

opposition	8100 Mar 02 10:54	13° \mathbb{M} 27'51	-0°07'32	max. Earth dist.	8105 Nov 14 18:18	27° \mathbb{M} 26'03	10.25037 AU
min. Earth dist.	8100 Mar 02 09:43	13° \mathbb{M} 28'05	8.37610 AU	morning rise	8105 Dec 02 17:41	29° \mathbb{M} 42'18	
direct	8100 May 08 18:09	10° \mathbb{M} 03'45			8105 Dec 05 02:45	0° \mathbb{M}	
asc. node	8100 May 24 06:21	10° \mathbb{M} 16'54		retrograde	8106 Mar 15 16:36	7° \mathbb{M} 35'22	
evening set	8100 Aug 18 17:41	17° \mathbb{M} 45'26		opposition	8106 May 21 18:01	4° \mathbb{M} 09'56	2°26'06
				min. Earth dist.	8106 May 21 21:41	4° \mathbb{M} 09'12	8.26349 AU
conjunction	8100 Sep 05 12:42	19° \mathbb{M} 58'43	0°07'41	direct	8106 Jul 28 23:22	0° \mathbb{M} 41'38	
minimum elong	8100 Sep 05 12:42	19° \mathbb{M} 58'43	0°07'40	evening set	8106 Nov 11 11:15	8° \mathbb{M} 43'14	
behind sun begin	8100 Sep 05 06:08	19° \mathbb{M} 56'41					
behind sun end	8100 Sep 05 19:15	20° \mathbb{M} 00'46		conjunction	8106 Nov 29 05:28	10° \mathbb{M} 57'30	1°59'50
max. Earth dist.	8100 Sep 05 13:25	19° \mathbb{M} 58'56	10.34790 AU	minimum elong	8106 Nov 29 05:27	10° \mathbb{M} 57'30	1°59'58
morning rise	8100 Sep 23 10:08	22° \mathbb{M} 12'49		max. Earth dist.	8106 Nov 29 00:12	10° \mathbb{M} 55'50	10.27741 AU
	8100 Dec 24 15:45	0° \mathbb{M}		morning rise	8106 Dec 16 20:53	13° \mathbb{M} 10'57	
retrograde	8101 Jan 06 16:52	0° \mathbb{M} 09'04		retrograde	8107 Mar 29 07:01	21° \mathbb{M} 00'03	
	8101 Jan 19 16:51	30° \mathbb{R} \mathbb{M}		opposition	8107 Jun 04 08:00	17° \mathbb{M} 35'26	2°29'26
opposition	8101 Mar 15 20:14	26° \mathbb{M} 42'03	0°26'48	min. Earth dist.	8107 Jun 04 12:00	17° \mathbb{M} 34'37	8.29772 AU
min. Earth dist.	8101 Mar 15 19:53	26° \mathbb{M} 42'07	8.32206 AU	direct	8107 Aug 11 20:57	14° \mathbb{M} 07'10	
direct	8101 May 22 01:33	23° \mathbb{M} 16'54		evening set	8107 Nov 25 15:07	22° \mathbb{M} 07'22	
	8101 Aug 23 23:12	0° \mathbb{M}					
evening set	8101 Sep 01 17:36	1° \mathbb{M} 04'09		conjunction	8107 Dec 13 07:04	24° \mathbb{M} 20'29	1°59'19
				minimum elong	8107 Dec 13 07:05	24° \mathbb{M} 20'29	1°59'27
conjunction	8101 Sep 19 14:39	3° \mathbb{M} 18'42	0°35'07	max. Earth dist.	8107 Dec 13 01:33	24° \mathbb{M} 18'44	10.31833 AU
minimum elong	8101 Sep 19 14:37	3° \mathbb{M} 18'42	0°35'08	morning rise	8107 Dec 30 19:43	26° \mathbb{M} 32'38	
max. Earth dist.	8101 Sep 19 13:46	3° \mathbb{M} 18'26	10.29931 AU		8108 Jan 29 12:10	0° \mathbb{M}	
morning rise	8101 Oct 07 13:23	5° \mathbb{M} 33'51		retrograde	8108 Apr 10 17:50	4° \mathbb{M} 17'01	
retrograde	8102 Jan 20 12:47	13° \mathbb{M} 31'47		opposition	8108 Jun 16 20:35	0° \mathbb{M} 53'17	2°24'41
opposition	8102 Mar 29 07:52	10° \mathbb{M} 04'42	1°00'05	min. Earth dist.	8108 Jun 17 01:06	0° \mathbb{M} 52'23	8.34467 AU
min. Earth dist.	8102 Mar 29 08:49	10° \mathbb{M} 04'31	8.27996 AU		8108 Jun 28 02:22	30° \mathbb{R} \mathbb{M}	
direct	8102 Jun 04 14:22	6° \mathbb{M} 38'35		direct	8108 Aug 24 17:29	27° \mathbb{M} 25'20	
evening set	8102 Sep 15 22:37	14° \mathbb{M} 30'56			8108 Oct 19 20:25	0° \mathbb{M}	
				evening set	8108 Dec 08 13:31	5° \mathbb{M} 22'39	
conjunction	8102 Oct 03 20:44	16° \mathbb{M} 46'20	1°00'55				
minimum elong	8102 Oct 03 20:41	16° \mathbb{M} 46'19	1°00'57	conjunction	8108 Dec 26 03:05	7° \mathbb{M} 34'26	1°52'26
max. Earth dist.	8102 Oct 03 17:53	16° \mathbb{M} 45'26	10.26378 AU	minimum elong	8108 Dec 26 03:07	7° \mathbb{M} 34'27	1°52'35
morning rise	8102 Oct 21 19:46	19° \mathbb{M} 02'03		max. Earth dist.	8108 Dec 25 21:11	7° \mathbb{M} 32'35	10.37092 AU
retrograde	8103 Feb 03 09:23	27° \mathbb{M} 00'34		morning rise	8109 Jan 12 13:07	9° \mathbb{M} 45'10	
opposition	8103 Apr 11 21:22	23° \mathbb{M} 33'37	1°30'20	retrograde	8109 Apr 23 22:43	17° \mathbb{M} 24'25	
min. Earth dist.	8103 Apr 11 23:49	23° \mathbb{M} 33'07	8.25206 AU	opposition	8109 Jun 30 07:00	14° \mathbb{M} 01'38	2°12'21
direct	8103 Jun 18 06:53	20° \mathbb{M} 06'39		min. Earth dist.	8109 Jun 30 11:36	14° \mathbb{M} 00'43	8.40175 AU
evening set	8103 Sep 30 07:15	28° \mathbb{M} 03'17		direct	8109 Sep 07 13:29	10° \mathbb{M} 34'14	
	8103 Oct 15 17:32	0° \mathbb{M}		evening set	8109 Dec 22 05:55	18° \mathbb{M} 27'32	
conjunction	8103 Oct 18 05:26	0° \mathbb{M} 19'03	1°23'29	conjunction	8110 Jan 08 17:03	20° \mathbb{M} 37'51	1°39'48
minimum elong	8103 Oct 18 05:23	0° \mathbb{M} 19'02	1°23'33	minimum elong	8110 Jan 08 17:05	20° \mathbb{M} 37'52	1°39'56
max. Earth dist.	8103 Oct 18 01:05	0° \mathbb{M} 17'40	10.24319 AU	max. Earth dist.	8110 Jan 08 11:13	20° \mathbb{M} 36'01	10.43227 AU
morning rise	8103 Nov 05 03:39	2° \mathbb{M} 34'49		morning rise	8110 Jan 26 00:36	22° \mathbb{M} 47'04	
retrograde	8104 Feb 17 05:36	10° \mathbb{M} 32'42			8110 Apr 17 06:30	0° \mathbb{M}	
opposition	8104 Apr 24 11:58	7° \mathbb{M} 06'06	1°55'43	retrograde	8110 May 06 24:00	0° \mathbb{M} 21'06	
min. Earth dist.	8104 Apr 24 15:16	7° \mathbb{M} 05'26	8.23981 AU		8110 May 26 22:43	30° \mathbb{R} \mathbb{M}	
direct	8104 Jul 01 02:30	3° \mathbb{M} 38'28		opposition	8110 Jul 13 14:46	26° \mathbb{M} 59'14	1°53'25
evening set	8104 Oct 13 17:31	11° \mathbb{M} 38'14		min. Earth dist.	8110 Jul 13 18:46	26° \mathbb{M} 58'27	8.46589 AU
				direct	8110 Sep 21 05:56	23° \mathbb{M} 32'37	
conjunction	8104 Oct 31 14:59	13° \mathbb{M} 53'53	1°41'28		8110 Dec 24 08:47	0° \mathbb{M}	
minimum elong	8104 Oct 31 14:56	13° \mathbb{M} 53'52	1°41'34	evening set	8111 Jan 04 15:41	1° \mathbb{M} 21'00	
max. Earth dist.	8104 Oct 31 09:58	13° \mathbb{M} 52'17	10.23867 AU				
	8104 Nov 09 07:06	15° \mathbb{M}		conjunction	8111 Jan 22 00:27	3° \mathbb{M} 29'48	1°22'17
morning rise	8104 Nov 18 11:29	16° \mathbb{M} 09'16		minimum elong	8111 Jan 22 00:29	3° \mathbb{M} 29'49	1°22'25
retrograde	8105 Mar 02 00:12	24° \mathbb{M} 05'18		max. Earth dist.	8111 Jan 21 19:36	3° \mathbb{M} 28'17	10.49912 AU
opposition	8105 May 08 03:05	20° \mathbb{M} 39'13	2°14'40	morning rise	8111 Feb 08 05:34	5° \mathbb{M} 37'29	
min. Earth dist.	8105 May 08 06:39	20° \mathbb{M} 38'29	8.24378 AU	retrograde	8111 May 19 22:35	13° \mathbb{M} 06'31	
direct	8105 Jul 15 00:54	17° \mathbb{M} 11'07		opposition	8111 Jul 26 19:58	9° \mathbb{M} 45'28	1°29'08
evening set	8105 Oct 28 03:24	25° \mathbb{M} 12'35		min. Earth dist.	8111 Jul 26 22:36	9° \mathbb{M} 44'57	8.53382 AU
				direct	8111 Oct 04 17:30	6° \mathbb{M} 19'48	
conjunction	8105 Nov 14 23:32	27° \mathbb{M} 27'43	1°53'49	evening set	8112 Jan 17 18:36	14° \mathbb{M} 02'40	
minimum elong	8105 Nov 14 23:30	27° \mathbb{M} 27'42	1°53'56		8112 Jan 25 14:30	15° \mathbb{M}	

conjunction	8112 Feb 04 01:02	16° \approx 09'56	1°00'57	evening set	8118 Mar 30 23:37	26° Υ 49'41	
minimum elong	8112 Feb 04 01:04	16° \approx 09'57	1°01'04				
max. Earth dist.	8112 Feb 03 22:03	16° \approx 09'01	10.56804 AU	conjunction	8118 Apr 16 17:09	28° Υ 49'49	-1°21'40
morning rise	8112 Feb 21 03:48	18° \approx 16'08		minimum elong	8118 Apr 16 17:07	28° Υ 49'48	1°21'44
retrograde	8112 May 31 17:00	25° \approx 40'38		max. Earth dist.	8118 Apr 16 19:53	28° Υ 50'38	10.85439 AU
opposition	8112 Aug 07 22:20	22° \approx 20'18	1°00'56		8118 Apr 26 10:32	0° \mathcal{B}	
min. Earth dist.	8112 Aug 08 00:03	22° \approx 19'58	8.60222 AU	morning rise	8118 May 03 10:30	0° \mathcal{B} 49'56	
direct	8112 Oct 17 00:43	18° \approx 55'39		retrograde	8118 Aug 13 07:11	8° \mathcal{B} 05'11	
evening set	8113 Jan 29 15:23	26° \approx 32'51		opposition	8118 Oct 22 11:06	4° \mathcal{B} 45'24	-1°50'53
				min. Earth dist.	8118 Oct 22 08:34	4° \mathcal{B} 45'53	8.85916 AU
conjunction	8113 Feb 15 19:22	28° \approx 38'35	0°37'01	direct	8118 Dec 31 12:06	1° \mathcal{B} 25'45	
minimum elong	8113 Feb 15 19:23	28° \approx 38'35	0°37'07	evening set	8119 Apr 11 22:20	8° \mathcal{B} 38'43	
max. Earth dist.	8113 Feb 15 17:36	28° \approx 38'03	10.63569 AU				
	8113 Feb 26 20:50	0° \mathcal{H}		conjunction	8119 Apr 28 14:51	10° \mathcal{B} 38'31	-1°38'16
morning rise	8113 Mar 04 19:58	0° \mathcal{H} 43'21		minimum elong	8119 Apr 28 14:49	10° \mathcal{B} 38'30	1°38'21
retrograde	8113 Jun 13 08:11	8° \mathcal{H} 03'58		max. Earth dist.	8119 Apr 28 17:21	10° \mathcal{B} 39'16	10.85839 AU
opposition	8113 Aug 20 21:49	4° \mathcal{H} 44'13	0°30'18	morning rise	8119 May 15 08:08	12° \mathcal{B} 38'32	
min. Earth dist.	8113 Aug 20 23:06	4° \mathcal{H} 43'58	8.66791 AU		8119 Jun 05 04:03	15° \mathcal{B}	
direct	8113 Oct 30 04:19	1° \mathcal{H} 20'35		retrograde	8119 Aug 25 16:58	19° \mathcal{B} 55'44	
evening set	8114 Feb 11 06:26	8° \mathcal{H} 52'14		opposition	8119 Nov 04 00:53	16° \mathcal{B} 35'26	-2°08'49
				min. Earth dist.	8119 Nov 03 22:07	16° \mathcal{B} 35'57	8.85592 AU
conjunction	8114 Feb 28 07:52	10° \mathcal{H} 56'30	0°11'41		8119 Nov 26 04:05	15° $\mathcal{R}\mathcal{B}$	
minimum elong	8114 Feb 28 07:52	10° \mathcal{H} 56'30	0°11'45	direct	8120 Jan 12 20:52	13° \mathcal{B} 16'05	
behind sun begin	8114 Feb 28 02:51	10° \mathcal{H} 55'00			8120 Feb 27 23:26	15° \mathcal{B}	
behind sun end	8114 Feb 28 12:53	10° \mathcal{H} 58'01		evening set	8120 Apr 22 20:47	20° \mathcal{B} 28'04	
max. Earth dist.	8114 Feb 28 06:38	10° \mathcal{H} 56'08	10.69897 AU				
morning rise	8114 Mar 17 06:33	12° \mathcal{H} 59'58		conjunction	8120 May 09 13:10	22° \mathcal{B} 27'54	-1°50'42
retrograde	8114 Jun 25 20:11	20° \mathcal{H} 17'31		minimum elong	8120 May 09 13:08	22° \mathcal{B} 27'54	1°50'49
desc. node	8114 Aug 18 15:45	18° \mathcal{H} 05'39		max. Earth dist.	8120 May 09 16:30	22° \mathcal{B} 28'54	10.84751 AU
opposition	8114 Sep 02 18:50	16° \mathcal{H} 58'09	-0°01'16	morning rise	8120 May 26 06:57	24° \mathcal{B} 28'10	
min. Earth dist.	8114 Sep 02 19:37	16° \mathcal{H} 58'00	8.72793 AU		8120 Jul 20 16:38	0° \mathcal{I}	
direct	8114 Nov 12 03:10	13° \mathcal{H} 35'32		retrograde	8120 Sep 06 03:50	1° \mathcal{I} 48'07	
evening set	8115 Feb 23 16:10	21° \mathcal{H} 01'58			8120 Oct 25 04:37	30° $\mathcal{R}\mathcal{B}$	
				opposition	8120 Nov 15 14:49	28° \mathcal{B} 27'06	-2°21'19
conjunction	8115 Mar 12 15:10	23° \mathcal{H} 04'53	-0°13'58	min. Earth dist.	8120 Nov 15 11:09	28° \mathcal{B} 27'47	8.83810 AU
minimum elong	8115 Mar 12 15:10	23° \mathcal{H} 04'53	0°13'57	direct	8121 Jan 24 04:34	25° \mathcal{B} 07'51	
behind sun begin	8115 Mar 12 11:28	23° \mathcal{H} 03'46			8121 Apr 14 07:47	0° \mathcal{I}	
behind sun end	8115 Mar 12 18:51	23° \mathcal{H} 05'59		evening set	8121 May 04 20:09	2° \mathcal{I} 19'45	
max. Earth dist.	8115 Mar 12 14:38	23° \mathcal{H} 04'43	10.75504 AU				
morning rise	8115 Mar 29 12:09	25° \mathcal{H} 07'10		conjunction	8121 May 21 13:08	4° \mathcal{I} 19'59	-1°58'27
	8115 May 15 05:06	0° Υ		minimum elong	8121 May 21 13:07	4° \mathcal{I} 19'58	1°58'35
retrograde	8115 Jul 08 05:01	2° Υ 22'38		max. Earth dist.	8121 May 21 17:53	4° \mathcal{I} 21'25	10.82262 AU
	8115 Sep 02 21:20	30° $\mathcal{R}\mathcal{H}$		morning rise	8121 Jun 07 07:59	6° \mathcal{I} 20'49	
opposition	8115 Sep 15 13:28	29° \mathcal{H} 03'26	-0°32'23	retrograde	8121 Sep 18 18:17	13° \mathcal{I} 44'10	
min. Earth dist.	8115 Sep 15 12:52	29° \mathcal{H} 03'33	8.77952 AU	opposition	8121 Nov 28 05:24	10° \mathcal{I} 22'19	-2°27'50
direct	8115 Nov 24 23:02	25° \mathcal{H} 41'46		min. Earth dist.	8121 Nov 28 00:45	10° \mathcal{I} 23'12	8.80680 AU
	8116 Feb 08 12:31	0° Υ		direct	8122 Feb 05 12:24	7° \mathcal{I} 02'59	
evening set	8116 Mar 06 21:38	3° Υ 03'33		evening set	8122 May 16 21:29	14° \mathcal{I} 15'40	
conjunction	8116 Mar 23 18:33	5° Υ 05'17	-0°38'41	conjunction	8122 Jun 02 15:46	16° \mathcal{I} 16'39	-2°01'08
minimum elong	8116 Mar 23 18:32	5° Υ 05'17	0°38'42	minimum elong	8122 Jun 02 15:46	16° \mathcal{I} 16'39	2°01'18
max. Earth dist.	8116 Mar 23 19:39	5° Υ 05'37	10.80125 AU	max. Earth dist.	8122 Jun 02 20:53	16° \mathcal{I} 18'12	10.78515 AU
morning rise	8116 Apr 09 13:56	7° Υ 06'36		morning rise	8122 Jun 19 12:35	18° \mathcal{I} 18'26	
retrograde	8116 Jul 19 14:31	14° Υ 20'57		retrograde	8122 Oct 01 12:24	25° \mathcal{I} 45'41	
opposition	8116 Sep 27 05:52	11° Υ 01'43	-1°01'45	opposition	8122 Dec 10 21:14	22° \mathcal{I} 22'57	-2°27'59
min. Earth dist.	8116 Sep 27 03:52	11° Υ 02'06	8.82009 AU	min. Earth dist.	8122 Dec 10 16:37	22° \mathcal{I} 23'49	8.76364 AU
direct	8116 Dec 06 15:28	7° Υ 40'52		direct	8123 Feb 17 19:13	19° \mathcal{I} 03'18	
evening set	8117 Mar 18 23:47	14° Υ 58'45		evening set	8123 May 29 01:42	26° \mathcal{I} 17'39	
conjunction	8117 Apr 04 18:53	16° Υ 59'34	-1°01'33	conjunction	8123 Jun 14 22:03	28° \mathcal{I} 19'45	-1°58'31
minimum elong	8117 Apr 04 18:51	16° Υ 59'33	1°01'36	minimum elong	8123 Jun 14 22:04	28° \mathcal{I} 19'46	1°58'41
max. Earth dist.	8117 Apr 04 21:22	17° Υ 00'19	10.83508 AU	max. Earth dist.	8123 Jun 15 02:45	28° \mathcal{I} 21'11	10.73684 AU
morning rise	8117 Apr 21 12:58	19° Υ 00'07			8123 Jun 28 17:18	0° \mathcal{G}	
retrograde	8117 Jul 31 23:15	26° Υ 14'22		morning rise	8123 Jul 01 21:41	0° \mathcal{G} 22'49	
opposition	8117 Oct 09 20:53	22° Υ 54'57	-1°28'15	retrograde	8123 Oct 14 07:30	7° \mathcal{G} 54'19	
min. Earth dist.	8117 Oct 09 18:11	22° Υ 55'27	8.84718 AU	opposition	8123 Dec 23 14:37	4° \mathcal{G} 30'41	-2°21'36
direct	8117 Dec 19 02:23	19° Υ 34'47		min. Earth dist.	8123 Dec 23 10:31	4° \mathcal{G} 31'28	8.71042 AU

direct	8124 Mar 01 04:45	1°☾10'32	retrograde	8129 Dec 31 16:52	24°♊17'58	
evening set	8124 Jun 09 09:53	8°☾27'28	opposition	8130 Mar 10 01:15	20°♊50'34	0°10'59
			min. Earth dist.	8130 Mar 10 00:37	20°♊50'42	8.32754 AU
conjunction	8124 Jun 26 09:07	10°☾31'00 -1°50'34	direct	8130 May 16 07:06	17°♊25'27	
minimum elong	8124 Jun 26 09:08	10°☾31'01 1°50'43	evening set	8130 Aug 26 15:08	25°♊11'02	
max. Earth dist.	8124 Jun 26 13:34	10°☾32'22 10.67962 AU				
morning rise	8124 Jul 13 12:04	12°☾35'38	conjunction	8130 Sep 13 11:26	27°♊25'17	0°22'35
retrograde	8124 Oct 26 06:57	20°☾11'38	minimum elong	8130 Sep 13 11:24	27°♊25'17	0°22'34
opposition	8125 Jan 04 09:49	16°☾47'06 -2°08'42	max. Earth dist.	8130 Sep 13 11:40	27°♊25'22	10.30379 AU
min. Earth dist.	8125 Jan 04 06:03	16°☾47'49 8.64933 AU	morning rise	8130 Oct 01 09:56	29°♊40'15	
direct	8125 Mar 13 17:20	13°☾26'19		8130 Oct 04 02:03	0°♊	
evening set	8125 Jun 21 22:51	20°☾46'37	retrograde	8131 Jan 14 12:01	7°♊38'26	
			opposition	8131 Mar 23 12:19	4°♊11'02	0°45'03
conjunction	8125 Jul 09 01:41	22°☾51'52 -1°37'26	min. Earth dist.	8131 Mar 23 12:13	4°♊11'04	8.28302 AU
minimum elong	8125 Jul 09 01:43	22°☾51'53 1°37'35	direct	8131 May 29 18:55	0°♊45'07	
max. Earth dist.	8125 Jul 09 06:42	22°☾53'25 10.61585 AU	evening set	8131 Sep 09 18:33	8°♊36'01	
morning rise	8125 Jul 26 08:18	24°☾58'18				
	8125 Sep 11 16:47	0°♊	conjunction	8131 Sep 27 16:28	10°♊51'20	0°49'22
retrograde	8125 Nov 08 11:30	2°♊38'53	minimum elong	8131 Sep 27 16:26	10°♊51'19	0°49'23
	8126 Jan 07 06:20	30°♊☾	max. Earth dist.	8131 Sep 27 16:04	10°♊51'12	10.26553 AU
opposition	8126 Jan 17 07:27	29°☾13'29 -1°49'38	morning rise	8131 Oct 15 15:35	13°♊07'03	
min. Earth dist.	8126 Jan 17 03:23	29°☾14'17 8.58297 AU	retrograde	8132 Jan 28 10:12	21°♊06'21	
direct	8126 Mar 26 07:25	25°☾51'59	opposition	8132 Apr 05 01:39	17°♊39'11	1°16'57
	8126 Jun 05 22:10	0°♊	min. Earth dist.	8132 Apr 05 01:57	17°♊39'07	8.25209 AU
evening set	8126 Jul 04 17:28	3°♊16'21	direct	8132 Jun 11 09:03	14°♊12'35	
			evening set	8132 Sep 23 02:21	22°♊08'08	
conjunction	8126 Jul 22 00:14	5°♊23'31 -1°19'33				
minimum elong	8126 Jul 22 00:17	5°♊23'31 1°19'40	conjunction	8132 Oct 11 00:48	24°♊24'00	1°13'36
max. Earth dist.	8126 Jul 22 05:14	5°♊25'03 10.54824 AU	minimum elong	8132 Oct 11 00:45	24°♊23'59	1°13'40
morning rise	8126 Aug 08 10:46	7°♊31'52	max. Earth dist.	8132 Oct 10 23:37	24°♊23'37	10.24179 AU
	8126 Nov 03 14:29	15°♊	morning rise	8132 Oct 28 23:26	26°♊39'59	
retrograde	8126 Nov 21 19:32	15°♊16'57		8132 Nov 26 07:11	0°♊	
	8126 Dec 10 01:37	15°♊♊	retrograde	8133 Feb 10 08:55	4°♊39'13	
opposition	8127 Jan 30 07:41	11°♊50'48 -1°25'00	opposition	8133 Apr 18 16:39	1°♊12'28	1°44'47
min. Earth dist.	8127 Jan 30 03:47	11°♊51'34 8.51424 AU	min. Earth dist.	8133 Apr 18 17:44	1°♊12'15	8.23661 AU
direct	8127 Apr 08 00:56	8°♊28'27		8133 May 03 21:43	30°♊☾	
	8127 Jul 09 18:59	15°♊	direct	8133 Jun 25 02:59	27°♊45'19	
evening set	8127 Jul 17 18:44	15°♊57'34		8133 Aug 15 06:59	0°♊	
			evening set	8133 Oct 07 13:02	5°♊44'31	
conjunction	8127 Aug 04 05:25	18°♊06'43 -0°57'33				
minimum elong	8127 Aug 04 05:27	18°♊06'43 0°57'38	conjunction	8133 Oct 25 11:02	8°♊00'26	1°33'50
max. Earth dist.	8127 Aug 04 09:18	18°♊07'55 10.47986 AU	minimum elong	8133 Oct 25 11:00	8°♊00'25	1°33'55
morning rise	8127 Aug 21 19:50	20°♊17'01	max. Earth dist.	8133 Oct 25 08:25	7°♊59'36	10.23408 AU
retrograde	8127 Dec 05 07:38	28°♊06'16	morning rise	8133 Nov 12 08:21	10°♊16'12	
opposition	8128 Feb 12 10:35	24°♊39'31 -0°55'46		8133 Dec 24 05:52	15°♊	
min. Earth dist.	8128 Feb 12 07:39	24°♊40'06 8.44643 AU	retrograde	8134 Feb 24 06:04	18°♊14'00	
direct	8128 Apr 19 22:15	21°♊16'15		8134 Apr 29 20:47	15°♊♊	
evening set	8128 Jul 30 02:49	28°♊50'38	opposition	8134 May 02 08:26	14°♊47'54	2°06'49
	8128 Aug 08 11:28	0°♊	min. Earth dist.	8134 May 02 10:51	14°♊47'25	8.23748 AU
			direct	8134 Jul 09 00:36	11°♊20'19	
conjunction	8128 Aug 16 17:11	1°♊01'42 -0°32'22		8134 Sep 13 20:07	15°♊	
minimum elong	8128 Aug 16 17:13	1°♊01'43 0°32'26	evening set	8134 Oct 22 00:28	19°♊21'50	
max. Earth dist.	8128 Aug 16 19:20	1°♊02'23 10.41404 AU				
morning rise	8128 Sep 03 11:09	3°♊13'52	conjunction	8134 Nov 08 21:14	21°♊37'20	1°48'51
retrograde	8128 Dec 17 23:10	11°♊06'49	minimum elong	8134 Nov 08 21:11	21°♊37'19	1°48'58
opposition	8129 Feb 24 16:33	7°♊39'39 -0°23'14	max. Earth dist.	8134 Nov 08 17:03	21°♊36'00	10.24273 AU
min. Earth dist.	8129 Feb 24 14:59	7°♊39'58 8.38304 AU	morning rise	8134 Nov 26 16:32	23°♊52'26	
direct	8129 May 02 23:50	4°♊15'26		8135 Jan 23 20:24	0°♊	
evening set	8129 Aug 12 17:34	11°♊55'23	retrograde	8135 Mar 09 23:50	1°♊47'32	
				8135 Apr 24 23:37	30°♊♊	
conjunction	8129 Aug 30 11:15	14°♊08'12 -0°05'15	opposition	8135 May 16 00:25	28°♊22'11	2°21'44
minimum elong	8129 Aug 30 11:15	14°♊08'12 0°05'18	min. Earth dist.	8135 May 16 03:54	28°♊21'29	8.25434 AU
behind sun begin	8129 Aug 30 04:14	14°♊06'01	direct	8135 Jul 23 00:28	24°♊54'23	
behind sun end	8129 Aug 30 18:16	14°♊10'22		8135 Oct 11 15:09	0°♊	
max. Earth dist.	8129 Aug 30 12:14	14°♊08'29 10.35426 AU	evening set	8135 Nov 05 10:18	2°♊56'33	
morning rise	8129 Sep 17 07:59	16°♊21'57				
asc. node	8129 Nov 09 11:06	22°♊01'31	conjunction	8135 Nov 23 05:15	5°♊11'16	1°57'46

minimum elong	8135 Nov 23 05:14	5°♊11'15	1°57'54	morning rise	8142 Feb 27 17:38	25°♊35'18	
max. Earth dist.	8135 Nov 22 23:56	5°♊09'34	10.26688 AU		8142 Apr 09 05:02	0°♊	
morning rise	8135 Dec 10 22:02	7°♊25'19		retrograde	8142 Jun 08 05:27	2°♊58'14	
retrograde	8136 Mar 22 15:14	15°♊16'38			8142 Aug 10 21:28	30°♊	
opposition	8136 May 28 15:37	11°♊52'07	2°28'42	opposition	8142 Aug 15 15:45	29°♊38'06	0°43'38
min. Earth dist.	8136 May 28 19:41	11°♊51'17	8.28564 AU	min. Earth dist.	8142 Aug 15 18:19	29°♊37'37	8.62730 AU
direct	8136 Aug 05 00:09	8°♊24'16		direct	8142 Oct 24 21:35	26°♊13'48	
evening set	8136 Nov 18 16:42	16°♊25'29			8143 Jan 02 20:44	0°♊	
				evening set	8143 Feb 06 04:55	3°♊48'39	
conjunction	8136 Dec 06 09:36	18°♊39'08	2°00'09				
minimum elong	8136 Dec 06 09:36	18°♊39'08	2°00'18	conjunction	8143 Feb 23 07:36	5°♊53'46	0°22'36
max. Earth dist.	8136 Dec 06 03:38	18°♊37'14	10.30439 AU	minimum elong	8143 Feb 23 07:37	5°♊53'46	0°22'41
morning rise	8136 Dec 23 23:39	20°♊51'54		max. Earth dist.	8143 Feb 23 04:57	5°♊52'58	10.65760 AU
retrograde	8137 Apr 05 03:19	28°♊38'39		morning rise	8143 Mar 12 07:17	7°♊58'00	
opposition	8137 Jun 11 05:13	25°♊14'58	2°27'30	retrograde	8143 Jun 20 20:07	15°♊17'33	
min. Earth dist.	8137 Jun 11 09:23	25°♊14'08	8.32856 AU	opposition	8143 Aug 28 14:28	11°♊57'41	0°12'14
direct	8137 Aug 18 22:44	21°♊47'19		min. Earth dist.	8143 Aug 28 15:26	11°♊57'30	8.68627 AU
evening set	8137 Dec 02 18:15	29°♊46'13		direct	8143 Nov 06 22:37	8°♊34'16	
	8137 Dec 04 14:49	0°♊		desc. node	8144 Jan 21 06:50	12°♊51'59	
				evening set	8144 Feb 18 17:17	16°♊03'41	
conjunction	8137 Dec 20 08:59	1°♊58'37	1°56'03				
minimum elong	8137 Dec 20 09:00	1°♊58'38	1°56'12	conjunction	8144 Mar 06 17:38	18°♊07'26	-0°03'09
max. Earth dist.	8137 Dec 20 03:02	1°♊56'44	10.35204 AU	minimum elong	8144 Mar 06 17:39	18°♊07'26	0°03'07
morning rise	8138 Jan 06 20:15	4°♊10'00		behind sun begin	8144 Mar 06 10:37	18°♊05'18	
retrograde	8138 Apr 18 11:47	11°♊51'49		behind sun end	8144 Mar 07 00:40	18°♊09'33	
opposition	8138 Jun 24 17:04	8°♊29'01	2°18'27	max. Earth dist.	8144 Mar 06 16:59	18°♊07'15	10.71357 AU
min. Earth dist.	8138 Jun 24 21:24	8°♊28'10	8.37996 AU	morning rise	8144 Mar 23 15:22	20°♊10'26	
direct	8138 Sep 01 19:22	5°♊01'48		retrograde	8144 Jul 02 07:07	27°♊27'29	
evening set	8138 Dec 16 14:06	12°♊57'17		opposition	8144 Sep 09 10:34	24°♊07'44	-0°19'18
				min. Earth dist.	8144 Sep 09 10:35	24°♊07'44	8.73860 AU
conjunction	8139 Jan 03 02:30	15°♊08'19	1°45'51	direct	8144 Nov 18 19:58	20°♊45'08	
minimum elong	8139 Jan 03 02:32	15°♊08'20	1°46'00	evening set	8145 Mar 02 01:06	28°♊09'41	
max. Earth dist.	8139 Jan 02 20:43	15°♊06'30	10.40716 AU		8145 Mar 17 07:00	0°♊	
morning rise	8139 Jan 20 11:03	17°♊18'14					
retrograde	8139 May 01 16:57	24°♊55'00		conjunction	8145 Mar 18 23:06	0°♊12'10	-0°28'22
opposition	8139 Jul 08 02:45	21°♊33'05	2°02'17	minimum elong	8145 Mar 18 23:05	0°♊12'10	0°28'22
min. Earth dist.	8139 Jul 08 07:16	21°♊32'12	8.43781 AU	max. Earth dist.	8145 Mar 18 23:18	0°♊12'14	10.76158 AU
direct	8139 Sep 15 12:31	18°♊06'27		morning rise	8145 Apr 04 19:12	2°♊14'08	
evening set	8139 Dec 30 03:38	25°♊57'32		retrograde	8145 Jul 14 16:49	9°♊29'37	
				opposition	8145 Sep 22 04:21	6°♊09'52	-0°49'37
conjunction	8140 Jan 16 13:35	28°♊07'08	1°30'20	min. Earth dist.	8145 Sep 22 03:50	6°♊09'58	8.78210 AU
minimum elong	8140 Jan 16 13:37	28°♊07'08	1°30'29	direct	8145 Dec 01 13:36	2°♊48'03	
max. Earth dist.	8140 Jan 16 08:00	28°♊05'23	10.46789 AU	evening set	8146 Mar 14 05:05	10°♊08'24	
	8140 Jan 31 16:50	0°♊					
morning rise	8140 Feb 02 19:41	0°♊15'35		conjunction	8146 Mar 31 00:55	12°♊09'50	-0°52'10
retrograde	8140 May 13 17:35	7°♊47'20		minimum elong	8146 Mar 31 00:53	12°♊09'50	0°52'13
opposition	8140 Jul 20 09:57	4°♊26'11	1°40'09	max. Earth dist.	8146 Mar 31 01:48	12°♊10'06	10.79970 AU
min. Earth dist.	8140 Jul 20 14:34	4°♊25'17	8.50017 AU	morning rise	8146 Apr 16 19:44	14°♊10'57	
direct	8140 Sep 28 02:41	1°♊00'14		retrograde	8146 Jul 27 00:21	21°♊25'54	
evening set	8141 Jan 11 10:28	8°♊46'13		opposition	8146 Oct 04 20:28	18°♊06'00	-1°17'32
				min. Earth dist.	8146 Oct 04 18:47	18°♊06'19	8.81495 AU
conjunction	8141 Jan 28 17:57	10°♊54'18	1°10'31	direct	8146 Dec 14 03:14	14°♊44'55	
minimum elong	8141 Jan 28 17:59	10°♊54'19	1°10'38	evening set	8147 Mar 26 05:59	22°♊01'51	
max. Earth dist.	8141 Jan 28 12:27	10°♊52'36	10.53187 AU				
morning rise	8141 Feb 14 21:53	13°♊01'19		conjunction	8147 Apr 12 00:11	24°♊02'28	-1°13'35
	8141 Mar 03 16:29	15°♊		minimum elong	8147 Apr 12 00:09	24°♊02'28	1°13'38
retrograde	8141 May 26 12:59	20°♊28'22		max. Earth dist.	8147 Apr 12 02:37	24°♊03'12	10.82634 AU
opposition	8141 Aug 02 14:19	17°♊07'49	1°13'27	morning rise	8147 Apr 28 18:01	26°♊02'59	
min. Earth dist.	8141 Aug 02 18:20	17°♊07'03	8.56433 AU		8147 Jun 04 06:56	0°♊	
	8141 Sep 01 08:53	15°♊		retrograde	8147 Aug 08 08:30	3°♊18'26	
direct	8141 Oct 11 14:09	13°♊42'40		opposition	8147 Oct 17 11:13	29°♊58'13	-1°41'57
	8141 Nov 20 04:16	15°♊		min. Earth dist.	8147 Oct 17 07:49	29°♊58'51	8.83569 AU
evening set	8142 Jan 24 10:49	21°♊23'08			8147 Oct 17 01:44	30°♊	
				direct	8147 Dec 26 15:48	26°♊37'47	
conjunction	8142 Feb 10 15:51	23°♊29'42	0°47'32		8148 Mar 01 11:00	0°♊	
minimum elong	8142 Feb 10 15:53	23°♊29'43	0°47'38	evening set	8148 Apr 06 05:12	3°♊52'10	
max. Earth dist.	8142 Feb 10 11:17	23°♊28'18	10.59610 AU				

conjunction	8148 Apr 22 22:20	5°♄52'17 -1°31'46	conjunction	8154 Jul 03 22:59	17°♄48'45 -1°43'32
minimum elong	8148 Apr 22 22:18	5°♄52'17 1°31'51	minimum elong	8154 Jul 03 23:01	17°♄48'46 1°43'41
max. Earth dist.	8148 Apr 23 02:44	5°♄53'37 10.84029 AU	max. Earth dist.	8154 Jul 04 05:26	17°♄50'43 10.66482 AU
morning rise	8148 May 09 15:36	7°♄52'29	morning rise	8154 Jul 21 03:48	19°♄54'07
	8148 Aug 06 04:00	15°♄	retrograde	8154 Nov 03 04:41	27°♄31'45
retrograde	8148 Aug 19 19:10	15°♄09'16	opposition	8155 Jan 12 02:47	24°♄07'20 -1°58'18
	8148 Sep 02 10:49	15°♄8	min. Earth dist.	8155 Jan 11 21:37	24°♄08'20 8.63590 AU
opposition	8148 Oct 29 01:02	11°♄48'41 -2°01'58	direct	8155 Mar 21 04:39	20°♄46'49
min. Earth dist.	8148 Oct 28 20:26	11°♄49'33 8.84333 AU	evening set	8155 Jun 29 13:40	28°♄08'18
direct	8149 Jan 07 00:28	8°♄28'47		8155 Jul 14 19:57	0°♄
	8149 Apr 12 05:45	15°♄			
evening set	8149 Apr 18 03:47	15°♄41'31	conjunction	8155 Jul 16 18:22	0°♄14'16 -1°27'38
			minimum elong	8155 Jul 16 18:24	0°♄14'17 1°27'46
conjunction	8149 May 04 20:17	17°♄41'27 -1°46'02	max. Earth dist.	8155 Jul 16 23:38	0°♄15'53 10.60422 AU
minimum elong	8149 May 04 20:16	17°♄41'26 1°46'08	morning rise	8155 Aug 03 03:08	2°♄21'26
max. Earth dist.	8149 May 05 01:24	17°♄42'59 10.84093 AU	retrograde	8155 Nov 16 09:15	10°♄03'18
morning rise	8149 May 21 13:42	19°♄41'41	opposition	8156 Jan 25 01:16	6°♄38'11 -1°36'00
retrograde	8149 Sep 01 05:32	27°♄00'37	min. Earth dist.	8156 Jan 24 21:19	6°♄38'58 8.57281 AU
opposition	8149 Nov 10 14:55	23°♄39'34 -2°16'48	direct	8156 Apr 01 21:00	3°♄16'55
min. Earth dist.	8149 Nov 10 10:02	23°♄40'29 8.83757 AU	evening set	8156 Jul 11 11:14	10°♄42'35
direct	8150 Jan 19 06:21	20°♄20'00			
evening set	8150 Apr 30 02:35	27°♄32'03	conjunction	8156 Jul 28 19:54	12°♄50'26 -1°07'22
			minimum elong	8156 Jul 28 19:57	12°♄50'27 1°07'28
conjunction	8150 May 16 19:06	29°♄32'06 -1°55'47	max. Earth dist.	8156 Jul 29 00:22	12°♄51'49 10.53983 AU
minimum elong	8150 May 16 19:05	29°♄32'06 1°55'55	morning rise	8156 Aug 15 08:31	14°♄59'28
max. Earth dist.	8150 May 17 00:20	29°♄33'41 10.82836 AU		8156 Aug 15 10:16	15°♄
	8150 May 20 15:33	0°♄	retrograde	8156 Nov 28 17:41	22°♄45'26
morning rise	8150 Jun 02 13:29	1°♄32'42	opposition	8157 Feb 06 02:11	19°♄19'41 -1°08'43
retrograde	8150 Sep 13 17:30	8°♄54'34	min. Earth dist.	8157 Feb 05 23:04	19°♄20'17 8.50706 AU
opposition	8150 Nov 23 05:14	5°♄32'55 -2°25'50	direct	8157 Apr 14 17:19	15°♄57'32
min. Earth dist.	8150 Nov 23 00:18	5°♄33'51 8.81873 AU	evening set	8157 Jul 24 15:15	23°♄28'02
direct	8151 Jan 31 14:49	2°♄13'31			
evening set	8151 May 12 02:47	9°♄25'46	conjunction	8157 Aug 11 03:54	25°♄37'49 -0°43'32
			minimum elong	8157 Aug 11 03:56	25°♄37'50 0°43'37
conjunction	8151 May 28 20:18	11°♄26'22 -2°00'37	max. Earth dist.	8157 Aug 11 07:29	25°♄38'56 10.47402 AU
minimum elong	8151 May 28 20:18	11°♄26'22 2°00'46	morning rise	8157 Aug 28 20:04	27°♄48'42
max. Earth dist.	8151 May 29 02:05	11°♄28'07 10.80319 AU		8157 Sep 16 10:18	0°♄
morning rise	8151 Jun 14 16:18	13°♄27'41	retrograde	8157 Dec 12 07:16	5°♄38'32
retrograde	8151 Sep 26 09:07	20°♄52'59	opposition	8158 Feb 19 05:50	2°♄12'14 -0°37'36
opposition	8151 Dec 05 20:10	17°♄30'41 -2°28'39	min. Earth dist.	8158 Feb 19 03:23	2°♄12'43 8.44152 AU
min. Earth dist.	8151 Dec 05 14:43	17°♄31'43 8.78764 AU		8158 Mar 21 13:12	30°♄
direct	8152 Feb 12 22:23	14°♄11'17	direct	8158 Apr 27 15:52	28°♄49'09
evening set	8152 May 23 05:23	21°♄24'37		8158 Jun 03 05:20	0°♄
			evening set	8158 Aug 07 02:05	6°♄25'01
conjunction	8152 Jun 09 00:48	23°♄26'06 -2°00'13			
minimum elong	8152 Jun 09 00:49	23°♄26'07 2°00'23	conjunction	8158 Aug 24 18:17	8°♄36'39 -0°17'11
max. Earth dist.	8152 Jun 09 07:45	23°♄28'13 10.76642 AU	minimum elong	8158 Aug 24 18:18	8°♄36'39 0°17'14
morning rise	8152 Jun 25 23:03	25°♄28'29	max. Earth dist.	8158 Aug 24 20:31	8°♄37'20 10.41018 AU
	8152 Aug 07 09:39	0°♄	morning rise	8158 Sep 11 13:32	10°♄49'15
retrograde	8152 Oct 08 03:30	2°♄57'41	retrograde	8158 Dec 25 23:34	18°♄42'27
	8152 Dec 11 23:12	30°♄	opposition	8159 Mar 04 12:16	15°♄15'46 -0°04'04
opposition	8152 Dec 17 12:28	29°♄34'41 -2°24'59	min. Earth dist.	8159 Mar 04 10:51	15°♄16'03 8.38015 AU
min. Earth dist.	8152 Dec 17 06:18	29°♄35'51 8.74551 AU	asc. node	8159 Apr 18 05:59	12°♄19'01
direct	8153 Feb 24 06:38	26°♄15'06	direct	8159 May 10 19:08	11°♄51'41
	8153 May 03 20:43	0°♄	evening set	8159 Aug 20 19:47	19°♄33'12
evening set	8153 Jun 04 11:25	3°♄30'21			
conjunction	8153 Jun 21 09:20	5°♄33'05 -1°54'30	conjunction	8159 Sep 07 14:47	21°♄46'25 0°10'26
minimum elong	8153 Jun 21 09:22	5°♄33'05 1°54'40	minimum elong	8159 Sep 07 14:47	21°♄46'25 0°10'25
max. Earth dist.	8153 Jun 21 16:41	5°♄35'19 10.71960 AU	behind sun begin	8159 Sep 07 09:07	21°♄44'39
morning rise	8153 Jul 08 10:32	7°♄36'48	behind sun end	8159 Sep 07 20:26	21°♄48'10
retrograde	8153 Oct 21 02:29	15°♄10'12	max. Earth dist.	8159 Sep 07 14:55	21°♄46'27 10.35245 AU
opposition	8153 Dec 30 06:36	11°♄46'28 -2°14'47	morning rise	8159 Sep 25 12:17	24°♄00'26
min. Earth dist.	8153 Dec 30 00:25	11°♄47'40 8.69419 AU		8159 Nov 21 19:25	0°♄
direct	8154 Mar 08 16:53	8°♄26'32	retrograde	8160 Jan 08 17:46	1°♄56'15
evening set	8154 Jun 16 21:57	15°♄44'31		8160 Feb 26 09:49	30°♄
			opposition	8160 Mar 16 21:16	28°♄29'21 0°30'09
			min. Earth dist.	8160 Mar 16 21:27	28°♄29'19 8.32704 AU

direct	8160 May 23 03:08	25° 7 04'15		conjunction	8166 Dec 14 06:39	26° 7 03'19	1°58'49
	8160 Aug 09 14:23	0° 2		minimum elong	8166 Dec 14 06:40	26° 7 03'19	1°58'58
evening set	8160 Sep 02 19:34	2° 2 51'19		max. Earth dist.	8166 Dec 13 23:56	26° 7 01'11	10.32263 AU
				morning rise	8166 Dec 31 19:16	28° 7 15'23	
conjunction	8160 Sep 20 16:31	5° 2 05'47	0°37'43		8167 Jan 15 05:29	0° 3	
minimum elong	8160 Sep 20 16:29	5° 2 05'46	0°37'43	retrograde	8167 Apr 12 15:24	5° 3 59'25	
max. Earth dist.	8160 Sep 20 14:42	5° 2 05'13	10.30462 AU	opposition	8167 Jun 18 19:45	2° 3 35'46	2°23'42
morning rise	8160 Oct 08 15:17	7° 2 0'49		min. Earth dist.	8167 Jun 19 00:57	2° 3 34'44	8.34845 AU
retrograde	8161 Jan 21 13:47	15° 2 18'19			8167 Jul 25 17:29	30° 8 7	
opposition	8161 Mar 30 08:40	11° 2 51'22	1°03'07	direct	8167 Aug 26 18:35	29° 7 07'50	
min. Earth dist.	8161 Mar 30 10:16	11° 2 51'03	8.28556 AU		8167 Sep 27 14:28	0° 3	
direct	8161 Jun 05 15:19	8° 2 25'18		evening set	8167 Dec 10 12:53	7° 3 04'55	
evening set	8161 Sep 17 00:13	16° 2 17'26					
				conjunction	8167 Dec 28 02:16	9° 3 16'36	1°51'23
conjunction	8161 Oct 04 22:14	18° 2 32'44	1°03'11	minimum elong	8167 Dec 28 02:18	9° 3 16'37	1°51'32
minimum elong	8161 Oct 04 22:11	18° 2 32'43	1°03'14	max. Earth dist.	8167 Dec 27 19:35	9° 3 14'30	10.37412 AU
max. Earth dist.	8161 Oct 04 18:56	18° 2 31'41	10.26958 AU	morning rise	8168 Jan 14 12:16	11° 3 27'15	
morning rise	8161 Oct 22 21:12	20° 2 48'19		retrograde	8168 Apr 24 20:53	19° 3 06'16	
retrograde	8162 Feb 04 09:43	28° 2 46'24		opposition	8168 Jul 01 06:00	15° 3 43'30	2°10'44
opposition	8162 Apr 12 21:49	25° 2 19'35	1°32'54	min. Earth dist.	8168 Jul 01 10:33	15° 3 42'36	8.40432 AU
min. Earth dist.	8162 Apr 13 00:25	25° 2 19'04	8.25804 AU	direct	8168 Sep 08 13:27	12° 3 16'07	
direct	8162 Jun 19 08:18	21° 2 52'42		evening set	8168 Dec 23 04:47	20° 3 09'09	
evening set	8162 Oct 01 08:34	29° 2 49'07					
	8162 Oct 02 19:35	0° 7		conjunction	8169 Jan 09 15:54	22° 3 19'25	1°38'15
				minimum elong	8169 Jan 09 15:56	22° 3 19'26	1°38'24
conjunction	8162 Oct 19 06:43	2° 7 04'45	1°25'19	max. Earth dist.	8169 Jan 09 10:10	22° 3 17'37	10.43420 AU
minimum elong	8162 Oct 19 06:41	2° 7 04'44	1°25'24	morning rise	8169 Jan 26 23:21	24° 3 28'35	
max. Earth dist.	8162 Oct 19 02:36	2° 7 03'26	10.24923 AU		8169 Mar 20 07:59	0° 8	
morning rise	8162 Nov 06 04:45	4° 7 20'23		retrograde	8169 May 07 23:12	2° 8 02'27	
retrograde	8163 Feb 18 05:04	12° 7 17'50			8169 Jun 27 05:30	30° 8 3	
opposition	8163 Apr 26 12:02	8° 7 51'22	1°57'40	opposition	8169 Jul 14 13:36	28° 3 40'33	1°51'15
min. Earth dist.	8163 Apr 26 15:00	8° 7 50'46	8.24587 AU	min. Earth dist.	8169 Jul 14 17:12	28° 3 39'50	8.46709 AU
direct	8163 Jul 03 04:04	5° 7 23'49		direct	8169 Sep 22 04:29	25° 3 13'55	
evening set	8163 Oct 15 18:33	13° 7 23'21			8169 Dec 10 07:55	0° 8	
	8163 Oct 28 13:39	15° 7		evening set	8170 Jan 05 14:15	3° 8 02'05	
conjunction	8163 Nov 02 15:58	15° 7 38'53	1°42'47	conjunction	8170 Jan 22 23:04	5° 8 10'53	1°20'20
minimum elong	8163 Nov 02 15:56	15° 7 38'52	1°42'53	minimum elong	8170 Jan 22 23:06	5° 8 10'53	1°20'29
max. Earth dist.	8163 Nov 02 11:26	15° 7 37'26	10.24465 AU	max. Earth dist.	8170 Jan 22 18:44	5° 8 09'32	10.49961 AU
morning rise	8163 Nov 20 12:10	17° 7 54'06		morning rise	8170 Feb 09 04:02	7° 8 18'33	
retrograde	8164 Mar 02 23:51	25° 7 49'44		retrograde	8170 May 20 21:01	14° 8 47'30	
opposition	8164 May 09 02:56	22° 7 23'46	2°15'55	opposition	8170 Jul 27 18:46	11° 8 26'24	1°26'32
min. Earth dist.	8164 May 09 06:16	22° 7 23'06	8.24962 AU	min. Earth dist.	8170 Jul 27 21:33	11° 8 25'51	8.53352 AU
direct	8164 Jul 16 00:44	18° 7 55'47		direct	8170 Oct 05 16:22	8° 8 00'42	
evening set	8164 Oct 29 04:02	26° 7 56'58			8171 Jan 12 16:15	15° 8	
				evening set	8171 Jan 18 17:09	15° 8 43'28	
conjunction	8164 Nov 16 00:00	29° 7 11'59	1°54'32	conjunction	8171 Feb 04 23:30	17° 8 50'43	0°58'42
minimum elong	8164 Nov 15 23:58	29° 7 11'59	1°54'39	minimum elong	8171 Feb 04 23:32	17° 8 50'44	0°58'50
max. Earth dist.	8164 Nov 15 18:55	29° 7 10'22	10.25600 AU	max. Earth dist.	8171 Feb 04 20:24	17° 8 49'46	10.56700 AU
	8164 Nov 22 07:11	0° 7		morning rise	8171 Feb 22 02:09	19° 8 56'54	
morning rise	8164 Dec 03 17:52	1° 7 26'25		retrograde	8171 Jun 02 15:47	27° 8 21'27	
retrograde	8165 Mar 16 17:41	9° 7 19'05		opposition	8171 Aug 09 21:15	24° 8 01'04	0°58'01
opposition	8165 May 22 17:40	5° 7 53'47	2°26'36	min. Earth dist.	8171 Aug 09 23:43	24° 8 00'35	8.60044 AU
min. Earth dist.	8165 May 22 21:42	5° 7 52'59	8.26889 AU	direct	8171 Oct 18 23:50	20° 8 36'21	
direct	8165 Jul 29 21:55	2° 7 25'34		evening set	8172 Jan 31 13:52	28° 8 13'32	
evening set	8165 Nov 12 11:26	10° 7 26'53			8172 Feb 15 02:57	0° 8	
conjunction	8165 Nov 30 05:27	12° 7 41'03	1°59'56	conjunction	8172 Feb 17 17:40	0° 8 19'17	0°34'34
minimum elong	8165 Nov 30 05:27	12° 7 41'02	2°00'05	minimum elong	8172 Feb 17 17:41	0° 8 19'17	0°34'40
max. Earth dist.	8165 Nov 29 23:36	12° 7 39'11	10.28252 AU	max. Earth dist.	8172 Feb 17 15:03	0° 8 18'29	10.63320 AU
morning rise	8165 Dec 17 20:43	14° 7 54'24		morning rise	8172 Mar 05 18:18	2° 8 24'05	
retrograde	8166 Mar 30 06:41	22° 7 43'05		retrograde	8172 Jun 14 06:53	9° 8 44'51	
opposition	8166 Jun 05 07:24	19° 7 18'35	2°29'10	opposition	8172 Aug 21 20:54	6° 8 25'01	0°27'13
min. Earth dist.	8166 Jun 05 12:20	19° 7 17'35	8.30247 AU	min. Earth dist.	8172 Aug 21 22:46	6° 8 24'40	8.66478 AU
direct	8166 Aug 12 20:40	15° 7 50'22		direct	8172 Oct 31 02:33	3° 8 01'19	
evening set	8166 Nov 26 14:55	23° 7 50'18		evening set	8173 Feb 12 04:51	10° 8 33'03	

conjunction	8173 Mar 01 06:12	12° ♋ 37'22	0°09'09	conjunction	8179 May 11 13:24	24° ♋ 13'05	-1°51'39
minimum elong	8173 Mar 01 06:12	12° ♋ 37'22	0°09'13	minimum elong	8179 May 11 13:22	24° ♋ 13'05	1°51'46
behind sun begin	8173 Mar 01 00:12	12° ♋ 35'33		max. Earth dist.	8179 May 11 17:51	24° ♋ 14'26	10.84350 AU
behind sun end	8173 Mar 01 12:11	12° ♋ 39'11		morning rise	8179 May 28 07:08	26° ♋ 13'25	
max. Earth dist.	8173 Mar 01 04:21	12° ♋ 36'49	10.69518 AU		8179 Jul 02 00:15	0° ♊	
morning rise	8173 Mar 18 04:57	14° ♋ 40'53		retrograde	8179 Sep 08 06:12	3° ♊ 33'49	
retrograde	8173 Jun 26 17:53	21° ♋ 58'43		opposition	8179 Nov 17 16:00	0° ♊ 12'46	-2°22'09
desc. node	8173 Jul 13 07:43	21° ♋ 44'47		min. Earth dist.	8179 Nov 17 11:28	0° ♊ 13'38	8.83441 AU
opposition	8173 Sep 03 18:01	18° ♋ 39'15	-0°04'24		8179 Nov 20 11:59	30° ♋	
min. Earth dist.	8173 Sep 03 18:35	18° ♋ 39'08	8.72354 AU	direct	8180 Jan 26 05:35	26° ♋ 53'35	
direct	8173 Nov 13 03:10	15° ♋ 16'34			8180 Mar 28 18:08	0° ♊	
evening set	8174 Feb 24 14:45	22° ♋ 43'12		evening set	8180 May 05 20:43	4° ♊ 05'42	
conjunction	8174 Mar 13 13:47	24° ♋ 46'10	-0°16'29	conjunction	8180 May 22 13:47	6° ♊ 06'01	-1°58'51
minimum elong	8174 Mar 13 13:46	24° ♋ 46'10	0°16'29	minimum elong	8180 May 22 13:46	6° ♊ 06'01	1°59'00
max. Earth dist.	8174 Mar 13 13:39	24° ♋ 46'07	10.75008 AU	max. Earth dist.	8180 May 22 18:49	6° ♊ 07'33	10.81922 AU
morning rise	8174 Mar 30 10:41	26° ♋ 48'30		morning rise	8180 Jun 08 08:46	8° ♊ 06'57	
	8174 Apr 27 23:32	0° ♊		retrograde	8180 Sep 19 20:58	15° ♊ 30'39	
retrograde	8174 Jul 09 05:03	4° ♊ 04'23		opposition	8180 Nov 29 06:47	12° ♊ 08'51	-2°27'59
opposition	8174 Sep 16 12:52	0° ♊ 45'05	-0°35'25	min. Earth dist.	8180 Nov 29 02:07	12° ♊ 09'44	8.80373 AU
min. Earth dist.	8174 Sep 16 11:36	0° ♊ 45'19	8.77407 AU	direct	8181 Feb 06 11:49	8° ♊ 49'33	
	8174 Sep 26 13:53	30° ♋		evening set	8181 May 17 22:26	16° ♊ 02'29	
direct	8174 Nov 25 23:00	27° ♋ 23'22		conjunction	8181 Jun 03 16:46	18° ♊ 03'32	-2°00'58
	8175 Jan 22 12:41	0° ♊		minimum elong	8181 Jun 03 16:46	18° ♊ 03'33	2°01'08
evening set	8175 Mar 08 20:31	4° ♊ 45'25		max. Earth dist.	8181 Jun 03 21:24	18° ♊ 04'57	10.78245 AU
conjunction	8175 Mar 25 17:26	6° ♊ 47'13	-0°41'05	morning rise	8181 Jun 20 13:52	20° ♊ 05'26	
minimum elong	8175 Mar 25 17:25	6° ♊ 47'13	0°41'06	retrograde	8181 Oct 02 13:09	27° ♊ 32'58	
max. Earth dist.	8175 Mar 25 19:17	6° ♊ 47'47	10.79545 AU	opposition	8181 Dec 11 22:54	24° ♊ 10'16	-2°27'26
morning rise	8175 Apr 11 12:41	8° ♊ 48'36		min. Earth dist.	8181 Dec 11 18:39	24° ♊ 11'05	8.76128 AU
retrograde	8175 Jul 21 15:03	16° ♊ 03'25		direct	8182 Feb 18 20:10	20° ♊ 50'40	
opposition	8175 Sep 29 05:48	12° ♊ 44'07	-1°04'35	evening set	8182 May 30 02:51	28° ♊ 05'14	
min. Earth dist.	8175 Sep 29 03:35	12° ♊ 44'31	8.81413 AU		8182 Jun 14 22:59	0° ♋	
direct	8175 Dec 08 13:17	9° ♊ 23'15		conjunction	8182 Jun 15 23:23	0° ♋ 07'25	-1°57'46
evening set	8176 Mar 19 22:58	16° ♊ 41'25		minimum elong	8182 Jun 15 23:24	0° ♋ 07'26	1°57'57
conjunction	8176 Apr 05 17:58	18° ♊ 42'18	-1°03'43	max. Earth dist.	8182 Jun 16 04:14	0° ♋ 08'54	10.73495 AU
minimum elong	8176 Apr 05 17:56	18° ♊ 42'17	1°03'46	morning rise	8182 Jul 02 23:17	2° ♋ 10'35	
max. Earth dist.	8176 Apr 05 20:29	18° ♊ 43'03	10.82911 AU	retrograde	8182 Oct 15 09:29	9° ♋ 42'19	
morning rise	8176 Apr 22 12:04	20° ♊ 42'56		opposition	8182 Dec 24 16:25	6° ♋ 18'43	-2°20'20
retrograde	8176 Aug 01 23:01	27° ♊ 57'42		min. Earth dist.	8182 Dec 24 12:09	6° ♋ 19'32	8.70896 AU
opposition	8176 Oct 10 21:14	24° ♊ 38'12	-1°30'45	direct	8183 Mar 03 07:02	2° ♋ 58'37	
min. Earth dist.	8176 Oct 10 18:50	24° ♊ 38'39	8.84147 AU	evening set	8183 Jun 11 11:15	10° ♋ 15'40	
direct	8176 Dec 20 02:04	21° ♊ 18'00		conjunction	8183 Jun 28 10:51	12° ♋ 19'18	-1°49'16
evening set	8177 Mar 31 23:13	28° ♊ 33'14		minimum elong	8183 Jun 28 10:53	12° ♋ 19'18	1°49'26
	8177 Apr 13 01:47	0° ♋		max. Earth dist.	8183 Jun 28 16:20	12° ♋ 20'58	10.67867 AU
conjunction	8177 Apr 17 16:38	0° ♋ 33'25	-1°23'30	morning rise	8183 Jul 15 13:59	14° ♋ 24'01	
minimum elong	8177 Apr 17 16:35	0° ♋ 33'25	1°23'35	retrograde	8183 Oct 28 09:37	22° ♋ 00'08	
max. Earth dist.	8177 Apr 17 19:02	0° ♋ 34'09	10.84899 AU	opposition	8184 Jan 06 11:35	18° ♋ 35'37	-2°06'47
morning rise	8177 May 04 10:06	2° ♋ 33'37		min. Earth dist.	8184 Jan 06 07:01	18° ♋ 36'30	8.64887 AU
retrograde	8177 Aug 14 07:38	9° ♋ 49'19		direct	8184 Mar 14 18:21	15° ♋ 14'53	
opposition	8177 Oct 23 11:40	6° ♋ 29'29	-1°52'55	evening set	8184 Jun 23 00:31	22° ♋ 35'14	
min. Earth dist.	8177 Oct 23 09:06	6° ♋ 29'57	8.85421 AU	conjunction	8184 Jul 10 03:40	24° ♋ 40'34	-1°35'38
direct	8178 Jan 01 12:32	3° ♋ 09'48		minimum elong	8184 Jul 10 03:42	24° ♋ 40'35	1°35'47
evening set	8178 Apr 12 22:11	10° ♋ 23'02		max. Earth dist.	8184 Jul 10 09:24	24° ♋ 42'20	10.61591 AU
conjunction	8178 Apr 29 14:45	12° ♋ 22'54	-1°39'42	morning rise	8184 Jul 27 10:28	26° ♋ 47'03	
minimum elong	8178 Apr 29 14:43	12° ♋ 22'53	1°39'47		8184 Aug 24 19:32	0° ♌	
max. Earth dist.	8178 Apr 29 17:51	12° ♋ 23'50	10.85377 AU	retrograde	8184 Nov 09 13:32	4° ♌ 27'38	
morning rise	8178 May 16 08:03	14° ♋ 23'00		opposition	8185 Jan 18 09:09	1° ♌ 02'16	-1°47'08
	8178 May 21 14:34	15° ♋		min. Earth dist.	8185 Jan 18 04:32	1° ♌ 03'10	8.58355 AU
retrograde	8178 Aug 26 17:11	21° ♋ 40'38			8185 Jan 31 22:27	30° ♋	
opposition	8178 Nov 05 01:46	18° ♋ 20'16	-2°10'17	direct	8185 Mar 27 08:53	27° ♋ 40'47	
min. Earth dist.	8178 Nov 04 22:10	18° ♋ 20'57	8.85166 AU		8185 May 18 17:45	0° ♌	
direct	8179 Jan 13 21:17	15° ♋ 00'57		evening set	8185 Jul 05 19:20	5° ♌ 05'08	
evening set	8179 Apr 24 20:53	22° ♋ 13'10					

conjunction	8185 Jul 23 02:15	7° Ω 12'21	-1°17'19	conjunction	8191 Oct 13 01:15	26° Ω 08'00	1°15'36
minimum elong	8185 Jul 23 02:17	7° Ω 12'22	1°17'27	minimum elong	8191 Oct 13 01:12	26° Ω 07'59	1°15'40
max. Earth dist.	8185 Jul 23 07:02	7° Ω 13'49	10.54942 AU	max. Earth dist.	8191 Oct 12 23:06	26° Ω 07'19	10.24683 AU
morning rise	8185 Aug 09 13:02	9° Ω 20'44		morning rise	8191 Oct 30 23:46	28° Ω 23'51	
	8185 Oct 03 02:02	15° Ω			8191 Nov 13 03:33	0° \mathbb{M}	
retrograde	8185 Nov 22 22:00	17° Ω 05'41		retrograde	8192 Feb 12 07:44	6° \mathbb{M} 22'28	
	8186 Jan 13 20:05	15° \mathbb{R} Ω		opposition	8192 Apr 19 15:56	2° \mathbb{M} 55'45	1°46'57
opposition	8186 Jan 31 09:21	13° Ω 39'34	-1°22'02	min. Earth dist.	8192 Apr 19 17:55	2° \mathbb{M} 55'21	8.24156 AU
min. Earth dist.	8186 Jan 31 05:38	13° Ω 40'18	8.51597 AU		8192 Jun 01 22:52	30° \mathbb{R} Ω	
direct	8186 Apr 09 02:07	10° Ω 17'13		direct	8192 Jun 26 03:36	29° Ω 28'31	
	8186 Jun 24 22:51	15° Ω			8192 Jul 20 07:05	0° \mathbb{M}	
evening set	8186 Jul 18 20:36	17° Ω 46'14		evening set	8192 Oct 08 13:10	7° \mathbb{M} 27'25	
conjunction	8186 Aug 05 07:24	19° Ω 55'23	-0°55'00	conjunction	8192 Oct 26 10:55	9° \mathbb{M} 43'11	1°35'21
minimum elong	8186 Aug 05 07:26	19° Ω 55'24	0°55'07	minimum elong	8192 Oct 26 10:53	9° \mathbb{M} 43'10	1°35'26
max. Earth dist.	8186 Aug 05 10:44	19° Ω 56'25	10.48224 AU	max. Earth dist.	8192 Oct 26 07:05	9° \mathbb{M} 41'57	10.23881 AU
morning rise	8186 Aug 22 22:08	22° Ω 05'43		morning rise	8192 Nov 13 08:08	11° \mathbb{M} 58'48	
retrograde	8186 Dec 06 09:51	29° Ω 54'40			8192 Dec 08 18:49	15° \mathbb{M}	
opposition	8187 Feb 13 12:05	26° Ω 27'58	-0°52'30	retrograde	8193 Feb 25 03:41	19° \mathbb{M} 56'04	
min. Earth dist.	8187 Feb 13 09:40	26° Ω 28'27	8.44935 AU	opposition	8193 May 03 07:22	16° \mathbb{M} 30'00	2°08'20
direct	8187 Apr 21 23:18	23° Ω 04'40		min. Earth dist.	8193 May 03 10:27	16° \mathbb{M} 29'22	8.24203 AU
	8187 Jul 26 20:13	0° \mathbb{M}			8193 May 22 10:48	15° \mathbb{R} \mathbb{M}	
evening set	8187 Aug 01 04:35	0° \mathbb{M} 38'54		direct	8193 Jul 10 00:46	13° \mathbb{M} 02'23	
					8193 Aug 26 19:20	15° \mathbb{M}	
conjunction	8187 Aug 18 19:09	2° \mathbb{M} 49'56	-0°29'39	evening set	8193 Oct 22 23:58	21° \mathbb{M} 03'34	
minimum elong	8187 Aug 18 19:11	2° \mathbb{M} 49'57	0°29'44				
max. Earth dist.	8187 Aug 18 21:14	2° \mathbb{M} 50'35	10.41753 AU	conjunction	8193 Nov 09 20:34	23° \mathbb{M} 18'57	1°49'48
morning rise	8187 Sep 05 13:18	5° \mathbb{M} 02'04		minimum elong	8193 Nov 09 20:32	23° \mathbb{M} 18'57	1°49'55
retrograde	8187 Dec 19 23:16	12° \mathbb{M} 54'37		max. Earth dist.	8193 Nov 09 15:46	23° \mathbb{M} 17'26	10.24700 AU
opposition	8188 Feb 26 17:38	9° \mathbb{M} 27'28	-0°19'49	morning rise	8193 Nov 27 15:47	25° \mathbb{M} 33'55	
min. Earth dist.	8188 Feb 26 16:14	9° \mathbb{M} 27'45	8.38698 AU		8194 Jan 05 13:47	0° \mathbb{J}	
direct	8188 May 04 02:28	6° \mathbb{M} 03'13		retrograde	8194 Mar 10 22:06	3° \mathbb{J} 28'36	
evening set	8188 Aug 13 19:13	13° \mathbb{M} 42'57		opposition	8194 May 16 22:59	0° \mathbb{J} 03'17	2°22'32
				min. Earth dist.	8194 May 17 02:30	0° \mathbb{J} 02'34	8.25835 AU
conjunction	8188 Aug 31 13:05	15° \mathbb{M} 55'42	-0°02'30		8194 May 17 15:13	30° \mathbb{R} \mathbb{M}	
minimum elong	8188 Aug 31 13:05	15° \mathbb{M} 55'42	0°02'32	direct	8194 Jul 23 23:37	26° \mathbb{M} 35'28	
behind sun begin	8188 Aug 31 05:50	15° \mathbb{M} 53'27			8194 Sep 26 11:40	0° \mathbb{J}	
behind sun end	8188 Aug 31 20:20	15° \mathbb{M} 57'57		evening set	8194 Nov 06 09:28	4° \mathbb{J} 37'23	
max. Earth dist.	8188 Aug 31 14:38	15° \mathbb{M} 56'08	10.35856 AU				
morning rise	8188 Sep 18 09:48	18° \mathbb{M} 09'22		conjunction	8194 Nov 24 04:22	6° \mathbb{J} 52'00	1°58'07
asc. node	8188 Oct 03 22:59	20° \mathbb{M} 01'06		minimum elong	8194 Nov 24 04:21	6° \mathbb{J} 52'00	1°58'15
retrograde	8189 Jan 01 16:23	26° \mathbb{M} 04'54		max. Earth dist.	8194 Nov 23 23:10	6° \mathbb{J} 50'21	10.27063 AU
opposition	8189 Mar 11 01:52	22° \mathbb{M} 37'30	0°14'21	morning rise	8194 Dec 11 20:59	9° \mathbb{J} 05'57	
min. Earth dist.	8189 Mar 11 00:48	22° \mathbb{M} 37'43	8.33217 AU	retrograde	8195 Mar 24 13:15	16° \mathbb{J} 56'56	
direct	8189 May 17 09:09	19° \mathbb{M} 12'22		opposition	8195 May 30 13:53	13° \mathbb{J} 32'26	2°28'46
evening set	8189 Aug 27 16:29	26° \mathbb{M} 57'36		min. Earth dist.	8195 May 30 17:30	13° \mathbb{J} 31'42	8.28919 AU
				direct	8195 Aug 06 23:24	10° \mathbb{J} 04'38	
conjunction	8189 Sep 14 12:51	29° \mathbb{M} 11'47	0°25'13	evening set	8195 Nov 20 15:32	18° \mathbb{J} 05'37	
minimum elong	8189 Sep 14 12:50	29° \mathbb{M} 11'46	0°25'12				
max. Earth dist.	8189 Sep 14 13:40	29° \mathbb{M} 12'02	10.30862 AU	conjunction	8195 Dec 08 08:25	20° \mathbb{J} 19'11	1°59'56
	8189 Sep 20 21:44	0° Ω		minimum elong	8195 Dec 08 08:25	20° \mathbb{J} 19'11	2°00'05
morning rise	8189 Oct 02 11:11	1° Ω 26'38		max. Earth dist.	8195 Dec 08 03:10	20° \mathbb{J} 17'31	10.30789 AU
retrograde	8190 Jan 15 13:13	9° Ω 24'17		morning rise	8195 Dec 25 22:13	22° \mathbb{J} 31'51	
opposition	8190 Mar 24 12:32	5° Ω 56'52	0°48'10		8196 Mar 18 19:30	0° \mathbb{Z}	
min. Earth dist.	8190 Mar 24 12:03	5° Ω 56'57	8.28807 AU	retrograde	8196 Apr 06 01:19	0° \mathbb{Z} 18'19	
direct	8190 May 30 18:21	2° Ω 30'54			8196 Apr 24 09:50	30° \mathbb{R} \mathbb{J}	
evening set	8190 Sep 10 19:32	10° Ω 21'25		opposition	8196 Jun 12 03:29	26° \mathbb{J} 54'40	2°26'52
				min. Earth dist.	8196 Jun 12 07:20	26° \mathbb{J} 53'54	8.33208 AU
conjunction	8190 Sep 28 17:23	12° Ω 36'37	0°51'44	direct	8196 Aug 19 21:26	23° \mathbb{J} 27'04	
minimum elong	8190 Sep 28 17:21	12° Ω 36'36	0°51'46		8196 Nov 21 21:48	0° \mathbb{Z}	
max. Earth dist.	8190 Sep 28 16:54	12° Ω 36'28	10.27063 AU	evening set	8196 Dec 03 16:38	1° \mathbb{Z} 25'40	
morning rise	8190 Oct 16 16:20	14° Ω 52'13					
retrograde	8191 Jan 29 11:03	22° Ω 50'55		conjunction	8196 Dec 21 07:17	3° \mathbb{Z} 37'59	1°55'16
opposition	8191 Apr 07 01:24	19° Ω 23'44	1°19'40	minimum elong	8196 Dec 21 07:19	3° \mathbb{Z} 37'59	1°55'25
min. Earth dist.	8191 Apr 07 01:58	19° Ω 23'38	8.25724 AU	max. Earth dist.	8196 Dec 21 01:44	3° \mathbb{Z} 36'14	10.35566 AU
direct	8191 Jun 13 08:54	15° Ω 57'04		morning rise	8197 Jan 07 18:22	5° \mathbb{Z} 49'16	
evening set	8191 Sep 25 03:00	23° Ω 52'17		retrograde	8197 Apr 19 10:15	13° \mathbb{Z} 30'46	

opposition	8197 Jun 25 15:11	10°308'01	2°17'09	retrograde	8203 Jul 05 06:26	29°307'52
min. Earth dist.	8197 Jun 25 19:56	10°307'04	8.38354 AU	opposition	8203 Sep 12 09:34	25°348'09 -0°22'20
direct	8197 Sep 02 16:52	6°340'48		min. Earth dist.	8203 Sep 12 10:22	25°348'00 8.73320 AU
evening set	8197 Dec 17 12:09	14°335'58		direct	8203 Nov 21 18:15	22°325'36
				evening set	8204 Mar 03 23:29	29°350'32
conjunction	8198 Jan 04 00:23	16°346'56	1°44'34		8204 Mar 05 07:15	0°3
minimum elong	8198 Jan 04 00:25	16°346'57	1°44'43			
max. Earth dist.	8198 Jan 03 18:00	16°344'56	10.41053 AU	conjunction	8204 Mar 20 21:20	1°353'07 -0°30'47
morning rise	8198 Jan 21 08:53	18°356'47		minimum elong	8204 Mar 20 21:19	1°353'06 0°30'48
retrograde	8198 May 02 14:51	26°333'16		max. Earth dist.	8204 Mar 20 20:45	1°352'56 10.75548 AU
opposition	8198 Jul 09 00:38	23°311'24	2°00'25	morning rise	8204 Apr 06 17:32	3°355'10
min. Earth dist.	8198 Jul 09 05:59	23°310'21	8.44073 AU	retrograde	8204 Jul 16 15:32	11°311'15
direct	8198 Sep 16 10:12	19°344'47		opposition	8204 Sep 24 03:45	7°351'28 -0°52'32
evening set	8198 Dec 31 01:23	27°335'40		min. Earth dist.	8204 Sep 24 03:20	7°351'33 8.77541 AU
				direct	8204 Dec 03 12:04	4°329'40
conjunction	8199 Jan 17 11:09	29°345'12	1°28'37	evening set	8205 Mar 16 03:50	11°350'29
minimum elong	8199 Jan 17 11:12	29°345'13	1°28'46			
max. Earth dist.	8199 Jan 17 04:29	29°343'07	10.47019 AU	conjunction	8205 Apr 01 23:42	13°352'01 -0°54'26
	8199 Jan 19 10:33	0°3		minimum elong	8205 Apr 01 23:40	13°352'00 0°54'28
morning rise	8199 Feb 03 17:18	1°353'38		max. Earth dist.	8205 Apr 02 00:48	13°352'21 10.79241 AU
retrograde	8199 May 15 13:48	9°325'16		morning rise	8205 Apr 18 18:31	15°353'15
opposition	8199 Jul 22 07:48	6°304'10	1°37'49	retrograde	8205 Jul 29 00:02	23°308'52
min. Earth dist.	8199 Jul 22 12:47	6°303'12	8.50170 AU	opposition	8205 Oct 06 20:15	19°348'52 -1°20'10
direct	8199 Sep 30 01:54	2°338'17		min. Earth dist.	8205 Oct 06 18:00	19°349'18 8.80716 AU
evening set	8200 Jan 13 07:55	10°324'10		direct	8205 Dec 16 03:52	16°327'47
				evening set	8206 Mar 28 05:14	23°345'11
conjunction	8200 Jan 30 15:19	12°332'14	1°08'27			
minimum elong	8200 Jan 30 15:21	12°332'15	1°08'35	conjunction	8206 Apr 13 23:30	25°345'56 -1°15'34
max. Earth dist.	8200 Jan 30 09:21	12°330'23	10.53257 AU	minimum elong	8206 Apr 13 23:28	25°345'55 1°15'38
morning rise	8200 Feb 16 19:14	14°339'14		max. Earth dist.	8206 Apr 14 02:43	25°346'54 10.81808 AU
	8200 Feb 19 15:50	15°3		morning rise	8206 Apr 30 17:13	27°346'33
retrograde	8200 May 28 10:38	22°306'24			8206 May 20 05:34	0°3
opposition	8200 Aug 04 12:13	18°345'53	1°10'45	retrograde	8206 Aug 10 10:36	5°302'40
min. Earth dist.	8200 Aug 04 15:53	18°345'11	8.56412 AU	opposition	8206 Oct 19 11:33	1°342'22 -1°44'12
direct	8200 Oct 13 12:45	15°320'50		min. Earth dist.	8206 Oct 19 07:43	1°343'06 8.82711 AU
evening set	8201 Jan 26 08:13	23°301'19			8206 Nov 12 07:51	30°339
				direct	8206 Dec 28 14:59	28°321'55
conjunction	8201 Feb 12 13:19	25°307'55	0°45'14		8207 Feb 11 11:41	0°3
minimum elong	8201 Feb 12 13:20	25°307'56	0°45'20	evening set	8207 Apr 09 05:00	5°336'45
max. Earth dist.	8201 Feb 12 09:08	25°306'38	10.59500 AU			
morning rise	8201 Mar 01 15:00	27°313'31		conjunction	8207 Apr 25 22:05	7°336'59 -1°33'24
	8201 Mar 25 17:39	0°3		minimum elong	8207 Apr 25 22:03	7°336'59 1°33'29
retrograde	8201 Jun 10 04:34	4°336'43		max. Earth dist.	8207 Apr 26 02:34	7°338'21 10.83144 AU
opposition	8201 Aug 17 13:47	1°316'38	0°40'42	morning rise	8207 May 12 15:22	9°337'20
min. Earth dist.	8201 Aug 17 16:08	1°316'11	8.62524 AU		8207 Jul 04 23:50	15°3
	8201 Sep 03 15:16	30°332		retrograde	8207 Aug 22 19:56	16°354'46
direct	8201 Oct 26 18:15	27°352'25			8207 Oct 12 09:00	15°338
	8201 Dec 17 06:34	0°3		opposition	8207 Nov 01 02:00	13°334'04 -2°03'44
evening set	8202 Feb 08 02:33	5°327'26		min. Earth dist.	8207 Oct 31 21:42	13°334'52 8.83441 AU
				direct	8208 Jan 09 23:18	10°314'05
conjunction	8202 Feb 25 05:16	7°332'37	0°20'10		8208 Mar 29 11:03	15°3
minimum elong	8202 Feb 25 05:16	7°332'37	0°20'14	evening set	8208 Apr 20 04:02	17°327'18
max. Earth dist.	8202 Feb 25 02:51	7°331'53	10.65464 AU			
morning rise	8202 Mar 14 04:49	9°336'55		conjunction	8208 May 06 20:29	19°327'20 -1°47'13
retrograde	8202 Jun 22 18:29	16°356'51		minimum elong	8208 May 06 20:27	19°327'20 1°47'20
opposition	8202 Aug 30 12:55	13°337'02	0°09'11	max. Earth dist.	8208 May 07 01:05	19°328'44 10.83195 AU
min. Earth dist.	8202 Aug 30 14:22	13°336'45	8.68242 AU	morning rise	8208 May 23 14:06	21°327'43
direct	8202 Nov 08 20:24	10°313'40		retrograde	8208 Sep 03 06:25	28°347'18
desc. node	8202 Dec 17 15:33	11°327'21		opposition	8208 Nov 12 16:18	25°326'06 -2°17'58
evening set	8203 Feb 20 15:19	17°343'25		min. Earth dist.	8208 Nov 12 11:44	25°326'58 8.82867 AU
				direct	8209 Jan 21 08:07	22°306'25
conjunction	8203 Mar 09 15:32	19°347'13	-0°05'38	evening set	8209 May 02 03:17	29°318'56
minimum elong	8203 Mar 09 15:32	19°347'13	0°05'36		8209 May 07 21:19	0°3
behind sun begin	8203 Mar 09 08:45	19°345'10				
behind sun end	8203 Mar 09 22:19	19°349'16		conjunction	8209 May 18 19:55	1°319'08 -1°56'28
max. Earth dist.	8203 Mar 09 14:15	19°346'51	10.70890 AU	minimum elong	8209 May 18 19:54	1°319'08 1°56'36
morning rise	8203 Mar 26 13:16	21°350'18		max. Earth dist.	8209 May 19 01:19	1°320'46 10.81953 AU

morning rise	8209 Jun 04 14:26	3° Π 19'52	opposition	8216 Feb 09 04:53	21° Ω 10'56	-1°05'28
retrograde	8209 Sep 15 19:29	10° Π 42'19	min. Earth dist.	8216 Feb 09 00:50	21° Ω 11'44	8.50654 AU
opposition	8209 Nov 25 06:55	7° Π 20'31 -2°26'21	direct	8216 Apr 16 19:11	17° Ω 48'46	
min. Earth dist.	8209 Nov 25 01:34	7° Π 21'32 8.81008 AU	evening set	8216 Jul 26 18:32	25° Ω 19'18	
direct	8210 Feb 02 15:56	4° Π 01'00				
evening set	8210 May 14 03:55	11° Π 13'40	conjunction	8216 Aug 13 07:23	27° Ω 29'07	-0°40'47
			minimum elong	8216 Aug 13 07:25	27° Ω 29'07	0°40'51
conjunction	8210 May 30 21:40	13° Π 14'24 -2°00'44	max. Earth dist.	8216 Aug 13 11:31	27° Ω 30'24	10.47472 AU
minimum elong	8210 May 30 21:40	13° Π 14'24 2°00'54	morning rise	8216 Aug 30 23:41	29° Ω 40'02	
max. Earth dist.	8210 May 31 04:31	13° Π 16'28 10.79473 AU		8216 Sep 02 17:39	0° Π	
morning rise	8210 Jun 16 17:44	15° Π 15'51	retrograde	8216 Dec 14 10:23	7° Π 29'37	
retrograde	8210 Sep 28 11:08	22° Π 41'43	opposition	8217 Feb 21 08:26	4° Π 03'21	-0°34'06
opposition	8210 Dec 07 22:16	19° Π 19'14 -2°28'28	min. Earth dist.	8217 Feb 21 05:38	4° Π 03'54	8.44336 AU
min. Earth dist.	8210 Dec 07 15:50	19° Π 20'27 8.77949 AU	direct	8217 Apr 29 18:26	0° Π 40'15	
direct	8211 Feb 15 00:03	15° Π 59'43	evening set	8217 Aug 09 05:22	8° Π 16'03	
evening set	8211 May 26 06:56	23° Π 13'24				
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conjunction	8211 Jun 12 02:34	25° Π 15'02 -1°59'45	minimum elong	8217 Aug 26 21:37	10° Π 27'40	0°14'23
minimum elong	8211 Jun 12 02:34	25° Π 15'03 1°59'56	behind sun begin	8217 Aug 26 18:26	10° Π 26'41	
max. Earth dist.	8211 Jun 12 10:06	25° Π 17'20 10.75863 AU	behind sun end	8217 Aug 27 00:48	10° Π 28'38	
morning rise	8211 Jun 29 01:00	27° Π 17'33	max. Earth dist.	8217 Aug 26 23:23	10° Π 28'12	10.41303 AU
	8211 Jul 22 22:35	0° Ξ	morning rise	8217 Sep 13 17:00	12° Π 40'14	
retrograde	8211 Oct 11 07:04	4° Ξ 47'13	retrograde	8217 Dec 28 02:14	20° Π 33'05	
opposition	8211 Dec 20 14:54	1° Ξ 24'03 -2°24'04	opposition	8218 Mar 06 14:43	17° Π 06'29	-0°00'30
min. Earth dist.	8211 Dec 20 08:20	1° Ξ 25'18 8.73817 AU	min. Earth dist.	8218 Mar 06 13:45	17° Π 06'40	8.38382 AU
	8212 Jan 08 14:04	30° κ Π	asc. node	8218 Mar 12 05:22	16° Π 39'38	
direct	8212 Feb 27 08:36	28° Π 04'21	direct	8218 May 12 21:37	13° Π 42'24	
	8212 Apr 15 09:03	0° Ξ	evening set	8218 Aug 22 22:59	21° Π 23'47	
evening set	8212 Jun 06 13:30	5° Ξ 19'55				
			conjunction	8218 Sep 09 18:00	23° Π 36'57	0°13'16
conjunction	8212 Jun 23 11:35	7° Ξ 22'47 -1°53'27	minimum elong	8218 Sep 09 17:59	23° Π 36'57	0°13'15
minimum elong	8212 Jun 23 11:37	7° Ξ 22'47 1°53'37	behind sun begin	8218 Sep 09 13:52	23° Π 35'40	
max. Earth dist.	8212 Jun 23 18:35	7° Ξ 24'55 10.71280 AU	behind sun end	8218 Sep 09 22:07	23° Π 38'14	
morning rise	8212 Jul 10 13:07	9° Ξ 26'40	max. Earth dist.	8218 Sep 09 17:28	23° Π 36'47	10.35684 AU
retrograde	8212 Oct 23 05:47	17° Ξ 00'22	morning rise	8218 Sep 27 15:38	25° Π 50'56	
opposition	8213 Jan 01 09:12	13° Ξ 36'32 -2°13'10		8218 Nov 03 06:40	0° Ω	
min. Earth dist.	8213 Jan 01 03:18	13° Ξ 37'40 8.68796 AU	retrograde	8219 Jan 10 20:18	3° Ω 46'19	
direct	8213 Mar 10 17:53	10° Ξ 16'27	opposition	8219 Mar 19 23:24	0° Ω 19'31	0°33'33
evening set	8213 Jun 19 00:21	17° Ξ 34'44	min. Earth dist.	8219 Mar 20 00:07	0° Ω 19'22	8.33198 AU
				8219 Mar 24 00:37	30° κ Π	
conjunction	8213 Jul 06 01:37	19° Ξ 39'05 -1°41'56	direct	8219 May 26 05:17	26° Π 54'27	
minimum elong	8213 Jul 06 01:39	19° Ξ 39'06 1°42'05		8219 Jul 25 20:37	0° Ω	
max. Earth dist.	8213 Jul 06 07:54	19° Ξ 41'01 10.65932 AU	evening set	8219 Sep 05 22:37	4° Ω 41'21	
morning rise	8213 Jul 23 06:48	21° Ξ 44'35				
retrograde	8213 Nov 05 06:26	29° Ξ 22'28	conjunction	8219 Sep 23 19:35	6° Ω 55'44	0°40'21
opposition	8214 Jan 14 05:35	25° Ξ 57'57 -1°56'01	minimum elong	8219 Sep 23 19:34	6° Ω 55'44	0°40'22
min. Earth dist.	8214 Jan 14 00:30	25° Ξ 58'56 8.63114 AU	max. Earth dist.	8219 Sep 23 17:38	6° Ω 55'07	10.30997 AU
direct	8214 Mar 23 07:58	22° Ξ 37'20	morning rise	8219 Oct 11 18:21	9° Ω 10'42	
evening set	8214 Jul 01 16:16	29° Ξ 59'02	retrograde	8220 Jan 24 15:05	17° Ω 07'44	
	8214 Jul 01 19:28	0° Ω	opposition	8220 Apr 01 10:27	13° Ω 40'54	1°06'12
			min. Earth dist.	8220 Apr 01 12:05	13° Ω 40'35	8.29124 AU
conjunction	8214 Jul 18 21:20	2° Ω 05'08 -1°25'33	direct	8220 Jun 07 18:43	10° Ω 14'55	
minimum elong	8214 Jul 18 21:23	2° Ω 05'09 1°25'41	evening set	8220 Sep 19 02:58	18° Ω 06'52	
max. Earth dist.	8214 Jul 19 03:28	2° Ω 07'01 10.60037 AU				
morning rise	8214 Aug 05 06:22	4° Ω 12'25	conjunction	8220 Oct 07 01:00	20° Ω 22'03	1°05'29
retrograde	8214 Nov 18 11:56	11° Ω 54'26	minimum elong	8220 Oct 07 00:57	20° Ω 22'02	1°05'32
opposition	8215 Jan 27 04:06	8° Ω 29'15 -1°33'10	max. Earth dist.	8220 Oct 06 22:10	20° Ω 21'09	10.27544 AU
min. Earth dist.	8215 Jan 26 23:26	8° Ω 30'09 8.56993 AU	morning rise	8220 Oct 24 23:45	22° Ω 37'30	
direct	8215 Apr 05 00:32	5° Ω 07'55		8221 Jan 11 21:37	0° Π	
evening set	8215 Jul 14 14:13	12° Ω 33'43	retrograde	8221 Feb 06 10:27	0° Π 35'09	
				8221 Mar 04 03:10	30° κ Ω	
conjunction	8215 Jul 31 23:17	14° Ω 41'40 -1°04'53	opposition	8221 Apr 14 23:16	27° Ω 08'28	1°35'29
minimum elong	8215 Jul 31 23:19	14° Ω 41'41 1°04'59	min. Earth dist.	8221 Apr 15 01:25	27° Ω 08'02	8.26409 AU
max. Earth dist.	8215 Aug 01 04:56	14° Ω 43'25 10.53809 AU	direct	8221 Jun 21 10:42	23° Ω 41'41	
	8215 Aug 03 10:33	15° Ω		8221 Sep 20 01:03	0° Π	
morning rise	8215 Aug 18 12:03	16° Ω 50'47	evening set	8221 Oct 03 10:59	1° Π 37'50	
retrograde	8215 Dec 01 21:53	24° Ω 36'43				



























































































































conjunction	8221 Oct 21 09:05	3° \mathbb{M} 53'22	1°27'10		8228 Mar 03 07:11	0° \approx	
minimum elong	8221 Oct 21 09:02	3° \mathbb{M} 53'21	1°27'15	retrograde	8228 May 09 22:40	3° \approx 46'17	
max. Earth dist.	8221 Oct 21 05:31	3° \mathbb{M} 52'14	10.25533 AU	opposition	8228 Jul 16 13:35	0° \approx 24'22	1°48'59
morning rise	8221 Nov 08 06:50	6° \mathbb{M} 08'51		min. Earth dist.	8228 Jul 16 17:21	0° \approx 23'37	8.46860 AU
retrograde	8222 Feb 20 06:53	14° \mathbb{M} 05'52			8228 Jul 21 17:59	30° \mathbb{R} \mathcal{Z}	
opposition	8222 Apr 28 13:13	10° \mathbb{M} 39'32	1°59'37	direct	8228 Sep 24 04:55	26° \mathcal{Z} 57'43	
min. Earth dist.	8222 Apr 28 16:00	10° \mathbb{M} 38'58	8.25203 AU		8228 Nov 25 00:03	0° \approx	
direct	8222 Jul 05 04:39	7° \mathbb{M} 12'05		evening set	8229 Jan 07 13:56	4° \approx 45'39	
	8222 Oct 16 08:09	15° \mathbb{M}					
evening set	8222 Oct 17 20:40	15° \mathbb{M} 11'20		conjunction	8229 Jan 24 22:40	6° \approx 54'23	1°18'18
				minimum elong	8229 Jan 24 22:42	6° \approx 54'24	1°18'27
conjunction	8222 Nov 04 17:56	17° \mathbb{M} 26'45	1°44'05	max. Earth dist.	8229 Jan 24 18:12	6° \approx 53'00	10.50048 AU
minimum elong	8222 Nov 04 17:54	17° \mathbb{M} 26'44	1°44'11	morning rise	8229 Feb 11 03:32	9° \approx 02'01	
max. Earth dist.	8222 Nov 04 13:15	17° \mathbb{M} 25'16	10.25072 AU		8229 Apr 11 01:21	15° \approx	
morning rise	8222 Nov 22 13:54	19° \mathbb{M} 41'50		retrograde	8229 May 22 21:10	16° \approx 30'51	
retrograde	8223 Mar 06 02:12	27° \mathbb{M} 37'00			8229 Jul 04 18:07	15° \mathbb{R} \approx	
opposition	8223 May 12 03:51	24° \mathbb{M} 11'11	2°17'09	opposition	8229 Jul 29 18:42	13° \approx 09'43	1°23'50
min. Earth dist.	8223 May 12 07:44	24° \mathbb{M} 10'23	8.25560 AU	min. Earth dist.	8229 Jul 29 22:18	13° \approx 09'02	8.53372 AU
direct	8223 Jul 19 00:56	20° \mathbb{M} 43'16		direct	8229 Oct 07 15:52	9° \approx 43'57	
evening set	8223 Nov 01 05:49	28° \mathbb{M} 44'12			8229 Dec 30 16:45	15° \approx	
	8223 Nov 11 07:15	0° \mathcal{Z}		evening set	8230 Jan 20 16:42	17° \approx 26'34	
conjunction	8223 Nov 19 01:31	0° \mathcal{Z} 59'04	1°55'13	conjunction	8230 Feb 06 22:53	19° \approx 33'49	0°56'22
minimum elong	8223 Nov 19 01:29	0° \mathcal{Z} 59'04	1°55'21	minimum elong	8230 Feb 06 22:55	19° \approx 33'49	0°56'29
max. Earth dist.	8223 Nov 18 19:33	0° \mathcal{Z} 57'11	10.26178 AU	max. Earth dist.	8230 Feb 06 18:48	19° \approx 32'33	10.56652 AU
morning rise	8223 Dec 06 19:12	3° \mathcal{Z} 13'23		morning rise	8230 Feb 24 01:35	21° \approx 40'00	
retrograde	8224 Mar 18 18:00	11° \mathcal{Z} 05'35		retrograde	8230 Jun 04 15:00	29° \approx 04'30	
opposition	8224 May 24 18:21	7° \mathcal{Z} 40'26	2°27'03	opposition	8230 Aug 11 21:08	25° \approx 44'03	0°55'01
min. Earth dist.	8224 May 24 23:15	7° \mathcal{Z} 39'27	8.27446 AU	min. Earth dist.	8230 Aug 12 00:12	25° \approx 43'28	8.59930 AU
direct	8224 Jul 31 23:59	4° \mathcal{Z} 12'16		direct	8230 Oct 20 23:25	22° \approx 19'17	
evening set	8224 Nov 14 12:44	12° \mathcal{Z} 13'20		evening set	8231 Feb 02 13:17	29° \approx 56'25	
					8231 Feb 03 01:12	0° \mathcal{H}	
conjunction	8224 Dec 02 06:28	14° \mathcal{Z} 27'21	2°00'00	conjunction	8231 Feb 19 16:57	2° \mathcal{H} 02'09	0°32'03
minimum elong	8224 Dec 02 06:28	14° \mathcal{Z} 27'21	2°00'09	minimum elong	8231 Feb 19 16:59	2° \mathcal{H} 02'09	0°32'08
max. Earth dist.	8224 Dec 01 23:32	14° \mathcal{Z} 25'09	10.28779 AU	max. Earth dist.	8231 Feb 19 13:40	2° \mathcal{H} 01'08	10.63140 AU
morning rise	8224 Dec 19 21:39	16° \mathcal{Z} 40'36		morning rise	8231 Mar 08 17:38	4° \mathcal{H} 06'58	
retrograde	8225 Apr 01 05:46	24° \mathcal{Z} 28'52		retrograde	8231 Jun 17 05:05	11° \mathcal{H} 27'52	
opposition	8225 Jun 07 07:51	21° \mathcal{Z} 04'29	2°28'51	opposition	8231 Aug 24 20:55	8° \mathcal{H} 07'56	0°24'02
min. Earth dist.	8225 Jun 07 13:18	21° \mathcal{Z} 03'23	8.30742 AU	min. Earth dist.	8231 Aug 24 22:32	8° \mathcal{H} 07'38	8.66232 AU
direct	8225 Aug 14 22:35	17° \mathcal{Z} 36'19		direct	8231 Nov 03 03:58	4° \mathcal{H} 44'12	
evening set	8225 Nov 28 15:40	25° \mathcal{Z} 35'57		evening set	8232 Feb 15 04:05	12° \mathcal{H} 15'57	
conjunction	8225 Dec 16 07:17	27° \mathcal{Z} 48'51	1°58'15	conjunction	8232 Mar 03 05:27	14° \mathcal{H} 20'16	0°06'34
minimum elong	8225 Dec 16 07:17	27° \mathcal{Z} 48'52	1°58'25	minimum elong	8232 Mar 03 05:26	14° \mathcal{H} 20'16	0°06'36
max. Earth dist.	8225 Dec 15 23:58	27° \mathcal{Z} 46'33	10.32716 AU	behind sun begin	8232 Mar 02 22:49	14° \mathcal{H} 18'16	
morning rise	8226 Jan 02 19:50	0° \mathcal{Z} 00'49		behind sun end	8232 Mar 03 12:04	14° \mathcal{H} 22'16	
	8226 Jan 02 17:10	0° \mathcal{Z}		max. Earth dist.	8232 Mar 03 03:58	14° \mathcal{H} 19'50	10.69210 AU
retrograde	8226 Apr 14 15:13	7° \mathcal{Z} 44'30		morning rise	8232 Mar 20 04:08	16° \mathcal{H} 23'48	
opposition	8226 Jun 20 19:54	4° \mathcal{Z} 20'55	2°22'38	desc. node	8232 Jun 06 23:31	23° \mathcal{H} 17'21	
min. Earth dist.	8226 Jun 21 00:59	4° \mathcal{Z} 19'54	8.35246 AU	retrograde	8232 Jun 28 18:47	23° \mathcal{H} 41'55	
direct	8226 Aug 28 19:22	0° \mathcal{Z} 53'01		opposition	8232 Sep 05 18:11	20° \mathcal{H} 22'20	-0°07'36
evening set	8226 Dec 12 13:18	8° \mathcal{Z} 49'47		min. Earth dist.	8232 Sep 05 18:06	20° \mathcal{H} 22'21	8.71983 AU
conjunction	8226 Dec 30 02:39	11° \mathcal{Z} 01'25	1°50'15	direct	8232 Nov 15 03:18	16° \mathcal{H} 59'38	
minimum elong	8226 Dec 30 02:41	11° \mathcal{Z} 01'25	1°50'25	evening set	8233 Feb 26 14:09	24° \mathcal{H} 26'21	
max. Earth dist.	8226 Dec 29 20:08	10° \mathcal{Z} 59'22	10.37758 AU	conjunction	8233 Mar 15 13:13	26° \mathcal{H} 29'22	-0°19'04
morning rise	8227 Jan 16 12:29	13° \mathcal{Z} 11'58		minimum elong	8233 Mar 15 13:12	26° \mathcal{H} 29'22	0°19'03
retrograde	8227 Apr 27 21:07	20° \mathcal{Z} 50'41		max. Earth dist.	8233 Mar 15 13:45	26° \mathcal{H} 29'32	10.74581 AU
opposition	8227 Jul 04 05:58	17° \mathcal{Z} 27'55	2°09'01	morning rise	8233 Apr 01 09:59	28° \mathcal{H} 31'46	
min. Earth dist.	8227 Jul 04 10:14	17° \mathcal{Z} 27'05	8.40711 AU		8233 Apr 14 00:47	0° \mathcal{Y}	
direct	8227 Sep 11 13:34	14° \mathcal{Z} 00'33		retrograde	8233 Jul 11 05:48	5° \mathcal{Y} 47'59	
evening set	8227 Dec 26 04:50	21° \mathcal{Z} 53'18		opposition	8233 Sep 18 13:14	2° \mathcal{Y} 28'35	-0°38'31
conjunction	8228 Jan 12 15:55	24° \mathcal{Z} 03'32	1°36'38	min. Earth dist.	8233 Sep 18 11:58	2° \mathcal{Y} 28'50	8.76931 AU
minimum elong	8228 Jan 12 15:58	24° \mathcal{Z} 03'32	1°36'47		8233 Oct 25 12:20	30° \mathbb{R} \mathcal{H}	
max. Earth dist.	8228 Jan 12 10:36	24° \mathcal{Z} 01'52	10.43638 AU	direct	8233 Nov 27 21:47	29° \mathcal{H} 06'52	
morning rise	8228 Jan 29 23:10	26° \mathcal{Z} 12'38			8233 Dec 30 18:50	0° \mathcal{Y}	

evening set	8234 Mar 10 20:13	6°♈29'07		conjunction	8240 Jun 05 18:27	19°♊52'28 -2°00'45
				minimum elong	8240 Jun 05 18:28	19°♊52'28 2°00'56
conjunction	8234 Mar 27 17:01	8°♈30'59 -0°43'31		max. Earth dist.	8240 Jun 05 23:06	19°♊53'52 10.77929 AU
minimum elong	8234 Mar 27 16:59	8°♈30'58 0°43'33		morning rise	8240 Jun 22 15:48	21°♊54'26
max. Earth dist.	8234 Mar 27 18:41	8°♈31'29 10.79026 AU		retrograde	8240 Oct 04 15:40	29°♊22'20
morning rise	8234 Apr 13 12:15	10°♈32'25		opposition	8240 Dec 14 01:11	25°♊59'40 -2°26'49
retrograde	8234 Jul 23 15:13	17°♈47'42		min. Earth dist.	8240 Dec 13 20:50	26°♊00'29 8.75835 AU
opposition	8234 Oct 01 06:38	14°♈28'19 -1°07'27		direct	8241 Feb 20 22:55	22°♊40'05
min. Earth dist.	8234 Oct 01 04:52	14°♈28'39 8.80868 AU		evening set	8241 Jun 01 04:41	29°♊54'53
direct	8234 Dec 10 13:40	11°♈07'26			8241 Jun 01 21:52	0°♊
evening set	8235 Mar 22 22:56	18°♈25'54				
				conjunction	8241 Jun 18 01:32	1°♊57'10 -1°56'59
conjunction	8235 Apr 08 17:45	20°♈26'50 -1°05'54		minimum elong	8241 Jun 18 01:33	1°♊57'11 1°57'09
minimum elong	8235 Apr 08 17:43	20°♈26'49 1°05'58		max. Earth dist.	8241 Jun 18 07:13	1°♊58'54 10.73224 AU
max. Earth dist.	8235 Apr 08 19:50	20°♈27'28 10.82351 AU		morning rise	8241 Jul 05 01:33	4°♊00'26
morning rise	8235 Apr 25 11:56	22°♈27'33		retrograde	8241 Oct 17 12:42	11°♊32'28
retrograde	8235 Aug 05 00:01	29°♈42'50		opposition	8241 Dec 26 18:52	8°♊08'51 -2°19'01
opposition	8235 Oct 13 22:26	26°♈23'17 -1°33'15		min. Earth dist.	8241 Dec 26 13:51	8°♊09'49 8.70651 AU
min. Earth dist.	8235 Oct 13 20:03	26°♈23'44 8.83594 AU		direct	8242 Mar 05 08:30	4°♊48'48
direct	8235 Dec 23 02:32	23°♈03'05		evening set	8242 Jun 13 13:26	12°♊06'02
	8236 Mar 31 08:10	0°♈				
evening set	8236 Apr 02 23:27	0°♈18'36		conjunction	8242 Jun 30 13:19	14°♊09'46 -1°47'54
				minimum elong	8242 Jun 30 13:20	14°♊09'47 1°48'05
conjunction	8236 Apr 19 16:52	2°♈18'52 -1°25'21		max. Earth dist.	8242 Jun 30 19:31	14°♊11'40 10.67654 AU
minimum elong	8236 Apr 19 16:50	2°♈18'51 1°25'26		morning rise	8242 Jul 17 16:37	16°♊14'34
max. Earth dist.	8236 Apr 19 19:45	2°♈19'44 10.84365 AU		retrograde	8242 Oct 30 12:47	23°♊50'54
morning rise	8236 May 06 10:21	4°♈19'09		opposition	8243 Jan 08 14:14	20°♊26'23 -2°04'47
retrograde	8236 Aug 16 08:17	11°♈35'21		min. Earth dist.	8243 Jan 08 09:06	20°♊27'23 8.64709 AU
opposition	8236 Oct 25 13:00	8°♈15'26 -1°54'58		direct	8243 Mar 17 20:45	17°♊05'41
min. Earth dist.	8236 Oct 25 09:36	8°♈16'05 8.84920 AU		evening set	8243 Jun 26 03:02	24°♊26'09
direct	8237 Jan 03 13:42	4°♈55'47				
evening set	8237 Apr 14 22:45	12°♈09'18		conjunction	8243 Jul 13 06:23	26°♊31'35 -1°33'46
				minimum elong	8243 Jul 13 06:25	26°♊31'36 1°33'55
conjunction	8237 May 01 15:24	14°♈09'14 -1°41'07		max. Earth dist.	8243 Jul 13 11:53	26°♊33'17 10.61457 AU
minimum elong	8237 May 01 15:22	14°♈09'13 1°41'13		morning rise	8243 Jul 30 13:32	28°♊38'10
max. Earth dist.	8237 May 01 19:42	14°♈10'32 10.84905 AU			8243 Aug 11 03:07	0°♊
	8237 May 08 15:52	15°♈		retrograde	8243 Nov 12 17:35	6°♊18'49
morning rise	8237 May 18 08:38	16°♈09'23		opposition	8244 Jan 21 11:53	2°♊53'28 -1°44'32
retrograde	8237 Aug 28 19:46	23°♈27'30		min. Earth dist.	8244 Jan 21 07:30	2°♊54'19 8.58261 AU
opposition	8237 Nov 07 03:20	20°♈07'05 -2°11'45			8244 Mar 06 07:14	30°♊
min. Earth dist.	8237 Nov 06 22:54	20°♈07'55 8.84726 AU		direct	8244 Mar 29 10:39	29°♊31'59
direct	8238 Jan 15 22:55	16°♈47'48			8244 Apr 21 09:54	0°♊
evening set	8238 Apr 26 21:47	24°♈00'15		evening set	8244 Jul 07 22:10	6°♊56'25
conjunction	8238 May 13 14:17	26°♈00'14 -1°52'34		conjunction	8244 Jul 25 05:16	9°♊03'41 -1°15'01
minimum elong	8238 May 13 14:16	26°♈00'14 1°52'42		minimum elong	8244 Jul 25 05:18	9°♊03'42 1°15'08
max. Earth dist.	8238 May 13 19:10	26°♈01'42 10.83933 AU		max. Earth dist.	8244 Jul 25 09:26	9°♊04'58 10.54900 AU
morning rise	8238 May 30 08:04	28°♈00'39		morning rise	8244 Aug 11 16:24	11°♊12'10
	8238 Jun 16 17:32	0°♊			8244 Sep 14 13:00	15°♊
retrograde	8238 Sep 10 09:00	5°♊21'27		retrograde	8244 Nov 25 01:12	18°♊57'01
opposition	8238 Nov 19 17:55	2°♊00'25 -2°22'58		opposition	8245 Feb 02 12:01	15°♊30'56 -1°18'58
min. Earth dist.	8238 Nov 19 13:19	2°♊01'17 8.83052 AU		min. Earth dist.	8245 Feb 02 08:49	15°♊31'34 8.51600 AU
	8238 Dec 18 10:04	30°♊			8245 Feb 09 02:02	15°♊
direct	8239 Jan 28 05:00	28°♊41'16		direct	8245 Apr 11 04:12	12°♊08'34
	8239 Mar 09 00:13	0°♊			8245 Jun 08 13:14	15°♊
evening set	8239 May 08 21:58	5°♊53'39		evening set	8245 Jul 20 23:31	19°♊37'37
conjunction	8239 May 25 15:00	7°♊54'02 -1°59'14		conjunction	8245 Aug 07 10:35	21°♊46'48 -0°52'23
minimum elong	8239 May 25 15:00	7°♊54'02 1°59'23		minimum elong	8245 Aug 07 10:37	21°♊46'49 0°52'29
max. Earth dist.	8239 May 25 19:38	7°♊55'26 10.81557 AU		max. Earth dist.	8245 Aug 07 14:00	21°♊47'52 10.48282 AU
morning rise	8239 Jun 11 10:13	9°♊55'04		morning rise	8245 Aug 25 01:32	23°♊57'10
retrograde	8239 Sep 22 22:17	17°♊19'10			8245 Oct 23 06:25	0°♊
opposition	8239 Dec 02 08:58	13°♊57'22 -2°28'06		retrograde	8245 Dec 08 10:57	1°♊45'58
min. Earth dist.	8239 Dec 02 04:43	13°♊58'10 8.80033 AU			8246 Jan 24 10:34	30°♊
direct	8240 Feb 09 13:30	10°♊38'06		opposition	8246 Feb 15 14:39	28°♊19'16 -0°49'06
evening set	8240 May 19 23:58	17°♊51'18		min. Earth dist.	8246 Feb 15 12:13	28°♊19'45 8.45044 AU
				direct	8246 Apr 24 03:29	24°♊55'56

	8246 Jul 12 23:52	0° \mathbb{M}	direct	8252 Jul 12 02:32	14° \mathbb{M} 48'37	
evening set	8246 Aug 03 07:31	2° \mathbb{M} 30'06		8252 Jul 26 14:04	15° \mathbb{M}	
			evening set	8252 Oct 25 01:22	22° \mathbb{M} 49'30	
conjunction	8246 Aug 20 22:23	4° \mathbb{M} 41'10 -0°26'50				
minimum elong	8246 Aug 20 22:24	4° \mathbb{M} 41'11 0°26'54	conjunction	8252 Nov 11 21:54	25° \mathbb{M} 04'47 1°50'46	
max. Earth dist.	8246 Aug 21 01:16	4° \mathbb{M} 42'04 10.41912 AU	minimum elong	8252 Nov 11 21:52	25° \mathbb{M} 04'46 1°50'54	
morning rise	8246 Sep 07 16:36	6° \mathbb{M} 53'17	max. Earth dist.	8252 Nov 11 17:28	25° \mathbb{M} 03'22 10.25123 AU	
retrograde	8246 Dec 22 01:43	14° \mathbb{M} 45'35	morning rise	8252 Nov 29 16:51	27° \mathbb{M} 19'37	
opposition	8247 Feb 28 19:57	11° \mathbb{M} 18'26 -0°16'17		8252 Dec 22 01:34	0° \mathbb{M}	
min. Earth dist.	8247 Feb 28 17:57	11° \mathbb{M} 18'50 8.38905 AU	retrograde	8253 Mar 12 21:46	5° \mathbb{M} 13'52	
direct	8247 May 07 05:09	7° \mathbb{M} 54'09	opposition	8253 May 18 23:16	1° \mathbb{M} 48'34 2°23'21	
evening set	8247 Aug 16 22:20	15° \mathbb{M} 33'44	min. Earth dist.	8253 May 19 02:22	1° \mathbb{M} 47'56 8.26247 AU	
asc. node	8247 Aug 28 19:20	17° \mathbb{M} 02'14		8253 Jun 11 13:29	30° \mathbb{R} \mathbb{M}	
			direct	8253 Jul 26 01:12	28° \mathbb{M} 20'47	
conjunction	8247 Sep 03 16:21	17° \mathbb{M} 46'28 0°00'27		8253 Sep 07 21:58	0° \mathbb{M}	
minimum elong	8247 Sep 03 16:21	17° \mathbb{M} 46'28 0°00'24	evening set	8253 Nov 08 10:24	6° \mathbb{M} 22'24	
behind sun begin	8247 Sep 03 09:07	17° \mathbb{M} 44'14				
behind sun end	8247 Sep 03 23:36	17° \mathbb{M} 48'43	conjunction	8253 Nov 26 05:15	8° \mathbb{M} 36'56 1°58'28	
max. Earth dist.	8247 Sep 03 18:28	17° \mathbb{M} 47'04 10.36104 AU	minimum elong	8253 Nov 26 05:14	8° \mathbb{M} 36'56 1°58'37	
morning rise	8247 Sep 21 13:02	20° \mathbb{M} 00'05	max. Earth dist.	8253 Nov 26 00:33	8° \mathbb{M} 35'27 10.27465 AU	
retrograde	8248 Jan 04 19:46	27° \mathbb{M} 55'14	morning rise	8253 Dec 13 21:36	10° \mathbb{M} 50'46	
opposition	8248 Mar 13 03:50	24° \mathbb{M} 27'50 0°17'50	retrograde	8254 Mar 26 13:34	18° \mathbb{M} 41'23	
min. Earth dist.	8248 Mar 13 02:25	24° \mathbb{M} 28'07 8.33508 AU	opposition	8254 Jun 01 13:55	15° \mathbb{M} 16'57 2°28'49	
direct	8248 May 19 10:26	21° \mathbb{M} 02'39	min. Earth dist.	8254 Jun 01 17:29	15° \mathbb{M} 16'14 8.29310 AU	
evening set	8248 Aug 29 19:32	28° \mathbb{M} 47'43	direct	8254 Aug 08 23:02	11° \mathbb{M} 49'11	
	8248 Sep 08 11:31	0° \mathbb{M}	evening set	8254 Nov 22 16:09	19° \mathbb{M} 49'55	
conjunction	8248 Sep 16 15:52	1° \mathbb{M} 01'49 0°27'58	conjunction	8254 Dec 10 08:54	22° \mathbb{M} 03'25 1°59'39	
minimum elong	8248 Sep 16 15:50	1° \mathbb{M} 01'49 0°27'57	minimum elong	8254 Dec 10 08:54	22° \mathbb{M} 03'25 1°59'49	
max. Earth dist.	8248 Sep 16 16:23	1° \mathbb{M} 01'59 10.31187 AU	max. Earth dist.	8254 Dec 10 03:44	22° \mathbb{M} 01'47 10.31179 AU	
morning rise	8248 Oct 04 14:08	3° \mathbb{M} 16'35	morning rise	8254 Dec 27 22:30	24° \mathbb{M} 15'59	
retrograde	8249 Jan 17 15:34	11° \mathbb{M} 13'46		8255 Feb 19 18:40	0° \mathbb{M}	
opposition	8249 Mar 26 14:17	7° \mathbb{M} 46'21 0°51'25	retrograde	8255 Apr 09 02:11	2° \mathbb{M} 02'06	
min. Earth dist.	8249 Mar 26 14:07	7° \mathbb{M} 46'23 8.29167 AU		8255 May 28 15:44	30° \mathbb{R} \mathbb{M}	
direct	8249 Jun 01 20:39	4° \mathbb{M} 20'19	opposition	8255 Jun 15 03:24	28° \mathbb{M} 38'33 2°26'09	
evening set	8249 Sep 12 22:16	12° \mathbb{M} 10'38	min. Earth dist.	8255 Jun 15 07:46	28° \mathbb{M} 37'41 8.33605 AU	
			direct	8255 Aug 22 20:34	25° \mathbb{M} 11'00	
conjunction	8249 Sep 30 19:58	14° \mathbb{M} 25'42 0°54'13		8255 Nov 09 17:24	0° \mathbb{M}	
minimum elong	8249 Sep 30 19:56	14° \mathbb{M} 25'42 0°54'15	evening set	8255 Dec 06 16:49	3° \mathbb{M} 09'20	
max. Earth dist.	8249 Sep 30 18:35	14° \mathbb{M} 25'16 10.27449 AU				
morning rise	8249 Oct 18 18:54	16° \mathbb{M} 41'11	conjunction	8255 Dec 24 07:15	5° \mathbb{M} 21'34 1°54'24	
retrograde	8250 Jan 31 11:45	24° \mathbb{M} 39'23	minimum elong	8255 Dec 24 07:16	5° \mathbb{M} 21'35 1°54'34	
opposition	8250 Apr 09 02:52	21° \mathbb{M} 12'13 1°22'30	max. Earth dist.	8255 Dec 24 01:11	5° \mathbb{M} 19'40 10.35986 AU	
min. Earth dist.	8250 Apr 09 04:11	21° \mathbb{M} 11'57 8.26135 AU	morning rise	8256 Jan 10 18:14	7° \mathbb{M} 32'46	
direct	8250 Jun 15 11:20	17° \mathbb{M} 45'27	retrograde	8256 Apr 21 09:27	15° \mathbb{M} 13'55	
evening set	8250 Sep 27 05:27	25° \mathbb{M} 40'25	opposition	8256 Jun 27 14:57	11° \mathbb{M} 51'14 2°15'45	
			min. Earth dist.	8256 Jun 27 20:13	11° \mathbb{M} 50'12 8.38800 AU	
conjunction	8250 Oct 15 03:32	27° \mathbb{M} 56'01 1°17'40	direct	8256 Sep 04 17:14	8° \mathbb{M} 24'04	
minimum elong	8250 Oct 15 03:30	27° \mathbb{M} 56'00 1°17'44	evening set	8256 Dec 19 11:48	16° \mathbb{M} 18'54	
max. Earth dist.	8250 Oct 15 00:25	27° \mathbb{M} 55'01 10.25109 AU				
	8250 Oct 31 12:19	0° \mathbb{M}	conjunction	8257 Jan 05 23:51	18° \mathbb{M} 29'45 1°43'11	
morning rise	8250 Nov 02 02:01	0° \mathbb{M} 11'44	minimum elong	8257 Jan 05 23:53	18° \mathbb{M} 29'45 1°43'21	
retrograde	8251 Feb 14 08:20	8° \mathbb{M} 09'48	max. Earth dist.	8257 Jan 05 16:47	18° \mathbb{M} 27'32 10.41516 AU	
opposition	8251 Apr 22 16:55	4° \mathbb{M} 43'07 1°49'13	morning rise	8257 Jan 23 08:22	20° \mathbb{M} 39'32	
min. Earth dist.	8251 Apr 22 19:27	4° \mathbb{M} 42'36 8.24593 AU	retrograde	8257 May 04 12:14	28° \mathbb{M} 15'39	
direct	8251 Jun 29 05:27	1° \mathbb{M} 15'48	opposition	8257 Jul 11 00:02	24° \mathbb{M} 53'50 1°58'25	
evening set	8251 Oct 11 15:10	9° \mathbb{M} 14'25	min. Earth dist.	8257 Jul 11 05:27	24° \mathbb{M} 52'46 8.44529 AU	
			direct	8257 Sep 18 11:35	21° \mathbb{M} 27'15	
conjunction	8251 Oct 29 12:49	11° \mathbb{M} 30'04 1°36'54	evening set	8258 Jan 02 00:31	29° \mathbb{M} 17'47	
minimum elong	8251 Oct 29 12:46	11° \mathbb{M} 30'03 1°37'00		8258 Jan 07 17:58	0° \mathbb{M}	
max. Earth dist.	8251 Oct 29 08:37	11° \mathbb{M} 28'44 10.24317 AU				
morning rise	8251 Nov 16 09:53	13° \mathbb{M} 45'33	conjunction	8258 Jan 19 10:14	1° \mathbb{M} 27'14 1°26'49	
	8251 Nov 26 12:39	15° \mathbb{M}	minimum elong	8258 Jan 19 10:17	1° \mathbb{M} 27'15 1°26'59	
retrograde	8252 Feb 28 04:00	21° \mathbb{M} 42'19	max. Earth dist.	8258 Jan 19 03:22	1° \mathbb{M} 25'05 10.47446 AU	
opposition	8252 May 05 08:00	18° \mathbb{M} 16'15 2°09'54	morning rise	8258 Feb 05 16:21	3° \mathbb{M} 35'35	
min. Earth dist.	8252 May 05 10:57	18° \mathbb{M} 15'39 8.24636 AU	retrograde	8258 May 17 13:07	11° \mathbb{M} 06'58	
	8252 Jun 27 13:48	15° \mathbb{R} \mathbb{M}	opposition	8258 Jul 24 06:54	7° \mathbb{M} 45'54 1°35'22	

min. Earth dist.	8258 Jul 24 11:32	7° \approx 45'00	8.50539 AU	morning rise	8264 Apr 19 17:42	17° Υ 36'55	
direct	8258 Oct 02 01:10	4° \approx 20'06		retrograde	8264 Jul 30 02:22	24° Υ 53'09	
evening set	8259 Jan 15 06:43	12° \approx 05'41		opposition	8264 Oct 07 20:43	21° Υ 33'04	-1°22'48
				min. Earth dist.	8264 Oct 07 18:14	21° Υ 33'32	8.80000 AU
conjunction	8259 Feb 01 14:08	14° \approx 13'43	1°06'19	direct	8264 Dec 17 03:15	18° Υ 11'58	
minimum elong	8259 Feb 01 14:10	14° \approx 13'43	1°06'27	evening set	8265 Mar 29 05:03	25° Υ 29'46	
max. Earth dist.	8259 Feb 01 08:37	14° \approx 12'00	10.53558 AU				
	8259 Feb 07 19:19	15° \approx		conjunction	8265 Apr 14 23:16	27° Υ 30'37	-1°17'33
morning rise	8259 Feb 18 17:53	16° \approx 20'39		minimum elong	8265 Apr 14 23:14	27° Υ 30'37	1°17'37
retrograde	8259 May 30 09:58	23° \approx 47'42		max. Earth dist.	8265 Apr 15 02:25	27° Υ 31'34	10.81009 AU
opposition	8259 Aug 06 11:18	20° \approx 27'14	1°07'57	morning rise	8265 May 01 16:59	29° Υ 31'22	
min. Earth dist.	8259 Aug 06 14:46	20° \approx 26'34	8.56627 AU		8265 May 05 18:18	0° \mathcal{B}	
direct	8259 Oct 15 11:07	17° \approx 02'16		retrograde	8265 Aug 11 11:11	6° \mathcal{B} 48'07	
evening set	8260 Jan 28 06:49	24° \approx 42'35		opposition	8265 Oct 20 12:32	3° \mathcal{B} 27'44	-1°46'26
				min. Earth dist.	8265 Oct 20 09:14	3° \mathcal{B} 28'21	8.81847 AU
conjunction	8260 Feb 14 11:52	26° \approx 49'10	0°42'51	direct	8265 Dec 29 14:04	0° \mathcal{B} 07'12	
minimum elong	8260 Feb 14 11:54	26° \approx 49'10	0°42'58	evening set	8266 Apr 10 05:22	7° \mathcal{B} 22'33	
max. Earth dist.	8260 Feb 14 07:58	26° \approx 47'57	10.59629 AU				
morning rise	8260 Mar 02 13:24	28° \approx 54'45		conjunction	8266 Apr 26 22:19	9° \mathcal{B} 22'53	-1°35'00
	8260 Mar 11 16:39	0° \mathcal{H}		minimum elong	8266 Apr 26 22:17	9° \mathcal{B} 22'52	1°35'06
retrograde	8260 Jun 11 03:15	6° \mathcal{H} 18'00		max. Earth dist.	8266 Apr 27 02:00	9° \mathcal{B} 24'00	10.82219 AU
opposition	8260 Aug 18 12:58	2° \mathcal{H} 57'58	0°37'41	morning rise	8266 May 13 15:45	11° \mathcal{B} 23'22	
min. Earth dist.	8260 Aug 18 15:52	2° \mathcal{H} 57'24	8.62563 AU		8266 Jun 15 14:21	15° \mathcal{B}	
	8260 Oct 04 16:37	30° \mathcal{R} \approx		retrograde	8266 Aug 23 21:06	18° \mathcal{B} 41'32	
direct	8260 Oct 27 17:16	29° \approx 33'49		opposition	8266 Nov 02 03:40	15° \mathcal{B} 20'42	-2°05'27
	8260 Nov 19 14:02	0° \mathcal{H}		min. Earth dist.	8266 Nov 01 23:52	15° \mathcal{B} 21'25	8.82471 AU
evening set	8261 Feb 09 01:09	7° \mathcal{H} 08'50			8266 Nov 06 17:50	15° \mathcal{R} \mathcal{B}	
				direct	8267 Jan 11 00:56	12° \mathcal{B} 00'36	
conjunction	8261 Feb 26 03:43	9° \mathcal{H} 14'01	0°17'40		8267 Mar 13 12:31	15° \mathcal{B}	
minimum elong	8261 Feb 26 03:43	9° \mathcal{H} 14'01	0°17'44	evening set	8267 Apr 22 04:49	19° \mathcal{B} 14'21	
max. Earth dist.	8261 Feb 26 00:33	9° \mathcal{H} 13'03	10.65406 AU				
morning rise	8261 Mar 15 03:17	11° \mathcal{H} 18'19		conjunction	8267 May 08 21:19	21° \mathcal{B} 14'31	-1°48'22
retrograde	8261 Jun 23 18:24	18° \mathcal{H} 38'28		minimum elong	8267 May 08 21:17	21° \mathcal{B} 14'31	1°48'29
opposition	8261 Aug 31 12:15	15° \mathcal{H} 18'41	0°06'05	max. Earth dist.	8267 May 09 01:54	21° \mathcal{B} 15'55	10.82183 AU
min. Earth dist.	8261 Aug 31 14:33	15° \mathcal{H} 18'15	8.68089 AU	morning rise	8267 May 25 15:03	23° \mathcal{B} 15'04	
direct	8261 Nov 09 19:00	11° \mathcal{H} 55'22			8267 Aug 09 14:54	0° \mathcal{I}	
desc. node	8261 Nov 11 13:15	11° \mathcal{H} 55'31		retrograde	8267 Sep 05 08:45	0° \mathcal{I} 35'24	
evening set	8262 Feb 21 14:06	19° \mathcal{H} 25'15			8267 Oct 02 11:06	30° \mathcal{R} \mathcal{B}	
				opposition	8267 Nov 14 18:27	27° \mathcal{B} 14'02	-2°19'06
conjunction	8262 Mar 10 14:09	21° \mathcal{H} 29'06	-0°08'09	min. Earth dist.	8267 Nov 14 13:34	27° \mathcal{B} 14'57	8.81826 AU
minimum elong	8262 Mar 10 14:09	21° \mathcal{H} 29'06	0°08'07	direct	8268 Jan 23 09:45	23° \mathcal{B} 54'14	
behind sun begin	8262 Mar 10 07:52	21° \mathcal{H} 27'12			8268 Apr 23 13:42	0° \mathcal{I}	
behind sun end	8262 Mar 10 20:26	21° \mathcal{H} 31'00		evening set	8268 May 03 04:40	1° \mathcal{I} 07'17	
max. Earth dist.	8262 Mar 10 11:51	21° \mathcal{H} 28'25	10.70635 AU				
morning rise	8262 Mar 27 11:57	23° \mathcal{H} 32'14		conjunction	8268 May 19 21:31	3° \mathcal{I} 07'39	-1°57'06
	8262 Jun 04 20:59	0° Υ		minimum elong	8268 May 19 21:30	3° \mathcal{I} 07'39	1°57'14
retrograde	8262 Jul 06 04:54	0° Υ 50'09		max. Earth dist.	8268 May 20 03:43	3° \mathcal{I} 09'31	10.80885 AU
	8262 Aug 07 04:05	30° \mathcal{R} \mathcal{H}		morning rise	8268 Jun 05 16:06	5° \mathcal{I} 08'33	
opposition	8262 Sep 13 09:08	27° \mathcal{H} 30'26	-0°25'25	retrograde	8268 Sep 16 22:07	12° \mathcal{I} 31'45	
min. Earth dist.	8262 Sep 13 10:13	27° \mathcal{H} 30'14	8.72970 AU	opposition	8268 Nov 26 09:25	9° \mathcal{I} 09'46	-2°26'49
direct	8262 Nov 22 17:22	24° \mathcal{H} 07'54		min. Earth dist.	8268 Nov 26 03:19	9° \mathcal{I} 10'55	8.79927 AU
	8263 Feb 20 14:17	0° Υ		direct	8269 Feb 03 18:14	5° \mathcal{I} 50'08	
evening set	8263 Mar 05 22:27	1° Υ 33'07		evening set	8269 May 15 05:57	13° \mathcal{I} 03'21	
conjunction	8263 Mar 22 20:16	3° Υ 35'44	-0°33'14	conjunction	8269 May 31 23:53	15° \mathcal{I} 04'16	-2°00'47
minimum elong	8263 Mar 22 20:15	3° Υ 35'44	0°33'15	minimum elong	8269 May 31 23:53	15° \mathcal{I} 04'16	2°00'57
max. Earth dist.	8263 Mar 22 19:37	3° Υ 35'32	10.75099 AU	max. Earth dist.	8269 Jun 01 07:13	15° \mathcal{I} 06'30	10.78383 AU
morning rise	8263 Apr 08 16:25	5° Υ 37'52		morning rise	8269 Jun 17 20:06	17° \mathcal{I} 05'54	
retrograde	8263 Jul 18 15:05	12° Υ 54'28		retrograde	8269 Sep 29 15:45	24° \mathcal{I} 32'28	
opposition	8263 Sep 26 03:45	9° Υ 34'38	-0°55'26	opposition	8269 Dec 09 01:21	21° \mathcal{I} 09'50	-2°28'12
min. Earth dist.	8263 Sep 26 02:51	9° Υ 34'49	8.77000 AU	min. Earth dist.	8269 Dec 08 18:38	21° \mathcal{I} 11'07	8.76864 AU
direct	8263 Dec 05 12:50	6° Υ 12'51		direct	8270 Feb 16 02:02	17° \mathcal{I} 50'12	
evening set	8264 Mar 17 03:03	13° Υ 33'59		evening set	8270 May 27 09:33	25° \mathcal{I} 04'25	
conjunction	8264 Apr 02 22:59	15° Υ 35'36	-0°56'41	conjunction	8270 Jun 13 05:17	27° \mathcal{I} 06'15	-1°59'13
minimum elong	8264 Apr 02 22:57	15° Υ 35'36	0°56'44	minimum elong	8270 Jun 13 05:18	27° \mathcal{I} 06'15	1°59'23
max. Earth dist.	8264 Apr 03 00:42	15° Υ 36'08	10.78608 AU	max. Earth dist.	8270 Jun 13 12:27	27° \mathcal{I} 08'25	10.74795 AU

































































































































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	8270 Jul 07 09:37	0° \mathfrak{D}	behind sun end	8276 Aug 28 08:34	12° Π 26'21	
retrograde	8270 Oct 12 11:17	6° \mathfrak{D} 39'17	max. Earth dist.	8276 Aug 28 04:57	12° Π 25'14	10.41325 AU
opposition	8270 Dec 21 18:32	3° \mathfrak{D} 15'59 -2°23'04	morning rise	8276 Sep 14 22:55	14° Π 37'21	
min. Earth dist.	8270 Dec 21 12:17	3° \mathfrak{D} 17'10 8.72774 AU	retrograde	8276 Dec 29 07:21	22° Π 30'00	
	8271 Feb 19 20:08	30° \mathfrak{R} Π	asc. node	8277 Jan 30 12:36	21° Π 36'59	
direct	8271 Feb 28 10:25	29° Π 56'08	opposition	8277 Mar 07 19:29	19° Π 03'27	0°03'17
	8271 Mar 09 01:11	0° \mathfrak{D}	min. Earth dist.	8277 Mar 07 18:42	19° Π 03'36	8.38535 AU
evening set	8271 Jun 08 16:42	7° \mathfrak{D} 12'16	direct	8277 May 14 02:42	15° Π 39'21	
			evening set	8277 Aug 24 04:35	23° Π 20'46	
conjunction	8271 Jun 25 15:02	9° \mathfrak{D} 15'19 -1°52'18				
minimum elong	8271 Jun 25 15:03	9° \mathfrak{D} 15'19 1°52'29	conjunction	8277 Sep 10 23:42	25° Π 33'54	0°16'17
max. Earth dist.	8271 Jun 25 21:47	9° \mathfrak{D} 17'22 10.70281 AU	minimum elong	8277 Sep 10 23:42	25° Π 33'54	0°16'15
morning rise	8271 Jul 12 16:59	11° \mathfrak{D} 19'25	max. Earth dist.	8277 Sep 10 23:40	25° Π 33'53	10.35947 AU
retrograde	8271 Oct 25 08:46	18° \mathfrak{D} 53'42	morning rise	8277 Sep 28 21:21	27° Π 47'50	
opposition	8272 Jan 03 13:09	15° \mathfrak{D} 29'44 -2°11'26		8277 Oct 17 09:35	0° \mathfrak{A}	
min. Earth dist.	8272 Jan 03 07:24	15° \mathfrak{D} 30'50 8.67839 AU	retrograde	8278 Jan 12 00:01	5° \mathfrak{A} 42'55	
direct	8272 Mar 11 22:17	12° \mathfrak{D} 09'30	opposition	8278 Mar 21 03:56	2° \mathfrak{A} 16'12	0°37'11
evening set	8272 Jun 20 04:05	19° \mathfrak{D} 28'19	min. Earth dist.	8278 Mar 21 04:17	2° \mathfrak{A} 16'07	8.33564 AU
				8278 Apr 21 02:38	30° \mathfrak{R} Π	
conjunction	8272 Jul 07 05:46	21° \mathfrak{D} 32'54 -1°40'13	direct	8278 May 27 11:30	28° Π 51'09	
minimum elong	8272 Jul 07 05:48	21° \mathfrak{D} 32'55 1°40'23		8278 Jul 02 09:36	0° \mathfrak{A}	
max. Earth dist.	8272 Jul 07 12:44	21° \mathfrak{D} 35'02 10.65034 AU	evening set	8278 Sep 07 04:08	6° \mathfrak{A} 37'58	
morning rise	8272 Jul 24 11:15	23° \mathfrak{D} 38'36				
	8272 Sep 27 21:15	0° \mathfrak{Q}	conjunction	8278 Sep 25 01:13	8° \mathfrak{A} 52'18	0°43'10
retrograde	8272 Nov 06 11:29	1° \mathfrak{Q} 17'00	minimum elong	8278 Sep 25 01:11	8° \mathfrak{A} 52'17	0°43'10
	8272 Dec 16 15:45	30° \mathfrak{R} \mathfrak{D}	max. Earth dist.	8278 Sep 25 00:04	8° \mathfrak{A} 51'56	10.31444 AU
opposition	8273 Jan 15 09:48	27° \mathfrak{D} 52'21 -1°53'36	morning rise	8278 Oct 12 23:49	11° \mathfrak{A} 07'08	
min. Earth dist.	8273 Jan 15 04:07	27° \mathfrak{D} 53'27 8.62279 AU	retrograde	8279 Jan 25 18:50	19° \mathfrak{A} 03'47	
direct	8273 Mar 24 11:58	24° \mathfrak{D} 31'38	opposition	8279 Apr 03 14:38	15° \mathfrak{A} 37'03	1°09'28
	8273 Jun 16 15:22	0° \mathfrak{Q}	min. Earth dist.	8279 Apr 03 15:41	15° \mathfrak{A} 36'50	8.29649 AU
evening set	8273 Jul 02 20:32	1° \mathfrak{Q} 53'49	direct	8279 Jun 09 23:22	12° \mathfrak{A} 11'07	
			evening set	8279 Sep 21 08:27	20° \mathfrak{A} 02'52	
conjunction	8273 Jul 20 02:00	4° \mathfrak{Q} 00'06 -1°23'20				
minimum elong	8273 Jul 20 02:03	4° \mathfrak{Q} 00'07 1°23'28	conjunction	8279 Oct 09 06:25	22° \mathfrak{A} 17'57	1°07'56
max. Earth dist.	8273 Jul 20 09:17	4° \mathfrak{Q} 02'21 10.59282 AU	minimum elong	8279 Oct 09 06:22	22° \mathfrak{A} 17'56	1°07'59
morning rise	8273 Aug 06 11:14	6° \mathfrak{Q} 07'34	max. Earth dist.	8279 Oct 09 04:06	22° \mathfrak{A} 17'13	10.28126 AU
retrograde	8273 Nov 19 17:45	13° \mathfrak{Q} 50'00	morning rise	8279 Oct 27 04:53	24° \mathfrak{A} 33'16	
opposition	8274 Jan 28 08:39	10° \mathfrak{Q} 24'44 -1°30'10		8279 Dec 16 06:27	0° \mathfrak{M}	
min. Earth dist.	8274 Jan 28 03:00	10° \mathfrak{Q} 25'50 8.56331 AU	retrograde	8280 Feb 08 15:57	2° \mathfrak{M} 30'23	
direct	8274 Apr 06 04:02	7° \mathfrak{Q} 03'21		8280 Apr 04 10:10	30° \mathfrak{R} \mathfrak{A}	
evening set	8274 Jul 15 19:04	14° \mathfrak{Q} 29'34	opposition	8280 Apr 16 03:09	29° \mathfrak{A} 03'50	1°38'12
	8274 Jul 19 23:10	15° \mathfrak{Q}	min. Earth dist.	8280 Apr 16 05:05	29° \mathfrak{A} 03'26	8.27051 AU
			direct	8280 Jun 22 13:40	25° \mathfrak{A} 37'06	
conjunction	8274 Aug 02 04:24	16° \mathfrak{Q} 37'41 -1°02'15		8280 Sep 04 05:18	0° \mathfrak{M}	
minimum elong	8274 Aug 02 04:27	16° \mathfrak{Q} 37'42 1°02'21	evening set	8280 Oct 04 16:09	3° \mathfrak{M} 33'00	
max. Earth dist.	8274 Aug 02 10:37	16° \mathfrak{Q} 39'36 10.53262 AU				
morning rise	8274 Aug 19 17:28	18° \mathfrak{Q} 46'57	conjunction	8280 Oct 22 14:02	5° \mathfrak{M} 48'23	1°29'07
retrograde	8274 Dec 03 03:11	26° \mathfrak{Q} 33'09	minimum elong	8280 Oct 22 13:59	5° \mathfrak{M} 48'22	1°29'12
opposition	8275 Feb 10 09:41	23° \mathfrak{Q} 07'20 -1°02'01	max. Earth dist.	8280 Oct 22 10:16	5° \mathfrak{M} 47'11	10.26218 AU
min. Earth dist.	8275 Feb 10 05:11	23° \mathfrak{Q} 08'13 8.50235 AU	morning rise	8280 Nov 09 11:30	8° \mathfrak{M} 03'43	
direct	8275 Apr 18 23:42	19° \mathfrak{Q} 45'07		8281 Jan 18 21:57	15° \mathfrak{M}	
evening set	8275 Jul 28 23:54	27° \mathfrak{Q} 15'58	retrograde	8281 Feb 21 11:23	16° \mathfrak{M} 00'07	
				8281 Mar 27 05:10	15° \mathfrak{R} \mathfrak{M}	
conjunction	8275 Aug 15 12:55	29° \mathfrak{Q} 25'54 -0°37'51	opposition	8281 Apr 29 16:49	12° \mathfrak{M} 33'56	2°01'39
minimum elong	8275 Aug 15 12:56	29° \mathfrak{Q} 25'54 0°37'56	min. Earth dist.	8281 Apr 29 20:04	12° \mathfrak{M} 33'16	8.25933 AU
max. Earth dist.	8275 Aug 15 16:55	29° \mathfrak{Q} 27'08 10.47202 AU	direct	8281 Jul 06 08:32	9° \mathfrak{M} 06'32	
	8275 Aug 20 02:44	0° \mathfrak{M}		8281 Oct 01 17:13	15° \mathfrak{M}	
morning rise	8275 Sep 02 05:32	1° \mathfrak{M} 36'55	evening set	8281 Oct 19 01:21	17° \mathfrak{M} 05'28	
retrograde	8275 Dec 16 16:20	9° \mathfrak{M} 26'32				
opposition	8276 Feb 23 13:19	6° \mathfrak{M} 00'16 -0°30'22	conjunction	8281 Nov 05 22:20	19° \mathfrak{M} 20'42	1°45'25
min. Earth dist.	8276 Feb 23 10:42	6° \mathfrak{M} 00'48 8.44214 AU	minimum elong	8281 Nov 05 22:18	19° \mathfrak{M} 20'41	1°45'33
direct	8276 Apr 30 22:30	2° \mathfrak{M} 37'08	max. Earth dist.	8281 Nov 05 16:45	19° \mathfrak{M} 18'55	10.25831 AU
evening set	8276 Aug 10 10:58	10° \mathfrak{M} 13'05	morning rise	8281 Nov 23 18:08	21° \mathfrak{M} 35'37	
			retrograde	8282 Mar 07 04:36	29° \mathfrak{M} 30'08	
conjunction	8276 Aug 28 03:19	12° \mathfrak{M} 24'44 -0°11'16	opposition	8282 May 13 07:05	26° \mathfrak{M} 04'28	2°18'23
minimum elong	8276 Aug 28 03:19	12° \mathfrak{M} 24'44 0°11'20	min. Earth dist.	8282 May 13 11:45	26° \mathfrak{M} 03'32	8.26344 AU

direct	8282 Jul 20 05:58	22°  36'36		direct	8288 Oct 08 17:41	11°  30'11	
	8282 Oct 28 09:34	0°  7			8288 Dec 14 16:20	15°  7	
evening set	8282 Nov 02 10:04	0°  37'09		evening set	8289 Jan 21 17:24	19°  12'30	
conjunction	8282 Nov 20 05:30	2°  51'50	1°55'54	conjunction	8289 Feb 07 23:28	21°  19'40	0°53'57
minimum elong	8282 Nov 20 05:28	2°  51'50	1°56'03	minimum elong	8289 Feb 07 23:30	21°  19'40	0°54'04
max. Earth dist.	8282 Nov 19 22:33	2°  49'38	10.26970 AU	max. Earth dist.	8289 Feb 07 18:34	21°  18'09	10.56833 AU
morning rise	8282 Dec 07 23:02	5°  05'58		morning rise	8289 Feb 25 02:12	23°  25'49	
retrograde	8283 Mar 20 19:26	12°  57'30			8289 May 05 15:56	0°  H	
opposition	8283 May 26 21:07	9°  32'30	2°27'27	retrograde	8289 Jun 05 14:29	0°  H50'12	
min. Earth dist.	8283 May 27 02:23	9°  31'26	8.28241 AU		8289 Jul 07 03:12	30°  R	
direct	8283 Aug 03 04:00	6°  04'24		opposition	8289 Aug 12 22:08	27°  29'42	0°51'53
evening set	8283 Nov 16 16:19	14°  04'59		min. Earth dist.	8289 Aug 13 01:06	27°  29'07	8.60019 AU
				direct	8289 Oct 22 02:02	24°  04'53	
conjunction	8283 Dec 04 09:52	16°  18'50	2°00'00		8290 Jan 20 02:38	0°  H	
minimum elong	8283 Dec 04 09:52	16°  18'50	2°00'10	evening set	8290 Feb 03 13:43	1°  H41'51	
max. Earth dist.	8283 Dec 04 02:34	16°  16'31	10.29563 AU				
morning rise	8283 Dec 22 00:52	18°  31'53		conjunction	8290 Feb 20 17:24	3°  H47'34	0°29'26
retrograde	8284 Apr 02 08:08	26°  19'33		minimum elong	8290 Feb 20 17:25	3°  H47'34	0°29'31
opposition	8284 Jun 08 10:15	22°  55'15	2°28'26	max. Earth dist.	8290 Feb 20 14:14	3°  H46'35	10.63135 AU
min. Earth dist.	8284 Jun 08 15:27	22°  54'12	8.31505 AU	morning rise	8290 Mar 09 17:58	5°  H52'21	
direct	8284 Aug 16 01:34	19°  27'09		retrograde	8290 Jun 18 06:46	13°  H13'18	
evening set	8284 Nov 29 18:26	27°  26'14		opposition	8290 Aug 25 21:55	9°  H53'17	0°20'46
				min. Earth dist.	8290 Aug 25 23:09	9°  H53'03	8.66126 AU
conjunction	8284 Dec 17 09:59	29°  39'00	1°57'37	direct	8290 Nov 04 05:03	6°  H29'33	
minimum elong	8284 Dec 17 10:00	29°  39'01	1°57'47	evening set	8291 Feb 16 04:24	14°  H01'13	
max. Earth dist.	8284 Dec 17 03:02	29°  36'49	10.33450 AU				
	8284 Dec 20 04:26	0°  Z		conjunction	8291 Mar 05 05:45	16°  H05'34	0°03'54
morning rise	8285 Jan 03 22:18	1°  Z50'49		minimum elong	8291 Mar 05 05:44	16°  H05'34	0°03'56
retrograde	8285 Apr 15 16:54	9°  Z33'55		behind sun begin	8291 Mar 04 22:46	16°  H03'27	
opposition	8285 Jun 21 21:54	6°  Z10'23	2°21'27	behind sun end	8291 Mar 05 12:43	16°  H07'40	
min. Earth dist.	8285 Jun 22 02:40	6°  Z09'26	8.35934 AU	max. Earth dist.	8291 Mar 05 04:43	16°  H05'17	10.69011 AU
direct	8285 Aug 29 22:10	2°  Z42'33		morning rise	8291 Mar 22 04:16	18°  H09'06	
evening set	8285 Dec 13 15:29	10°  Z38'47		desc. node	8291 Apr 30 16:10	22°  H25'50	
				retrograde	8291 Jun 30 19:50	25°  H27'26	
conjunction	8285 Dec 31 04:49	12°  Z50'17	1°49'01	opposition	8291 Sep 07 19:23	22°  H07'47	-0°10'53
minimum elong	8285 Dec 31 04:51	12°  Z50'17	1°49'11	min. Earth dist.	8291 Sep 07 19:26	22°  H07'46	8.71692 AU
max. Earth dist.	8285 Dec 30 22:39	12°  Z48'20	10.38396 AU	direct	8291 Nov 17 03:09	18°  H45'05	
morning rise	8286 Jan 17 14:25	15°  Z00'42		evening set	8292 Feb 28 14:34	26°  H11'53	
retrograde	8286 Apr 28 22:17	22°  Z38'53					
opposition	8286 Jul 05 07:37	19°  Z16'11	2°07'09	conjunction	8292 Mar 16 13:30	28°  H14'55	-0°21'41
min. Earth dist.	8286 Jul 05 12:17	19°  Z15'15	8.41284 AU	minimum elong	8292 Mar 16 13:29	28°  H14'55	0°21'41
direct	8286 Sep 12 15:55	15°  Z48'50		max. Earth dist.	8292 Mar 16 13:45	28°  H15'00	10.74204 AU
evening set	8286 Dec 27 06:32	23°  Z41'06			8292 Mar 31 00:10	0°  Y	
				morning rise	8292 Apr 02 10:15	0°  Y17'22	
conjunction	8287 Jan 13 17:29	25°  Z51'12	1°34'54	retrograde	8292 Jul 12 06:54	7°  Y33'56	
minimum elong	8287 Jan 13 17:31	25°  Z51'13	1°35'03	opposition	8292 Sep 19 14:37	4°  Y14'30	-0°41'41
max. Earth dist.	8287 Jan 13 11:44	25°  Z49'24	10.44144 AU	min. Earth dist.	8292 Sep 19 14:06	4°  Y14'35	8.76477 AU
morning rise	8287 Jan 31 00:34	28°  Z00'11		direct	8292 Nov 28 22:46	0°  Y52'44	
	8287 Feb 16 19:44	0°  R		evening set	8293 Mar 11 20:49	8°  Y15'14	
retrograde	8287 May 12 00:29	5°  R33'26					
opposition	8287 Jul 18 15:06	2°  R11'31	1°46'34	conjunction	8293 Mar 28 17:27	10°  Y17'09	-0°45'59
min. Earth dist.	8287 Jul 18 19:43	2°  R10'37	8.47290 AU	minimum elong	8293 Mar 28 17:26	10°  Y17'09	0°46'01
	8287 Aug 17 23:43	30°  RZ		max. Earth dist.	8293 Mar 28 18:14	10°  Y17'23	10.78497 AU
direct	8287 Sep 26 05:51	28°  Z44'52		morning rise	8293 Apr 14 12:47	12°  Y18'40	
	8287 Nov 04 01:48	0°  R		retrograde	8293 Jul 24 16:40	19°  Y34'26	
evening set	8288 Jan 09 15:03	6°  R32'22		opposition	8293 Oct 02 08:15	16°  Y15'00	-1°10'21
				min. Earth dist.	8293 Oct 02 06:50	16°  Y15'15	8.80277 AU
conjunction	8288 Jan 26 23:34	8°  R41'01	1°16'10	direct	8293 Dec 11 14:40	12°  Y54'06	
minimum elong	8288 Jan 26 23:36	8°  R41'02	1°16'19	evening set	8294 Mar 23 23:46	20°  Y12'55	
max. Earth dist.	8288 Jan 26 18:04	8°  R39'19	10.50398 AU				
morning rise	8288 Feb 13 04:26	10°  R48'35		conjunction	8294 Apr 09 18:33	22°  Y13'55	-1°08'07
	8288 Mar 21 21:01	15°  R		minimum elong	8294 Apr 09 18:31	22°  Y13'54	1°08'11
retrograde	8288 May 23 21:06	18°  R17'07		max. Earth dist.	8294 Apr 09 20:41	22°  Y14'34	10.81705 AU
	8288 Jul 29 23:19	15°  R		morning rise	8294 Apr 26 12:45	24°  Y14'45	
opposition	8288 Jul 30 19:59	14°  R55'59	1°20'59		8294 Jun 24 02:14	0°  Z	
min. Earth dist.	8288 Jul 31 00:12	14°  R55'10	8.53641 AU	retrograde	8294 Aug 06 01:05	1°  Z30'38	

	8294 Sep 19 09:10	30° Υ	opposition	8300 Dec 28 23:08	10° Θ 3'22 -2°17'33
opposition	8294 Oct 15 00:27	28° Υ 11'00 -1°35'47	min. Earth dist.	8300 Dec 28 17:32	10° Θ 04'27 8.70187 AU
min. Earth dist.	8294 Oct 14 21:28	28° Υ 11'34 8.82913 AU	direct	8301 Mar 07 12:28	6° Θ 43'20
direct	8294 Dec 24 04:28	24° Υ 50'49	evening set	8301 Jun 15 17:30	14° Θ 00'51
	8295 Mar 17 12:14	0° \mathcal{B}			
evening set	8295 Apr 05 00:38	2° \mathcal{B} 06'45	conjunction	8301 Jul 02 17:33	16° Θ 04'44 -1°46'26
			minimum elong	8301 Jul 02 17:35	16° Θ 04'44 1°46'36
conjunction	8295 Apr 21 18:07	4° \mathcal{B} 07'07 -1°27'13	max. Earth dist.	8301 Jul 02 23:35	16° Θ 06'34 10.67233 AU
minimum elong	8295 Apr 21 18:05	4° \mathcal{B} 07'06 1°27'18	morning rise	8301 Jul 19 21:11	18° Θ 09'40
max. Earth dist.	8295 Apr 21 22:02	4° \mathcal{B} 08'18 10.83662 AU	retrograde	8301 Nov 01 19:07	25° Θ 46'18
morning rise	8295 May 08 11:32	6° \mathcal{B} 07'30	opposition	8302 Jan 10 18:53	22° Θ 21'47 -2°02'37
retrograde	8295 Aug 18 12:13	13° \mathcal{B} 24'23	min. Earth dist.	8302 Jan 10 13:51	22° Θ 22'45 8.64334 AU
opposition	8295 Oct 27 15:28	10° \mathcal{B} 04'23 -1°57'00	direct	8302 Mar 19 23:40	19° Θ 01'04
min. Earth dist.	8295 Oct 27 11:14	10° \mathcal{B} 05'11 8.84221 AU	evening set	8302 Jun 28 07:26	26° Θ 21'46
direct	8296 Jan 05 15:47	6° \mathcal{B} 44'45			
evening set	8296 Apr 16 00:22	13° \mathcal{B} 58'38	conjunction	8302 Jul 15 10:59	28° Θ 27'18 -1°31'45
	8296 Apr 24 14:15	15° \mathcal{B}	minimum elong	8302 Jul 15 11:02	28° Θ 27'19 1°31'54
			max. Earth dist.	8302 Jul 15 16:04	28° Θ 28'52 10.61144 AU
conjunction	8296 May 02 17:04	15° \mathcal{B} 58'42 -1°42'32		8302 Jul 28 01:57	0° \mathcal{Q}
minimum elong	8296 May 02 17:02	15° \mathcal{B} 58'41 1°42'39	morning rise	8302 Aug 01 18:32	0° \mathcal{Q} 34'01
max. Earth dist.	8296 May 02 21:56	16° \mathcal{B} 00'10 10.84218 AU	retrograde	8302 Nov 14 22:18	8° \mathcal{Q} 14'50
morning rise	8296 May 19 10:21	17° \mathcal{B} 58'58	opposition	8303 Jan 23 16:42	4° \mathcal{Q} 49'29 -1°41'45
retrograde	8296 Aug 29 23:37	25° \mathcal{B} 17'40	min. Earth dist.	8303 Jan 23 12:40	4° \mathcal{Q} 50'17 8.58004 AU
opposition	8296 Nov 08 06:14	21° \mathcal{B} 57'12 -2°13'13	direct	8303 Apr 01 14:59	1° \mathcal{Q} 27'58
min. Earth dist.	8296 Nov 08 01:44	21° \mathcal{B} 58'03 8.84066 AU	evening set	8303 Jul 11 02:59	8° \mathcal{Q} 52'35
direct	8297 Jan 16 23:31	18° \mathcal{B} 37'55			
evening set	8297 Apr 27 23:57	25° \mathcal{B} 50'45	conjunction	8303 Jul 28 10:26	10° \mathcal{Q} 59'58 -1°12'33
			minimum elong	8303 Jul 28 10:28	10° \mathcal{Q} 59'58 1°12'40
conjunction	8297 May 14 16:24	27° \mathcal{B} 50'50 -1°53'28	max. Earth dist.	8303 Jul 28 14:53	11° \mathcal{Q} 01'20 10.54713 AU
minimum elong	8297 May 14 16:22	27° \mathcal{B} 50'49 1°53'37	morning rise	8303 Aug 14 21:52	13° \mathcal{Q} 08'31
max. Earth dist.	8297 May 14 20:56	27° \mathcal{B} 52'12 10.83295 AU		8303 Aug 30 17:00	15° \mathcal{Q}
morning rise	8297 May 31 10:22	29° \mathcal{B} 51'22	retrograde	8303 Nov 28 04:51	20° \mathcal{Q} 53'25
	8297 Jun 01 15:37	0° \mathcal{I}	opposition	8304 Feb 05 16:43	17° \mathcal{Q} 27'19 -1°15'41
retrograde	8297 Sep 11 11:15	7° \mathcal{I} 12'45	min. Earth dist.	8304 Feb 05 13:21	17° \mathcal{Q} 27'59 8.51477 AU
opposition	8297 Nov 20 21:15	3° \mathcal{I} 51'40 -2°23'45		8304 Mar 11 17:39	15° \mathcal{R} \mathcal{Q}
min. Earth dist.	8297 Nov 20 16:59	3° \mathcal{I} 52'28 8.82438 AU	direct	8304 Apr 13 10:19	14° \mathcal{Q} 04'54
direct	8298 Jan 29 07:51	0° \mathcal{I} 32'30		8304 May 15 15:11	15° \mathcal{Q}
evening set	8298 May 10 00:29	7° \mathcal{I} 45'16	evening set	8304 Jul 23 04:38	21° \mathcal{Q} 34'04
conjunction	8298 May 26 17:37	9° \mathcal{I} 45'46 -1°59'33	conjunction	8304 Aug 09 16:03	23° \mathcal{Q} 43'20 -0°49'34
minimum elong	8298 May 26 17:36	9° \mathcal{I} 45'46 1°59'44	minimum elong	8304 Aug 09 16:05	23° \mathcal{Q} 43'21 0°49'40
max. Earth dist.	8298 May 26 22:16	9° \mathcal{I} 47'11 10.80964 AU	max. Earth dist.	8304 Aug 09 20:21	23° \mathcal{Q} 44'40 10.48228 AU
morning rise	8298 Jun 12 13:02	11° \mathcal{I} 46'55	morning rise	8304 Aug 27 07:08	25° \mathcal{Q} 53'44
retrograde	8298 Sep 24 02:37	19° \mathcal{I} 11'36		8304 Oct 03 00:05	0° \mathcal{P}
opposition	8298 Dec 03 12:45	15° \mathcal{I} 49'46 -2°28'09	retrograde	8304 Dec 10 16:25	3° \mathcal{P} 42'27
min. Earth dist.	8298 Dec 03 08:17	15° \mathcal{I} 50'36 8.79465 AU	opposition	8305 Feb 17 19:19	0° \mathcal{P} 15'44 -0°45'29
direct	8299 Feb 10 17:01	12° \mathcal{I} 30'30	min. Earth dist.	8305 Feb 17 16:10	0° \mathcal{P} 16'21 8.45059 AU
evening set	8299 May 22 02:53	19° \mathcal{I} 44'02		8305 Feb 21 02:48	30° \mathcal{R} \mathcal{Q}
			direct	8305 Apr 26 07:58	26° \mathcal{Q} 52'23
conjunction	8299 Jun 07 21:40	21° \mathcal{I} 45'20 -2°00'29		8305 Jun 26 10:01	0° \mathcal{P}
minimum elong	8299 Jun 07 21:40	21° \mathcal{I} 45'20 2°00'40	evening set	8305 Aug 05 12:47	4° \mathcal{P} 26'32
max. Earth dist.	8299 Jun 08 03:17	21° \mathcal{I} 47'03 10.77382 AU			
morning rise	8299 Jun 24 19:09	23° \mathcal{I} 47'27	conjunction	8305 Aug 23 03:53	6° \mathcal{P} 37'38 -0°23'50
	8299 Aug 28 08:16	0° Θ	minimum elong	8305 Aug 23 03:54	6° \mathcal{P} 37'38 0°23'54
retrograde	8299 Oct 06 20:12	1° Θ 15'52	max. Earth dist.	8305 Aug 23 07:25	6° \mathcal{P} 38'44 10.41997 AU
	8299 Nov 16 02:35	30° \mathcal{R} \mathcal{I}	morning rise	8305 Sep 09 22:09	8° \mathcal{P} 49'45
opposition	8299 Dec 16 05:13	27° \mathcal{I} 53'09 -2°26'07	retrograde	8305 Dec 24 07:41	16° \mathcal{P} 41'50
min. Earth dist.	8299 Dec 15 23:59	27° \mathcal{I} 54'09 8.75313 AU	opposition	8306 Mar 03 00:30	13° \mathcal{P} 14'40 -0°12'31
direct	8300 Feb 23 01:55	24° \mathcal{I} 33'36	min. Earth dist.	8306 Mar 02 22:03	13° \mathcal{P} 15'09 8.39060 AU
	8300 May 18 16:44	0° Θ	direct	8306 May 09 09:07	9° \mathcal{P} 50'21
evening set	8300 Jun 03 08:12	1° Θ 48'44	asc. node	8306 Jul 20 05:29	14° \mathcal{P} 02'55
			evening set	8306 Aug 19 03:46	17° \mathcal{P} 29'51
conjunction	8300 Jun 20 05:20	3° Θ 51'09 -1°56'05			
minimum elong	8300 Jun 20 05:21	3° Θ 51'10 1°56'16	conjunction	8306 Sep 05 21:50	19° \mathcal{P} 42'34 0°03'32
max. Earth dist.	8300 Jun 20 11:47	3° Θ 53'07 10.72728 AU	minimum elong	8306 Sep 05 21:51	19° \mathcal{P} 42'34 0°03'30
morning rise	8300 Jul 07 05:32	5° Θ 54'33	behind sun begin	8306 Sep 05 14:39	19° \mathcal{P} 40'20
retrograde	8300 Oct 19 17:22	13° Θ 27'00	behind sun end	8306 Sep 06 05:04	19° \mathcal{P} 44'49

max. Earth dist.	8306 Sep 05 23:43	19° 17 43'06	10.36326 AU	opposition	8313 Jun 03 15:58	17° 27 06'37	2°28'47
morning rise	8306 Sep 23 18:37	21° 17 56'09		min. Earth dist.	8313 Jun 03 20:15	17° 27 05'45	8.29765 AU
retrograde	8307 Jan 07 00:23	29° 17 50'56		direct	8313 Aug 11 00:55	13° 27 38'52	
opposition	8307 Mar 16 08:09	26° 17 23'32	0°21'32	evening set	8313 Nov 24 18:46	21° 27 39'22	
min. Earth dist.	8307 Mar 16 07:02	26° 17 23'46	8.33793 AU				
direct	8307 May 22 15:13	22° 17 58'17		conjunction	8313 Dec 12 11:17	23° 27 52'44	1°59'19
	8307 Aug 27 03:27	0° 17		minimum elong	8313 Dec 12 11:17	23° 27 52'45	1°59'29
evening set	8307 Sep 02 00:56	0° 17 43'15		max. Earth dist.	8313 Dec 12 05:12	23° 27 50'49	10.31619 AU
				morning rise	8313 Dec 30 00:48	26° 27 05'14	
conjunction	8307 Sep 19 21:12	2° 17 57'17	0°30'51		8314 Feb 02 01:34	0° 17	
minimum elong	8307 Sep 19 21:11	2° 17 57'16	0°30'51	retrograde	8314 Apr 11 02:53	3° 17 50'57	
max. Earth dist.	8307 Sep 19 20:50	2° 17 57'10	10.31527 AU	opposition	8314 Jun 17 05:12	0° 17 27'31	2°25'20
morning rise	8307 Oct 07 19:32	5° 17 11'58		min. Earth dist.	8314 Jun 17 10:15	0° 17 26'30	8.34036 AU
retrograde	8308 Jan 20 19:14	13° 17 08'39			8314 Jun 22 23:18	30° 17 R	
opposition	8308 Mar 28 18:19	9° 17 41'17	0°54'51	direct	8314 Aug 24 23:55	26° 17 59'59	
min. Earth dist.	8308 Mar 28 18:51	9° 17 41'10	8.29558 AU		8314 Oct 24 18:18	0° 17	
direct	8308 Jun 04 01:22	6° 17 15'10		evening set	8314 Dec 08 19:05	4° 17 58'07	
evening set	8308 Sep 15 03:18	14° 17 05'17					
				conjunction	8314 Dec 26 09:17	7° 17 10'14	1°53'27
conjunction	8308 Oct 03 00:54	16° 17 20'15	0°56'49	minimum elong	8314 Dec 26 09:18	7° 17 10'14	1°53'37
minimum elong	8308 Oct 03 00:52	16° 17 20'14	0°56'50	max. Earth dist.	8314 Dec 26 02:29	7° 17 08'05	10.36418 AU
max. Earth dist.	8308 Oct 02 22:54	16° 17 19'37	10.27879 AU	morning rise	8315 Jan 12 20:12	9° 17 21'21	
morning rise	8308 Oct 20 23:46	18° 17 35'37		retrograde	8315 Apr 24 09:42	17° 17 02'09	
retrograde	8309 Feb 02 15:19	26° 17 33'17		opposition	8315 Jun 30 16:31	13° 17 39'34	2°14'12
opposition	8309 Apr 11 06:29	23° 17 06'09	1°25'28	min. Earth dist.	8315 Jun 30 21:42	13° 17 38'32	8.39242 AU
min. Earth dist.	8309 Apr 11 08:07	23° 17 05'49	8.26604 AU	direct	8315 Sep 07 20:25	10° 17 12'27	
direct	8309 Jun 17 15:44	19° 17 39'19		evening set	8315 Dec 22 13:31	18° 17 06'57	
evening set	8309 Sep 29 10:01	27° 17 34'01					
				conjunction	8316 Jan 09 01:27	20° 17 17'43	1°41'41
conjunction	8309 Oct 17 08:04	29° 17 49'29	1°19'49	minimum elong	8316 Jan 09 01:29	20° 17 17'44	1°41'52
minimum elong	8309 Oct 17 08:01	29° 17 49'28	1°19'53	max. Earth dist.	8316 Jan 08 18:35	20° 17 15'34	10.41979 AU
max. Earth dist.	8309 Oct 17 04:57	29° 17 48'30	10.25599 AU	morning rise	8316 Jan 26 09:51	22° 17 27'23	
	8309 Oct 18 17:12	0° 17 M			8316 Apr 28 22:55	0° 17 ≈	
morning rise	8309 Nov 04 06:22	2° 17 05'04		retrograde	8316 May 06 13:44	0° 17 ≈ 03'10	
retrograde	8310 Feb 16 10:41	10° 17 02'35			8316 May 14 04:43	30° 17 R	
opposition	8310 Apr 24 20:01	6° 17 35'54	1°51'33	opposition	8316 Jul 13 01:23	26° 17 41'23	1°56'16
min. Earth dist.	8310 Apr 24 22:19	6° 17 35'26	8.25103 AU	min. Earth dist.	8316 Jul 13 06:10	26° 17 40'26	8.44999 AU
direct	8310 Jul 01 10:15	3° 17 08'34		direct	8316 Sep 20 13:01	23° 17 14'52	
evening set	8310 Oct 13 19:17	11° 17 06'52			8316 Dec 26 01:46	0° 17 ≈	
				evening set	8317 Jan 04 01:37	1° 17 ≈ 04'58	
conjunction	8310 Oct 31 16:53	13° 17 22'23	1°38'30				
minimum elong	8310 Oct 31 16:51	13° 17 22'22	1°38'37	conjunction	8317 Jan 21 11:21	3° 17 ≈ 14'20	1°24'52
max. Earth dist.	8310 Oct 31 13:11	13° 17 21'12	10.24829 AU	minimum elong	8317 Jan 21 11:23	3° 17 ≈ 14'21	1°25'02
	8310 Nov 13 13:05	15° 17 M		max. Earth dist.	8317 Jan 21 05:10	3° 17 ≈ 12'24	10.47912 AU
morning rise	8310 Nov 18 13:40	15° 17 37'42		morning rise	8317 Feb 07 17:17	5° 17 ≈ 22'36	
retrograde	8311 Mar 02 06:04	23° 17 33'56		retrograde	8317 May 19 13:57	12° 17 ≈ 53'38	
opposition	8311 May 08 10:39	20° 17 07'54	2°11'30	opposition	8317 Jul 26 07:57	9° 17 ≈ 32'36	1°32'43
min. Earth dist.	8311 May 08 13:16	20° 17 07'22	8.25146 AU	min. Earth dist.	8317 Jul 26 12:20	9° 17 ≈ 31'44	8.50968 AU
direct	8311 Jul 15 06:10	16° 17 40'15		direct	8317 Oct 04 02:11	6° 17 ≈ 06'51	
evening set	8311 Oct 28 04:59	24° 17 40'49		evening set	8318 Jan 17 07:29	13° 17 ≈ 52'04	
					8318 Jan 26 13:07	15° 17 ≈	
conjunction	8311 Nov 15 01:24	26° 17 55'58	1°51'45				
minimum elong	8311 Nov 15 01:22	26° 17 55'57	1°51'53	conjunction	8318 Feb 03 14:51	16° 17 ≈ 00'01	1°04'02
max. Earth dist.	8311 Nov 14 21:16	26° 17 54'39	10.25621 AU	minimum elong	8318 Feb 03 14:53	16° 17 ≈ 00'02	1°04'10
morning rise	8311 Dec 02 20:00	29° 17 10'38		max. Earth dist.	8318 Feb 03 09:34	15° 17 ≈ 58'23	10.53937 AU
	8311 Dec 09 12:14	0° 17 ≈		morning rise	8318 Feb 20 18:25	18° 17 ≈ 06'53	
retrograde	8312 Mar 15 00:35	7° 17 04'24		retrograde	8318 Jun 01 10:40	25° 17 ≈ 33'43	
opposition	8312 May 21 01:36	3° 17 39'09	2°24'08	opposition	8318 Aug 08 12:13	22° 17 ≈ 13'18	1°04'57
min. Earth dist.	8312 May 21 04:54	3° 17 38'29	8.26733 AU	min. Earth dist.	8318 Aug 08 16:16	22° 17 ≈ 12'31	8.56937 AU
direct	8312 Jul 28 02:56	0° 17 11'22		direct	8318 Oct 17 12:13	18° 17 ≈ 48'22	
evening set	8312 Nov 10 13:28	8° 17 12'41		evening set	8319 Jan 30 07:20	26° 17 ≈ 28'27	
conjunction	8312 Nov 28 08:07	10° 17 27'06	1°58'47	conjunction	8319 Feb 16 12:13	28° 17 ≈ 34'58	0°40'20
minimum elong	8312 Nov 28 08:06	10° 17 27'06	1°58'57	minimum elong	8319 Feb 16 12:14	28° 17 ≈ 34'59	0°40'27
max. Earth dist.	8312 Nov 28 03:05	10° 17 25'30	10.27935 AU	max. Earth dist.	8319 Feb 16 07:34	28° 17 ≈ 33'33	10.59862 AU
morning rise	8312 Dec 16 00:14	12° 17 40'48			8319 Feb 28 00:26	0° 17 ≈ H	
retrograde	8313 Mar 28 16:30	20° 17 30'58		morning rise	8319 Mar 05 13:42	0° 17 ≈ H 40'31	

retrograde	8319 Jun 14 04:19	8° H 03'42		max. Earth dist.	8325 Apr 29 03:19	11° B 12'56	10.81410 AU
opposition	8319 Aug 21 13:58	4° H 43'42	0°34'29	morning rise	8325 May 15 17:30	13° B 12'31	
min. Earth dist.	8319 Aug 21 17:41	4° H 43'00	8.62716 AU		8325 May 31 06:52	15° B	
direct	8319 Oct 30 17:39	1° H 19'37		retrograde	8325 Aug 25 23:47	20° B 31'21	
evening set	8320 Feb 12 01:25	8° H 54'30		opposition	8325 Nov 04 06:32	17° B 10'23	-2°07'11
				min. Earth dist.	8325 Nov 04 02:35	17° B 11'08	8.81603 AU
conjunction	8320 Feb 29 03:49	10° H 59'39	0°15'02		8325 Dec 05 18:07	15° R B	
minimum elong	8320 Feb 29 03:49	10° H 59'39	0°15'05	direct	8326 Jan 13 03:09	13° B 50'13	
behind sun begin	8320 Feb 29 01:13	10° H 58'52			8326 Feb 19 14:50	15° B	
behind sun end	8320 Feb 29 06:25	11° H 00'26		evening set	8326 Apr 24 06:53	21° B 04'26	
max. Earth dist.	8320 Feb 28 23:42	10° H 58'24	10.65469 AU				
morning rise	8320 Mar 17 03:26	13° H 03'57		conjunction	8326 May 10 23:31	23° B 04'45	-1°49'30
retrograde	8320 Jun 25 17:46	20° H 24'12		minimum elong	8326 May 10 23:29	23° B 04'45	1°49'38
opposition	8320 Sep 02 13:16	17° H 04'27	0°02'48	max. Earth dist.	8326 May 11 04:50	23° B 06'22	10.81258 AU
min. Earth dist.	8320 Sep 02 15:46	17° H 03'58	8.68064 AU	morning rise	8326 May 27 17:15	25° B 05'25	
desc. node	8320 Oct 05 19:33	14° H 46'22			8326 Jul 13 22:23	0° II	
direct	8320 Nov 11 19:54	13° H 41'10		retrograde	8326 Sep 07 12:02	2° II 26'30	
evening set	8321 Feb 23 14:25	21° H 11'05			8326 Nov 04 14:08	30° R B	
				opposition	8326 Nov 16 21:49	29° B 04'58	-2°20'12
conjunction	8321 Mar 12 14:26	23° H 14'55	-0°10'46	min. Earth dist.	8326 Nov 16 16:13	29° B 06'01	8.80857 AU
minimum elong	8321 Mar 12 14:25	23° H 14'55	0°10'46	direct	8327 Jan 25 12:53	25° B 45'06	
behind sun begin	8321 Mar 12 08:59	23° H 13'17			8327 Apr 09 16:46	0° II	
behind sun end	8321 Mar 12 19:52	23° H 16'34		evening set	8327 May 06 07:18	2° II 58'39	
max. Earth dist.	8321 Mar 12 11:58	23° H 14'11	10.70512 AU				
morning rise	8321 Mar 29 12:11	25° H 18'05		conjunction	8327 May 23 00:19	4° II 59'11	-1°57'41
	8321 May 12 17:59	0° Y		minimum elong	8327 May 23 00:19	4° II 59'11	1°57'50
retrograde	8321 Jul 08 05:57	2° Y 36'16		max. Earth dist.	8327 May 23 07:01	5° II 01'13	10.79877 AU
	8321 Sep 05 19:07	30° R H		morning rise	8327 Jun 08 19:00	7° II 00'16	
opposition	8321 Sep 15 10:15	29° H 16'32	-0°28'37	retrograde	8327 Sep 20 03:51	14° II 24'11	
min. Earth dist.	8321 Sep 15 10:55	29° H 16'25	8.72749 AU	opposition	8327 Nov 29 13:15	11° II 02'03	-2°27'13
direct	8321 Nov 24 19:36	25° H 54'04		min. Earth dist.	8327 Nov 29 06:59	11° II 03'14	8.78892 AU
	8322 Feb 06 03:54	0° Y		direct	8328 Feb 06 20:47	7° II 42'19	
evening set	8322 Mar 07 22:57	3° Y 19'24		evening set	8328 May 17 09:14	14° II 56'05	
conjunction	8322 Mar 24 20:48	5° Y 22'04	-0°35'46	conjunction	8328 Jun 03 03:17	16° II 57'11	-2°00'47
minimum elong	8322 Mar 24 20:47	5° Y 22'04	0°35'47	minimum elong	8328 Jun 03 03:17	16° II 57'11	2°00'58
max. Earth dist.	8322 Mar 24 20:40	5° Y 22'02	10.74780 AU	max. Earth dist.	8328 Jun 03 10:08	16° II 59'16	10.77328 AU
morning rise	8322 Apr 10 16:48	7° Y 24'13		morning rise	8328 Jun 19 23:47	18° II 59'02	
retrograde	8322 Jul 20 17:59	14° Y 41'14		retrograde	8328 Oct 01 20:14	26° II 26'18	
opposition	8322 Sep 28 05:20	11° Y 21'22	-0°58'27	opposition	8328 Dec 11 05:43	23° II 03'32	-2°27'51
min. Earth dist.	8322 Sep 28 04:14	11° Y 21'35	8.76585 AU	min. Earth dist.	8328 Dec 10 23:31	23° II 04'42	8.75796 AU
direct	8322 Dec 07 13:11	7° Y 59'37		direct	8329 Feb 18 04:37	19° II 43'45	
evening set	8323 Mar 20 03:50	15° Y 20'58		evening set	8329 May 29 13:24	26° II 58'36	
conjunction	8323 Apr 05 23:41	17° Y 22'39	-0°59'01	conjunction	8329 Jun 15 09:19	29° II 00'37	-1°58'36
minimum elong	8323 Apr 05 23:40	17° Y 22'38	0°59'04	minimum elong	8329 Jun 15 09:20	29° II 00'37	1°58'47
max. Earth dist.	8323 Apr 06 01:22	17° Y 23'09	10.78100 AU	max. Earth dist.	8329 Jun 15 16:03	29° II 02'39	10.73728 AU
morning rise	8323 Apr 22 18:21	19° Y 24'02			8329 Jun 23 12:53	0° B	
retrograde	8323 Aug 02 03:52	26° Y 40'46		morning rise	8329 Jul 02 08:26	1° B 03'33	
opposition	8323 Oct 10 22:48	23° Y 20'38	-1°25'30	retrograde	8329 Oct 14 15:24	8° B 34'35	
min. Earth dist.	8323 Oct 10 20:51	23° Y 21'01	8.79410 AU	opposition	8329 Dec 23 23:25	5° B 11'07	-2°21'57
direct	8323 Dec 20 03:33	19° Y 59'31		min. Earth dist.	8329 Dec 23 17:26	5° B 12'16	8.71709 AU
evening set	8324 Mar 31 06:17	27° Y 17'40		direct	8330 Mar 02 15:33	1° B 51'08	
				evening set	8330 Jun 10 21:04	9° B 07'51	
conjunction	8324 Apr 17 00:23	29° Y 18'35	-1°19'34	conjunction	8330 Jun 27 19:47	11° B 11'08	-1°51'04
minimum elong	8324 Apr 17 00:21	29° Y 18'34	1°19'38	minimum elong	8330 Jun 27 19:48	11° B 11'09	1°51'15
max. Earth dist.	8324 Apr 17 02:42	29° Y 19'17	10.80339 AU	max. Earth dist.	8330 Jun 28 03:09	11° B 13'23	10.69233 AU
	8324 Apr 22 17:15	0° B		morning rise	8330 Jul 14 22:01	13° B 15'27	
morning rise	8324 May 03 18:13	1° B 19'26		retrograde	8330 Oct 27 15:08	20° B 50'26	
retrograde	8324 Aug 13 13:35	8° B 36'47		opposition	8331 Jan 05 18:26	17° B 26'18	-2°09'34
opposition	8324 Oct 22 14:57	5° B 16'18	-1°48'42	min. Earth dist.	8331 Jan 05 12:10	17° B 27'31	8.66813 AU
min. Earth dist.	8324 Oct 22 12:17	5° B 16'48	8.81108 AU	direct	8331 Mar 15 03:09	14° B 05'58	
direct	8324 Dec 31 16:32	1° B 55'42		evening set	8331 Jun 23 09:05	21° B 25'21	
evening set	8325 Apr 12 07:00	9° B 11'28					
conjunction	8325 Apr 28 23:58	11° B 11'55	-1°36'37	conjunction	8331 Jul 10 11:13	23° B 30'09	-1°38'24
minimum elong	8325 Apr 28 23:56	11° B 11'55	1°36'43	minimum elong	8331 Jul 10 11:15	23° B 30'10	1°38'34

max. Earth dist.	8331 Jul 10 19:06	23°  32'34	10.64040 AU	evening set	8337 Sep 09 11:47	8°  39'46	
morning rise	8331 Jul 27 16:58	25°  36'05					
	8331 Sep 06 03:36	0°  0		conjunction	8337 Sep 27 08:54	10°  54'04	0°46'05
retrograde	8331 Nov 09 18:03	3°  15'05		minimum elong	8337 Sep 27 08:52	10°  54'04	0°46'06
	8332 Jan 16 13:22	30°  R 		max. Earth dist.	8337 Sep 27 08:18	10°  53'53	10.31660 AU
opposition	8332 Jan 18 15:25	29°  50'18	-1°51'03	morning rise	8337 Oct 15 07:22	13°  08'52	
min. Earth dist.	8332 Jan 18 08:59	29°  51'33	8.61324 AU	retrograde	8338 Jan 28 02:57	21°  05'13	
direct	8332 Mar 26 16:39	26°  529'29		opposition	8338 Apr 05 21:00	17°  38'32	1°12'52
	8332 May 31 06:04	0°  0		min. Earth dist.	8338 Apr 05 21:49	17°  38'22	8.29956 AU
evening set	8332 Jul 05 02:14	3°  052'14		direct	8338 Jun 12 04:44	14°  012'37	
				evening set	8338 Sep 23 16:14	22°  04'20	
conjunction	8332 Jul 22 08:02	5°  058'44	-1°21'00				
minimum elong	8332 Jul 22 08:04	5°  058'45	1°21'08	conjunction	8338 Oct 11 14:03	24°  19'19	1°10'28
max. Earth dist.	8332 Jul 22 15:34	6°  010'03	10.58380 AU	minimum elong	8338 Oct 11 14:01	24°  19'18	1°10'31
morning rise	8332 Aug 08 17:35	8°  006'24		max. Earth dist.	8338 Oct 11 11:23	24°  18'29	10.28507 AU
	8332 Oct 21 15:21	15°  0		morning rise	8338 Oct 29 12:23	26°  034'32	
retrograde	8332 Nov 22 00:38	15°  049'21			8338 Nov 27 20:09	0°  0	
	8332 Dec 23 15:18	15°  R 		retrograde	8339 Feb 10 22:33	4°  031'14	
opposition	8333 Jan 30 14:38	12°  024'00	-1°27'01	opposition	8339 Apr 19 09:18	1°  04'47	1°41'01
min. Earth dist.	8333 Jan 30 08:46	12°  025'09	8.55493 AU	min. Earth dist.	8339 Apr 19 11:42	1°  04'18	8.27506 AU
direct	8333 Apr 08 09:27	9°  002'31			8339 May 02 23:01	30°  R 	
	8333 Jul 05 12:08	15°  0		direct	8339 Jun 25 20:47	27°  038'04	
evening set	8333 Jul 18 01:23	16°  029'17			8339 Aug 17 12:42	0°  0	
				evening set	8339 Oct 07 23:45	5°  0033'52	
conjunction	8333 Aug 04 10:56	18°  037'35	-0°59'29				
minimum elong	8333 Aug 04 10:58	18°  037'35	0°59'36	conjunction	8339 Oct 25 21:23	7°  049'06	1°31'07
max. Earth dist.	8333 Aug 04 16:47	18°  039'23	10.52513 AU	minimum elong	8339 Oct 25 21:21	7°  049'05	1°31'12
morning rise	8333 Aug 22 00:23	20°  047'02		max. Earth dist.	8339 Oct 25 16:45	7°  047'38	10.26734 AU
retrograde	8333 Dec 05 10:54	28°  033'39		morning rise	8339 Nov 12 18:43	10°  004'18	
opposition	8334 Feb 12 16:05	25°  007'47	-0°58'25		8339 Dec 26 23:50	15°  0	
min. Earth dist.	8334 Feb 12 11:50	25°  008'37	8.49586 AU	retrograde	8340 Feb 24 16:32	18°  000'12	
direct	8334 Apr 21 04:54	21°  045'29			8340 Apr 26 14:47	15°  R 	
evening set	8334 Jul 31 06:42	29°  016'49		opposition	8340 May 01 22:49	14°  034'08	2°03'44
	8334 Aug 06 03:45	0°  0		min. Earth dist.	8340 May 02 02:40	14°  033'22	8.26512 AU
				direct	8340 Jul 08 15:46	11°  006'47	
conjunction	8334 Aug 17 19:58	1°  026'53	-0°34'48		8340 Sep 15 17:28	15°  0	
minimum elong	8334 Aug 17 19:59	1°  026'53	0°34'53	evening set	8340 Oct 21 08:28	19°  005'27	
max. Earth dist.	8334 Aug 17 24:00	1°  028'08	10.46678 AU				
morning rise	8334 Sep 04 12:56	3°  038'04		conjunction	8340 Nov 08 05:13	21°  020'32	1°46'47
retrograde	8334 Dec 18 23:11	11°  027'54		minimum elong	8340 Nov 08 05:10	21°  020'32	1°46'54
opposition	8335 Feb 25 19:53	8°  001'37	-0°26'29	max. Earth dist.	8340 Nov 07 23:01	21°  018'34	10.26459 AU
min. Earth dist.	8335 Feb 25 17:15	8°  002'09	8.43827 AU	morning rise	8340 Nov 26 00:51	23°  035'17	
direct	8335 May 04 05:15	4°  038'25			8341 Jan 27 09:07	0°  0	
evening set	8335 Aug 13 18:18	12°  014'43		retrograde	8341 Mar 09 09:42	1°  029'15	
					8341 Apr 20 00:30	30°  R 	
conjunction	8335 Aug 31 10:55	14°  026'27	-0°08'06	opposition	8341 May 15 12:46	28°  003'43	2°19'38
minimum elong	8335 Aug 31 10:55	14°  026'27	0°08'08	min. Earth dist.	8341 May 15 17:30	28°  002'46	8.27019 AU
behind sun begin	8335 Aug 31 04:30	14°  024'28		direct	8341 Jul 22 12:32	24°  035'55	
behind sun end	8335 Aug 31 17:20	14°  028'25			8341 Oct 13 21:16	0°  0	
max. Earth dist.	8335 Aug 31 13:18	14°  027'10	10.41078 AU	evening set	8341 Nov 04 16:43	2°  027'36'05	
morning rise	8335 Sep 18 06:38	16°  039'07					
asc. node	8335 Dec 20 22:29	24°  024'39		conjunction	8341 Nov 22 12:01	4°  025'38	1°56'34
retrograde	8336 Jan 01 12:58	24°  031'48		minimum elong	8341 Nov 22 12:00	4°  025'37	1°56'43
opposition	8336 Mar 10 01:59	21°  005'13	0°07'13	max. Earth dist.	8341 Nov 22 05:08	4°  0248'26	10.27680 AU
min. Earth dist.	8336 Mar 10 00:39	21°  005'29	8.38427 AU	morning rise	8341 Dec 10 05:20	7°  0204'35	
direct	8336 May 16 10:33	17°  041'05		retrograde	8342 Mar 23 00:39	14°  0255'31	
evening set	8336 Aug 26 12:09	25°  022'40		opposition	8342 May 29 02:22	11°  0230'36	2°27'48
				min. Earth dist.	8342 May 29 07:14	11°  0229'38	8.28975 AU
conjunction	8336 Sep 13 07:28	27°  035'50	0°19'25	direct	8342 Aug 05 10:12	8°  0202'35	
minimum elong	8336 Sep 13 07:27	27°  035'50	0°19'24	evening set	8342 Nov 18 22:26	16°  0202'44	
max. Earth dist.	8336 Sep 13 08:29	27°  036'09	10.35957 AU				
morning rise	8336 Oct 01 05:02	29°  049'45		conjunction	8342 Dec 06 15:55	18°  0216'25	1°59'57
	8336 Oct 02 14:30	0°  0		minimum elong	8342 Dec 06 15:55	18°  0216'25	2°00'07
retrograde	8337 Jan 14 06:57	7°  044'42		max. Earth dist.	8342 Dec 06 09:08	18°  0214'16	10.30315 AU
opposition	8337 Mar 23 10:24	4°  0417'59	0°40'58	morning rise	8342 Dec 24 06:36	20°  0229'18	
min. Earth dist.	8337 Mar 23 09:57	4°  0418'04	8.33688 AU	retrograde	8343 Apr 05 12:31	28°  0216'20	
direct	8337 May 29 17:49	0°  0452'56		opposition	8343 Jun 11 15:13	24°  0252'09	2°27'54

min. Earth dist.	8343 Jun 11 20:04	24° \mathbb{A} 51'11	8.32258 AU	opposition	8349 Aug 28 01:01	11° \mathbb{H} 43'59	0°17'18
direct	8343 Aug 19 07:42	21° \mathbb{A} 24'09		min. Earth dist.	8349 Aug 28 02:32	11° \mathbb{H} 43'42	8.66267 AU
evening set	8343 Dec 02 23:55	29° \mathbb{A} 22'43		direct	8349 Nov 06 07:27	8° \mathbb{H} 20'16	
	8343 Dec 08 00:05	0° \mathbb{B}		evening set	8350 Feb 18 06:50	15° \mathbb{H} 51'45	
conjunction	8343 Dec 20 15:20	1° \mathbb{B} 35'19	1°56'52	conjunction	8350 Mar 07 08:01	17° \mathbb{H} 56'02	0°01'03
minimum elong	8343 Dec 20 15:21	1° \mathbb{B} 35'19	1°57'02	minimum elong	8350 Mar 07 08:00	17° \mathbb{H} 56'02	0°01'05
max. Earth dist.	8343 Dec 20 08:48	1° \mathbb{B} 33'16	10.34202 AU	behind sun begin	8350 Mar 07 00:56	17° \mathbb{H} 53'54	
morning rise	8344 Jan 07 03:20	3° \mathbb{B} 46'57		behind sun end	8350 Mar 07 15:04	17° \mathbb{H} 58'10	
retrograde	8344 Apr 17 21:44	11° \mathbb{B} 29'27		max. Earth dist.	8350 Mar 07 06:35	17° \mathbb{H} 55'39	10.69058 AU
opposition	8344 Jun 24 02:35	8° \mathbb{B} 06'02	2°20'07	desc. node	8350 Mar 22 03:49	19° \mathbb{H} 44'21	
min. Earth dist.	8344 Jun 24 07:38	8° \mathbb{B} 05'02	8.36670 AU	morning rise	8350 Mar 24 06:25	19° \mathbb{H} 59'32	
direct	8344 Sep 01 02:49	4° \mathbb{B} 38'16		retrograde	8350 Jul 02 22:42	27° \mathbb{H} 17'55	
evening set	8344 Dec 15 20:21	12° \mathbb{B} 33'57		opposition	8350 Sep 09 22:29	23° \mathbb{H} 58'14	-0°14'20
conjunction	8345 Jan 02 09:29	14° \mathbb{B} 45'18	1°47'39	min. Earth dist.	8350 Sep 09 23:19	23° \mathbb{H} 58'05	8.71650 AU
minimum elong	8345 Jan 02 09:31	14° \mathbb{B} 45'19	1°47'49	direct	8350 Nov 19 06:26	20° \mathbb{H} 35'31	
max. Earth dist.	8345 Jan 02 02:59	14° \mathbb{B} 43'15	10.39116 AU	evening set	8351 Mar 02 16:50	28° \mathbb{H} 02'15	
morning rise	8345 Jan 19 18:55	16° \mathbb{B} 55'34			8351 Mar 18 22:10	0° \mathbb{Y}	
retrograde	8345 May 01 02:45	24° \mathbb{B} 33'10		conjunction	8351 Mar 19 15:33	0° \mathbb{Y} 05'17	-0°24'26
opposition	8345 Jul 07 11:54	21° \mathbb{B} 10'33	2°05'06	minimum elong	8351 Mar 19 15:32	0° \mathbb{Y} 05'17	0°24'26
min. Earth dist.	8345 Jul 07 17:24	21° \mathbb{B} 09'28	8.41970 AU	max. Earth dist.	8351 Mar 19 14:52	0° \mathbb{Y} 05'05	10.74068 AU
direct	8345 Sep 14 19:58	17° \mathbb{B} 43'15		morning rise	8351 Apr 05 12:19	2° \mathbb{Y} 07'44	
evening set	8345 Dec 29 10:49	25° \mathbb{B} 34'59		retrograde	8351 Jul 15 09:22	9° \mathbb{Y} 24'30	
conjunction	8346 Jan 15 21:32	27° \mathbb{B} 44'57	1°32'59	opposition	8351 Sep 22 17:46	6° \mathbb{Y} 05'01	-0°44'58
minimum elong	8346 Jan 15 21:34	27° \mathbb{B} 44'58	1°33'09	min. Earth dist.	8351 Sep 22 17:42	6° \mathbb{Y} 05'01	8.76256 AU
max. Earth dist.	8346 Jan 15 14:46	27° \mathbb{B} 42'50	10.44789 AU	direct	8351 Dec 02 01:09	2° \mathbb{Y} 43'14	
morning rise	8346 Feb 02 04:36	29° \mathbb{B} 53'50		evening set	8352 Mar 13 22:57	10° \mathbb{Y} 05'48	
	8346 Feb 03 00:48	0° \mathbb{A}		conjunction	8352 Mar 30 19:32	12° \mathbb{Y} 07'44	-0°48'33
retrograde	8346 May 14 02:46	7° \mathbb{A} 26'32		minimum elong	8352 Mar 30 19:30	12° \mathbb{Y} 07'43	0°48'35
opposition	8346 Jul 20 19:02	4° \mathbb{A} 04'42	1°43'56	max. Earth dist.	8352 Mar 30 20:02	12° \mathbb{Y} 07'53	10.78183 AU
min. Earth dist.	8346 Jul 21 00:13	4° \mathbb{A} 03'41	8.47882 AU	morning rise	8352 Apr 16 14:52	14° \mathbb{Y} 09'17	
direct	8346 Sep 28 11:05	0° \mathbb{A} 38'05		retrograde	8352 Jul 26 18:37	21° \mathbb{Y} 25'25	
evening set	8347 Jan 11 18:43	8° \mathbb{A} 25'06		opposition	8352 Oct 04 11:26	18° \mathbb{Y} 05'53	-1°13'20
conjunction	8347 Jan 29 03:02	10° \mathbb{A} 33'37	1°13'50	min. Earth dist.	8352 Oct 04 09:40	18° \mathbb{Y} 06'13	8.79878 AU
minimum elong	8347 Jan 29 03:04	10° \mathbb{A} 33'38	1°13'59	direct	8352 Dec 13 18:13	14° \mathbb{Y} 44'58	
max. Earth dist.	8347 Jan 28 20:53	10° \mathbb{A} 31'42	10.50932 AU	evening set	8353 Mar 26 02:05	22° \mathbb{Y} 04'00	
morning rise	8347 Feb 15 07:50	12° \mathbb{A} 41'04		conjunction	8353 Apr 11 20:54	24° \mathbb{Y} 05'04	-1°10'23
	8347 Mar 07 01:39	15° \mathbb{A}		minimum elong	8353 Apr 11 20:52	24° \mathbb{Y} 05'03	1°10'27
retrograde	8347 May 26 23:28	20° \mathbb{A} 09'15		max. Earth dist.	8353 Apr 11 23:38	24° \mathbb{Y} 05'53	10.81219 AU
opposition	8347 Aug 02 23:36	16° \mathbb{A} 48'07	1°17'55	morning rise	8353 Apr 28 14:59	26° \mathbb{Y} 05'56	
min. Earth dist.	8347 Aug 03 03:37	16° \mathbb{A} 47'20	8.54106 AU		8353 Jun 03 13:05	0° \mathbb{B}	
	8347 Aug 27 10:08	15° \mathbb{R} \mathbb{A}		retrograde	8353 Aug 08 05:56	3° \mathbb{B} 22'20	
direct	8347 Oct 11 22:59	13° \mathbb{A} 22'22		opposition	8353 Oct 17 03:52	0° \mathbb{B} 02'37	-1°38'21
	8347 Nov 25 12:48	15° \mathbb{A}		min. Earth dist.	8353 Oct 17 00:24	0° \mathbb{B} 03'15	8.82355 AU
evening set	8348 Jan 24 20:27	21° \mathbb{A} 04'13			8353 Oct 17 17:46	30° \mathbb{R} \mathbb{Y}	
conjunction	8348 Feb 11 02:27	23° \mathbb{A} 11'18	0°51'20	direct	8353 Dec 26 08:03	26° \mathbb{Y} 42'25	
minimum elong	8348 Feb 11 02:29	23° \mathbb{A} 11'18	0°51'27		8354 Mar 01 07:42	0° \mathbb{B}	
max. Earth dist.	8348 Feb 10 21:49	23° \mathbb{A} 09'52	10.57230 AU	evening set	8354 Apr 07 03:16	3° \mathbb{B} 58'38	
morning rise	8348 Feb 28 05:03	25° \mathbb{A} 17'21		conjunction	8354 Apr 23 20:44	5° \mathbb{B} 59'05	-1°29'06
	8348 Apr 11 21:22	0° \mathbb{H}		minimum elong	8354 Apr 23 20:42	5° \mathbb{B} 59'05	1°29'12
retrograde	8348 Jun 07 18:07	2° \mathbb{H} 41'30		max. Earth dist.	8354 Apr 24 00:58	6° \mathbb{B} 00'22	10.83041 AU
	8348 Aug 06 13:39	30° \mathbb{R} \mathbb{A}		morning rise	8354 May 10 14:06	7° \mathbb{B} 59'34	
opposition	8348 Aug 15 01:25	29° \mathbb{A} 20'58	0°48'32		8354 Aug 02 05:10	15° \mathbb{B}	
min. Earth dist.	8348 Aug 15 03:58	29° \mathbb{A} 20'29	8.60333 AU	retrograde	8354 Aug 20 16:33	15° \mathbb{B} 17'00	
direct	8348 Oct 24 05:05	25° \mathbb{A} 56'12			8354 Sep 08 06:15	15° \mathbb{R} \mathbb{B}	
	8349 Jan 05 01:44	0° \mathbb{H}		opposition	8354 Oct 29 19:26	11° \mathbb{B} 56'57	-1°59'03
evening set	8349 Feb 05 16:20	3° \mathbb{H} 32'48		min. Earth dist.	8354 Oct 29 15:15	11° \mathbb{B} 57'44	8.83563 AU
conjunction	8349 Feb 22 19:59	5° \mathbb{H} 38'28	0°26'39	direct	8355 Jan 07 17:06	8° \mathbb{B} 37'17	
minimum elong	8349 Feb 22 20:00	5° \mathbb{H} 38'28	0°26'44		8355 Apr 11 18:50	15° \mathbb{B}	
max. Earth dist.	8349 Feb 22 17:18	5° \mathbb{H} 37'38	10.63366 AU	evening set	8355 Apr 19 03:22	15° \mathbb{B} 51'33	
morning rise	8349 Mar 11 20:23	7° \mathbb{H} 43'11		conjunction	8355 May 05 19:58	17° \mathbb{B} 51'41	-1°43'57
retrograde	8349 Jun 20 09:26	15° \mathbb{H} 04'01		minimum elong	8355 May 05 19:56	17° \mathbb{B} 51'40	1°44'04

max. Earth dist.	8355 May 06 00:25	17°♄53'01	10.83536 AU	retrograde	8361 Nov 16 04:49	10°♄15'37	
morning rise	8355 May 22 13:25	19°♄52'05		opposition	8362 Jan 24 23:30	6°♄50'14	-1°38'46
retrograde	8355 Sep 02 02:59	27°♄11'23		min. Earth dist.	8362 Jan 24 19:17	6°♄51'03	8.57422 AU
opposition	8355 Nov 11 10:36	23°♄50'50	-2°14'38	direct	8362 Apr 02 22:23	3°♄28'40	
min. Earth dist.	8355 Nov 11 06:33	23°♄51'36	8.83380 AU	evening set	8362 Jul 12 09:51	10°♄53'41	
direct	8356 Jan 20 03:20	20°♄31'29					
evening set	8356 Apr 30 03:23	27°♄44'44		conjunction	8362 Jul 29 17:46	13°♄01'15	-1°09'54
				minimum elong	8362 Jul 29 17:48	13°♄01'15	1°10'01
conjunction	8356 May 16 19:53	29°♄44'55	-1°54'21	max. Earth dist.	8362 Jul 29 23:12	13°♄02'55	10.54188 AU
minimum elong	8356 May 16 19:51	29°♄44'54	1°54'30		8362 Aug 14 20:31	15°♄	
max. Earth dist.	8356 May 17 00:16	29°♄46'14	10.82604 AU	morning rise	8362 Aug 16 05:28	15°♄09'58	
	8356 May 18 21:49	0°♄		retrograde	8362 Nov 29 13:17	22°♄55'11	
morning rise	8356 Jun 02 14:02	1°♄45'34		opposition	8363 Feb 06 23:44	19°♄29'03	-1°12'11
retrograde	8356 Sep 13 16:15	9°♄07'31		min. Earth dist.	8363 Feb 06 19:36	19°♄29'52	8.51010 AU
opposition	8356 Nov 23 01:50	5°♄46'21	-2°24'29	direct	8363 Apr 15 16:38	16°♄06'36	
min. Earth dist.	8356 Nov 22 21:30	5°♄47'10	8.81747 AU	evening set	8363 Jul 25 12:10	23°♄36'07	
direct	8357 Jan 31 12:37	2°♄27'08					
evening set	8357 May 12 04:20	9°♄40'18		conjunction	8363 Aug 11 23:57	25°♄45'31	-0°46'34
				minimum elong	8363 Aug 11 23:58	25°♄45'32	0°46'40
conjunction	8357 May 28 21:41	11°♄40'56	-1°59'50	max. Earth dist.	8363 Aug 12 04:49	25°♄47'02	10.47828 AU
minimum elong	8357 May 28 21:40	11°♄40'56	2°00'01	morning rise	8363 Aug 29 15:14	27°♄56'04	
max. Earth dist.	8357 May 29 03:04	11°♄42'34	10.80263 AU		8363 Sep 16 03:54	0°♄	
morning rise	8357 Jun 14 17:12	13°♄42'14		retrograde	8363 Dec 13 01:06	5°♄44'57	
retrograde	8357 Sep 26 07:40	21°♄07'29		opposition	8364 Feb 20 02:32	2°♄18'13	-0°41'37
opposition	8357 Dec 05 17:46	17°♄45'34	-2°28'08	min. Earth dist.	8364 Feb 19 22:56	2°♄18'55	8.44731 AU
min. Earth dist.	8357 Dec 05 12:34	17°♄46'33	8.78757 AU		8364 Mar 23 02:09	30°♄	
direct	8358 Feb 12 21:02	14°♄26'17		direct	8364 Apr 27 14:18	28°♄54'50	
evening set	8358 May 24 07:14	21°♄40'14			8364 Jun 01 15:10	0°♄	
				evening set	8364 Aug 06 20:47	6°♄29'17	
conjunction	8358 Jun 10 02:16	23°♄41'42	-2°00'07				
minimum elong	8358 Jun 10 02:17	23°♄41'42	2°00'19	conjunction	8364 Aug 24 12:02	8°♄40'28	-0°20'37
max. Earth dist.	8358 Jun 10 08:38	23°♄43'37	10.76665 AU	minimum elong	8364 Aug 24 12:03	8°♄40'29	0°20'41
morning rise	8358 Jun 26 23:54	25°♄43'58		max. Earth dist.	8364 Aug 24 15:21	8°♄41'30	10.41750 AU
	8358 Aug 05 13:49	0°♄		morning rise	8364 Sep 11 06:31	10°♄52'41	
retrograde	8358 Oct 09 02:38	3°♄12'59		retrograde	8364 Dec 25 15:25	18°♄44'48	
	8358 Dec 16 07:13	30°♄		opposition	8365 Mar 04 07:53	15°♄17'38	-0°08'29
opposition	8358 Dec 18 10:44	29°♄50'12	-2°25'18	min. Earth dist.	8365 Mar 04 05:37	15°♄18'05	8.38898 AU
min. Earth dist.	8358 Dec 18 04:58	29°♄51'18	8.74593 AU	direct	8365 May 10 16:24	11°♄53'17	
direct	8359 Feb 25 06:52	26°♄30'38		asc. node	8365 Jun 06 14:38	12°♄32'22	
	8359 May 02 06:18	0°♄		evening set	8365 Aug 20 12:04	19°♄33'00	
evening set	8359 Jun 05 13:17	3°♄46'12					
				conjunction	8365 Sep 07 06:13	21°♄45'46	0°06'46
conjunction	8359 Jun 22 10:38	5°♄48'48	-1°55'06	minimum elong	8365 Sep 07 06:12	21°♄45'46	0°06'44
minimum elong	8359 Jun 22 10:39	5°♄48'49	1°55'17	behind sun begin	8365 Sep 06 23:26	21°♄43'40	
max. Earth dist.	8359 Jun 22 16:48	5°♄50'41	10.72014 AU	behind sun end	8365 Sep 07 12:58	21°♄47'52	
morning rise	8359 Jul 09 11:11	7°♄52'23		max. Earth dist.	8365 Sep 07 07:29	21°♄46'09	10.36256 AU
retrograde	8359 Oct 22 01:01	15°♄25'21		morning rise	8365 Sep 25 03:11	23°♄59'23	
opposition	8359 Dec 31 05:03	12°♄01'42	-2°15'58		8365 Nov 21 19:49	0°♄	
min. Earth dist.	8359 Dec 30 23:44	12°♄02'43	8.69480 AU	retrograde	8366 Jan 08 08:23	1°♄54'03	
direct	8360 Mar 08 16:42	8°♄41'37			8366 Feb 25 13:17	30°♄	
evening set	8360 Jun 16 23:12	15°♄59'37		opposition	8366 Mar 17 15:30	28°♄26'42	0°25'31
				min. Earth dist.	8366 Mar 17 14:54	28°♄26'49	8.33814 AU
conjunction	8360 Jul 03 23:31	18°♄03'39	-1°44'49	direct	8366 May 23 22:28	25°♄01'23	
minimum elong	8360 Jul 03 23:33	18°♄03'40	1°44'59		8366 Aug 10 20:34	0°♄	
max. Earth dist.	8360 Jul 04 04:59	18°♄05'19	10.66550 AU	evening set	8366 Sep 03 09:21	2°♄46'27	
morning rise	8360 Jul 21 03:36	20°♄08'48					
retrograde	8360 Nov 03 01:15	27°♄45'54		conjunction	8366 Sep 21 05:40	5°♄00'28	0°33'58
opposition	8361 Jan 12 01:18	24°♄21'22	-2°00'18	minimum elong	8366 Sep 21 05:39	5°♄00'28	0°33'58
min. Earth dist.	8361 Jan 11 20:41	24°♄22'15	8.63670 AU	max. Earth dist.	8366 Sep 21 05:07	5°♄00'18	10.31636 AU
direct	8361 Mar 21 05:24	21°♄00'36		morning rise	8366 Oct 09 04:05	7°♄15'09	
evening set	8361 Jun 29 13:41	28°♄21'46		retrograde	8367 Jan 22 02:27	15°♄11'34	
	8361 Jul 13 00:13	0°♄		opposition	8367 Mar 31 01:26	11°♄44'13	0°58'32
conjunction	8361 Jul 16 17:37	0°♄27'29	-1°29'34	min. Earth dist.	8367 Mar 31 02:04	11°♄44'05	8.29753 AU
minimum elong	8361 Jul 16 17:40	0°♄27'29	1°29'43	direct	8367 Jun 06 09:27	8°♄18'04	
max. Earth dist.	8361 Jul 16 22:56	0°♄29'07	10.60522 AU	evening set	8367 Sep 17 11:42	16°♄08'11	
morning rise	8361 Aug 03 01:32	2°♄34'22					
				conjunction	8367 Oct 05 09:19	18°♄23'05	0°59'36

minimum elong	8367 Oct 05 09:16	18° Ω 23'04	0°59'38	max. Earth dist.	8373 Dec 27 07:33	9° Σ 04'03	10.37102 AU
max. Earth dist.	8367 Oct 05 07:46	18° Ω 22'36	10.28147 AU	morning rise	8374 Jan 14 00:57	11° Σ 17'07	
morning rise	8367 Oct 23 08:01	20° Ω 38'22		retrograde	8374 Apr 25 14:01	18° Σ 57'21	
retrograde	8368 Feb 04 21:17	28° Ω 35'39		opposition	8374 Jul 01 20:46	15° Σ 34'51	2°12'28
opposition	8368 Apr 12 13:17	25° Ω 08'32	1°28'39	min. Earth dist.	8374 Jul 02 01:19	15° Σ 33'57	8.39931 AU
min. Earth dist.	8368 Apr 12 14:27	25° Ω 08'17	8.26949 AU	direct	8374 Sep 09 00:59	12° Σ 07'50	
direct	8368 Jun 19 00:21	21° Ω 41'42		evening set	8374 Dec 23 17:53	20° Σ 01'46	
evening set	8368 Sep 30 18:06	29° Ω 36'14					
	8368 Oct 03 22:27	0° \mathcal{M}		conjunction	8375 Jan 10 05:46	22° Σ 12'24	1°40'02
				minimum elong	8375 Jan 10 05:49	22° Σ 12'25	1°40'12
conjunction	8368 Oct 18 16:06	1° \mathcal{M} 51'36	1°22'08	max. Earth dist.	8375 Jan 09 23:48	22° Σ 10'31	10.42691 AU
minimum elong	8368 Oct 18 16:03	1° \mathcal{M} 51'35	1°22'12	morning rise	8375 Jan 27 13:55	24° Σ 21'56	
max. Earth dist.	8368 Oct 18 13:43	1° \mathcal{M} 50'51	10.26006 AU		8375 Mar 22 05:28	0° \approx	
morning rise	8368 Nov 05 14:06	4° \mathcal{M} 07'02		retrograde	8375 May 08 17:09	1° \approx 57'09	
retrograde	8369 Feb 17 17:07	12° \mathcal{M} 04'05			8375 Jun 26 16:58	30° \mathcal{R} Σ	
opposition	8369 Apr 26 02:28	8° \mathcal{M} 37'25	1°54'03	opposition	8375 Jul 15 05:24	28° Σ 35'25	1°53'54
min. Earth dist.	8369 Apr 26 04:17	8° \mathcal{M} 37'03	8.25575 AU	min. Earth dist.	8375 Jul 15 09:47	28° Σ 34'33	8.45728 AU
direct	8369 Jul 02 16:44	5° \mathcal{M} 10'04		direct	8375 Sep 22 17:36	25° Σ 08'59	
evening set	8369 Oct 15 02:56	13° \mathcal{M} 08'04			8375 Dec 11 13:38	0° \approx	
	8369 Oct 29 22:30	15° \mathcal{M}		evening set	8376 Jan 06 05:17	2° \approx 58'25	
conjunction	8369 Nov 02 00:24	15° \mathcal{M} 23'28	1°40'13	conjunction	8376 Jan 23 14:53	5° \approx 07'38	1°22'45
minimum elong	8369 Nov 02 00:22	15° \mathcal{M} 23'27	1°40'20	minimum elong	8376 Jan 23 14:55	5° \approx 07'39	1°22'54
max. Earth dist.	8369 Nov 01 21:01	15° \mathcal{M} 22'24	10.25349 AU	max. Earth dist.	8376 Jan 23 09:13	5° \approx 05'52	10.48660 AU
morning rise	8369 Nov 19 20:52	17° \mathcal{M} 38'37		morning rise	8376 Feb 09 20:36	7° \approx 15'44	
retrograde	8370 Mar 03 13:22	25° \mathcal{M} 34'16		retrograde	8376 May 20 17:00	14° \approx 46'13	
opposition	8370 May 09 16:42	22° \mathcal{M} 08'16	2°13'11	opposition	8376 Jul 27 11:37	11° \approx 25'13	1°29'51
min. Earth dist.	8370 May 09 19:26	22° \mathcal{M} 07'43	8.25713 AU	min. Earth dist.	8376 Jul 27 16:22	11° \approx 24'18	8.51709 AU
direct	8370 Jul 16 11:44	18° \mathcal{M} 40'35		direct	8376 Oct 05 06:21	7° \approx 59'31	
evening set	8370 Oct 29 12:11	26° \mathcal{M} 40'49			8377 Jan 12 07:55	15° \approx	
				evening set	8377 Jan 18 10:35	15° \approx 44'05	
conjunction	8370 Nov 16 08:19	28° \mathcal{M} 55'48	1°52'46	conjunction	8377 Feb 04 17:43	17° \approx 51'53	1°01'34
minimum elong	8370 Nov 16 08:18	28° \mathcal{M} 55'48	1°52'54	minimum elong	8377 Feb 04 17:45	17° \approx 51'53	1°01'42
max. Earth dist.	8370 Nov 16 03:43	28° \mathcal{M} 54'20	10.26219 AU	max. Earth dist.	8377 Feb 04 11:51	17° \approx 50'04	10.54651 AU
	8370 Nov 24 18:44	0° \mathcal{X}		morning rise	8377 Feb 21 21:13	19° \approx 58'36	
morning rise	8370 Dec 04 02:40	1° \mathcal{X} 10'18		retrograde	8377 Jun 02 13:32	27° \approx 24'55	
retrograde	8371 Mar 17 06:28	9° \mathcal{X} 03'24		opposition	8377 Aug 09 15:23	24° \approx 04'33	1°01'45
opposition	8371 May 23 07:12	5° \mathcal{X} 38'14	2°24'56	min. Earth dist.	8377 Aug 09 20:11	24° \approx 03'37	8.57599 AU
min. Earth dist.	8371 May 23 11:12	5° \mathcal{X} 37'26	8.27361 AU	direct	8377 Oct 18 14:58	20° \approx 39'40	
direct	8371 Jul 30 09:24	2° \mathcal{X} 10'26		evening set	8378 Jan 31 09:56	28° \approx 19'12	
evening set	8371 Nov 12 19:58	10° \mathcal{X} 11'22			8378 Feb 14 03:34	0° \mathcal{H}	
conjunction	8371 Nov 30 14:17	12° \mathcal{X} 25'35	1°59'04	conjunction	8378 Feb 17 14:34	0° \mathcal{H} 25'36	0°37'40
minimum elong	8371 Nov 30 14:16	12° \mathcal{X} 25'35	1°59'15	minimum elong	8378 Feb 17 14:35	0° \mathcal{H} 25'37	0°37'46
max. Earth dist.	8371 Nov 30 08:18	12° \mathcal{X} 23'41	10.28581 AU	max. Earth dist.	8378 Feb 17 08:56	0° \mathcal{H} 23'53	10.60451 AU
morning rise	8371 Dec 18 06:14	14° \mathcal{X} 39'08		morning rise	8378 Mar 06 16:02	2° \mathcal{H} 31'03	
retrograde	8372 Mar 29 19:59	22° \mathcal{X} 28'39		retrograde	8378 Jun 15 05:19	9° \mathcal{H} 53'53	
opposition	8372 Jun 04 21:09	19° \mathcal{X} 04'23	2°28'41	opposition	8378 Aug 22 16:53	6° \mathcal{H} 33'56	0°31'06
min. Earth dist.	8372 Jun 05 01:58	19° \mathcal{X} 03'25	8.30428 AU	min. Earth dist.	8378 Aug 22 20:48	6° \mathcal{H} 33'11	8.63215 AU
direct	8372 Aug 12 08:10	15° \mathcal{X} 36'39		direct	8378 Oct 31 21:29	3° \mathcal{H} 09'54	
evening set	8372 Nov 26 00:25	23° \mathcal{X} 36'41		evening set	8379 Feb 13 03:31	10° \mathcal{H} 44'24	
conjunction	8372 Dec 13 16:41	25° \mathcal{X} 49'54	1°58'53	conjunction	8379 Mar 02 05:47	12° \mathcal{H} 49'27	0°12'16
minimum elong	8372 Dec 13 16:42	25° \mathcal{X} 49'54	1°59'04	minimum elong	8379 Mar 02 05:47	12° \mathcal{H} 49'27	0°12'20
max. Earth dist.	8372 Dec 13 10:00	25° \mathcal{X} 47'47	10.32291 AU	behind sun begin	8379 Mar 02 01:04	12° \mathcal{H} 48'01	
morning rise	8372 Dec 31 06:06	28° \mathcal{X} 02'14		behind sun end	8379 Mar 02 10:30	12° \mathcal{H} 50'53	
	8373 Jan 16 13:14	0° Σ		max. Earth dist.	8379 Mar 02 01:30	12° \mathcal{H} 48'09	10.65867 AU
retrograde	8373 Apr 12 06:42	5° Σ 47'22		morning rise	8379 Mar 19 05:17	14° \mathcal{H} 53'40	
opposition	8373 Jun 18 09:54	2° Σ 24'01	2°24'22	retrograde	8379 Jun 27 19:52	22° \mathcal{H} 13'50	
min. Earth dist.	8373 Jun 18 14:51	2° Σ 23'01	8.34712 AU	desc. node	8379 Aug 28 12:04	19° \mathcal{H} 26'41	
	8373 Jul 21 18:20	30° \mathcal{R} \mathcal{X}		opposition	8379 Sep 04 16:01	18° \mathcal{H} 54'05	-0°00'36
direct	8373 Aug 26 05:31	28° \mathcal{X} 56'33		min. Earth dist.	8379 Sep 04 18:09	18° \mathcal{H} 53'40	8.68352 AU
	8373 Sep 30 09:42	0° Σ		direct	8379 Nov 14 00:04	15° \mathcal{H} 30'53	
evening set	8373 Dec 10 00:06	6° Σ 54'10		evening set	8380 Feb 25 16:19	23° \mathcal{H} 00'33	
conjunction	8373 Dec 27 14:11	9° Σ 06'09	1°52'21	conjunction	8380 Mar 13 16:19	25° \mathcal{H} 04'21	-0°13'31
minimum elong	8373 Dec 27 14:13	9° Σ 06'09	1°52'32				

minimum elong	8380 Mar 13 16:19	25° K 04'21	0°13'30	evening set	8386 May 07 11:15	4° II 53'16	
behind sun begin	8380 Mar 13 12:18	25° K 03'08					
behind sun end	8380 Mar 13 20:20	25° K 05'34		conjunction	8386 May 24 04:17	6° II 53'59	-1°58'13
max. Earth dist.	8380 Mar 13 14:15	25° K 03'44	10.70685 AU	minimum elong	8386 May 24 04:17	6° II 53'59	1°58'23
morning rise	8380 Mar 30 13:53	27° K 07'28		max. Earth dist.	8386 May 24 10:27	6° II 55'51	10.78793 AU
	8380 Apr 24 22:12	0° Y		morning rise	8386 Jun 09 23:12	8° II 55'16	
retrograde	8380 Jul 09 09:40	4° Y 25'43		retrograde	8386 Sep 21 09:07	16° II 20'00	
opposition	8380 Sep 16 12:57	1° Y 06'00	-0°31'55	opposition	8386 Nov 30 18:32	12° II 57'45	-2°27'32
min. Earth dist.	8380 Sep 16 13:35	1° Y 05'53	8.72801 AU	min. Earth dist.	8386 Nov 30 12:50	12° II 58'50	8.77758 AU
	8380 Oct 01 07:54	30° R K		direct	8387 Feb 07 23:57	9° II 37'56	
direct	8380 Nov 25 20:57	27° K 43'36		evening set	8387 May 19 13:46	16° II 52'22	
	8381 Jan 18 07:32	0° Y					
evening set	8381 Mar 09 00:56	5° Y 08'53		conjunction	8387 Jun 05 07:58	18° II 53'41	-2°00'42
				minimum elong	8387 Jun 05 07:58	18° II 53'41	2°00'54
conjunction	8381 Mar 25 22:41	7° Y 11'33	-0°38'22	max. Earth dist.	8387 Jun 05 14:15	18° II 55'35	10.76152 AU
minimum elong	8381 Mar 25 22:40	7° Y 11'33	0°38'24	morning rise	8387 Jun 22 04:50	20° II 55'45	
max. Earth dist.	8381 Mar 25 22:22	7° Y 11'27	10.74707 AU	retrograde	8387 Oct 04 01:55	28° II 23'53	
morning rise	8381 Apr 11 18:35	9° Y 13'43		opposition	8387 Dec 13 11:30	25° II 00'58	-2°27'24
retrograde	8381 Jul 21 20:25	16° Y 30'58		min. Earth dist.	8387 Dec 13 05:42	25° II 02'04	8.74586 AU
opposition	8381 Sep 29 08:16	13° Y 11'07	-1°01'32	direct	8388 Feb 20 10:34	21° II 41'04	
min. Earth dist.	8381 Sep 29 07:54	13° Y 11'11	8.76390 AU	evening set	8388 May 30 18:37	28° II 56'37	
direct	8381 Dec 08 15:02	9° Y 49'24			8388 Jun 08 13:20	0° S	
evening set	8382 Mar 21 06:01	17° Y 10'54					
				conjunction	8388 Jun 16 14:53	0° S 58'53	-1°57'52
conjunction	8382 Apr 07 01:40	19° Y 12'36	-1°01'23	minimum elong	8388 Jun 16 14:54	0° S 58'54	1°58'04
minimum elong	8382 Apr 07 01:38	19° Y 12'35	1°01'26	max. Earth dist.	8388 Jun 16 21:57	1° S 01'03	10.72493 AU
max. Earth dist.	8382 Apr 07 02:17	19° Y 12'47	10.77782 AU	morning rise	8388 Jul 03 14:16	3° S 02'04	
morning rise	8382 Apr 23 20:22	21° Y 14'02		retrograde	8388 Oct 15 22:45	10° S 33'57	
retrograde	8382 Aug 03 06:49	28° Y 31'12		opposition	8388 Dec 25 05:40	7° S 10'20	-2°20'42
opposition	8382 Oct 12 02:06	25° Y 11'03	-1°28'13	min. Earth dist.	8388 Dec 24 23:17	7° S 11'34	8.70460 AU
min. Earth dist.	8382 Oct 12 00:57	25° Y 11'16	8.78979 AU	direct	8389 Mar 03 21:03	3° S 50'14	
direct	8382 Dec 21 06:43	21° Y 49'56		evening set	8389 Jun 12 03:00	11° S 07'40	
evening set	8383 Apr 02 08:41	29° Y 08'22					
	8383 Apr 09 13:26	0° S		conjunction	8389 Jun 29 02:08	13° S 11'12	-1°49'43
				minimum elong	8389 Jun 29 02:10	13° S 11'13	1°49'54
conjunction	8383 Apr 19 02:42	1° S 09'21	-1°21'36	max. Earth dist.	8389 Jun 29 10:20	13° S 13'43	10.67982 AU
minimum elong	8383 Apr 19 02:40	1° S 09'20	1°21'40	morning rise	8389 Jul 16 04:37	15° S 15'47	
max. Earth dist.	8383 Apr 19 04:29	1° S 09'53	10.79794 AU	retrograde	8389 Oct 28 22:45	22° S 51'36	
morning rise	8383 May 05 20:38	3° S 10'18		opposition	8390 Jan 07 01:19	19° S 27'17	-2°07'33
retrograde	8383 Aug 15 16:41	10° S 28'13		min. Earth dist.	8390 Jan 06 18:19	19° S 28'38	8.65571 AU
opposition	8383 Oct 24 18:32	7° S 07'40	-1°50'58	direct	8390 Mar 16 08:56	16° S 06'49	
min. Earth dist.	8383 Oct 24 15:55	7° S 08'10	8.80458 AU	evening set	8390 Jun 24 15:49	23° S 26'55	
direct	8384 Jan 02 19:19	3° S 47'04					
evening set	8384 Apr 13 09:45	11° S 03'14		conjunction	8390 Jul 11 18:18	25° S 31'59	-1°36'27
				minimum elong	8390 Jul 11 18:20	25° S 32'00	1°36'37
conjunction	8384 Apr 30 02:49	13° S 03'48	-1°38'13	max. Earth dist.	8390 Jul 12 02:22	25° S 34'28	10.62823 AU
minimum elong	8384 Apr 30 02:47	13° S 03'48	1°38'20	morning rise	8390 Jul 29 00:26	27° S 38'10	
max. Earth dist.	8384 Apr 30 06:35	13° S 04'57	10.80652 AU		8390 Aug 18 11:12	0° S	
morning rise	8384 May 16 20:21	15° S 04'32		retrograde	8390 Nov 11 02:46	5° S 17'56	
	8384 May 16 05:04	15° S		opposition	8391 Jan 19 22:53	1° S 53'00	-1°48'19
retrograde	8384 Aug 27 04:10	22° S 24'04		min. Earth dist.	8391 Jan 19 16:18	1° S 54'17	8.60140 AU
opposition	8384 Nov 05 10:30	19° S 03'00	-2°08'52		8391 Feb 14 17:38	30° R S	
min. Earth dist.	8384 Nov 05 06:06	19° S 03'50	8.80751 AU	direct	8391 Mar 28 23:19	28° S 32'01	
direct	8385 Jan 14 07:14	15° S 42'48		evening set	8391 May 09 04:53	0° S	
evening set	8385 Apr 25 10:11	22° S 57'32			8391 Jul 07 09:53	5° S 55'29	
conjunction	8385 May 12 02:55	24° S 58'00	-1°50'36	conjunction	8391 Jul 24 15:58	8° S 02'15	-1°18'30
minimum elong	8385 May 12 02:54	24° S 58'00	1°50'44	minimum elong	8391 Jul 24 16:00	8° S 02'16	1°18'38
max. Earth dist.	8385 May 12 08:35	24° S 59'43	10.80314 AU	max. Earth dist.	8391 Jul 24 22:56	8° S 04'24	10.57251 AU
morning rise	8385 May 28 20:41	26° S 58'50		morning rise	8391 Aug 11 02:00	10° S 10'11	
	8385 Jun 24 20:08	0° II			8391 Sep 24 22:18	15° S	
retrograde	8385 Sep 08 18:21	4° II 20'41		retrograde	8391 Nov 24 10:09	17° S 53'45	
opposition	8385 Nov 18 02:24	0° II 59'03	-2°21'14		8392 Jan 26 03:42	15° R S	
min. Earth dist.	8385 Nov 17 20:47	1° II 00'07	8.79839 AU	opposition	8392 Feb 01 22:33	14° S 28'17	-1°23'40
	8385 Dec 01 08:17	30° R S		min. Earth dist.	8392 Feb 01 17:05	14° S 29'21	8.54424 AU
direct	8386 Jan 26 16:01	27° S 39'08		direct	8392 Apr 09 15:47	11° S 06'38	
	8386 Mar 21 11:16	0° II			8392 Jun 17 19:53	15° S	

evening set	8392 Jul 19 09:43	18° Ω 34'07		8398 Jun 10 15:28	30° \mathbb{R} $\underline{\Omega}$	
			direct	8398 Jun 27 06:17	29° $\underline{\Omega}$ 45'00	
conjunction	8392 Aug 05 19:37	20° Ω 42'38 -0°56'33		8398 Jul 13 20:55	0° \mathbb{M}	
minimum elong	8392 Aug 05 19:39	20° Ω 42'38 0°56'40	evening set	8398 Oct 09 09:51	7° \mathbb{M} 40'41	
max. Earth dist.	8392 Aug 06 01:19	20° Ω 44'24 10.51531 AU				
morning rise	8392 Aug 23 09:29	22° Ω 52'20	conjunction	8398 Oct 27 07:19	9° \mathbb{M} 55'48 1°33'10	
	8392 Nov 08 23:03	0° \mathbb{M}	minimum elong	8398 Oct 27 07:17	9° \mathbb{M} 55'48 1°33'16	
retrograde	8392 Dec 06 19:16	0° \mathbb{M} 39'27	max. Earth dist.	8398 Oct 27 02:18	9° \mathbb{M} 54'13 10.27227 AU	
	8393 Jan 03 18:48	30° \mathbb{R} δ	morning rise	8398 Nov 14 04:32	12° \mathbb{M} 10'52	
opposition	8393 Feb 14 00:29	27° Ω 13'29 -0°54'35		8398 Dec 07 22:24	15° \mathbb{M}	
min. Earth dist.	8393 Feb 13 20:17	27° Ω 14'19 8.48699 AU	retrograde	8399 Feb 26 01:01	20° \mathbb{M} 06'16	
direct	8393 Apr 22 13:27	23° Ω 51'04	opposition	8399 May 04 07:14	16° \mathbb{M} 40'18 2°05'51	
	8393 Jul 21 01:43	0° \mathbb{M}	min. Earth dist.	8399 May 04 11:05	16° \mathbb{M} 39'32 8.27075 AU	
evening set	8393 Aug 01 15:38	1° \mathbb{M} 23'01		8399 May 25 21:07	15° \mathbb{R} \mathbb{M}	
			direct	8399 Jul 11 00:59	13° \mathbb{M} 12'59	
conjunction	8393 Aug 19 05:19	3° \mathbb{M} 33'17 -0°31'34		8399 Aug 25 12:35	15° \mathbb{M}	
minimum elong	8393 Aug 19 05:21	3° \mathbb{M} 33'18 0°31'38	evening set	8399 Oct 23 18:09	21° \mathbb{M} 11'25	
max. Earth dist.	8393 Aug 19 10:12	3° \mathbb{M} 34'48 10.45910 AU				
morning rise	8393 Sep 05 22:33	5° \mathbb{M} 44'38	conjunction	8399 Nov 10 14:45	23° \mathbb{M} 26'21 1°48'09	
retrograde	8393 Dec 20 07:15	13° \mathbb{M} 34'53	minimum elong	8399 Nov 10 14:43	23° \mathbb{M} 26'21 1°48'17	
opposition	8394 Feb 27 04:36	10° \mathbb{M} 08'31 -0°22'23	max. Earth dist.	8399 Nov 10 08:52	23° \mathbb{M} 24'30 10.27077 AU	
min. Earth dist.	8394 Feb 27 01:15	10° \mathbb{M} 09'11 8.43195 AU	morning rise	8399 Nov 28 10:06	25° \mathbb{M} 40'57	
direct	8394 May 05 15:07	6° \mathbb{M} 45'14		8400 Jan 05 07:08	0° \mathbb{Z}	
evening set	8394 Aug 15 03:59	14° \mathbb{M} 22'00	retrograde	8400 Mar 10 17:26	3° \mathbb{Z} 34'22	
			opposition	8400 May 16 20:53	0° \mathbb{Z} 08'56 2°20'51	
conjunction	8394 Sep 01 20:56	16° \mathbb{M} 33'52 -0°04'44	min. Earth dist.	8400 May 17 01:05	0° \mathbb{Z} 08'05 8.27689 AU	
minimum elong	8394 Sep 01 20:57	16° \mathbb{M} 33'53 0°04'47		8400 May 18 17:07	30° \mathbb{R} \mathbb{M}	
behind sun begin	8394 Sep 01 13:52	16° \mathbb{M} 31'41	direct	8400 Jul 23 21:57	26° \mathbb{M} 41'13	
behind sun end	8394 Sep 02 04:01	16° \mathbb{M} 36'04		8400 Sep 25 09:57	0° \mathbb{Z}	
max. Earth dist.	8394 Sep 02 00:34	16° \mathbb{M} 34'58 10.40598 AU	evening set	8400 Nov 06 01:53	4° \mathbb{Z} 41'01	
morning rise	8394 Sep 19 16:45	18° \mathbb{M} 46'39				
asc. node	8394 Nov 05 17:31	23° \mathbb{M} 53'07	conjunction	8400 Nov 23 21:04	6° \mathbb{Z} 55'24 1°57'11	
retrograde	8395 Jan 02 23:23	26° \mathbb{M} 39'28	minimum elong	8400 Nov 23 21:03	6° \mathbb{Z} 55'24 1°57'20	
opposition	8395 Mar 12 10:49	23° \mathbb{M} 12'50 0°11'24	max. Earth dist.	8400 Nov 23 14:55	6° \mathbb{Z} 53'27 10.28391 AU	
min. Earth dist.	8395 Mar 12 08:33	23° \mathbb{M} 13'17 8.38112 AU	morning rise	8400 Dec 11 14:02	9° \mathbb{Z} 09'11	
direct	8395 May 18 18:29	19° \mathbb{M} 48'38	retrograde	8401 Mar 24 08:02	16° \mathbb{Z} 59'32	
evening set	8395 Aug 28 22:20	27° \mathbb{M} 30'28	opposition	8401 May 30 10:09	13° \mathbb{Z} 34'45 2°28'04	
			min. Earth dist.	8401 May 30 14:42	13° \mathbb{Z} 33'51 8.29718 AU	
conjunction	8395 Sep 15 17:47	29° \mathbb{M} 43'42 0°22'44	direct	8401 Aug 06 18:54	10° \mathbb{Z} 06'50	
minimum elong	8395 Sep 15 17:46	29° \mathbb{M} 43'42 0°22'43	evening set	8401 Nov 20 07:07	18° \mathbb{Z} 06'32	
max. Earth dist.	8395 Sep 15 19:28	29° \mathbb{M} 44'14 10.35794 AU				
	8395 Sep 17 21:41	0° $\underline{\Omega}$	conjunction	8401 Dec 08 00:26	20° \mathbb{Z} 20'04 1°59'48	
morning rise	8395 Oct 03 15:20	1° $\underline{\Omega}$ 57'38	minimum elong	8401 Dec 08 00:26	20° \mathbb{Z} 20'04 1°59'59	
retrograde	8396 Jan 16 17:29	9° $\underline{\Omega}$ 52'27	max. Earth dist.	8401 Dec 07 17:56	20° \mathbb{Z} 18'01 10.31081 AU	
opposition	8396 Mar 24 19:19	6° $\underline{\Omega}$ 25'44 0°44'57	morning rise	8401 Dec 25 14:48	22° \mathbb{Z} 32'47	
min. Earth dist.	8396 Mar 24 18:31	6° $\underline{\Omega}$ 25'54 8.33672 AU		8402 Mar 19 03:12	0° \mathbb{Z}	
direct	8396 May 31 02:13	3° $\underline{\Omega}$ 00'38	retrograde	8402 Apr 06 20:33	0° \mathbb{Z} 19'12	
evening set	8396 Sep 10 22:04	10° $\underline{\Omega}$ 47'35		8402 Apr 25 14:50	30° \mathbb{R} \mathbb{Z}	
			opposition	8402 Jun 12 22:43	26° \mathbb{Z} 55'10 2°27'14	
conjunction	8396 Sep 28 19:06	13° $\underline{\Omega}$ 01'51 0°49'09	min. Earth dist.	8402 Jun 13 03:56	26° \mathbb{Z} 54'07 8.33034 AU	
minimum elong	8396 Sep 28 19:04	13° $\underline{\Omega}$ 01'50 0°49'10	direct	8402 Aug 20 14:39	23° \mathbb{Z} 27'16	
max. Earth dist.	8396 Sep 28 18:16	13° $\underline{\Omega}$ 01'35 10.31767 AU		8402 Nov 22 14:09	0° \mathbb{Z}	
morning rise	8396 Oct 16 17:32	15° $\underline{\Omega}$ 16'36	evening set	8402 Dec 04 08:03	1° \mathbb{Z} 25'20	
retrograde	8397 Jan 29 11:58	23° $\underline{\Omega}$ 12'40				
opposition	8397 Apr 07 05:54	19° $\underline{\Omega}$ 46'02 1°16'25	conjunction	8402 Dec 21 23:11	3° \mathbb{Z} 37'47 1°55'59	
min. Earth dist.	8397 Apr 07 07:04	19° $\underline{\Omega}$ 45'48 8.30181 AU	minimum elong	8402 Dec 21 23:12	3° \mathbb{Z} 37'47 1°56'10	
direct	8397 Jun 13 14:33	16° $\underline{\Omega}$ 20'04	max. Earth dist.	8402 Dec 21 16:11	3° \mathbb{Z} 35'35 10.34983 AU	
evening set	8397 Sep 25 02:30	24° $\underline{\Omega}$ 11'47	morning rise	8403 Jan 08 10:57	5° \mathbb{Z} 49'15	
			retrograde	8403 Apr 20 04:58	13° \mathbb{Z} 31'08	
conjunction	8397 Oct 13 00:11	26° $\underline{\Omega}$ 26'42 1°13'06	opposition	8403 Jun 26 09:48	10° \mathbb{Z} 07'52 2°18'35	
minimum elong	8397 Oct 13 00:08	26° $\underline{\Omega}$ 26'41 1°13'10	min. Earth dist.	8403 Jun 26 15:35	10° \mathbb{Z} 06'43 8.37445 AU	
max. Earth dist.	8397 Oct 12 20:50	26° $\underline{\Omega}$ 25'38 10.28831 AU	direct	8403 Sep 03 10:18	6° \mathbb{Z} 40'12	
morning rise	8397 Oct 30 22:28	28° $\underline{\Omega}$ 41'49	evening set	8403 Dec 18 03:46	14° \mathbb{Z} 35'22	
	8397 Nov 10 15:14	0° \mathbb{M}				
retrograde	8398 Feb 12 06:34	6° \mathbb{M} 38'06	conjunction	8404 Jan 04 16:36	16° \mathbb{Z} 46'33 1°46'06	
opposition	8398 Apr 20 17:59	3° \mathbb{M} 11'44 1°43'56	minimum elong	8404 Jan 04 16:38	16° \mathbb{Z} 46'34 1°46'17	
min. Earth dist.	8398 Apr 20 20:52	3° \mathbb{M} 11'09 8.27925 AU	max. Earth dist.	8404 Jan 04 09:11	16° \mathbb{Z} 44'14 10.39878 AU	

morning rise	8404 Jan 22 01:57	18° \mathfrak{Z} 56'41		minimum elong	8410 Mar 20 19:56	2° Υ 01'36	0°27'21
retrograde	8404 May 02 07:51	26° \mathfrak{Z} 33'43		max. Earth dist.	8410 Mar 20 18:55	2° Υ 01'17	10.74054 AU
opposition	8404 Jul 08 18:42	23° \mathfrak{Z} 11'14	2°02'49	morning rise	8410 Apr 06 16:40	4° Υ 04'02	
min. Earth dist.	8404 Jul 09 00:37	23° \mathfrak{Z} 10'04	8.42708 AU	retrograde	8410 Jul 16 13:20	11° Υ 20'57	
direct	8404 Sep 16 04:31	19° \mathfrak{Z} 44'01		opposition	8410 Sep 23 23:16	8° Υ 01'22	-0°48'25
evening set	8404 Dec 30 17:29	27° \mathfrak{Z} 35'14		min. Earth dist.	8410 Sep 23 22:50	8° Υ 01'27	8.76155 AU
				direct	8410 Dec 03 07:38	4° Υ 39'35	
conjunction	8405 Jan 17 04:01	29° \mathfrak{Z} 45'03	1°30'53	evening set	8411 Mar 16 03:17	12° Υ 02'05	
minimum elong	8405 Jan 17 04:03	29° \mathfrak{Z} 45'04	1°31'04				
max. Earth dist.	8405 Jan 16 20:45	29° \mathfrak{Z} 42'47	10.45496 AU	conjunction	8411 Apr 01 23:50	14° Υ 04'00	-0°51'14
	8405 Jan 19 03:52	0° \approx		minimum elong	8411 Apr 01 23:48	14° Υ 04'00	0°51'17
morning rise	8405 Feb 03 11:01	1° \approx 53'47		max. Earth dist.	8411 Apr 02 00:57	14° Υ 04'21	10.77991 AU
retrograde	8405 May 15 08:02	9° \approx 26'02		morning rise	8411 Apr 18 19:01	16° Υ 05'33	
opposition	8405 Jul 22 01:24	6° \approx 04'16	1°41'02	retrograde	8411 Jul 29 01:01	23° Υ 21'59	
min. Earth dist.	8405 Jul 22 06:21	6° \approx 03'18	8.48539 AU	opposition	8411 Oct 06 16:58	20° Υ 02'21	-1°16'28
direct	8405 Sep 29 19:05	2° \approx 37'44		min. Earth dist.	8411 Oct 06 14:41	20° Υ 02'47	8.79602 AU
evening set	8406 Jan 13 00:48	10° \approx 24'14		direct	8411 Dec 15 23:45	16° Υ 41'26	
				evening set	8412 Mar 27 06:33	24° Υ 00'29	
conjunction	8406 Jan 30 09:02	12° \approx 32'38	1°11'19				
minimum elong	8406 Jan 30 09:05	12° \approx 32'39	1°11'28	conjunction	8412 Apr 13 01:20	26° Υ 01'35	-1°12'45
max. Earth dist.	8406 Jan 30 03:11	12° \approx 30'49	10.51536 AU	minimum elong	8412 Apr 13 01:17	26° Υ 01'34	1°12'49
morning rise	8406 Feb 16 13:39	14° \approx 39'57		max. Earth dist.	8412 Apr 13 04:21	26° Υ 02'29	10.80857 AU
	8406 Feb 19 07:51	15° \approx		morning rise	8412 Apr 29 19:19	28° Υ 02'29	
retrograde	8406 May 28 05:54	22° \approx 07'45			8412 May 16 20:41	0° \mathfrak{B}	
opposition	8406 Aug 04 05:38	18° \approx 46'39	1°14'35	retrograde	8412 Aug 09 11:49	5° \mathfrak{B} 19'14	
min. Earth dist.	8406 Aug 04 09:18	18° \approx 45'56	8.54643 AU	opposition	8412 Oct 18 09:30	1° \mathfrak{B} 59'26	-1°41'01
direct	8406 Oct 13 04:40	15° \approx 20'59		min. Earth dist.	8412 Oct 18 06:17	2° \mathfrak{B} 00'02	8.81921 AU
evening set	8407 Jan 26 01:58	23° \approx 02'20			8412 Nov 15 19:57	30° $\mathfrak{R}\Upsilon$	
				direct	8412 Dec 27 11:35	28° Υ 39'13	
conjunction	8407 Feb 12 07:53	25° \approx 09'19	0°48'30		8413 Feb 06 02:47	0° \mathfrak{B}	
minimum elong	8407 Feb 12 07:55	25° \approx 09'20	0°48'37	evening set	8413 Apr 08 07:59	5° \mathfrak{B} 55'36	
max. Earth dist.	8407 Feb 12 03:44	25° \approx 08'02	10.57700 AU				
morning rise	8407 Mar 01 10:13	27° \approx 15'16		conjunction	8413 Apr 25 01:18	7° \mathfrak{B} 56'06	-1°31'02
	8407 Mar 25 05:42	0° \mathfrak{H}		minimum elong	8413 Apr 25 01:16	7° \mathfrak{B} 56'05	1°31'08
retrograde	8407 Jun 09 23:19	4° \mathfrak{H} 39'09		max. Earth dist.	8413 Apr 25 04:58	7° \mathfrak{B} 57'12	10.82539 AU
opposition	8407 Aug 17 07:19	1° \mathfrak{H} 18'38	0°44'56	morning rise	8413 May 11 18:45	9° \mathfrak{B} 56'39	
min. Earth dist.	8407 Aug 17 10:02	1° \mathfrak{H} 18'07	8.60732 AU		8413 Jun 29 21:28	15° \mathfrak{B}	
	8407 Sep 03 18:37	30° $\mathfrak{R}\approx$		retrograde	8413 Aug 21 21:36	17° \mathfrak{B} 14'33	
direct	8407 Oct 26 10:59	27° \approx 53'55			8413 Oct 16 05:02	15° $\mathfrak{R}\mathfrak{B}$	
	8407 Dec 16 14:35	0° \mathfrak{H}		opposition	8413 Oct 31 01:26	13° \mathfrak{B} 54'24	-2°01'08
evening set	8408 Feb 07 21:23	5° \mathfrak{H} 30'06		min. Earth dist.	8413 Oct 30 21:46	13° \mathfrak{B} 55'06	8.83012 AU
				direct	8414 Jan 08 22:57	10° \mathfrak{B} 34'42	
conjunction	8408 Feb 25 00:52	7° \mathfrak{H} 35'40	0°23'40		8414 Mar 26 04:50	15° \mathfrak{B}	
minimum elong	8408 Feb 25 00:53	7° \mathfrak{H} 35'41	0°23'45	evening set	8414 Apr 20 08:16	17° \mathfrak{B} 49'13	
max. Earth dist.	8408 Feb 24 21:56	7° \mathfrak{H} 34'47	10.63688 AU				
morning rise	8408 Mar 13 01:08	9° \mathfrak{H} 40'20		conjunction	8414 May 07 00:49	19° \mathfrak{B} 49'26	-1°45'22
retrograde	8408 Jun 21 14:42	17° \mathfrak{H} 01'01		minimum elong	8414 May 07 00:48	19° \mathfrak{B} 49'26	1°45'30
opposition	8408 Aug 29 06:44	13° \mathfrak{H} 40'59	0°13'35	max. Earth dist.	8414 May 07 04:59	19° \mathfrak{B} 50'41	10.82949 AU
min. Earth dist.	8408 Aug 29 09:00	13° \mathfrak{H} 40'33	8.66512 AU	morning rise	8414 May 23 18:25	21° \mathfrak{B} 49'55	
direct	8408 Nov 07 13:17	10° \mathfrak{H} 17'15		retrograde	8414 Sep 03 09:24	29° \mathfrak{B} 09'46	
desc. node	8409 Feb 06 23:43	16° \mathfrak{H} 20'37		opposition	8414 Nov 12 16:56	25° \mathfrak{B} 49'06	-2°16'03
evening set	8409 Feb 19 11:39	17° \mathfrak{H} 48'27		min. Earth dist.	8414 Nov 12 12:46	25° \mathfrak{B} 49'53	8.82778 AU
				direct	8415 Jan 21 09:21	22° \mathfrak{B} 29'43	
conjunction	8409 Mar 08 12:34	19° \mathfrak{H} 52'40	-0°02'04	evening set	8415 May 02 08:38	29° \mathfrak{B} 43'14	
minimum elong	8409 Mar 08 12:33	19° \mathfrak{H} 52'40	0°02'02		8415 May 04 17:12	0° \mathfrak{I}	
behind sun begin	8409 Mar 08 05:29	19° \mathfrak{H} 50'32					
behind sun end	8409 Mar 08 19:38	19° \mathfrak{H} 54'48		conjunction	8415 May 19 01:18	1° \mathfrak{I} 43'31	-1°55'11
max. Earth dist.	8409 Mar 08 10:10	19° \mathfrak{H} 52'00	10.69217 AU	minimum elong	8415 May 19 01:17	1° \mathfrak{I} 43'31	1°55'20
morning rise	8409 Mar 25 10:58	21° \mathfrak{H} 56'08		max. Earth dist.	8415 May 19 06:27	1° \mathfrak{I} 45'05	10.81996 AU
retrograde	8409 Jul 04 03:18	29° \mathfrak{H} 14'29		morning rise	8415 Jun 04 19:32	3° \mathfrak{I} 44'17	
opposition	8409 Sep 11 03:59	25° \mathfrak{H} 54'46	-0°18'00	retrograde	8415 Sep 15 22:32	11° \mathfrak{I} 06'44	
min. Earth dist.	8409 Sep 11 05:15	25° \mathfrak{H} 54'31	8.71727 AU	opposition	8415 Nov 25 08:18	7° \mathfrak{I} 45'27	-2°25'09
direct	8409 Nov 20 11:24	22° \mathfrak{H} 32'03		min. Earth dist.	8415 Nov 25 03:12	7° \mathfrak{I} 46'24	8.81140 AU
evening set	8410 Mar 03 21:23	29° \mathfrak{H} 58'37		direct	8416 Feb 02 18:24	4° \mathfrak{I} 26'12	
	8410 Mar 04 02:01	0° Υ		evening set	8416 May 13 10:01	11° \mathfrak{I} 39'39	
conjunction	8410 Mar 20 19:56	2° Υ 01'36	-0°27'20	conjunction	8416 May 30 03:35	13° \mathfrak{I} 40'24	-2°00'03

minimum elong	8416 May 30 03:35	13° Π 40'24	2°00'13			8422 Aug 30 16:43	0° Π
max. Earth dist.	8416 May 30 09:46	13° Π 42'16	10.79650 AU	morning rise		8422 Aug 31 01:05	0° Π 02'33
morning rise	8416 Jun 15 23:12	15° Π 41'49		retrograde		8422 Dec 14 10:53	7° Π 51'42
retrograde	8416 Sep 27 15:22	23° Π 07'34		opposition		8423 Feb 21 11:27	4° Π 24'59 -0°37'34
opposition	8416 Dec 07 00:34	19° Π 45'33	-2°28'00	min. Earth dist.		8423 Feb 21 08:13	4° Π 25'37 8.44327 AU
min. Earth dist.	8416 Dec 06 18:52	19° Π 46'38	8.78137 AU	direct		8423 Apr 29 22:50	1° Π 01'33
direct	8417 Feb 14 03:34	16° Π 26'15		evening set		8423 Aug 09 06:37	8° Π 36'26
evening set	8417 May 25 13:26	23° Π 40'31					
conjunction	8417 Jun 11 08:36	25° Π 42'07	-1°59'41	conjunction		8423 Aug 26 22:02	10° Π 47'45 -0°17'16
minimum elong	8417 Jun 11 08:36	25° Π 42'07	1°59'52	minimum elong		8423 Aug 26 22:03	10° Π 47'45 0°17'20
max. Earth dist.	8417 Jun 11 14:48	25° Π 44'00	10.76037 AU	max. Earth dist.		8423 Aug 27 00:40	10° Π 48'34 10.41411 AU
morning rise	8417 Jun 28 06:30	27° Π 44'32		morning rise		8423 Sep 13 16:50	13° Π 00'04
	8417 Jul 17 23:35	0° Ξ		retrograde		8423 Dec 28 01:44	20° Π 52'19
retrograde	8417 Oct 10 11:13	5° Ξ 14'02		opposition		8424 Mar 05 16:58	17° Π 25'12 -0°04'17
opposition	8417 Dec 19 17:59	1° Ξ 51'12	-2°24'22	min. Earth dist.		8424 Mar 05 15:14	17° Π 25'33 8.38627 AU
min. Earth dist.	8417 Dec 19 12:29	1° Ξ 52'15	8.73958 AU	asc. node		8424 Apr 22 07:55	14° Π 21'50
	8418 Jan 14 13:48	30° κ Π		direct		8424 May 12 00:52	14° Π 00'48
direct	8418 Feb 26 11:59	28° Π 31'36		evening set		8424 Aug 21 22:13	21° Π 40'53
	8418 Apr 09 07:34	0° Ξ		conjunction		8424 Sep 08 16:33	23° Π 53'43 0°10'08
evening set	8418 Jun 06 20:01	5° Ξ 47'33		minimum elong		8424 Sep 08 16:32	23° Π 53'43 0°10'06
conjunction	8418 Jun 23 17:33	7° Ξ 50'19	-1°53'59	behind sun begin		8424 Sep 08 10:45	23° Π 51'55
minimum elong	8418 Jun 23 17:35	7° Ξ 50'19	1°54'11	behind sun end		8424 Sep 08 22:19	23° Π 55'31
max. Earth dist.	8418 Jun 23 23:07	7° Ξ 52'00	10.71381 AU	max. Earth dist.		8424 Sep 08 17:43	23° Π 54'05 10.36058 AU
morning rise	8418 Jul 10 18:32	9° Ξ 54'04		morning rise		8424 Sep 26 13:39	26° Π 07'25
retrograde	8418 Oct 23 08:13	17° Ξ 27'32				8424 Oct 30 12:33	0° $\underline{\Omega}$
opposition	8419 Jan 01 12:41	14° Ξ 03'51	-2°14'13	retrograde		8425 Jan 09 17:24	4° $\underline{\Omega}$ 02'05
min. Earth dist.	8419 Jan 01 07:54	14° Ξ 04'46	8.68844 AU	opposition		8425 Mar 19 00:41	0° $\underline{\Omega}$ 34'46 0°29'38
direct	8419 Mar 10 23:38	10° Ξ 43'43		min. Earth dist.		8425 Mar 19 00:07	0° $\underline{\Omega}$ 34'53 8.33695 AU
evening set	8419 Jun 19 06:29	18° Ξ 02'10				8425 Mar 26 06:22	30° κ Π
conjunction	8419 Jul 06 07:11	20° Ξ 06'24	-1°43'04	direct		8425 May 25 08:43	27° Π 09'25
minimum elong	8419 Jul 06 07:13	20° Ξ 06'24	1°43'15			8425 Jul 22 06:03	0° $\underline{\Omega}$
max. Earth dist.	8419 Jul 06 12:46	20° Ξ 08'06	10.65922 AU	evening set		8425 Sep 04 19:44	4° $\underline{\Omega}$ 54'45
morning rise	8419 Jul 23 11:39	22° Ξ 11'43		conjunction		8425 Sep 22 16:13	7° $\underline{\Omega}$ 08'48 0°37'11
retrograde	8419 Nov 05 09:05	29° Ξ 49'18		minimum elong		8425 Sep 22 16:12	7° $\underline{\Omega}$ 08'48 0°37'12
opposition	8420 Jan 14 09:13	26° Ξ 24'44	-1°57'48	max. Earth dist.		8425 Sep 22 16:17	7° $\underline{\Omega}$ 08'49 10.31589 AU
min. Earth dist.	8420 Jan 14 04:32	26° Ξ 25'38	8.63047 AU	morning rise		8425 Oct 10 14:36	9° $\underline{\Omega}$ 23'28
direct	8420 Mar 22 13:59	23° Ξ 03'57		retrograde		8426 Jan 23 11:05	17° $\underline{\Omega}$ 19'48
	8420 Jun 27 08:12	0° Ω		opposition		8426 Apr 01 10:31	13° $\underline{\Omega}$ 52'28 1°02'20
evening set	8420 Jun 30 21:34	0° Ω 25'33		min. Earth dist.		8426 Apr 01 10:38	13° $\underline{\Omega}$ 52'27 8.29786 AU
conjunction	8420 Jul 18 01:59	2° Ω 31'28	-1°27'15	direct		8426 Jun 07 19:41	10° $\underline{\Omega}$ 26'18
minimum elong	8420 Jul 18 02:01	2° Ω 31'29	1°27'25	evening set		8426 Sep 18 22:18	18° $\underline{\Omega}$ 16'33
max. Earth dist.	8420 Jul 18 08:03	2° Ω 33'20	10.59915 AU	conjunction		8426 Oct 06 19:59	20° $\underline{\Omega}$ 31'26 1°02'28
morning rise	8420 Aug 04 10:09	4° Ω 38'33		minimum elong		8426 Oct 06 19:56	20° $\underline{\Omega}$ 31'26 1°02'31
retrograde	8420 Nov 17 14:45	12° Ω 20'14		max. Earth dist.		8426 Oct 06 19:07	20° $\underline{\Omega}$ 31'10 10.28244 AU
opposition	8421 Jan 26 07:46	8° Ω 54'49	-1°35'37	morning rise		8426 Oct 24 18:29	22° $\underline{\Omega}$ 46'39
min. Earth dist.	8421 Jan 26 02:54	8° Ω 55'46	8.56836 AU			8427 Jan 08 16:32	0° \mathbb{M}
direct	8421 Apr 04 05:30	5° Ω 33'15		retrograde		8427 Feb 06 06:55	0° \mathbb{M} .43'42
evening set	8421 Jul 13 18:24	12° Ω 58'43				8427 Mar 07 00:35	30° κ $\underline{\Omega}$
	8421 Jul 30 05:48	15° Ω		opposition		8427 Apr 14 22:10	27° $\underline{\Omega}$ 16'35 1°31'55
conjunction	8421 Jul 31 02:41	15° Ω 06'27	-1°07'06	min. Earth dist.		8427 Apr 14 22:58	27° $\underline{\Omega}$ 16'26 8.27121 AU
minimum elong	8421 Jul 31 02:44	15° Ω 06'28	1°07'14	direct		8427 Jun 21 08:52	23° $\underline{\Omega}$ 49'43
max. Earth dist.	8421 Jul 31 08:36	15° Ω 08'17	10.53636 AU	evening set		8427 Sep 18 20:27	0° \mathbb{M}
morning rise	8421 Aug 17 14:40	17° Ω 15'21				8427 Oct 03 04:38	1° \mathbb{M} .44'16
retrograde	8421 Nov 30 23:04	25° Ω 00'56		conjunction		8427 Oct 21 02:30	3° \mathbb{M} .59'33 1°24'29
opposition	8422 Feb 08 08:22	21° Ω 34'48	-1°08'29	minimum elong		8427 Oct 21 02:27	3° \mathbb{M} .59'33 1°24'35
min. Earth dist.	8422 Feb 08 03:52	21° Ω 35'41	8.50498 AU	max. Earth dist.		8427 Oct 21 00:13	3° \mathbb{M} .58'50 10.26238 AU
direct	8422 Apr 17 00:28	18° Ω 12'20		morning rise		8427 Nov 08 00:14	6° \mathbb{M} .14'54
evening set	8422 Jul 26 21:23	25° Ω 42'17		retrograde		8428 Feb 20 03:30	14° \mathbb{M} .11'33
conjunction	8422 Aug 13 09:25	27° Ω 51'51	-0°43'24	opposition		8428 Apr 27 11:15	10° \mathbb{M} .44'54 1°56'35
minimum elong	8422 Aug 13 09:27	27° Ω 51'52	0°43'30	min. Earth dist.		8428 Apr 27 13:14	10° \mathbb{M} .44'30 8.25878 AU
max. Earth dist.	8422 Aug 13 13:53	27° Ω 53'15	10.47370 AU	direct		8428 Jul 04 01:04	7° \mathbb{M} .17'30
				evening set		8428 Oct 14 11:20	15° \mathbb{M}
						8428 Oct 16 13:03	15° \mathbb{M} .15'23

conjunction	8428 Nov 03 10:16	17° \mathbb{M} 30'40	1°41'56	max. Earth dist.	8435 Jan 24 15:09	7° \approx 05'31	10.49398 AU
minimum elong	8428 Nov 03 10:14	17° \mathbb{M} 30'39	1°42'03	morning rise	8435 Feb 11 02:39	9° \approx 15'18	
max. Earth dist.	8428 Nov 03 06:19	17° \mathbb{M} 29'24	10.25706 AU		8435 Apr 07 19:58	15° \approx	
morning rise	8428 Nov 21 06:32	19° \mathbb{M} 45'42		retrograde	8435 May 22 22:50	16° \approx 45'12	
retrograde	8429 Mar 04 21:31	27° \mathbb{M} 40'50			8435 Jul 08 08:56	15° \mathbb{R} \approx	
opposition	8429 May 11 01:12	24° \mathbb{M} 14'53	2°14'52	opposition	8435 Jul 29 18:00	13° \approx 24'15	1°26'43
min. Earth dist.	8429 May 11 04:34	24° \mathbb{M} 14'12	8.26129 AU	min. Earth dist.	8435 Jul 29 23:06	13° \approx 23'16	8.52481 AU
direct	8429 Jul 17 21:41	20° \mathbb{M} 47'08		direct	8435 Oct 07 12:40	9° \approx 58'36	
evening set	8429 Oct 30 21:54	28° \mathbb{M} 47'08			8435 Dec 28 07:12	15° \approx	
	8429 Nov 09 14:15	0° \mathbb{Z}		evening set	8436 Jan 20 16:17	17° \approx 42'27	
conjunction	8429 Nov 17 17:45	1° \mathbb{Z} 01'58	1°53'45	conjunction	8436 Feb 06 23:10	19° \approx 50'05	0°58'52
minimum elong	8429 Nov 17 17:44	1° \mathbb{Z} 01'58	1°53'54	minimum elong	8436 Feb 06 23:12	19° \approx 50'05	0°59'00
max. Earth dist.	8429 Nov 17 12:12	1° \mathbb{Z} 00'12	10.26682 AU	max. Earth dist.	8436 Feb 06 16:50	19° \approx 48'07	10.55445 AU
morning rise	8429 Dec 05 11:58	3° \mathbb{Z} 16'20		morning rise	8436 Feb 24 02:39	21° \approx 56'40	
retrograde	8430 Mar 18 13:09	11° \mathbb{Z} 08'50		retrograde	8436 Jun 03 16:56	29° \approx 22'25	
opposition	8430 May 24 15:15	7° \mathbb{Z} 43'43	2°25'40	opposition	8436 Aug 10 21:12	26° \approx 02'04	0°58'17
min. Earth dist.	8430 May 24 19:43	7° \mathbb{Z} 42'49	8.27867 AU	min. Earth dist.	8436 Aug 11 01:55	26° \approx 01'09	8.58384 AU
direct	8430 Jul 31 19:17	4° \mathbb{Z} 15'52		direct	8436 Oct 19 22:29	22° \approx 37'14	
evening set	8430 Nov 14 05:02	12° \mathbb{Z} 16'27			8437 Jan 30 09:17	0° \mathbb{H}	
				evening set	8437 Feb 01 14:55	0° \mathbb{H} 16'07	
conjunction	8430 Dec 01 23:08	14° \mathbb{Z} 30'32	1°59'17	conjunction	8437 Feb 18 19:25	2° \mathbb{H} 22'21	0°34'46
minimum elong	8430 Dec 01 23:08	14° \mathbb{Z} 30'32	1°59'28	minimum elong	8437 Feb 18 19:27	2° \mathbb{H} 22'21	0°34'52
max. Earth dist.	8430 Dec 01 16:40	14° \mathbb{Z} 28'29	10.29120 AU	max. Earth dist.	8437 Feb 18 13:52	2° \mathbb{H} 20'38	10.61204 AU
morning rise	8430 Dec 19 14:55	16° \mathbb{Z} 43'54		morning rise	8437 Mar 07 20:47	4° \mathbb{H} 27'38	
retrograde	8431 Apr 01 02:58	24° \mathbb{Z} 32'51		retrograde	8437 Jun 16 10:11	11° \mathbb{H} 50'04	
opposition	8431 Jun 07 04:50	21° \mathbb{Z} 08'37	2°28'27	opposition	8437 Aug 23 22:16	8° \mathbb{H} 30'08	0°27'28
min. Earth dist.	8431 Jun 07 09:27	21° \mathbb{Z} 07'41	8.30994 AU	min. Earth dist.	8437 Aug 24 01:38	8° \mathbb{H} 29'29	8.63909 AU
direct	8431 Aug 14 16:47	17° \mathbb{Z} 40'53		direct	8437 Nov 02 03:58	5° \mathbb{H} 06'12	
evening set	8431 Nov 28 08:39	25° \mathbb{Z} 40'26		evening set	8438 Feb 14 08:01	12° \mathbb{H} 40'07	
conjunction	8431 Dec 16 00:49	27° \mathbb{Z} 53'31	1°58'21	conjunction	8438 Mar 03 10:11	14° \mathbb{H} 45'02	0°09'19
minimum elong	8431 Dec 16 00:50	27° \mathbb{Z} 53'31	1°58'32	minimum elong	8438 Mar 03 10:11	14° \mathbb{H} 45'02	0°09'22
max. Earth dist.	8431 Dec 15 18:29	27° \mathbb{Z} 51'31	10.32881 AU	behind sun begin	8438 Mar 03 04:15	14° \mathbb{H} 43'14	
	8432 Jan 01 19:36	0° \mathbb{Z}		behind sun end	8438 Mar 03 16:08	14° \mathbb{H} 46'51	
morning rise	8432 Jan 02 14:00	0° \mathbb{Z} 05'42		max. Earth dist.	8438 Mar 03 06:34	14° \mathbb{H} 43'57	10.66488 AU
retrograde	8432 Apr 13 13:54	7° \mathbb{Z} 50'16		morning rise	8438 Mar 20 09:26	16° \mathbb{H} 49'08	
opposition	8432 Jun 19 17:12	4° \mathbb{Z} 26'55	2°23'14	retrograde	8438 Jun 29 01:24	24° \mathbb{H} 09'02	
min. Earth dist.	8432 Jun 19 21:35	4° \mathbb{Z} 26'03	8.35315 AU	desc. node	8438 Jul 17 11:13	23° \mathbb{H} 51'41	
direct	8432 Aug 27 13:34	0° \mathbb{Z} 59'30		opposition	8438 Sep 05 21:12	20° \mathbb{H} 49'19	-0°04'15
evening set	8432 Dec 11 07:41	8° \mathbb{Z} 56'36		min. Earth dist.	8438 Sep 05 23:09	20° \mathbb{H} 48'57	8.68886 AU
conjunction	8432 Dec 28 21:44	11° \mathbb{Z} 08'27	1°51'07	direct	8438 Nov 15 04:20	17° \mathbb{H} 26'15	
minimum elong	8432 Dec 28 21:46	11° \mathbb{Z} 08'28	1°51'18	evening set	8439 Feb 26 20:29	24° \mathbb{H} 55'29	
max. Earth dist.	8432 Dec 28 15:50	11° \mathbb{Z} 06'36	10.37727 AU	conjunction	8439 Mar 15 20:19	26° \mathbb{H} 59'11	-0°16'25
morning rise	8433 Jan 15 08:14	13° \mathbb{Z} 19'17		minimum elong	8439 Mar 15 20:18	26° \mathbb{H} 59'11	0°16'24
retrograde	8433 Apr 26 20:20	20° \mathbb{Z} 58'58		max. Earth dist.	8439 Mar 15 18:18	26° \mathbb{H} 58'35	10.71123 AU
opposition	8433 Jul 03 03:42	17° \mathbb{Z} 36'30	2°10'31	morning rise	8439 Apr 01 17:42	29° \mathbb{H} 02'13	
min. Earth dist.	8433 Jul 03 08:00	17° \mathbb{Z} 35'39	8.40567 AU		8439 Apr 09 21:35	0° \mathbb{Y}	
direct	8433 Sep 10 08:46	14° \mathbb{Z} 09'32		retrograde	8439 Jul 11 13:50	6° \mathbb{Y} 20'24	
evening set	8433 Dec 25 00:57	22° \mathbb{Z} 02'57		opposition	8439 Sep 18 18:02	3° \mathbb{Y} 00'44	-0°35'25
conjunction	8434 Jan 11 12:42	24° \mathbb{Z} 13'26	1°38'10	min. Earth dist.	8439 Sep 18 19:16	3° \mathbb{Y} 00'30	8.73143 AU
minimum elong	8434 Jan 11 12:44	24° \mathbb{Z} 13'27	1°38'21		8439 Nov 07 02:51	30° \mathbb{R} \mathbb{H}	
max. Earth dist.	8434 Jan 11 07:09	24° \mathbb{Z} 11'42	10.43358 AU	direct	8439 Nov 28 01:25	29° \mathbb{H} 38'26	
morning rise	8434 Jan 28 20:37	26° \mathbb{Z} 22'49			8439 Dec 18 20:52	0° \mathbb{Y}	
	8434 Mar 01 12:01	0° \approx		evening set	8440 Mar 10 04:58	7° \mathbb{Y} 03'29	
retrograde	8434 May 09 23:44	3° \approx 57'29		conjunction	8440 Mar 27 02:29	9° \mathbb{Y} 06'05	-0°41'06
opposition	8434 Jul 16 12:08	0° \approx 35'50	1°51'16	minimum elong	8440 Mar 27 02:27	9° \mathbb{Y} 06'05	0°41'08
min. Earth dist.	8434 Jul 16 16:48	0° \approx 34'55	8.46421 AU	max. Earth dist.	8440 Mar 27 01:16	9° \mathbb{Y} 05'43	10.74937 AU
	8434 Jul 24 03:34	30° \mathbb{R} \mathbb{Z}		morning rise	8440 Apr 12 22:22	11° \mathbb{Y} 08'13	
direct	8434 Sep 24 00:25	27° \mathbb{Z} 09'28		retrograde	8440 Jul 23 01:15	18° \mathbb{Y} 25'34	
	8434 Nov 22 15:06	0° \approx		opposition	8440 Sep 30 13:18	15° \mathbb{Y} 05'46	-1°04'44
evening set	8435 Jan 07 11:42	4° \approx 58'17		min. Earth dist.	8440 Sep 30 13:44	15° \mathbb{Y} 05'41	8.76512 AU
conjunction	8435 Jan 24 21:02	7° \approx 07'21	1°20'24	direct	8440 Dec 09 19:45	11° \mathbb{Y} 44'08	
minimum elong	8435 Jan 24 21:05	7° \approx 07'21	1°20'34	evening set	8441 Mar 22 10:02	19° \mathbb{Y} 05'34	

conjunction	8441 Apr 08 05:31	21° Υ 07'15	-1°03'50		8447 May 24 21:00	0° Θ
minimum elong	8441 Apr 08 05:29	21° Υ 07'15	1°03'54	evening set	8447 Jun 02 00:59	0° Θ 57'44
max. Earth dist.	8441 Apr 08 05:24	21° Υ 07'13	10.77782 AU			
morning rise	8441 Apr 25 00:13	23° Υ 08'41		conjunction	8447 Jun 18 21:38	3° Θ 00'14 -1°57'03
	8441 Jul 12 17:47	0° \mathcal{B}		minimum elong	8447 Jun 18 21:39	3° Θ 00'14 1°57'14
retrograde	8441 Aug 04 11:00	0° \mathcal{B} 26'07		max. Earth dist.	8447 Jun 19 05:17	3° Θ 02'34 10.71302 AU
	8441 Aug 27 12:11	30° $\mathcal{R}\Upsilon$		morning rise	8447 Jul 05 21:14	5° Θ 03'39
opposition	8441 Oct 13 07:10	27° Υ 06'00	-1°31'01	retrograde	8447 Oct 18 06:38	12° Θ 36'21
min. Earth dist.	8441 Oct 13 06:07	27° Υ 06'12	8.78862 AU	opposition	8447 Dec 27 13:00	9° Θ 12'34 -2°19'19
direct	8441 Dec 22 11:24	23° Υ 44'57		min. Earth dist.	8447 Dec 27 06:09	9° Θ 13'53 8.69216 AU
	8442 Mar 25 11:31	0° \mathcal{B}		direct	8448 Mar 05 03:40	5° Θ 52'19
evening set	8442 Apr 03 12:45	1° \mathcal{B} 03'29		evening set	8448 Jun 13 10:10	13° Θ 10'29
conjunction	8442 Apr 20 06:46	3° \mathcal{B} 04'29	-1°23'40	conjunction	8448 Jun 30 09:37	15° Θ 14'17 -1°48'15
minimum elong	8442 Apr 20 06:44	3° \mathcal{B} 04'29	1°23'45	minimum elong	8448 Jun 30 09:39	15° Θ 14'18 1°48'26
max. Earth dist.	8442 Apr 20 08:49	3° \mathcal{B} 05'07	10.79551 AU	max. Earth dist.	8448 Jun 30 17:43	15° Θ 16'46 10.66698 AU
morning rise	8442 May 07 00:36	5° \mathcal{B} 05'28		morning rise	8448 Jul 17 12:27	17° Θ 19'07
retrograde	8442 Aug 16 21:56	12° \mathcal{B} 23'50		retrograde	8448 Oct 30 08:05	24° Θ 55'45
opposition	8442 Oct 25 23:51	9° \mathcal{B} 03'15	-1°53'14	opposition	8449 Jan 08 09:21	21° Θ 31'17 -2°05'23
min. Earth dist.	8442 Oct 25 20:49	9° \mathcal{B} 03'50	8.80098 AU	min. Earth dist.	8449 Jan 08 02:26	21° Θ 32'37 8.64255 AU
direct	8443 Jan 04 01:02	5° \mathcal{B} 42'42		direct	8449 Mar 17 16:08	18° Θ 10'39
evening set	8443 Apr 15 14:00	12° \mathcal{B} 59'05		evening set	8449 Jun 25 23:45	25° Θ 31'30
conjunction	8443 May 02 07:08	14° \mathcal{B} 59'44	-1°39'49	conjunction	8449 Jul 13 02:32	27° Θ 36'50 -1°34'22
minimum elong	8443 May 02 07:06	14° \mathcal{B} 59'43	1°39'57	minimum elong	8449 Jul 13 02:34	27° Θ 36'51 1°34'31
max. Earth dist.	8443 May 02 11:12	15° \mathcal{B} 00'58	10.80170 AU	max. Earth dist.	8449 Jul 13 09:52	27° Θ 39'06 10.61499 AU
	8443 May 02 08:01	15° \mathcal{B}		morning rise	8449 Jul 30 09:09	29° Θ 43'20
morning rise	8443 May 19 00:37	17° \mathcal{B} 00'32			8449 Aug 01 16:49	0° \mathcal{O}
retrograde	8443 Aug 29 11:28	24° \mathcal{B} 20'37		retrograde	8449 Nov 12 13:05	7° \mathcal{O} 23'53
opposition	8443 Nov 07 16:05	20° \mathcal{B} 59'30	-2°10'32	opposition	8450 Jan 21 07:36	3° \mathcal{O} 58'47 -1°45'25
min. Earth dist.	8443 Nov 07 11:45	21° \mathcal{B} 00'19	8.80158 AU	min. Earth dist.	8450 Jan 21 01:33	3° \mathcal{O} 59'57 8.58811 AU
direct	8444 Jan 16 11:06	17° \mathcal{B} 39'19		direct	8450 Mar 30 06:13	0° \mathcal{O} 37'36
evening set	8444 Apr 26 14:56	24° \mathcal{B} 54'24		evening set	8450 Jul 08 18:42	8° \mathcal{O} 01'52
conjunction	8444 May 13 07:39	26° \mathcal{B} 54'58	-1°51'40	conjunction	8450 Jul 26 01:12	10° \mathcal{O} 08'55 -1°15'52
minimum elong	8444 May 13 07:37	26° \mathcal{B} 54'58	1°51'49	minimum elong	8450 Jul 26 01:14	10° \mathcal{O} 08'55 1°16'00
max. Earth dist.	8444 May 13 12:39	26° \mathcal{B} 56'29	10.79609 AU	max. Earth dist.	8450 Jul 26 07:46	10° \mathcal{O} 10'56 10.55945 AU
morning rise	8444 May 30 01:33	28° \mathcal{B} 55'56		morning rise	8450 Aug 12 11:44	12° \mathcal{O} 17'08
	8444 Jun 08 04:52	0° \mathcal{I}			8450 Sep 05 00:09	15° \mathcal{O}
retrograde	8444 Sep 09 23:58	6° \mathcal{I} 18'25		retrograde	8450 Nov 25 18:56	20° \mathcal{O} 01'27
opposition	8444 Nov 19 08:22	2° \mathcal{I} 56'43	-2°22'12	opposition	8451 Feb 03 07:45	16° \mathcal{O} 35'49 -1°20'09
min. Earth dist.	8444 Nov 19 03:33	2° \mathcal{I} 57'37	8.79034 AU	min. Earth dist.	8451 Feb 03 02:36	16° \mathcal{O} 36'49 8.53143 AU
	8445 Jan 06 06:49	30° $\mathcal{R}\mathcal{B}$			8451 Feb 24 13:43	15° $\mathcal{R}\mathcal{O}$
direct	8445 Jan 27 20:14	29° \mathcal{B} 36'44		direct	8451 Apr 12 01:18	13° \mathcal{O} 13'58
	8445 Feb 18 05:54	0° \mathcal{I}			8451 May 27 07:28	15° \mathcal{O}
evening set	8445 May 08 16:26	6° \mathcal{I} 51'23		evening set	8451 Jul 21 19:25	20° \mathcal{O} 42'16
conjunction	8445 May 25 09:31	8° \mathcal{I} 52'14	-1°58'41	conjunction	8451 Aug 08 05:50	22° \mathcal{O} 51'05 -0°53'29
minimum elong	8445 May 25 09:30	8° \mathcal{I} 52'14	1°58'52	minimum elong	8451 Aug 08 05:51	22° \mathcal{O} 51'06 0°53'35
max. Earth dist.	8445 May 25 14:48	8° \mathcal{I} 53'50	10.77896 AU	max. Earth dist.	8451 Aug 08 12:02	22° \mathcal{O} 53'00 10.50297 AU
morning rise	8445 Jun 11 04:41	10° \mathcal{I} 53'41		morning rise	8451 Aug 25 20:02	25° \mathcal{O} 01'02
retrograde	8445 Sep 22 15:03	18° \mathcal{I} 19'10			8451 Oct 11 00:09	0° \mathcal{O}
opposition	8445 Dec 02 01:01	14° \mathcal{I} 56'48	-2°27'45	retrograde	8451 Dec 09 05:11	2° \mathcal{O} 48'51
min. Earth dist.	8445 Dec 01 19:52	14° \mathcal{I} 57'47	8.76776 AU		8452 Feb 08 12:13	30° $\mathcal{R}\mathcal{O}$
direct	8446 Feb 09 06:41	11° \mathcal{I} 36'53		opposition	8452 Feb 16 10:14	29° \mathcal{O} 22'44 -0°50'35
evening set	8446 May 20 19:23	18° \mathcal{I} 51'53		min. Earth dist.	8452 Feb 16 05:33	29° \mathcal{O} 23'40 8.47523 AU
				direct	8452 Apr 23 23:38	26° \mathcal{O} 00'09
conjunction	8446 Jun 06 13:50	20° \mathcal{I} 53'24	-2°00'32		8452 Jul 02 22:37	0° \mathcal{O}
minimum elong	8446 Jun 06 13:50	20° \mathcal{I} 53'24	2°00'44	evening set	8452 Aug 03 02:14	3° \mathcal{O} 32'54
max. Earth dist.	8446 Jun 06 20:15	20° \mathcal{I} 55'21	10.75093 AU			
morning rise	8446 Jun 23 10:57	22° \mathcal{I} 55'41		conjunction	8452 Aug 20 16:20	5° \mathcal{O} 43'26 -0°28'11
	8446 Sep 13 03:46	0° Θ		minimum elong	8452 Aug 20 16:21	5° \mathcal{O} 43'26 0°28'16
retrograde	8446 Oct 05 09:48	0° Θ 24'37		max. Earth dist.	8452 Aug 20 22:12	5° \mathcal{O} 45'15 10.44816 AU
	8446 Oct 27 20:09	30° $\mathcal{R}\mathcal{I}$		morning rise	8452 Sep 07 09:46	7° \mathcal{O} 55'00
opposition	8446 Dec 14 18:26	27° \mathcal{I} 01'33	-2°26'49	retrograde	8452 Dec 21 19:28	15° \mathcal{O} 45'51
min. Earth dist.	8446 Dec 14 12:24	27° \mathcal{I} 02'42	8.73457 AU	opposition	8453 Feb 28 14:55	12° \mathcal{O} 19'22 -0°18'06
direct	8447 Feb 21 16:29	23° \mathcal{I} 41'32		min. Earth dist.	8453 Feb 28 10:44	12° \mathcal{O} 20'12 8.42206 AU

direct	8453 May 07 00:10	8° \mathring{M} 55'57			8459 Jun 20 11:27	30° \mathring{R} \mathring{M}	
evening set	8453 Aug 16 15:31	16° \mathring{M} 33'28		direct	8459 Jul 26 08:59	28° \mathring{M} 53'36	
					8459 Aug 31 00:36	0° \mathring{J}	
conjunction	8453 Sep 03 08:44	18° \mathring{M} 45'32	-0°01'12	evening set	8459 Nov 08 14:10	6° \mathring{J} 53'10	
minimum elong	8453 Sep 03 08:44	18° \mathring{M} 45'31	0°01'15				
behind sun begin	8453 Sep 03 01:28	18° \mathring{M} 43'17		conjunction	8459 Nov 26 09:08	9° \mathring{J} 07'26	1°57'44
behind sun end	8453 Sep 03 15:59	18° \mathring{M} 47'46		minimum elong	8459 Nov 26 09:07	9° \mathring{J} 07'26	1°57'54
max. Earth dist.	8453 Sep 03 12:56	18° \mathring{M} 46'48	10.39739 AU	max. Earth dist.	8459 Nov 26 03:20	9° \mathring{J} 05'36	10.29024 AU
asc. node	8453 Sep 19 13:12	20° \mathring{M} 46'23		morning rise	8459 Dec 14 01:45	11° \mathring{J} 21'02	
morning rise	8453 Sep 21 04:43	20° \mathring{M} 58'30		retrograde	8460 Mar 25 19:46	19° \mathring{J} 10'51	
retrograde	8454 Jan 04 11:50	28° \mathring{M} 51'42		opposition	8460 May 31 20:54	15° \mathring{J} 46'14	2°28'14
opposition	8454 Mar 13 21:36	25° \mathring{M} 25'00	0°15'44	min. Earth dist.	8460 Jun 01 01:40	15° \mathring{J} 45'16	8.30424 AU
min. Earth dist.	8454 Mar 13 18:56	25° \mathring{M} 25'32	8.37408 AU	direct	8460 Aug 08 05:08	12° \mathring{J} 18'25	
direct	8454 May 20 04:40	22° \mathring{M} 00'40		evening set	8460 Nov 21 18:48	20° \mathring{J} 17'44	
evening set	8454 Aug 30 10:41	29° \mathring{M} 43'08					
	8454 Sep 01 17:24	0° \mathring{L}		conjunction	8460 Dec 09 11:50	22° \mathring{J} 31'07	1°59'32
				minimum elong	8460 Dec 09 11:51	22° \mathring{J} 31'07	1°59'44
conjunction	8454 Sep 17 06:12	1° \mathring{L} 56'29	0°26'10	max. Earth dist.	8460 Dec 09 04:57	22° \mathring{J} 28'56	10.31849 AU
minimum elong	8454 Sep 17 06:11	1° \mathring{L} 56'28	0°26'10	morning rise	8460 Dec 27 01:59	24° \mathring{J} 43'40	
max. Earth dist.	8454 Sep 17 07:46	1° \mathring{L} 56'58	10.35255 AU		8461 Feb 13 11:34	0° \mathring{Z}	
morning rise	8454 Oct 05 03:55	4° \mathring{L} 10'31		retrograde	8461 Apr 08 06:58	2° \mathring{Z} 29'27	
retrograde	8455 Jan 18 04:54	12° \mathring{L} 05'27			8461 Jun 02 21:47	30° \mathring{R} \mathring{J}	
opposition	8455 Mar 27 06:27	8° \mathring{L} 38'43	0°49'05	opposition	8461 Jun 14 09:09	29° \mathring{J} 05'35	2°26'24
min. Earth dist.	8455 Mar 27 05:54	8° \mathring{L} 38'49	8.33301 AU	min. Earth dist.	8461 Jun 14 14:55	29° \mathring{J} 04'26	8.33854 AU
direct	8455 Jun 02 13:43	5° \mathring{L} 13'29		direct	8461 Aug 22 01:54	25° \mathring{J} 37'48	
evening set	8455 Sep 13 10:51	13° \mathring{L} 00'52			8461 Nov 04 17:30	0° \mathring{Z}	
				evening set	8461 Dec 05 19:10	3° \mathring{Z} 35'25	
conjunction	8455 Oct 01 07:49	15° \mathring{L} 15'10	0°52'19				
minimum elong	8455 Oct 01 07:47	15° \mathring{L} 15'09	0°52'21	conjunction	8461 Dec 23 10:00	5° \mathring{Z} 47'40	1°54'56
max. Earth dist.	8455 Oct 01 06:35	15° \mathring{L} 14'47	10.31548 AU	minimum elong	8461 Dec 23 10:01	5° \mathring{Z} 47'41	1°55'08
morning rise	8455 Oct 19 06:18	17° \mathring{L} 29'56		max. Earth dist.	8461 Dec 23 02:15	5° \mathring{Z} 45'14	10.35846 AU
retrograde	8456 Jan 31 23:23	25° \mathring{L} 25'55		morning rise	8462 Jan 09 21:38	7° \mathring{Z} 58'59	
opposition	8456 Apr 08 17:10	21° \mathring{L} 59'19	1°20'06	retrograde	8462 Apr 21 13:04	15° \mathring{Z} 40'11	
min. Earth dist.	8456 Apr 08 18:36	21° \mathring{L} 59'01	8.30109 AU	opposition	8462 Jun 27 19:47	12° \mathring{Z} 17'06	2°16'49
direct	8456 Jun 15 02:14	18° \mathring{L} 33'17		min. Earth dist.	8462 Jun 28 01:48	12° \mathring{Z} 15'55	8.38335 AU
evening set	8456 Sep 26 15:22	26° \mathring{L} 25'14		direct	8462 Sep 04 22:21	8° \mathring{Z} 49'34	
				evening set	8462 Dec 19 14:04	16° \mathring{Z} 44'09	
conjunction	8456 Oct 14 12:59	28° \mathring{L} 40'07	1°15'49				
minimum elong	8456 Oct 14 12:57	28° \mathring{L} 40'06	1°15'53	conjunction	8463 Jan 06 02:41	18° \mathring{Z} 55'09	1°44'22
max. Earth dist.	8456 Oct 14 09:45	28° \mathring{L} 39'05	10.28885 AU	minimum elong	8463 Jan 06 02:43	18° \mathring{Z} 55'10	1°44'34
	8456 Oct 25 02:13	0° \mathring{M}		max. Earth dist.	8463 Jan 05 18:58	18° \mathring{Z} 52'44	10.40790 AU
morning rise	8456 Nov 01 11:12	0° \mathring{M} 55'12		morning rise	8463 Jan 23 11:52	21° \mathring{Z} 05'06	
retrograde	8457 Feb 13 18:01	8° \mathring{M} 51'15		retrograde	8463 May 04 16:52	28° \mathring{Z} 41'30	
opposition	8457 Apr 22 05:12	5° \mathring{M} 24'57	1°46'57	opposition	8463 Jul 11 04:17	25° \mathring{Z} 19'09	2°00'16
min. Earth dist.	8457 Apr 22 07:50	5° \mathring{M} 24'25	8.28103 AU	min. Earth dist.	8463 Jul 11 09:46	25° \mathring{Z} 18'04	8.43621 AU
direct	8457 Jun 28 18:23	1° \mathring{M} 58'13		direct	8463 Sep 18 14:58	21° \mathring{Z} 52'04	
evening set	8457 Oct 10 22:41	9° \mathring{M} 53'58		evening set	8464 Jan 02 02:50	29° \mathring{Z} 42'35	
					8464 Jan 04 11:45	0° \mathring{A}	
conjunction	8457 Oct 28 20:08	12° \mathring{M} 09'02	1°35'16				
minimum elong	8457 Oct 28 20:05	12° \mathring{M} 09'01	1°35'23	conjunction	8464 Jan 19 13:17	1° \mathring{A} 52'15	1°28'35
max. Earth dist.	8457 Oct 28 15:44	12° \mathring{M} 07'38	10.27508 AU	minimum elong	8464 Jan 19 13:19	1° \mathring{A} 52'15	1°28'45
morning rise	8457 Nov 15 17:06	14° \mathring{M} 24'00		max. Earth dist.	8464 Jan 19 06:32	1° \mathring{A} 50'08	10.46406 AU
	8457 Nov 20 13:59	15° \mathring{M}		morning rise	8464 Feb 05 20:03	4° \mathring{A} 00'48	
retrograde	8458 Feb 27 11:44	22° \mathring{M} 19'03		retrograde	8464 May 16 17:07	11° \mathring{A} 32'26	
opposition	8458 May 05 18:18	18° \mathring{M} 53'11	2°08'00	opposition	8464 Jul 23 10:30	8° \mathring{A} 10'45	1°37'52
min. Earth dist.	8458 May 05 21:34	18° \mathring{M} 52'31	8.27459 AU	min. Earth dist.	8464 Jul 23 14:56	8° \mathring{A} 09'53	8.49421 AU
direct	8458 Jul 12 13:30	15° \mathring{M} 25'55		direct	8464 Oct 01 04:10	4° \mathring{A} 44'21	
evening set	8458 Oct 25 06:51	23° \mathring{M} 24'17		evening set	8465 Jan 14 09:28	12° \mathring{A} 30'07	
conjunction	8458 Nov 12 03:21	25° \mathring{M} 39'07	1°49'30	conjunction	8465 Jan 31 17:36	14° \mathring{A} 38'22	1°08'34
minimum elong	8458 Nov 12 03:19	25° \mathring{M} 39'06	1°49'39	minimum elong	8465 Jan 31 17:39	14° \mathring{A} 38'22	1°08'42
max. Earth dist.	8458 Nov 11 22:14	25° \mathring{M} 37'30	10.27547 AU	max. Earth dist.	8465 Jan 31 12:21	14° \mathring{A} 36'44	10.52390 AU
morning rise	8458 Nov 29 22:19	27° \mathring{M} 53'33			8465 Feb 03 15:16	15° \mathring{A}	
	8458 Dec 17 10:02	0° \mathring{J}		morning rise	8465 Feb 17 21:58	16° \mathring{A} 45'31	
retrograde	8459 Mar 13 04:39	5° \mathring{J} 46'32		retrograde	8465 May 29 13:26	24° \mathring{A} 12'45	
opposition	8459 May 19 07:49	2° \mathring{J} 21'14	2°22'02	opposition	8465 Aug 05 14:16	20° \mathring{A} 51'42	1°10'59
min. Earth dist.	8459 May 19 11:38	2° \mathring{J} 20'28	8.28246 AU	min. Earth dist.	8465 Aug 05 18:06	20° \mathring{A} 50'57	8.55449 AU

direct	8465 Oct 14 13:54	17° \approx 26'07	retrograde	8471 Aug 11 17:46	7° $\mathbf{8}$ 19'32
evening set	8466 Jan 27 09:59	25° \approx 06'48	opposition	8471 Oct 20 16:47	3° $\mathbf{8}$ 59'39 -1°43'41
			min. Earth dist.	8471 Oct 20 14:19	4° $\mathbf{8}$ 00'07 8.81676 AU
conjunction	8466 Feb 13 15:41	27° \approx 13'37 0°45'28	direct	8471 Dec 29 18:40	0° $\mathbf{8}$ 39'23
minimum elong	8466 Feb 13 15:42	27° \approx 13'37 0°45'35	evening set	8472 Apr 09 14:02	7° $\mathbf{8}$ 55'49
max. Earth dist.	8466 Feb 13 11:19	27° \approx 12'16 10.58455 AU			
morning rise	8466 Mar 02 17:50	29° \approx 19'25	conjunction	8472 Apr 26 07:15	9° $\mathbf{8}$ 56'19 -1°32'57
	8466 Mar 08 09:19	0° \mathbf{X}	minimum elong	8472 Apr 26 07:13	9° $\mathbf{8}$ 56'19 1°33'04
retrograde	8466 Jun 11 07:24	6° \mathbf{X} 42'49	max. Earth dist.	8472 Apr 26 10:13	9° $\mathbf{8}$ 57'13 10.82196 AU
opposition	8466 Aug 18 15:40	3° \mathbf{X} 22'20 0°41'04	morning rise	8472 May 13 00:48	11° $\mathbf{8}$ 56'55
min. Earth dist.	8466 Aug 18 19:02	3° \mathbf{X} 21'41 8.61425 AU		8472 Jun 09 08:49	15° $\mathbf{8}$
	8466 Oct 20 23:22	30° \mathbf{R} \approx	retrograde	8472 Aug 23 04:51	19° $\mathbf{8}$ 15'11
direct	8466 Oct 27 19:18	29° \approx 57'39	opposition	8472 Nov 01 08:48	15° $\mathbf{8}$ 54'56 -2°03'11
	8466 Nov 03 14:59	0° \mathbf{X}	min. Earth dist.	8472 Nov 01 05:21	15° $\mathbf{8}$ 55'35 8.82582 AU
evening set	8467 Feb 09 04:41	7° \mathbf{X} 33'12		8472 Nov 13 17:13	15° \mathbf{R} $\mathbf{8}$
			direct	8473 Jan 10 06:15	12° $\mathbf{8}$ 35'12
conjunction	8467 Feb 26 07:52	9° \mathbf{X} 38'38 0°20'30		8473 Mar 06 03:37	15° $\mathbf{8}$
minimum elong	8467 Feb 26 07:52	9° \mathbf{X} 38'38 0°20'34	evening set	8473 Apr 21 14:28	19° $\mathbf{8}$ 49'52
max. Earth dist.	8467 Feb 26 04:05	9° \mathbf{X} 37'29 10.64313 AU			
morning rise	8467 Mar 15 08:05	11° \mathbf{X} 43'09	conjunction	8473 May 08 07:05	21° $\mathbf{8}$ 50'09 -1°46'45
retrograde	8467 Jun 23 21:14	19° \mathbf{X} 03'28	minimum elong	8473 May 08 07:03	21° $\mathbf{8}$ 50'08 1°46'53
opposition	8467 Aug 31 14:39	15° \mathbf{X} 43'25 0°09'39	max. Earth dist.	8473 May 08 11:37	21° $\mathbf{8}$ 51'31 10.82439 AU
min. Earth dist.	8467 Aug 31 17:17	15° \mathbf{X} 42'55 8.67063 AU	morning rise	8473 May 25 00:41	23° $\mathbf{8}$ 50'43
direct	8467 Nov 09 21:06	12° \mathbf{X} 19'43		8473 Jul 28 13:50	0° \mathbf{II}
desc. node	8467 Dec 24 11:38	13° \mathbf{X} 56'18	retrograde	8473 Sep 04 16:27	1° \mathbf{II} 11'03
evening set	8468 Feb 21 18:23	19° \mathbf{X} 50'23		8473 Oct 13 16:42	30° \mathbf{R} $\mathbf{8}$
			opposition	8473 Nov 14 00:32	27° $\mathbf{8}$ 50'17 -2°17'24
conjunction	8468 Mar 09 19:06	21° \mathbf{X} 54'28 -0°05'14	min. Earth dist.	8473 Nov 13 19:44	27° $\mathbf{8}$ 51'11 8.82208 AU
minimum elong	8468 Mar 09 19:06	21° \mathbf{X} 54'28 0°05'13	direct	8474 Jan 22 16:29	24° $\mathbf{8}$ 30'53
behind sun begin	8468 Mar 09 12:15	21° \mathbf{X} 52'24		8474 Apr 18 11:55	0° \mathbf{II}
behind sun end	8468 Mar 10 01:57	21° \mathbf{X} 56'32	evening set	8474 May 03 15:10	1° \mathbf{II} 44'39
max. Earth dist.	8468 Mar 09 16:19	21° \mathbf{X} 53'39 10.69683 AU			
morning rise	8468 Mar 26 17:27	23° \mathbf{X} 57'50	conjunction	8474 May 20 07:58	3° \mathbf{II} 45'02 -1°55'57
	8468 May 27 16:07	0° \mathbf{Y}	minimum elong	8474 May 20 07:57	3° \mathbf{II} 45'02 1°56'08
retrograde	8468 Jul 05 08:41	1° \mathbf{Y} 15'58	max. Earth dist.	8474 May 20 14:00	3° \mathbf{II} 46'52 10.81379 AU
	8468 Aug 14 03:19	30° \mathbf{R} \mathbf{X}	morning rise	8474 Jun 06 02:15	5° \mathbf{II} 45'54
opposition	8468 Sep 12 11:24	27° \mathbf{X} 56'11 -0°21'49	retrograde	8474 Sep 17 07:20	13° \mathbf{II} 08'55
min. Earth dist.	8468 Sep 12 12:24	27° \mathbf{X} 55'59 8.72101 AU	opposition	8474 Nov 26 16:13	9° \mathbf{II} 47'31 -2°25'43
direct	8468 Nov 21 20:15	24° \mathbf{X} 33'28	min. Earth dist.	8474 Nov 26 10:34	9° \mathbf{II} 48'35 8.80498 AU
	8469 Feb 15 21:07	0° \mathbf{Y}	direct	8475 Feb 04 01:48	6° \mathbf{II} 28'15
evening set	8469 Mar 05 03:40	1° \mathbf{Y} 59'38	evening set	8475 May 15 17:01	13° \mathbf{II} 42'00
conjunction	8469 Mar 22 02:10	4° \mathbf{Y} 02'31 -0°30'21	conjunction	8475 Jun 01 10:41	15° \mathbf{II} 42'53 -2°00'10
minimum elong	8469 Mar 22 02:09	4° \mathbf{Y} 02'31 0°30'22	minimum elong	8475 Jun 01 10:41	15° \mathbf{II} 42'53 2°00'21
max. Earth dist.	8469 Mar 22 01:33	4° \mathbf{Y} 02'20 10.74327 AU	max. Earth dist.	8475 Jun 01 16:49	15° \mathbf{II} 44'44 10.78986 AU
morning rise	8469 Apr 07 22:42	6° \mathbf{Y} 04'51	morning rise	8475 Jun 18 06:32	17° \mathbf{II} 44'26
retrograde	8469 Jul 17 21:25	13° \mathbf{Y} 21'43	retrograde	8475 Sep 30 00:50	25° \mathbf{II} 10'43
opposition	8469 Sep 25 06:33	10° \mathbf{Y} 02'03 -0°52'00	opposition	8475 Dec 09 08:48	21° \mathbf{II} 48'38 -2°27'45
min. Earth dist.	8469 Sep 25 05:42	10° \mathbf{Y} 02'12 8.76323 AU	min. Earth dist.	8475 Dec 09 03:24	21° \mathbf{II} 49'39 8.77454 AU
direct	8469 Dec 04 15:16	6° \mathbf{Y} 40'17	direct	8476 Feb 16 09:45	18° \mathbf{II} 29'17
evening set	8470 Mar 17 09:20	14° \mathbf{Y} 02'27	evening set	8476 May 26 20:57	25° \mathbf{II} 43'57
conjunction	8470 Apr 03 05:46	16° \mathbf{Y} 04'20 -0°53'59	conjunction	8476 Jun 12 16:14	27° \mathbf{II} 45'41 -1°59'07
minimum elong	8470 Apr 03 05:44	16° \mathbf{Y} 04'20 0°54'02	minimum elong	8476 Jun 12 16:15	27° \mathbf{II} 45'41 1°59'19
max. Earth dist.	8470 Apr 03 07:12	16° \mathbf{Y} 04'46 10.78050 AU	max. Earth dist.	8476 Jun 12 21:49	27° \mathbf{II} 47'23 10.75334 AU
morning rise	8470 Apr 20 00:46	18° \mathbf{Y} 05'51	morning rise	8476 Jun 29 14:30	29° \mathbf{II} 48'17
retrograde	8470 Jul 30 07:59	25° \mathbf{Y} 22'20		8476 Jul 01 05:58	0° \mathbf{S}
opposition	8470 Oct 08 00:15	22° \mathbf{Y} 02'37 -1°19'39	retrograde	8476 Oct 11 19:07	7° \mathbf{S} 18'21
min. Earth dist.	8470 Oct 07 22:14	22° \mathbf{Y} 03'00 8.79558 AU	opposition	8476 Dec 21 02:38	3° \mathbf{S} 55'29 -2°23'16
direct	8470 Dec 17 05:18	18° \mathbf{Y} 41'41	min. Earth dist.	8476 Dec 20 21:40	3° \mathbf{S} 56'26 8.73231 AU
evening set	8471 Mar 29 12:33	26° \mathbf{Y} 00'36	direct	8477 Feb 27 20:07	0° \mathbf{S} 35'50
			evening set	8477 Jun 08 04:02	7° \mathbf{S} 52'17
conjunction	8471 Apr 15 07:08	28° \mathbf{Y} 01'40 -1°15'08	conjunction	8477 Jun 25 01:53	9° \mathbf{S} 55'14 -1°52'45
minimum elong	8471 Apr 15 07:06	28° \mathbf{Y} 01'39 1°15'13	minimum elong	8477 Jun 25 01:55	9° \mathbf{S} 55'14 1°52'57
max. Earth dist.	8471 Apr 15 09:31	28° \mathbf{Y} 02'23 10.80707 AU	max. Earth dist.	8477 Jun 25 07:29	9° \mathbf{S} 56'56 10.70638 AU
	8471 May 01 16:27	0° \mathbf{S}	morning rise	8477 Jul 12 03:12	11° \mathbf{S} 59'11
morning rise	8471 May 02 01:09	0° \mathbf{S} 02'35			

retrograde	8477 Oct 24 17:42	19° $\mathring{\text{C}}$ 33'17		behind sun end	8483 Sep 11 08:58	26° $\mathring{\text{M}}$ 08'25	
opposition	8478 Jan 02 21:47	16° $\mathring{\text{C}}$ 09'33 -2°12'18		max. Earth dist.	8483 Sep 11 06:59	26° $\mathring{\text{M}}$ 07'48	10.35723 AU
min. Earth dist.	8478 Jan 02 16:55	16° $\mathring{\text{C}}$ 10'29 8.68084 AU		morning rise	8483 Sep 29 02:19	28° $\mathring{\text{M}}$ 20'59	
direct	8478 Mar 12 08:41	12° $\mathring{\text{C}}$ 49'25			8483 Oct 12 19:55	0° $\mathring{\text{A}}$	
evening set	8478 Jun 20 15:08	20° $\mathring{\text{C}}$ 08'23		retrograde	8484 Jan 12 04:36	6° $\mathring{\text{A}}$ 15'48	
				opposition	8484 Mar 20 11:51	2° $\mathring{\text{A}}$ 48'29	0°33'56
conjunction	8478 Jul 07 16:18	22° $\mathring{\text{C}}$ 12'50 -1°41'11		min. Earth dist.	8484 Mar 20 10:42	2° $\mathring{\text{A}}$ 48'43	8.33451 AU
minimum elong	8478 Jul 07 16:20	22° $\mathring{\text{C}}$ 12'50 1°41'22			8484 Apr 30 13:23	30° $\mathring{\text{R}}$ $\mathring{\text{M}}$	
max. Earth dist.	8478 Jul 07 22:39	22° $\mathring{\text{C}}$ 14'47 10.65154 AU		direct	8484 May 26 20:21	29° $\mathring{\text{M}}$ 23'07	
morning rise	8478 Jul 24 21:04	24° $\mathring{\text{C}}$ 18'23			8484 Jun 21 22:08	0° $\mathring{\text{A}}$	
	8478 Sep 18 16:53	0° $\mathring{\text{O}}$		evening set	8484 Sep 06 08:25	7° $\mathring{\text{A}}$ 08'46	
retrograde	8478 Nov 06 20:10	1° $\mathring{\text{O}}$ 56'35					
	8478 Dec 27 03:55	30° $\mathring{\text{R}}$ $\mathring{\text{C}}$		conjunction	8484 Sep 24 05:03	9° $\mathring{\text{A}}$ 22'54	0°40'32
opposition	8479 Jan 15 18:42	28° $\mathring{\text{C}}$ 31'59 -1°55'06		minimum elong	8484 Sep 24 05:01	9° $\mathring{\text{A}}$ 22'53	0°40'33
min. Earth dist.	8479 Jan 15 13:23	28° $\mathring{\text{C}}$ 33'01 8.62272 AU		max. Earth dist.	8484 Sep 24 05:50	9° $\mathring{\text{A}}$ 23'09	10.31433 AU
direct	8479 Mar 24 22:12	25° $\mathring{\text{C}}$ 11'12		morning rise	8484 Oct 12 03:19	11° $\mathring{\text{A}}$ 37'34	
	8479 Jun 11 03:05	0° $\mathring{\text{O}}$		retrograde	8485 Jan 25 00:08	19° $\mathring{\text{A}}$ 33'52	
evening set	8479 Jul 03 07:07	2° $\mathring{\text{O}}$ 33'24		opposition	8485 Apr 02 21:47	16° $\mathring{\text{A}}$ 06'32	1°06'17
				min. Earth dist.	8485 Apr 02 21:26	16° $\mathring{\text{A}}$ 06'37	8.29727 AU
conjunction	8479 Jul 20 11:55	4° $\mathring{\text{O}}$ 39'32 -1°24'46		direct	8485 Jun 09 06:02	12° $\mathring{\text{A}}$ 40'19	
minimum elong	8479 Jul 20 11:58	4° $\mathring{\text{O}}$ 39'33 1°24'56		evening set	8485 Sep 20 11:19	20° $\mathring{\text{A}}$ 30'46	
max. Earth dist.	8479 Jul 20 18:20	4° $\mathring{\text{O}}$ 41'31 10.59147 AU					
morning rise	8479 Aug 06 20:24	6° $\mathring{\text{O}}$ 46'50		conjunction	8485 Oct 08 08:57	22° $\mathring{\text{A}}$ 45'39	1°05'26
retrograde	8479 Nov 20 01:36	14° $\mathring{\text{O}}$ 29'06		minimum elong	8485 Oct 08 08:54	22° $\mathring{\text{A}}$ 45'38	1°05'30
opposition	8480 Jan 28 17:39	11° $\mathring{\text{O}}$ 03'41 -1°32'14		max. Earth dist.	8485 Oct 08 08:06	22° $\mathring{\text{A}}$ 45'23	10.28276 AU
min. Earth dist.	8480 Jan 28 12:29	11° $\mathring{\text{O}}$ 04'42 8.56080 AU		morning rise	8485 Oct 26 07:19	25° $\mathring{\text{A}}$ 00'50	
direct	8480 Apr 05 14:36	7° $\mathring{\text{O}}$ 42'06			8485 Dec 10 06:39	0° $\mathring{\text{M}}$	
	8480 Jul 14 01:37	15° $\mathring{\text{O}}$		retrograde	8486 Feb 07 19:34	2° $\mathring{\text{M}}$ 57'36	
evening set	8480 Jul 15 04:44	15° $\mathring{\text{O}}$ 08'12			8486 Apr 10 07:30	30° $\mathring{\text{R}}$ $\mathring{\text{A}}$	
				opposition	8486 Apr 16 09:21	29° $\mathring{\text{A}}$ 30'31	1°35'16
conjunction	8480 Aug 01 13:19	17° $\mathring{\text{O}}$ 16'09 -1°04'07		min. Earth dist.	8486 Apr 16 10:22	29° $\mathring{\text{A}}$ 30'19	8.27249 AU
minimum elong	8480 Aug 01 13:21	17° $\mathring{\text{O}}$ 16'10 1°04'15		direct	8486 Jun 22 20:05	26° $\mathring{\text{A}}$ 03'34	
max. Earth dist.	8480 Aug 01 18:45	17° $\mathring{\text{O}}$ 17'50 10.52913 AU			8486 Aug 31 05:29	0° $\mathring{\text{M}}$	
morning rise	8480 Aug 19 01:42	19° $\mathring{\text{O}}$ 25'15		evening set	8486 Oct 04 17:40	3° $\mathring{\text{M}}$ 58'12	
retrograde	8480 Dec 02 11:06	27° $\mathring{\text{O}}$ 11'21					
opposition	8481 Feb 09 18:49	23° $\mathring{\text{O}}$ 45'14 -1°04'35		conjunction	8486 Oct 22 15:20	6° $\mathring{\text{M}}$ 13'25	1°26'54
min. Earth dist.	8481 Feb 09 14:38	23° $\mathring{\text{O}}$ 46'04 8.49812 AU		minimum elong	8486 Oct 22 15:17	6° $\mathring{\text{M}}$ 13'24	1°27'00
direct	8481 Apr 18 09:37	20° $\mathring{\text{O}}$ 22'44		max. Earth dist.	8486 Oct 22 12:22	6° $\mathring{\text{M}}$ 12'28	10.26448 AU
evening set	8481 Jul 28 08:24	27° $\mathring{\text{O}}$ 53'17		morning rise	8486 Nov 09 12:56	8° $\mathring{\text{M}}$ 28'39	
					8487 Jan 12 11:05	15° $\mathring{\text{M}}$	
conjunction	8481 Aug 14 20:43	0° $\mathring{\text{M}}$ 03'03 -0°40'04		retrograde	8487 Feb 21 14:09	16° $\mathring{\text{M}}$ 24'52	
minimum elong	8481 Aug 14 20:44	0° $\mathring{\text{M}}$ 03'04 0°40'10			8487 Apr 03 02:57	15° $\mathring{\text{R}}$ $\mathring{\text{M}}$	
	8481 Aug 14 10:52	0° $\mathring{\text{M}}$		opposition	8487 Apr 29 22:20	12° $\mathring{\text{M}}$ 58'16	1°59'10
max. Earth dist.	8481 Aug 15 00:33	0° $\mathring{\text{M}}$ 04'15 10.46743 AU		min. Earth dist.	8487 Apr 30 00:55	12° $\mathring{\text{M}}$ 57'45	8.26174 AU
morning rise	8481 Sep 01 12:47	2° $\mathring{\text{M}}$ 13'57		direct	8487 Jul 06 13:52	9° $\mathring{\text{M}}$ 30'46	
retrograde	8481 Dec 15 22:56	10° $\mathring{\text{M}}$ 03'29			8487 Sep 28 08:54	15° $\mathring{\text{M}}$	
opposition	8482 Feb 22 22:18	6° $\mathring{\text{M}}$ 36'49 -0°33'18		evening set	8487 Oct 19 01:40	17° $\mathring{\text{M}}$ 28'34	
min. Earth dist.	8482 Feb 22 19:33	6° $\mathring{\text{M}}$ 37'21 8.43758 AU					
direct	8482 May 01 08:52	3° $\mathring{\text{M}}$ 13'20		conjunction	8487 Nov 05 22:38	19° $\mathring{\text{M}}$ 43'42	1°43'39
evening set	8482 Aug 10 18:24	10° $\mathring{\text{M}}$ 48'48		minimum elong	8487 Nov 05 22:36	19° $\mathring{\text{M}}$ 43'41	1°43'47
				max. Earth dist.	8487 Nov 05 17:56	19° $\mathring{\text{M}}$ 42'13	10.26074 AU
conjunction	8482 Aug 28 10:08	13° $\mathring{\text{M}}$ 00'16 -0°13'44		morning rise	8487 Nov 23 18:45	21° $\mathring{\text{M}}$ 58'36	
minimum elong	8482 Aug 28 10:09	13° $\mathring{\text{M}}$ 00'16 0°13'48		retrograde	8488 Mar 06 07:18	29° $\mathring{\text{M}}$ 53'11	
behind sun begin	8482 Aug 28 06:26	12° $\mathring{\text{M}}$ 59'07		opposition	8488 May 12 11:59	26° $\mathring{\text{M}}$ 27'15	2°16'31
behind sun end	8482 Aug 28 13:51	13° $\mathring{\text{M}}$ 01'24		min. Earth dist.	8488 May 12 15:41	26° $\mathring{\text{M}}$ 26'30	8.26572 AU
max. Earth dist.	8482 Aug 28 12:47	13° $\mathring{\text{M}}$ 01'04 10.40916 AU		direct	8488 Jul 19 09:37	22° $\mathring{\text{M}}$ 59'26	
morning rise	8482 Sep 15 05:11	15° $\mathring{\text{M}}$ 12'44			8488 Oct 24 09:03	0° $\mathring{\text{A}}$	
retrograde	8482 Dec 29 12:30	23° $\mathring{\text{M}}$ 05'13		evening set	8488 Nov 01 09:56	0° $\mathring{\text{A}}$ 59'07	
asc. node	8483 Mar 06 21:15	19° $\mathring{\text{M}}$ 44'16					
opposition	8483 Mar 08 03:56	19° $\mathring{\text{M}}$ 38'08 0°00'07		conjunction	8488 Nov 19 05:37	3° $\mathring{\text{A}}$ 13'49	1°54'41
min. Earth dist.	8483 Mar 08 02:11	19° $\mathring{\text{M}}$ 38'29 8.38210 AU		minimum elong	8488 Nov 19 05:35	3° $\mathring{\text{A}}$ 13'49	1°54'51
direct	8483 May 14 13:02	16° $\mathring{\text{M}}$ 13'41		max. Earth dist.	8488 Nov 18 23:48	3° $\mathring{\text{A}}$ 11'59	10.27183 AU
evening set	8483 Aug 24 10:34	23° $\mathring{\text{M}}$ 54'17		morning rise	8488 Dec 06 23:37	5° $\mathring{\text{A}}$ 28'01	
				retrograde	8489 Mar 19 23:17	13° $\mathring{\text{A}}$ 19'53	
conjunction	8483 Sep 11 05:10	26° $\mathring{\text{M}}$ 07'14 0°13'40		opposition	8489 May 26 01:33	9° $\mathring{\text{A}}$ 54'46	2°26'19
minimum elong	8483 Sep 11 05:09	26° $\mathring{\text{M}}$ 07'14 0°13'39		min. Earth dist.	8489 May 26 05:46	9° $\mathring{\text{A}}$ 53'55	8.28420 AU
behind sun begin	8483 Sep 11 01:20	26° $\mathring{\text{M}}$ 06'03		direct	8489 Aug 02 06:36	6° $\mathring{\text{A}}$ 26'52	

evening set	8489 Nov 15 16:25	14° \nearrow 27'01		min. Earth dist.	8495 Aug 13 09:09	28° \approx 04'00	8.59184 AU
				direct	8495 Oct 22 07:25	24° \approx 40'03	
conjunction	8489 Dec 03 10:24	16° \nearrow 40'57 1°59'25			8496 Jan 15 01:50	0° \mathbb{H}	
minimum elong	8489 Dec 03 10:24	16° \nearrow 40'57 1°59'36		evening set	8496 Feb 03 22:00	2° \mathbb{H} 18'13	
max. Earth dist.	8489 Dec 03 04:20	16° \nearrow 39'02 10.29713 AU					
morning rise	8489 Dec 21 01:54	18° \nearrow 54'09		conjunction	8496 Feb 21 02:26	4° \mathbb{H} 24'18 0°31'41	
retrograde	8490 Apr 02 12:26	26° \nearrow 42'23		minimum elong	8496 Feb 21 02:28	4° \mathbb{H} 24'19 0°31'46	
opposition	8490 Jun 08 14:42	23° \nearrow 18'10 2°28'06		max. Earth dist.	8496 Feb 20 21:44	4° \mathbb{H} 22'51 10.61997 AU	
min. Earth dist.	8490 Jun 08 18:49	23° \nearrow 17'20 8.31613 AU		morning rise	8496 Mar 09 03:34	6° \mathbb{H} 29'27	
direct	8490 Aug 16 03:57	19° \nearrow 50'25		retrograde	8496 Jun 17 17:37	13° \mathbb{H} 51'25	
evening set	8490 Nov 29 19:17	27° \nearrow 49'28		opposition	8496 Aug 25 05:48	10° \mathbb{H} 31'32 0°23'36	
				min. Earth dist.	8496 Aug 25 08:52	10° \mathbb{H} 30'57 8.64666 AU	
conjunction	8490 Dec 17 11:19	0° \mathbb{B} 02'22 1°57'41		direct	8496 Nov 03 10:46	7° \mathbb{H} 07'43	
minimum elong	8490 Dec 17 11:20	0° \mathbb{B} 02'23 1°57'52		evening set	8497 Feb 15 14:38	14° \mathbb{H} 41'02	
max. Earth dist.	8490 Dec 17 05:38	0° \mathbb{B} 00'35 10.33524 AU					
	8490 Dec 17 03:48	0° \mathbb{B}		conjunction	8497 Mar 04 16:38	16° \mathbb{H} 45'49 0°06'12	
morning rise	8491 Jan 04 00:09	2° \mathbb{B} 14'22		minimum elong	8497 Mar 04 16:38	16° \mathbb{H} 45'49 0°06'14	
retrograde	8491 Apr 15 22:36	9° \mathbb{B} 58'17		behind sun begin	8497 Mar 04 09:56	16° \mathbb{H} 43'47	
opposition	8491 Jun 22 02:43	6° \mathbb{B} 34'59 2°21'56		behind sun end	8497 Mar 04 23:20	16° \mathbb{H} 47'51	
min. Earth dist.	8491 Jun 22 07:02	6° \mathbb{B} 34'07 8.35971 AU		max. Earth dist.	8497 Mar 04 13:14	16° \mathbb{H} 44'48 10.67191 AU	
direct	8491 Aug 30 00:07	3° \mathbb{B} 07'34		morning rise	8497 Mar 21 15:41	18° \mathbb{H} 49'47	
evening set	8491 Dec 13 17:32	11° \mathbb{B} 04'06		desc. node	8497 Jun 02 22:00	25° \mathbb{H} 30'39	
				retrograde	8497 Jun 30 07:47	26° \mathbb{H} 09'22	
conjunction	8491 Dec 31 07:24	13° \mathbb{B} 15'48 1°49'43		opposition	8497 Sep 07 04:27	22° \mathbb{H} 49'44 -0°08'04	
minimum elong	8491 Dec 31 07:26	13° \mathbb{B} 15'48 1°49'54		min. Earth dist.	8497 Sep 07 06:55	22° \mathbb{H} 49'16 8.69523 AU	
max. Earth dist.	8491 Dec 31 01:41	13° \mathbb{B} 14'00 10.38399 AU		direct	8497 Nov 16 11:29	19° \mathbb{H} 26'47	
morning rise	8492 Jan 17 17:39	15° \mathbb{B} 26'27		evening set	8498 Feb 28 02:43	26° \mathbb{H} 55'36	
retrograde	8492 Apr 28 05:47	23° \mathbb{B} 05'31					
opposition	8492 Jul 04 12:50	19° \mathbb{B} 43'07 2°08'22		conjunction	8498 Mar 17 02:16	28° \mathbb{H} 59'10 -0°19'28	
min. Earth dist.	8492 Jul 04 17:38	19° \mathbb{B} 42'10 8.41247 AU		minimum elong	8498 Mar 17 02:15	28° \mathbb{H} 59'10 0°19'27	
direct	8492 Sep 11 17:27	16° \mathbb{B} 16'11		max. Earth dist.	8498 Mar 16 23:29	28° \mathbb{H} 58'19 10.71678 AU	
evening set	8492 Dec 26 10:08	24° \mathbb{B} 09'02			8498 Mar 25 09:45	0° \mathbb{Y}	
				morning rise	8498 Apr 02 23:35	1° \mathbb{Y} 02'06	
conjunction	8493 Jan 12 21:39	26° \mathbb{B} 19'23 1°36'08		retrograde	8498 Jul 12 20:37	8° \mathbb{Y} 20'10	
minimum elong	8493 Jan 12 21:41	26° \mathbb{B} 19'23 1°36'20		opposition	8498 Sep 20 01:11	5° \mathbb{Y} 00'34 -0°39'03	
max. Earth dist.	8493 Jan 12 15:34	26° \mathbb{B} 17'28 10.44050 AU		min. Earth dist.	8498 Sep 20 03:02	5° \mathbb{Y} 00'13 8.73616 AU	
morning rise	8493 Jan 30 05:28	28° \mathbb{B} 28'37		direct	8498 Nov 29 08:24	1° \mathbb{Y} 38'23	
	8493 Feb 11 22:11	0° \approx		evening set	8499 Mar 12 10:49	9° \mathbb{Y} 03'08	
retrograde	8493 May 11 07:43	6° \approx 02'42					
opposition	8493 Jul 17 20:55	2° \approx 41'08 1°48'25		conjunction	8499 Mar 29 08:07	11° \mathbb{Y} 05'39 -0°43'57	
min. Earth dist.	8493 Jul 18 02:04	2° \approx 40'08 8.47126 AU		minimum elong	8499 Mar 29 08:06	11° \mathbb{Y} 05'39 0°43'59	
	8493 Aug 26 07:51	30° \mathbb{R} \mathbb{B}		max. Earth dist.	8499 Mar 29 06:16	11° \mathbb{Y} 05'05 10.75310 AU	
direct	8493 Sep 25 09:40	29° \mathbb{B} 14'50		morning rise	8499 Apr 15 04:00	13° \mathbb{Y} 07'44	
	8493 Oct 25 07:10	0° \approx		retrograde	8499 Jul 25 06:43	20° \mathbb{Y} 25'08	
evening set	8494 Jan 08 20:18	7° \approx 03'05		opposition	8499 Oct 02 20:16	17° \mathbb{Y} 05'23 -1°08'02	
				min. Earth dist.	8499 Oct 02 20:43	17° \mathbb{Y} 05'18 8.76787 AU	
conjunction	8494 Jan 26 05:22	9° \approx 11'59 1°17'52		direct	8499 Dec 12 02:16	13° \mathbb{Y} 43'52	
minimum elong	8494 Jan 26 05:24	9° \approx 12'00 1°18'02		evening set	8500 Mar 24 15:47	21° \mathbb{Y} 05'10	
max. Earth dist.	8494 Jan 25 22:59	9° \approx 10'00 10.50128 AU					
morning rise	8494 Feb 12 10:55	11° \approx 19'48		conjunction	8500 Apr 10 11:13	23° \mathbb{Y} 06'48 -1°06'21	
	8494 Mar 16 20:15	15° \approx		minimum elong	8500 Apr 10 11:11	23° \mathbb{Y} 06'48 1°06'25	
retrograde	8494 May 24 05:05	18° \approx 49'11		max. Earth dist.	8500 Apr 10 11:20	23° \mathbb{Y} 06'50 10.77943 AU	
opposition	8494 Jul 31 02:25	15° \approx 28'18 1°23'20		morning rise	8500 Apr 27 05:48	25° \mathbb{Y} 08'12	
min. Earth dist.	8494 Jul 31 07:12	15° \approx 27'22 8.53238 AU			8500 Jun 12 18:29	0° \mathbb{B}	
	8494 Aug 06 04:23	15° \mathbb{R} \approx		retrograde	8500 Aug 06 17:51	2° \mathbb{B} 25'52	
direct	8494 Oct 08 23:00	12° \approx 02'44			8500 Oct 03 10:20	30° \mathbb{R} \mathbb{Y}	
	8494 Dec 09 00:33	15° \approx		opposition	8500 Oct 15 14:03	29° \mathbb{Y} 05'46 -1°33'52	
evening set	8495 Jan 22 00:07	19° \approx 45'57		min. Earth dist.	8500 Oct 15 12:31	29° \mathbb{Y} 06'03 8.78911 AU	
				direct	8500 Dec 24 18:54	25° \mathbb{Y} 44'49	
conjunction	8495 Feb 08 06:51	21° \approx 53'24 0°55'59			8501 Mar 09 10:55	0° \mathbb{B}	
minimum elong	8495 Feb 08 06:52	21° \approx 53'25 0°56'07		evening set	8501 Apr 05 18:33	3° \mathbb{B} 03'20	
max. Earth dist.	8495 Feb 08 00:57	21° \approx 51'35 10.56234 AU					
morning rise	8495 Feb 25 10:10	23° \approx 59'50		conjunction	8501 Apr 22 12:34	5° \mathbb{B} 04'21 -1°25'46	
	8495 Apr 26 10:59	0° \mathbb{H}		minimum elong	8501 Apr 22 12:31	5° \mathbb{B} 04'20 1°25'52	
retrograde	8495 Jun 06 00:32	1° \mathbb{H} 25'06		max. Earth dist.	8501 Apr 22 15:01	5° \mathbb{B} 05'06 10.79482 AU	
	8495 Jul 17 16:15	30° \mathbb{R} \approx		morning rise	8501 May 09 06:15	7° \mathbb{B} 05'20	
opposition	8495 Aug 13 05:11	28° \approx 04'46 0°54'34		retrograde	8501 Aug 19 06:29	14° \mathbb{B} 24'03	

opposition	8501 Oct 28 07:02	11° 8 03'28 -1°55'31	direct	8508 Mar 19 23:39	20° ♄ 17'05
min. Earth dist.	8501 Oct 28 03:59	11° 8 04'02 8.79917 AU	evening set	8508 Jun 28 08:47	27° ♄ 38'35
direct	8502 Jan 06 06:51	7° 8 42'59			
evening set	8502 Apr 17 19:59	14° 8 59'27	conjunction	8508 Jul 15 11:54	29° ♄ 44'10 -1°32'09
	8502 Apr 17 21:49	15° 8	minimum elong	8508 Jul 15 11:57	29° ♄ 44'10 1°32'19
			max. Earth dist.	8508 Jul 15 18:43	29° ♄ 46'16 10.60343 AU
conjunction	8502 May 04 13:01	17° 8 00'08 -1°41'25		8508 Jul 17 15:24	0° ♄
minimum elong	8502 May 04 12:59	17° 8 00'07 1°41'33	morning rise	8508 Aug 01 19:00	1° ♄ 50'54
max. Earth dist.	8502 May 04 16:37	17° 8 01'14 10.79877 AU	retrograde	8508 Nov 14 21:54	9° ♄ 32'07
morning rise	8502 May 21 06:34	19° 8 01'00	opposition	8509 Jan 23 17:16	6° ♄ 06'51 -1°42'22
retrograde	8502 Aug 31 18:08	26° 8 21'32	min. Earth dist.	8509 Jan 23 11:38	6° ♄ 07'57 8.57633 AU
opposition	8502 Nov 09 23:34	23° 8 00'23 -2°12'09	direct	8509 Apr 01 16:13	27° ♄ 45'28
min. Earth dist.	8502 Nov 09 19:53	23° 8 01'05 8.79761 AU	evening set	8509 Jul 11 04:25	10° ♄ 10'26
direct	8503 Jan 18 16:44	19° 8 40'12			
evening set	8503 Apr 29 21:14	26° 8 55'31	conjunction	8509 Jul 28 11:26	12° ♄ 17'45 -1°13'07
			minimum elong	8509 Jul 28 11:28	12° ♄ 17'46 1°13'16
conjunction	8503 May 16 13:55	28° 8 56'10 -1°52'41	max. Earth dist.	8509 Jul 28 18:24	12° ♄ 19'54 10.54768 AU
minimum elong	8503 May 16 13:53	28° 8 56'10 1°52'50	morning rise	8509 Aug 14 22:20	14° ♄ 26'14
max. Earth dist.	8503 May 16 18:03	28° 8 57'25 10.79110 AU		8509 Aug 19 14:51	15° ♄
	8503 May 25 08:50	0° ♄	retrograde	8509 Nov 28 05:37	22° ♄ 11'13
morning rise	8503 Jun 02 08:02	0° ♄ 57'13	opposition	8510 Feb 05 17:53	18° ♄ 45'23 -1°16'29
retrograde	8503 Sep 13 07:24	8° ♄ 20'14	min. Earth dist.	8510 Feb 05 12:24	18° ♄ 46'28 8.51970 AU
opposition	8503 Nov 22 15:59	4° ♄ 58'28 -2°23'06	direct	8510 Apr 14 11:36	15° ♄ 23'21
min. Earth dist.	8503 Nov 22 11:47	4° ♄ 59'16 8.78439 AU	evening set	8510 Jul 24 06:01	22° ♄ 52'22
direct	8504 Jan 31 04:06	1° ♄ 38'26			
evening set	8504 May 10 23:04	8° ♄ 53'25	conjunction	8510 Aug 10 16:56	25° ♄ 01'28 -0°50'18
			minimum elong	8510 Aug 10 16:58	25° ♄ 01'28 0°50'25
conjunction	8504 May 27 16:19	10° ♄ 54'24 -1°59'04	max. Earth dist.	8510 Aug 10 23:48	25° ♄ 03'36 10.49146 AU
minimum elong	8504 May 27 16:18	10° ♄ 54'24 1°59'15	morning rise	8510 Aug 28 07:26	27° ♄ 11'40
max. Earth dist.	8504 May 27 21:33	10° ♄ 55'59 10.77207 AU		8510 Sep 21 12:14	0° ♄
morning rise	8504 Jun 13 11:39	12° ♄ 55'59	retrograde	8510 Dec 11 17:48	5° ♄ 00'06
retrograde	8504 Sep 24 23:31	20° ♄ 22'04	opposition	8511 Feb 18 20:50	1° ♄ 33'50 -0°46'29
opposition	8504 Dec 04 08:57	16° ♄ 59'35 -2°27'50	min. Earth dist.	8511 Feb 18 15:36	1° ♄ 34'52 8.46403 AU
min. Earth dist.	8504 Dec 04 03:37	17° ♄ 00'36 8.75998 AU		8511 Mar 11 10:45	30° ♄
direct	8505 Feb 11 13:58	13° ♄ 39'36	direct	8511 Apr 27 08:57	28° ♄ 11'04
evening set	8505 May 23 02:24	20° ♄ 55'00		8511 Jun 12 03:28	0° ♄
			evening set	8511 Aug 06 13:47	5° ♄ 44'35
conjunction	8505 Jun 08 21:09	22° ♄ 56'40 -2°00'16			
minimum elong	8505 Jun 08 21:10	22° ♄ 56'40 2°00'27	conjunction	8511 Aug 24 04:12	7° ♄ 55'21 -0°24'44
max. Earth dist.	8505 Jun 09 04:10	22° ♄ 58'48 10.74235 AU	minimum elong	8511 Aug 24 04:13	7° ♄ 55'21 0°24'49
morning rise	8505 Jun 25 18:24	24° ♄ 59'07	max. Earth dist.	8511 Aug 24 10:10	7° ♄ 57'12 10.43746 AU
	8505 Aug 12 17:19	0° ♄	morning rise	8511 Sep 10 21:52	10° ♄ 07'09
retrograde	8505 Oct 07 18:06	2° ♄ 28'43	retrograde	8511 Dec 25 07:56	17° ♄ 58'34
	8505 Dec 05 01:18	30° ♄	opposition	8512 Mar 03 02:03	14° ♄ 31'58 -0°13'44
opposition	8505 Dec 17 02:45	29° ♄ 05'30 -2°26'05	min. Earth dist.	8512 Mar 02 21:46	14° ♄ 32'50 8.41206 AU
min. Earth dist.	8505 Dec 16 20:15	29° ♄ 06'44 8.72525 AU	direct	8512 May 09 10:40	11° ♄ 08'24
direct	8506 Feb 24 00:12	25° ♄ 45'24	asc. node	8512 Aug 03 16:52	16° ♄ 56'02
	8506 May 08 11:00	0° ♄	evening set	8512 Aug 19 03:53	18° ♄ 46'42
evening set	8506 Jun 04 08:40	3° ♄ 02'04			
			conjunction	8512 Sep 05 21:14	20° ♄ 58'58 0°02'27
conjunction	8506 Jun 21 05:36	5° ♄ 04'46 -1°56'06	minimum elong	8512 Sep 05 21:15	20° ♄ 58'58 0°02'25
minimum elong	8506 Jun 21 05:37	5° ♄ 04'46 1°56'18	behind sun begin	8512 Sep 05 14:00	20° ♄ 56'43
max. Earth dist.	8506 Jun 21 13:14	5° ♄ 07'06 10.70308 AU	behind sun end	8512 Sep 06 04:31	21° ♄ 01'13
morning rise	8506 Jul 08 05:30	7° ♄ 08'23	max. Earth dist.	8512 Sep 06 01:04	21° ♄ 00'07 10.38833 AU
retrograde	8506 Oct 20 17:04	14° ♄ 41'45	morning rise	8512 Sep 23 17:30	23° ♄ 12'07
opposition	8506 Dec 29 21:42	11° ♄ 17'49 -2°17'46		8512 Dec 02 05:39	0° ♄
min. Earth dist.	8506 Dec 29 14:59	11° ♄ 19'06 8.68164 AU	retrograde	8513 Jan 07 00:04	1° ♄ 05'49
direct	8507 Mar 08 11:16	7° ♄ 57'25		8513 Feb 11 23:53	30° ♄
evening set	8507 Jun 16 18:33	15° ♄ 16'08	opposition	8513 Mar 16 09:19	27° ♄ 39'04 0°20'07
			min. Earth dist.	8513 Mar 16 06:56	27° ♄ 39'32 8.36619 AU
conjunction	8507 Jul 03 18:15	17° ♄ 20'10 -1°46'38	direct	8513 May 22 16:15	24° ♄ 14'36
minimum elong	8507 Jul 03 18:17	17° ♄ 20'11 1°46'50		8513 Aug 16 13:43	0° ♄
max. Earth dist.	8507 Jul 04 01:28	17° ♄ 22'23 10.65604 AU	evening set	8513 Sep 01 23:47	1° ♄ 57'46
morning rise	8507 Jul 20 21:33	19° ♄ 25'15			
retrograde	8507 Nov 02 18:18	27° ♄ 02'31	conjunction	8513 Sep 19 19:25	4° ♄ 11'15 0°29'39
opposition	8508 Jan 11 18:31	23° ♄ 37'54 -2°03'03	minimum elong	8513 Sep 19 19:23	4° ♄ 11'15 0°29'39
min. Earth dist.	8508 Jan 11 12:21	23° ♄ 39'06 8.63119 AU	max. Earth dist.	8513 Sep 19 20:44	4° ♄ 11'40 10.34606 AU

morning rise	8513 Oct 07 17:19	6° Ω 25'26		min. Earth dist.	8520 Jun 17 02:58	1° \mathcal{Z} 18'59	8.34504 AU
retrograde	8514 Jan 20 17:55	14° Ω 20'38			8520 Jul 04 00:58	30° \mathcal{R} \nearrow	
opposition	8514 Mar 29 18:30	10° Ω 53'53	0°53'14	direct	8520 Aug 24 15:46	27° \mathcal{X} 52'29	
min. Earth dist.	8514 Mar 29 18:05	10° Ω 53'58	8.32807 AU		8520 Oct 14 04:29	0° \mathcal{Z}	
direct	8514 Jun 05 01:38	7° Ω 28'33		evening set	8520 Dec 08 07:51	5° \mathcal{Z} 49'45	
evening set	8514 Sep 16 00:33	15° Ω 16'28					
conjunction	8514 Oct 03 21:36	17° Ω 30'50	0°55'30	conjunction	8520 Dec 25 22:30	8° \mathcal{Z} 01'52	1°53'44
minimum elong	8514 Oct 03 21:33	17° Ω 30'49	0°55'33	minimum elong	8520 Dec 25 22:31	8° \mathcal{Z} 01'52	1°53'56
max. Earth dist.	8514 Oct 03 20:39	17° Ω 30'32	10.31200 AU	max. Earth dist.	8520 Dec 25 14:38	7° \mathcal{Z} 59'23	10.36548 AU
morning rise	8514 Oct 21 20:02	19° Ω 45'38		morning rise	8521 Jan 12 09:59	10° \mathcal{Z} 13'01	
retrograde	8515 Feb 03 11:36	27° Ω 41'39		retrograde	8521 Apr 24 00:29	17° \mathcal{Z} 53'42	
opposition	8515 Apr 12 05:18	24° Ω 15'04	1°23'46	opposition	8521 Jun 30 07:21	14° \mathcal{Z} 30'45	2°14'52
min. Earth dist.	8515 Apr 12 06:25	24° Ω 14'50	8.29906 AU	min. Earth dist.	8521 Jun 30 12:55	14° \mathcal{Z} 29'39	8.39073 AU
direct	8515 Jun 18 15:32	20° Ω 48'59		direct	8521 Sep 07 10:28	11° \mathcal{Z} 03'21	
evening set	8515 Sep 30 05:18	28° Ω 41'18		evening set	8521 Dec 22 02:06	18° \mathcal{Z} 57'26	
	8515 Oct 10 17:07	0° \mathcal{M}		conjunction	8522 Jan 08 14:37	21° \mathcal{Z} 08'18	1°42'27
conjunction	8515 Oct 18 02:56	0° \mathcal{M} 56'11	1°18'31	minimum elong	8522 Jan 08 14:39	21° \mathcal{Z} 08'19	1°42'39
minimum elong	8515 Oct 18 02:53	0° \mathcal{M} 56'10	1°18'36	max. Earth dist.	8522 Jan 08 07:30	21° \mathcal{Z} 06'04	10.41563 AU
max. Earth dist.	8515 Oct 18 00:29	0° \mathcal{M} 55'24	10.28799 AU	morning rise	8522 Jan 25 23:34	23° \mathcal{Z} 18'06	
morning rise	8515 Nov 05 00:54	3° \mathcal{M} 11'14			8522 Apr 05 09:43	0° \approx	
retrograde	8516 Feb 17 05:59	11° \mathcal{M} 07'12		retrograde	8522 May 07 04:08	0° \approx 53'55	
opposition	8516 Apr 24 17:25	7° \mathcal{M} 40'57	1°49'54		8522 Jun 08 09:16	30° \mathcal{R} \mathcal{Z}	
min. Earth dist.	8516 Apr 24 19:23	7° \mathcal{M} 40'33	8.28135 AU	opposition	8522 Jul 13 15:38	27° \mathcal{Z} 31'41	1°57'30
direct	8516 Jul 01 07:42	4° \mathcal{M} 14'14		min. Earth dist.	8522 Jul 13 20:32	27° \mathcal{Z} 30'43	8.44406 AU
evening set	8516 Oct 13 12:39	12° \mathcal{M} 10'11		direct	8522 Sep 21 02:40	24° \mathcal{Z} 04'45	
					8522 Dec 19 11:44	0° \approx	
conjunction	8516 Oct 31 10:02	14° \mathcal{M} 25'13	1°37'18	evening set	8523 Jan 04 14:06	1° \approx 54'39	
minimum elong	8516 Oct 31 10:00	14° \mathcal{M} 25'12	1°37'26	conjunction	8523 Jan 22 00:25	4° \approx 04'09	1°26'04
max. Earth dist.	8516 Oct 31 06:23	14° \mathcal{M} 24'03	10.27634 AU	minimum elong	8523 Jan 22 00:28	4° \approx 04'10	1°26'15
	8516 Nov 04 23:52	15° \mathcal{M}		max. Earth dist.	8523 Jan 21 18:26	4° \approx 02'17	10.47210 AU
morning rise	8516 Nov 18 06:41	16° \mathcal{M} 40'05		morning rise	8523 Feb 08 06:55	6° \approx 12'34	
retrograde	8517 Mar 02 00:43	24° \mathcal{M} 34'57		retrograde	8523 May 20 03:25	13° \approx 43'38	
opposition	8517 May 08 06:33	21° \mathcal{M} 09'11	2°10'05	opposition	8523 Jul 26 21:34	10° \approx 22'03	1°34'28
min. Earth dist.	8517 May 08 09:30	21° \mathcal{M} 08'35	8.27681 AU	min. Earth dist.	8523 Jul 27 02:02	10° \approx 21'11	8.50222 AU
direct	8517 Jul 15 01:10	17° \mathcal{M} 41'57		direct	8523 Oct 04 15:56	6° \approx 55'45	
evening set	8517 Oct 27 20:53	25° \mathcal{M} 40'24		evening set	8524 Jan 17 20:04	14° \approx 40'51	
					8524 Jan 20 10:59	15° \approx	
conjunction	8517 Nov 14 17:11	27° \mathcal{M} 55'09	1°50'47	conjunction	8524 Feb 04 04:00	16° \approx 48'56	1°05'37
minimum elong	8517 Nov 14 17:09	27° \mathcal{M} 55'09	1°50'57	minimum elong	8524 Feb 04 04:02	16° \approx 48'57	1°05'45
max. Earth dist.	8517 Nov 14 12:08	27° \mathcal{M} 53'34	10.27849 AU	max. Earth dist.	8524 Feb 03 22:44	16° \approx 47'18	10.53190 AU
	8517 Dec 01 05:18	0° \mathcal{X}		morning rise	8524 Feb 21 08:12	18° \approx 55'56	
morning rise	8517 Dec 02 11:51	0° \mathcal{X} 09'29		retrograde	8524 May 31 23:46	26° \approx 22'36	
retrograde	8518 Mar 15 18:23	8° \mathcal{X} 02'07		opposition	8524 Aug 08 00:54	23° \approx 01'38	1°07'08
opposition	8518 May 21 19:59	4° \mathcal{X} 36'58	2°23'06	min. Earth dist.	8524 Aug 08 05:19	23° \approx 00'47	8.56230 AU
min. Earth dist.	8518 May 22 00:09	4° \mathcal{X} 36'08	8.28629 AU	direct	8524 Oct 17 00:45	19° \approx 36'07	
direct	8518 Jul 28 20:46	1° \mathcal{X} 09'23		evening set	8525 Jan 29 19:57	27° \approx 16'07	
evening set	8518 Nov 11 03:58	9° \mathcal{X} 08'56					
conjunction	8518 Nov 28 22:37	11° \mathcal{X} 23'05	1°58'11	conjunction	8525 Feb 16 01:22	29° \approx 22'46	0°42'14
minimum elong	8518 Nov 28 22:37	11° \mathcal{X} 23'05	1°58'22	minimum elong	8525 Feb 16 01:23	29° \approx 22'46	0°42'20
max. Earth dist.	8518 Nov 28 16:13	11° \mathcal{X} 21'03	10.29479 AU	max. Earth dist.	8525 Feb 15 20:19	29° \approx 21'13	10.59212 AU
morning rise	8518 Dec 16 15:01	13° \mathcal{X} 36'34			8525 Feb 21 02:07	0° \mathcal{H}	
retrograde	8519 Mar 29 07:34	21° \mathcal{X} 25'56		morning rise	8525 Mar 05 03:27	1° \mathcal{H} 28'25	
opposition	8519 Jun 04 09:05	18° \mathcal{X} 01'30	2°28'15	retrograde	8525 Jun 13 16:06	8° \mathcal{H} 51'18	
min. Earth dist.	8519 Jun 04 14:24	18° \mathcal{X} 00'26	8.30952 AU	opposition	8525 Aug 21 01:55	5° \mathcal{H} 30'50	0°36'59
direct	8519 Aug 11 18:35	14° \mathcal{X} 33'45		min. Earth dist.	8525 Aug 21 05:35	5° \mathcal{H} 30'08	8.62146 AU
evening set	8519 Nov 25 08:02	22° \mathcal{X} 32'54		direct	8525 Oct 30 05:41	2° \mathcal{H} 06'13	
				evening set	8526 Feb 11 13:57	9° \mathcal{H} 41'06	
conjunction	8519 Dec 13 00:46	24° \mathcal{X} 46'08	1°59'08	conjunction	8526 Feb 28 16:53	11° \mathcal{H} 46'21	0°17'09
minimum elong	8519 Dec 13 00:47	24° \mathcal{X} 46'08	1°59'20	minimum elong	8526 Feb 28 16:53	11° \mathcal{H} 46'21	0°17'13
max. Earth dist.	8519 Dec 12 17:11	24° \mathcal{X} 43'44	10.32441 AU	max. Earth dist.	8526 Feb 28 12:51	11° \mathcal{H} 45'07	10.64991 AU
morning rise	8519 Dec 30 14:46	26° \mathcal{X} 58'33		morning rise	8526 Mar 17 16:59	13° \mathcal{H} 50'45	
	8520 Jan 25 07:44	0° \mathcal{Z}		retrograde	8526 Jun 26 05:07	21° \mathcal{H} 10'40	
retrograde	8520 Apr 10 17:22	4° \mathcal{Z} 43'51		opposition	8526 Sep 03 00:30	17° \mathcal{H} 50'35	0°05'31
opposition	8520 Jun 16 21:05	1° \mathcal{Z} 20'10	2°25'23				

min. Earth dist.	8526 Sep 03 02:41	17° K 50'10	8.67689 AU	morning rise	8532 May 27 08:11	25° S 54'28	
desc. node	8526 Nov 07 14:59	14° K 28'03			8532 Jul 04 07:02	0° II	
direct	8526 Nov 12 08:42	14° K 26'55		retrograde	8532 Sep 07 02:21	3° II 15'09	
evening set	8527 Feb 24 02:59	21° K 56'56			8532 Nov 15 02:54	30° R 8	
				opposition	8532 Nov 16 09:16	29° S 54'17	-2°18'41
conjunction	8527 Mar 13 03:37	24° K 00'54	-0°08'33	min. Earth dist.	8532 Nov 16 04:05	29° S 55'16	8.81867 AU
minimum elong	8527 Mar 13 03:36	24° K 00'53	0°08'31	direct	8533 Jan 25 00:59	26° S 34'53	
behind sun begin	8527 Mar 12 21:25	23° K 59'01			8533 Mar 31 22:27	0° II	
behind sun end	8527 Mar 13 09:47	24° K 02'45		evening set	8533 May 05 22:50	3° II 48'46	
max. Earth dist.	8527 Mar 13 01:26	24° K 00'15	10.70250 AU				
morning rise	8527 Mar 30 01:45	26° K 04'07		conjunction	8533 May 22 15:41	5° II 49'14	-1°56'40
	8527 May 04 22:11	0° Y		minimum elong	8533 May 22 15:40	5° II 49'14	1°56'51
retrograde	8527 Jul 08 18:17	3° Y 21'57		max. Earth dist.	8533 May 22 21:42	5° II 51'03	10.80977 AU
opposition	8527 Sep 15 20:49	0° Y 02'06	-0°25'50	morning rise	8533 Jun 08 10:06	7° II 50'12	
min. Earth dist.	8527 Sep 15 21:14	0° Y 02'01	8.72601 AU	retrograde	8533 Sep 19 17:07	15° II 13'37	
	8527 Sep 16 07:53	30° R 8		opposition	8533 Nov 29 01:20	11° II 52'10	-2°26'11
direct	8527 Nov 25 06:07	26° K 39'25		min. Earth dist.	8533 Nov 28 19:53	11° II 53'12	8.80053 AU
	8528 Jan 29 21:56	0° Y		direct	8534 Feb 06 08:42	8° II 32'53	
evening set	8528 Mar 07 11:50	4° Y 05'01		evening set	8534 May 18 00:57	15° II 46'51	
conjunction	8528 Mar 24 10:13	6° Y 07'48	-0°33'31	conjunction	8534 Jun 03 18:42	17° II 47'49	-2°00'11
minimum elong	8528 Mar 24 10:12	6° Y 07'48	0°33'32	minimum elong	8534 Jun 03 18:41	17° II 47'49	2°00'24
max. Earth dist.	8528 Mar 24 10:05	6° Y 07'46	10.74750 AU	max. Earth dist.	8534 Jun 04 00:14	17° II 49'30	10.78513 AU
morning rise	8528 Apr 10 06:32	8° Y 10'02		morning rise	8534 Jun 20 14:52	19° II 49'30	
retrograde	8528 Jul 20 05:53	15° Y 26'41		retrograde	8534 Oct 02 09:05	27° II 16'14	
opposition	8528 Sep 27 15:39	12° Y 06'57	-0°55'42	opposition	8534 Dec 11 18:07	23° II 54'05	-2°27'22
min. Earth dist.	8528 Sep 27 15:01	12° Y 07'04	8.76669 AU	min. Earth dist.	8534 Dec 11 13:14	23° II 55'01	8.76955 AU
direct	8528 Dec 06 22:57	8° Y 45'11		direct	8535 Feb 18 18:28	20° II 34'42	
evening set	8529 Mar 19 17:13	16° Y 06'57		evening set	8535 May 30 05:16	27° II 49'40	
conjunction	8529 Apr 05 13:24	18° Y 08'43	-0°56'50	conjunction	8535 Jun 16 00:48	29° II 51'32	-1°58'27
minimum elong	8529 Apr 05 13:22	18° Y 08'42	0°56'54	minimum elong	8535 Jun 16 00:49	29° II 51'32	1°58'39
max. Earth dist.	8529 Apr 05 14:21	18° Y 09'00	10.78308 AU	max. Earth dist.	8535 Jun 16 06:20	29° II 53'13	10.74806 AU
morning rise	8529 Apr 22 08:20	20° Y 10'09			8535 Jun 17 04:40	0° S	
retrograde	8529 Aug 01 15:48	27° Y 26'34		morning rise	8535 Jul 02 23:23	1° S 54'16	
opposition	8529 Oct 10 09:13	24° Y 06'47	-1°22'55	retrograde	8535 Oct 15 05:01	9° S 24'49	
min. Earth dist.	8529 Oct 10 07:52	24° Y 07'03	8.79735 AU	opposition	8535 Dec 24 12:03	6° S 01'54	-2°22'02
direct	8529 Dec 19 14:29	20° Y 45'49		min. Earth dist.	8535 Dec 24 07:05	6° S 02'50	8.72667 AU
evening set	8530 Mar 31 20:09	28° Y 04'28		direct	8536 Mar 02 05:39	2° S 42'14	
	8530 Apr 16 20:28	0° S		evening set	8536 Jun 10 12:46	9° S 59'03	
conjunction	8530 Apr 17 14:31	0° S 05'28	-1°17'34	conjunction	8536 Jun 27 11:02	12° S 02'10	-1°51'23
minimum elong	8530 Apr 17 14:29	0° S 05'27	1°17'39	minimum elong	8536 Jun 27 11:03	12° S 02'10	1°51'36
max. Earth dist.	8530 Apr 17 16:12	0° S 05'58	10.80792 AU	max. Earth dist.	8536 Jun 27 17:15	12° S 04'04	10.70034 AU
morning rise	8530 May 04 08:34	2° S 06'21		morning rise	8536 Jul 14 12:34	14° S 06'17	
retrograde	8530 Aug 14 01:56	9° S 23'23		retrograde	8536 Oct 27 04:26	21° S 40'55	
opposition	8530 Oct 23 01:36	6° S 03'24	-1°46'23	opposition	8537 Jan 05 07:32	18° S 17'10	-2°10'14
min. Earth dist.	8530 Oct 22 23:21	6° S 03'49	8.81677 AU	min. Earth dist.	8537 Jan 05 02:06	18° S 18'13	8.67437 AU
direct	8531 Jan 01 03:23	2° S 43'06		direct	8537 Mar 14 17:10	14° S 57'02	
evening set	8531 Apr 12 21:25	9° S 59'23		evening set	8537 Jun 23 00:26	22° S 16'28	
conjunction	8531 Apr 29 14:38	11° S 59'53	-1°34'53	conjunction	8537 Jul 10 01:59	24° S 21'06	-1°39'11
minimum elong	8531 Apr 29 14:36	11° S 59'52	1°35'00	minimum elong	8537 Jul 10 02:02	24° S 21'07	1°39'22
max. Earth dist.	8531 Apr 29 17:48	12° S 00'51	10.82103 AU	max. Earth dist.	8537 Jul 10 08:38	24° S 23'08	10.64471 AU
morning rise	8531 May 16 08:11	14° S 00'29		morning rise	8537 Jul 27 07:04	26° S 26'51	
	8531 May 24 20:02	15° S			8537 Aug 28 00:28	0° S	
retrograde	8531 Aug 26 12:33	21° S 18'59		retrograde	8537 Nov 09 07:08	4° S 05'39	
opposition	8531 Nov 04 17:28	17° S 58'37	-2°05'13	opposition	8538 Jan 18 04:52	0° S 41'02	-1°52'17
min. Earth dist.	8531 Nov 04 13:34	17° S 59'21	8.82404 AU	min. Earth dist.	8538 Jan 17 23:20	0° S 42'06	8.61554 AU
	8531 Dec 23 21:44	15° R 8			8538 Jan 27 02:25	30° R 8	
direct	8532 Jan 13 14:46	14° S 38'52		direct	8538 Mar 27 07:34	27° S 20'14	
	8532 Feb 03 01:44	15° S			8538 May 22 19:02	0° S	
evening set	8532 Apr 23 21:55	21° S 53'33		evening set	8538 Jul 05 17:16	4° S 43'00	
conjunction	8532 May 10 14:38	23° S 53'51	-1°48'06	conjunction	8538 Jul 22 22:24	6° S 49'21	-1°22'12
minimum elong	8532 May 10 14:36	23° S 53'51	1°48'15	minimum elong	8538 Jul 22 22:26	6° S 49'22	1°22'21
max. Earth dist.	8532 May 10 19:47	23° S 55'25	10.82171 AU	max. Earth dist.	8538 Jul 23 04:09	6° S 51'08	10.58410 AU

morning rise	8538 Aug 09 07:20	8°♌56'52		max. Earth dist.	8544 Oct 10 21:36	25°♏02'31	10.28040 AU
	8538 Oct 08 10:54	15°♌		morning rise	8544 Oct 28 21:29	27°♏18'11	
retrograde	8538 Nov 22 13:50	16°♌39'41			8544 Nov 20 14:25	0°♎	
	8539 Jan 07 10:15	15°♌♌		retrograde	8545 Feb 10 08:03	5°♎14'54	
opposition	8539 Jan 31 04:11	13°♌14'18	-1°28'45	opposition	8545 Apr 18 22:01	1°♎47'51	1°38'38
min. Earth dist.	8539 Jan 30 23:33	13°♌15'12	8.55322 AU	min. Earth dist.	8545 Apr 18 23:39	1°♎47'31	8.27110 AU
direct	8539 Apr 08 23:50	9°♌52'41			8545 May 12 06:31	30°♌♏	
	8539 Jun 28 17:47	15°♌		direct	8545 Jun 25 09:47	28°♏20'47	
evening set	8539 Jul 18 15:39	17°♌19'24			8545 Aug 07 22:57	0°♎	
				evening set	8545 Oct 07 08:08	6°♎15'43	
conjunction	8539 Aug 05 00:33	19°♌27'34	-1°01'04	conjunction	8545 Oct 25 05:39	8°♎30'54	1°29'18
minimum elong	8539 Aug 05 00:35	19°♌27'35	1°01'11	minimum elong	8545 Oct 25 05:36	8°♎30'53	1°29'24
max. Earth dist.	8539 Aug 05 05:09	19°♌29'00	10.52156 AU	max. Earth dist.	8545 Oct 25 02:04	8°♎29'45	10.26399 AU
morning rise	8539 Aug 22 13:24	21°♌36'55		morning rise	8545 Nov 12 03:10	10°♎46'05	
retrograde	8539 Dec 05 23:20	29°♌23'32			8545 Dec 19 03:47	15°♎	
opposition	8540 Feb 13 05:51	25°♌57'26	-1°00'34	retrograde	8546 Feb 24 02:25	18°♎42'05	
min. Earth dist.	8540 Feb 13 02:17	25°♌58'08	8.49056 AU	opposition	8546 May 02 10:59	15°♎15'29	2°01'42
direct	8540 Apr 20 19:42	22°♌34'53		min. Earth dist.	8546 May 02 13:51	15°♎14'54	8.26220 AU
	8540 Jul 29 23:52	0°♎			8546 May 05 15:24	15°♌♎	
evening set	8540 Jul 30 20:00	0°♎06'07		direct	8546 Jul 09 03:27	11°♎47'54	
				evening set	8546 Sep 09 04:57	15°♎	
conjunction	8540 Aug 17 08:42	2°♎16'05	-0°36'40		8546 Oct 21 16:03	19°♎45'46	
minimum elong	8540 Aug 17 08:44	2°♎16'06	0°36'46	conjunction	8546 Nov 08 12:51	22°♎00'50	1°45'19
max. Earth dist.	8540 Aug 17 12:28	2°♎17'15	10.46010 AU	minimum elong	8546 Nov 08 12:49	22°♎00'49	1°45'28
morning rise	8540 Sep 04 01:07	4°♎27'11		max. Earth dist.	8546 Nov 08 08:12	21°♎59'21	10.26203 AU
retrograde	8540 Dec 18 10:03	12°♎17'14		morning rise	8546 Nov 26 08:43	24°♎15'38	
opposition	8541 Feb 25 09:46	8°♎50'32	-0°28'57		8547 Jan 18 20:27	0°♌	
min. Earth dist.	8541 Feb 25 07:04	8°♎51'05	8.43052 AU	retrograde	8547 Mar 09 19:50	2°♌09'51	
direct	8541 May 03 21:11	5°♎27'01			8547 Apr 29 23:10	30°♌♎	
evening set	8541 Aug 13 06:50	13°♎03'09		opposition	8547 May 16 00:29	28°♎43'54	2°18'06
				min. Earth dist.	8547 May 16 03:49	28°♎43'14	8.26790 AU
conjunction	8541 Aug 30 22:59	15°♎14'48	-0°10'10	direct	8547 Jul 22 23:18	25°♎16'01	
minimum elong	8541 Aug 30 22:59	15°♎14'48	0°10'13		8547 Oct 08 05:52	0°♌	
behind sun begin	8541 Aug 30 17:16	15°♎13'02		evening set	8547 Nov 04 23:53	3°♌15'35	
behind sun end	8541 Aug 31 04:43	15°♎16'35					
max. Earth dist.	8541 Aug 31 02:14	15°♎15'48	10.40252 AU	conjunction	8547 Nov 22 19:26	5°♌30'10	1°55'33
morning rise	8541 Sep 17 18:12	17°♎27'26		minimum elong	8547 Nov 22 19:25	5°♌30'09	1°55'43
retrograde	8542 Jan 01 00:53	25°♎20'21		max. Earth dist.	8547 Nov 22 14:19	5°♌28'32	10.27480 AU
asc. node	8542 Jan 18 17:17	25°♎04'01		morning rise	8547 Dec 10 13:07	7°♌44'14	
opposition	8542 Mar 10 15:44	21°♎53'15	0°04'35	retrograde	8548 Mar 22 10:59	15°♌35'36	
min. Earth dist.	8542 Mar 10 13:29	21°♎53'42	8.37596 AU	opposition	8548 May 28 13:50	12°♌10'29	2°26'51
direct	8542 May 17 00:56	18°♎28'45		min. Earth dist.	8548 May 28 17:27	12°♌09'45	8.28796 AU
evening set	8542 Aug 26 23:51	26°♎09'57		direct	8548 Aug 04 20:19	8°♌42'32	
				evening set	8548 Nov 18 05:51	16°♌42'23	
conjunction	8542 Sep 13 18:42	28°♎23'03	0°17'15	conjunction	8548 Dec 05 23:44	18°♌56'11	1°59'26
minimum elong	8542 Sep 13 18:42	28°♎23'03	0°17'14	minimum elong	8548 Dec 05 23:44	18°♌56'11	1°59'38
max. Earth dist.	8542 Sep 13 21:01	28°♎23'46	10.35166 AU	max. Earth dist.	8548 Dec 05 18:22	18°♌54'29	10.30160 AU
	8542 Sep 26 16:22	0°♏		morning rise	8548 Dec 23 14:52	21°♌09'13	
morning rise	8542 Oct 01 15:54	0°♏36'56		retrograde	8549 Apr 05 00:17	28°♌56'53	
retrograde	8543 Jan 14 19:07	8°♏32'01		opposition	8549 Jun 11 02:41	25°♌32'41	2°27'35
opposition	8543 Mar 24 00:01	5°♏04'42	0°38'16	min. Earth dist.	8549 Jun 11 06:43	25°♌31'53	8.32120 AU
min. Earth dist.	8543 Mar 23 22:33	5°♏05'00	8.32964 AU	direct	8549 Aug 18 16:30	22°♌04'54	
direct	8543 May 30 07:07	1°♏39'15			8549 Dec 01 20:47	0°♏	
evening set	8543 Sep 09 22:18	9°♏25'28		evening set	8549 Dec 02 08:13	0°♏03'31	
conjunction	8543 Sep 27 18:58	11°♏39'40	0°43'55	conjunction	8549 Dec 20 00:01	2°♏16'17	1°56'52
minimum elong	8543 Sep 27 18:56	11°♏39'39	0°43'56	minimum elong	8549 Dec 20 00:02	2°♏16'18	1°57'04
max. Earth dist.	8543 Sep 27 19:38	11°♏39'52	10.31020 AU	max. Earth dist.	8549 Dec 19 18:24	2°♏14'31	10.34089 AU
morning rise	8543 Oct 15 17:13	13°♏54'25		morning rise	8550 Jan 06 12:33	4°♏28'07	
retrograde	8544 Jan 28 13:50	21°♏50'49		retrograde	8550 Apr 18 10:35	12°♏11'23	
opposition	8544 Apr 05 10:17	18°♏23'31	1°10'15	opposition	8550 Jun 24 14:23	8°♏48'08	2°20'25
min. Earth dist.	8544 Apr 05 10:11	18°♏23'32	8.29403 AU	min. Earth dist.	8550 Jun 24 19:08	8°♏47'11	8.36583 AU
direct	8544 Jun 11 18:41	14°♏57'12		direct	8550 Sep 01 11:40	5°♏20'43	
evening set	8544 Sep 23 01:35	22°♏48'06		evening set	8550 Dec 16 05:44	13°♏16'45	
conjunction	8544 Oct 10 23:07	25°♏03'00	1°08'25				
minimum elong	8544 Oct 10 23:04	25°♏02'59	1°08'29				

conjunction	8551 Jan 02 19:17	15° \mathfrak{Z} 28'17	1°48'08	direct	8556 Nov 18 20:11	21° \mathfrak{X} 31'43
minimum elong	8551 Jan 02 19:19	15° \mathfrak{Z} 28'17	1°48'21	evening set	8557 Mar 02 10:27	28° \mathfrak{X} 59'51
max. Earth dist.	8551 Jan 02 13:02	15° \mathfrak{Z} 26'19	10.39059 AU		8557 Mar 10 18:08	0° \mathfrak{Y}
morning rise	8551 Jan 20 05:22	17° \mathfrak{Z} 38'47				
retrograde	8551 May 01 16:05	25° \mathfrak{Z} 17'12		conjunction	8557 Mar 19 09:43	1° \mathfrak{Y} 03'15 -0°22'37
opposition	8551 Jul 08 00:10	21° \mathfrak{Z} 54'53	2°05'59	minimum elong	8557 Mar 19 09:42	1° \mathfrak{Y} 03'15 0°22'37
min. Earth dist.	8551 Jul 08 05:20	21° \mathfrak{Z} 53'52	8.41946 AU	max. Earth dist.	8557 Mar 19 06:21	1° \mathfrak{Y} 02'14 10.72555 AU
direct	8551 Sep 15 05:54	18° \mathfrak{Z} 28'00		morning rise	8557 Apr 05 06:57	3° \mathfrak{Y} 06'02
evening set	8551 Dec 29 21:28	26° \mathfrak{Z} 20'16		retrograde	8557 Jul 15 03:14	10° \mathfrak{Y} 23'44
				opposition	8557 Sep 22 09:42	7° \mathfrak{Y} 04'13 -0°42'48
conjunction	8552 Jan 16 08:43	28° \mathfrak{Z} 30'27	1°33'55	min. Earth dist.	8557 Sep 22 11:27	7° \mathfrak{Y} 03'54 8.74423 AU
minimum elong	8552 Jan 16 08:45	28° \mathfrak{Z} 30'27	1°34'07	direct	8557 Dec 01 17:03	3° \mathfrak{Y} 42'11
max. Earth dist.	8552 Jan 16 02:11	28° \mathfrak{Z} 28'24	10.44789 AU	evening set	8558 Mar 14 17:56	11° \mathfrak{Y} 06'23
	8552 Jan 28 08:03	0° \approx				
morning rise	8552 Feb 02 16:28	0° \approx 39'33		conjunction	8558 Mar 31 15:06	13° \mathfrak{Y} 08'45 -0°46'51
retrograde	8552 May 13 16:44	8° \approx 13'03		minimum elong	8558 Mar 31 15:05	13° \mathfrak{Y} 08'44 0°46'53
opposition	8552 Jul 20 07:45	4° \approx 51'34	1°45'19	max. Earth dist.	8558 Mar 31 13:34	13° \mathfrak{Y} 08'17 10.76029 AU
min. Earth dist.	8552 Jul 20 12:39	4° \approx 50'36	8.47895 AU	morning rise	8558 Apr 17 10:48	15° \mathfrak{Y} 10'42
direct	8552 Sep 27 22:25	1° \approx 25'21		retrograde	8558 Jul 27 14:26	22° \mathfrak{Y} 27'57
evening set	8553 Jan 11 06:55	9° \approx 13'00		opposition	8558 Oct 05 04:27	19° \mathfrak{Y} 08'14 -1°11'23
				min. Earth dist.	8558 Oct 05 04:22	19° \mathfrak{Y} 08'15 8.77411 AU
conjunction	8553 Jan 28 15:51	11° \approx 21'44	1°15'08	direct	8558 Dec 14 11:42	15° \mathfrak{Y} 46'53
minimum elong	8553 Jan 28 15:53	11° \approx 21'45	1°15'18	evening set	8559 Mar 26 22:37	23° \mathfrak{Y} 07'44
max. Earth dist.	8553 Jan 28 09:48	11° \approx 19'52	10.50938 AU			
morning rise	8553 Feb 14 21:14	13° \approx 29'24		conjunction	8559 Apr 12 18:00	25° \mathfrak{Y} 09'17 -1°08'53
	8553 Feb 27 13:13	15° \approx		minimum elong	8559 Apr 12 17:58	25° \mathfrak{Y} 09'17 1°08'57
retrograde	8553 May 26 15:10	20° \approx 58'13		max. Earth dist.	8559 Apr 12 18:33	25° \mathfrak{Y} 09'27 10.78458 AU
opposition	8553 Aug 02 12:46	17° \approx 37'25	1°19'43	morning rise	8559 Apr 29 12:24	27° \mathfrak{Y} 10'36
min. Earth dist.	8553 Aug 02 16:42	17° \approx 36'40	8.54081 AU		8559 May 24 13:16	0° \mathfrak{B}
	8553 Sep 10 03:42	15° \mathfrak{R} \approx		retrograde	8559 Aug 09 02:47	4° \mathfrak{B} 28'11
direct	8553 Oct 11 10:00	14° \approx 12'00		opposition	8559 Oct 17 21:56	1° \mathfrak{B} 08'09 -1°36'42
	8553 Nov 11 08:26	15° \approx		min. Earth dist.	8559 Oct 17 20:24	1° \mathfrak{B} 08'26 8.79315 AU
evening set	8554 Jan 24 09:59	21° \approx 54'32			8559 Nov 02 07:31	30° \mathfrak{R} \mathfrak{Y}
				direct	8559 Dec 27 01:20	27° \mathfrak{Y} 47'20
conjunction	8554 Feb 10 16:37	24° \approx 01'50	0°52'54		8560 Feb 17 14:14	0° \mathfrak{B}
minimum elong	8554 Feb 10 16:38	24° \approx 01'50	0°53'02	evening set	8560 Apr 07 01:17	5° \mathfrak{B} 05'33
max. Earth dist.	8554 Feb 10 11:50	24° \approx 00'21	10.57130 AU			
morning rise	8554 Feb 27 19:40	26° \approx 08'05		conjunction	8560 Apr 23 19:10	7° \mathfrak{B} 06'31 -1°27'50
	8554 Apr 03 10:42	0° \mathfrak{X}		minimum elong	8560 Apr 23 19:08	7° \mathfrak{B} 06'30 1°27'56
retrograde	8554 Jun 08 10:13	3° \mathfrak{X} 32'46		max. Earth dist.	8560 Apr 23 21:09	7° \mathfrak{B} 07'07 10.79763 AU
opposition	8554 Aug 15 15:12	0° \mathfrak{X} 12'31	0°50'37	morning rise	8560 May 10 12:50	9° \mathfrak{B} 07'28
min. Earth dist.	8554 Aug 15 18:32	0° \mathfrak{X} 11'53	8.60119 AU		8560 Jul 09 14:30	15° \mathfrak{B}
	8554 Aug 18 08:11	30° \mathfrak{R} \approx		retrograde	8560 Aug 20 13:25	16° \mathfrak{B} 26'14
direct	8554 Oct 24 16:57	26° \approx 47'57			8560 Oct 02 15:52	15° \mathfrak{R} \mathfrak{B}
	8554 Dec 27 16:41	0° \mathfrak{X}		opposition	8560 Oct 29 14:55	13° \mathfrak{B} 05'42 -1°57'45
evening set	8555 Feb 06 07:03	4° \mathfrak{X} 25'19		min. Earth dist.	8560 Oct 29 12:39	13° \mathfrak{B} 06'07 8.80077 AU
				direct	8561 Jan 07 13:21	9° \mathfrak{B} 45'17
conjunction	8555 Feb 23 11:17	6° \mathfrak{X} 31'13	0°28'25		8561 Apr 01 10:27	15° \mathfrak{B}
minimum elong	8555 Feb 23 11:18	6° \mathfrak{X} 31'13	0°28'30	evening set	8561 Apr 19 02:41	17° \mathfrak{B} 01'39
max. Earth dist.	8555 Feb 23 07:16	6° \mathfrak{X} 29'59	10.62970 AU			
morning rise	8555 Mar 12 12:11	8° \mathfrak{X} 36'11		conjunction	8561 May 05 19:34	19° \mathfrak{B} 02'18 -1°42'57
retrograde	8555 Jun 21 02:08	15° \mathfrak{X} 57'35		minimum elong	8561 May 05 19:32	19° \mathfrak{B} 02'17 1°43'05
opposition	8555 Aug 28 15:19	12° \mathfrak{X} 37'46	0°19'33	max. Earth dist.	8561 May 05 22:10	19° \mathfrak{B} 03'05 10.79912 AU
min. Earth dist.	8555 Aug 28 18:34	12° \mathfrak{X} 37'09	8.65649 AU	morning rise	8561 May 22 13:14	21° \mathfrak{B} 03'10
direct	8555 Nov 06 20:44	9° \mathfrak{X} 14'05		retrograde	8561 Sep 02 01:28	28° \mathfrak{B} 23'55
evening set	8556 Feb 18 23:01	16° \mathfrak{X} 46'38		opposition	8561 Nov 11 07:31	25° \mathfrak{B} 02'46 -2°13'41
				min. Earth dist.	8561 Nov 11 04:32	25° \mathfrak{B} 03'20 8.79674 AU
conjunction	8556 Mar 07 00:44	18° \mathfrak{X} 51'13	0°02'55	direct	8562 Jan 20 01:14	21° \mathfrak{B} 42'36
minimum elong	8556 Mar 07 00:43	18° \mathfrak{X} 51'13	0°02'57	evening set	8562 May 01 03:57	28° \mathfrak{B} 57'55
behind sun begin	8556 Mar 06 17:40	18° \mathfrak{X} 49'05			8562 May 09 19:14	0° \mathfrak{I}
behind sun end	8556 Mar 07 07:46	18° \mathfrak{X} 53'21				
max. Earth dist.	8556 Mar 06 20:53	18° \mathfrak{X} 50'05	10.68160 AU	conjunction	8562 May 17 20:42	0° \mathfrak{I} 58'36 -1°53'37
morning rise	8556 Mar 23 23:40	20° \mathfrak{X} 55'00		minimum elong	8562 May 17 20:41	0° \mathfrak{I} 58'36 1°53'47
desc. node	8556 Apr 18 03:08	23° \mathfrak{X} 46'39		max. Earth dist.	8562 May 18 00:36	0° \mathfrak{I} 59'47 10.78901 AU
retrograde	8556 Jul 02 16:03	28° \mathfrak{X} 14'05		morning rise	8562 Jun 03 14:57	2° \mathfrak{I} 59'43
opposition	8556 Sep 09 13:21	24° \mathfrak{X} 54'33	-0°12'03	retrograde	8562 Sep 14 15:24	10° \mathfrak{I} 23'03
min. Earth dist.	8556 Sep 09 16:21	24° \mathfrak{X} 53'59	8.70458 AU	opposition	8562 Nov 23 23:57	7° \mathfrak{I} 01'13 -2°23'51

min. Earth dist.	8562 Nov 23 19:44	7° Π 02'01	8.78110 AU	evening set	8569 Jul 25 16:51	25° Ω 02'51	
direct	8563 Feb 01 11:15	3° Π 41'11					
evening set	8563 May 13 06:00	10° Π 56'17		conjunction	8569 Aug 12 04:08	27° Ω 12'13	-0°47'04
				minimum elong	8569 Aug 12 04:10	27° Ω 12'13	0°47'11
conjunction	8563 May 29 23:30	12° Π 57'22	-1°59'21	max. Earth dist.	8569 Aug 12 10:55	27° Ω 14'19	10.47920 AU
minimum elong	8563 May 29 23:29	12° Π 57'21	1°59'33	morning rise	8569 Aug 29 19:00	29° Ω 22'41	
max. Earth dist.	8563 May 30 05:12	12° Π 59'05	10.76757 AU		8569 Sep 03 22:41	0° \mathbb{N}	
morning rise	8563 Jun 15 18:56	14° Π 59'03		retrograde	8569 Dec 13 05:48	7° \mathbb{N} 11'51	
retrograde	8563 Sep 27 07:40	22° Π 25'33		opposition	8570 Feb 20 07:47	3° \mathbb{N} 45'26	-0°42'19
opposition	8563 Dec 06 17:04	19° Π 02'58	-2°27'48	min. Earth dist.	8570 Feb 20 02:36	3° \mathbb{N} 46'27	8.45189 AU
min. Earth dist.	8563 Dec 06 11:25	19° Π 04'03	8.75432 AU	direct	8570 Apr 28 19:15	0° \mathbb{N} 22'30	
direct	8564 Feb 13 21:45	15° Π 42'56		evening set	8570 Aug 08 01:40	7° \mathbb{N} 56'54	
evening set	8564 May 24 09:47	22° Π 58'37					
				conjunction	8570 Aug 25 16:20	10° \mathbb{N} 07'55	-0°21'15
conjunction	8564 Jun 10 04:44	25° Π 00'25	-1°59'52	minimum elong	8570 Aug 25 16:21	10° \mathbb{N} 07'56	0°21'19
minimum elong	8564 Jun 10 04:44	25° Π 00'25	2°00'05	max. Earth dist.	8570 Aug 25 21:31	10° \mathbb{N} 09'32	10.42566 AU
max. Earth dist.	8564 Jun 10 11:36	25° Π 02'31	10.73559 AU	morning rise	8570 Sep 12 10:24	12° \mathbb{N} 19'59	
morning rise	8564 Jun 27 02:11	27° Π 03'01		retrograde	8570 Dec 26 20:36	20° \mathbb{N} 12'03	
	8564 Jul 23 05:03	0° \mathfrak{C}		opposition	8571 Mar 05 13:32	16° \mathbb{N} 45'23	-0°09'20
retrograde	8564 Oct 09 03:58	4° \mathfrak{C} 33'08		min. Earth dist.	8571 Mar 05 09:50	16° \mathbb{N} 46'07	8.40074 AU
opposition	8564 Dec 18 11:16	1° \mathfrak{C} 09'47	-2°25'13	direct	8571 May 11 21:25	13° \mathbb{N} 21'39	
min. Earth dist.	8564 Dec 18 05:02	1° \mathfrak{C} 10'59	8.71748 AU	asc. node	8571 Jun 17 14:34	14° \mathbb{N} 33'10	
	8565 Jan 03 00:59	30° \mathbb{R} Π		evening set	8571 Aug 21 16:39	21° \mathbb{N} 00'52	
direct	8565 Feb 25 07:55	27° Π 49'35					
	8565 Apr 17 11:41	0° \mathfrak{C}		conjunction	8571 Sep 08 10:13	23° \mathbb{N} 13'22	0°06'02
evening set	8565 Jun 05 16:32	5° \mathfrak{C} 06'38		minimum elong	8571 Sep 08 10:13	23° \mathbb{N} 13'22	0°06'00
				behind sun begin	8571 Sep 08 03:19	23° \mathbb{N} 11'13	
conjunction	8565 Jun 22 13:39	7° \mathfrak{C} 09'31	-1°55'03	behind sun end	8571 Sep 08 17:07	23° \mathbb{N} 15'30	
minimum elong	8565 Jun 22 13:40	7° \mathfrak{C} 09'31	1°55'15	max. Earth dist.	8571 Sep 08 13:31	23° \mathbb{N} 14'22	10.37775 AU
max. Earth dist.	8565 Jun 22 20:25	7° \mathfrak{C} 11'35	10.69446 AU	morning rise	8571 Sep 26 06:45	25° \mathbb{N} 26'44	
morning rise	8565 Jul 09 13:59	9° \mathfrak{C} 13'21			8571 Nov 06 03:15	0° \mathfrak{A}	
retrograde	8565 Oct 22 02:44	16° \mathfrak{C} 47'17		retrograde	8572 Jan 09 13:13	3° \mathfrak{A} 21'02	
opposition	8565 Dec 31 06:43	13° \mathfrak{C} 23'13	-2°16'05		8572 Mar 16 16:39	30° \mathbb{R} \mathbb{N}	
min. Earth dist.	8565 Dec 31 00:47	13° \mathfrak{C} 24'21	8.67217 AU	opposition	8572 Mar 17 21:24	29° \mathbb{N} 54'15	0°24'31
direct	8566 Mar 09 18:25	10° \mathfrak{C} 02'40		min. Earth dist.	8572 Mar 17 19:16	29° \mathbb{N} 54'40	8.35657 AU
evening set	8566 Jun 18 03:00	17° \mathfrak{C} 21'55		direct	8572 May 24 03:55	26° \mathbb{N} 29'40	
					8572 Jul 28 02:38	0° \mathfrak{A}	
conjunction	8566 Jul 05 03:03	19° \mathfrak{C} 26'10	-1°44'56	evening set	8572 Sep 03 13:18	4° \mathfrak{A} 13'43	
minimum elong	8566 Jul 05 03:05	19° \mathfrak{C} 26'10	1°45'08				
max. Earth dist.	8566 Jul 05 09:35	19° \mathfrak{C} 28'10	10.64591 AU	conjunction	8572 Sep 21 09:08	6° \mathfrak{A} 27'23	0°33'07
morning rise	8566 Jul 22 06:50	21° \mathfrak{C} 31'29		minimum elong	8572 Sep 21 09:07	6° \mathfrak{A} 27'22	0°33'08
retrograde	8566 Nov 04 03:02	29° \mathfrak{C} 09'24		max. Earth dist.	8572 Sep 21 10:55	6° \mathfrak{A} 27'56	10.33761 AU
opposition	8567 Jan 13 03:55	25° \mathfrak{C} 44'37	-2°00'35	morning rise	8572 Oct 09 07:08	8° \mathfrak{A} 41'43	
min. Earth dist.	8567 Jan 12 22:18	25° \mathfrak{C} 45'42	8.62038 AU	retrograde	8573 Jan 22 06:30	16° \mathfrak{A} 37'25	
direct	8567 Mar 22 09:21	22° \mathfrak{C} 23'37		opposition	8573 Mar 31 07:03	13° \mathfrak{A} 10'38	0°57'24
evening set	8567 Jun 30 17:56	29° \mathfrak{C} 45'46		min. Earth dist.	8573 Mar 31 06:08	13° \mathfrak{A} 10'49	8.32109 AU
	8567 Jul 02 17:07	0° Ω		direct	8573 Jun 06 15:20	9° \mathfrak{A} 45'14	
				evening set	8573 Sep 17 14:52	17° \mathfrak{A} 33'52	
conjunction	8567 Jul 17 21:33	1° Ω 51'36	-1°29'50				
minimum elong	8567 Jul 17 21:35	1° Ω 51'37	1°30'00	conjunction	8573 Oct 05 12:04	19° \mathfrak{A} 48'21	0°58'40
max. Earth dist.	8567 Jul 18 04:34	1° Ω 53'46	10.59210 AU	minimum elong	8573 Oct 05 12:02	19° \mathfrak{A} 48'20	0°58'43
morning rise	8567 Aug 04 04:59	3° Ω 58'35		max. Earth dist.	8573 Oct 05 12:12	19° \mathfrak{A} 48'23	10.30656 AU
retrograde	8567 Nov 17 08:23	11° Ω 40'31		morning rise	8573 Oct 23 10:24	22° \mathfrak{A} 03'13	
opposition	8568 Jan 26 03:04	8° Ω 15'04	-1°39'12	retrograde	8574 Feb 05 00:38	29° \mathfrak{A} 59'28	
min. Earth dist.	8568 Jan 25 21:14	8° Ω 16'12	8.56454 AU	opposition	8574 Apr 13 18:05	26° \mathfrak{A} 32'52	1°27'25
direct	8568 Apr 03 02:03	4° Ω 53'31		min. Earth dist.	8574 Apr 13 18:23	26° \mathfrak{A} 32'49	8.29529 AU
evening set	8568 Jul 12 14:23	12° Ω 19'11		direct	8574 Jun 20 04:37	23° \mathfrak{A} 06'44	
					8574 Sep 23 17:25	0° \mathbb{M}	
conjunction	8568 Jul 29 21:52	14° Ω 26'47	-1°10'17	evening set	8574 Oct 01 20:05	0° \mathbb{M} 59'32	
minimum elong	8568 Jul 29 21:54	14° Ω 26'47	1°10'26				
max. Earth dist.	8568 Jul 30 05:20	14° Ω 29'05	10.53559 AU	conjunction	8574 Oct 19 17:43	3° \mathbb{M} 14'28	1°21'10
	8568 Aug 03 09:15	15° Ω		minimum elong	8574 Oct 19 17:40	3° \mathbb{M} 14'27	1°21'16
morning rise	8568 Aug 16 09:04	16° Ω 35'32		max. Earth dist.	8574 Oct 19 16:05	3° \mathbb{M} 13'57	10.28567 AU
retrograde	8568 Nov 29 17:54	24° Ω 21'15		morning rise	8574 Nov 06 15:26	5° \mathbb{M} 29'29	
opposition	8569 Feb 07 04:16	20° Ω 55'14	-1°12'44	retrograde	8575 Feb 18 20:30	13° \mathbb{M} 25'27	
min. Earth dist.	8569 Feb 06 22:20	20° Ω 56'24	8.50744 AU	opposition	8575 Apr 27 06:28	9° \mathbb{M} 59'14	1°52'48
direct	8569 Apr 15 20:31	17° Ω 33'02		min. Earth dist.	8575 Apr 27 08:01	9° \mathbb{M} 58'55	8.28042 AU

direct	8575 Jul 03 19:54	6° \mathbb{M} 32'29		evening set	8582 Jan 06 02:29	4° \approx 09'00	
evening set	8575 Oct 16 03:29	14° \mathbb{M} 28'43					
	8575 Oct 20 07:55	15° \mathbb{M}		conjunction	8582 Jan 23 12:33	6° \approx 18'21	1°23'26
				minimum elong	8582 Jan 23 12:36	6° \approx 18'21	1°23'37
conjunction	8575 Nov 03 00:41	16° \mathbb{M} 43'43	1°39'17	max. Earth dist.	8582 Jan 23 06:32	6° \approx 16'28	10.47967 AU
minimum elong	8575 Nov 03 00:38	16° \mathbb{M} 43'42	1°39'25	morning rise	8582 Feb 09 18:49	8° \approx 26'35	
max. Earth dist.	8575 Nov 02 21:08	16° \mathbb{M} 42'35	10.27659 AU		8582 Apr 18 18:20	15° \approx	
morning rise	8575 Nov 20 21:05	18° \mathbb{M} 58'32		retrograde	8582 May 21 15:30	15° \approx 57'07	
retrograde	8576 Mar 03 15:13	26° \mathbb{M} 53'13			8582 Jun 24 00:22	15° \mathbb{R} \approx	
opposition	8576 May 09 19:42	23° \mathbb{M} 27'32	2°12'03	opposition	8582 Jul 28 09:42	12° \approx 35'38	1°30'54
min. Earth dist.	8576 May 09 22:54	23° \mathbb{M} 26'53	8.27820 AU	min. Earth dist.	8582 Jul 28 14:43	12° \approx 34'40	8.50979 AU
direct	8576 Jul 16 14:15	20° \mathbb{M} 00'18		direct	8582 Oct 06 03:47	9° \approx 09'26	
evening set	8576 Oct 29 11:40	27° \mathbb{M} 58'53			8583 Jan 03 05:20	15° \approx	
	8576 Nov 14 12:54	0° \mathbb{J}		evening set	8583 Jan 19 07:47	16° \approx 53'54	
conjunction	8576 Nov 16 07:42	0° \mathbb{J} 13'33	1°51'58	conjunction	8583 Feb 05 15:25	19° \approx 01'49	1°02'32
minimum elong	8576 Nov 16 07:40	0° \mathbb{J} 13'33	1°52'08	minimum elong	8583 Feb 05 15:27	19° \approx 01'50	1°02'41
max. Earth dist.	8576 Nov 16 02:05	0° \mathbb{J} 11'47	10.28085 AU	max. Earth dist.	8583 Feb 05 09:31	19° \approx 00'00	10.53947 AU
morning rise	8576 Dec 04 02:11	2° \mathbb{J} 27'49		morning rise	8583 Feb 22 19:31	21° \approx 08'41	
retrograde	8577 Mar 17 06:55	10° \mathbb{J} 20'07		retrograde	8583 Jun 03 10:03	28° \approx 34'49	
opposition	8577 May 23 09:04	6° \mathbb{J} 55'06	2°24'02	opposition	8583 Aug 10 12:39	25° \approx 13'54	1°03'08
min. Earth dist.	8577 May 23 13:44	6° \mathbb{J} 54'09	8.28959 AU	min. Earth dist.	8583 Aug 10 17:19	25° \approx 13'00	8.56974 AU
direct	8577 Jul 30 11:28	3° \mathbb{J} 27'32		direct	8583 Oct 19 12:59	21° \approx 48'27	
evening set	8577 Nov 12 18:29	11° \mathbb{J} 27'04		evening set	8584 Feb 01 06:59	29° \approx 27'49	
					8584 Feb 05 17:10	0° \mathbb{H}	
conjunction	8577 Nov 30 12:53	13° \mathbb{J} 41'05	1°58'31				
minimum elong	8577 Nov 30 12:52	13° \mathbb{J} 41'05	1°58'42	conjunction	8584 Feb 18 12:09	1° \mathbb{H} 34'18	0°38'53
max. Earth dist.	8577 Nov 30 05:51	13° \mathbb{J} 38'52	10.29888 AU	minimum elong	8584 Feb 18 12:11	1° \mathbb{H} 34'19	0°39'00
morning rise	8577 Dec 18 05:06	15° \mathbb{J} 54'28		max. Earth dist.	8584 Feb 18 06:51	1° \mathbb{H} 32'40	10.59935 AU
retrograde	8578 Mar 30 19:39	23° \mathbb{J} 43'26		morning rise	8584 Mar 06 14:09	3° \mathbb{H} 39'50	
opposition	8578 Jun 05 22:04	20° \mathbb{J} 19'08	2°28'07	retrograde	8584 Jun 15 01:21	11° \mathbb{H} 02'15	
min. Earth dist.	8578 Jun 06 03:29	20° \mathbb{J} 18'03	8.31433 AU	opposition	8584 Aug 22 13:12	7° \mathbb{H} 41'48	0°32'45
direct	8578 Aug 13 08:47	16° \mathbb{J} 51'27		min. Earth dist.	8584 Aug 22 16:28	7° \mathbb{H} 41'10	8.62834 AU
evening set	8578 Nov 26 22:02	24° \mathbb{J} 50'22		direct	8584 Oct 31 19:05	4° \mathbb{H} 17'14	
				evening set	8585 Feb 13 00:23	11° \mathbb{H} 51'30	
conjunction	8578 Dec 14 14:34	27° \mathbb{J} 03'29	1°58'37	conjunction	8585 Mar 02 03:11	13° \mathbb{H} 56'36	0°13'42
minimum elong	8578 Dec 14 14:34	27° \mathbb{J} 03'29	1°58'49	minimum elong	8585 Mar 02 03:11	13° \mathbb{H} 56'36	0°13'46
max. Earth dist.	8578 Dec 14 07:00	27° \mathbb{J} 01'06	10.32988 AU	behind sun begin	8585 Mar 01 23:22	13° \mathbb{H} 55'26	
morning rise	8579 Jan 01 04:20	29° \mathbb{J} 15'45		behind sun end	8585 Mar 02 07:00	13° \mathbb{H} 57'45	
	8579 Jan 07 04:38	0° \mathbb{Z}		max. Earth dist.	8585 Mar 01 23:42	13° \mathbb{H} 55'32	10.65638 AU
retrograde	8579 Apr 13 06:09	7° \mathbb{Z} 00'36		morning rise	8585 Mar 19 03:03	16° \mathbb{H} 00'50	
opposition	8579 Jun 19 09:54	3° \mathbb{Z} 37'02	2°24'12	retrograde	8585 Jun 27 16:21	23° \mathbb{H} 20'24	
min. Earth dist.	8579 Jun 19 15:13	3° \mathbb{Z} 35'58	8.35106 AU	opposition	8585 Sep 04 11:26	20° \mathbb{H} 00'17	0°01'16
direct	8579 Aug 27 05:05	0° \mathbb{Z} 09'27		min. Earth dist.	8585 Sep 04 13:03	19° \mathbb{H} 59'58	8.68288 AU
evening set	8579 Dec 10 21:15	8° \mathbb{Z} 06'19		desc. node	8585 Sep 19 12:46	18° \mathbb{H} 52'39	
				direct	8585 Nov 13 19:46	16° \mathbb{H} 36'41	
conjunction	8579 Dec 28 11:48	10° \mathbb{Z} 18'19	1°52'24	evening set	8586 Feb 25 12:51	24° \mathbb{H} 06'05	
minimum elong	8579 Dec 28 11:50	10° \mathbb{Z} 18'20	1°52'36				
max. Earth dist.	8579 Dec 28 04:39	10° \mathbb{Z} 16'04	10.37204 AU				
morning rise	8580 Jan 14 23:00	12° \mathbb{Z} 29'20		conjunction	8586 Mar 14 13:19	26° \mathbb{H} 09'55	-0°11'56
retrograde	8580 Apr 25 12:55	20° \mathbb{Z} 09'29		minimum elong	8586 Mar 14 13:18	26° \mathbb{H} 09'55	0°11'55
opposition	8580 Jul 01 19:54	16° \mathbb{Z} 46'39	2°12'44	behind sun begin	8586 Mar 14 08:23	26° \mathbb{H} 08'25	
min. Earth dist.	8580 Jul 02 00:55	16° \mathbb{Z} 45'39	8.39761 AU	behind sun end	8586 Mar 14 18:14	26° \mathbb{H} 11'24	
direct	8580 Sep 08 23:39	13° \mathbb{Z} 19'22		max. Earth dist.	8586 Mar 14 11:48	26° \mathbb{H} 09'27	10.70796 AU
evening set	8580 Dec 23 15:01	21° \mathbb{Z} 12'58		morning rise	8586 Mar 31 11:11	28° \mathbb{H} 13'00	
					8586 Apr 15 19:18	0° \mathbb{Y}	
conjunction	8581 Jan 10 03:25	23° \mathbb{Z} 23'41	1°40'24	retrograde	8586 Jul 10 04:22	5° \mathbb{Y} 30'33	
minimum elong	8581 Jan 10 03:27	23° \mathbb{Z} 23'42	1°40'36	opposition	8586 Sep 17 07:31	2° \mathbb{Y} 10'40	-0°29'55
max. Earth dist.	8581 Jan 09 20:58	23° \mathbb{Z} 21'40	10.42289 AU	min. Earth dist.	8586 Sep 17 07:59	2° \mathbb{Y} 10'35	8.73093 AU
morning rise	8581 Jan 27 12:04	25° \mathbb{Z} 33'20			8586 Oct 18 13:21	30° \mathbb{R} \mathbb{H}	
	8581 Mar 08 10:55	0° \approx		direct	8586 Nov 26 15:51	28° \mathbb{H} 48'01	
retrograde	8581 May 08 15:49	3° \approx 08'37			8587 Jan 04 00:39	0° \mathbb{Y}	
	8581 Jul 12 07:23	30° \mathbb{R} \mathbb{Z}		evening set	8587 Mar 09 21:13	6° \mathbb{Y} 13'07	
opposition	8581 Jul 15 04:00	29° \mathbb{Z} 46'29	1°54'34				
min. Earth dist.	8581 Jul 15 08:59	29° \mathbb{Z} 45'30	8.45145 AU	conjunction	8587 Mar 26 19:20	8° \mathbb{Y} 15'46	-0°36'43
direct	8581 Sep 22 15:47	26° \mathbb{Z} 19'40		minimum elong	8587 Mar 26 19:19	8° \mathbb{Y} 15'46	0°36'44
	8581 Nov 30 01:24	0° \approx		max. Earth dist.	8587 Mar 26 18:57	8° \mathbb{Y} 15'39	10.75177 AU

morning rise	8587 Apr 12 15:33	10° Υ 17'54	opposition	8593 Dec 13 04:15	26° Π 02'06	-2°26'50
retrograde	8587 Jul 22 15:00	17° Υ 34'23	min. Earth dist.	8593 Dec 12 23:11	26° Π 03'04	8.76584 AU
opposition	8587 Sep 30 02:03	14° Υ 14'36	direct	8594 Feb 20 04:41	22° Π 42'43	
min. Earth dist.	8587 Sep 30 02:00	14° Υ 14'37	evening set	8594 May 31 14:22	29° Π 57'50	
direct	8587 Dec 09 09:37	10° Υ 52'50		8594 May 31 21:38	0° Θ	
evening set	8588 Mar 21 02:17	18° Υ 14'14				
conjunction	8588 Apr 06 22:12	20° Υ 15'54	conjunction	8594 Jun 17 10:16	1° Θ 59'50	-1°57'39
minimum elong	8588 Apr 06 22:10	20° Υ 15'53	minimum elong	8594 Jun 17 10:17	1° Θ 59'50	1°57'52
max. Earth dist.	8588 Apr 06 22:27	20° Υ 15'58	max. Earth dist.	8594 Jun 17 16:36	2° Θ 01'45	10.74427 AU
morning rise	8588 Apr 23 17:07	22° Υ 17'16	morning rise	8594 Jul 04 09:04	4° Θ 02'42	
retrograde	8588 Aug 03 01:02	29° Υ 33'37	retrograde	8594 Oct 16 15:47	11° Θ 33'35	
opposition	8588 Oct 11 19:18	26° Υ 13'47	opposition	8594 Dec 25 22:07	8° Θ 10'36	-2°20'39
min. Earth dist.	8588 Oct 11 18:11	26° Υ 14'00	min. Earth dist.	8594 Dec 25 16:33	8° Θ 11'40	8.72273 AU
direct	8588 Dec 21 00:20	22° Υ 52'49	direct	8595 Mar 04 14:41	4° Θ 50'57	
	8589 Mar 31 14:58	0° Υ	evening set	8595 Jun 12 22:19	12° Θ 07'59	
evening set	8589 Apr 02 04:52	0° Υ 11'12	conjunction	8595 Jun 29 20:55	14° Θ 11'15	-1°49'55
conjunction	8589 Apr 18 23:09	2° Υ 12'07	minimum elong	8595 Jun 29 20:57	14° Θ 11'15	1°50'07
minimum elong	8589 Apr 18 23:07	2° Υ 12'07	max. Earth dist.	8595 Jun 30 03:33	14° Θ 13'16	10.69620 AU
max. Earth dist.	8589 Apr 19 00:55	2° Υ 12'39	morning rise	8595 Jul 16 22:44	16° Θ 15'30	
morning rise	8589 May 05 17:07	4° Υ 12'58	retrograde	8595 Oct 29 15:27	23° Θ 50'29	
retrograde	8589 Aug 15 10:41	11° Υ 30'06	opposition	8596 Jan 07 17:50	20° Θ 26'42	-2°08'01
opposition	8589 Oct 24 11:35	8° Υ 10'02	min. Earth dist.	8596 Jan 07 12:07	20° Θ 27'48	8.66996 AU
min. Earth dist.	8589 Oct 24 08:47	8° Υ 10'33	direct	8596 Mar 16 03:01	17° Θ 06'35	
direct	8590 Jan 02 13:36	4° Υ 49'45	evening set	8596 Jun 24 10:27	24° Θ 26'18	
evening set	8590 Apr 14 05:53	12° Υ 05'51	conjunction	8596 Jul 11 12:16	26° Θ 31'06	-1°37'04
conjunction	8590 Apr 30 23:09	14° Υ 06'20	minimum elong	8596 Jul 11 12:18	26° Θ 31'07	1°37'15
minimum elong	8590 Apr 30 23:07	14° Υ 06'20	max. Earth dist.	8596 Jul 11 18:21	26° Θ 32'58	10.64010 AU
max. Earth dist.	8590 May 01 03:05	14° Υ 07'32	morning rise	8596 Jul 28 17:45	28° Θ 37'01	
	8590 May 08 08:42	15° Υ		8596 Aug 09 11:45	0° Ω	
morning rise	8590 May 17 16:36	16° Υ 06'55	retrograde	8596 Nov 10 19:26	6° Ω 16'10	
retrograde	8590 Aug 27 23:06	23° Υ 25'38	opposition	8597 Jan 19 15:30	2° Ω 51'34	-1°49'19
opposition	8590 Nov 06 03:22	20° Υ 05'12	min. Earth dist.	8597 Jan 19 10:26	2° Ω 52'33	8.61065 AU
min. Earth dist.	8590 Nov 05 22:58	20° Υ 06'01		8597 Mar 04 23:21	30° \Re Θ	
direct	8591 Jan 15 00:35	16° Υ 45'27	direct	8597 Mar 28 16:38	29° Θ 30'45	
evening set	8591 Apr 26 06:30	24° Υ 00'05	evening set	8597 Apr 21 05:24	0° Ω	
conjunction	8591 May 12 23:13	26° Υ 00'24		8597 Jul 07 03:49	6° Ω 53'53	
minimum elong	8591 May 12 23:11	26° Υ 00'24	conjunction	8597 Jul 24 09:16	9° Ω 00'24	-1°19'31
max. Earth dist.	8591 May 13 04:21	26° Υ 01'58	minimum elong	8597 Jul 24 09:19	9° Ω 00'25	1°19'40
morning rise	8591 May 29 16:49	28° Υ 01'03	max. Earth dist.	8597 Jul 24 14:12	9° Ω 01'55	10.57911 AU
	8591 Jun 15 23:48	0° Π	morning rise	8597 Aug 10 18:43	11° Ω 08'07	
retrograde	8591 Sep 09 12:39	5° Π 21'59		8597 Sep 14 09:37	15° Ω	
opposition	8591 Nov 18 19:07	2° Π 01'06	retrograde	8597 Nov 24 01:27	18° Ω 51'17	
min. Earth dist.	8591 Nov 18 14:12	2° Π 02'01	opposition	8598 Feb 01 15:07	15° Ω 25'54	-1°25'09
	8591 Dec 17 15:35	30° \Re Υ	min. Earth dist.	8598 Feb 01 11:10	15° Ω 26'40	8.54803 AU
direct	8592 Jan 27 08:32	28° Υ 41'42		8598 Feb 07 04:00	15° \Re Ω	
	8592 Mar 07 01:52	0° Π	direct	8598 Apr 10 09:49	12° Ω 04'14	
evening set	8592 May 07 07:33	5° Π 55'40		8598 Jun 08 16:11	15° Ω	
conjunction	8592 May 24 00:23	7° Π 56'10	evening set	8598 Jul 20 02:50	19° Ω 31'26	
minimum elong	8592 May 24 00:22	7° Π 56'10	conjunction	8598 Aug 06 12:10	21° Ω 39'47	-0°57'56
max. Earth dist.	8592 May 24 05:44	7° Π 57'48	minimum elong	8598 Aug 06 12:12	21° Ω 39'48	0°58'03
morning rise	8592 Jun 09 19:02	9° Π 57'13	max. Earth dist.	8598 Aug 06 16:39	21° Ω 41'10	10.51634 AU
retrograde	8592 Sep 21 02:07	17° Π 21'00	morning rise	8598 Aug 24 01:25	23° Ω 49'18	
opposition	8592 Nov 30 11:21	13° Π 59'30		8598 Oct 24 08:57	0° \Re	
min. Earth dist.	8592 Nov 30 06:24	14° Π 00'26	retrograde	8598 Dec 07 09:46	1° \Re 36'16	
direct	8593 Feb 07 18:25	10° Π 40'13		8599 Jan 21 03:56	30° \Re Ω	
evening set	8593 May 19 09:46	17° Π 54'20	opposition	8599 Feb 14 17:03	28° Ω 10'10	-0°56'29
conjunction	8593 Jun 05 03:40	19° Π 55'24	min. Earth dist.	8599 Feb 14 13:37	28° Ω 10'51	8.48526 AU
minimum elong	8593 Jun 05 03:40	19° Π 55'24	direct	8599 Apr 23 08:01	24° Ω 47'35	
max. Earth dist.	8593 Jun 05 09:13	19° Π 57'05	evening set	8599 Jul 13 13:21	0° \Re	
morning rise	8593 Jun 22 00:06	21° Π 57'11		8599 Aug 02 07:49	2° \Re 19'18	
retrograde	8593 Oct 03 19:24	29° Π 24'18	conjunction	8599 Aug 19 20:57	4° \Re 29'28	-0°33'14
			minimum elong	8599 Aug 19 20:58	4° \Re 29'28	0°33'19

max. Earth dist.	8599 Aug 20 01:14	4° <u>♊</u> 30'48	10.45485 AU
morning rise	8599 Sep 06 13:34	6° <u>♊</u> 40'42	
retrograde	8599 Dec 20 22:50	14° <u>♊</u> 31'06	
opposition	8600 Feb 27 21:17	11° <u>♊</u> 04'24	-0°24'34
min. Earth dist.	8600 Feb 27 18:08	11° <u>♊</u> 05'01	8.42541 AU
direct	8600 May 06 08:07	7° <u>♊</u> 40'50	
evening set	8600 Aug 15 19:20	15° <u>♊</u> 17'27	

conjunction	8600 Sep 02 11:47	17° <u>♊</u> 29'16	-0°06'35
minimum elong	8600 Sep 02 11:47	17° <u>♊</u> 29'16	0°06'39
behind sun begin	8600 Sep 02 05:01	17° <u>♊</u> 27'10	
behind sun end	8600 Sep 02 18:33	17° <u>♊</u> 31'22	
max. Earth dist.	8600 Sep 02 15:25	17° <u>♊</u> 30'22	10.39764 AU
morning rise	8600 Sep 20 07:09	19° <u>♊</u> 42'01	
asc. node	8600 Dec 02 12:09	26° <u>♊</u> 42'00	
retrograde	8601 Jan 03 14:52	27° <u>♊</u> 35'12	
opposition	8601 Mar 13 03:35	24° <u>♊</u> 08'06	0°09'02
min. Earth dist.	8601 Mar 13 01:05	24° <u>♊</u> 08'36	8.37143 AU
direct	8601 May 19 11:30	20° <u>♊</u> 43'33	
evening set	8601 Aug 29 13:01	28° <u>♊</u> 25'15	
	8601 Sep 11 05:31	0° <u>♊</u>	

conjunction	8601 Sep 16 08:01	0° <u>♊</u> 38'28	0°20'47
minimum elong	8601 Sep 16 08:00	0° <u>♊</u> 38'27	0°20'46
max. Earth dist.	8601 Sep 16 09:55	0° <u>♊</u> 39'03	10.34753 AU
morning rise	8601 Oct 04 05:20	2° <u>♊</u> 52'26	