

direct	3100 Feb 06 04:22	23° <b>8</b> 14'45		max. Earth dist.	3107 May 23 13:15	1° <b>II</b> 19'46	50.35994 AU
				retrograde	3107 Sep 02 11:04	2° <b>II</b> 47'31	
conjunction	3100 May 15 05:59	24° <b>8</b> 40'35 -15°49'59		min. Earth dist.	3107 Nov 24 10:25	1° <b>II</b> 48'54	48.42920 AU
minimum elong	3100 May 15 06:09	24° <b>8</b> 40'36 15°50'00		opposition	3107 Nov 25 03:54	1° <b>II</b> 48'05	-15°41'11
max. Earth dist.	3100 May 16 10:27	24° <b>8</b> 42'13 50.27988 AU		direct	3108 Feb 14 13:35	0° <b>II</b> 49'42	
retrograde	3100 Aug 25 23:27	26° <b>8</b> 10'02					
opposition	3100 Nov 17 20:29	25° <b>8</b> 10'21 -16°25'56		conjunction	3108 May 22 23:22	2° <b>II</b> 15'04	-15°00'51
min. Earth dist.	3100 Nov 16 18:55	25° <b>8</b> 11'33 48.37226 AU		minimum elong	3108 May 22 23:31	2° <b>II</b> 15'04	15°00'51
direct	3101 Feb 07 07:57	24° <b>8</b> 11'51		max. Earth dist.	3108 May 23 18:27	2° <b>II</b> 16'08	50.35406 AU
				retrograde	3108 Sep 02 13:11	3° <b>II</b> 43'48	
conjunction	3101 May 16 11:16	25° <b>8</b> 37'38 -15°44'37		opposition	3108 Nov 25 08:10	2° <b>II</b> 44'23	-15°33'51
minimum elong	3101 May 16 11:24	25° <b>8</b> 37'38 15°44'36		min. Earth dist.	3108 Nov 24 15:29	2° <b>II</b> 45'09	48.42056 AU
max. Earth dist.	3101 May 17 14:45	25° <b>8</b> 39'11 50.30594 AU		direct	3109 Feb 14 20:05	1° <b>II</b> 45'59	
retrograde	3101 Aug 27 06:06	27° <b>8</b> 06'59		evening set	3109 May 22 06:58	3° <b>II</b> 08'44	
min. Earth dist.	3101 Nov 17 23:36	26° <b>8</b> 08'34 48.39516 AU					
opposition	3101 Nov 19 00:57	26° <b>8</b> 07'23 -16°20'13		conjunction	3109 May 24 04:15	3° <b>II</b> 11'18	-14°53'40
direct	3102 Feb 08 09:46	25° <b>8</b> 08'57		minimum elong	3109 May 24 04:26	3° <b>II</b> 11'18	14°53'40
				max. Earth dist.	3109 May 24 21:38	3° <b>II</b> 12'17	50.34509 AU
conjunction	3102 May 17 16:27	26° <b>8</b> 34'41 -15°39'01		morning rise	3109 May 26 01:58	3° <b>II</b> 13'53	
minimum elong	3102 May 17 16:37	26° <b>8</b> 34'41 15°39'01		retrograde	3109 Sep 03 16:17	4° <b>II</b> 39'59	
max. Earth dist.	3102 May 18 17:53	26° <b>8</b> 36'08 50.32740 AU		opposition	3109 Nov 26 12:20	3° <b>II</b> 40'34	-15°26'16
retrograde	3102 Aug 28 11:02	28° <b>8</b> 03'58		min. Earth dist.	3109 Nov 25 19:59	3° <b>II</b> 41'20	48.40902 AU
min. Earth dist.	3102 Nov 19 06:16	27° <b>8</b> 05'31 48.41329 AU		direct	3110 Feb 16 01:59	2° <b>II</b> 42'10	
opposition	3102 Nov 20 05:39	27° <b>8</b> 04'26 -16°14'16		evening set	3110 May 22 14:30	4° <b>II</b> 03'41	
direct	3103 Feb 09 14:05	26° <b>8</b> 06'02					
				conjunction	3110 May 25 09:14	4° <b>II</b> 07'27	-14°46'15
conjunction	3103 May 18 21:45	27° <b>8</b> 31'43 -15°33'12		minimum elong	3110 May 25 09:24	4° <b>II</b> 07'28	14°46'15
minimum elong	3103 May 18 21:55	27° <b>8</b> 31'43 15°33'11		max. Earth dist.	3110 May 26 02:02	4° <b>II</b> 08'24	50.33320 AU
max. Earth dist.	3103 May 19 22:49	27° <b>8</b> 33'08 50.34383 AU		morning rise	3110 May 28 04:25	4° <b>II</b> 11'15	
retrograde	3103 Aug 29 12:04	29° <b>8</b> 00'55		retrograde	3110 Sep 04 22:04	5° <b>II</b> 36'06	
opposition	3103 Nov 21 10:16	28° <b>8</b> 01'25 -16°08'06		opposition	3110 Nov 27 16:40	4° <b>II</b> 36'42	-15°18'26
min. Earth dist.	3103 Nov 20 12:09	28° <b>8</b> 02'27 48.42601 AU		min. Earth dist.	3110 Nov 27 01:58	4° <b>II</b> 37'24	48.39456 AU
direct	3104 Feb 10 22:01	27° <b>8</b> 03'03		direct	3111 Feb 17 07:11	3° <b>II</b> 38'19	
				evening set	3111 May 23 03:05	4° <b>II</b> 58'54	
conjunction	3104 May 19 03:01	28° <b>8</b> 28'40 -15°27'10					
minimum elong	3104 May 19 03:10	28° <b>8</b> 28'41 15°27'10		conjunction	3111 May 26 14:11	5° <b>II</b> 03'35	-14°38'35
max. Earth dist.	3104 May 20 01:40	28° <b>8</b> 29'58 50.35496 AU		minimum elong	3111 May 26 14:23	5° <b>II</b> 03'36	14°38'35
retrograde	3104 Aug 29 17:01	29° <b>8</b> 57'47		max. Earth dist.	3111 May 27 06:25	5° <b>II</b> 04'30	50.31854 AU
opposition	3104 Nov 21 14:40	28° <b>8</b> 58'19 -16°01'42		morning rise	3111 May 30 01:48	5° <b>II</b> 08'19	
min. Earth dist.	3104 Nov 20 17:22	28° <b>8</b> 59'19 48.43353 AU		retrograde	3111 Sep 06 05:04	6° <b>II</b> 32'12	
direct	3105 Feb 11 03:33	27° <b>8</b> 59'57		opposition	3111 Nov 28 20:52	5° <b>II</b> 32'51	-15°10'21
				min. Earth dist.	3111 Nov 28 06:05	5° <b>II</b> 33'32	48.37703 AU
conjunction	3105 May 20 08:14	29° <b>8</b> 25'30 -15°20'56		direct	3112 Feb 18 09:17	4° <b>II</b> 34'28	
minimum elong	3105 May 20 08:25	29° <b>8</b> 25'31 15°20'55		evening set	3112 May 22 18:06	5° <b>II</b> 54'17	
max. Earth dist.	3105 May 21 05:57	29° <b>8</b> 26'44 50.36093 AU					
	3105 Jun 15 08:37	0° <b>II</b>		conjunction	3112 May 26 19:12	5° <b>II</b> 59'45	-14°30'40
retrograde	3105 Aug 30 23:07	0° <b>II</b> 54'32		minimum elong	3112 May 26 19:22	5° <b>II</b> 59'46	14°30'40
	3105 Nov 18 09:46	30° <b>R</b> <b>8</b>		max. Earth dist.	3112 May 27 09:34	6° <b>II</b> 00'34	50.30055 AU
opposition	3105 Nov 22 19:13	29° <b>8</b> 55'05 -15°55'06		morning rise	3112 May 30 20:53	6° <b>II</b> 05'15	
min. Earth dist.	3105 Nov 22 00:02	29° <b>8</b> 55'59 48.43612 AU		retrograde	3112 Sep 06 10:59	7° <b>II</b> 28'21	
direct	3106 Feb 12 08:53	28° <b>8</b> 56'43		opposition	3112 Nov 29 01:04	6° <b>II</b> 29'02	-15°02'01
	3106 May 05 00:56	0° <b>II</b>		min. Earth dist.	3112 Nov 28 12:08	6° <b>II</b> 29'38	48.35604 AU
				direct	3113 Feb 18 11:56	5° <b>II</b> 30'41	
conjunction	3106 May 21 13:14	0° <b>II</b> 22'11 -15°14'28		evening set	3113 May 23 10:51	6° <b>II</b> 49'48	
minimum elong	3106 May 21 13:23	0° <b>II</b> 22'11 15°14'29					
max. Earth dist.	3106 May 22 10:09	0° <b>II</b> 23'22 50.36244 AU		conjunction	3113 May 28 00:24	6° <b>II</b> 55'59	-14°22'32
retrograde	3106 Sep 01 05:09	1° <b>II</b> 51'06		minimum elong	3113 May 28 00:35	6° <b>II</b> 55'59	14°22'32
opposition	3106 Nov 23 23:34	0° <b>II</b> 51'40 -15°48'16		max. Earth dist.	3113 May 28 14:37	6° <b>II</b> 56'47	50.27877 AU
min. Earth dist.	3106 Nov 23 04:31	0° <b>II</b> 52'33 48.43446 AU		morning rise	3113 Jun 01 14:33	7° <b>II</b> 02'11	
	3107 Jan 19 10:21	30° <b>R</b> <b>8</b>		retrograde	3113 Sep 07 13:05	8° <b>II</b> 24'34	
direct	3107 Feb 13 11:41	29° <b>8</b> 53'17		opposition	3113 Nov 30 05:18	7° <b>II</b> 25'17	-14°53'27
	3107 Mar 10 08:33	0° <b>II</b>		min. Earth dist.	3113 Nov 29 17:26	7° <b>II</b> 25'51	48.33079 AU
				direct	3114 Feb 19 18:08	6° <b>II</b> 26'57	
conjunction	3107 May 22 18:13	1° <b>II</b> 18'42 -15°07'46		evening set	3114 May 24 04:32	7° <b>II</b> 45'29	
minimum elong	3107 May 22 18:24	1° <b>II</b> 18'42 15°07'46					

conjunction	3114 May 29 05:21	7°II52'18	-14°14'10	direct	3121 Feb 26 02:53	13°II01'33
minimum elong	3114 May 29 05:32	7°II52'18	14°14'10	evening set	3121 May 28 01:29	14°II16'47
max. Earth dist.	3114 May 29 17:20	7°II52'58	50.25250 AU			
morning rise	3114 Jun 03 06:52	7°II59'09		conjunction	3121 Jun 04 17:45	14°II27'09 -13°09'47
retrograde	3114 Sep 08 17:44	9°II20'53		minimum elong	3121 Jun 04 17:55	14°II27'10 13°09'47
opposition	3114 Dec 01 09:37	8°II21'38	-14°44'40	max. Earth dist.	3121 Jun 04 21:20	14°II27'22 49.93042 AU
min. Earth dist.	3114 Nov 30 22:35	8°II22'09	48.30075 AU	morning rise	3121 Jun 12 10:56	14°II37'36
direct	3115 Feb 20 23:13	7°II23'18		retrograde	3121 Sep 15 06:54	15°II55'49
evening set	3115 May 24 23:13	8°II41'17		opposition	3121 Dec 07 15:12	14°II56'30 -13°37'07
				min. Earth dist.	3121 Dec 07 12:14	14°II56'38 47.95395 AU
conjunction	3115 May 30 10:38	8°II48'41	-14°05'36	direct	3122 Feb 27 04:43	13°II57'56
minimum elong	3115 May 30 10:49	8°II48'41	14°05'37	evening set	3122 May 28 22:45	15°II12'49
max. Earth dist.	3115 May 30 21:29	8°II49'17	50.22100 AU			
morning rise	3115 Jun 04 22:47	8°II56'08		conjunction	3122 Jun 05 22:42	15°II23'37 -12°59'40
retrograde	3115 Sep 09 23:34	10°II17'17		minimum elong	3122 Jun 05 22:54	15°II23'38 12°59'41
opposition	3115 Dec 02 13:56	9°II18'03	-14°35'41	max. Earth dist.	3122 Jun 06 00:34	15°II23'44 49.86912 AU
min. Earth dist.	3115 Dec 02 05:16	9°II18'27	48.26527 AU	morning rise	3122 Jun 13 23:46	15°II34'30
direct	3116 Feb 22 04:16	8°II19'43		retrograde	3122 Sep 16 13:45	16°II52'20
evening set	3116 May 24 18:42	9°II37'10		opposition	3122 Dec 08 19:35	15°II53'00 -13°26'31
				min. Earth dist.	3122 Dec 08 18:13	15°II53'04 47.88984 AU
conjunction	3116 May 30 15:58	9°II45'07	-13°56'50	direct	3123 Feb 28 06:21	14°II54'25
minimum elong	3116 May 30 16:09	9°II45'07	13°56'50	evening set	3123 May 29 20:28	16°II08'56
max. Earth dist.	3116 May 31 01:32	9°II45'39	50.18417 AU			
morning rise	3116 Jun 05 13:57	9°II53'07		conjunction	3123 Jun 07 04:01	16°II20'11 -12°49'19
retrograde	3116 Sep 10 05:37	11°II13'43		minimum elong	3123 Jun 07 04:12	16°II20'11 12°49'19
opposition	3116 Dec 02 18:10	10°II14'29	-14°26'29	max. Earth dist.	3123 Jun 07 05:54	16°II20'17 49.80490 AU
min. Earth dist.	3116 Dec 02 09:54	10°II14'52	48.22432 AU	morning rise	3123 Jun 15 12:33	16°II31'29
direct	3117 Feb 22 07:22	9°II16'07		retrograde	3123 Sep 17 16:00	17°II48'57
evening set	3117 May 25 14:28	10°II33'04		opposition	3123 Dec 09 23:45	16°II49'36 -13°15'40
				min. Earth dist.	3123 Dec 09 23:02	16°II49'38 47.82259 AU
conjunction	3117 May 31 21:03	10°II41'33	-13°47'52	direct	3124 Feb 29 12:30	15°II50'59
minimum elong	3117 May 31 21:14	10°II41'33	13°47'52	evening set	3124 May 29 18:33	17°II05'12
max. Earth dist.	3117 Jun 01 04:16	10°II41'57	50.14190 AU			
morning rise	3117 Jun 07 04:31	10°II50'04		conjunction	3124 Jun 07 09:16	17°II16'52 -12°38'44
retrograde	3117 Sep 11 12:06	12°II10'08		minimum elong	3124 Jun 07 09:28	17°II16'53 12°38'45
opposition	3117 Dec 03 22:27	11°II10'54	-14°17'04	max. Earth dist.	3124 Jun 07 09:15	17°II16'52 49.73754 AU
min. Earth dist.	3117 Dec 03 16:11	11°II11'11	48.17829 AU	morning rise	3124 Jun 16 01:11	17°II28'35
direct	3118 Feb 23 09:23	10°II12'30		retrograde	3124 Sep 17 19:30	18°II45'42
evening set	3118 May 26 10:44	11°II28'59		opposition	3124 Dec 10 04:02	17°II46'21 -13°04'34
				min. Earth dist.	3124 Dec 10 04:02	17°II46'21 47.75200 AU
conjunction	3118 Jun 02 02:17	11°II37'58	-13°38'41	direct	3125 Mar 01 18:21	16°II47'42
minimum elong	3118 Jun 02 02:29	11°II37'59	13°38'41	evening set	3125 May 30 16:42	18°II01'39
max. Earth dist.	3118 Jun 02 09:20	11°II38'22	50.09488 AU			
morning rise	3118 Jun 08 18:39	11°II47'00		conjunction	3125 Jun 08 14:37	18°II13'42 -12°27'55
retrograde	3118 Sep 12 14:41	13°II06'33		minimum elong	3125 Jun 08 14:49	18°II13'43 12°27'55
opposition	3118 Dec 05 02:39	12°II07'18	-14°07'26	max. Earth dist.	3125 Jun 08 13:44	18°II13'39 49.66635 AU
min. Earth dist.	3118 Dec 04 21:19	12°II07'33	48.12769 AU	morning rise	3125 Jun 17 13:42	18°II25'50
direct	3119 Feb 24 15:26	11°II08'51		retrograde	3125 Sep 19 00:30	19°II42'39
evening set	3119 May 27 07:18	12°II24'54		opposition	3125 Dec 11 08:24	18°II43'17 -12°53'14
				min. Earth dist.	3125 Dec 11 10:27	18°II43'11 47.67729 AU
conjunction	3119 Jun 03 07:19	12°II34'22	-13°29'17	direct	3126 Mar 03 00:04	17°II44'36
minimum elong	3119 Jun 03 07:30	12°II34'22	13°29'17	evening set	3126 May 31 15:20	18°II58'16
max. Earth dist.	3119 Jun 03 12:22	12°II34'39	50.04368 AU			
morning rise	3119 Jun 10 08:17	12°II43'52		conjunction	3126 Jun 09 20:07	19°II10'43 -12°16'53
retrograde	3119 Sep 13 18:14	14°II02'58		minimum elong	3126 Jun 09 20:19	19°II10'43 12°16'53
opposition	3119 Dec 06 06:52	13°II03'41	-13°57'34	max. Earth dist.	3126 Jun 09 18:11	19°II10'36 49.59091 AU
min. Earth dist.	3119 Dec 06 02:15	13°II03'54	48.07321 AU	morning rise	3126 Jun 19 02:01	19°II23'15
direct	3120 Feb 25 20:52	12°II05'12		retrograde	3126 Sep 20 06:59	20°II39'44
evening set	3120 May 27 04:13	13°II20'50		opposition	3126 Dec 12 12:42	19°II40'22 -12°41'41
				min. Earth dist.	3126 Dec 12 15:07	19°II40'15 47.59792 AU
conjunction	3120 Jun 03 12:33	13°II30'45	-13°19'39	direct	3127 Mar 04 03:39	18°II41'38
minimum elong	3120 Jun 03 12:45	13°II30'45	13°19'38	evening set	3127 Jun 01 14:08	19°II55'01
max. Earth dist.	3120 Jun 03 16:47	13°II30'59	49.98864 AU			
morning rise	3120 Jun 10 21:52	13°II40'44		conjunction	3127 Jun 11 01:37	20°II07'52 -12°05'37
retrograde	3120 Sep 13 23:11	14°II59'23		minimum elong	3127 Jun 11 01:49	20°II07'52 12°05'37
opposition	3120 Dec 06 11:02	14°II00'04	-13°47'28	max. Earth dist.	3127 Jun 10 21:14	20°II07'37 49.51040 AU
min. Earth dist.	3120 Dec 06 08:10	14°II00'12	48.01514 AU	morning rise	3127 Jun 20 14:28	20°II20'48

retrograde	3127 Sep 21 15:24	21°II36'58	minimum elong	3134 Jun 17 17:44	26°II49'32	10°40'42
opposition	3127 Dec 13 17:16	20°II37'33 -12°29'55	max. Earth dist.	3134 Jun 17 04:51	26°II48'48	48.81878 AU
min. Earth dist.	3127 Dec 13 21:50	20°II37'21 47.51333 AU	morning rise	3134 Jun 29 01:24	27°II04'59	
direct	3128 Mar 04 05:19	19°II38'45	retrograde	3134 Sep 28 01:57	28°II19'20	
evening set	3128 Jun 01 13:14	20°II51'52	opposition	3134 Dec 20 01:06	27°II19'26	-11°01'03
			min. Earth dist.	3134 Dec 20 12:34	27°II18'54	46.79801 AU
conjunction	3128 Jun 11 07:25	21°II05'07 -11°54'10	direct	3135 Mar 11 16:29	26°II19'59	
minimum elong	3128 Jun 11 07:36	21°II05'07 11°54'10	evening set	3135 Jun 07 11:25	27°II31'39	
max. Earth dist.	3128 Jun 11 02:31	21°II04'50 49.42456 AU				
morning rise	3128 Jun 21 02:43	21°II18'25	conjunction	3135 Jun 18 23:30	27°II47'22	-10°27'37
retrograde	3128 Sep 21 19:32	22°II34'17	minimum elong	3135 Jun 18 23:42	27°II47'23	10°27'37
opposition	3128 Dec 13 21:40	21°II34'49 -12°17'56	max. Earth dist.	3135 Jun 18 10:11	27°II46'36	48.70690 AU
min. Earth dist.	3128 Dec 14 03:23	21°II34'33 47.42331 AU	morning rise	3135 Jun 30 12:59	28°II03'10	
direct	3129 Mar 05 10:36	20°II35'56	retrograde	3135 Sep 29 06:56	29°II17'21	
evening set	3129 Jun 02 12:35	21°II48'48	opposition	3135 Dec 21 05:59	28°II17'24	-10°47'21
			min. Earth dist.	3135 Dec 21 19:04	28°II16'47	46.68328 AU
conjunction	3129 Jun 12 13:01	22°II02'24 -11°42'29	direct	3136 Mar 11 22:42	27°II17'53	
minimum elong	3129 Jun 12 13:13	22°II02'24 11°42'29	evening set	3136 Jun 07 12:03	28°II29'26	
max. Earth dist.	3129 Jun 12 05:48	22°II01'59 49.33358 AU				
morning rise	3129 Jun 22 14:50	22°II16'04	conjunction	3136 Jun 19 05:35	28°II45'29	-10°14'17
retrograde	3129 Sep 22 23:59	23°II31'38	minimum elong	3136 Jun 19 05:46	28°II45'29	10°14'16
opposition	3129 Dec 15 02:11	22°II32'06 -12°05'43	max. Earth dist.	3136 Jun 18 15:31	28°II44'40	48.59228 AU
min. Earth dist.	3129 Dec 15 08:52	22°II31'47 47.32843 AU	morning rise	3136 Jul 01 00:27	29°II01'38	
direct	3130 Mar 06 15:35	21°II33'07		3136 Aug 21 18:22	0°☾	
evening set	3130 Jun 03 11:46	22°II45'44	retrograde	3136 Sep 29 13:47	0°☾15'39	
				3136 Nov 07 18:09	30°RII	
conjunction	3130 Jun 13 18:34	22°II59'42 -11°30'36	opposition	3136 Dec 21 10:41	29°II15'41	-10°33'23
minimum elong	3130 Jun 13 18:45	22°II59'43 11°30'37	min. Earth dist.	3136 Dec 21 23:47	29°II15'03	46.56556 AU
max. Earth dist.	3130 Jun 13 10:19	22°II59'14 49.23780 AU	direct	3137 Mar 13 02:42	28°II16'05	
morning rise	3130 Jun 24 02:41	23°II13'45	evening set	3137 Jun 08 12:53	29°II27'32	
retrograde	3130 Sep 24 03:13	24°II29'02				
opposition	3130 Dec 16 06:48	23°II29'25 -11°53'17	conjunction	3137 Jun 20 11:41	29°II43'56	-10°00'42
min. Earth dist.	3130 Dec 16 15:23	23°II29'01 47.22904 AU	minimum elong	3137 Jun 20 11:53	29°II43'56	10°00'42
direct	3131 Mar 07 23:04	22°II30'20	max. Earth dist.	3137 Jun 19 19:38	29°II43'00	48.47431 AU
evening set	3131 Jun 04 11:26	23°II42'43	morning rise	3137 Jul 02 12:05	0°☾00'25	
				3137 Jul 02 04:42	0°☾	
conjunction	3131 Jun 15 00:20	23°II57'02 -11°18'29	retrograde	3137 Sep 30 23:01	1°☾14'19	
minimum elong	3131 Jun 15 00:32	23°II57'03 11°18'29	opposition	3137 Dec 22 15:44	0°☾14'18	-10°19'11
max. Earth dist.	3131 Jun 14 15:20	23°II56'31 49.13800 AU	min. Earth dist.	3137 Dec 23 06:48	0°☾13'35	46.44429 AU
morning rise	3131 Jun 25 14:29	24°II11'27		3138 Jan 04 05:30	30°RII	
retrograde	3131 Sep 25 09:42	25°II26'28	direct	3138 Mar 14 04:35	29°II14'38	
opposition	3131 Dec 17 11:11	24°II26'46 -11°40'36		3138 May 20 11:49	0°☾	
min. Earth dist.	3131 Dec 17 19:53	24°II26'21 47.12587 AU	evening set	3138 Jun 09 13:46	0°☾26'01	
direct	3132 Mar 08 03:08	23°II27'35				
evening set	3132 Jun 04 11:14	24°II39'45	conjunction	3138 Jun 21 17:57	0°☾42'44	-9°46'53
			minimum elong	3138 Jun 21 18:08	0°☾42'45	9°46'52
conjunction	3132 Jun 15 06:03	24°II54'25 -11°06'08	max. Earth dist.	3138 Jun 21 01:43	0°☾41'48	48.35239 AU
minimum elong	3132 Jun 15 06:14	24°II54'26 11°06'08	morning rise	3138 Jul 03 23:25	0°☾59'33	
max. Earth dist.	3132 Jun 14 19:02	24°II53'48 49.03454 AU	retrograde	3138 Oct 02 05:14	2°☾13'19	
morning rise	3132 Jun 26 02:21	25°II09'11	opposition	3138 Dec 23 20:49	1°☾13'15	-10°04'43
retrograde	3132 Sep 25 17:40	26°II23'57	min. Earth dist.	3138 Dec 24 12:46	1°☾12'30	46.31860 AU
opposition	3132 Dec 17 15:50	25°II24'11 -11°27'41	direct	3139 Mar 15 09:27	0°☾13'31	
min. Earth dist.	3132 Dec 18 02:21	25°II23'42 47.01941 AU	evening set	3139 Jun 10 15:17	1°☾24'50	
direct	3133 Mar 09 04:54	24°II24'54	max. Earth dist.	3139 Jun 22 05:45	1°☾40'48	48.22582 AU
evening set	3133 Jun 05 11:03	25°II36'52				
			conjunction	3139 Jun 23 00:25	1°☾41'53	-9°32'50
conjunction	3133 Jun 16 11:49	25°II51'54 -10°53'33	minimum elong	3139 Jun 23 00:36	1°☾41'53	9°32'51
minimum elong	3133 Jun 16 12:01	25°II51'55 10°53'32	morning rise	3139 Jul 05 11:07	1°☾59'01	
max. Earth dist.	3133 Jun 16 00:52	25°II51'17 48.92799 AU	retrograde	3139 Oct 03 12:01	3°☾12'40	
morning rise	3133 Jun 27 13:50	26°II07'01	opposition	3139 Dec 25 01:55	2°☾12'33	-9°50'02
retrograde	3133 Sep 26 21:33	27°II21'34	min. Earth dist.	3139 Dec 25 19:08	2°☾11'43	46.18809 AU
opposition	3133 Dec 18 20:26	26°II21'43 -11°14'30	direct	3140 Mar 15 14:15	1°☾12'41	
min. Earth dist.	3133 Dec 19 07:19	26°II21'12 46.90996 AU	evening set	3140 Jun 10 16:54	2°☾23'57	
direct	3134 Mar 10 10:56	25°II22'21	max. Earth dist.	3140 Jun 22 11:10	2°☾40'09	48.09409 AU
evening set	3134 Jun 06 11:13	26°II34'10				
			conjunction	3140 Jun 23 07:08	2°☾41'19	-9°18'34
conjunction	3134 Jun 17 17:34	26°II49'32 -10°40'42	minimum elong	3140 Jun 23 07:19	2°☾41'19	9°18'34

morning rise	3140 Jul 05 22:46	2°☾58'47	conjunction	3147 Jul 01 07:47	9°☾43'35 -7°31'59
retrograde	3140 Oct 03 15:09	4°☾12'19	minimum elong	3147 Jul 01 07:56	9°☾43'36 7°32'00
opposition	3140 Dec 25 07:17	3°☾12'06 -9°35'06	morning rise	3147 Jul 15 06:51	10°☾03'10
min. Earth dist.	3140 Dec 26 02:29	3°☾11'11 46.05236 AU	retrograde	3147 Oct 11 15:51	11°☾16'14
direct	3141 Mar 16 22:44	2°☾12'08	opposition	3148 Jan 01 22:35	10°☾15'11 -7°43'31
evening set	3141 Jun 11 18:40	3°☾23'19	min. Earth dist.	3148 Jan 03 00:51	10°☾13'54 44.99403 AU
			direct	3148 Mar 23 13:12	9°☾14'09
conjunction	3141 Jun 24 13:44	3°☾41'00 -9°04'04	evening set	3148 Jun 17 13:40	10°☾25'14
minimum elong	3141 Jun 24 13:54	3°☾41'00 9°04'05	max. Earth dist.	3148 Jun 30 10:46	10°☾43'20 46.89723 AU
max. Earth dist.	3141 Jun 23 16:40	3°☾39'46 47.95741 AU			
morning rise	3141 Jul 07 10:10	3°☾58'46	conjunction	3148 Jul 01 15:25	10°☾45'01 -7°15'45
retrograde	3141 Oct 04 21:48	5°☾12'13	minimum elong	3148 Jul 01 15:35	10°☾45'02 7°15'46
opposition	3141 Dec 26 12:33	4°☾11'54 -9°19'56	morning rise	3148 Jul 15 18:18	11°☾04'54
min. Earth dist.	3141 Dec 27 08:09	4°☾10'57 45.91181 AU	retrograde	3148 Oct 12 00:40	12°☾17'58
direct	3142 Mar 18 04:26	3°☾11'47	opposition	3149 Jan 02 04:43	11°☾16'48 -7°26'29
evening set	3142 Jun 12 20:44	4°☾22'54	min. Earth dist.	3149 Jan 03 07:23	11°☾15'30 44.83125 AU
			direct	3149 Mar 24 18:01	10°☾15'38
conjunction	3142 Jun 25 20:27	4°☾40'53 -8°49'20	evening set	3149 Jun 18 17:29	11°☾26'49
minimum elong	3142 Jun 25 20:38	4°☾40'54 8°49'20			
max. Earth dist.	3142 Jun 24 21:07	4°☾39'32 47.81602 AU	conjunction	3149 Jul 02 22:55	11°☾46'53 -6°59'15
morning rise	3142 Jul 08 21:44	4°☾58'59	minimum elong	3149 Jul 02 23:03	11°☾46'53 6°59'15
retrograde	3142 Oct 06 07:43	6°☾12'19	max. Earth dist.	3149 Jul 01 16:10	11°☾45'04 46.73419 AU
opposition	3142 Dec 27 18:00	5°☾11'53 -9°04'32	morning rise	3149 Jul 17 05:47	12°☾07'03
min. Earth dist.	3142 Dec 28 15:41	5°☾10'50 45.76695 AU	retrograde	3149 Oct 13 10:18	13°☾20'09
direct	3143 Mar 19 06:09	4°☾11'37	opposition	3150 Jan 03 11:00	12°☾18'53 -7°09'12
evening set	3143 Jun 13 22:53	5°☾22'41	min. Earth dist.	3150 Jan 04 14:50	12°☾17'31 44.66521 AU
max. Earth dist.	3143 Jun 26 03:49	5°☾39'37 47.67057 AU	direct	3150 Mar 25 22:44	11°☾17'35
			evening set	3150 Jun 19 21:36	12°☾28'52
conjunction	3143 Jun 27 03:23	5°☾40'59 -8°34'22	max. Earth dist.	3150 Jul 02 23:16	12°☾47'20 46.56733 AU
minimum elong	3143 Jun 27 03:33	5°☾41'00 8°34'22			
morning rise	3143 Jul 10 09:09	5°☾59'23	conjunction	3150 Jul 04 06:53	12°☾49'13 -6°42'30
retrograde	3143 Oct 07 13:47	7°☾12'37	minimum elong	3150 Jul 04 07:02	12°☾49'13 6°42'31
opposition	3143 Dec 28 23:28	6°☾12'04 -8°48'52	morning rise	3150 Jul 18 17:22	13°☾09'40
min. Earth dist.	3143 Dec 29 21:41	6°☾10'59 45.61818 AU	retrograde	3150 Oct 14 15:37	14°☾22'49
direct	3144 Mar 19 12:28	5°☾11'38	opposition	3151 Jan 04 17:28	13°☾21'27 -6°51'39
evening set	3144 Jun 14 01:29	6°☾22'40	min. Earth dist.	3151 Jan 05 23:05	13°☾19'59 44.49500 AU
max. Earth dist.	3144 Jun 26 08:45	6°☾39'47 47.52152 AU	direct	3151 Mar 27 07:10	12°☾19'59
			evening set	3151 Jun 21 02:11	13°☾31'23
conjunction	3144 Jun 27 10:18	6°☾41'16 -8°19'09	max. Earth dist.	3151 Jul 04 06:07	13°☾50'03 46.39611 AU
minimum elong	3144 Jun 27 10:29	6°☾41'17 8°19'09			
morning rise	3144 Jul 10 20:40	6°☾59'58	conjunction	3151 Jul 05 15:04	13°☾52'01 -6°25'30
retrograde	3144 Oct 07 20:01	8°☾13'07	minimum elong	3151 Jul 05 15:12	13°☾52'01 6°25'30
opposition	3144 Dec 29 04:58	7°☾12'26 -8°32'56	morning rise	3151 Jul 20 05:08	14°☾12'45
min. Earth dist.	3144 Dec 30 04:08	7°☾11'19 45.46621 AU	retrograde	3151 Oct 15 22:36	15°☾25'58
direct	3145 Mar 20 18:27	6°☾11'51	opposition	3152 Jan 06 00:05	14°☾24'28 -6°33'50
evening set	3145 Jun 15 04:06	7°☾22'52	min. Earth dist.	3152 Jan 07 06:15	14°☾22'59 44.32011 AU
			direct	3152 Mar 27 14:53	13°☾22'51
conjunction	3145 Jun 28 17:24	7°☾41'47 -8°03'42	evening set	3152 Jun 21 07:09	14°☾34'22
minimum elong	3145 Jun 28 17:34	7°☾41'47 8°03'42			
max. Earth dist.	3145 Jun 27 15:11	7°☾40'14 47.36932 AU	conjunction	3152 Jul 05 23:25	14°☾55'16 -6°08'16
morning rise	3145 Jul 12 08:02	8°☾00'46	minimum elong	3152 Jul 05 23:33	14°☾55'17 6°08'16
retrograde	3145 Oct 09 00:24	9°☾13'52	max. Earth dist.	3152 Jul 04 12:01	14°☾53'09 46.21983 AU
opposition	3145 Dec 30 10:47	8°☾13'03 -8°16'44	morning rise	3152 Jul 20 16:59	15°☾16'17
min. Earth dist.	3145 Dec 31 11:24	8°☾11'51 45.31133 AU	retrograde	3152 Oct 16 08:44	16°☾29'35
direct	3146 Mar 22 02:38	7°☾12'19	opposition	3153 Jan 06 06:56	15°☾27'57 -6°15'46
evening set	3146 Jun 16 06:54	8°☾23'20	min. Earth dist.	3153 Jan 07 15:28	15°☾26'20 44.14022 AU
max. Earth dist.	3146 Jun 28 21:32	8°☾40'57 47.21457 AU	direct	3153 Mar 28 19:18	14°☾26'08
			evening set	3153 Jun 22 12:15	15°☾37'47
conjunction	3146 Jun 30 00:26	8°☾42'32 -7°47'58	max. Earth dist.	3153 Jul 05 20:06	15°☾56'49 46.03869 AU
minimum elong	3146 Jun 30 00:37	8°☾42'32 7°47'58			
morning rise	3146 Jul 13 19:18	9°☾01'49	conjunction	3153 Jul 07 08:00	15°☾58'58 -5°50'47
retrograde	3146 Oct 10 06:40	10°☾14'53	minimum elong	3153 Jul 07 08:08	15°☾58'58 5°50'47
opposition	3146 Dec 31 16:36	9°☾13'57 -8°00'15	morning rise	3153 Jul 22 04:41	16°☾20'14
min. Earth dist.	3147 Jan 01 17:03	9°☾12'45 45.15394 AU	retrograde	3153 Oct 17 17:10	17°☾33'38
direct	3147 Mar 23 09:11	8°☾13'03	opposition	3154 Jan 07 13:54	16°☾31'50 -5°57'25
evening set	3147 Jun 17 10:11	9°☾24'06	min. Earth dist.	3154 Jan 08 22:54	16°☾30'11 43.95556 AU
max. Earth dist.	3147 Jun 30 03:05	9°☾41'54 47.05720 AU	direct	3154 Mar 30 02:01	15°☾29'49

evening set	3154 Jun 23 17:39	16°☾41'37		opposition	3161 Jan 14 19:19	24°☾11'32 -3°41'19	
max. Earth dist.	3154 Jul 07 02:13	17°☾00'46	45.85301 AU	min. Earth dist.	3161 Jan 16 11:23	24°☾09'29	42.57233 AU
				direct	3161 Apr 06 05:31	23°☾08'00	
conjunction	3154 Jul 08 16:27	17°☾03'04	-5°33'03	evening set	3161 Jun 30 17:15	24°☾21'27	
minimum elong	3154 Jul 08 16:34	17°☾03'04	5°33'04	max. Earth dist.	3161 Jul 14 13:07	24°☾41'51	44.46683 AU
morning rise	3154 Jul 23 16:29	17°☾24'36					
retrograde	3154 Oct 19 03:19	18°☾38'06		conjunction	3161 Jul 16 10:12	24°☾44'39 -3°21'36	
opposition	3155 Jan 08 21:03	17°☾36'07	-5°38'49	minimum elong	3161 Jul 16 10:17	24°☾44'40	3°21'37
min. Earth dist.	3155 Jan 10 07:33	17°☾34'24	43.76670 AU	morning rise	3161 Aug 01 03:52	25°☾07'56	
direct	3155 Mar 31 08:17	16°☾33'54		retrograde	3161 Oct 26 19:18	26°☾22'43	
evening set	3155 Jun 24 23:24	17°☾45'51		opposition	3162 Jan 16 03:45	25°☾19'29	-3°20'44
max. Earth dist.	3155 Jul 08 10:24	18°☾05'13	45.66316 AU	min. Earth dist.	3162 Jan 17 20:12	25°☾17'25	42.36524 AU
				direct	3162 Apr 07 16:03	24°☾15'45	
conjunction	3155 Jul 10 01:22	18°☾07'34	-5°15'04	evening set	3162 Jul 02 01:38	25°☾29'31	
minimum elong	3155 Jul 10 01:30	18°☾07'35	5°15'03	max. Earth dist.	3162 Jul 15 21:42	25°☾50'03	44.25880 AU
morning rise	3155 Jul 25 04:17	18°☾29'22					
retrograde	3155 Oct 20 09:55	19°☾42'58		conjunction	3162 Jul 17 20:31	25°☾52'58 -3°01'46	
opposition	3156 Jan 10 04:15	18°☾40'48	-5°19'57	minimum elong	3162 Jul 17 20:35	25°☾52'59	3°01'45
min. Earth dist.	3156 Jan 11 16:14	18°☾39'00	43.57400 AU	morning rise	3162 Aug 02 16:02	26°☾16'29	
direct	3156 Mar 31 18:03	17°☾38'22		retrograde	3162 Oct 28 04:46	27°☾31'34	
evening set	3156 Jun 25 05:32	18°☾50'31		opposition	3163 Jan 17 12:37	26°☾28'09	-2°59'52
max. Earth dist.	3156 Jul 08 18:12	19°☾10'03	45.46994 AU	min. Earth dist.	3163 Jan 19 07:12	26°☾25'57	42.15482 AU
				direct	3163 Apr 09 00:46	25°☾24'11	
conjunction	3156 Jul 10 10:21	19°☾12'29	-4°56'49	evening set	3163 Jul 03 10:36	26°☾38'18	
minimum elong	3156 Jul 10 10:28	19°☾12'30	4°56'50	max. Earth dist.	3163 Jul 17 08:02	26°☾59'01	44.04715 AU
morning rise	3156 Jul 25 16:10	19°☾34'33					
retrograde	3156 Oct 20 17:28	20°☾48'16		conjunction	3163 Jul 19 07:22	27°☾01'59 -2°41'40	
opposition	3157 Jan 10 11:37	19°☾45'56	-5°00'48	minimum elong	3163 Jul 19 07:26	27°☾01'59	2°41'40
min. Earth dist.	3157 Jan 11 23:45	19°☾44'07	43.37827 AU	morning rise	3163 Aug 04 04:29	27°☾25'43	
direct	3157 Apr 02 02:33	18°☾43'16		retrograde	3163 Oct 29 15:16	28°☾41'07	
evening set	3157 Jun 26 11:51	19°☾55'37		opposition	3164 Jan 18 21:31	27°☾37'29	-2°38'43
max. Earth dist.	3157 Jul 10 01:36	20°☾15'17	45.27370 AU	min. Earth dist.	3164 Jan 20 16:26	27°☾35'16	41.94051 AU
				direct	3164 Apr 09 09:10	26°☾33'16	
conjunction	3157 Jul 11 19:21	20°☾17'50	-4°38'19	evening set	3164 Jul 03 20:12	27°☾47'47	
minimum elong	3157 Jul 11 19:28	20°☾17'51	4°38'18	max. Earth dist.	3164 Jul 17 16:30	28°☾08'31	43.83135 AU
morning rise	3157 Jul 27 03:51	20°☾40'09					
retrograde	3157 Oct 22 02:26	21°☾54'03		conjunction	3164 Jul 19 18:22	28°☾11'40 -2°21'18	
opposition	3158 Jan 11 19:19	20°☾51'31	-4°41'21	minimum elong	3164 Jul 19 18:26	28°☾11'40	2°21'18
min. Earth dist.	3158 Jan 13 09:14	20°☾49'36	43.17992 AU	morning rise	3164 Aug 04 17:07	28°☾35'37	
direct	3158 Apr 03 09:20	19°☾48'38		retrograde	3164 Oct 30 05:00	29°☾51'20	
evening set	3158 Jun 27 18:31	21°☾01'12		opposition	3165 Jan 19 06:54	28°☾47'29	-2°17'17
max. Earth dist.	3158 Jul 11 11:04	21°☾21'08	45.07516 AU	min. Earth dist.	3165 Jan 21 03:43	28°☾45'10	41.72212 AU
				direct	3165 Apr 10 15:49	27°☾43'00	
conjunction	3158 Jul 13 04:44	21°☾23'41	-4°19'32	evening set	3165 Jul 05 05:54	28°☾57'53	
minimum elong	3158 Jul 13 04:50	21°☾23'41	4°19'33	max. Earth dist.	3165 Jul 19 03:13	29°☾18'48	43.61135 AU
morning rise	3158 Jul 28 15:40	21°☾46'14					
retrograde	3158 Oct 23 13:11	23°☾00'19		conjunction	3165 Jul 21 05:37	29°☾21'59 -2°00'41	
opposition	3159 Jan 13 03:01	21°☾57'36	-4°21'38	minimum elong	3165 Jul 21 05:40	29°☾22'00	2°00'42
min. Earth dist.	3159 Jan 14 16:56	21°☾55'41	42.97941 AU	morning rise	3165 Aug 06 05:30	29°☾46'08	
direct	3159 Apr 04 15:23	20°☾54'30			3165 Aug 15 18:50	0°♂	
evening set	3159 Jun 29 01:44	22°☾07'20		retrograde	3165 Oct 31 16:53	1°♂02'11	
max. Earth dist.	3159 Jul 12 18:33	22°☾27'22	44.87455 AU		3166 Jan 19 03:51	30°♂☾	
				opposition	3166 Jan 20 16:32	29°☾58'05	-1°55'35
conjunction	3159 Jul 14 14:16	22°☾30'03	-4°00'30	min. Earth dist.	3166 Jan 22 14:27	29°☾55'42	41.49963 AU
minimum elong	3159 Jul 14 14:22	22°☾30'04	4°00'30	direct	3166 Apr 12 01:51	28°☾53'19	
morning rise	3159 Jul 30 03:45	22°☾52'51			3166 Jun 30 19:24	0°♂	
retrograde	3159 Oct 25 02:06	24°☾07'09		evening set	3166 Jul 06 16:17	0°♂08'37	
opposition	3160 Jan 14 11:05	23°☾04'15	-4°01'37	max. Earth dist.	3166 Jul 20 12:55	0°♂29'36	43.38759 AU
min. Earth dist.	3160 Jan 16 02:10	23°☾02'16	42.77699 AU				
direct	3160 Apr 04 20:16	22°☾00'56		conjunction	3166 Jul 22 17:06	0°♂32'55	-1°39'49
evening set	3160 Jun 29 09:14	23°☾14'04		minimum elong	3166 Jul 22 17:09	0°♂32'56	1°39'49
max. Earth dist.	3160 Jul 13 04:12	23°☾34'19	44.67181 AU	morning rise	3166 Aug 07 18:15	0°♂57'16	
				retrograde	3166 Nov 02 05:31	2°♂13'39	
conjunction	3160 Jul 15 00:10	23°☾37'02	-3°41'11	opposition	3167 Jan 22 02:11	1°♂09'18	-1°33'36
minimum elong	3160 Jul 15 00:15	23°☾37'02	3°41'11	min. Earth dist.	3167 Jan 24 00:48	1°♂06'52	41.27371 AU
morning rise	3160 Jul 30 15:41	24°☾00'04		direct	3167 Apr 13 11:44	0°♂04'13	
retrograde	3160 Oct 25 10:48	25°☾14'36		evening set	3167 Jul 08 03:07	1°♂19'57	

max. Earth dist.	3167 Jul 21 23:20	1°041'01 43.16032 AU	conjunction	3173 Jul 31 10:01	9°08'58 0°53'26
			minimum elong	3173 Jul 31 10:00	9°08'58 0°53'25
conjunction	3167 Jul 24 04:59	1°044'28 -1°18'41	morning rise	3173 Aug 16 12:53	9°034'29
minimum elong	3167 Jul 24 05:01	1°044'28 1°18'42	retrograde	3173 Nov 10 20:56	10°0254'13
morning rise	3167 Aug 09 07:00	2°09'01	opposition	3174 Jan 30 07:06	9°048'05 1°08'04
retrograde	3167 Nov 03 14:32	3°025'45	min. Earth dist.	3174 Feb 01 11:03	9°045'16 39.63502 AU
opposition	3168 Jan 23 12:20	2°021'09 -1°11'20	direct	3174 Apr 21 16:06	8°040'53
min. Earth dist.	3168 Jan 25 12:48	2°018'36 41.04467 AU	evening set	3174 Jul 16 21:40	10°000'39
direct	3168 Apr 13 23:17	1°015'45	max. Earth dist.	3174 Jul 30 12:00	10°022'17 41.51603 AU
evening set	3168 Jul 08 14:22	2°031'56			
max. Earth dist.	3168 Jul 22 11:09	2°053'09 42.93031 AU	conjunction	3174 Aug 02 00:14	10°026'19 1°16'18
			minimum elong	3174 Aug 02 00:12	10°026'19 1°16'18
conjunction	3168 Jul 24 17:04	2°056'38 -0°57'18	morning rise	3174 Aug 18 02:26	10°051'59
minimum elong	3168 Jul 24 17:05	2°056'38 0°57'18	retrograde	3174 Nov 12 11:22	12°012'22
morning rise	3168 Aug 09 19:44	3°021'21	opposition	3175 Jan 31 19:29	11°005'58 1°32'15
retrograde	3168 Nov 04 00:59	4°038'30	min. Earth dist.	3175 Feb 03 01:27	11°003'02 39.39483 AU
opposition	3169 Jan 23 22:33	3°033'37 -0°48'47	direct	3175 Apr 23 02:02	9°058'29
min. Earth dist.	3169 Jan 25 22:59	3°031'04 40.81322 AU	evening set	3175 Jul 18 13:13	11°018'59
direct	3169 Apr 15 10:08	2°027'55	max. Earth dist.	3175 Aug 01 02:42	11°040'42 41.27414 AU
evening set	3169 Jul 10 02:13	3°044'35			
max. Earth dist.	3169 Jul 23 21:22	4°005'50 42.69806 AU	conjunction	3175 Aug 03 15:04	11°044'47 1°39'24
			minimum elong	3175 Aug 03 15:01	11°044'46 1°39'24
conjunction	3169 Jul 26 05:20	4°009'28 -0°35'40	morning rise	3175 Aug 19 16:10	12°010'33
minimum elong	3169 Jul 26 05:21	4°009'28 0°35'40	retrograde	3175 Nov 14 03:10	13°031'37
morning rise	3169 Aug 11 08:36	4°034'22	opposition	3176 Feb 02 08:20	12°024'58 1°56'40
retrograde	3169 Nov 05 15:08	5°051'57	min. Earth dist.	3176 Feb 04 14:45	12°021'59 39.15184 AU
opposition	3170 Jan 25 09:14	4°046'48 -0°25'58	direct	3176 Apr 23 13:02	11°017'09
min. Earth dist.	3170 Jan 27 11:12	4°044'09 40.58005 AU	evening set	3176 Jul 19 05:36	12°038'27
direct	3170 Apr 16 17:22	3°040'46	max. Earth dist.	3176 Aug 01 15:24	13°000'05 41.02923 AU
evening set	3170 Jul 11 14:18	4°057'58			
max. Earth dist.	3170 Jul 25 10:13	5°019'23 42.46419 AU	conjunction	3176 Aug 04 06:06	13°004'20 2°02'44
			minimum elong	3176 Aug 04 06:02	13°004'20 2°02'44
conjunction	3170 Jul 27 17:59	5°023'01 -0°13'47	morning rise	3176 Aug 20 06:06	13°030'13
minimum elong	3170 Jul 27 17:59	5°023'01 0°13'47	retrograde	3176 Nov 14 20:57	14°051'59
behind sun begin	3170 Jul 27 14:43	5°022'49	opposition	3177 Feb 02 21:34	13°045'03 2°21'21
behind sun end	3170 Jul 27 21:16	5°023'13	min. Earth dist.	3177 Feb 05 05:21	13°041'59 38.90591 AU
morning rise	3170 Aug 12 21:23	5°048'06	direct	3177 Apr 24 23:25	12°036'54
retrograde	3170 Nov 07 03:47	7°006'09	evening set	3177 Jul 20 22:31	13°058'59
opposition	3171 Jan 26 20:12	6°000'44 -0°02'52	max. Earth dist.	3177 Aug 03 06:16	14°020'38 40.78114 AU
min. Earth dist.	3171 Jan 28 22:24	5°058'04 40.34543 AU			
asc. node	3171 Mar 12 21:15	5°010'01	conjunction	3177 Aug 05 21:45	14°024'58 2°26'17
direct	3171 Apr 18 04:17	4°054'24	minimum elong	3177 Aug 05 21:41	14°024'58 2°26'18
evening set	3171 Jul 13 03:18	6°012'11	morning rise	3177 Aug 21 20:03	14°050'56
max. Earth dist.	3171 Jul 26 21:44	6°033'38 42.22912 AU	retrograde	3177 Aug 27 13:32	15°0
			retrograde	3177 Nov 16 12:37	16°013'25
conjunction	3171 Jul 29 06:58	6°037'24 0°08'27	opposition	3178 Feb 04 11:18	15°006'11 2°46'16
minimum elong	3171 Jul 29 06:57	6°037'24 0°08'26	min. Earth dist.	3178 Feb 06 20:23	15°003'02 38.65694 AU
behind sun begin	3171 Jul 29 01:16	6°037'03		3178 Feb 09 03:15	15°00
behind sun end	3171 Jul 29 12:39	6°037'45	direct	3178 Apr 26 14:17	13°057'40
morning rise	3171 Aug 14 10:33	7°002'38		3178 Jul 09 10:57	15°0
retrograde	3171 Nov 08 18:51	8°021'12	evening set	3178 Jul 22 16:11	15°020'36
opposition	3172 Jan 28 07:24	7°015'32 0°20'31	max. Earth dist.	3178 Aug 04 21:02	15°042'12 40.53028 AU
min. Earth dist.	3172 Jan 30 10:08	7°012'49 40.10986 AU			
direct	3172 Apr 18 15:14	6°008'54	conjunction	3178 Aug 07 13:39	15°046'39 2°50'04
evening set	3172 Jul 13 16:48	7°027'18	minimum elong	3178 Aug 07 13:34	15°046'39 2°50'03
max. Earth dist.	3172 Jul 27 10:29	7°048'51 41.99285 AU	morning rise	3178 Aug 23 10:17	16°012'41
			retrograde	3178 Nov 18 05:03	17°035'55
conjunction	3172 Jul 29 20:26	7°052'41 0°30'48	opposition	3179 Feb 06 01:19	16°028'21 3°11'26
minimum elong	3172 Jul 29 20:25	7°052'41 0°30'48	min. Earth dist.	3179 Feb 08 10:45	16°025'10 38.40543 AU
morning rise	3172 Aug 14 23:41	8°018'04	direct	3179 Apr 28 06:23	15°019'28
retrograde	3172 Nov 09 07:59	9°037'12	evening set	3179 Jul 24 10:42	16°043'15
opposition	3173 Jan 28 19:10	8°031'17 0°44'10	max. Earth dist.	3179 Aug 06 11:45	17°004'46 40.27676 AU
min. Earth dist.	3173 Jan 30 23:15	8°028'29 39.87313 AU			
direct	3173 Apr 20 03:48	7°024'22	conjunction	3179 Aug 09 06:09	17°009'23 3°14'02
evening set	3173 Jul 15 06:45	8°043'26	minimum elong	3179 Aug 09 06:03	17°009'22 3°14'02
max. Earth dist.	3173 Jul 28 23:44	9°005'05 41.75541 AU	morning rise	3179 Aug 25 00:37	17°035'28
			retrograde	3179 Nov 19 20:32	18°059'28

opposition	3180 Feb 07 15:48	17° $\Omega$ 51'34	3°36'49	minimum elong	3186 Aug 19 13:50	27° $\Omega$ 20'10	6°06'25
min. Earth dist.	3180 Feb 10 03:12	17° $\Omega$ 48'15	38.15175 AU	morning rise	3186 Sep 03 08:13	27° $\Omega$ 46'03	
direct	3180 Apr 28 20:35	16° $\Omega$ 42'17		retrograde	3186 Nov 30 07:41	29° $\Omega$ 16'58	
evening set	3180 Jul 25 05:52	18° $\Omega$ 06'58		opposition	3187 Feb 17 10:45	28° $\Omega$ 06'36	6°39'39
max. Earth dist.	3180 Aug 07 04:39	18° $\Omega$ 28'29	40.02141 AU	min. Earth dist.	3187 Feb 20 02:14	28° $\Omega$ 02'54	36.36213 AU
				direct	3187 May 09 09:28	26° $\Omega$ 54'29	
conjunction	3180 Aug 09 23:03	18° $\Omega$ 33'08	3°38'12	evening set	3187 Aug 06 19:55	28° $\Omega$ 27'02	
minimum elong	3180 Aug 09 22:56	18° $\Omega$ 33'07	3°38'11	max. Earth dist.	3187 Aug 18 11:38	28° $\Omega$ 47'35	38.22144 AU
morning rise	3180 Aug 25 15:02	18° $\Omega$ 59'15					
retrograde	3180 Nov 20 11:35	20° $\Omega$ 24'05		conjunction	3187 Aug 21 10:43	28° $\Omega$ 52'52	6°31'31
opposition	3181 Feb 08 06:43	19° $\Omega$ 15'50	4°02'25	minimum elong	3187 Aug 21 10:30	28° $\Omega$ 52'51	6°31'32
min. Earth dist.	3181 Feb 10 17:53	19° $\Omega$ 12'30	37.89661 AU	morning rise	3187 Sep 04 23:45	29° $\Omega$ 18'36	
direct	3181 Apr 30 11:39	18° $\Omega$ 06'08			3187 Sep 30 09:14	0° $\Upsilon$	
evening set	3181 Jul 27 01:43	19° $\Omega$ 31'45		retrograde	3187 Dec 02 03:24	0° $\Upsilon$ 50'44	
max. Earth dist.	3181 Aug 08 19:52	19° $\Omega$ 53'07	39.76477 AU		3188 Feb 04 20:42	30° $\Upsilon$ $\Omega$	
				opposition	3188 Feb 19 05:20	29° $\Omega$ 40'02	7°06'18
conjunction	3181 Aug 11 16:04	19° $\Omega$ 57'56	4°02'33	min. Earth dist.	3188 Feb 21 20:55	29° $\Omega$ 36'17	36.10566 AU
minimum elong	3181 Aug 11 15:57	19° $\Omega$ 57'56	4°02'33	direct	3188 May 10 03:32	28° $\Omega$ 27'29	
morning rise	3181 Aug 27 05:26	20° $\Omega$ 24'05		evening set	3188 Aug 07 22:37	0° $\Upsilon$ 01'25	
retrograde	3181 Nov 22 06:03	21° $\Omega$ 49'48			3188 Aug 07 03:15	0° $\Upsilon$	
opposition	3182 Feb 09 22:08	20° $\Omega$ 41'10	4°28'14	max. Earth dist.	3188 Aug 19 06:51	0° $\Upsilon$ 21'37	37.96266 AU
min. Earth dist.	3182 Feb 12 10:35	20° $\Omega$ 37'45	37.64071 AU				
direct	3182 May 01 23:50	19° $\Omega$ 31'03		conjunction	3188 Aug 22 07:52	0° $\Upsilon$ 27'05	6°56'41
evening set	3182 Jul 28 22:23	20° $\Omega$ 57'40		minimum elong	3188 Aug 22 07:39	0° $\Upsilon$ 27'04	6°56'40
max. Earth dist.	3182 Aug 10 14:00	21° $\Omega$ 19'02	39.50746 AU	morning rise	3188 Sep 05 15:37	0° $\Upsilon$ 52'39	
				retrograde	3188 Dec 03 03:05	2° $\Upsilon$ 26'04	
conjunction	3182 Aug 13 09:54	21° $\Omega$ 23'51	4°27'03	opposition	3189 Feb 20 00:40	1° $\Upsilon$ 15'00	7°33'02
minimum elong	3182 Aug 13 09:46	21° $\Omega$ 23'51	4°27'03	min. Earth dist.	3189 Feb 22 17:17	1° $\Upsilon$ 11'10	35.84823 AU
morning rise	3182 Aug 28 20:00	21° $\Omega$ 49'59		direct	3189 May 11 19:55	0° $\Upsilon$ 02'01	
retrograde	3182 Nov 24 00:17	23° $\Omega$ 16'37		evening set	3189 Aug 10 02:04	1° $\Upsilon$ 37'22	
opposition	3183 Feb 11 13:57	22° $\Omega$ 07'38	4°54'13	max. Earth dist.	3189 Aug 21 04:29	1° $\Upsilon$ 57'19	37.70264 AU
min. Earth dist.	3183 Feb 14 02:46	22° $\Omega$ 04'10	37.38449 AU				
direct	3183 May 03 14:38	20° $\Omega$ 57'06		conjunction	3189 Aug 24 05:40	2° $\Upsilon$ 02'51	7°21'53
evening set	3183 Jul 30 20:06	22° $\Omega$ 24'47		minimum elong	3189 Aug 24 05:26	2° $\Upsilon$ 02'50	7°21'53
max. Earth dist.	3183 Aug 12 07:00	22° $\Omega$ 46'00	39.25014 AU	morning rise	3189 Sep 07 07:22	2° $\Upsilon$ 28'13	
				retrograde	3189 Dec 05 01:03	4° $\Upsilon$ 02'58	
conjunction	3183 Aug 15 04:06	22° $\Omega$ 50'57	4°51'43	opposition	3190 Feb 21 20:40	2° $\Upsilon$ 51'30	7°59'50
minimum elong	3183 Aug 15 03:57	22° $\Omega$ 50'56	4°51'43	min. Earth dist.	3190 Feb 24 14:15	2° $\Upsilon$ 47'36	35.58967 AU
morning rise	3183 Aug 30 10:55	23° $\Omega$ 17'03		direct	3190 May 13 14:58	1° $\Upsilon$ 38'04	
retrograde	3183 Nov 25 20:49	24° $\Omega$ 44'39		evening set	3190 Aug 12 06:56	3° $\Upsilon$ 14'55	
opposition	3184 Feb 13 06:18	23° $\Omega$ 35'19	5°20'22	max. Earth dist.	3190 Aug 23 01:53	3° $\Upsilon$ 34'30	37.44174 AU
min. Earth dist.	3184 Feb 15 19:17	23° $\Omega$ 31'49	37.12860 AU				
direct	3184 May 04 05:45	22° $\Omega$ 24'22		conjunction	3190 Aug 26 04:06	3° $\Upsilon$ 40'09	7°47'07
evening set	3184 Jul 31 18:31	23° $\Omega$ 53'11		minimum elong	3190 Aug 26 03:51	3° $\Upsilon$ 40'08	7°47'06
max. Earth dist.	3184 Aug 13 01:11	24° $\Omega$ 14'16	38.99295 AU	morning rise	3190 Sep 08 23:35	4° $\Upsilon$ 05'17	
				retrograde	3190 Dec 07 01:42	5° $\Upsilon$ 41'25	
conjunction	3184 Aug 15 22:52	24° $\Omega$ 19'18	5°16'31	opposition	3191 Feb 23 17:00	4° $\Upsilon$ 29'33	8°26'40
minimum elong	3184 Aug 15 22:42	24° $\Omega$ 19'17	5°16'30	min. Earth dist.	3191 Feb 26 10:45	4° $\Upsilon$ 25'36	35.33056 AU
morning rise	3184 Aug 31 01:43	24° $\Omega$ 45'21		direct	3191 May 15 12:02	3° $\Upsilon$ 15'39	
retrograde	3184 Nov 26 15:42	26° $\Omega$ 14'00		evening set	3191 Aug 14 12:50	4° $\Upsilon$ 54'03	
opposition	3185 Feb 13 23:18	25° $\Omega$ 04'18	5°46'40	max. Earth dist.	3191 Aug 24 23:55	5° $\Upsilon$ 13'13	37.18019 AU
min. Earth dist.	3185 Feb 16 13:24	25° $\Omega$ 00'44	36.87300 AU				
direct	3185 May 05 23:46	23° $\Omega$ 52'58		conjunction	3191 Aug 28 03:18	5° $\Upsilon$ 19'01	8°12'21
evening set	3185 Aug 02 17:57	25° $\Omega$ 22'58		minimum elong	3191 Aug 28 03:01	5° $\Upsilon$ 19'00	8°12'21
max. Earth dist.	3185 Aug 14 20:31	25° $\Omega$ 43'56	38.73615 AU	morning rise	3191 Sep 10 15:54	5° $\Upsilon$ 43'52	
				retrograde	3191 Dec 09 01:18	7° $\Upsilon$ 21'26	
conjunction	3185 Aug 17 18:09	25° $\Omega$ 49'01	5°41'25	opposition	3192 Feb 25 14:15	6° $\Upsilon$ 09'09	8°53'29
minimum elong	3185 Aug 17 17:58	25° $\Omega$ 49'00	5°41'25	min. Earth dist.	3192 Feb 28 09:28	6° $\Upsilon$ 05'05	35.07124 AU
morning rise	3185 Sep 01 16:51	26° $\Omega$ 14'59		direct	3192 May 16 09:23	4° $\Upsilon$ 54'47	
retrograde	3185 Nov 28 11:42	27° $\Omega$ 44'44		evening set	3192 Aug 15 19:48	6° $\Upsilon$ 34'48	
opposition	3186 Feb 15 16:38	26° $\Omega$ 34'43	6°13'06	max. Earth dist.	3192 Aug 25 23:51	6° $\Upsilon$ 53'36	36.91882 AU
min. Earth dist.	3186 Feb 18 06:22	26° $\Omega$ 31'07	36.61772 AU				
direct	3186 May 07 17:53	25° $\Omega$ 22'59		conjunction	3192 Aug 29 02:54	6° $\Upsilon$ 59'27	8°37'32
evening set	3186 Aug 04 18:23	26° $\Omega$ 54'13		minimum elong	3192 Aug 29 02:37	6° $\Upsilon$ 59'25	8°37'32
max. Earth dist.	3186 Aug 16 14:46	27° $\Omega$ 14'56	38.47915 AU	morning rise	3192 Sep 11 08:07	7° $\Upsilon$ 23'58	
				retrograde	3192 Dec 10 00:59	9° $\Upsilon$ 03'02	
conjunction	3186 Aug 19 14:02	27° $\Omega$ 20'11	6°06'25	opposition	3193 Feb 26 11:58	7° $\Upsilon$ 50'20	9°20'17

min. Earth dist.	3193 Mar 01 06:32	7° <del>00</del> 46'17	34.81253 AU	morning rise	3199 Sep 22 05:16	19° <del>00</del> 51'34	
direct	3193 May 18 07:30	6° <del>00</del> 35'29		retrograde	3199 Dec 24 00:12	21° <del>00</del> 43'35	
evening set	3193 Aug 18 03:57	8° <del>00</del> 17'12		opposition	3200 Mar 10 16:32	20° <del>00</del> 28'00	12°22'43
max. Earth dist.	3193 Aug 27 22:46	8° <del>00</del> 35'28	36.65824 AU	min. Earth dist.	3200 Mar 13 11:24	20° <del>00</del> 23'45	33.06906 AU
				direct	3200 May 30 04:34	19° <del>00</del> 09'53	
conjunction	3193 Aug 31 03:10	8° <del>00</del> 41'28	9°02'39	evening set	3200 Sep 03 02:40	21° <del>00</del> 06'01	
minimum elong	3193 Aug 31 02:51	8° <del>00</del> 41'26	9°02'39	max. Earth dist.	3200 Sep 09 21:08	21° <del>00</del> 19'37	34.90485 AU
morning rise	3193 Sep 13 00:36	9° <del>00</del> 05'37					
retrograde	3193 Dec 12 00:36	10° <del>00</del> 46'17		conjunction	3200 Sep 13 01:18	21° <del>00</del> 26'01	11°52'25
opposition	3194 Feb 28 10:22	9° <del>00</del> 33'08	9°46'59	minimum elong	3200 Sep 13 00:57	21° <del>00</del> 25'59	11°52'24
min. Earth dist.	3194 Mar 03 06:08	9° <del>00</del> 28'59	34.55524 AU	morning rise	3200 Sep 22 22:18	21° <del>00</del> 45'53	
direct	3194 May 20 03:30	8° <del>00</del> 17'47		retrograde	3200 Dec 25 06:18	23° <del>00</del> 40'07	
evening set	3194 Aug 20 13:17	10° <del>00</del> 01'16		opposition	3201 Mar 12 20:30	22° <del>00</del> 24'08	12°47'29
max. Earth dist.	3194 Aug 30 00:46	10° <del>00</del> 19'08	36.39933 AU	min. Earth dist.	3201 Mar 15 16:19	22° <del>00</del> 19'48	32.83109 AU
				direct	3201 Jun 01 06:06	21° <del>00</del> 05'34	
conjunction	3194 Sep 02 04:11	10° <del>00</del> 25'07	9°27'38	evening set	3201 Sep 05 22:30	23° <del>00</del> 04'08	
minimum elong	3194 Sep 02 03:53	10° <del>00</del> 25'06	9°27'38	max. Earth dist.	3201 Sep 12 04:42	23° <del>00</del> 16'50	34.66501 AU
morning rise	3194 Sep 14 17:04	10° <del>00</del> 48'51					
retrograde	3194 Dec 14 00:32	12° <del>00</del> 31'10		conjunction	3201 Sep 15 07:44	23° <del>00</del> 23'13	12°15'16
opposition	3195 Mar 02 09:32	11° <del>00</del> 17'36	10°13'34	minimum elong	3201 Sep 15 07:21	23° <del>00</del> 23'11	12°15'16
min. Earth dist.	3195 Mar 05 04:48	11° <del>00</del> 13'27	34.29995 AU	morning rise	3201 Sep 24 15:14	23° <del>00</del> 42'09	
direct	3195 May 22 01:25	10° <del>00</del> 01'46		retrograde	3201 Dec 27 12:15	25° <del>00</del> 38'42	
evening set	3195 Aug 23 00:02	11° <del>00</del> 47'07		opposition	3202 Mar 15 01:11	24° <del>00</del> 22'18	13°11'46
max. Earth dist.	3195 Sep 01 01:18	12° <del>00</del> 04'22	36.14277 AU	min. Earth dist.	3202 Mar 17 20:25	24° <del>00</del> 17'57	32.59546 AU
				direct	3202 Jun 03 09:33	23° <del>00</del> 03'15	
conjunction	3195 Sep 04 05:46	12° <del>00</del> 10'29	9°52'27	evening set	3202 Sep 08 20:07	25° <del>00</del> 04'23	
minimum elong	3195 Sep 04 05:26	12° <del>00</del> 10'27	9°52'27	max. Earth dist.	3202 Sep 14 10:47	25° <del>00</del> 15'53	34.42767 AU
morning rise	3195 Sep 16 09:47	12° <del>00</del> 33'44					
retrograde	3195 Dec 16 04:02	14° <del>00</del> 17'49		conjunction	3202 Sep 17 14:51	25° <del>00</del> 22'24	12°37'38
opposition	3196 Mar 03 09:20	13° <del>00</del> 03'49	10°39'57	minimum elong	3202 Sep 17 14:29	25° <del>00</del> 22'22	12°37'38
min. Earth dist.	3196 Mar 06 04:41	12° <del>00</del> 59'39	34.04755 AU	morning rise	3202 Sep 26 08:10	25° <del>00</del> 40'19	
direct	3196 May 22 22:09	11° <del>00</del> 47'30		retrograde	3202 Dec 29 20:18	27° <del>00</del> 39'17	
evening set	3196 Aug 24 11:59	13° <del>00</del> 34'49		opposition	3203 Mar 17 06:45	26° <del>00</del> 22'27	13°35'32
max. Earth dist.	3196 Sep 02 04:32	13° <del>00</del> 51'32	35.88913 AU	min. Earth dist.	3203 Mar 20 02:16	26° <del>00</del> 18'04	32.36256 AU
				direct	3203 Jun 05 12:39	25° <del>00</del> 02'54	
conjunction	3196 Sep 05 08:13	13° <del>00</del> 57'39	10°17'03	evening set	3203 Sep 11 19:38	27° <del>00</del> 06'43	
minimum elong	3196 Sep 05 07:54	13° <del>00</del> 57'37	10°17'03	max. Earth dist.	3203 Sep 16 19:51	27° <del>00</del> 17'04	34.19312 AU
morning rise	3196 Sep 17 02:28	14° <del>00</del> 20'22					
retrograde	3196 Dec 17 06:55	16° <del>00</del> 06'17		conjunction	3203 Sep 19 22:55	27° <del>00</del> 23'35	12°59'27
opposition	3197 Mar 05 10:04	14° <del>00</del> 51'53	11°06'06	minimum elong	3203 Sep 19 22:32	27° <del>00</del> 23'33	12°59'28
min. Earth dist.	3197 Mar 08 05:31	14° <del>00</del> 47'40	33.79828 AU	morning rise	3203 Sep 28 00:37	27° <del>00</del> 40'20	
direct	3197 May 24 21:40	13° <del>00</del> 35'07		retrograde	3204 Jan 01 03:20	29° <del>00</del> 41'50	
evening set	3197 Aug 27 01:18	15° <del>00</del> 24'28		opposition	3204 Mar 18 13:14	28° <del>00</del> 24'34	13°58'41
max. Earth dist.	3197 Sep 04 07:29	15° <del>00</del> 40'32	35.63886 AU	min. Earth dist.	3204 Mar 21 08:41	28° <del>00</del> 20'09	32.13268 AU
				direct	3204 Jun 06 18:32	27° <del>00</del> 04'31	
conjunction	3197 Sep 07 11:08	15° <del>00</del> 46'42	10°41'23	evening set	3204 Sep 13 21:19	29° <del>00</del> 11'09	
minimum elong	3197 Sep 07 10:46	15° <del>00</del> 46'41	10°41'23	max. Earth dist.	3204 Sep 18 04:22	29° <del>00</del> 20'07	33.96215 AU
morning rise	3197 Sep 18 19:13	16° <del>00</del> 08'49					
retrograde	3197 Dec 19 13:24	17° <del>00</del> 56'41		conjunction	3204 Sep 21 07:34	29° <del>00</del> 26'42	13°20'39
opposition	3198 Mar 07 11:22	16° <del>00</del> 41'53	11°31'59	minimum elong	3204 Sep 21 07:12	29° <del>00</del> 26'40	13°20'39
min. Earth dist.	3198 Mar 10 06:07	16° <del>00</del> 37'42	33.55239 AU	morning rise	3204 Sep 28 16:35	29° <del>00</del> 42'10	
direct	3198 May 26 23:54	15° <del>00</del> 24'40			3204 Oct 07 07:20	0° <del>00</del> 00	
evening set	3198 Aug 29 16:08	17° <del>00</del> 16'11		retrograde	3205 Jan 02 13:56	1° <del>00</del> 46'20	
max. Earth dist.	3198 Sep 06 11:17	17° <del>00</del> 31'31	35.39155 AU	opposition	3205 Mar 20 20:25	0° <del>00</del> 28'37	14°21'09
				min. Earth dist.	3205 Mar 23 14:57	0° <del>00</del> 24'14	31.90681 AU
conjunction	3198 Sep 09 15:07	17° <del>00</del> 37'46	11°05'25		3205 Apr 08 08:44	30° <del>00</del> 00	
minimum elong	3198 Sep 09 14:46	17° <del>00</del> 37'44	11°05'25	direct	3205 Jun 09 00:55	29° <del>00</del> 08'04	
morning rise	3198 Sep 20 12:15	17° <del>00</del> 59'13			3205 Aug 07 16:35	0° <del>00</del> 00	
retrograde	3198 Dec 21 18:59	19° <del>00</del> 49'07		evening set	3205 Sep 17 01:06	1° <del>00</del> 17'41	
opposition	3199 Mar 09 13:32	18° <del>00</del> 33'55	11°57'32	max. Earth dist.	3205 Sep 20 14:37	1° <del>00</del> 25'12	33.73534 AU
min. Earth dist.	3199 Mar 12 09:19	18° <del>00</del> 29'38	33.30942 AU				
direct	3199 May 29 01:21	17° <del>00</del> 16'15		conjunction	3205 Sep 23 17:00	1° <del>00</del> 31'46	13°41'08
evening set	3199 Sep 01 08:44	19° <del>00</del> 10'02		minimum elong	3205 Sep 23 16:37	1° <del>00</del> 31'44	13°41'08
max. Earth dist.	3199 Sep 08 16:42	19° <del>00</del> 24'36	35.14705 AU	morning rise	3205 Sep 30 07:36	1° <del>00</del> 45'46	
				retrograde	3206 Jan 04 23:33	3° <del>00</del> 52'47	
conjunction	3199 Sep 11 19:53	19° <del>00</del> 30'52	11°29'06	opposition	3206 Mar 23 04:35	2° <del>00</del> 34'37	14°42'51
minimum elong	3199 Sep 11 19:31	19° <del>00</del> 30'50	11°29'07	min. Earth dist.	3206 Mar 25 23:25	2° <del>00</del> 30'11	31.68545 AU



direct	3206 Jun 11 07:55	1° <u>♂</u> 13'35		conjunction	3213 Oct 12 00:47	19° <u>♂</u> 25'45	15°50'02
evening set	3206 Sep 20 08:06	3° <u>♂</u> 26'23		minimum elong	3213 Oct 12 00:30	19° <u>♂</u> 25'44	15°50'03
max. Earth dist.	3206 Sep 23 02:00	3° <u>♂</u> 32'15	33.51369 AU	retrograde	3214 Jan 23 14:59	21° <u>♂</u> 57'29	
				opposition	3214 Apr 10 04:51	20° <u>♂</u> 36'34	16°57'59
conjunction	3206 Sep 26 03:14	3° <u>♂</u> 38'47	14°00'51	min. Earth dist.	3214 Apr 12 14:17	20° <u>♂</u> 32'36	30.15051 AU
minimum elong	3206 Sep 26 02:53	3° <u>♂</u> 38'45	14°00'50	direct	3214 Jun 28 23:05	19° <u>♂</u> 12'33	
morning rise	3206 Oct 01 21:18	3° <u>♂</u> 51'06		max. Earth dist.	3214 Oct 12 02:53	21° <u>♂</u> 43'20	31.98598 AU
retrograde	3207 Jan 07 11:59	6° <u>♂</u> 01'09					
opposition	3207 Mar 25 13:22	4° <u>♂</u> 42'34	15°03'41	conjunction	3214 Oct 14 17:23	21° <u>♂</u> 49'18	16°00'41
min. Earth dist.	3207 Mar 28 06:32	4° <u>♂</u> 38'13	31.46961 AU	minimum elong	3214 Oct 14 17:09	21° <u>♂</u> 49'17	16°00'41
direct	3207 Jun 13 17:55	3° <u>♂</u> 21'04		retrograde	3215 Jan 26 07:01	24° <u>♂</u> 22'13	
evening set	3207 Sep 23 18:43	5° <u>♂</u> 37'23		opposition	3215 Apr 12 20:50	23° <u>♂</u> 01'01	17°08'55
max. Earth dist.	3207 Sep 25 13:30	5° <u>♂</u> 41'13	33.29788 AU	min. Earth dist.	3215 Apr 15 05:55	22° <u>♂</u> 57'03	29.98927 AU
				direct	3215 Jul 01 13:27	21° <u>♂</u> 36'41	
conjunction	3207 Sep 28 14:18	5° <u>♂</u> 47'46	14°19'41	max. Earth dist.	3215 Oct 14 21:31	24° <u>♂</u> 08'47	31.82669 AU
minimum elong	3207 Sep 28 13:55	5° <u>♂</u> 47'44	14°19'41				
morning rise	3207 Oct 03 08:52	5° <u>♂</u> 58'05		conjunction	3215 Oct 17 10:30	24° <u>♂</u> 14'39	16°09'54
retrograde	3208 Jan 10 00:20	8° <u>♂</u> 11'31		minimum elong	3215 Oct 17 10:16	24° <u>♂</u> 14'38	16°09'54
opposition	3208 Mar 26 23:19	6° <u>♂</u> 52'30	15°23'34	retrograde	3216 Jan 29 02:02	26° <u>♂</u> 48'41	
min. Earth dist.	3208 Mar 29 16:30	6° <u>♂</u> 48'09	31.26008 AU	opposition	3216 Apr 14 13:32	25° <u>♂</u> 27'10	17°18'16
direct	3208 Jun 15 02:24	5° <u>♂</u> 30'34		min. Earth dist.	3216 Apr 16 20:15	25° <u>♂</u> 23'22	29.83516 AU
evening set	3208 Sep 26 11:22	7° <u>♂</u> 50'55		direct	3216 Jul 03 07:43	24° <u>♂</u> 02'32	
max. Earth dist.	3208 Sep 27 03:24	7° <u>♂</u> 52'22	33.08893 AU	max. Earth dist.	3216 Oct 16 16:46	26° <u>♂</u> 35'54	31.67485 AU
conjunction	3208 Sep 30 01:58	7° <u>♂</u> 58'47	14°37'34	conjunction	3216 Oct 19 04:07	26° <u>♂</u> 41'39	16°17'36
minimum elong	3208 Sep 30 01:37	7° <u>♂</u> 58'45	14°37'34	minimum elong	3216 Oct 19 03:56	26° <u>♂</u> 41'38	16°17'35
morning rise	3208 Oct 03 15:44	8° <u>♂</u> 06'34		retrograde	3217 Jan 30 19:42	29° <u>♂</u> 16'42	
retrograde	3209 Jan 11 12:22	10° <u>♂</u> 23'54		opposition	3217 Apr 17 07:04	27° <u>♂</u> 54'54	17°25'58
opposition	3209 Mar 29 10:03	9° <u>♂</u> 04'31	15°42'23	min. Earth dist.	3217 Apr 19 13:14	27° <u>♂</u> 51'07	29.68863 AU
min. Earth dist.	3209 Apr 01 01:05	9° <u>♂</u> 00'16	31.05748 AU	direct	3217 Jul 06 00:33	26° <u>♂</u> 29'58	
direct	3209 Jun 17 13:14	7° <u>♂</u> 42'11		max. Earth dist.	3217 Oct 19 13:27	29° <u>♂</u> 04'34	31.53127 AU
evening set	3209 Sep 30 18:56	10° <u>♂</u> 07'53					
max. Earth dist.	3209 Sep 29 16:14	10° <u>♂</u> 05'26	32.88724 AU	conjunction	3217 Oct 21 22:20	29° <u>♂</u> 10'07	16°23'43
				minimum elong	3217 Oct 21 22:10	29° <u>♂</u> 10'06	16°23'43
conjunction	3209 Oct 02 14:30	10° <u>♂</u> 11'53	14°54'25		3217 Nov 12 13:09	0° <u>♂</u>	
minimum elong	3209 Oct 02 14:09	10° <u>♂</u> 11'51	14°54'25	retrograde	3218 Feb 02 14:51	1° <u>♂</u> 46'07	
morning rise	3209 Oct 04 09:21	10° <u>♂</u> 15'48		opposition	3218 Apr 20 00:58	0° <u>♂</u> 24'02	17°31'56
retrograde	3210 Jan 14 02:02	12° <u>♂</u> 38'22		min. Earth dist.	3218 Apr 22 04:27	0° <u>♂</u> 20'26	29.55027 AU
opposition	3210 Mar 31 21:32	11° <u>♂</u> 18'39	16°00'04		3218 May 04 13:03	30° <u>♂</u>	
min. Earth dist.	3210 Apr 03 12:08	11° <u>♂</u> 14'24	30.86224 AU	direct	3218 Jul 08 19:29	28° <u>♂</u> 58'50	
direct	3210 Jun 19 22:01	9° <u>♂</u> 55'56			3218 Sep 08 21:18	0° <u>♂</u>	
max. Earth dist.	3210 Oct 02 08:19	12° <u>♂</u> 20'52	32.69299 AU	max. Earth dist.	3218 Oct 22 09:35	1° <u>♂</u> 34'30	31.39646 AU
conjunction	3210 Oct 05 04:01	12° <u>♂</u> 27'08	15°10'09	conjunction	3218 Oct 24 17:03	1° <u>♂</u> 39'56	16°28'11
minimum elong	3210 Oct 05 03:42	12° <u>♂</u> 27'07	15°10'09	minimum elong	3218 Oct 24 16:56	1° <u>♂</u> 39'55	16°28'10
retrograde	3211 Jan 16 15:38	14° <u>♂</u> 54'59		retrograde	3219 Feb 05 10:56	4° <u>♂</u> 16'48	
opposition	3211 Apr 03 10:03	13° <u>♂</u> 34'57	16°16'32	opposition	3219 Apr 22 19:46	2° <u>♂</u> 54'26	17°36'04
min. Earth dist.	3211 Apr 05 23:11	13° <u>♂</u> 30'47	30.67407 AU	min. Earth dist.	3219 Apr 24 22:01	2° <u>♂</u> 50'55	29.42096 AU
direct	3211 Jun 22 08:54	12° <u>♂</u> 11'54		direct	3219 Jul 11 13:36	1° <u>♂</u> 28'58	
max. Earth dist.	3211 Oct 04 22:46	14° <u>♂</u> 38'17	32.50591 AU	max. Earth dist.	3219 Oct 25 08:07	4° <u>♂</u> 05'48	31.27141 AU
conjunction	3211 Oct 07 18:07	14° <u>♂</u> 44'34	15°24'42	conjunction	3219 Oct 27 12:05	4° <u>♂</u> 10'56	16°30'54
minimum elong	3211 Oct 07 17:47	14° <u>♂</u> 44'32	15°24'43	minimum elong	3219 Oct 27 11:59	4° <u>♂</u> 10'56	16°30'55
retrograde	3212 Jan 19 07:05	17° <u>♂</u> 13'46		retrograde	3220 Feb 08 05:45	6° <u>♂</u> 48'35	
opposition	3212 Apr 04 23:25	15° <u>♂</u> 53'26	16°31'44	opposition	3220 Apr 24 15:06	5° <u>♂</u> 25'59	17°38'20
min. Earth dist.	3212 Apr 07 11:30	15° <u>♂</u> 49'19	30.49291 AU	min. Earth dist.	3220 Apr 26 14:30	5° <u>♂</u> 22'39	29.30141 AU
direct	3212 Jun 23 19:42	14° <u>♂</u> 30'03		direct	3220 Jul 13 10:01	4° <u>♂</u> 00'18	
max. Earth dist.	3212 Oct 06 16:11	16° <u>♂</u> 58'01	32.32575 AU	max. Earth dist.	3220 Oct 27 05:14	6° <u>♂</u> 38'02	31.15693 AU
conjunction	3212 Oct 09 09:12	17° <u>♂</u> 04'08	15°38'02	conjunction	3220 Oct 29 07:27	6° <u>♂</u> 43'01	16°31'51
minimum elong	3212 Oct 09 08:55	17° <u>♂</u> 04'07	15°38'02	minimum elong	3220 Oct 29 07:24	6° <u>♂</u> 43'01	16°31'50
retrograde	3213 Jan 20 21:15	19° <u>♂</u> 34'37		retrograde	3221 Feb 10 01:37	9° <u>♂</u> 21'23	
opposition	3213 Apr 07 13:46	18° <u>♂</u> 14'00	16°45'34	opposition	3221 Apr 27 10:56	7° <u>♂</u> 58'34	17°38'37
min. Earth dist.	3213 Apr 10 01:01	18° <u>♂</u> 09'56	30.31837 AU	min. Earth dist.	3221 Apr 29 08:07	7° <u>♂</u> 55'23	29.19265 AU
direct	3213 Jun 26 09:06	16° <u>♂</u> 50'18		direct	3221 Jul 16 04:33	6° <u>♂</u> 32'42	
max. Earth dist.	3213 Oct 09 08:26	19° <u>♂</u> 19'39	32.15251 AU	max. Earth dist.	3221 Oct 30 05:03	9° <u>♂</u> 11'30	31.05376 AU

conjunction	3221 Nov 01 03:17	9° $\mathbb{M}$ .16'06	16°30'56		3229 Nov 20 09:23	0° $\mathbb{A}$	
minimum elong	3221 Nov 01 03:16	9° $\mathbb{M}$ .16'06	16°30'56				
retrograde	3222 Feb 12 21:04	11° $\mathbb{M}$ .55'06		conjunction	3229 Nov 21 23:53	0° $\mathbb{A}$ 03'54	15°15'50
opposition	3222 Apr 30 07:20	10° $\mathbb{M}$ .32'08	17°36'53	minimum elong	3229 Nov 22 00:10	0° $\mathbb{A}$ 03'55	15°15'50
min. Earth dist.	3222 May 02 01:58	10° $\mathbb{M}$ .29'07	29.09482 AU	max. Earth dist.	3229 Nov 21 00:03	0° $\mathbb{A}$ 01'29	30.62518 AU
direct	3222 Jul 19 00:52	9° $\mathbb{M}$ .06'09		retrograde	3230 Mar 05 16:55	2° $\mathbb{A}$ 44'35	
max. Earth dist.	3222 Nov 02 02:55	11° $\mathbb{M}$ .45'42	30.96208 AU	opposition	3230 May 21 13:23	1° $\mathbb{A}$ 21'20	16°09'54
				min. Earth dist.	3230 May 22 11:15	1° $\mathbb{A}$ 19'48	28.69518 AU
conjunction	3222 Nov 03 23:19	11° $\mathbb{M}$ .50'08	16°28'08		3230 Jul 23 18:19	30° $\mathbb{R}\mathbb{M}$ .	
minimum elong	3222 Nov 03 23:20	11° $\mathbb{M}$ .50'09	16°28'07	direct	3230 Aug 09 05:52	29° $\mathbb{M}$ .55'27	
retrograde	3223 Feb 15 18:12	14° $\mathbb{M}$ .29'42			3230 Aug 25 15:05	0° $\mathbb{A}$	
opposition	3223 May 03 04:01	13° $\mathbb{M}$ .06'37	17°33'06	evening set	3230 Nov 23 20:37	2° $\mathbb{A}$ 37'43	
min. Earth dist.	3223 May 04 19:40	13° $\mathbb{M}$ .03'49	29.00825 AU				
direct	3223 Jul 21 20:19	11° $\mathbb{M}$ .40'33		conjunction	3230 Nov 24 20:11	2° $\mathbb{A}$ 40'06	14°58'13
max. Earth dist.	3223 Nov 05 03:18	14° $\mathbb{M}$ .20'59	30.88180 AU	minimum elong	3230 Nov 24 20:28	2° $\mathbb{A}$ 40'08	14°58'13
				max. Earth dist.	3230 Nov 24 00:03	2° $\mathbb{A}$ 38'04	30.61941 AU
conjunction	3223 Nov 06 19:47	14° $\mathbb{M}$ .25'02	16°23'26	morning rise	3230 Nov 25 20:19	2° $\mathbb{A}$ 42'32	
minimum elong	3223 Nov 06 19:51	14° $\mathbb{M}$ .25'03	16°23'26	retrograde	3231 Mar 08 13:05	5° $\mathbb{A}$ 20'30	
	3223 Nov 21 10:21	15° $\mathbb{M}$ .		opposition	3231 May 24 11:23	3° $\mathbb{A}$ 57'17	15°50'12
retrograde	3224 Feb 18 12:59	17° $\mathbb{M}$ .05'04		min. Earth dist.	3231 May 25 05:46	3° $\mathbb{A}$ 55'59	28.69184 AU
opposition	3224 May 05 01:22	15° $\mathbb{M}$ .41'55	17°27'16	direct	3231 Aug 12 06:47	2° $\mathbb{A}$ 31'30	
min. Earth dist.	3224 May 06 15:01	15° $\mathbb{M}$ .39'15	28.93256 AU	evening set	3231 Nov 24 06:57	5° $\mathbb{A}$ 07'31	
	3224 May 30 20:24	15° $\mathbb{R}\mathbb{M}$ .					
direct	3224 Jul 23 17:06	14° $\mathbb{M}$ .15'49		conjunction	3231 Nov 27 16:03	5° $\mathbb{A}$ 15'41	14°38'53
	3224 Sep 13 11:20	15° $\mathbb{M}$ .		minimum elong	3231 Nov 27 16:23	5° $\mathbb{A}$ 15'43	14°38'53
max. Earth dist.	3224 Nov 07 01:47	16° $\mathbb{M}$ .56'49	30.81270 AU	max. Earth dist.	3231 Nov 26 22:29	5° $\mathbb{A}$ 13'55	30.62485 AU
				morning rise	3231 Dec 01 01:43	5° $\mathbb{A}$ 23'55	
conjunction	3224 Nov 08 16:09	17° $\mathbb{M}$ .00'41	16°16'49	retrograde	3232 Mar 10 08:40	7° $\mathbb{A}$ 55'43	
minimum elong	3224 Nov 08 16:14	17° $\mathbb{M}$ .00'42	16°16'49	opposition	3232 May 26 09:16	6° $\mathbb{A}$ 32'32	15°28'39
retrograde	3225 Feb 20 10:40	19° $\mathbb{M}$ .41'06		min. Earth dist.	3232 May 27 00:46	6° $\mathbb{A}$ 31'27	28.70005 AU
opposition	3225 May 07 22:52	18° $\mathbb{M}$ .17'53	17°19'23	direct	3232 Aug 14 04:15	5° $\mathbb{A}$ 06'52	
min. Earth dist.	3225 May 09 09:08	18° $\mathbb{M}$ .15'28	28.86755 AU	evening set	3232 Nov 24 17:40	7° $\mathbb{A}$ 39'03	
direct	3225 Jul 26 14:20	16° $\mathbb{M}$ .51'46					
max. Earth dist.	3225 Nov 10 02:08	19° $\mathbb{M}$ .33'24	30.75426 AU	conjunction	3232 Nov 29 11:31	7° $\mathbb{A}$ 50'29	14°17'52
				minimum elong	3232 Nov 29 11:51	7° $\mathbb{A}$ 50'31	14°17'52
conjunction	3225 Nov 11 12:59	19° $\mathbb{M}$ .36'55	16°08'20	max. Earth dist.	3232 Nov 28 22:23	7° $\mathbb{A}$ 49'10	30.64227 AU
minimum elong	3225 Nov 11 13:07	19° $\mathbb{M}$ .36'56	16°08'20	morning rise	3232 Dec 04 05:45	8° $\mathbb{A}$ 01'59	
retrograde	3226 Feb 23 06:12	22° $\mathbb{M}$ .17'36		retrograde	3233 Mar 13 03:49	10° $\mathbb{A}$ 30'03	
opposition	3226 May 10 20:41	20° $\mathbb{M}$ .54'22	17°09'28	opposition	3233 May 29 06:53	9° $\mathbb{A}$ 06'58	15°05'19
min. Earth dist.	3226 May 12 05:30	20° $\mathbb{M}$ .52'03	28.81278 AU	min. Earth dist.	3233 May 29 19:03	9° $\mathbb{A}$ 06'07	28.72011 AU
direct	3226 Jul 29 10:32	19° $\mathbb{M}$ .28'16		direct	3233 Aug 17 04:13	7° $\mathbb{A}$ 41'27	
max. Earth dist.	3226 Nov 13 01:23	22° $\mathbb{M}$ .10'17	30.70643 AU	evening set	3233 Nov 26 10:32	10° $\mathbb{A}$ 10'23	
conjunction	3226 Nov 14 09:48	22° $\mathbb{M}$ .13'34	15°57'57	conjunction	3233 Dec 02 06:34	10° $\mathbb{A}$ 24'25	13°55'14
minimum elong	3226 Nov 14 09:58	22° $\mathbb{M}$ .13'35	15°57'57	minimum elong	3233 Dec 02 06:56	10° $\mathbb{A}$ 24'27	13°55'14
retrograde	3227 Feb 26 03:31	24° $\mathbb{M}$ .54'25		max. Earth dist.	3233 Dec 01 19:52	10° $\mathbb{A}$ 23'21	30.67201 AU
opposition	3227 May 13 18:44	23° $\mathbb{M}$ .31'10	16°57'32	morning rise	3233 Dec 08 03:02	10° $\mathbb{A}$ 38'30	
min. Earth dist.	3227 May 14 23:54	23° $\mathbb{M}$ .29'06	28.76816 AU	retrograde	3234 Mar 15 23:44	13° $\mathbb{A}$ 03'27	
direct	3227 Aug 01 10:10	22° $\mathbb{M}$ .05'05		opposition	3234 Jun 01 04:01	11° $\mathbb{A}$ 40'28	14°40'16
max. Earth dist.	3227 Nov 16 01:14	24° $\mathbb{M}$ .47'27	30.66886 AU	min. Earth dist.	3234 Jun 01 12:26	11° $\mathbb{A}$ 39'53	28.75262 AU
				direct	3234 Aug 20 01:59	10° $\mathbb{A}$ 15'10	
conjunction	3227 Nov 17 06:36	24° $\mathbb{M}$ .50'25	15°45'44	evening set	3234 Nov 28 06:32	12° $\mathbb{A}$ 41'08	
minimum elong	3227 Nov 17 06:49	24° $\mathbb{M}$ .50'26	15°45'45				
retrograde	3228 Feb 28 23:26	27° $\mathbb{M}$ .31'20		conjunction	3234 Dec 05 01:20	12° $\mathbb{A}$ 57'24	13°31'03
opposition	3228 May 15 17:05	26° $\mathbb{M}$ .08'04	16°43'36	minimum elong	3234 Dec 05 01:42	12° $\mathbb{A}$ 57'26	13°31'03
min. Earth dist.	3228 May 16 20:36	26° $\mathbb{M}$ .06'07	28.73360 AU	max. Earth dist.	3234 Dec 04 19:10	12° $\mathbb{A}$ 56'47	30.71435 AU
direct	3228 Aug 03 08:00	24° $\mathbb{M}$ .42'02		morning rise	3234 Dec 11 20:20	13° $\mathbb{A}$ 13'41	
max. Earth dist.	3228 Nov 18 00:56	27° $\mathbb{M}$ .24'35	30.64182 AU	retrograde	3235 Mar 18 16:20	15° $\mathbb{A}$ 35'49	
				opposition	3235 Jun 04 01:04	14° $\mathbb{A}$ 13'00	14°13'34
conjunction	3228 Nov 19 03:20	27° $\mathbb{M}$ .27'16	15°31'41	min. Earth dist.	3235 Jun 04 06:43	14° $\mathbb{A}$ 12'37	28.79743 AU
minimum elong	3228 Nov 19 03:34	27° $\mathbb{M}$ .27'17	15°31'40	direct	3235 Aug 23 00:06	12° $\mathbb{A}$ 47'58	
	3229 Feb 09 17:16	0° $\mathbb{A}$		evening set	3235 Nov 30 04:18	15° $\mathbb{A}$ 11'09	
retrograde	3229 Mar 02 20:24	0° $\mathbb{A}$ 08'07					
	3229 Mar 24 10:13	30° $\mathbb{R}\mathbb{M}$ .		conjunction	3235 Dec 07 19:19	15° $\mathbb{A}$ 29'23	13°05'24
opposition	3229 May 18 15:10	28° $\mathbb{M}$ .44'51	16°27'43	minimum elong	3235 Dec 07 19:43	15° $\mathbb{A}$ 29'25	13°05'25
min. Earth dist.	3229 May 19 15:00	28° $\mathbb{M}$ .43'11	28.70919 AU	max. Earth dist.	3235 Dec 07 15:38	15° $\mathbb{A}$ 29'01	30.76907 AU
direct	3229 Aug 06 07:39	27° $\mathbb{M}$ .18'53		morning rise	3235 Dec 15 10:38	15° $\mathbb{A}$ 47'37	

retrograde	3236 Mar 20 11:00	18° $\nearrow$ 07'08		evening set	3242 Dec 12 13:13	2° $\searrow$ 09'57	
opposition	3236 Jun 05 21:38	16° $\nearrow$ 44'31	13°45'21				
min. Earth dist.	3236 Jun 05 23:09	16° $\nearrow$ 44'24	28.85436 AU	conjunction	3242 Dec 24 11:05	2° $\searrow$ 37'17	9°33'37
direct	3236 Aug 24 21:03	15° $\nearrow$ 19'45		minimum elong	3242 Dec 24 11:26	2° $\searrow$ 37'19	9°33'37
evening set	3236 Dec 01 03:25	17° $\nearrow$ 40'19		max. Earth dist.	3242 Dec 25 04:03	2° $\searrow$ 38'55	31.44763 AU
				morning rise	3243 Jan 05 08:44	3° $\searrow$ 04'35	
conjunction	3236 Dec 09 13:05	18° $\nearrow$ 00'17	12°38'24	retrograde	3243 Apr 06 21:14	5° $\searrow$ 08'35	
minimum elong	3236 Dec 09 13:28	18° $\nearrow$ 00'19	12°38'24	opposition	3243 Jun 24 07:48	3° $\searrow$ 47'39	9°54'36
max. Earth dist.	3236 Dec 09 13:42	18° $\nearrow$ 00'21	30.83558 AU	min. Earth dist.	3243 Jun 23 13:34	3° $\searrow$ 48'52	29.54053 AU
morning rise	3236 Dec 17 22:44	18° $\nearrow$ 20'15		direct	3243 Sep 12 11:30	2° $\searrow$ 25'10	
retrograde	3237 Mar 23 03:33	20° $\nearrow$ 37'18		evening set	3243 Dec 14 15:50	4° $\searrow$ 29'33	
opposition	3237 Jun 08 17:45	19° $\nearrow$ 14'54	13°15'42				
min. Earth dist.	3237 Jun 08 17:09	19° $\nearrow$ 14'57	28.92271 AU	conjunction	3243 Dec 27 00:20	4° $\searrow$ 57'40	9°00'00
direct	3237 Aug 27 16:57	17° $\nearrow$ 50'27		minimum elong	3243 Dec 27 00:41	4° $\searrow$ 57'42	9°00'00
evening set	3237 Dec 03 03:41	20° $\nearrow$ 08'29		max. Earth dist.	3243 Dec 27 20:57	4° $\searrow$ 59'38	31.58113 AU
				morning rise	3244 Jan 08 08:20	5° $\searrow$ 25'46	
conjunction	3237 Dec 12 06:12	20° $\nearrow$ 30'01	12°10'07	retrograde	3244 Apr 08 09:14	7° $\searrow$ 27'52	
minimum elong	3237 Dec 12 06:37	20° $\nearrow$ 30'04	12°10'08	opposition	3244 Jun 25 23:55	6° $\searrow$ 07'10	9°18'15
max. Earth dist.	3237 Dec 12 09:14	20° $\nearrow$ 30'19	30.91332 AU	min. Earth dist.	3244 Jun 25 03:16	6° $\searrow$ 08'33	29.67498 AU
morning rise	3237 Dec 21 08:48	20° $\nearrow$ 51'34		direct	3244 Sep 14 06:13	4° $\searrow$ 45'01	
retrograde	3238 Mar 25 20:02	23° $\nearrow$ 06'14		evening set	3244 Dec 15 18:45	6° $\searrow$ 47'22	
opposition	3238 Jun 11 13:24	21° $\nearrow$ 44'04	12°44'45				
min. Earth dist.	3238 Jun 11 08:42	21° $\nearrow$ 44'24	29.00184 AU	conjunction	3244 Dec 28 12:45	7° $\searrow$ 16'12	8°25'49
direct	3238 Aug 30 13:52	20° $\nearrow$ 19'56		minimum elong	3244 Dec 28 13:04	7° $\searrow$ 16'13	8°25'49
evening set	3238 Dec 05 04:31	22° $\nearrow$ 35'31		max. Earth dist.	3244 Dec 29 11:08	7° $\searrow$ 18'19	31.72348 AU
				morning rise	3245 Jan 10 06:32	7° $\searrow$ 45'00	
conjunction	3238 Dec 14 22:49	22° $\nearrow$ 58'29	11°40'42	retrograde	3245 Apr 10 22:45	9° $\searrow$ 45'14	
minimum elong	3238 Dec 14 23:12	22° $\nearrow$ 58'31	11°40'42	opposition	3245 Jun 28 15:05	8° $\searrow$ 24'48	8°41'21
max. Earth dist.	3238 Dec 15 05:24	22° $\nearrow$ 59'08	31.00140 AU	min. Earth dist.	3245 Jun 27 14:57	8° $\searrow$ 26'24	29.81880 AU
morning rise	3238 Dec 24 16:59	23° $\nearrow$ 21'26		direct	3245 Sep 16 23:02	7° $\searrow$ 03'00	
retrograde	3239 Mar 28 10:47	25° $\nearrow$ 33'50		evening set	3245 Dec 17 21:37	9° $\searrow$ 03'24	
opposition	3239 Jun 14 08:46	24° $\nearrow$ 11'55	12°12'38				
min. Earth dist.	3239 Jun 14 02:06	24° $\nearrow$ 12'22	29.09115 AU	conjunction	3245 Dec 31 00:35	9° $\searrow$ 32'51	7°51'09
direct	3239 Sep 02 08:47	22° $\nearrow$ 48'07		minimum elong	3245 Dec 31 00:54	9° $\searrow$ 32'52	7°51'09
evening set	3239 Dec 07 06:11	25° $\nearrow$ 01'19		max. Earth dist.	3246 Jan 01 02:52	9° $\searrow$ 35'19	31.87510 AU
				morning rise	3246 Jan 13 03:01	10° $\searrow$ 02'15	
conjunction	3239 Dec 17 14:51	25° $\nearrow$ 25'33	11°10'14	retrograde	3246 Apr 13 08:49	12° $\searrow$ 00'44	
minimum elong	3239 Dec 17 15:15	25° $\nearrow$ 25'36	11°10'14	min. Earth dist.	3246 Jun 30 03:40	10° $\searrow$ 42'19	29.97205 AU
max. Earth dist.	3239 Dec 18 00:03	25° $\nearrow$ 26'28	31.09945 AU	opposition	3246 Jul 01 05:47	10° $\searrow$ 40'35	8°04'00
morning rise	3239 Dec 27 23:22	25° $\nearrow$ 49'47		direct	3246 Sep 19 15:30	9° $\searrow$ 19'11	
retrograde	3240 Mar 30 02:32	27° $\nearrow$ 59'58		evening set	3246 Dec 20 00:37	11° $\searrow$ 17'43	
opposition	3240 Jun 16 03:25	26° $\nearrow$ 38'19	11°39'26				
min. Earth dist.	3240 Jun 15 17:04	26° $\nearrow$ 39'01	29.19005 AU	conjunction	3247 Jan 02 11:26	11° $\searrow$ 47'40	7°16'06
direct	3240 Sep 04 04:16	25° $\nearrow$ 14'50		minimum elong	3247 Jan 02 11:43	11° $\searrow$ 47'42	7°16'07
evening set	3240 Dec 08 08:05	27° $\nearrow$ 25'44		max. Earth dist.	3247 Jan 03 15:35	11° $\searrow$ 50'18	32.03609 AU
				morning rise	3247 Jan 15 21:58	12° $\searrow$ 17'36	
conjunction	3240 Dec 19 06:13	27° $\nearrow$ 51'07	10°38'50	retrograde	3247 Apr 15 19:23	12° $\searrow$ 14'25	
minimum elong	3240 Dec 19 06:35	27° $\nearrow$ 51'09	10°38'50	opposition	3247 Jul 03 19:38	12° $\searrow$ 54'35	7°26'19
max. Earth dist.	3240 Dec 19 18:06	27° $\nearrow$ 52'17	31.20670 AU	min. Earth dist.	3247 Jul 02 13:30	12° $\searrow$ 56'34	30.13483 AU
morning rise	3240 Dec 30 04:10	28° $\nearrow$ 16'30		direct	3247 Sep 22 06:30	11° $\searrow$ 33'35	
	3241 Feb 22 17:48	0° $\searrow$		evening set	3247 Dec 22 03:34	13° $\searrow$ 30'21	
retrograde	3241 Apr 01 17:05	0° $\searrow$ 24'34					
	3241 May 11 04:40	30° $\nwarrow$		conjunction	3248 Jan 04 21:44	14° $\searrow$ 00'45	6°40'46
opposition	3241 Jun 18 21:35	29° $\nearrow$ 03'08	11°05'18	minimum elong	3248 Jan 04 22:00	14° $\searrow$ 00'46	6°40'46
min. Earth dist.	3241 Jun 18 09:09	29° $\nearrow$ 03'59	29.29814 AU	max. Earth dist.	3248 Jan 06 05:31	14° $\searrow$ 03'42	32.20621 AU
direct	3241 Sep 06 22:36	27° $\nearrow$ 40'00		morning rise	3248 Jan 18 15:27	14° $\searrow$ 31'07	
evening set	3241 Dec 10 10:33	29° $\nearrow$ 48'39		retrograde	3248 Apr 17 03:55	16° $\searrow$ 26'21	
	3241 Dec 15 08:58	0° $\searrow$		min. Earth dist.	3248 Jul 04 00:57	15° $\searrow$ 08'57	30.30677 AU
				opposition	3248 Jul 05 08:51	15° $\searrow$ 06'52	6°48'21
conjunction	3241 Dec 21 21:03	0° $\searrow$ 15'04	10°06'36	direct	3248 Sep 23 20:03	13° $\searrow$ 46'18	
minimum elong	3241 Dec 21 21:26	0° $\searrow$ 15'06	10°06'36	evening set	3248 Dec 23 06:35	15° $\searrow$ 41'22	
max. Earth dist.	3241 Dec 22 11:59	0° $\searrow$ 16'31	31.32290 AU				
morning rise	3242 Jan 02 07:11	0° $\searrow$ 41'28		conjunction	3249 Jan 06 07:13	16° $\searrow$ 12'08	6°05'13
retrograde	3242 Apr 04 07:04	2° $\searrow$ 47'27		minimum elong	3249 Jan 06 07:27	16° $\searrow$ 12'09	6°05'13
opposition	3242 Jun 21 14:55	1° $\searrow$ 26'17	10°30'19	max. Earth dist.	3249 Jan 07 16:58	16° $\searrow$ 15'14	32.38503 AU
min. Earth dist.	3242 Jun 20 23:30	1° $\searrow$ 27'19	29.41490 AU	morning rise	3249 Jan 20 07:29	16° $\searrow$ 42'51	
direct	3242 Sep 09 18:36	0° $\searrow$ 03'28		retrograde	3249 Apr 19 13:06	18° $\searrow$ 36'35	

min. Earth dist.	3249 Jul 06 09:49	17° $\overline{3}$ 19'46	30.48707 AU	conjunction	3256 Jan 21 07:00	0° $\approx$ 45'06	1°57'07
opposition	3249 Jul 07 21:11	17° $\overline{3}$ 17'28	6°10'15	minimum elong	3256 Jan 21 07:05	0° $\approx$ 45'06	1°57'07
direct	3249 Sep 26 09:08	15° $\overline{3}$ 57'21		max. Earth dist.	3256 Jan 23 05:59	0° $\approx$ 49'11	33.81026 AU
evening set	3249 Dec 25 09:39	17° $\overline{3}$ 50'49		morning rise	3256 Feb 05 10:08	1° $\approx$ 16'28	
				retrograde	3256 May 03 11:39	3° $\approx$ 01'31	
conjunction	3250 Jan 08 16:01	18° $\overline{3}$ 21'51	5°29'32	min. Earth dist.	3256 Jul 20 15:36	1° $\approx$ 47'49	31.92015 AU
minimum elong	3250 Jan 08 16:14	18° $\overline{3}$ 21'52	5°29'32	opposition	3256 Jul 22 16:41	1° $\approx$ 44'46	1°46'03
max. Earth dist.	3250 Jan 10 04:23	18° $\overline{3}$ 25'11	32.57148 AU	direct	3256 Oct 11 10:09	0° $\approx$ 27'33	
morning rise	3250 Jan 22 22:05	18° $\overline{3}$ 52'52		evening set	3257 Jan 07 06:28	2° $\approx$ 11'32	
retrograde	3250 Apr 21 20:54	20° $\overline{3}$ 45'11					
min. Earth dist.	3250 Jul 08 19:53	19° $\overline{3}$ 28'49	30.67502 AU	conjunction	3257 Jan 22 11:02	2° $\approx$ 42'47	1°22'33
opposition	3250 Jul 10 08:56	19° $\overline{3}$ 26'26	5°32'04	minimum elong	3257 Jan 22 11:05	2° $\approx$ 42'47	1°22'33
direct	3250 Sep 28 20:26	18° $\overline{3}$ 06'46		max. Earth dist.	3257 Jan 24 12:26	2° $\approx$ 47'03	34.03193 AU
evening set	3250 Dec 27 12:45	19° $\overline{3}$ 58'41		morning rise	3257 Feb 06 15:36	3° $\approx$ 14'01	
				retrograde	3257 May 05 13:41	4° $\approx$ 58'02	
conjunction	3251 Jan 11 00:15	20° $\overline{3}$ 29'57	4°53'49	min. Earth dist.	3257 Jul 22 21:32	3° $\approx$ 44'40	32.14354 AU
minimum elong	3251 Jan 11 00:26	20° $\overline{3}$ 29'58	4°53'49	opposition	3257 Jul 24 23:30	3° $\approx$ 41'35	1°09'28
max. Earth dist.	3251 Jan 12 14:59	20° $\overline{3}$ 33'28	32.76503 AU	direct	3257 Oct 13 18:30	2° $\approx$ 24'43	
morning rise	3251 Jan 25 11:19	21° $\overline{3}$ 01'10		evening set	3258 Jan 09 08:54	4° $\approx$ 07'35	
retrograde	3251 Apr 24 04:41	22° $\overline{3}$ 52'08					
min. Earth dist.	3251 Jul 11 04:28	21° $\overline{3}$ 36'17	30.86970 AU	conjunction	3258 Jan 24 14:20	4° $\approx$ 38'39	0°48'20
opposition	3251 Jul 12 20:01	21° $\overline{3}$ 33'46	4°53'55	minimum elong	3258 Jan 24 14:22	4° $\approx$ 38'39	0°48'20
direct	3251 Oct 01 08:01	20° $\overline{3}$ 14'32		max. Earth dist.	3258 Jan 26 17:09	4° $\approx$ 43'00	34.25812 AU
evening set	3251 Dec 29 15:50	22° $\overline{3}$ 04'59		morning rise	3258 Feb 08 19:45	5° $\approx$ 09'42	
				retrograde	3258 May 07 15:22	6° $\approx$ 52'45	
conjunction	3252 Jan 13 07:36	22° $\overline{3}$ 36'23	4°18'09	min. Earth dist.	3258 Jul 25 00:58	5° $\approx$ 39'49	32.37170 AU
minimum elong	3252 Jan 13 07:46	22° $\overline{3}$ 36'24	4°18'09	opposition	3258 Jul 27 05:26	5° $\approx$ 36'35	0°33'18
max. Earth dist.	3252 Jan 14 23:57	22° $\overline{3}$ 40'01	32.96458 AU	direct	3258 Oct 16 02:11	4° $\approx$ 20'06	
morning rise	3252 Jan 27 23:14	23° $\overline{3}$ 07'46		evening set	3259 Jan 11 11:18	6° $\approx$ 01'54	
retrograde	3252 Apr 25 13:03	24° $\overline{3}$ 57'27					
min. Earth dist.	3252 Jul 12 12:43	23° $\overline{3}$ 42'05	31.07044 AU	conjunction	3259 Jan 26 16:57	6° $\approx$ 32'44	0°14'33
opposition	3252 Jul 14 06:27	23° $\overline{3}$ 39'26	4°15'52	minimum elong	3259 Jan 26 16:58	6° $\approx$ 32'44	0°14'33
direct	3252 Oct 02 16:52	22° $\overline{3}$ 20'38		behind sun begin	3259 Jan 26 14:02	6° $\approx$ 32'30	
evening set	3252 Dec 30 18:55	24° $\overline{3}$ 09'42		behind sun end	3259 Jan 26 19:54	6° $\approx$ 32'59	
				max. Earth dist.	3259 Jan 28 21:28	6° $\approx$ 37'12	34.48901 AU
conjunction	3253 Jan 14 14:34	24° $\overline{3}$ 41'10	3°42'35	morning rise	3259 Feb 10 22:53	7° $\approx$ 03'36	
minimum elong	3253 Jan 14 14:43	24° $\overline{3}$ 41'11	3°42'35	retrograde	3259 May 09 17:38	8° $\approx$ 45'45	
max. Earth dist.	3253 Jan 16 09:32	24° $\overline{3}$ 45'00	33.16951 AU	desc. node	3259 Jul 04 21:41	8° $\approx$ 04'36	
morning rise	3253 Jan 29 09:50	25° $\overline{3}$ 12'38		min. Earth dist.	3259 Jul 27 04:45	7° $\approx$ 33'12	32.60505 AU
retrograde	3253 Apr 27 19:23	27° $\overline{3}$ 01'05		opposition	3259 Jul 29 10:53	7° $\approx$ 29'53	-0°02'22
min. Earth dist.	3253 Jul 14 20:57	25° $\overline{3}$ 46'08	31.27623 AU	direct	3259 Oct 18 06:51	6° $\approx$ 13'47	
opposition	3253 Jul 16 15:59	25° $\overline{3}$ 43'24	3°38'00	evening set	3260 Jan 13 13:18	7° $\approx$ 54'35	
direct	3253 Oct 05 04:50	24° $\overline{3}$ 25'02					
evening set	3254 Jan 01 22:08	26° $\overline{3}$ 12'45		conjunction	3260 Jan 28 18:59	8° $\approx$ 25'10	-0°18'52
				minimum elong	3260 Jan 28 18:59	8° $\approx$ 25'10	0°18'52
conjunction	3254 Jan 16 20:44	26° $\overline{3}$ 44'15	3°07'11	max. Earth dist.	3260 Jan 31 01:50	8° $\approx$ 29'48	34.72483 AU
minimum elong	3254 Jan 16 20:52	26° $\overline{3}$ 44'16	3°07'11	morning rise	3260 Feb 13 00:42	8° $\approx$ 55'46	
max. Earth dist.	3254 Jan 18 16:18	26° $\overline{3}$ 48'07	33.37900 AU	retrograde	3260 May 10 19:02	10° $\approx$ 37'06	
morning rise	3254 Jan 31 19:19	27° $\overline{3}$ 15'44		min. Earth dist.	3260 Jul 28 07:47	9° $\approx$ 24'57	32.84314 AU
retrograde	3254 Apr 30 03:37	29° $\overline{3}$ 03'00		opposition	3260 Jul 30 15:32	9° $\approx$ 21'34	-0°37'32
min. Earth dist.	3254 Jul 17 03:21	27° $\overline{3}$ 48'31	31.48667 AU	direct	3260 Oct 19 12:00	8° $\approx$ 05'50	
opposition	3254 Jul 19 00:57	27° $\overline{3}$ 45'39	3°00'22	evening set	3261 Jan 14 15:27	9° $\approx$ 45'44	
direct	3254 Oct 07 14:50	26° $\overline{3}$ 27'41					
evening set	3255 Jan 04 00:59	28° $\overline{3}$ 14'07		conjunction	3261 Jan 29 20:22	10° $\approx$ 16'02	-0°51'44
				minimum elong	3261 Jan 29 20:20	10° $\approx$ 16'02	0°51'44
conjunction	3255 Jan 19 02:15	28° $\overline{3}$ 45'35	2°32'01	max. Earth dist.	3261 Feb 01 03:59	10° $\approx$ 20'41	34.96501 AU
minimum elong	3255 Jan 19 02:21	28° $\overline{3}$ 45'35	2°32'01	morning rise	3261 Feb 14 01:42	10° $\approx$ 46'21	
max. Earth dist.	3255 Jan 21 00:30	28° $\overline{3}$ 49'38	33.59262 AU	retrograde	3261 May 12 22:01	12° $\approx$ 26'54	
morning rise	3255 Feb 03 03:15	29° $\overline{3}$ 17'02		min. Earth dist.	3261 Jul 30 09:21	11° $\approx$ 15'12	33.08570 AU
	3255 Feb 25 09:18	0° $\approx$		opposition	3261 Aug 01 19:23	11° $\approx$ 11'42	-1°12'08
retrograde	3255 May 02 07:57	1° $\approx$ 03'10		direct	3261 Oct 21 14:18	9° $\approx$ 56'23	
	3255 Jul 12 02:20	30° $\overline{R}$ $\overline{3}$		evening set	3262 Jan 16 17:18	11° $\approx$ 35'26	
min. Earth dist.	3255 Jul 19 11:02	29° $\overline{3}$ 49'01	31.70127 AU				
opposition	3255 Jul 21 09:20	29° $\overline{3}$ 46'08	2°23'02	conjunction	3262 Jan 31 21:18	12° $\approx$ 05'25	-1°24'07
direct	3255 Oct 10 00:39	28° $\overline{3}$ 28'33		minimum elong	3262 Jan 31 21:15	12° $\approx$ 05'25	1°24'06
	3255 Dec 30 07:49	0° $\approx$		max. Earth dist.	3262 Feb 03 07:24	12° $\approx$ 10'14	35.20912 AU
evening set	3256 Jan 06 03:53	0° $\approx$ 13'44		morning rise	3262 Feb 16 01:28	12° $\approx$ 35'25	

retrograde	3262 May 14 22:19	14° $\approx$ 15'15		evening set	3269 Jan 29 02:48	23° $\approx$ 46'05	
min. Earth dist.	3262 Aug 01 12:18	13° $\approx$ 03'55	33.33193 AU				
opposition	3262 Aug 03 22:50	13° $\approx$ 00'24	-1°46'10	conjunction	3269 Feb 12 12:22	24° $\approx$ 13'06	-4°54'55
direct	3262 Oct 23 19:08	11° $\approx$ 45'30		minimum elong	3269 Feb 12 12:13	24° $\approx$ 13'05	4°54'56
evening set	3263 Jan 18 19:01	13° $\approx$ 23'45		max. Earth dist.	3269 Feb 15 04:59	24° $\approx$ 18'12	36.96850 AU
				morning rise	3269 Feb 26 22:27	24° $\approx$ 40'11	
conjunction	3263 Feb 02 21:25	13° $\approx$ 53'23	-1°55'58	retrograde	3269 May 26 12:47	26° $\approx$ 16'13	
minimum elong	3263 Feb 02 21:21	13° $\approx$ 53'23	1°55'58	min. Earth dist.	3269 Aug 13 13:08	25° $\approx$ 07'19	35.10272 AU
max. Earth dist.	3263 Feb 05 07:52	13° $\approx$ 58'12	35.45641 AU	opposition	3269 Aug 16 06:05	25° $\approx$ 03'34	-5°26'31
morning rise	3263 Feb 18 00:17	14° $\approx$ 23'02		direct	3269 Nov 05 05:37	23° $\approx$ 51'15	
	3263 Mar 10 06:48	15° $\approx$		evening set	3270 Jan 31 03:29	25° $\approx$ 25'07	
retrograde	3263 May 16 23:38	16° $\approx$ 02'13					
	3263 Jul 28 11:23	15° $\approx$		conjunction	3270 Feb 14 08:54	25° $\approx$ 51'38	-5°22'37
min. Earth dist.	3263 Aug 03 12:45	14° $\approx$ 51'21	33.58119 AU	minimum elong	3270 Feb 14 08:44	25° $\approx$ 51'38	5°22'36
opposition	3263 Aug 06 01:38	14° $\approx$ 47'43	-2°19'35	max. Earth dist.	3270 Feb 17 01:23	25° $\approx$ 56'41	37.22254 AU
direct	3263 Oct 25 22:58	13° $\approx$ 33'13		morning rise	3270 Feb 28 15:05	26° $\approx$ 18'13	
	3264 Jan 15 04:20	15° $\approx$		retrograde	3270 May 28 10:52	27° $\approx$ 53'50	
evening set	3264 Jan 20 20:42	15° $\approx$ 10'44		min. Earth dist.	3270 Aug 15 09:50	26° $\approx$ 45'18	35.35895 AU
				opposition	3270 Aug 18 04:47	26° $\approx$ 41'26	-5°55'19
conjunction	3264 Feb 04 21:14	15° $\approx$ 40'00	-2°27'15	direct	3270 Nov 07 04:27	25° $\approx$ 29'26	
minimum elong	3264 Feb 04 21:09	15° $\approx$ 39'59	2°27'15	evening set	3271 Feb 02 03:46	27° $\approx$ 02'51	
max. Earth dist.	3264 Feb 07 09:43	15° $\approx$ 44'57	35.70608 AU				
morning rise	3264 Feb 19 22:12	16° $\approx$ 09'17		conjunction	3271 Feb 16 04:53	27° $\approx$ 28'51	-5°49'40
retrograde	3264 May 17 22:54	17° $\approx$ 47'51		minimum elong	3271 Feb 16 04:43	27° $\approx$ 28'50	5°49'40
min. Earth dist.	3264 Aug 04 14:51	16° $\approx$ 37'19	33.83270 AU	max. Earth dist.	3271 Feb 18 23:09	27° $\approx$ 33'59	37.47783 AU
opposition	3264 Aug 07 03:49	16° $\approx$ 33'41	-2°52'22	morning rise	3271 Mar 02 06:45	27° $\approx$ 54'54	
direct	3264 Oct 27 02:02	15° $\approx$ 19'36		retrograde	3271 May 30 05:05	29° $\approx$ 30'09	
evening set	3265 Jan 21 22:13	16° $\approx$ 56'26		min. Earth dist.	3271 Aug 17 08:06	28° $\approx$ 21'52	35.61679 AU
				opposition	3271 Aug 20 03:07	28° $\approx$ 18'02	-6°23'24
conjunction	3265 Feb 05 20:30	17° $\approx$ 25'17	-2°57'59	direct	3271 Nov 09 03:53	27° $\approx$ 06'21	
minimum elong	3265 Feb 05 20:25	17° $\approx$ 25'16	2°57'59	evening set	3272 Feb 04 03:59	28° $\approx$ 39'19	
max. Earth dist.	3265 Feb 08 09:29	17° $\approx$ 30'14	35.95748 AU				
morning rise	3265 Feb 20 19:13	17° $\approx$ 54'10		conjunction	3272 Feb 18 00:32	29° $\approx$ 04'47	-6°16'04
retrograde	3265 May 19 20:35	19° $\approx$ 32'10		minimum elong	3272 Feb 18 00:21	29° $\approx$ 04'46	6°16'03
min. Earth dist.	3265 Aug 06 14:42	18° $\approx$ 22'03	34.08555 AU	max. Earth dist.	3272 Feb 20 19:29	29° $\approx$ 09'58	37.73480 AU
opposition	3265 Aug 09 05:21	18° $\approx$ 18'21	-3°24'32	morning rise	3272 Mar 02 21:44	29° $\approx$ 30'19	
direct	3265 Oct 29 05:07	17° $\approx$ 04'39			3272 Mar 20 00:01	0° $\approx$	
evening set	3266 Jan 23 23:42	18° $\approx$ 40'49		retrograde	3272 May 30 22:02	1° $\approx$ 05'13	
					3272 Aug 16 04:52	30° $\approx$	
conjunction	3266 Feb 07 19:11	19° $\approx$ 09'15	-3°28'07	min. Earth dist.	3272 Aug 18 03:57	29° $\approx$ 57'19	35.87622 AU
minimum elong	3266 Feb 07 19:04	19° $\approx$ 09'14	3°28'07	opposition	3272 Aug 21 00:34	29° $\approx$ 53'23	-6°50'47
max. Earth dist.	3266 Feb 10 08:55	19° $\approx$ 14'14	36.20967 AU	direct	3272 Nov 10 03:58	28° $\approx$ 42'03	
morning rise	3266 Feb 22 15:20	19° $\approx$ 37'44			3273 Jan 27 21:29	0° $\approx$	
retrograde	3266 May 21 19:04	21° $\approx$ 15'12		evening set	3273 Feb 05 04:04	0° $\approx$ 14'37	
min. Earth dist.	3266 Aug 08 15:20	20° $\approx$ 05'24	34.33925 AU				
opposition	3266 Aug 11 06:29	20° $\approx$ 01'41	-3°56'02	conjunction	3273 Feb 18 19:38	0° $\approx$ 39'33	-6°41'49
direct	3266 Oct 31 05:41	18° $\approx$ 48'22		minimum elong	3273 Feb 18 19:26	0° $\approx$ 39'32	6°41'49
evening set	3267 Jan 26 00:56	20° $\approx$ 23'55		max. Earth dist.	3273 Feb 21 15:17	0° $\approx$ 44'44	37.99317 AU
				morning rise	3273 Mar 04 12:06	1° $\approx$ 04'32	
conjunction	3267 Feb 09 17:32	20° $\approx$ 51'54	-3°57'40	retrograde	3273 Jun 01 17:19	2° $\approx$ 39'09	
minimum elong	3267 Feb 09 17:25	20° $\approx$ 51'53	3°57'40	min. Earth dist.	3273 Aug 20 00:23	1° $\approx$ 31'34	36.13715 AU
max. Earth dist.	3267 Feb 12 08:26	20° $\approx$ 56'56	36.46241 AU	opposition	3273 Aug 22 21:46	1° $\approx$ 27'37	-7°17'27
morning rise	3267 Feb 24 10:34	21° $\approx$ 19'55		direct	3273 Nov 12 00:40	0° $\approx$ 16'37	
retrograde	3267 May 23 16:37	22° $\approx$ 56'54		evening set	3274 Feb 07 03:47	1° $\approx$ 48'50	
min. Earth dist.	3267 Aug 10 15:16	21° $\approx$ 47'25	34.59327 AU				
opposition	3267 Aug 13 06:58	21° $\approx$ 43'42	-4°26'52	conjunction	3274 Feb 20 14:19	2° $\approx$ 13'12	-7°06'55
direct	3267 Nov 02 06:19	20° $\approx$ 30'44		minimum elong	3274 Feb 20 14:07	2° $\approx$ 13'11	7°06'54
evening set	3268 Jan 28 02:01	22° $\approx$ 05'41		max. Earth dist.	3274 Feb 23 11:25	2° $\approx$ 18'28	38.25275 AU
				morning rise	3274 Mar 06 01:27	2° $\approx$ 37'38	
conjunction	3268 Feb 11 15:07	22° $\approx$ 33'11	-4°26'36	retrograde	3274 Jun 03 11:10	4° $\approx$ 12'01	
minimum elong	3268 Feb 11 14:59	22° $\approx$ 33'11	4°26'36	min. Earth dist.	3274 Aug 21 20:42	3° $\approx$ 04'43	36.39892 AU
max. Earth dist.	3268 Feb 14 05:56	22° $\approx$ 38'11	36.71529 AU	opposition	3274 Aug 24 18:27	3° $\approx$ 00'46	-7°43'24
morning rise	3268 Feb 26 05:01	23° $\approx$ 00'45		direct	3274 Nov 13 22:08	1° $\approx$ 50'07	
retrograde	3268 May 24 15:48	24° $\approx$ 37'15		evening set	3275 Feb 09 03:35	3° $\approx$ 22'01	
min. Earth dist.	3268 Aug 11 13:47	23° $\approx$ 28'06	34.84771 AU				
opposition	3268 Aug 14 06:53	23° $\approx$ 24'19	-4°57'02	conjunction	3275 Feb 22 08:33	3° $\approx$ 45'49	-7°31'21
direct	3268 Nov 03 05:13	22° $\approx$ 11'41		minimum elong	3275 Feb 22 08:21	3° $\approx$ 45'48	7°31'22

max. Earth dist.	3275 Feb 25 05:24	3° <del>1</del> 51'01	38.51294 AU	conjunction	3282 Mar 04 06:33	14° <del>1</del> 06'14	-10°04'55
morning rise	3275 Mar 07 14:26	4° <del>1</del> 09'41		minimum elong	3282 Mar 04 06:20	14° <del>1</del> 06'13	10°04'55
retrograde	3275 Jun 05 08:11	5° <del>1</del> 43'50		max. Earth dist.	3282 Mar 07 04:43	14° <del>1</del> 11'18	40.30163 AU
min. Earth dist.	3275 Aug 23 15:35	4° <del>1</del> 36'53	36.66123 AU	morning rise	3282 Mar 15 15:41	14° <del>1</del> 25'52	
opposition	3275 Aug 26 14:42	4° <del>1</del> 32'53	-8°08'40	retrograde	3282 Jun 15 06:11	15° <del>1</del> 59'02	
direct	3275 Nov 15 16:06	3° <del>1</del> 22'35		min. Earth dist.	3282 Sep 03 00:16	14° <del>1</del> 53'48	38.45889 AU
evening set	3276 Feb 11 03:04	4° <del>1</del> 54'11		opposition	3282 Sep 06 00:22	14° <del>1</del> 49'52	-10°46'40
				direct	3282 Nov 26 03:28	13° <del>1</del> 41'36	
conjunction	3276 Feb 24 02:30	5° <del>1</del> 17'25	-7°55'09	evening set	3283 Feb 22 20:46	15° <del>1</del> 11'51	
minimum elong	3276 Feb 24 02:18	5° <del>1</del> 17'25	7°55'09				
max. Earth dist.	3276 Feb 27 00:59	5° <del>1</del> 22'43	38.77315 AU	conjunction	3283 Mar 05 21:55	15° <del>1</del> 30'48	-10°24'25
morning rise	3276 Mar 08 02:38	5° <del>1</del> 40'43		minimum elong	3283 Mar 05 21:42	15° <del>1</del> 30'47	10°24'25
retrograde	3276 Jun 06 03:14	7° <del>1</del> 14'40		max. Earth dist.	3283 Mar 08 21:20	15° <del>1</del> 35'56	40.55018 AU
min. Earth dist.	3276 Aug 24 12:02	6° <del>1</del> 07'58	36.92316 AU	morning rise	3283 Mar 16 23:46	15° <del>1</del> 49'49	
opposition	3276 Aug 27 10:34	6° <del>1</del> 04'01	-8°33'14	retrograde	3283 Jun 16 21:59	17° <del>1</del> 22'55	
direct	3276 Nov 16 11:31	4° <del>1</del> 54'03		min. Earth dist.	3283 Sep 04 17:54	16° <del>1</del> 17'51	38.70925 AU
evening set	3277 Feb 12 02:40	6° <del>1</del> 25'24		opposition	3283 Sep 07 17:15	16° <del>1</del> 13'59	-11°06'38
				direct	3283 Nov 27 20:01	15° <del>1</del> 05'59	
conjunction	3277 Feb 24 20:05	6° <del>1</del> 48'03	-8°18'19	evening set	3284 Feb 24 19:15	16° <del>1</del> 36'08	
minimum elong	3277 Feb 24 19:53	6° <del>1</del> 48'02	8°18'20				
max. Earth dist.	3277 Feb 27 17:59	6° <del>1</del> 53'16	39.03263 AU	conjunction	3284 Mar 06 12:54	16° <del>1</del> 54'27	-10°43'18
morning rise	3277 Mar 09 14:18	7° <del>1</del> 10'46		minimum elong	3284 Mar 06 12:42	16° <del>1</del> 54'26	10°43'18
retrograde	3277 Jun 07 21:39	8° <del>1</del> 44'32		max. Earth dist.	3284 Mar 09 12:11	16° <del>1</del> 59'32	40.79807 AU
min. Earth dist.	3277 Aug 26 06:02	7° <del>1</del> 38'10	37.18403 AU	morning rise	3284 Mar 17 07:09	17° <del>1</del> 12'48	
opposition	3277 Aug 29 05:45	7° <del>1</del> 34'11	-8°57'07	retrograde	3284 Jun 17 11:05	18° <del>1</del> 45'53	
direct	3277 Nov 18 06:18	6° <del>1</del> 24'32		min. Earth dist.	3284 Sep 05 09:06	17° <del>1</del> 41'07	38.95885 AU
evening set	3278 Feb 14 02:06	7° <del>1</del> 55'40		opposition	3284 Sep 08 09:36	17° <del>1</del> 37'11	-11°25'56
				direct	3284 Nov 28 13:51	16° <del>1</del> 29'28	
conjunction	3278 Feb 26 13:21	8° <del>1</del> 17'43	-8°40'52	evening set	3285 Feb 25 17:35	17° <del>1</del> 59'34	
minimum elong	3278 Feb 26 13:09	8° <del>1</del> 17'42	8°40'51				
max. Earth dist.	3278 Mar 01 11:50	8° <del>1</del> 22'56	39.29060 AU	conjunction	3285 Mar 08 03:29	18° <del>1</del> 17'14	-11°01'35
morning rise	3278 Mar 11 01:28	8° <del>1</del> 39'50		minimum elong	3285 Mar 08 03:16	18° <del>1</del> 17'13	11°01'34
retrograde	3278 Jun 09 13:11	10° <del>1</del> 13'27		max. Earth dist.	3285 Mar 11 02:55	18° <del>1</del> 22'18	41.04516 AU
min. Earth dist.	3278 Aug 28 01:51	9° <del>1</del> 07'18	37.44327 AU	morning rise	3285 Mar 18 14:08	18° <del>1</del> 34'56	
opposition	3278 Aug 31 00:53	9° <del>1</del> 03'21	-9°20'20	retrograde	3285 Jun 19 00:43	20° <del>1</del> 08'02	
direct	3278 Nov 20 03:06	7° <del>1</del> 54'01		min. Earth dist.	3285 Sep 07 01:19	19° <del>1</del> 03'29	39.20780 AU
evening set	3279 Feb 16 01:18	9° <del>1</del> 24'56		opposition	3285 Sep 10 01:40	18° <del>1</del> 59'35	-11°44'36
				direct	3285 Nov 30 07:03	17° <del>1</del> 52'09	
conjunction	3279 Feb 28 06:16	9° <del>1</del> 46'23	-9°02'47	evening set	3286 Feb 27 15:49	19° <del>1</del> 22'14	
minimum elong	3279 Feb 28 06:03	9° <del>1</del> 46'22	9°02'47				
max. Earth dist.	3279 Mar 03 04:53	9° <del>1</del> 51'35	39.54669 AU	conjunction	3286 Mar 09 17:54	19° <del>1</del> 39'14	-11°19'15
morning rise	3279 Mar 12 11:52	10° <del>1</del> 07'53		minimum elong	3286 Mar 09 17:42	19° <del>1</del> 39'13	11°19'15
retrograde	3279 Jun 11 03:45	11° <del>1</del> 41'22		max. Earth dist.	3286 Mar 12 18:13	19° <del>1</del> 44'21	41.29159 AU
min. Earth dist.	3279 Aug 29 20:04	10° <del>1</del> 35'29	37.70023 AU	morning rise	3286 Mar 19 20:27	19° <del>1</del> 56'18	
opposition	3279 Sep 01 19:26	10° <del>1</del> 31'32	-9°42'53	retrograde	3286 Jun 20 14:21	21° <del>1</del> 29'26	
direct	3279 Nov 22 00:03	9° <del>1</del> 22'29		min. Earth dist.	3286 Sep 08 17:04	20° <del>1</del> 25'08	39.45572 AU
evening set	3280 Feb 18 00:33	10° <del>1</del> 53'12		opposition	3286 Sep 11 17:24	20° <del>1</del> 21'15	-12°02'38
				direct	3286 Dec 01 23:50	19° <del>1</del> 14'06	
conjunction	3280 Feb 29 22:47	11° <del>1</del> 14'02	-9°24'06	evening set	3287 Mar 01 13:57	20° <del>1</del> 44'11	
minimum elong	3280 Feb 29 22:34	11° <del>1</del> 14'02	9°24'05				
max. Earth dist.	3280 Mar 03 20:51	11° <del>1</del> 19'10	39.80037 AU	conjunction	3287 Mar 11 07:46	21° <del>1</del> 00'32	-11°36'21
morning rise	3280 Mar 12 21:55	11° <del>1</del> 34'56		minimum elong	3287 Mar 11 07:33	21° <del>1</del> 00'31	11°36'21
retrograde	3280 Jun 11 21:08	13° <del>1</del> 08'17		max. Earth dist.	3287 Mar 14 07:22	21° <del>1</del> 05'33	41.53683 AU
min. Earth dist.	3280 Aug 30 13:54	12° <del>1</del> 02'38	37.95499 AU	morning rise	3287 Mar 21 02:15	21° <del>1</del> 16'56	
opposition	3280 Sep 02 13:28	11° <del>1</del> 58'41	-10°04'48	retrograde	3287 Jun 22 06:41	22° <del>1</del> 50'08	
direct	3280 Nov 22 17:22	10° <del>1</del> 49'55		min. Earth dist.	3287 Sep 10 07:45	21° <del>1</del> 46'07	39.70235 AU
evening set	3281 Feb 18 23:28	12° <del>1</del> 20'26		opposition	3287 Sep 13 08:51	21° <del>1</del> 42'13	-12°20'03
				direct	3287 Dec 03 13:16	20° <del>1</del> 35'21	
conjunction	3281 Mar 02 15:01	12° <del>1</del> 40'39	-9°44'49	evening set	3288 Mar 02 12:03	22° <del>1</del> 05'28	
minimum elong	3281 Mar 02 14:48	12° <del>1</del> 40'38	9°44'49				
max. Earth dist.	3281 Mar 05 14:01	12° <del>1</del> 45'49	40.05190 AU	conjunction	3288 Mar 11 21:39	22° <del>1</del> 21'09	-11°52'52
morning rise	3281 Mar 14 07:11	13° <del>1</del> 00'56		minimum elong	3288 Mar 11 21:27	22° <del>1</del> 21'09	11°52'52
retrograde	3281 Jun 13 12:37	14° <del>1</del> 34'10		max. Earth dist.	3288 Mar 14 22:17	22° <del>1</del> 26'13	41.78041 AU
min. Earth dist.	3281 Sep 01 08:14	13° <del>1</del> 28'41	38.20763 AU	morning rise	3288 Mar 21 07:43	22° <del>1</del> 36'53	
opposition	3281 Sep 04 07:07	13° <del>1</del> 24'48	-10°26'04	retrograde	3288 Jun 22 21:27	24° <del>1</del> 10'11	
direct	3281 Nov 24 11:59	12° <del>1</del> 16'17		min. Earth dist.	3288 Sep 10 23:57	23° <del>1</del> 06'21	39.94694 AU
evening set	3282 Feb 20 22:12	13° <del>1</del> 46'38		opposition	3288 Sep 13 23:49	23° <del>1</del> 02'31	-12°36'53

direct	3288 Dec 04 03:25	21° $\mathbf{\text{H}}$ 55'57	conjunction	3295 Mar 21 14:54	1° $\mathbf{\text{Y}}$ 26'09 -13°33'43
evening set	3289 Mar 04 10:18	23° $\mathbf{\text{H}}$ 26'07	minimum elong	3295 Mar 21 14:45	1° $\mathbf{\text{Y}}$ 26'08 13°33'43
			max. Earth dist.	3295 Mar 24 12:51	1° $\mathbf{\text{Y}}$ 30'50 43.39797 AU
conjunction	3289 Mar 13 11:12	23° $\mathbf{\text{H}}$ 41'08 -12°08'50	morning rise	3295 Mar 28 05:54	1° $\mathbf{\text{Y}}$ 36'49
minimum elong	3289 Mar 13 10:59	23° $\mathbf{\text{H}}$ 41'07 12°08'50	retrograde	3295 Jul 02 14:35	3° $\mathbf{\text{Y}}$ 11'12
max. Earth dist.	3289 Mar 16 10:45	23° $\mathbf{\text{H}}$ 46'06 42.02176 AU	min. Earth dist.	3295 Sep 21 03:42	2° $\mathbf{\text{Y}}$ 08'32 41.56693 AU
morning rise	3289 Mar 22 12:33	23° $\mathbf{\text{H}}$ 56'11	opposition	3295 Sep 24 00:47	2° $\mathbf{\text{Y}}$ 04'57 -14°19'09
retrograde	3289 Jun 24 12:27	25° $\mathbf{\text{H}}$ 29'35	direct	3295 Dec 14 05:21	0° $\mathbf{\text{Y}}$ 59'56
min. Earth dist.	3289 Sep 12 13:59	24° $\mathbf{\text{H}}$ 26'01 40.18890 AU	evening set	3296 Mar 15 23:03	2° $\mathbf{\text{Y}}$ 31'03
opposition	3289 Sep 15 14:32	24° $\mathbf{\text{H}}$ 22'11 -12°53'07			
direct	3289 Dec 05 16:48	23° $\mathbf{\text{H}}$ 15'53	conjunction	3296 Mar 22 02:38	2° $\mathbf{\text{Y}}$ 40'55 -13°46'06
evening set	3290 Mar 06 08:20	24° $\mathbf{\text{H}}$ 46'09	minimum elong	3296 Mar 22 02:28	2° $\mathbf{\text{Y}}$ 40'54 13°46'06
			max. Earth dist.	3296 Mar 25 00:14	2° $\mathbf{\text{Y}}$ 45'34 43.61701 AU
conjunction	3290 Mar 15 00:23	25° $\mathbf{\text{H}}$ 00'29 -12°24'16	morning rise	3296 Mar 28 06:17	2° $\mathbf{\text{Y}}$ 50'47
minimum elong	3290 Mar 15 00:12	25° $\mathbf{\text{H}}$ 00'28 12°24'16	retrograde	3296 Jul 03 00:07	4° $\mathbf{\text{Y}}$ 25'26
max. Earth dist.	3290 Mar 18 00:05	25° $\mathbf{\text{H}}$ 05'25 42.26006 AU	min. Earth dist.	3296 Sep 21 15:34	3° $\mathbf{\text{Y}}$ 22'57 41.78671 AU
morning rise	3290 Mar 23 16:56	25° $\mathbf{\text{H}}$ 14'49	opposition	3296 Sep 24 13:06	3° $\mathbf{\text{Y}}$ 19'21 -14°31'38
retrograde	3290 Jun 26 01:23	26° $\mathbf{\text{H}}$ 48'22	direct	3296 Dec 14 18:42	2° $\mathbf{\text{Y}}$ 14'31
min. Earth dist.	3290 Sep 14 05:51	25° $\mathbf{\text{H}}$ 44'57 40.42763 AU	evening set	3297 Mar 17 22:10	3° $\mathbf{\text{Y}}$ 45'56
opposition	3290 Sep 17 05:10	25° $\mathbf{\text{H}}$ 41'12 -13°08'47			
direct	3290 Dec 07 07:22	24° $\mathbf{\text{H}}$ 35'09	conjunction	3297 Mar 23 13:56	3° $\mathbf{\text{Y}}$ 54'58 -13°57'58
evening set	3291 Mar 08 06:40	26° $\mathbf{\text{H}}$ 05'31	minimum elong	3297 Mar 23 13:47	3° $\mathbf{\text{Y}}$ 54'57 13°57'57
			max. Earth dist.	3297 Mar 26 11:02	3° $\mathbf{\text{Y}}$ 59'34 43.83409 AU
conjunction	3291 Mar 16 13:35	26° $\mathbf{\text{H}}$ 19'08 -12°39'10	morning rise	3297 Mar 29 05:51	4° $\mathbf{\text{Y}}$ 04'00
minimum elong	3291 Mar 16 13:24	26° $\mathbf{\text{H}}$ 19'07 12°39'09	retrograde	3297 Jul 04 11:13	5° $\mathbf{\text{Y}}$ 38'58
max. Earth dist.	3291 Mar 19 13:00	26° $\mathbf{\text{H}}$ 24'03 42.49495 AU	min. Earth dist.	3297 Sep 23 04:12	4° $\mathbf{\text{Y}}$ 36'39 42.00473 AU
morning rise	3291 Mar 24 20:48	26° $\mathbf{\text{H}}$ 32'47	opposition	3297 Sep 26 01:26	4° $\mathbf{\text{Y}}$ 33'05 -14°43'34
retrograde	3291 Jun 27 11:22	28° $\mathbf{\text{H}}$ 06'28	direct	3297 Dec 16 07:35	3° $\mathbf{\text{Y}}$ 28'27
min. Earth dist.	3291 Sep 15 20:05	27° $\mathbf{\text{H}}$ 03'16 40.66252 AU	evening set	3298 Mar 19 21:46	5° $\mathbf{\text{Y}}$ 00'13
opposition	3291 Sep 18 19:15	26° $\mathbf{\text{H}}$ 59'31 -13°23'56			
direct	3291 Dec 09 00:35	25° $\mathbf{\text{H}}$ 53'42	conjunction	3298 Mar 25 01:02	5° $\mathbf{\text{Y}}$ 08'22 -14°09'20
evening set	3292 Mar 09 04:59	27° $\mathbf{\text{H}}$ 24'10	minimum elong	3298 Mar 25 00:53	5° $\mathbf{\text{Y}}$ 08'21 14°09'20
			max. Earth dist.	3298 Mar 27 22:57	5° $\mathbf{\text{Y}}$ 13'00 44.04945 AU
conjunction	3292 Mar 17 02:22	27° $\mathbf{\text{H}}$ 37'05 -12°53'33	morning rise	3298 Mar 30 04:17	5° $\mathbf{\text{Y}}$ 16'32
minimum elong	3292 Mar 17 02:11	27° $\mathbf{\text{H}}$ 37'04 12°53'34	retrograde	3298 Jul 05 20:44	6° $\mathbf{\text{Y}}$ 51'53
max. Earth dist.	3292 Mar 20 00:28	27° $\mathbf{\text{H}}$ 41'52 42.72590 AU	min. Earth dist.	3298 Sep 24 16:45	5° $\mathbf{\text{Y}}$ 49'43 42.22072 AU
morning rise	3292 Mar 25 00:10	27° $\mathbf{\text{H}}$ 50'01	opposition	3298 Sep 27 13:28	5° $\mathbf{\text{Y}}$ 46'11 -14°55'00
retrograde	3292 Jun 28 00:34	29° $\mathbf{\text{H}}$ 23'50	direct	3298 Dec 17 21:42	4° $\mathbf{\text{Y}}$ 41'46
min. Earth dist.	3292 Sep 16 10:23	28° $\mathbf{\text{H}}$ 20'48 40.89354 AU	evening set	3299 Mar 21 22:18	6° $\mathbf{\text{Y}}$ 13'57
opposition	3292 Sep 19 09:10	28° $\mathbf{\text{H}}$ 17'05 -13°38'32			
direct	3292 Dec 09 14:58	27° $\mathbf{\text{H}}$ 11'29	conjunction	3299 Mar 26 11:54	6° $\mathbf{\text{Y}}$ 21'11 -14°20'12
evening set	3293 Mar 11 03:16	28° $\mathbf{\text{H}}$ 42'04	minimum elong	3299 Mar 26 11:46	6° $\mathbf{\text{Y}}$ 21'10 14°20'12
			max. Earth dist.	3299 Mar 29 08:32	6° $\mathbf{\text{Y}}$ 25'42 44.26283 AU
conjunction	3293 Mar 18 14:57	28° $\mathbf{\text{H}}$ 54'15 -13°07'27	morning rise	3299 Mar 31 01:31	6° $\mathbf{\text{Y}}$ 28'24
minimum elong	3293 Mar 18 14:46	28° $\mathbf{\text{H}}$ 54'14 13°07'27	retrograde	3299 Jul 07 10:19	8° $\mathbf{\text{Y}}$ 04'13
max. Earth dist.	3293 Mar 21 13:35	28° $\mathbf{\text{H}}$ 59'03 42.95304 AU	min. Earth dist.	3299 Sep 26 03:55	7° $\mathbf{\text{Y}}$ 02'17 42.43464 AU
morning rise	3293 Mar 26 02:50	29° $\mathbf{\text{H}}$ 06'27	opposition	3299 Sep 29 01:08	6° $\mathbf{\text{Y}}$ 58'44 -15°05'55
	3293 May 01 03:32	0° $\mathbf{\text{Y}}$	direct	3299 Dec 19 07:13	5° $\mathbf{\text{Y}}$ 54'32
retrograde	3293 Jun 29 12:57	0° $\mathbf{\text{Y}}$ 40'26	evening set	3300 Mar 24 00:01	7° $\mathbf{\text{Y}}$ 27'16
	3293 Aug 30 12:08	30° $\mathbf{\text{R}}$ $\mathbf{\text{H}}$			
min. Earth dist.	3293 Sep 18 01:05	29° $\mathbf{\text{H}}$ 37'29 41.12077 AU	conjunction	3300 Mar 27 22:40	7° $\mathbf{\text{Y}}$ 33'28 -14°30'36
opposition	3293 Sep 20 22:38	29° $\mathbf{\text{H}}$ 33'51 -13°52'36	minimum elong	3300 Mar 27 22:31	7° $\mathbf{\text{Y}}$ 33'27 14°30'37
direct	3293 Dec 11 05:10	28° $\mathbf{\text{H}}$ 28'27	morning rise	3300 Mar 31 21:14	7° $\mathbf{\text{Y}}$ 39'40
evening set	3294 Mar 13 01:44	29° $\mathbf{\text{H}}$ 59'11	max. Earth dist.	3300 Mar 30 19:53	7° $\mathbf{\text{Y}}$ 38'00 44.47384 AU
	3294 Mar 13 13:59	0° $\mathbf{\text{Y}}$	retrograde	3300 Jul 08 22:33	9° $\mathbf{\text{Y}}$ 16'04
conjunction	3294 Mar 20 03:05	0° $\mathbf{\text{Y}}$ 10'36 -13°20'50	min. Earth dist.	3300 Sep 27 17:03	8° $\mathbf{\text{Y}}$ 14'14 42.64585 AU
minimum elong	3294 Mar 20 02:55	0° $\mathbf{\text{Y}}$ 10'35 13°20'51	opposition	3300 Sep 30 12:43	8° $\mathbf{\text{Y}}$ 10'47 -15°16'20
max. Earth dist.	3294 Mar 23 00:30	0° $\mathbf{\text{Y}}$ 15'17 43.17687 AU	direct	3300 Dec 20 17:32	7° $\mathbf{\text{Y}}$ 06'49
morning rise	3294 Mar 27 04:41	0° $\mathbf{\text{Y}}$ 22'03	evening set	3301 Mar 26 03:58	8° $\mathbf{\text{Y}}$ 40'14
retrograde	3294 Jul 01 02:48	1° $\mathbf{\text{Y}}$ 56'13			
min. Earth dist.	3294 Sep 19 13:33	0° $\mathbf{\text{Y}}$ 53'28 41.34507 AU	conjunction	3301 Mar 29 09:12	8° $\mathbf{\text{Y}}$ 45'16 -14°40'33
opposition	3294 Sep 22 11:49	0° $\mathbf{\text{Y}}$ 49'48 -14°06'09	minimum elong	3301 Mar 29 09:05	8° $\mathbf{\text{Y}}$ 45'16 14°40'33
	3294 Nov 06 15:31	30° $\mathbf{\text{R}}$ $\mathbf{\text{H}}$	morning rise	3301 Apr 01 14:21	8° $\mathbf{\text{Y}}$ 50'18
direct	3294 Dec 12 16:40	29° $\mathbf{\text{H}}$ 44'35	max. Earth dist.	3301 Apr 01 05:35	8° $\mathbf{\text{Y}}$ 49'44 44.68202 AU
	3295 Jan 16 23:12	0° $\mathbf{\text{Y}}$	retrograde	3301 Jul 10 08:01	10° $\mathbf{\text{Y}}$ 27'25
evening set	3295 Mar 15 00:07	1° $\mathbf{\text{Y}}$ 15'29	min. Earth dist.	3301 Sep 29 03:52	9° $\mathbf{\text{Y}}$ 25'49 42.85382 AU
			opposition	3301 Oct 01 23:53	9° $\mathbf{\text{Y}}$ 22'21 -15°26'18

direct	3301 Dec 22 04:50	8°♈18'36		opposition	3309 Oct 11 09:55	18°♈36'47 -16°30'23
evening set	3302 Mar 28 12:03	9°♈53'00		direct	3309 Dec 31 18:33	17°♈34'25
conjunction	3302 Mar 30 19:33	9°♈56'37 -14°50'03		conjunction	3310 Apr 08 23:36	19°♈08'59 -15°51'12
minimum elong	3302 Mar 30 19:25	9°♈56'37 14°50'03		minimum elong	3310 Apr 08 23:33	19°♈08'59 15°51'11
morning rise	3302 Apr 02 02:54	10°♈00'13		max. Earth dist.	3310 Apr 11 15:20	19°♈13'00 46.38468 AU
max. Earth dist.	3302 Apr 02 15:07	10°♈01'01 44.88664 AU		retrograde	3310 Jul 20 20:09	20°♈47'25
retrograde	3302 Jul 11 17:36	11°♈38'21		min. Earth dist.	3310 Oct 10 05:44	19°♈46'52 44.55246 AU
min. Earth dist.	3302 Sep 30 16:19	10°♈36'52 43.05808 AU		opposition	3310 Oct 12 19:13	19°♈43'49 -16°36'29
opposition	3302 Oct 03 11:05	10°♈33'28 -15°35'48		direct	3311 Jan 02 04:27	18°♈41'37
direct	3302 Dec 23 16:40	9°♈29'57				
evening set	3303 Mar 31 13:14	11°♈06'26		conjunction	3311 Apr 10 08:11	20°♈15'48 -15°57'00
				minimum elong	3311 Apr 10 08:07	20°♈15'48 15°57'00
conjunction	3303 Apr 01 05:52	11°♈07'31 -14°59'07		max. Earth dist.	3311 Apr 12 22:45	20°♈19'44 46.55920 AU
minimum elong	3303 Apr 01 05:46	11°♈07'31 14°59'07		retrograde	3311 Jul 22 06:39	21°♈53'52
evening rise	3303 Apr 01 22:20	11°♈08'35		min. Earth dist.	3311 Oct 11 14:16	20°♈53'30 44.72656 AU
max. Earth dist.	3303 Apr 04 01:24	11°♈11'54 45.08731 AU		opposition	3311 Oct 14 04:13	20°♈50'26 -16°42'09
retrograde	3303 Jul 13 02:02	12°♈48'49		direct	3312 Jan 03 11:01	19°♈48'25
min. Earth dist.	3303 Oct 02 04:07	11°♈47'28 43.25786 AU				
opposition	3303 Oct 04 21:57	11°♈44'08 -15°44'52		conjunction	3312 Apr 10 16:41	21°♈22'15 -16°02'24
direct	3303 Dec 25 05:53	10°♈40'48		minimum elong	3312 Apr 10 16:39	21°♈22'15 16°02'24
				max. Earth dist.	3312 Apr 13 06:56	21°♈26'08 46.73090 AU
conjunction	3304 Apr 01 15:57	12°♈17'55 -15°07'47		retrograde	3312 Jul 22 15:59	22°♈59'57
minimum elong	3304 Apr 01 15:50	12°♈17'55 15°07'46		min. Earth dist.	3312 Oct 12 00:39	21°♈59'40 44.89767 AU
max. Earth dist.	3304 Apr 04 09:36	12°♈22'09 45.28345 AU		opposition	3312 Oct 14 13:03	21°♈56'41 -16°47'26
retrograde	3304 Jul 13 13:37	13°♈58'48		direct	3313 Jan 03 18:13	20°♈54'51
min. Earth dist.	3304 Oct 02 14:56	12°♈57'36 43.45315 AU				
opposition	3304 Oct 05 08:28	12°♈54'17 -15°53'31		conjunction	3313 Apr 12 01:09	22°♈28'20 -16°07'26
direct	3304 Dec 25 15:44	11°♈51'08		minimum elong	3313 Apr 12 01:06	22°♈28'20 16°07'26
				max. Earth dist.	3313 Apr 14 15:04	22°♈32'11 46.89950 AU
conjunction	3305 Apr 03 01:51	13°♈27'48 -15°16'03		retrograde	3313 Jul 23 21:59	24°♈05'42
minimum elong	3305 Apr 03 01:46	13°♈27'48 15°16'03		min. Earth dist.	3313 Oct 13 09:40	23°♈05'34 45.06518 AU
max. Earth dist.	3305 Apr 05 19:45	13°♈32'02 45.47514 AU		opposition	3313 Oct 15 21:43	23°♈02'36 -16°52'19
retrograde	3305 Jul 15 00:35	15°♈08'15		direct	3314 Jan 05 03:48	22°♈00'56
min. Earth dist.	3305 Oct 04 03:04	14°♈07'06 43.64404 AU				
opposition	3305 Oct 06 18:55	14°♈03'53 -16°01'45		conjunction	3314 Apr 13 09:14	23°♈34'05 -16°12'06
direct	3305 Dec 27 01:28	13°♈00'54		minimum elong	3314 Apr 13 09:13	23°♈34'05 16°12'06
				max. Earth dist.	3314 Apr 15 21:36	23°♈37'50 47.06422 AU
conjunction	3306 Apr 04 11:19	14°♈37'07 -15°23'54		retrograde	3314 Jul 25 06:12	25°♈11'07
minimum elong	3306 Apr 04 11:13	14°♈37'07 15°23'53		min. Earth dist.	3314 Oct 14 19:13	24°♈11'06 45.22861 AU
max. Earth dist.	3306 Apr 07 03:56	14°♈41'15 45.66288 AU		opposition	3314 Oct 17 06:22	24°♈08'11 -16°56'51
retrograde	3306 Jul 16 11:43	16°♈17'08		direct	3315 Jan 06 13:06	23°♈06'41
min. Earth dist.	3306 Oct 05 12:47	15°♈16'08 43.83122 AU				
opposition	3306 Oct 08 05:01	15°♈12'55 -16°09'33		conjunction	3315 Apr 14 17:36	24°♈39'29 -16°16'26
direct	3306 Dec 28 09:13	14°♈10'04		minimum elong	3315 Apr 14 17:34	24°♈39'29 16°16'26
				max. Earth dist.	3315 Apr 17 05:57	24°♈43'13 47.22449 AU
conjunction	3307 Apr 05 20:40	15°♈45'52 -15°31'21		retrograde	3315 Jul 26 13:29	26°♈16'12
minimum elong	3307 Apr 05 20:35	15°♈45'52 15°31'21		min. Earth dist.	3315 Oct 16 05:17	25°♈16'14 45.38715 AU
max. Earth dist.	3307 Apr 08 12:56	15°♈49'57 45.84717 AU		opposition	3315 Oct 18 14:44	25°♈13'25 -17°01'02
retrograde	3307 Jul 17 20:04	17°♈25'28		direct	3316 Jan 07 23:50	24°♈12'03
min. Earth dist.	3307 Oct 07 00:03	16°♈24'32 44.01535 AU				
opposition	3307 Oct 09 14:54	16°♈21'23 -16°16'56		conjunction	3316 Apr 15 01:45	25°♈44'31 -16°20'26
direct	3307 Dec 29 19:15	15°♈18'42		minimum elong	3316 Apr 15 01:45	25°♈44'31 16°20'26
				max. Earth dist.	3316 Apr 17 12:02	25°♈48'06 47.37986 AU
conjunction	3308 Apr 06 05:56	16°♈54'04 -15°38'23		retrograde	3316 Jul 27 00:05	27°♈20'53
minimum elong	3308 Apr 06 05:51	16°♈54'04 15°38'22		min. Earth dist.	3316 Oct 16 13:41	26°♈21'02 45.54061 AU
max. Earth dist.	3308 Apr 08 22:18	16°♈58'09 46.02877 AU		opposition	3316 Oct 18 22:58	26°♈18'14 -17°04'54
retrograde	3308 Jul 18 01:15	18°♈33'15		direct	3317 Jan 08 06:17	25°♈16'59
min. Earth dist.	3308 Oct 07 09:42	17°♈32'28 44.19674 AU				
opposition	3308 Oct 10 00:28	17°♈29'20 -16°23'53		conjunction	3317 Apr 16 09:37	26°♈49'07 -16°24'07
direct	3308 Dec 30 08:21	16°♈26'47		minimum elong	3317 Apr 16 09:35	26°♈49'07 16°24'07
				max. Earth dist.	3317 Apr 18 19:15	26°♈52'39 47.53009 AU
conjunction	3309 Apr 07 14:45	18°♈01'46 -15°45'00		retrograde	3317 Jul 28 08:55	28°♈25'08
minimum elong	3309 Apr 07 14:40	18°♈01'45 15°45'00		min. Earth dist.	3317 Oct 17 23:55	27°♈25'18 45.68909 AU
max. Earth dist.	3309 Apr 10 05:47	18°♈05'45 46.20784 AU		opposition	3317 Oct 20 07:08	27°♈22'36 -17°08'25
retrograde	3309 Jul 19 10:38	19°♈40'33		direct	3318 Jan 09 13:08	26°♈21'29
min. Earth dist.	3309 Oct 08 19:14	18°♈39'55 44.37581 AU				



conjunction	3318 Apr 17 17:26	27° $\Upsilon$ 53'16	-16°27'28	direct	3326 Jan 18 03:40	4° $\mathcal{B}$ 43'53	
minimum elong	3318 Apr 17 17:26	27° $\Upsilon$ 53'16	16°27'29				
max. Earth dist.	3318 Apr 20 02:28	27° $\Upsilon$ 56'45	47.67579 AU	conjunction	3326 Apr 26 02:18	6° $\mathcal{B}$ 13'29	-16°42'22
retrograde	3318 Jul 29 14:00	29° $\Upsilon$ 28'56		minimum elong	3326 Apr 26 02:19	6° $\mathcal{B}$ 13'29	16°42'23
min. Earth dist.	3318 Oct 19 07:56	28° $\Upsilon$ 29'11	45.83316 AU	max. Earth dist.	3326 Apr 28 04:44	6° $\mathcal{B}$ 16'30	48.72095 AU
opposition	3318 Oct 21 14:57	28° $\Upsilon$ 26'30	-17°11'37	retrograde	3326 Aug 06 22:37	7° $\mathcal{B}$ 46'59	
direct	3319 Jan 10 22:23	27° $\Upsilon$ 25'29		min. Earth dist.	3326 Oct 27 23:23	6° $\mathcal{B}$ 47'56	46.86723 AU
				opposition	3326 Oct 30 00:20	6° $\mathcal{B}$ 45'35	-17°24'49
conjunction	3319 Apr 19 00:55	28° $\Upsilon$ 56'57	-16°30'30	direct	3327 Jan 19 09:31	5° $\mathcal{B}$ 45'37	
minimum elong	3319 Apr 19 00:54	28° $\Upsilon$ 56'57	16°30'30				
max. Earth dist.	3319 Apr 21 08:18	29° $\Upsilon$ 00'19	47.81737 AU	conjunction	3327 Apr 27 09:05	7° $\mathcal{B}$ 14'59	-16°42'50
	3319 Jun 05 05:02	0° $\mathcal{B}$		minimum elong	3327 Apr 27 09:09	7° $\mathcal{B}$ 14'59	16°42'50
retrograde	3319 Jul 30 20:22	0° $\mathcal{B}$ 32'17		max. Earth dist.	3327 Apr 29 10:58	7° $\mathcal{B}$ 17'57	48.83524 AU
	3319 Sep 26 02:09	30° $\mathcal{R}$ $\Upsilon$		retrograde	3327 Aug 08 08:05	8° $\mathcal{B}$ 48'15	
min. Earth dist.	3319 Oct 20 16:37	29° $\Upsilon$ 32'36	45.97352 AU	min. Earth dist.	3327 Oct 29 08:24	7° $\mathcal{B}$ 49'13	46.97906 AU
opposition	3319 Oct 22 22:43	29° $\Upsilon$ 29'58	-17°14'28	opposition	3327 Oct 31 07:05	7° $\mathcal{B}$ 46'59	-17°25'03
direct	3320 Jan 12 07:10	28° $\Upsilon$ 29'03		direct	3328 Jan 20 14:40	6° $\mathcal{B}$ 47'07	
conjunction	3320 Apr 19 08:27	0° $\mathcal{B}$ 00'12	-16°33'12	conjunction	3328 Apr 27 15:54	8° $\mathcal{B}$ 16'15	-16°43'01
minimum elong	3320 Apr 19 08:28	0° $\mathcal{B}$ 00'12	16°33'12	minimum elong	3328 Apr 27 15:56	8° $\mathcal{B}$ 16'15	16°43'01
	3320 Apr 19 05:11	0° $\mathcal{B}$		max. Earth dist.	3328 Apr 29 16:28	8° $\mathcal{B}$ 19'08	48.94440 AU
max. Earth dist.	3320 Apr 21 16:13	0° $\mathcal{B}$ 03'35	47.95549 AU	retrograde	3328 Aug 08 13:31	9° $\mathcal{B}$ 49'15	
retrograde	3320 Jul 31 02:22	1° $\mathcal{B}$ 35'14		min. Earth dist.	3328 Oct 29 15:06	8° $\mathcal{B}$ 50'19	47.08548 AU
min. Earth dist.	3320 Oct 21 01:14	0° $\mathcal{B}$ 35'35	46.11047 AU	opposition	3328 Oct 31 13:25	8° $\mathcal{B}$ 48'06	-17°25'00
opposition	3320 Oct 23 06:06	0° $\mathcal{B}$ 33'01	-17°16'58	direct	3329 Jan 20 20:27	7° $\mathcal{B}$ 48'19	
	3320 Nov 22 03:14	30° $\mathcal{R}$ $\Upsilon$					
direct	3321 Jan 12 16:50	29° $\Upsilon$ 32'14		conjunction	3329 Apr 28 22:23	9° $\mathcal{B}$ 17'13	-16°42'57
	3321 Mar 03 16:51	0° $\mathcal{B}$		minimum elong	3329 Apr 28 22:28	9° $\mathcal{B}$ 17'13	16°42'57
				max. Earth dist.	3329 Apr 30 21:01	9° $\mathcal{B}$ 19'59	49.04820 AU
conjunction	3321 Apr 20 15:41	1° $\mathcal{B}$ 03'04	-16°35'33	retrograde	3329 Aug 09 18:31	10° $\mathcal{B}$ 49'58	
minimum elong	3321 Apr 20 15:41	1° $\mathcal{B}$ 03'04	16°35'32	min. Earth dist.	3329 Oct 30 23:12	9° $\mathcal{B}$ 51'01	47.18677 AU
max. Earth dist.	3321 Apr 22 21:55	1° $\mathcal{B}$ 06'21	48.09062 AU	opposition	3329 Nov 01 19:54	9° $\mathcal{B}$ 48'53	-17°24'42
retrograde	3321 Aug 01 11:29	2° $\mathcal{B}$ 37'49		direct	3330 Jan 22 03:00	8° $\mathcal{B}$ 49'11	
min. Earth dist.	3321 Oct 22 08:16	1° $\mathcal{B}$ 38'18	46.24458 AU				
opposition	3321 Oct 24 13:28	1° $\mathcal{B}$ 35'43	-17°19'07	conjunction	3330 Apr 30 04:48	10° $\mathcal{B}$ 17'51	-16°42'36
direct	3322 Jan 13 22:56	0° $\mathcal{B}$ 35'03		minimum elong	3330 Apr 30 04:52	10° $\mathcal{B}$ 17'51	16°42'36
				max. Earth dist.	3330 May 02 03:24	10° $\mathcal{B}$ 20'36	49.14712 AU
conjunction	3322 Apr 21 22:41	2° $\mathcal{B}$ 05'37	-16°37'34	retrograde	3330 Aug 10 21:36	11° $\mathcal{B}$ 50'20	
minimum elong	3322 Apr 21 22:42	2° $\mathcal{B}$ 05'37	16°37'34	min. Earth dist.	3330 Nov 01 06:40	10° $\mathcal{B}$ 51'24	47.28326 AU
max. Earth dist.	3322 Apr 24 04:51	2° $\mathcal{B}$ 08'53	48.22288 AU	opposition	3330 Nov 03 02:09	10° $\mathcal{B}$ 49'19	-17°24'07
retrograde	3322 Aug 02 20:12	3° $\mathcal{B}$ 40'05		direct	3331 Jan 23 12:33	9° $\mathcal{B}$ 49'41	
min. Earth dist.	3322 Oct 23 17:14	2° $\mathcal{B}$ 40'37	46.37582 AU				
opposition	3322 Oct 25 20:49	2° $\mathcal{B}$ 38'07	-17°20'55	conjunction	3331 May 01 11:05	11° $\mathcal{B}$ 18'05	-16°41'59
direct	3323 Jan 15 04:22	1° $\mathcal{B}$ 37'36		minimum elong	3331 May 01 11:09	11° $\mathcal{B}$ 18'05	16°42'00
				max. Earth dist.	3331 May 03 07:47	11° $\mathcal{B}$ 20'43	49.24170 AU
conjunction	3323 Apr 23 05:49	3° $\mathcal{B}$ 07'54	-16°39'15	retrograde	3331 Aug 12 04:10	12° $\mathcal{B}$ 50'19	
minimum elong	3323 Apr 23 05:50	3° $\mathcal{B}$ 07'54	16°39'14	min. Earth dist.	3331 Nov 02 12:55	11° $\mathcal{B}$ 51'26	47.37580 AU
max. Earth dist.	3323 Apr 25 11:27	3° $\mathcal{B}$ 11'07	48.35246 AU	opposition	3331 Nov 04 08:05	11° $\mathcal{B}$ 49'22	-17°23'14
retrograde	3323 Aug 04 02:23	4° $\mathcal{B}$ 42'05		direct	3332 Jan 24 19:09	10° $\mathcal{B}$ 49'47	
min. Earth dist.	3323 Oct 25 00:05	3° $\mathcal{B}$ 42'46	46.50409 AU				
opposition	3323 Oct 27 03:44	3° $\mathcal{B}$ 40'17	-17°22'22	conjunction	3332 May 01 17:18	12° $\mathcal{B}$ 17'57	-16°41'05
direct	3324 Jan 16 10:04	2° $\mathcal{B}$ 39'53		minimum elong	3332 May 01 17:22	12° $\mathcal{B}$ 17'58	16°41'05
				max. Earth dist.	3332 May 03 13:40	12° $\mathcal{B}$ 20'33	49.33251 AU
conjunction	3324 Apr 23 12:42	4° $\mathcal{B}$ 09'57	-16°40'36	retrograde	3332 Aug 12 11:42	13° $\mathcal{B}$ 49'57	
minimum elong	3324 Apr 23 12:43	4° $\mathcal{B}$ 09'57	16°40'37	min. Earth dist.	3332 Nov 02 20:39	12° $\mathcal{B}$ 51'03	47.46482 AU
max. Earth dist.	3324 Apr 25 16:55	4° $\mathcal{B}$ 13'05	48.47891 AU	opposition	3332 Nov 04 14:06	12° $\mathcal{B}$ 49'04	-17°22'04
retrograde	3324 Aug 04 09:05	5° $\mathcal{B}$ 43'53		direct	3333 Jan 25 01:15	11° $\mathcal{B}$ 49'33	
min. Earth dist.	3324 Oct 25 08:18	4° $\mathcal{B}$ 44'39	46.62915 AU				
opposition	3324 Oct 27 10:47	4° $\mathcal{B}$ 42'14	-17°23'29	conjunction	3333 May 02 23:16	13° $\mathcal{B}$ 17'29	-16°39'54
direct	3325 Jan 16 17:30	3° $\mathcal{B}$ 41'59		minimum elong	3333 May 02 23:22	13° $\mathcal{B}$ 17'30	16°39'55
				max. Earth dist.	3333 May 04 19:00	13° $\mathcal{B}$ 20'03	49.42021 AU
conjunction	3325 Apr 24 19:32	5° $\mathcal{B}$ 11'48	-16°41'38	retrograde	3333 Aug 13 18:49	14° $\mathcal{B}$ 49'15	
minimum elong	3325 Apr 24 19:35	5° $\mathcal{B}$ 11'48	16°41'38	min. Earth dist.	3333 Nov 04 02:14	13° $\mathcal{B}$ 50'25	47.55077 AU
max. Earth dist.	3325 Apr 26 23:59	5° $\mathcal{B}$ 14'56	48.60192 AU	opposition	3333 Nov 05 19:52	13° $\mathcal{B}$ 48'26	-17°20'37
retrograde	3325 Aug 05 13:17	6° $\mathcal{B}$ 45'31		direct	3334 Jan 26 04:49	12° $\mathcal{B}$ 48'59	
min. Earth dist.	3325 Oct 26 16:17	5° $\mathcal{B}$ 46'22	46.75032 AU				
opposition	3325 Oct 28 17:38	5° $\mathcal{B}$ 44'00	-17°24'18	conjunction	3334 May 04 05:10	14° $\mathcal{B}$ 16'43	-16°38'25

minimum elong	3334 May 04 05:15	14° <del>8</del> 16'44	16°38'25	conjunction	3342 May 12 03:06	22° <del>8</del> 04'45	-16°16'52
max. Earth dist.	3334 May 05 23:35	14° <del>8</del> 19'12	49.50500 AU	minimum elong	3342 May 12 03:15	22° <del>8</del> 04'46	16°16'53
	3334 Jun 05 08:52	15° <del>8</del>		max. Earth dist.	3342 May 13 13:32	22° <del>8</del> 06'44	50.05390 AU
retrograde	3334 Aug 15 00:50	15° <del>8</del> 48'15		retrograde	3342 Aug 22 19:47	23° <del>8</del> 34'59	
	3334 Oct 27 01:00	15° <del>8</del>		opposition	3342 Nov 14 20:41	22° <del>8</del> 34'58	-16°54'54
min. Earth dist.	3334 Nov 05 09:16	14° <del>8</del> 49'27	47.63399 AU	min. Earth dist.	3342 Nov 13 13:17	22° <del>8</del> 36'27	48.16187 AU
opposition	3334 Nov 07 01:40	14° <del>8</del> 47'32	-17°18'50	direct	3343 Feb 04 09:05	21° <del>8</del> 36'13	
direct	3335 Jan 27 09:35	13° <del>8</del> 48'09					
	3335 Apr 24 04:09	15° <del>8</del>		conjunction	3343 May 13 08:37	23° <del>8</del> 02'35	-16°13'05
				minimum elong	3343 May 13 08:44	23° <del>8</del> 02'36	16°13'05
conjunction	3335 May 05 11:09	15° <del>8</del> 15'42	-16°36'39	max. Earth dist.	3343 May 14 17:57	23° <del>8</del> 04'30	50.10171 AU
minimum elong	3335 May 05 11:14	15° <del>8</del> 15'42	16°36'40	retrograde	3343 Aug 24 03:06	24° <del>8</del> 32'39	
max. Earth dist.	3335 May 07 05:48	15° <del>8</del> 18'11	49.58710 AU	min. Earth dist.	3343 Nov 14 18:17	23° <del>8</del> 34'09	48.20690 AU
retrograde	3335 Aug 16 03:01	16° <del>8</del> 47'02		opposition	3343 Nov 16 01:34	23° <del>8</del> 32'41	-16°50'48
min. Earth dist.	3335 Nov 06 15:36	15° <del>8</del> 48'17	47.71424 AU	direct	3344 Feb 05 11:40	22° <del>8</del> 33'58	
opposition	3335 Nov 08 07:17	15° <del>8</del> 46'24	-17°16'46				
	3335 Dec 25 01:09	15° <del>8</del>		conjunction	3344 May 13 13:55	24° <del>8</del> 00'13	-16°09'03
direct	3336 Jan 28 18:15	14° <del>8</del> 47'07		minimum elong	3344 May 13 14:04	24° <del>8</del> 00'13	16°09'03
	3336 Mar 02 23:18	15° <del>8</del>		max. Earth dist.	3344 May 14 21:42	24° <del>8</del> 02'02	50.14547 AU
				retrograde	3344 Aug 24 09:15	25° <del>8</del> 30'07	
conjunction	3336 May 05 16:55	16° <del>8</del> 14'29	-16°34'35	min. Earth dist.	3344 Nov 15 00:50	24° <del>8</del> 31'36	48.24831 AU
minimum elong	3336 May 05 17:01	16° <del>8</del> 14'29	16°34'35	opposition	3344 Nov 16 06:28	24° <del>8</del> 30'13	-16°46'27
max. Earth dist.	3336 May 07 09:45	16° <del>8</del> 16'52	49.66628 AU	direct	3345 Feb 05 14:15	23° <del>8</del> 31'31	
retrograde	3336 Aug 16 09:10	17° <del>8</del> 45'39					
min. Earth dist.	3336 Nov 06 21:19	16° <del>8</del> 46'59	47.79147 AU	conjunction	3345 May 14 19:18	24° <del>8</del> 57'39	-16°04'46
opposition	3336 Nov 08 12:44	16° <del>8</del> 45'07	-17°14'25	minimum elong	3345 May 14 19:26	24° <del>8</del> 57'39	16°04'45
direct	3337 Jan 29 00:20	15° <del>8</del> 45'55		max. Earth dist.	3345 May 16 03:10	24° <del>8</del> 59'28	50.18595 AU
				retrograde	3345 Aug 25 10:33	26° <del>8</del> 27'25	
conjunction	3337 May 06 22:41	17° <del>8</del> 13'08	-16°32'15	min. Earth dist.	3345 Nov 16 06:07	25° <del>8</del> 28'55	48.28645 AU
minimum elong	3337 May 06 22:46	17° <del>8</del> 13'08	16°32'16	opposition	3345 Nov 17 11:15	25° <del>8</del> 27'33	-16°41'49
max. Earth dist.	3337 May 08 15:19	17° <del>8</del> 15'29	49.74216 AU	direct	3346 Feb 06 22:07	24° <del>8</del> 28'54	
retrograde	3337 Aug 17 16:59	18° <del>8</del> 44'08					
min. Earth dist.	3337 Nov 08 04:49	17° <del>8</del> 45'29	47.86512 AU	conjunction	3346 May 16 00:23	25° <del>8</del> 54'55	-16°00'13
opposition	3337 Nov 09 18:18	17° <del>8</del> 43'42	-17°11'47	minimum elong	3346 May 16 00:31	25° <del>8</del> 54'56	16°00'13
direct	3338 Jan 30 05:28	16° <del>8</del> 44'37		max. Earth dist.	3346 May 17 06:28	25° <del>8</del> 56'39	50.22343 AU
				retrograde	3346 Aug 26 14:23	27° <del>8</del> 24'34	
conjunction	3338 May 08 04:22	18° <del>8</del> 11'41	-16°29'39	min. Earth dist.	3346 Nov 17 11:19	26° <del>8</del> 26'06	48.32170 AU
minimum elong	3338 May 08 04:30	18° <del>8</del> 11'41	16°29'39	opposition	3346 Nov 18 16:01	26° <del>8</del> 24'45	-16°36'55
max. Earth dist.	3338 May 09 20:01	18° <del>8</del> 13'59	49.81435 AU	direct	3347 Feb 08 04:48	25° <del>8</del> 26'09	
retrograde	3338 Aug 18 23:11	19° <del>8</del> 42'32					
min. Earth dist.	3338 Nov 09 10:19	18° <del>8</del> 43'58	47.93460 AU	conjunction	3347 May 17 05:41	26° <del>8</del> 52'05	-15°55'25
opposition	3338 Nov 10 23:40	18° <del>8</del> 42'13	-17°08'53	minimum elong	3347 May 17 05:50	26° <del>8</del> 52'05	15°55'24
direct	3339 Jan 31 09:10	17° <del>8</del> 43'12		max. Earth dist.	3347 May 18 11:34	26° <del>8</del> 53'47	50.25794 AU
				retrograde	3347 Aug 27 21:00	28° <del>8</del> 21'36	
conjunction	3339 May 09 10:08	19° <del>8</del> 10'09	-16°26'48	opposition	3347 Nov 19 20:41	27° <del>8</del> 21'52	-16°31'46
minimum elong	3339 May 09 10:14	19° <del>8</del> 10'09	16°26'48	min. Earth dist.	3347 Nov 18 17:40	27° <del>8</del> 23'08	48.35391 AU
max. Earth dist.	3339 May 10 23:50	19° <del>8</del> 12'20	49.88192 AU	direct	3348 Feb 09 10:24	26° <del>8</del> 23'19	
retrograde	3339 Aug 20 05:02	20° <del>8</del> 40'50					
min. Earth dist.	3339 Nov 10 17:38	19° <del>8</del> 42'17	47.99926 AU	conjunction	3348 May 17 10:55	27° <del>8</del> 49'09	-15°50'21
opposition	3339 Nov 12 04:59	19° <del>8</del> 40'37	-17°05'44	minimum elong	3348 May 17 11:04	27° <del>8</del> 49'09	15°50'22
direct	3340 Feb 01 13:30	18° <del>8</del> 41'42		max. Earth dist.	3348 May 18 15:52	27° <del>8</del> 50'48	50.28955 AU
				retrograde	3348 Aug 28 03:40	29° <del>8</del> 18'34	
conjunction	3340 May 09 16:01	20° <del>8</del> 08'31	-16°23'43	min. Earth dist.	3348 Nov 18 22:10	28° <del>8</del> 20'11	48.38298 AU
minimum elong	3340 May 09 16:09	20° <del>8</del> 08'31	16°23'43	opposition	3348 Nov 20 01:17	28° <del>8</del> 18'54	-16°26'21
max. Earth dist.	3340 May 11 05:24	20° <del>8</del> 10'40	49.94446 AU	direct	3349 Feb 09 13:07	27° <del>8</del> 20'25	
retrograde	3340 Aug 20 07:38	21° <del>8</del> 39'03					
min. Earth dist.	3340 Nov 11 00:09	20° <del>8</del> 40'31	48.05851 AU	conjunction	3349 May 18 15:53	28° <del>8</del> 46'10	-15°45'02
opposition	3340 Nov 12 10:18	20° <del>8</del> 38'55	-17°02'22	minimum elong	3349 May 18 16:03	28° <del>8</del> 46'11	15°45'02
direct	3341 Feb 01 21:24	19° <del>8</del> 40'03		max. Earth dist.	3349 May 19 19:19	28° <del>8</del> 47'44	50.31775 AU
					3349 Jul 21 05:26	0° <del>II</del>	
conjunction	3341 May 10 21:30	21° <del>8</del> 06'43	-16°20'24	retrograde	3349 Aug 29 10:04	0° <del>II</del> 15'30	
minimum elong	3341 May 10 21:36	21° <del>8</del> 06'44	16°20'24		3349 Oct 07 20:37	30° <del>8</del>	
max. Earth dist.	3341 May 12 08:33	21° <del>8</del> 08'45	50.00171 AU	min. Earth dist.	3349 Nov 20 04:40	29° <del>8</del> 17'05	48.40847 AU
retrograde	3341 Aug 21 13:22	22° <del>8</del> 37'06		opposition	3349 Nov 21 06:03	29° <del>8</del> 15'54	-16°20'40
min. Earth dist.	3341 Nov 12 06:07	21° <del>8</del> 38'37	48.11262 AU	direct	3350 Feb 10 15:37	28° <del>8</del> 17'28	
opposition	3341 Nov 13 15:33	21° <del>8</del> 37'02	-16°58'45				
direct	3342 Feb 03 02:59	20° <del>8</del> 38'14		conjunction	3350 May 19 21:12	29° <del>8</del> 43'10	-15°39'29

minimum elong	3350 May 19 21:21	29° <del>8</del> 43'10	15°39'29	evening set	3358 May 24 21:58	7° <del>II</del> 12'05	
max. Earth dist.	3350 May 21 00:33	29° <del>8</del> 44'43	50.34213 AU				
	3350 Jun 01 06:50	0° <del>II</del>		conjunction	3358 May 27 14:13	7° <del>II</del> 15'42	-14°47'14
retrograde	3350 Aug 30 12:18	1° <del>II</del> 12'24		minimum elong	3358 May 27 14:23	7° <del>II</del> 15'43	14°47'14
min. Earth dist.	3350 Nov 21 10:14	0° <del>II</del> 14'01	48.42966 AU	max. Earth dist.	3358 May 28 07:13	7° <del>II</del> 16'40	50.36167 AU
opposition	3350 Nov 22 10:35	0° <del>II</del> 12'53	-16°14'45	morning rise	3358 May 30 06:54	7° <del>II</del> 19'22	
	3350 Dec 04 00:22	30° <del>R</del> 8		retrograde	3358 Sep 07 04:18	8° <del>II</del> 44'19	
direct	3351 Feb 11 21:31	29° <del>8</del> 14'29		opposition	3358 Nov 29 21:56	7° <del>II</del> 44'57	-15°19'30
	3351 Apr 20 11:49	0° <del>II</del>		min. Earth dist.	3358 Nov 29 06:14	7° <del>II</del> 45'41	48.42287 AU
				direct	3359 Feb 19 11:37	6° <del>II</del> 46'36	
conjunction	3351 May 21 02:26	0° <del>II</del> 40'08	-15°33'42	evening set	3359 May 25 10:13	8° <del>II</del> 07'15	
minimum elong	3351 May 21 02:36	0° <del>II</del> 40'08	15°33'42				
max. Earth dist.	3351 May 22 03:24	0° <del>II</del> 41'33	50.36193 AU	conjunction	3359 May 28 19:09	8° <del>II</del> 11'49	-14°39'40
retrograde	3351 Aug 31 17:07	2° <del>II</del> 09'17		minimum elong	3359 May 28 19:20	8° <del>II</del> 11'50	14°39'41
opposition	3351 Nov 23 15:11	1° <del>II</del> 09'49	-16°08'37	max. Earth dist.	3359 May 29 10:34	8° <del>II</del> 12'41	50.34640 AU
min. Earth dist.	3351 Nov 22 15:48	1° <del>II</del> 10'54	48.44596 AU	morning rise	3359 Jun 01 04:37	8° <del>II</del> 16'24	
direct	3352 Feb 13 02:30	0° <del>II</del> 11'28		retrograde	3359 Sep 08 10:30	9° <del>II</del> 40'23	
				opposition	3359 Dec 01 02:17	8° <del>II</del> 41'03	-15°11'31
conjunction	3352 May 21 07:44	1° <del>II</del> 37'02	-15°27'43	min. Earth dist.	3359 Nov 30 12:19	8° <del>II</del> 41'43	48.40497 AU
minimum elong	3352 May 21 07:53	1° <del>II</del> 37'03	15°27'42	direct	3360 Feb 20 13:57	7° <del>II</del> 42'43	
max. Earth dist.	3352 May 22 07:45	1° <del>II</del> 38'24	50.37638 AU	evening set	3360 May 25 01:04	9° <del>II</del> 02'35	
retrograde	3352 Aug 31 21:42	3° <del>II</del> 06'07					
opposition	3352 Nov 23 19:46	2° <del>II</del> 06'41	-16°02'16	conjunction	3360 May 29 00:10	9° <del>II</del> 07'57	-14°31'52
min. Earth dist.	3352 Nov 22 22:36	2° <del>II</del> 07'40	48.45668 AU	minimum elong	3360 May 29 00:21	9° <del>II</del> 07'58	14°31'51
direct	3353 Feb 13 09:24	1° <del>II</del> 08'21		max. Earth dist.	3360 May 29 15:43	9° <del>II</del> 08'50	50.32815 AU
				morning rise	3360 Jun 01 23:47	9° <del>II</del> 13'20	
conjunction	3353 May 22 13:00	2° <del>II</del> 33'50	-15°21'31	retrograde	3360 Sep 08 12:47	10° <del>II</del> 36'30	
minimum elong	3353 May 22 13:11	2° <del>II</del> 33'51	15°21'31	opposition	3360 Dec 01 06:26	9° <del>II</del> 37'12	-15°03'17
max. Earth dist.	3353 May 23 11:38	2° <del>II</del> 35'07	50.38547 AU	min. Earth dist.	3360 Nov 30 16:58	9° <del>II</del> 37'50	48.38385 AU
retrograde	3353 Sep 02 04:26	4° <del>II</del> 02'50		direct	3361 Feb 20 19:06	8° <del>II</del> 38'53	
min. Earth dist.	3353 Nov 24 03:28	3° <del>II</del> 04'23	48.46198 AU	evening set	3361 May 25 17:30	9° <del>II</del> 58'05	
opposition	3353 Nov 25 00:15	3° <del>II</del> 03'25	-15°55'43				
direct	3354 Feb 14 12:51	2° <del>II</del> 05'05		conjunction	3361 May 30 05:02	10° <del>II</del> 04'09	-14°23'49
				minimum elong	3361 May 30 05:13	10° <del>II</del> 04'10	14°23'49
conjunction	3354 May 23 18:03	3° <del>II</del> 30'30	-15°15'06	max. Earth dist.	3361 May 30 18:33	10° <del>II</del> 04'55	50.30671 AU
minimum elong	3354 May 23 18:12	3° <del>II</del> 30'31	15°15'06	morning rise	3361 Jun 03 17:13	10° <del>II</del> 10'15	
max. Earth dist.	3354 May 24 14:38	3° <del>II</del> 31'40	50.38919 AU	retrograde	3361 Sep 09 17:11	11° <del>II</del> 32'42	
retrograde	3354 Sep 03 11:32	4° <del>II</del> 59'23		opposition	3361 Dec 02 10:38	10° <del>II</del> 33'27	-14°54'48
min. Earth dist.	3354 Nov 25 10:05	4° <del>II</del> 00'52	48.46220 AU	min. Earth dist.	3361 Dec 01 21:56	10° <del>II</del> 34'02	48.35941 AU
opposition	3354 Nov 26 04:49	3° <del>II</del> 59'59	-15°48'56	direct	3362 Feb 21 23:39	9° <del>II</del> 35'09	
direct	3355 Feb 15 14:40	3° <del>II</del> 01'39		evening set	3362 May 26 11:01	10° <del>II</del> 53'45	
conjunction	3355 May 24 23:18	4° <del>II</del> 27'01	-15°08'29	conjunction	3362 May 31 10:05	11° <del>II</del> 00'27	-14°15'32
minimum elong	3355 May 24 23:29	4° <del>II</del> 27'01	15°08'29	minimum elong	3362 May 31 10:17	11° <del>II</del> 00'27	14°15'32
max. Earth dist.	3355 May 25 19:37	4° <del>II</del> 28'10	50.38812 AU	max. Earth dist.	3362 May 31 23:04	11° <del>II</del> 01'11	50.28149 AU
retrograde	3355 Sep 04 13:46	5° <del>II</del> 55'48		morning rise	3362 Jun 05 09:50	11° <del>II</del> 07'12	
opposition	3355 Nov 27 09:03	4° <del>II</del> 56'24	-15°41'56	retrograde	3362 Sep 10 21:40	11° <del>II</del> 29'01	
min. Earth dist.	3355 Nov 26 15:09	4° <del>II</del> 57'14	48.45779 AU	opposition	3362 Dec 03 14:56	11° <del>II</del> 29'49	-14°46'06
direct	3356 Feb 16 21:07	3° <del>II</del> 58'03		min. Earth dist.	3362 Dec 03 04:11	11° <del>II</del> 30'19	48.33079 AU
				direct	3363 Feb 23 05:52	10° <del>II</del> 31'32	
conjunction	3356 May 25 04:18	5° <del>II</del> 23'21	-15°01'38	evening set	3363 May 27 05:40	11° <del>II</del> 49'34	
minimum elong	3356 May 25 04:28	5° <del>II</del> 23'22	15°01'38				
max. Earth dist.	3356 May 25 22:33	5° <del>II</del> 24'23	50.38284 AU	conjunction	3363 Jun 01 15:17	11° <del>II</del> 56'51	-14°07'02
retrograde	3356 Sep 04 16:56	6° <del>II</del> 52'03		minimum elong	3363 Jun 01 15:28	11° <del>II</del> 56'52	14°07'02
opposition	3356 Nov 27 13:23	5° <del>II</del> 52'40	-15°34'42	max. Earth dist.	3363 Jun 02 02:58	11° <del>II</del> 57'31	50.25191 AU
min. Earth dist.	3356 Nov 26 20:15	5° <del>II</del> 53'28	48.44954 AU	morning rise	3363 Jun 07 01:33	12° <del>II</del> 04'13	
direct	3357 Feb 17 02:53	4° <del>II</del> 54'18		retrograde	3363 Sep 12 04:36	13° <del>II</del> 25'27	
evening set	3357 May 24 15:15	6° <del>II</del> 17'12		opposition	3363 Dec 04 18:59	12° <del>II</del> 26'16	-14°37'11
				min. Earth dist.	3363 Dec 04 08:43	12° <del>II</del> 26'45	48.29742 AU
conjunction	3357 May 26 09:12	6° <del>II</del> 19'34	-14°54'33	direct	3364 Feb 24 09:00	11° <del>II</del> 27'59	
minimum elong	3357 May 26 09:22	6° <del>II</del> 19'35	14°54'34	evening set	3364 May 27 00:55	12° <del>II</del> 45'30	
max. Earth dist.	3357 May 27 03:08	6° <del>II</del> 20'35	50.37381 AU				
morning rise	3357 May 28 03:34	6° <del>II</del> 21'58		conjunction	3364 Jun 01 20:27	12° <del>II</del> 53'22	-13°58'20
retrograde	3357 Sep 05 21:46	7° <del>II</del> 48'13		minimum elong	3364 Jun 01 20:39	12° <del>II</del> 53'22	13°58'20
opposition	3357 Nov 28 17:48	6° <del>II</del> 48'50	-15°27'13	max. Earth dist.	3364 Jun 02 05:55	12° <del>II</del> 53'54	50.21718 AU
min. Earth dist.	3357 Nov 28 02:18	6° <del>II</del> 49'34	48.43775 AU	morning rise	3364 Jun 07 16:49	13° <del>II</del> 01'16	
direct	3358 Feb 18 08:52	5° <del>II</del> 50'29		retrograde	3364 Sep 12 13:14	14° <del>II</del> 21'57	

opposition	3364 Dec 04 23:23	13°II22'47	-14°28'03	max. Earth dist.	3371 Jun 09 09:37	19°II28'06	49.84618 AU
min. Earth dist.	3364 Dec 04 15:16	13°II23'09	48.25879 AU	morning rise	3371 Jun 17 15:19	19°II39'14	
direct	3365 Feb 24 09:21	12°II24'29		retrograde	3371 Sep 19 18:59	20°II56'39	
evening set	3365 May 27 20:36	13°II41'30		opposition	3371 Dec 12 04:42	19°II57'17	-13°17'51
				min. Earth dist.	3371 Dec 12 03:18	19°II57'21	47.86467 AU
conjunction	3365 Jun 03 01:35	13°II49'53	-13°49'26	direct	3372 Mar 02 18:52	18°II58'38	
minimum elong	3365 Jun 03 01:46	13°II49'54	13°49'25	evening set	3372 Jun 01 00:18	20°II12'48	
max. Earth dist.	3365 Jun 03 10:35	13°II50'24	50.17718 AU				
morning rise	3365 Jun 09 07:18	13°II58'19		conjunction	3372 Jun 09 13:34	20°II24'21	-12°40'54
retrograde	3365 Sep 13 16:42	15°II18'28		minimum elong	3372 Jun 09 13:45	20°II24'22	12°40'55
opposition	3365 Dec 06 03:40	14°II19'18	-14°18'42	max. Earth dist.	3372 Jun 09 14:29	20°II24'24	49.77983 AU
min. Earth dist.	3365 Dec 05 20:27	14°II19'38	48.21474 AU	morning rise	3372 Jun 18 03:54	20°II35'58	
direct	3366 Feb 25 14:39	13°II20'58		retrograde	3372 Sep 19 22:27	21°II53'03	
evening set	3366 May 28 16:54	14°II37'30		opposition	3372 Dec 12 09:03	20°II53'40	-13°06'50
				min. Earth dist.	3372 Dec 12 09:12	20°II53'39	47.79545 AU
conjunction	3366 Jun 04 06:43	14°II46'23	-13°40'19	direct	3373 Mar 04 00:55	19°II54'59	
minimum elong	3366 Jun 04 06:55	14°II46'24	13°40'20	evening set	3373 Jun 01 22:22	21°II08'51	
max. Earth dist.	3366 Jun 04 13:24	14°II46'46	50.13201 AU				
morning rise	3366 Jun 10 21:27	14°II55'19		conjunction	3373 Jun 10 18:40	21°II20'48	-12°30'10
retrograde	3366 Sep 14 19:06	16°II14'57		minimum elong	3373 Jun 10 18:52	21°II20'48	12°30'10
opposition	3366 Dec 07 07:50	15°II15'45	-14°09'09	max. Earth dist.	3373 Jun 10 18:49	21°II20'48	49.71065 AU
min. Earth dist.	3366 Dec 07 01:48	15°II16'02	48.16582 AU	morning rise	3373 Jun 19 16:05	21°II32'50	
direct	3367 Feb 26 20:33	14°II17'23		retrograde	3373 Sep 21 04:18	22°II49'34	
evening set	3367 May 29 13:27	15°II33'28		opposition	3373 Dec 13 13:19	21°II50'11	-12°55'35
				min. Earth dist.	3373 Dec 13 13:29	21°II50'10	47.72311 AU
conjunction	3367 Jun 05 11:57	15°II42'50	-13°30'59	direct	3374 Mar 05 05:14	20°II51'29	
minimum elong	3367 Jun 05 12:08	15°II42'50	13°30'59	evening set	3374 Jun 02 20:45	22°II05'03	
max. Earth dist.	3367 Jun 05 17:48	15°II43'10	50.08205 AU				
morning rise	3367 Jun 12 11:20	15°II52'15		conjunction	3374 Jun 11 23:59	22°II17'25	-12°19'11
retrograde	3367 Sep 15 22:06	17°II11'24		minimum elong	3374 Jun 12 00:10	22°II17'25	12°19'12
opposition	3367 Dec 08 12:06	16°II12'09	-13°59'22	max. Earth dist.	3374 Jun 11 22:12	22°II17'19	49.63789 AU
min. Earth dist.	3367 Dec 08 07:53	16°II12'21	48.11235 AU	morning rise	3374 Jun 21 04:30	22°II29'51	
direct	3368 Feb 28 04:06	15°II13'43		retrograde	3374 Sep 22 12:53	23°II46'17	
evening set	3368 May 29 10:22	16°II29'22		opposition	3374 Dec 14 17:39	22°II46'54	-12°44'06
				min. Earth dist.	3374 Dec 14 19:54	22°II46'47	47.64697 AU
conjunction	3368 Jun 05 17:01	16°II39'12	-13°21'27	direct	3375 Mar 06 06:33	21°II48'10	
minimum elong	3368 Jun 05 17:13	16°II39'12	13°21'27	evening set	3375 Jun 03 19:30	23°II01'29	
max. Earth dist.	3368 Jun 05 21:51	16°II39'28	50.02802 AU				
morning rise	3368 Jun 13 00:36	16°II49'05		conjunction	3375 Jun 13 05:35	23°II14'14	-12°08'00
retrograde	3368 Sep 16 04:22	18°II07'45		minimum elong	3375 Jun 13 05:47	23°II14'15	12°08'00
opposition	3368 Dec 08 16:09	17°II08'29	-13°49'21	max. Earth dist.	3375 Jun 13 03:31	23°II14'07	49.56100 AU
min. Earth dist.	3368 Dec 08 11:57	17°II08'41	48.05507 AU	morning rise	3375 Jun 22 16:47	23°II27'04	
direct	3369 Feb 28 08:02	16°II09'59		retrograde	3375 Sep 23 18:02	24°II43'12	
evening set	3369 May 30 07:25	17°II25'13		opposition	3375 Dec 15 22:01	23°II43'48	-12°32'23
				min. Earth dist.	3375 Dec 16 01:07	23°II43'40	47.56618 AU
conjunction	3369 Jun 06 22:03	17°II35'30	-13°11'40	direct	3376 Mar 06 10:42	22°II45'02	
minimum elong	3369 Jun 06 22:15	17°II35'30	13°11'39	evening set	3376 Jun 03 18:29	23°II58'07	
max. Earth dist.	3369 Jun 07 01:12	17°II35'40	49.97038 AU				
morning rise	3369 Jun 14 13:46	17°II45'50		conjunction	3376 Jun 13 11:00	24°II11'16	-11°56'35
retrograde	3369 Sep 17 11:00	19°II04'04		minimum elong	3376 Jun 13 11:11	24°II11'16	11°56'35
opposition	3369 Dec 09 20:24	18°II04'45	-13°39'06	max. Earth dist.	3376 Jun 13 06:29	24°II11'00	49.47919 AU
min. Earth dist.	3369 Dec 09 17:59	18°II04'52	47.99454 AU	morning rise	3376 Jun 23 04:52	24°II24'28	
direct	3370 Mar 01 10:09	17°II06'12		retrograde	3376 Sep 23 22:44	25°II40'20	
evening set	3370 May 31 04:45	18°II21'02		opposition	3376 Dec 16 02:29	24°II40'55	-12°20'27
				min. Earth dist.	3376 Dec 16 06:54	24°II40'42	47.48033 AU
conjunction	3370 Jun 08 03:13	18°II31'46	-13°01'39	direct	3377 Mar 07 15:23	23°II42'05	
minimum elong	3370 Jun 08 03:24	18°II31'46	13°01'39	evening set	3377 Jun 04 17:36	24°II54'57	
max. Earth dist.	3370 Jun 08 06:28	18°II31'57	49.90970 AU				
morning rise	3370 Jun 16 02:35	18°II42'32		conjunction	3377 Jun 14 16:41	25°II08'27	-11°44'58
retrograde	3370 Sep 18 14:50	20°II00'21		minimum elong	3377 Jun 14 16:53	25°II08'28	11°44'58
opposition	3370 Dec 11 00:35	19°II01'00	-13°28'36	max. Earth dist.	3377 Jun 14 11:05	25°II08'08	49.39208 AU
min. Earth dist.	3370 Dec 10 22:33	19°II01'06	47.93096 AU	morning rise	3377 Jun 24 17:01	25°II22'02	
direct	3371 Mar 02 14:29	18°II02'24		retrograde	3377 Sep 25 01:52	26°II37'38	
evening set	3371 Jun 01 02:30	19°II16'53		opposition	3377 Dec 17 07:03	25°II38'10	-12°08'17
				min. Earth dist.	3377 Dec 17 13:24	25°II37'52	47.38913 AU
conjunction	3371 Jun 09 08:20	19°II28'02	-12°51'24	direct	3378 Mar 08 22:52	24°II39'17	
minimum elong	3371 Jun 09 08:32	19°II28'03	12°51'23	evening set	3378 Jun 05 17:01	25°II51'54	

conjunction	3378 Jun 15 22:19	26°II05'46 -11°33'08	max. Earth dist.	3384 Jun 20 18:42	1°☾51'26 48.66282 AU
minimum elong	3378 Jun 15 22:30	26°II05'47 11°33'08	morning rise	3384 Jul 03 02:42	2°☾08'19
max. Earth dist.	3378 Jun 15 15:22	26°II05'23 49.29991 AU	retrograde	3384 Oct 01 19:53	3°☾22'21
morning rise	3378 Jun 26 04:54	26°II19'44	opposition	3384 Dec 23 15:34	2°☾22'27 -10°36'36
retrograde	3378 Sep 26 08:31	27°II35'03	min. Earth dist.	3384 Dec 24 05:02	2°☾21'49 46.63695 AU
opposition	3378 Dec 18 11:30	26°II35'33 -11°55'55	direct	3385 Mar 15 05:39	1°☾22'57
min. Earth dist.	3378 Dec 18 18:14	26°II35'14 47.29292 AU	evening set	3385 Jun 10 17:40	2°☾34'22
direct	3379 Mar 10 03:09	25°II36'34			
evening set	3379 Jun 06 16:38	26°II48'58	conjunction	3385 Jun 22 15:14	2°☾50'40 -10°03'52
			minimum elong	3385 Jun 22 15:25	2°☾50'40 10°03'53
conjunction	3379 Jun 17 04:02	27°II03'13 -11°21'05	max. Earth dist.	3385 Jun 22 00:55	2°☾49'50 48.54589 AU
minimum elong	3379 Jun 17 04:14	27°II03'13 11°21'06	morning rise	3385 Jul 04 14:05	3°☾07'03
max. Earth dist.	3379 Jun 16 18:59	27°II02'42 49.20278 AU	retrograde	3385 Oct 03 03:15	4°☾20'56
morning rise	3379 Jun 27 16:54	27°II17'32	opposition	3385 Dec 24 20:25	3°☾20'59 -10°22'30
retrograde	3379 Sep 27 16:06	28°II32'36	min. Earth dist.	3385 Dec 25 10:19	3°☾20'19 46.51688 AU
opposition	3379 Dec 19 16:02	27°II33'02 -11°43'19	direct	3386 Mar 16 08:37	2°☾21'24
min. Earth dist.	3379 Dec 20 00:58	27°II32'36 47.19216 AU	evening set	3386 Jun 11 18:43	3°☾32'43
direct	3380 Mar 10 05:17	26°II33'58			
evening set	3380 Jun 06 16:21	27°II46'09	conjunction	3386 Jun 23 21:22	3°☾49'21 -9°50'09
			minimum elong	3386 Jun 23 21:34	3°☾49'22 9°50'09
conjunction	3380 Jun 17 09:51	28°II00'45 -11°08'49	max. Earth dist.	3386 Jun 23 04:56	3°☾48'24 48.42559 AU
minimum elong	3380 Jun 17 10:02	28°II00'46 11°08'49	morning rise	3386 Jul 06 01:37	4°☾06'04
max. Earth dist.	3380 Jun 17 00:34	28°II00'13 49.10144 AU	retrograde	3386 Oct 04 10:13	5°☾19'48
morning rise	3380 Jun 28 04:33	28°II15'26	opposition	3386 Dec 26 01:27	4°☾19'48 -10°08'08
retrograde	3380 Sep 27 21:04	29°II30'15	min. Earth dist.	3386 Dec 26 16:38	4°☾19'05 46.39317 AU
opposition	3380 Dec 19 20:35	28°II30'36 -11°30'29	direct	3387 Mar 17 12:43	3°☾20'08
min. Earth dist.	3380 Dec 20 05:58	28°II30'10 47.08738 AU	evening set	3387 Jun 12 19:58	4°☾31'23
direct	3381 Mar 11 10:07	27°II31'27	max. Earth dist.	3387 Jun 24 10:29	4°☾47'20 48.30106 AU
evening set	3381 Jun 07 16:11	28°II43'27			
			conjunction	3387 Jun 25 03:52	4°☾48'20 -9°36'12
conjunction	3381 Jun 18 15:23	28°II58'24 -10°56'19	minimum elong	3387 Jun 25 04:02	4°☾48'21 9°36'11
minimum elong	3381 Jun 18 15:35	28°II58'25 10°56'19	morning rise	3387 Jul 07 13:10	5°☾05'23
max. Earth dist.	3381 Jun 18 04:05	28°II57'45 48.99642 AU	retrograde	3387 Oct 05 12:48	6°☾19'00
morning rise	3381 Jun 29 16:07	29°II13'26	opposition	3387 Dec 27 06:33	5°☾18'56 -9°53'32
	3381 Aug 07 04:26	0°☾	min. Earth dist.	3387 Dec 27 23:35	5°☾18'07 46.26487 AU
retrograde	3381 Sep 29 01:47	0°☾28'01	direct	3388 Mar 17 21:16	4°☾19'10
	3381 Nov 21 15:13	30°☾II	evening set	3388 Jun 12 21:35	5°☾30'21
opposition	3381 Dec 21 01:15	29°II28'18 -11°17'24			
min. Earth dist.	3381 Dec 21 11:33	29°II27'49 46.97925 AU	conjunction	3388 Jun 25 10:25	5°☾47'37 -9°22'00
direct	3382 Mar 12 15:08	28°II29'03	minimum elong	3388 Jun 25 10:37	5°☾47'37 9°22'00
evening set	3382 Jun 08 16:14	29°II40'54	max. Earth dist.	3388 Jun 24 15:39	5°☾46'31 48.17183 AU
			morning rise	3388 Jul 08 00:41	6°☾04'58
conjunction	3382 Jun 19 21:18	29°II56'11 -10°43'34	retrograde	3388 Oct 05 18:29	7°☾18'29
minimum elong	3382 Jun 19 21:30	29°II56'11 10°43'34	opposition	3388 Dec 27 11:47	6°☾18'20 -9°38'42
max. Earth dist.	3382 Jun 19 09:33	29°II55'30 48.88808 AU	min. Earth dist.	3388 Dec 28 05:17	6°☾17'29 46.13160 AU
	3382 Jun 22 16:13	0°☾	direct	3389 Mar 19 03:35	5°☾18'27
morning rise	3382 Jul 01 03:44	0°☾11'33	evening set	3389 Jun 13 23:15	6°☾29'33
retrograde	3382 Sep 30 05:10	1°☾25'56			
opposition	3382 Dec 22 05:55	0°☾26'09 -11°04'03	conjunction	3389 Jun 26 16:56	6°☾47'08 -9°07'36
min. Earth dist.	3382 Dec 22 17:43	0°☾25'36 46.86797 AU	minimum elong	3389 Jun 26 17:06	6°☾47'08 9°07'36
	3383 Jan 14 23:39	30°☾II	max. Earth dist.	3389 Jun 25 19:54	6°☾45'55 48.03732 AU
direct	3383 Mar 13 21:53	29°II26'49	morning rise	3389 Jul 09 12:12	7°☾04'49
	3383 May 09 16:15	0°☾	retrograde	3389 Oct 07 02:55	8°☾18'13
evening set	3383 Jun 09 16:37	0°☾38'30	opposition	3389 Dec 28 17:18	7°☾17'58 -9°23'38
			min. Earth dist.	3389 Dec 29 13:10	7°☾17'00 45.99306 AU
conjunction	3383 Jun 21 03:15	0°☾54'07 -10°30'35	direct	3390 Mar 20 07:14	6°☾17'56
minimum elong	3383 Jun 21 03:26	0°☾54'08 10°30'36	evening set	3390 Jun 15 01:15	7°☾28'58
max. Earth dist.	3383 Jun 20 14:34	0°☾53'23 48.77691 AU			
morning rise	3383 Jul 02 15:15	1°☾09'50	conjunction	3390 Jun 27 23:50	7°☾46'52 -8°52'58
retrograde	3383 Oct 01 10:46	2°☾24'02	minimum elong	3390 Jun 28 00:01	7°☾46'52 8°52'59
opposition	3383 Dec 23 10:38	1°☾24'12 -10°50'28	max. Earth dist.	3390 Jun 27 02:13	7°☾45'36 47.89766 AU
min. Earth dist.	3383 Dec 23 22:23	1°☾23'38 46.75389 AU	morning rise	3390 Jul 10 23:41	8°☾04'51
direct	3384 Mar 14 03:30	0°☾24'46	retrograde	3390 Oct 08 09:40	9°☾18'08
evening set	3384 Jun 09 17:02	1°☾36'18	opposition	3390 Dec 29 22:35	8°☾17'46 -9°08'19
			min. Earth dist.	3390 Dec 30 19:07	8°☾16'47 45.84944 AU
conjunction	3384 Jun 21 09:05	1°☾52'16 -10°17'21	direct	3391 Mar 21 12:42	7°☾17'36
minimum elong	3384 Jun 21 09:17	1°☾52'16 10°17'21	evening set	3391 Jun 16 03:36	8°☾28'34

max. Earth dist.	3391 Jun 28 06:35	8°☾45'22	47.75317 AU	min. Earth dist.	3398 Jan 06 18:55	15°☾21'41	44.74581 AU
				direct	3398 Mar 28 05:10	14°☾21'48	
conjunction	3391 Jun 29 06:39	8°☾46'46	-8°38'06	evening set	3398 Jun 22 01:19	15°☾32'58	
minimum elong	3391 Jun 29 06:49	8°☾46'47	8°38'06	max. Earth dist.	3398 Jul 05 02:37	15°☾51'23	46.64826 AU
morning rise	3391 Jul 12 11:17	9°☾05'04					
retrograde	3391 Oct 09 17:19	10°☾18'15		conjunction	3398 Jul 06 09:25	15°☾53'13	-6°47'06
opposition	3391 Dec 31 04:07	9°☾17'45	-8°52'46	minimum elong	3398 Jul 06 09:34	15°☾53'14	6°47'06
min. Earth dist.	3392 Jan 01 02:01	9°☾16'41	45.70136 AU	morning rise	3398 Jul 20 18:50	16°☾13'34	
direct	3392 Mar 21 17:16	8°☾17'25		retrograde	3398 Oct 16 16:37	17°☾26'39	
evening set	3392 Jun 16 05:50	9°☾28'21		opposition	3399 Jan 06 21:26	16°☾25'20	-6°56'28
				min. Earth dist.	3399 Jan 08 01:29	16°☾23'57	44.57697 AU
conjunction	3392 Jun 29 13:30	9°☾46'51	-8°23'00	direct	3399 Mar 29 12:47	15°☾23'58	
minimum elong	3392 Jun 29 13:40	9°☾46'52	8°23'01	evening set	3399 Jun 23 05:45	16°☾35'15	
max. Earth dist.	3392 Jun 28 12:50	9°☾45'25	47.60431 AU	max. Earth dist.	3399 Jul 06 08:44	16°☾53'51	46.47871 AU
morning rise	3392 Jul 12 22:31	10°☾05'27					
retrograde	3392 Oct 09 22:00	11°☾18'33		conjunction	3399 Jul 07 17:26	16°☾55'48	-6°30'13
opposition	3392 Dec 31 09:44	10°☾17'55	-8°36'58	minimum elong	3399 Jul 07 17:35	16°☾55'48	6°30'13
min. Earth dist.	3393 Jan 01 09:09	10°☾16'47	45.54923 AU	morning rise	3399 Jul 22 06:29	17°☾16'25	
direct	3393 Mar 23 00:49	9°☾17'25		retrograde	3399 Oct 18 01:52	18°☾29'36	
evening set	3393 Jun 17 08:28	10°☾28'20		opposition	3400 Jan 08 04:04	17°☾28'10	-6°38'46
				min. Earth dist.	3400 Jan 09 10:22	17°☾26'40	44.40426 AU
conjunction	3393 Jun 30 20:27	10°☾47'08	-8°07'39	direct	3400 Mar 30 17:38	16°☾26'39	
minimum elong	3393 Jun 30 20:37	10°☾47'08	8°07'39	evening set	3400 Jun 24 10:18	17°☾38'04	
max. Earth dist.	3393 Jun 29 18:41	10°☾45'37	47.45192 AU	max. Earth dist.	3400 Jul 07 16:24	17°☾56'54	46.30501 AU
morning rise	3393 Jul 14 09:51	11°☾06'01					
retrograde	3393 Oct 11 03:22	12°☾19'03		conjunction	3400 Jul 09 01:35	17°☾58'53	-6°13'05
opposition	3394 Jan 01 15:15	11°☾18'18	-8°20'53	minimum elong	3400 Jul 09 01:43	17°☾58'53	6°13'05
min. Earth dist.	3394 Jan 02 14:47	11°☾17'09	45.39388 AU	morning rise	3400 Jul 23 17:56	18°☾19'47	
direct	3394 Mar 24 07:37	10°☾17'38		retrograde	3400 Oct 19 10:37	19°☾33'03	
evening set	3394 Jun 18 11:19	11°☾28'33		opposition	3401 Jan 09 10:46	18°☾31'30	-6°20'49
max. Earth dist.	3394 Jul 01 00:02	11°☾46'01	47.29633 AU	min. Earth dist.	3401 Jan 10 17:28	18°☾29'59	44.22706 AU
				direct	3401 Mar 31 23:41	17°☾29'49	
conjunction	3394 Jul 02 03:33	11°☾47'38	-7°52'04	evening set	3401 Jun 25 15:25	18°☾41'23	
minimum elong	3394 Jul 02 03:42	11°☾47'39	7°52'04	max. Earth dist.	3401 Jul 08 22:10	19°☾00'19	46.12667 AU
morning rise	3394 Jul 15 21:18	12°☾06'50					
retrograde	3394 Oct 12 11:39	13°☾19'50		conjunction	3401 Jul 10 09:54	19°☾02'28	-5°55'42
opposition	3395 Jan 02 21:07	12°☾18'56	-8°04'33	minimum elong	3401 Jul 10 10:03	19°☾02'28	5°55'43
min. Earth dist.	3395 Jan 03 22:27	12°☾17'42	45.23561 AU	morning rise	3401 Jul 25 05:45	19°☾23'38	
direct	3395 Mar 25 12:19	11°☾18'07		retrograde	3401 Oct 20 22:01	20°☾36'59	
evening set	3395 Jun 19 14:23	12°☾29'03		opposition	3402 Jan 10 17:37	19°☾35'18	-6°02'35
max. Earth dist.	3395 Jul 02 07:28	12°☾46'50	47.13805 AU	min. Earth dist.	3402 Jan 12 02:03	19°☾33'41	44.04527 AU
				direct	3402 Apr 02 03:58	18°☾33'25	
conjunction	3395 Jul 03 10:52	12°☾48'26	-7°36'13	evening set	3402 Jun 26 20:42	19°☾45'07	
minimum elong	3395 Jul 03 11:02	12°☾48'27	7°36'12	max. Earth dist.	3402 Jul 10 06:03	20°☾04'17	45.94357 AU
morning rise	3395 Jul 17 08:34	13°☾07'55					
retrograde	3395 Oct 13 20:09	14°☾20'54		conjunction	3402 Jul 11 18:35	20°☾06'29	-5°38'05
opposition	3396 Jan 04 02:55	13°☾19'54	-7°47'57	minimum elong	3402 Jul 11 18:43	20°☾06'29	5°38'05
min. Earth dist.	3396 Jan 05 04:20	13°☾18'39	45.07475 AU	morning rise	3402 Jul 26 17:29	20°☾27'56	
direct	3396 Mar 25 16:29	12°☾18'56		retrograde	3402 Oct 22 05:57	21°☾41'22	
evening set	3396 Jun 19 17:50	13°☾29'55		opposition	3403 Jan 12 00:43	20°☾39'30	-5°44'06
				min. Earth dist.	3403 Jan 13 10:39	20°☾37'48	43.85877 AU
conjunction	3396 Jul 03 18:10	13°☾49'35	-7°20'06	direct	3403 Apr 03 12:34	19°☾37'25	
minimum elong	3396 Jul 03 18:19	13°☾49'36	7°20'07	evening set	3403 Jun 28 02:25	20°☾49'17	
max. Earth dist.	3396 Jul 02 12:46	13°☾47'51	46.97736 AU	max. Earth dist.	3403 Jul 11 13:09	21°☾08'35	45.75612 AU
morning rise	3396 Jul 17 20:01	14°☾09'22					
retrograde	3396 Oct 14 05:27	15°☾22'21		conjunction	3403 Jul 13 03:17	21°☾10'54	-5°20'12
opposition	3397 Jan 04 09:00	14°☾21'14	-7°31'04	minimum elong	3403 Jul 13 03:25	21°☾10'54	5°20'13
min. Earth dist.	3397 Jan 05 11:29	14°☾19'57	44.91163 AU	morning rise	3403 Jul 28 05:17	21°☾32'36	
direct	3397 Mar 26 20:28	13°☾20'08		retrograde	3403 Oct 23 12:42	22°☾46'08	
evening set	3397 Jun 20 21:16	14°☾31'12		opposition	3404 Jan 13 07:46	21°☾44'06	-5°25'21
max. Earth dist.	3397 Jul 03 19:57	14°☾49'24	46.81418 AU	min. Earth dist.	3404 Jan 14 18:13	21°☾42'22	43.66822 AU
				direct	3404 Apr 03 21:03	20°☾41'48	
conjunction	3397 Jul 05 01:39	14°☾51'10	-7°03'44	evening set	3404 Jun 28 08:22	21°☾53'49	
minimum elong	3397 Jul 05 01:48	14°☾51'10	7°03'44	max. Earth dist.	3404 Jul 11 20:16	22°☾13'16	45.56466 AU
morning rise	3397 Jul 19 07:16	15°☾11'14					
retrograde	3397 Oct 15 10:11	16°☾24'15		conjunction	3404 Jul 13 12:09	22°☾15'41	-5°02'05
opposition	3398 Jan 05 15:16	15°☾23'02	-7°13'54	minimum elong	3404 Jul 13 12:16	22°☾15'42	5°02'04

morning rise	3404 Jul 28 17:02	22°☾37'40	evening set	3411 Jul 06 12:07	29°☾38'47	
retrograde	3404 Oct 23 19:39	23°☾51'19	max. Earth dist.	3411 Jul 20 08:54	29°☾59'23	44.15218 AU
opposition	3405 Jan 13 15:13	22°☾49'04 -5°06'20		3411 Jul 20 18:39	0°♂	
min. Earth dist.	3405 Jan 15 03:35	22°☾47'15 43.47410 AU				
direct	3405 Apr 05 05:28	21°☾46'33	conjunction	3411 Jul 22 08:02	0°♂02'20 -2°47'49	
evening set	3405 Jun 29 14:25	22°☾58'44	minimum elong	3411 Jul 22 08:06	0°♂02'21 2°47'49	
max. Earth dist.	3405 Jul 13 05:10	23°☾18'26 45.36999 AU	morning rise	3411 Aug 07 04:42	0°♂25'58	
			retrograde	3411 Nov 01 18:39	1°♂41'10	
conjunction	3405 Jul 14 21:08	23°☾20'52 -4°43'42	opposition	3412 Jan 22 00:16	0°♂37'37 -2°45'12	
minimum elong	3405 Jul 14 21:15	23°☾20'52 4°43'42	min. Earth dist.	3412 Jan 23 18:43	0°♂35'26 42.04736 AU	
morning rise	3405 Jul 30 04:41	23°☾43'05		3412 Feb 23 11:37	30°☿☾	
retrograde	3405 Oct 25 05:10	24°☾56'53	direct	3412 Apr 12 09:48	29°☾33'31	
opposition	3406 Jan 14 22:41	23°☾54'26 -4°47'01		3412 May 30 19:29	0°♂	
min. Earth dist.	3406 Jan 16 11:08	23°☾52'36 43.27696 AU	evening set	3412 Jul 06 21:17	0°♂47'46	
direct	3406 Apr 06 12:00	22°☾51'40	max. Earth dist.	3412 Jul 20 19:29	1°♂08'35 43.93964 AU	
evening set	3406 Jun 30 21:10	24°☾04'04				
max. Earth dist.	3406 Jul 14 12:14	24°☾23'53 45.17248 AU	conjunction	3412 Jul 22 18:59	1°♂11'34 -2°27'35	
			minimum elong	3412 Jul 22 19:03	1°♂11'34 2°27'34	
conjunction	3406 Jul 16 06:21	24°☾26'27 -4°25'03	morning rise	3412 Aug 07 17:01	1°♂35'25	
minimum elong	3406 Jul 16 06:27	24°☾26'27 4°25'02	retrograde	3412 Nov 02 06:35	2°♂50'57	
morning rise	3406 Jul 31 16:38	24°☾48'54	opposition	3413 Jan 22 09:30	1°♂47'12 -2°23'54	
retrograde	3406 Oct 26 16:42	26°☾02'52	min. Earth dist.	3413 Jan 24 04:58	1°♂44'57 41.83226 AU	
opposition	3407 Jan 16 06:20	25°☾00'14 -4°27'26	direct	3413 Apr 13 18:34	0°♂42'51	
min. Earth dist.	3407 Jan 17 20:14	24°☾58'19 43.07741 AU	evening set	3413 Jul 08 06:59	1°♂57'31	
direct	3407 Apr 07 16:36	23°☾57'13	max. Earth dist.	3413 Jul 22 04:27	2°♂18'23 43.72309 AU	
evening set	3407 Jul 02 04:05	25°☾09'51				
max. Earth dist.	3407 Jul 15 21:38	25°☾29'53 44.97261 AU	conjunction	3413 Jul 24 06:02	2°♂21'32 -2°07'05	
			minimum elong	3413 Jul 24 06:05	2°♂21'32 2°07'05	
conjunction	3407 Jul 17 15:54	25°☾32'29 -4°06'08	morning rise	3413 Aug 09 05:37	2°♂45'35	
minimum elong	3407 Jul 17 16:00	25°☾32'29 4°06'09	retrograde	3413 Nov 03 19:08	4°♂01'27	
morning rise	3407 Aug 02 04:25	25°☾55'11	opposition	3414 Jan 23 18:58	2°♂57'30 -2°02'20	
retrograde	3407 Oct 28 01:40	27°☾09'19	min. Earth dist.	3414 Jan 25 15:25	2°♂55'12 41.61306 AU	
opposition	3408 Jan 17 14:19	26°☾06'29 -4°07'34	direct	3414 Apr 15 03:26	1°♂52'54	
min. Earth dist.	3408 Jan 19 04:52	26°☾04'31 42.87567 AU	evening set	3414 Jul 09 17:15	3°♂07'59	
direct	3408 Apr 08 01:34	25°☾03'15	max. Earth dist.	3414 Jul 23 14:25	3°♂28'57 43.50215 AU	
evening set	3408 Jul 02 11:20	26°☾16'09				
max. Earth dist.	3408 Jul 16 05:59	26°☾36'20 44.77084 AU	conjunction	3414 Jul 25 17:37	3°♂32'12 -1°46'20	
			minimum elong	3414 Jul 25 17:40	3°♂32'13 1°46'21	
conjunction	3408 Jul 18 01:21	26°☾39'00 -3°46'57	morning rise	3414 Aug 10 18:17	3°♂56'28	
minimum elong	3408 Jul 18 01:26	26°☾39'01 3°46'57	retrograde	3414 Nov 05 04:03	5°♂12'42	
morning rise	3408 Aug 02 16:14	27°☾01'57	opposition	3415 Jan 25 04:42	4°♂08'31 -1°40'29	
retrograde	3408 Oct 28 10:51	28°☾16'18	min. Earth dist.	3415 Jan 27 03:11	4°♂06'06 41.38965 AU	
opposition	3409 Jan 17 22:26	27°☾13'16 -3°47'24	direct	3415 Apr 16 15:08	3°♂03'39	
min. Earth dist.	3409 Jan 19 13:11	27°☾11'18 42.67216 AU	evening set	3415 Jul 11 03:57	4°♂19'10	
direct	3409 Apr 09 10:53	26°☾09'49	max. Earth dist.	3415 Jul 25 01:32	4°♂40'16 43.27728 AU	
evening set	3409 Jul 03 19:05	27°☾23'00				
max. Earth dist.	3409 Jul 17 14:41	27°☾43'21 44.56704 AU	conjunction	3415 Jul 27 05:26	4°♂43'35 -1°25'20	
			minimum elong	3415 Jul 27 05:28	4°♂43'35 1°25'21	
conjunction	3409 Jul 19 11:17	27°☾46'07 -3°27'30	morning rise	3415 Aug 12 07:04	5°♂08'03	
minimum elong	3409 Jul 19 11:22	27°☾46'07 3°27'31	retrograde	3415 Nov 06 14:26	6°♂24'39	
morning rise	3409 Aug 04 04:14	28°☾09'17	opposition	3416 Jan 26 14:40	5°♂20'14 -1°18'22	
retrograde	3409 Oct 29 19:40	29°☾23'53	min. Earth dist.	3416 Jan 28 13:22	5°♂17'47 41.16253 AU	
opposition	3410 Jan 19 06:49	28°☾20'41 -3°26'57	direct	3416 Apr 17 01:35	4°♂15'04	
min. Earth dist.	3410 Jan 20 23:21	28°☾18'36 42.46661 AU	evening set	3416 Jul 11 15:02	5°♂31'03	
direct	3410 Apr 10 19:36	27°☾17'01	max. Earth dist.	3416 Jul 25 11:05	5°♂52'11 43.04877 AU	
evening set	3410 Jul 05 03:16	28°☾30'32				
max. Earth dist.	3410 Jul 19 00:42	28°☾51'04 44.36111 AU	conjunction	3416 Jul 27 17:14	5°♂55'40 -1°04'05	
			minimum elong	3416 Jul 27 17:16	5°♂55'40 1°04'05	
conjunction	3410 Jul 20 21:33	28°☾53'52 -3°07'47	morning rise	3416 Aug 12 19:44	6°♂20'19	
minimum elong	3410 Jul 20 21:38	28°☾53'52 3°07'47	retrograde	3416 Nov 07 03:43	7°♂37'20	
morning rise	3410 Aug 05 16:23	29°☾17'16	opposition	3417 Jan 27 01:00	6°♂32'39 -0°55'57	
	3410 Sep 07 05:54	0°♂	min. Earth dist.	3417 Jan 29 01:38	6°♂30'05 40.93225 AU	
retrograde	3410 Oct 31 05:25	0°♂32'10	direct	3417 Apr 18 08:36	5°♂27'11	
	3410 Dec 25 02:23	30°☿☾	evening set	3417 Jul 13 02:35	6°♂43'39	
opposition	3411 Jan 20 15:22	29°☾28'47 -3°06'13	max. Earth dist.	3417 Jul 26 23:21	7°♂04'56 42.81728 AU	
min. Earth dist.	3411 Jan 22 07:56	29°☾26'42 42.25856 AU				
direct	3411 Apr 12 04:02	28°☾24'54	conjunction	3417 Jul 29 05:37	7°♂08'27 -0°42'35	

minimum elong	3417 Jul 29 05:38	7°Ω08'27 0°42'34	morning rise	3423 Aug 22 15:53	15°Ω08'03	
morning rise	3417 Aug 14 08:32	7°Ω33'17	retrograde	3423 Nov 17 03:59	16°Ω28'50	
retrograde	3417 Nov 08 16:19	8°Ω50'44	opposition	3424 Feb 05 09:43	15°Ω22'18	1°48'30
opposition	3418 Jan 28 11:26	7°Ω45'47 -0°33'16	min. Earth dist.	3424 Feb 07 15:43	15°Ω19'22	39.26891 AU
min. Earth dist.	3418 Jan 30 12:29	7°Ω43'11 40.69930 AU		3424 Feb 22 17:53	15°RΩ	
direct	3418 Apr 19 19:11	6°Ω40'00	direct	3424 Apr 26 12:14	14°Ω14'40	
evening set	3418 Jul 14 14:50	7°Ω57'00		3424 Jun 28 00:25	15°Ω	
max. Earth dist.	3418 Jul 28 10:07	8°Ω18'19 42.58344 AU	evening set	3424 Jul 22 04:08	15°Ω35'34	
			max. Earth dist.	3424 Aug 04 15:56	15°Ω57'15	41.14689 AU
conjunction	3418 Jul 30 18:09	8°Ω21'58 -0°20'49				
minimum elong	3418 Jul 30 18:10	8°Ω21'58 0°20'50	conjunction	3424 Aug 07 05:08	16°Ω01'24	1°54'54
morning rise	3418 Aug 15 21:36	8°Ω46'58	minimum elong	3424 Aug 07 05:04	16°Ω01'24	1°54'54
retrograde	3418 Nov 10 07:38	10°Ω04'52	morning rise	3424 Aug 23 05:23	16°Ω27'13	
opposition	3419 Jan 29 22:15	8°Ω59'39 -0°10'19	retrograde	3424 Nov 17 19:51	17°Ω48'41	
min. Earth dist.	3419 Feb 01 00:06	8°Ω57'00 40.46439 AU	opposition	3425 Feb 05 22:52	16°Ω41'52	2°13'02
direct	3419 Apr 21 05:16	7°Ω53'33	min. Earth dist.	3425 Feb 08 06:05	16°Ω38'51	39.02389 AU
asc. node	3419 Jul 12 04:24	9°Ω05'07	direct	3425 Apr 28 02:11	15°Ω33'54	
evening set	3419 Jul 16 03:29	9°Ω11'06	evening set	3425 Jul 23 20:52	16°Ω55'35	
max. Earth dist.	3419 Jul 29 22:25	9°Ω32'33 42.34760 AU	max. Earth dist.	3425 Aug 06 05:55	17°Ω17'15	40.90000 AU
conjunction	3419 Aug 01 07:05	9°Ω36'15 0°01'16	conjunction	3425 Aug 08 20:27	17°Ω21'31	2°18'20
minimum elong	3419 Aug 01 07:05	9°Ω36'15 0°01'16	minimum elong	3425 Aug 08 20:23	17°Ω21'30	2°18'20
behind sun begin	3419 Aug 01 00:33	9°Ω35'51	morning rise	3425 Aug 24 19:26	17°Ω47'25	
behind sun end	3419 Aug 01 13:36	9°Ω36'39	retrograde	3425 Nov 19 12:51	19°Ω09'35	
morning rise	3419 Aug 17 10:28	10°Ω01'24	opposition	3426 Feb 07 12:12	18°Ω02'28	2°37'49
retrograde	3419 Nov 11 20:38	11°Ω19'49	min. Earth dist.	3426 Feb 09 19:55	17°Ω59'24	38.77602 AU
opposition	3420 Jan 31 09:29	10°Ω14'19 0°12'55	direct	3426 Apr 29 16:51	16°Ω54'08	
min. Earth dist.	3420 Feb 02 12:36	10°Ω11'35 40.22785 AU	evening set	3426 Jul 25 14:22	18°Ω16'38	
direct	3420 Apr 21 17:28	9°Ω07'55	max. Earth dist.	3426 Aug 07 19:58	18°Ω38'14	40.64991 AU
evening set	3420 Jul 16 16:43	10°Ω26'03				
max. Earth dist.	3420 Jul 30 11:06	10°Ω47'35 42.11050 AU	conjunction	3426 Aug 10 12:22	18°Ω42'39	2°41'58
conjunction	3420 Aug 01 20:16	10°Ω51'21 0°23'30	minimum elong	3426 Aug 10 12:17	18°Ω42'39	2°41'57
minimum elong	3420 Aug 01 20:15	10°Ω51'21 0°23'29	morning rise	3426 Aug 26 09:35	19°Ω08'38	
morning rise	3420 Aug 17 23:36	11°Ω16'40	retrograde	3426 Nov 21 03:49	20°Ω31'32	
retrograde	3420 Nov 12 08:00	12°Ω35'36	opposition	3427 Feb 09 02:14	19°Ω24'06	3°02'50
opposition	3421 Jan 31 20:56	11°Ω29'51 0°36'25	min. Earth dist.	3427 Feb 11 12:01	19°Ω20'53	38.52516 AU
min. Earth dist.	3421 Feb 02 23:46	11°Ω27'07 39.99025 AU	direct	3427 May 01 06:50	18°Ω15'23	
direct	3421 Apr 23 06:02	10°Ω23'08	evening set	3427 Jul 27 08:26	19°Ω38'43	
evening set	3421 Jul 18 06:32	11°Ω41'54	max. Earth dist.	3427 Aug 09 11:53	20°Ω00'19	40.39702 AU
max. Earth dist.	3421 Jul 31 22:57	12°Ω03'27 41.87216 AU	conjunction	3427 Aug 12 04:35	20°Ω04'48	3°05'49
conjunction	3421 Aug 03 09:46	12°Ω07'21 0°45'59	minimum elong	3427 Aug 12 04:29	20°Ω04'47	3°05'49
minimum elong	3421 Aug 03 09:45	12°Ω07'21 0°46'00	morning rise	3427 Aug 27 23:44	20°Ω30'51	
morning rise	3421 Aug 19 12:48	12°Ω32'49	retrograde	3427 Nov 22 17:55	21°Ω54'30	
retrograde	3421 Nov 13 20:44	13°Ω52'20	opposition	3428 Feb 10 16:28	20°Ω46'44	3°28'05
opposition	3422 Feb 02 08:54	12°Ω46'19 1°00'11	min. Earth dist.	3428 Feb 13 02:18	20°Ω43'30	38.27176 AU
min. Earth dist.	3422 Feb 04 13:24	12°Ω43'29 39.75147 AU	direct	3428 May 01 21:41	19°Ω37'37	
direct	3422 Apr 24 16:32	11°Ω39'18	evening set	3428 Jul 28 03:23	21°Ω01'50	
evening set	3422 Jul 19 21:02	12°Ω58'44	max. Earth dist.	3428 Aug 10 02:17	21°Ω23'17	40.14174 AU
max. Earth dist.	3422 Aug 02 13:18	13°Ω20'25 41.63248 AU	conjunction	3428 Aug 12 21:10	21°Ω27'57	3°29'52
conjunction	3422 Aug 04 23:54	13°Ω24'20 1°08'44	minimum elong	3428 Aug 12 21:03	21°Ω27'57	3°29'51
minimum elong	3422 Aug 04 23:52	13°Ω24'20 1°08'43	morning rise	3428 Aug 28 14:07	21°Ω54'02	
morning rise	3422 Aug 21 02:12	13°Ω49'55	retrograde	3428 Nov 23 11:29	23°Ω18'31	
	3422 Oct 18 01:04	15°Ω	opposition	3429 Feb 11 07:12	22°Ω10'22	3°53'33
retrograde	3422 Nov 15 11:01	15°Ω10'03	min. Earth dist.	3429 Feb 13 18:35	22°Ω07'02	38.01648 AU
	3422 Dec 14 03:58	15°RΩ	direct	3429 May 03 09:27	21°Ω00'51	
opposition	3423 Feb 03 21:02	14°Ω03'47 1°24'13	evening set	3429 Jul 29 22:51	22°Ω25'59	
min. Earth dist.	3423 Feb 06 01:40	14°Ω00'56 39.51116 AU	max. Earth dist.	3429 Aug 11 19:29	22°Ω47'27	39.88468 AU
direct	3423 Apr 26 02:45	12°Ω56'28	conjunction	3429 Aug 14 14:17	22°Ω52'08	3°54'06
evening set	3423 Jul 21 12:23	14°Ω16'37	minimum elong	3429 Aug 14 14:10	22°Ω52'08	3°54'06
max. Earth dist.	3423 Aug 04 01:39	14°Ω38'15 41.39096 AU	morning rise	3429 Aug 30 04:29	23°Ω18'14	
conjunction	3423 Aug 06 14:18	14°Ω42'20 1°31'42	retrograde	3429 Nov 25 04:26	24°Ω43'34	
minimum elong	3423 Aug 06 14:15	14°Ω42'20 1°31'43	opposition	3430 Feb 12 22:24	23°Ω35'04	4°19'14
	3423 Aug 17 13:51	15°Ω	min. Earth dist.	3430 Feb 15 10:18	23°Ω31'41	37.75973 AU
			direct	3430 May 04 23:49	22°Ω25'07	



evening set	3430 Jul 31 19:23	23°05'15"		conjunction	3436 Aug 25 03:54	3°00'16"	6°47'34"
max. Earth dist.	3430 Aug 13 11:36	24°00'12"	39.62650 AU	minimum elong	3436 Aug 25 03:41	3°00'16"	6°47'34"
				morning rise	3436 Sep 08 13:32	3°00'41"	6°47'34"
conjunction	3430 Aug 16 07:47	24°00'17"	4°18'30"	retrograde	3436 Dec 05 23:03	5°00'14"	6°47'34"
minimum elong	3430 Aug 16 07:39	24°00'17"	4°18'30"	opposition	3437 Feb 22 22:54	4°00'03"	7°23'18"
morning rise	3430 Aug 31 19:10	24°00'43"	30"	min. Earth dist.	3437 Feb 25 14:45	4°00'00"	35.96491 AU
retrograde	3430 Nov 27 00:08	26°00'09"	44"	direct	3437 May 14 16:50	2°00'51"	02"
opposition	3431 Feb 14 13:54	25°00'00"	51"	evening set	3437 Aug 12 19:43	4°00'25"	47"
min. Earth dist.	3431 Feb 17 02:15	24°00'57"	26"	max. Earth dist.	3437 Aug 24 01:03	4°00'45"	37.82106 AU
direct	3431 May 06 14:36	23°00'50"	29"				
evening set	3431 Aug 02 16:35	25°00'17"	39"	conjunction	3437 Aug 27 01:21	4°00'51"	18"
max. Earth dist.	3431 Aug 15 05:00	25°00'38"	53"	minimum elong	3437 Aug 27 01:07	4°00'51"	17"
				morning rise	3437 Sep 10 05:26	5°00'16"	44"
conjunction	3431 Aug 18 01:51	25°00'43"	48"	retrograde	3437 Dec 07 23:27	6°00'50"	59"
minimum elong	3431 Aug 18 01:42	25°00'43"	47"	opposition	3438 Feb 24 18:27	5°00'39"	41"
morning rise	3431 Sep 02 09:46	26°00'09"	53"	min. Earth dist.	3438 Feb 27 10:32	5°00'35"	35.70824 AU
retrograde	3431 Nov 28 18:12	27°00'37"	03"	direct	3438 May 16 13:28	4°00'26"	30"
opposition	3432 Feb 16 06:09	26°00'27"	49"	evening set	3438 Aug 14 24:00	6°00'02"	44"
min. Earth dist.	3432 Feb 18 19:35	26°00'24"	19"	max. Earth dist.	3438 Aug 25 22:02	6°00'22"	37.56184 AU
direct	3432 May 07 07:53	25°00'17"	03"				
evening set	3432 Aug 03 14:31	26°00'45"	18"	conjunction	3438 Aug 28 23:36	6°00'28"	02"
max. Earth dist.	3432 Aug 15 23:25	27°00'06"	27"	minimum elong	3438 Aug 28 23:22	6°00'28"	01"
				morning rise	3438 Sep 11 21:27	6°00'53"	15"
conjunction	3432 Aug 18 20:09	27°00'11"	25"	retrograde	3438 Dec 09 22:53	8°00'28"	51"
minimum elong	3432 Aug 18 19:59	27°00'11"	24"	opposition	3439 Feb 26 14:45	7°00'17"	10"
morning rise	3432 Sep 03 00:27	27°00'37"	27"	min. Earth dist.	3439 Mar 01 08:28	7°00'13"	35.45073 AU
retrograde	3432 Nov 29 13:09	29°00'05"	39"	direct	3439 May 18 10:03	6°00'03"	33"
opposition	3433 Feb 16 22:45	27°00'56"	04"	evening set	3439 Aug 17 05:25	7°00'41"	18"
min. Earth dist.	3433 Feb 19 11:34	27°00'52"	34"	max. Earth dist.	3439 Aug 27 20:50	8°00'00"	42"
direct	3433 May 09 01:14	26°00'44"	53"				
evening set	3433 Aug 05 13:33	28°00'14"	18"	conjunction	3439 Aug 30 22:25	8°00'06"	21"
max. Earth dist.	3433 Aug 17 17:02	28°00'35"	15"	minimum elong	3439 Aug 30 22:09	8°00'06"	20"
				morning rise	3439 Sep 13 13:36	8°00'31"	18"
conjunction	3433 Aug 20 15:10	28°00'40"	21"	retrograde	3439 Dec 11 21:19	10°00'08"	19"
minimum elong	3433 Aug 20 14:59	28°00'40"	20"	opposition	3440 Feb 28 11:35	8°00'56"	15"
morning rise	3433 Sep 04 15:29	29°00'06"	20"	min. Earth dist.	3440 Mar 02 04:51	8°00'52"	19"
	3433 Oct 09 19:45	0°00'00"		direct	3440 May 19 07:29	7°00'42"	09"
retrograde	3433 Dec 01 07:42	0°00'35"	37"	evening set	3440 Aug 18 11:47	9°00'21"	29"
	3434 Jan 23 20:02	30°00'00"		max. Earth dist.	3440 Aug 28 18:26	9°00'40"	24"
opposition	3434 Feb 18 15:54	29°00'25"	42"				
min. Earth dist.	3434 Feb 21 06:10	29°00'22"	05"	conjunction	3440 Aug 31 21:38	9°00'46"	14"
direct	3434 May 10 16:02	28°00'14"	07"	minimum elong	3440 Aug 31 21:22	9°00'46"	12"
evening set	3434 Aug 07 13:31	29°00'44"	46"	morning rise	3440 Sep 14 05:49	10°00'10"	52"
	3434 Aug 16 08:13	0°00'00"		retrograde	3440 Dec 12 19:44	11°00'49"	23"
max. Earth dist.	3434 Aug 19 13:18	0°00'05"	38"	opposition	3441 Mar 01 09:08	10°00'36"	53"
				min. Earth dist.	3441 Mar 04 03:51	10°00'32"	50"
conjunction	3434 Aug 22 10:54	0°00'10"	44"	direct	3441 May 21 02:44	9°00'22"	18"
minimum elong	3434 Aug 22 10:43	0°00'10"	43"	evening set	3441 Aug 20 19:26	11°00'03"	17"
morning rise	3434 Sep 06 06:39	0°00'36"	38"	max. Earth dist.	3441 Aug 30 19:13	11°00'21"	51"
retrograde	3434 Dec 03 02:43	2°00'07"	03"				
opposition	3435 Feb 20 09:38	0°00'56"	49"	conjunction	3441 Sep 02 21:48	11°00'27"	41"
min. Earth dist.	3435 Feb 22 23:40	0°00'53"	11"	minimum elong	3441 Sep 02 21:31	11°00'27"	39"
	3435 Apr 08 05:04	30°00'00"		morning rise	3441 Sep 15 22:11	11°00'51"	58"
direct	3435 May 12 08:39	29°00'44"	51"	retrograde	3441 Dec 14 18:22	13°00'32"	01"
	3435 Jun 15 03:54	0°00'00"		opposition	3442 Mar 03 07:11	12°00'19"	05"
evening set	3435 Aug 09 14:32	1°00'16"	48"	min. Earth dist.	3442 Mar 06 01:48	12°00'15"	01"
max. Earth dist.	3435 Aug 21 07:44	1°00'37"	23"	direct	3442 May 22 23:33	11°00'04"	00"
				evening set	3442 Aug 23 04:26	12°00'46"	43"
conjunction	3435 Aug 24 06:58	1°00'42"	39"	max. Earth dist.	3442 Sep 01 18:33	13°00'04"	43"
minimum elong	3435 Aug 24 06:45	1°00'42"	38"				
morning rise	3435 Sep 07 22:01	2°00'08"	25"	conjunction	3442 Sep 04 22:28	13°00'10"	43"
retrograde	3435 Dec 05 01:41	3°00'40"	05"	minimum elong	3442 Sep 07 22:10	13°00'10"	41"
opposition	3436 Feb 22 03:56	2°00'29"	30"	morning rise	3442 Sep 17 14:50	13°00'34"	35"
min. Earth dist.	3436 Feb 24 18:55	2°00'25"	48"	retrograde	3442 Dec 16 20:43	15°00'16"	16"
direct	3436 May 12 23:22	1°00'17"	09"	opposition	3443 Mar 05 05:59	14°00'02"	53"
evening set	3436 Aug 10 16:30	2°00'50"	28"	min. Earth dist.	3443 Mar 08 01:00	13°00'58"	46"
max. Earth dist.	3436 Aug 22 04:40	3°00'10"	52"	direct	3443 May 24 19:24	12°00'47"	18"

evening set	3443 Aug 25 14:24	14° $\mathring{\mu}$ 31'49		opposition	3450 Mar 17 19:09	27° $\mathring{\mu}$ 00'41	13°02'03
max. Earth dist.	3443 Sep 03 20:24	14° $\mathring{\mu}$ 49'22	36.26543 AU	min. Earth dist.	3450 Mar 20 14:08	26° $\mathring{\mu}$ 56'23	32.71216 AU
				direct	3450 Jun 06 01:25	25° $\mathring{\mu}$ 41'53	
conjunction	3443 Sep 06 23:48	14° $\mathring{\mu}$ 55'21	9°43'00	evening set	3450 Sep 11 05:50	27° $\mathring{\mu}$ 41'51	
minimum elong	3443 Sep 06 23:29	14° $\mathring{\mu}$ 55'20	9°42'59	max. Earth dist.	3450 Sep 17 03:53	27° $\mathring{\mu}$ 53'55	34.54542 AU
morning rise	3443 Sep 19 07:14	15° $\mathring{\mu}$ 18'47					
retrograde	3443 Dec 18 22:20	17° $\mathring{\mu}$ 02'09		conjunction	3450 Sep 20 06:40	28° $\mathring{\mu}$ 00'18	12°28'41
opposition	3444 Mar 06 05:37	15° $\mathring{\mu}$ 48'20	10°29'50	minimum elong	3450 Sep 20 06:18	28° $\mathring{\mu}$ 00'16	12°28'41
min. Earth dist.	3444 Mar 09 00:55	15° $\mathring{\mu}$ 44'10	34.16855 AU	morning rise	3450 Sep 29 05:49	28° $\mathring{\mu}$ 18'38	
direct	3444 May 25 18:44	14° $\mathring{\mu}$ 32'16			3450 Nov 29 23:49	0° $\mathring{\mu}$	
evening set	3444 Aug 27 01:52	16° $\mathring{\mu}$ 18'40		retrograde	3451 Jan 01 11:33	0° $\mathring{\mu}$ 16'35	
max. Earth dist.	3444 Sep 04 22:20	16° $\mathring{\mu}$ 35'38	36.01065 AU		3451 Feb 03 13:23	30° $\mathring{\mu}$	
				opposition	3451 Mar 20 00:31	28° $\mathring{\mu}$ 59'57	13°25'57
conjunction	3444 Sep 08 01:46	16° $\mathring{\mu}$ 41'42	10°07'37	min. Earth dist.	3451 Mar 22 19:46	28° $\mathring{\mu}$ 55'36	32.47882 AU
minimum elong	3444 Sep 08 01:27	16° $\mathring{\mu}$ 41'40	10°07'38	direct	3451 Jun 08 05:59	27° $\mathring{\mu}$ 40'42	
morning rise	3444 Sep 19 23:56	17° $\mathring{\mu}$ 04'37		evening set	3451 Sep 14 04:30	29° $\mathring{\mu}$ 43'18	
retrograde	3444 Dec 20 03:17	18° $\mathring{\mu}$ 49'45		max. Earth dist.	3451 Sep 19 11:02	29° $\mathring{\mu}$ 54'10	34.31043 AU
opposition	3445 Mar 08 05:45	17° $\mathring{\mu}$ 35'30	10°56'02				
min. Earth dist.	3445 Mar 11 00:19	17° $\mathring{\mu}$ 31'22	33.91799 AU	conjunction	3451 Sep 22 14:10	0° $\mathring{\mu}$ 00'39	12°50'39
direct	3445 May 27 19:38	16° $\mathring{\mu}$ 18'57		minimum elong	3451 Sep 22 13:47	0° $\mathring{\mu}$ 00'37	12°50'38
evening set	3445 Aug 29 14:36	18° $\mathring{\mu}$ 07'21			3451 Sep 22 06:41	0° $\mathring{\mu}$	
max. Earth dist.	3445 Sep 07 00:55	18° $\mathring{\mu}$ 23'40	35.75885 AU	morning rise	3451 Sep 30 22:25	0° $\mathring{\mu}$ 17'53	
				retrograde	3452 Jan 03 21:21	2° $\mathring{\mu}$ 18'20	
conjunction	3445 Sep 10 04:37	18° $\mathring{\mu}$ 29'49	10°32'00	opposition	3452 Mar 21 06:33	1° $\mathring{\mu}$ 01'17	13°49'16
minimum elong	3445 Sep 10 04:17	18° $\mathring{\mu}$ 29'47	10°32'00	min. Earth dist.	3452 Mar 24 01:04	0° $\mathring{\mu}$ 56'57	32.24826 AU
morning rise	3445 Sep 21 16:48	18° $\mathring{\mu}$ 52'09			3452 May 05 00:08	30° $\mathring{\mu}$	
retrograde	3445 Dec 22 07:08	20° $\mathring{\mu}$ 39'11		direct	3452 Jun 09 11:23	29° $\mathring{\mu}$ 41'33	
opposition	3446 Mar 10 06:55	19° $\mathring{\mu}$ 24'30	11°21'57		3452 Jul 14 11:41	0° $\mathring{\mu}$	
min. Earth dist.	3446 Mar 13 02:18	19° $\mathring{\mu}$ 20'17	33.67065 AU	evening set	3452 Sep 16 05:09	1° $\mathring{\mu}$ 46'56	
direct	3446 May 29 19:52	18° $\mathring{\mu}$ 07'29		max. Earth dist.	3452 Sep 20 19:47	1° $\mathring{\mu}$ 56'32	34.07824 AU
evening set	3446 Sep 01 04:55	19° $\mathring{\mu}$ 57'59					
max. Earth dist.	3446 Sep 09 05:24	20° $\mathring{\mu}$ 13'41	35.51043 AU	conjunction	3452 Sep 23 22:41	2° $\mathring{\mu}$ 03'03	13°12'01
				minimum elong	3452 Sep 23 22:19	2° $\mathring{\mu}$ 03'01	13°12'02
conjunction	3446 Sep 12 08:12	20° $\mathring{\mu}$ 19'49	10°56'06	morning rise	3452 Oct 01 14:49	2° $\mathring{\mu}$ 19'04	
minimum elong	3446 Sep 12 07:52	20° $\mathring{\mu}$ 19'47	10°56'07	retrograde	3453 Jan 05 06:21	4° $\mathring{\mu}$ 22'08	
morning rise	3446 Sep 23 09:40	20° $\mathring{\mu}$ 41'31		opposition	3453 Mar 23 13:28	3° $\mathring{\mu}$ 04'40	14°11'56
retrograde	3446 Dec 24 11:04	22° $\mathring{\mu}$ 30'30		min. Earth dist.	3453 Mar 26 08:44	3° $\mathring{\mu}$ 00'15	32.02081 AU
opposition	3447 Mar 12 08:40	21° $\mathring{\mu}$ 15'27	11°47'34	direct	3453 Jun 11 17:12	1° $\mathring{\mu}$ 44'27	
min. Earth dist.	3447 Mar 15 02:58	21° $\mathring{\mu}$ 11'16	33.42669 AU	evening set	3453 Sep 19 08:15	3° $\mathring{\mu}$ 52'45	
direct	3447 May 31 21:49	19° $\mathring{\mu}$ 57'59		max. Earth dist.	3453 Sep 23 05:52	4° $\mathring{\mu}$ 00'58	33.84966 AU
evening set	3447 Sep 03 20:39	21° $\mathring{\mu}$ 50'42					
max. Earth dist.	3447 Sep 11 08:50	22° $\mathring{\mu}$ 05'32	35.26519 AU	conjunction	3453 Sep 26 07:57	4° $\mathring{\mu}$ 07'29	13°32'44
				minimum elong	3453 Sep 26 07:35	4° $\mathring{\mu}$ 07'27	13°32'44
conjunction	3447 Sep 14 12:32	22° $\mathring{\mu}$ 11'48	11°19'52	morning rise	3453 Oct 03 06:24	4° $\mathring{\mu}$ 22'06	
minimum elong	3447 Sep 14 12:10	22° $\mathring{\mu}$ 11'47	11°19'51	retrograde	3454 Jan 07 17:58	6° $\mathring{\mu}$ 27'56	
morning rise	3447 Sep 25 02:45	22° $\mathring{\mu}$ 32'48		opposition	3454 Mar 25 21:10	5° $\mathring{\mu}$ 10'03	14°33'54
retrograde	3447 Dec 26 16:21	24° $\mathring{\mu}$ 23'53		min. Earth dist.	3454 Mar 28 15:08	5° $\mathring{\mu}$ 05'42	31.79718 AU
opposition	3448 Mar 13 11:22	23° $\mathring{\mu}$ 08'26	12°12'49	direct	3454 Jun 14 02:14	3° $\mathring{\mu}$ 49'21	
min. Earth dist.	3448 Mar 16 06:28	23° $\mathring{\mu}$ 04'10	33.18593 AU	evening set	3454 Sep 22 13:46	6° $\mathring{\mu}$ 00'46	
direct	3448 Jun 01 21:45	21° $\mathring{\mu}$ 50'32		max. Earth dist.	3454 Sep 25 15:40	6° $\mathring{\mu}$ 07'19	33.62513 AU
evening set	3448 Sep 05 13:52	23° $\mathring{\mu}$ 45'33					
max. Earth dist.	3448 Sep 12 15:14	23° $\mathring{\mu}$ 59'38	35.02285 AU	conjunction	3454 Sep 28 17:56	6° $\mathring{\mu}$ 13'54	13°52'43
				minimum elong	3454 Sep 28 17:34	6° $\mathring{\mu}$ 13'52	13°52'44
conjunction	3448 Sep 15 17:39	24° $\mathring{\mu}$ 05'52	11°43'14	morning rise	3454 Oct 04 20:58	6° $\mathring{\mu}$ 26'57	
minimum elong	3448 Sep 15 17:18	24° $\mathring{\mu}$ 05'50	11°43'15	retrograde	3455 Jan 10 05:02	8° $\mathring{\mu}$ 35'45	
morning rise	3448 Sep 25 19:38	24° $\mathring{\mu}$ 26'04		opposition	3455 Mar 28 05:48	7° $\mathring{\mu}$ 17'25	14°55'02
retrograde	3448 Dec 27 21:19	26° $\mathring{\mu}$ 19'20		min. Earth dist.	3455 Mar 31 00:16	7° $\mathring{\mu}$ 13'01	31.57812 AU
opposition	3449 Mar 15 14:54	25° $\mathring{\mu}$ 03'31	12°37'40	direct	3455 Jun 16 09:24	5° $\mathring{\mu}$ 56'15	
min. Earth dist.	3449 Mar 18 09:31	24° $\mathring{\mu}$ 59'15	32.94779 AU	evening set	3455 Sep 25 22:43	8° $\mathring{\mu}$ 11'01	
direct	3449 Jun 03 23:45	23° $\mathring{\mu}$ 45'10		max. Earth dist.	3455 Sep 28 04:18	8° $\mathring{\mu}$ 15'49	33.40576 AU
evening set	3449 Sep 08 08:59	25° $\mathring{\mu}$ 42'36					
max. Earth dist.	3449 Sep 14 20:10	25° $\mathring{\mu}$ 55'39	34.78300 AU	conjunction	3455 Oct 01 04:41	8° $\mathring{\mu}$ 22'19	14°11'52
				minimum elong	3455 Oct 01 04:19	8° $\mathring{\mu}$ 22'17	14°11'52
conjunction	3449 Sep 17 23:39	26° $\mathring{\mu}$ 02'02	12°06'12	morning rise	3455 Oct 06 09:35	8° $\mathring{\mu}$ 33'30	
minimum elong	3449 Sep 17 23:17	26° $\mathring{\mu}$ 02'00	12°06'11	retrograde	3456 Jan 12 15:14	10° $\mathring{\mu}$ 45'31	
morning rise	3449 Sep 27 12:49	26° $\mathring{\mu}$ 21'21		opposition	3456 Mar 29 15:16	9° $\mathring{\mu}$ 26'46	15°15'16
retrograde	3449 Dec 30 04:40	28° $\mathring{\mu}$ 16'54		min. Earth dist.	3456 Apr 01 08:00	9° $\mathring{\mu}$ 22'27	31.36453 AU

direct	3456 Jun 17 19:08	8° <u>♂</u> 05'09		min. Earth dist.	3464 Apr 19 10:15	27° <u>♂</u> 50'12	29.90821 AU
evening set	3456 Sep 28 12:12	10° <u>♂</u> 23'40		direct	3464 Jul 05 20:23	26° <u>♂</u> 29'35	
max. Earth dist.	3456 Sep 29 15:37	10° <u>♂</u> 26'08	33.19237 AU	max. Earth dist.	3464 Oct 19 04:06	29° <u>♂</u> 02'21	31.74693 AU
conjunction	3456 Oct 02 15:59	10° <u>♂</u> 32'41	14°30'07	conjunction	3464 Oct 21 15:26	29° <u>♂</u> 08'05	16°14'02
minimum elong	3456 Oct 02 15:38	10° <u>♂</u> 32'40	14°30'07	minimum elong	3464 Oct 21 15:14	29° <u>♂</u> 08'04	16°14'03
morning rise	3456 Oct 06 18:55	10° <u>♂</u> 41'38			3464 Nov 13 09:48	0° <u>♂</u>	
retrograde	3457 Jan 14 03:24	12° <u>♂</u> 57'16		retrograde	3465 Feb 02 08:14	1° <u>♂</u> 42'38	
opposition	3457 Apr 01 01:35	11° <u>♂</u> 38'07	15°34'30	opposition	3465 Apr 19 19:12	0° <u>♂</u> 20'54	17°22'20
min. Earth dist.	3457 Apr 03 17:54	11° <u>♂</u> 33'47	31.15734 AU	min. Earth dist.	3465 Apr 22 00:58	0° <u>♂</u> 17'10	29.75827 AU
direct	3457 Jun 20 02:48	10° <u>♂</u> 16'02			3465 May 02 10:19	30° <u>♂</u> <u>♂</u>	
evening set	3457 Oct 02 11:03	12° <u>♂</u> 39'06		direct	3465 Jul 08 14:13	28° <u>♂</u> 56'06	
max. Earth dist.	3457 Oct 02 06:24	12° <u>♂</u> 38'41	32.98576 AU		3465 Sep 10 09:12	0° <u>♂</u>	
				max. Earth dist.	3465 Oct 21 22:53	1° <u>♂</u> 29'59	31.59960 AU
conjunction	3457 Oct 05 04:20	12° <u>♂</u> 45'04	14°47'22	conjunction	3465 Oct 24 09:26	1° <u>♂</u> 35'41	16°20'46
minimum elong	3457 Oct 05 03:59	12° <u>♂</u> 45'02	14°47'21	minimum elong	3465 Oct 24 09:15	1° <u>♂</u> 35'40	16°20'45
morning rise	3457 Oct 07 20:50	12° <u>♂</u> 50'58		retrograde	3466 Feb 05 03:40	4° <u>♂</u> 11'12	
retrograde	3458 Jan 16 15:13	15° <u>♂</u> 11'00		opposition	3466 Apr 22 12:54	2° <u>♂</u> 49'12	17°28'58
opposition	3458 Apr 03 12:46	13° <u>♂</u> 51'28	15°52'38	min. Earth dist.	3466 Apr 24 17:40	2° <u>♂</u> 45'31	29.61620 AU
min. Earth dist.	3458 Apr 06 03:42	13° <u>♂</u> 47'12	30.95706 AU	direct	3466 Jul 11 06:54	1° <u>♂</u> 24'06	
direct	3458 Jun 22 12:17	12° <u>♂</u> 28'59		max. Earth dist.	3466 Oct 24 20:39	3° <u>♂</u> 59'16	31.46072 AU
max. Earth dist.	3458 Oct 04 19:53	14° <u>♂</u> 53'04	32.78661 AU				
conjunction	3458 Oct 07 17:20	14° <u>♂</u> 59'29	15°03'33	conjunction	3466 Oct 27 04:01	4° <u>♂</u> 04'41	16°25'52
minimum elong	3458 Oct 07 17:00	14° <u>♂</u> 59'27	15°03'33	minimum elong	3466 Oct 27 03:53	4° <u>♂</u> 04'40	16°25'52
retrograde	3459 Jan 19 05:12	17° <u>♂</u> 26'45		retrograde	3467 Feb 07 21:27	6° <u>♂</u> 41'06	
opposition	3459 Apr 06 00:49	16° <u>♂</u> 06'53	16°09'35	opposition	3467 Apr 25 07:22	5° <u>♂</u> 18'49	17°33'50
min. Earth dist.	3459 Apr 08 14:25	16° <u>♂</u> 02'41	30.76435 AU	min. Earth dist.	3467 Apr 27 09:56	5° <u>♂</u> 15'16	29.48251 AU
direct	3459 Jun 24 22:11	14° <u>♂</u> 44'01		direct	3467 Jul 14 01:42	3° <u>♂</u> 53'28	
max. Earth dist.	3459 Oct 07 11:57	17° <u>♂</u> 09'43	32.59504 AU	max. Earth dist.	3467 Oct 27 16:38	6° <u>♂</u> 29'36	31.33097 AU
conjunction	3459 Oct 10 07:06	17° <u>♂</u> 15'58	15°18'33	conjunction	3467 Oct 29 22:42	6° <u>♂</u> 34'56	16°29'17
minimum elong	3459 Oct 10 06:46	17° <u>♂</u> 15'56	15°18'33	minimum elong	3467 Oct 29 22:35	6° <u>♂</u> 34'55	16°29'17
retrograde	3460 Jan 21 18:15	19° <u>♂</u> 44'35		retrograde	3468 Feb 10 16:46	9° <u>♂</u> 12'11	
opposition	3460 Apr 07 13:51	18° <u>♂</u> 24'22	16°25'16	opposition	3468 Apr 27 02:19	7° <u>♂</u> 49'39	17°36'50
min. Earth dist.	3460 Apr 10 02:40	18° <u>♂</u> 20'13	30.57897 AU	min. Earth dist.	3468 Apr 29 02:52	7° <u>♂</u> 46'14	29.35817 AU
direct	3460 Jun 26 10:13	17° <u>♂</u> 01'09		direct	3468 Jul 15 19:41	6° <u>♂</u> 24'02	
max. Earth dist.	3460 Oct 09 03:29	19° <u>♂</u> 28'20	32.41106 AU	max. Earth dist.	3468 Oct 29 15:41	9° <u>♂</u> 01'20	31.21115 AU
conjunction	3460 Oct 11 21:37	19° <u>♂</u> 34'32	15°32'21	conjunction	3468 Oct 31 18:05	9° <u>♂</u> 06'20	16°30'56
minimum elong	3460 Oct 11 21:20	19° <u>♂</u> 34'30	15°32'22	minimum elong	3468 Oct 31 18:02	9° <u>♂</u> 06'19	16°30'57
retrograde	3461 Jan 23 10:51	22° <u>♂</u> 04'27		retrograde	3469 Feb 12 10:48	11° <u>♂</u> 44'18	
opposition	3461 Apr 10 03:28	20° <u>♂</u> 43'55	16°39'37	opposition	3469 Apr 29 21:46	10° <u>♂</u> 21'33	17°37'55
min. Earth dist.	3461 Apr 12 14:23	20° <u>♂</u> 39'53	30.40089 AU	min. Earth dist.	3469 May 01 20:20	10° <u>♂</u> 18'16	29.24380 AU
direct	3461 Jun 28 22:57	19° <u>♂</u> 20'22		direct	3469 Jul 18 14:39	8° <u>♂</u> 55'45	
max. Earth dist.	3461 Oct 11 20:33	21° <u>♂</u> 49'02	32.23421 AU	max. Earth dist.	3469 Nov 01 13:01	11° <u>♂</u> 33'55	31.10218 AU
conjunction	3461 Oct 14 13:08	21° <u>♂</u> 55'08	15°44'52	conjunction	3469 Nov 03 13:39	11° <u>♂</u> 38'45	16°30'47
minimum elong	3461 Oct 14 12:50	21° <u>♂</u> 55'06	15°44'51	minimum elong	3469 Nov 03 13:36	11° <u>♂</u> 38'45	16°30'47
retrograde	3462 Jan 26 02:29	24° <u>♂</u> 26'18		retrograde	3470 Feb 15 07:35	14° <u>♂</u> 17'24	
opposition	3462 Apr 12 18:16	23° <u>♂</u> 05'28	16°52'35	opposition	3470 May 02 17:47	12° <u>♂</u> 54'28	17°37'01
min. Earth dist.	3462 Apr 15 04:58	23° <u>♂</u> 01'26	30.22970 AU	min. Earth dist.	3470 May 04 13:10	12° <u>♂</u> 51'24	29.14037 AU
direct	3462 Jul 01 12:11	21° <u>♂</u> 41'36		direct	3470 Jul 21 09:25	11° <u>♂</u> 28'30	
max. Earth dist.	3462 Oct 14 14:22	24° <u>♂</u> 11'41	32.06454 AU	max. Earth dist.	3470 Nov 04 12:44	14° <u>♂</u> 07'40	31.00463 AU
conjunction	3462 Oct 17 05:11	24° <u>♂</u> 17'40	15°56'01	conjunction	3470 Nov 06 09:35	14° <u>♂</u> 12'09	16°28'45
minimum elong	3462 Oct 17 04:56	24° <u>♂</u> 17'39	15°56'02	minimum elong	3470 Nov 06 09:37	14° <u>♂</u> 12'09	16°28'45
retrograde	3463 Jan 28 20:40	26° <u>♂</u> 50'02			3470 Nov 26 15:35	15° <u>♂</u>	
opposition	3463 Apr 15 09:47	25° <u>♂</u> 28'54	17°04'04	retrograde	3471 Feb 18 01:41	16° <u>♂</u> 51'24	
min. Earth dist.	3463 Apr 17 18:15	25° <u>♂</u> 25'00	30.06540 AU	opposition	3471 May 05 14:26	15° <u>♂</u> 28'20	17°34'05
direct	3463 Jul 04 05:08	24° <u>♂</u> 04'42		min. Earth dist.	3471 May 07 07:52	15° <u>♂</u> 25'24	29.04822 AU
max. Earth dist.	3463 Oct 17 08:15	26° <u>♂</u> 36'07	31.90196 AU		3471 May 22 14:35	15° <u>♂</u> <u>♂</u>	
conjunction	3463 Oct 19 22:01	26° <u>♂</u> 42'02	16°05'46	direct	3471 Jul 24 05:27	14° <u>♂</u> 02'16	
minimum elong	3463 Oct 19 21:47	26° <u>♂</u> 42'01	16°05'46	max. Earth dist.	3471 Sep 21 23:05	15° <u>♂</u>	
retrograde	3464 Jan 31 13:58	29° <u>♂</u> 15'32			3471 Nov 07 11:15	16° <u>♂</u> 42'12	30.91903 AU
opposition	3464 Apr 17 02:09	27° <u>♂</u> 54'06	17°14'00	conjunction	3471 Nov 09 05:41	16° <u>♂</u> 46'27	16°24'49

minimum elong	3471 Nov 09 05:43	16° <del>M</del> 46'28	16°24'49	conjunction	3479 Nov 30 02:04	7° <del>7</del> 36'42	14°45'56
retrograde	3472 Feb 20 23:00	19° <del>M</del> 26'13		minimum elong	3479 Nov 30 02:22	7° <del>7</del> 36'44	14°45'57
opposition	3472 May 07 11:10	18° <del>M</del> 03'04	17°29'04	morning rise	3479 Dec 02 20:55	7° <del>7</del> 43'26	
min. Earth dist.	3472 May 09 00:58	18° <del>M</del> 00'24	28.96765 AU	retrograde	3480 Mar 12 19:38	10° <del>7</del> 16'51	
direct	3472 Jul 26 02:24	16° <del>M</del> 36'57		opposition	3480 May 28 18:17	8° <del>7</del> 53'43	15°36'31
max. Earth dist.	3472 Nov 09 11:06	19° <del>M</del> 17'40	30.84509 AU	min. Earth dist.	3480 May 29 11:13	8° <del>7</del> 52'32	28.70664 AU
				direct	3480 Aug 16 14:07	7° <del>7</del> 28'03	
conjunction	3472 Nov 11 02:07	19° <del>M</del> 21'36	16°18'58	evening set	3480 Nov 27 14:34	10° <del>7</del> 01'30	
minimum elong	3472 Nov 11 02:13	19° <del>M</del> 21'36	16°18'58				
retrograde	3473 Feb 22 18:41	22° <del>M</del> 01'48		conjunction	3480 Dec 01 21:45	10° <del>7</del> 11'53	14°25'36
opposition	3473 May 10 08:33	20° <del>M</del> 38'36	17°22'00	minimum elong	3480 Dec 01 22:05	10° <del>7</del> 11'55	14°25'35
min. Earth dist.	3473 May 11 20:47	20° <del>M</del> 36'02	28.89826 AU	max. Earth dist.	3480 Dec 01 06:00	10° <del>7</del> 10'18	30.64531 AU
direct	3473 Jul 28 21:50	19° <del>M</del> 12'28		morning rise	3480 Dec 06 05:26	10° <del>7</del> 22'19	
max. Earth dist.	3473 Nov 12 10:33	21° <del>M</del> 53'49	30.78259 AU	retrograde	3481 Mar 15 15:57	12° <del>7</del> 51'36	
				opposition	3481 May 31 15:53	11° <del>7</del> 28'31	15°13'55
conjunction	3473 Nov 13 22:40	21° <del>M</del> 57'27	16°11'13	min. Earth dist.	3481 Jun 01 05:05	11° <del>7</del> 27'36	28.72183 AU
minimum elong	3473 Nov 13 22:46	21° <del>M</del> 57'28	16°11'13	direct	3481 Aug 19 12:27	10° <del>7</del> 02'59	
retrograde	3474 Feb 25 16:14	24° <del>M</del> 37'59		evening set	3481 Nov 29 05:56	12° <del>7</del> 33'01	
opposition	3474 May 13 06:03	23° <del>M</del> 14'46	17°12'52				
min. Earth dist.	3474 May 14 14:39	23° <del>M</del> 12'27	28.83974 AU	conjunction	3481 Dec 04 17:07	12° <del>7</del> 46'11	14°03'37
direct	3474 Jul 31 21:04	21° <del>M</del> 48'39		minimum elong	3481 Dec 04 17:28	12° <del>7</del> 46'13	14°03'38
max. Earth dist.	3474 Nov 15 10:03	24° <del>M</del> 30'29	30.73102 AU	max. Earth dist.	3481 Dec 04 05:46	12° <del>7</del> 45'03	30.66968 AU
				morning rise	3481 Dec 10 04:37	12° <del>7</del> 59'22	
conjunction	3474 Nov 16 19:24	24° <del>M</del> 33'51	16°01'34	retrograde	3482 Mar 18 08:40	15° <del>7</del> 25'22	
minimum elong	3474 Nov 16 19:35	24° <del>M</del> 33'52	16°01'34	opposition	3482 Jun 03 13:23	14° <del>7</del> 02'22	14°49'34
retrograde	3475 Feb 28 12:59	27° <del>M</del> 14'37		min. Earth dist.	3482 Jun 04 00:08	14° <del>7</del> 01'37	28.74873 AU
opposition	3475 May 16 04:03	25° <del>M</del> 51'23	17°01'42	direct	3482 Aug 22 10:50	12° <del>7</del> 37'00	
min. Earth dist.	3475 May 17 10:54	25° <del>M</del> 49'12	28.79184 AU	evening set	3482 Dec 01 01:07	15° <del>7</del> 03'59	
direct	3475 Aug 03 18:31	24° <del>M</del> 25'19					
max. Earth dist.	3475 Nov 18 10:03	27° <del>M</del> 07'34	30.69032 AU	conjunction	3482 Dec 07 11:55	15° <del>7</del> 19'29	13°40'05
				minimum elong	3482 Dec 07 12:18	15° <del>7</del> 19'31	13°40'05
conjunction	3475 Nov 19 16:04	27° <del>M</del> 10'36	15°50'03	max. Earth dist.	3482 Dec 07 03:10	15° <del>7</del> 18'36	30.70632 AU
minimum elong	3475 Nov 19 16:15	27° <del>M</del> 10'37	15°50'03	morning rise	3482 Dec 13 23:05	15° <del>7</del> 34'59	
retrograde	3476 Mar 02 10:04	29° <del>M</del> 51'29		retrograde	3483 Mar 21 03:34	17° <del>7</del> 58'03	
opposition	3476 May 18 02:04	28° <del>M</del> 28'15	16°48'32	opposition	3483 Jun 06 10:25	16° <del>7</del> 35'12	14°23'33
min. Earth dist.	3476 May 19 05:30	28° <del>M</del> 26'19	28.75420 AU	min. Earth dist.	3483 Jun 06 16:48	16° <del>7</del> 34'45	28.78796 AU
direct	3476 Aug 05 17:50	27° <del>M</del> 02'14		direct	3483 Aug 25 08:31	15° <del>7</del> 10'02	
max. Earth dist.	3476 Nov 20 08:58	29° <del>M</del> 44'41	30.66004 AU	evening set	3483 Dec 02 22:19	17° <del>7</del> 34'11	
conjunction	3476 Nov 21 12:48	29° <del>M</del> 47'29	15°36'42	conjunction	3483 Dec 10 06:19	17° <del>7</del> 51'43	13°15'03
minimum elong	3476 Nov 21 13:03	29° <del>M</del> 47'31	15°36'41	minimum elong	3483 Dec 10 06:42	17° <del>7</del> 51'45	13°15'03
	3476 Nov 26 16:34	0° <del>7</del>		max. Earth dist.	3483 Dec 10 01:49	17° <del>7</del> 51'16	30.75533 AU
retrograde	3477 Mar 05 07:41	2° <del>7</del> 28'22		morning rise	3483 Dec 17 14:28	18° <del>7</del> 09'15	
opposition	3477 May 21 00:07	1° <del>7</del> 05'08	16°33'23	retrograde	3484 Mar 22 20:28	20° <del>7</del> 29'38	
min. Earth dist.	3477 May 22 01:29	1° <del>7</del> 03'21	28.72682 AU	opposition	3484 Jun 08 07:12	19° <del>7</del> 06'57	13°55'58
	3477 Jul 03 16:39	30° <del>R</del> <del>M</del>		min. Earth dist.	3484 Jun 08 11:17	19° <del>7</del> 06'40	28.83938 AU
direct	3477 Aug 08 15:49	29° <del>M</del> 39'12		direct	3484 Aug 27 04:25	17° <del>7</del> 42'03	
	3477 Sep 12 17:43	0° <del>7</del>		evening set	3484 Dec 03 21:16	20° <del>7</del> 03'32	
max. Earth dist.	3477 Nov 23 09:27	2° <del>7</del> 21'51	30.64030 AU				
				conjunction	3484 Dec 12 00:13	20° <del>7</del> 22'52	12°48'36
conjunction	3477 Nov 24 09:33	2° <del>7</del> 24'17	15°21'32	minimum elong	3484 Dec 12 00:37	20° <del>7</del> 22'54	12°48'35
minimum elong	3477 Nov 24 09:48	2° <del>7</del> 24'19	15°21'32	max. Earth dist.	3484 Dec 11 22:35	20° <del>7</del> 22'42	30.81660 AU
retrograde	3478 Mar 08 04:05	5° <del>7</del> 05'02		morning rise	3484 Dec 20 03:19	20° <del>7</del> 42'13	
opposition	3478 May 23 22:21	3° <del>7</del> 41'50	16°16'19	retrograde	3485 Mar 25 13:38	23° <del>7</del> 00'04	
min. Earth dist.	3478 May 24 20:45	3° <del>7</del> 40'15	28.70954 AU	opposition	3485 Jun 11 03:17	21° <del>7</del> 37'36	13°26'55
direct	3478 Aug 11 16:27	2° <del>7</del> 15'58		min. Earth dist.	3485 Jun 11 03:07	21° <del>7</del> 37'37	28.90263 AU
max. Earth dist.	3478 Nov 26 07:49	4° <del>7</del> 58'32	30.63103 AU	direct	3485 Aug 30 02:15	20° <del>7</del> 12'59	
				evening set	3485 Dec 05 21:08	22° <del>7</del> 31'55	
conjunction	3478 Nov 27 05:50	5° <del>7</del> 00'46	15°04'36				
minimum elong	3478 Nov 27 06:08	5° <del>7</del> 00'47	15°04'36	conjunction	3485 Dec 14 17:41	22° <del>7</del> 52'53	12°20'51
retrograde	3479 Mar 11 00:24	7° <del>7</del> 41'16		minimum elong	3485 Dec 14 18:04	22° <del>7</del> 52'56	12°20'52
opposition	3479 May 26 20:27	6° <del>7</del> 18'06	15°57'20	max. Earth dist.	3485 Dec 14 19:34	22° <del>7</del> 53'05	30.88940 AU
min. Earth dist.	3479 May 27 15:58	6° <del>7</del> 16'43	28.70276 AU	morning rise	3485 Dec 23 14:15	23° <del>7</del> 13'52	
direct	3479 Aug 14 14:22	4° <del>7</del> 52'19		retrograde	3486 Mar 28 05:56	25° <del>7</del> 29'20	
evening set	3479 Nov 27 07:44	7° <del>7</del> 30'01		opposition	3486 Jun 13 23:17	24° <del>7</del> 07'05	12°56'30
max. Earth dist.	3479 Nov 29 08:12	7° <del>7</del> 34'54	30.63259 AU	min. Earth dist.	3486 Jun 13 20:51	24° <del>7</del> 07'15	28.97723 AU
				direct	3486 Sep 01 21:30	22° <del>7</del> 42'48	

evening set	3486 Dec 07 21:50	24° $\nearrow$ 59'16		max. Earth dist.	3493 Jan 01 00:13	9° $\searrow$ 46'18	31.67211 AU
				morning rise	3493 Jan 12 16:43	10° $\searrow$ 12'49	
conjunction	3486 Dec 17 10:25	25° $\nearrow$ 21'43	11°51'54	retrograde	3493 Apr 13 12:36	12° $\searrow$ 13'47	
minimum elong	3486 Dec 17 10:49	25° $\nearrow$ 21'45	11°51'54	min. Earth dist.	3493 Jun 30 05:20	10° $\searrow$ 54'47	29.76603 AU
max. Earth dist.	3486 Dec 17 15:30	25° $\nearrow$ 22'13	30.97329 AU	opposition	3493 Jul 01 02:44	10° $\searrow$ 53'22	8°55'36
morning rise	3486 Dec 26 22:55	25° $\nearrow$ 44'09		direct	3493 Sep 19 10:49	9° $\searrow$ 31'30	
retrograde	3487 Mar 30 22:29	27° $\nearrow$ 57'19		evening set	3493 Dec 20 14:56	11° $\searrow$ 32'45	
opposition	3487 Jun 16 18:40	26° $\nearrow$ 35'20	12°24'52				
min. Earth dist.	3487 Jun 16 12:33	26° $\nearrow$ 35'45	29.06238 AU	conjunction	3494 Jan 02 14:37	12° $\searrow$ 01'59	8°04'34
direct	3487 Sep 04 18:09	25° $\nearrow$ 11'23		minimum elong	3494 Jan 02 14:56	12° $\searrow$ 02'01	8°04'34
evening set	3487 Dec 09 23:11	27° $\nearrow$ 25'29		max. Earth dist.	3494 Jan 03 14:10	12° $\searrow$ 04'12	31.81845 AU
				morning rise	3494 Jan 15 13:59	12° $\searrow$ 31'11	
conjunction	3487 Dec 20 02:43	27° $\nearrow$ 49'15	11°21'52	retrograde	3494 Apr 15 23:29	14° $\searrow$ 30'22	
minimum elong	3487 Dec 20 03:06	27° $\nearrow$ 49'17	11°21'53	opposition	3494 Jul 03 17:40	13° $\searrow$ 10'13	8°18'29
max. Earth dist.	3487 Dec 20 10:24	27° $\nearrow$ 50'00	31.06731 AU	min. Earth dist.	3494 Jul 02 16:22	13° $\searrow$ 11'53	29.91367 AU
morning rise	3487 Dec 30 06:10	28° $\nearrow$ 13'02		direct	3494 Sep 22 03:16	11° $\searrow$ 48'42	
	3488 Feb 24 06:04	0° $\searrow$		evening set	3494 Dec 22 17:48	13° $\searrow$ 48'02	
retrograde	3488 Apr 01 14:50	0° $\searrow$ 23'59					
	3488 May 10 09:35	30° $\nwarrow$		conjunction	3495 Jan 05 01:52	14° $\searrow$ 17'50	7°29'43
opposition	3488 Jun 18 13:28	29° $\nearrow$ 02'15	11°52'07	minimum elong	3495 Jan 05 02:10	14° $\searrow$ 17'51	7°29'42
min. Earth dist.	3488 Jun 18 05:01	29° $\nearrow$ 02'50	29.15759 AU	max. Earth dist.	3495 Jan 06 04:59	14° $\searrow$ 20'22	31.97360 AU
direct	3488 Sep 06 12:48	27° $\nearrow$ 38'39		morning rise	3495 Jan 18 09:29	14° $\searrow$ 47'35	
evening set	3488 Dec 11 01:10	29° $\nearrow$ 50'27		retrograde	3495 Apr 18 08:55	16° $\searrow$ 45'04	
	3488 Dec 15 03:58	0° $\searrow$		min. Earth dist.	3495 Jul 05 04:45	15° $\searrow$ 26'58	30.07054 AU
				opposition	3495 Jul 06 07:59	15° $\searrow$ 25'11	7°40'58
conjunction	3488 Dec 21 18:31	0° $\searrow$ 15'25	10°50'51	direct	3495 Sep 24 17:40	14° $\searrow$ 04'02	
minimum elong	3488 Dec 21 18:54	0° $\searrow$ 15'28	10°50'50	evening set	3495 Dec 24 20:55	16° $\searrow$ 01'33	
max. Earth dist.	3488 Dec 22 05:36	0° $\searrow$ 16'30	31.17102 AU				
morning rise	3489 Jan 01 11:31	0° $\searrow$ 40'23		conjunction	3496 Jan 07 12:29	16° $\searrow$ 31'48	6°54'31
retrograde	3489 Apr 04 06:26	2° $\searrow$ 49'13		minimum elong	3496 Jan 07 12:46	16° $\searrow$ 31'50	6°54'32
opposition	3489 Jun 21 07:49	1° $\searrow$ 27'45	11°18'22	max. Earth dist.	3496 Jan 08 17:55	16° $\searrow$ 34'33	32.13794 AU
min. Earth dist.	3489 Jun 20 20:31	1° $\searrow$ 28'31	29.26199 AU	morning rise	3496 Jan 21 03:37	17° $\searrow$ 02'01	
direct	3489 Sep 09 09:50	0° $\searrow$ 04'31		retrograde	3496 Apr 19 18:22	18° $\searrow$ 57'52	
evening set	3489 Dec 13 03:29	2° $\searrow$ 14'04		opposition	3496 Jul 07 21:12	17° $\searrow$ 38'18	7°03'09
				min. Earth dist.	3496 Jul 06 14:23	17° $\searrow$ 40'19	30.23658 AU
conjunction	3489 Dec 24 09:28	2° $\searrow$ 40'07	10°18'57	direct	3496 Sep 26 08:10	16° $\searrow$ 17'33	
minimum elong	3489 Dec 24 09:51	2° $\searrow$ 40'09	10°18'58	evening set	3496 Dec 26 00:03	18° $\searrow$ 13'20	
max. Earth dist.	3489 Dec 24 22:27	2° $\searrow$ 41'23	31.28361 AU				
morning rise	3490 Jan 04 15:19	3° $\searrow$ 06'09		conjunction	3497 Jan 08 22:21	18° $\searrow$ 43'58	6°19'05
retrograde	3490 Apr 06 21:48	5° $\searrow$ 12'55		minimum elong	3497 Jan 08 22:36	18° $\searrow$ 43'59	6°19'05
min. Earth dist.	3490 Jun 23 11:20	3° $\searrow$ 52'41	29.37534 AU	max. Earth dist.	3497 Jan 10 06:25	18° $\searrow$ 46'56	32.31108 AU
opposition	3490 Jun 24 01:37	3° $\searrow$ 51'43	10°43'44	morning rise	3497 Jan 22 20:18	19° $\searrow$ 14'35	
direct	3490 Sep 12 03:44	2° $\searrow$ 28'50		retrograde	3497 Apr 22 03:13	21° $\searrow$ 08'53	
evening set	3490 Dec 15 06:07	4° $\searrow$ 36'13		min. Earth dist.	3497 Jul 09 00:59	19° $\searrow$ 51'47	30.41160 AU
				opposition	3497 Jul 10 10:00	19° $\searrow$ 49'38	6°25'09
conjunction	3490 Dec 26 24:00	5° $\searrow$ 03'14	9°46'17	direct	3497 Sep 28 20:33	18° $\searrow$ 29'18	
minimum elong	3490 Dec 27 00:21	5° $\searrow$ 03'16	9°46'17	evening set	3497 Dec 28 03:01	20° $\searrow$ 23'25	
max. Earth dist.	3490 Dec 27 16:34	5° $\searrow$ 04'49	31.40484 AU				
morning rise	3491 Jan 07 17:23	5° $\searrow$ 30'12		conjunction	3498 Jan 11 07:26	20° $\searrow$ 54'22	5°43'29
retrograde	3491 Apr 09 11:05	7° $\searrow$ 34'59		minimum elong	3498 Jan 11 07:40	20° $\searrow$ 54'24	5°43'30
opposition	3491 Jun 26 18:44	6° $\searrow$ 14'03	10°08'19	max. Earth dist.	3498 Jan 12 18:26	20° $\searrow$ 57'35	32.49273 AU
min. Earth dist.	3491 Jun 26 02:21	6° $\searrow$ 15'09	29.49713 AU	morning rise	3498 Jan 25 11:20	21° $\searrow$ 25'17	
direct	3491 Sep 14 23:11	4° $\searrow$ 51'31		retrograde	3498 Apr 24 11:37	23° $\searrow$ 18'08	
evening set	3491 Dec 17 08:58	6° $\searrow$ 56'47		min. Earth dist.	3498 Jul 11 10:19	22° $\searrow$ 01'32	30.59480 AU
				opposition	3498 Jul 12 22:01	21° $\searrow$ 59'13	5°47'01
conjunction	3491 Dec 29 13:33	7° $\searrow$ 24'38	9°12'56	direct	3498 Oct 01 09:20	20° $\searrow$ 39'19	
minimum elong	3491 Dec 29 13:54	7° $\searrow$ 24'40	9°12'56	evening set	3498 Dec 30 06:12	22° $\searrow$ 31'52	
max. Earth dist.	3491 Dec 30 07:36	7° $\searrow$ 26'22	31.53436 AU				
morning rise	3492 Jan 10 17:56	7° $\searrow$ 52'28		conjunction	3499 Jan 13 15:48	23° $\searrow$ 03'03	5°07'49
retrograde	3492 Apr 11 01:51	9° $\searrow$ 55'18		minimum elong	3499 Jan 13 16:00	23° $\searrow$ 03'04	5°07'49
opposition	3492 Jun 28 11:04	8° $\searrow$ 34'38	9°32'15	max. Earth dist.	3499 Jan 15 04:34	23° $\searrow$ 06'24	32.68198 AU
min. Earth dist.	3492 Jun 27 15:18	8° $\searrow$ 35'57	29.62736 AU	morning rise	3499 Jan 28 01:12	23° $\searrow$ 34'12	
direct	3492 Sep 16 17:24	7° $\searrow$ 12'25		retrograde	3499 Apr 26 20:49	25° $\searrow$ 25'40	
evening set	3492 Dec 18 11:50	9° $\searrow$ 15'39		min. Earth dist.	3499 Jul 13 18:54	24° $\searrow$ 09'34	30.78568 AU
				opposition	3499 Jul 15 09:16	24° $\searrow$ 07'06	5°08'53
conjunction	3492 Dec 31 02:33	9° $\searrow$ 44'15	8°39'00	direct	3499 Oct 03 19:29	22° $\searrow$ 47'37	
minimum elong	3492 Dec 31 02:53	9° $\searrow$ 44'17	8°38'59	evening set	3500 Jan 01 09:10	24° $\searrow$ 38'40	

conjunction	3500 Jan 15 23:36	25°310'01	4°32'09	retrograde	3506 May 11 08:47	9°30'06	
minimum elong	3500 Jan 15 23:47	25°310'02	4°32'09	min. Earth dist.	3506 Jul 28 17:38	8°16'56	32.27183 AU
max. Earth dist.	3500 Jan 17 15:29	25°313'37	32.87817 AU	opposition	3506 Jul 30 20:36	8°13'48	0°47'34
morning rise	3500 Jan 30 13:33	25°341'21		direct	3506 Oct 19 15:25	6°57'06	
retrograde	3500 Apr 29 04:12	27°331'29		evening set	3507 Jan 15 05:02	8°39'21	
min. Earth dist.	3500 Jul 16 03:59	26°315'49	30.98309 AU				
opposition	3500 Jul 17 19:52	26°313'16	4°30'49	conjunction	3507 Jan 30 10:54	9°10'18	0°27'53
direct	3500 Oct 06 08:31	24°354'13		minimum elong	3507 Jan 30 10:55	9°10'18	0°27'52
evening set	3501 Jan 03 12:22	26°343'50		max. Earth dist.	3507 Feb 01 14:44	9°14'43	34.38768 AU
				morning rise	3507 Feb 14 16:39	9°41'14	
conjunction	3501 Jan 18 06:36	27°315'18	3°56'33	retrograde	3507 May 13 11:09	11°23'43	
minimum elong	3501 Jan 18 06:45	27°315'18	3°56'32	min. Earth dist.	3507 Jul 30 21:36	10°10'56	32.50221 AU
max. Earth dist.	3501 Jan 19 23:22	27°318'57	33.08028 AU	opposition	3507 Aug 02 02:06	10°07'43	0°11'43
morning rise	3501 Feb 02 00:41	27°346'44		direct	3507 Oct 21 21:37	8°51'24	
retrograde	3501 May 01 13:03	29°335'36		desc. node	3507 Dec 01 03:33	9°15'17	
min. Earth dist.	3501 Jul 18 10:56	28°320'26	31.18643 AU	evening set	3508 Jan 17 07:20	10°32'39	
opposition	3501 Jul 20 05:40	28°317'44	3°52'54				
direct	3501 Oct 08 19:24	26°359'06		conjunction	3508 Feb 01 13:05	11°03'21	-0°05'44
evening set	3502 Jan 05 15:25	28°347'21		minimum elong	3508 Feb 01 13:05	11°03'21	0°05'43
				behind sun begin	3508 Feb 01 06:58	11°02'51	
conjunction	3502 Jan 20 13:07	29°318'51	3°21'06	behind sun end	3508 Feb 01 19:12	11°03'50	
minimum elong	3502 Jan 20 13:15	29°318'52	3°21'06	max. Earth dist.	3508 Feb 03 17:49	11°07'48	34.62063 AU
max. Earth dist.	3502 Jan 22 08:44	29°322'44	33.28765 AU	morning rise	3508 Feb 16 19:07	11°34'03	
morning rise	3502 Feb 04 10:28	29°350'20		retrograde	3508 May 14 14:41	13°15'41	
	3502 Feb 09 03:09	0°		min. Earth dist.	3508 Jul 31 23:52	12°03'22	32.73764 AU
retrograde	3502 May 03 18:08	1°38'00		opposition	3508 Aug 03 06:59	12°00'00	-0°23'38
min. Earth dist.	3502 Jul 20 19:29	0°23'13	31.39489 AU	direct	3508 Oct 23 01:14	10°44'04	
opposition	3502 Jul 22 15:01	0°20'28	3°15'11	evening set	3509 Jan 18 09:20	12°24'24	
	3502 Aug 05 07:06	30°3					
direct	3502 Oct 11 05:54	29°302'16		conjunction	3509 Feb 02 14:46	12°54'49	-0°38'45
	3502 Dec 13 00:51	0°		minimum elong	3509 Feb 02 14:45	12°54'49	0°38'46
evening set	3503 Jan 07 18:25	0°49'12		max. Earth dist.	3509 Feb 04 22:15	12°59'28	34.85833 AU
				morning rise	3509 Feb 17 20:15	13°25'15	
conjunction	3503 Jan 22 18:48	1°20'41	2°45'51		3509 Apr 26 07:24	15°	
minimum elong	3503 Jan 22 18:54	1°20'42	2°45'50	retrograde	3509 May 16 15:34	15°06'06	
max. Earth dist.	3503 Jan 24 15:15	1°24'36	33.49966 AU		3509 Jun 06 06:57	15°	
morning rise	3503 Feb 06 19:03	1°52'10		min. Earth dist.	3509 Aug 03 03:19	13°54'09	32.97780 AU
retrograde	3503 May 05 23:05	3°38'40		opposition	3509 Aug 05 11:16	13°50'45	-0°58'27
min. Earth dist.	3503 Jul 23 01:08	2°24'23	31.60786 AU	direct	3509 Oct 25 07:26	12°35'14	
opposition	3503 Jul 24 23:27	2°21'28	2°37'44	evening set	3510 Jan 20 11:20	14°14'41	
direct	3503 Oct 13 16:23	1°03'39					
evening set	3504 Jan 09 21:23	2°49'20		conjunction	3510 Feb 04 15:47	14°44'48	-1°11'19
				minimum elong	3510 Feb 04 15:44	14°44'48	1°11'18
conjunction	3504 Jan 24 23:57	3°20'46	2°10'51	max. Earth dist.	3510 Feb 06 23:52	14°49'28	35.10054 AU
minimum elong	3504 Jan 25 00:02	3°20'46	2°10'52		3510 Feb 12 06:27	15°	
max. Earth dist.	3504 Jan 26 22:34	3°24'50	33.71563 AU	morning rise	3510 Feb 19 20:33	15°14'56	
morning rise	3504 Feb 09 02:24	3°52'11		retrograde	3510 May 18 17:41	16°55'03	
retrograde	3504 May 07 02:33	5°37'35		min. Earth dist.	3510 Aug 05 04:12	15°43'35	33.22245 AU
min. Earth dist.	3504 Jul 24 08:02	4°23'38	31.82499 AU	opposition	3510 Aug 07 14:51	15°40'03	-1°32'42
opposition	3504 Jul 26 07:09	4°20'42	2°00'37		3510 Sep 05 18:26	15°	
direct	3504 Oct 15 00:58	3°03'16		direct	3510 Oct 27 12:19	14°24'57	
evening set	3505 Jan 11 00:10	4°47'45			3510 Dec 15 23:46	15°	
				evening set	3511 Jan 22 13:02	16°03'36	
conjunction	3505 Jan 26 04:23	5°19'03	1°36'10				
minimum elong	3505 Jan 26 04:27	5°19'04	1°36'09	conjunction	3511 Feb 06 16:13	16°33'23	-1°43'22
max. Earth dist.	3505 Jan 28 04:19	5°23'13	33.93556 AU	minimum elong	3511 Feb 06 16:09	16°33'23	1°43'22
morning rise	3505 Feb 10 08:27	5°50'21		max. Earth dist.	3511 Feb 09 02:39	16°38'13	35.34662 AU
retrograde	3505 May 09 05:23	7°34'44		morning rise	3511 Feb 21 19:42	17°03'12	
min. Earth dist.	3505 Jul 26 12:50	6°21'12	32.04614 AU	retrograde	3511 May 20 17:31	18°42'38	
opposition	3505 Jul 28 14:10	6°18'08	1°23'53	min. Earth dist.	3511 Aug 07 06:48	17°31'32	33.47084 AU
direct	3505 Oct 17 09:36	5°01'04		opposition	3511 Aug 09 17:57	17°28'00	-2°06'21
evening set	3506 Jan 13 02:42	6°44'24		direct	3511 Oct 29 16:07	16°13'19	
				evening set	3512 Jan 24 14:43	17°51'12	
conjunction	3506 Jan 28 07:53	7°15'33	1°01'49				
minimum elong	3506 Jan 28 07:55	7°15'33	1°01'50	conjunction	3512 Feb 08 16:12	18°20'37	-2°14'52
max. Earth dist.	3506 Jan 30 09:18	7°19'48	34.15937 AU	minimum elong	3512 Feb 08 16:07	18°20'37	2°14'51
morning rise	3506 Feb 12 13:10	7°46'42		max. Earth dist.	3512 Feb 11 03:32	18°25'30	35.59594 AU

morning rise	3512 Feb 23 17:57	18° $\approx$ 50'04	evening set	3519 Feb 05 22:37	29° $\approx$ 48'12
retrograde	3512 May 21 15:26	20° $\approx$ 28'53		3519 Feb 12 08:22	0° $\mathbb{H}$
min. Earth dist.	3512 Aug 08 07:04	19° $\approx$ 18'15 33.72211 AU			
opposition	3512 Aug 10 20:08	19° $\approx$ 14'36 -2°39'23	conjunction	3519 Feb 20 01:37	0° $\mathbb{H}$ 14'25 -5°38'51
direct	3512 Oct 30 19:58	18° $\approx$ 00'21	minimum elong	3519 Feb 20 01:27	0° $\mathbb{H}$ 14'24 5°38'51
evening set	3513 Jan 25 16:23	19° $\approx$ 37'31	max. Earth dist.	3519 Feb 22 18:45	0° $\mathbb{H}$ 19'30 37.37318 AU
			morning rise	3519 Mar 06 05:12	0° $\mathbb{H}$ 40'41
conjunction	3513 Feb 09 15:36	20° $\approx$ 06'33 -2°45'48	retrograde	3519 Jun 02 23:10	2° $\mathbb{H}$ 16'04
minimum elong	3513 Feb 09 15:30	20° $\approx$ 06'33 2°45'49	min. Earth dist.	3519 Aug 21 02:34	1° $\mathbb{H}$ 07'43 35.51086 AU
max. Earth dist.	3513 Feb 12 04:02	20° $\approx$ 11'29 35.84754 AU	opposition	3519 Aug 23 21:19	1° $\mathbb{H}$ 03'52 -6°12'10
morning rise	3513 Feb 24 15:21	20° $\approx$ 35'37		3519 Oct 19 16:22	30° $\mathbb{R}$ $\approx$
retrograde	3513 May 23 14:48	22° $\approx$ 13'52	direct	3519 Nov 13 00:26	29° $\approx$ 52'04
min. Earth dist.	3513 Aug 10 08:11	21° $\approx$ 03'36 33.97566 AU		3519 Dec 06 18:48	0° $\mathbb{H}$
opposition	3513 Aug 12 22:06	20° $\approx$ 59'56 -3°11'46	evening set	3520 Feb 07 23:04	1° $\mathbb{H}$ 25'14
direct	3513 Nov 01 20:57	19° $\approx$ 46'05			
evening set	3514 Jan 27 17:42	21° $\approx$ 22'35	conjunction	3520 Feb 21 21:26	1° $\mathbb{H}$ 50'56 -6°05'30
			minimum elong	3520 Feb 21 21:16	1° $\mathbb{H}$ 50'55 6°05'30
conjunction	3514 Feb 11 14:31	21° $\approx$ 51'12 -3°16'10	max. Earth dist.	3520 Feb 24 15:17	1° $\mathbb{H}$ 56'02 37.62900 AU
minimum elong	3514 Feb 11 14:24	21° $\approx$ 51'12 3°16'09	morning rise	3520 Mar 06 20:38	2° $\mathbb{H}$ 16'40
max. Earth dist.	3514 Feb 14 04:25	21° $\approx$ 56'13 36.10085 AU	retrograde	3520 Jun 03 18:42	3° $\mathbb{H}$ 51'42
morning rise	3514 Feb 26 11:39	22° $\approx$ 19'51	min. Earth dist.	3520 Aug 21 23:38	2° $\mathbb{H}$ 43'37 35.76915 AU
retrograde	3514 May 25 12:59	23° $\approx$ 57'34	opposition	3520 Aug 24 19:11	2° $\mathbb{H}$ 39'46 -6°39'49
min. Earth dist.	3514 Aug 12 08:51	22° $\approx$ 47'39 34.23049 AU	direct	3520 Nov 13 22:13	1° $\mathbb{H}$ 28'16
opposition	3514 Aug 14 23:26	22° $\approx$ 43'58 -3°43'31	evening set	3521 Feb 08 23:11	3° $\mathbb{H}$ 01'01
direct	3514 Nov 03 22:31	21° $\approx$ 30'30			
evening set	3515 Jan 29 19:11	23° $\approx$ 06'23	conjunction	3521 Feb 22 16:55	3° $\mathbb{H}$ 26'10 -6°31'30
			minimum elong	3521 Feb 22 16:43	3° $\mathbb{H}$ 26'09 6°31'30
conjunction	3515 Feb 13 12:57	23° $\approx$ 34'33 -3°45'55	max. Earth dist.	3521 Feb 25 12:15	3° $\mathbb{H}$ 31'21 37.88619 AU
minimum elong	3515 Feb 13 12:49	23° $\approx$ 34'33 3°45'55	morning rise	3521 Mar 08 11:10	3° $\mathbb{H}$ 51'22
max. Earth dist.	3515 Feb 16 02:47	23° $\approx$ 39'31 36.35496 AU	retrograde	3521 Jun 05 12:54	5° $\mathbb{H}$ 26'04
morning rise	3515 Feb 28 07:24	24° $\approx$ 02'46	min. Earth dist.	3521 Aug 23 20:30	4° $\mathbb{H}$ 18'18 36.02869 AU
retrograde	3515 May 27 13:20	25° $\approx$ 39'58	opposition	3521 Aug 26 16:36	4° $\mathbb{H}$ 14'25 -7°06'46
min. Earth dist.	3515 Aug 14 08:05	24° $\approx$ 30'26 34.48613 AU	direct	3521 Nov 15 20:46	3° $\mathbb{H}$ 03'15
opposition	3515 Aug 17 00:05	24° $\approx$ 26'42 -4°14'36	evening set	3522 Feb 10 23:09	4° $\mathbb{H}$ 35'37
direct	3515 Nov 05 22:01	23° $\approx$ 13'36			
evening set	3516 Jan 31 20:21	24° $\approx$ 48'53	conjunction	3522 Feb 24 11:39	5° $\mathbb{H}$ 00'13 -6°56'51
			minimum elong	3522 Feb 24 11:28	5° $\mathbb{H}$ 00'12 6°56'51
conjunction	3516 Feb 15 11:02	25° $\approx$ 16'35 -4°15'05	max. Earth dist.	3522 Feb 27 06:56	5° $\mathbb{H}$ 05'21 38.14455 AU
minimum elong	3516 Feb 15 10:54	25° $\approx$ 16'35 4°15'04	morning rise	3522 Mar 10 01:02	5° $\mathbb{H}$ 24'52
max. Earth dist.	3516 Feb 18 02:34	25° $\approx$ 21'39 36.60939 AU	retrograde	3522 Jun 07 10:08	6° $\mathbb{H}$ 59'18
morning rise	3516 Mar 01 02:09	25° $\approx$ 44'21	min. Earth dist.	3522 Aug 25 15:52	5° $\mathbb{H}$ 51'52 36.28948 AU
retrograde	3516 May 28 11:42	27° $\approx$ 21'03	opposition	3522 Aug 28 13:34	5° $\mathbb{H}$ 47'55 -7°33'00
min. Earth dist.	3516 Aug 15 08:32	26° $\approx$ 11'47 34.74184 AU	direct	3522 Nov 17 15:36	4° $\mathbb{H}$ 37'05
opposition	3516 Aug 18 00:17	26° $\approx$ 08'04 -4°45'01	evening set	3523 Feb 12 22:55	6° $\mathbb{H}$ 09'07
direct	3516 Nov 06 22:54	24° $\approx$ 55'19			
evening set	3517 Feb 01 21:22	26° $\approx$ 30'02	conjunction	3523 Feb 26 06:15	6° $\mathbb{H}$ 33'10 -7°21'33
			minimum elong	3523 Feb 26 06:03	6° $\mathbb{H}$ 33'09 7°21'33
conjunction	3517 Feb 16 08:22	26° $\approx$ 57'16 -4°43'37	max. Earth dist.	3523 Mar 01 03:22	6° $\mathbb{H}$ 38'24 38.40382 AU
minimum elong	3517 Feb 16 08:13	26° $\approx$ 57'15 4°43'38	morning rise	3523 Mar 11 14:15	6° $\mathbb{H}$ 57'15
max. Earth dist.	3517 Feb 18 23:30	27° $\approx$ 02'15 36.86376 AU	retrograde	3523 Jun 09 05:25	8° $\mathbb{H}$ 31'27
morning rise	3517 Mar 02 20:02	27° $\approx$ 24'33	min. Earth dist.	3523 Aug 27 12:37	7° $\mathbb{H}$ 24'16 36.55094 AU
retrograde	3517 May 30 10:41	29° $\approx$ 00'47	opposition	3523 Aug 30 09:57	7° $\mathbb{H}$ 20'22 -7°58'32
min. Earth dist.	3517 Aug 17 06:20	27° $\approx$ 51'52 34.99763 AU	direct	3523 Nov 19 11:40	6° $\mathbb{H}$ 09'53
opposition	3517 Aug 19 23:50	27° $\approx$ 48'04 -5°14'45	evening set	3524 Feb 14 22:39	7° $\mathbb{H}$ 41'38
direct	3517 Nov 08 22:23	26° $\approx$ 35'38			
evening set	3518 Feb 03 22:10	28° $\approx$ 09'49	conjunction	3524 Feb 28 00:21	8° $\mathbb{H}$ 05'05 -7°45'36
			minimum elong	3524 Feb 28 00:09	8° $\mathbb{H}$ 05'05 7°45'36
conjunction	3518 Feb 18 05:19	28° $\approx$ 36'33 -5°11'33	max. Earth dist.	3524 Mar 01 21:10	8° $\mathbb{H}$ 10'16 38.66350 AU
minimum elong	3518 Feb 18 05:09	28° $\approx$ 36'32 5°11'33	morning rise	3524 Mar 12 02:48	8° $\mathbb{H}$ 28'37
max. Earth dist.	3518 Feb 20 21:54	28° $\approx$ 41'37 37.11817 AU	retrograde	3524 Jun 10 00:04	10° $\mathbb{H}$ 02'36
morning rise	3518 Mar 04 13:06	29° $\approx$ 03'20	min. Earth dist.	3524 Aug 28 06:58	8° $\mathbb{H}$ 55'48 36.81251 AU
	3518 Apr 07 23:58	0° $\mathbb{H}$	opposition	3524 Aug 31 05:53	8° $\mathbb{H}$ 51'49 -8°23'22
retrograde	3518 Jun 01 05:22	0° $\mathbb{H}$ 39'07	direct	3524 Nov 20 07:18	7° $\mathbb{H}$ 41'41
	3518 Jul 27 23:20	30° $\mathbb{R}$ $\approx$	evening set	3525 Feb 15 22:07	9° $\mathbb{H}$ 13'10
min. Earth dist.	3518 Aug 19 05:41	29° $\approx$ 30'26 35.25387 AU			
opposition	3518 Aug 21 22:57	29° $\approx$ 26'40 -5°43'48	conjunction	3525 Feb 28 17:58	9° $\mathbb{H}$ 36'04 -8°09'01
direct	3518 Nov 10 23:14	28° $\approx$ 14'33	minimum elong	3525 Feb 28 17:45	9° $\mathbb{H}$ 36'03 8°09'01

max. Earth dist.	3525 Mar 03 15:46	9° <del>11</del> 41'17	38.92282 AU	conjunction	3532 Mar 10 12:11	19° <del>11</del> 46'39	-10°35'39
morning rise	3525 Mar 13 14:39	9° <del>11</del> 59'00		minimum elong	3532 Mar 10 11:59	19° <del>11</del> 46'39	10°35'40
retrograde	3525 Jun 11 16:29	11° <del>11</del> 32'49		max. Earth dist.	3532 Mar 13 10:27	19° <del>11</del> 51'41	40.68881 AU
min. Earth dist.	3525 Aug 30 03:08	10° <del>10</del> 26'17	37.07360 AU	morning rise	3532 Mar 21 09:38	20° <del>10</del> 05'17	
opposition	3525 Sep 02 01:36	10° <del>10</del> 22'21	-8°47'31	retrograde	3532 Jun 21 08:57	21° <del>10</del> 38'25	
direct	3525 Nov 22 04:30	9° <del>10</del> 12'33		min. Earth dist.	3532 Sep 09 07:47	20° <del>10</del> 33'32	38.84799 AU
evening set	3526 Feb 17 21:34	10° <del>10</del> 43'49		opposition	3532 Sep 12 06:53	20° <del>10</del> 29'40	-11°18'08
				direct	3532 Dec 02 12:25	19° <del>10</del> 21'51	
conjunction	3526 Mar 02 11:26	11° <del>10</del> 06'07	-8°31'48	evening set	3533 Mar 01 13:49	20° <del>10</del> 52'03	
minimum elong	3526 Mar 02 11:14	11° <del>10</del> 06'06	8°31'48				
max. Earth dist.	3526 Mar 05 09:33	11° <del>10</del> 11'20	39.18136 AU	conjunction	3533 Mar 12 02:57	21° <del>10</del> 09'59	-10°54'11
morning rise	3526 Mar 15 01:55	11° <del>10</del> 28'28		minimum elong	3533 Mar 12 02:45	21° <del>10</del> 09'58	10°54'11
retrograde	3526 Jun 13 08:08	13° <del>10</del> 02'08		max. Earth dist.	3533 Mar 15 02:04	21° <del>10</del> 15'03	40.93436 AU
min. Earth dist.	3526 Aug 31 21:45	11° <del>10</del> 55'54	37.33342 AU	morning rise	3533 Mar 22 16:34	21° <del>10</del> 27'58	
opposition	3526 Sep 03 20:43	11° <del>10</del> 51'58	-9°10'59	retrograde	3533 Jun 22 21:52	23° <del>10</del> 01'05	
direct	3526 Nov 24 01:29	10° <del>10</del> 42'30		min. Earth dist.	3533 Sep 10 23:47	21° <del>10</del> 56'25	39.09524 AU
evening set	3527 Feb 19 20:58	12° <del>10</del> 13'33		opposition	3533 Sep 13 23:07	21° <del>10</del> 52'34	-11°37'04
				direct	3533 Dec 04 06:41	20° <del>10</del> 45'00	
conjunction	3527 Mar 04 04:25	12° <del>10</del> 35'15	-8°53'57	evening set	3534 Mar 03 12:10	22° <del>10</del> 15'09	
minimum elong	3527 Mar 04 04:12	12° <del>10</del> 35'14	8°53'57				
max. Earth dist.	3527 Mar 07 02:09	12° <del>10</del> 40'25	39.43819 AU	conjunction	3534 Mar 13 17:20	22° <del>10</del> 32'25	-11°12'07
morning rise	3527 Mar 16 12:47	12° <del>10</del> 57'01		minimum elong	3534 Mar 13 17:07	22° <del>10</del> 32'24	11°12'08
retrograde	3527 Jun 15 02:26	14° <del>10</del> 30'34		max. Earth dist.	3534 Mar 16 15:54	22° <del>10</del> 37'25	41.17919 AU
min. Earth dist.	3527 Sep 02 16:20	13° <del>10</del> 24'37	37.59143 AU	morning rise	3534 Mar 23 23:12	22° <del>10</del> 49'45	
opposition	3527 Sep 05 15:32	13° <del>10</del> 20'40	-9°33'47	retrograde	3534 Jun 24 14:00	24° <del>10</del> 22'53	
direct	3527 Nov 25 19:13	12° <del>10</del> 11'32		min. Earth dist.	3534 Sep 12 14:45	23° <del>10</del> 18'29	39.34193 AU
evening set	3528 Feb 21 20:11	13° <del>10</del> 42'24		opposition	3534 Sep 15 14:57	23° <del>10</del> 14'36	-11°55'22
				direct	3534 Dec 05 21:08	22° <del>10</del> 07'17	
conjunction	3528 Mar 04 21:16	14° <del>10</del> 03'29	-9°15'30	evening set	3535 Mar 05 10:16	23° <del>10</del> 37'25	
minimum elong	3528 Mar 04 21:04	14° <del>10</del> 03'28	9°15'30				
max. Earth dist.	3528 Mar 07 19:50	14° <del>10</del> 08'40	39.69285 AU	conjunction	3535 Mar 15 07:33	23° <del>10</del> 54'02	-11°29'27
morning rise	3528 Mar 16 22:56	14° <del>10</del> 24'39		minimum elong	3535 Mar 15 07:21	23° <del>10</del> 54'01	11°29'27
retrograde	3528 Jun 15 18:59	15° <del>10</del> 58'06		max. Earth dist.	3535 Mar 18 07:25	23° <del>10</del> 59'05	41.42331 AU
min. Earth dist.	3528 Sep 03 11:20	14° <del>10</del> 52'20	37.84689 AU	morning rise	3535 Mar 25 05:18	24° <del>10</del> 10'43	
opposition	3528 Sep 06 09:48	14° <del>10</del> 48'27	-9°55'57	retrograde	3535 Jun 26 05:16	25° <del>10</del> 43'52	
direct	3528 Nov 26 14:04	13° <del>10</del> 39'36		min. Earth dist.	3535 Sep 14 07:02	24° <del>10</del> 39'39	39.58760 AU
evening set	3529 Feb 22 19:25	15° <del>10</del> 10'18		opposition	3535 Sep 17 06:29	24° <del>10</del> 35'49	-12°13'02
				direct	3535 Dec 07 11:48	23° <del>10</del> 28'47	
conjunction	3529 Mar 06 13:36	15° <del>10</del> 30'47	-9°36'26	evening set	3536 Mar 06 08:27	24° <del>10</del> 58'54	
minimum elong	3529 Mar 06 13:23	15° <del>10</del> 30'46	9°36'25				
max. Earth dist.	3529 Mar 09 10:59	15° <del>10</del> 35'51	39.94498 AU	conjunction	3536 Mar 15 21:21	25° <del>10</del> 14'52	-11°46'12
morning rise	3529 Mar 18 08:36	15° <del>10</del> 51'19		minimum elong	3536 Mar 15 21:08	25° <del>10</del> 14'51	11°46'13
retrograde	3529 Jun 17 13:59	17° <del>10</del> 24'40		max. Earth dist.	3536 Mar 18 20:25	25° <del>10</del> 19'50	41.66634 AU
min. Earth dist.	3529 Sep 05 04:22	16° <del>10</del> 19'11	38.09994 AU	morning rise	3536 Mar 25 10:45	25° <del>10</del> 30'52	
opposition	3529 Sep 08 03:45	16° <del>10</del> 15'16	-10°17'27	retrograde	3536 Jun 26 21:19	27° <del>10</del> 04'06	
direct	3529 Nov 28 05:44	15° <del>10</del> 06'41		min. Earth dist.	3536 Sep 14 21:02	26° <del>10</del> 00'09	39.83196 AU
evening set	3530 Feb 24 18:09	16° <del>10</del> 37'13		opposition	3536 Sep 17 21:31	25° <del>10</del> 56'17	-12°30'06
				direct	3536 Dec 08 00:46	24° <del>10</del> 49'31	
conjunction	3530 Mar 08 05:30	16° <del>10</del> 57'05	-9°56'47	evening set	3537 Mar 08 06:29	26° <del>10</del> 19'41	
minimum elong	3530 Mar 08 05:18	16° <del>10</del> 57'04	9°56'47				
max. Earth dist.	3530 Mar 11 03:55	17° <del>10</del> 02'11	40.19468 AU	conjunction	3537 Mar 17 10:54	26° <del>10</del> 34'58	-12°02'23
morning rise	3530 Mar 19 17:32	17° <del>10</del> 17'00		minimum elong	3537 Mar 17 10:43	26° <del>10</del> 34'57	12°02'23
retrograde	3530 Jun 19 06:33	18° <del>10</del> 50'15		max. Earth dist.	3537 Mar 20 10:32	26° <del>10</del> 39'57	41.90780 AU
min. Earth dist.	3530 Sep 06 23:03	17° <del>10</del> 44'54	38.35075 AU	morning rise	3537 Mar 26 15:53	26° <del>10</del> 50'17	
opposition	3530 Sep 09 21:22	17° <del>10</del> 41'04	-10°38'20	retrograde	3537 Jun 28 10:26	28° <del>10</del> 23'37	
direct	3530 Nov 29 22:45	16° <del>10</del> 32'45		min. Earth dist.	3537 Sep 16 12:59	27° <del>10</del> 19'50	40.07459 AU
evening set	3531 Feb 26 16:58	18° <del>10</del> 03'09		opposition	3537 Sep 19 12:31	27° <del>10</del> 16'02	-12°46'33
				direct	3537 Dec 09 15:41	26° <del>10</del> 09'33	
conjunction	3531 Mar 09 21:05	18° <del>10</del> 22'22	-10°16'31	evening set	3538 Mar 10 04:31	27° <del>10</del> 39'46	
minimum elong	3531 Mar 09 20:52	18° <del>10</del> 22'21	10°16'30				
max. Earth dist.	3531 Mar 12 19:07	18° <del>10</del> 27'25	40.44248 AU	conjunction	3538 Mar 19 00:14	27° <del>10</del> 54'22	-12°18'01
morning rise	3531 Mar 21 01:49	18° <del>10</del> 41'39		minimum elong	3538 Mar 19 00:02	27° <del>10</del> 54'21	12°18'01
retrograde	3531 Jun 20 19:32	20° <del>10</del> 14'49		max. Earth dist.	3538 Mar 21 23:55	27° <del>10</del> 59'20	42.14728 AU
min. Earth dist.	3531 Sep 08 14:51	19° <del>10</del> 09'44	38.59988 AU	morning rise	3538 Mar 27 20:17	28° <del>10</del> 09'00	
opposition	3531 Sep 11 14:11	19° <del>10</del> 05'52	-10°58'33	retrograde	3538 Jun 29 20:57	29° <del>10</del> 42'26	
direct	3531 Dec 01 18:01	17° <del>10</del> 57'47		min. Earth dist.	3538 Sep 18 03:22	28° <del>10</del> 38'54	40.31471 AU
evening set	3532 Feb 28 15:31	19° <del>10</del> 28'05		opposition	3538 Sep 21 03:03	28° <del>10</del> 35'06	-13°02'26



direct	3538 Dec 11 08:59	27° $\text{H}$ 28'52	minimum elong	3545 Mar 27 14:22	6° $\text{V}$ 50'06	13°52'58
evening set	3539 Mar 12 02:44	28° $\text{H}$ 59'10	max. Earth dist.	3545 Mar 30 12:14	6° $\text{V}$ 54'46	43.73324 AU
conjunction	3539 Mar 20 13:21	29° $\text{H}$ 13'05 -12°33'06	morning rise	3545 Apr 02 11:29	6° $\text{V}$ 59'31	
minimum elong	3539 Mar 20 13:10	29° $\text{H}$ 13'04 12°33'05	retrograde	3545 Jul 08 09:19	8° $\text{V}$ 34'20	
max. Earth dist.	3539 Mar 23 12:03	29° $\text{H}$ 17'57 42.38391 AU	min. Earth dist.	3545 Sep 27 03:40	7° $\text{V}$ 31'55	41.90342 AU
morning rise	3539 Mar 29 00:27	29° $\text{H}$ 27'01	opposition	3545 Sep 30 00:23	7° $\text{V}$ 28'21	-14°38'32
	3539 Apr 18 22:50	0° $\text{V}$	direct	3545 Dec 20 09:22	6° $\text{V}$ 23'38	
retrograde	3539 Jul 01 10:21	1° $\text{V}$ 00'35	evening set	3546 Mar 23 16:57	7° $\text{V}$ 55'16	
	3539 Sep 17 13:23	30° $\text{R}$ $\text{H}$	conjunction	3546 Mar 29 01:37	8° $\text{V}$ 03'48	-14°04'31
min. Earth dist.	3539 Sep 19 17:52	29° $\text{H}$ 57'14 40.55183 AU	minimum elong	3546 Mar 29 01:27	8° $\text{V}$ 03'48	14°04'30
opposition	3539 Sep 22 17:14	29° $\text{H}$ 53'29 -13°17'45	max. Earth dist.	3546 Mar 31 22:10	8° $\text{V}$ 08'22	43.94935 AU
direct	3539 Dec 12 23:30	28° $\text{H}$ 47'29	morning rise	3546 Apr 03 10:21	8° $\text{V}$ 12'21	
	3540 Mar 01 21:03	0° $\text{V}$	retrograde	3546 Jul 09 23:14	9° $\text{V}$ 47'33	
evening set	3540 Mar 13 00:57	0° $\text{V}$ 17'54	min. Earth dist.	3546 Sep 28 15:09	8° $\text{V}$ 45'21	42.12038 AU
conjunction	3540 Mar 21 02:22	0° $\text{V}$ 31'06 -12°47'40	opposition	3546 Oct 01 12:32	8° $\text{V}$ 41'46	-14°50'09
minimum elong	3540 Mar 21 02:11	0° $\text{V}$ 31'06 12°47'40	direct	3546 Dec 21 19:21	7° $\text{V}$ 37'16	
max. Earth dist.	3540 Mar 24 01:32	0° $\text{V}$ 35'59 42.61723 AU	evening set	3547 Mar 25 17:02	9° $\text{V}$ 09'18	
morning rise	3540 Mar 29 04:03	0° $\text{V}$ 44'20	conjunction	3547 Mar 30 12:42	9° $\text{V}$ 16'56	-14°15'34
retrograde	3540 Jul 01 22:43	2° $\text{V}$ 18'03	minimum elong	3547 Mar 30 12:34	9° $\text{V}$ 16'56	14°15'34
min. Earth dist.	3540 Sep 20 09:06	1° $\text{V}$ 14'51 40.78523 AU	max. Earth dist.	3547 Apr 02 10:03	9° $\text{V}$ 21'31	44.16366 AU
opposition	3540 Sep 23 07:14	1° $\text{V}$ 11'09 -13°32'32	morning rise	3547 Apr 04 08:23	9° $\text{V}$ 24'34	
direct	3540 Dec 13 14:30	0° $\text{V}$ 05'24	retrograde	3547 Jul 11 11:15	11° $\text{V}$ 00'12	
evening set	3541 Mar 14 23:14	1° $\text{V}$ 35'56	min. Earth dist.	3547 Sep 30 04:17	9° $\text{V}$ 58'08	42.33537 AU
conjunction	3541 Mar 22 14:52	1° $\text{V}$ 48'24 -13°01'44	opposition	3547 Oct 03 00:19	9° $\text{V}$ 54'39	-15°01'15
minimum elong	3541 Mar 22 14:42	1° $\text{V}$ 48'24 13°01'43	direct	3547 Dec 23 06:20	8° $\text{V}$ 50'22	
max. Earth dist.	3541 Mar 25 12:35	1° $\text{V}$ 53'09 42.84683 AU	evening set	3548 Mar 26 18:10	10° $\text{V}$ 22'53	
morning rise	3541 Mar 30 06:51	2° $\text{V}$ 00'55	conjunction	3548 Mar 30 23:30	10° $\text{V}$ 29'33	-14°26'08
retrograde	3541 Jul 03 13:18	3° $\text{V}$ 34'47	minimum elong	3548 Mar 30 23:22	10° $\text{V}$ 29'33	14°26'07
min. Earth dist.	3541 Sep 21 22:17	2° $\text{V}$ 31'47 41.01488 AU	max. Earth dist.	3548 Apr 02 20:06	10° $\text{V}$ 34'04	44.37607 AU
opposition	3541 Sep 24 20:57	2° $\text{V}$ 28'06 -13°46'48	morning rise	3548 Apr 04 04:47	10° $\text{V}$ 36'13	
direct	3541 Dec 15 02:25	1° $\text{V}$ 22'33	retrograde	3548 Jul 11 21:45	12° $\text{V}$ 12'22	
evening set	3542 Mar 16 21:31	2° $\text{V}$ 53'13	min. Earth dist.	3548 Sep 30 15:08	11° $\text{V}$ 10'32	42.54817 AU
conjunction	3542 Mar 24 03:15	3° $\text{V}$ 04'58 -13°15'17	opposition	3548 Oct 03 11:52	11° $\text{V}$ 07'01	-15°11'51
minimum elong	3542 Mar 24 03:04	3° $\text{V}$ 04'57 13°15'17	direct	3548 Dec 23 17:03	10° $\text{V}$ 02'58	
max. Earth dist.	3542 Mar 27 01:19	3° $\text{V}$ 09'42 43.07271 AU	evening set	3549 Mar 28 20:41	11° $\text{V}$ 36'07	
morning rise	3542 Mar 31 09:15	3° $\text{V}$ 16'44	conjunction	3549 Apr 01 09:54	11° $\text{V}$ 41'42	-14°36'14
retrograde	3542 Jul 05 02:04	4° $\text{V}$ 50'47	minimum elong	3549 Apr 01 09:47	11° $\text{V}$ 41'42	14°36'15
min. Earth dist.	3542 Sep 23 13:08	3° $\text{V}$ 47'52 41.24099 AU	morning rise	3549 Apr 04 23:04	11° $\text{V}$ 47'16	
opposition	3542 Sep 26 10:20	3° $\text{V}$ 44'16 -14°00'31	max. Earth dist.	3549 Apr 04 06:18	11° $\text{V}$ 46'11	44.58603 AU
direct	3542 Dec 16 15:19	2° $\text{V}$ 38'55	retrograde	3549 Jul 13 07:38	13° $\text{V}$ 24'05	
evening set	3543 Mar 18 20:05	4° $\text{V}$ 09'45	min. Earth dist.	3549 Oct 02 03:43	12° $\text{V}$ 22'24	42.75840 AU
conjunction	3543 Mar 25 15:20	4° $\text{V}$ 20'45 -13°28'21	opposition	3549 Oct 04 23:25	12° $\text{V}$ 18'57	-15°21'57
minimum elong	3543 Mar 25 15:10	4° $\text{V}$ 20'44 13°28'21	direct	3549 Dec 25 04:35	11° $\text{V}$ 15'08	
max. Earth dist.	3543 Mar 28 12:45	4° $\text{V}$ 25'25 43.29542 AU	evening set	3550 Mar 31 02:28	12° $\text{V}$ 49'06	
morning rise	3543 Apr 01 10:45	4° $\text{V}$ 31'44	conjunction	3550 Apr 02 20:28	12° $\text{V}$ 53'25	-14°45'52
retrograde	3543 Jul 06 12:37	6° $\text{V}$ 06'00	minimum elong	3550 Apr 02 20:21	12° $\text{V}$ 53'24	14°45'52
min. Earth dist.	3543 Sep 25 01:39	5° $\text{V}$ 03'17 41.46403 AU	morning rise	3550 Apr 05 14:19	12° $\text{V}$ 57'42	
opposition	3543 Sep 27 23:15	4° $\text{V}$ 59'40 -14°13'43	max. Earth dist.	3550 Apr 05 16:56	12° $\text{V}$ 57'53	44.79323 AU
direct	3543 Dec 18 04:53	3° $\text{V}$ 54'31	retrograde	3550 Jul 14 16:01	14° $\text{V}$ 35'21	
evening set	3544 Mar 19 18:38	5° $\text{V}$ 25'34	min. Earth dist.	3550 Oct 03 15:20	13° $\text{V}$ 33'51	42.96532 AU
conjunction	3544 Mar 26 02:57	5° $\text{V}$ 35'47 -13°40'54	opposition	3550 Oct 06 10:27	13° $\text{V}$ 30'26	-15°31'36
minimum elong	3544 Mar 26 02:47	5° $\text{V}$ 35'46 13°40'54	direct	3550 Dec 26 17:55	12° $\text{V}$ 26'51	
max. Earth dist.	3544 Mar 28 23:54	5° $\text{V}$ 40'24 43.51532 AU	evening set	3551 Apr 02 15:38	14° $\text{V}$ 02'08	
morning rise	3544 Apr 01 11:29	5° $\text{V}$ 45'59	conjunction	3551 Apr 04 06:42	14° $\text{V}$ 04'41	-14°55'04
retrograde	3544 Jul 06 23:28	7° $\text{V}$ 20'31	minimum elong	3551 Apr 04 06:35	14° $\text{V}$ 04'40	14°55'05
min. Earth dist.	3544 Sep 25 14:54	6° $\text{V}$ 17'56 41.68474 AU	morning rise	3551 Apr 05 21:36	14° $\text{V}$ 07'12	
opposition	3544 Sep 28 11:58	6° $\text{V}$ 14'21 -14°26'24	max. Earth dist.	3551 Apr 07 01:35	14° $\text{V}$ 09'01	44.99685 AU
direct	3544 Dec 18 18:44	5° $\text{V}$ 09'24	retrograde	3551 Jul 16 03:24	15° $\text{V}$ 46'13	
evening set	3545 Mar 21 17:38	6° $\text{V}$ 40'43	min. Earth dist.	3551 Oct 05 02:41	14° $\text{V}$ 44'53	43.16843 AU
conjunction	3545 Mar 27 14:31	6° $\text{V}$ 50'06 -13°52'58	opposition	3551 Oct 07 21:25	14° $\text{V}$ 41'30	-15°40'48
			direct	3551 Dec 28 04:52	13° $\text{V}$ 38'07	

conjunction	3552 Apr 04 16:54	15°♈15'30	-15°03'51	retrograde	3560 Jul 25 14:54	25°♈59'46	
minimum elong	3552 Apr 04 16:48	15°♈15'29	15°03'51	min. Earth dist.	3560 Oct 15 01:08	24°♈59'25	44.81717 AU
max. Earth dist.	3552 Apr 07 12:02	15°♈19'50	45.19626 AU	opposition	3560 Oct 17 13:54	24°♈56'24	-16°44'46
retrograde	3552 Jul 16 14:58	16°♈56'37		direct	3561 Jan 06 20:50	23°♈54'26	
min. Earth dist.	3552 Oct 05 15:09	15°♈55'22	43.36694 AU				
opposition	3552 Oct 08 08:13	15°♈52'05	-15°49'34	conjunction	3561 Apr 15 03:04	25°♈28'04	-16°04'53
direct	3552 Dec 28 15:25	14°♈48'53		minimum elong	3561 Apr 15 03:01	25°♈28'03	16°04'53
				max. Earth dist.	3561 Apr 17 15:58	25°♈31'51	46.81959 AU
conjunction	3553 Apr 06 02:54	16°♈25'49	-15°12'14	retrograde	3561 Jul 26 22:52	27°♈05'32	
minimum elong	3553 Apr 06 02:48	16°♈25'49	15°12'15	min. Earth dist.	3561 Oct 16 10:48	26°♈05'17	44.98522 AU
max. Earth dist.	3553 Apr 08 20:21	16°♈30'02	45.39115 AU	opposition	3561 Oct 18 22:48	26°♈02'20	-16°49'49
retrograde	3553 Jul 18 03:34	18°♈06'30		direct	3562 Jan 08 06:28	25°♈00'32	
min. Earth dist.	3553 Oct 07 01:33	17°♈05'25	43.56078 AU				
opposition	3553 Oct 09 18:44	17°♈02'08	-15°57'55	conjunction	3562 Apr 16 11:25	26°♈33'49	-16°09'42
direct	3553 Dec 29 23:15	15°♈59'06		minimum elong	3562 Apr 16 11:23	26°♈33'49	16°09'43
				max. Earth dist.	3562 Apr 19 00:46	26°♈37'38	46.98505 AU
conjunction	3554 Apr 07 12:37	17°♈35'35	-15°20'13	retrograde	3562 Jul 28 06:22	28°♈10'59	
minimum elong	3554 Apr 07 12:32	17°♈35'35	15°20'13	min. Earth dist.	3562 Oct 17 20:47	27°♈10'50	45.14955 AU
max. Earth dist.	3554 Apr 10 05:29	17°♈39'44	45.58133 AU	opposition	3562 Oct 20 07:28	27°♈07'57	-16°54'29
retrograde	3554 Jul 19 12:19	19°♈15'49		direct	3563 Jan 09 17:12	26°♈06'20	
min. Earth dist.	3554 Oct 08 13:43	18°♈14'47	43.75006 AU				
opposition	3554 Oct 11 05:10	18°♈11'36	-16°05'52	conjunction	3563 Apr 17 19:39	27°♈39'18	-16°14'09
direct	3554 Dec 31 09:49	17°♈08'43		minimum elong	3563 Apr 17 19:37	27°♈39'17	16°14'08
				max. Earth dist.	3563 Apr 20 07:05	27°♈42'58	47.14664 AU
conjunction	3555 Apr 08 22:16	18°♈44'45	-15°27'49	retrograde	3563 Jul 29 17:21	29°♈16'08	
minimum elong	3555 Apr 08 22:10	18°♈44'44	15°27'49	min. Earth dist.	3563 Oct 19 05:12	28°♈16'09	45.30971 AU
max. Earth dist.	3555 Apr 11 14:48	18°♈48'52	45.76730 AU	opposition	3563 Oct 21 15:47	28°♈13'16	-16°58'48
retrograde	3555 Jul 20 18:01	20°♈24'31		direct	3564 Jan 10 23:40	27°♈11'50	
min. Earth dist.	3555 Oct 09 23:54	19°♈23'36	43.93522 AU				
opposition	3555 Oct 12 14:59	19°♈20'26	-16°13'24	conjunction	3564 Apr 18 03:49	28°♈44'28	-16°18'16
direct	3556 Jan 01 22:30	18°♈17'41		minimum elong	3564 Apr 18 03:47	28°♈44'28	16°18'17
				max. Earth dist.	3564 Apr 20 14:47	28°♈48'06	47.30367 AU
conjunction	3556 Apr 09 07:29	19°♈53'17	-15°35'00		3564 Jun 15 20:12	0°♈	
minimum elong	3556 Apr 09 07:25	19°♈53'17	15°35'00	retrograde	3564 Jul 30 02:30	0°♈21'00	
max. Earth dist.	3556 Apr 11 22:37	19°♈57'18	45.94952 AU		3564 Sep 13 03:12	30°♈♈	
retrograde	3556 Jul 21 02:48	21°♈32'38		min. Earth dist.	3564 Oct 19 15:49	29°♈21'04	45.46506 AU
min. Earth dist.	3556 Oct 10 10:06	20°♈31'48	44.11711 AU	opposition	3564 Oct 22 00:15	29°♈18'18	-17°02'46
opposition	3556 Oct 13 00:51	20°♈28'40	-16°20'31	direct	3565 Jan 11 06:44	28°♈17'01	
direct	3557 Jan 02 09:21	19°♈26'04					
				conjunction	3565 Apr 19 11:47	29°♈49'20	-16°22'04
conjunction	3557 Apr 10 16:32	21°♈01'13	-15°41'47	minimum elong	3565 Apr 19 11:47	29°♈49'20	16°22'03
minimum elong	3557 Apr 10 16:26	21°♈01'13	15°41'47	max. Earth dist.	3565 Apr 21 21:48	29°♈52'54	47.45588 AU
max. Earth dist.	3557 Apr 13 08:15	21°♈05'15	46.12874 AU		3565 Apr 26 17:43	0°♈	
retrograde	3557 Jul 22 11:04	22°♈40'10		retrograde	3565 Jul 31 08:51	1°♈25'32	
min. Earth dist.	3557 Oct 11 20:56	21°♈39'24	44.29603 AU	min. Earth dist.	3565 Oct 21 00:13	0°♈25'43	45.61528 AU
opposition	3557 Oct 14 10:30	21°♈36'20	-16°27'13	opposition	3565 Oct 23 08:25	0°♈22'58	-17°06'25
direct	3558 Jan 03 20:37	20°♈33'52			3565 Nov 12 09:43	30°♈♈	
				direct	3566 Jan 12 15:10	29°♈21'49	
conjunction	3558 Apr 12 01:26	22°♈08'36	-15°48'10		3566 Mar 12 17:47	0°♈	
minimum elong	3558 Apr 12 01:23	22°♈08'36	15°48'10				
max. Earth dist.	3558 Apr 14 15:55	22°♈12'33	46.30535 AU	conjunction	3566 Apr 20 19:37	0°♈53'49	-16°25'32
retrograde	3558 Jul 23 21:54	23°♈47'09		minimum elong	3566 Apr 20 19:35	0°♈53'49	16°25'33
min. Earth dist.	3558 Oct 13 05:40	22°♈46'33	44.47241 AU	max. Earth dist.	3566 Apr 23 03:52	0°♈57'16	47.60298 AU
opposition	3558 Oct 15 19:44	22°♈43'28	-16°33'29	retrograde	3566 Aug 01 15:19	2°♈29'41	
direct	3559 Jan 05 04:08	21°♈41'09		min. Earth dist.	3566 Oct 22 09:35	1°♈29'55	45.76064 AU
				opposition	3566 Oct 24 16:23	1°♈27'15	-17°09'44
conjunction	3559 Apr 13 10:11	23°♈15'30	-15°54'08	direct	3567 Jan 13 23:56	0°♈26'12	
minimum elong	3559 Apr 13 10:06	23°♈15'30	15°54'08				
max. Earth dist.	3559 Apr 16 00:37	23°♈19'25	46.47938 AU	conjunction	3567 Apr 22 03:25	1°♈57'53	-16°28'42
retrograde	3559 Jul 25 08:07	24°♈53'40		minimum elong	3567 Apr 22 03:26	1°♈57'53	16°28'42
min. Earth dist.	3559 Oct 14 16:19	23°♈53'09	44.64620 AU	max. Earth dist.	3567 Apr 24 11:41	2°♈01'19	47.74547 AU
opposition	3559 Oct 17 04:59	23°♈50'08	-16°39'20	retrograde	3567 Aug 02 20:42	3°♈33'26	
direct	3560 Jan 06 11:30	22°♈48'00		min. Earth dist.	3567 Oct 23 18:34	2°♈33'42	45.90144 AU
				opposition	3567 Oct 26 00:08	2°♈31'05	-17°12'43
conjunction	3560 Apr 13 18:43	24°♈21'58	-15°59'42	direct	3568 Jan 15 10:25	1°♈30'10	
minimum elong	3560 Apr 13 18:41	24°♈21'58	15°59'43				
max. Earth dist.	3560 Apr 16 08:53	24°♈25'51	46.65092 AU	conjunction	3568 Apr 22 10:45	3°♈01'31	-16°31'31

minimum elong	3568 Apr 22 10:44	3° <del>8</del> 01'31	16°31'32	min. Earth dist.	3576 Nov 01 16:48	11° <del>8</del> 52'07	47.02517 AU
max. Earth dist.	3568 Apr 24 17:18	3° <del>8</del> 04'50	47.88389 AU	opposition	3576 Nov 03 15:24	11° <del>8</del> 49'53	-17°24'17
retrograde	3568 Aug 03 05:32	4° <del>8</del> 36'44		direct	3577 Jan 23 22:38	10° <del>8</del> 50'01	
min. Earth dist.	3568 Oct 24 02:09	3° <del>8</del> 37'07	46.03859 AU				
opposition	3568 Oct 26 07:43	3° <del>8</del> 34'30	-17°15'22	conjunction	3577 May 02 00:48	12° <del>8</del> 19'00	-16°42'14
direct	3569 Jan 15 18:06	2° <del>8</del> 33'41		minimum elong	3577 May 02 00:51	12° <del>8</del> 19'00	16°42'15
				max. Earth dist.	3577 May 04 01:14	12° <del>8</del> 21'52	48.98991 AU
conjunction	3569 Apr 23 18:05	4° <del>8</del> 04'43	-16°34'01	retrograde	3577 Aug 12 18:20	13° <del>8</del> 51'49	
minimum elong	3569 Apr 23 18:06	4° <del>8</del> 04'43	16°34'02	min. Earth dist.	3577 Nov 03 00:28	12° <del>8</del> 52'50	47.13017 AU
max. Earth dist.	3569 Apr 26 00:41	4° <del>8</del> 08'02	48.01889 AU	opposition	3577 Nov 04 21:50	12° <del>8</del> 50'40	-17°24'02
retrograde	3569 Aug 04 15:12	5° <del>8</del> 39'38		direct	3578 Jan 25 07:25	11° <del>8</del> 50'53	
min. Earth dist.	3569 Oct 25 11:15	4° <del>8</del> 40'02	46.17256 AU				
opposition	3569 Oct 27 15:13	4° <del>8</del> 37'31	-17°17'40	conjunction	3578 May 03 07:16	13° <del>8</del> 19'37	-16°41'57
direct	3570 Jan 16 24:00	3° <del>8</del> 36'48		minimum elong	3578 May 03 07:20	13° <del>8</del> 19'37	16°41'57
				max. Earth dist.	3578 May 05 05:28	13° <del>8</del> 22'21	49.09242 AU
conjunction	3570 Apr 25 01:17	5° <del>8</del> 07'32	-16°36'11	retrograde	3578 Aug 14 00:33	14° <del>8</del> 52'11	
minimum elong	3570 Apr 25 01:17	5° <del>8</del> 07'32	16°36'11	min. Earth dist.	3578 Nov 04 07:29	13° <del>8</del> 53'15	47.23006 AU
max. Earth dist.	3570 Apr 27 07:10	5° <del>8</del> 10'47	48.15112 AU	opposition	3578 Nov 06 04:11	13° <del>8</del> 51'07	-17°23'31
retrograde	3570 Aug 05 22:52	6° <del>8</del> 42'08		direct	3579 Jan 26 14:44	12° <del>8</del> 51'25	
min. Earth dist.	3570 Oct 26 18:08	5° <del>8</del> 42'39	46.30370 AU				
opposition	3570 Oct 28 22:25	5° <del>8</del> 40'08	-17°19'36	conjunction	3579 May 04 13:41	14° <del>8</del> 19'55	-16°41'25
direct	3571 Jan 18 04:55	4° <del>8</del> 39'31		minimum elong	3579 May 04 13:44	14° <del>8</del> 19'55	16°41'25
				max. Earth dist.	3579 May 06 11:28	14° <del>8</del> 22'37	49.18988 AU
conjunction	3571 Apr 26 08:18	6° <del>8</del> 09'58	-16°38'00		3579 Jun 02 21:09	15° <del>8</del>	
minimum elong	3571 Apr 26 08:20	6° <del>8</del> 09'58	16°38'00	retrograde	3579 Aug 15 07:39	15° <del>8</del> 52'15	
max. Earth dist.	3571 Apr 28 13:04	6° <del>8</del> 13'09	48.28056 AU		3579 Oct 30 17:59	15° <del>8</del>	
retrograde	3571 Aug 07 04:31	7° <del>8</del> 44'17		min. Earth dist.	3579 Nov 05 15:38	14° <del>8</del> 53'17	47.32512 AU
min. Earth dist.	3571 Oct 28 02:23	6° <del>8</del> 44'52	46.43221 AU	opposition	3579 Nov 07 10:20	14° <del>8</del> 51'15	-17°22'44
opposition	3571 Oct 30 05:30	6° <del>8</del> 42'24	-17°21'12	direct	3580 Jan 27 21:40	13° <del>8</del> 51'37	
direct	3572 Jan 19 12:48	5° <del>8</del> 41'55			3580 Apr 20 14:39	15° <del>8</del>	
conjunction	3572 Apr 26 15:18	7° <del>8</del> 12'06	-16°39'29	conjunction	3580 May 04 19:55	15° <del>8</del> 19'53	-16°40'36
minimum elong	3572 Apr 26 15:19	7° <del>8</del> 12'06	16°39'28	minimum elong	3580 May 04 20:00	15° <del>8</del> 19'53	16°40'35
max. Earth dist.	3572 Apr 28 20:27	7° <del>8</del> 15'17	48.40746 AU	max. Earth dist.	3580 May 06 16:32	15° <del>8</del> 22'30	49.28307 AU
retrograde	3572 Aug 07 07:34	8° <del>8</del> 46'08		retrograde	3580 Aug 15 15:23	16° <del>8</del> 51'58	
min. Earth dist.	3572 Oct 28 10:02	7° <del>8</del> 46'49	46.55790 AU	min. Earth dist.	3580 Nov 05 21:29	15° <del>8</del> 53'05	47.41614 AU
opposition	3572 Oct 30 12:30	7° <del>8</del> 44'22	-17°22'27	opposition	3580 Nov 07 16:18	15° <del>8</del> 51'03	-17°21'39
direct	3573 Jan 19 23:08	6° <del>8</del> 44'01			3580 Dec 31 04:51	15° <del>8</del>	
				direct	3581 Jan 28 01:28	14° <del>8</del> 51'30	
conjunction	3573 Apr 27 21:56	8° <del>8</del> 13'56	-16°40'38		3581 Feb 24 17:23	15° <del>8</del>	
minimum elong	3573 Apr 27 21:59	8° <del>8</del> 13'56	16°40'38				
max. Earth dist.	3573 Apr 30 01:28	8° <del>8</del> 17'02	48.53159 AU	conjunction	3581 May 06 01:51	16° <del>8</del> 19'32	-16°39'30
retrograde	3573 Aug 08 15:36	9° <del>8</del> 47'44		minimum elong	3581 May 06 01:55	16° <del>8</del> 19'33	16°39'30
min. Earth dist.	3573 Oct 29 17:01	8° <del>8</del> 48'31	46.68068 AU	max. Earth dist.	3581 May 07 21:16	16° <del>8</del> 22'05	49.37242 AU
opposition	3573 Oct 31 19:25	8° <del>8</del> 46'06	-17°23'22	retrograde	3581 Aug 16 21:17	17° <del>8</del> 51'24	
direct	3574 Jan 21 06:10	7° <del>8</del> 45'52		min. Earth dist.	3581 Nov 07 05:07	16° <del>8</del> 52'31	47.50369 AU
				opposition	3581 Nov 08 22:19	16° <del>8</del> 50'34	-17°20'17
conjunction	3574 Apr 29 04:46	9° <del>8</del> 15'32	-16°41'28	direct	3582 Jan 29 06:48	15° <del>8</del> 51'05	
minimum elong	3574 Apr 29 04:48	9° <del>8</del> 15'32	16°41'28				
max. Earth dist.	3574 May 01 08:13	9° <del>8</del> 18'37	48.65246 AU	conjunction	3582 May 07 08:01	17° <del>8</del> 18'55	-16°38'07
retrograde	3574 Aug 09 23:58	10° <del>8</del> 49'06		minimum elong	3582 May 07 08:07	17° <del>8</del> 18'56	16°38'07
min. Earth dist.	3574 Oct 31 01:42	9° <del>8</del> 49'55	46.79988 AU	max. Earth dist.	3582 May 09 03:35	17° <del>8</del> 21'28	49.45858 AU
opposition	3574 Nov 02 02:08	9° <del>8</del> 47'35	-17°23'58	retrograde	3582 Aug 17 23:27	18° <del>8</del> 50'34	
direct	3575 Jan 22 12:53	8° <del>8</del> 47'29		min. Earth dist.	3582 Nov 08 11:17	17° <del>8</del> 51'45	47.58799 AU
				opposition	3582 Nov 10 03:56	17° <del>8</del> 49'49	-17°18'37
conjunction	3575 Apr 30 11:33	10° <del>8</del> 16'55	-16°42'00	direct	3583 Jan 30 15:13	16° <del>8</del> 50'25	
minimum elong	3575 Apr 30 11:36	10° <del>8</del> 16'56	16°42'01				
max. Earth dist.	3575 May 02 13:57	10° <del>8</del> 19'55	48.76964 AU	conjunction	3583 May 08 13:53	18° <del>8</del> 18'05	-16°36'27
retrograde	3575 Aug 11 07:30	11° <del>8</del> 50'14		minimum elong	3583 May 08 13:57	18° <del>8</del> 18'05	16°36'27
min. Earth dist.	3575 Nov 01 08:26	10° <del>8</del> 51'10	46.91491 AU	max. Earth dist.	3583 May 10 07:34	18° <del>8</del> 20'31	49.54174 AU
opposition	3575 Nov 03 08:43	10° <del>8</del> 48'51	-17°24'16	retrograde	3583 Aug 19 05:28	19° <del>8</del> 49'32	
direct	3576 Jan 23 17:32	9° <del>8</del> 48'52		min. Earth dist.	3583 Nov 09 17:16	18° <del>8</del> 50'48	47.66944 AU
				opposition	3583 Nov 11 09:38	18° <del>8</del> 48'53	-17°16'39
conjunction	3576 Apr 30 18:04	11° <del>8</del> 18'05	-16°42'15	direct	3584 Jan 31 21:42	17° <del>8</del> 49'34	
minimum elong	3576 Apr 30 18:07	11° <del>8</del> 18'05	16°42'15				
max. Earth dist.	3576 May 02 18:49	11° <del>8</del> 20'59	48.88222 AU	conjunction	3584 May 08 19:39	19° <del>8</del> 17'04	-16°34'29
retrograde	3576 Aug 11 14:25	12° <del>8</del> 51'09		minimum elong	3584 May 08 19:46	19° <del>8</del> 17'04	16°34'30

max. Earth dist.	3584 May 10 13:28	19° <b>♄</b> 19'30	49.62197 AU	opposition	3592 Nov 19 09:36	27° <b>♄</b> 34'53	-16°47'03
retrograde	3584 Aug 19 12:23	20° <b>♄</b> 48'21		direct	3593 Feb 08 20:24	26° <b>♄</b> 36'11	
min. Earth dist.	3584 Nov 10 00:35	19° <b>♄</b> 49'38	47.74783 AU				
opposition	3584 Nov 11 15:21	19° <b>♄</b> 47'48	-17°14'24	conjunction	3593 May 17 22:24	28° <b>♄</b> 02'23	-16°05'23
direct	3585 Feb 01 04:08	18° <b>♄</b> 48'35		minimum elong	3593 May 17 22:33	28° <b>♄</b> 02'23	16°05'23
				max. Earth dist.	3593 May 19 05:10	28° <b>♄</b> 04'09	50.15803 AU
conjunction	3585 May 10 01:28	20° <b>♄</b> 15'55	-16°32'15	retrograde	3593 Aug 28 12:44	29° <b>♄</b> 32'12	
minimum elong	3585 May 10 01:33	20° <b>♄</b> 15'55	16°32'15	min. Earth dist.	3593 Nov 19 09:08	28° <b>♄</b> 33'41	48.25852 AU
max. Earth dist.	3585 May 11 18:16	20° <b>♄</b> 18'17	49.69932 AU	opposition	3593 Nov 20 14:28	28° <b>♄</b> 32'19	-16°42'33
retrograde	3585 Aug 20 19:37	21° <b>♄</b> 47'02		direct	3594 Feb 10 02:44	27° <b>♄</b> 33'38	
min. Earth dist.	3585 Nov 11 05:53	20° <b>♄</b> 48'27	47.82309 AU				
opposition	3585 Nov 12 20:47	20° <b>♄</b> 46'36	-17°11'51	conjunction	3594 May 19 03:46	28° <b>♄</b> 59'42	-16°00'57
direct	3586 Feb 02 07:21	19° <b>♄</b> 47'30		minimum elong	3594 May 19 03:53	28° <b>♄</b> 59'42	16°00'57
				max. Earth dist.	3594 May 20 10:26	29° <b>♄</b> 01'27	50.19505 AU
conjunction	3586 May 11 07:10	21° <b>♄</b> 14'41	-16°29'44		3594 Jul 06 07:27	0° <b>♄</b>	
minimum elong	3586 May 11 07:17	21° <b>♄</b> 14'42	16°29'44	retrograde	3594 Aug 29 17:10	0° <b>♄</b> 29'23	
max. Earth dist.	3586 May 12 22:37	21° <b>♄</b> 16'58	49.77323 AU		3594 Oct 24 08:06	30° <b>♄</b>	
retrograde	3586 Aug 22 02:53	22° <b>♄</b> 45'39		opposition	3594 Nov 21 19:21	29° <b>♄</b> 29'31	-16°37'46
min. Earth dist.	3586 Nov 12 13:13	21° <b>♄</b> 47'05	47.89469 AU	min. Earth dist.	3594 Nov 20 15:39	29° <b>♄</b> 30'49	48.29314 AU
opposition	3586 Nov 14 02:20	21° <b>♄</b> 45'20	-17°09'02	direct	3595 Feb 11 09:42	28° <b>♄</b> 30'52	
direct	3587 Feb 03 10:09	20° <b>♄</b> 46'19					
				conjunction	3595 May 20 08:59	29° <b>♄</b> 56'48	-15°56'16
conjunction	3587 May 12 13:01	22° <b>♄</b> 13'23	-16°26'57	minimum elong	3595 May 20 09:09	29° <b>♄</b> 56'48	15°56'16
minimum elong	3587 May 12 13:07	22° <b>♄</b> 13'24	16°26'56	max. Earth dist.	3595 May 21 14:35	29° <b>♄</b> 58'29	50.22896 AU
max. Earth dist.	3587 May 14 04:16	22° <b>♄</b> 15'40	49.84321 AU		3595 May 22 17:02	0° <b>♄</b>	
retrograde	3587 Aug 23 06:01	23° <b>♄</b> 44'12		retrograde	3595 Aug 30 23:21	1° <b>♄</b> 26'21	
min. Earth dist.	3587 Nov 13 19:24	22° <b>♄</b> 45'41	47.96186 AU	opposition	3595 Nov 22 23:57	0° <b>♄</b> 26'32	-16°32'44
opposition	3587 Nov 15 07:36	22° <b>♄</b> 43'59	-17°05'58	min. Earth dist.	3595 Nov 21 20:01	0° <b>♄</b> 27'50	48.32470 AU
direct	3588 Feb 04 16:50	21° <b>♄</b> 45'04			3595 Dec 17 10:59	30° <b>♄</b>	
				direct	3596 Feb 12 13:48	29° <b>♄</b> 27'54	
conjunction	3588 May 12 18:41	23° <b>♄</b> 12'00	-16°23'56		3596 Apr 08 05:21	0° <b>♄</b>	
minimum elong	3588 May 12 18:48	23° <b>♄</b> 12'01	16°23'56				
max. Earth dist.	3588 May 14 07:42	23° <b>♄</b> 14'09	49.90857 AU	conjunction	3596 May 20 14:05	0° <b>♄</b> 53'44	-15°51'19
retrograde	3588 Aug 23 10:57	24° <b>♄</b> 42'40		minimum elong	3596 May 20 14:13	0° <b>♄</b> 53'45	15°51'19
min. Earth dist.	3588 Nov 14 01:48	23° <b>♄</b> 44'13	48.02420 AU	max. Earth dist.	3596 May 21 18:22	0° <b>♄</b> 55'21	50.25983 AU
opposition	3588 Nov 15 13:00	23° <b>♄</b> 42'33	-17°02'38	retrograde	3596 Aug 31 06:34	2° <b>♄</b> 23'10	
direct	3589 Feb 04 23:07	22° <b>♄</b> 43'43		min. Earth dist.	3596 Nov 22 02:26	1° <b>♄</b> 24'38	48.35334 AU
				opposition	3596 Nov 23 04:46	1° <b>♄</b> 23'24	-16°27'26
conjunction	3589 May 14 00:23	24° <b>♄</b> 10'31	-16°20'41	direct	3597 Feb 12 16:10	0° <b>♄</b> 24'49	
minimum elong	3589 May 14 00:30	24° <b>♄</b> 10'31	16°20'40				
max. Earth dist.	3589 May 15 12:47	24° <b>♄</b> 12'37	49.96869 AU	conjunction	3597 May 21 19:14	1° <b>♄</b> 50'34	-15°46'07
retrograde	3589 Aug 24 16:30	25° <b>♄</b> 41'02		minimum elong	3597 May 21 19:24	1° <b>♄</b> 50'35	15°46'07
min. Earth dist.	3589 Nov 15 09:15	24° <b>♄</b> 42'33	48.08098 AU	max. Earth dist.	3597 May 22 23:41	1° <b>♄</b> 52'11	50.28785 AU
opposition	3589 Nov 16 18:24	24° <b>♄</b> 40'59	-16°59'06	retrograde	3597 Sep 01 09:54	3° <b>♄</b> 19'53	
direct	3590 Feb 06 07:01	23° <b>♄</b> 42'12		min. Earth dist.	3597 Nov 23 07:31	2° <b>♄</b> 21'24	48.37879 AU
				opposition	3597 Nov 24 09:23	2° <b>♄</b> 20'11	-16°21'52
conjunction	3590 May 15 06:08	25° <b>♄</b> 08'51	-16°17'12	direct	3598 Feb 13 20:59	1° <b>♄</b> 21'40	
minimum elong	3590 May 15 06:15	25° <b>♄</b> 08'52	16°17'12				
max. Earth dist.	3590 May 16 16:51	25° <b>♄</b> 10'51	50.02341 AU	conjunction	3598 May 23 00:20	2° <b>♄</b> 47'21	-15°40'40
retrograde	3590 Aug 26 00:50	26° <b>♄</b> 39'12		minimum elong	3598 May 23 00:29	2° <b>♄</b> 47'21	15°40'39
opposition	3590 Nov 17 23:25	25° <b>♄</b> 39'13	-16°55'19	max. Earth dist.	3598 May 24 02:46	2° <b>♄</b> 48'51	50.31259 AU
min. Earth dist.	3590 Nov 16 14:42	25° <b>♄</b> 40'45	48.13232 AU	retrograde	3598 Sep 02 14:46	4° <b>♄</b> 16'34	
direct	3591 Feb 07 10:23	24° <b>♄</b> 40'28		opposition	3598 Nov 25 13:52	3° <b>♄</b> 16'57	-16°16'03
				min. Earth dist.	3598 Nov 24 12:54	3° <b>♄</b> 18'07	48.40084 AU
conjunction	3591 May 16 11:41	26° <b>♄</b> 06'58	-16°13'30	direct	3599 Feb 15 01:32	2° <b>♄</b> 18'28	
minimum elong	3591 May 16 11:49	26° <b>♄</b> 06'58	16°13'30				
max. Earth dist.	3591 May 17 20:42	26° <b>♄</b> 08'52	50.07275 AU	conjunction	3599 May 24 05:35	3° <b>♄</b> 44'06	-15°34'58
retrograde	3591 Aug 27 07:29	27° <b>♄</b> 37'08		minimum elong	3599 May 24 05:45	3° <b>♄</b> 44'07	15°34'59
min. Earth dist.	3591 Nov 17 21:58	26° <b>♄</b> 38'37	48.17862 AU	max. Earth dist.	3599 May 25 07:40	3° <b>♄</b> 45'35	50.33352 AU
opposition	3591 Nov 19 04:37	26° <b>♄</b> 37'11	-16°51'18	retrograde	3599 Sep 03 18:47	5° <b>♄</b> 13'16	
direct	3592 Feb 08 13:24	25° <b>♄</b> 38'28		opposition	3599 Nov 26 18:30	4° <b>♄</b> 13'43	-16°10'00
				min. Earth dist.	3599 Nov 25 19:22	4° <b>♄</b> 14'48	48.41869 AU
conjunction	3592 May 16 17:05	27° <b>♄</b> 04'48	-16°09'34	direct	3600 Feb 16 08:39	3° <b>♄</b> 15'18	
minimum elong	3592 May 16 17:12	27° <b>♄</b> 04'49	16°09'34				
max. Earth dist.	3592 May 18 01:54	27° <b>♄</b> 06'41	50.11743 AU	conjunction	3600 May 24 10:39	4° <b>♄</b> 40'53	-15°29'03
retrograde	3592 Aug 27 09:23	28° <b>♄</b> 34'48		minimum elong	3600 May 24 10:49	4° <b>♄</b> 40'53	15°29'02
min. Earth dist.	3592 Nov 18 03:34	27° <b>♄</b> 36'17	48.22041 AU	max. Earth dist.	3600 May 25 11:18	4° <b>♄</b> 42'17	50.35013 AU

retrograde	3600 Sep 04 02:09	6°II09'59
opposition	3600 Nov 26 23:02	5°II10'30 -16°03'43
min. Earth dist.	3600 Nov 26 00:13	5°II11'34 48.43183 AU
direct	3601 Feb 16 11:51	4°II12'07
conjunction	3601 May 25 15:53	5°II37'40 -15°22'55
minimum elong	3601 May 25 16:02	5°II37'40 15°22'56
max. Earth dist.	3601 May 26 14:41	5°II38'57 50.36163 AU
retrograde	3601 Sep 05 09:55	7°II06'42
min. Earth dist.	3601 Nov 27 07:08	6°II08'13 48.43975 AU
opposition	3601 Nov 28 03:38	6°II07'16 -15°57'13