

direct	8600 Jan 30 22:48	24° 8 25'10	conjunction	8606 May 27 15:46	10° II 12'28 -0°46'14
evening set	8600 Apr 28 15:18	26° 8 19'16	minimum elong	8606 May 27 15:46	10° II 12'28 0°46'26
			max. Earth dist.	8606 May 27 23:37	10° II 13'13 30.98526 AU
conjunction	8600 May 14 00:30	26° 8 54'00 -0°34'22	morning rise	8606 Jun 12 02:51	10° II 47'28
minimum elong	8600 May 14 00:30	26° 8 54'00 0°34'32	retrograde	8606 Sep 09 19:35	12° II 44'32
max. Earth dist.	8600 May 14 04:22	26° 8 54'22 31.04197 AU	opposition	8606 Nov 29 02:12	11° II 20'29 -0°50'23
morning rise	8600 May 29 10:34	27° 8 28'50	min. Earth dist.	8606 Nov 28 18:47	11° II 20'59 28.97956 AU
retrograde	8600 Aug 26 14:44	29° 8 25'09	direct	8607 Feb 16 09:27	9° II 57'04
opposition	8600 Nov 14 19:14	28° 8 01'22 -0°37'52	evening set	8607 May 14 16:42	11° II 51'05
min. Earth dist.	8600 Nov 14 14:07	28° 8 01'43 29.03740 AU			
direct	8601 Feb 02 09:39	26° 8 37'49	conjunction	8607 May 30 02:30	12° II 25'56 -0°47'59
evening set	8601 May 01 01:26	28° 8 31'55	minimum elong	8607 May 30 02:30	12° II 25'56 0°48'11
			max. Earth dist.	8607 May 30 09:58	12° II 26'39 30.97326 AU
conjunction	8601 May 16 10:39	29° 8 06'39 -0°36'29	morning rise	8607 Jun 14 13:55	13° II 00'58
minimum elong	8601 May 16 10:39	29° 8 06'39 0°36'39	retrograde	8607 Sep 12 09:04	14° II 58'08
max. Earth dist.	8601 May 16 15:14	29° 8 07'05 31.03277 AU	opposition	8607 Dec 01 15:21	13° II 33'59 -0°52'13
morning rise	8601 May 31 20:55	29° 8 41'31	min. Earth dist.	8607 Dec 01 06:44	13° II 34'35 28.96727 AU
	8601 Jun 09 08:19	0° II	direct	8608 Feb 18 21:12	12° II 10'32
retrograde	8601 Aug 29 03:09	1° II 37'59	evening set	8608 May 16 03:21	14° II 04'32
opposition	8601 Nov 17 08:22	0° II 14'09 -0°40'07			
min. Earth dist.	8601 Nov 17 03:33	0° II 14'29 29.02856 AU	conjunction	8608 May 31 13:20	14° II 39'24 -0°49'40
	8601 Nov 26 00:30	30° 8	minimum elong	8608 May 31 13:20	14° II 39'24 0°49'53
direct	8602 Feb 04 19:18	28° 8 50'38	max. Earth dist.	8608 May 31 21:53	14° II 40'12 30.96076 AU
	8602 Apr 12 02:14	0° II	morning rise	8608 Jun 16 00:56	15° II 14'27
evening set	8602 May 03 11:44	0° II 44'43	retrograde	8608 Sep 13 19:25	17° II 11'43
			opposition	8608 Dec 03 04:38	15° II 47'28 -0°53'59
conjunction	8602 May 18 21:07	1° II 19'29 -0°38'33	min. Earth dist.	8608 Dec 02 20:15	15° II 48'03 28.95488 AU
minimum elong	8602 May 18 21:07	1° II 19'29 0°38'44	direct	8609 Feb 20 08:54	14° II 24'00
max. Earth dist.	8602 May 19 02:58	1° II 20'02 31.02413 AU	evening set	8609 May 18 13:55	16° II 17'57
morning rise	8602 Jun 03 07:28	1° II 54'22			
retrograde	8602 Aug 31 16:08	3° II 50'57	conjunction	8609 Jun 03 00:05	16° II 52'50 -0°51'17
opposition	8602 Nov 19 21:14	2° II 27'06 -0°42'18	minimum elong	8609 Jun 03 00:05	16° II 52'50 0°51'29
min. Earth dist.	8602 Nov 19 14:55	2° II 27'32 29.01991 AU	max. Earth dist.	8609 Jun 03 09:19	16° II 53'42 30.94868 AU
direct	8603 Feb 07 08:28	1° II 03'38	morning rise	8609 Jun 18 11:57	17° II 27'54
evening set	8603 May 05 22:15	2° II 57'43	retrograde	8609 Sep 16 08:07	19° II 25'16
			opposition	8609 Dec 05 17:41	18° II 00'57 -0°55'40
conjunction	8603 May 21 07:34	3° II 32'30 -0°40'34	min. Earth dist.	8609 Dec 05 07:33	18° II 01'38 28.94316 AU
minimum elong	8603 May 21 07:34	3° II 32'30 0°40'44	direct	8610 Feb 22 20:09	16° II 37'27
max. Earth dist.	8603 May 21 13:09	3° II 33'01 31.01540 AU	evening set	8610 May 21 00:40	18° II 31'22
morning rise	8603 Jun 05 18:12	4° II 07'25			
retrograde	8603 Sep 03 06:36	6° II 04'08	conjunction	8610 Jun 05 10:57	19° II 06'17 -0°52'49
opposition	8603 Nov 22 10:28	4° II 40'14 -0°44'25	minimum elong	8610 Jun 05 10:56	19° II 06'17 0°53'01
min. Earth dist.	8603 Nov 22 04:14	4° II 40'40 29.01113 AU	max. Earth dist.	8610 Jun 05 20:44	19° II 07'12 30.93733 AU
direct	8604 Feb 09 19:31	3° II 16'48	morning rise	8610 Jun 20 23:06	19° II 41'22
evening set	8604 May 07 08:37	5° II 10'53	retrograde	8610 Sep 18 20:16	21° II 38'50
			opposition	8610 Dec 08 06:44	20° II 14'27 -0°57'16
conjunction	8604 May 22 18:10	5° II 45'41 -0°42'31	min. Earth dist.	8610 Dec 07 20:53	20° II 15'08 28.93251 AU
minimum elong	8604 May 22 18:10	5° II 45'41 0°42'42	direct	8611 Feb 25 05:49	18° II 50'57
max. Earth dist.	8604 May 23 01:18	5° II 46'22 31.00628 AU	evening set	8611 May 23 11:21	20° II 44'52
morning rise	8604 Jun 07 04:48	6° II 20'37			
retrograde	8604 Sep 04 18:26	8° II 17'29	conjunction	8611 Jun 07 21:54	21° II 19'48 -0°54'17
opposition	8604 Nov 23 23:44	6° II 53'33 -0°46'28	minimum elong	8611 Jun 07 21:54	21° II 19'48 0°54'28
min. Earth dist.	8604 Nov 23 16:39	6° II 54'02 29.00159 AU	max. Earth dist.	8611 Jun 08 09:08	21° II 20'51 30.92736 AU
direct	8605 Feb 11 08:40	5° II 30'08	morning rise	8611 Jun 23 10:13	21° II 54'55
evening set	8605 May 09 19:22	7° II 24'13	retrograde	8611 Sep 21 09:23	23° II 52'29
			opposition	8611 Dec 10 19:46	22° II 28'04 -0°58'47
conjunction	8605 May 25 04:51	7° II 59'01 -0°44'24	min. Earth dist.	8611 Dec 10 08:07	22° II 28'52 28.92317 AU
minimum elong	8605 May 25 04:51	7° II 59'01 0°44'35	direct	8612 Feb 27 18:52	21° II 04'34
max. Earth dist.	8605 May 25 11:23	7° II 59'39 30.99631 AU	evening set	8612 May 24 22:05	22° II 58'29
morning rise	8605 Jun 09 15:52	8° II 34'00			
retrograde	8605 Sep 07 08:10	10° II 30'58	conjunction	8612 Jun 09 08:41	23° II 33'26 -0°55'39
opposition	8605 Nov 26 12:56	9° II 06'59 -0°48'28	minimum elong	8612 Jun 09 08:41	23° II 33'26 0°55'52
min. Earth dist.	8605 Nov 26 05:31	9° II 07'29 28.99120 AU	max. Earth dist.	8612 Jun 09 19:53	23° II 34'30 30.91866 AU
direct	8606 Feb 13 20:07	7° II 43'34	morning rise	8612 Jun 24 21:25	24° II 08'35
evening set	8606 May 12 05:59	9° II 37'38	retrograde	8612 Sep 23 00:01	26° II 06'16

opposition	8612 Dec 12 09:00	24° Π 41'48	-1°00'13	conjunction	8619 Jun 25 16:46	9° \mathfrak{D} 14'02	-1°02'52
min. Earth dist.	8612 Dec 11 21:12	24° Π 42'37	28.91521 AU	minimum elong	8619 Jun 25 16:46	9° \mathfrak{D} 14'02	1°03'04
direct	8613 Mar 01 05:14	23° Π 18'20		max. Earth dist.	8619 Jun 26 07:13	9° \mathfrak{D} 15'25	30.87096 AU
evening set	8613 May 27 08:51	25° Π 12'16		morning rise	8619 Jul 11 07:40	9° \mathfrak{D} 49'24	
				retrograde	8619 Oct 09 19:58	11° \mathfrak{D} 47'44	
conjunction	8613 Jun 11 19:51	25° Π 47'15	-0°56'57	opposition	8619 Dec 29 05:08	10° \mathfrak{D} 23'05	-1°07'36
minimum elong	8613 Jun 11 19:51	25° Π 47'15	0°57'09	min. Earth dist.	8619 Dec 28 15:09	10° \mathfrak{D} 24'03	28.86698 AU
max. Earth dist.	8613 Jun 12 08:51	25° Π 48'28	30.91126 AU	direct	8620 Mar 16 17:14	8° \mathfrak{D} 59'42	
morning rise	8613 Jun 27 08:43	26° Π 22'25		evening set	8620 Jun 11 15:40	10° \mathfrak{D} 53'36	
retrograde	8613 Sep 25 12:16	28° Π 20'13					
opposition	8613 Dec 14 21:58	26° Π 55'45	-1°01'34	conjunction	8620 Jun 27 04:31	11° \mathfrak{D} 28'45	-1°03'32
min. Earth dist.	8613 Dec 14 09:06	26° Π 56'38	28.90828 AU	minimum elong	8620 Jun 27 04:31	11° \mathfrak{D} 28'45	1°03'45
direct	8614 Mar 03 17:32	25° Π 32'18		max. Earth dist.	8620 Jun 27 19:53	11° \mathfrak{D} 30'12	30.86196 AU
evening set	8614 May 29 19:52	27° Π 26'15		morning rise	8620 Jul 12 19:42	12° \mathfrak{D} 04'08	
				retrograde	8620 Oct 11 08:18	14° \mathfrak{D} 02'30	
conjunction	8614 Jun 14 06:57	28° Π 01'15	-0°58'10	opposition	8620 Dec 30 18:13	12° \mathfrak{D} 37'46	-1°08'16
minimum elong	8614 Jun 14 06:57	28° Π 01'15	0°58'23	min. Earth dist.	8620 Dec 30 03:01	12° \mathfrak{D} 38'49	28.85776 AU
max. Earth dist.	8614 Jun 14 19:34	28° Π 02'27	30.90480 AU	direct	8621 Mar 19 06:18	11° \mathfrak{D} 14'20	
morning rise	8614 Jun 29 20:18	28° Π 36'28		evening set	8621 Jun 14 03:16	13° \mathfrak{D} 08'12	
	8614 Aug 12 20:23	0° \mathfrak{D}					
retrograde	8614 Sep 28 03:21	0° \mathfrak{D} 34'22		conjunction	8621 Jun 29 16:16	13° \mathfrak{D} 43'22	-1°04'06
	8614 Nov 14 22:09	30° \mathfrak{R} Π		minimum elong	8621 Jun 29 16:16	13° \mathfrak{D} 43'22	1°04'18
opposition	8614 Dec 17 11:07	29° Π 09'53	-1°02'49	max. Earth dist.	8621 Jun 30 07:08	13° \mathfrak{D} 44'46	30.85273 AU
min. Earth dist.	8614 Dec 16 21:46	29° Π 10'48	28.90221 AU	morning rise	8621 Jul 15 07:59	14° \mathfrak{D} 18'47	
direct	8615 Mar 06 05:04	27° Π 46'29		retrograde	8621 Oct 13 21:40	16° \mathfrak{D} 17'10	
evening set	8615 Jun 01 06:48	29° Π 40'27		opposition	8622 Jan 02 07:13	14° \mathfrak{D} 52'21	-1°08'49
	8615 Jun 09 23:25	0° \mathfrak{D}		min. Earth dist.	8622 Jan 01 16:25	14° \mathfrak{D} 53'23	28.84881 AU
				direct	8622 Mar 21 16:24	13° \mathfrak{D} 28'51	
conjunction	8615 Jun 16 18:13	0° \mathfrak{D} 15'29	-0°59'17	evening set	8622 Jun 16 14:43	15° \mathfrak{D} 22'42	
minimum elong	8615 Jun 16 18:13	0° \mathfrak{D} 15'29	0°59'30				
max. Earth dist.	8615 Jun 17 08:27	0° \mathfrak{D} 16'50	30.89882 AU	conjunction	8622 Jul 02 04:13	15° \mathfrak{D} 57'53	-1°04'34
morning rise	8615 Jul 02 07:42	0° \mathfrak{D} 50'43		minimum elong	8622 Jul 02 04:13	15° \mathfrak{D} 57'53	1°04'47
retrograde	8615 Sep 30 16:24	2° \mathfrak{D} 48'44		max. Earth dist.	8622 Jul 02 20:34	15° \mathfrak{D} 59'26	30.84405 AU
min. Earth dist.	8615 Dec 19 10:50	1° \mathfrak{D} 25'10	28.89631 AU	morning rise	8622 Jul 17 20:07	16° \mathfrak{D} 33'19	
opposition	8615 Dec 20 00:18	1° \mathfrak{D} 24'15	-1°03'58	retrograde	8622 Oct 16 10:10	18° \mathfrak{D} 31'45	
direct	8616 Mar 07 18:34	0° \mathfrak{D} 00'53		opposition	8623 Jan 04 20:10	17° \mathfrak{D} 06'52	-1°09'16
evening set	8616 Jun 02 18:03	1° \mathfrak{D} 54'52		min. Earth dist.	8623 Jan 04 04:22	17° \mathfrak{D} 07'57	28.84053 AU
				direct	8623 Mar 24 05:10	15° \mathfrak{D} 43'19	
conjunction	8616 Jun 18 05:37	2° \mathfrak{D} 29'55	-1°00'19	evening set	8623 Jun 19 02:14	17° \mathfrak{D} 37'10	
minimum elong	8616 Jun 18 05:36	2° \mathfrak{D} 29'55	1°00'32				
max. Earth dist.	8616 Jun 18 19:28	2° \mathfrak{D} 31'14	30.89299 AU	conjunction	8623 Jul 04 15:52	18° \mathfrak{D} 12'22	-1°04'56
morning rise	8616 Jul 03 19:31	3° \mathfrak{D} 05'12		minimum elong	8623 Jul 04 15:52	18° \mathfrak{D} 12'22	1°05'08
retrograde	8616 Oct 02 06:44	5° \mathfrak{D} 03'19		max. Earth dist.	8623 Jul 05 07:47	18° \mathfrak{D} 13'52	30.83633 AU
opposition	8616 Dec 21 13:28	3° \mathfrak{D} 38'48	-1°05'02	morning rise	8623 Jul 20 08:19	18° \mathfrak{D} 47'49	
min. Earth dist.	8616 Dec 20 23:03	3° \mathfrak{D} 39'48	28.89036 AU	retrograde	8623 Oct 19 01:02	20° \mathfrak{D} 46'17	
direct	8617 Mar 10 06:10	2° \mathfrak{D} 15'28		opposition	8624 Jan 07 09:11	19° \mathfrak{D} 21'21	-1°09'37
evening set	8617 Jun 05 05:21	4° \mathfrak{D} 09'27		min. Earth dist.	8624 Jan 06 16:58	19° \mathfrak{D} 22'28	28.83351 AU
				direct	8624 Mar 25 16:41	17° \mathfrak{D} 57'47	
conjunction	8617 Jun 20 17:14	4° \mathfrak{D} 44'32	-1°01'16	evening set	8624 Jun 20 13:45	19° \mathfrak{D} 51'37	
minimum elong	8617 Jun 20 17:14	4° \mathfrak{D} 44'32	1°01'28				
max. Earth dist.	8617 Jun 21 07:47	4° \mathfrak{D} 45'55	30.88659 AU	conjunction	8624 Jul 06 03:53	20° \mathfrak{D} 26'51	-1°05'13
morning rise	8617 Jul 06 07:24	5° \mathfrak{D} 19'51		minimum elong	8624 Jul 06 03:53	20° \mathfrak{D} 26'51	1°05'25
retrograde	8617 Oct 04 18:08	7° \mathfrak{D} 18'04		max. Earth dist.	8624 Jul 06 21:24	20° \mathfrak{D} 28'30	30.82988 AU
opposition	8617 Dec 24 02:46	5° \mathfrak{D} 53'31	-1°05'59	morning rise	8624 Jul 21 20:33	21° \mathfrak{D} 02'20	
min. Earth dist.	8617 Dec 23 13:00	5° \mathfrak{D} 54'28	28.88357 AU	retrograde	8624 Oct 20 14:02	23° \mathfrak{D} 00'51	
direct	8618 Mar 12 18:22	4° \mathfrak{D} 30'12		opposition	8625 Jan 08 22:05	21° \mathfrak{D} 35'52	-1°09'51
evening set	8618 Jun 07 16:49	6° \mathfrak{D} 24'10		min. Earth dist.	8625 Jan 08 05:36	21° \mathfrak{D} 37'01	28.82772 AU
				direct	8625 Mar 28 05:47	20° \mathfrak{D} 12'18	
conjunction	8618 Jun 23 04:59	6° \mathfrak{D} 59'16	-1°02'07	evening set	8625 Jun 23 01:23	22° \mathfrak{D} 06'09	
minimum elong	8618 Jun 23 04:59	6° \mathfrak{D} 59'16	1°02'19				
max. Earth dist.	8618 Jun 23 19:31	7° \mathfrak{D} 00'39	30.87935 AU	conjunction	8625 Jul 08 15:49	22° \mathfrak{D} 41'24	-1°05'23
morning rise	8618 Jul 08 19:29	7° \mathfrak{D} 34'37		minimum elong	8625 Jul 08 15:49	22° \mathfrak{D} 41'24	1°05'35
retrograde	8618 Oct 07 08:02	9° \mathfrak{D} 32'53		max. Earth dist.	8625 Jul 09 09:01	22° \mathfrak{D} 43'02	30.82484 AU
opposition	8618 Dec 26 15:48	8° \mathfrak{D} 08'18	-1°06'51	morning rise	8625 Jul 24 09:02	23° \mathfrak{D} 16'55	
min. Earth dist.	8618 Dec 26 00:57	8° \mathfrak{D} 09'20	28.87575 AU	retrograde	8625 Oct 23 04:42	25° \mathfrak{D} 15'29	
direct	8619 Mar 15 06:28	6° \mathfrak{D} 44'57		opposition	8626 Jan 11 10:56	23° \mathfrak{D} 50'30	-1°09'59
evening set	8619 Jun 10 04:22	8° \mathfrak{D} 38'55		min. Earth dist.	8626 Jan 10 17:26	23° \mathfrak{D} 51'43	28.82330 AU

direct	8626 Mar 30 17:17	22°☾26'56		minimum elong	8632 Jul 24 06:55	8°♊27'52	1°03'58
evening set	8626 Jun 25 13:06	24°☾20'48		max. Earth dist.	8632 Jul 25 00:34	8°♊29'33	30.80055 AU
				morning rise	8632 Aug 09 03:01	9°♊03'37	
conjunction	8626 Jul 11 03:55	24°☾56'05 -1°05'28		retrograde	8632 Nov 08 02:02	11°♊02'27	
minimum elong	8626 Jul 11 03:55	24°☾56'05 1°05'39		min. Earth dist.	8633 Jan 26 11:33	9°♊38'38	28.79841 AU
max. Earth dist.	8626 Jul 11 22:03	24°☾57'48 30.82086 AU		opposition	8633 Jan 27 04:49	9°♊37'26	-1°07'53
morning rise	8626 Jul 26 21:26	25°☾31'39		direct	8633 Apr 15 02:32	8°♊13'53	
retrograde	8626 Oct 25 17:10	27°☾30'15		evening set	8633 Jul 11 02:03	10°♊07'50	
opposition	8627 Jan 13 23:47	26°☾05'17 -1°10'00					
min. Earth dist.	8627 Jan 13 06:43	26°☾06'28 28.81983 AU		conjunction	8633 Jul 26 19:44	10°♊43'20	-1°03'10
direct	8627 Apr 02 05:34	24°☾41'46		minimum elong	8633 Jul 26 19:44	10°♊43'20	1°03'20
evening set	8627 Jun 28 00:55	26°☾35'38		max. Earth dist.	8633 Jul 27 14:26	10°♊45'06	30.79514 AU
				morning rise	8633 Aug 11 16:07	11°♊19'05	
conjunction	8627 Jul 13 16:07	27°☾10'57 -1°05'26		retrograde	8633 Nov 10 14:30	13°♊17'54	
minimum elong	8627 Jul 13 16:07	27°☾10'57 1°05'37		opposition	8634 Jan 29 17:25	11°♊52'50	-1°07'11
max. Earth dist.	8627 Jul 14 10:27	27°☾12'42 30.81794 AU		min. Earth dist.	8634 Jan 29 00:22	11°♊54'01	28.79296 AU
morning rise	8627 Jul 29 10:03	27°☾46'33		direct	8634 Apr 17 15:35	10°♊29'13	
retrograde	8627 Oct 28 08:19	29°☾45'13		evening set	8634 Jul 13 14:24	12°♊23'09	
opposition	8628 Jan 16 12:38	28°☾20'16 -1°09'55					
min. Earth dist.	8628 Jan 15 18:19	28°☾21'32 28.81720 AU		conjunction	8634 Jul 29 08:22	12°♊58'39	-1°02'27
direct	8628 Apr 03 17:40	26°☾56'46		minimum elong	8634 Jul 29 08:23	12°♊58'39	1°02'36
evening set	8628 Jun 29 12:49	28°☾50'41		max. Earth dist.	8634 Jul 30 02:19	13°♊00'21	30.78995 AU
				morning rise	8634 Aug 14 05:18	13°♊34'26	
conjunction	8628 Jul 15 04:20	29°☾26'02 -1°05'18			8634 Sep 28 16:50	15°♊	
minimum elong	8628 Jul 15 04:20	29°☾26'02 1°05'29		retrograde	8634 Nov 13 05:00	15°♊33'12	
max. Earth dist.	8628 Jul 15 22:47	29°☾27'47 30.81543 AU			8634 Dec 29 20:53	15°♊	
morning rise	8628 Jul 30 22:44	0°♊01'40		opposition	8635 Feb 01 05:53	14°♊08'05	-1°06'22
	8628 Jul 30 04:50	0°♊		min. Earth dist.	8635 Jan 31 12:14	14°♊09'19	28.78813 AU
retrograde	8628 Oct 29 20:29	2°♊00'24		direct	8635 Apr 20 03:09	12°♊44'24	
min. Earth dist.	8629 Jan 17 08:20	0°♊36'40 28.81478 AU		evening set	8635 Jul 16 02:42	14°♊38'20	
opposition	8629 Jan 18 01:37	0°♊35'28 -1°09'44			8635 Jul 25 18:43	15°♊	
	8629 Feb 09 00:16	30°♊☾					
direct	8629 Apr 06 04:18	29°☾12'00		conjunction	8635 Jul 31 21:08	15°♊13'51	-1°01'38
	8629 May 29 22:51	0°♊		minimum elong	8635 Jul 31 21:08	15°♊13'51	1°01'48
evening set	8629 Jul 02 00:56	1°♊05'57		max. Earth dist.	8635 Aug 01 15:51	15°♊15'38	30.78550 AU
				morning rise	8635 Aug 16 18:23	15°♊49'40	
conjunction	8629 Jul 17 16:57	1°♊41'19 -1°05'04		retrograde	8635 Nov 15 18:09	17°♊48'24	
minimum elong	8629 Jul 17 16:57	1°♊41'19 1°05'15		opposition	8636 Feb 03 18:23	16°♊23'13	-1°05'27
max. Earth dist.	8629 Jul 18 11:59	1°♊43'08 30.81293 AU		min. Earth dist.	8636 Feb 03 01:16	16°♊24'25	28.78429 AU
morning rise	8629 Aug 02 11:40	2°♊16'59			8636 Apr 16 08:31	15°♊	
retrograde	8629 Nov 01 09:20	4°♊15'46		direct	8636 Apr 21 16:34	14°♊59'30	
opposition	8630 Jan 20 14:18	2°♊50'51 -1°09'25			8636 Apr 27 00:11	15°♊	
min. Earth dist.	8630 Jan 19 20:12	2°♊52'07 28.81197 AU		evening set	8636 Jul 17 14:57	16°♊53'24	
direct	8630 Apr 08 16:42	1°♊27'24					
evening set	8630 Jul 04 13:18	3°♊21'23		conjunction	8636 Aug 02 09:50	17°♊28'58	-1°00'44
				minimum elong	8636 Aug 02 09:51	17°♊28'58	1°00'53
conjunction	8630 Jul 20 05:33	3°♊56'47 -1°04'44		max. Earth dist.	8636 Aug 03 04:33	17°♊30'44	30.78242 AU
minimum elong	8630 Jul 20 05:33	3°♊56'47 1°04'55		morning rise	8636 Aug 18 07:34	18°♊04'47	
max. Earth dist.	8630 Jul 20 23:33	3°♊58'30 30.80970 AU		retrograde	8636 Nov 17 09:05	20°♊03'29	
morning rise	8630 Aug 05 00:48	4°♊32'28		opposition	8637 Feb 05 06:43	18°♊38'17	-1°04'26
retrograde	8630 Nov 03 22:51	6°♊31'19		min. Earth dist.	8637 Feb 04 12:26	18°♊39'33	28.78186 AU
min. Earth dist.	8631 Jan 22 10:05	5°♊07'34 28.80834 AU		direct	8637 Apr 24 05:41	17°♊14'31	
opposition	8631 Jan 23 03:16	5°♊06'23 -1°09'01		evening set	8637 Jul 20 03:26	19°♊08'25	
direct	8631 Apr 11 02:13	3°♊42'55					
evening set	8631 Jul 07 01:24	5°♊36'54		conjunction	8637 Aug 04 22:42	19°♊44'00	-0°59'44
				minimum elong	8637 Aug 04 22:42	19°♊44'00	0°59'53
conjunction	8631 Jul 22 18:14	6°♊12'20 -1°04'19		max. Earth dist.	8637 Aug 05 17:30	19°♊45'46	30.78064 AU
minimum elong	8631 Jul 22 18:14	6°♊12'20 1°04'29		morning rise	8637 Aug 20 20:52	20°♊19'51	
max. Earth dist.	8631 Jul 23 13:05	6°♊14'07 30.80556 AU		retrograde	8637 Nov 19 20:52	22°♊18'31	
morning rise	8631 Aug 07 13:44	6°♊48'03		opposition	8638 Feb 07 19:01	20°♊53'18	-1°03'19
retrograde	8631 Nov 06 11:35	8°♊46'54		min. Earth dist.	8638 Feb 07 01:37	20°♊54'31	28.78089 AU
opposition	8632 Jan 25 16:07	7°♊21'56 -1°08'30		direct	8638 Apr 26 16:50	19°♊29'31	
min. Earth dist.	8632 Jan 24 22:29	7°♊23'10 28.80364 AU		evening set	8638 Jul 22 15:49	21°♊23'25	
direct	8632 Apr 12 15:05	5°♊58'27					
evening set	8632 Jul 08 13:50	7°♊52'25		conjunction	8638 Aug 07 11:38	21°♊59'01	-0°58'39
				minimum elong	8638 Aug 07 11:38	21°♊59'01	0°58'47
conjunction	8632 Jul 24 06:55	8°♊27'52 -1°03'47		max. Earth dist.	8638 Aug 08 07:09	22°♊00'52	30.78050 AU

morning rise	8638 Aug 23 10:08	22°034'53	direct	8645 May 12 02:47	5°00'16"17	
retrograde	8638 Nov 22 10:11	24°033'31	evening set	8645 Aug 07 09:33	7°00'10"19	
opposition	8639 Feb 10 07:15	23°008'19 -1°02'06				
min. Earth dist.	8639 Feb 09 12:45	23°009'37 28.78140 AU	conjunction	8645 Aug 23 08:20	7°00'46"05 -0°48'36	
direct	8639 Apr 29 05:26	21°044'32	minimum elong	8645 Aug 23 08:20	7°00'46"05 0°48'42	
evening set	8639 Jul 25 04:17	23°038'26	max. Earth dist.	8645 Aug 24 01:35	7°00'47"43 30.79381 AU	
			morning rise	8645 Sep 08 09:40	8°00'22"06	
conjunction	8639 Aug 10 00:22	24°014'04 -0°57'28	retrograde	8645 Dec 08 07:55	10°00'20"29	
minimum elong	8639 Aug 10 00:23	24°014'04 0°57'37	opposition	8646 Feb 25 20:27	8°00'55"24 -0°51'02	
max. Earth dist.	8639 Aug 10 19:17	24°015'51 30.78170 AU	min. Earth dist.	8646 Feb 25 04:00	8°00'56"33 28.79440 AU	
morning rise	8639 Aug 25 23:25	24°049'58	direct	8646 May 14 16:01	7°00'31"31	
retrograde	8639 Nov 24 23:32	26°048'35	evening set	8646 Aug 09 22:36	9°00'25"34	
opposition	8640 Feb 12 19:39	25°023'24 -1°00'47				
min. Earth dist.	8640 Feb 12 01:53	25°024'39 28.78325 AU	conjunction	8646 Aug 25 21:45	10°00'01"21 -0°46'52	
direct	8640 Apr 30 15:15	23°059'37	minimum elong	8646 Aug 25 21:45	10°00'01"21 0°46'56	
evening set	8640 Jul 26 16:50	25°053'33	max. Earth dist.	8646 Aug 26 14:42	10°00'02"57 30.79437 AU	
			morning rise	8646 Sep 10 23:27	10°00'37"23	
conjunction	8640 Aug 11 13:32	26°029'12 -0°56'12	retrograde	8646 Dec 10 20:13	12°00'35"41	
minimum elong	8640 Aug 11 13:33	26°029'12 0°56'20	opposition	8647 Feb 28 08:29	11°00'10"35 -0°49'08	
max. Earth dist.	8640 Aug 12 09:27	26°031'05 30.78406 AU	min. Earth dist.	8647 Feb 27 17:18	11°00'11"39 28.79517 AU	
morning rise	8640 Aug 27 12:51	27°005'08	direct	8647 May 17 03:37	9°00'46"40	
retrograde	8640 Nov 26 11:37	29°003'44	evening set	8647 Aug 12 11:23	11°00'40"42	
opposition	8641 Feb 14 07:45	27°038'35 -0°59'23				
min. Earth dist.	8641 Feb 13 13:33	27°039'51 28.78588 AU	conjunction	8647 Aug 28 11:03	12°00'16"30 -0°45'03	
direct	8641 May 03 03:45	26°014'49	minimum elong	8647 Aug 28 11:03	12°00'16"30 0°45'07	
evening set	8641 Jul 29 05:43	28°008'47	max. Earth dist.	8647 Aug 29 04:16	12°00'18"07 30.79552 AU	
			morning rise	8647 Sep 13 13:03	12°00'52"33	
conjunction	8641 Aug 14 02:41	28°044'27 -0°54'51	retrograde	8647 Dec 13 10:07	14°00'50"46	
minimum elong	8641 Aug 14 02:41	28°044'27 0°54'58	opposition	8648 Mar 01 20:14	13°00'25"39 -0°47'09	
max. Earth dist.	8641 Aug 14 21:18	28°046'13 30.78694 AU	min. Earth dist.	8648 Mar 01 04:18	13°00'26"47 28.79665 AU	
morning rise	8641 Aug 30 02:34	29°020'24	direct	8648 May 18 16:55	12°00'01"42	
	8641 Sep 17 21:37	0°00'	evening set	8648 Aug 14 00:29	13°00'55"44	
retrograde	8641 Nov 29 01:17	1°00'19"00				
	8642 Feb 13 04:42	30°00'00"	conjunction	8648 Aug 30 00:25	14°00'31"34 -0°43'10	
opposition	8642 Feb 16 20:01	29°053'53 -0°57'53	minimum elong	8648 Aug 30 00:25	14°00'31"34 0°43'14	
min. Earth dist.	8642 Feb 16 02:23	29°055'07 28.78882 AU	max. Earth dist.	8648 Aug 30 16:45	14°00'33"06 30.79747 AU	
direct	8642 May 05 14:02	28°030'07	morning rise	8648 Sep 15 02:53	15°00'07"37	
	8642 Jul 20 13:11	0°00'	retrograde	8648 Dec 14 23:04	17°00'05"45	
evening set	8642 Jul 31 18:30	0°00'24"08	opposition	8649 Mar 04 07:56	15°00'40"39 -0°45'06	
			min. Earth dist.	8649 Mar 03 17:01	15°00'41"42 28.79927 AU	
conjunction	8642 Aug 16 16:01	0°00'59"50 -0°53'24	direct	8649 May 21 03:15	14°00'16"39	
minimum elong	8642 Aug 16 16:02	0°00'59"50 0°53'30	evening set	8649 Aug 16 13:28	16°00'10"42	
max. Earth dist.	8642 Aug 17 11:24	1°00'01"39 30.78963 AU				
morning rise	8642 Sep 01 16:06	1°00'35"48	conjunction	8649 Sep 01 13:57	16°00'46"32 -0°41'13	
retrograde	8642 Dec 01 13:37	3°00'34"22	minimum elong	8649 Sep 01 13:57	16°00'46"32 0°41'17	
opposition	8643 Feb 19 08:14	2°00'09"17 -0°56'18	max. Earth dist.	8649 Sep 02 07:02	16°00'48"09 30.80075 AU	
min. Earth dist.	8643 Feb 18 15:08	2°00'10"29 28.79120 AU	morning rise	8649 Sep 17 16:36	17°00'22"37	
direct	8643 May 08 02:06	0°00'45"31	retrograde	8649 Dec 17 10:17	19°00'20"39	
evening set	8643 Aug 03 07:33	2°00'39"33	opposition	8650 Mar 06 19:31	17°00'55"35 -0°42'59	
			min. Earth dist.	8650 Mar 06 04:06	17°00'56"40 28.80316 AU	
conjunction	8643 Aug 19 05:23	3°00'15"16 -0°51'53	direct	8650 May 23 16:06	16°00'31"35	
minimum elong	8643 Aug 19 05:23	3°00'15"16 0°52'00	evening set	8650 Aug 19 02:30	18°00'25"38	
max. Earth dist.	8643 Aug 19 23:20	3°00'16"58 30.79177 AU				
morning rise	8643 Sep 04 05:59	3°00'51"15	conjunction	8650 Sep 04 03:10	19°00'01"29 -0°39'12	
retrograde	8643 Dec 04 04:22	5°00'49"47	minimum elong	8650 Sep 04 03:10	19°00'01"29 0°39'15	
opposition	8644 Feb 21 20:26	4°00'24"43 -0°54'37	max. Earth dist.	8650 Sep 04 19:04	19°00'02"58 30.80541 AU	
min. Earth dist.	8644 Feb 21 03:21	4°00'25"55 28.79295 AU	morning rise	8650 Sep 20 06:17	19°00'37"34	
direct	8644 May 09 13:29	3°00'00"55	retrograde	8650 Dec 19 22:47	21°00'35"32	
evening set	8644 Aug 04 20:30	4°00'54"58	opposition	8651 Mar 09 07:11	20°00'10"30 -0°40'48	
			min. Earth dist.	8651 Mar 08 16:06	20°00'11"34 28.80864 AU	
conjunction	8644 Aug 20 18:52	5°00'30"43 -0°50'17	direct	8651 May 26 01:57	18°00'46"29	
minimum elong	8644 Aug 20 18:52	5°00'30"43 0°50'22	evening set	8651 Aug 21 15:30	20°00'40"34	
max. Earth dist.	8644 Aug 21 12:58	5°00'32"25 30.79305 AU				
morning rise	8644 Sep 05 19:47	6°00'06"43	conjunction	8651 Sep 06 16:44	21°00'16"26 -0°37'08	
retrograde	8644 Dec 05 17:25	8°00'05"11	minimum elong	8651 Sep 06 16:44	21°00'16"26 0°37'11	
opposition	8645 Feb 23 08:38	6°00'40"06 -0°52'52	max. Earth dist.	8651 Sep 07 09:38	21°00'18"01 30.81163 AU	
min. Earth dist.	8645 Feb 22 16:41	6°00'41"13 28.79383 AU	morning rise	8651 Sep 22 20:00	21°00'52"32	

retrograde	8651 Dec 22 10:34	23° <u>0</u> 50'26	evening set	8658 Sep 06 13:19	6° <u>0</u> 26'16
opposition	8652 Mar 10 18:44	22° <u>0</u> 25'27 -0°38'33			
min. Earth dist.	8652 Mar 10 03:57	22° <u>0</u> 26'30 28.81548 AU	conjunction	8658 Sep 22 16:54	7° <u>0</u> 02'14 -0°21'13
direct	8652 May 27 12:58	21° <u>0</u> 01'27	minimum elong	8658 Sep 22 16:54	7° <u>0</u> 02'14 0°21'12
evening set	8652 Aug 23 04:42	22° <u>0</u> 55'34	max. Earth dist.	8658 Sep 23 05:16	7° <u>0</u> 03'23 30.86267 AU
			morning rise	8658 Oct 08 21:55	7° <u>0</u> 38'22
conjunction	8652 Sep 08 06:12	23° <u>0</u> 31'27 -0°35'00	retrograde	8659 Jan 07 05:56	9° <u>0</u> 35'34
minimum elong	8652 Sep 08 06:12	23° <u>0</u> 31'27 0°35'02	opposition	8659 Mar 27 02:58	8° <u>0</u> 10'52 -0°21'22
max. Earth dist.	8652 Sep 08 21:52	23° <u>0</u> 32'55 30.81921 AU	min. Earth dist.	8659 Mar 26 16:08	8° <u>0</u> 11'38 28.86537 AU
morning rise	8652 Sep 24 09:57	24° <u>0</u> 07'34	direct	8659 Jun 13 03:26	6° <u>0</u> 46'45
retrograde	8652 Dec 24 00:12	26° <u>0</u> 05'24	evening set	8659 Sep 09 02:52	8° <u>0</u> 40'59
opposition	8653 Mar 13 06:17	24° <u>0</u> 40'29 -0°36'15			
min. Earth dist.	8653 Mar 12 15:25	24° <u>0</u> 41'31 28.82353 AU	conjunction	8659 Sep 25 06:34	9° <u>0</u> 16'57 -0°18'48
direct	8653 May 29 23:50	23° <u>0</u> 16'29	minimum elong	8659 Sep 25 06:34	9° <u>0</u> 16'57 0°18'47
evening set	8653 Aug 25 17:59	25° <u>0</u> 10'39	max. Earth dist.	8659 Sep 25 17:14	9° <u>0</u> 17'56 30.86798 AU
			morning rise	8659 Oct 11 11:56	9° <u>0</u> 53'04
conjunction	8653 Sep 10 19:54	25° <u>0</u> 46'33 -0°32'49	retrograde	8660 Jan 09 18:36	11° <u>0</u> 50'09
minimum elong	8653 Sep 10 19:54	25° <u>0</u> 46'33 0°32'51	opposition	8660 Mar 28 14:08	10° <u>0</u> 25'27 -0°18'45
max. Earth dist.	8653 Sep 11 11:55	25° <u>0</u> 48'03 30.82750 AU	min. Earth dist.	8660 Mar 28 04:09	10° <u>0</u> 26'09 28.87084 AU
morning rise	8653 Sep 26 23:47	26° <u>0</u> 22'40	direct	8660 Jun 14 14:07	9° <u>0</u> 01'15
retrograde	8653 Dec 26 12:14	28° <u>0</u> 20'27	evening set	8660 Sep 10 16:13	10° <u>0</u> 55'29
opposition	8654 Mar 15 17:47	26° <u>0</u> 55'36 -0°33'53			
min. Earth dist.	8654 Mar 15 04:08	26° <u>0</u> 56'33 28.83196 AU	conjunction	8660 Sep 26 20:22	11° <u>0</u> 31'27 -0°16'21
direct	8654 Jun 01 12:19	25° <u>0</u> 31'38	minimum elong	8660 Sep 26 20:23	11° <u>0</u> 31'27 0°16'19
evening set	8654 Aug 28 07:24	27° <u>0</u> 25'50	max. Earth dist.	8660 Sep 27 07:37	11° <u>0</u> 32'30 30.87360 AU
			morning rise	8660 Oct 13 01:46	12° <u>0</u> 07'34
conjunction	8654 Sep 13 09:37	28° <u>0</u> 01'45 -0°30'35	retrograde	8661 Jan 11 05:26	14° <u>0</u> 04'30
minimum elong	8654 Sep 13 09:37	28° <u>0</u> 01'45 0°30'35	opposition	8661 Mar 31 01:14	12° <u>0</u> 39'49 -0°16'08
max. Earth dist.	8654 Sep 14 00:31	28° <u>0</u> 03'09 30.83605 AU	min. Earth dist.	8661 Mar 30 15:50	12° <u>0</u> 40'29 28.87668 AU
morning rise	8654 Sep 29 13:49	28° <u>0</u> 37'53	direct	8661 Jun 17 01:58	11° <u>0</u> 15'35
	8654 Nov 12 02:40	0° <u>0</u>	evening set	8661 Sep 13 05:42	13° <u>0</u> 09'49
retrograde	8654 Dec 29 02:29	0° <u>0</u> 35'35			
	8655 Feb 15 03:07	30° <u>0</u> 8'00	conjunction	8661 Sep 29 09:56	13° <u>0</u> 45'47 -0°13'53
opposition	8655 Mar 18 05:16	29° <u>0</u> 10'48 -0°31'27	minimum elong	8661 Sep 29 09:56	13° <u>0</u> 45'47 0°13'51
min. Earth dist.	8655 Mar 17 15:19	29° <u>0</u> 11'46 28.84032 AU	behind sun begin	8661 Sep 29 06:39	13° <u>0</u> 45'29
direct	8655 Jun 04 00:39	27° <u>0</u> 46'49	behind sun end	8661 Sep 29 13:13	13° <u>0</u> 46'04
evening set	8655 Aug 30 20:49	29° <u>0</u> 41'04	max. Earth dist.	8661 Sep 29 19:41	13° <u>0</u> 46'41 30.87989 AU
	8655 Sep 08 09:47	0° <u>0</u>	morning rise	8661 Oct 15 15:36	14° <u>0</u> 21'54
			retrograde	8662 Jan 13 17:31	16° <u>0</u> 18'42
conjunction	8655 Sep 15 23:21	0° <u>0</u> 17'00 -0°28'18	opposition	8662 Apr 02 12:12	14° <u>0</u> 54'02 -0°13'29
minimum elong	8655 Sep 15 23:21	0° <u>0</u> 17'00 0°28'19	min. Earth dist.	8662 Apr 02 02:48	14° <u>0</u> 54'42 28.88350 AU
max. Earth dist.	8655 Sep 16 13:37	0° <u>0</u> 18'20 30.84399 AU	direct	8662 Jun 19 13:04	13° <u>0</u> 29'45
morning rise	8655 Oct 02 03:47	0° <u>0</u> 53'08	evening set	8662 Sep 15 19:01	15° <u>0</u> 24'00
retrograde	8655 Dec 31 15:17	2° <u>0</u> 50'45			
opposition	8656 Mar 19 16:56	1° <u>0</u> 26'00 -0°28'59	conjunction	8662 Oct 01 23:35	15° <u>0</u> 59'58 -0°11'25
min. Earth dist.	8656 Mar 19 04:43	1° <u>0</u> 26'52 28.84784 AU	minimum elong	8662 Oct 01 23:35	15° <u>0</u> 59'58 0°11'21
direct	8656 Jun 05 12:24	0° <u>0</u> 02'01	behind sun begin	8662 Oct 01 18:50	15° <u>0</u> 59'33
evening set	8656 Sep 01 10:22	1° <u>0</u> 56'16	behind sun end	8662 Oct 02 04:20	16° <u>0</u> 00'24
			max. Earth dist.	8662 Oct 02 09:48	16° <u>0</u> 00'55 30.88720 AU
conjunction	8656 Sep 17 13:19	2° <u>0</u> 32'13 -0°25'58	morning rise	8662 Oct 18 05:14	16° <u>0</u> 36'04
minimum elong	8656 Sep 17 13:19	2° <u>0</u> 32'13 0°25'58	retrograde	8663 Jan 16 04:04	18° <u>0</u> 32'45
max. Earth dist.	8656 Sep 18 03:00	2° <u>0</u> 33'30 30.85110 AU	opposition	8663 Apr 04 23:14	17° <u>0</u> 08'08 -0°10'48
morning rise	8656 Oct 03 17:58	3° <u>0</u> 08'21	min. Earth dist.	8663 Apr 04 14:48	17° <u>0</u> 08'44 28.89145 AU
retrograde	8657 Jan 02 05:41	5° <u>0</u> 05'50	direct	8663 Jun 22 00:45	15° <u>0</u> 43'50
opposition	8657 Mar 22 04:13	3° <u>0</u> 41'07 -0°26'29	evening set	8663 Sep 18 08:18	17° <u>0</u> 38'06
min. Earth dist.	8657 Mar 21 15:53	3° <u>0</u> 41'59 28.85436 AU			
direct	8657 Jun 08 02:30	2° <u>0</u> 17'06	conjunction	8663 Oct 04 13:03	18° <u>0</u> 14'05 -0°08'55
evening set	8657 Sep 04 00:01	4° <u>0</u> 11'22	minimum elong	8663 Oct 04 13:03	18° <u>0</u> 14'05 0°08'52
			behind sun begin	8663 Oct 04 07:25	18° <u>0</u> 13'35
conjunction	8657 Sep 20 03:10	4° <u>0</u> 47'19 -0°23'37	behind sun end	8663 Oct 04 18:41	18° <u>0</u> 14'35
minimum elong	8657 Sep 20 03:10	4° <u>0</u> 47'19 0°23'37	max. Earth dist.	8663 Oct 04 22:16	18° <u>0</u> 14'55 30.89592 AU
max. Earth dist.	8657 Sep 20 15:22	4° <u>0</u> 48'27 30.85716 AU	morning rise	8663 Oct 20 18:56	18° <u>0</u> 50'11
morning rise	8657 Oct 06 08:07	5° <u>0</u> 23'27	retrograde	8664 Jan 18 17:20	20° <u>0</u> 46'45
retrograde	8658 Jan 04 18:16	7° <u>0</u> 20'48	opposition	8664 Apr 06 10:09	19° <u>0</u> 22'12 -0°08'07
opposition	8658 Mar 24 15:42	5° <u>0</u> 56'06 -0°23'56	min. Earth dist.	8664 Apr 06 01:08	19° <u>0</u> 22'50 28.90077 AU
min. Earth dist.	8658 Mar 24 04:55	5° <u>0</u> 56'51 28.86010 AU	direct	8664 Jun 23 12:27	17° <u>0</u> 57'53
direct	8658 Jun 10 14:06	4° <u>0</u> 32'02	evening set	8664 Sep 19 21:46	19° <u>0</u> 52'12

conjunction	8664 Oct 06 02:44	20° <u>♎</u> 28'11	-0°06'25	behind sun end	8669 Oct 18 05:29	1° <u>♍</u> 40'11	
minimum elong	8664 Oct 06 02:44	20° <u>♎</u> 28'11	0°06'20	max. Earth dist.	8669 Oct 18 04:37	1° <u>♍</u> 40'06	30.95839 AU
behind sun begin	8664 Oct 05 20:31	20° <u>♎</u> 27'38		morning rise	8669 Nov 03 05:17	2° <u>♍</u> 15'41	
behind sun end	8664 Oct 06 08:56	20° <u>♎</u> 28'44		retrograde	8670 Jan 31 19:48	4° <u>♍</u> 11'38	
max. Earth dist.	8664 Oct 06 11:41	20° <u>♎</u> 29'00	30.90580 AU	opposition	8670 Apr 20 03:15	2° <u>♍</u> 47'33	0°08'05
morning rise	8664 Oct 22 08:39	21° <u>♎</u> 04'17		min. Earth dist.	8670 Apr 19 23:18	2° <u>♍</u> 47'49	28.96258 AU
retrograde	8665 Jan 20 05:09	23° <u>♎</u> 00'45		direct	8670 Jul 07 12:54	1° <u>♍</u> 23'16	
opposition	8665 Apr 08 21:02	21° <u>♎</u> 36'17	-0°05'25	evening set	8670 Oct 04 07:13	3° <u>♍</u> 17'50	
min. Earth dist.	8665 Apr 08 13:28	21° <u>♎</u> 36'49	28.91122 AU				
direct	8665 Jun 25 23:42	20° <u>♎</u> 11'59		conjunction	8670 Oct 20 12:53	3° <u>♍</u> 53'49	0°08'51
evening set	8665 Sep 22 11:12	22° <u>♎</u> 06'22		minimum elong	8670 Oct 20 12:53	3° <u>♍</u> 53'49	0°08'59
				behind sun begin	8670 Oct 20 07:17	3° <u>♍</u> 53'19	
conjunction	8665 Oct 08 16:23	22° <u>♎</u> 42'21	-0°03'54	behind sun end	8670 Oct 20 18:29	3° <u>♍</u> 54'18	
minimum elong	8665 Oct 08 16:24	22° <u>♎</u> 42'21	0°03'50	max. Earth dist.	8670 Oct 20 16:12	3° <u>♍</u> 54'06	30.96661 AU
behind sun begin	8665 Oct 08 09:53	22° <u>♎</u> 41'46		morning rise	8670 Nov 05 19:01	4° <u>♍</u> 29'51	
behind sun end	8665 Oct 08 22:54	22° <u>♎</u> 42'56		retrograde	8671 Feb 03 07:14	6° <u>♍</u> 25'39	
max. Earth dist.	8665 Oct 09 01:00	22° <u>♎</u> 43'08	30.91679 AU	opposition	8671 Apr 22 13:55	5° <u>♍</u> 01'35	0°10'45
morning rise	8665 Oct 24 22:23	23° <u>♎</u> 18'26		min. Earth dist.	8671 Apr 22 10:22	5° <u>♍</u> 01'50	28.97051 AU
retrograde	8666 Jan 22 19:07	25° <u>♎</u> 14'49		direct	8671 Jul 10 00:12	3° <u>♍</u> 37'15	
opposition	8666 Apr 11 07:50	23° <u>♎</u> 50'26	-0°02'43	evening set	8671 Oct 06 20:36	5° <u>♍</u> 31'49	
min. Earth dist.	8666 Apr 10 23:56	23° <u>♎</u> 51'00	28.92241 AU				
direct	8666 Jun 28 13:18	22° <u>♎</u> 26'11		conjunction	8671 Oct 23 02:31	6° <u>♍</u> 07'47	0°11'20
evening set	8666 Sep 25 00:41	24° <u>♎</u> 20'37		minimum elong	8671 Oct 23 02:30	6° <u>♍</u> 07'47	0°11'27
				behind sun begin	8671 Oct 22 21:48	6° <u>♍</u> 07'22	
conjunction	8666 Oct 11 05:55	24° <u>♎</u> 56'36	-0°01'20	behind sun end	8671 Oct 23 07:12	6° <u>♍</u> 08'13	
minimum elong	8666 Oct 11 05:54	24° <u>♎</u> 56'36	0°01'14	max. Earth dist.	8671 Oct 23 05:56	6° <u>♍</u> 08'05	30.97423 AU
behind sun begin	8666 Oct 10 23:19	24° <u>♎</u> 56'01		morning rise	8671 Nov 08 08:29	6° <u>♍</u> 43'48	
behind sun end	8666 Oct 11 12:29	24° <u>♎</u> 57'11		retrograde	8672 Feb 05 16:48	8° <u>♍</u> 39'27	
max. Earth dist.	8666 Oct 11 13:22	24° <u>♎</u> 57'17	30.92807 AU	opposition	8672 Apr 24 00:37	7° <u>♍</u> 15'25	0°13'24
morning rise	8666 Oct 27 12:00	25° <u>♎</u> 32'41		min. Earth dist.	8672 Apr 23 22:29	7° <u>♍</u> 15'34	28.97796 AU
retrograde	8667 Jan 25 07:34	27° <u>♎</u> 29'00		direct	8672 Jul 11 11:33	5° <u>♍</u> 51'01	
opposition	8667 Apr 13 18:48	26° <u>♎</u> 04'42	-0°00'01	evening set	8672 Oct 08 10:07	7° <u>♍</u> 45'35	
min. Earth dist.	8667 Apr 13 12:28	26° <u>♎</u> 05'09	28.93373 AU				
asc. node	8667 Apr 15 01:38	26° <u>♎</u> 02'32		conjunction	8672 Oct 24 16:01	8° <u>♍</u> 21'32	0°13'47
direct	8667 Jul 01 00:35	24° <u>♎</u> 40'28		minimum elong	8672 Oct 24 16:01	8° <u>♍</u> 21'32	0°13'56
evening set	8667 Sep 27 14:14	26° <u>♎</u> 34'58		behind sun begin	8672 Oct 24 12:48	8° <u>♍</u> 21'15	
				behind sun end	8672 Oct 24 19:13	8° <u>♍</u> 21'49	
conjunction	8667 Oct 13 19:44	27° <u>♎</u> 10'57	0°01'18	max. Earth dist.	8672 Oct 24 17:56	8° <u>♍</u> 21'43	30.98173 AU
minimum elong	8667 Oct 13 19:44	27° <u>♎</u> 10'57	0°01'22	morning rise	8672 Nov 09 22:02	8° <u>♍</u> 57'32	
behind sun begin	8667 Oct 13 13:09	27° <u>♎</u> 10'22		retrograde	8673 Feb 07 04:59	10° <u>♍</u> 53'01	
behind sun end	8667 Oct 14 02:19	27° <u>♎</u> 11'32		opposition	8673 Apr 26 10:59	9° <u>♍</u> 29'00	0°16'02
max. Earth dist.	8667 Oct 14 03:06	27° <u>♎</u> 11'37	30.93915 AU	min. Earth dist.	8673 Apr 26 08:36	9° <u>♍</u> 29'10	28.98553 AU
morning rise	8667 Oct 30 01:45	27° <u>♎</u> 47'02		direct	8673 Jul 13 22:41	8° <u>♍</u> 04'31	
retrograde	8668 Jan 27 19:54	29° <u>♎</u> 43'14		evening set	8673 Oct 10 23:31	9° <u>♍</u> 59'06	
opposition	8668 Apr 15 05:33	28° <u>♎</u> 19'02	0°02'42				
min. Earth dist.	8668 Apr 14 23:29	28° <u>♎</u> 19'27	28.94436 AU	conjunction	8673 Oct 27 05:27	10° <u>♍</u> 35'03	0°16'14
direct	8668 Jul 02 13:34	26° <u>♎</u> 54'48		minimum elong	8673 Oct 27 05:27	10° <u>♍</u> 35'03	0°16'21
evening set	8668 Sep 29 04:02	28° <u>♎</u> 49'20		max. Earth dist.	8673 Oct 27 07:03	10° <u>♍</u> 35'11	30.98943 AU
				morning rise	8673 Nov 12 11:19	11° <u>♍</u> 11'01	
conjunction	8668 Oct 15 09:31	29° <u>♎</u> 25'20	0°03'51	retrograde	8674 Feb 09 14:49	13° <u>♍</u> 06'21	
minimum elong	8668 Oct 15 09:31	29° <u>♎</u> 25'20	0°03'57	opposition	8674 Apr 28 21:35	11° <u>♍</u> 42'21	0°18'38
behind sun begin	8668 Oct 15 03:00	29° <u>♎</u> 24'45		min. Earth dist.	8674 Apr 28 20:40	11° <u>♍</u> 42'24	28.99363 AU
behind sun end	8668 Oct 15 16:01	29° <u>♎</u> 25'54		direct	8674 Jul 16 10:24	10° <u>♍</u> 17'49	
max. Earth dist.	8668 Oct 15 14:43	29° <u>♎</u> 25'47	30.94931 AU	evening set	8674 Oct 13 12:37	12° <u>♍</u> 12'24	
morning rise	8668 Oct 31 15:41	0° <u>♍</u> 01'24					
	8668 Oct 31 00:21	0° <u>♍</u>		conjunction	8674 Oct 29 18:36	12° <u>♍</u> 48'19	0°18'39
retrograde	8669 Jan 29 09:23	1° <u>♍</u> 57'28		minimum elong	8674 Oct 29 18:36	12° <u>♍</u> 48'19	0°18'48
opposition	8669 Apr 17 16:27	0° <u>♍</u> 33'20	0°05'24	max. Earth dist.	8674 Oct 29 19:50	12° <u>♍</u> 48'25	30.99801 AU
min. Earth dist.	8669 Apr 17 11:33	0° <u>♍</u> 33'41	28.95406 AU	morning rise	8674 Nov 15 00:24	13° <u>♍</u> 24'15	
	8669 May 07 22:33	30° <u>♋</u> <u>♎</u>			8675 Jan 08 23:14	15° <u>♍</u>	
direct	8669 Jul 05 00:41	29° <u>♎</u> 09'05		retrograde	8675 Feb 12 02:50	15° <u>♍</u> 19'26	
	8669 Aug 30 09:50	0° <u>♍</u>			8675 Mar 18 18:17	15° <u>♋</u> <u>♍</u>	
evening set	8669 Oct 01 17:34	1° <u>♍</u> 03'39		opposition	8675 May 01 07:58	13° <u>♍</u> 55'28	0°21'12
				min. Earth dist.	8675 May 01 06:33	13° <u>♍</u> 55'34	29.00268 AU
conjunction	8669 Oct 17 23:18	1° <u>♍</u> 39'38	0°06'21	direct	8675 Jul 18 23:56	12° <u>♍</u> 30'53	
minimum elong	8669 Oct 17 23:18	1° <u>♍</u> 39'38	0°06'27	evening set	8675 Oct 16 01:57	14° <u>♍</u> 25'29	
behind sun begin	8669 Oct 17 17:07	1° <u>♍</u> 39'05			8675 Oct 31 16:47	15° <u>♍</u>	

conjunction	8675 Nov 01 07:51	15° \mathbb{M} .01'23	0°21'02	retrograde	8682 Feb 27 11:04	0° \mathbb{A} 49'07	
minimum elong	8675 Nov 01 07:50	15° \mathbb{M} .01'23	0°21'10		8682 Apr 25 08:58	30° \mathbb{R} \mathbb{M} .	
max. Earth dist.	8675 Nov 01 08:11	15° \mathbb{M} .01'25	31.00761 AU	opposition	8682 May 16 08:36	29° \mathbb{M} .25'43	0°38'04
morning rise	8675 Nov 17 13:34	15° \mathbb{M} .37'18		min. Earth dist.	8682 May 16 11:32	29° \mathbb{M} .25'30	29.08619 AU
retrograde	8676 Feb 14 14:09	17° \mathbb{M} .32'21		direct	8682 Aug 03 08:27	28° \mathbb{M} .01'09	
opposition	8676 May 02 18:21	16° \mathbb{M} .08'25	0°23'44	evening set	8682 Oct 31 22:37	29° \mathbb{M} .56'02	
min. Earth dist.	8676 May 02 18:09	16° \mathbb{M} .08'26	29.01304 AU		8682 Nov 02 18:22	0° \mathbb{A}	
	8676 Jun 18 22:00	15° \mathbb{R} \mathbb{M} .					
direct	8676 Jul 20 10:58	14° \mathbb{M} .43'49		conjunction	8682 Nov 17 04:02	0° \mathbb{A} 31'51	0°36'40
	8676 Aug 20 17:31	15° \mathbb{M} .		minimum elong	8682 Nov 17 04:02	0° \mathbb{A} 31'51	0°36'51
evening set	8676 Oct 17 15:09	16° \mathbb{M} .38'26		max. Earth dist.	8682 Nov 16 23:25	0° \mathbb{A} 31'25	31.09104 AU
				morning rise	8682 Dec 03 08:23	1° \mathbb{A} 07'36	
conjunction	8676 Nov 02 21:10	17° \mathbb{M} .14'20	0°23'23	retrograde	8683 Mar 01 20:29	3° \mathbb{A} 01'52	
minimum elong	8676 Nov 02 21:10	17° \mathbb{M} .14'20	0°23'33	opposition	8683 May 18 19:04	1° \mathbb{A} 38'31	0°40'16
max. Earth dist.	8676 Nov 02 21:45	17° \mathbb{M} .14'23	31.01865 AU	min. Earth dist.	8683 May 18 23:51	1° \mathbb{A} 38'11	29.09600 AU
morning rise	8676 Nov 19 02:40	17° \mathbb{M} .50'13		direct	8683 Aug 05 19:50	0° \mathbb{A} 13'56	
retrograde	8677 Feb 16 02:03	19° \mathbb{M} .45'08		evening set	8683 Nov 03 11:49	2° \mathbb{A} 08'50	
opposition	8677 May 05 04:43	18° \mathbb{M} .21'16	0°26'14				
min. Earth dist.	8677 May 05 04:19	18° \mathbb{M} .21'18	29.02463 AU	conjunction	8683 Nov 19 17:08	2° \mathbb{A} 44'37	0°38'42
direct	8677 Jul 23 00:04	16° \mathbb{M} .56'40		minimum elong	8683 Nov 19 17:08	2° \mathbb{A} 44'37	0°38'53
evening set	8677 Oct 20 04:23	18° \mathbb{M} .51'20		max. Earth dist.	8683 Nov 19 11:35	2° \mathbb{A} 44'07	31.10046 AU
				morning rise	8683 Dec 05 21:17	3° \mathbb{A} 20'20	
conjunction	8677 Nov 05 10:11	19° \mathbb{M} .27'13	0°25'42	retrograde	8684 Mar 03 07:50	5° \mathbb{A} 14'29	
minimum elong	8677 Nov 05 10:11	19° \mathbb{M} .27'13	0°25'52	opposition	8684 May 20 05:13	3° \mathbb{A} 51'10	0°42'25
max. Earth dist.	8677 Nov 05 09:16	19° \mathbb{M} .27'08	31.03082 AU	min. Earth dist.	8684 May 20 09:55	3° \mathbb{A} 50'50	29.10496 AU
morning rise	8677 Nov 21 15:39	20° \mathbb{M} .03'04		direct	8684 Aug 07 08:50	2° \mathbb{A} 26'33	
retrograde	8678 Feb 18 15:04	21° \mathbb{M} .57'53		evening set	8684 Nov 05 01:02	4° \mathbb{A} 21'29	
opposition	8678 May 07 15:06	20° \mathbb{M} .34'06	0°28'42				
min. Earth dist.	8678 May 07 15:22	20° \mathbb{M} .34'05	29.03736 AU	conjunction	8684 Nov 21 06:07	4° \mathbb{A} 57'15	0°40'40
direct	8678 Jul 25 11:27	19° \mathbb{M} .09'31		minimum elong	8684 Nov 21 06:07	4° \mathbb{A} 57'15	0°40'52
evening set	8678 Oct 22 17:31	21° \mathbb{M} .04'14		max. Earth dist.	8684 Nov 20 23:23	4° \mathbb{A} 56'38	31.10908 AU
				morning rise	8684 Dec 07 10:02	5° \mathbb{A} 32'56	
conjunction	8678 Nov 07 23:26	21° \mathbb{M} .40'06	0°27'59	retrograde	8685 Mar 05 18:41	7° \mathbb{A} 26'57	
minimum elong	8678 Nov 07 23:26	21° \mathbb{M} .40'06	0°28'10	opposition	8685 May 22 15:33	6° \mathbb{A} 03'41	0°44'29
max. Earth dist.	8678 Nov 07 23:02	21° \mathbb{M} .40'04	31.04384 AU	min. Earth dist.	8685 May 22 21:44	6° \mathbb{A} 03'15	29.11351 AU
morning rise	8678 Nov 24 04:34	22° \mathbb{M} .15'57		direct	8685 Aug 09 19:37	4° \mathbb{A} 39'01	
retrograde	8679 Feb 21 01:19	24° \mathbb{M} .10'39		evening set	8685 Nov 07 13:52	6° \mathbb{A} 33'58	
opposition	8679 May 10 01:27	22° \mathbb{M} .46'59	0°31'07				
min. Earth dist.	8679 May 10 02:33	22° \mathbb{M} .46'54	29.05047 AU	conjunction	8685 Nov 23 18:53	7° \mathbb{A} 09'42	0°42'35
direct	8679 Jul 27 23:37	21° \mathbb{M} .22'25		minimum elong	8685 Nov 23 18:53	7° \mathbb{A} 09'42	0°42'47
evening set	8679 Oct 25 06:50	23° \mathbb{M} .17'11		max. Earth dist.	8685 Nov 23 12:14	7° \mathbb{A} 09'06	31.11754 AU
				morning rise	8685 Dec 09 22:26	7° \mathbb{A} 45'21	
conjunction	8679 Nov 10 12:32	23° \mathbb{M} .53'02	0°30'14	retrograde	8686 Mar 08 05:54	9° \mathbb{A} 39'15	
minimum elong	8679 Nov 10 12:32	23° \mathbb{M} .53'02	0°30'24	opposition	8686 May 25 01:45	8° \mathbb{A} 16'00	0°46'30
max. Earth dist.	8679 Nov 10 10:15	23° \mathbb{M} .52'50	31.05695 AU	min. Earth dist.	8686 May 25 07:57	8° \mathbb{A} 15'34	29.12194 AU
morning rise	8679 Nov 26 17:41	24° \mathbb{M} .28'52		direct	8686 Aug 12 09:06	6° \mathbb{A} 51'19	
retrograde	8680 Feb 23 13:19	26° \mathbb{M} .23'28		evening set	8686 Nov 10 02:50	8° \mathbb{A} 46'17	
opposition	8680 May 11 11:48	24° \mathbb{M} .59'54	0°33'29				
min. Earth dist.	8680 May 11 13:16	24° \mathbb{M} .59'47	29.06337 AU	conjunction	8686 Nov 26 07:31	9° \mathbb{A} 21'59	0°44'26
direct	8680 Jul 29 10:35	23° \mathbb{M} .35'21		minimum elong	8686 Nov 26 07:31	9° \mathbb{A} 21'59	0°44'39
evening set	8680 Oct 26 20:09	25° \mathbb{M} .30'10		max. Earth dist.	8686 Nov 25 23:20	9° \mathbb{A} 21'14	31.12614 AU
				morning rise	8686 Dec 12 10:55	9° \mathbb{A} 57'36	
conjunction	8680 Nov 12 01:52	26° \mathbb{M} .06'01	0°32'25	retrograde	8687 Mar 10 18:32	11° \mathbb{A} 51'22	
minimum elong	8680 Nov 12 01:52	26° \mathbb{M} .06'01	0°32'36	opposition	8687 May 27 11:52	10° \mathbb{A} 28'10	0°48'27
max. Earth dist.	8680 Nov 11 23:35	26° \mathbb{M} .05'48	31.06932 AU	min. Earth dist.	8687 May 27 18:40	10° \mathbb{A} 27'41	29.13096 AU
morning rise	8680 Nov 28 06:37	26° \mathbb{M} .41'49		direct	8687 Aug 14 21:08	9° \mathbb{A} 03'26	
retrograde	8681 Feb 24 23:06	28° \mathbb{M} .36'18		evening set	8687 Nov 12 15:34	10° \mathbb{A} 58'25	
opposition	8681 May 13 22:14	27° \mathbb{M} .12'49	0°35'48				
min. Earth dist.	8681 May 14 01:19	27° \mathbb{M} .12'36	29.07529 AU	conjunction	8687 Nov 28 20:14	11° \mathbb{A} 34'07	0°46'13
direct	8681 Jul 31 21:31	25° \mathbb{M} .48'17		minimum elong	8687 Nov 28 20:14	11° \mathbb{A} 34'07	0°46'25
evening set	8681 Oct 29 09:31	27° \mathbb{M} .43'08		max. Earth dist.	8687 Nov 28 12:40	11° \mathbb{A} 33'25	31.13546 AU
				morning rise	8687 Dec 14 23:12	12° \mathbb{A} 09'42	
conjunction	8681 Nov 14 15:01	28° \mathbb{M} .18'58	0°34'34	retrograde	8688 Mar 12 03:56	14° \mathbb{A} 03'20	
minimum elong	8681 Nov 14 15:01	28° \mathbb{M} .18'58	0°34'44	opposition	8688 May 28 22:06	12° \mathbb{A} 40'11	0°50'19
max. Earth dist.	8681 Nov 14 10:58	28° \mathbb{M} .18'36	31.08077 AU	min. Earth dist.	8688 May 29 05:28	12° \mathbb{A} 39'40	29.14069 AU
morning rise	8681 Nov 30 19:40	28° \mathbb{M} .54'44		direct	8688 Aug 16 09:50	11° \mathbb{A} 15'27	
	8682 Jan 03 03:49	0° \mathbb{A}		evening set	8688 Nov 14 04:26	13° \mathbb{A} 10'27	

conjunction	8688 Nov 30 08:42	13° \mathring{A} 46'07	0°47'56	direct	8695 Sep 01 16:33	26° \mathring{A} 39'15	
minimum elong	8688 Nov 30 08:42	13° \mathring{A} 46'07	0°48'09	evening set	8695 Nov 30 21:07	28° \mathring{A} 34'29	
max. Earth dist.	8688 Nov 29 23:40	13° \mathring{A} 45'17	31.14576 AU				
morning rise	8688 Dec 16 11:29	14° \mathring{A} 21'40		conjunction	8695 Dec 16 23:32	29° \mathring{A} 09'59	0°57'50
retrograde	8689 Mar 14 15:33	16° \mathring{A} 15'12		minimum elong	8695 Dec 16 23:32	29° \mathring{A} 09'59	0°58'03
opposition	8689 May 31 08:13	14° \mathring{A} 52'07	0°52'07	max. Earth dist.	8695 Dec 16 09:49	29° \mathring{A} 08'43	31.22267 AU
min. Earth dist.	8689 May 31 15:21	14° \mathring{A} 51'37	29.15162 AU	morning rise	8696 Jan 01 23:54	29° \mathring{A} 45'18	
direct	8689 Aug 18 21:03	13° \mathring{A} 27'23			8696 Jan 08 20:56	0° \mathring{B}	
evening set	8689 Nov 16 17:05	15° \mathring{A} 22'25		retrograde	8696 Mar 29 17:25	1° \mathring{B} 38'15	
				opposition	8696 Jun 15 08:11	0° \mathring{B} 15'39	1°02'23
conjunction	8689 Dec 02 21:15	15° \mathring{A} 58'05	0°49'35	min. Earth dist.	8696 Jun 15 20:04	0° \mathring{B} 14'50	29.22673 AU
minimum elong	8689 Dec 02 21:15	15° \mathring{A} 58'05	0°49'47		8696 Jun 24 18:32	30° \mathring{R} \mathring{A}	
max. Earth dist.	8689 Dec 02 12:53	15° \mathring{A} 57'18	31.15718 AU	direct	8696 Sep 03 04:30	28° \mathring{A} 50'57	
morning rise	8689 Dec 18 23:34	16° \mathring{A} 33'35			8696 Nov 09 16:36	0° \mathring{B}	
retrograde	8690 Mar 17 01:20	18° \mathring{A} 27'02		evening set	8696 Dec 02 09:31	0° \mathring{B} 46'13	
opposition	8690 Jun 02 18:30	17° \mathring{A} 04'02	0°53'50				
min. Earth dist.	8690 Jun 03 02:44	17° \mathring{A} 03'28	29.16355 AU	conjunction	8696 Dec 18 11:47	1° \mathring{B} 21'40	0°58'55
direct	8690 Aug 21 07:55	15° \mathring{A} 39'20		minimum elong	8696 Dec 18 11:47	1° \mathring{B} 21'40	0°59'09
evening set	8690 Nov 19 05:40	17° \mathring{A} 34'24		max. Earth dist.	8696 Dec 17 22:24	1° \mathring{B} 20'26	31.22962 AU
				morning rise	8697 Jan 03 11:36	1° \mathring{B} 56'57	
conjunction	8690 Dec 05 09:32	18° \mathring{A} 10'02	0°51'09	retrograde	8697 Apr 01 02:40	3° \mathring{B} 49'47	
minimum elong	8690 Dec 05 09:32	18° \mathring{A} 10'02	0°51'22	opposition	8697 Jun 17 18:31	2° \mathring{B} 27'13	1°03'30
max. Earth dist.	8690 Dec 04 23:59	18° \mathring{A} 09'09	31.16956 AU	min. Earth dist.	8697 Jun 18 07:20	2° \mathring{B} 26'20	29.23311 AU
morning rise	8690 Dec 21 11:41	18° \mathring{A} 45'32		direct	8697 Sep 05 17:20	1° \mathring{B} 02'29	
retrograde	8691 Mar 19 12:42	20° \mathring{A} 38'53		evening set	8697 Dec 04 21:57	2° \mathring{B} 57'44	
opposition	8691 Jun 05 04:37	19° \mathring{A} 16'00	0°55'28				
min. Earth dist.	8691 Jun 05 12:23	19° \mathring{A} 15'27	29.17608 AU	conjunction	8697 Dec 20 23:44	3° \mathring{B} 33'10	0°59'55
direct	8691 Aug 23 18:43	17° \mathring{A} 51'19		minimum elong	8697 Dec 20 23:44	3° \mathring{B} 33'10	1°00'08
evening set	8691 Nov 21 18:25	19° \mathring{A} 46'27		max. Earth dist.	8697 Dec 20 08:42	3° \mathring{B} 31'46	31.23568 AU
				morning rise	8698 Jan 05 23:21	4° \mathring{B} 08'24	
conjunction	8691 Dec 07 22:04	20° \mathring{A} 22'03	0°52'39	retrograde	8698 Apr 03 14:22	6° \mathring{B} 01'08	
minimum elong	8691 Dec 07 22:04	20° \mathring{A} 22'03	0°52'51	opposition	8698 Jun 20 04:44	4° \mathring{B} 38'35	1°04'31
max. Earth dist.	8691 Dec 07 12:16	20° \mathring{A} 21'09	31.18201 AU	min. Earth dist.	8698 Jun 20 17:30	4° \mathring{B} 37'42	29.23895 AU
morning rise	8691 Dec 23 23:47	20° \mathring{A} 57'31		direct	8698 Sep 08 05:18	3° \mathring{B} 13'48	
retrograde	8692 Mar 20 21:18	22° \mathring{A} 50'48		evening set	8698 Dec 07 10:01	5° \mathring{B} 09'02	
opposition	8692 Jun 06 14:51	21° \mathring{A} 28'00	0°57'01				
min. Earth dist.	8692 Jun 07 00:20	21° \mathring{A} 27'21	29.18842 AU	conjunction	8698 Dec 23 11:40	5° \mathring{B} 44'27	1°00'50
direct	8692 Aug 25 05:16	20° \mathring{A} 03'21		minimum elong	8698 Dec 23 11:40	5° \mathring{B} 44'27	1°01'03
evening set	8692 Nov 23 07:11	21° \mathring{A} 58'31		max. Earth dist.	8698 Dec 22 21:12	5° \mathring{B} 43'06	31.24126 AU
				morning rise	8699 Jan 08 10:46	6° \mathring{B} 19'39	
conjunction	8692 Dec 09 10:33	22° \mathring{A} 34'06	0°54'04	retrograde	8699 Apr 05 23:44	8° \mathring{B} 12'17	
minimum elong	8692 Dec 09 10:33	22° \mathring{A} 34'06	0°54'17	opposition	8699 Jun 22 15:05	6° \mathring{B} 49'45	1°05'27
max. Earth dist.	8692 Dec 08 23:58	22° \mathring{A} 33'07	31.19404 AU	min. Earth dist.	8699 Jun 23 05:05	6° \mathring{B} 48'46	29.24448 AU
morning rise	8692 Dec 25 11:57	23° \mathring{A} 09'32		direct	8699 Sep 10 17:15	5° \mathring{B} 24'56	
retrograde	8693 Mar 23 08:08	25° \mathring{A} 02'45		evening set	8699 Dec 09 22:14	7° \mathring{B} 20'09	
opposition	8693 Jun 09 01:08	23° \mathring{A} 40'02	0°58'30				
min. Earth dist.	8693 Jun 09 10:28	23° \mathring{A} 39'23	29.19992 AU	conjunction	8699 Dec 25 23:26	7° \mathring{B} 55'32	1°01'39
direct	8693 Aug 27 16:59	22° \mathring{A} 15'23		minimum elong	8699 Dec 25 23:26	7° \mathring{B} 55'32	1°01'52
evening set	8693 Nov 25 19:50	24° \mathring{A} 10'36		max. Earth dist.	8699 Dec 25 07:53	7° \mathring{B} 54'05	31.24692 AU
				morning rise	8700 Jan 10 22:17	8° \mathring{B} 30'42	
conjunction	8693 Dec 11 22:50	24° \mathring{A} 46'09	0°55'24	retrograde	8700 Apr 08 10:16	10° \mathring{B} 23'14	
minimum elong	8693 Dec 11 22:50	24° \mathring{A} 46'09	0°55'37	opposition	8700 Jun 25 01:11	9° \mathring{B} 00'43	1°06'17
max. Earth dist.	8693 Dec 11 11:08	24° \mathring{A} 45'04	31.20487 AU	min. Earth dist.	8700 Jun 25 14:26	8° \mathring{B} 59'48	29.25036 AU
morning rise	8693 Dec 27 23:52	25° \mathring{A} 21'33		direct	8700 Sep 13 04:57	7° \mathring{B} 35'53	
retrograde	8694 Mar 25 18:42	27° \mathring{A} 14'41		evening set	8700 Dec 12 10:18	9° \mathring{B} 31'07	
opposition	8694 Jun 11 11:35	25° \mathring{A} 52'01	0°59'53				
min. Earth dist.	8694 Jun 11 22:22	25° \mathring{A} 51'16	29.21026 AU	conjunction	8700 Dec 28 11:12	10° \mathring{B} 06'28	1°02'24
direct	8694 Aug 30 02:59	24° \mathring{A} 27'22		minimum elong	8700 Dec 28 11:12	10° \mathring{B} 06'28	1°02'37
evening set	8694 Nov 28 08:25	26° \mathring{A} 22'36		max. Earth dist.	8700 Dec 27 19:49	10° \mathring{B} 05'02	31.25306 AU
				morning rise	8701 Jan 13 09:32	10° \mathring{B} 41'36	
conjunction	8694 Dec 14 11:16	26° \mathring{A} 58'07	0°56'40	retrograde	8701 Apr 10 18:36	12° \mathring{B} 34'05	
minimum elong	8694 Dec 14 11:15	26° \mathring{A} 58'07	0°56'53	opposition	8701 Jun 27 11:38	11° \mathring{B} 11'36	1°07'01
max. Earth dist.	8694 Dec 13 23:24	26° \mathring{A} 57'02	31.21450 AU	min. Earth dist.	8701 Jun 28 01:57	11° \mathring{B} 10'36	29.25704 AU
morning rise	8694 Dec 30 11:52	27° \mathring{A} 33'29		direct	8701 Sep 15 15:20	9° \mathring{B} 46'45	
retrograde	8695 Mar 28 05:18	29° \mathring{A} 26'31		evening set	8701 Dec 14 22:06	11° \mathring{B} 42'00	
opposition	8695 Jun 13 21:49	28° \mathring{A} 03'55	1°01'10				
min. Earth dist.	8695 Jun 14 08:55	28° \mathring{A} 03'08	29.21911 AU	conjunction	8701 Dec 30 22:39	12° \mathring{B} 17'19	1°03'02

minimum elong	8701 Dec 30 22:39	12° $\overline{3}$ 17'19	1°03'15	evening set	8708 Dec 30 08:55	26° $\overline{3}$ 59'41	
max. Earth dist.	8701 Dec 30 07:12	12° $\overline{3}$ 15'54	31.26028 AU				
morning rise	8702 Jan 15 20:39	12° $\overline{3}$ 52'26		conjunction	8709 Jan 15 06:52	27° $\overline{3}$ 34'49	1°04'58
retrograde	8702 Apr 13 04:36	14° $\overline{3}$ 44'52		minimum elong	8709 Jan 15 06:52	27° $\overline{3}$ 34'49	1°05'10
opposition	8702 Jun 29 21:53	13° $\overline{3}$ 22'26	1°07'39	max. Earth dist.	8709 Jan 14 12:16	27° $\overline{3}$ 33'06	31.30764 AU
min. Earth dist.	8702 Jun 30 11:26	13° $\overline{3}$ 21'30	29.26466 AU	morning rise	8709 Jan 31 02:09	28° $\overline{3}$ 09'44	
direct	8702 Sep 18 02:28	11° $\overline{3}$ 57'37			8709 Apr 17 13:00	0° \approx	
evening set	8702 Dec 17 10:03	13° $\overline{3}$ 52'54		retrograde	8709 Apr 28 07:47	0° \approx 01'57	
					8709 May 09 00:14	30° \overline{R} $\overline{3}$	
conjunction	8703 Jan 02 10:12	14° $\overline{3}$ 28'12	1°03'36	opposition	8709 Jul 14 23:06	28° $\overline{3}$ 39'53	1°09'22
minimum elong	8703 Jan 02 10:13	14° $\overline{3}$ 28'12	1°03'49	min. Earth dist.	8709 Jul 15 15:26	28° $\overline{3}$ 38'46	29.30952 AU
max. Earth dist.	8703 Jan 01 18:15	14° $\overline{3}$ 26'43	31.26831 AU	direct	8709 Oct 03 12:30	27° $\overline{3}$ 15'12	
morning rise	8703 Jan 18 07:51	15° $\overline{3}$ 03'17		evening set	8710 Jan 01 20:18	29° $\overline{3}$ 10'39	
retrograde	8703 Apr 15 14:52	16° $\overline{3}$ 55'41					
opposition	8703 Jul 02 08:08	15° $\overline{3}$ 33'20	1°08'12	conjunction	8710 Jan 17 17:57	29° $\overline{3}$ 45'46	1°04'52
min. Earth dist.	8703 Jul 02 22:37	15° $\overline{3}$ 32'20	29.27308 AU	minimum elong	8710 Jan 17 17:57	29° $\overline{3}$ 45'46	1°05'04
direct	8703 Sep 20 11:30	14° $\overline{3}$ 08'33		max. Earth dist.	8710 Jan 16 23:18	29° $\overline{3}$ 44'02	31.31005 AU
evening set	8703 Dec 19 21:55	16° $\overline{3}$ 03'54			8710 Jan 24 03:34	0° \approx	
				morning rise	8710 Feb 02 12:46	0° \approx 20'39	
conjunction	8704 Jan 04 21:50	16° $\overline{3}$ 39'10	1°04'03	retrograde	8710 Apr 30 15:56	2° \approx 12'49	
minimum elong	8704 Jan 04 21:50	16° $\overline{3}$ 39'10	1°04'16	opposition	8710 Jul 17 09:46	0° \approx 50'44	1°09'13
max. Earth dist.	8704 Jan 04 06:20	16° $\overline{3}$ 37'44	31.27688 AU	min. Earth dist.	8710 Jul 18 03:25	0° \approx 49'31	29.31152 AU
morning rise	8704 Jan 20 19:01	17° $\overline{3}$ 14'13			8710 Aug 19 06:56	30° \overline{R} $\overline{3}$	
retrograde	8704 Apr 17 01:13	19° $\overline{3}$ 06'36		direct	8710 Oct 05 23:17	29° $\overline{3}$ 26'01	
opposition	8704 Jul 03 18:30	17° $\overline{3}$ 44'20	1°08'39		8710 Nov 21 09:19	0° \approx	
min. Earth dist.	8704 Jul 04 08:58	17° $\overline{3}$ 43'20	29.28153 AU	evening set	8711 Jan 04 07:43	1° \approx 21'25	
direct	8704 Sep 22 00:20	16° $\overline{3}$ 19'36		max. Earth dist.	8711 Jan 19 10:12	1° \approx 54'46	31.31175 AU
evening set	8704 Dec 21 09:51	18° $\overline{3}$ 14'59					
				conjunction	8711 Jan 20 05:01	1° \approx 56'30	1°04'41
conjunction	8705 Jan 06 09:13	18° $\overline{3}$ 50'14	1°04'25	minimum elong	8711 Jan 20 05:01	1° \approx 56'30	1°04'53
minimum elong	8705 Jan 06 09:13	18° $\overline{3}$ 50'14	1°04'38	morning rise	8711 Feb 04 23:31	2° \approx 31'22	
max. Earth dist.	8705 Jan 05 16:22	18° $\overline{3}$ 48'40	31.28514 AU	retrograde	8711 May 03 01:24	4° \approx 23'28	
morning rise	8705 Jan 22 06:06	19° $\overline{3}$ 25'16		opposition	8711 Jul 19 20:09	3° \approx 01'22	1°08'58
retrograde	8705 Apr 19 13:26	21° $\overline{3}$ 17'38		min. Earth dist.	8711 Jul 20 13:14	3° \approx 00'11	29.31290 AU
opposition	8705 Jul 06 04:56	19° $\overline{3}$ 55'26	1°08'59	direct	8711 Oct 08 10:58	1° \approx 36'36	
min. Earth dist.	8705 Jul 06 19:47	19° $\overline{3}$ 54'24	29.28957 AU	evening set	8712 Jan 06 19:05	3° \approx 31'59	
direct	8705 Sep 24 11:23	18° $\overline{3}$ 30'44					
evening set	8705 Dec 23 21:36	20° $\overline{3}$ 26'10		conjunction	8712 Jan 22 15:57	4° \approx 07'02	1°04'25
				minimum elong	8712 Jan 22 15:57	4° \approx 07'02	1°04'36
conjunction	8706 Jan 08 20:47	21° $\overline{3}$ 01'23	1°04'42	max. Earth dist.	8712 Jan 21 20:38	4° \approx 05'15	31.31303 AU
minimum elong	8706 Jan 08 20:47	21° $\overline{3}$ 01'23	1°04'55	morning rise	8712 Feb 07 10:05	4° \approx 41'52	
max. Earth dist.	8706 Jan 08 04:31	20° $\overline{3}$ 59'53	31.29268 AU	retrograde	8712 May 04 10:46	6° \approx 33'55	
morning rise	8706 Jan 24 17:06	21° $\overline{3}$ 36'23		opposition	8712 Jul 21 06:47	5° \approx 11'48	1°08'38
retrograde	8706 Apr 21 22:54	23° $\overline{3}$ 28'44		min. Earth dist.	8712 Jul 22 00:31	5° \approx 10'34	29.31436 AU
opposition	8706 Jul 08 15:28	22° $\overline{3}$ 06'36	1°09'14	direct	8712 Oct 09 20:43	3° \approx 47'00	
min. Earth dist.	8706 Jul 09 07:12	22° $\overline{3}$ 05'31	29.29655 AU	evening set	8713 Jan 08 06:06	5° \approx 42'20	
direct	8706 Sep 26 23:14	20° $\overline{3}$ 41'56		max. Earth dist.	8713 Jan 23 08:19	6° \approx 15'39	31.31469 AU
evening set	8706 Dec 26 09:26	22° $\overline{3}$ 37'23					
				conjunction	8713 Jan 24 02:41	6° \approx 17'22	1°04'03
conjunction	8707 Jan 11 08:06	23° $\overline{3}$ 12'35	1°04'53	minimum elong	8713 Jan 24 02:42	6° \approx 17'22	1°04'14
minimum elong	8707 Jan 11 08:06	23° $\overline{3}$ 12'35	1°05'05	morning rise	8713 Feb 08 20:20	6° \approx 52'09	
max. Earth dist.	8707 Jan 10 14:15	23° $\overline{3}$ 10'55	31.29907 AU	retrograde	8713 May 06 19:30	8° \approx 44'10	
morning rise	8707 Jan 27 04:13	23° $\overline{3}$ 47'33		opposition	8713 Jul 23 17:27	7° \approx 22'02	1°08'11
retrograde	8707 Apr 24 11:16	25° $\overline{3}$ 39'52		min. Earth dist.	8713 Jul 24 10:40	7° \approx 20'51	29.31632 AU
opposition	8707 Jul 11 01:57	24° $\overline{3}$ 17'46	1°09'22	direct	8713 Oct 12 09:21	5° \approx 57'14	
min. Earth dist.	8707 Jul 11 17:33	24° $\overline{3}$ 16'41	29.30228 AU	evening set	8714 Jan 10 17:16	7° \approx 52'32	
direct	8707 Sep 29 11:37	22° $\overline{3}$ 53'06					
evening set	8707 Dec 28 21:10	24° $\overline{3}$ 48'34		conjunction	8714 Jan 26 13:19	8° \approx 27'32	1°03'35
				minimum elong	8714 Jan 26 13:19	8° \approx 27'32	1°03'46
conjunction	8708 Jan 13 19:36	25° $\overline{3}$ 23'45	1°04'58	max. Earth dist.	8714 Jan 25 18:08	8° \approx 25'46	31.31716 AU
minimum elong	8708 Jan 13 19:36	25° $\overline{3}$ 23'45	1°05'10	morning rise	8714 Feb 11 06:43	9° \approx 02'18	
max. Earth dist.	8708 Jan 13 02:09	25° $\overline{3}$ 22'08	31.30399 AU	retrograde	8714 May 09 06:41	10° \approx 54'19	
morning rise	8708 Jan 29 15:08	25° $\overline{3}$ 58'41		opposition	8714 Jul 26 03:59	9° \approx 32'10	1°07'39
retrograde	8708 Apr 25 21:17	27° $\overline{3}$ 50'58		min. Earth dist.	8714 Jul 26 20:52	9° \approx 31'01	29.31943 AU
opposition	8708 Jul 12 12:33	26° $\overline{3}$ 28'53	1°09'25	direct	8714 Oct 14 19:15	8° \approx 07'22	
min. Earth dist.	8708 Jul 13 05:33	26° $\overline{3}$ 27'42	29.30651 AU	evening set	8715 Jan 13 04:09	10° \approx 02'41	
direct	8708 Oct 01 00:09	25° $\overline{3}$ 04'13		max. Earth dist.	8715 Jan 28 06:07	10° \approx 36'00	31.32075 AU

conjunction	8715 Jan 29 00:03	10° \approx 37'40	1°03'02	morning rise	8721 Feb 26 06:14	24° \approx 14'39	
minimum elong	8715 Jan 29 00:03	10° \approx 37'40	1°03'13	retrograde	8721 May 24 06:34	26° \approx 06'50	
morning rise	8715 Feb 13 16:57	11° \approx 12'24		opposition	8721 Aug 10 08:17	24° \approx 44'55	1°01'13
retrograde	8715 May 11 15:56	13° \approx 04'25		min. Earth dist.	8721 Aug 11 02:02	24° \approx 43'42	29.34015 AU
opposition	8715 Jul 28 14:42	11° \approx 42'18	1°07'01	direct	8721 Oct 30 02:45	23° \approx 20'24	
min. Earth dist.	8715 Jul 29 07:55	11° \approx 41'07	29.32334 AU	evening set	8722 Jan 28 08:36	25° \approx 15'46	
direct	8715 Oct 17 06:43	10° \approx 17'32		max. Earth dist.	8722 Feb 12 07:33	25° \approx 48'54	31.33915 AU
evening set	8716 Jan 15 15:15	12° \approx 12'52					
conjunction	8716 Jan 31 10:35	12° \approx 47'49	1°02'24	conjunction	8722 Feb 13 01:53	25° \approx 50'36	0°56'43
minimum elong	8716 Jan 31 10:35	12° \approx 47'49	1°02'34	minimum elong	8722 Feb 13 01:53	25° \approx 50'36	0°56'52
max. Earth dist.	8716 Jan 30 15:47	12° \approx 46'04	31.32507 AU	morning rise	8722 Feb 28 16:22	26° \approx 25'14	
morning rise	8716 Feb 16 03:16	13° \approx 22'32		retrograde	8722 May 26 15:25	28° \approx 17'25	
	8716 Apr 13 19:21	15° \approx		opposition	8722 Aug 12 19:17	26° \approx 55'30	0°59'57
retrograde	8716 May 13 04:08	15° \approx 14'33		min. Earth dist.	8722 Aug 13 12:57	26° \approx 54'17	29.33877 AU
	8716 Jun 12 00:13	15° \approx		direct	8722 Nov 01 15:01	25° \approx 30'59	
opposition	8716 Jul 30 01:20	13° \approx 52'29	1°06'17	evening set	8723 Jan 30 19:24	27° \approx 26'19	
min. Earth dist.	8716 Jul 30 17:47	13° \approx 51'22	29.32784 AU	conjunction	8723 Feb 15 12:13	28° \approx 01'09	0°55'29
direct	8716 Oct 18 18:34	12° \approx 27'47		minimum elong	8723 Feb 15 12:13	28° \approx 01'09	0°55'37
evening set	8717 Jan 17 02:09	14° \approx 23'08		max. Earth dist.	8723 Feb 14 16:46	27° \approx 59'20	31.33728 AU
conjunction	8717 Feb 01 21:15	14° \approx 58'04	1°01'40	morning rise	8723 Mar 03 02:33	28° \approx 35'45	
minimum elong	8717 Feb 01 21:15	14° \approx 58'04	1°01'50		8723 Apr 18 03:54	0° \approx	
max. Earth dist.	8717 Feb 01 03:27	14° \approx 56'25	31.32957 AU	retrograde	8723 May 29 02:41	0° \approx 27'58	
	8717 Feb 02 18:08	15° \approx			8723 Jul 10 08:20	30° \approx	
morning rise	8717 Feb 17 13:25	15° \approx 32'46		opposition	8723 Aug 15 06:23	29° \approx 06'00	0°58'35
retrograde	8717 May 15 14:24	17° \approx 24'49		min. Earth dist.	8723 Aug 15 23:53	29° \approx 04'48	29.33648 AU
opposition	8717 Aug 01 12:16	16° \approx 02'48	1°05'28	direct	8723 Nov 04 00:47	27° \approx 41'29	
min. Earth dist.	8717 Aug 02 05:40	16° \approx 01'36	29.33226 AU	evening set	8724 Feb 02 05:54	29° \approx 36'47	
	8717 Sep 13 11:18	15° \approx			8724 Feb 12 18:08	0° \approx	
direct	8717 Oct 21 06:25	14° \approx 38'09		conjunction	8724 Feb 17 22:33	0° \approx 11'35	0°54'10
	8717 Nov 27 06:12	15° \approx		minimum elong	8724 Feb 17 22:33	0° \approx 11'35	0°54'17
evening set	8718 Jan 19 13:01	16° \approx 33'30		max. Earth dist.	8724 Feb 17 04:17	0° \approx 09'53	31.33460 AU
conjunction	8718 Feb 04 07:40	17° \approx 08'25	1°00'51	morning rise	8724 Mar 04 12:23	0° \approx 46'10	
minimum elong	8718 Feb 04 07:40	17° \approx 08'25	1°01'01	retrograde	8724 May 30 11:41	2° \approx 38'24	
max. Earth dist.	8718 Feb 03 13:15	17° \approx 06'42	31.33381 AU	opposition	8724 Aug 16 17:36	1° \approx 16'24	0°57'09
morning rise	8718 Feb 19 23:38	17° \approx 43'06		min. Earth dist.	8724 Aug 17 11:27	1° \approx 15'11	29.33357 AU
retrograde	8718 May 18 01:23	19° \approx 35'11			8724 Oct 13 21:41	30° \approx	
opposition	8718 Aug 03 23:06	18° \approx 13'13	1°04'32	direct	8724 Nov 05 12:15	29° \approx 51'53	
min. Earth dist.	8718 Aug 04 15:35	18° \approx 12'05	29.33606 AU	evening set	8724 Nov 27 23:53	0° \approx	
direct	8718 Oct 23 18:31	16° \approx 48'36			8725 Feb 03 16:28	1° \approx 47'09	
evening set	8719 Jan 21 24:00	18° \approx 43'59		conjunction	8725 Feb 19 08:36	2° \approx 21'55	0°52'47
conjunction	8719 Feb 06 18:19	19° \approx 18'53	0°59'57	minimum elong	8725 Feb 19 08:36	2° \approx 21'55	0°52'54
minimum elong	8719 Feb 06 18:19	19° \approx 18'53	1°00'06	max. Earth dist.	8725 Feb 18 13:44	2° \approx 20'10	31.33181 AU
max. Earth dist.	8719 Feb 05 23:55	19° \approx 17'11	31.33704 AU	morning rise	8725 Mar 06 22:18	2° \approx 56'29	
morning rise	8719 Feb 22 09:51	19° \approx 53'33		retrograde	8725 Jun 01 23:54	4° \approx 48'45	
retrograde	8719 May 20 10:35	21° \approx 45'40		opposition	8725 Aug 19 04:44	3° \approx 26'42	0°55'37
opposition	8719 Aug 06 10:03	20° \approx 23'44	1°03'31	min. Earth dist.	8725 Aug 19 21:27	3° \approx 25'34	29.33099 AU
min. Earth dist.	8719 Aug 07 03:44	20° \approx 22'31	29.33879 AU	direct	8725 Nov 08 00:34	2° \approx 02'11	
direct	8719 Oct 26 05:08	18° \approx 59'10		evening set	8726 Feb 06 02:42	3° \approx 57'25	
evening set	8720 Jan 24 10:59	20° \approx 54'33		conjunction	8726 Feb 21 18:39	4° \approx 32'10	0°51'19
max. Earth dist.	8720 Feb 08 10:30	21° \approx 27'43	31.33917 AU	minimum elong	8726 Feb 21 18:39	4° \approx 32'10	0°51'26
conjunction	8720 Feb 09 04:56	21° \approx 29'26	0°58'57	max. Earth dist.	8726 Feb 21 01:06	4° \approx 30'32	31.32946 AU
minimum elong	8720 Feb 09 04:57	21° \approx 29'26	0°59'06	morning rise	8726 Mar 09 07:56	5° \approx 06'43	
morning rise	8720 Feb 24 20:08	22° \approx 04'05		retrograde	8726 Jun 04 10:15	6° \approx 59'01	
retrograde	8720 May 21 20:34	23° \approx 56'13		opposition	8726 Aug 21 16:03	5° \approx 36'57	0°54'01
opposition	8720 Aug 07 21:06	22° \approx 34'18	1°02'25	min. Earth dist.	8726 Aug 22 09:15	5° \approx 35'47	29.32904 AU
min. Earth dist.	8720 Aug 08 14:11	22° \approx 33'08	29.34012 AU	direct	8726 Nov 10 12:33	4° \approx 12'27	
direct	8720 Oct 27 16:58	21° \approx 09'47		evening set	8727 Feb 08 13:07	6° \approx 07'40	
evening set	8721 Jan 25 21:50	23° \approx 05'09		max. Earth dist.	8727 Feb 23 11:02	6° \approx 40'46	31.32802 AU
conjunction	8721 Feb 10 15:21	23° \approx 40'01	0°57'53	conjunction	8727 Feb 24 04:38	6° \approx 42'24	0°49'47
minimum elong	8721 Feb 10 15:21	23° \approx 40'01	0°58'01	minimum elong	8727 Feb 24 04:38	6° \approx 42'24	0°49'53
max. Earth dist.	8721 Feb 09 20:17	23° \approx 38'15	31.33979 AU	morning rise	8727 Mar 11 17:44	7° \approx 16'56	
				retrograde	8727 Jun 06 20:58	9° \approx 09'17	

opposition	8727 Aug 24 03:08	7° ✕ 47'13	0°52'20	minimum elong	8734 Mar 11 02:32	21° ✕ 56'24	0°37'10
min. Earth dist.	8727 Aug 24 18:48	7° ✕ 46'09	29.32794 AU	morning rise	8734 Mar 26 13:57	22° ✕ 30'54	
direct	8727 Nov 13 00:36	6° ✕ 22'44		retrograde	8734 Jun 21 21:21	24° ✕ 23'45	
evening set	8728 Feb 10 23:27	8° ✕ 17'57		opposition	8734 Sep 08 12:21	23° ✕ 01'38	0°38'35
				min. Earth dist.	8734 Sep 09 02:42	23° ✕ 00'39	29.31206 AU
conjunction	8728 Feb 26 14:40	8° ✕ 52'41	0°48'11	direct	8734 Nov 28 06:52	21° ✕ 37'26	
minimum elong	8728 Feb 26 14:40	8° ✕ 52'41	0°48'16	evening set	8735 Feb 25 23:26	23° ✕ 32'29	
max. Earth dist.	8728 Feb 25 21:39	8° ✕ 51'06	31.32729 AU				
morning rise	8728 Mar 13 03:27	9° ✕ 27'13		conjunction	8735 Mar 13 12:37	24° ✕ 07'08	0°35'05
retrograde	8728 Jun 08 06:54	11° ✕ 19'37		minimum elong	8735 Mar 13 12:37	24° ✕ 07'08	0°35'07
opposition	8728 Aug 25 14:37	9° ✕ 57'33	0°50'35	max. Earth dist.	8735 Mar 12 21:24	24° ✕ 05'43	31.30831 AU
min. Earth dist.	8728 Aug 26 06:48	9° ✕ 56'27	29.32752 AU	morning rise	8735 Mar 28 23:41	24° ✕ 41'37	
direct	8728 Nov 14 11:47	8° ✕ 33'09		retrograde	8735 Jun 24 07:44	26° ✕ 34'32	
evening set	8729 Feb 12 09:35	10° ✕ 28'20		opposition	8735 Sep 11 00:12	25° ✕ 12'21	0°36'23
max. Earth dist.	8729 Feb 27 08:16	11° ✕ 01'32	31.32709 AU	min. Earth dist.	8735 Sep 11 15:24	25° ✕ 11'19	29.30478 AU
				direct	8735 Nov 30 18:33	23° ✕ 48'09	
conjunction	8729 Feb 28 00:32	11° ✕ 03'03	0°46'30	evening set	8736 Feb 28 09:39	25° ✕ 43'09	
minimum elong	8729 Feb 28 00:32	11° ✕ 03'03	0°46'35				
morning rise	8729 Mar 15 13:03	11° ✕ 37'35		conjunction	8736 Mar 14 22:30	26° ✕ 17'47	0°33'00
retrograde	8729 Jun 10 17:22	13° ✕ 30'03		minimum elong	8736 Mar 14 22:30	26° ✕ 17'47	0°33'02
opposition	8729 Aug 28 02:01	12° ✕ 08'01	0°48'45	max. Earth dist.	8736 Mar 14 07:13	26° ✕ 16'21	31.30062 AU
min. Earth dist.	8729 Aug 28 17:08	12° ✕ 06'59	29.32721 AU	morning rise	8736 Mar 30 09:28	26° ✕ 52'16	
direct	8729 Nov 17 00:18	10° ✕ 43'40		retrograde	8736 Jun 25 18:56	28° ✕ 45'14	
evening set	8730 Feb 14 19:56	12° ✕ 38'51		opposition	8736 Sep 12 12:02	27° ✕ 22'59	0°34'07
				min. Earth dist.	8736 Sep 13 01:47	27° ✕ 22'02	29.29662 AU
conjunction	8730 Mar 02 10:29	13° ✕ 13'33	0°44'45	direct	8736 Dec 02 07:08	25° ✕ 58'46	
minimum elong	8730 Mar 02 10:29	13° ✕ 13'33	0°44'50	evening set	8737 Mar 01 19:35	27° ✕ 53'42	
max. Earth dist.	8730 Mar 01 17:56	13° ✕ 12'01	31.32666 AU				
morning rise	8730 Mar 17 22:49	13° ✕ 48'05		conjunction	8737 Mar 17 08:11	28° ✕ 28'20	0°30'52
retrograde	8730 Jun 13 03:26	15° ✕ 40'38		minimum elong	8737 Mar 17 08:11	28° ✕ 28'20	0°30'53
opposition	8730 Aug 30 13:26	14° ✕ 18'36	0°46'51	max. Earth dist.	8737 Mar 16 17:24	28° ✕ 26'57	31.29222 AU
min. Earth dist.	8730 Aug 31 04:54	14° ✕ 17'33	29.32661 AU	morning rise	8737 Apr 01 18:57	29° ✕ 02'49	
direct	8730 Nov 19 10:07	12° ✕ 54'18			8737 Apr 30 04:44	0° ✕	
evening set	8731 Feb 17 06:13	14° ✕ 49'29		retrograde	8737 Jun 28 05:21	0° ✕ 55'51	
					8737 Aug 29 11:23	30° ✕	
conjunction	8731 Mar 04 20:36	15° ✕ 24'10	0°42'56	opposition	8737 Sep 15 00:01	29° ✕ 33'30	0°31'49
minimum elong	8731 Mar 04 20:36	15° ✕ 24'10	0°43'00	min. Earth dist.	8737 Sep 15 14:10	29° ✕ 32'32	29.28828 AU
max. Earth dist.	8731 Mar 04 05:08	15° ✕ 22'44	31.32566 AU	direct	8737 Dec 04 18:58	28° ✕ 09'17	
morning rise	8731 Mar 20 08:34	15° ✕ 58'41			8738 Mar 02 07:37	0° ✕	
retrograde	8731 Jun 15 12:09	17° ✕ 51'19		evening set	8738 Mar 04 05:32	0° ✕ 04'11	
opposition	8731 Sep 02 01:04	16° ✕ 29'17	0°44'52				
min. Earth dist.	8731 Sep 02 16:14	16° ✕ 28'15	29.32498 AU	conjunction	8738 Mar 19 17:56	0° ✕ 38'48	0°28'42
direct	8731 Nov 21 22:06	15° ✕ 05'02		minimum elong	8738 Mar 19 17:56	0° ✕ 38'48	0°28'42
evening set	8732 Feb 19 16:37	17° ✕ 00'11		max. Earth dist.	8738 Mar 19 04:14	0° ✕ 37'31	31.28406 AU
				morning rise	8738 Apr 04 04:30	1° ✕ 13'16	
conjunction	8732 Mar 06 06:30	17° ✕ 34'53	0°41'03	retrograde	8738 Jun 30 15:42	3° ✕ 06'22	
minimum elong	8732 Mar 06 06:30	17° ✕ 34'53	0°41'07	opposition	8738 Sep 17 11:43	1° ✕ 43'59	0°29'28
max. Earth dist.	8732 Mar 05 14:07	17° ✕ 33'21	31.32347 AU	min. Earth dist.	8738 Sep 18 00:29	1° ✕ 43'06	29.28031 AU
morning rise	8732 Mar 21 18:21	18° ✕ 09'23		direct	8738 Dec 07 08:06	0° ✕ 19'46	
retrograde	8732 Jun 16 23:36	20° ✕ 02'06		evening set	8739 Mar 06 15:35	2° ✕ 14'37	
opposition	8732 Sep 03 12:46	18° ✕ 40'03	0°42'50				
min. Earth dist.	8732 Sep 04 03:34	18° ✕ 39'03	29.32220 AU	conjunction	8739 Mar 22 03:37	2° ✕ 49'14	0°26'29
direct	8732 Nov 23 07:33	17° ✕ 15'50		minimum elong	8739 Mar 22 03:37	2° ✕ 49'14	0°26'29
evening set	8733 Feb 21 02:53	19° ✕ 10'58		max. Earth dist.	8739 Mar 21 13:55	2° ✕ 47'58	31.27650 AU
				morning rise	8739 Apr 06 14:06	3° ✕ 23'43	
conjunction	8733 Mar 08 16:38	19° ✕ 45'38	0°39'07	retrograde	8739 Jul 03 02:05	5° ✕ 16'55	
minimum elong	8733 Mar 08 16:38	19° ✕ 45'38	0°39'10	opposition	8739 Sep 19 23:42	3° ✕ 54'29	0°27'05
max. Earth dist.	8733 Mar 08 01:23	19° ✕ 44'13	31.31993 AU	min. Earth dist.	8739 Sep 20 12:11	3° ✕ 53'38	29.27329 AU
morning rise	8733 Mar 24 04:05	20° ✕ 20'08		direct	8739 Dec 09 18:17	2° ✕ 30'18	
retrograde	8733 Jun 19 09:08	22° ✕ 12'55		evening set	8740 Mar 08 01:21	4° ✕ 25'08	
opposition	8733 Sep 06 00:36	20° ✕ 50'51	0°40'44				
min. Earth dist.	8733 Sep 06 15:52	20° ✕ 49'49	29.31788 AU	conjunction	8740 Mar 23 13:17	4° ✕ 59'45	0°24'13
direct	8733 Nov 25 19:08	19° ✕ 26'39		minimum elong	8740 Mar 23 13:17	4° ✕ 59'45	0°24'13
evening set	8734 Feb 23 13:12	21° ✕ 21'44		max. Earth dist.	8740 Mar 23 01:21	4° ✕ 58'38	31.26992 AU
max. Earth dist.	8734 Mar 10 10:28	21° ✕ 54'54	31.31493 AU	morning rise	8740 Apr 07 23:28	5° ✕ 34'14	
				retrograde	8740 Jul 04 10:49	7° ✕ 27'32	
conjunction	8734 Mar 11 02:32	21° ✕ 56'24	0°37'08	opposition	8740 Sep 21 11:43	6° ✕ 05'05	0°24'39

min. Earth dist.	8740 Sep 21 23:17	6°♊04'18	29.26702 AU	direct	8746 Dec 25 00:07	17°♊48'31	
direct	8740 Dec 11 06:19	4°♊40'58		evening set	8747 Mar 23 23:08	19°♊43'15	
evening set	8741 Mar 10 11:20	6°♊35'47					
conjunction	8741 Mar 25 22:53	7°♊10'24	0°21'56	conjunction	8747 Apr 08 09:39	20°♊17'51	0°07'37
minimum elong	8741 Mar 25 22:53	7°♊10'24	0°21'55	minimum elong	8747 Apr 08 09:39	20°♊17'51	0°07'33
max. Earth dist.	8741 Mar 25 10:36	7°♊09'15	31.26410 AU	behind sun begin	8747 Apr 08 03:48	20°♊17'20	
morning rise	8741 Apr 10 09:06	7°♊44'53		behind sun end	8747 Apr 08 15:29	20°♊18'23	
retrograde	8741 Jul 06 22:36	9°♊38'19		max. Earth dist.	8747 Apr 08 00:56	20°♊17'03	31.22205 AU
opposition	8741 Sep 23 23:39	8°♊15'51	0°22'11	morning rise	8747 Apr 23 19:06	20°♊52'24	
min. Earth dist.	8741 Sep 24 10:17	8°♊15'08	29.26151 AU	retrograde	8747 Jul 20 19:56	22°♊46'34	
direct	8741 Dec 13 15:17	6°♊51'48		opposition	8747 Oct 08 01:32	21°♊23'54	0°06'47
evening set	8742 Mar 12 21:05	8°♊46'36		min. Earth dist.	8747 Oct 08 09:35	21°♊23'21	29.21674 AU
				direct	8747 Dec 27 14:00	20°♊00'03	
				evening set	8748 Mar 25 09:08	21°♊54'44	
conjunction	8742 Mar 28 08:37	9°♊21'13	0°19'36				
minimum elong	8742 Mar 28 08:37	9°♊21'13	0°19'35	conjunction	8748 Apr 09 19:20	22°♊29'21	0°05'11
max. Earth dist.	8742 Mar 27 21:58	9°♊20'14	31.25866 AU	minimum elong	8748 Apr 09 19:21	22°♊29'21	0°05'07
morning rise	8742 Apr 12 18:33	9°♊55'44		behind sun begin	8748 Apr 09 13:07	22°♊28'47	
retrograde	8742 Jul 09 08:24	11°♊49'18		behind sun end	8748 Apr 10 01:35	22°♊29'54	
opposition	8742 Sep 26 11:49	10°♊26'50	0°19'40	max. Earth dist.	8748 Apr 09 10:20	22°♊28'31	31.21117 AU
min. Earth dist.	8742 Sep 26 22:31	10°♊26'06	29.25599 AU	morning rise	8748 Apr 25 04:51	23°♊03'54	
direct	8742 Dec 16 02:30	9°♊02'50		retrograde	8748 Jul 22 06:35	24°♊58'10	
evening set	8743 Mar 15 07:07	10°♊57'39		opposition	8748 Oct 09 14:07	23°♊35'23	0°04'10
				min. Earth dist.	8748 Oct 09 22:09	23°♊34'51	29.20548 AU
conjunction	8743 Mar 30 18:15	11°♊32'15	0°17'15	direct	8748 Dec 29 00:52	22°♊11'32	
minimum elong	8743 Mar 30 18:16	11°♊32'15	0°17'12	evening set	8749 Mar 27 18:58	24°♊06'08	
max. Earth dist.	8743 Mar 30 07:19	11°♊31'14	31.25312 AU				
morning rise	8743 Apr 15 04:12	12°♊06'46		conjunction	8749 Apr 12 05:14	24°♊40'45	0°02'44
retrograde	8743 Jul 11 21:01	14°♊00'28		minimum elong	8749 Apr 12 05:13	24°♊40'45	0°02'39
opposition	8743 Sep 28 23:54	12°♊37'59	0°17'08	behind sun begin	8749 Apr 11 22:49	24°♊40'10	
min. Earth dist.	8743 Sep 29 09:20	12°♊37'21	29.25020 AU	behind sun end	8749 Apr 12 11:37	24°♊41'19	
direct	8743 Dec 18 13:21	11°♊14'03		max. Earth dist.	8749 Apr 11 21:50	24°♊40'04	31.19961 AU
evening set	8744 Mar 16 17:04	13°♊08'52		morning rise	8749 Apr 27 14:32	25°♊15'19	
				retrograde	8749 Jul 24 15:37	27°♊09'38	
conjunction	8744 Apr 01 04:06	13°♊43'28	0°14'52	opposition	8749 Oct 12 02:30	25°♊46'46	0°01'32
minimum elong	8744 Apr 01 04:06	13°♊43'28	0°14'50	min. Earth dist.	8749 Oct 12 09:47	25°♊46'16	29.19376 AU
behind sun begin	8744 Apr 01 01:25	13°♊43'14		direct	8749 Dec 31 14:15	24°♊22'53	
behind sun end	8744 Apr 01 06:46	13°♊43'43		evening set	8750 Mar 30 04:54	26°♊17'25	
max. Earth dist.	8744 Mar 31 18:15	13°♊42'34	31.24694 AU				
morning rise	8744 Apr 16 13:48	14°♊18'00		conjunction	8750 Apr 14 14:50	26°♊52'02	0°00'13
retrograde	8744 Jul 13 08:13	16°♊11'50		minimum elong	8750 Apr 14 14:50	26°♊52'02	0°00'07
opposition	8744 Sep 30 12:21	14°♊49'20	0°14'35	behind sun begin	8750 Apr 14 08:36	26°♊51'28	
min. Earth dist.	8744 Sep 30 22:20	14°♊48'39	29.24366 AU	behind sun end	8750 Apr 14 21:05	26°♊52'35	
direct	8744 Dec 19 23:45	13°♊25'27		max. Earth dist.	8750 Apr 14 07:08	26°♊51'20	31.18802 AU
evening set	8745 Mar 19 02:59	15°♊20'14		morning rise	8750 Apr 30 00:18	27°♊26'36	
				desc. node	8750 May 16 03:40	28°♊00'50	
conjunction	8745 Apr 03 13:47	15°♊54'51	0°12'28	retrograde	8750 Jul 27 03:30	29°♊21'01	
minimum elong	8745 Apr 03 13:47	15°♊54'51	0°12'25	opposition	8750 Oct 14 14:58	27°♊58'03	-0°01'06
behind sun begin	8745 Apr 03 09:31	15°♊54'28		min. Earth dist.	8750 Oct 14 21:08	27°♊57'38	29.18246 AU
behind sun end	8745 Apr 03 18:03	15°♊55'14		direct	8751 Jan 03 00:50	26°♊34'09	
max. Earth dist.	8745 Apr 03 04:08	15°♊53'57	31.23997 AU	evening set	8751 Apr 01 14:39	28°♊28'37	
morning rise	8745 Apr 18 23:28	16°♊29'23					
retrograde	8745 Jul 15 20:19	18°♊23'21		conjunction	8751 Apr 17 00:36	29°♊03'14	-0°02'19
opposition	8745 Oct 03 00:41	17°♊00'48	0°12'00	minimum elong	8751 Apr 17 00:35	29°♊03'14	0°02'26
min. Earth dist.	8745 Oct 03 09:13	17°♊00'13	29.23603 AU	behind sun begin	8751 Apr 16 18:11	29°♊02'39	
direct	8745 Dec 22 11:59	15°♊36'57		behind sun end	8751 Apr 17 07:00	29°♊03'48	
evening set	8746 Mar 21 13:05	17°♊31'43		max. Earth dist.	8751 Apr 16 18:45	29°♊02'42	31.17700 AU
				morning rise	8751 May 02 09:49	29°♊37'49	
conjunction	8746 Apr 05 23:41	18°♊06'20	0°10'03		8751 May 12 16:47	0°♊	
minimum elong	8746 Apr 05 23:41	18°♊06'20	0°10'00	retrograde	8751 Jul 29 12:41	1°♊32'20	
behind sun begin	8746 Apr 05 18:28	18°♊05'52		opposition	8751 Oct 17 03:32	0°♊09'17	-0°03'43
behind sun end	8746 Apr 06 04:54	18°♊06'48		min. Earth dist.	8751 Oct 17 09:20	0°♊08'53	29.17193 AU
max. Earth dist.	8746 Apr 05 14:08	18°♊05'27	31.23163 AU		8751 Oct 22 20:11	30°♊	
morning rise	8746 Apr 21 09:17	18°♊40'52		direct	8752 Jan 05 12:48	28°♊45'23	
retrograde	8746 Jul 18 08:18	20°♊34'57			8752 Mar 15 00:45	0°♊	
opposition	8746 Oct 05 13:04	19°♊12'21	0°09'24	evening set	8752 Apr 03 00:34	0°♊39'49	
min. Earth dist.	8746 Oct 05 22:15	19°♊11'43	29.22709 AU				

conjunction	8752 Apr 18 10:15	1°8'14"25 -0°04'47	direct	8758 Jan 18 07:42	11°8'55"56
minimum elong	8752 Apr 18 10:15	1°8'14"25 0°04'53	evening set	8758 Apr 16 12:20	13°8'50"19
behind sun begin	8752 Apr 18 04:00	1°8'13"51			
behind sun end	8752 Apr 18 16:30	1°8'14"59	conjunction	8758 May 01 21:41	14°8'24"59 -0°19'16
max. Earth dist.	8752 Apr 18 04:37	1°8'13"55 31.16715 AU	minimum elong	8758 May 01 21:41	14°8'24"59 0°19'25
morning rise	8752 May 03 19:36	1°8'49"01	max. Earth dist.	8758 May 01 21:14	14°8'24"57 31.11898 AU
retrograde	8752 Jul 31 00:41	3°8'43"39	morning rise	8758 May 17 07:02	14°8'59"42
opposition	8752 Oct 18 16:04	2°8'20"33 -0°06'21		8758 May 17 10:18	15°8'
min. Earth dist.	8752 Oct 18 20:02	2°8'20"17 29.16267 AU	retrograde	8758 Aug 14 00:32	16°8'55"13
direct	8753 Jan 06 23:10	0°8'56"41	opposition	8758 Nov 01 20:37	15°8'31"58 -0°21'50
evening set	8753 Apr 05 10:16	2°8'51"05	min. Earth dist.	8758 Nov 01 21:12	15°8'31"55 29.11420 AU
				8758 Nov 21 22:59	15°8'
conjunction	8753 Apr 20 19:56	3°8'25"42 -0°07'13	direct	8759 Jan 20 21:13	14°8'08"25
minimum elong	8753 Apr 20 19:57	3°8'25"42 0°07'20		8759 Mar 18 14:01	15°8'
behind sun begin	8753 Apr 20 14:03	3°8'25"10	evening set	8759 Apr 18 22:37	16°8'02"47
behind sun end	8753 Apr 21 01:50	3°8'26"13			
max. Earth dist.	8753 Apr 20 15:47	3°8'25"20 31.15835 AU	conjunction	8759 May 04 07:45	16°8'37"28 -0°21'37
morning rise	8753 May 06 05:13	4°8'00"18	minimum elong	8759 May 04 07:45	16°8'37"28 0°21'47
retrograde	8753 Aug 02 11:41	5°8'55"05	max. Earth dist.	8759 May 04 06:36	16°8'37"22 31.10904 AU
opposition	8753 Oct 21 04:44	4°8'31"56 -0°08'58	morning rise	8759 May 19 17:18	17°8'12"12
min. Earth dist.	8753 Oct 21 08:50	4°8'31"39 29.15435 AU	retrograde	8759 Aug 16 13:47	19°8'07"51
direct	8754 Jan 09 09:09	3°8'08"07	opposition	8759 Nov 04 09:38	17°8'44"33 -0°24'20
evening set	8754 Apr 07 20:10	5°8'02"30	min. Earth dist.	8759 Nov 04 09:29	17°8'44"34 29.10367 AU
			direct	8760 Jan 23 08:18	16°8'21"02
conjunction	8754 Apr 23 05:45	5°8'37"07 -0°09'39	evening set	8760 Apr 20 08:50	18°8'15"22
minimum elong	8754 Apr 23 05:44	5°8'37"07 0°09'46			
behind sun begin	8754 Apr 23 00:27	5°8'36"38	conjunction	8760 May 05 18:05	18°8'50"04 -0°23'56
behind sun end	8754 Apr 23 11:01	5°8'37"35	minimum elong	8760 May 05 18:05	18°8'50"04 0°24'06
max. Earth dist.	8754 Apr 23 02:15	5°8'36"48 31.15049 AU	max. Earth dist.	8760 May 05 18:18	18°8'50"05 31.09782 AU
morning rise	8754 May 08 15:03	6°8'11"45	morning rise	8760 May 21 03:35	19°8'24"49
retrograde	8754 Aug 05 00:12	8°8'06"39	retrograde	8760 Aug 17 23:38	21°8'20"36
opposition	8754 Oct 23 17:10	6°8'43"29 -0°11'35	opposition	8760 Nov 05 22:44	19°8'57"13 -0°26'48
min. Earth dist.	8754 Oct 23 19:26	6°8'43"20 29.14669 AU	min. Earth dist.	8760 Nov 05 22:40	19°8'57"13 29.09188 AU
direct	8755 Jan 11 20:57	5°8'19"43	direct	8761 Jan 24 20:43	18°8'33"41
evening set	8755 Apr 10 06:09	7°8'14"06	evening set	8761 Apr 22 19:01	20°8'27"59
conjunction	8755 Apr 25 15:35	7°8'48"44 -0°12'05	conjunction	8761 May 08 04:12	21°8'02"41 -0°26'13
minimum elong	8755 Apr 25 15:35	7°8'48"44 0°12'13	minimum elong	8761 May 08 04:12	21°8'02"41 0°26'24
behind sun begin	8755 Apr 25 11:13	7°8'48"20	max. Earth dist.	8761 May 08 04:16	21°8'02"41 31.08569 AU
behind sun end	8755 Apr 25 19:57	7°8'49"08	morning rise	8761 May 23 13:56	21°8'37"27
max. Earth dist.	8755 Apr 25 12:35	7°8'48"28 31.14297 AU	retrograde	8761 Aug 20 11:39	23°8'33"20
morning rise	8755 May 11 00:56	8°8'23"23	opposition	8761 Nov 08 11:40	22°8'09"52 -0°29'13
retrograde	8755 Aug 07 13:04	10°8'18"27	min. Earth dist.	8761 Nov 08 10:14	22°8'09"58 29.07941 AU
opposition	8755 Oct 26 06:02	8°8'55"16 -0°14'10	direct	8762 Jan 27 07:38	20°8'46"19
min. Earth dist.	8755 Oct 26 08:31	8°8'55"06 29.13933 AU	evening set	8762 Apr 25 05:12	22°8'40"34
direct	8756 Jan 14 08:10	7°8'31"34			
evening set	8756 Apr 11 16:01	9°8'25"57	conjunction	8762 May 10 14:25	23°8'15"17 -0°28'28
			minimum elong	8762 May 10 14:25	23°8'15"17 0°28'38
conjunction	8756 Apr 27 01:28	10°8'00"35 -0°14'30	max. Earth dist.	8762 May 10 15:37	23°8'15"23 31.07299 AU
minimum elong	8756 Apr 27 01:27	10°8'00"35 0°14'38	morning rise	8762 May 26 00:11	23°8'50"04
behind sun begin	8756 Apr 26 22:36	10°8'00"20	retrograde	8762 Aug 22 22:30	25°8'46"04
behind sun end	8756 Apr 27 04:19	10°8'00"51	opposition	8762 Nov 11 00:39	24°8'22"30 -0°31'36
max. Earth dist.	8756 Apr 26 23:49	10°8'00"26 31.13559 AU	min. Earth dist.	8762 Nov 10 23:32	24°8'22"34 29.06682 AU
morning rise	8756 May 12 10:44	10°8'35"15	direct	8763 Jan 29 17:44	22°8'58"56
retrograde	8756 Aug 09 01:32	12°8'30"29	evening set	8763 Apr 27 15:24	24°8'53"08
opposition	8756 Oct 27 18:51	11°8'07"16 -0°16'45			
min. Earth dist.	8756 Oct 27 19:58	11°8'07"12 29.13171 AU	conjunction	8763 May 13 00:37	25°8'27"51 -0°30'40
direct	8757 Jan 15 21:16	9°8'43"38	minimum elong	8763 May 13 00:37	25°8'27"51 0°30'51
evening set	8757 Apr 14 02:12	11°8'38"02	max. Earth dist.	8763 May 13 02:38	25°8'28"02 31.06071 AU
			morning rise	8763 May 28 10:29	26°8'02"39
conjunction	8757 Apr 29 11:26	12°8'12"41 -0°16'54	retrograde	8763 Aug 25 11:08	27°8'58"45
minimum elong	8757 Apr 29 11:26	12°8'12"41 0°17'02	opposition	8763 Nov 13 13:38	26°8'35"06 -0°33'56
max. Earth dist.	8757 Apr 29 09:32	12°8'12"30 31.12769 AU	min. Earth dist.	8763 Nov 13 10:29	26°8'35"19 29.05491 AU
morning rise	8757 May 14 20:53	12°8'47"22	direct	8764 Feb 01 06:03	25°8'11"32
retrograde	8757 Aug 11 13:47	14°8'42"45	evening set	8764 Apr 29 01:31	27°8'05"42
opposition	8757 Oct 30 07:40	13°8'19"31 -0°19'19			
min. Earth dist.	8757 Oct 30 08:50	13°8'19"26 29.12355 AU	conjunction	8764 May 14 10:41	27°8'40"25 -0°32'49

minimum elong	8764 May 14 10:41	27° 8 40'25 0°33'00	morning rise	8770 Jun 12 12:27	11° II 33'29
max. Earth dist.	8764 May 14 13:17	27° 8 40'40 31.04920 AU	retrograde	8770 Sep 10 03:54	13° II 30'29
morning rise	8764 May 29 20:44	28° 8 15'15	opposition	8770 Nov 29 09:19	12° II 06'32 -0°48'44
	8764 Jul 31 16:06	0° II	min. Earth dist.	8770 Nov 29 01:16	12° II 07'05 28.99183 AU
retrograde	8764 Aug 27 00:13	0° II 11'29	direct	8771 Feb 16 17:14	10° II 43'10
	8764 Sep 22 21:17	30° 8 8	evening set	8771 May 15 02:36	12° II 37'15
opposition	8764 Nov 15 02:46	28° 8 47'45 -0°36'13			
min. Earth dist.	8764 Nov 14 23:36	28° 8 47'58 29.04405 AU	conjunction	8771 May 30 12:20	13° II 12'06 -0°46'27
direct	8765 Feb 02 17:00	27° 8 24'11	minimum elong	8771 May 30 12:20	13° II 12'06 0°46'40
evening set	8765 May 01 11:41	29° 8 18'20	max. Earth dist.	8771 May 30 20:06	13° II 12'51 30.98665 AU
			morning rise	8771 Jun 14 23:30	13° II 47'07
conjunction	8765 May 16 21:02	29° 8 53'04 -0°34'56	retrograde	8771 Sep 12 15:44	15° II 44'14
minimum elong	8765 May 16 21:02	29° 8 53'04 0°35'08	opposition	8771 Dec 01 22:46	14° II 20'13 -0°50'35
max. Earth dist.	8765 May 17 01:14	29° 8 53'28 31.03890 AU	min. Earth dist.	8771 Dec 01 15:20	14° II 20'44 28.98173 AU
	8765 May 19 22:05	0° II	direct	8772 Feb 19 04:09	12° II 56'51
morning rise	8765 Jun 01 07:07	0° II 27'55	evening set	8772 May 16 13:18	14° II 50'55
retrograde	8765 Aug 29 12:47	2° II 24'15			
opposition	8765 Nov 17 15:35	1° II 00'29 -0°38'27	conjunction	8772 May 31 23:13	15° II 25'47 -0°48'09
min. Earth dist.	8765 Nov 17 10:45	1° II 00'48 29.03423 AU	minimum elong	8772 May 31 23:13	15° II 25'47 0°48'21
	8765 Dec 28 20:52	30° 8 8	max. Earth dist.	8772 Jun 01 07:21	15° II 26'33 30.97600 AU
direct	8766 Feb 05 05:25	29° 8 36'56	morning rise	8772 Jun 16 10:37	16° II 00'49
	8766 Mar 14 11:41	0° II	retrograde	8772 Sep 14 04:29	17° II 58'02
evening set	8766 May 03 22:02	1° II 31'04	opposition	8772 Dec 03 12:02	16° II 33'58 -0°52'22
			min. Earth dist.	8772 Dec 03 03:11	16° II 34'34 28.97041 AU
conjunction	8766 May 19 07:17	2° II 05'49 -0°37'00	direct	8773 Feb 20 16:37	15° II 10'34
minimum elong	8766 May 19 07:17	2° II 05'49 0°37'11	evening set	8773 May 19 00:12	17° II 04'37
max. Earth dist.	8766 May 19 11:27	2° II 06'13 31.02956 AU			
morning rise	8766 Jun 03 17:40	2° II 40'42	conjunction	8773 Jun 03 10:12	17° II 39'30 -0°49'46
retrograde	8766 Sep 01 01:52	4° II 37'10	minimum elong	8773 Jun 03 10:12	17° II 39'29 0°50'00
opposition	8766 Nov 20 04:41	3° II 13'20 -0°40'38	max. Earth dist.	8773 Jun 03 18:13	17° II 40'15 30.96409 AU
min. Earth dist.	8766 Nov 19 23:34	3° II 13'41 29.02540 AU	morning rise	8773 Jun 18 21:55	18° II 14'33
direct	8767 Feb 07 16:07	1° II 49'50	retrograde	8773 Sep 16 17:09	20° II 11'51
evening set	8767 May 06 08:12	3° II 43'57	opposition	8773 Dec 06 01:13	18° II 47'42 -0°54'03
			min. Earth dist.	8773 Dec 05 16:59	18° II 48'15 28.95815 AU
conjunction	8767 May 21 17:40	4° II 18'43 -0°39'00	direct	8774 Feb 23 03:18	17° II 24'16
minimum elong	8767 May 21 17:39	4° II 18'43 0°39'13	evening set	8774 May 21 10:56	19° II 18'16
max. Earth dist.	8767 May 21 23:45	4° II 19'18 31.02103 AU			
morning rise	8767 Jun 06 04:01	4° II 53'37	conjunction	8774 Jun 05 21:14	19° II 53'10 -0°51'19
retrograde	8767 Sep 03 14:12	6° II 50'13	minimum elong	8774 Jun 05 21:14	19° II 53'10 0°51'32
opposition	8767 Nov 22 17:50	5° II 26'22 -0°42'45	max. Earth dist.	8774 Jun 06 06:29	19° II 54'03 30.95160 AU
min. Earth dist.	8767 Nov 22 11:45	5° II 26'47 29.01707 AU	morning rise	8774 Jun 21 09:05	20° II 28'14
direct	8768 Feb 10 06:04	4° II 02'54	retrograde	8774 Sep 19 05:44	22° II 25'38
evening set	8768 May 07 18:42	5° II 57'01	opposition	8774 Dec 08 14:22	21° II 01'22 -0°55'40
			min. Earth dist.	8774 Dec 08 04:45	21° II 02'02 28.94552 AU
conjunction	8768 May 23 04:05	6° II 31'48 -0°40'58	direct	8775 Feb 25 15:51	19° II 37'54
minimum elong	8768 May 23 04:04	6° II 31'48 0°41'10	evening set	8775 May 23 21:43	21° II 31'53
max. Earth dist.	8768 May 23 09:50	6° II 32'21 31.01294 AU			
morning rise	8768 Jun 07 14:47	7° II 06'44	conjunction	8775 Jun 08 08:00	22° II 06'47 -0°52'47
retrograde	8768 Sep 05 04:18	9° II 03'28	minimum elong	8775 Jun 08 08:00	22° II 06'47 0°53'02
opposition	8768 Nov 24 06:57	7° II 39'35 -0°44'49	max. Earth dist.	8775 Jun 08 17:04	22° II 07'39 30.93907 AU
min. Earth dist.	8768 Nov 24 00:01	7° II 40'03 29.00913 AU	morning rise	8775 Jun 23 20:15	22° II 41'54
direct	8769 Feb 11 17:19	6° II 16'09	retrograde	8775 Sep 21 19:22	24° II 39'22
evening set	8769 May 10 05:07	8° II 10'16	opposition	8775 Dec 11 03:38	23° II 15'01 -0°57'13
			min. Earth dist.	8775 Dec 10 17:55	23° II 15'41 28.93340 AU
conjunction	8769 May 25 14:44	8° II 45'04 -0°42'51	direct	8776 Feb 28 02:59	21° II 51'31
minimum elong	8769 May 25 14:43	8° II 45'04 0°43'05	evening set	8776 May 25 08:25	23° II 45'28
max. Earth dist.	8769 May 25 21:59	8° II 45'45 31.00483 AU			
morning rise	8769 Jun 10 01:29	9° II 20'01	conjunction	8776 Jun 09 19:04	24° II 20'24 -0°54'11
retrograde	8769 Sep 07 14:57	11° II 16'53	minimum elong	8776 Jun 09 19:04	24° II 20'24 0°54'24
opposition	8769 Nov 26 20:12	9° II 52'59 -0°46'49	max. Earth dist.	8776 Jun 10 06:01	24° II 21'26 30.92730 AU
min. Earth dist.	8769 Nov 26 13:17	9° II 53'27 29.00081 AU	morning rise	8776 Jun 25 07:25	24° II 55'32
direct	8770 Feb 14 05:44	8° II 29'35	retrograde	8776 Sep 23 08:22	26° II 53'05
evening set	8770 May 12 15:49	10° II 23'41	opposition	8776 Dec 12 16:40	25° II 28'40 -0°58'39
			min. Earth dist.	8776 Dec 12 05:57	25° II 29'24 28.92217 AU
conjunction	8770 May 28 01:25	10° II 58'31 -0°44'41	direct	8777 Mar 01 16:46	24° II 05'09
minimum elong	8770 May 28 01:25	10° II 58'31 0°44'53	evening set	8777 May 27 19:18	25° II 59'06
max. Earth dist.	8770 May 28 08:28	10° II 59'11 30.99625 AU			

conjunction	8777 Jun 12 06:00	26° Π 34'03	-0°55'30	retrograde	8783 Oct 10 02:34	12° \mathfrak{D} 32'50	
minimum elong	8777 Jun 12 06:00	26° Π 34'03	0°55'44	opposition	8783 Dec 29 12:34	11° \mathfrak{D} 08'15	-1°06'15
max. Earth dist.	8777 Jun 12 16:39	26° Π 35'04	30.91671 AU	min. Earth dist.	8783 Dec 28 21:40	11° \mathfrak{D} 09'17	28.86996 AU
morning rise	8777 Jun 27 18:49	27° Π 09'12		direct	8784 Mar 17 01:03	9° \mathfrak{D} 44'53	
retrograde	8777 Sep 25 22:38	29° Π 06'52		evening set	8784 Jun 12 01:15	11° \mathfrak{D} 38'52	
opposition	8777 Dec 15 05:46	27° Π 42'23	-1°00'01				
min. Earth dist.	8777 Dec 14 18:07	27° Π 43'11	28.91226 AU	conjunction	8784 Jun 27 13:40	12° \mathfrak{D} 14'00	-1°02'17
direct	8778 Mar 04 04:05	26° Π 18'52		minimum elong	8784 Jun 27 13:40	12° \mathfrak{D} 14'00	1°02'30
evening set	8778 May 30 06:05	28° Π 12'49		max. Earth dist.	8784 Jun 28 04:01	12° \mathfrak{D} 15'22	30.86575 AU
				morning rise	8784 Jul 13 04:41	12° \mathfrak{D} 49'23	
conjunction	8778 Jun 14 17:06	28° Π 47'47	-0°56'44	retrograde	8784 Oct 11 16:41	14° \mathfrak{D} 47'44	
minimum elong	8778 Jun 14 17:06	28° Π 47'47	0°56'57	min. Earth dist.	8784 Dec 30 11:24	13° \mathfrak{D} 24'06	28.86228 AU
max. Earth dist.	8778 Jun 15 05:25	28° Π 48'58	30.90731 AU	opposition	8784 Dec 31 01:45	13° \mathfrak{D} 23'06	-1°06'56
morning rise	8778 Jun 30 06:02	29° Π 22'59		direct	8785 Mar 19 12:17	11° \mathfrak{D} 59'42	
	8778 Jul 17 15:28	0° \mathfrak{D}		evening set	8785 Jun 14 12:44	13° \mathfrak{D} 53'41	
retrograde	8778 Sep 28 09:57	1° \mathfrak{D} 20'44					
	8778 Dec 15 11:57	30° \mathfrak{R} Π		conjunction	8785 Jun 30 01:39	14° \mathfrak{D} 28'50	-1°02'53
opposition	8778 Dec 17 18:51	29° Π 56'13	-1°01'18	minimum elong	8785 Jun 30 01:39	14° \mathfrak{D} 28'50	1°03'07
min. Earth dist.	8778 Dec 17 06:52	29° Π 57'03	28.90349 AU	max. Earth dist.	8785 Jun 30 17:11	14° \mathfrak{D} 30'19	30.85754 AU
direct	8779 Mar 06 16:40	28° Π 32'44		morning rise	8785 Jul 15 16:52	15° \mathfrak{D} 04'14	
	8779 May 20 08:16	0° \mathfrak{D}		retrograde	8785 Oct 14 06:03	17° \mathfrak{D} 02'39	
evening set	8779 Jun 01 17:02	0° \mathfrak{D} 26'40		opposition	8786 Jan 02 14:53	15° \mathfrak{D} 37'56	-1°07'32
				min. Earth dist.	8786 Jan 02 00:05	15° \mathfrak{D} 38'58	28.85358 AU
conjunction	8779 Jun 17 04:13	1° \mathfrak{D} 01'41	-0°57'53	direct	8786 Mar 22 01:46	14° \mathfrak{D} 14'30	
minimum elong	8779 Jun 17 04:12	1° \mathfrak{D} 01'41	0°58'07	evening set	8786 Jun 17 00:17	16° \mathfrak{D} 08'27	
max. Earth dist.	8779 Jun 17 16:39	1° \mathfrak{D} 02'52	30.89926 AU				
morning rise	8779 Jul 02 17:33	1° \mathfrak{D} 36'54		conjunction	8786 Jul 02 13:21	16° \mathfrak{D} 43'37	-1°03'23
retrograde	8779 Sep 30 23:55	3° \mathfrak{D} 34'46		minimum elong	8786 Jul 02 13:21	16° \mathfrak{D} 43'37	1°03'36
opposition	8779 Dec 20 07:57	2° \mathfrak{D} 10'14	-1°02'29	max. Earth dist.	8786 Jul 03 04:04	16° \mathfrak{D} 45'01	30.84862 AU
min. Earth dist.	8779 Dec 19 18:31	2° \mathfrak{D} 11'09	28.89601 AU	morning rise	8786 Jul 18 05:05	17° \mathfrak{D} 19'03	
direct	8780 Mar 08 04:28	0° \mathfrak{D} 46'46		retrograde	8786 Oct 16 20:08	19° \mathfrak{D} 17'29	
evening set	8780 Jun 03 03:57	2° \mathfrak{D} 40'43		opposition	8787 Jan 05 03:57	17° \mathfrak{D} 52'41	-1°08'02
				min. Earth dist.	8787 Jan 04 12:50	17° \mathfrak{D} 53'44	28.84457 AU
conjunction	8780 Jun 18 15:24	3° \mathfrak{D} 15'45	-0°58'56	direct	8787 Mar 24 13:05	16° \mathfrak{D} 29'11	
minimum elong	8780 Jun 18 15:24	3° \mathfrak{D} 15'45	0°59'10	evening set	8787 Jun 19 11:45	18° \mathfrak{D} 23'07	
max. Earth dist.	8780 Jun 19 04:56	3° \mathfrak{D} 17'02	30.89215 AU				
morning rise	8780 Jul 04 05:02	3° \mathfrak{D} 51'00		conjunction	8787 Jul 05 01:16	18° \mathfrak{D} 58'18	-1°03'48
retrograde	8780 Oct 02 12:17	5° \mathfrak{D} 48'59		minimum elong	8787 Jul 05 01:16	18° \mathfrak{D} 58'18	1°04'02
opposition	8780 Dec 21 21:10	4° \mathfrak{D} 24'26	-1°03'34	max. Earth dist.	8787 Jul 05 17:17	18° \mathfrak{D} 59'49	30.83959 AU
min. Earth dist.	8780 Dec 21 08:09	4° \mathfrak{D} 25'20	28.88932 AU	morning rise	8787 Jul 20 17:15	19° \mathfrak{D} 33'45	
direct	8781 Mar 10 15:31	3° \mathfrak{D} 01'01		retrograde	8787 Oct 19 08:39	21° \mathfrak{D} 32'12	
evening set	8781 Jun 05 15:05	4° \mathfrak{D} 54'58		opposition	8788 Jan 07 16:59	20° \mathfrak{D} 07'19	-1°08'25
				min. Earth dist.	8788 Jan 07 01:50	20° \mathfrak{D} 08'22	28.83577 AU
conjunction	8781 Jun 21 02:50	5° \mathfrak{D} 30'02	-0°59'55	direct	8788 Mar 26 02:29	18° \mathfrak{D} 43'47	
minimum elong	8781 Jun 21 02:49	5° \mathfrak{D} 30'02	1°00'09	evening set	8788 Jun 20 23:16	20° \mathfrak{D} 37'39	
max. Earth dist.	8781 Jun 21 16:56	5° \mathfrak{D} 31'22	30.88581 AU				
morning rise	8781 Jul 06 16:45	6° \mathfrak{D} 05'19		conjunction	8788 Jul 06 13:04	21° \mathfrak{D} 12'52	-1°04'07
retrograde	8781 Oct 05 00:44	8° \mathfrak{D} 03'24		minimum elong	8788 Jul 06 13:04	21° \mathfrak{D} 12'52	1°04'20
opposition	8781 Dec 24 10:05	6° \mathfrak{D} 38'51	-1°04'33	max. Earth dist.	8788 Jul 07 04:55	21° \mathfrak{D} 14'23	30.83124 AU
min. Earth dist.	8781 Dec 23 19:38	6° \mathfrak{D} 39'51	28.88309 AU	morning rise	8788 Jul 22 05:32	21° \mathfrak{D} 48'21	
direct	8782 Mar 13 03:25	5° \mathfrak{D} 15'27		retrograde	8788 Oct 20 23:30	23° \mathfrak{D} 46'48	
evening set	8782 Jun 08 02:25	7° \mathfrak{D} 09'27		opposition	8789 Jan 09 05:52	22° \mathfrak{D} 21'51	-1°08'43
				min. Earth dist.	8789 Jan 08 13:34	22° \mathfrak{D} 22'59	28.82791 AU
conjunction	8782 Jun 23 14:18	7° \mathfrak{D} 44'31	-1°00'47	direct	8789 Mar 28 15:21	20° \mathfrak{D} 58'16	
minimum elong	8782 Jun 23 14:18	7° \mathfrak{D} 44'31	1°01'01	evening set	8789 Jun 23 10:53	22° \mathfrak{D} 52'07	
max. Earth dist.	8782 Jun 24 04:23	7° \mathfrak{D} 45'52	30.87954 AU				
morning rise	8782 Jul 09 04:37	8° \mathfrak{D} 19'51		conjunction	8789 Jul 09 01:01	23° \mathfrak{D} 27'22	-1°04'21
retrograde	8782 Oct 07 13:23	10° \mathfrak{D} 18'02		minimum elong	8789 Jul 09 01:01	23° \mathfrak{D} 27'22	1°04'34
opposition	8782 Dec 26 23:22	8° \mathfrak{D} 53'28	-1°05'27	max. Earth dist.	8789 Jul 09 17:46	23° \mathfrak{D} 28'57	30.82382 AU
min. Earth dist.	8782 Dec 26 09:35	8° \mathfrak{D} 54'25	28.87683 AU	morning rise	8789 Jul 24 17:49	24° \mathfrak{D} 02'52	
direct	8783 Mar 15 13:16	7° \mathfrak{D} 30'06		retrograde	8789 Oct 23 11:24	26° \mathfrak{D} 01'21	
evening set	8783 Jun 10 13:38	9° \mathfrak{D} 24'06		opposition	8790 Jan 11 18:40	24° \mathfrak{D} 36'21	-1°08'54
				min. Earth dist.	8790 Jan 11 02:50	24° \mathfrak{D} 37'27	28.82120 AU
conjunction	8783 Jun 26 01:55	9° \mathfrak{D} 59'12	-1°01'35	direct	8790 Mar 31 03:15	23° \mathfrak{D} 12'44	
minimum elong	8783 Jun 26 01:55	9° \mathfrak{D} 59'12	1°01'49	evening set	8790 Jun 25 22:30	25° \mathfrak{D} 06'34	
max. Earth dist.	8783 Jun 26 17:02	10° \mathfrak{D} 00'38	30.87306 AU				
morning rise	8783 Jul 11 16:26	10° \mathfrak{D} 34'33		conjunction	8790 Jul 11 13:01	25° \mathfrak{D} 41'50	-1°04'28

minimum elong	8790 Jul 11 13:01	25° Ω 41'50	1°04'40	morning rise	8796 Aug 09 10:30	9° Ω 47'05	
max. Earth dist.	8790 Jul 12 06:21	25° Ω 43'29	30.81791 AU	retrograde	8796 Nov 08 09:14	11° Ω 45'54	
morning rise	8790 Jul 27 06:11	26° Ω 17'22		opposition	8797 Jan 27 12:18	10° Ω 20'56	-1°07'13
retrograde	8790 Oct 26 00:20	28° Ω 15'53		min. Earth dist.	8797 Jan 26 18:44	10° Ω 22'10	28.80383 AU
opposition	8791 Jan 14 07:26	26° Ω 50'51	-1°08'58	direct	8797 Apr 15 11:39	8° Ω 57'26	
min. Earth dist.	8791 Jan 13 14:02	26° Ω 52'03	28.81601 AU	evening set	8797 Jul 11 10:30	10° Ω 51'26	
direct	8791 Apr 02 15:28	25° Ω 27'13					
evening set	8791 Jun 28 10:05	27° Ω 21'03		conjunction	8797 Jul 27 03:41	11° Ω 26'54	-1°02'34
				minimum elong	8797 Jul 27 03:41	11° Ω 26'54	1°02'45
conjunction	8791 Jul 14 00:53	27° Ω 56'21	-1°04'30	max. Earth dist.	8797 Jul 27 21:55	11° Ω 28'37	30.80194 AU
minimum elong	8791 Jul 14 00:53	27° Ω 56'21	1°04'43	morning rise	8797 Aug 11 23:46	12° Ω 02'38	
max. Earth dist.	8791 Jul 14 18:22	27° Ω 58'00	30.81339 AU	retrograde	8797 Nov 11 01:00	14° Ω 01'27	
morning rise	8791 Jul 29 18:31	28° Ω 31'54		min. Earth dist.	8798 Jan 29 06:58	12° Ω 37'44	28.80086 AU
	8791 Sep 15 00:43	0° Ω		opposition	8798 Jan 30 00:58	12° Ω 36'29	-1°06'34
retrograde	8791 Oct 28 12:55	0° Ω 30'29		direct	8798 Apr 18 00:44	11° Ω 12'57	
	8791 Dec 12 06:05	30° Ω		evening set	8798 Jul 13 22:54	13° Ω 06'57	
opposition	8792 Jan 16 20:22	29° Ω 05'25	-1°08'57				
min. Earth dist.	8792 Jan 16 03:28	29° Ω 06'36	28.81228 AU	conjunction	8798 Jul 29 16:32	13° Ω 42'27	-1°01'54
direct	8792 Apr 04 01:43	27° Ω 41'49		minimum elong	8798 Jul 29 16:32	13° Ω 42'27	1°02'04
evening set	8792 Jun 29 21:48	29° Ω 35'39		max. Earth dist.	8798 Jul 30 11:03	13° Ω 44'12	30.79851 AU
	8792 Jul 10 17:28	0° Ω		morning rise	8798 Aug 14 12:59	14° Ω 18'12	
					8798 Sep 03 09:21	15° Ω	
conjunction	8792 Jul 15 13:08	0° Ω 10'58	-1°04'25	retrograde	8798 Nov 13 13:21	16° Ω 17'01	
minimum elong	8792 Jul 15 13:08	0° Ω 10'58	1°04'37		8799 Jan 27 18:55	15° Ω	
max. Earth dist.	8792 Jul 16 07:47	0° Ω 12'45	30.81038 AU	opposition	8799 Feb 01 13:46	14° Ω 52'00	-1°05'48
morning rise	8792 Jul 31 07:04	0° Ω 46'34		min. Earth dist.	8799 Jan 31 20:48	14° Ω 53'11	28.79712 AU
retrograde	8792 Oct 30 01:56	2° Ω 45'10		direct	8799 Apr 20 13:03	13° Ω 28'26	
opposition	8793 Jan 18 08:59	1° Ω 20'08	-1°08'49		8799 Jul 06 02:19	15° Ω	
min. Earth dist.	8793 Jan 17 14:50	1° Ω 21'24	28.80979 AU	evening set	8799 Jul 16 11:08	15° Ω 22'25	
	8793 Mar 23 07:29	30° Ω					
direct	8793 Apr 06 13:24	29° Ω 56'32		conjunction	8799 Aug 01 05:15	15° Ω 57'56	-1°01'09
	8793 Apr 20 16:08	0° Ω		minimum elong	8799 Aug 01 05:15	15° Ω 57'56	1°01'19
evening set	8793 Jul 02 09:46	1° Ω 50'25		max. Earth dist.	8799 Aug 01 23:44	15° Ω 59'41	30.79473 AU
				morning rise	8799 Aug 17 02:09	16° Ω 33'43	
conjunction	8793 Jul 18 01:19	2° Ω 25'45	-1°04'15	retrograde	8799 Nov 16 03:18	18° Ω 32'30	
minimum elong	8793 Jul 18 01:19	2° Ω 25'46	1°04'28	min. Earth dist.	8800 Feb 03 08:27	17° Ω 08'42	28.79325 AU
max. Earth dist.	8793 Jul 18 19:25	2° Ω 27'28	30.80841 AU	opposition	8800 Feb 04 02:20	17° Ω 07'27	-1°04'57
morning rise	8793 Aug 02 19:50	3° Ω 01'23		direct	8800 Apr 22 02:10	15° Ω 43'50	
retrograde	8793 Nov 01 15:32	5° Ω 00'03		evening set	8800 Jul 17 23:38	17° Ω 37'47	
opposition	8794 Jan 20 21:51	3° Ω 35'02	-1°08'35				
min. Earth dist.	8794 Jan 20 04:09	3° Ω 36'16	28.80828 AU	conjunction	8800 Aug 02 18:05	18° Ω 13'20	-1°00'18
direct	8794 Apr 08 23:46	2° Ω 11'28		minimum elong	8800 Aug 02 18:05	18° Ω 13'20	1°00'27
evening set	8794 Jul 04 21:35	4° Ω 05'23		max. Earth dist.	8800 Aug 03 12:15	18° Ω 15'03	30.79092 AU
				morning rise	8800 Aug 18 15:29	18° Ω 49'09	
conjunction	8794 Jul 20 13:41	4° Ω 40'45	-1°03'58	retrograde	8800 Nov 17 16:31	20° Ω 47'53	
minimum elong	8794 Jul 20 13:41	4° Ω 40'45	1°04'10	opposition	8801 Feb 05 14:48	19° Ω 22'47	-1°04'00
max. Earth dist.	8794 Jul 21 09:10	4° Ω 42'36	30.80714 AU	min. Earth dist.	8801 Feb 04 21:55	19° Ω 23'58	28.78977 AU
morning rise	8794 Aug 05 08:24	5° Ω 16'24		direct	8801 Apr 24 13:23	17° Ω 59'07	
retrograde	8794 Nov 04 04:43	7° Ω 15'08		evening set	8801 Jul 20 11:59	19° Ω 53'04	
opposition	8795 Jan 23 10:38	5° Ω 50'09	-1°08'14				
min. Earth dist.	8795 Jan 22 16:30	5° Ω 51'24	28.80710 AU	conjunction	8801 Aug 05 07:00	20° Ω 28'38	-0°59'22
direct	8795 Apr 11 12:04	4° Ω 26'37		minimum elong	8801 Aug 05 07:00	20° Ω 28'38	0°59'32
evening set	8795 Jul 07 09:50	6° Ω 20'34		max. Earth dist.	8801 Aug 06 01:55	20° Ω 30'25	30.78785 AU
				morning rise	8801 Aug 21 04:42	21° Ω 04'28	
conjunction	8795 Jul 23 02:09	6° Ω 55'58	-1°03'36	retrograde	8801 Nov 20 04:50	23° Ω 03'10	
minimum elong	8795 Jul 23 02:09	6° Ω 55'58	1°03'48	min. Earth dist.	8802 Feb 07 09:13	21° Ω 39'17	28.78711 AU
max. Earth dist.	8795 Jul 23 20:37	6° Ω 57'43	30.80602 AU	opposition	8802 Feb 08 03:09	21° Ω 38'02	-1°02'56
morning rise	8795 Aug 07 21:27	7° Ω 31'39		direct	8802 Apr 27 02:01	20° Ω 14'20	
retrograde	8795 Nov 06 19:36	9° Ω 30'26		evening set	8802 Jul 23 00:24	22° Ω 08'15	
opposition	8796 Jan 25 23:28	8° Ω 05'28	-1°07'47				
min. Earth dist.	8796 Jan 25 05:25	8° Ω 06'43	28.80590 AU	conjunction	8802 Aug 07 19:39	22° Ω 43'50	-0°58'20
direct	8796 Apr 12 22:24	6° Ω 41'57		minimum elong	8802 Aug 07 19:39	22° Ω 43'50	0°58'28
evening set	8796 Jul 08 22:03	8° Ω 35'56		max. Earth dist.	8802 Aug 08 13:53	22° Ω 45'33	30.78574 AU
				morning rise	8802 Aug 23 17:53	23° Ω 19'42	
conjunction	8796 Jul 24 14:55	9° Ω 11'22	-1°03'08	retrograde	8802 Nov 22 16:53	25° Ω 18'22	
minimum elong	8796 Jul 24 14:55	9° Ω 11'22	1°03'18	opposition	8803 Feb 10 15:39	23° Ω 53'13	-1°01'47
max. Earth dist.	8796 Jul 25 10:09	9° Ω 13'12	30.80441 AU	min. Earth dist.	8803 Feb 09 22:14	23° Ω 54'26	28.78572 AU

direct	8803 Apr 29 12:34	22°02'29"		minimum elong	8809 Aug 23 15:53	8°03'30"	0°48'49"
evening set	8803 Jul 25 12:47	24°02'23"		max. Earth dist.	8809 Aug 24 09:36	8°03'32"	30.79975 AU
				morning rise	8809 Sep 08 16:51	9°03'06"	
conjunction	8803 Aug 10 08:39	24°02'59"	-0°57'13"	retrograde	8809 Dec 08 15:57	11°03'05"	
minimum elong	8803 Aug 10 08:39	24°02'59"	0°57'22"	opposition	8810 Feb 26 05:04	9°03'40"	-0°51'10"
max. Earth dist.	8803 Aug 11 04:11	25°02'00"	30.78503 AU	min. Earth dist.	8810 Feb 25 13:12	9°03'41"	28.80104 AU
morning rise	8803 Aug 26 07:08	25°02'34"		direct	8810 May 14 23:53	8°03'16"	
retrograde	8803 Nov 25 04:49	27°02'33"		evening set	8810 Aug 10 06:30	10°03'10"	
min. Earth dist.	8804 Feb 12 09:55	26°02'09"	28.78565 AU				
opposition	8804 Feb 13 03:52	26°02'08"	-1°00'33"	conjunction	8810 Aug 26 05:20	10°03'46"	-0°47'01"
direct	8804 May 01 00:12	24°02'44"		minimum elong	8810 Aug 26 05:20	10°03'46"	0°47'06"
evening set	8804 Jul 27 01:22	26°02'38"		max. Earth dist.	8810 Aug 26 23:04	10°03'48"	30.80134 AU
				morning rise	8810 Sep 11 06:35	11°03'22"	
conjunction	8804 Aug 11 21:32	27°02'14"	-0°56'01"	retrograde	8810 Dec 11 04:51	13°03'20"	
minimum elong	8804 Aug 11 21:32	27°02'14"	0°56'08"	opposition	8811 Feb 28 17:09	11°03'55"	-0°49'20"
max. Earth dist.	8804 Aug 12 16:05	27°02'15"	30.78571 AU	min. Earth dist.	8811 Feb 28 00:46	11°03'56"	28.80210 AU
morning rise	8804 Aug 27 20:37	27°02'50"		direct	8811 May 17 13:12	10°03'31"	
retrograde	8804 Nov 26 19:00	29°02'48"		evening set	8811 Aug 12 19:41	12°03'25"	
opposition	8805 Feb 14 16:10	28°02'23"	-0°59'12"				
min. Earth dist.	8805 Feb 13 22:13	28°02'24"	28.78702 AU	conjunction	8811 Aug 28 18:48	13°03'01"	-0°45'15"
direct	8805 May 03 10:20	26°02'59"		minimum elong	8811 Aug 28 18:48	13°03'01"	0°45'21"
evening set	8805 Jul 29 13:55	28°02'53"		max. Earth dist.	8811 Aug 29 11:11	13°03'03"	30.80211 AU
				morning rise	8811 Sep 13 20:34	13°03'37"	
conjunction	8805 Aug 14 10:36	29°02'29"	-0°54'43"	retrograde	8811 Dec 13 17:18	15°03'36"	
minimum elong	8805 Aug 14 10:37	29°02'29"	0°54'51"	opposition	8812 Mar 02 05:08	14°03'11"	-0°47'24"
max. Earth dist.	8805 Aug 15 06:12	29°02'31"	30.78761 AU	min. Earth dist.	8812 Mar 01 13:59	14°03'12"	28.80272 AU
	8805 Aug 28 01:10	0°03'00"		direct	8812 May 19 00:01	12°03'47"	
morning rise	8805 Aug 30 09:55	0°03'05"		evening set	8812 Aug 14 08:42	14°03'41"	
retrograde	8805 Nov 29 07:18	2°03'03"					
min. Earth dist.	8806 Feb 16 10:38	0°03'39"	28.78941 AU	conjunction	8812 Aug 30 08:25	15°03'17"	-0°43'25"
opposition	8806 Feb 17 04:20	0°03'38"	-0°57'47"	minimum elong	8812 Aug 30 08:25	15°03'17"	0°43'29"
	8806 Mar 13 01:25	30°03'02"		max. Earth dist.	8812 Aug 31 01:28	15°03'18"	30.80266 AU
direct	8806 May 05 23:02	29°02'14"		morning rise	8812 Sep 15 10:24	15°03'53"	
	8806 Jun 27 02:00	0°03'00"		retrograde	8812 Dec 15 05:13	17°03'51"	
evening set	8806 Aug 01 02:38	1°03'08"		opposition	8813 Mar 04 16:57	16°03'26"	-0°45'25"
				min. Earth dist.	8813 Mar 04 01:44	16°03'27"	28.80322 AU
conjunction	8806 Aug 16 23:40	1°03'44"	-0°53'20"	direct	8813 May 21 12:09	15°03'02"	
minimum elong	8806 Aug 16 23:40	1°03'44"	0°53'27"	evening set	8813 Aug 16 21:49	16°03'56"	
max. Earth dist.	8806 Aug 17 18:25	1°03'46"	30.79060 AU				
morning rise	8806 Sep 01 23:30	2°03'20"		conjunction	8813 Sep 01 21:44	17°03'32"	-0°41'32"
retrograde	8806 Dec 01 22:24	4°03'19"		minimum elong	8813 Sep 01 21:44	17°03'32"	0°41'36"
opposition	8807 Feb 19 16:31	2°03'53"	-0°56'15"	max. Earth dist.	8813 Sep 02 13:25	17°03'33"	30.80340 AU
min. Earth dist.	8807 Feb 18 22:21	2°03'55"	28.79272 AU	morning rise	8813 Sep 18 00:12	18°03'08"	
direct	8807 May 08 11:03	1°03'30"		retrograde	8813 Dec 17 18:06	20°03'06"	
evening set	8807 Aug 03 15:23	3°03'24"		opposition	8814 Mar 07 04:42	18°03'41"	-0°43'22"
				min. Earth dist.	8814 Mar 06 13:52	18°03'42"	28.80435 AU
conjunction	8807 Aug 19 12:54	3°03'59"	-0°51'52"	direct	8814 May 23 22:35	17°03'17"	
minimum elong	8807 Aug 19 12:54	3°03'59"	0°51'59"	evening set	8814 Aug 19 10:47	19°03'11"	
max. Earth dist.	8807 Aug 20 08:02	4°03'01"	30.79401 AU				
morning rise	8807 Sep 04 13:04	4°03'35"		conjunction	8814 Sep 04 11:14	19°03'47"	-0°39'35"
retrograde	8807 Dec 04 11:08	6°03'34"		minimum elong	8814 Sep 04 11:14	19°03'47"	0°39'38"
min. Earth dist.	8808 Feb 21 11:51	5°03'10"	28.79610 AU	max. Earth dist.	8814 Sep 05 03:46	19°03'48"	30.80494 AU
opposition	8808 Feb 22 04:47	5°03'09"	-0°54'39"	morning rise	8814 Sep 20 13:52	20°03'23"	
direct	8808 May 09 22:44	3°03'45"		retrograde	8814 Dec 20 05:13	22°03'21"	
evening set	8808 Aug 05 04:25	5°03'39"		opposition	8815 Mar 09 16:23	20°03'56"	-0°41'14"
				min. Earth dist.	8815 Mar 09 01:54	20°03'57"	28.80640 AU
conjunction	8808 Aug 21 02:22	6°03'15"	-0°50'20"	direct	8815 May 26 11:04	19°03'32"	
minimum elong	8808 Aug 21 02:22	6°03'15"	0°50'25"	evening set	8815 Aug 21 23:48	21°03'26"	
max. Earth dist.	8808 Aug 21 20:55	6°03'17"	30.79731 AU				
morning rise	8808 Sep 06 02:55	6°03'51"		conjunction	8815 Sep 07 00:34	22°03'02"	-0°37'34"
retrograde	8808 Dec 06 02:18	8°03'49"		minimum elong	8815 Sep 07 00:34	22°03'02"	0°37'37"
opposition	8809 Feb 23 16:47	7°03'24"	-0°52'57"	max. Earth dist.	8815 Sep 07 16:02	22°03'03"	30.80772 AU
min. Earth dist.	8809 Feb 22 23:25	7°03'26"	28.79904 AU	morning rise	8815 Sep 23 03:40	22°03'38"	
direct	8809 May 12 12:02	6°03'01"		retrograde	8815 Dec 22 19:08	24°03'36"	
evening set	8809 Aug 07 17:35	7°03'55"		opposition	8816 Mar 11 03:58	23°03'10"	-0°39'04"
				min. Earth dist.	8816 Mar 10 13:04	23°03'12"	28.80986 AU
conjunction	8809 Aug 23 15:53	8°03'30"	-0°48'42"	direct	8816 May 27 22:37	21°03'46"	

evening set	8816 Aug 23 12:55	23° 17 41'00		max. Earth dist.	8822 Sep 23 12:00	7° 15 47'54	30.85620 AU
				morning rise	8822 Oct 09 04:39	8° 15 22'54	
conjunction	8816 Sep 08 14:06	24° 17 16'52	-0°35'31	retrograde	8823 Jan 07 14:29	10° 15 20'15	
minimum elong	8816 Sep 08 14:06	24° 17 16'52	0°35'32	opposition	8823 Mar 27 12:07	8° 15 55'34	-0°22'19
max. Earth dist.	8816 Sep 09 06:01	24° 17 18'21	30.81180 AU	min. Earth dist.	8823 Mar 27 00:45	8° 15 56'22	28.85966 AU
morning rise	8816 Sep 24 17:24	24° 17 52'57		direct	8823 Jun 13 10:13	7° 15 31'31	
retrograde	8816 Dec 24 06:58	26° 17 50'48		evening set	8823 Sep 09 10:04	9° 15 25'46	
opposition	8817 Mar 13 15:29	25° 17 25'47	-0°36'49				
min. Earth dist.	8817 Mar 13 01:34	25° 17 26'46	28.81468 AU	conjunction	8823 Sep 25 13:37	10° 15 01'44	-0°19'43
direct	8817 May 30 09:45	24° 17 01'43		minimum elong	8823 Sep 25 13:37	10° 15 01'44	0°19'41
evening set	8817 Aug 26 02:02	25° 17 55'49		max. Earth dist.	8823 Sep 26 02:06	10° 15 02'54	30.86260 AU
				morning rise	8823 Oct 11 18:35	10° 15 37'52	
conjunction	8817 Sep 11 03:34	26° 17 31'42	-0°33'23	retrograde	8824 Jan 10 00:47	12° 15 35'05	
minimum elong	8817 Sep 11 03:35	26° 17 31'42	0°33'25	opposition	8824 Mar 28 23:25	11° 15 10'25	-0°19'46
max. Earth dist.	8817 Sep 11 19:04	26° 17 33'09	30.81751 AU	min. Earth dist.	8824 Mar 28 12:59	11° 15 11'09	28.86562 AU
morning rise	8817 Sep 27 07:12	27° 17 07'47		direct	8824 Jun 14 22:27	9° 15 46'19	
retrograde	8817 Dec 26 21:50	29° 17 05'34		evening set	8824 Sep 10 23:40	11° 15 40'34	
opposition	8818 Mar 16 02:57	27° 17 40'36	-0°34'31				
min. Earth dist.	8818 Mar 15 12:14	27° 17 41'38	28.82106 AU	conjunction	8824 Sep 27 03:22	12° 15 16'32	-0°17'19
direct	8818 Jun 01 23:12	26° 17 16'32		minimum elong	8824 Sep 27 03:21	12° 15 16'32	0°17'16
evening set	8818 Aug 28 15:04	28° 17 10'40		max. Earth dist.	8824 Sep 27 14:04	12° 15 17'31	30.86842 AU
				morning rise	8824 Oct 13 08:39	12° 15 52'39	
conjunction	8818 Sep 13 16:55	28° 17 46'34	-0°31'13	retrograde	8825 Jan 11 13:55	14° 15 49'44	
minimum elong	8818 Sep 13 16:55	28° 17 46'34	0°31'14	opposition	8825 Mar 31 10:29	13° 15 25'04	-0°17'11
max. Earth dist.	8818 Sep 14 08:09	28° 17 48'00	30.82452 AU	min. Earth dist.	8825 Mar 31 00:08	13° 15 25'48	28.87132 AU
morning rise	8818 Sep 29 20:51	29° 17 22'41		direct	8825 Jun 17 09:29	12° 15 00'54	
	8818 Oct 17 15:18	0° 15		evening set	8825 Sep 13 13:05	13° 15 55'09	
retrograde	8818 Dec 29 10:59	1° 15 20'24					
	8819 Mar 15 22:14	30° 15		conjunction	8825 Sep 29 17:06	14° 15 31'07	-0°14'54
opposition	8819 Mar 18 14:33	29° 15 55'28	-0°32'10	minimum elong	8825 Sep 29 17:06	14° 15 31'07	0°14'51
min. Earth dist.	8819 Mar 18 01:07	29° 15 56'25	28.82866 AU	behind sun begin	8825 Sep 29 14:46	14° 15 30'54	
direct	8819 Jun 04 11:02	28° 15 31'26		behind sun end	8825 Sep 29 19:26	14° 15 31'19	
	8819 Aug 19 03:59	0° 15		max. Earth dist.	8825 Sep 30 03:55	14° 15 32'07	30.87406 AU
evening set	8819 Aug 31 04:17	0° 15 25'36		morning rise	8825 Oct 15 22:26	15° 15 07'14	
				retrograde	8826 Jan 14 00:23	17° 15 04'10	
conjunction	8819 Sep 16 06:35	1° 15 01'32	-0°29'00	opposition	8826 Apr 02 21:40	15° 15 39'30	-0°14'35
minimum elong	8819 Sep 16 06:35	1° 15 01'32	0°29'01	min. Earth dist.	8826 Apr 02 12:39	15° 15 40'08	28.87708 AU
max. Earth dist.	8819 Sep 16 21:53	1° 15 02'57	30.83263 AU	direct	8826 Jun 19 20:49	14° 15 15'17	
morning rise	8819 Oct 02 10:43	1° 15 37'39		evening set	8826 Sep 16 02:20	16° 15 09'31	
retrograde	8820 Jan 01 00:16	3° 15 35'17					
min. Earth dist.	8820 Mar 19 11:57	2° 15 11'25	28.83694 AU	conjunction	8826 Oct 02 06:36	16° 15 45'28	-0°12'28
opposition	8820 Mar 20 01:50	2° 15 10'26	-0°29'46	minimum elong	8826 Oct 02 06:36	16° 15 45'28	0°12'24
direct	8820 Jun 05 23:57	0° 15 46'26		behind sun begin	8826 Oct 02 02:23	16° 15 45'06	
evening set	8820 Sep 01 17:46	2° 15 40'38		behind sun end	8826 Oct 02 10:49	16° 15 45'51	
				max. Earth dist.	8826 Oct 02 16:34	16° 15 46'23	30.88016 AU
conjunction	8820 Sep 17 20:15	3° 15 16'35	-0°26'44	morning rise	8826 Oct 18 12:10	17° 15 21'35	
minimum elong	8820 Sep 17 20:15	3° 15 16'35	0°26'43	retrograde	8827 Jan 16 13:33	19° 15 18'23	
max. Earth dist.	8820 Sep 18 10:08	3° 15 17'52	30.84097 AU	opposition	8827 Apr 05 08:37	17° 15 53'43	-0°11'58
morning rise	8820 Oct 04 00:44	3° 15 52'42		min. Earth dist.	8827 Apr 04 23:09	17° 15 54'23	28.88346 AU
retrograde	8821 Jan 02 13:44	5° 15 50'16		direct	8827 Jun 22 10:20	16° 15 29'26	
opposition	8821 Mar 22 13:20	4° 15 25'29	-0°27'19	evening set	8827 Sep 18 15:46	18° 15 23'40	
min. Earth dist.	8821 Mar 22 00:50	4° 15 26'22	28.84525 AU				
direct	8821 Jun 08 10:49	3° 15 01'29		conjunction	8827 Oct 04 20:14	18° 15 59'38	-0°10'01
evening set	8821 Sep 04 07:05	4° 15 55'44		minimum elong	8827 Oct 04 20:14	18° 15 59'38	0°09'57
				behind sun begin	8827 Oct 04 14:57	18° 15 59'10	
conjunction	8821 Sep 20 10:01	5° 15 31'41	-0°24'25	behind sun end	8827 Oct 05 01:32	19° 15 00'07	
minimum elong	8821 Sep 20 10:01	5° 15 31'41	0°24'25	max. Earth dist.	8827 Oct 05 05:46	19° 15 00'31	30.88691 AU
max. Earth dist.	8821 Sep 21 00:12	5° 15 33'00	30.84898 AU	morning rise	8827 Oct 21 01:56	19° 15 35'44	
morning rise	8821 Oct 06 14:33	6° 15 07'49		retrograde	8828 Jan 19 01:06	21° 15 32'24	
retrograde	8822 Jan 05 02:22	8° 15 05'17		opposition	8828 Apr 06 19:33	20° 15 07'45	-0°09'20
opposition	8822 Mar 25 00:44	6° 15 40'33	-0°24'50	min. Earth dist.	8828 Apr 06 11:30	20° 15 08'19	28.89080 AU
min. Earth dist.	8822 Mar 24 12:30	6° 15 41'25	28.85281 AU	direct	8828 Jun 23 21:57	18° 15 43'25	
direct	8822 Jun 10 23:22	5° 15 16'33		evening set	8828 Sep 20 05:07	20° 15 37'41	
evening set	8822 Sep 06 20:41	7° 15 10'48					
				conjunction	8828 Oct 06 09:53	21° 15 13'39	-0°07'33
conjunction	8822 Sep 22 23:44	7° 15 46'46	-0°22'05	minimum elong	8828 Oct 06 09:52	21° 15 13'39	0°07'29
minimum elong	8822 Sep 22 23:45	7° 15 46'46	0°22'04	behind sun begin	8828 Oct 06 03:54	21° 15 13'07	

behind sun end	8828 Oct 06 15:51	21° <u>♂</u> 14'11		max. Earth dist.	8833 Oct 18 11:31	2° <u>♂</u> 24'04	30.95141 AU
max. Earth dist.	8828 Oct 06 19:17	21° <u>♂</u> 14'30	30.89488 AU	morning rise	8833 Nov 03 11:45	2° <u>♂</u> 59'36	
morning rise	8828 Oct 22 15:37	21° <u>♂</u> 49'44		retrograde	8834 Feb 01 03:24	4° <u>♂</u> 55'38	
retrograde	8829 Jan 20 14:02	23° <u>♂</u> 46'16		opposition	8834 Apr 20 12:28	3° <u>♂</u> 31'29	0°06'38
opposition	8829 Apr 09 06:22	22° <u>♂</u> 21'40	-0°06'41	min. Earth dist.	8834 Apr 20 06:39	3° <u>♂</u> 31'54	28.95731 AU
min. Earth dist.	8829 Apr 08 21:42	22° <u>♂</u> 22'16	28.89935 AU	direct	8834 Jul 07 19:10	2° <u>♂</u> 07'14	
direct	8829 Jun 26 11:07	20° <u>♂</u> 57'18		evening set	8834 Oct 04 13:44	4° <u>♂</u> 01'46	
evening set	8829 Sep 22 18:25	22° <u>♂</u> 51'35					
conjunction	8829 Oct 08 23:13	23° <u>♂</u> 27'33	-0°05'05	conjunction	8834 Oct 20 19:21	4° <u>♂</u> 37'45	0°07'29
minimum elong	8829 Oct 08 23:13	23° <u>♂</u> 27'33	0°05'00	minimum elong	8834 Oct 20 19:22	4° <u>♂</u> 37'45	0°07'37
behind sun begin	8829 Oct 08 16:49	23° <u>♂</u> 26'59		behind sun begin	8834 Oct 20 13:24	4° <u>♂</u> 37'13	
behind sun end	8829 Oct 09 05:37	23° <u>♂</u> 28'07		behind sun end	8834 Oct 21 01:19	4° <u>♂</u> 38'16	
max. Earth dist.	8829 Oct 09 07:34	23° <u>♂</u> 28'18	30.90410 AU	max. Earth dist.	8834 Oct 21 01:01	4° <u>♂</u> 38'15	30.96284 AU
morning rise	8829 Oct 25 05:08	24° <u>♂</u> 03'38		morning rise	8834 Nov 06 01:19	5° <u>♂</u> 13'48	
retrograde	8830 Jan 23 02:59	26° <u>♂</u> 00'03		retrograde	8835 Feb 03 13:24	7° <u>♂</u> 09'43	
opposition	8830 Apr 11 17:20	24° <u>♂</u> 35'30	-0°04'01	opposition	8835 Apr 22 23:24	5° <u>♂</u> 45'39	0°09'17
min. Earth dist.	8830 Apr 11 09:39	24° <u>♂</u> 36'02	28.90938 AU	min. Earth dist.	8835 Apr 22 19:17	5° <u>♂</u> 45'57	28.96821 AU
direct	8830 Jun 28 22:17	23° <u>♂</u> 11'09		direct	8835 Jul 10 06:08	4° <u>♂</u> 21'24	
evening set	8830 Sep 25 07:41	25° <u>♂</u> 05'27		evening set	8835 Oct 07 03:24	6° <u>♂</u> 15'58	
conjunction	8830 Oct 11 12:50	25° <u>♂</u> 41'26	-0°02'36	conjunction	8835 Oct 23 09:06	6° <u>♂</u> 51'56	0°09'57
minimum elong	8830 Oct 11 12:50	25° <u>♂</u> 41'26	0°02'30	minimum elong	8835 Oct 23 09:06	6° <u>♂</u> 51'56	0°10'05
behind sun begin	8830 Oct 11 06:16	25° <u>♂</u> 40'51		behind sun begin	8835 Oct 23 03:51	6° <u>♂</u> 51'28	
behind sun end	8830 Oct 11 19:24	25° <u>♂</u> 42'01		behind sun end	8835 Oct 23 14:20	6° <u>♂</u> 52'24	
max. Earth dist.	8830 Oct 11 21:45	25° <u>♂</u> 42'14	30.91486 AU	max. Earth dist.	8835 Oct 23 13:11	6° <u>♂</u> 52'17	30.97327 AU
morning rise	8830 Oct 27 18:41	26° <u>♂</u> 17'30		morning rise	8835 Nov 08 15:07	7° <u>♂</u> 27'58	
retrograde	8831 Jan 25 15:13	28° <u>♂</u> 13'48		retrograde	8836 Feb 06 01:51	9° <u>♂</u> 23'46	
opposition	8831 Apr 14 04:04	26° <u>♂</u> 49'21	-0°01'21	opposition	8836 Apr 24 09:59	7° <u>♂</u> 59'46	0°11'55
min. Earth dist.	8831 Apr 13 20:22	26° <u>♂</u> 49'54	28.92067 AU	min. Earth dist.	8836 Apr 24 05:54	8° <u>♂</u> 00'03	28.97804 AU
direct	8831 Jul 01 10:53	25° <u>♂</u> 25'01		direct	8836 Jul 11 19:20	6° <u>♂</u> 35'28	
evening set	8831 Sep 27 21:10	27° <u>♂</u> 19'23		evening set	8836 Oct 08 17:02	8° <u>♂</u> 30'04	
conjunction	8831 Oct 14 02:22	27° <u>♂</u> 55'21	-0°00'02	conjunction	8836 Oct 24 22:47	9° <u>♂</u> 06'02	0°12'23
minimum elong	8831 Oct 14 02:21	27° <u>♂</u> 55'21	0°00'05	minimum elong	8836 Oct 24 22:47	9° <u>♂</u> 06'02	0°12'31
behind sun begin	8831 Oct 13 20:11	27° <u>♂</u> 54'49		behind sun begin	8836 Oct 24 18:38	9° <u>♂</u> 05'40	
behind sun end	8831 Oct 14 08:30	27° <u>♂</u> 55'54		behind sun end	8836 Oct 25 02:56	9° <u>♂</u> 06'24	
max. Earth dist.	8831 Oct 14 09:41	27° <u>♂</u> 56'01	30.92674 AU	max. Earth dist.	8836 Oct 25 02:01	9° <u>♂</u> 06'19	30.98254 AU
asc. node	8831 Oct 19 02:47	28° <u>♂</u> 06'35		morning rise	8836 Nov 10 04:43	9° <u>♂</u> 42'02	
morning rise	8831 Oct 30 08:26	28° <u>♂</u> 31'26		retrograde	8837 Feb 07 12:47	11° <u>♂</u> 37'42	
retrograde	8831 Dec 18 00:22	0° <u>♂</u>		opposition	8837 Apr 26 20:49	10° <u>♂</u> 13'44	0°14'31
opposition	8832 Jan 28 03:28	0° <u>♂</u> 27'39		min. Earth dist.	8837 Apr 26 18:33	10° <u>♂</u> 13'54	28.98696 AU
min. Earth dist.	8832 Mar 09 20:07	30° <u>♂</u> 17	0°01'19	direct	8837 Jul 14 06:33	8° <u>♂</u> 49'24	
direct	8832 Apr 15 14:55	29° <u>♂</u> 03'17	28.93296 AU	evening set	8837 Oct 11 06:20	10° <u>♂</u> 44'01	
evening set	8832 Jul 02 21:27	27° <u>♂</u> 39'00		conjunction	8837 Oct 27 12:12	11° <u>♂</u> 19'58	0°14'49
	8832 Sep 29 10:37	29° <u>♂</u> 33'25		minimum elong	8837 Oct 27 12:12	11° <u>♂</u> 19'58	0°14'58
	8832 Oct 11 11:18	0° <u>♂</u>		behind sun begin	8837 Oct 27 10:01	11° <u>♂</u> 19'46	
conjunction	8832 Oct 15 16:04	0° <u>♂</u> 09'24	0°02'32	behind sun end	8837 Oct 27 14:23	11° <u>♂</u> 20'09	
minimum elong	8832 Oct 15 16:04	0° <u>♂</u> 09'24	0°02'39	max. Earth dist.	8837 Oct 27 14:50	11° <u>♂</u> 20'12	30.99119 AU
behind sun begin	8832 Oct 15 09:30	0° <u>♂</u> 08'49		morning rise	8837 Nov 12 18:03	11° <u>♂</u> 55'57	
behind sun end	8832 Oct 15 22:38	0° <u>♂</u> 09'59		retrograde	8838 Feb 10 01:11	13° <u>♂</u> 51'28	
max. Earth dist.	8832 Oct 15 23:50	0° <u>♂</u> 10'06	30.93914 AU	opposition	8838 Apr 29 07:22	12° <u>♂</u> 27'32	0°17'06
morning rise	8832 Oct 31 21:59	0° <u>♂</u> 45'28		min. Earth dist.	8838 Apr 29 04:53	12° <u>♂</u> 27'43	28.99531 AU
retrograde	8833 Jan 29 14:01	2° <u>♂</u> 41'35		direct	8838 Jul 16 19:54	11° <u>♂</u> 03'09	
opposition	8833 Apr 18 01:40	1° <u>♂</u> 17'21	0°03'59	evening set	8838 Oct 13 19:49	12° <u>♂</u> 57'46	
min. Earth dist.	8833 Apr 17 19:38	1° <u>♂</u> 17'46	28.94531 AU	conjunction	8838 Oct 30 01:37	13° <u>♂</u> 33'42	0°17'12
direct	8833 Jun 14 23:39	30° <u>♂</u> 17		minimum elong	8838 Oct 30 01:36	13° <u>♂</u> 33'42	0°17'22
evening set	8833 Jul 05 08:58	29° <u>♂</u> 53'05		max. Earth dist.	8838 Oct 30 02:49	13° <u>♂</u> 33'49	30.99940 AU
	8833 Jul 25 13:54	0° <u>♂</u>		morning rise	8838 Nov 15 07:28	14° <u>♂</u> 09'40	
	8833 Oct 02 00:16	1° <u>♂</u> 47'34		retrograde	8838 Dec 10 01:39	15° <u>♂</u>	
conjunction	8833 Oct 18 05:41	2° <u>♂</u> 23'33	0°05'01	opposition	8839 Feb 12 13:48	16° <u>♂</u> 05'02	
minimum elong	8833 Oct 18 05:40	2° <u>♂</u> 23'33	0°05'09	min. Earth dist.	8839 Apr 20 11:30	15° <u>♂</u>	
behind sun begin	8833 Oct 17 23:17	2° <u>♂</u> 22'58		direct	8839 May 01 17:53	14° <u>♂</u> 41'07	0°19'39
behind sun end	8833 Oct 18 12:03	2° <u>♂</u> 24'07			8839 May 01 16:48	14° <u>♂</u> 41'12	29.00360 AU
					8839 Jul 19 08:00	13° <u>♂</u> 16'41	
					8839 Oct 11 02:50	15° <u>♂</u>	

evening set	8839 Oct 16 09:09	15° \mathbb{M} 11'18		retrograde	8846 Feb 27 18:34	1° \mathbb{Z} 35'33	
				opposition	8846 May 16 18:43	0° \mathbb{Z} 12'05	0°36'25
conjunction	8839 Nov 01 15:07	15° \mathbb{M} 47'14	0°19'35	min. Earth dist.	8846 May 16 21:41	0° \mathbb{Z} 11'53	29.08088 AU
minimum elong	8839 Nov 01 15:07	15° \mathbb{M} 47'14	0°19'45		8846 May 23 23:19	30° \mathbb{R} \mathbb{M}	
max. Earth dist.	8839 Nov 01 16:30	15° \mathbb{M} 47'21	31.00777 AU	direct	8846 Aug 03 16:28	28° \mathbb{M} 47'34	
morning rise	8839 Nov 17 20:46	16° \mathbb{M} 23'10			8846 Oct 11 14:05	0° \mathbb{Z}	
retrograde	8840 Feb 15 01:10	18° \mathbb{M} 18'23		evening set	8846 Nov 01 05:47	0° \mathbb{Z} 42'23	
opposition	8840 May 03 04:20	16° \mathbb{M} 54'29	0°22'10				
min. Earth dist.	8840 May 03 03:26	16° \mathbb{M} 54'33	29.01208 AU	conjunction	8846 Nov 17 11:17	1° \mathbb{Z} 18'12	0°35'07
direct	8840 Jul 20 21:52	15° \mathbb{M} 30'00		minimum elong	8846 Nov 17 11:17	1° \mathbb{Z} 18'12	0°35'19
evening set	8840 Oct 17 22:31	17° \mathbb{M} 24'38		max. Earth dist.	8846 Nov 17 07:58	1° \mathbb{Z} 17'54	31.08671 AU
				morning rise	8846 Dec 03 15:49	1° \mathbb{Z} 53'58	
conjunction	8840 Nov 03 04:17	18° \mathbb{M} 00'32	0°21'55	retrograde	8847 Mar 02 06:19	3° \mathbb{Z} 48'20	
minimum elong	8840 Nov 03 04:17	18° \mathbb{M} 00'32	0°22'05	opposition	8847 May 19 04:59	2° \mathbb{Z} 24'57	0°38'37
max. Earth dist.	8840 Nov 03 04:04	18° \mathbb{M} 00'31	31.01655 AU	min. Earth dist.	8847 May 19 07:56	2° \mathbb{Z} 24'45	29.09243 AU
morning rise	8840 Nov 19 09:57	18° \mathbb{M} 36'27		direct	8847 Aug 06 05:30	1° \mathbb{Z} 00'25	
retrograde	8841 Feb 16 12:43	20° \mathbb{M} 31'30		evening set	8847 Nov 03 19:11	2° \mathbb{Z} 55'18	
opposition	8841 May 05 14:45	19° \mathbb{M} 07'39	0°24'39				
min. Earth dist.	8841 May 05 14:25	19° \mathbb{M} 07'40	29.02137 AU	conjunction	8847 Nov 20 00:28	3° \mathbb{Z} 31'06	0°37'09
direct	8841 Jul 23 08:55	17° \mathbb{M} 43'07		minimum elong	8847 Nov 20 00:28	3° \mathbb{Z} 31'06	0°37'22
evening set	8841 Oct 20 11:41	19° \mathbb{M} 37'45		max. Earth dist.	8847 Nov 19 19:29	3° \mathbb{Z} 30'38	31.09761 AU
				morning rise	8847 Dec 06 04:49	4° \mathbb{Z} 06'50	
conjunction	8841 Nov 05 17:35	20° \mathbb{M} 13'39	0°24'13	retrograde	8848 Mar 03 18:21	6° \mathbb{Z} 01'05	
minimum elong	8841 Nov 05 17:35	20° \mathbb{M} 13'39	0°24'24	opposition	8848 May 20 15:28	4° \mathbb{Z} 37'45	0°40'46
max. Earth dist.	8841 Nov 05 18:01	20° \mathbb{M} 13'41	31.02627 AU	min. Earth dist.	8848 May 20 19:58	4° \mathbb{Z} 37'27	29.10282 AU
morning rise	8841 Nov 21 22:56	20° \mathbb{M} 49'31		direct	8848 Aug 07 17:09	3° \mathbb{Z} 13'12	
retrograde	8842 Feb 18 23:09	22° \mathbb{M} 44'26		evening set	8848 Nov 05 08:18	5° \mathbb{Z} 08'07	
opposition	8842 May 08 01:11	21° \mathbb{M} 20'38	0°27'06				
min. Earth dist.	8842 May 08 01:28	21° \mathbb{M} 20'37	29.03165 AU	conjunction	8848 Nov 21 13:33	5° \mathbb{Z} 43'54	0°39'08
direct	8842 Jul 25 21:13	19° \mathbb{M} 56'05		minimum elong	8848 Nov 21 13:33	5° \mathbb{Z} 43'54	0°39'20
evening set	8842 Oct 23 00:52	21° \mathbb{M} 50'43		max. Earth dist.	8848 Nov 21 08:27	5° \mathbb{Z} 43'25	31.10735 AU
				morning rise	8848 Dec 07 17:31	6° \mathbb{Z} 19'35	
conjunction	8842 Nov 08 06:37	22° \mathbb{M} 26'36	0°26'29	retrograde	8849 Mar 06 05:17	8° \mathbb{Z} 13'44	
minimum elong	8842 Nov 08 06:37	22° \mathbb{M} 26'36	0°26'40	opposition	8849 May 23 01:50	6° \mathbb{Z} 50'27	0°42'50
max. Earth dist.	8842 Nov 08 05:29	22° \mathbb{M} 26'30	31.03722 AU	min. Earth dist.	8849 May 23 06:48	6° \mathbb{Z} 50'06	29.11191 AU
morning rise	8842 Nov 24 12:01	23° \mathbb{M} 02'28		direct	8849 Aug 10 06:52	5° \mathbb{Z} 25'53	
retrograde	8843 Feb 21 11:32	24° \mathbb{M} 57'15		evening set	8849 Nov 07 21:31	7° \mathbb{Z} 20'48	
opposition	8843 May 10 11:33	23° \mathbb{M} 33'31	0°29'30				
min. Earth dist.	8843 May 10 11:36	23° \mathbb{M} 33'30	29.04318 AU	conjunction	8849 Nov 24 02:28	7° \mathbb{Z} 56'33	0°41'02
direct	8843 Jul 28 07:55	22° \mathbb{M} 08'57		minimum elong	8849 Nov 24 02:27	7° \mathbb{Z} 56'33	0°41'16
evening set	8843 Oct 25 14:06	24° \mathbb{M} 03'38		max. Earth dist.	8849 Nov 23 19:26	7° \mathbb{Z} 55'55	31.11598 AU
				morning rise	8849 Dec 10 06:19	8° \mathbb{Z} 32'14	
conjunction	8843 Nov 10 19:54	24° \mathbb{M} 39'30	0°28'43	retrograde	8850 Mar 08 17:07	10° \mathbb{Z} 26'15	
minimum elong	8843 Nov 10 19:54	24° \mathbb{M} 39'30	0°28'54	opposition	8850 May 25 12:07	9° \mathbb{Z} 03'00	0°44'51
max. Earth dist.	8843 Nov 10 19:03	24° \mathbb{M} 39'25	31.04919 AU	min. Earth dist.	8850 May 25 17:54	9° \mathbb{Z} 02'36	29.12023 AU
morning rise	8843 Nov 27 00:59	25° \mathbb{M} 15'20		direct	8850 Aug 12 18:00	7° \mathbb{Z} 38'23	
retrograde	8844 Feb 23 20:28	27° \mathbb{M} 10'00		evening set	8850 Nov 10 10:25	9° \mathbb{Z} 33'20	
opposition	8844 May 11 21:54	25° \mathbb{M} 46'21	0°31'51				
min. Earth dist.	8844 May 11 23:21	25° \mathbb{M} 46'15	29.05555 AU	conjunction	8850 Nov 26 15:24	10° \mathbb{Z} 09'04	0°42'54
direct	8844 Jul 29 18:44	24° \mathbb{M} 21'48		minimum elong	8850 Nov 26 15:24	10° \mathbb{Z} 09'04	0°43'07
evening set	8844 Oct 27 03:23	26° \mathbb{M} 16'32		max. Earth dist.	8850 Nov 26 08:41	10° \mathbb{Z} 08'27	31.12388 AU
				morning rise	8850 Dec 12 18:52	10° \mathbb{Z} 44'42	
conjunction	8844 Nov 12 09:02	26° \mathbb{M} 52'23	0°30'54	retrograde	8851 Mar 11 03:26	12° \mathbb{Z} 38'34	
minimum elong	8844 Nov 12 09:02	26° \mathbb{M} 52'23	0°31'05	opposition	8851 May 27 22:25	11° \mathbb{Z} 15'22	0°46'48
max. Earth dist.	8844 Nov 12 07:00	26° \mathbb{M} 52'12	31.06194 AU	min. Earth dist.	8851 May 28 05:15	11° \mathbb{Z} 14'54	29.12780 AU
morning rise	8844 Nov 28 14:02	27° \mathbb{M} 28'12		direct	8851 Aug 15 06:59	9° \mathbb{Z} 50'43	
retrograde	8845 Feb 25 08:06	29° \mathbb{M} 22'46		evening set	8851 Nov 12 23:29	11° \mathbb{Z} 45'40	
opposition	8845 May 14 08:13	27° \mathbb{M} 59'12	0°34'10				
min. Earth dist.	8845 May 14 09:24	27° \mathbb{M} 59'07	29.06838 AU	conjunction	8851 Nov 29 04:06	12° \mathbb{Z} 21'23	0°44'41
direct	8845 Aug 01 06:27	26° \mathbb{M} 34'40		minimum elong	8851 Nov 29 04:06	12° \mathbb{Z} 21'23	0°44'55
evening set	8845 Oct 29 16:31	28° \mathbb{M} 29'27		max. Earth dist.	8851 Nov 28 19:35	12° \mathbb{Z} 20'36	31.13136 AU
				morning rise	8851 Dec 15 07:27	12° \mathbb{Z} 56'59	
conjunction	8845 Nov 14 22:04	29° \mathbb{M} 05'17	0°33'02	retrograde	8852 Mar 12 15:14	14° \mathbb{Z} 50'44	
minimum elong	8845 Nov 14 22:04	29° \mathbb{M} 05'17	0°33'14	opposition	8852 May 29 08:30	13° \mathbb{Z} 27'33	0°48'40
max. Earth dist.	8845 Nov 14 19:33	29° \mathbb{M} 05'03	31.07459 AU	min. Earth dist.	8852 May 29 15:15	13° \mathbb{Z} 27'05	29.13531 AU
morning rise	8845 Dec 01 02:48	29° \mathbb{M} 41'05		direct	8852 Aug 16 18:17	12° \mathbb{Z} 02'51	
	8845 Dec 10 00:09	0° \mathbb{Z}		evening set	8852 Nov 14 12:15	13° \mathbb{Z} 57'49	

conjunction	8852 Nov 30 16:48	14° \mathring{A} 33'30	0°46'24	opposition	8859 Jun 14 07:47	28° \mathring{A} 50'19	0°59'38
minimum elong	8852 Nov 30 16:47	14° \mathring{A} 33'30	0°46'37	min. Earth dist.	8859 Jun 14 17:53	28° \mathring{A} 49'37	29.20673 AU
max. Earth dist.	8852 Nov 30 08:35	14° \mathring{A} 32'45	31.13887 AU	direct	8859 Sep 02 00:48	27° \mathring{A} 25'38	
morning rise	8852 Dec 16 19:41	15° \mathring{A} 09'05		evening set	8859 Dec 01 04:23	29° \mathring{A} 20'52	
retrograde	8853 Mar 14 23:27	17° \mathring{A} 02'42					
opposition	8853 May 31 18:47	15° \mathring{A} 39'34	0°50'28	conjunction	8859 Dec 17 07:11	29° \mathring{A} 56'23	0°56'24
min. Earth dist.	8853 Jun 01 02:49	15° \mathring{A} 39'00	29.14310 AU	minimum elong	8859 Dec 17 07:11	29° \mathring{A} 56'23	0°56'39
direct	8853 Aug 19 05:26	14° \mathring{A} 14'50		max. Earth dist.	8859 Dec 16 19:47	29° \mathring{A} 55'20	31.21144 AU
evening set	8853 Nov 17 00:49	16° \mathring{A} 09'48			8859 Dec 18 22:17	0° \mathring{B}	
				morning rise	8860 Jan 02 07:42	0° \mathring{B} 31'44	
conjunction	8853 Dec 03 05:05	16° \mathring{A} 45'27	0°48'03	retrograde	8860 Mar 30 02:58	2° \mathring{B} 24'47	
minimum elong	8853 Dec 03 05:05	16° \mathring{A} 45'27	0°48'17	opposition	8860 Jun 15 18:06	1° \mathring{B} 02'08	1°00'52
max. Earth dist.	8853 Dec 02 19:56	16° \mathring{A} 44'37	31.14708 AU	min. Earth dist.	8860 Jun 16 05:20	1° \mathring{B} 01'21	29.21662 AU
morning rise	8853 Dec 19 07:48	17° \mathring{A} 21'00			8860 Jul 27 13:14	30° \mathring{R} \mathring{A}	
retrograde	8854 Mar 17 10:01	19° \mathring{A} 14'31		direct	8860 Sep 03 14:22	29° \mathring{A} 37'28	
opposition	8854 Jun 03 04:54	17° \mathring{A} 51'25	0°52'12		8860 Oct 10 23:18	0° \mathring{B}	
min. Earth dist.	8854 Jun 03 12:18	17° \mathring{A} 50'54	29.15175 AU	evening set	8860 Dec 02 17:01	1° \mathring{B} 32'43	
direct	8854 Aug 21 16:53	16° \mathring{A} 26'39					
evening set	8854 Nov 19 13:30	18° \mathring{A} 21'38		conjunction	8860 Dec 18 19:21	2° \mathring{B} 08'12	0°57'31
				minimum elong	8860 Dec 18 19:21	2° \mathring{B} 08'12	0°57'45
conjunction	8854 Dec 05 17:33	18° \mathring{A} 57'17	0°49'38	max. Earth dist.	8860 Dec 18 06:05	2° \mathring{B} 06'59	31.22078 AU
minimum elong	8854 Dec 05 17:33	18° \mathring{A} 57'17	0°49'51	morning rise	8861 Jan 03 19:40	2° \mathring{B} 43'31	
max. Earth dist.	8854 Dec 05 08:19	18° \mathring{A} 56'26	31.15618 AU	retrograde	8861 Apr 01 14:39	4° \mathring{B} 36'29	
morning rise	8854 Dec 21 19:53	19° \mathring{A} 32'48		opposition	8861 Jun 18 04:24	3° \mathring{B} 13'53	1°02'01
retrograde	8855 Mar 19 19:32	21° \mathring{A} 26'12		min. Earth dist.	8861 Jun 18 15:32	3° \mathring{B} 13'07	29.22539 AU
opposition	8855 Jun 05 15:02	20° \mathring{A} 03'10	0°53'51	direct	8861 Sep 06 02:16	1° \mathring{B} 49'12	
min. Earth dist.	8855 Jun 05 23:43	20° \mathring{A} 02'34	29.16153 AU	evening set	8861 Dec 05 05:17	3° \mathring{B} 44'27	
direct	8855 Aug 24 01:49	18° \mathring{A} 38'24					
evening set	8855 Nov 22 02:07	20° \mathring{A} 33'26		conjunction	8861 Dec 21 07:29	4° \mathring{B} 19'55	0°58'32
				minimum elong	8861 Dec 21 07:28	4° \mathring{B} 19'55	0°58'47
conjunction	8855 Dec 08 05:58	21° \mathring{A} 09'02	0°51'08	max. Earth dist.	8861 Dec 20 18:18	4° \mathring{B} 18'42	31.22885 AU
minimum elong	8855 Dec 08 05:58	21° \mathring{A} 09'02	0°51'23	morning rise	8862 Jan 06 07:17	4° \mathring{B} 55'12	
max. Earth dist.	8855 Dec 07 20:31	21° \mathring{A} 08'10	31.16658 AU	retrograde	8862 Apr 03 23:19	6° \mathring{B} 48'03	
morning rise	8855 Dec 24 08:00	21° \mathring{A} 44'32		opposition	8862 Jun 20 14:48	5° \mathring{B} 25'30	1°03'04
retrograde	8856 Mar 21 06:05	23° \mathring{A} 37'51		min. Earth dist.	8862 Jun 21 03:32	5° \mathring{B} 24'37	29.23288 AU
opposition	8856 Jun 07 01:10	22° \mathring{A} 14'54	0°55'25	direct	8862 Sep 08 13:49	4° \mathring{B} 00'47	
min. Earth dist.	8856 Jun 07 09:16	22° \mathring{A} 14'20	29.17236 AU	evening set	8862 Dec 07 17:44	5° \mathring{B} 56'01	
direct	8856 Aug 25 14:33	20° \mathring{A} 50'09					
evening set	8856 Nov 23 14:40	22° \mathring{A} 45'13		conjunction	8862 Dec 23 19:33	6° \mathring{B} 31'28	0°59'29
				minimum elong	8862 Dec 23 19:33	6° \mathring{B} 31'28	0°59'43
conjunction	8856 Dec 09 18:10	23° \mathring{A} 20'48	0°52'34	max. Earth dist.	8862 Dec 23 05:04	6° \mathring{B} 30'07	31.23587 AU
minimum elong	8856 Dec 09 18:10	23° \mathring{A} 20'48	0°52'48	morning rise	8863 Jan 08 19:07	7° \mathring{B} 06'42	
max. Earth dist.	8856 Dec 09 07:49	23° \mathring{A} 19'51	31.17781 AU	retrograde	8863 Apr 06 09:56	8° \mathring{B} 59'27	
morning rise	8856 Dec 25 19:53	23° \mathring{A} 56'16		opposition	8863 Jun 23 00:54	7° \mathring{B} 36'55	1°04'01
retrograde	8857 Mar 23 17:26	25° \mathring{A} 49'32		min. Earth dist.	8863 Jun 23 13:20	7° \mathring{B} 36'03	29.23938 AU
opposition	8857 Jun 09 11:24	24° \mathring{A} 26'39	0°56'55	direct	8863 Sep 11 01:42	6° \mathring{B} 12'10	
min. Earth dist.	8857 Jun 09 20:30	24° \mathring{A} 26'01	29.18400 AU	evening set	8863 Dec 10 06:04	8° \mathring{B} 07'24	
direct	8857 Aug 28 01:17	23° \mathring{A} 01'56					
evening set	8857 Nov 26 03:10	24° \mathring{A} 57'04		conjunction	8863 Dec 26 07:35	8° \mathring{B} 42'49	1°00'21
				minimum elong	8863 Dec 26 07:35	8° \mathring{B} 42'49	1°00'36
conjunction	8857 Dec 12 06:32	25° \mathring{A} 32'38	0°53'56	max. Earth dist.	8863 Dec 25 16:46	8° \mathring{B} 41'26	31.24192 AU
minimum elong	8857 Dec 12 06:31	25° \mathring{A} 32'38	0°54'11	morning rise	8864 Jan 11 06:42	9° \mathring{B} 18'01	
max. Earth dist.	8857 Dec 11 20:29	25° \mathring{A} 31'42	31.18957 AU	retrograde	8864 Apr 07 19:04	11° \mathring{B} 10'40	
morning rise	8857 Dec 28 07:48	26° \mathring{A} 08'03		opposition	8864 Jun 24 11:17	9° \mathring{B} 48'09	1°04'54
retrograde	8858 Mar 26 03:58	28° \mathring{A} 01'15		min. Earth dist.	8864 Jun 25 01:11	9° \mathring{B} 47'11	29.24525 AU
opposition	8858 Jun 11 21:31	26° \mathring{A} 38'28	0°58'19	direct	8864 Sep 12 11:23	8° \mathring{B} 23'21	
min. Earth dist.	8858 Jun 12 06:58	26° \mathring{A} 37'49	29.19563 AU	evening set	8864 Dec 11 18:04	10° \mathring{B} 18'34	
direct	8858 Aug 30 13:56	25° \mathring{A} 13'46					
evening set	8858 Nov 28 15:50	27° \mathring{A} 08'58		conjunction	8864 Dec 27 19:17	10° \mathring{B} 53'57	1°01'07
				minimum elong	8864 Dec 27 19:17	10° \mathring{B} 53'57	1°01'21
conjunction	8858 Dec 14 18:47	27° \mathring{A} 44'30	0°55'12	max. Earth dist.	8864 Dec 27 04:17	10° \mathring{B} 52'33	31.24766 AU
minimum elong	8858 Dec 14 18:47	27° \mathring{A} 44'30	0°55'26	morning rise	8865 Jan 12 18:02	11° \mathring{B} 29'07	
max. Earth dist.	8858 Dec 14 07:02	27° \mathring{A} 43'25	31.20096 AU	retrograde	8865 Apr 10 04:22	13° \mathring{B} 21'40	
morning rise	8858 Dec 30 19:51	28° \mathring{A} 19'54		opposition	8865 Jun 26 21:30	11° \mathring{B} 59'10	1°05'40
	8859 Feb 28 21:51	0° \mathring{B}		min. Earth dist.	8865 Jun 27 10:54	11° \mathring{B} 58'14	29.25090 AU
retrograde	8859 Mar 28 16:12	0° \mathring{B} 13'01		direct	8865 Sep 15 00:18	10° \mathring{B} 34'20	
	8859 Apr 25 17:49	30° \mathring{R} \mathring{A}		evening set	8865 Dec 14 06:08	12° \mathring{B} 29'33	

conjunction	8865 Dec 30 06:55	13°30'45.3	1°01'48	direct	8872 Sep 30 08:36	25°35'02.5	
minimum elong	8865 Dec 30 06:55	13°30'45.3	1°02'03	evening set	8872 Dec 29 16:34	27°34'55.1	
max. Earth dist.	8865 Dec 29 15:05	13°30'32.5	31.25339 AU				
morning rise	8866 Jan 15 05:20	13°34'02		conjunction	8873 Jan 14 14:55	28°32'21.02	1°04'02
retrograde	8866 Apr 12 14:36	15°32'30		minimum elong	8873 Jan 14 14:55	28°32'21.02	1°04'14
opposition	8866 Jun 29 07:42	14°31'00	1°06'21	max. Earth dist.	8873 Jan 13 21:40	28°31'92.6	31.30781 AU
min. Earth dist.	8866 Jun 29 21:51	14°30'09.01	29.25701 AU	morning rise	8873 Jan 30 10:31	28°35'55.9	
direct	8866 Sep 17 10:23	12°34'50.8			8873 Mar 04 03:36	0°00'00.0	
evening set	8866 Dec 16 18:00	14°34'02.1		retrograde	8873 Apr 27 16:06	0°00'48.15	
					8873 Jun 23 07:24	30°00'00.0	
conjunction	8867 Jan 01 18:36	15°31'54.0	1°02'23	opposition	8873 Jul 14 08:42	29°32'26.12	1°08'23
minimum elong	8867 Jan 01 18:36	15°31'54.0	1°02'37	min. Earth dist.	8873 Jul 15 01:06	29°32'25.04	29.31124 AU
max. Earth dist.	8867 Jan 01 03:24	15°31'41.5	31.25982 AU	direct	8873 Oct 02 18:02	28°30'13.5	
morning rise	8867 Jan 17 16:32	15°35'04.6		evening set	8874 Jan 01 04:15	29°35'57.02	
retrograde	8867 Apr 15 00:15	17°34'31.0			8874 Jan 02 13:00	0°00'00.0	
opposition	8867 Jul 01 18:01	16°32'04.2	1°06'56	max. Earth dist.	8874 Jan 16 08:43	0°00'30.33	31.31320 AU
min. Earth dist.	8867 Jul 02 08:04	16°31'94.4	29.26381 AU				
direct	8867 Sep 19 22:41	14°35'55.0		conjunction	8874 Jan 17 02:16	0°00'32.11	1°03'58
evening set	8867 Dec 19 05:56	16°35'10.5		minimum elong	8874 Jan 17 02:16	0°00'32.11	1°04'12
				morning rise	8874 Feb 01 21:31	1°00'07.06	
conjunction	8868 Jan 04 06:01	17°32'26.22	1°02'54	retrograde	8874 Apr 30 01:06	2°00'59.21	
minimum elong	8868 Jan 04 06:01	17°32'26.22	1°03'08	opposition	8874 Jul 16 19:10	1°00'37.20	1°08'17
max. Earth dist.	8868 Jan 03 13:43	17°32'45.1	31.26713 AU	min. Earth dist.	8874 Jul 17 11:18	1°00'36.13	29.31579 AU
morning rise	8868 Jan 20 03:40	18°30'12.6		direct	8874 Oct 05 06:47	0°00'12.43	
retrograde	8868 Apr 16 11:56	19°35'34.8		evening set	8875 Jan 03 15:58	2°00'08.10	
opposition	8868 Jul 03 04:17	18°33'12.3	1°07'26				
min. Earth dist.	8868 Jul 03 18:16	18°33'02.5	29.27171 AU	conjunction	8875 Jan 19 13:34	2°00'43.17	1°03'50
direct	8868 Sep 21 09:18	17°30'6.33		minimum elong	8875 Jan 19 13:34	2°00'43.17	1°04'02
evening set	8868 Dec 20 17:38	19°30'14.9		max. Earth dist.	8875 Jan 18 18:50	2°00'41.33	31.31699 AU
				morning rise	8875 Feb 04 08:28	3°00'18.11	
conjunction	8869 Jan 05 17:33	19°33'7.05	1°03'18	retrograde	8875 May 02 11:13	5°00'10.24	
minimum elong	8869 Jan 05 17:33	19°33'7.05	1°03'32	opposition	8875 Jul 19 05:52	3°00'48.23	1°08'05
max. Earth dist.	8869 Jan 05 02:18	19°33'54.0	31.27546 AU	min. Earth dist.	8875 Jul 19 22:54	3°00'47.13	29.31896 AU
morning rise	8869 Jan 21 14:39	20°31'20.7		direct	8875 Oct 07 16:22	2°00'23.45	
retrograde	8869 Apr 18 22:27	22°30'42.8		evening set	8876 Jan 06 03:25	4°00'19.12	
opposition	8869 Jul 05 14:42	20°34'20.7	1°07'49	max. Earth dist.	8876 Jan 21 06:30	4°00'52.36	31.31947 AU
min. Earth dist.	8869 Jul 06 05:17	20°34'10.7	29.28035 AU				
direct	8869 Sep 23 22:10	19°31'7.20		conjunction	8876 Jan 22 00:45	4°00'54.17	1°03'36
evening set	8869 Dec 23 05:21	21°31'23.9		minimum elong	8876 Jan 22 00:45	4°00'54.17	1°03'49
				morning rise	8876 Feb 06 19:09	5°00'29.09	
conjunction	8870 Jan 08 04:45	21°34'7.54	1°03'37	retrograde	8876 May 03 20:27	7°00'21.19	
minimum elong	8870 Jan 08 04:45	21°34'7.54	1°03'52	opposition	8876 Jul 20 16:33	5°00'59.19	1°07'47
max. Earth dist.	8870 Jan 07 12:18	21°34'6.22	31.28439 AU	min. Earth dist.	8876 Jul 21 09:49	5°00'58.07	29.32076 AU
morning rise	8870 Jan 24 01:41	22°32'22.55		direct	8876 Oct 09 04:16	4°00'34.40	
retrograde	8870 Apr 21 10:19	24°31'51.4		evening set	8877 Jan 07 14:53	6°00'30.04	
opposition	8870 Jul 08 00:59	22°35'25.9	1°08'07				
min. Earth dist.	8870 Jul 08 15:04	22°35'20.0	29.28930 AU	conjunction	8877 Jan 23 11:42	7°00'05.08	1°03'17
direct	8870 Sep 26 09:39	21°32'8.15		minimum elong	8877 Jan 23 11:42	7°00'05.08	1°03'28
evening set	8870 Dec 25 17:05	23°32'33.7		max. Earth dist.	8877 Jan 22 16:11	7°00'03.19	31.32089 AU
				morning rise	8877 Feb 08 05:53	7°00'39.58	
conjunction	8871 Jan 10 16:16	23°35'58.50	1°03'51	retrograde	8877 May 06 07:50	9°00'32.06	
minimum elong	8871 Jan 10 16:16	23°35'58.50	1°04'04	opposition	8877 Jul 23 03:08	8°00'10.04	1°07'24
max. Earth dist.	8871 Jan 10 00:15	23°35'7.21	31.29309 AU	min. Earth dist.	8877 Jul 23 20:24	8°00'08.52	29.32194 AU
morning rise	8871 Jan 26 12:38	24°33'35.0		direct	8877 Oct 11 15:23	6°00'45.22	
retrograde	8871 Apr 23 19:24	26°32'6.08		evening set	8878 Jan 10 01:58	8°00'40.45	
opposition	8871 Jul 10 11:27	25°30'35.8	1°08'18				
min. Earth dist.	8871 Jul 11 02:58	25°30'25.4	29.29770 AU	conjunction	8878 Jan 25 22:37	9°00'15.47	1°02'52
direct	8871 Sep 28 20:52	23°33'9.18		minimum elong	8878 Jan 25 22:37	9°00'15.47	1°03'04
evening set	8871 Dec 28 04:57	25°33'44.2		max. Earth dist.	8878 Jan 25 04:10	9°00'14.04	31.32180 AU
max. Earth dist.	8872 Jan 12 10:38	26°30'8.19	31.30111 AU	morning rise	8878 Feb 10 16:18	9°00'50.35	
				retrograde	8878 May 08 17:45	11°00'42.41	
conjunction	8872 Jan 13 03:39	26°30'9.54	1°03'59	opposition	8878 Jul 25 13:51	10°00'20.37	1°06'54
minimum elong	8872 Jan 13 03:39	26°30'9.54	1°04'13	min. Earth dist.	8878 Jul 26 07:45	10°00'19.23	29.32274 AU
morning rise	8872 Jan 28 23:44	26°30'44.52		direct	8878 Oct 14 04:43	8°00'55.54	
retrograde	8872 Apr 25 06:35	28°33'7.09		evening set	8879 Jan 12 13:14	10°00'51.15	
opposition	8872 Jul 11 21:59	27°31'50.4	1°08'24				
min. Earth dist.	8872 Jul 12 12:58	27°31'40.2	29.30514 AU	conjunction	8879 Jan 28 09:20	11°00'26.15	1°02'22

minimum elong	8879 Jan 28 09:20	11°26'15	1°02'32	opposition	8885 Aug 09 17:33	25°33'06	1°00'53
max. Earth dist.	8879 Jan 27 13:55	11°24'27	31.32276 AU	min. Earth dist.	8885 Aug 10 10:52	25°31'55	29.33954 AU
morning rise	8879 Feb 13 02:47	12°01'01		direct	8885 Oct 29 11:25	24°08'34	
retrograde	8879 May 11 04:49	13°53'05		evening set	8886 Jan 27 17:43	26°03'55	
opposition	8879 Jul 28 00:23	12°30'59	1°06'20				
min. Earth dist.	8879 Jul 28 17:20	12°29'49	29.32397 AU	conjunction	8886 Feb 12 11:16	26°38'46	0°56'25
direct	8879 Oct 16 16:22	11°06'15		minimum elong	8886 Feb 12 11:16	26°38'46	0°56'34
evening set	8880 Jan 15 00:16	13°01'35		max. Earth dist.	8886 Feb 11 16:09	26°37'00	31.33936 AU
				morning rise	8886 Feb 28 02:17	27°13'25	
conjunction	8880 Jan 30 20:07	13°36'34	1°01'47	retrograde	8886 May 26 03:05	29°05'36	
minimum elong	8880 Jan 30 20:07	13°36'34	1°01'58	opposition	8886 Aug 12 04:38	27°43'40	0°59'39
max. Earth dist.	8880 Jan 30 01:38	13°34'51	31.32428 AU	min. Earth dist.	8886 Aug 12 21:51	27°42'30	29.33976 AU
morning rise	8880 Feb 15 13:03	14°11'18		direct	8886 Oct 31 22:02	26°19'10	
	8880 Mar 10 12:09	15°		evening set	8887 Jan 30 04:29	28°14'30	
retrograde	8880 May 12 14:07	16°03'20					
	8880 Jul 17 23:55	15°		conjunction	8887 Feb 14 21:51	28°49'21	0°55'14
opposition	8880 Jul 29 11:16	14°41'15	1°05'39	minimum elong	8887 Feb 14 21:51	28°49'21	0°55'22
min. Earth dist.	8880 Jul 30 04:56	14°40'02	29.32597 AU	max. Earth dist.	8887 Feb 14 03:40	28°47'40	31.33877 AU
direct	8880 Oct 18 04:13	13°16'31		morning rise	8887 Mar 02 12:21	29°23'58	
	8881 Jan 10 22:43	15°			8887 Mar 19 18:53	0°	
evening set	8881 Jan 16 11:10	15°11'50		retrograde	8887 May 28 13:08	1°16'12	
max. Earth dist.	8881 Jan 31 11:54	15°45'04	31.32683 AU		8887 Aug 11 03:40	30°	
				opposition	8887 Aug 14 15:50	29°54'15	0°58'21
conjunction	8881 Feb 01 06:34	15°46'48	1°01'06	min. Earth dist.	8887 Aug 15 09:48	29°53'01	29.33839 AU
minimum elong	8881 Feb 01 06:34	15°46'48	1°01'16	direct	8887 Nov 03 10:32	28°29'46	
morning rise	8881 Feb 16 23:15	16°21'31			8888 Jan 20 18:56	0°	
retrograde	8881 May 15 01:16	18°13'33		evening set	8888 Feb 01 15:21	0°25'06	
opposition	8881 Jul 31 21:57	16°51'29	1°04'53				
min. Earth dist.	8881 Aug 01 14:27	16°50'21	29.32883 AU	conjunction	8888 Feb 17 08:12	0°59'55	0°53'59
direct	8881 Oct 20 16:44	15°26'47		minimum elong	8888 Feb 17 08:12	0°59'55	0°54'07
evening set	8882 Jan 18 22:07	17°22'06		max. Earth dist.	8888 Feb 16 12:57	0°58'07	31.33681 AU
				morning rise	8888 Mar 03 22:34	1°34'31	
conjunction	8882 Feb 03 17:12	17°57'02	1°00'20	retrograde	8888 May 30 00:44	3°26'46	
minimum elong	8882 Feb 03 17:12	17°57'02	1°00'32	opposition	8888 Aug 16 03:00	2°04'48	0°56'58
max. Earth dist.	8882 Feb 02 22:49	17°55'20	31.32998 AU	min. Earth dist.	8888 Aug 16 20:06	2°03'38	29.33576 AU
morning rise	8882 Feb 19 09:30	18°31'45		direct	8888 Nov 04 21:58	0°40'18	
retrograde	8882 May 17 10:44	20°23'47		evening set	8889 Feb 03 01:50	2°35'37	
opposition	8882 Aug 03 08:41	19°01'46	1°04'01				
min. Earth dist.	8882 Aug 04 02:05	19°00'34	29.33221 AU	conjunction	8889 Feb 18 18:29	3°10'25	0°52'39
direct	8882 Oct 23 02:43	17°37'06		minimum elong	8889 Feb 18 18:29	3°10'25	0°52'45
evening set	8883 Jan 21 09:04	19°32'26		max. Earth dist.	8889 Feb 17 23:56	3°08'42	31.33356 AU
max. Earth dist.	8883 Feb 05 09:48	20°05'41	31.33343 AU	morning rise	8889 Mar 06 08:26	3°45'01	
				retrograde	8889 Jun 01 10:22	5°37'17	
conjunction	8883 Feb 06 03:49	20°07'21	0°59'29	opposition	8889 Aug 18 14:18	4°15'17	0°55'30
minimum elong	8883 Feb 06 03:50	20°07'21	0°59'39	min. Earth dist.	8889 Aug 19 08:24	4°14'03	29.33203 AU
morning rise	8883 Feb 21 19:46	20°42'02		direct	8889 Nov 07 10:15	2°50'47	
retrograde	8883 May 19 19:48	22°34'06		evening set	8890 Feb 05 12:26	4°46'03	
opposition	8883 Aug 05 19:32	21°12'07	1°03'04	max. Earth dist.	8890 Feb 20 09:55	5°19'05	31.32958 AU
min. Earth dist.	8883 Aug 06 12:15	21°10'58	29.33541 AU				
direct	8883 Oct 25 14:53	19°47'30		conjunction	8890 Feb 21 04:41	5°20'50	0°51'14
evening set	8884 Jan 23 20:00	21°42'51		minimum elong	8890 Feb 21 04:41	5°20'50	0°51'22
				morning rise	8890 Mar 08 18:27	5°55'24	
conjunction	8884 Feb 08 14:16	22°17'45	0°58'33	retrograde	8890 Jun 03 21:36	7°47'41	
minimum elong	8884 Feb 08 14:16	22°17'45	0°58'43	opposition	8890 Aug 21 01:17	6°25'39	0°53'58
max. Earth dist.	8884 Feb 07 19:34	22°16'01	31.33635 AU	min. Earth dist.	8890 Aug 21 18:18	6°24'29	29.32776 AU
morning rise	8884 Feb 24 05:55	22°52'25		direct	8890 Nov 09 23:28	5°01'08	
retrograde	8884 May 21 06:05	24°44'32		evening set	8891 Feb 07 22:55	6°56'22	
opposition	8884 Aug 07 06:33	23°22'34	1°02'01				
min. Earth dist.	8884 Aug 07 23:44	23°21'24	29.33805 AU	conjunction	8891 Feb 23 14:51	7°31'08	0°49'46
direct	8884 Oct 27 00:02	21°58'00		minimum elong	8891 Feb 23 14:51	7°31'08	0°49'52
evening set	8885 Jan 25 06:48	23°53'21		max. Earth dist.	8891 Feb 22 20:25	7°29'25	31.32525 AU
max. Earth dist.	8885 Feb 09 06:57	24°26'34	31.33848 AU	morning rise	8891 Mar 11 04:16	8°05'42	
				retrograde	8891 Jun 06 07:05	9°58'00	
conjunction	8885 Feb 10 00:51	24°28'14	0°57'32	opposition	8891 Aug 23 12:38	8°35'55	0°52'21
minimum elong	8885 Feb 10 00:51	24°28'14	0°57'40	min. Earth dist.	8891 Aug 24 06:11	8°34'43	29.32368 AU
morning rise	8885 Feb 25 16:02	25°02'53		direct	8891 Nov 12 10:17	7°11'23	
retrograde	8885 May 23 15:28	26°55'02		evening set	8892 Feb 10 09:10	9°06'35	

max. Earth dist.	8892 Feb 25 07:20	9° ✕ 39'43	31.32149 AU	min. Earth dist.	8898 Sep 08 11:47	23° ✕ 48'01	29.30922 AU
				direct	8898 Nov 27 14:52	22° ✕ 24'50	
conjunction	8892 Feb 26 00:47	9° ✕ 41'20	0°48'13	evening set	8899 Feb 25 08:57	24° ✕ 19'57	
minimum elong	8892 Feb 26 00:47	9° ✕ 41'20	0°48'19				
morning rise	8892 Mar 12 13:53	10° ✕ 15'53		conjunction	8899 Mar 12 22:24	24° ✕ 54'37	0°35'34
retrograde	8892 Jun 07 15:30	12° ✕ 08'14		minimum elong	8899 Mar 12 22:24	24° ✕ 54'37	0°35'36
opposition	8892 Aug 24 23:54	10° ✕ 46'07	0°50'40	max. Earth dist.	8899 Mar 12 07:11	24° ✕ 53'12	31.30707 AU
min. Earth dist.	8892 Aug 25 16:11	10° ✕ 45'00	29.32026 AU	morning rise	8899 Mar 28 09:49	25° ✕ 29'07	
direct	8892 Nov 13 22:46	9° ✕ 21'37		retrograde	8899 Jun 23 19:00	27° ✕ 22'01	
evening set	8893 Feb 11 19:30	11° ✕ 16'46		opposition	8899 Sep 10 08:31	25° ✕ 59'52	0°36'55
				min. Earth dist.	8899 Sep 10 22:25	25° ✕ 58'55	29.30498 AU
conjunction	8893 Feb 27 10:42	11° ✕ 51'31	0°46'36	direct	8899 Nov 30 04:08	24° ✕ 35'40	
minimum elong	8893 Feb 27 10:42	11° ✕ 51'31	0°46'41	evening set	8900 Feb 27 19:08	26° ✕ 30'45	
max. Earth dist.	8893 Feb 26 17:02	11° ✕ 49'52	31.31861 AU				
morning rise	8893 Mar 14 23:37	12° ✕ 26'03		conjunction	8900 Mar 15 08:17	27° ✕ 05'25	0°33'32
retrograde	8893 Jun 10 01:30	14° ✕ 18'27		minimum elong	8900 Mar 15 08:17	27° ✕ 05'25	0°33'34
opposition	8893 Aug 27 11:08	12° ✕ 56'20	0°48'54	max. Earth dist.	8900 Mar 14 17:08	27° ✕ 04'00	31.30210 AU
min. Earth dist.	8893 Aug 28 03:12	12° ✕ 55'14	29.31799 AU	morning rise	8900 Mar 30 19:29	27° ✕ 39'55	
direct	8893 Nov 16 07:48	11° ✕ 31'51		retrograde	8900 Jun 26 05:17	29° ✕ 32'53	
evening set	8894 Feb 14 05:39	13° ✕ 27'00		opposition	8900 Sep 12 20:29	28° ✕ 10'41	0°34'43
				min. Earth dist.	8900 Sep 13 11:05	28° ✕ 09'42	29.29940 AU
conjunction	8894 Mar 01 20:43	14° ✕ 01'44	0°44'55	direct	8900 Dec 02 15:17	26° ✕ 46'30	
minimum elong	8894 Mar 01 20:43	14° ✕ 01'44	0°45'01	evening set	8901 Mar 02 05:19	28° ✕ 41'32	
max. Earth dist.	8894 Mar 01 04:30	14° ✕ 00'14	31.31681 AU				
morning rise	8894 Mar 17 09:15	14° ✕ 36'16		conjunction	8901 Mar 17 18:17	29° ✕ 16'11	0°31'27
retrograde	8894 Jun 12 10:45	16° ✕ 28'45		minimum elong	8901 Mar 17 18:17	29° ✕ 16'11	0°31'28
opposition	8894 Aug 29 22:30	15° ✕ 06'37	0°47'04	max. Earth dist.	8901 Mar 17 03:53	29° ✕ 14'51	31.29590 AU
min. Earth dist.	8894 Aug 30 14:08	15° ✕ 05'33	29.31641 AU	morning rise	8901 Apr 02 05:16	29° ✕ 50'41	
direct	8894 Nov 18 19:05	13° ✕ 42'12			8901 Apr 06 12:10	0° °	
evening set	8895 Feb 16 15:57	15° ✕ 37'21		retrograde	8901 Jun 28 14:36	1° ° 43'42	
				opposition	8901 Sep 15 08:12	0° ° 21'28	0°32'28
conjunction	8895 Mar 04 06:31	16° ✕ 12'04	0°43'10	min. Earth dist.	8901 Sep 15 21:56	0° ° 20'31	29.29246 AU
minimum elong	8895 Mar 04 06:31	16° ✕ 12'04	0°43'14		8901 Sep 28 15:07	30° ° 11'11	
max. Earth dist.	8895 Mar 03 13:46	16° ✕ 10'30	31.31555 AU	direct	8901 Dec 05 04:22	28° ✕ 57'16	
morning rise	8895 Mar 19 18:57	16° ✕ 46'36			8902 Feb 06 22:40	0° °	
retrograde	8895 Jun 14 22:03	18° ✕ 39'09		evening set	8902 Mar 04 15:31	0° ° 52'15	
opposition	8895 Sep 01 09:53	17° ✕ 17'03	0°45'10				
min. Earth dist.	8895 Sep 02 00:47	17° ✕ 16'02	29.31531 AU	conjunction	8902 Mar 20 04:08	1° ° 26'54	0°29'19
direct	8895 Nov 21 05:05	15° ✕ 52'41		minimum elong	8902 Mar 20 04:08	1° ° 26'54	0°29'20
evening set	8896 Feb 19 02:07	17° ✕ 47'50		max. Earth dist.	8902 Mar 19 13:08	1° ° 25'29	31.28848 AU
				morning rise	8902 Apr 04 15:03	2° ° 01'24	
conjunction	8896 Mar 05 16:32	18° ✕ 22'32	0°41'22	retrograde	8902 Jul 01 01:12	3° ° 54'28	
minimum elong	8896 Mar 05 16:32	18° ✕ 22'32	0°41'26	opposition	8902 Sep 17 20:06	2° ° 32'09	0°30'10
max. Earth dist.	8896 Mar 05 01:15	18° ✕ 21'06	31.31442 AU	min. Earth dist.	8902 Sep 18 09:48	2° ° 31'13	29.28470 AU
morning rise	8896 Mar 21 04:33	18° ✕ 57'03		direct	8902 Dec 07 14:55	1° ° 07'57	
retrograde	8896 Jun 16 08:11	20° ✕ 49'43		evening set	8903 Mar 07 01:25	3° ° 02'51	
opposition	8896 Sep 02 21:31	19° ✕ 27'36	0°43'12				
min. Earth dist.	8896 Sep 03 12:47	19° ✕ 26'34	29.31402 AU	conjunction	8903 Mar 22 13:56	3° ° 37'29	0°27'09
direct	8896 Nov 22 16:11	18° ✕ 03'18		minimum elong	8903 Mar 22 13:56	3° ° 37'29	0°27'08
evening set	8897 Feb 20 12:19	19° ✕ 58'26		max. Earth dist.	8903 Mar 22 00:27	3° ° 36'14	31.28046 AU
max. Earth dist.	8897 Mar 07 10:28	20° ✕ 31'39	31.31297 AU	morning rise	8903 Apr 07 00:31	4° ° 11'59	
				retrograde	8903 Jul 03 10:11	6° ° 05'08	
conjunction	8897 Mar 08 02:19	20° ✕ 33'08	0°39'29	opposition	8903 Sep 20 08:05	4° ° 42'44	0°27'50
minimum elong	8897 Mar 08 02:19	20° ✕ 33'08	0°39'31	min. Earth dist.	8903 Sep 20 21:17	4° ° 41'50	29.27654 AU
morning rise	8897 Mar 23 14:16	21° ✕ 07'39		direct	8903 Dec 10 03:18	3° ° 18'32	
retrograde	8897 Jun 18 20:05	23° ✕ 00'23		evening set	8904 Mar 08 11:29	5° ° 13'23	
opposition	8897 Sep 05 09:04	21° ✕ 38'17	0°41'09				
min. Earth dist.	8897 Sep 05 23:11	21° ✕ 37'19	29.31217 AU	conjunction	8904 Mar 23 23:33	5° ° 48'00	0°24'57
direct	8897 Nov 25 02:38	20° ✕ 14'01		minimum elong	8904 Mar 23 23:34	5° ° 48'00	0°24'57
evening set	8898 Feb 22 22:35	22° ✕ 09'09		max. Earth dist.	8904 Mar 23 09:46	5° ° 46'43	31.27253 AU
				morning rise	8904 Apr 08 10:09	6° ° 22'30	
conjunction	8898 Mar 10 12:22	22° ✕ 43'50	0°37'33	retrograde	8904 Jul 04 21:14	8° ° 15'43	
minimum elong	8898 Mar 10 12:23	22° ✕ 43'50	0°37'36	opposition	8904 Sep 21 20:01	6° ° 53'15	0°25'27
max. Earth dist.	8898 Mar 09 21:15	22° ✕ 42'25	31.31056 AU	min. Earth dist.	8904 Sep 22 08:06	6° ° 52'26	29.26900 AU
morning rise	8898 Mar 25 23:58	23° ✕ 18'21		direct	8904 Dec 11 13:24	5° ° 29'04	
retrograde	8898 Jun 21 06:47	25° ✕ 11'10		evening set	8905 Mar 10 21:14	7° ° 23'52	
opposition	8898 Sep 07 20:45	23° ✕ 49'03	0°39'04				

conjunction	8905 Mar 26 09:15	7°♈58'29	0°22'43	minimum elong	8911 Apr 08 19:39	21°♈04'39	0°08'35
minimum elong	8905 Mar 26 09:15	7°♈58'29	0°22'41	behind sun begin	8911 Apr 08 14:02	21°♈04'09	
max. Earth dist.	8905 Mar 25 21:15	7°♈57'22	31.26530 AU	behind sun end	8911 Apr 09 01:16	21°♈05'10	
morning rise	8905 Apr 10 19:33	8°♈32'59		max. Earth dist.	8911 Apr 08 10:16	21°♈03'47	31.23079 AU
retrograde	8905 Jul 07 07:01	10°♈26'19		morning rise	8911 Apr 24 05:22	21°♈39'13	
opposition	8905 Sep 24 08:05	9°♈03'48	0°23'03	retrograde	8911 Jul 21 04:50	23°♈33'18	
min. Earth dist.	8905 Sep 24 20:06	9°♈02'59	29.26218 AU	opposition	8911 Oct 08 09:29	22°♈10'44	0°07'56
direct	8905 Dec 14 00:18	7°♈39'39		min. Earth dist.	8911 Oct 08 17:50	22°♈10'10	29.22707 AU
evening set	8906 Mar 13 07:14	9°♈34'26		direct	8911 Dec 27 21:41	20°♈46'57	
				evening set	8912 Mar 25 19:07	22°♈41'43	
conjunction	8906 Mar 28 18:53	10°♈09'03	0°20'26				
minimum elong	8906 Mar 28 18:54	10°♈09'03	0°20'25	conjunction	8912 Apr 10 05:42	23°♈16'20	0°06'16
max. Earth dist.	8906 Mar 28 06:50	10°♈07'55	31.25904 AU	minimum elong	8912 Apr 10 05:41	23°♈16'20	0°06'12
morning rise	8906 Apr 13 05:10	10°♈43'33		behind sun begin	8912 Apr 09 23:36	23°♈15'47	
retrograde	8906 Jul 09 19:01	12°♈36'59		behind sun end	8912 Apr 10 11:47	23°♈16'53	
opposition	8906 Sep 26 19:57	11°♈14'27	0°20'36	max. Earth dist.	8912 Apr 09 21:40	23°♈15'36	31.22281 AU
min. Earth dist.	8906 Sep 27 06:16	11°♈13'45	29.25629 AU	morning rise	8912 Apr 25 15:09	23°♈50'54	
direct	8906 Dec 16 10:29	9°♈50'21		retrograde	8912 Jul 22 14:41	25°♈45'07	
evening set	8907 Mar 15 17:08	11°♈45'08		opposition	8912 Oct 09 22:01	24°♈22'30	0°05'20
				min. Earth dist.	8912 Oct 10 06:06	24°♈21'57	29.21832 AU
conjunction	8907 Mar 31 04:39	12°♈19'45	0°18'08	direct	8912 Dec 29 10:20	22°♈58'44	
minimum elong	8907 Mar 31 04:39	12°♈19'45	0°18'05	evening set	8913 Mar 28 05:16	24°♈53'28	
max. Earth dist.	8907 Mar 30 17:46	12°♈18'44	31.25348 AU				
morning rise	8907 Apr 15 14:41	12°♈54'15		conjunction	8913 Apr 12 15:33	25°♈28'05	0°03'51
retrograde	8907 Jul 12 06:19	14°♈47'49		minimum elong	8913 Apr 12 15:33	25°♈28'05	0°03'45
opposition	8907 Sep 29 08:13	13°♈25'17	0°18'07	behind sun begin	8913 Apr 12 09:12	25°♈27'31	
min. Earth dist.	8907 Sep 29 18:50	13°♈24'34	29.25102 AU	behind sun end	8913 Apr 12 21:54	25°♈28'39	
direct	8907 Dec 18 22:12	12°♈01'15		max. Earth dist.	8913 Apr 12 06:48	25°♈27'17	31.21340 AU
evening set	8908 Mar 17 02:57	13°♈56'02		morning rise	8913 Apr 28 01:08	26°♈02'40	
				retrograde	8913 Jul 25 01:45	27°♈56'59	
conjunction	8908 Apr 01 14:14	14°♈30'39	0°15'48	opposition	8913 Oct 12 10:33	26°♈34'19	0°02'45
minimum elong	8908 Apr 01 14:14	14°♈30'39	0°15'46	min. Earth dist.	8913 Oct 12 17:55	26°♈33'49	29.20818 AU
behind sun begin	8908 Apr 01 12:43	14°♈30'31		direct	8913 Dec 31 20:57	25°♈10'33	
behind sun end	8908 Apr 01 15:45	14°♈30'47		evening set	8914 Mar 30 15:18	27°♈05'13	
max. Earth dist.	8908 Apr 01 04:00	14°♈29'42	31.24845 AU				
morning rise	8908 Apr 17 00:12	15°♈05'10		conjunction	8914 Apr 15 01:36	27°♈39'51	0°01'24
retrograde	8908 Jul 13 19:12	16°♈58'52		minimum elong	8914 Apr 15 01:35	27°♈39'51	0°01'18
opposition	8908 Sep 30 20:22	15°♈36'20	0°15'36	behind sun begin	8914 Apr 14 19:10	27°♈39'16	
min. Earth dist.	8908 Oct 01 05:25	15°♈35'43	29.24592 AU	behind sun end	8914 Apr 15 07:59	27°♈40'25	
direct	8908 Dec 20 10:52	14°♈12'22		max. Earth dist.	8914 Apr 14 18:08	27°♈39'10	31.20251 AU
evening set	8909 Mar 19 12:57	16°♈07'10		morning rise	8914 Apr 30 10:57	28°♈14'26	
					8914 Jul 04 13:27	0°♈	
conjunction	8909 Apr 04 00:00	16°♈41'47	0°13'27	retrograde	8914 Jul 27 11:22	0°♈08'51	
minimum elong	8909 Apr 04 00:00	16°♈41'47	0°13'23		8914 Aug 19 23:30	30°♈	
behind sun begin	8909 Apr 03 20:15	16°♈41'26		opposition	8914 Oct 14 23:08	28°♈46'05	0°00'09
behind sun end	8909 Apr 04 03:45	16°♈42'07		min. Earth dist.	8914 Oct 15 06:48	28°♈45'33	29.19668 AU
max. Earth dist.	8909 Apr 03 14:04	16°♈40'51	31.24322 AU	desc. node	8914 Nov 05 09:05	28°♈12'10	
morning rise	8909 Apr 19 09:53	17°♈16'18		direct	8915 Jan 03 08:08	27°♈22'18	
retrograde	8909 Jul 16 06:23	19°♈10'09		evening set	8915 Apr 02 01:23	29°♈16'54	
opposition	8909 Oct 03 08:35	17°♈47'36	0°13'04				
min. Earth dist.	8909 Oct 03 18:07	17°♈46'57	29.24056 AU	conjunction	8915 Apr 17 11:25	29°♈51'32	-0°01'07
direct	8909 Dec 22 21:26	16°♈23'42		minimum elong	8915 Apr 17 11:24	29°♈51'32	0°01'14
evening set	8910 Mar 21 22:58	18°♈18'30		behind sun begin	8915 Apr 17 05:00	29°♈50'57	
				behind sun end	8915 Apr 17 17:49	29°♈52'06	
conjunction	8910 Apr 06 09:55	18°♈53'07	0°11'04	max. Earth dist.	8915 Apr 17 03:50	29°♈50'50	31.19073 AU
minimum elong	8910 Apr 06 09:54	18°♈53'07	0°11'00		8915 Apr 21 05:05	0°♈	
behind sun begin	8910 Apr 06 05:02	18°♈52'41		morning rise	8915 May 02 20:52	0°♈26'08	
behind sun end	8910 Apr 06 14:46	18°♈53'34		retrograde	8915 Jul 29 23:26	2°♈20'38	
max. Earth dist.	8910 Apr 06 01:03	18°♈52'18	31.23755 AU	opposition	8915 Oct 17 11:42	0°♈57'46	-0°02'26
morning rise	8910 Apr 21 19:36	19°♈27'40		min. Earth dist.	8915 Oct 17 17:46	0°♈57'21	29.18466 AU
retrograde	8910 Jul 18 16:51	21°♈21'38			8915 Nov 25 12:53	30°♈	
opposition	8910 Oct 05 20:56	19°♈59'05	0°10'30	direct	8916 Jan 05 19:02	29°♈33'57	
min. Earth dist.	8910 Oct 06 05:25	19°♈58'30	29.23434 AU		8916 Feb 14 20:17	0°♈	
direct	8910 Dec 25 10:38	18°♈35'15		evening set	8916 Apr 03 11:12	1°♈28'29	
evening set	8911 Mar 24 09:04	20°♈30'02					
				conjunction	8916 Apr 18 21:09	2°♈03'06	-0°03'34
conjunction	8911 Apr 08 19:39	21°♈04'39	0°08'40	minimum elong	8916 Apr 18 21:09	2°♈03'06	0°03'41

behind sun begin	8916 Apr 18 14:48	2°8'02"32		opposition	8921 Oct 30 15:38	14°8'07"39 -0°17'49
behind sun end	8916 Apr 19 03:31	2°8'03"41		min. Earth dist.	8921 Oct 30 17:18	14°8'07"32 29.12502 AU
max. Earth dist.	8916 Apr 18 14:41	2°8'02"31	31.17859 AU	direct	8922 Jan 18 18:54	12°8'43"58
morning rise	8916 May 04 06:32	2°8'37"43		evening set	8922 Apr 16 22:52	14°8'38"21
retrograde	8916 Jul 31 10:29	4°8'32"19			8922 Apr 26 14:49	15°8'
opposition	8916 Oct 19 00:24	3°8'09"20 -0°05'02				
min. Earth dist.	8916 Oct 19 06:42	3°8'08"54	29.17272 AU	conjunction	8922 May 02 08:11	15°8'13"00 -0°17'52
direct	8917 Jan 07 06:52	1°8'45"30		minimum elong	8922 May 02 08:11	15°8'13"00 0°18'01
evening set	8917 Apr 05 21:07	3°8'39"59		max. Earth dist.	8922 May 02 06:11	15°8'12"49 31.12082 AU
				morning rise	8922 May 17 17:43	15°8'47"42
conjunction	8917 Apr 21 06:58	4°8'14"36 -0°05'58		retrograde	8922 Aug 14 09:12	17°8'43"04
minimum elong	8917 Apr 21 06:58	4°8'14"36	0°06'06	opposition	8922 Nov 02 04:28	16°8'19"47 -0°20'19
behind sun begin	8917 Apr 21 00:52	4°8'14"03		min. Earth dist.	8922 Nov 02 05:09	16°8'19"44 29.11655 AU
behind sun end	8917 Apr 21 13:03	4°8'15"09			8923 Jan 05 20:34	15°8'
max. Earth dist.	8917 Apr 21 01:23	4°8'14"06	31.16700 AU	direct	8923 Jan 21 05:36	14°8'56"09
morning rise	8917 May 06 16:20	4°8'49"13			8923 Feb 05 09:21	15°8'
retrograde	8917 Aug 02 22:53	6°8'43"55		evening set	8923 Apr 19 08:59	16°8'50"31
opposition	8917 Oct 21 12:45	5°8'20"51 -0°07'37				
min. Earth dist.	8917 Oct 21 17:12	5°8'20"32	29.16149 AU	conjunction	8923 May 04 18:22	17°8'25"12 -0°20'11
direct	8918 Jan 09 18:59	3°8'57"00		minimum elong	8923 May 04 18:22	17°8'25"12 0°20'22
evening set	8918 Apr 08 07:06	5°8'51"27		max. Earth dist.	8923 May 04 17:52	17°8'25"09 31.11203 AU
				morning rise	8923 May 20 03:47	17°8'59"55
conjunction	8918 Apr 23 16:46	6°8'26"05 -0°08'22		retrograde	8923 Aug 16 19:51	19°8'55"26
minimum elong	8918 Apr 23 16:46	6°8'26"05	0°08'30	opposition	8923 Nov 04 17:32	18°8'32"07 -0°22'48
behind sun begin	8918 Apr 23 11:08	6°8'25"34		min. Earth dist.	8923 Nov 04 18:23	18°8'32"04 29.10745 AU
behind sun end	8918 Apr 23 22:24	6°8'26"35		direct	8924 Jan 23 16:48	17°8'08"33
max. Earth dist.	8918 Apr 23 11:41	6°8'25"37	31.15620 AU	evening set	8924 Apr 20 19:10	19°8'02"54
morning rise	8918 May 09 02:10	7°8'00"42				
retrograde	8918 Aug 05 10:29	8°8'55"31		conjunction	8924 May 06 04:25	19°8'37"35 -0°22'29
opposition	8918 Oct 24 01:29	7°8'32"22 -0°10'11		minimum elong	8924 May 06 04:25	19°8'37"35 0°22'39
min. Earth dist.	8918 Oct 24 05:54	7°8'32"04	29.15129 AU	max. Earth dist.	8924 May 06 03:49	19°8'37"31 31.10257 AU
direct	8919 Jan 12 05:35	6°8'08"33		morning rise	8924 May 21 14:01	20°8'12"19
evening set	8919 Apr 10 16:52	8°8'02"58		retrograde	8924 Aug 18 08:43	22°8'07"59
				opposition	8924 Nov 06 06:29	20°8'44"38 -0°25'14
conjunction	8919 Apr 26 02:33	8°8'37"36 -0°10'46		min. Earth dist.	8924 Nov 06 05:55	20°8'44"41 29.09745 AU
minimum elong	8919 Apr 26 02:32	8°8'37"36	0°10'55	direct	8925 Jan 25 03:45	19°8'21"05
behind sun begin	8919 Apr 25 21:38	8°8'37"09		evening set	8925 Apr 23 05:29	21°8'15"26
behind sun end	8919 Apr 26 07:26	8°8'38"02				
max. Earth dist.	8919 Apr 25 23:09	8°8'37"18	31.14651 AU	conjunction	8925 May 08 14:45	21°8'50"08 -0°24'45
morning rise	8919 May 11 11:50	9°8'12"14		minimum elong	8925 May 08 14:45	21°8'50"08 0°24'56
retrograde	8919 Aug 07 21:54	11°8'07"10		max. Earth dist.	8925 May 08 14:43	21°8'50"07 31.09186 AU
opposition	8919 Oct 26 14:09	9°8'43"58 -0°12'45		morning rise	8925 May 24 00:22	22°8'24"53
min. Earth dist.	8919 Oct 26 16:58	9°8'43"47	29.14195 AU	retrograde	8925 Aug 20 20:19	24°8'20"42
direct	8920 Jan 14 19:10	8°8'20"12		opposition	8925 Nov 08 19:29	22°8'57"17 -0°27'38
evening set	8920 Apr 12 02:52	10°8'14"35		min. Earth dist.	8925 Nov 08 19:33	22°8'57"17 29.08617 AU
				direct	8926 Jan 27 15:03	21°8'33"45
conjunction	8920 Apr 27 12:19	10°8'49"14 -0°13'09		evening set	8926 Apr 25 15:49	23°8'28"04
minimum elong	8920 Apr 27 12:19	10°8'49"14	0°13'17			
behind sun begin	8920 Apr 27 08:31	10°8'48"53		conjunction	8926 May 11 01:06	24°8'02"47 -0°26'58
behind sun end	8920 Apr 27 16:07	10°8'49"34		minimum elong	8926 May 11 01:06	24°8'02"46 0°27'09
max. Earth dist.	8920 Apr 27 08:49	10°8'48"55	31.13759 AU	max. Earth dist.	8926 May 11 01:37	24°8'02"49 31.08005 AU
morning rise	8920 May 12 21:47	11°8'23"53		morning rise	8926 May 26 10:48	24°8'37"33
retrograde	8920 Aug 09 10:54	13°8'18"57		retrograde	8926 Aug 23 09:19	26°8'33"28
opposition	8920 Oct 28 02:51	11°8'55"43 -0°15'18		opposition	8926 Nov 11 08:31	25°8'10"00 -0°30'00
min. Earth dist.	8920 Oct 28 05:09	11°8'55"34	29.13343 AU	min. Earth dist.	8926 Nov 11 07:04	25°8'10"06 29.07374 AU
direct	8921 Jan 16 06:18	10°8'31"59		direct	8927 Jan 30 02:59	23°8'46"27
evening set	8921 Apr 14 12:44	12°8'26"22		evening set	8927 Apr 28 02:03	25°8'40"44
conjunction	8921 Apr 29 22:18	13°8'01"01 -0°15'31		conjunction	8927 May 13 11:15	26°8'15"27 -0°29'09
minimum elong	8921 Apr 29 22:18	13°8'01"01	0°15'41	minimum elong	8927 May 13 11:15	26°8'15"27 0°29'22
behind sun begin	8921 Apr 29 20:38	13°8'00"52		max. Earth dist.	8927 May 13 11:53	26°8'15"31 31.06716 AU
behind sun end	8921 Apr 29 23:59	13°8'01"10		morning rise	8927 May 28 21:08	26°8'50"15
max. Earth dist.	8921 Apr 29 20:37	13°8'00"52	31.12920 AU	retrograde	8927 Aug 25 21:35	28°8'46"17
morning rise	8921 May 15 07:40	13°8'35"42		opposition	8927 Nov 13 21:41	27°8'22"43 -0°32'19
	8921 Jun 29 09:43	15°8'		min. Earth dist.	8927 Nov 13 20:35	27°8'22"47 29.06064 AU
retrograde	8921 Aug 11 21:11	15°8'30"54		direct	8928 Feb 01 13:46	25°8'59"08
	8921 Sep 25 23:30	15°8'		evening set	8928 Apr 29 12:13	27°8'53"23

conjunction	8928 May 14 21:35	28° 8 28'06 -0°31'18	retrograde	8934 Sep 10 09:51	14° II 16'48
minimum elong	8928 May 14 21:35	28° 8 28'06 0°31'30	opposition	8934 Nov 29 16:45	12° II 52'50 -0°47'05
max. Earth dist.	8928 May 14 23:45	28° 8 28'19 31.05397 AU	min. Earth dist.	8934 Nov 29 09:49	12° II 53'18 28.98929 AU
morning rise	8928 May 30 07:28	29° 8 02'56	direct	8935 Feb 17 01:24	11° II 29'22
	8928 Jun 27 05:56	0° II	evening set	8935 May 15 12:22	13° II 23'29
retrograde	8928 Aug 27 09:56	0° II 59'03			
	8928 Oct 31 04:00	30° 8	conjunction	8935 May 30 22:07	13° II 58'19 -0°44'54
opposition	8928 Nov 15 10:32	29° 8 35'23 -0°34'35	minimum elong	8935 May 30 22:07	13° II 58'19 0°45'09
min. Earth dist.	8928 Nov 15 08:02	29° 8 35'33 29.04750 AU	max. Earth dist.	8935 May 31 05:56	13° II 59'04 30.98539 AU
direct	8929 Feb 03 03:45	28° 8 11'47	morning rise	8935 Jun 15 09:10	14° II 33'19
	8929 Apr 29 05:15	0° II	retrograde	8935 Sep 12 22:53	16° II 30'19
evening set	8929 May 01 22:31	0° II 06'00	opposition	8935 Dec 02 05:54	15° II 06'19 -0°48'56
			min. Earth dist.	8935 Dec 01 21:24	15° II 06'54 28.98175 AU
conjunction	8929 May 17 07:45	0° II 40'44 -0°33'24	direct	8936 Feb 19 12:27	13° II 42'53
minimum elong	8929 May 17 07:45	0° II 40'44 0°33'38	evening set	8936 May 16 23:08	15° II 37'00
max. Earth dist.	8929 May 17 09:43	0° II 40'55 31.04108 AU			
morning rise	8929 Jun 01 17:55	1° II 15'34	conjunction	8936 Jun 01 08:54	16° II 11'51 -0°46'37
retrograde	8929 Aug 29 23:48	3° II 11'48	minimum elong	8936 Jun 01 08:54	16° II 11'51 0°46'50
opposition	8929 Nov 17 23:33	1° II 48'03 -0°36'49	max. Earth dist.	8936 Jun 01 16:43	16° II 12'36 30.97758 AU
min. Earth dist.	8929 Nov 17 20:29	1° II 48'15 29.03512 AU	morning rise	8936 Jun 16 20:14	16° II 46'52
direct	8930 Feb 05 15:31	0° II 24'26	retrograde	8936 Sep 14 12:05	18° II 44'01
evening set	8930 May 04 08:38	2° II 18'37	opposition	8936 Dec 03 19:06	17° II 19'59 -0°50'44
			min. Earth dist.	8936 Dec 03 11:12	17° II 20'31 28.97375 AU
conjunction	8930 May 19 18:02	2° II 53'22 -0°35'27	direct	8937 Feb 20 22:51	15° II 56'34
minimum elong	8930 May 19 18:02	2° II 53'22 0°35'40	evening set	8937 May 19 09:53	17° II 50'41
max. Earth dist.	8930 May 19 21:59	2° II 53'44 31.02912 AU			
morning rise	8930 Jun 04 04:08	3° II 28'13	conjunction	8937 Jun 03 19:56	18° II 25'33 -0°48'15
retrograde	8930 Sep 01 10:09	5° II 24'34	minimum elong	8937 Jun 03 19:56	18° II 25'33 0°48'30
opposition	8930 Nov 20 12:33	4° II 00'44 -0°38'59	max. Earth dist.	8937 Jun 04 04:55	18° II 26'24 30.96913 AU
min. Earth dist.	8930 Nov 20 08:29	4° II 01'01 29.02373 AU	morning rise	8937 Jun 19 07:20	19° II 00'36
direct	8931 Feb 08 04:15	2° II 37'08	retrograde	8937 Sep 17 01:24	20° II 57'50
evening set	8931 May 06 18:58	4° II 31'17	opposition	8937 Dec 06 08:21	19° II 33'46 -0°52'26
			min. Earth dist.	8937 Dec 05 23:23	19° II 34'23 28.96473 AU
conjunction	8931 May 22 04:16	5° II 06'03 -0°37'27	direct	8938 Feb 23 12:19	18° II 10'22
minimum elong	8931 May 22 04:16	5° II 06'03 0°37'41	evening set	8938 May 21 20:47	20° II 04'28
max. Earth dist.	8931 May 22 08:12	5° II 06'26 31.01846 AU			
morning rise	8931 Jun 06 14:41	5° II 40'57	conjunction	8938 Jun 06 06:48	20° II 39'21 -0°49'49
retrograde	8931 Sep 03 22:46	7° II 37'24	minimum elong	8938 Jun 06 06:47	20° II 39'21 0°50'03
opposition	8931 Nov 23 01:33	6° II 13'31 -0°41'06	max. Earth dist.	8938 Jun 06 15:03	20° II 40'08 30.95954 AU
min. Earth dist.	8931 Nov 22 20:11	6° II 13'53 29.01379 AU	morning rise	8938 Jun 21 18:35	21° II 14'25
direct	8932 Feb 10 15:46	4° II 49'57	retrograde	8938 Sep 19 15:51	23° II 11'46
evening set	8932 May 08 05:06	6° II 44'04	opposition	8938 Dec 08 21:45	21° II 47'37 -0°54'04
			min. Earth dist.	8938 Dec 08 12:47	21° II 48'14 28.95465 AU
conjunction	8932 May 23 14:37	7° II 18'52 -0°39'24	direct	8939 Feb 25 23:44	20° II 24'12
minimum elong	8932 May 23 14:36	7° II 18'52 0°39'38	evening set	8939 May 24 07:36	22° II 18'16
max. Earth dist.	8932 May 23 20:21	7° II 19'24 31.00902 AU			
morning rise	8932 Jun 08 01:05	7° II 53'46	conjunction	8939 Jun 08 17:57	22° II 53'11 -0°51'18
retrograde	8932 Sep 05 10:00	9° II 50'22	minimum elong	8939 Jun 08 17:57	22° II 53'11 0°51'34
opposition	8932 Nov 24 14:37	8° II 26'27 -0°43'09	max. Earth dist.	8939 Jun 09 03:38	22° II 54'06 30.94892 AU
min. Earth dist.	8932 Nov 24 09:04	8° II 26'50 29.00488 AU	morning rise	8939 Jun 24 05:50	23° II 28'16
direct	8933 Feb 12 03:39	7° II 02'54	retrograde	8939 Sep 22 03:32	25° II 25'41
evening set	8933 May 10 15:31	8° II 57'01	opposition	8939 Dec 11 11:01	24° II 01'28 -0°55'38
			min. Earth dist.	8939 Dec 11 01:34	24° II 02'07 28.94358 AU
conjunction	8933 May 26 01:02	9° II 31'50 -0°41'18	direct	8940 Feb 28 12:53	22° II 38'01
minimum elong	8933 May 26 01:02	9° II 31'50 0°41'32	evening set	8940 May 25 18:29	24° II 32'03
max. Earth dist.	8933 May 26 07:01	9° II 32'24 31.00065 AU			
morning rise	8933 Jun 10 11:45	10° II 06'46	conjunction	8940 Jun 10 04:54	25° II 06'58 -0°52'43
retrograde	8933 Sep 07 22:40	12° II 03'29	minimum elong	8940 Jun 10 04:54	25° II 06'58 0°52'58
opposition	8933 Nov 27 03:29	10° II 39'33 -0°45'09	max. Earth dist.	8940 Jun 10 14:06	25° II 07'51 30.93766 AU
min. Earth dist.	8933 Nov 26 20:16	10° II 40'02 28.99687 AU	morning rise	8940 Jun 25 17:14	25° II 42'05
direct	8934 Feb 14 14:50	9° II 16'02	retrograde	8940 Sep 23 17:35	27° II 39'34
evening set	8934 May 13 01:58	11° II 10'09	opposition	8940 Dec 13 00:13	26° II 15'15 -0°57'06
			min. Earth dist.	8940 Dec 12 14:01	26° II 15'57 28.93225 AU
conjunction	8934 May 28 11:34	11° II 44'58 -0°43'08	direct	8941 Mar 02 01:18	24° II 51'46
minimum elong	8934 May 28 11:34	11° II 44'58 0°43'22	evening set	8941 May 28 05:19	26° II 45'46
max. Earth dist.	8934 May 28 18:28	11° II 45'38 30.99283 AU			
morning rise	8934 Jun 12 22:26	12° II 19'57	conjunction	8941 Jun 12 16:00	27° II 20'43 -0°54'03

minimum elong	8941 Jun 12 16:00	27° Π 20'43	0°54'18	opposition	8947 Dec 29 20:05	11° \mathfrak{C} 53'32	-1°04'54
max. Earth dist.	8941 Jun 13 02:40	27° Π 21'43	30.92627 AU	min. Earth dist.	8947 Dec 29 05:47	11° \mathfrak{C} 54'31	28.87676 AU
morning rise	8941 Jun 28 04:27	27° Π 55'51		direct	8948 Mar 17 08:56	10° \mathfrak{C} 30'08	
retrograde	8941 Sep 26 05:19	29° Π 53'25		evening set	8948 Jun 12 10:37	12° \mathfrak{C} 24'09	
opposition	8941 Dec 15 13:21	28° Π 29'00	-0°58'29				
min. Earth dist.	8941 Dec 15 03:10	28° Π 29'42	28.92113 AU	conjunction	8948 Jun 27 23:00	12° \mathfrak{C} 59'15	-1°01'02
direct	8942 Mar 04 14:05	27° Π 05'30		minimum elong	8948 Jun 27 23:00	12° \mathfrak{C} 59'15	1°01'17
evening set	8942 May 30 16:13	28° Π 59'27		max. Earth dist.	8948 Jun 28 14:27	13° \mathfrak{C} 00'43	30.87362 AU
				morning rise	8948 Jul 13 13:36	13° \mathfrak{C} 34'36	
conjunction	8942 Jun 15 03:02	29° Π 34'25	-0°55'18	retrograde	8948 Oct 12 00:34	15° \mathfrak{C} 32'53	
minimum elong	8942 Jun 15 03:02	29° Π 34'25	0°55'33	opposition	8948 Dec 31 09:13	14° \mathfrak{C} 08'19	-1°05'38
max. Earth dist.	8942 Jun 15 13:56	29° Π 35'27	30.91563 AU	min. Earth dist.	8948 Dec 30 18:31	14° \mathfrak{C} 09'19	28.87129 AU
	8942 Jun 26 09:05	0° \mathfrak{C}		direct	8949 Mar 19 21:31	12° \mathfrak{C} 44'57	
morning rise	8942 Jun 30 15:50	0° \mathfrak{C} 09'35		evening set	8949 Jun 14 22:11	14° \mathfrak{C} 38'59	
retrograde	8942 Sep 28 18:17	2° \mathfrak{C} 07'14					
opposition	8942 Dec 18 02:28	0° \mathfrak{C} 42'46	-0°59'47	conjunction	8949 Jun 30 10:41	15° \mathfrak{C} 14'07	-1°01'40
min. Earth dist.	8942 Dec 17 14:38	0° \mathfrak{C} 43'35	28.91103 AU	minimum elong	8949 Jun 30 10:41	15° \mathfrak{C} 14'07	1°01'55
	8943 Jan 14 06:38	30° \mathfrak{K} Π		max. Earth dist.	8949 Jul 01 01:21	15° \mathfrak{C} 15'30	30.86792 AU
direct	8943 Mar 07 01:57	29° Π 19'15		morning rise	8949 Jul 16 01:44	15° \mathfrak{C} 49'29	
	8943 Apr 25 14:43	0° \mathfrak{C}		retrograde	8949 Oct 14 16:24	17° \mathfrak{C} 47'51	
evening set	8943 Jun 02 03:02	1° \mathfrak{C} 13'11		opposition	8950 Jan 02 22:20	16° \mathfrak{C} 23'16	-1°06'15
				min. Earth dist.	8950 Jan 02 07:18	16° \mathfrak{C} 24'18	28.86526 AU
conjunction	8943 Jun 17 14:04	1° \mathfrak{C} 48'10	-0°56'29	direct	8950 Mar 22 10:07	14° \mathfrak{C} 59'54	
minimum elong	8943 Jun 17 14:04	1° \mathfrak{C} 48'10	0°56'44	evening set	8950 Jun 17 09:46	16° \mathfrak{C} 53'57	
max. Earth dist.	8943 Jun 18 01:54	1° \mathfrak{C} 49'17	30.90599 AU				
morning rise	8943 Jul 03 03:08	2° \mathfrak{C} 23'22		conjunction	8950 Jul 02 22:40	17° \mathfrak{C} 29'07	-1°02'13
retrograde	8943 Oct 01 05:29	4° \mathfrak{C} 21'06		minimum elong	8950 Jul 02 22:40	17° \mathfrak{C} 29'07	1°02'27
opposition	8943 Dec 20 15:43	2° \mathfrak{C} 56'35	-1°01'00	max. Earth dist.	8950 Jul 03 14:18	17° \mathfrak{C} 30'36	30.86132 AU
min. Earth dist.	8943 Dec 20 04:04	2° \mathfrak{C} 57'23	28.90208 AU	morning rise	8950 Jul 18 13:57	18° \mathfrak{C} 04'32	
direct	8944 Mar 08 12:56	1° \mathfrak{C} 33'04		retrograde	8950 Oct 17 05:18	20° \mathfrak{C} 02'58	
evening set	8944 Jun 03 13:59	3° \mathfrak{C} 27'00		opposition	8951 Jan 05 11:38	18° \mathfrak{C} 38'20	-1°06'47
				min. Earth dist.	8951 Jan 04 21:05	18° \mathfrak{C} 39'20	28.85814 AU
conjunction	8944 Jun 19 01:19	4° \mathfrak{C} 02'00	-0°57'34	direct	8951 Mar 24 23:12	17° \mathfrak{C} 14'58	
minimum elong	8944 Jun 19 01:19	4° \mathfrak{C} 02'00	0°57'49	evening set	8951 Jun 19 21:22	19° \mathfrak{C} 09'00	
max. Earth dist.	8944 Jun 19 14:07	4° \mathfrak{C} 03'13	30.89772 AU				
morning rise	8944 Jul 04 14:39	4° \mathfrak{C} 37'14		conjunction	8951 Jul 05 10:34	19° \mathfrak{C} 44'11	-1°02'40
retrograde	8944 Oct 02 18:32	6° \mathfrak{C} 35'04		minimum elong	8951 Jul 05 10:34	19° \mathfrak{C} 44'11	1°02'54
opposition	8944 Dec 22 04:35	5° \mathfrak{C} 10'31	-1°02'07	max. Earth dist.	8951 Jul 06 01:45	19° \mathfrak{C} 45'37	30.85376 AU
min. Earth dist.	8944 Dec 21 15:14	5° \mathfrak{C} 11'27	28.89438 AU	morning rise	8951 Jul 21 02:19	20° \mathfrak{C} 19'37	
direct	8945 Mar 10 23:55	3° \mathfrak{C} 47'01		retrograde	8951 Oct 19 19:10	22° \mathfrak{C} 18'06	
evening set	8945 Jun 06 01:06	5° \mathfrak{C} 40'58		min. Earth dist.	8952 Jan 07 09:19	20° \mathfrak{C} 54'28	28.85004 AU
				opposition	8952 Jan 08 00:47	20° \mathfrak{C} 53'24	-1°07'13
conjunction	8945 Jun 21 12:33	6° \mathfrak{C} 16'00	-0°58'34	direct	8952 Mar 26 11:43	19° \mathfrak{C} 30'00	
minimum elong	8945 Jun 21 12:33	6° \mathfrak{C} 16'00	0°58'50	evening set	8952 Jun 21 09:05	21° \mathfrak{C} 24'00	
max. Earth dist.	8945 Jun 22 01:31	6° \mathfrak{C} 17'14	30.89054 AU				
morning rise	8945 Jul 07 02:18	6° \mathfrak{C} 51'15		conjunction	8952 Jul 06 22:38	21° \mathfrak{C} 59'13	-1°03'01
retrograde	8945 Oct 05 07:32	8° \mathfrak{C} 49'12		minimum elong	8952 Jul 06 22:38	21° \mathfrak{C} 59'13	1°03'15
opposition	8945 Dec 24 17:48	7° \mathfrak{C} 24'39	-1°03'08	max. Earth dist.	8952 Jul 07 14:03	22° \mathfrak{C} 00'40	30.84517 AU
min. Earth dist.	8945 Dec 24 04:47	7° \mathfrak{C} 25'33	28.88781 AU	morning rise	8952 Jul 22 14:44	22° \mathfrak{C} 34'40	
direct	8946 Mar 13 10:10	6° \mathfrak{C} 01'11		retrograde	8952 Oct 21 07:02	24° \mathfrak{C} 33'10	
evening set	8946 Jun 08 12:02	7° \mathfrak{C} 55'08		opposition	8953 Jan 09 13:49	23° \mathfrak{C} 08'24	-1°07'33
				min. Earth dist.	8953 Jan 08 23:11	23° \mathfrak{C} 09'25	28.84122 AU
conjunction	8946 Jun 23 23:52	8° \mathfrak{C} 30'11	-0°59'29	direct	8953 Mar 28 23:57	21° \mathfrak{C} 44'57	
minimum elong	8946 Jun 23 23:52	8° \mathfrak{C} 30'11	0°59'44	evening set	8953 Jun 23 20:44	23° \mathfrak{C} 38'54	
max. Earth dist.	8946 Jun 24 14:23	8° \mathfrak{C} 31'34	30.88443 AU				
morning rise	8946 Jul 09 13:47	9° \mathfrak{C} 05'28		conjunction	8953 Jul 09 10:40	24° \mathfrak{C} 14'08	-1°03'17
retrograde	8946 Oct 07 20:55	11° \mathfrak{C} 03'32		minimum elong	8953 Jul 09 10:40	24° \mathfrak{C} 14'08	1°03'31
opposition	8946 Dec 27 06:55	9° \mathfrak{C} 38'58	-1°04'04	max. Earth dist.	8953 Jul 10 02:35	24° \mathfrak{C} 15'39	30.83636 AU
min. Earth dist.	8946 Dec 26 16:34	9° \mathfrak{C} 39'58	28.88200 AU	morning rise	8953 Jul 25 03:07	24° \mathfrak{C} 49'37	
direct	8947 Mar 15 22:45	8° \mathfrak{C} 15'33		retrograde	8953 Oct 23 20:41	26° \mathfrak{C} 48'07	
evening set	8947 Jun 10 23:21	10° \mathfrak{C} 09'32		min. Earth dist.	8954 Jan 11 10:47	25° \mathfrak{C} 24'23	28.83245 AU
				opposition	8954 Jan 12 02:46	25° \mathfrak{C} 23'16	-1°07'46
conjunction	8947 Jun 26 11:17	10° \mathfrak{C} 44'37	-1°00'18	direct	8954 Mar 31 12:26	23° \mathfrak{C} 59'46	
minimum elong	8947 Jun 26 11:17	10° \mathfrak{C} 44'37	1°00'34	evening set	8954 Jun 26 08:20	25° \mathfrak{C} 53'40	
max. Earth dist.	8947 Jun 27 01:19	10° \mathfrak{C} 45'56	30.87892 AU				
morning rise	8947 Jul 12 01:41	11° \mathfrak{C} 19'55		conjunction	8954 Jul 11 22:29	26° \mathfrak{C} 28'56	-1°03'26
retrograde	8947 Oct 10 11:41	13° \mathfrak{C} 18'06		minimum elong	8954 Jul 11 22:29	26° \mathfrak{C} 28'56	1°03'40

max. Earth dist.	8954 Jul 12 14:23	26° Ω 30'26	30.82778 AU	min. Earth dist.	8961 Jan 27 02:02	11° Ω 08'00	28.80131 AU
morning rise	8954 Jul 27 15:25	27° Ω 04'27		direct	8961 Apr 15 22:10	9° Ω 43'08	
retrograde	8954 Oct 26 08:08	29° Ω 02'58		evening set	8961 Jul 11 19:27	11° Ω 37'05	
opposition	8955 Jan 14 15:51	27° Ω 38'02	-1°07'54				
min. Earth dist.	8955 Jan 14 00:26	27° Ω 39'06	28.82437 AU	conjunction	8961 Jul 27 12:18	12° Ω 12'32	-1°01'54
direct	8955 Apr 02 23:23	26° Ω 14'28		minimum elong	8961 Jul 27 12:18	12° Ω 12'32	1°02'06
evening set	8955 Jun 28 19:58	28° Ω 08'21		max. Earth dist.	8961 Jul 28 07:11	12° Ω 14'19	30.80008 AU
				morning rise	8961 Aug 12 07:59	12° Ω 48'14	
conjunction	8955 Jul 14 10:38	28° Ω 43'37	-1°03'31	retrograde	8961 Nov 11 07:14	14° Ω 46'59	
minimum elong	8955 Jul 14 10:38	28° Ω 43'37	1°03'45	opposition	8962 Jan 30 09:11	13° Ω 21'58	-1°05'53
max. Earth dist.	8955 Jul 15 03:53	28° Ω 45'16	30.82022 AU	min. Earth dist.	8962 Jan 29 15:50	13° Ω 23'10	28.79988 AU
morning rise	8955 Jul 30 03:49	29° Ω 19'10		direct	8962 Apr 18 10:17	11° Ω 58'24	
	8955 Aug 18 11:29	0° Ω		evening set	8962 Jul 14 07:38	13° Ω 52'23	
retrograde	8955 Oct 28 20:13	1° Ω 17'42					
	8956 Jan 12 19:33	30° Ω		conjunction	8962 Jul 30 00:57	14° Ω 27'51	-1°01'17
min. Earth dist.	8956 Jan 16 11:57	29° Ω 53'52	28.81737 AU	minimum elong	8962 Jul 30 00:57	14° Ω 27'51	1°01'29
opposition	8956 Jan 17 04:35	29° Ω 52'43	-1°07'55	max. Earth dist.	8962 Jul 30 19:51	14° Ω 29'38	30.79851 AU
direct	8956 Apr 04 11:40	28° Ω 29'06			8962 Aug 13 06:18	15° Ω	
	8956 Jun 19 17:04	0° Ω		morning rise	8962 Aug 14 21:00	15° Ω 03'35	
evening set	8956 Jun 30 07:47	0° Ω 22'58		retrograde	8962 Nov 13 21:55	17° Ω 02'22	
				opposition	8963 Feb 01 21:55	15° Ω 37'21	-1°05'11
conjunction	8956 Jul 15 22:39	0° Ω 58'16	-1°03'29	min. Earth dist.	8963 Feb 01 03:41	15° Ω 38'37	28.79790 AU
minimum elong	8956 Jul 15 22:39	0° Ω 58'16	1°03'43		8963 Feb 25 00:51	15° Ω	
max. Earth dist.	8956 Jul 16 15:20	0° Ω 59'51	30.81386 AU	direct	8963 Apr 20 23:00	14° Ω 13'47	
morning rise	8956 Jul 31 16:24	1° Ω 33'50			8963 Jun 12 14:45	15° Ω	
retrograde	8956 Oct 30 10:02	3° Ω 32'24		evening set	8963 Jul 16 20:10	16° Ω 07'47	
opposition	8957 Jan 18 17:27	2° Ω 07'21	-1°07'51				
min. Earth dist.	8957 Jan 18 00:52	2° Ω 08'31	28.81178 AU	conjunction	8963 Aug 01 13:47	16° Ω 43'16	-1°00'35
direct	8957 Apr 06 21:31	0° Ω 43'43		minimum elong	8963 Aug 01 13:47	16° Ω 43'16	1°00'47
evening set	8957 Jul 02 19:25	2° Ω 37'35		max. Earth dist.	8963 Aug 02 08:00	16° Ω 45'00	30.79605 AU
				morning rise	8963 Aug 17 10:21	17° Ω 19'03	
conjunction	8957 Jul 18 10:48	3° Ω 12'54	-1°03'22	retrograde	8963 Nov 16 09:46	19° Ω 17'50	
minimum elong	8957 Jul 18 10:48	3° Ω 12'54	1°03'35	opposition	8964 Feb 04 10:37	17° Ω 52'48	-1°04'23
max. Earth dist.	8957 Jul 19 05:02	3° Ω 14'38	30.80890 AU	min. Earth dist.	8964 Feb 03 17:38	17° Ω 53'59	28.79508 AU
morning rise	8957 Aug 03 04:46	3° Ω 48'29		direct	8964 Apr 22 09:55	16° Ω 29'13	
retrograde	8957 Nov 01 22:34	5° Ω 47'05		evening set	8964 Jul 18 08:32	18° Ω 23'12	
opposition	8958 Jan 21 06:11	4° Ω 22'01	-1°07'40				
min. Earth dist.	8958 Jan 20 12:54	4° Ω 23'14	28.80746 AU	conjunction	8964 Aug 03 02:45	18° Ω 58'44	-0°59'48
direct	8958 Apr 09 10:16	2° Ω 58'23		minimum elong	8964 Aug 03 02:45	18° Ω 58'44	0°59'59
evening set	8958 Jul 05 07:19	4° Ω 52'15		max. Earth dist.	8964 Aug 03 21:32	19° Ω 00'30	30.79288 AU
				morning rise	8964 Aug 18 23:37	19° Ω 34'31	
conjunction	8958 Jul 20 22:56	5° Ω 27'36	-1°03'08	retrograde	8964 Nov 17 22:14	21° Ω 33'17	
minimum elong	8958 Jul 20 22:56	5° Ω 27'36	1°03'21	opposition	8965 Feb 05 23:09	20° Ω 08'14	-1°03'29
max. Earth dist.	8958 Jul 21 16:37	5° Ω 29'16	30.80536 AU	min. Earth dist.	8965 Feb 05 05:33	20° Ω 09'28	28.79150 AU
morning rise	8958 Aug 05 17:28	6° Ω 03'13		direct	8965 Apr 24 22:20	18° Ω 44'37	
retrograde	8958 Nov 04 14:01	8° Ω 01'51		evening set	8965 Jul 20 20:59	20° Ω 38'35	
opposition	8959 Jan 23 18:59	6° Ω 36'46	-1°07'22				
min. Earth dist.	8959 Jan 23 01:09	6° Ω 38'01	28.80461 AU	conjunction	8965 Aug 05 15:27	21° Ω 14'08	-0°58'55
direct	8959 Apr 11 21:48	5° Ω 13'08		minimum elong	8965 Aug 05 15:27	21° Ω 14'08	0°59'05
evening set	8959 Jul 07 19:07	7° Ω 07'02		max. Earth dist.	8965 Aug 06 09:09	21° Ω 15'48	30.78916 AU
				morning rise	8965 Aug 21 12:53	21° Ω 49'57	
conjunction	8959 Jul 23 11:16	7° Ω 42'24	-1°02'49	retrograde	8965 Nov 20 11:33	23° Ω 48'41	
minimum elong	8959 Jul 23 11:16	7° Ω 42'24	1°03'02	opposition	8966 Feb 08 11:44	22° Ω 23'36	-1°02'30
max. Earth dist.	8959 Jul 24 06:14	7° Ω 44'12	30.80299 AU	min. Earth dist.	8966 Feb 07 18:46	22° Ω 24'47	28.78783 AU
morning rise	8959 Aug 08 06:06	8° Ω 18'03		direct	8966 Apr 27 08:08	20° Ω 59'55	
retrograde	8959 Nov 07 02:43	10° Ω 16'43		evening set	8966 Jul 23 09:19	22° Ω 53'53	
opposition	8960 Jan 26 07:46	8° Ω 51'40	-1°06'59				
min. Earth dist.	8960 Jan 25 14:15	8° Ω 52'53	28.80265 AU	conjunction	8966 Aug 08 04:22	23° Ω 29'27	-0°57'57
direct	8960 Apr 13 10:05	7° Ω 28'03		minimum elong	8966 Aug 08 04:22	23° Ω 29'27	0°58'07
evening set	8960 Jul 09 07:14	9° Ω 21'58		max. Earth dist.	8966 Aug 08 23:11	23° Ω 31'13	30.78564 AU
				morning rise	8966 Aug 24 02:03	24° Ω 05'17	
conjunction	8960 Jul 24 23:43	9° Ω 57'22	-1°02'24	retrograde	8966 Nov 22 23:20	26° Ω 03'59	
minimum elong	8960 Jul 24 23:43	9° Ω 57'22	1°02'36	min. Earth dist.	8967 Feb 10 06:48	24° Ω 40'04	28.78456 AU
max. Earth dist.	8960 Jul 25 18:18	9° Ω 59'08	30.80146 AU	opposition	8967 Feb 11 00:05	24° Ω 38'51	-1°01'25
morning rise	8960 Aug 09 19:02	10° Ω 33'03		direct	8967 Apr 29 21:09	23° Ω 15'08	
retrograde	8960 Nov 08 17:51	12° Ω 31'46		evening set	8967 Jul 25 21:47	25° Ω 09'05	
opposition	8961 Jan 27 20:21	11° Ω 06'43	-1°06'29				

conjunction	8967 Aug 10 17:08	25° Ω 44'40	-0°56'54	retrograde	8973 Dec 08 22:59	11° η 49'58	
minimum elong	8967 Aug 10 17:09	25° Ω 44'40	0°57'03	opposition	8974 Feb 26 13:21	10° η 24'55	-0°51'18
max. Earth dist.	8967 Aug 11 11:00	25° Ω 46'21	30.78287 AU	min. Earth dist.	8974 Feb 25 19:43	10° η 26'09	28.79623 AU
morning rise	8967 Aug 26 15:26	26° Ω 20'31		direct	8974 May 15 09:41	9° η 01'08	
retrograde	8967 Nov 25 13:43	28° Ω 19'11		evening set	8974 Aug 10 14:20	10° η 55'10	
opposition	8968 Feb 13 12:26	26° Ω 54'01	-1°00'14				
min. Earth dist.	8968 Feb 12 18:58	26° Ω 55'14	28.78234 AU	conjunction	8974 Aug 26 12:37	11° η 30'56	-0°47'09
direct	8968 May 01 08:26	25° Ω 30'15		minimum elong	8974 Aug 26 12:37	11° η 30'56	0°47'16
evening set	8968 Jul 27 10:15	27° Ω 24'12		max. Earth dist.	8974 Aug 27 06:35	11° η 32'37	30.79817 AU
				morning rise	8974 Sep 11 13:39	12° η 06'56	
conjunction	8968 Aug 12 06:07	27° Ω 59'48	-0°55'45	retrograde	8974 Dec 11 12:08	14° η 05'21	
minimum elong	8968 Aug 12 06:07	27° Ω 59'48	0°55'54	min. Earth dist.	8975 Feb 28 08:57	12° η 41'29	28.80072 AU
max. Earth dist.	8968 Aug 13 01:04	28° Ω 01'35	30.78113 AU	opposition	8975 Mar 01 01:29	12° η 40'19	-0°49'31
morning rise	8968 Aug 28 04:39	28° Ω 35'40		direct	8975 May 17 19:47	11° η 16'33	
	8968 Oct 11 21:24	0° η		evening set	8975 Aug 13 03:22	13° η 10'36	
retrograde	8968 Nov 27 01:34	0° η 34'18					
	8969 Jan 13 12:52	30° κ 8		conjunction	8975 Aug 29 02:14	13° η 46'22	-0°45'27
min. Earth dist.	8969 Feb 14 07:30	29° Ω 10'19	28.78126 AU	minimum elong	8975 Aug 29 02:15	13° η 46'22	0°45'32
opposition	8969 Feb 15 00:37	29° Ω 09'07	-0°58'58	max. Earth dist.	8975 Aug 29 20:40	13° η 48'06	30.80226 AU
direct	8969 May 03 20:08	27° Ω 45'19		morning rise	8975 Sep 14 03:29	14° η 22'24	
evening set	8969 Jul 29 22:45	29° Ω 39'16		retrograde	8975 Dec 13 23:43	16° η 20'45	
	8969 Aug 08 05:23	0° η		opposition	8976 Mar 02 13:34	14° η 55'45	-0°47'39
				min. Earth dist.	8976 Mar 01 21:13	14° η 56'54	28.80426 AU
conjunction	8969 Aug 14 18:59	0° η 14'53	-0°54'32	direct	8976 May 19 08:41	13° η 31'58	
minimum elong	8969 Aug 14 19:00	0° η 14'53	0°54'40	evening set	8976 Aug 14 16:36	15° η 26'01	
max. Earth dist.	8969 Aug 15 13:28	0° η 16'38	30.78092 AU				
morning rise	8969 Aug 30 18:01	0° η 50'47		conjunction	8976 Aug 30 15:43	16° η 01'48	-0°43'41
retrograde	8969 Nov 29 16:42	2° η 49'22		minimum elong	8976 Aug 30 15:43	16° η 01'48	0°43'45
opposition	8970 Feb 17 12:49	1° η 24'11	-0°57'37	max. Earth dist.	8976 Aug 31 08:23	16° η 03'22	30.80539 AU
min. Earth dist.	8970 Feb 16 18:48	1° η 25'27	28.78181 AU	morning rise	8976 Sep 15 17:28	16° η 37'50	
direct	8970 May 06 08:32	0° η 00'21		retrograde	8976 Dec 15 13:11	18° η 36'07	
evening set	8970 Aug 01 11:11	1° η 54'19		min. Earth dist.	8977 Mar 04 09:41	17° η 12'14	28.80697 AU
				opposition	8977 Mar 05 01:32	17° η 11'07	-0°45'43
conjunction	8970 Aug 17 07:51	2° η 29'58	-0°53'13	direct	8977 May 21 19:24	15° η 47'17	
minimum elong	8970 Aug 17 07:51	2° η 29'58	0°53'21	evening set	8977 Aug 17 05:41	17° η 41'21	
max. Earth dist.	8970 Aug 18 02:52	2° η 31'45	30.78216 AU				
morning rise	8970 Sep 02 07:16	3° η 05'53		conjunction	8977 Sep 02 05:20	18° η 17'09	-0°41'51
retrograde	8970 Dec 02 06:10	5° η 04'26		minimum elong	8977 Sep 02 05:20	18° η 17'09	0°41'54
min. Earth dist.	8971 Feb 19 07:52	3° η 40'27	28.78382 AU	max. Earth dist.	8977 Sep 02 22:30	18° η 18'46	30.80772 AU
opposition	8971 Feb 20 01:07	3° η 39'15	-0°56'10	morning rise	8977 Sep 18 07:17	18° η 53'11	
direct	8971 May 08 21:14	2° η 15'26		retrograde	8977 Dec 18 00:54	20° η 51'24	
evening set	8971 Aug 03 23:47	4° η 09'23		opposition	8978 Mar 07 13:32	19° η 26'23	-0°43'43
				min. Earth dist.	8978 Mar 06 22:31	19° η 27'26	28.80902 AU
conjunction	8971 Aug 19 20:58	4° η 45'04	-0°51'49	direct	8978 May 24 07:06	18° η 02'30	
minimum elong	8971 Aug 19 20:58	4° η 45'04	0°51'57	evening set	8978 Aug 19 18:42	19° η 56'33	
max. Earth dist.	8971 Aug 20 16:03	4° η 46'52	30.78499 AU				
morning rise	8971 Sep 04 20:46	5° η 21'01		conjunction	8978 Sep 04 18:42	20° η 32'22	-0°39'57
retrograde	8971 Dec 04 20:29	7° η 19'32		minimum elong	8978 Sep 04 18:42	20° η 32'22	0°40'00
opposition	8972 Feb 22 13:04	5° η 54'22	-0°54'38	max. Earth dist.	8978 Sep 05 10:45	20° η 33'52	30.80980 AU
min. Earth dist.	8972 Feb 21 18:49	5° η 55'39	28.78721 AU	morning rise	8978 Sep 20 21:08	21° η 08'25	
direct	8972 May 10 10:10	4° η 30'34		retrograde	8978 Dec 20 15:04	23° η 06'31	
evening set	8972 Aug 05 12:36	6° η 24'33		min. Earth dist.	8979 Mar 09 10:04	21° η 42'34	28.81107 AU
				opposition	8979 Mar 10 01:19	21° η 41'30	-0°41'40
conjunction	8972 Aug 21 10:05	7° η 00'15	-0°50'21	direct	8979 May 26 19:43	20° η 17'34	
minimum elong	8972 Aug 21 10:05	7° η 00'15	0°50'28	evening set	8979 Aug 22 07:52	22° η 11'36	
max. Earth dist.	8972 Aug 22 04:45	7° η 02'01	30.78889 AU				
morning rise	8972 Sep 06 10:21	7° η 36'13		conjunction	8979 Sep 07 08:17	22° η 47'26	-0°37'59
retrograde	8972 Dec 06 09:10	9° η 34'42		minimum elong	8979 Sep 07 08:17	22° η 47'27	0°38'02
min. Earth dist.	8973 Feb 23 08:11	8° η 10'47	28.79156 AU	max. Earth dist.	8979 Sep 08 00:24	22° η 48'57	30.81191 AU
opposition	8973 Feb 24 01:17	8° η 09'35	-0°53'00	morning rise	8979 Sep 23 10:58	23° η 23'30	
direct	8973 May 12 20:57	6° η 45'48		retrograde	8979 Dec 23 03:26	25° η 21'31	
evening set	8973 Aug 08 01:15	8° η 39'48		opposition	8980 Mar 11 12:59	23° η 56'29	-0°39'32
				min. Earth dist.	8980 Mar 10 22:58	23° η 57'28	28.81344 AU
conjunction	8973 Aug 23 23:17	9° η 15'32	-0°48'47	direct	8980 May 28 08:17	22° η 32'30	
minimum elong	8973 Aug 23 23:17	9° η 15'32	0°48'54	evening set	8980 Aug 23 20:58	24° η 26'33	
max. Earth dist.	8973 Aug 24 18:35	9° η 17'21	30.79355 AU				
morning rise	8973 Sep 08 23:47	9° η 51'31		conjunction	8980 Sep 08 21:48	25° η 02'23	-0°35'59

minimum elong	8980 Sep 08 21:48	25° 00 02'23	0°36'01	opposition	8987 Mar 27 21:23	9° 00 40'33	-0°23'11
max. Earth dist.	8980 Sep 09 13:31	25° 00 03'52	30.81473 AU	min. Earth dist.	8987 Mar 27 09:25	9° 00 41'23	28.85955 AU
morning rise	8980 Sep 25 00:48	25° 00 38'27		direct	8987 Jun 13 17:11	8° 00 16'34	
retrograde	8980 Dec 24 17:19	27° 00 36'22		evening set	8987 Sep 09 17:43	10° 00 10'50	
min. Earth dist.	8981 Mar 13 09:43	26° 00 12'23	28.81667 AU				
opposition	8981 Mar 14 00:33	26° 00 11'21	-0°37'21	conjunction	8987 Sep 25 20:49	10° 00 46'47	-0°20'33
direct	8981 May 30 21:27	24° 00 47'20		minimum elong	8987 Sep 25 20:49	10° 00 46'47	0°20'31
evening set	8981 Aug 26 09:59	26° 00 41'23		max. Earth dist.	8987 Sep 26 09:26	10° 00 47'57	30.86359 AU
				morning rise	8987 Oct 12 01:40	11° 00 22'54	
conjunction	8981 Sep 11 11:04	27° 00 17'14	-0°33'55	retrograde	8988 Jan 10 09:34	13° 00 20'16	
minimum elong	8981 Sep 11 11:04	27° 00 17'14	0°33'56	opposition	8988 Mar 29 08:38	11° 00 55'38	-0°20'41
max. Earth dist.	8981 Sep 12 02:20	27° 00 18'40	30.81844 AU	min. Earth dist.	8988 Mar 28 20:50	11° 00 56'28	28.86758 AU
morning rise	8981 Sep 27 14:24	27° 00 53'19		direct	8988 Jun 15 05:26	10° 00 31'38	
retrograde	8981 Dec 27 05:58	29° 00 51'09		evening set	8988 Sep 11 07:18	12° 00 25'56	
opposition	8982 Mar 16 12:14	28° 00 26'08	-0°35'07				
min. Earth dist.	8982 Mar 15 22:31	28° 00 27'06	28.82106 AU	conjunction	8988 Sep 27 10:43	13° 00 01'54	-0°18'12
direct	8982 Jun 02 08:43	27° 00 02'06		minimum elong	8988 Sep 27 10:43	13° 00 01'54	0°18'10
evening set	8982 Aug 28 23:03	28° 00 56'10		max. Earth dist.	8988 Sep 27 23:00	13° 00 03'02	30.87102 AU
				morning rise	8988 Oct 13 15:40	13° 00 38'01	
conjunction	8982 Sep 14 00:38	29° 00 32'03	-0°31'48	retrograde	8989 Jan 11 21:06	15° 00 35'16	
minimum elong	8982 Sep 14 00:38	29° 00 32'03	0°31'50	opposition	8989 Mar 31 20:07	14° 00 10'41	-0°18'09
max. Earth dist.	8982 Sep 14 16:23	29° 00 33'31	30.82356 AU	min. Earth dist.	8989 Mar 31 09:56	14° 00 11'24	28.87450 AU
	8982 Sep 26 11:44	0° 00 00		direct	8989 Jun 17 17:25	12° 00 46'39	
morning rise	8982 Sep 30 04:10	0° 00 08'08		evening set	8989 Sep 13 20:40	14° 00 40'57	
retrograde	8982 Dec 29 19:59	2° 00 05'52					
opposition	8983 Mar 18 23:36	0° 00 40'53	-0°32'50	conjunction	8989 Sep 30 00:23	15° 00 16'55	-0°15'49
min. Earth dist.	8983 Mar 18 09:17	0° 00 41'54	28.82678 AU	minimum elong	8989 Sep 30 00:23	15° 00 16'55	0°15'46
	8983 Apr 13 04:46	30° 00 00		behind sun begin	8989 Sep 29 23:50	15° 00 16'52	
direct	8983 Jun 04 21:51	29° 00 16'51		behind sun end	8989 Sep 30 00:57	15° 00 16'58	
	8983 Jul 25 23:49	0° 00 00		max. Earth dist.	8989 Sep 30 11:36	15° 00 17'57	30.87756 AU
evening set	8983 Aug 31 12:19	1° 00 10'56		morning rise	8989 Oct 16 05:33	15° 00 53'02	
				retrograde	8990 Jan 14 10:36	17° 00 50'10	
conjunction	8983 Sep 16 14:06	1° 00 46'50	-0°29'38	opposition	8990 Apr 03 07:22	16° 00 25'35	-0°15'35
minimum elong	8983 Sep 16 14:07	1° 00 46'50	0°29'38	min. Earth dist.	8990 Apr 02 20:53	16° 00 26'19	28.88054 AU
max. Earth dist.	8983 Sep 17 04:42	1° 00 48'12	30.82997 AU	direct	8990 Jun 20 06:22	15° 00 01'30	
morning rise	8983 Oct 02 18:04	2° 00 22'56		evening set	8990 Sep 16 10:15	16° 00 55'48	
retrograde	8984 Jan 01 08:20	4° 00 20'36					
opposition	8984 Mar 20 11:09	2° 00 55'40	-0°30'29	conjunction	8990 Oct 02 14:10	17° 00 31'45	-0°13'26
min. Earth dist.	8984 Mar 19 21:41	2° 00 56'37	28.83390 AU	minimum elong	8990 Oct 02 14:10	17° 00 31'45	0°13'23
direct	8984 Jun 06 08:09	1° 00 31'38		behind sun begin	8990 Oct 02 10:32	17° 00 31'26	
evening set	8984 Sep 02 01:26	3° 00 25'46		behind sun end	8990 Oct 02 17:49	17° 00 32'05	
				max. Earth dist.	8990 Oct 03 00:23	17° 00 32'42	30.88324 AU
conjunction	8984 Sep 18 03:43	4° 00 01'41	-0°27'25	morning rise	8990 Oct 18 19:32	18° 00 07'52	
minimum elong	8984 Sep 18 03:43	4° 00 01'41	0°27'25	retrograde	8991 Jan 16 23:03	20° 00 04'51	
max. Earth dist.	8984 Sep 18 19:04	4° 00 03'07	30.83766 AU	opposition	8991 Apr 05 18:32	18° 00 40'16	-0°13'01
morning rise	8984 Oct 04 07:44	4° 00 37'47		min. Earth dist.	8991 Apr 05 09:46	18° 00 40'53	28.88605 AU
retrograde	8985 Jan 02 19:37	6° 00 35'22		direct	8991 Jun 22 18:28	17° 00 16'08	
opposition	8985 Mar 22 22:31	5° 00 10'32	-0°28'06	evening set	8991 Sep 18 23:41	19° 00 10'25	
min. Earth dist.	8985 Mar 22 09:02	5° 00 11'29	28.84199 AU				
direct	8985 Jun 08 20:35	3° 00 46'31		conjunction	8991 Oct 05 04:00	19° 00 46'23	-0°11'01
evening set	8985 Sep 04 14:48	5° 00 40'41		minimum elong	8991 Oct 05 03:59	19° 00 46'23	0°10'56
				behind sun begin	8991 Oct 04 23:04	19° 00 45'57	
conjunction	8985 Sep 20 17:14	6° 00 16'37	-0°25'10	behind sun end	8991 Oct 05 08:54	19° 00 46'49	
minimum elong	8985 Sep 20 17:14	6° 00 16'37	0°25'09	max. Earth dist.	8991 Oct 05 14:02	19° 00 47'18	30.88870 AU
max. Earth dist.	8985 Sep 21 07:03	6° 00 17'54	30.84627 AU	morning rise	8991 Oct 21 09:26	20° 00 22'29	
morning rise	8985 Oct 06 21:41	6° 00 52'44		retrograde	8992 Jan 19 12:26	22° 00 19'19	
retrograde	8986 Jan 05 08:59	8° 00 50'15		opposition	8992 Apr 07 05:32	20° 00 54'44	-0°10'26
opposition	8986 Mar 25 09:56	7° 00 25'29	-0°25'40	min. Earth dist.	8992 Apr 06 20:33	20° 00 55'22	28.89141 AU
min. Earth dist.	8986 Mar 24 20:52	7° 00 26'25	28.85088 AU	direct	8992 Jun 24 08:46	19° 00 30'31	
direct	8986 Jun 11 06:18	6° 00 01'30		evening set	8992 Sep 20 13:08	21° 00 24'48	
evening set	8986 Sep 07 04:04	7° 00 55'43					
				conjunction	8992 Oct 06 17:28	22° 00 00'46	-0°08'36
conjunction	8986 Sep 23 06:59	8° 00 31'39	-0°22'53	minimum elong	8992 Oct 06 17:29	22° 00 00'46	0°08'31
minimum elong	8986 Sep 23 06:59	8° 00 31'39	0°22'51	behind sun begin	8992 Oct 06 11:45	22° 00 00'15	
max. Earth dist.	8986 Sep 23 21:17	8° 00 32'59	30.85514 AU	behind sun end	8992 Oct 06 23:12	22° 00 01'16	
morning rise	8986 Oct 09 11:31	9° 00 07'47		max. Earth dist.	8992 Oct 07 02:10	22° 00 01'33	30.89418 AU
retrograde	8987 Jan 07 20:26	11° 00 05'14		morning rise	8992 Oct 22 23:09	22° 00 03'51	

retrograde	8993 Jan 21 00:06	24° <u>♁</u> 33'32	direct	8998 Jul 08 04:50	2° <u>♁</u> 53'32	
opposition	8993 Apr 09 16:34	23° <u>♁</u> 08'57 -0°07'49	evening set	8998 Oct 04 21:05	4° <u>♁</u> 47'57	
min. Earth dist.	8993 Apr 09 08:42	23° <u>♁</u> 09'30 28.89725 AU				
direct	8993 Jun 26 20:00	21° <u>♁</u> 44'41	conjunction	8998 Oct 21 02:33	5° <u>♁</u> 23'55 0°06'11	
evening set	8993 Sep 23 02:24	23° <u>♁</u> 38'57	minimum elong	8998 Oct 21 02:32	5° <u>♁</u> 23'54 0°06'19	
			behind sun begin	8998 Oct 20 20:19	5° <u>♁</u> 23'21	
conjunction	8993 Oct 09 07:07	24° <u>♁</u> 14'55 -0°06'10	behind sun end	8998 Oct 21 08:44	5° <u>♁</u> 24'28	
minimum elong	8993 Oct 09 07:07	24° <u>♁</u> 14'55 0°06'04	max. Earth dist.	8998 Oct 21 08:48	5° <u>♁</u> 24'28 30.94913 AU	
behind sun begin	8993 Oct 09 00:52	24° <u>♁</u> 14'21	morning rise	8998 Nov 06 08:31	5° <u>♁</u> 59'57	
behind sun end	8993 Oct 09 13:22	24° <u>♁</u> 15'28	retrograde	8999 Feb 03 22:08	7° <u>♁</u> 55'55	
max. Earth dist.	8993 Oct 09 16:21	24° <u>♁</u> 15'45 30.90038 AU	opposition	8999 Apr 23 09:07	6° <u>♁</u> 31'42 0°07'52	
morning rise	8993 Oct 25 12:44	24° <u>♁</u> 51'00	min. Earth dist.	8999 Apr 23 03:09	6° <u>♁</u> 32'07 28.95508 AU	
retrograde	8994 Jan 23 11:31	26° <u>♁</u> 47'31	direct	8999 Jul 10 16:43	5° <u>♁</u> 07'22	
opposition	8994 Apr 12 03:24	25° <u>♁</u> 22'57 -0°05'13	evening set	8999 Oct 07 10:42	7° <u>♁</u> 01'51	
min. Earth dist.	8994 Apr 11 19:36	25° <u>♁</u> 23'30 28.90386 AU				
direct	8994 Jun 29 08:59	23° <u>♁</u> 58'38	conjunction	8999 Oct 23 16:11	7° <u>♁</u> 37'48 0°08'37	
evening set	8994 Sep 25 15:46	25° <u>♁</u> 52'53	minimum elong	8999 Oct 23 16:11	7° <u>♁</u> 37'48 0°08'46	
			behind sun begin	8999 Oct 23 10:32	7° <u>♁</u> 37'18	
conjunction	8994 Oct 11 20:31	26° <u>♁</u> 28'51 -0°03'44	behind sun end	8999 Oct 23 21:51	7° <u>♁</u> 38'18	
minimum elong	8994 Oct 11 20:32	26° <u>♁</u> 28'51 0°03'38	max. Earth dist.	8999 Oct 23 21:29	7° <u>♁</u> 38'16 30.96092 AU	
behind sun begin	8994 Oct 11 14:01	26° <u>♁</u> 28'16	morning rise	8999 Nov 08 22:09	8° <u>♁</u> 13'50	
behind sun end	8994 Oct 12 03:03	26° <u>♁</u> 29'26	retrograde	9000 Feb 06 10:17	10° <u>♁</u> 09'42	
max. Earth dist.	8994 Oct 12 04:10	26° <u>♁</u> 29'33 30.90761 AU	opposition	9000 Apr 25 19:58	8° <u>♁</u> 45'35 0°10'28	
morning rise	8994 Oct 28 02:26	27° <u>♁</u> 04'56	min. Earth dist.	9000 Apr 25 15:47	8° <u>♁</u> 45'52 28.96669 AU	
retrograde	8995 Jan 26 00:16	29° <u>♁</u> 01'19	direct	9000 Jul 13 04:18	7° <u>♁</u> 21'16	
opposition	8995 Apr 14 14:17	27° <u>♁</u> 36'46 -0°02'36	evening set	9000 Oct 10 00:07	9° <u>♁</u> 15'48	
min. Earth dist.	8995 Apr 14 06:45	27° <u>♁</u> 37'18 28.91176 AU				
direct	8995 Jul 01 19:34	26° <u>♁</u> 12'25	conjunction	9000 Oct 26 05:46	9° <u>♁</u> 51'45 0°11'01	
evening set	8995 Sep 28 05:05	28° <u>♁</u> 06'41	minimum elong	9000 Oct 26 05:46	9° <u>♁</u> 51'45 0°11'10	
			behind sun begin	9000 Oct 26 00:57	9° <u>♁</u> 51'19	
conjunction	8995 Oct 14 10:10	28° <u>♁</u> 42'39 -0°01'15	behind sun end	9000 Oct 26 10:35	9° <u>♁</u> 52'11	
minimum elong	8995 Oct 14 10:09	28° <u>♁</u> 42'39 0°01'08	max. Earth dist.	9000 Oct 26 10:33	9° <u>♁</u> 52'11 30.97214 AU	
behind sun begin	8995 Oct 14 03:35	28° <u>♁</u> 42'04	morning rise	9000 Nov 11 11:36	10° <u>♁</u> 27'46	
behind sun end	8995 Oct 14 16:44	28° <u>♁</u> 43'14	retrograde	9001 Feb 08 23:21	12° <u>♁</u> 23'32	
max. Earth dist.	8995 Oct 14 18:26	28° <u>♁</u> 43'24 30.91608 AU	opposition	9001 Apr 28 06:40	10° <u>♁</u> 59'29 0°13'02	
morning rise	8995 Oct 30 15:56	29° <u>♁</u> 18'43	min. Earth dist.	9001 Apr 28 02:31	10° <u>♁</u> 59'46 28.97737 AU	
	8995 Nov 19 13:50	0° <u>♁</u>	direct	9001 Jul 15 18:16	9° <u>♁</u> 35'10	
retrograde	8996 Jan 28 10:16	1° <u>♁</u> 14'58	evening set	9001 Oct 12 13:44	11° <u>♁</u> 29'44	
	8996 Apr 10 10:04	30° <u>♁</u>				
asc. node	8996 Apr 12 17:12	29° <u>♁</u> 56'07	conjunction	9001 Oct 28 19:19	12° <u>♁</u> 05'41 0°13'25	
opposition	8996 Apr 16 01:00	29° <u>♁</u> 50'29 0°00'01	minimum elong	9001 Oct 28 19:19	12° <u>♁</u> 05'41 0°13'35	
min. Earth dist.	8996 Apr 15 18:14	29° <u>♁</u> 50'58 28.92090 AU	behind sun begin	9001 Oct 28 15:50	12° <u>♁</u> 05'23	
direct	8996 Jul 03 06:54	28° <u>♁</u> 26'07	behind sun end	9001 Oct 28 22:48	12° <u>♁</u> 06'00	
	8996 Sep 20 04:28	0° <u>♁</u>	max. Earth dist.	9001 Oct 28 22:22	12° <u>♁</u> 05'58 30.98233 AU	
evening set	8996 Sep 29 18:27	0° <u>♁</u> 20'25	morning rise	9001 Nov 14 01:13	12° <u>♁</u> 41'41	
			retrograde	9002 Feb 11 11:16	14° <u>♁</u> 37'20	
conjunction	8996 Oct 15 23:33	0° <u>♁</u> 56'22 0°01'17	opposition	9002 Apr 30 17:23	13° <u>♁</u> 13'20 0°15'35	
minimum elong	8996 Oct 15 23:34	0° <u>♁</u> 56'22 0°01'24	min. Earth dist.	9002 Apr 30 14:42	13° <u>♁</u> 13'32 28.98718 AU	
behind sun begin	8996 Oct 15 16:59	0° <u>♁</u> 55'47	direct	9002 Jul 18 05:18	11° <u>♁</u> 49'00	
behind sun end	8996 Oct 16 06:09	0° <u>♁</u> 56'58	evening set	9002 Oct 15 03:09	13° <u>♁</u> 43'36	
max. Earth dist.	8996 Oct 16 06:33	0° <u>♁</u> 57'00 30.92605 AU				
morning rise	8996 Nov 01 05:32	1° <u>♁</u> 32'26	conjunction	9002 Oct 31 08:59	14° <u>♁</u> 19'33 0°15'47	
retrograde	8997 Jan 29 22:23	3° <u>♁</u> 28'35	minimum elong	9002 Oct 31 08:59	14° <u>♁</u> 19'33 0°15'57	
opposition	8997 Apr 18 11:45	2° <u>♁</u> 04'10 0°02'39	max. Earth dist.	9002 Oct 31 12:02	14° <u>♁</u> 19'49 30.99167 AU	
min. Earth dist.	8997 Apr 18 04:40	2° <u>♁</u> 04'40 28.93152 AU	morning rise	9002 Nov 16 14:43	14° <u>♁</u> 55'31	
direct	8997 Jul 05 18:07	0° <u>♁</u> 39'48		9002 Nov 18 16:25	15° <u>♁</u>	
evening set	8997 Oct 02 07:38	2° <u>♁</u> 34'08	retrograde	9003 Feb 13 23:11	16° <u>♁</u> 51'01	
			opposition	9003 May 03 04:00	15° <u>♁</u> 27'05 0°18'07	
conjunction	8997 Oct 18 12:58	3° <u>♁</u> 10'06 0°03'45	min. Earth dist.	9003 May 03 01:51	15° <u>♁</u> 27'14 28.99602 AU	
minimum elong	8997 Oct 18 12:58	3° <u>♁</u> 10'06 0°03'54		9003 May 19 11:26	15° <u>♁</u>	
behind sun begin	8997 Oct 18 06:28	3° <u>♁</u> 09'32	direct	9003 Jul 20 18:47	14° <u>♁</u> 02'42	
behind sun end	8997 Oct 18 19:29	3° <u>♁</u> 10'41		9003 Sep 18 23:40	15° <u>♁</u>	
max. Earth dist.	8997 Oct 18 20:14	3° <u>♁</u> 10'45 30.93719 AU	evening set	9003 Oct 17 16:43	15° <u>♁</u> 57'19	
morning rise	8997 Nov 03 18:53	3° <u>♁</u> 46'09				
retrograde	8998 Feb 01 09:07	5° <u>♁</u> 42'13	conjunction	9003 Nov 02 22:24	16° <u>♁</u> 33'15 0°18'08	
opposition	8998 Apr 20 22:36	4° <u>♁</u> 17'53 0°05'16	minimum elong	9003 Nov 02 22:24	16° <u>♁</u> 33'15 0°18'19	
min. Earth dist.	8998 Apr 20 16:53	4° <u>♁</u> 18'17 28.94310 AU	max. Earth dist.	9003 Nov 02 23:23	16° <u>♁</u> 33'20 31.00024 AU	

morning rise	9003 Nov 19 04:12	17° ℓ 09'12			9010 Jun 25 11:35	30° ℓ 00'	
retrograde	9004 Feb 16 11:56	19° ℓ 04'34		direct	9010 Aug 05 03:21	29° ℓ 33'52	
opposition	9004 May 04 14:28	17° ℓ 40'39	0°20'37		9010 Sep 14 04:32	0° ♊	
min. Earth dist.	9004 May 04 13:00	17° ℓ 40'45	29.00445 AU	evening set	9010 Nov 02 12:55	1° ♊ 28'38	
direct	9004 Jul 22 05:59	16° ℓ 16'14					
evening set	9004 Oct 19 06:01	18° ℓ 10'51		conjunction	9010 Nov 18 18:22	2° ♊ 04'27	0°33'35
				minimum elong	9010 Nov 18 18:22	2° ♊ 04'27	0°33'48
conjunction	9004 Nov 04 11:52	18° ℓ 46'47	0°20'27	max. Earth dist.	9010 Nov 18 15:39	2° ♊ 04'12	31.07319 AU
minimum elong	9004 Nov 04 11:52	18° ℓ 46'47	0°20'38	morning rise	9010 Dec 04 23:08	2° ♊ 40'14	
max. Earth dist.	9004 Nov 04 13:11	18° ℓ 46'54	31.00853 AU	retrograde	9011 Mar 03 15:20	4° ♊ 34'41	
morning rise	9004 Nov 20 17:23	19° ℓ 22'43		opposition	9011 May 20 15:01	3° ♊ 11'10	0°36'59
retrograde	9005 Feb 17 21:14	21° ℓ 17'55		min. Earth dist.	9011 May 20 17:21	3° ♊ 11'00	29.08012 AU
opposition	9005 May 07 01:00	19° ℓ 54'03	0°23'05	direct	9011 Aug 07 13:48	1° ♊ 46'37	
min. Earth dist.	9005 May 07 00:34	19° ℓ 54'04	29.01274 AU	evening set	9011 Nov 05 02:01	3° ♊ 41'25	
direct	9005 Jul 24 18:00	18° ℓ 29'35					
evening set	9005 Oct 21 19:13	20° ℓ 24'12		conjunction	9011 Nov 21 07:29	4° ♊ 17'14	0°35'36
				minimum elong	9011 Nov 21 07:29	4° ♊ 17'13	0°35'51
conjunction	9005 Nov 07 00:57	21° ℓ 00'06	0°22'44	max. Earth dist.	9011 Nov 21 04:59	4° ♊ 17'00	31.08674 AU
minimum elong	9005 Nov 07 00:57	21° ℓ 00'06	0°22'56	morning rise	9011 Dec 07 11:52	4° ♊ 52'58	
max. Earth dist.	9005 Nov 07 00:43	21° ℓ 00'05	31.01704 AU	retrograde	9012 Mar 05 03:11	6° ♊ 47'19	
morning rise	9005 Nov 23 06:33	21° ℓ 36'01		opposition	9012 May 22 01:20	5° ♊ 23'55	0°39'07
retrograde	9006 Feb 20 08:17	23° ℓ 31'04		min. Earth dist.	9012 May 22 04:12	5° ♊ 23'43	29.09342 AU
opposition	9006 May 09 11:22	22° ℓ 07'14	0°25'30	direct	9012 Aug 09 03:19	3° ♊ 59'23	
min. Earth dist.	9006 May 09 10:49	22° ℓ 07'16	29.02150 AU	evening set	9012 Nov 06 15:19	5° ♊ 54'14	
direct	9006 Jul 27 05:19	20° ℓ 42'42					
evening set	9006 Oct 24 08:26	22° ℓ 37'20		conjunction	9012 Nov 22 20:28	6° ♊ 30'01	0°37'35
				minimum elong	9012 Nov 22 20:28	6° ♊ 30'01	0°37'49
conjunction	9006 Nov 09 14:15	23° ℓ 13'14	0°24'59	max. Earth dist.	9012 Nov 22 15:56	6° ♊ 29'36	31.09972 AU
minimum elong	9006 Nov 09 14:14	23° ℓ 13'14	0°25'10	morning rise	9012 Dec 09 00:45	7° ♊ 05'45	
max. Earth dist.	9006 Nov 09 14:11	23° ℓ 13'13	31.02602 AU	retrograde	9013 Mar 07 15:56	9° ♊ 00'00	
morning rise	9006 Nov 25 19:35	23° ℓ 49'07		opposition	9013 May 24 11:42	7° ♊ 36'40	0°41'12
retrograde	9007 Feb 22 18:03	25° ℓ 44'01		min. Earth dist.	9013 May 24 15:13	7° ♊ 36'25	29.10606 AU
opposition	9007 May 11 21:43	24° ℓ 20'13	0°27'53	direct	9013 Aug 11 14:51	6° ♊ 12'08	
min. Earth dist.	9007 May 11 22:33	24° ℓ 20'09	29.03096 AU	evening set	9013 Nov 09 04:19	8° ♊ 07'01	
direct	9007 Jul 29 15:27	22° ℓ 55'39					
evening set	9007 Oct 26 21:39	24° ℓ 50'17		conjunction	9013 Nov 25 09:31	8° ♊ 42'48	0°39'30
				minimum elong	9013 Nov 25 09:31	8° ♊ 42'48	0°39'45
conjunction	9007 Nov 12 03:22	25° ℓ 26'10	0°27'12	max. Earth dist.	9013 Nov 25 05:06	8° ♊ 42'23	31.11170 AU
minimum elong	9007 Nov 12 03:22	25° ℓ 26'10	0°27'25	morning rise	9013 Dec 11 13:25	9° ♊ 18'29	
max. Earth dist.	9007 Nov 12 02:25	25° ℓ 26'04	31.03606 AU	retrograde	9014 Mar 10 01:37	11° ♊ 12'37	
morning rise	9007 Nov 28 08:38	26° ℓ 02'02		opposition	9014 May 26 22:10	9° ♊ 49'22	0°43'13
retrograde	9008 Feb 25 05:21	27° ℓ 56'48		min. Earth dist.	9014 May 27 03:02	9° ♊ 49'02	29.11738 AU
opposition	9008 May 13 08:01	26° ℓ 33'03	0°30'14	direct	9014 Aug 14 03:09	8° ♊ 24'50	
min. Earth dist.	9008 May 13 08:11	26° ℓ 33'02	29.04158 AU	evening set	9014 Nov 11 17:38	10° ♊ 19'45	
direct	9008 Jul 31 03:03	25° ℓ 08'27					
evening set	9008 Oct 28 10:40	27° ℓ 03'07		conjunction	9014 Nov 27 22:32	10° ♊ 55'29	0°41'22
				minimum elong	9014 Nov 27 22:32	10° ♊ 55'29	0°41'36
conjunction	9008 Nov 13 16:17	27° ℓ 38'58	0°29'22	max. Earth dist.	9014 Nov 27 16:05	10° ♊ 54'54	31.12244 AU
minimum elong	9008 Nov 13 16:17	27° ℓ 38'58	0°29'34	morning rise	9014 Dec 14 02:20	11° ♊ 31'09	
max. Earth dist.	9008 Nov 13 14:55	27° ℓ 38'50	31.04724 AU	retrograde	9015 Mar 12 13:11	13° ♊ 25'09	
morning rise	9008 Nov 29 21:20	28° ℓ 14'48		opposition	9015 May 29 08:23	12° ♊ 01'58	0°45'10
	9009 Feb 03 00:59	0° ♊		min. Earth dist.	9015 May 29 13:27	12° ♊ 01'37	29.12752 AU
retrograde	9009 Feb 26 15:41	0° ♊ 09'28		direct	9015 Aug 16 14:38	10° ♊ 37'24	
	9009 Mar 22 14:17	30° ♈		evening set	9015 Nov 14 06:44	12° ♊ 32'20	
opposition	9009 May 15 18:28	28° ℓ 45'46	0°32'32				
min. Earth dist.	9009 May 15 19:53	28° ℓ 45'40	29.05349 AU	conjunction	9015 Nov 30 11:34	13° ♊ 08'04	0°43'10
direct	9009 Aug 02 14:25	27° ℓ 21'10		minimum elong	9015 Nov 30 11:33	13° ♊ 08'04	0°43'25
evening set	9009 Oct 30 23:43	29° ℓ 15'52		max. Earth dist.	9015 Nov 30 04:58	13° ♊ 07'27	31.13192 AU
				morning rise	9015 Dec 16 14:57	13° ♊ 43'42	
conjunction	9009 Nov 16 05:21	29° ℓ 51'43	0°31'30	retrograde	9016 Mar 13 22:53	15° ♊ 37'34	
minimum elong	9009 Nov 16 05:21	29° ℓ 51'43	0°31'43	opposition	9016 May 30 18:50	14° ♊ 14'26	0°47'03
max. Earth dist.	9009 Nov 16 03:54	29° ℓ 51'35	31.05982 AU	min. Earth dist.	9016 May 31 01:37	14° ♊ 13'57	29.13653 AU
	9009 Nov 19 22:35	0° ♊		direct	9016 Aug 18 01:07	12° ♊ 49'50	
morning rise	9009 Dec 02 10:13	0° ♊ 27'31		evening set	9016 Nov 15 19:37	14° ♊ 44'46	
retrograde	9010 Mar 01 03:26	2° ♊ 22'04					
opposition	9010 May 18 04:39	0° ♊ 58'27	0°34'47	conjunction	9016 Dec 02 00:12	15° ♊ 20'28	0°44'53
min. Earth dist.	9010 May 18 05:47	0° ♊ 58'23	29.06649 AU	minimum elong	9016 Dec 02 00:12	15° ♊ 20'28	0°45'08

max. Earth dist.	9016 Dec 01 16:23	15° \nearrow 19'45	31.14058 AU	direct	9023 Sep 03 12:15	28° \nearrow 12'58	
morning rise	9016 Dec 18 03:25	15° \nearrow 56'05			9023 Nov 28 17:26	0° \searrow	
retrograde	9017 Mar 16 09:30	17° \nearrow 49'50		evening set	9023 Dec 02 12:18	0° \searrow 08'08	
opposition	9017 Jun 02 05:04	16° \nearrow 26'43	0°48'52				
min. Earth dist.	9017 Jun 02 11:30	16° \nearrow 26'16	29.14482 AU	conjunction	9023 Dec 18 15:12	0° \searrow 43'40	0°55'00
direct	9017 Aug 20 13:04	15° \nearrow 02'05		minimum elong	9023 Dec 18 15:12	0° \searrow 43'40	0°55'16
evening set	9017 Nov 18 08:32	16° \nearrow 57'02		max. Earth dist.	9023 Dec 18 03:37	0° \searrow 42'35	31.20597 AU
				morning rise	9024 Jan 03 16:13	1° \searrow 19'02	
conjunction	9017 Dec 04 12:56	17° \nearrow 32'42	0°46'33	retrograde	9024 Mar 31 13:40	3° \searrow 12'08	
minimum elong	9017 Dec 04 12:56	17° \nearrow 32'42	0°46'49	opposition	9024 Jun 17 04:24	1° \searrow 49'27	0°59'23
max. Earth dist.	9017 Dec 04 04:24	17° \nearrow 31'55	31.14856 AU	min. Earth dist.	9024 Jun 17 13:59	1° \searrow 48'47	29.21181 AU
morning rise	9017 Dec 20 15:49	18° \nearrow 08'17		direct	9024 Sep 04 23:43	0° \searrow 24'48	
retrograde	9018 Mar 18 19:03	20° \nearrow 01'55		evening set	9024 Dec 04 00:38	2° \searrow 20'00	
opposition	9018 Jun 04 15:16	18° \nearrow 38'50	0°50'36				
min. Earth dist.	9018 Jun 04 23:17	18° \nearrow 38'16	29.15278 AU	conjunction	9024 Dec 20 03:22	2° \searrow 55'31	0°56'08
direct	9018 Aug 23 00:03	17° \nearrow 14'09		minimum elong	9024 Dec 20 03:22	2° \searrow 55'31	0°56'23
evening set	9018 Nov 20 21:20	19° \nearrow 09'07		max. Earth dist.	9024 Dec 19 15:59	2° \searrow 54'28	31.21680 AU
				morning rise	9025 Jan 05 03:53	3° \searrow 30'52	
conjunction	9018 Dec 07 01:36	19° \nearrow 44'46	0°48'09	retrograde	9025 Apr 02 23:47	5° \searrow 23'54	
minimum elong	9018 Dec 07 01:35	19° \nearrow 44'46	0°48'24	opposition	9025 Jun 19 14:48	4° \searrow 01'18	1°00'33
max. Earth dist.	9018 Dec 06 16:47	19° \nearrow 43'57	31.15653 AU	min. Earth dist.	9025 Jun 20 02:01	4° \searrow 00'31	29.22228 AU
morning rise	9018 Dec 23 04:11	20° \nearrow 20'18		direct	9025 Sep 07 10:06	2° \searrow 36'40	
retrograde	9019 Mar 21 05:44	22° \nearrow 13'49		evening set	9025 Dec 06 13:11	4° \searrow 31'54	
opposition	9019 Jun 07 01:26	20° \nearrow 50'46	0°52'16				
min. Earth dist.	9019 Jun 07 09:13	20° \nearrow 50'14	29.16076 AU	conjunction	9025 Dec 22 15:34	5° \searrow 07'23	0°57'11
direct	9019 Aug 25 12:48	19° \nearrow 26'03		minimum elong	9025 Dec 22 15:34	5° \searrow 07'23	0°57'27
evening set	9019 Nov 23 10:05	21° \nearrow 21'02		max. Earth dist.	9025 Dec 22 02:58	5° \searrow 06'13	31.22677 AU
				morning rise	9026 Jan 07 15:50	5° \searrow 42'42	
conjunction	9019 Dec 09 13:58	21° \nearrow 56'39	0°49'40	retrograde	9026 Apr 05 09:44	7° \searrow 35'39	
minimum elong	9019 Dec 09 13:58	21° \nearrow 56'39	0°49'56	opposition	9026 Jun 22 00:57	6° \searrow 13'08	1°01'37
max. Earth dist.	9019 Dec 09 04:04	21° \nearrow 55'45	31.16468 AU	min. Earth dist.	9026 Jun 22 11:54	6° \searrow 12'22	29.23160 AU
morning rise	9019 Dec 25 16:17	22° \nearrow 32'10		direct	9026 Sep 09 21:58	4° \searrow 48'29	
retrograde	9020 Mar 22 16:44	24° \nearrow 25'34		evening set	9026 Dec 09 01:45	6° \searrow 43'45	
opposition	9020 Jun 08 11:40	23° \nearrow 02'34	0°53'51				
min. Earth dist.	9020 Jun 08 20:18	23° \nearrow 01'58	29.16941 AU	conjunction	9026 Dec 25 03:49	7° \searrow 19'13	0°58'09
direct	9020 Aug 26 23:07	21° \nearrow 37'49		minimum elong	9026 Dec 25 03:49	7° \searrow 19'13	0°58'24
evening set	9020 Nov 24 22:36	23° \nearrow 32'50		max. Earth dist.	9026 Dec 24 14:23	7° \searrow 17'58	31.23532 AU
				morning rise	9027 Jan 10 03:40	7° \searrow 54'30	
conjunction	9020 Dec 11 02:24	24° \nearrow 08'26	0°51'07	retrograde	9027 Apr 07 18:51	9° \searrow 47'23	
minimum elong	9020 Dec 11 02:24	24° \nearrow 08'26	0°51'22	opposition	9027 Jun 24 11:26	8° \searrow 24'53	1°02'37
max. Earth dist.	9020 Dec 10 17:07	24° \nearrow 07'34	31.17374 AU	min. Earth dist.	9027 Jun 24 23:59	8° \searrow 24'01	29.23957 AU
morning rise	9020 Dec 27 04:16	24° \nearrow 43'54		direct	9027 Sep 12 08:18	7° \searrow 00'14	
retrograde	9021 Mar 25 03:57	26° \nearrow 37'12		evening set	9027 Dec 11 14:03	8° \searrow 55'30	
opposition	9021 Jun 10 21:50	25° \nearrow 14'15	0°55'22				
min. Earth dist.	9021 Jun 11 06:33	25° \nearrow 13'39	29.17893 AU	conjunction	9027 Dec 27 15:50	9° \searrow 30'56	0°59'02
direct	9021 Aug 29 12:41	23° \nearrow 49'31		minimum elong	9027 Dec 27 15:50	9° \searrow 30'56	0°59'18
evening set	9021 Nov 27 11:10	25° \nearrow 44'34		max. Earth dist.	9027 Dec 27 02:00	9° \searrow 29'39	31.24260 AU
				morning rise	9028 Jan 12 15:17	10° \searrow 06'11	
conjunction	9021 Dec 13 14:36	26° \nearrow 20'09	0°52'29	retrograde	9028 Apr 09 04:48	11° \searrow 58'59	
minimum elong	9021 Dec 13 14:36	26° \nearrow 20'09	0°52'45	opposition	9028 Jun 25 21:45	10° \searrow 36'31	1°03'30
max. Earth dist.	9021 Dec 13 03:51	26° \nearrow 19'09	31.18381 AU	min. Earth dist.	9028 Jun 26 10:15	10° \searrow 35'39	29.24612 AU
morning rise	9021 Dec 29 16:19	26° \nearrow 55'35		direct	9028 Sep 13 20:10	9° \searrow 11'50	
retrograde	9022 Mar 27 16:16	28° \nearrow 48'49		evening set	9028 Dec 13 02:23	11° \searrow 07'06	
opposition	9022 Jun 13 08:01	27° \nearrow 25'56	0°56'47				
min. Earth dist.	9022 Jun 13 16:47	27° \nearrow 25'19	29.18953 AU	conjunction	9028 Dec 29 03:46	11° \searrow 42'30	0°59'49
direct	9022 Sep 01 00:21	26° \nearrow 01'13		minimum elong	9028 Dec 29 03:46	11° \searrow 42'30	1°00'05
evening set	9022 Nov 29 23:41	27° \nearrow 56'19		max. Earth dist.	9028 Dec 28 12:36	11° \searrow 41'05	31.24856 AU
				morning rise	9029 Jan 14 02:55	12° \searrow 31'43	
conjunction	9022 Dec 16 03:00	28° \nearrow 31'52	0°53'47	retrograde	9029 Apr 11 15:20	14° \searrow 10'25	
minimum elong	9022 Dec 16 03:00	28° \nearrow 31'52	0°54'02	opposition	9029 Jun 28 08:03	12° \searrow 47'57	1°04'19
max. Earth dist.	9022 Dec 15 16:54	28° \nearrow 30'56	31.19472 AU	min. Earth dist.	9029 Jun 28 21:36	12° \searrow 47'01	29.25168 AU
morning rise	9023 Jan 01 04:13	29° \nearrow 07'16		direct	9029 Sep 16 06:36	11° \searrow 23'14	
	9023 Jan 27 09:16	0° \searrow		evening set	9029 Dec 15 14:28	13° \searrow 18'29	
retrograde	9023 Mar 30 01:46	1° \searrow 00'26					
	9023 Jun 02 05:31	30° \nwarrow		conjunction	9029 Dec 31 15:43	13° \searrow 53'51	1°00'32
opposition	9023 Jun 15 18:11	29° \nearrow 37'39	0°58'07	minimum elong	9029 Dec 31 15:43	13° \searrow 53'51	1°00'48
min. Earth dist.	9023 Jun 16 04:00	29° \nearrow 36'58	29.20062 AU	max. Earth dist.	9029 Dec 31 00:55	13° \searrow 52'29	31.25365 AU

morning rise	9030 Jan 16 14:24	14°32'02"		conjunction	9037 Jan 15 23:44	29°30'00"	1°03'02"
retrograde	9030 Apr 14 01:25	16°32'13"		minimum elong	9037 Jan 15 23:44	29°30'00"	1°03'17"
opposition	9030 Jun 30 18:21	14°35'10"	1°05'01"	max. Earth dist.	9037 Jan 15 07:23	29°30'29"	31.29566 AU
min. Earth dist.	9030 Jul 01 08:20	14°35'12"	29.25631 AU	morning rise	9037 Jan 31 19:46	29°34'58"	
direct	9030 Sep 18 20:17	13°33'24"			9037 Feb 08 08:14	0°00'00"	
evening set	9030 Dec 18 02:40	15°32'38"		retrograde	9037 Apr 28 23:58	1°36'12"	
max. Earth dist.	9031 Jan 02 11:02	16°30'28"	31.25808 AU	opposition	9037 Jul 15 18:32	0°14'01"	1°07'21"
				min. Earth dist.	9037 Jul 16 09:32	0°12'59"	29.29979 AU
conjunction	9031 Jan 03 03:24	16°30'59"	1°01'09"		9037 Jul 24 06:18	30°00'00"	
minimum elong	9031 Jan 03 03:24	16°30'59"	1°01'25"	direct	9037 Oct 04 03:25	28°34'18"	
morning rise	9031 Jan 19 01:50	16°34'07"			9037 Dec 11 16:04	0°00'00"	
retrograde	9031 Apr 16 12:47	18°32'37"		evening set	9038 Jan 02 12:41	0°44'40"	
opposition	9031 Jul 03 04:32	17°31'09"	1°05'38"				
min. Earth dist.	9031 Jul 03 18:35	17°30'11"	29.26072 AU	conjunction	9038 Jan 18 11:00	1°19'49"	1°03'02"
direct	9031 Sep 21 08:00	15°34'52"		minimum elong	9038 Jan 18 11:00	1°19'49"	1°03'16"
evening set	9031 Dec 20 14:32	17°34'03"		max. Earth dist.	9038 Jan 17 17:33	1°18'12"	31.30278 AU
				morning rise	9038 Feb 03 06:43	1°54'46"	
conjunction	9032 Jan 05 15:05	18°31'52"	1°01'42"	retrograde	9038 May 01 10:49	3°47'01"	
minimum elong	9032 Jan 05 15:05	18°31'52"	1°01'57"	opposition	9038 Jul 18 05:05	2°24'53"	1°07'18"
max. Earth dist.	9032 Jan 04 23:32	18°31'26"	31.26247 AU	min. Earth dist.	9038 Jul 18 20:53	2°23'48"	29.30654 AU
morning rise	9032 Jan 21 12:58	18°35'08"		direct	9038 Oct 06 13:13	1°00'12"	
retrograde	9032 Apr 17 21:57	20°34'23"		evening set	9039 Jan 05 00:15	2°55'36"	
opposition	9032 Jul 04 14:55	19°32'05"	1°06'10"				
min. Earth dist.	9032 Jul 05 05:45	19°31'54"	29.26532 AU	conjunction	9039 Jan 20 22:19	3°30'44"	1°02'56"
direct	9032 Sep 22 20:14	17°35'04"		minimum elong	9039 Jan 20 22:19	3°30'44"	1°03'10"
evening set	9032 Dec 22 02:17	19°35'17"		max. Earth dist.	9039 Jan 20 05:25	3°29'10"	31.30889 AU
max. Earth dist.	9033 Jan 06 09:46	20°32'02"	31.26746 AU	morning rise	9039 Feb 05 17:30	4°05'39"	
				retrograde	9039 May 03 21:01	5°57'53"	
conjunction	9033 Jan 07 02:21	20°32'34"	1°02'09"	opposition	9039 Jul 20 15:41	4°35'49"	1°07'09"
minimum elong	9033 Jan 07 02:21	20°32'34"	1°02'23"	min. Earth dist.	9039 Jul 21 07:55	4°34'42"	29.31196 AU
morning rise	9033 Jan 23 00:02	21°30'13"		direct	9039 Oct 09 02:03	3°11'09"	
retrograde	9033 Apr 20 09:25	22°35'58"		evening set	9040 Jan 07 11:56	5°06'35"	
opposition	9033 Jul 07 01:09	21°31'32"	1°06'36"				
min. Earth dist.	9033 Jul 07 15:13	21°30'33"	29.27077 AU	conjunction	9040 Jan 23 09:27	5°41'41"	1°02'45"
direct	9033 Sep 25 08:27	20°30'39"		minimum elong	9040 Jan 23 09:27	5°41'41"	1°02'59"
evening set	9033 Dec 24 14:01	22°30'15"		max. Earth dist.	9040 Jan 22 14:59	5°39'59"	31.31371 AU
				morning rise	9040 Feb 08 04:24	6°16'35"	
conjunction	9034 Jan 09 13:52	22°33'08"	1°02'30"	retrograde	9040 May 05 08:46	8°08'48"	
minimum elong	9034 Jan 09 13:52	22°33'08"	1°02'45"	opposition	9040 Jul 22 02:17	6°46'45"	1°06'54"
max. Earth dist.	9034 Jan 08 21:58	22°35'40"	31.27333 AU	min. Earth dist.	9040 Jul 22 18:29	6°45'38"	29.31621 AU
morning rise	9034 Jan 25 11:01	23°31'10"		direct	9040 Oct 10 13:03	5°22'06"	
retrograde	9034 Apr 22 18:57	25°30'42"		evening set	9041 Jan 08 23:13	7°17'32"	
opposition	9034 Jul 09 11:27	23°34'20"	1°06'56"				
min. Earth dist.	9034 Jul 10 02:35	23°34'00"	29.27720 AU	conjunction	9041 Jan 24 20:34	7°52'37"	1°02'29"
direct	9034 Sep 27 19:20	22°31'12"		minimum elong	9041 Jan 24 20:35	7°52'37"	1°02'41"
evening set	9034 Dec 27 01:48	24°31'27"		max. Earth dist.	9041 Jan 24 02:44	7°50'58"	31.31723 AU
max. Earth dist.	9035 Jan 11 08:52	24°34'10"	31.28033 AU	morning rise	9041 Feb 09 15:00	8°27'29"	
				retrograde	9041 May 07 18:19	10°19'41"	
conjunction	9035 Jan 12 01:14	24°34'41"	1°02'46"	opposition	9041 Jul 24 13:00	8°57'39"	1°06'34"
minimum elong	9035 Jan 12 01:14	24°34'40"	1°03'01"	min. Earth dist.	9041 Jul 25 06:18	8°56'28"	29.31902 AU
morning rise	9035 Jan 27 22:06	25°32'41"		direct	9041 Oct 13 01:07	7°33'00"	
retrograde	9035 Apr 25 04:51	27°31'45"		evening set	9042 Jan 11 10:44	9°28'25"	
opposition	9035 Jul 11 21:44	25°32'37"	1°07'10"				
min. Earth dist.	9035 Jul 12 11:56	25°31'38"	29.28453 AU	conjunction	9042 Jan 27 07:36	10°03'29"	1°02'07"
direct	9035 Sep 30 07:02	24°32'47"		minimum elong	9042 Jan 27 07:36	10°03'29"	1°02'20"
evening set	9035 Dec 29 13:22	26°32'04"		max. Earth dist.	9042 Jan 26 12:27	10°01'43"	31.31953 AU
				morning rise	9042 Feb 12 01:49	10°38'19"	
conjunction	9036 Jan 14 12:27	26°35'17"	1°02'57"	retrograde	9042 May 10 06:15	12°30'29"	
minimum elong	9036 Jan 14 12:27	26°35'17"	1°03'12"	opposition	9042 Jul 26 23:29	11°08'27"	1°06'08"
max. Earth dist.	9036 Jan 13 19:58	26°35'45"	31.28790 AU	min. Earth dist.	9042 Jul 27 16:16	11°07'17"	29.32076 AU
morning rise	9036 Jan 30 08:52	27°33'16"		direct	9042 Oct 15 14:13	9°43'47"	
retrograde	9036 Apr 26 14:06	29°32'51"		evening set	9043 Jan 13 22:01	11°39'11"	
opposition	9036 Jul 13 08:13	28°30'15"	1°07'19"				
min. Earth dist.	9036 Jul 13 23:28	28°30'12"	29.29230 AU	conjunction	9043 Jan 29 18:37	12°14'14"	1°01'40"
direct	9036 Oct 01 16:33	26°38'29"		minimum elong	9043 Jan 29 18:37	12°14'14"	1°01'53"
evening set	9036 Dec 31 00:58	28°33'48"		max. Earth dist.	9043 Jan 28 23:57	12°12'30"	31.32078 AU
				morning rise	9043 Feb 14 12:20	12°49'02"	

retrograde	9043 May 12 16:04	14° \approx 41'09		evening set	9050 Jan 29 02:26	26° \approx 51'47	
opposition	9043 Jul 29 10:15	13° \approx 19'06	1°05'37				
min. Earth dist.	9043 Jul 30 04:14	13° \approx 17'52	29.32174 AU	conjunction	9050 Feb 13 20:33	27° \approx 26'39	0°56'07
direct	9043 Oct 18 02:04	11° \approx 54'25		minimum elong	9050 Feb 13 20:33	27° \approx 26'39	0°56'16
evening set	9044 Jan 16 09:04	13° \approx 49'47		max. Earth dist.	9050 Feb 13 03:04	27° \approx 25'02	31.33707 AU
max. Earth dist.	9044 Jan 31 10:18	14° \approx 23'02	31.32165 AU	morning rise	9050 Mar 01 11:47	28° \approx 01'19	
				retrograde	9050 May 27 12:06	29° \approx 53'28	
conjunction	9044 Feb 01 05:14	14° \approx 24'48	1°01'08	opposition	9050 Aug 13 13:49	28° \approx 31'30	0°59'22
minimum elong	9044 Feb 01 05:14	14° \approx 24'48	1°01'20	min. Earth dist.	9050 Aug 14 07:01	28° \approx 30'20	29.33887 AU
morning rise	9044 Feb 16 22:41	14° \approx 59'35		direct	9050 Nov 02 06:59	27° \approx 06'59	
	9044 Feb 17 03:22	15° \approx		evening set	9051 Jan 31 13:24	29° \approx 02'18	
retrograde	9044 May 14 01:13	16° \approx 51'40					
opposition	9044 Jul 30 20:54	15° \approx 29'36	1°04'59	conjunction	9051 Feb 16 07:00	29° \approx 37'10	0°55'00
min. Earth dist.	9044 Jul 31 13:50	15° \approx 28'26	29.32252 AU	minimum elong	9051 Feb 16 07:00	29° \approx 37'10	0°55'08
	9044 Aug 18 04:26	15° \approx		max. Earth dist.	9051 Feb 15 12:35	29° \approx 35'27	31.33958 AU
direct	9044 Oct 19 14:33	14° \approx 04'53			9051 Feb 26 12:57	0° \approx	
	9044 Dec 18 10:00	15° \approx		morning rise	9051 Mar 03 22:03	0° \approx 11'48	
evening set	9045 Jan 17 20:06	16° \approx 00'13		retrograde	9051 May 30 00:28	2° \approx 04'00	
				opposition	9051 Aug 16 00:55	0° \approx 42'03	0°58'07
conjunction	9045 Feb 02 15:55	16° \approx 35'13	1°00'31	min. Earth dist.	9051 Aug 16 17:18	0° \approx 40'56	29.34079 AU
minimum elong	9045 Feb 02 15:55	16° \approx 35'13	1°00'42		9051 Sep 11 20:04	30° \approx	
max. Earth dist.	9045 Feb 01 20:59	16° \approx 33'27	31.32252 AU	direct	9051 Nov 04 19:35	29° \approx 17'34	
morning rise	9045 Feb 18 08:58	17° \approx 09'58			9051 Dec 26 22:25	0° \approx	
retrograde	9045 May 16 10:05	19° \approx 02'01		evening set	9052 Feb 03 00:05	1° \approx 12'54	
opposition	9045 Aug 02 07:33	17° \approx 39'56	1°04'17				
min. Earth dist.	9045 Aug 03 01:12	17° \approx 38'43	29.32379 AU	conjunction	9052 Feb 18 17:26	1° \approx 47'44	0°53'47
direct	9045 Oct 22 00:39	16° \approx 15'13		minimum elong	9052 Feb 18 17:26	1° \approx 47'44	0°53'55
evening set	9046 Jan 20 07:02	18° \approx 10'31		max. Earth dist.	9052 Feb 17 23:33	1° \approx 46'05	31.34076 AU
max. Earth dist.	9046 Feb 04 08:16	18° \approx 43'47	31.32418 AU	morning rise	9052 Mar 05 08:02	2° \approx 22'22	
				retrograde	9052 May 31 10:48	4° \approx 14'36	
conjunction	9046 Feb 05 02:33	18° \approx 45'29	0°59'48	opposition	9052 Aug 17 12:13	2° \approx 52'40	0°56'47
minimum elong	9046 Feb 05 02:34	18° \approx 45'29	1°00'00	min. Earth dist.	9052 Aug 18 05:47	2° \approx 51'28	29.34131 AU
morning rise	9046 Feb 20 19:14	19° \approx 20'13		direct	9052 Nov 06 07:12	1° \approx 28'13	
retrograde	9046 May 18 19:16	21° \approx 12'15		evening set	9053 Feb 04 10:56	3° \approx 23'32	
opposition	9046 Aug 04 18:17	19° \approx 50'11	1°03'29	max. Earth dist.	9053 Feb 19 09:38	3° \approx 56'39	31.34059 AU
min. Earth dist.	9046 Aug 05 11:06	19° \approx 49'01	29.32578 AU				
direct	9046 Oct 24 12:01	18° \approx 25'28		conjunction	9053 Feb 20 03:54	3° \approx 58'21	0°52'30
evening set	9047 Jan 22 18:01	20° \approx 20'46		minimum elong	9053 Feb 20 03:54	3° \approx 58'21	0°52'38
				morning rise	9053 Mar 07 18:16	4° \approx 32'58	
conjunction	9047 Feb 07 13:02	20° \approx 55'42	0°59'01	retrograde	9053 Jun 02 20:52	6° \approx 25'14	
minimum elong	9047 Feb 07 13:02	20° \approx 55'42	0°59'11	opposition	9053 Aug 19 23:15	5° \approx 03'18	0°55'22
max. Earth dist.	9047 Feb 06 18:15	20° \approx 53'57	31.32667 AU	min. Earth dist.	9053 Aug 20 15:59	5° \approx 02'09	29.34027 AU
morning rise	9047 Feb 23 05:25	21° \approx 30'25		direct	9053 Nov 08 19:49	3° \approx 38'51	
retrograde	9047 May 21 05:18	23° \approx 22'28		evening set	9054 Feb 06 21:46	5° \approx 34'10	
opposition	9047 Aug 07 05:06	22° \approx 00'24	1°02'35				
min. Earth dist.	9047 Aug 07 21:57	21° \approx 59'15	29.32880 AU	conjunction	9054 Feb 22 14:22	6° \approx 08'58	0°51'09
direct	9047 Oct 26 21:53	20° \approx 35'43		minimum elong	9054 Feb 22 14:23	6° \approx 08'58	0°51'16
evening set	9048 Jan 25 04:47	22° \approx 31'01		max. Earth dist.	9054 Feb 21 19:43	6° \approx 07'14	31.33875 AU
				morning rise	9054 Mar 10 04:26	6° \approx 43'34	
conjunction	9048 Feb 09 23:36	23° \approx 05'56	0°58'08	retrograde	9054 Jun 05 06:44	8° \approx 35'51	
minimum elong	9048 Feb 09 23:36	23° \approx 05'56	0°58'19	opposition	9054 Aug 22 10:36	7° \approx 13'54	0°53'53
max. Earth dist.	9048 Feb 09 06:06	23° \approx 04'18	31.33006 AU	min. Earth dist.	9054 Aug 23 04:15	7° \approx 12'42	29.33775 AU
morning rise	9048 Feb 25 15:31	23° \approx 40'37		direct	9054 Nov 11 06:34	5° \approx 49'28	
retrograde	9048 May 22 14:35	25° \approx 32'42		evening set	9055 Feb 09 08:21	7° \approx 44'45	
opposition	9048 Aug 08 15:57	24° \approx 10'40	1°01'36	max. Earth dist.	9055 Feb 24 06:34	8° \approx 17'51	31.33559 AU
min. Earth dist.	9048 Aug 09 08:44	24° \approx 09'31	29.33233 AU				
direct	9048 Oct 28 09:23	22° \approx 46'02		conjunction	9055 Feb 25 00:42	8° \approx 19'32	0°49'43
evening set	9049 Jan 26 15:37	24° \approx 41'21		minimum elong	9055 Feb 25 00:42	8° \approx 19'32	0°49'50
				morning rise	9055 Mar 12 14:24	8° \approx 54'07	
conjunction	9049 Feb 11 09:56	25° \approx 16'15	0°57'10	retrograde	9055 Jun 07 15:57	10° \approx 46'26	
minimum elong	9049 Feb 11 09:56	25° \approx 16'15	0°57'20	opposition	9055 Aug 24 21:54	9° \approx 24'27	0°52'19
max. Earth dist.	9049 Feb 10 15:29	25° \approx 14'32	31.33376 AU	min. Earth dist.	9055 Aug 25 14:59	9° \approx 23'17	29.33388 AU
morning rise	9049 Feb 27 01:42	25° \approx 50'55		direct	9055 Nov 13 18:43	8° \approx 00'01	
retrograde	9049 May 25 02:15	27° \approx 43'02		evening set	9056 Feb 11 18:58	9° \approx 55'15	
opposition	9049 Aug 11 02:48	26° \approx 21'02	1°00'32				
min. Earth dist.	9049 Aug 11 19:07	26° \approx 19'55	29.33596 AU	conjunction	9056 Feb 27 10:52	10° \approx 30'01	0°48'13
direct	9049 Oct 30 19:18	24° \approx 56'27		minimum elong	9056 Feb 27 10:52	10° \approx 30'01	0°48'20

max. Earth dist.	9056 Feb 26 16:04	10° ✕ 28'16	31.33133 AU	conjunction	9063 Mar 14 08:33	25° ✕ 43'07	0°35'57
morning rise	9056 Mar 14 00:24	11° ✕ 04'36		minimum elong	9063 Mar 14 08:33	25° ✕ 43'07	0°36'00
retrograde	9056 Jun 09 02:03	12° ✕ 56'57		max. Earth dist.	9063 Mar 13 17:05	25° ✕ 41'40	31.30866 AU
opposition	9056 Aug 26 09:09	11° ✕ 34'55	0°50'41	morning rise	9063 Mar 29 20:17	26° ✕ 17'38	
min. Earth dist.	9056 Aug 27 02:21	11° ✕ 33'44	29.32943 AU	retrograde	9063 Jun 25 04:54	28° ✕ 10'29	
direct	9056 Nov 15 04:57	10° ✕ 10'27		opposition	9063 Sep 11 17:32	26° ✕ 48'22	0°37'22
evening set	9057 Feb 13 05:15	12° ✕ 05'39		min. Earth dist.	9063 Sep 12 08:12	26° ✕ 47'22	29.30733 AU
				direct	9063 Dec 01 12:56	25° ✕ 24'10	
conjunction	9057 Feb 28 21:01	12° ✕ 40'24	0°46'39	evening set	9064 Feb 29 04:59	27° ✕ 19'17	
minimum elong	9057 Feb 28 21:01	12° ✕ 40'24	0°46'45				
max. Earth dist.	9057 Feb 28 03:35	12° ✕ 38'47	31.32670 AU	conjunction	9064 Mar 15 18:34	27° ✕ 53'58	0°33'58
morning rise	9057 Mar 16 10:09	13° ✕ 14'58		minimum elong	9064 Mar 15 18:34	27° ✕ 53'58	0°34'00
retrograde	9057 Jun 11 10:52	15° ✕ 07'21		max. Earth dist.	9064 Mar 15 03:59	27° ✕ 52'37	31.30525 AU
opposition	9057 Aug 28 20:29	13° ✕ 45'16	0°48'59	morning rise	9064 Mar 31 06:00	28° ✕ 28'29	
min. Earth dist.	9057 Aug 29 13:30	13° ✕ 44'06	29.32473 AU		9064 May 21 18:32	0° ∇	
direct	9057 Nov 17 16:35	12° ✕ 20'49		retrograde	9064 Jun 26 14:47	0° ∇ 21'25	
evening set	9058 Feb 15 15:42	14° ✕ 15'58			9064 Aug 02 09:42	30° ℞ ✕	
				opposition	9064 Sep 13 05:15	28° ✕ 59'17	0°35'13
conjunction	9058 Mar 03 06:57	14° ✕ 50'43	0°45'02	min. Earth dist.	9064 Sep 13 19:15	28° ✕ 58'20	29.30327 AU
minimum elong	9058 Mar 03 06:57	14° ✕ 50'43	0°45'06	direct	9064 Dec 03 01:37	27° ✕ 35'08	
max. Earth dist.	9058 Mar 02 12:53	14° ✕ 49'01	31.32223 AU	evening set	9065 Mar 02 15:19	29° ✕ 30'13	
morning rise	9058 Mar 18 19:57	15° ✕ 25'15			9065 Mar 16 00:18	0° ∇	
retrograde	9058 Jun 13 22:07	17° ✕ 17'41					
opposition	9058 Aug 31 07:45	15° ✕ 55'34	0°47'13	conjunction	9065 Mar 18 04:29	0° ∇ 04'54	0°31'57
min. Earth dist.	9058 Aug 31 23:43	15° ✕ 54'29	29.32063 AU	minimum elong	9065 Mar 18 04:29	0° ∇ 04'54	0°31'57
direct	9058 Nov 20 02:11	14° ✕ 31'07		max. Earth dist.	9065 Mar 17 13:11	0° ∇ 03'28	31.30057 AU
evening set	9059 Feb 18 01:57	16° ✕ 26'16		morning rise	9065 Apr 02 15:52	0° ∇ 39'25	
				retrograde	9065 Jun 29 01:06	2° ∇ 32'26	
conjunction	9059 Mar 05 17:01	17° ✕ 00'59	0°43'20	opposition	9065 Sep 15 17:07	1° ∇ 10'15	0°33'01
minimum elong	9059 Mar 05 17:02	17° ✕ 00'59	0°43'24	min. Earth dist.	9065 Sep 16 07:11	1° ∇ 09'18	29.29796 AU
max. Earth dist.	9059 Mar 05 00:28	16° ✕ 59'27	31.31851 AU		9065 Nov 05 14:51	30° ℞ ✕	
morning rise	9059 Mar 21 05:36	17° ✕ 35'32		direct	9065 Dec 05 11:56	29° ✕ 46'07	
retrograde	9059 Jun 16 07:59	19° ✕ 28'02			9066 Jan 03 17:51	0° ∇	
opposition	9059 Sep 02 19:18	18° ✕ 05'54	0°45'22	evening set	9066 Mar 05 01:30	1° ∇ 41'11	
min. Earth dist.	9059 Sep 03 11:28	18° ✕ 04'48	29.31733 AU				
direct	9059 Nov 22 13:41	16° ✕ 41'29		conjunction	9066 Mar 20 14:34	2° ∇ 15'51	0°29'52
evening set	9060 Feb 20 12:06	18° ✕ 36'37		minimum elong	9066 Mar 20 14:34	2° ∇ 15'51	0°29'52
max. Earth dist.	9060 Mar 06 10:02	19° ✕ 09'46	31.31575 AU	max. Earth dist.	9066 Mar 20 00:28	2° ∇ 14'32	31.29448 AU
				morning rise	9066 Apr 05 01:33	2° ∇ 50'22	
conjunction	9060 Mar 07 02:46	19° ✕ 11'19	0°41'35	retrograde	9066 Jul 01 09:43	4° ∇ 43'27	
minimum elong	9060 Mar 07 02:46	19° ✕ 11'19	0°41'39	opposition	9066 Sep 18 05:04	3° ∇ 21'14	0°30'47
morning rise	9060 Mar 22 15:15	19° ✕ 45'51		min. Earth dist.	9066 Sep 18 19:08	3° ∇ 20'16	29.29106 AU
retrograde	9060 Jun 17 20:32	21° ✕ 38'26		direct	9066 Dec 07 23:49	1° ∇ 57'06	
opposition	9060 Sep 04 06:40	20° ✕ 16'18	0°43'28	evening set	9067 Mar 07 11:50	3° ∇ 52'06	
min. Earth dist.	9060 Sep 04 21:24	20° ✕ 15'18	29.31485 AU	max. Earth dist.	9067 Mar 22 09:31	4° ∇ 25'22	31.28701 AU
direct	9060 Nov 24 02:03	18° ✕ 51'56					
evening set	9061 Feb 21 22:17	20° ✕ 47'04		conjunction	9067 Mar 23 00:28	4° ∇ 26'46	0°27'45
				minimum elong	9067 Mar 23 00:28	4° ∇ 26'46	0°27'45
conjunction	9061 Mar 09 12:45	21° ✕ 21'47	0°39'46	morning rise	9067 Apr 07 11:27	5° ∇ 01'17	
minimum elong	9061 Mar 09 12:45	21° ✕ 21'47	0°39'49	retrograde	9067 Jul 03 21:25	6° ∇ 54'26	
max. Earth dist.	9061 Mar 08 20:59	21° ✕ 20'19	31.31346 AU	opposition	9067 Sep 20 17:01	5° ∇ 32'09	0°28'30
morning rise	9061 Mar 25 00:54	21° ✕ 56'18		min. Earth dist.	9067 Sep 21 06:14	5° ∇ 31'15	29.28299 AU
retrograde	9061 Jun 20 07:17	23° ✕ 48'59		direct	9067 Dec 10 09:52	4° ∇ 08'00	
opposition	9061 Sep 06 18:08	22° ✕ 26'50	0°41'29	evening set	9068 Mar 08 21:47	6° ∇ 02'56	
min. Earth dist.	9061 Sep 07 09:36	22° ✕ 25'47	29.31268 AU				
direct	9061 Nov 26 13:02	21° ✕ 02'32		conjunction	9068 Mar 24 10:21	6° ∇ 37'35	0°25'36
evening set	9062 Feb 24 08:34	22° ✕ 57'41		minimum elong	9068 Mar 24 10:21	6° ∇ 37'35	0°25'35
				max. Earth dist.	9068 Mar 23 20:37	6° ∇ 36'18	31.27835 AU
conjunction	9062 Mar 11 22:42	23° ✕ 32'23	0°37'53	morning rise	9068 Apr 08 21:01	7° ∇ 12'06	
minimum elong	9062 Mar 11 22:42	23° ✕ 32'23	0°37'56	retrograde	9068 Jul 05 06:54	9° ∇ 05'19	
max. Earth dist.	9062 Mar 11 07:14	23° ✕ 30'56	31.31135 AU	opposition	9068 Sep 22 05:03	7° ∇ 42'57	0°26'10
morning rise	9062 Mar 27 10:40	24° ✕ 06'54		min. Earth dist.	9068 Sep 22 18:45	7° ∇ 42'01	29.27386 AU
retrograde	9062 Jun 22 17:51	25° ✕ 59'39		direct	9068 Dec 11 21:50	6° ∇ 18'47	
opposition	9062 Sep 09 05:43	24° ✕ 37'32	0°39'27	evening set	9069 Mar 11 07:54	8° ∇ 13'39	
min. Earth dist.	9062 Sep 09 19:52	24° ✕ 36'34	29.31030 AU				
direct	9062 Nov 29 01:39	23° ✕ 13'17		conjunction	9069 Mar 26 20:07	8° ∇ 48'17	0°23'24
evening set	9063 Feb 26 18:46	25° ✕ 08'26		minimum elong	9069 Mar 26 20:07	8° ∇ 48'17	0°23'23

max. Earth dist.	9069 Mar 26 06:12	8° Υ 46'59	31.26907 AU	morning rise	9075 Apr 24 16:00	22° Υ 27'02	
morning rise	9069 Apr 11 06:46	9° Υ 22'48		retrograde	9075 Jul 21 10:37	24° Υ 20'58	
retrograde	9069 Jul 07 18:51	11° Υ 16'04		opposition	9075 Oct 08 17:37	22° Υ 58'19	0°09'03
opposition	9069 Sep 24 16:48	9° Υ 53'36	0°23'49	min. Earth dist.	9075 Oct 09 02:15	22° Υ 57'44	29.22262 AU
min. Earth dist.	9069 Sep 25 05:05	9° Υ 52'46	29.26446 AU	direct	9075 Dec 28 07:07	21° Υ 34'24	
direct	9069 Dec 14 09:47	8° Υ 29'25		evening set	9076 Mar 26 05:12	23° Υ 29'08	
evening set	9070 Mar 13 17:53	10° Υ 24'15					
conjunction	9070 Mar 29 05:54	10° Υ 58'52	0°21'11	conjunction	9076 Apr 10 15:54	24° Υ 03'45	0°07'20
minimum elong	9070 Mar 29 05:54	10° Υ 58'52	0°21'09	minimum elong	9076 Apr 10 15:54	24° Υ 03'45	0°07'14
max. Earth dist.	9070 Mar 28 17:02	10° Υ 57'40	31.25972 AU	behind sun begin	9076 Apr 10 09:59	24° Υ 03'14	
morning rise	9070 Apr 13 16:18	11° Υ 33'23		behind sun end	9076 Apr 10 21:49	24° Υ 04'17	
retrograde	9070 Jul 10 05:27	13° Υ 26'44		max. Earth dist.	9076 Apr 10 06:51	24° Υ 02'55	31.21955 AU
opposition	9070 Sep 27 04:57	12° Υ 04'11	0°21'25	morning rise	9076 Apr 26 01:44	24° Υ 38'19	
min. Earth dist.	9070 Sep 27 17:33	12° Υ 03'19	29.25547 AU	retrograde	9076 Jul 22 23:08	26° Υ 32'25	
direct	9070 Dec 16 20:41	10° Υ 39'59		opposition	9076 Oct 10 05:58	25° Υ 09'45	0°06'30
evening set	9071 Mar 16 03:43	12° Υ 34'46		min. Earth dist.	9076 Oct 10 13:32	25° Υ 09'14	29.21634 AU
				direct	9076 Dec 29 16:49	23° Υ 45'53	
				evening set	9077 Mar 28 15:13	25° Υ 40'37	
conjunction	9071 Mar 31 15:29	13° Υ 09'23	0°18'56				
minimum elong	9071 Mar 31 15:29	13° Υ 09'23	0°18'54	conjunction	9077 Apr 13 01:53	26° Υ 15'15	0°04'58
max. Earth dist.	9071 Mar 31 03:31	13° Υ 08'16	31.25121 AU	minimum elong	9077 Apr 13 01:52	26° Υ 15'15	0°04'52
morning rise	9071 Apr 16 01:45	13° Υ 43'53		behind sun begin	9077 Apr 12 19:36	26° Υ 14'41	
retrograde	9071 Jul 12 16:22	15° Υ 37'20		behind sun end	9077 Apr 13 08:07	26° Υ 15'49	
opposition	9071 Sep 29 16:58	14° Υ 14'44	0°19'00	max. Earth dist.	9077 Apr 12 18:02	26° Υ 14'32	31.21275 AU
min. Earth dist.	9071 Sep 30 03:40	14° Υ 14'00	29.24740 AU	morning rise	9077 Apr 28 11:26	26° Υ 49'50	
direct	9071 Dec 19 09:39	12° Υ 50'33		retrograde	9077 Jul 25 09:16	28° Υ 44'03	
evening set	9072 Mar 17 13:39	14° Υ 45'19		opposition	9077 Oct 12 18:24	27° Υ 21'23	0°03'57
				min. Earth dist.	9077 Oct 13 02:27	27° Υ 20'50	29.20903 AU
conjunction	9072 Apr 02 01:09	15° Υ 19'55	0°16'40	direct	9078 Jan 01 04:14	25° Υ 57'34	
minimum elong	9072 Apr 02 01:09	15° Υ 19'55	0°16'37	evening set	9078 Mar 31 01:23	27° Υ 52'17	
max. Earth dist.	9072 Apr 01 13:32	15° Υ 18'51	31.24367 AU				
morning rise	9072 Apr 17 11:19	15° Υ 54'26		conjunction	9078 Apr 15 11:46	28° Υ 26'55	0°02'34
retrograde	9072 Jul 14 03:57	17° Υ 47'59		minimum elong	9078 Apr 15 11:46	28° Υ 26'55	0°02'27
opposition	9072 Oct 01 04:58	16° Υ 25'21	0°16'33	behind sun begin	9078 Apr 15 05:22	28° Υ 26'21	
min. Earth dist.	9072 Oct 01 15:39	16° Υ 24'37	29.24046 AU	behind sun end	9078 Apr 15 18:10	28° Υ 27'30	
direct	9072 Dec 20 20:47	15° Υ 01'13		max. Earth dist.	9078 Apr 15 03:45	28° Υ 26'11	31.20496 AU
evening set	9073 Mar 19 23:27	16° Υ 55'58		morning rise	9078 Apr 30 21:22	29° Υ 01'30	
					9078 May 29 19:41	0° \mathcal{B}	
conjunction	9073 Apr 04 10:53	17° Υ 30'35	0°14'22	retrograde	9078 Jul 27 22:08	0° \mathcal{B} 55'52	
minimum elong	9073 Apr 04 10:52	17° Υ 30'35	0°14'18		9078 Sep 28 12:08	30° $\mathcal{R}\Upsilon$	
behind sun begin	9073 Apr 04 07:46	17° Υ 30'18		opposition	9078 Oct 15 06:58	29° Υ 33'09	0°01'24
behind sun end	9073 Apr 04 13:59	17° Υ 30'52		min. Earth dist.	9078 Oct 15 13:38	29° Υ 32'42	29.20059 AU
max. Earth dist.	9073 Apr 04 00:45	17° Υ 29'39	31.23721 AU	direct	9079 Jan 03 15:33	28° Υ 09'22	
morning rise	9073 Apr 19 20:51	18° Υ 05'06			9079 Mar 31 14:56	0° \mathcal{B}	
retrograde	9073 Jul 16 14:13	19° Υ 58'46		evening set	9079 Apr 02 11:24	0° \mathcal{B} 04'04	
opposition	9073 Oct 03 17:03	18° Υ 36'07	0°14'04				
min. Earth dist.	9073 Oct 04 02:32	18° Υ 35'29	29.23422 AU	conjunction	9079 Apr 17 21:39	0° \mathcal{B} 38'42	0°00'07
direct	9073 Dec 23 09:33	17° Υ 12'03		minimum elong	9079 Apr 17 21:40	0° \mathcal{B} 38'43	0°00'01
evening set	9074 Mar 22 09:24	19° Υ 06'48		behind sun begin	9079 Apr 17 19:39	0° \mathcal{B} 38'35	
				behind sun end	9079 Apr 17 23:41	0° \mathcal{B} 38'49	
conjunction	9074 Apr 06 20:27	19° Υ 41'25	0°12'02	max. Earth dist.	9079 Apr 17 14:18	0° \mathcal{B} 38'02	31.19579 AU
minimum elong	9074 Apr 06 20:27	19° Υ 41'25	0°11'57	morning rise	9079 May 03 07:10	1° \mathcal{B} 13'18	
behind sun begin	9074 Apr 06 15:59	19° Υ 41'01		desc. node	9079 May 06 01:16	1° \mathcal{B} 19'21	
behind sun end	9074 Apr 07 00:56	19° Υ 41'49		retrograde	9079 Jul 30 09:31	3° \mathcal{B} 07'47	
max. Earth dist.	9074 Apr 06 10:09	19° Υ 40'28	31.23126 AU	opposition	9079 Oct 17 19:43	1° \mathcal{B} 45'00	-0°01'09
morning rise	9074 Apr 22 06:27	20° Υ 15'58		min. Earth dist.	9079 Oct 18 03:02	1° \mathcal{B} 44'30	29.19082 AU
retrograde	9074 Jul 19 01:17	22° Υ 09'45		direct	9080 Jan 06 01:47	0° \mathcal{B} 21'14	
opposition	9074 Oct 06 05:16	20° Υ 47'06	0°11'34	evening set	9080 Apr 03 21:30	2° \mathcal{B} 15'54	
min. Earth dist.	9074 Oct 06 14:16	20° Υ 46'30	29.22848 AU				
direct	9074 Dec 25 19:37	19° Υ 23'07		conjunction	9080 Apr 19 07:40	2° \mathcal{B} 50'32	-0°02'21
evening set	9075 Mar 24 19:14	21° Υ 17'51		minimum elong	9080 Apr 19 07:40	2° \mathcal{B} 50'32	0°02'28
				behind sun begin	9080 Apr 19 01:16	2° \mathcal{B} 49'57	
conjunction	9075 Apr 09 06:17	21° Υ 52'29	0°09'41	behind sun end	9080 Apr 19 14:04	2° \mathcal{B} 51'06	
minimum elong	9075 Apr 09 06:16	21° Υ 52'29	0°09'36	max. Earth dist.	9080 Apr 19 00:52	2° \mathcal{B} 49'55	31.18549 AU
behind sun begin	9075 Apr 09 00:56	21° Υ 52'00		morning rise	9080 May 04 17:08	3° \mathcal{B} 25'08	
behind sun end	9075 Apr 09 11:36	21° Υ 52'58		retrograde	9080 Jul 31 21:24	5° \mathcal{B} 19'43	
max. Earth dist.	9075 Apr 08 21:42	21° Υ 51'41	31.22553 AU	opposition	9080 Oct 19 08:07	3° \mathcal{B} 56'51	-0°03'43

min. Earth dist.	9080 Oct 19 14:03	3°8'56"27	29.17989 AU	conjunction	9086 May 02 18:50	16°8'00"50	-0°16'28
direct	9081 Jan 07 15:24	2°8'33"05		minimum elong	9086 May 02 18:51	16°8'00"50	0°16'40
evening set	9081 Apr 06 07:35	4°8'27"41		max. Earth dist.	9086 May 02 17:01	16°8'00"40	31.12372 AU
				morning rise	9086 May 18 04:16	16°8'35"32	
conjunction	9081 Apr 21 17:34	5°8'02"19	-0°04'44	retrograde	9086 Aug 14 16:15	18°8'30"45	
minimum elong	9081 Apr 21 17:34	5°8'02"19	0°04'53	opposition	9086 Nov 02 12:20	17°8'07"28	-0°18'49
behind sun begin	9081 Apr 21 11:18	5°8'01"46		min. Earth dist.	9086 Nov 02 14:07	17°8'07"21	29.11983 AU
behind sun end	9081 Apr 21 23:49	5°8'02"53		direct	9087 Jan 21 14:40	15°8'43"46	
max. Earth dist.	9081 Apr 21 10:42	5°8'01"42	31.17415 AU	evening set	9087 Apr 19 19:15	17°8'38"08	
morning rise	9081 May 07 03:06	5°8'36"57					
retrograde	9081 Aug 03 10:19	7°8'31"36		conjunction	9087 May 05 04:41	18°8'12"48	-0°18'46
opposition	9081 Oct 21 20:49	6°8'08"39	-0°06'16	minimum elong	9087 May 05 04:41	18°8'12"48	0°18'58
min. Earth dist.	9081 Oct 22 02:55	6°8'08"14	29.16838 AU	max. Earth dist.	9087 May 05 03:14	18°8'12"40	31.11602 AU
direct	9082 Jan 10 03:25	4°8'44"51		morning rise	9087 May 20 14:15	18°8'47"31	
evening set	9082 Apr 08 17:26	6°8'39"24		retrograde	9087 Aug 17 04:51	20°8'42"53	
				opposition	9087 Nov 05 01:07	19°8'19"35	-0°21'16
conjunction	9082 Apr 24 03:25	7°8'14"03	-0°07'06	min. Earth dist.	9087 Nov 05 01:13	19°8'19"34	29.11220 AU
minimum elong	9082 Apr 24 03:24	7°8'14"03	0°07'16	direct	9088 Jan 24 01:21	17°8'55"56	
behind sun begin	9082 Apr 23 21:30	7°8'13"31		evening set	9088 Apr 21 05:24	19°8'50"17	
behind sun end	9082 Apr 24 09:18	7°8'14"35					
max. Earth dist.	9082 Apr 23 22:08	7°8'13"34	31.16258 AU	conjunction	9088 May 06 14:48	20°8'24"58	-0°21'03
morning rise	9082 May 09 12:46	7°8'48"40		minimum elong	9088 May 06 14:48	20°8'24"58	0°21'15
retrograde	9082 Aug 05 20:43	9°8'43"25		max. Earth dist.	9088 May 06 14:10	20°8'24"55	31.10830 AU
opposition	9082 Oct 24 09:28	8°8'20"22	-0°08'48	morning rise	9088 May 22 00:23	20°8'59"42	
min. Earth dist.	9082 Oct 24 14:15	8°8'20"03	29.15687 AU	retrograde	9088 Aug 18 16:40	22°8'55"13	
direct	9083 Jan 12 16:59	6°8'56"34		opposition	9088 Nov 06 13:59	21°8'31"53	-0°23'42
evening set	9083 Apr 11 03:28	8°8'51"04		min. Earth dist.	9088 Nov 06 14:38	21°8'31"51	29.10443 AU
				direct	9089 Jan 25 11:05	20°8'08"17	
conjunction	9083 Apr 26 13:09	9°8'25"42	-0°09'28	evening set	9089 Apr 23 15:38	22°8'02"39	
minimum elong	9083 Apr 26 13:09	9°8'25"42	0°09'37				
behind sun begin	9083 Apr 26 07:50	9°8'25"13		conjunction	9089 May 09 01:02	22°8'37"20	-0°23'18
behind sun end	9083 Apr 26 18:29	9°8'26"11		minimum elong	9089 May 09 01:02	22°8'37"20	0°23'30
max. Earth dist.	9083 Apr 26 07:49	9°8'25"13	31.15141 AU	max. Earth dist.	9089 May 09 01:13	22°8'37"21	31.10032 AU
morning rise	9083 May 11 22:40	10°8'00"20		morning rise	9089 May 24 10:38	23°8'12"05	
retrograde	9083 Aug 08 08:08	11°8'55"11		retrograde	9089 Aug 21 05:34	25°8'07"45	
opposition	9083 Oct 26 22:08	10°8'32"03	-0°11'20	opposition	9089 Nov 09 02:54	23°8'44"24	-0°26'05
min. Earth dist.	9083 Oct 27 02:10	10°8'31"47	29.14626 AU	min. Earth dist.	9089 Nov 09 02:03	23°8'44"27	29.09603 AU
direct	9084 Jan 15 03:50	9°8'08"15		direct	9090 Jan 28 00:07	22°8'20"50	
evening set	9084 Apr 12 13:16	11°8'02"41		evening set	9090 Apr 26 01:55	24°8'15"12	
conjunction	9084 Apr 27 23:03	11°8'37"20	-0°11'49	conjunction	9090 May 11 11:10	24°8'49"54	-0°25'31
minimum elong	9084 Apr 27 23:03	11°8'37"20	0°11'59	minimum elong	9090 May 11 11:09	24°8'49"54	0°25'44
behind sun begin	9084 Apr 27 18:35	11°8'36"56		max. Earth dist.	9090 May 11 11:11	24°8'49"54	31.09141 AU
behind sun end	9084 Apr 28 03:31	11°8'37"44		morning rise	9090 May 26 20:54	25°8'24"40	
max. Earth dist.	9084 Apr 27 19:43	11°8'37"02	31.14122 AU	retrograde	9090 Aug 23 19:25	27°8'20"29	
morning rise	9084 May 13 08:25	12°8'11"59		opposition	9090 Nov 11 16:06	25°8'57"05	-0°28'26
retrograde	9084 Aug 09 17:46	14°8'06"57		min. Earth dist.	9090 Nov 11 15:32	25°8'57"07	29.08669 AU
opposition	9084 Oct 28 10:50	12°8'43"45	-0°13'51	direct	9091 Jan 30 11:19	24°8'33"34	
min. Earth dist.	9084 Oct 28 14:08	12°8'43"32	29.13653 AU	evening set	9091 Apr 28 12:15	26°8'27"55	
direct	9085 Jan 16 16:45	11°8'19"58					
evening set	9085 Apr 14 23:19	13°8'14"22		conjunction	9091 May 13 21:38	27°8'02"38	-0°27'42
				minimum elong	9091 May 13 21:38	27°8'02"38	0°27'54
conjunction	9085 Apr 30 08:51	13°8'49"02	-0°14'09	max. Earth dist.	9091 May 13 22:55	27°8'02"45	31.08144 AU
minimum elong	9085 Apr 30 08:51	13°8'49"02	0°14'19	morning rise	9091 May 29 07:20	27°8'37"25	
behind sun begin	9085 Apr 30 05:44	13°8'48"45		retrograde	9091 Aug 26 07:06	29°8'33"22	
behind sun end	9085 Apr 30 11:57	13°8'49"19		opposition	9091 Nov 14 05:08	28°8'09"55	-0°30'45
max. Earth dist.	9085 Apr 30 05:23	13°8'48"43	31.13206 AU	min. Earth dist.	9091 Nov 14 03:39	28°8'10"01	29.07601 AU
morning rise	9085 May 15 18:22	14°8'23"42		direct	9092 Feb 02 00:33	26°8'46"24	
	9085 Jun 01 21:31	15°8'		evening set	9092 Apr 29 22:43	28°8'40"44	
retrograde	9085 Aug 12 06:28	16°8'18"47					
	9085 Oct 28 05:52	15°8'8'		conjunction	9092 May 15 07:58	29°8'15"28	-0°29'50
opposition	9085 Oct 30 23:25	14°8'55"32	-0°16'21	minimum elong	9092 May 15 07:58	29°8'15"28	0°30'04
min. Earth dist.	9085 Oct 31 01:14	14°8'55"25	29.12785 AU	max. Earth dist.	9092 May 15 08:36	29°8'15"32	31.07011 AU
direct	9086 Jan 19 03:22	13°8'31"47		morning rise	9092 May 30 17:57	29°8'50"17	
	9086 Apr 05 04:37	15°8'			9092 Jun 04 04:04	0°II	
evening set	9086 Apr 17 09:17	15°8'26"11		retrograde	9092 Aug 27 20:06	1°II46'20	
				opposition	9092 Nov 15 18:17	0°II22'49	-0°33'01

min. Earth dist.	9092 Nov 15 16:36	0°II22'56	29.06408 AU	minimum elong	9099 May 31 08:47	14°II45'59	0°43'39
	9092 Nov 29 21:33	30°R8		max. Earth dist.	9099 May 31 15:01	14°II46'35	30.98879 AU
direct	9093 Feb 03 12:00	28°859'18		morning rise	9099 Jun 15 19:47	15°II20'58	
	9093 Apr 06 05:43	0°II		retrograde	9099 Sep 13 08:48	17°II17'51	
evening set	9093 May 02 09:01	0°II53'36		opposition	9099 Dec 02 13:51	15°II53'51	-0°47'20
				min. Earth dist.	9099 Dec 02 06:59	15°II54'19	28.98479 AU
conjunction	9093 May 17 18:26	1°II28'21	-0°31'55	direct	9100 Feb 19 20:33	14°II30'21	
minimum elong	9093 May 17 18:26	1°II28'21	0°32'09	evening set	9100 May 18 09:35	16°II24'30	
max. Earth dist.	9093 May 17 20:36	1°II28'33	31.05756 AU				
morning rise	9093 Jun 02 04:21	2°II03'11		conjunction	9100 Jun 02 19:29	16°II59'21	-0°45'06
retrograde	9093 Aug 30 06:53	3°II59'20		minimum elong	9100 Jun 02 19:29	16°II59'21	0°45'23
opposition	9093 Nov 18 07:22	2°II35'44	-0°35'14	max. Earth dist.	9100 Jun 03 03:21	17°II00'05	30.98044 AU
min. Earth dist.	9093 Nov 18 05:23	2°II35'52	29.05106 AU	morning rise	9100 Jun 18 06:34	17°II34'20	
direct	9094 Feb 06 01:43	1°II12'13		retrograde	9100 Sep 15 21:00	19°II31'21	
evening set	9094 May 04 19:26	3°II06'27		opposition	9100 Dec 05 02:57	18°II07'20	-0°49'07
				min. Earth dist.	9100 Dec 04 18:52	18°II07'53	28.97653 AU
conjunction	9094 May 20 04:45	3°II41'13	-0°33'58	direct	9101 Feb 22 09:03	16°II43'52	
minimum elong	9094 May 20 04:44	3°II41'13	0°34'13	evening set	9101 May 20 20:16	18°II38'01	
max. Earth dist.	9094 May 20 06:37	3°II41'23	31.04443 AU				
morning rise	9094 Jun 04 14:57	4°II16'04		conjunction	9101 Jun 05 06:05	19°II12'53	-0°46'45
retrograde	9094 Sep 01 20:08	6°II12'20		minimum elong	9101 Jun 05 06:05	19°II12'53	0°47'01
opposition	9094 Nov 20 20:29	4°II48'38	-0°37'23	max. Earth dist.	9101 Jun 05 13:36	19°II13'36	30.97226 AU
min. Earth dist.	9094 Nov 20 17:13	4°II48'51	29.03797 AU	morning rise	9101 Jun 20 17:31	19°II47'55	
direct	9095 Feb 08 13:12	3°II25'05		retrograde	9101 Sep 18 11:29	21°II45'03	
evening set	9095 May 07 05:37	5°II19'17		opposition	9101 Dec 07 16:11	20°II21'00	-0°50'50
				min. Earth dist.	9101 Dec 07 07:49	20°II21'34	28.96840 AU
conjunction	9095 May 22 15:04	5°II54'03	-0°35'58				
minimum elong	9095 May 22 15:04	5°II54'03	0°36'12				
max. Earth dist.	9095 May 22 18:28	5°II54'22	31.03137 AU				
morning rise	9095 Jun 07 01:18	6°II28'56					
retrograde	9095 Sep 04 05:44	8°II25'18					
opposition	9095 Nov 23 09:39	7°II01'31	-0°39'30				
min. Earth dist.	9095 Nov 23 06:18	7°II01'45	29.02525 AU				
direct	9096 Feb 11 01:10	5°II37'57					
evening set	9096 May 08 16:00	7°II32'07					
conjunction	9096 May 24 01:27	8°II06'54	-0°37'54				
minimum elong	9096 May 24 01:27	8°II06'54	0°38'09				
max. Earth dist.	9096 May 24 05:19	8°II07'16	31.01914 AU				
morning rise	9096 Jun 08 11:54	8°II41'47					
retrograde	9096 Sep 05 18:06	10°II38'16					
opposition	9096 Nov 24 22:28	9°II14'25	-0°41'33				
min. Earth dist.	9096 Nov 24 17:20	9°II14'46	29.01353 AU				
direct	9097 Feb 12 11:59	7°II50'51					
evening set	9097 May 11 02:24	9°II45'00					
conjunction	9097 May 26 11:54	10°II19'48	-0°39'48				
minimum elong	9097 May 26 11:54	10°II19'48	0°40'02				
max. Earth dist.	9097 May 26 16:43	10°II20'15	31.00788 AU				
morning rise	9097 Jun 10 22:29	10°II54'43					
retrograde	9097 Sep 08 05:49	12°II51'20					
opposition	9097 Nov 27 11:40	11°II27'25	-0°43'32				
min. Earth dist.	9097 Nov 27 06:40	11°II27'46	29.00293 AU				
direct	9098 Feb 14 21:40	10°II03'52					
evening set	9098 May 13 12:38	11°II58'01					
conjunction	9098 May 28 22:17	12°II32'49	-0°41'38				
minimum elong	9098 May 28 22:17	12°II32'49	0°41'53				
max. Earth dist.	9098 May 29 04:23	12°II33'24	30.99789 AU				
morning rise	9098 Jun 13 08:59	13°II07'46					
retrograde	9098 Sep 10 18:44	15°II04'30					
opposition	9098 Nov 30 00:44	13°II40'33	-0°45'28				
min. Earth dist.	9098 Nov 29 17:50	13°II41'02	28.99340 AU				
direct	9099 Feb 17 10:32	12°II17'02					
evening set	9099 May 15 23:09	14°II11'10					
conjunction	9099 May 31 08:47	14°II45'59	-0°43'24				