 10:39	19°  57'43	1°09'21	opposition	7976 Jan 23 13:35	4°  37'10	-1°11'02
max. Earth dist.	7969 Jul 07 04:40	19°  59'26	30.80372 AU	min. Earth dist.	7976 Jan 22 18:18	4°  38'30	28.78733 AU
morning rise	7969 Jul 22 05:20	20°  33'22		direct	7976 Apr 10 10:38	3°  13'33	
retrograde	7969 Oct 21 03:40	22°  32'10		evening set	7976 Jul 06 08:20	5°  07'29	
opposition	7970 Jan 09 10:05	21°  30'04	-1°13'58				
min. Earth dist.	7970 Jan 08 17:01	21°  38'15	28.80117 AU	conjunction	7976 Jul 22 03:04	5°  43'03	-1°06'02
direct	7970 Mar 28 12:08	19°  43'30		minimum elong	7976 Jul 22 03:04	5°  43'03	1°06'09
evening set	7970 Jun 23 06:56	21°  37'19		max. Earth dist.	7976 Jul 22 23:25	5°  44'58	30.78721 AU
				morning rise	7976 Aug 07 00:41	6°  18'53	
conjunction	7970 Jul 08 23:09	22°  12'42	-1°09'05	retrograde	7976 Nov 06 03:05	8°  17'45	
minimum elong	7970 Jul 08 23:09	22°  12'42	1°09'12	min. Earth dist.	7977 Jan 24 07:51	6°  53'55	28.78829 AU
max. Earth dist.	7970 Jul 09 18:04	22°  14'30	30.79766 AU	opposition	7977 Jan 25 02:10	6°  52'39	-1°10'09
morning rise	7970 Jul 24 18:08	22°  48'22		direct	7977 Apr 12 22:49	5°  29'04	
retrograde	7970 Oct 23 16:43	24°  47'10		evening set	7977 Jul 08 20:55	7°  23'02	
opposition	7971 Jan 11 22:43	23°  22'01	-1°13'45				
min. Earth dist.	7971 Jan 11 04:23	23°  23'17	28.79558 AU	conjunction	7977 Jul 24 16:04	7°  58'37	-1°05'09
direct	7971 Mar 31 00:02	21°  58'24		minimum elong	7977 Jul 24 16:04	7°  58'37	1°05'16
evening set	7971 Jun 25 18:59	23°  52'12		max. Earth dist.	7977 Jul 25 12:00	8°  00'31	30.78817 AU
				morning rise	7977 Aug 09 14:07	8°  34'29	
conjunction	7971 Jul 11 11:28	24°  27'37	-1°08'50	retrograde	7977 Nov 08 17:33	10°  33'22	
minimum elong	7971 Jul 11 11:28	24°  27'37	1°08'58	opposition	7978 Jan 27 14:38	9°  08'18	-1°09'10
max. Earth dist.	7971 Jul 12 05:58	24°  29'22	30.79264 AU	min. Earth dist.	7978 Jan 26 19:39	9°  09'38	28.78900 AU
morning rise	7971 Jul 27 07:02	25°  03'18		direct	7978 Apr 15 11:20	7°  44'44	
retrograde	7971 Oct 26 05:32	27°  02'06		evening set	7978 Jul 11 09:45	9°  38'45	
opposition	7972 Jan 14 11:27	25°  36'54	-1°13'26				
min. Earth dist.	7972 Jan 13 17:37	25°  38'09	28.79129 AU	conjunction	7978 Jul 27 05:16	10°  14'22	-1°04'11
direct	7972 Apr 01 10:40	24°  13'16		minimum elong	7978 Jul 27 05:16	10°  14'22	1°04'17
evening set	7972 Jun 27 07:04	26°  07'04		max. Earth dist.	7978 Jul 28 00:40	10°  16'12	30.78845 AU
				morning rise	7978 Aug 12 03:46	10°  50'16	
conjunction	7972 Jul 13 00:08	26°  42'30	-1°08'29	retrograde	7978 Nov 11 06:44	12°  49'08	
minimum elong	7972 Jul 13 00:09	26°  42'30	1°08'36	min. Earth dist.	7979 Jan 29 09:37	11°  25'19	28.78889 AU
max. Earth dist.	7972 Jul 13 20:00	26°  44'23	30.78900 AU	opposition	7979 Jan 30 03:16	11°  24'05	-1°08'04
morning rise	7972 Jul 28 19:58	27°  18'13		direct	7979 Apr 17 22:33	10°  00'31	
retrograde	7972 Oct 27 18:16	29°  17'00		evening set	7979 Jul 13 22:29	11°  54'32	
opposition	7973 Jan 15 23:53	27°  51'48	-1°13'01				
min. Earth dist.	7973 Jan 15 05:16	27°  53'06	28.78830 AU	conjunction	7979 Jul 29 18:36	12°  30'10	-1°03'07
direct	7973 Apr 03 23:14	26°  28'09		minimum elong	7979 Jul 29 18:36	12°  30'10	1°03'13
evening set	7973 Jun 29 19:20	28°  21'58		max. Earth dist.	7979 Jul 30 14:04	12°  32'01	30.78792 AU
				morning rise	7979 Aug 14 17:27	13°  06'06	
conjunction	7973 Jul 15 12:40	28°  57'26	-1°08'02		7979 Oct 27 12:19	15° 	

retrograde	7979 Nov 13 20:32	15°04'56		direct	7986 May 03 09:53	25°048'26	
	7979 Dec 01 05:37	15°00		evening set	7986 Jul 29 16:25	27°042'26	
opposition	7980 Feb 01 15:41	13°039'53	-1°06'52				
min. Earth dist.	7980 Jan 31 21:26	13°041'09	28.78777 AU	conjunction	7986 Aug 14 15:35	28°018'13	-0°53'03
direct	7980 Apr 19 10:52	12°016'16		minimum elong	7986 Aug 14 15:35	28°018'13	0°53'08
evening set	7980 Jul 15 11:28	14°010'17		max. Earth dist.	7986 Aug 15 09:45	28°019'56	30.78571 AU
				morning rise	7986 Aug 30 17:18	28°054'15	
conjunction	7980 Jul 31 07:53	14°045'57	-1°01'57		7986 Oct 02 17:28	0°00	
minimum elong	7980 Jul 31 07:53	14°045'57	1°02'02	retrograde	7986 Nov 29 15:34	0°0052'37	
max. Earth dist.	7980 Aug 01 02:09	14°047'41	30.78639 AU		7987 Jan 28 09:25	30°000	
	7980 Aug 06 12:29	15°00		min. Earth dist.	7987 Feb 16 10:56	29°028'40	28.78804 AU
morning rise	7980 Aug 16 07:17	15°021'54		opposition	7987 Feb 17 04:13	29°027'27	-0°55'47
retrograde	7980 Nov 15 08:17	17°020'41		direct	7987 May 05 22:39	28°003'31	
min. Earth dist.	7981 Feb 02 11:01	15°056'48	28.78598 AU	evening set	7987 Aug 01 05:27	29°057'32	
opposition	7981 Feb 03 04:02	15°055'37	-1°05'34		7987 Aug 02 08:16	0°00	
	7981 Mar 11 06:36	15°000					
direct	7981 Apr 21 21:54	14°031'57		conjunction	7987 Aug 17 05:00	0°0033'21	-0°51'17
	7981 Jun 01 13:30	15°00		minimum elong	7987 Aug 17 05:00	0°0033'21	0°51'21
evening set	7981 Jul 18 00:13	16°025'58		max. Earth dist.	7987 Aug 17 23:00	0°0035'03	30.78984 AU
				morning rise	7987 Sep 02 07:08	1°009'24	
conjunction	7981 Aug 02 21:15	17°001'39	-1°00'41	retrograde	7987 Dec 02 05:02	3°007'42	
minimum elong	7981 Aug 02 21:16	17°001'39	1°00'47	opposition	7988 Feb 19 16:10	1°0042'34	-0°53'50
max. Earth dist.	7981 Aug 03 16:19	17°003'27	30.78450 AU	min. Earth dist.	7988 Feb 19 00:02	1°0043'42	28.79274 AU
morning rise	7981 Aug 18 20:55	17°037'36		direct	7988 May 07 10:27	0°0018'39	
retrograde	7981 Nov 17 20:08	19°036'19		evening set	7988 Aug 02 18:31	2°0012'41	
opposition	7982 Feb 05 16:16	18°011'13	-1°04'11				
min. Earth dist.	7982 Feb 04 22:55	18°012'26	28.78400 AU	conjunction	7988 Aug 18 18:34	2°0048'32	-0°49'25
direct	7982 Apr 24 10:17	16°047'30		minimum elong	7988 Aug 18 18:34	2°0048'32	0°49'28
evening set	7982 Jul 20 13:01	18°041'30		max. Earth dist.	7988 Aug 19 12:41	2°0050'14	30.79508 AU
				morning rise	7988 Sep 03 20:58	3°0024'36	
conjunction	7982 Aug 05 10:20	19°017'12	-0°59'20	retrograde	7988 Dec 03 18:39	5°0022'50	
minimum elong	7982 Aug 05 10:20	19°017'12	0°59'25	min. Earth dist.	7989 Feb 20 11:03	3°0058'56	28.79821 AU
max. Earth dist.	7982 Aug 06 04:11	19°018'53	30.78273 AU	opposition	7989 Feb 21 03:48	3°0057'46	-0°51'48
morning rise	7982 Aug 21 10:35	19°053'10		direct	7989 May 09 23:12	2°0033'51	
retrograde	7982 Nov 20 09:55	21°051'50		evening set	7989 Aug 05 07:49	4°0027'56	
min. Earth dist.	7983 Feb 07 11:32	20°027'53	28.78257 AU				
opposition	7983 Feb 08 04:31	20°026'41	-1°02'41	conjunction	7989 Aug 21 08:07	5°0003'47	-0°47'29
direct	7983 Apr 26 20:33	19°002'54		minimum elong	7989 Aug 21 08:08	5°0003'47	0°47'33
evening set	7983 Jul 23 01:49	20°056'53		max. Earth dist.	7989 Aug 22 01:10	5°0005'23	30.80073 AU
				morning rise	7989 Sep 06 10:59	5°0039'53	
conjunction	7983 Aug 07 23:44	21°032'37	-0°57'54	retrograde	7989 Dec 06 07:03	7°0038'03	
minimum elong	7983 Aug 07 23:44	21°032'37	0°58'00	opposition	7990 Feb 23 15:42	6°0013'02	-0°49'41
max. Earth dist.	7983 Aug 08 18:33	21°034'23	30.78163 AU	min. Earth dist.	7990 Feb 23 00:17	6°0014'07	28.80392 AU
morning rise	7983 Aug 24 00:14	22°008'36		direct	7990 May 12 09:40	4°0049'07	
retrograde	7983 Nov 22 21:55	24°007'10		evening set	7990 Aug 07 20:58	6°0043'14	
opposition	7984 Feb 10 16:28	22°042'01	-1°01'06				
min. Earth dist.	7984 Feb 09 23:41	22°043'12	28.78190 AU	conjunction	7990 Aug 23 21:51	7°0019'07	-0°45'28
direct	7984 Apr 28 09:20	21°018'10		minimum elong	7990 Aug 23 21:51	7°0019'07	0°45'31
evening set	7984 Jul 24 14:46	23°012'09		max. Earth dist.	7990 Aug 24 15:19	7°0020'45	30.80628 AU
				morning rise	7990 Sep 09 00:54	7°0055'13	
conjunction	7984 Aug 09 13:00	23°047'54	-0°56'22	retrograde	7990 Dec 08 19:34	9°0053'19	
minimum elong	7984 Aug 09 13:01	23°047'54	0°56'27	opposition	7991 Feb 26 03:29	8°0028'22	-0°47'30
max. Earth dist.	7984 Aug 10 06:49	23°049'34	30.78163 AU	min. Earth dist.	7991 Feb 25 12:08	8°0029'27	28.80907 AU
morning rise	7984 Aug 25 14:02	24°023'54		direct	7991 May 14 21:56	7°0004'26	
retrograde	7984 Nov 24 12:46	26°022'24		evening set	7991 Aug 10 10:32	8°0058'35	
min. Earth dist.	7985 Feb 11 11:16	24°058'26	28.78256 AU				
opposition	7985 Feb 12 04:27	24°057'13	-0°59'25	conjunction	7991 Aug 26 11:40	9°0034'29	-0°43'24
direct	7985 Apr 30 21:55	23°033'19		minimum elong	7991 Aug 26 11:40	9°0034'29	0°43'27
evening set	7985 Jul 27 03:32	25°027'19		max. Earth dist.	7991 Aug 27 03:14	9°0035'56	30.81107 AU
				morning rise	7991 Sep 11 15:12	10°0010'36	
conjunction	7985 Aug 12 02:15	26°003'05	-0°54'45	retrograde	7991 Dec 11 08:52	12°0008'37	
minimum elong	7985 Aug 12 02:15	26°003'05	0°54'51	opposition	7992 Feb 28 15:10	10°0043'41	-0°45'15
max. Earth dist.	7985 Aug 12 20:48	26°004'50	30.78287 AU	min. Earth dist.	7992 Feb 28 00:48	10°0044'41	28.81347 AU
morning rise	7985 Aug 28 03:33	26°039'06		direct	7992 May 16 08:06	9°0019'43	
retrograde	7985 Nov 27 00:40	28°037'32		evening set	7992 Aug 11 23:57	11°0013'53	
opposition	7986 Feb 14 16:27	27°012'21	-0°57'39				
min. Earth dist.	7986 Feb 13 24:00	27°013'31	28.78452 AU	conjunction	7992 Aug 28 01:37	11°0049'47	-0°41'15

minimum elong	7992 Aug 28 01:37	11° <u>17</u> 49'48	0°41'18	evening set	7999 Aug 28 21:12	26° <u>17</u> 57'38	
max. Earth dist.	7992 Aug 28 17:29	11° <u>17</u> 51'17	30.81500 AU				
morning rise	7992 Sep 13 05:17	12° <u>17</u> 25'55		conjunction	7999 Sep 14 01:16	27° <u>17</u> 33'37	-0°24'47
retrograde	7992 Dec 12 20:10	14° <u>17</u> 23'50		minimum elong	7999 Sep 14 01:16	27° <u>17</u> 33'37	0°24'48
opposition	7993 Mar 02 02:52	12° <u>17</u> 58'55	-0°42'55	max. Earth dist.	7999 Sep 14 14:12	27° <u>17</u> 34'49	30.85034 AU
min. Earth dist.	7993 Mar 01 13:10	12° <u>17</u> 59'53	28.81695 AU	morning rise	7999 Sep 30 06:43	28° <u>17</u> 09'46	
direct	7993 May 18 20:49	11° <u>17</u> 34'55			7999 Dec 09 05:08	0° <u>17</u>	
evening set	7993 Aug 14 13:16	13° <u>17</u> 29'05		retrograde	7999 Dec 29 14:36	0° <u>17</u> 06'54	
					8000 Jan 19 00:24	30° <u>17</u>	
conjunction	7993 Aug 30 15:11	14° <u>17</u> 05'00	-0°39'03	opposition	8000 Mar 17 09:50	28° <u>17</u> 42'09	-0°25'07
minimum elong	7993 Aug 30 15:11	14° <u>17</u> 05'00	0°39'06	min. Earth dist.	8000 Mar 16 22:26	28° <u>17</u> 42'57	28.85516 AU
max. Earth dist.	7993 Aug 31 05:26	14° <u>17</u> 06'20	30.81835 AU	direct	8000 Jun 03 10:04	27° <u>17</u> 17'55	
morning rise	7993 Sep 15 19:18	14° <u>17</u> 41'08		evening set	8000 Aug 30 10:43	29° <u>17</u> 12'13	
retrograde	7993 Dec 15 09:57	16° <u>17</u> 38'57					
opposition	7994 Mar 04 14:26	15° <u>17</u> 14'01	-0°40'32	conjunction	8000 Sep 15 14:53	29° <u>17</u> 48'13	-0°22'15
min. Earth dist.	7994 Mar 04 00:51	15° <u>17</u> 14'59	28.82015 AU	minimum elong	8000 Sep 15 14:53	29° <u>17</u> 48'13	0°22'15
direct	7994 May 21 08:53	13° <u>17</u> 49'58		max. Earth dist.	8000 Sep 16 02:21	29° <u>17</u> 49'17	30.86012 AU
evening set	7994 Aug 17 02:37	15° <u>17</u> 44'08			8000 Sep 20 20:51	0° <u>17</u>	
				morning rise	8000 Oct 01 20:39	0° <u>17</u> 24'22	
conjunction	7994 Sep 02 04:59	16° <u>17</u> 20'04	-0°36'48	retrograde	8000 Dec 31 02:55	2° <u>17</u> 21'25	
minimum elong	7994 Sep 02 04:59	16° <u>17</u> 20'04	0°36'50	opposition	8001 Mar 19 20:58	0° <u>17</u> 56'45	-0°22'24
max. Earth dist.	7994 Sep 02 19:32	16° <u>17</u> 21'26	30.82150 AU	min. Earth dist.	8001 Mar 19 10:16	0° <u>17</u> 57'30	28.86551 AU
morning rise	7994 Sep 18 09:17	16° <u>17</u> 56'12			8001 Apr 25 13:59	30° <u>17</u>	
retrograde	7994 Dec 17 21:23	18° <u>17</u> 53'54		direct	8001 Jun 05 19:53	29° <u>17</u> 32'32	
opposition	7995 Mar 07 01:52	17° <u>17</u> 28'59	-0°38'06		8001 Jul 16 09:24	0° <u>17</u>	
min. Earth dist.	7995 Mar 06 13:32	17° <u>17</u> 29'51	28.82340 AU	evening set	8001 Sep 01 23:58	1° <u>17</u> 26'53	
direct	7995 May 23 20:35	16° <u>17</u> 04'52					
evening set	7995 Aug 19 15:59	17° <u>17</u> 59'03		conjunction	8001 Sep 18 04:33	2° <u>17</u> 02'53	-0°19'41
				minimum elong	8001 Sep 18 04:33	2° <u>17</u> 02'53	0°19'42
conjunction	7995 Sep 04 18:42	18° <u>17</u> 35'00	-0°34'29	max. Earth dist.	8001 Sep 18 16:37	2° <u>17</u> 04'00	30.87079 AU
minimum elong	7995 Sep 04 18:42	18° <u>17</u> 35'00	0°34'31	morning rise	8001 Oct 04 10:18	2° <u>17</u> 39'03	
max. Earth dist.	7995 Sep 05 08:19	18° <u>17</u> 36'16	30.82510 AU	retrograde	8002 Jan 02 13:22	4° <u>17</u> 36'00	
morning rise	7995 Sep 20 23:21	19° <u>17</u> 11'08		opposition	8002 Mar 22 08:04	3° <u>17</u> 11'25	-0°19'38
retrograde	7995 Dec 20 11:48	21° <u>17</u> 08'42		min. Earth dist.	8002 Mar 21 22:01	3° <u>17</u> 12'08	28.87628 AU
opposition	7996 Mar 08 13:09	19° <u>17</u> 43'48	-0°35'36	direct	8002 Jun 08 08:00	1° <u>17</u> 47'14	
min. Earth dist.	7996 Mar 08 00:20	19° <u>17</u> 44'42	28.82730 AU	evening set	8002 Sep 04 13:40	3° <u>17</u> 41'37	
direct	7996 May 25 09:48	18° <u>17</u> 19'37					
evening set	7996 Aug 21 05:20	20° <u>17</u> 13'49		conjunction	8002 Sep 20 18:20	4° <u>17</u> 17'38	-0°17'06
				minimum elong	8002 Sep 20 18:20	4° <u>17</u> 17'38	0°17'05
conjunction	7996 Sep 06 08:20	20° <u>17</u> 49'47	-0°32'08	max. Earth dist.	8002 Sep 21 04:34	4° <u>17</u> 18'35	30.88165 AU
minimum elong	7996 Sep 06 08:20	20° <u>17</u> 49'47	0°32'08	morning rise	8002 Oct 07 00:24	4° <u>17</u> 53'47	
max. Earth dist.	7996 Sep 06 21:39	20° <u>17</u> 51'01	30.82933 AU	retrograde	8003 Jan 05 02:33	6° <u>17</u> 50'38	
morning rise	7996 Sep 22 13:11	21° <u>17</u> 25'55		opposition	8003 Mar 24 19:01	5° <u>17</u> 26'09	-0°16'50
retrograde	7996 Dec 22 00:29	23° <u>17</u> 23'23		min. Earth dist.	8003 Mar 24 09:22	5° <u>17</u> 26'49	28.88700 AU
opposition	7997 Mar 11 00:27	21° <u>17</u> 58'28	-0°33'03	direct	8003 Jun 10 18:39	4° <u>17</u> 01'57	
min. Earth dist.	7997 Mar 10 12:55	21° <u>17</u> 59'17	28.83213 AU	evening set	8003 Sep 07 03:21	5° <u>17</u> 56'23	
direct	7997 May 27 22:04	20° <u>17</u> 34'17					
evening set	7997 Aug 23 18:35	22° <u>17</u> 28'29		conjunction	8003 Sep 23 08:22	6° <u>17</u> 32'24	-0°14'28
				minimum elong	8003 Sep 23 08:22	6° <u>17</u> 32'24	0°14'28
conjunction	7997 Sep 08 21:59	23° <u>17</u> 04'27	-0°29'43	behind sun begin	8003 Sep 23 05:38	6° <u>17</u> 32'10	
minimum elong	7997 Sep 08 21:59	23° <u>17</u> 04'27	0°29'45	behind sun end	8003 Sep 23 11:06	6° <u>17</u> 32'39	
max. Earth dist.	7997 Sep 09 11:15	23° <u>17</u> 05'41	30.83490 AU	max. Earth dist.	8003 Sep 23 18:30	6° <u>17</u> 33'20	30.89193 AU
morning rise	7997 Sep 25 03:02	23° <u>17</u> 40'35		morning rise	8003 Oct 09 14:24	7° <u>17</u> 08'33	
retrograde	7997 Dec 24 13:37	25° <u>17</u> 37'56		retrograde	8004 Jan 07 13:40	9° <u>17</u> 05'18	
opposition	7998 Mar 13 11:35	24° <u>17</u> 13'04	-0°30'27	opposition	8004 Mar 26 06:10	7° <u>17</u> 40'52	-0°14'01
min. Earth dist.	7998 Mar 12 23:17	24° <u>17</u> 13'56	28.83833 AU	min. Earth dist.	8004 Mar 25 22:06	7° <u>17</u> 41'26	28.89682 AU
direct	7998 May 30 11:16	22° <u>17</u> 48'50		direct	8004 Jun 12 05:31	6° <u>17</u> 16'39	
evening set	7998 Aug 26 07:53	24° <u>17</u> 43'04		evening set	8004 Sep 08 17:04	8° <u>17</u> 11'07	
conjunction	7998 Sep 11 11:29	25° <u>17</u> 19'03	-0°27'16	conjunction	8004 Sep 24 22:12	8° <u>17</u> 47'08	-0°11'50
minimum elong	7998 Sep 11 11:29	25° <u>17</u> 19'03	0°27'17	minimum elong	8004 Sep 24 22:13	8° <u>17</u> 47'08	0°11'49
max. Earth dist.	7998 Sep 11 23:51	25° <u>17</u> 20'12	30.84183 AU	behind sun begin	8004 Sep 24 17:41	8° <u>17</u> 46'43	
morning rise	7998 Sep 27 16:51	25° <u>17</u> 55'12		behind sun end	8004 Sep 25 02:44	8° <u>17</u> 47'32	
retrograde	7998 Dec 27 01:50	27° <u>17</u> 52'26		max. Earth dist.	8004 Sep 25 06:47	8° <u>17</u> 47'55	30.90135 AU
opposition	7999 Mar 15 22:51	26° <u>17</u> 27'36	-0°27'48	morning rise	8004 Oct 11 04:25	9° <u>17</u> 23'16	
min. Earth dist.	7999 Mar 15 11:40	26° <u>17</u> 28'24	28.84607 AU	retrograde	8005 Jan 09 02:56	11° <u>17</u> 19'53	
direct	7999 Jun 01 21:53	25° <u>17</u> 03'23		opposition	8005 Mar 28 17:07	9° <u>17</u> 55'29	-0°11'11

min. Earth dist.	8005 Mar 28 09:00	9° <u>♂</u> 56'03	28.90573 AU	behind sun begin	8010 Oct 09 01:58	22° <u>♂</u> 11'06	
direct	8005 Jun 14 18:59	8° <u>♂</u> 31'14		behind sun end	8010 Oct 09 14:55	22° <u>♂</u> 12'15	
evening set	8005 Sep 11 06:45	10° <u>♂</u> 25'43		max. Earth dist.	8010 Oct 09 13:28	22° <u>♂</u> 12'06	30.95114 AU
				morning rise	8010 Oct 25 14:45	22° <u>♂</u> 47'43	
conjunction	8005 Sep 27 12:05	11° <u>♂</u> 01'44	-0°09'11	retrograde	8011 Jan 23 01:29	24° <u>♂</u> 43'25	
minimum elong	8005 Sep 27 12:05	11° <u>♂</u> 01'44	0°09'10	opposition	8011 Apr 11 09:35	23° <u>♂</u> 19'12	0°05'56
behind sun begin	8005 Sep 27 06:33	11° <u>♂</u> 01'14		min. Earth dist.	8011 Apr 11 05:45	23° <u>♂</u> 19'28	28.95635 AU
behind sun end	8005 Sep 27 17:38	11° <u>♂</u> 02'13		direct	8011 Jun 28 20:28	21° <u>♂</u> 54'41	
max. Earth dist.	8005 Sep 27 19:57	11° <u>♂</u> 02'26	30.90979 AU	evening set	8011 Sep 25 15:50	23° <u>♂</u> 49'12	
morning rise	8005 Oct 13 18:20	11° <u>♂</u> 37'51					
retrograde	8006 Jan 11 14:35	13° <u>♂</u> 34'19		conjunction	8011 Oct 11 21:55	24° <u>♂</u> 25'11	0°06'56
opposition	8006 Mar 31 04:08	12° <u>♂</u> 09'56	-0°08'21	minimum elong	8011 Oct 11 21:56	24° <u>♂</u> 25'11	0°06'59
min. Earth dist.	8006 Mar 30 21:47	12° <u>♂</u> 10'23	28.91387 AU	behind sun begin	8011 Oct 11 15:50	24° <u>♂</u> 24'39	
direct	8006 Jun 17 07:13	10° <u>♂</u> 45'39		behind sun end	8011 Oct 12 04:01	24° <u>♂</u> 25'44	
evening set	8006 Sep 13 20:16	12° <u>♂</u> 40'07		max. Earth dist.	8011 Oct 12 01:17	24° <u>♂</u> 25'28	30.96189 AU
				morning rise	8011 Oct 28 04:22	25° <u>♂</u> 01'13	
conjunction	8006 Sep 30 01:55	13° <u>♂</u> 16'08	-0°06'32	retrograde	8012 Jan 25 13:55	26° <u>♂</u> 56'48	
minimum elong	8006 Sep 30 01:54	13° <u>♂</u> 16'08	0°06'30	opposition	8012 Apr 12 20:09	25° <u>♂</u> 32'39	0°08'47
behind sun begin	8006 Sep 29 19:43	13° <u>♂</u> 15'35		min. Earth dist.	8012 Apr 12 16:16	25° <u>♂</u> 32'55	28.96776 AU
behind sun end	8006 Sep 30 08:04	13° <u>♂</u> 16'41		direct	8012 Jun 30 06:47	24° <u>♂</u> 08'08	
max. Earth dist.	8006 Sep 30 09:00	13° <u>♂</u> 16'46	30.91776 AU	evening set	8012 Sep 27 05:09	26° <u>♂</u> 02'42	
morning rise	8006 Oct 16 08:14	13° <u>♂</u> 52'14					
retrograde	8007 Jan 14 03:29	15° <u>♂</u> 48'33		conjunction	8012 Oct 13 11:24	26° <u>♂</u> 38'41	0°09'34
opposition	8007 Apr 02 14:56	14° <u>♂</u> 24'12	-0°05'29	minimum elong	8012 Oct 13 11:24	26° <u>♂</u> 38'41	0°09'39
min. Earth dist.	8007 Apr 02 08:21	14° <u>♂</u> 24'40	28.92154 AU	behind sun begin	8012 Oct 13 06:00	26° <u>♂</u> 38'12	
direct	8007 Jun 19 20:53	12° <u>♂</u> 59'51		behind sun end	8012 Oct 13 16:48	26° <u>♂</u> 39'10	
evening set	8007 Sep 16 10:00	14° <u>♂</u> 54'19		max. Earth dist.	8012 Oct 13 15:13	26° <u>♂</u> 39'01	30.97383 AU
				morning rise	8012 Oct 29 17:37	27° <u>♂</u> 14'41	
conjunction	8007 Oct 02 15:40	15° <u>♂</u> 30'19	-0°03'53	retrograde	8013 Jan 27 00:02	29° <u>♂</u> 10'11	
minimum elong	8007 Oct 02 15:40	15° <u>♂</u> 30'19	0°03'51	opposition	8013 Apr 15 06:47	27° <u>♂</u> 46'08	0°11'36
behind sun begin	8007 Oct 02 09:09	15° <u>♂</u> 29'45		min. Earth dist.	8013 Apr 15 04:07	27° <u>♂</u> 46'19	28.98022 AU
behind sun end	8007 Oct 02 22:11	15° <u>♂</u> 30'54		direct	8013 Jul 02 17:03	26° <u>♂</u> 21'39	
max. Earth dist.	8007 Oct 02 21:25	15° <u>♂</u> 30'50	30.92533 AU	evening set	8013 Sep 29 18:37	28° <u>♂</u> 16'16	
morning rise	8007 Oct 18 22:06	16° <u>♂</u> 06'25					
retrograde	8008 Jan 16 15:40	18° <u>♂</u> 02'34		conjunction	8013 Oct 16 00:51	28° <u>♂</u> 52'14	0°12'12
opposition	8008 Apr 04 01:41	16° <u>♂</u> 38'13	-0°02'38	minimum elong	8013 Oct 16 00:51	28° <u>♂</u> 52'14	0°12'16
min. Earth dist.	8008 Apr 03 20:38	16° <u>♂</u> 38'35	28.92923 AU	behind sun begin	8013 Oct 15 20:33	28° <u>♂</u> 51'51	
direct	8008 Jun 21 08:16	15° <u>♂</u> 13'49		behind sun end	8013 Oct 16 05:08	28° <u>♂</u> 52'37	
evening set	8008 Sep 17 23:28	17° <u>♂</u> 08'18		max. Earth dist.	8013 Oct 16 03:26	28° <u>♂</u> 52'27	30.98682 AU
				morning rise	8013 Nov 01 07:07	29° <u>♂</u> 28'14	
conjunction	8008 Oct 04 05:26	17° <u>♂</u> 44'18	-0°01'10		8013 Nov 16 10:29	0° <u>♂</u>	
minimum elong	8008 Oct 04 05:25	17° <u>♂</u> 44'18	0°01'07	retrograde	8014 Jan 29 12:35	1° <u>♂</u> 23'37	
behind sun begin	8008 Oct 03 22:50	17° <u>♂</u> 43'43		opposition	8014 Apr 17 17:12	29° <u>♂</u> 59'41	0°14'25
behind sun end	8008 Oct 04 12:00	17° <u>♂</u> 44'53			8014 Apr 17 12:39	30° <u>♂</u> <u>♂</u>	
max. Earth dist.	8008 Oct 04 11:23	17° <u>♂</u> 44'49	30.93320 AU	min. Earth dist.	8014 Apr 17 14:18	29° <u>♂</u> 59'53	28.99344 AU
morning rise	8008 Oct 20 11:45	18° <u>♂</u> 20'22		direct	8014 Jul 05 05:32	28° <u>♂</u> 35'13	
retrograde	8009 Jan 18 04:00	20° <u>♂</u> 16'21			8014 Sep 18 01:47	0° <u>♂</u>	
asc. node	8009 Mar 08 10:33	19° <u>♂</u> 38'32		evening set	8014 Oct 02 08:07	0° <u>♂</u> 29'55	
opposition	8009 Apr 06 12:22	18° <u>♂</u> 52'03	0°00'14				
min. Earth dist.	8009 Apr 06 07:18	18° <u>♂</u> 52'24	28.93729 AU	conjunction	8014 Oct 18 14:25	1° <u>♂</u> 05'53	0°14'49
direct	8009 Jun 23 21:39	17° <u>♂</u> 27'36		minimum elong	8014 Oct 18 14:25	1° <u>♂</u> 05'53	0°14'54
evening set	8009 Sep 20 12:53	19° <u>♂</u> 22'04		behind sun begin	8014 Oct 18 12:10	1° <u>♂</u> 05'41	
				behind sun end	8014 Oct 18 16:40	1° <u>♂</u> 06'05	
conjunction	8009 Oct 06 18:46	19° <u>♂</u> 58'04	0°01'36	max. Earth dist.	8014 Oct 18 16:33	1° <u>♂</u> 06'04	31.00002 AU
minimum elong	8009 Oct 06 18:47	19° <u>♂</u> 58'04	0°01'38	morning rise	8014 Nov 03 20:32	1° <u>♂</u> 41'51	
behind sun begin	8009 Oct 06 12:11	19° <u>♂</u> 57'28		retrograde	8015 Jan 31 23:48	3° <u>♂</u> 37'10	
behind sun end	8009 Oct 07 01:22	19° <u>♂</u> 58'39		opposition	8015 Apr 20 03:52	2° <u>♂</u> 13'20	0°17'12
max. Earth dist.	8009 Oct 06 23:13	19° <u>♂</u> 58'26	30.94165 AU	min. Earth dist.	8015 Apr 20 02:46	2° <u>♂</u> 13'24	29.00655 AU
morning rise	8009 Oct 23 01:16	20° <u>♂</u> 34'07		direct	8015 Jul 07 16:52	0° <u>♂</u> 48'54	
retrograde	8010 Jan 20 15:27	22° <u>♂</u> 29'58		evening set	8015 Oct 04 21:44	2° <u>♂</u> 43'40	
opposition	8010 Apr 08 23:04	21° <u>♂</u> 05'41	0°03'05				
min. Earth dist.	8010 Apr 08 18:43	21° <u>♂</u> 05'59	28.94631 AU	conjunction	8015 Oct 21 04:02	3° <u>♂</u> 19'37	0°17'24
direct	8010 Jun 26 08:22	19° <u>♂</u> 41'12		minimum elong	8015 Oct 21 04:02	3° <u>♂</u> 19'37	0°17'29
evening set	8010 Sep 23 02:16	21° <u>♂</u> 35'41		max. Earth dist.	8015 Oct 21 05:10	3° <u>♂</u> 19'43	31.01283 AU
				morning rise	8015 Nov 06 10:01	3° <u>♂</u> 55'34	
conjunction	8010 Oct 09 08:27	22° <u>♂</u> 11'40	0°04'17	retrograde	8016 Feb 03 12:32	5° <u>♂</u> 50'47	
minimum elong	8010 Oct 09 08:26	22° <u>♂</u> 11'40	0°04'20	opposition	8016 Apr 21 14:18	4° <u>♂</u> 27'02	0°19'57

min. Earth dist.	8016 Apr 21 13:09	4° \mathbb{M} 27'07	29.01886 AU	conjunction	8022 Nov 06 01:07	18° \mathbb{M} 52'48	0°34'32
direct	8016 Jul 09 05:50	3° \mathbb{M} 02'37		minimum elong	8022 Nov 06 01:07	18° \mathbb{M} 52'47	0°34'39
evening set	8016 Oct 06 11:23	4° \mathbb{M} 57'27		max. Earth dist.	8022 Nov 05 19:48	18° \mathbb{M} 52'18	31.07888 AU
				morning rise	8022 Nov 22 05:53	19° \mathbb{M} 28'33	
conjunction	8016 Oct 22 17:34	5° \mathbb{M} 33'23	0°19'58	retrograde	8023 Feb 18 17:52	21° \mathbb{M} 22'45	
minimum elong	8016 Oct 22 17:34	5° \mathbb{M} 33'23	0°20'03	opposition	8023 May 07 15:03	19° \mathbb{M} 59'17	0°38'06
max. Earth dist.	8016 Oct 22 17:10	5° \mathbb{M} 33'21	31.02455 AU	min. Earth dist.	8023 May 07 19:02	19° \mathbb{M} 59'00	29.08376 AU
morning rise	8016 Nov 07 23:26	6° \mathbb{M} 09'19		direct	8023 Jul 25 17:32	18° \mathbb{M} 34'34	
retrograde	8017 Feb 05 01:02	8° \mathbb{M} 04'24		evening set	8023 Oct 23 08:29	20° \mathbb{M} 29'27	
opposition	8017 Apr 24 01:00	6° \mathbb{M} 40'44	0°22'41				
min. Earth dist.	8017 Apr 24 01:32	6° \mathbb{M} 40'42	29.03011 AU	conjunction	8023 Nov 08 14:06	21° \mathbb{M} 05'15	0°36'47
direct	8017 Jul 11 17:21	5° \mathbb{M} 16'19		minimum elong	8023 Nov 08 14:06	21° \mathbb{M} 05'15	0°36'54
evening set	8017 Oct 09 00:43	7° \mathbb{M} 11'09		max. Earth dist.	8023 Nov 08 08:41	21° \mathbb{M} 04'45	31.08860 AU
				morning rise	8023 Nov 24 18:29	21° \mathbb{M} 40'59	
conjunction	8017 Oct 25 07:01	7° \mathbb{M} 47'05	0°22'30	retrograde	8024 Feb 21 03:31	23° \mathbb{M} 35'03	
minimum elong	8017 Oct 25 07:00	7° \mathbb{M} 47'05	0°22'35	opposition	8024 May 09 01:20	22° \mathbb{M} 11'37	0°40'29
max. Earth dist.	8017 Oct 25 06:22	7° \mathbb{M} 47'02	31.03520 AU	min. Earth dist.	8024 May 09 06:39	22° \mathbb{M} 11'15	29.09415 AU
morning rise	8017 Nov 10 12:39	8° \mathbb{M} 22'59		direct	8024 Jul 27 03:51	20° \mathbb{M} 46'53	
retrograde	8018 Feb 07 13:30	10° \mathbb{M} 17'57		evening set	8024 Oct 24 21:29	22° \mathbb{M} 41'47	
opposition	8018 Apr 26 11:30	8° \mathbb{M} 54'20	0°25'22				
min. Earth dist.	8018 Apr 26 12:26	8° \mathbb{M} 54'16	29.04008 AU	conjunction	8024 Nov 10 02:57	23° \mathbb{M} 17'34	0°38'59
direct	8018 Jul 14 07:27	7° \mathbb{M} 29'53		minimum elong	8024 Nov 10 02:56	23° \mathbb{M} 17'34	0°39'07
evening set	8018 Oct 11 14:20	9° \mathbb{M} 24'45		max. Earth dist.	8024 Nov 09 21:04	23° \mathbb{M} 17'01	31.09969 AU
				morning rise	8024 Nov 26 07:05	23° \mathbb{M} 53'15	
conjunction	8018 Oct 27 20:25	10° \mathbb{M} 00'40	0°25'00	retrograde	8025 Feb 22 14:58	25° \mathbb{M} 47'12	
minimum elong	8018 Oct 27 20:25	10° \mathbb{M} 00'40	0°25'05	opposition	8025 May 11 11:29	24° \mathbb{M} 23'51	0°42'49
max. Earth dist.	8018 Oct 27 17:46	10° \mathbb{M} 00'25	31.04467 AU	min. Earth dist.	8025 May 11 16:10	24° \mathbb{M} 23'31	29.10579 AU
morning rise	8018 Nov 13 02:02	10° \mathbb{M} 36'33		direct	8025 Jul 29 16:13	22° \mathbb{M} 59'07	
retrograde	8019 Feb 10 00:36	12° \mathbb{M} 31'22		evening set	8025 Oct 27 10:23	24° \mathbb{M} 54'03	
opposition	8019 Apr 28 21:53	11° \mathbb{M} 07'47	0°28'01				
min. Earth dist.	8019 Apr 28 23:57	11° \mathbb{M} 07'38	29.04919 AU	conjunction	8025 Nov 12 15:37	25° \mathbb{M} 29'48	0°41'08
direct	8019 Jul 16 18:41	9° \mathbb{M} 43'17		minimum elong	8025 Nov 12 15:37	25° \mathbb{M} 29'48	0°41'15
evening set	8019 Oct 14 03:44	11° \mathbb{M} 38'10		max. Earth dist.	8025 Nov 12 08:55	25° \mathbb{M} 29'11	31.11182 AU
				morning rise	8025 Nov 28 19:33	26° \mathbb{M} 05'28	
conjunction	8019 Oct 30 09:55	12° \mathbb{M} 14'03	0°27'27	retrograde	8026 Feb 25 02:26	27° \mathbb{M} 59'19	
minimum elong	8019 Oct 30 09:55	12° \mathbb{M} 14'03	0°27'32	opposition	8026 May 13 21:46	26° \mathbb{M} 36'03	0°45'04
max. Earth dist.	8019 Oct 30 07:25	12° \mathbb{M} 13'49	31.05336 AU	min. Earth dist.	8026 May 14 03:42	26° \mathbb{M} 35'38	29.11838 AU
morning rise	8019 Nov 15 15:11	12° \mathbb{M} 49'54		direct	8026 Aug 01 03:28	25° \mathbb{M} 11'20	
retrograde	8020 Feb 12 10:44	14° \mathbb{M} 44'33		evening set	8026 Oct 29 23:22	27° \mathbb{M} 06'19	
opposition	8020 Apr 30 08:18	13° \mathbb{M} 21'01	0°30'37				
min. Earth dist.	8020 Apr 30 11:16	13° \mathbb{M} 20'49	29.05755 AU	conjunction	8026 Nov 15 04:31	27° \mathbb{M} 42'03	0°43'13
direct	8020 Jul 18 07:29	11° \mathbb{M} 56'28		minimum elong	8026 Nov 15 04:31	27° \mathbb{M} 42'03	0°43'21
evening set	8020 Oct 15 17:02	13° \mathbb{M} 51'20		max. Earth dist.	8026 Nov 14 21:55	27° \mathbb{M} 41'26	31.12465 AU
				morning rise	8026 Dec 01 08:04	28° \mathbb{M} 17'40	
conjunction	8020 Oct 31 22:56	14° \mathbb{M} 27'13	0°29'51		8027 Feb 01 13:53	0° \mathbb{M} ✗	
minimum elong	8020 Oct 31 22:56	14° \mathbb{M} 27'13	0°29'58	retrograde	8027 Feb 27 13:58	0° \mathbb{M} ✗11'26	
max. Earth dist.	8020 Oct 31 18:34	14° \mathbb{M} 26'49	31.06163 AU		8027 Mar 25 19:54	30° \mathbb{R} \mathbb{M}	
	8020 Nov 15 18:40	15° \mathbb{M}		opposition	8027 May 16 07:51	28° \mathbb{M} 48'15	0°47'16
morning rise	8020 Nov 17 04:10	15° \mathbb{M} 03'02		min. Earth dist.	8027 May 16 14:03	28° \mathbb{M} 47'49	29.13118 AU
retrograde	8021 Feb 13 22:40	16° \mathbb{M} 57'32		direct	8027 Aug 03 16:58	27° \mathbb{M} 23'34	
opposition	8021 May 02 18:36	15° \mathbb{M} 34'01	0°33'10	evening set	8027 Nov 01 12:32	29° \mathbb{M} 18'37	
min. Earth dist.	8021 May 02 21:42	15° \mathbb{M} 33'48	29.06586 AU				
	8021 May 23 12:29	15° \mathbb{R} \mathbb{M}		conjunction	8027 Nov 17 17:18	29° \mathbb{M} 54'19	0°45'14
direct	8021 Jul 20 18:19	14° \mathbb{M} 09'24		minimum elong	8027 Nov 17 17:18	29° \mathbb{M} 54'19	0°45'22
	8021 Sep 15 09:50	15° \mathbb{M}		max. Earth dist.	8027 Nov 17 09:01	29° \mathbb{M} 53'33	31.13731 AU
evening set	8021 Oct 18 06:12	16° \mathbb{M} 04'16			8027 Nov 20 06:38	0° \mathbb{M} ✗	
				morning rise	8027 Dec 03 20:39	0° \mathbb{M} ✗29'55	
conjunction	8021 Nov 03 12:08	16° \mathbb{M} 40'07	0°32'13	retrograde	8028 Mar 01 01:36	2° \mathbb{M} ✗23'36	
minimum elong	8021 Nov 03 12:08	16° \mathbb{M} 40'07	0°32'19	opposition	8028 May 17 18:09	1° \mathbb{M} ✗00'30	0°49'23
max. Earth dist.	8021 Nov 03 08:04	16° \mathbb{M} 39'45	31.06994 AU	min. Earth dist.	8028 May 18 01:14	1° \mathbb{M} ✗00'00	29.14368 AU
morning rise	8021 Nov 19 16:59	17° \mathbb{M} 15'55			8028 Jun 26 21:53	30° \mathbb{R} \mathbb{M}	
retrograde	8022 Feb 16 07:17	19° \mathbb{M} 10'16		direct	8028 Aug 05 03:45	29° \mathbb{M} 35'50	
opposition	8022 May 05 04:52	17° \mathbb{M} 46'46	0°35'40		8028 Sep 12 19:27	0° \mathbb{M} ✗	
min. Earth dist.	8022 May 05 09:19	17° \mathbb{M} 46'27	29.07441 AU	evening set	8028 Nov 03 01:20	1° \mathbb{M} ✗30'55	
direct	8022 Jul 23 05:15	16° \mathbb{M} 22'06					
evening set	8022 Oct 20 19:23	18° \mathbb{M} 16'58		conjunction	8028 Nov 19 06:02	2° \mathbb{M} ✗06'36	0°47'12
				minimum elong	8028 Nov 19 06:02	2° \mathbb{M} ✗06'36	0°47'19

max. Earth dist.	8028 Nov 18 22:01	2°♂05'52	31.14930 AU	conjunction	8035 Dec 05 20:56	17°♂29'44	0°58'44
morning rise	8028 Dec 05 08:53	2°♂42'10		minimum elong	8035 Dec 05 20:56	17°♂29'44	0°58'53
retrograde	8029 Mar 03 12:02	4°♂35'45		max. Earth dist.	8035 Dec 05 08:01	17°♂28'32	31.20977 AU
opposition	8029 May 20 04:30	3°♂12'45	0°51'26	morning rise	8035 Dec 21 21:19	18°♂05'03	
min. Earth dist.	8029 May 20 12:33	3°♂12'11	29.15514 AU	retrograde	8036 Mar 18 12:07	19°♂57'53	
direct	8029 Aug 07 16:36	1°♂48'05		opposition	8036 Jun 04 03:50	18°♂35'10	1°03'28
evening set	8029 Nov 05 14:25	3°♂43'12		min. Earth dist.	8036 Jun 04 15:34	18°♂34'21	29.21460 AU
				direct	8036 Aug 23 01:48	17°♂10'20	
				evening set	8036 Nov 21 06:25	19°♂05'32	
conjunction	8029 Nov 21 18:42	4°♂18'52	0°49'04				
minimum elong	8029 Nov 21 18:42	4°♂18'52	0°49'12				
max. Earth dist.	8029 Nov 21 08:36	4°♂17'56	31.16023 AU	conjunction	8036 Dec 07 08:41	19°♂41'00	1°00'04
morning rise	8029 Dec 07 21:24	4°♂54'24		minimum elong	8036 Dec 07 08:41	19°♂41'00	1°00'12
retrograde	8030 Mar 06 00:09	6°♂47'53		max. Earth dist.	8036 Dec 06 18:42	19°♂39'42	31.21895 AU
opposition	8030 May 22 14:39	5°♂24'56	0°53'24	morning rise	8036 Dec 23 08:47	20°♂16'17	
min. Earth dist.	8030 May 22 22:58	5°♂24'22	29.16555 AU	retrograde	8037 Mar 20 23:11	22°♂09'03	
direct	8030 Aug 10 03:39	4°♂00'16		opposition	8037 Jun 06 14:02	20°♂46'23	1°04'50
evening set	8030 Nov 08 03:18	5°♂55'25		min. Earth dist.	8037 Jun 07 01:58	20°♂45'33	29.22447 AU
				direct	8037 Aug 25 12:11	19°♂21'33	
				evening set	8037 Nov 23 18:34	21°♂16'48	
conjunction	8030 Nov 24 07:30	6°♂31'03	0°50'53				
minimum elong	8030 Nov 24 07:30	6°♂31'03	0°51'01				
max. Earth dist.	8030 Nov 23 21:25	6°♂30'07	31.16995 AU	conjunction	8037 Dec 09 20:42	21°♂52'14	1°01'18
morning rise	8030 Dec 10 09:42	7°♂06'34		minimum elong	8037 Dec 09 20:42	21°♂52'14	1°01'27
retrograde	8031 Mar 08 08:53	8°♂59'56		max. Earth dist.	8037 Dec 09 07:34	21°♂51'01	31.22934 AU
opposition	8031 May 25 01:02	7°♂37'03	0°55'18	morning rise	8037 Dec 25 20:16	22°♂27'29	
min. Earth dist.	8031 May 25 10:58	7°♂36'21	29.17470 AU	retrograde	8038 Mar 23 09:40	24°♂20'10	
direct	8031 Aug 12 14:56	6°♂12'21		opposition	8038 Jun 09 00:07	22°♂57'35	1°06'07
evening set	8031 Nov 10 16:11	8°♂07'31		min. Earth dist.	8038 Jun 09 12:36	22°♂56'43	29.23527 AU
				direct	8038 Aug 28 01:20	21°♂32'47	
				evening set	8038 Nov 26 06:55	23°♂28'04	
conjunction	8031 Nov 26 19:59	8°♂43'07	0°52'37				
minimum elong	8031 Nov 26 19:59	8°♂43'07	0°52'45				
max. Earth dist.	8031 Nov 26 08:22	8°♂42'03	31.17863 AU	conjunction	8038 Dec 12 08:33	24°♂03'29	1°02'27
morning rise	8031 Dec 12 21:57	9°♂18'35		minimum elong	8038 Dec 12 08:33	24°♂03'29	1°02'36
retrograde	8032 Mar 09 19:12	11°♂11'51		max. Earth dist.	8038 Dec 11 17:58	24°♂02'08	31.24056 AU
opposition	8032 May 26 11:11	9°♂49'00	0°57'06	morning rise	8038 Dec 28 07:53	24°♂38'42	
min. Earth dist.	8032 May 26 20:53	9°♂48'20	29.18294 AU	retrograde	8039 Mar 25 21:52	26°♂31'20	
direct	8032 Aug 14 02:52	8°♂24'17		opposition	8039 Jun 11 10:17	25°♂08'50	1°07'17
evening set	8032 Nov 12 04:51	10°♂19'27		min. Earth dist.	8039 Jun 11 22:31	25°♂07'59	29.24671 AU
				direct	8039 Aug 30 12:48	23°♂44'04	
				evening set	8039 Nov 28 19:01	25°♂39'24	
conjunction	8032 Nov 28 08:26	10°♂55'02	0°54'16				
minimum elong	8032 Nov 28 08:26	10°♂55'02	0°54'25				
max. Earth dist.	8032 Nov 27 20:34	10°♂53'57	31.18645 AU	conjunction	8039 Dec 14 20:25	26°♂14'47	1°03'30
morning rise	8032 Dec 14 09:57	11°♂30'28		minimum elong	8039 Dec 14 20:25	26°♂14'47	1°03'39
retrograde	8033 Mar 12 04:27	13°♂23'37		max. Earth dist.	8039 Dec 14 06:23	26°♂13'29	31.25190 AU
opposition	8033 May 28 21:26	12°♂00'49	0°58'50	morning rise	8039 Dec 30 19:09	26°♂49'58	
min. Earth dist.	8033 May 29 08:43	12°♂00'01	29.19062 AU	retrograde	8040 Mar 27 06:27	28°♂42'33	
direct	8033 Aug 16 12:39	10°♂36'03		opposition	8040 Jun 12 20:39	27°♂20'09	1°08'22
evening set	8033 Nov 14 17:18	12°♂31'13		min. Earth dist.	8040 Jun 13 10:15	27°♂19'12	29.25792 AU
				direct	8040 Sep 01 00:05	25°♂55'26	
				evening set	8040 Nov 30 07:16	27°♂50'47	
conjunction	8033 Nov 30 20:38	13°♂06'47	0°55'50				
minimum elong	8033 Nov 30 20:38	13°♂06'47	0°55'59				
max. Earth dist.	8033 Nov 30 08:09	13°♂05'37	31.19404 AU	conjunction	8040 Dec 16 08:11	28°♂26'08	1°04'28
morning rise	8033 Dec 16 21:52	13°♂42'11		minimum elong	8040 Dec 16 08:11	28°♂26'08	1°04'37
retrograde	8034 Mar 14 14:54	15°♂35'13		max. Earth dist.	8040 Dec 15 16:54	28°♂24'43	31.26287 AU
opposition	8034 May 31 07:32	14°♂12'26	1°00'28	morning rise	8041 Jan 01 06:39	29°♂01'17	
min. Earth dist.	8034 May 31 18:22	14°♂11'41	29.19810 AU		8041 Jan 30 21:08	0°♂	
direct	8034 Aug 19 01:02	12°♂47'38		retrograde	8041 Mar 29 16:52	0°♂53'49	
evening set	8034 Nov 17 05:51	14°♂42'49			8041 May 28 18:55	30°♂	
				opposition	8041 Jun 15 06:51	29°♂31'29	1°09'20
conjunction	8034 Dec 03 08:50	15°♂18'20	0°57'20	min. Earth dist.	8041 Jun 15 20:05	29°♂30'34	29.26847 AU
minimum elong	8034 Dec 03 08:50	15°♂18'20	0°57'28	direct	8041 Sep 03 11:25	28°♂06'47	
max. Earth dist.	8034 Dec 02 19:29	15°♂17'06	31.20155 AU		8041 Dec 01 19:22	0°♂	
morning rise	8034 Dec 19 09:40	15°♂53'42		evening set	8041 Dec 02 19:21	0°♂02'10	
retrograde	8035 Mar 17 01:31	17°♂46'38					
opposition	8035 Jun 02 17:39	16°♂23'52	1°02'01	conjunction	8041 Dec 18 20:00	0°♂37'30	1°05'20
min. Earth dist.	8035 Jun 03 05:35	16°♂23'02	29.20597 AU	minimum elong	8041 Dec 18 20:00	0°♂37'30	1°05'29
direct	8035 Aug 21 12:22	14°♂59'02		max. Earth dist.	8041 Dec 18 04:29	0°♂36'04	31.27275 AU
evening set	8035 Nov 19 18:11	16°♂54'14		morning rise	8042 Jan 03 17:59	1°♂12'37	

retrograde	8042 Apr 01 02:27	3°30'05"05		conjunction	8049 Jan 03 03:57	15°35'33"32	1°08'43"
opposition	8042 Jun 17 17:20	1°34'42"48	1°10'13"	minimum elong	8049 Jan 03 03:57	15°35'33"32	1°08'52"
min. Earth dist.	8042 Jun 18 08:10	1°34'41"47	29.27779 AU	morning rise	8049 Jan 18 23:00	16°32'28"24	
direct	8042 Sep 05 20:57	0°31'18"07		retrograde	8049 Apr 16 00:56	18°32'20"25	
evening set	8042 Dec 05 07:32	2°31'13"30		opposition	8049 Jul 02 18:13	16°35'58"15	1°13'29"
				min. Earth dist.	8049 Jul 03 11:20	16°35'57"04	29.31668 AU
conjunction	8042 Dec 21 07:47	2°34'48"48	1°06'06"	direct	8049 Sep 21 08:30	15°33'33"27	
minimum elong	8042 Dec 21 07:47	2°34'48"48	1°06'15"	evening set	8049 Dec 20 17:19	17°32'28"46	
max. Earth dist.	8042 Dec 20 15:32	2°34'47"18	31.28140 AU				
morning rise	8043 Jan 06 05:22	3°32'23"53		conjunction	8050 Jan 05 14:53	18°33'03"51	1°08'49"
retrograde	8043 Apr 03 12:09	5°31'16"17		minimum elong	8050 Jan 05 14:53	18°33'03"51	1°08'58"
opposition	8043 Jun 20 03:38	3°35'54"03	1°10'59"	max. Earth dist.	8050 Jan 04 20:22	18°32'02"08	31.31911 AU
min. Earth dist.	8043 Jun 20 18:11	3°35'53"03	29.28567 AU	morning rise	8050 Jan 21 09:41	18°33'38"42	
direct	8043 Sep 08 09:22	2°32'29"21		retrograde	8050 Apr 18 11:11	20°33'30"41	
evening set	8043 Dec 07 19:38	4°32'24"45		opposition	8050 Jul 05 04:36	19°33'08"34	1°13'32"
				min. Earth dist.	8050 Jul 05 20:42	19°33'07"28	29.32288 AU
conjunction	8043 Dec 23 19:28	5°33'00"01	1°06'47"	direct	8050 Sep 23 20:00	17°33'43"48	
minimum elong	8043 Dec 23 19:28	5°33'00"01	1°06'56"	evening set	8050 Dec 23 04:38	19°33'39"09	
max. Earth dist.	8043 Dec 23 02:09	4°33'58"24	31.28857 AU	max. Earth dist.	8051 Jan 07 07:43	20°33'12"32	31.32559 AU
morning rise	8044 Jan 08 16:39	5°33'35"04					
retrograde	8044 Apr 04 22:14	7°33'27"24		conjunction	8051 Jan 08 01:52	20°33'14"13	1°08'49"
opposition	8044 Jun 21 14:10	6°33'05"11	1°11'40"	minimum elong	8051 Jan 08 01:52	20°33'14"13	1°08'57"
min. Earth dist.	8044 Jun 22 05:53	6°33'04"05	29.29232 AU	morning rise	8051 Jan 23 20:09	20°33'49"02	
direct	8044 Sep 09 20:00	4°33'40"28		retrograde	8051 Apr 20 20:42	22°33'41"02	
evening set	8044 Dec 09 07:23	6°33'35"50		opposition	8051 Jul 07 15:11	21°33'18"59	1°13'28"
				min. Earth dist.	8051 Jul 08 08:19	21°33'17"48	29.32964 AU
conjunction	8044 Dec 25 06:57	7°33'11"04	1°07'22"	direct	8051 Sep 26 05:12	19°33'54"16	
minimum elong	8044 Dec 25 06:57	7°33'11"04	1°07'31"	evening set	8051 Dec 25 15:56	21°33'49"39	
max. Earth dist.	8044 Dec 24 13:53	7°33'09"29	31.29461 AU				
morning rise	8045 Jan 10 03:41	7°33'46"05		conjunction	8052 Jan 10 12:46	22°33'24"41	1°08'43"
retrograde	8045 Apr 07 08:02	9°33'38"20		minimum elong	8052 Jan 10 12:46	22°33'24"41	1°08'51"
opposition	8045 Jun 24 00:35	8°33'16"08	1°12'14"	max. Earth dist.	8052 Jan 09 18:38	22°33'23"00	31.33252 AU
min. Earth dist.	8045 Jun 24 16:29	8°33'15"02	29.29771 AU	morning rise	8052 Jan 26 06:42	22°33'59"29	
direct	8045 Sep 12 08:52	6°33'51"24		retrograde	8052 Apr 22 06:19	24°33'51"29	
evening set	8045 Dec 11 19:18	8°33'46"45		opposition	8052 Jul 09 01:44	23°33'29"30	1°13'18"
				min. Earth dist.	8052 Jul 09 18:08	23°33'28"23	29.33641 AU
conjunction	8045 Dec 27 18:22	9°33'21"57	1°07'51"	direct	8052 Sep 27 17:01	22°33'04"51	
minimum elong	8045 Dec 27 18:22	9°33'21"57	1°08'00"	evening set	8052 Dec 27 03:07	24°33'00"15	
max. Earth dist.	8045 Dec 26 23:55	9°33'20"15	31.29958 AU				
morning rise	8046 Jan 12 14:49	9°33'56"56		conjunction	8053 Jan 11 23:31	24°33'35"16	1°08'30"
retrograde	8046 Apr 09 19:02	11°33'49"07		minimum elong	8053 Jan 11 23:31	24°33'35"16	1°08'38"
opposition	8046 Jun 26 10:51	10°33'26"55	1°12'42"	max. Earth dist.	8053 Jan 11 04:45	24°33'33"32	31.33903 AU
min. Earth dist.	8046 Jun 27 03:11	10°33'25"47	29.30242 AU	morning rise	8053 Jan 27 17:05	25°33'10"03	
direct	8046 Sep 14 19:32	9°33'02"08		retrograde	8053 Apr 24 16:36	27°33'02"04	
evening set	8046 Dec 14 06:58	10°33'57"29		opposition	8053 Jul 11 12:27	25°33'40"09	1°13'02"
				min. Earth dist.	8053 Jul 12 05:42	25°33'38"58	29.34264 AU
conjunction	8046 Dec 30 05:50	11°33'32"39	1°08'14"	direct	8053 Sep 30 02:38	24°33'15"33	
minimum elong	8046 Dec 30 05:50	11°33'32"39	1°08'23"	evening set	8053 Dec 29 14:22	26°33'10"59	
max. Earth dist.	8046 Dec 29 12:11	11°33'31"01	31.30399 AU				
morning rise	8047 Jan 15 01:43	12°33'07"35		conjunction	8054 Jan 14 10:29	26°33'45"58	1°08'12"
retrograde	8047 Apr 12 04:56	13°33'59"42		minimum elong	8054 Jan 14 10:29	26°33'45"58	1°08'20"
opposition	8047 Jun 28 21:20	12°33'37"30	1°13'04"	max. Earth dist.	8054 Jan 13 16:11	26°33'44"16	31.34474 AU
min. Earth dist.	8047 Jun 29 14:16	12°33'36"20	29.30669 AU	morning rise	8054 Jan 30 03:35	27°33'20"44	
direct	8047 Sep 17 09:08	11°33'12"42		retrograde	8054 Apr 27 02:23	29°33'12"45	
evening set	8047 Dec 16 18:32	13°33'08"01		opposition	8054 Jul 13 23:06	27°33'50"53	1°12'39"
				min. Earth dist.	8054 Jul 14 16:31	27°33'49"41	29.34764 AU
conjunction	8048 Jan 01 16:49	13°33'43"09	1°08'32"	direct	8054 Oct 02 14:19	26°33'26"19	
minimum elong	8048 Jan 01 16:49	13°33'43"09	1°08'41"	evening set	8055 Jan 01 01:46	28°33'21"46	
max. Earth dist.	8047 Dec 31 21:59	13°33'41"25	31.30836 AU				
morning rise	8048 Jan 17 12:26	14°33'18"04		conjunction	8055 Jan 16 21:19	28°33'56"44	1°07'48"
retrograde	8048 Apr 13 16:27	16°33'10"07		minimum elong	8055 Jan 16 21:19	28°33'56"44	1°07'56"
opposition	8048 Jun 30 07:44	14°33'47"55	1°13'19"	max. Earth dist.	8055 Jan 16 01:44	28°33'54"55	31.34908 AU
min. Earth dist.	8048 Sep 30 23:57	14°33'46"48	29.31133 AU	morning rise	8055 Feb 01 14:09	29°33'31"28	
direct	8048 Jun 18 21:04	13°33'23"06			8055 Feb 15 03:29	0°33'00"00	
evening set	8048 Dec 18 05:54	15°33'18"26		retrograde	8055 Apr 29 13:55	1°33'23"31	
max. Earth dist.	8049 Jan 02 10:03	15°33'51"53	31.31325 AU	opposition	8055 Jul 16 09:56	0°33'01"40	1°12'10"
				min. Earth dist.	8055 Jul 17 03:34	0°33'00"27	29.35135 AU

	8055 Jul 17 10:10	30° \approx 37'07	max. Earth dist.	8062 Jan 31 03:13	14° \approx 07'40	31.34946 AU
direct	8055 Oct 05 00:30	28° \approx 37'07	morning rise	8062 Feb 16 12:59	14° \approx 44'02	
	8055 Dec 18 22:50	0° \approx		8062 Feb 23 23:49	15° \approx	
evening set	8056 Jan 03 12:47	0° \approx 32'34	retrograde	8062 May 14 10:33	16° \approx 36'00	
			opposition	8062 Jul 31 14:04	15° \approx 14'00	1°06'03
conjunction	8056 Jan 19 08:06	1° \approx 07'30	min. Earth dist.	8062 Aug 01 07:52	15° \approx 12'47	29.35019 AU
minimum elong	8056 Jan 19 08:06	1° \approx 07'30		8062 Aug 09 03:28	15° \approx	
max. Earth dist.	8056 Jan 18 13:20	1° \approx 05'46	direct	8062 Oct 20 11:33	13° \approx 49'22	
morning rise	8056 Feb 04 00:23	1° \approx 42'13		8062 Dec 27 22:33	15° \approx	
retrograde	8056 May 01 00:21	3° \approx 34'15	evening set	8063 Jan 18 16:09	15° \approx 44'34	
opposition	8056 Jul 17 20:54	2° \approx 12'25				
min. Earth dist.	8056 Jul 18 15:13	2° \approx 11'09	conjunction	8063 Feb 03 08:54	16° \approx 19'21	1°01'15
direct	8056 Oct 06 14:13	0° \approx 47'52	minimum elong	8063 Feb 03 08:54	16° \approx 19'21	1°01'21
evening set	8057 Jan 04 23:59	2° \approx 43'19	max. Earth dist.	8063 Feb 02 14:41	16° \approx 17'39	31.35001 AU
			morning rise	8063 Feb 18 22:46	16° \approx 53'54	
conjunction	8057 Jan 20 18:46	3° \approx 18'13	retrograde	8063 May 16 19:45	18° \approx 45'53	
minimum elong	8057 Jan 20 18:46	3° \approx 18'13	opposition	8063 Aug 03 01:07	17° \approx 23'54	1°04'48
max. Earth dist.	8057 Jan 19 22:38	3° \approx 16'21	min. Earth dist.	8063 Aug 03 18:24	17° \approx 22'43	29.35100 AU
morning rise	8057 Feb 05 10:51	3° \approx 52'54	direct	8063 Oct 22 22:42	15° \approx 59'18	
retrograde	8057 May 03 12:07	5° \approx 44'56	evening set	8064 Jan 21 02:33	17° \approx 54'30	
opposition	8057 Jul 20 07:34	4° \approx 23'05				
min. Earth dist.	8057 Jul 21 01:25	4° \approx 21'51	conjunction	8064 Feb 05 18:47	18° \approx 29'15	1°00'02
direct	8057 Oct 09 02:16	2° \approx 58'31	minimum elong	8064 Feb 05 18:47	18° \approx 29'15	1°00'08
evening set	8058 Jan 07 10:56	4° \approx 53'56	max. Earth dist.	8064 Feb 05 00:01	18° \approx 27'31	31.35119 AU
max. Earth dist.	8058 Jan 22 09:58	5° \approx 27'01	morning rise	8064 Feb 21 08:30	19° \approx 03'48	
			retrograde	8064 May 18 07:11	20° \approx 55'50	
conjunction	8058 Jan 23 05:31	5° \approx 28'50	opposition	8064 Aug 04 12:11	19° \approx 33'52	1°03'27
minimum elong	8058 Jan 23 05:31	5° \approx 28'50	min. Earth dist.	8064 Aug 05 04:59	19° \approx 32'43	29.35239 AU
morning rise	8058 Feb 07 21:06	6° \approx 03'29	direct	8064 Oct 24 08:31	18° \approx 09'19	
retrograde	8058 May 05 20:54	7° \approx 55'29	evening set	8065 Jan 22 12:51	20° \approx 04'32	
opposition	8058 Jul 22 18:32	6° \approx 33'37	max. Earth dist.	8065 Feb 06 11:32	20° \approx 37'39	31.35255 AU
min. Earth dist.	8058 Jul 23 13:33	6° \approx 32'18				
direct	8058 Oct 11 14:16	5° \approx 09'02	conjunction	8065 Feb 07 04:56	20° \approx 39'16	0°58'43
evening set	8059 Jan 09 21:51	7° \approx 04'24	minimum elong	8065 Feb 07 04:56	20° \approx 39'16	0°58'49
			morning rise	8065 Feb 22 18:11	21° \approx 13'47	
conjunction	8059 Jan 25 15:57	7° \approx 39'16	retrograde	8065 May 20 17:19	23° \approx 05'53	
minimum elong	8059 Jan 25 15:57	7° \approx 39'16	opposition	8065 Aug 06 23:14	21° \approx 43'56	1°02'00
max. Earth dist.	8059 Jan 24 19:48	7° \approx 37'24	min. Earth dist.	8065 Aug 07 16:27	21° \approx 42'46	29.35357 AU
morning rise	8059 Feb 10 07:17	8° \approx 13'54	direct	8065 Oct 26 20:41	20° \approx 19'27	
retrograde	8059 May 08 07:14	10° \approx 05'52	evening set	8066 Jan 24 23:22	22° \approx 14'40	
opposition	8059 Jul 25 05:19	8° \approx 43'57				
min. Earth dist.	8059 Jul 25 23:22	8° \approx 42'43	conjunction	8066 Feb 09 14:56	22° \approx 49'23	0°57'20
direct	8059 Oct 14 03:10	7° \approx 19'21	minimum elong	8066 Feb 09 14:57	22° \approx 49'23	0°57'26
evening set	8060 Jan 12 08:34	9° \approx 14'40	max. Earth dist.	8066 Feb 08 20:39	22° \approx 47'41	31.35355 AU
max. Earth dist.	8060 Jan 27 06:37	9° \approx 47'41	morning rise	8066 Feb 25 04:04	23° \approx 23'54	
			retrograde	8066 May 23 05:27	25° \approx 16'04	
conjunction	8060 Jan 28 02:20	9° \approx 49'31	opposition	8066 Aug 09 10:25	23° \approx 54'08	1°00'28
minimum elong	8060 Jan 28 02:21	9° \approx 49'31	min. Earth dist.	8066 Aug 10 02:44	23° \approx 53'01	29.35417 AU
morning rise	8060 Feb 12 17:16	10° \approx 24'07	direct	8066 Oct 29 07:53	22° \approx 29'42	
retrograde	8060 May 09 16:44	12° \approx 16'04	evening set	8067 Jan 27 09:42	24° \approx 24'55	
opposition	8060 Jul 26 16:18	10° \approx 54'07	max. Earth dist.	8067 Feb 11 07:36	24° \approx 58'01	31.35359 AU
min. Earth dist.	8060 Jul 27 11:07	10° \approx 52'49				
direct	8060 Oct 15 13:48	9° \approx 29'28	conjunction	8067 Feb 12 01:02	24° \approx 59'38	0°55'51
evening set	8061 Jan 13 19:04	11° \approx 24'45	minimum elong	8067 Feb 12 01:02	24° \approx 59'38	0°55'56
			morning rise	8067 Feb 27 13:42	25° \approx 34'08	
conjunction	8061 Jan 29 12:29	11° \approx 59'33	retrograde	8067 May 25 15:07	27° \approx 26'22	
minimum elong	8061 Jan 29 12:30	11° \approx 59'33	opposition	8067 Aug 11 21:52	26° \approx 04'27	0°58'51
max. Earth dist.	8061 Jan 28 17:16	11° \approx 57'46	min. Earth dist.	8067 Aug 12 15:08	26° \approx 03'16	29.35368 AU
morning rise	8061 Feb 14 03:07	12° \approx 34'08	direct	8067 Oct 31 19:28	24° \approx 40'04	
retrograde	8061 May 12 01:08	14° \approx 26'05	evening set	8068 Jan 29 20:09	26° \approx 35'17	
opposition	8061 Jul 29 03:10	13° \approx 04'06				
min. Earth dist.	8061 Jul 29 20:49	13° \approx 02'53	conjunction	8068 Feb 14 11:04	27° \approx 09'58	0°54'18
direct	8061 Oct 18 02:12	11° \approx 39'27	minimum elong	8068 Feb 14 11:04	27° \approx 09'58	0°54'23
evening set	8062 Jan 16 05:42	13° \approx 34'41	max. Earth dist.	8068 Feb 13 17:14	27° \approx 08'18	31.35257 AU
			morning rise	8068 Feb 29 23:33	27° \approx 44'27	
conjunction	8062 Jan 31 22:41	14° \approx 09'29	retrograde	8068 May 27 02:20	29° \approx 36'45	
minimum elong	8062 Jan 31 22:41	14° \approx 09'29	opposition	8068 Aug 13 09:11	28° \approx 14'50	0°57'08

min. Earth dist.	8068 Aug 14 01:24	28° \approx 13'44	29.35195 AU	conjunction	8075 Mar 01 07:43	12° $\cancel{\text{H}}$ 21'57	0°41'25
direct	8068 Nov 02 08:11	26° \approx 50'29		minimum elong	8075 Mar 01 07:43	12° $\cancel{\text{H}}$ 21'57	0°41'28
evening set	8069 Jan 31 06:27	28° \approx 45'41		max. Earth dist.	8075 Feb 28 16:14	12° $\cancel{\text{H}}$ 20'30	31.31994 AU
				morning rise	8075 Mar 16 18:35	12° $\cancel{\text{H}}$ 56'23	
conjunction	8069 Feb 15 21:05	29° \approx 20'22	0°52'40	retrograde	8075 Jun 12 01:17	14° $\cancel{\text{H}}$ 49'07	
minimum elong	8069 Feb 15 21:06	29° \approx 20'22	0°52'44	opposition	8075 Aug 29 17:52	13° $\cancel{\text{H}}$ 26'55	0°43'08
max. Earth dist.	8069 Feb 15 03:25	29° \approx 18'43	31.35009 AU	min. Earth dist.	8075 Aug 30 07:21	13° $\cancel{\text{H}}$ 26'00	29.31839 AU
morning rise	8069 Mar 03 09:16	29° \approx 54'51		direct	8075 Nov 18 13:07	12° $\cancel{\text{H}}$ 02'39	
	8069 Mar 05 18:13	0° $\cancel{\text{H}}$		evening set	8076 Feb 16 04:47	13° $\cancel{\text{H}}$ 57'36	
retrograde	8069 May 29 12:41	1° $\cancel{\text{H}}$ 47'12					
opposition	8069 Aug 15 20:42	0° $\cancel{\text{H}}$ 25'16	0°55'21	conjunction	8076 Mar 02 17:24	14° $\cancel{\text{H}}$ 32'11	0°39'20
min. Earth dist.	8069 Aug 16 13:51	0° $\cancel{\text{H}}$ 24'06	29.34879 AU	minimum elong	8076 Mar 02 17:24	14° $\cancel{\text{H}}$ 32'11	0°39'23
	8069 Aug 31 13:17	30° $\cancel{\text{R}}$		max. Earth dist.	8076 Mar 02 03:16	14° $\cancel{\text{H}}$ 30'52	31.31647 AU
direct	8069 Nov 04 19:05	29° \approx 00'56		morning rise	8076 Mar 18 03:57	15° $\cancel{\text{H}}$ 06'37	
	8070 Jan 05 18:28	0° $\cancel{\text{H}}$		retrograde	8076 Jun 13 11:33	16° $\cancel{\text{H}}$ 59'27	
evening set	8070 Feb 02 16:47	0° $\cancel{\text{H}}$ 56'07		opposition	8076 Aug 31 05:35	15° $\cancel{\text{H}}$ 37'14	0°40'52
				min. Earth dist.	8076 Aug 31 19:30	15° $\cancel{\text{H}}$ 36'18	29.31525 AU
conjunction	8070 Feb 18 07:08	1° $\cancel{\text{H}}$ 30'47	0°50'57	direct	8076 Nov 20 00:23	14° $\cancel{\text{H}}$ 13'02	
minimum elong	8070 Feb 18 07:08	1° $\cancel{\text{H}}$ 30'47	0°51'02	evening set	8077 Feb 17 14:39	16° $\cancel{\text{H}}$ 07'58	
max. Earth dist.	8070 Feb 17 13:47	1° $\cancel{\text{H}}$ 29'09	31.34628 AU				
morning rise	8070 Mar 05 19:02	2° $\cancel{\text{H}}$ 05'15		conjunction	8077 Mar 05 02:58	16° $\cancel{\text{H}}$ 42'33	0°37'10
retrograde	8070 May 31 21:28	3° $\cancel{\text{H}}$ 57'39		minimum elong	8077 Mar 05 02:58	16° $\cancel{\text{H}}$ 42'33	0°37'12
opposition	8070 Aug 18 08:04	2° $\cancel{\text{H}}$ 35'42	0°53'30	max. Earth dist.	8077 Mar 04 13:07	16° $\cancel{\text{H}}$ 41'15	31.31364 AU
min. Earth dist.	8070 Aug 19 00:20	2° $\cancel{\text{H}}$ 34'35	29.34420 AU	morning rise	8077 Mar 20 13:26	17° $\cancel{\text{H}}$ 16'59	
direct	8070 Nov 07 07:45	1° $\cancel{\text{H}}$ 11'22		retrograde	8077 Jun 15 23:39	19° $\cancel{\text{H}}$ 09'54	
evening set	8071 Feb 05 03:06	3° $\cancel{\text{H}}$ 06'30		opposition	8077 Sep 02 17:15	17° $\cancel{\text{H}}$ 47'42	0°38'32
				min. Earth dist.	8077 Sep 03 05:40	17° $\cancel{\text{H}}$ 46'51	29.31237 AU
conjunction	8071 Feb 20 17:03	3° $\cancel{\text{H}}$ 41'09	0°49'11	direct	8077 Nov 22 13:25	16° $\cancel{\text{H}}$ 23'33	
minimum elong	8071 Feb 20 17:03	3° $\cancel{\text{H}}$ 41'09	0°49'15	evening set	8078 Feb 20 00:34	18° $\cancel{\text{H}}$ 18'29	
max. Earth dist.	8071 Feb 19 23:12	3° $\cancel{\text{H}}$ 39'29	31.34118 AU				
morning rise	8071 Mar 08 04:47	4° $\cancel{\text{H}}$ 15'37		conjunction	8078 Mar 07 12:36	18° $\cancel{\text{H}}$ 53'04	0°34'57
retrograde	8071 Jun 03 07:15	6° $\cancel{\text{H}}$ 08'05		minimum elong	8078 Mar 07 12:36	18° $\cancel{\text{H}}$ 53'04	0°34'59
opposition	8071 Aug 20 19:40	4° $\cancel{\text{H}}$ 46'04	0°51'34	max. Earth dist.	8078 Mar 06 23:14	18° $\cancel{\text{H}}$ 51'49	31.31064 AU
min. Earth dist.	8071 Aug 21 12:10	4° $\cancel{\text{H}}$ 44'56	29.33873 AU	morning rise	8078 Mar 22 22:51	19° $\cancel{\text{H}}$ 27'30	
direct	8071 Nov 09 17:27	3° $\cancel{\text{H}}$ 21'44		retrograde	8078 Jun 18 10:51	21° $\cancel{\text{H}}$ 20'32	
evening set	8072 Feb 07 13:00	5° $\cancel{\text{H}}$ 16'48		opposition	8078 Sep 05 05:10	19° $\cancel{\text{H}}$ 58'19	0°36'08
max. Earth dist.	8072 Feb 22 10:18	5° $\cancel{\text{H}}$ 49'55	31.33545 AU	min. Earth dist.	8078 Sep 05 18:08	19° $\cancel{\text{H}}$ 57'26	29.30924 AU
				direct	8078 Nov 25 00:29	18° $\cancel{\text{H}}$ 34'14	
conjunction	8072 Feb 23 02:48	5° $\cancel{\text{H}}$ 51'27	0°47'20	evening set	8079 Feb 22 10:30	20° $\cancel{\text{H}}$ 29'09	
minimum elong	8072 Feb 23 02:48	5° $\cancel{\text{H}}$ 51'27	0°47'25				
morning rise	8072 Mar 09 14:12	6° $\cancel{\text{H}}$ 25'54		conjunction	8079 Mar 09 22:21	21° $\cancel{\text{H}}$ 03'43	0°32'41
retrograde	8072 Jun 04 16:11	8° $\cancel{\text{H}}$ 18'25		minimum elong	8079 Mar 09 22:21	21° $\cancel{\text{H}}$ 03'43	0°32'42
opposition	8072 Aug 22 07:13	6° $\cancel{\text{H}}$ 56'21	0°49'34	max. Earth dist.	8079 Mar 09 09:50	21° $\cancel{\text{H}}$ 02'33	31.30728 AU
min. Earth dist.	8072 Aug 22 23:13	6° $\cancel{\text{H}}$ 55'15	29.33276 AU	morning rise	8079 Mar 25 08:24	21° $\cancel{\text{H}}$ 38'10	
direct	8072 Nov 11 04:46	5° $\cancel{\text{H}}$ 32'01		retrograde	8079 Jun 20 20:17	23° $\cancel{\text{H}}$ 31'18	
evening set	8073 Feb 08 23:07	7° $\cancel{\text{H}}$ 27'02		opposition	8079 Sep 07 17:09	22° $\cancel{\text{H}}$ 09'05	0°33'41
				min. Earth dist.	8079 Sep 08 04:57	22° $\cancel{\text{H}}$ 08'17	29.30538 AU
conjunction	8073 Feb 24 12:27	8° $\cancel{\text{H}}$ 01'39	0°45'26	direct	8079 Nov 27 12:57	20° $\cancel{\text{H}}$ 45'03	
minimum elong	8073 Feb 24 12:27	8° $\cancel{\text{H}}$ 01'39	0°45'29	evening set	8080 Feb 24 20:25	22° $\cancel{\text{H}}$ 39'56	
max. Earth dist.	8073 Feb 23 19:29	8° $\cancel{\text{H}}$ 00'04	31.32958 AU				
morning rise	8073 Mar 11 23:47	8° $\cancel{\text{H}}$ 36'07		conjunction	8080 Mar 11 07:55	23° $\cancel{\text{H}}$ 14'30	0°30'23
retrograde	8073 Jun 07 03:19	10° $\cancel{\text{H}}$ 28'40		minimum elong	8080 Mar 11 07:55	23° $\cancel{\text{H}}$ 14'30	0°30'24
opposition	8073 Aug 24 18:35	9° $\cancel{\text{H}}$ 06'33	0°47'29	max. Earth dist.	8080 Mar 10 18:58	23° $\cancel{\text{H}}$ 13'18	31.30290 AU
min. Earth dist.	8073 Aug 25 09:50	9° $\cancel{\text{H}}$ 05'30	29.32717 AU	morning rise	8080 Mar 26 17:54	23° $\cancel{\text{H}}$ 48'57	
direct	8073 Nov 13 14:53	7° $\cancel{\text{H}}$ 42'12		retrograde	8080 Jun 22 06:57	25° $\cancel{\text{H}}$ 42'12	
evening set	8074 Feb 11 09:02	9° $\cancel{\text{H}}$ 37'11		opposition	8080 Sep 09 05:15	24° $\cancel{\text{H}}$ 19'57	0°31'12
				min. Earth dist.	8080 Sep 09 17:12	24° $\cancel{\text{H}}$ 19'08	29.30048 AU
conjunction	8074 Feb 26 22:15	10° $\cancel{\text{H}}$ 11'48	0°43'27	direct	8080 Nov 28 23:16	22° $\cancel{\text{H}}$ 55'58	
minimum elong	8074 Feb 26 22:15	10° $\cancel{\text{H}}$ 11'48	0°43'31	evening set	8081 Feb 26 06:22	24° $\cancel{\text{H}}$ 50'48	
max. Earth dist.	8074 Feb 26 06:59	10° $\cancel{\text{H}}$ 10'23	31.32427 AU				
morning rise	8074 Mar 14 09:10	10° $\cancel{\text{H}}$ 46'15		conjunction	8081 Mar 13 17:47	25° $\cancel{\text{H}}$ 25'23	0°28'01
retrograde	8074 Jun 09 13:21	12° $\cancel{\text{H}}$ 38'53		minimum elong	8081 Mar 13 17:47	25° $\cancel{\text{H}}$ 25'23	0°28'02
opposition	8074 Aug 27 06:16	11° $\cancel{\text{H}}$ 16'42	0°45'21	max. Earth dist.	8081 Mar 13 06:04	25° $\cancel{\text{H}}$ 24'17	31.29730 AU
min. Earth dist.	8074 Aug 27 21:23	11° $\cancel{\text{H}}$ 15'41	29.32226 AU	morning rise	8081 Mar 29 03:30	25° $\cancel{\text{H}}$ 59'50	
direct	8074 Nov 16 02:44	9° $\cancel{\text{H}}$ 52'24		retrograde	8081 Jun 24 16:30	27° $\cancel{\text{H}}$ 53'10	
evening set	8075 Feb 13 18:58	11° $\cancel{\text{H}}$ 47'21		opposition	8081 Sep 11 17:17	26° $\cancel{\text{H}}$ 30'53	0°28'39
				min. Earth dist.	8081 Sep 12 04:58	26° $\cancel{\text{H}}$ 30'06	29.29404 AU

direct	8081 Dec 01 11:13	25° ℌ 06'56		opposition	8087 Sep 25 18:55	9° ♊ 35'59	0°12'41
evening set	8082 Feb 28 16:30	27° ℌ 01'44		min. Earth dist.	8087 Sep 26 03:23	9° ♊ 35'25	29.23754 AU
				direct	8087 Dec 15 07:42	8° ♊ 12'04	
conjunction	8082 Mar 16 03:32	27° ℌ 36'18	0°25'37	evening set	8088 Mar 13 03:07	10° ♊ 06'35	
minimum elong	8082 Mar 16 03:32	27° ℌ 36'18	0°25'39				
max. Earth dist.	8082 Mar 15 15:01	27° ℌ 35'08	31.29017 AU	conjunction	8088 Mar 28 13:12	10° ♊ 41'08	0°10'38
morning rise	8082 Mar 31 13:16	28° ℌ 10'46		minimum elong	8088 Mar 28 13:12	10° ♊ 41'08	0°10'37
	8082 Jun 11 09:24	0° ♊		behind sun begin	8088 Mar 28 08:12	10° ♊ 40'41	
retrograde	8082 Jun 27 03:58	0° ♊ 04'11		behind sun end	8088 Mar 28 18:13	10° ♊ 41'35	
	8082 Jul 13 03:29	30° ♊		max. Earth dist.	8088 Mar 28 05:35	10° ♊ 40'26	31.23332 AU
opposition	8082 Sep 14 05:30	28° ℌ 41'51	0°26'04	morning rise	8088 Apr 12 22:18	11° ♊ 15'38	
min. Earth dist.	8082 Sep 14 16:37	28° ℌ 41'06	29.28619 AU	retrograde	8088 Jul 09 22:03	13° ♊ 09'41	
direct	8082 Dec 03 21:38	27° ℌ 17'54		opposition	8088 Sep 27 07:13	11° ♊ 46'56	0°09'56
evening set	8083 Mar 03 02:18	29° ℌ 12'39		min. Earth dist.	8088 Sep 27 14:03	11° ♊ 46'28	29.22933 AU
				direct	8088 Dec 16 20:18	10° ♊ 23'04	
conjunction	8083 Mar 18 13:17	29° ℌ 47'13	0°23'11	evening set	8089 Mar 15 12:57	12° ♊ 17'34	
minimum elong	8083 Mar 18 13:17	29° ℌ 47'13	0°23'11				
max. Earth dist.	8083 Mar 18 02:10	29° ℌ 46'11	31.28155 AU	conjunction	8089 Mar 30 22:45	12° ♊ 52'07	0°08'04
	8083 Mar 24 05:18	0° ♊		minimum elong	8089 Mar 30 22:45	12° ♊ 52'08	0°08'01
morning rise	8083 Apr 02 22:44	0° ♊ 21'40		behind sun begin	8089 Mar 30 17:01	12° ♊ 51'36	
retrograde	8083 Jun 29 13:47	2° ♊ 15'12		behind sun end	8089 Mar 31 04:30	12° ♊ 52'39	
opposition	8083 Sep 16 17:52	0° ♊ 52'47	0°23'27	max. Earth dist.	8089 Mar 30 15:03	12° ♊ 51'25	31.22546 AU
min. Earth dist.	8083 Sep 17 05:10	0° ♊ 52'01	29.27687 AU	morning rise	8089 Apr 15 07:56	13° ♊ 26'38	
	8083 Oct 21 18:28	30° ♊		retrograde	8089 Jul 12 09:24	15° ♊ 20'49	
direct	8083 Dec 06 09:19	29° ℌ 28'50		opposition	8089 Sep 29 19:32	13° ♊ 58'03	0°07'10
	8084 Jan 19 11:24	0° ♊		min. Earth dist.	8089 Sep 30 02:04	13° ♊ 57'37	29.22177 AU
evening set	8084 Mar 04 12:16	1° ♊ 23'31		direct	8089 Dec 19 06:47	12° ♊ 34'15	
				evening set	8090 Mar 17 22:40	14° ♊ 28'45	
conjunction	8084 Mar 19 22:56	1° ♊ 58'04	0°20'44				
minimum elong	8084 Mar 19 22:56	1° ♊ 58'04	0°20'44	conjunction	8090 Apr 02 08:30	15° ♊ 03'20	0°05'29
max. Earth dist.	8084 Mar 19 11:23	1° ♊ 57'00	31.27184 AU	minimum elong	8090 Apr 02 08:30	15° ♊ 03'19	0°05'27
morning rise	8084 Apr 04 08:27	2° ♊ 32'32		behind sun begin	8090 Apr 02 02:18	15° ♊ 02'46	
retrograde	8084 Jul 01 01:46	4° ♊ 26'09		behind sun end	8090 Apr 02 14:41	15° ♊ 03'53	
opposition	8084 Sep 18 05:56	3° ♊ 03'39	0°20'48	max. Earth dist.	8090 Apr 02 02:34	15° ♊ 02'48	31.21802 AU
min. Earth dist.	8084 Sep 18 15:53	3° ♊ 02'58	29.26679 AU	morning rise	8090 Apr 17 17:28	15° ♊ 37'51	
direct	8084 Dec 07 19:53	1° ♊ 39'40		retrograde	8090 Jul 14 19:42	17° ♊ 32'12	
evening set	8085 Mar 06 22:00	3° ♊ 34'18		opposition	8090 Oct 02 08:06	16° ♊ 09'25	0°04'23
				min. Earth dist.	8090 Oct 02 13:52	16° ♊ 09'01	29.21427 AU
conjunction	8085 Mar 22 08:36	4° ♊ 08'51	0°18'14	direct	8090 Dec 21 18:48	14° ♊ 45'41	
minimum elong	8085 Mar 22 08:36	4° ♊ 08'51	0°18'13	evening set	8091 Mar 20 08:29	16° ♊ 40'10	
max. Earth dist.	8085 Mar 21 22:12	4° ♊ 07'53	31.26148 AU				
morning rise	8085 Apr 06 17:56	4° ♊ 43'19		conjunction	8091 Apr 04 18:00	17° ♊ 14'44	0°02'52
retrograde	8085 Jul 03 12:18	6° ♊ 37'01		minimum elong	8091 Apr 04 18:00	17° ♊ 14'44	0°02'49
opposition	8085 Sep 20 18:16	5° ♊ 14'26	0°18'07	behind sun begin	8091 Apr 04 11:36	17° ♊ 14'10	
min. Earth dist.	8085 Sep 21 04:36	5° ♊ 13'44	29.25642 AU	behind sun end	8091 Apr 05 00:23	17° ♊ 15'19	
direct	8085 Dec 10 07:38	3° ♊ 50'28		max. Earth dist.	8091 Apr 04 11:47	17° ♊ 14'11	31.21052 AU
evening set	8086 Mar 09 07:46	5° ♊ 45'02		morning rise	8091 Apr 20 03:07	17° ♊ 49'18	
				retrograde	8091 Jul 17 07:32	19° ♊ 43'48	
conjunction	8086 Mar 24 18:06	6° ♊ 19'35	0°15'43	opposition	8091 Oct 04 20:42	18° ♊ 21'00	0°01'36
minimum elong	8086 Mar 24 18:06	6° ♊ 19'35	0°15'43	min. Earth dist.	8091 Oct 05 01:36	18° ♊ 20'40	29.20663 AU
behind sun begin	8086 Mar 24 16:29	6° ♊ 19'26		direct	8091 Dec 24 04:57	16° ♊ 57'19	
behind sun end	8086 Mar 24 19:44	6° ♊ 19'43		evening set	8092 Mar 21 18:20	18° ♊ 51'48	
max. Earth dist.	8086 Mar 24 08:21	6° ♊ 18'40	31.25133 AU				
morning rise	8086 Apr 09 03:23	6° ♊ 54'03		conjunction	8092 Apr 06 03:53	19° ♊ 26'23	0°00'12
retrograde	8086 Jul 06 00:28	8° ♊ 47'51		minimum elong	8092 Apr 06 03:52	19° ♊ 26'23	0°00'10
opposition	8086 Sep 23 06:29	7° ♊ 25'11	0°15'25	behind sun begin	8092 Apr 05 21:32	19° ♊ 25'49	
min. Earth dist.	8086 Sep 23 14:57	7° ♊ 24'36	29.24651 AU	behind sun end	8092 Apr 06 10:12	19° ♊ 26'57	
direct	8086 Dec 12 20:41	6° ♊ 01'13		max. Earth dist.	8092 Apr 05 23:13	19° ♊ 25'59	31.20249 AU
evening set	8087 Mar 11 17:33	7° ♊ 55'46		morning rise	8092 Apr 21 12:48	20° ♊ 00'57	
				desc. node	8092 May 03 02:50	20° ♊ 25'51	
conjunction	8087 Mar 27 03:41	8° ♊ 30'19	0°13'11	retrograde	8092 Jul 18 17:44	21° ♊ 55'36	
minimum elong	8087 Mar 27 03:41	8° ♊ 30'19	0°13'09	opposition	8092 Oct 06 09:18	20° ♊ 32'46	-0°01'12
behind sun begin	8087 Mar 26 23:48	8° ♊ 29'58		min. Earth dist.	8092 Oct 06 14:21	20° ♊ 32'26	29.19820 AU
behind sun end	8087 Mar 27 07:34	8° ♊ 30'40		direct	8092 Dec 25 15:45	19° ♊ 09'09	
max. Earth dist.	8087 Mar 26 18:38	8° ♊ 29'28	31.24179 AU	evening set	8093 Mar 24 04:22	21° ♊ 03'37	
morning rise	8087 Apr 11 12:53	9° ♊ 04'47					
retrograde	8087 Jul 08 12:04	10° ♊ 58'43		conjunction	8093 Apr 08 13:41	21° ♊ 38'13	-0°02'29

minimum elong	8093 Apr 08 13:41	21° Υ 38'13	0°02'33	morning rise	8098 May 05 00:27	3° \mathcal{B} 12'41
behind sun begin	8093 Apr 08 07:18	21° Υ 37'38		retrograde	8098 Aug 01 18:21	5° \mathcal{B} 08'02
behind sun end	8093 Apr 08 20:05	21° Υ 38'47		opposition	8098 Oct 20 14:04	3° \mathcal{B} 44'40 -0°17'47
max. Earth dist.	8093 Apr 08 08:39	21° Υ 37'46	31.19363 AU	min. Earth dist.	8098 Oct 20 15:22	3° \mathcal{B} 44'35 29.12557 AU
morning rise	8093 Apr 23 22:45	22° Υ 12'48		direct	8099 Jan 08 14:52	2° \mathcal{B} 21'01
retrograde	8093 Jul 21 06:27	24° Υ 07'36		evening set	8099 Apr 06 15:58	4° \mathcal{B} 15'11
opposition	8093 Oct 08 21:59	22° Υ 44'43	-0°03'59			
min. Earth dist.	8093 Oct 09 01:41	22° Υ 44'28	29.18873 AU	conjunction	8099 Apr 22 01:01	4° \mathcal{B} 49'48 -0°17'55
direct	8093 Dec 28 01:41	21° Υ 21'08		minimum elong	8099 Apr 22 01:01	4° \mathcal{B} 49'48 0°18'01
evening set	8094 Mar 26 14:21	23° Υ 15'35		max. Earth dist.	8099 Apr 22 00:37	4° \mathcal{B} 49'46 31.11921 AU
				morning rise	8099 May 07 10:11	5° \mathcal{B} 24'29
conjunction	8094 Apr 10 23:36	23° Υ 50'11	-0°05'06	retrograde	8099 Aug 04 04:38	7° \mathcal{B} 19'56
minimum elong	8094 Apr 10 23:36	23° Υ 50'11	0°05'09	opposition	8099 Oct 23 02:55	5° \mathcal{B} 56'29 -0°20'29
behind sun begin	8094 Apr 10 17:23	23° Υ 49'37		min. Earth dist.	8099 Oct 23 03:08	5° \mathcal{B} 56'28 29.11319 AU
behind sun end	8094 Apr 11 05:50	23° Υ 50'44		direct	8100 Jan 11 03:51	4° \mathcal{B} 32'49
max. Earth dist.	8094 Apr 10 19:24	23° Υ 49'49	31.18339 AU	evening set	8100 Apr 09 01:58	6° \mathcal{B} 26'57
morning rise	8094 Apr 26 08:34	24° Υ 24'47				
retrograde	8094 Jul 23 17:54	26° Υ 19'43		conjunction	8100 Apr 24 10:50	7° \mathcal{B} 01'34 -0°20'26
opposition	8094 Oct 11 10:54	24° Υ 56'47	-0°06'46	minimum elong	8100 Apr 24 10:50	7° \mathcal{B} 01'34 0°20'30
min. Earth dist.	8094 Oct 11 15:10	24° Υ 56'29	29.17785 AU	max. Earth dist.	8100 Apr 24 10:23	7° \mathcal{B} 01'32 31.10745 AU
direct	8094 Dec 30 13:28	23° Υ 33'13		morning rise	8100 May 09 20:15	7° \mathcal{B} 36'16
evening set	8095 Mar 29 00:24	25° Υ 27'37		retrograde	8100 Aug 06 16:18	9° \mathcal{B} 31'50
				opposition	8100 Oct 25 15:35	8° \mathcal{B} 08'19 -0°23'09
conjunction	8095 Apr 13 09:35	26° Υ 02'13	-0°07'42	min. Earth dist.	8100 Oct 25 14:37	8° \mathcal{B} 08'23 29.10207 AU
minimum elong	8095 Apr 13 09:35	26° Υ 02'13	0°07'46	direct	8101 Jan 13 14:20	6° \mathcal{B} 44'40
behind sun begin	8095 Apr 13 03:47	26° Υ 01'41		evening set	8101 Apr 11 11:50	8° \mathcal{B} 38'46
behind sun end	8095 Apr 13 15:22	26° Υ 02'44				
max. Earth dist.	8095 Apr 13 05:45	26° Υ 01'53	31.17193 AU	conjunction	8101 Apr 26 20:51	9° \mathcal{B} 13'25 -0°22'54
morning rise	8095 Apr 28 18:35	26° Υ 36'50		minimum elong	8101 Apr 26 20:51	9° \mathcal{B} 13'25 0°23'00
retrograde	8095 Jul 26 07:06	28° Υ 31'53		max. Earth dist.	8101 Apr 26 22:16	9° \mathcal{B} 13'33 31.09678 AU
opposition	8095 Oct 13 23:39	27° Υ 08'51	-0°09'33	morning rise	8101 May 12 06:13	9° \mathcal{B} 48'08
min. Earth dist.	8095 Oct 14 02:27	27° Υ 08'40	29.16567 AU	retrograde	8101 Aug 09 02:23	11° \mathcal{B} 43'50
direct	8096 Jan 02 02:19	25° Υ 45'16		opposition	8101 Oct 28 04:30	10° \mathcal{B} 20'16 -0°25'47
evening set	8096 Mar 30 10:22	27° Υ 39'38		min. Earth dist.	8101 Oct 28 03:10	10° \mathcal{B} 20'22 29.09188 AU
conjunction	8096 Apr 14 19:28	28° Υ 14'14	-0°10'16			
minimum elong	8096 Apr 14 19:28	28° Υ 14'14	0°10'20			
behind sun begin	8096 Apr 14 14:22	28° Υ 13'47				
behind sun end	8096 Apr 15 00:34	28° Υ 14'42				
max. Earth dist.	8096 Apr 14 15:50	28° Υ 13'55	31.15913 AU			
morning rise	8096 Apr 30 04:35	28° Υ 48'52				
	8096 Jun 05 11:35	0° \mathcal{B}				
retrograde	8096 Jul 27 19:08	0° \mathcal{B} 44'02				
	8096 Sep 20 12:59	30° $\mathcal{K}\Upsilon$				
opposition	8096 Oct 15 12:31	29° Υ 20'54	-0°12'19			
min. Earth dist.	8096 Oct 15 15:47	29° Υ 20'40	29.15246 AU			
direct	8097 Jan 03 13:23	27° Υ 57'17				
evening set	8097 Apr 01 20:16	29° Υ 51'35				
	8097 Apr 05 15:15	0° \mathcal{B}				
conjunction	8097 Apr 17 05:25	0° \mathcal{B} 26'11	-0°12'50			
minimum elong	8097 Apr 17 05:24	0° \mathcal{B} 26'11	0°12'55			
behind sun begin	8097 Apr 17 01:24	0° \mathcal{B} 25'49				
behind sun end	8097 Apr 17 09:25	0° \mathcal{B} 26'33				
max. Earth dist.	8097 Apr 17 03:02	0° \mathcal{B} 25'59	31.14564 AU			
morning rise	8097 May 02 14:28	1° \mathcal{B} 00'50				
retrograde	8097 Jul 30 05:51	2° \mathcal{B} 56'04				
opposition	8097 Oct 18 01:09	1° \mathcal{B} 32'50	-0°15'03			
min. Earth dist.	8097 Oct 18 02:57	1° \mathcal{B} 32'42	29.13876 AU			
direct	8098 Jan 06 03:02	0° \mathcal{B} 09'11				
evening set	8098 Apr 04 06:15	2° \mathcal{B} 03'25				
conjunction	8098 Apr 19 15:11	2° \mathcal{B} 38'02	-0°15'23			
minimum elong	8098 Apr 19 15:11	2° \mathcal{B} 38'02	0°15'28			
behind sun begin	8098 Apr 19 13:11	2° \mathcal{B} 37'51				
behind sun end	8098 Apr 19 17:11	2° \mathcal{B} 38'13				
max. Earth dist.	8098 Apr 19 12:44	2° \mathcal{B} 37'49	31.13206 AU			