

evening set	3100 Mar 09 15:53	3°♈39'10	morning rise	3106 May 05 00:04	29°♈14'57
				3106 May 18 21:54	0°♈
conjunction	3100 Mar 25 11:23	4°♈33'03 -0°43'29	retrograde	3106 Aug 07 11:02	2°♈21'49
minimum elong	3100 Mar 25 11:23	4°♈33'03 0°43'29	opposition	3106 Oct 24 07:00	0°♈22'20 -0°37'48
max. Earth dist.	3100 Mar 26 11:33	4°♈36'30 21.09402 AU	min. Earth dist.	3106 Oct 23 13:30	0°♈24'06 19.04803 AU
morning rise	3100 Apr 10 09:55	5°♈27'22		3106 Nov 02 13:24	30°♈
retrograde	3100 Jul 13 12:41	8°♈33'35	direct	3107 Jan 07 13:29	28°♈25'51
opposition	3100 Sep 29 12:56	6°♈34'46 -0°47'33		3107 Mar 10 22:54	0°♈
min. Earth dist.	3100 Sep 28 14:40	6°♈36'59 19.09917 AU	evening set	3107 Apr 07 01:14	1°♈23'57
direct	3100 Dec 14 05:49	4°♈38'39			
evening set	3101 Mar 13 20:16	7°♈36'49	conjunction	3107 Apr 23 02:27	2°♈18'29 -0°33'13
			minimum elong	3107 Apr 23 02:27	2°♈18'29 0°33'13
conjunction	3101 Mar 29 16:19	8°♈30'44 -0°42'36	max. Earth dist.	3107 Apr 23 20:08	2°♈21'00 21.03592 AU
minimum elong	3101 Mar 29 16:19	8°♈30'44 0°42'36	morning rise	3107 May 09 07:32	3°♈13'33
max. Earth dist.	3101 Mar 30 14:46	8°♈33'56 21.10211 AU	retrograde	3107 Aug 11 18:50	6°♈20'39
morning rise	3101 Apr 14 15:50	9°♈25'07	opposition	3107 Oct 28 13:40	4°♈21'00 -0°35'29
retrograde	3101 Jul 17 20:08	12°♈31'23	min. Earth dist.	3107 Oct 27 21:44	4°♈22'37 19.02340 AU
opposition	3101 Oct 03 20:21	10°♈32'32 -0°46'28	direct	3108 Jan 11 17:24	2°♈24'21
min. Earth dist.	3101 Oct 02 23:25	10°♈34'37 19.10448 AU	evening set	3108 Apr 10 07:01	5°♈22'43
direct	3101 Dec 18 10:36	8°♈36'28			
evening set	3102 Mar 18 00:35	11°♈34'29	conjunction	3108 Apr 26 09:23	6°♈17'25 -0°31'02
			minimum elong	3108 Apr 26 09:23	6°♈17'25 0°31'03
conjunction	3102 Apr 02 21:34	12°♈28'27 -0°41'31	max. Earth dist.	3108 Apr 27 03:16	6°♈19'57 21.00951 AU
minimum elong	3102 Apr 02 21:34	12°♈28'27 0°41'30	morning rise	3108 May 12 15:16	7°♈12'38
max. Earth dist.	3102 Apr 03 20:22	12°♈31'43 21.10447 AU	retrograde	3108 Aug 15 03:40	10°♈20'00
morning rise	3102 Apr 18 21:47	13°♈22'55	opposition	3108 Oct 31 20:13	8°♈20'13 -0°33'00
retrograde	3102 Jul 22 04:45	16°♈29'15	min. Earth dist.	3108 Oct 31 04:21	8°♈21'50 18.99514 AU
min. Earth dist.	3102 Oct 07 06:52	14°♈32'24 19.10380 AU	direct	3109 Jan 14 23:18	6°♈23'25
opposition	3102 Oct 08 03:38	14°♈30'19 -0°45'09	evening set	3109 Apr 14 13:29	9°♈22'07
direct	3102 Dec 22 16:45	12°♈34'16			
evening set	3103 Mar 22 05:04	15°♈32'10	conjunction	3109 Apr 30 16:38	10°♈16'59 -0°28'42
			minimum elong	3109 Apr 30 16:38	10°♈16'59 0°28'42
conjunction	3103 Apr 07 02:43	16°♈26'13 -0°40'14	max. Earth dist.	3109 May 01 08:28	10°♈19'14 20.97958 AU
minimum elong	3103 Apr 07 02:43	16°♈26'13 0°40'14	morning rise	3109 May 16 23:37	11°♈12'23
max. Earth dist.	3103 Apr 07 23:38	16°♈29'12 21.10094 AU	retrograde	3109 Aug 19 12:11	14°♈20'05
morning rise	3103 Apr 23 04:01	17°♈20'46	opposition	3109 Nov 05 02:55	12°♈20'11 -0°30'20
retrograde	3103 Jul 26 11:34	20°♈27'12	min. Earth dist.	3109 Nov 04 12:48	12°♈21'37 18.96357 AU
opposition	3103 Oct 12 10:52	18°♈28'10 -0°43'37	direct	3110 Jan 19 03:07	10°♈23'13
min. Earth dist.	3103 Oct 11 15:36	18°♈30'06 19.09741 AU	evening set	3110 Apr 18 20:19	13°♈22'20
direct	3103 Dec 26 21:11	16°♈32'02			
evening set	3104 Mar 25 09:41	19°♈29'53	conjunction	3110 May 05 00:37	14°♈17'24 -0°26'14
			minimum elong	3110 May 05 00:37	14°♈17'24 0°26'14
conjunction	3104 Apr 10 08:23	20°♈24'02 -0°38'45	max. Earth dist.	3110 May 05 16:29	14°♈19'40 20.94642 AU
minimum elong	3104 Apr 10 08:23	20°♈24'02 0°38'44		3110 May 17 11:42	15°♈
max. Earth dist.	3104 Apr 11 05:33	20°♈27'03 21.09181 AU	morning rise	3110 May 21 08:23	15°♈12'59
morning rise	3104 Apr 26 10:28	21°♈18'41	retrograde	3110 Aug 23 22:12	18°♈21'03
retrograde	3104 Jul 29 19:53	24°♈25'13	opposition	3110 Nov 09 09:46	16°♈21'03 -0°27'31
opposition	3104 Oct 15 17:36	22°♈26'03 -0°41'53	min. Earth dist.	3110 Nov 08 19:49	16°♈22'28 18.92868 AU
min. Earth dist.	3104 Oct 14 22:33	22°♈27'58 19.08555 AU		3110 Dec 15 22:16	15°♈
direct	3104 Dec 30 03:26	20°♈29'50	direct	3111 Jan 23 09:26	14°♈23'56
evening set	3105 Mar 29 14:41	23°♈27'41		3111 Mar 01 22:43	15°♈
			evening set	3111 Apr 23 03:49	17°♈23'32
conjunction	3105 Apr 14 14:06	24°♈21'57 -0°37'05			
minimum elong	3105 Apr 14 14:06	24°♈21'57 0°37'06	conjunction	3111 May 09 08:57	18°♈18'48 -0°23'37
max. Earth dist.	3105 Apr 15 09:20	24°♈24'41 21.07754 AU	minimum elong	3111 May 09 08:57	18°♈18'48 0°23'36
morning rise	3105 Apr 30 17:18	25°♈16'43	max. Earth dist.	3111 May 09 22:41	18°♈20'46 20.90996 AU
retrograde	3105 Aug 03 02:52	28°♈23'24	morning rise	3111 May 25 17:51	19°♈14'37
min. Earth dist.	3105 Oct 19 06:55	26°♈25'50 19.06897 AU	retrograde	3111 Aug 28 07:45	22°♈23'06
opposition	3105 Oct 20 00:25	26°♈24'04 -0°39'56	opposition	3111 Nov 13 17:00	20°♈22'59 -0°24'34
direct	3106 Jan 03 07:28	24°♈27'43	min. Earth dist.	3111 Nov 13 05:06	20°♈24'12 18.89052 AU
evening set	3106 Apr 02 19:40	27°♈25'40	direct	3112 Jan 27 13:38	18°♈25'43
			evening set	3112 Apr 26 12:03	21°♈25'53
conjunction	3106 Apr 18 20:07	28°♈20'03 -0°35'14			
minimum elong	3106 Apr 18 20:08	28°♈20'03 0°35'14	conjunction	3112 May 12 18:21	22°♈21'24 -0°20'52
max. Earth dist.	3106 Apr 19 15:42	28°♈22'50 21.05874 AU	minimum elong	3112 May 12 18:21	22°♈21'24 0°20'53

max. Earth dist.	3112 May 13 07:47	22° <b>8</b> 23'19	20.87010 AU	evening set	3118 May 22 06:23	16° <b>II</b> 09'02	
morning rise	3112 May 29 04:01	23° <b>8</b> 17'25					
retrograde	3112 Aug 31 19:07	26° <b>8</b> 26'20		conjunction	3118 Jun 07 18:21	17° <b>II</b> 06'09	-0°02'23
opposition	3112 Nov 17 00:12	24° <b>8</b> 26'10	-0°21'28	minimum elong	3118 Jun 07 18:21	17° <b>II</b> 06'09	0°02'22
min. Earth dist.	3112 Nov 16 12:50	24° <b>8</b> 27'20	18.84874 AU	behind sun begin	3118 Jun 07 11:38	17° <b>II</b> 05'12	
direct	3113 Jan 30 20:43	22° <b>8</b> 28'43		behind sun end	3118 Jun 08 01:05	17° <b>II</b> 07'06	
evening set	3113 Apr 30 21:14	25° <b>8</b> 29'32		max. Earth dist.	3118 Jun 07 20:36	17° <b>II</b> 06'25	20.54784 AU
				morning rise	3118 Jun 24 08:56	18° <b>II</b> 03'41	
conjunction	3113 May 17 04:20	26° <b>8</b> 25'17	-0°18'01	retrograde	3118 Sep 26 21:50	21° <b>II</b> 15'45	
minimum elong	3113 May 17 04:20	26° <b>8</b> 25'17	0°18'01	opposition	3118 Dec 12 04:11	19° <b>II</b> 14'41	-0°00'43
max. Earth dist.	3113 May 17 15:12	26° <b>8</b> 26'50	20.82646 AU	min. Earth dist.	3118 Dec 12 02:35	19° <b>II</b> 14'51	18.51517 AU
morning rise	3113 Jun 02 15:02	27° <b>8</b> 21'33		asc. node	3119 Feb 22 09:13	17° <b>II</b> 15'33	
	3113 Jul 31 14:15	0° <b>II</b>		direct	3119 Feb 24 19:31	17° <b>II</b> 15'23	
retrograde	3113 Sep 05 05:36	0° <b>II</b> 30'57		evening set	3119 May 26 20:15	20° <b>II</b> 21'18	
	3113 Oct 11 10:05	30° <b>R</b> 8					
opposition	3113 Nov 21 08:01	28° <b>8</b> 30'41	-0°18'14	conjunction	3119 Jun 12 08:59	21° <b>II</b> 18'43	0°01'01
min. Earth dist.	3113 Nov 20 23:06	28° <b>8</b> 31'37	18.80314 AU	minimum elong	3119 Jun 12 08:59	21° <b>II</b> 18'43	0°01'01
direct	3114 Feb 04 02:01	26° <b>8</b> 33'02		behind sun begin	3119 Jun 12 02:15	21° <b>II</b> 17'46	
evening set	3114 May 05 06:54	29° <b>8</b> 34'35		behind sun end	3119 Jun 12 15:43	21° <b>II</b> 19'40	
	3114 May 12 18:19	0° <b>II</b>		max. Earth dist.	3119 Jun 12 08:41	21° <b>II</b> 18'42	20.48244 AU
				morning rise	3119 Jun 29 00:21	22° <b>II</b> 16'32	
conjunction	3114 May 21 15:07	0° <b>II</b> 30'35	-0°15'03	retrograde	3119 Oct 01 11:12	25° <b>II</b> 29'10	
minimum elong	3114 May 21 15:07	0° <b>II</b> 30'35	0°15'03	opposition	3119 Dec 16 14:20	23° <b>II</b> 27'54	0°02'57
behind sun begin	3114 May 21 12:54	0° <b>II</b> 30'16		min. Earth dist.	3119 Dec 16 15:16	23° <b>II</b> 27'48	18.44886 AU
behind sun end	3114 May 21 17:21	0° <b>II</b> 30'54		direct	3120 Feb 29 04:23	21° <b>II</b> 28'12	
max. Earth dist.	3114 May 22 01:16	0° <b>II</b> 32'02	20.77883 AU	evening set	3120 May 30 10:57	24° <b>II</b> 35'09	
morning rise	3114 Jun 07 02:32	1° <b>II</b> 27'05					
retrograde	3114 Sep 09 18:07	4° <b>II</b> 37'00		conjunction	3120 Jun 16 00:38	25° <b>II</b> 32'53	0°04'22
opposition	3114 Nov 25 16:06	2° <b>II</b> 36'38	-0°14'54	minimum elong	3120 Jun 16 00:37	25° <b>II</b> 32'53	0°04'22
min. Earth dist.	3114 Nov 25 07:51	2° <b>II</b> 37'29	18.75331 AU	behind sun begin	3120 Jun 15 18:00	25° <b>II</b> 31'56	
direct	3115 Feb 08 09:58	0° <b>II</b> 38'44		behind sun end	3120 Jun 16 07:14	25° <b>II</b> 33'49	
evening set	3115 May 09 17:42	3° <b>II</b> 41'03		max. Earth dist.	3120 Jun 15 23:14	25° <b>II</b> 32'43	20.41541 AU
				morning rise	3120 Jul 02 16:31	26° <b>II</b> 30'57	
conjunction	3115 May 26 02:45	4° <b>II</b> 37'19	-0°11'59	retrograde	3120 Oct 05 02:58	29° <b>II</b> 44'11	
minimum elong	3115 May 26 02:44	4° <b>II</b> 37'19	0°11'59	opposition	3120 Dec 20 00:42	27° <b>II</b> 42'44	0°06'37
behind sun begin	3115 May 25 22:12	4° <b>II</b> 36'41		min. Earth dist.	3120 Dec 20 02:06	27° <b>II</b> 42'35	18.38120 AU
behind sun end	3115 May 26 07:17	4° <b>II</b> 37'57		direct	3121 Mar 04 15:56	25° <b>II</b> 42'37	
max. Earth dist.	3115 May 26 09:59	4° <b>II</b> 38'20	20.72688 AU	evening set	3121 Jun 04 02:38	28° <b>II</b> 50'40	
morning rise	3115 Jun 11 15:09	5° <b>II</b> 34'04					
retrograde	3115 Sep 14 05:38	8° <b>II</b> 44'30		conjunction	3121 Jun 20 16:57	29° <b>II</b> 48'42	0°07'39
opposition	3115 Nov 30 00:37	6° <b>II</b> 44'00	-0°11'28	minimum elong	3121 Jun 20 16:57	29° <b>II</b> 48'42	0°07'39
min. Earth dist.	3115 Nov 29 19:03	6° <b>II</b> 44'34	18.69925 AU	behind sun begin	3121 Jun 20 10:51	29° <b>II</b> 47'49	
direct	3116 Feb 12 16:45	4° <b>II</b> 45'47		behind sun end	3121 Jun 20 23:02	29° <b>II</b> 49'34	
evening set	3116 May 13 05:07	7° <b>II</b> 48'56		max. Earth dist.	3121 Jun 20 13:19	29° <b>II</b> 48'11	20.34726 AU
					3121 Jun 23 21:54	0° <b>III</b>	
conjunction	3116 May 29 15:18	8° <b>II</b> 45'29	-0°08'51	morning rise	3121 Jul 07 09:25	0° <b>III</b> 47'03	
minimum elong	3116 May 29 15:18	8° <b>II</b> 45'29	0°08'50	retrograde	3121 Oct 09 16:58	4° <b>III</b> 00'53	
behind sun begin	3116 May 29 09:33	8° <b>II</b> 44'41		opposition	3121 Dec 24 11:54	1° <b>III</b> 59'16	0°10'16
behind sun end	3116 May 29 21:03	8° <b>II</b> 46'18		min. Earth dist.	3121 Dec 24 15:40	1° <b>III</b> 58'52	18.31284 AU
max. Earth dist.	3116 May 29 21:25	8° <b>II</b> 46'21	20.67080 AU		3122 Mar 02 06:30	30° <b>R</b> II	
morning rise	3116 Jun 15 04:24	9° <b>II</b> 42'29		direct	3122 Mar 09 01:45	29° <b>II</b> 58'45	
retrograde	3116 Sep 17 19:00	12° <b>II</b> 53'27			3122 Mar 15 22:57	0° <b>III</b>	
opposition	3116 Dec 03 09:24	10° <b>II</b> 52'47	-0°07'56	evening set	3122 Jun 08 18:56	3° <b>III</b> 07'57	
min. Earth dist.	3116 Dec 03 04:35	10° <b>II</b> 53'17	18.64108 AU				
direct	3117 Feb 16 01:34	8° <b>II</b> 54'15		conjunction	3122 Jun 25 10:04	4° <b>III</b> 06'17	0°10'55
evening set	3117 May 17 17:26	11° <b>II</b> 58'16		minimum elong	3122 Jun 25 10:04	4° <b>III</b> 06'17	0°10'54
				behind sun begin	3122 Jun 25 05:01	4° <b>III</b> 05'33	
conjunction	3117 Jun 03 04:23	12° <b>II</b> 55'05	-0°05'39	behind sun end	3122 Jun 25 15:07	4° <b>III</b> 07'00	
minimum elong	3117 Jun 03 04:22	12° <b>II</b> 55'05	0°05'39	max. Earth dist.	3122 Jun 25 05:20	4° <b>III</b> 05'36	20.27881 AU
behind sun begin	3117 Jun 02 21:55	12° <b>II</b> 54'11		morning rise	3122 Jul 12 02:59	5° <b>III</b> 04'54	
behind sun end	3117 Jun 03 10:49	12° <b>II</b> 56'00		retrograde	3122 Oct 14 10:09	8° <b>III</b> 19'24	
max. Earth dist.	3117 Jun 03 07:38	12° <b>II</b> 55'31	20.61081 AU	opposition	3122 Dec 28 23:35	6° <b>III</b> 17'36	0°13'53
morning rise	3117 Jun 19 18:20	13° <b>II</b> 52'21		min. Earth dist.	3122 Dec 29 03:40	6° <b>III</b> 17'10	18.24435 AU
retrograde	3117 Sep 22 07:29	17° <b>II</b> 03'52		direct	3123 Mar 13 15:04	4° <b>III</b> 16'42	
opposition	3117 Dec 07 18:40	15° <b>II</b> 03'00	-0°04'21	evening set	3123 Jun 13 12:29	7° <b>III</b> 27'05	
min. Earth dist.	3117 Dec 07 16:29	15° <b>II</b> 03'14	18.57946 AU				
direct	3118 Feb 20 09:33	13° <b>II</b> 04'05		conjunction	3123 Jun 30 04:13	8° <b>III</b> 25'44	0°14'08

minimum elong	3123 Jun 30 04:13	8°☾25'44	0°14'09	morning rise	3129 Aug 13 06:57	6°♂05'54	
behind sun begin	3123 Jun 30 01:07	8°☾25'17		retrograde	3129 Nov 14 18:43	9°♂24'52	
behind sun end	3123 Jun 30 07:19	8°☾26'10		opposition	3130 Jan 28 05:28	7°♂22'27	0°36'35
max. Earth dist.	3123 Jun 29 21:32	8°☾24'45	20.21034 AU	min. Earth dist.	3130 Jan 28 20:29	7°♂20'50	17.77914 AU
morning rise	3123 Jul 16 21:34	9°☾24'38		direct	3130 Apr 13 03:06	5°♂18'59	
retrograde	3123 Oct 19 01:11	12°☾39'45		evening set	3130 Jul 15 19:02	8°♂38'22	
opposition	3124 Jan 02 11:54	10°☾37'51	0°17'27				
min. Earth dist.	3124 Jan 02 18:19	10°☾37'10	18.17613 AU	conjunction	3130 Aug 01 13:19	9°♂39'00	0°34'05
direct	3124 Mar 17 02:12	8°☾36'35		minimum elong	3130 Aug 01 13:19	9°♂39'00	0°34'05
evening set	3124 Jun 17 06:58	11°☾48'12		max. Earth dist.	3130 Jul 31 18:17	9°♂36'07	19.74728 AU
				morning rise	3130 Aug 18 07:16	10°♂39'37	
conjunction	3124 Jul 03 23:21	12°☾47'09	0°17'19	retrograde	3130 Nov 19 16:30	13°♂59'09	
minimum elong	3124 Jul 03 23:21	12°☾47'09	0°17'18	opposition	3131 Feb 01 23:00	11°♂56'36	0°39'10
max. Earth dist.	3124 Jul 03 15:14	12°☾45'58	20.14246 AU	min. Earth dist.	3131 Feb 02 14:50	11°♂54'53	17.71593 AU
morning rise	3124 Jul 20 17:02	13°☾46'20		direct	3131 Apr 17 23:12	9°♂52'42	
retrograde	3124 Oct 22 19:43	17°☾02'07		evening set	3131 Jul 20 20:09	13°♂13'19	
opposition	3125 Jan 06 00:53	15°☾00'07	0°20'57				
min. Earth dist.	3125 Jan 06 07:44	14°☾59'23	18.10853 AU	conjunction	3131 Aug 06 14:37	14°♂14'12	0°36'18
direct	3125 Mar 21 17:34	12°☾58'30		minimum elong	3131 Aug 06 14:37	14°♂14'12	0°36'18
evening set	3125 Jun 22 02:26	16°☾11'24		max. Earth dist.	3131 Aug 05 19:00	14°♂11'13	19.68489 AU
					3131 Aug 19 03:55	15°♂	
conjunction	3125 Jul 08 19:17	17°☾10'39	0°20'25	morning rise	3131 Aug 23 08:08	15°♂15'00	
minimum elong	3125 Jul 08 19:17	17°☾10'39	0°20'25	retrograde	3131 Nov 24 13:41	18°♂35'01	
max. Earth dist.	3125 Jul 08 09:32	17°☾09'13	20.07508 AU	opposition	3132 Feb 06 17:12	16°♂32'22	0°41'32
morning rise	3125 Jul 25 13:09	18°☾10'05		min. Earth dist.	3132 Feb 07 10:35	16°♂30'29	17.65469 AU
retrograde	3125 Oct 27 11:55	21°☾26'33			3132 Mar 17 14:51	15°♂♂	
opposition	3126 Jan 10 14:43	19°☾24'29	0°24'21	direct	3132 Apr 21 18:31	14°♂28'05	
min. Earth dist.	3126 Jan 10 23:53	19°☾23'30	18.04155 AU		3132 May 26 12:28	15°♂	
direct	3126 Mar 26 06:29	17°☾22'31		evening set	3132 Jul 24 22:04	17°♂49'53	
evening set	3126 Jun 26 22:58	20°☾36'44					
				conjunction	3132 Aug 10 16:20	18°♂50'59	0°38'17
conjunction	3126 Jul 13 16:16	21°☾36'17	0°23'25	minimum elong	3132 Aug 10 16:20	18°♂50'59	0°38'16
minimum elong	3126 Jul 13 16:16	21°☾36'17	0°23'25	max. Earth dist.	3132 Aug 09 18:24	18°♂47'38	19.62501 AU
max. Earth dist.	3126 Jul 13 04:42	21°☾34'33	20.00849 AU	morning rise	3132 Aug 27 09:39	19°♂51'58	
morning rise	3126 Jul 30 10:23	22°☾35'58		retrograde	3132 Nov 28 12:08	23°♂12'28	
retrograde	3126 Nov 01 07:53	25°☾53'06		opposition	3133 Feb 10 12:08	21°♂09'41	0°43'37
opposition	3127 Jan 15 05:06	23°☾50'58	0°27'38	min. Earth dist.	3133 Feb 11 06:16	21°♂07'43	17.59641 AU
min. Earth dist.	3127 Jan 15 14:58	23°☾49'54	17.97524 AU	direct	3133 Apr 26 15:55	19°♂05'00	
direct	3127 Mar 30 23:38	21°☾48'39		evening set	3133 Jul 30 00:16	22°♂27'57	
evening set	3127 Jul 01 20:37	25°☾04'10					
				conjunction	3133 Aug 15 18:32	23°♂29'15	0°40'02
conjunction	3127 Jul 18 14:21	26°☾04'02	0°26'19	minimum elong	3133 Aug 15 18:32	23°♂29'15	0°40'02
minimum elong	3127 Jul 18 14:21	26°☾04'02	0°26'19	max. Earth dist.	3133 Aug 14 20:48	23°♂25'55	19.56831 AU
max. Earth dist.	3127 Jul 18 01:13	26°☾02'04	19.94226 AU	morning rise	3133 Sep 01 11:15	24°♂30'23	
morning rise	3127 Aug 04 08:27	27°☾03'58		retrograde	3133 Dec 03 10:31	27°♂51'21	
	3127 Oct 08 09:50	0°♂		opposition	3134 Feb 15 07:46	25°♂48'27	0°45'26
retrograde	3127 Nov 06 01:55	0°♂21'44		min. Earth dist.	3134 Feb 16 02:44	25°♂46'23	17.54161 AU
	3127 Dec 05 01:40	30°♂☾		direct	3134 May 01 12:52	23°♂43'25	
opposition	3128 Jan 19 20:32	28°☾19'31	0°30'47	evening set	3134 Aug 04 03:20	27°♂07'28	
min. Earth dist.	3128 Jan 20 08:44	28°☾18'12	17.90927 AU				
direct	3128 Apr 03 14:59	26°☾16'51		conjunction	3134 Aug 20 21:12	28°♂08'57	0°41'31
evening set	3128 Jul 05 19:17	29°☾33'41		minimum elong	3134 Aug 20 21:12	28°♂08'57	0°41'30
	3128 Jul 13 04:42	0°♂		max. Earth dist.	3134 Aug 19 21:32	28°♂05'18	19.51558 AU
				morning rise	3134 Sep 06 13:34	29°♂10'13	
conjunction	3128 Jul 22 13:14	0°♂33'48	0°29'04		3134 Sep 20 18:13	0°♂	
minimum elong	3128 Jul 22 13:14	0°♂33'48	0°29'05	retrograde	3134 Dec 08 09:29	2°♂31'35	
max. Earth dist.	3128 Jul 21 21:45	0°♂31'28	19.87651 AU	opposition	3135 Feb 20 03:56	0°♂28'36	0°46'58
morning rise	3128 Aug 08 07:24	1°♂33'59		min. Earth dist.	3135 Feb 20 23:36	0°♂26'27	17.49125 AU
retrograde	3128 Nov 09 22:50	4°♂52'22			3135 Mar 03 03:23	30°♂♂	
opposition	3129 Jan 23 12:32	2°♂50'04	0°33'47	direct	3135 May 06 11:26	28°♂23'13	
min. Earth dist.	3129 Jan 24 01:34	2°♂48'39	17.84382 AU		3135 Jul 07 13:08	0°♂	
direct	3129 Apr 08 09:38	0°♂46'59		evening set	3135 Aug 09 06:47	1°♂48'20	
evening set	3129 Jul 10 18:47	4°♂05'07		max. Earth dist.	3135 Aug 25 01:24	2°♂46'24	19.46751 AU
conjunction	3129 Jul 27 13:01	5°♂05'30	0°31'40	conjunction	3135 Aug 26 00:30	2°♂49'58	0°42'44
minimum elong	3129 Jul 27 13:01	5°♂05'30	0°31'40	minimum elong	3135 Aug 26 00:30	2°♂49'58	0°42'44
max. Earth dist.	3129 Jul 26 20:24	5°♂03'00	19.81129 AU	morning rise	3135 Sep 11 16:08	3°♂51'22	

retrograde	3135 Dec 13 08:50	7° $\mathring{M}$ 13'05	evening set	3142 Sep 12 16:42	5° $\mathring{U}$ 07'02	
opposition	3136 Feb 25 00:53	5° $\mathring{M}$ 10'04 0°48'11	max. Earth dist.	3142 Sep 28 06:07	6° $\mathring{U}$ 05'19	19.28549 AU
min. Earth dist.	3136 Feb 25 20:43	5° $\mathring{M}$ 07'53 17.44572 AU				
direct	3136 May 10 09:51	3° $\mathring{M}$ 04'25	conjunction	3142 Sep 29 05:49	6° $\mathring{U}$ 09'03	0°43'01
evening set	3136 Aug 13 10:47	6° $\mathring{M}$ 30'31	minimum elong	3142 Sep 29 05:49	6° $\mathring{U}$ 09'03	0°43'00
max. Earth dist.	3136 Aug 29 03:22	7° $\mathring{M}$ 28'29 19.42466 AU	morning rise	3142 Oct 15 15:26	7° $\mathring{U}$ 10'35	
			retrograde	3143 Jan 15 09:46	10° $\mathring{U}$ 33'43	
conjunction	3136 Aug 30 03:54	7° $\mathring{M}$ 32'17 0°43'40	opposition	3143 Mar 29 20:38	8° $\mathring{U}$ 31'09	0°47'22
minimum elong	3136 Aug 30 03:54	7° $\mathring{M}$ 32'17 0°43'40	min. Earth dist.	3143 Mar 30 17:31	8° $\mathring{U}$ 28'52	17.28265 AU
morning rise	3136 Sep 15 18:57	8° $\mathring{M}$ 33'46	direct	3143 Jun 13 22:41	6° $\mathring{U}$ 24'49	
retrograde	3136 Dec 17 08:13	11° $\mathring{M}$ 55'51	evening set	3143 Sep 17 22:02	9° $\mathring{U}$ 55'26	
opposition	3137 Feb 28 22:31	9° $\mathring{M}$ 52'48 0°49'04	max. Earth dist.	3143 Oct 03 10:22	10° $\mathring{U}$ 53'37	19.28015 AU
min. Earth dist.	3137 Mar 01 18:57	9° $\mathring{M}$ 50'34 17.40581 AU				
direct	3137 May 15 09:41	7° $\mathring{M}$ 46'55	conjunction	3143 Oct 04 10:09	10° $\mathring{U}$ 57'22	0°41'50
evening set	3137 Aug 18 15:03	11° $\mathring{M}$ 13'58	minimum elong	3143 Oct 04 10:09	10° $\mathring{U}$ 57'22	0°41'50
max. Earth dist.	3137 Sep 03 08:07	12° $\mathring{M}$ 12'10 19.38762 AU	morning rise	3143 Oct 20 18:50	11° $\mathring{U}$ 58'50	
			retrograde	3144 Jan 20 12:16	15° $\mathring{U}$ 21'53	
conjunction	3137 Sep 04 07:49	12° $\mathring{M}$ 15'51 0°44'19	opposition	3144 Apr 02 21:54	13° $\mathring{U}$ 19'24	0°45'54
minimum elong	3137 Sep 04 07:49	12° $\mathring{M}$ 15'51 0°44'18	min. Earth dist.	3144 Apr 03 17:28	13° $\mathring{U}$ 17'16	17.27966 AU
morning rise	3137 Sep 20 22:02	13° $\mathring{M}$ 17'24	direct	3144 Jun 18 03:32	11° $\mathring{U}$ 13'03	
retrograde	3137 Dec 22 08:15	16° $\mathring{M}$ 39'48	evening set	3144 Sep 22 02:54	14° $\mathring{U}$ 43'48	
opposition	3138 Mar 05 20:42	14° $\mathring{M}$ 36'47 0°49'38				
min. Earth dist.	3138 Mar 06 16:41	14° $\mathring{M}$ 34'35 17.37167 AU	conjunction	3144 Oct 08 14:08	15° $\mathring{U}$ 45'40	0°40'22
direct	3138 May 20 10:05	12° $\mathring{M}$ 30'45	minimum elong	3144 Oct 08 14:08	15° $\mathring{U}$ 45'40	0°40'21
evening set	3138 Aug 23 19:46	15° $\mathring{M}$ 58'39	max. Earth dist.	3144 Oct 07 15:36	15° $\mathring{U}$ 42'07	19.27957 AU
max. Earth dist.	3138 Sep 08 11:16	16° $\mathring{M}$ 56'47 19.35642 AU	morning rise	3144 Oct 24 21:37	16° $\mathring{U}$ 47'01	
			retrograde	3145 Jan 24 11:51	20° $\mathring{U}$ 09'57	
conjunction	3138 Sep 09 11:53	17° $\mathring{M}$ 00'37 0°44'40	opposition	3145 Apr 07 23:36	18° $\mathring{U}$ 07'32	0°44'06
minimum elong	3138 Sep 09 11:53	17° $\mathring{M}$ 00'37 0°44'41	min. Earth dist.	3145 Apr 08 19:37	18° $\mathring{U}$ 05'21	17.28158 AU
morning rise	3138 Sep 26 01:23	18° $\mathring{M}$ 02'13	direct	3145 Jun 23 06:08	16° $\mathring{U}$ 01'10	
retrograde	3138 Dec 27 07:43	21° $\mathring{M}$ 24'53	evening set	3145 Sep 27 07:33	19° $\mathring{U}$ 31'57	
opposition	3139 Mar 10 19:36	19° $\mathring{M}$ 21'57 0°49'52				
min. Earth dist.	3139 Mar 11 16:24	19° $\mathring{M}$ 19'40 17.34341 AU	conjunction	3145 Oct 13 17:40	20° $\mathring{U}$ 33'41	0°38'37
direct	3139 May 25 11:10	17° $\mathring{M}$ 15'48	minimum elong	3145 Oct 13 17:40	20° $\mathring{U}$ 33'41	0°38'37
evening set	3139 Aug 29 00:47	20° $\mathring{M}$ 44'29	max. Earth dist.	3145 Oct 12 19:05	20° $\mathring{U}$ 30'07	19.28415 AU
			morning rise	3145 Oct 30 00:16	21° $\mathring{U}$ 34'55	
conjunction	3139 Sep 14 16:19	21° $\mathring{M}$ 46'30 0°44'43	retrograde	3146 Jan 29 13:30	24° $\mathring{U}$ 57'38	
minimum elong	3139 Sep 14 16:19	21° $\mathring{M}$ 46'30 0°44'42	opposition	3146 Apr 13 01:07	22° $\mathring{U}$ 55'16	0°42'00
max. Earth dist.	3139 Sep 13 16:20	21° $\mathring{M}$ 42'45 19.33095 AU	min. Earth dist.	3146 Apr 13 19:37	22° $\mathring{U}$ 53'15	17.28872 AU
morning rise	3139 Oct 01 04:54	22° $\mathring{M}$ 48'07	direct	3146 Jun 28 11:03	20° $\mathring{U}$ 48'55	
retrograde	3140 Jan 01 08:33	26° $\mathring{M}$ 11'00	evening set	3146 Oct 02 11:38	24° $\mathring{U}$ 19'35	
opposition	3140 Mar 14 19:00	24° $\mathring{M}$ 08'10 0°49'46				
min. Earth dist.	3140 Mar 15 15:06	24° $\mathring{M}$ 05'58 17.32058 AU	conjunction	3146 Oct 18 20:53	25° $\mathring{U}$ 21'12	0°36'35
direct	3140 May 29 13:54	22° $\mathring{M}$ 01'58	minimum elong	3146 Oct 18 20:54	25° $\mathring{U}$ 21'12	0°36'36
evening set	3140 Sep 02 06:06	25° $\mathring{M}$ 31'19	max. Earth dist.	3146 Oct 18 00:16	25° $\mathring{U}$ 17'56	19.29394 AU
			morning rise	3146 Nov 04 02:16	26° $\mathring{U}$ 22'16	
conjunction	3140 Sep 18 20:50	26° $\mathring{M}$ 33'21 0°44'27	retrograde	3147 Feb 03 12:28	29° $\mathring{U}$ 44'43	
minimum elong	3140 Sep 18 20:50	26° $\mathring{M}$ 33'21 0°44'28	opposition	3147 Apr 18 03:00	27° $\mathring{U}$ 42'24	0°39'36
max. Earth dist.	3140 Sep 17 20:31	26° $\mathring{M}$ 29'33 19.31074 AU	min. Earth dist.	3147 Apr 18 21:28	27° $\mathring{U}$ 40'24	17.30116 AU
morning rise	3140 Oct 05 08:28	27° $\mathring{M}$ 34'58	direct	3147 Jul 03 14:22	25° $\mathring{U}$ 36'05	
	3140 Nov 20 06:16	0° $\mathring{U}$	evening set	3147 Oct 07 15:16	29° $\mathring{U}$ 06'32	
retrograde	3141 Jan 05 08:15	0° $\mathring{U}$ 58'01		3147 Oct 21 20:57	0° $\mathring{M}$	
	3141 Feb 21 20:20	30° $\mathring{R}$ $\mathring{M}$				
opposition	3141 Mar 19 19:09	28° $\mathring{M}$ 55'17 0°49'19	conjunction	3147 Oct 23 23:16	0° $\mathring{M}$ 07'57	0°34'19
min. Earth dist.	3141 Mar 20 16:10	28° $\mathring{M}$ 52'59 17.30307 AU	minimum elong	3147 Oct 23 23:16	0° $\mathring{M}$ 07'57	0°34'19
direct	3141 Jun 03 16:05	26° $\mathring{M}$ 49'01	max. Earth dist.	3147 Oct 23 02:50	0° $\mathring{M}$ 04'44	19.30926 AU
	3141 Sep 02 06:40	0° $\mathring{U}$	morning rise	3147 Nov 09 03:43	1° $\mathring{M}$ 08'51	
evening set	3141 Sep 07 11:18	0° $\mathring{U}$ 18'55	retrograde	3148 Feb 08 12:46	4° $\mathring{M}$ 30'59	
max. Earth dist.	3141 Sep 23 01:13	1° $\mathring{U}$ 17'11 19.29575 AU	opposition	3148 Apr 22 04:47	2° $\mathring{M}$ 28'43	0°36'56
			min. Earth dist.	3148 Apr 22 21:27	2° $\mathring{M}$ 26'55	17.31936 AU
conjunction	3141 Sep 24 01:14	1° $\mathring{U}$ 20'57 0°43'53	direct	3148 Jul 07 19:33	0° $\mathring{M}$ 22'29	
minimum elong	3141 Sep 24 01:14	1° $\mathring{U}$ 20'57 0°43'53	evening set	3148 Oct 11 18:04	3° $\mathring{M}$ 52'34	
morning rise	3141 Oct 10 11:58	2° $\mathring{U}$ 22'32	max. Earth dist.	3148 Oct 27 07:22	4° $\mathring{M}$ 51'00	19.33044 AU
retrograde	3142 Jan 10 10:06	5° $\mathring{U}$ 45'40				
opposition	3142 Mar 24 19:40	3° $\mathring{U}$ 43'01 0°48'31	conjunction	3148 Oct 28 01:09	4° $\mathring{M}$ 53'49	0°31'49
min. Earth dist.	3142 Mar 25 15:40	3° $\mathring{U}$ 40'50 17.29045 AU	minimum elong	3148 Oct 28 01:09	4° $\mathring{M}$ 53'49	0°31'50
direct	3142 Jun 08 20:22	1° $\mathring{U}$ 36'43	morning rise	3148 Nov 13 04:22	5° $\mathring{M}$ 54'31	

retrograde	3149 Feb 12 11:05	9° $\mathbb{M}$ .16'16	morning rise	3154 Dec 11 17:52	4° $\mathbb{A}$ 04'59
opposition	3149 Apr 27 06:38	7° $\mathbb{M}$ .14'05 0°34'01	retrograde	3155 Mar 12 22:37	7° $\mathbb{A}$ 23'55
min. Earth dist.	3149 Apr 27 22:27	7° $\mathbb{M}$ .12'22 17.34353 AU	opposition	3155 May 26 13:44	5° $\mathbb{A}$ 22'54 0°12'49
direct	3149 Jul 12 23:29	5° $\mathbb{M}$ .07'59	min. Earth dist.	3155 May 26 19:32	5° $\mathbb{A}$ 22'17 17.60666 AU
evening set	3149 Oct 16 20:14	8° $\mathbb{M}$ .37'36	direct	3155 Aug 11 16:46	3° $\mathbb{A}$ 18'37
max. Earth dist.	3149 Nov 01 08:52	9° $\mathbb{M}$ .35'55 19.35780 AU	evening set	3155 Nov 14 17:17	6° $\mathbb{A}$ 43'47
conjunction	3149 Nov 02 02:05	9° $\mathbb{M}$ .38'37 0°29'07	conjunction	3155 Nov 30 16:47	7° $\mathbb{A}$ 43'13 0°09'46
minimum elong	3149 Nov 02 02:05	9° $\mathbb{M}$ .38'37 0°29'06	minimum elong	3155 Nov 30 16:48	7° $\mathbb{A}$ 43'13 0°09'47
morning rise	3149 Nov 18 04:25	10° $\mathbb{M}$ .39'07	behind sun begin	3155 Nov 30 11:21	7° $\mathbb{A}$ 42'23
retrograde	3150 Feb 17 10:00	14° $\mathbb{M}$ .00'29	behind sun end	3155 Nov 30 22:14	7° $\mathbb{A}$ 44'02
opposition	3150 May 02 08:17	11° $\mathbb{M}$ .58'24 0°30'53	max. Earth dist.	3155 Nov 30 10:47	7° $\mathbb{A}$ 42'17 19.63544 AU
min. Earth dist.	3150 May 02 22:13	11° $\mathbb{M}$ .56'54 17.37399 AU	morning rise	3155 Dec 16 13:23	8° $\mathbb{A}$ 42'12
direct	3150 Jul 18 03:41	9° $\mathbb{M}$ .52'29	retrograde	3156 Mar 16 18:39	12° $\mathbb{A}$ 00'35
evening set	3150 Oct 21 21:39	13° $\mathbb{M}$ .21'34	opposition	3156 May 30 14:03	9° $\mathbb{A}$ 59'47 0°08'54
conjunction	3150 Nov 07 02:34	14° $\mathbb{M}$ .22'22 0°26'13	min. Earth dist.	3156 May 30 18:58	9° $\mathbb{A}$ 59'16 17.66465 AU
minimum elong	3150 Nov 07 02:34	14° $\mathbb{M}$ .22'22 0°26'13	direct	3156 Aug 15 16:48	7° $\mathbb{A}$ 55'52
max. Earth dist.	3150 Nov 06 12:11	14° $\mathbb{M}$ .20'06 19.39135 AU	evening set	3156 Nov 18 13:49	11° $\mathbb{A}$ 20'01
	3150 Nov 17 01:48	15° $\mathbb{M}$ .	conjunction	3156 Dec 04 12:24	12° $\mathbb{A}$ 19'08 0°06'16
morning rise	3150 Nov 23 03:43	15° $\mathbb{M}$ .22'38	minimum elong	3156 Dec 04 12:24	12° $\mathbb{A}$ 19'08 0°06'16
retrograde	3151 Feb 22 08:14	18° $\mathbb{M}$ .43'33	behind sun begin	3156 Dec 04 06:09	12° $\mathbb{A}$ 18'11
opposition	3151 May 07 09:47	16° $\mathbb{M}$ .41'39 0°27'33	behind sun end	3156 Dec 04 18:39	12° $\mathbb{A}$ 20'05
min. Earth dist.	3151 May 07 22:17	16° $\mathbb{M}$ .40'19 17.41043 AU	max. Earth dist.	3156 Dec 04 08:13	12° $\mathbb{A}$ 18'31 19.69465 AU
	3151 Jun 22 11:31	15° $\mathbb{R}$ $\mathbb{M}$ .	morning rise	3156 Dec 20 08:12	13° $\mathbb{A}$ 17'51
direct	3151 Jul 23 07:31	14° $\mathbb{M}$ .35'59	retrograde	3157 Mar 21 15:19	16° $\mathbb{A}$ 35'37
	3151 Aug 22 14:38	15° $\mathbb{M}$ .	opposition	3157 Jun 04 13:42	14° $\mathbb{A}$ 35'01 0°04'57
evening set	3151 Oct 26 22:30	18° $\mathbb{M}$ .04'27	min. Earth dist.	3157 Jun 04 16:15	14° $\mathbb{A}$ 34'45 17.72479 AU
conjunction	3151 Nov 12 02:10	19° $\mathbb{M}$ .05'00 0°23'10	direct	3157 Aug 20 17:27	12° $\mathbb{A}$ 31'28
minimum elong	3151 Nov 12 02:10	19° $\mathbb{M}$ .05'00 0°23'10	evening set	3157 Nov 23 09:26	15° $\mathbb{A}$ 54'32
max. Earth dist.	3151 Nov 11 12:40	19° $\mathbb{M}$ .02'53 19.43084 AU	conjunction	3157 Dec 09 07:07	16° $\mathbb{A}$ 53'21 0°02'43
morning rise	3151 Nov 28 02:26	20° $\mathbb{M}$ .05'02	minimum elong	3157 Dec 09 07:06	16° $\mathbb{A}$ 53'21 0°02'42
retrograde	3152 Feb 27 06:07	23° $\mathbb{M}$ .25'31	behind sun begin	3157 Dec 09 00:31	16° $\mathbb{A}$ 52'21
opposition	3152 May 11 11:13	21° $\mathbb{M}$ .23'48 0°24'04	behind sun end	3157 Dec 09 13:41	16° $\mathbb{A}$ 54'20
min. Earth dist.	3152 May 11 22:04	21° $\mathbb{M}$ .22'38 17.45273 AU	max. Earth dist.	3157 Dec 09 04:30	16° $\mathbb{A}$ 53'00 19.75566 AU
direct	3152 Jul 27 10:15	19° $\mathbb{M}$ .18'26	morning rise	3157 Dec 25 02:10	17° $\mathbb{A}$ 51'47
evening set	3152 Oct 30 22:15	22° $\mathbb{M}$ .46'12	retrograde	3158 Mar 26 10:16	21° $\mathbb{A}$ 08'56
conjunction	3152 Nov 16 00:59	23° $\mathbb{M}$ .46'29 0°19'58	opposition	3158 Jun 09 13:00	19° $\mathbb{A}$ 08'29 0°01'00
minimum elong	3152 Nov 16 00:59	23° $\mathbb{M}$ .46'29 0°19'58	min. Earth dist.	3158 Jun 09 14:56	19° $\mathbb{A}$ 08'17 17.78661 AU
max. Earth dist.	3152 Nov 15 14:15	23° $\mathbb{M}$ .44'48 19.47582 AU	direct	3158 Aug 25 16:18	17° $\mathbb{A}$ 05'18
morning rise	3152 Dec 02 00:12	24° $\mathbb{M}$ .46'16	desc. node	3158 Sep 10 15:43	17° $\mathbb{A}$ 11'53
retrograde	3153 Mar 03 04:12	28° $\mathbb{M}$ .06'16	evening set	3158 Nov 28 04:05	20° $\mathbb{A}$ 27'13
opposition	3153 May 16 12:22	26° $\mathbb{M}$ .04'47 0°20'25	conjunction	3158 Dec 14 00:52	21° $\mathbb{A}$ 25'42 -0°00'56
min. Earth dist.	3153 May 16 21:24	26° $\mathbb{M}$ .03'50 17.49997 AU	minimum elong	3158 Dec 14 00:50	21° $\mathbb{A}$ 25'42 0°00'56
direct	3153 Aug 01 13:31	23° $\mathbb{M}$ .59'47	behind sun begin	3158 Dec 13 18:16	21° $\mathbb{A}$ 24'43
evening set	3153 Nov 04 21:29	27° $\mathbb{M}$ .26'45	behind sun end	3158 Dec 14 07:25	21° $\mathbb{A}$ 26'42
conjunction	3153 Nov 20 23:02	28° $\mathbb{M}$ .26'45 0°16'39	max. Earth dist.	3158 Dec 13 23:40	21° $\mathbb{A}$ 25'35 19.81818 AU
minimum elong	3153 Nov 20 23:02	28° $\mathbb{M}$ .26'45 0°16'40	morning rise	3158 Dec 29 19:16	22° $\mathbb{A}$ 23'51
max. Earth dist.	3153 Nov 20 13:24	28° $\mathbb{M}$ .25'15 19.52536 AU	retrograde	3159 Mar 31 05:37	25° $\mathbb{A}$ 40'21
morning rise	3153 Dec 06 21:24	29° $\mathbb{M}$ .26'18	opposition	3159 Jun 14 11:33	23° $\mathbb{A}$ 40'03 -0°02'57
	3153 Dec 16 05:38	0° $\mathbb{A}$ .	min. Earth dist.	3159 Jun 14 10:56	23° $\mathbb{A}$ 40'07 17.84963 AU
retrograde	3154 Mar 08 01:00	2° $\mathbb{A}$ 45'47	direct	3159 Aug 30 16:09	21° $\mathbb{A}$ 37'12
opposition	3154 May 21 13:09	0° $\mathbb{A}$ 44'32 0°16'40	evening set	3159 Dec 02 21:43	24° $\mathbb{A}$ 57'55
min. Earth dist.	3154 May 21 21:04	0° $\mathbb{A}$ 43'41 17.55161 AU	conjunction	3159 Dec 18 17:41	25° $\mathbb{A}$ 56'06 -0°04'30
	3154 Jun 08 10:21	30° $\mathbb{R}$ $\mathbb{M}$ .	minimum elong	3159 Dec 18 17:41	25° $\mathbb{A}$ 56'06 0°04'30
direct	3154 Aug 06 14:42	28° $\mathbb{M}$ .39'52	behind sun begin	3159 Dec 18 11:13	25° $\mathbb{A}$ 55'07
	3154 Oct 02 03:01	0° $\mathbb{A}$ .	behind sun end	3159 Dec 19 00:08	25° $\mathbb{A}$ 57'04
evening set	3154 Nov 09 19:50	2° $\mathbb{A}$ 06'00	max. Earth dist.	3159 Dec 18 18:31	25° $\mathbb{A}$ 56'12 19.88178 AU
conjunction	3154 Nov 25 20:26	3° $\mathbb{A}$ 05'42 0°13'15	morning rise	3160 Jan 03 11:27	26° $\mathbb{A}$ 53'57
minimum elong	3154 Nov 25 20:26	3° $\mathbb{A}$ 05'42 0°13'14		3160 Mar 15 20:12	0° $\mathbb{B}$ .
behind sun begin	3154 Nov 25 16:31	3° $\mathbb{A}$ 05'07	retrograde	3160 Apr 03 22:29	0° $\mathbb{B}$ 09'47
behind sun end	3154 Nov 26 00:21	3° $\mathbb{A}$ 06'18		3160 Apr 23 07:36	30° $\mathbb{R}$ $\mathbb{A}$ .
max. Earth dist.	3154 Nov 25 13:03	3° $\mathbb{A}$ 04'34 19.57889 AU	opposition	3160 Jun 18 09:40	28° $\mathbb{A}$ 09'36 -0°06'50
			min. Earth dist.	3160 Jun 18 08:26	28° $\mathbb{A}$ 09'43 17.91385 AU

direct	3160 Sep 03 14:13	26° <del>2</del> 07'04	direct	3166 Oct 01 10:00	22° <del>3</del> 23'06
evening set	3160 Dec 06 14:10	29° <del>2</del> 26'32	evening set	3167 Jan 01 21:10	25° <del>3</del> 35'09
	3160 Dec 15 18:41	0° <del>3</del>			
conjunction	3160 Dec 22 09:21	0° <del>3</del> 24'24 -0°07'57	conjunction	3167 Jan 17 12:56	26° <del>3</del> 31'12 -0°26'34
minimum elong	3160 Dec 22 09:20	0° <del>3</del> 24'24 0°07'57	minimum elong	3167 Jan 17 12:56	26° <del>3</del> 31'12 0°26'34
behind sun begin	3160 Dec 22 03:26	0° <del>3</del> 23'31	max. Earth dist.	3167 Jan 18 01:37	26° <del>3</del> 33'06 20.35710 AU
behind sun end	3160 Dec 22 15:15	0° <del>3</del> 25'17	morning rise	3167 Feb 02 04:27	27° <del>3</del> 27'13
max. Earth dist.	3160 Dec 22 11:30	0° <del>3</del> 24'42 19.94661 AU		3167 Mar 27 07:36	0° <del>3</del>
morning rise	3161 Jan 07 02:41	1° <del>3</del> 21'58	retrograde	3167 May 05 06:52	0° <del>3</del> 38'36
retrograde	3161 Apr 08 16:22	4° <del>3</del> 37'08		3167 Jun 14 13:56	30° <del>3</del>
opposition	3161 Jun 23 06:52	2° <del>3</del> 37'01 -0°10'39	opposition	3167 Jul 20 23:20	28° <del>3</del> 39'16 -0°30'54
min. Earth dist.	3161 Jun 23 02:53	2° <del>3</del> 37'26 17.97917 AU	min. Earth dist.	3167 Jul 20 09:19	28° <del>3</del> 40'42 18.39145 AU
direct	3161 Sep 08 12:38	0° <del>3</del> 34'48	direct	3167 Oct 06 01:49	26° <del>3</del> 39'20
evening set	3161 Dec 11 05:40	3° <del>3</del> 53'01	evening set	3168 Jan 06 07:23	29° <del>3</del> 50'13
				3168 Jan 09 02:07	0° <del>3</del>
conjunction	3161 Dec 27 00:12	4° <del>3</del> 50'33 -0°11'20	conjunction	3168 Jan 21 22:58	0° <del>3</del> 46'01 -0°29'11
minimum elong	3161 Dec 27 00:12	4° <del>3</del> 50'33 0°11'20	minimum elong	3168 Jan 21 22:57	0° <del>3</del> 46'01 0°29'10
behind sun begin	3161 Dec 26 19:20	4° <del>3</del> 49'50	max. Earth dist.	3168 Jan 22 14:04	0° <del>3</del> 48'16 20.42559 AU
behind sun end	3161 Dec 27 05:03	4° <del>3</del> 51'17	morning rise	3168 Feb 06 14:16	1° <del>3</del> 41'48
max. Earth dist.	3161 Dec 27 04:45	4° <del>3</del> 51'14 20.01246 AU	retrograde	3168 May 08 18:25	4° <del>3</del> 52'39
morning rise	3162 Jan 11 16:58	5° <del>3</del> 47'51	opposition	3168 Jul 24 15:45	2° <del>3</del> 53'29 -0°33'42
retrograde	3162 Apr 13 07:03	9° <del>3</del> 02'19	min. Earth dist.	3168 Jul 24 01:12	2° <del>3</del> 54'57 18.45920 AU
opposition	3162 Jun 28 03:23	7° <del>3</del> 02'18 -0°14'22	direct	3168 Oct 09 16:30	0° <del>3</del> 53'57
min. Earth dist.	3162 Jun 27 22:42	7° <del>3</del> 02'47 18.04572 AU	evening set	3169 Jan 09 16:59	4° <del>3</del> 03'41
direct	3162 Sep 13 09:12	5° <del>3</del> 00'25			
evening set	3162 Dec 15 20:16	8° <del>3</del> 17'21	conjunction	3169 Jan 25 08:11	4° <del>3</del> 59'14 -0°31'37
conjunction	3162 Dec 31 14:02	9° <del>3</del> 14'35 -0°14'37	minimum elong	3169 Jan 25 08:11	4° <del>3</del> 59'14 0°31'37
minimum elong	3162 Dec 31 14:02	9° <del>3</del> 14'35 0°14'38	max. Earth dist.	3169 Jan 25 23:31	5° <del>3</del> 01'31 20.49238 AU
behind sun begin	3162 Dec 31 11:05	9° <del>3</del> 14'08	morning rise	3169 Feb 09 23:39	5° <del>3</del> 54'49
behind sun end	3162 Dec 31 16:58	9° <del>3</del> 15'01	retrograde	3169 May 13 07:48	9° <del>3</del> 05'09
max. Earth dist.	3162 Dec 31 19:48	9° <del>3</del> 15'27 20.07972 AU	opposition	3169 Jul 29 07:24	7° <del>3</del> 06'08 -0°36'18
morning rise	3163 Jan 16 06:28	10° <del>3</del> 11'36	min. Earth dist.	3169 Jul 28 15:09	7° <del>3</del> 07'46 18.52490 AU
retrograde	3163 Apr 17 23:28	13° <del>3</del> 25'24	direct	3169 Oct 14 06:15	5° <del>3</del> 06'58
opposition	3163 Jul 02 23:11	11° <del>3</del> 25'28 -0°17'59	evening set	3170 Jan 14 01:54	8° <del>3</del> 15'37
min. Earth dist.	3163 Jul 02 15:34	11° <del>3</del> 26'15 18.11363 AU	conjunction	3170 Jan 29 17:02	9° <del>3</del> 10'57 -0°33'53
direct	3163 Sep 18 05:45	9° <del>3</del> 23'56	minimum elong	3170 Jan 29 17:01	9° <del>3</del> 10'57 0°33'53
evening set	3163 Dec 20 09:41	12° <del>3</del> 39'38	max. Earth dist.	3170 Jan 30 10:25	9° <del>3</del> 13'31 20.55658 AU
conjunction	3164 Jan 05 02:57	13° <del>3</del> 36'32 -0°17'48	morning rise	3170 Feb 14 08:23	10° <del>3</del> 06'19
minimum elong	3164 Jan 05 02:57	13° <del>3</del> 36'32 0°17'48	retrograde	3170 May 17 18:36	13° <del>3</del> 16'10
max. Earth dist.	3164 Jan 05 11:26	13° <del>3</del> 37'49 20.14817 AU	opposition	3170 Aug 02 22:25	11° <del>3</del> 17'16 -0°38'41
morning rise	3164 Jan 20 18:56	14° <del>3</del> 33'17	min. Earth dist.	3170 Aug 02 05:48	11° <del>3</del> 18'56 18.58764 AU
retrograde	3164 Apr 21 12:45	17° <del>3</del> 46'27	direct	3170 Oct 18 19:57	9° <del>3</del> 18'28
opposition	3164 Jul 06 18:25	15° <del>3</del> 46'39 -0°21'27	evening set	3171 Jan 18 10:20	12° <del>3</del> 26'03
min. Earth dist.	3164 Jul 06 09:55	15° <del>3</del> 47'32 18.18268 AU	conjunction	3171 Feb 03 01:11	13° <del>3</del> 21'10 -0°35'57
direct	3164 Sep 21 23:55	13° <del>3</del> 45'30	minimum elong	3171 Feb 03 01:11	13° <del>3</del> 21'10 0°35'57
evening set	3164 Dec 23 22:25	16° <del>3</del> 59'57	max. Earth dist.	3171 Feb 03 18:23	13° <del>3</del> 23'42 20.61772 AU
conjunction	3165 Jan 08 15:03	17° <del>3</del> 56'34 -0°20'52	morning rise	3171 Feb 18 16:49	14° <del>3</del> 16'21
minimum elong	3165 Jan 08 15:03	17° <del>3</del> 56'34 0°20'52		3171 Mar 03 15:32	15° <del>3</del>
max. Earth dist.	3165 Jan 09 00:29	17° <del>3</del> 57'59 20.21769 AU	retrograde	3171 May 22 06:51	17° <del>3</del> 25'45
morning rise	3165 Jan 24 06:54	18° <del>3</del> 53'03	opposition	3171 Aug 07 12:52	15° <del>3</del> 26'56 -0°40'52
retrograde	3165 Apr 26 04:12	22° <del>3</del> 05'36	min. Earth dist.	3171 Aug 06 18:56	15° <del>3</del> 28'44 18.64712 AU
opposition	3165 Jul 11 12:35	20° <del>3</del> 05'56 -0°24'46		3171 Aug 18 19:12	15° <del>3</del>
min. Earth dist.	3165 Jul 11 01:29	20° <del>3</del> 07'04 18.25249 AU	direct	3171 Oct 23 08:00	13° <del>3</del> 28'26
direct	3165 Sep 26 17:53	18° <del>3</del> 05'11		3171 Dec 23 18:54	15° <del>3</del>
evening set	3165 Dec 28 10:09	21° <del>3</del> 18'25	evening set	3172 Jan 22 17:56	16° <del>3</del> 35'00
conjunction	3166 Jan 13 02:28	22° <del>3</del> 14'45 -0°23'47	conjunction	3172 Feb 07 08:55	17° <del>3</del> 29'55 -0°37'49
minimum elong	3166 Jan 13 02:28	22° <del>3</del> 14'45 0°23'46	minimum elong	3172 Feb 07 08:55	17° <del>3</del> 29'55 0°37'50
max. Earth dist.	3166 Jan 13 14:30	22° <del>3</del> 16'34 20.28753 AU	max. Earth dist.	3172 Feb 08 03:57	17° <del>3</del> 32'43 20.67522 AU
morning rise	3166 Jan 28 17:59	23° <del>3</del> 11'00	morning rise	3172 Feb 23 00:37	18° <del>3</del> 24'56
retrograde	3166 Apr 30 16:19	26° <del>3</del> 22'56	retrograde	3172 May 25 16:49	21° <del>3</del> 33'53
opposition	3166 Jul 16 06:20	24° <del>3</del> 23'27 -0°27'55	min. Earth dist.	3172 Aug 10 08:24	19° <del>3</del> 36'57 18.70266 AU
min. Earth dist.	3166 Jul 15 18:33	24° <del>3</del> 24'39 18.32227 AU	opposition	3172 Aug 11 02:39	19° <del>3</del> 35'07 -0°42'49
			direct	3172 Oct 26 20:26	17° <del>3</del> 36'55

evening set	3173 Jan 26 01:10	20° <del>42</del> '29		max. Earth dist.	3179 Mar 08 00:17	15° <del>56</del> '49	20.97864 AU
				morning rise	3179 Mar 22 20:31	16° <del>47</del> '52	
conjunction	3173 Feb 10 16:03	21° <del>37</del> '12 -0°39'29		retrograde	3179 Jun 24 09:37	19° <del>54</del> '32	
minimum elong	3173 Feb 10 16:03	21° <del>37</del> '12 0°39'28		min. Earth dist.	3179 Sep 09 10:00	17° <del>57</del> '59	18.99481 AU
max. Earth dist.	3173 Feb 11 10:37	21° <del>39</del> '56 20.72881 AU		opposition	3179 Sep 10 08:31	17° <del>55</del> '44 -0°49'43	
morning rise	3173 Feb 26 08:11	22° <del>32</del> '05		direct	3179 Nov 25 11:40	15° <del>58</del> '57	
retrograde	3173 May 30 03:52	25° <del>40</del> '35		evening set	3180 Feb 23 13:13	18° <del>59</del> '04	
opposition	3173 Aug 15 15:32	23° <del>41</del> '51 -0°44'31					
min. Earth dist.	3173 Aug 14 20:24	23° <del>43</del> '45 18.75437 AU		conjunction	3180 Mar 10 06:18	19° <del>53</del> '00 -0°45'01	
direct	3173 Oct 31 07:11	21° <del>43</del> '52		minimum elong	3180 Mar 10 06:18	19° <del>53</del> '00 0°45'01	
evening set	3174 Jan 30 07:37	24° <del>48</del> '28		max. Earth dist.	3180 Mar 11 06:33	19° <del>56</del> '30 21.00918 AU	
				morning rise	3180 Mar 26 01:47	20° <del>47</del> '18	
conjunction	3174 Feb 14 22:46	25° <del>43</del> '02 -0°40'56		retrograde	3180 Jun 27 18:16	23° <del>53</del> '48	
minimum elong	3174 Feb 14 22:46	25° <del>43</del> '02 0°40'57		opposition	3180 Sep 13 17:33	21° <del>55</del> '02 -0°49'44	
max. Earth dist.	3174 Feb 15 19:06	25° <del>46</del> '00 20.77852 AU		min. Earth dist.	3180 Sep 12 18:41	21° <del>57</del> '19 19.02342 AU	
morning rise	3174 Mar 02 15:05	26° <del>37</del> '46		direct	3180 Nov 28 19:08	19° <del>58</del> '27	
retrograde	3174 Jun 03 12:47	29° <del>45</del> '51		evening set	3181 Feb 26 17:29	22° <del>58</del> '03	
min. Earth dist.	3174 Aug 19 08:19	27° <del>49</del> '04 18.80222 AU					
opposition	3174 Aug 20 03:54	27° <del>47</del> '07 -0°46'00		conjunction	3181 Mar 14 10:55	23° <del>51</del> '57 -0°44'57	
direct	3174 Nov 04 17:49	25° <del>49</del> '21		minimum elong	3181 Mar 14 10:55	23° <del>51</del> '57 0°44'57	
evening set	3175 Feb 03 13:32	28° <del>53</del> '02		max. Earth dist.	3181 Mar 15 10:12	23° <del>55</del> '18 21.03587 AU	
				morning rise	3181 Mar 30 07:15	24° <del>46</del> '14	
conjunction	3175 Feb 19 04:40	29° <del>47</del> '26 -0°42'10		retrograde	3181 Jul 02 02:06	27° <del>52</del> '38	
minimum elong	3175 Feb 19 04:40	29° <del>47</del> '26 0°42'10		min. Earth dist.	3181 Sep 17 03:35	25° <del>56</del> '08 19.04809 AU	
max. Earth dist.	3175 Feb 20 00:44	29° <del>50</del> '22 20.82467 AU		opposition	3181 Sep 18 02:09	25° <del>53</del> '53 -0°49'31	
	3175 Feb 22 18:39	0° <del>42</del> '03		direct	3181 Dec 03 00:46	23° <del>57</del> '27	
morning rise	3175 Mar 06 21:33	0° <del>42</del> '03		evening set	3182 Mar 02 21:31	26° <del>56</del> '38	
retrograde	3175 Jun 07 22:55	3° <del>49</del> '47					
opposition	3175 Aug 24 15:39	1° <del>51</del> '00 -0°47'14		conjunction	3182 Mar 18 15:41	27° <del>50</del> '30 -0°44'39	
min. Earth dist.	3175 Aug 23 19:12	1° <del>53</del> '03 18.84685 AU		minimum elong	3182 Mar 18 15:41	27° <del>50</del> '30 0°44'38	
	3175 Oct 23 23:04	30° <del>48</del> '00		max. Earth dist.	3182 Mar 19 16:06	27° <del>54</del> '01 21.05829 AU	
direct	3175 Nov 09 03:33	29° <del>53</del> '26		morning rise	3182 Apr 03 12:34	28° <del>44</del> '48	
	3175 Nov 25 04:53	0° <del>56</del> '15			3182 Apr 27 07:08	0° <del>51</del> '08	
evening set	3176 Feb 07 18:56	2° <del>56</del> '15		retrograde	3182 Jul 06 10:27	1° <del>51</del> '08	
					3182 Sep 19 06:14	30° <del>48</del> '00	
conjunction	3176 Feb 23 10:27	3° <del>50</del> '32 -0°43'11		min. Earth dist.	3182 Sep 21 11:50	29° <del>54</del> '39 19.06815 AU	
minimum elong	3176 Feb 23 10:27	3° <del>50</del> '32 0°43'11		opposition	3182 Sep 22 10:32	29° <del>52</del> '23 -0°49'04	
max. Earth dist.	3176 Feb 24 08:24	3° <del>53</del> '44 20.86764 AU		direct	3182 Dec 07 07:57	27° <del>56</del> '06	
morning rise	3176 Mar 10 03:36	4° <del>45</del> '03			3183 Feb 18 00:44	0° <del>54</del> '54	
retrograde	3176 Jun 11 07:22	7° <del>52</del> '26		evening set	3183 Mar 07 01:39	0° <del>54</del> '54	
min. Earth dist.	3176 Aug 27 05:33	5° <del>55</del> '45 18.88834 AU					
opposition	3176 Aug 28 02:36	5° <del>53</del> '38 -0°48'13		conjunction	3183 Mar 22 20:16	1° <del>48</del> '47 -0°44'08	
direct	3176 Nov 12 12:26	3° <del>56</del> '16		minimum elong	3183 Mar 22 20:16	1° <del>48</del> '47 0°44'08	
evening set	3177 Feb 11 00:03	6° <del>58</del> '19		max. Earth dist.	3183 Mar 23 19:23	1° <del>52</del> '06 21.07596 AU	
				morning rise	3183 Apr 07 18:06	2° <del>43</del> '06	
conjunction	3177 Feb 26 15:43	7° <del>52</del> '28 -0°43'58		retrograde	3183 Jul 10 18:24	5° <del>49</del> '25	
minimum elong	3177 Feb 26 15:42	7° <del>52</del> '28 0°43'58		opposition	3183 Sep 26 18:43	3° <del>50</del> '38 -0°48'22	
max. Earth dist.	3177 Feb 27 13:15	7° <del>55</del> '35 20.90768 AU		min. Earth dist.	3183 Sep 25 20:47	3° <del>52</del> '50 19.08330 AU	
morning rise	3177 Mar 14 09:33	8° <del>46</del> '55		direct	3183 Dec 11 12:52	1° <del>54</del> '27	
retrograde	3177 Jun 15 16:37	11° <del>54</del> '00		evening set	3184 Mar 10 05:51	4° <del>52</del> '58	
opposition	3177 Sep 01 13:04	9° <del>55</del> '12 -0°48'57					
min. Earth dist.	3177 Aug 31 15:25	9° <del>57</del> '22 18.92698 AU		conjunction	3184 Mar 26 01:19	5° <del>46</del> '52 -0°43'25	
direct	3177 Nov 16 20:45	7° <del>58</del> '01		minimum elong	3184 Mar 26 01:19	5° <del>46</del> '52 0°43'25	
evening set	3178 Feb 15 04:37	10° <del>59</del> '21		max. Earth dist.	3184 Mar 27 01:04	5° <del>50</del> '15 21.08833 AU	
				morning rise	3184 Apr 10 23:48	6° <del>41</del> '13	
conjunction	3178 Mar 02 20:47	11° <del>53</del> '25 -0°44'32		retrograde	3184 Jul 14 02:07	9° <del>47</del> '31	
minimum elong	3178 Mar 02 20:47	11° <del>53</del> '25 0°44'32		min. Earth dist.	3184 Sep 29 04:40	7° <del>50</del> '52 19.09281 AU	
max. Earth dist.	3178 Mar 03 20:04	11° <del>56</del> '47 20.94470 AU		opposition	3184 Sep 30 02:24	7° <del>48</del> '42 -0°47'28	
morning rise	3178 Mar 18 14:58	12° <del>47</del> '47		direct	3184 Dec 14 19:47	5° <del>52</del> '34	
retrograde	3178 Jun 20 01:03	15° <del>54</del> '38		evening set	3185 Mar 14 10:18	8° <del>50</del> '50	
opposition	3178 Sep 05 22:59	13° <del>55</del> '50 -0°49'27					
min. Earth dist.	3178 Sep 05 00:42	13° <del>58</del> '04 18.96244 AU		conjunction	3185 Mar 30 06:21	9° <del>44</del> '46 -0°42'29	
direct	3178 Nov 21 04:47	11° <del>58</del> '52		minimum elong	3185 Mar 30 06:21	9° <del>44</del> '46 0°42'29	
evening set	3179 Feb 19 09:08	14° <del>59</del> '33		max. Earth dist.	3185 Mar 31 04:16	9° <del>47</del> '54 21.09499 AU	
				morning rise	3185 Apr 15 05:50	10° <del>39</del> '11	
conjunction	3179 Mar 07 01:33	15° <del>53</del> '32 -0°44'53		retrograde	3185 Jul 18 10:20	13° <del>45</del> '30	
minimum elong	3179 Mar 07 01:33	15° <del>53</del> '32 0°44'54		opposition	3185 Oct 04 10:03	11° <del>46</del> '36 -0°46'19	

min. Earth dist.	3185 Oct 03 13:26	11° $\Upsilon$ 48'40	19.09657 AU	conjunction	3192 Apr 26 23:23	7° $\text{B}$ 30'33	-0°30'38
direct	3185 Dec 19 00:22	9° $\Upsilon$ 50'28		minimum elong	3192 Apr 26 23:23	7° $\text{B}$ 30'33	0°30'37
evening set	3186 Mar 18 14:32	12° $\Upsilon$ 48'32		max. Earth dist.	3192 Apr 27 17:32	7° $\text{B}$ 33'08	21.00191 AU
				morning rise	3192 May 13 05:13	8° $\text{B}$ 25'47	
conjunction	3186 Apr 03 11:31	13° $\Upsilon$ 42'32	-0°41'21	retrograde	3192 Aug 15 18:01	11° $\text{B}$ 33'13	
minimum elong	3186 Apr 03 11:31	13° $\Upsilon$ 42'32	0°41'22	opposition	3192 Nov 01 09:56	9° $\text{B}$ 33'24	-0°32'32
max. Earth dist.	3186 Apr 04 09:52	13° $\Upsilon$ 45'43	21.09582 AU	min. Earth dist.	3192 Oct 31 17:58	9° $\text{B}$ 35'01	18.98815 AU
morning rise	3186 Apr 19 11:42	14° $\Upsilon$ 37'00		direct	3193 Jan 15 13:03	7° $\text{B}$ 36'34	
retrograde	3186 Jul 22 17:25	17° $\Upsilon$ 43'22		evening set	3193 Apr 15 03:33	10° $\text{B}$ 35'21	
opposition	3186 Oct 08 17:23	15° $\Upsilon$ 44'21	-0°44'57				
min. Earth dist.	3186 Oct 07 20:58	15° $\Upsilon$ 46'24	19.09447 AU	conjunction	3193 May 01 06:41	11° $\text{B}$ 30'15	-0°28'16
direct	3186 Dec 23 06:53	13° $\Upsilon$ 48'11		minimum elong	3193 May 01 06:41	11° $\text{B}$ 30'15	0°28'16
evening set	3187 Mar 22 19:09	16° $\Upsilon$ 46'06		max. Earth dist.	3193 May 01 22:45	11° $\text{B}$ 32'33	20.97323 AU
				morning rise	3193 May 17 13:38	12° $\text{B}$ 25'40	
conjunction	3187 Apr 07 16:47	17° $\Upsilon$ 40'10	-0°40'02		3193 Jul 13 19:28	15° $\text{B}$	
minimum elong	3187 Apr 07 16:47	17° $\Upsilon$ 40'10	0°40'01	retrograde	3193 Aug 20 02:25	15° $\text{B}$ 33'27	
max. Earth dist.	3187 Apr 08 13:20	17° $\Upsilon$ 43'06	21.09112 AU		3193 Sep 27 01:26	15° $\text{B}$	
morning rise	3187 Apr 23 18:03	18° $\Upsilon$ 34'44		opposition	3193 Nov 05 16:51	13° $\text{B}$ 33'33	-0°29'50
retrograde	3187 Jul 27 01:32	21° $\Upsilon$ 41'10		min. Earth dist.	3193 Nov 05 02:32	13° $\text{B}$ 35'00	18.95779 AU
min. Earth dist.	3187 Oct 12 05:21	19° $\Upsilon$ 43'55	19.08722 AU	direct	3194 Jan 19 17:13	11° $\text{B}$ 36'36	
opposition	3187 Oct 13 00:31	19° $\Upsilon$ 42'00	-0°43'22	evening set	3194 Apr 19 10:18	14° $\text{B}$ 35'49	
direct	3187 Dec 27 11:19	17° $\Upsilon$ 45'44			3194 Apr 26 14:06	15° $\text{B}$	
evening set	3188 Mar 25 23:41	20° $\Upsilon$ 43'36					
				conjunction	3194 May 05 14:35	15° $\text{B}$ 30'55	-0°25'45
conjunction	3188 Apr 10 22:21	21° $\Upsilon$ 37'45	-0°38'30	minimum elong	3194 May 05 14:35	15° $\text{B}$ 30'55	0°25'45
minimum elong	3188 Apr 10 22:21	21° $\Upsilon$ 37'46	0°38'31	max. Earth dist.	3194 May 06 06:46	15° $\text{B}$ 33'13	20.94118 AU
max. Earth dist.	3188 Apr 11 19:23	21° $\Upsilon$ 40'45	21.08141 AU	morning rise	3194 May 21 22:20	16° $\text{B}$ 26'32	
morning rise	3188 Apr 27 00:24	22° $\Upsilon$ 32'25		retrograde	3194 Aug 24 12:37	19° $\text{B}$ 34'42	
retrograde	3188 Jul 30 08:51	25° $\Upsilon$ 38'57		opposition	3194 Nov 09 23:50	17° $\text{B}$ 34'44	-0°26'59
opposition	3188 Oct 16 07:20	23° $\Upsilon$ 39'38	-0°41'35	min. Earth dist.	3194 Nov 09 09:50	17° $\text{B}$ 36'09	18.92388 AU
min. Earth dist.	3188 Oct 15 12:20	23° $\Upsilon$ 41'33	19.07511 AU	direct	3195 Jan 23 23:22	15° $\text{B}$ 37'40	
direct	3188 Dec 30 17:11	21° $\Upsilon$ 43'17		evening set	3195 Apr 23 18:04	18° $\text{B}$ 37'23	
evening set	3189 Mar 30 04:39	24° $\Upsilon$ 41'09					
				conjunction	3195 May 09 23:09	19° $\text{B}$ 32'41	-0°23'07
conjunction	3189 Apr 15 04:00	25° $\Upsilon$ 35'25	-0°36'47	minimum elong	3195 May 09 23:10	19° $\text{B}$ 32'41	0°23'08
minimum elong	3189 Apr 15 04:00	25° $\Upsilon$ 35'25	0°36'47	max. Earth dist.	3195 May 10 12:59	19° $\text{B}$ 34'40	20.90555 AU
max. Earth dist.	3189 Apr 15 23:16	25° $\Upsilon$ 38'09	21.06718 AU	morning rise	3195 May 26 08:01	20° $\text{B}$ 28'31	
morning rise	3189 May 01 07:08	26° $\Upsilon$ 30'12		retrograde	3195 Aug 28 22:06	23° $\text{B}$ 37'07	
retrograde	3189 Aug 03 16:37	29° $\Upsilon$ 36'53		opposition	3195 Nov 14 07:04	21° $\text{B}$ 37'05	-0°23'59
opposition	3189 Oct 20 14:03	27° $\Upsilon$ 37'25	-0°39'36	min. Earth dist.	3195 Nov 13 19:08	21° $\text{B}$ 38'18	18.88638 AU
min. Earth dist.	3189 Oct 19 20:22	27° $\Upsilon$ 39'12	19.05887 AU	direct	3196 Jan 28 04:08	19° $\text{B}$ 39'51	
direct	3190 Jan 03 21:29	25° $\Upsilon$ 40'56		evening set	3196 Apr 27 02:24	22° $\text{B}$ 40'10	
evening set	3190 Apr 03 09:42	28° $\Upsilon$ 38'55					
				conjunction	3196 May 13 08:40	23° $\text{B}$ 35'42	-0°20'20
conjunction	3190 Apr 19 10:07	29° $\Upsilon$ 33'19	-0°34'54	minimum elong	3196 May 13 08:40	23° $\text{B}$ 35'42	0°20'20
minimum elong	3190 Apr 19 10:07	29° $\Upsilon$ 33'19	0°34'54	max. Earth dist.	3196 May 13 22:06	23° $\text{B}$ 37'37	20.86608 AU
max. Earth dist.	3190 Apr 20 05:51	29° $\Upsilon$ 36'08	21.04900 AU	morning rise	3196 May 29 18:17	24° $\text{B}$ 31'45	
	3190 Apr 27 05:23	0° $\text{B}$		retrograde	3196 Sep 01 09:27	27° $\text{B}$ 40'48	
morning rise	3190 May 05 14:01	0° $\text{B}$ 28'14		opposition	3196 Nov 17 14:30	25° $\text{B}$ 40'42	-0°20'52
retrograde	3190 Aug 08 00:54	3° $\text{B}$ 35'07		min. Earth dist.	3196 Nov 17 03:13	25° $\text{B}$ 41'51	18.84473 AU
opposition	3190 Oct 24 20:41	1° $\text{B}$ 35'31	-0°37'25	direct	3197 Jan 31 10:55	23° $\text{B}$ 43'17	
min. Earth dist.	3190 Oct 24 03:04	1° $\text{B}$ 37'18	19.03877 AU	evening set	3197 May 01 11:38	26° $\text{B}$ 44'15	
	3190 Dec 09 22:37	30° $\text{B}$					
direct	3191 Jan 08 03:07	29° $\Upsilon$ 38'56		conjunction	3197 May 17 18:40	27° $\text{B}$ 40'01	-0°17'27
	3191 Feb 05 17:54	0° $\text{B}$		minimum elong	3197 May 17 18:40	27° $\text{B}$ 40'01	0°17'27
evening set	3191 Apr 07 15:10	2° $\text{B}$ 37'05		max. Earth dist.	3197 May 18 05:20	27° $\text{B}$ 41'33	20.82229 AU
				morning rise	3197 Jun 03 05:18	28° $\text{B}$ 36'18	
conjunction	3191 Apr 23 16:22	3° $\text{B}$ 31'38	-0°32'51		3197 Jun 29 20:29	0° $\text{II}$	
minimum elong	3191 Apr 23 16:22	3° $\text{B}$ 31'38	0°32'51	retrograde	3197 Sep 05 19:57	1° $\text{II}$ 45'51	
max. Earth dist.	3191 Apr 24 10:16	3° $\text{B}$ 34'11	21.02718 AU		3197 Nov 16 02:04	30° $\text{B}$	
morning rise	3191 May 09 21:25	4° $\text{B}$ 26'42		opposition	3197 Nov 21 22:24	29° $\text{B}$ 45'37	-0°17'36
retrograde	3191 Aug 12 08:48	7° $\text{B}$ 33'51		min. Earth dist.	3197 Nov 21 13:30	29° $\text{B}$ 46'32	18.79876 AU
min. Earth dist.	3191 Oct 28 11:15	5° $\text{B}$ 35'45	19.01522 AU	direct	3198 Feb 04 16:31	27° $\text{B}$ 47'59	
opposition	3191 Oct 29 03:26	5° $\text{B}$ 34'07	-0°35'03		3198 Apr 20 15:30	0° $\text{II}$	
direct	3192 Jan 12 07:16	3° $\text{B}$ 37'24		evening set	3198 May 05 21:28	0° $\text{II}$ 49'39	
evening set	3192 Apr 10 21:02	6° $\text{B}$ 35'50					
				conjunction	3198 May 22 05:39	1° $\text{II}$ 45'40	-0°14'28



minimum elong	3198 May 22 05:39	1°II45'40	0°14'28	opposition	3203 Dec 17 04:26	24°II42'41	0°03'38
behind sun begin	3198 May 22 02:47	1°II45'16		min. Earth dist.	3203 Dec 17 05:00	24°II42'37	18.44629 AU
behind sun end	3198 May 22 08:31	1°II46'04		direct	3204 Feb 29 18:57	22°II42'54	
max. Earth dist.	3198 May 22 15:33	1°II47'05	20.77413 AU	evening set	3204 May 31 00:59	25°II49'49	
morning rise	3198 Jun 07 17:00	2°II42'11					
retrograde	3198 Sep 10 08:31	5°II52'12		conjunction	3204 Jun 16 14:36	26°II47'31	0°04'58
opposition	3198 Nov 26 06:30	3°II51'51	-0°14'15	minimum elong	3204 Jun 16 14:36	26°II47'31	0°04'58
min. Earth dist.	3198 Nov 25 22:21	3°II52'41	18.74829 AU	behind sun begin	3204 Jun 16 08:03	26°II46'35	
direct	3199 Feb 09 00:38	1°II53'56		behind sun end	3204 Jun 16 21:09	26°II48'27	
evening set	3199 May 10 08:10	4°II56'20		max. Earth dist.	3204 Jun 16 13:53	26°II47'26	20.41378 AU
				morning rise	3204 Jul 03 06:25	27°II45'35	
conjunction	3199 May 26 17:11	5°II52'37	-0°11'23		3204 Aug 17 16:51	0°☾	
minimum elong	3199 May 26 17:11	5°II52'37	0°11'23	retrograde	3204 Oct 05 16:20	0°☾58'45	
behind sun begin	3199 May 26 12:21	5°II51'56			3204 Nov 24 12:18	30°R II	
behind sun end	3199 May 26 22:01	5°II53'18		opposition	3204 Dec 20 14:52	28°II57'13	0°07'17
max. Earth dist.	3199 May 27 00:10	5°II53'36	20.72157 AU	min. Earth dist.	3204 Dec 20 15:49	28°II57'07	18.38065 AU
morning rise	3199 Jun 12 05:34	6°II49'23		direct	3205 Mar 05 06:29	26°II57'04	
retrograde	3199 Sep 14 19:44	9°II59'53			3205 Jun 03 05:10	0°☾	
opposition	3199 Nov 30 15:05	7°II59'21	-0°10'47	evening set	3205 Jun 04 16:29	0°☾05'02	
min. Earth dist.	3199 Nov 30 09:29	7°II59'56	18.69367 AU				
direct	3200 Feb 13 06:52	6°II01'07		conjunction	3205 Jun 21 06:43	1°☾03'02	0°08'15
evening set	3200 May 13 19:31	9°II04'18		minimum elong	3205 Jun 21 06:42	1°☾03'02	0°08'15
				behind sun begin	3205 Jun 21 00:45	1°☾02'11	
conjunction	3200 May 30 05:40	10°II00'51	-0°08'14	behind sun end	3205 Jun 21 12:39	1°☾03'53	
minimum elong	3200 May 30 05:40	10°II00'51	0°08'14	max. Earth dist.	3205 Jun 21 03:42	1°☾02'37	20.34781 AU
behind sun begin	3200 May 29 23:45	10°II00'01		morning rise	3205 Jul 07 23:07	2°☾01'22	
behind sun end	3200 May 30 11:35	10°II01'41		retrograde	3205 Oct 10 06:27	5°☾15'09	
max. Earth dist.	3200 May 30 11:47	10°II01'43	20.66509 AU	opposition	3205 Dec 25 02:03	3°☾13'29	0°10'56
morning rise	3200 Jun 15 18:42	10°II57'52		min. Earth dist.	3205 Dec 25 05:16	3°☾13'08	18.31462 AU
retrograde	3200 Sep 18 09:33	14°II08'51		direct	3206 Mar 09 16:38	1°☾12'56	
opposition	3200 Dec 03 23:42	12°II08'08	-0°07'15	evening set	3206 Jun 09 08:52	4°☾22'03	
min. Earth dist.	3200 Dec 03 18:50	12°II08'38	18.63537 AU				
direct	3201 Feb 16 16:27	10°II09'32		conjunction	3206 Jun 25 23:56	5°☾20'21	0°11'30
evening set	3201 May 18 07:46	13°II13'34		minimum elong	3206 Jun 25 23:56	5°☾20'21	0°11'30
				behind sun begin	3206 Jun 25 19:09	5°☾19'40	
conjunction	3201 Jun 03 18:39	14°II10'24	-0°05'01	behind sun end	3206 Jun 26 04:43	5°☾21'02	
minimum elong	3201 Jun 03 18:40	14°II10'24	0°05'01	max. Earth dist.	3206 Jun 25 19:57	5°☾19'47	20.28182 AU
behind sun begin	3201 Jun 03 12:08	14°II09'29		morning rise	3206 Jul 12 16:47	6°☾18'58	
behind sun end	3201 Jun 04 01:12	14°II11'19		retrograde	3206 Oct 14 23:19	9°☾33'22	
max. Earth dist.	3201 Jun 03 22:04	14°II10'51	20.60530 AU	opposition	3206 Dec 29 13:36	7°☾31'34	0°14'32
morning rise	3201 Jun 20 08:36	15°II07'40		min. Earth dist.	3206 Dec 29 17:10	7°☾31'11	18.24864 AU
retrograde	3201 Sep 22 21:09	18°II19'11		direct	3207 Mar 14 05:16	5°☾30'41	
opposition	3201 Dec 08 08:58	16°II18'14	-0°03'39	evening set	3207 Jun 14 02:24	8°☾40'58	
min. Earth dist.	3201 Dec 08 06:34	16°II18'30	18.57427 AU				
direct	3202 Feb 20 23:36	14°II19'15		conjunction	3207 Jun 30 18:04	9°☾39'35	0°14'43
evening set	3202 May 22 20:28	17°II24'11		minimum elong	3207 Jun 30 18:04	9°☾39'35	0°14'43
				behind sun begin	3207 Jun 30 15:32	9°☾39'14	
conjunction	3202 Jun 08 08:26	18°II21'18	-0°01'45	behind sun end	3207 Jun 30 20:35	9°☾39'57	
minimum elong	3202 Jun 08 08:25	18°II21'18	0°01'45	max. Earth dist.	3207 Jun 30 11:54	9°☾38'42	20.21587 AU
behind sun begin	3202 Jun 08 01:42	18°II20'21		morning rise	3207 Jul 17 11:22	10°☾38'28	
behind sun end	3202 Jun 08 15:09	18°II22'15		retrograde	3207 Oct 19 15:07	13°☾53'31	
max. Earth dist.	3202 Jun 08 11:08	18°II21'38	20.54310 AU	opposition	3208 Jan 03 02:03	11°☾51'38	0°18'05
morning rise	3202 Jun 24 22:58	19°II18'50		min. Earth dist.	3208 Jan 03 07:59	11°☾51'00	18.18284 AU
retrograde	3202 Sep 27 12:04	22°II30'52		direct	3208 Mar 17 16:58	9°☾50'24	
opposition	3202 Dec 12 18:27	20°II29'43	-0°00'01	evening set	3208 Jun 17 20:52	13°☾01'57	
min. Earth dist.	3202 Dec 12 16:34	20°II29'55	18.51101 AU				
asc. node	3202 Dec 15 02:07	20°II23'54		conjunction	3208 Jul 04 13:10	14°☾00'52	0°17'53
direct	3203 Feb 25 10:15	18°II30'21		minimum elong	3208 Jul 04 13:10	14°☾00'52	0°17'54
evening set	3203 May 27 10:21	21°II36'14		max. Earth dist.	3208 Jul 04 05:41	13°☾59'46	20.15022 AU
				morning rise	3208 Jul 21 06:46	15°☾00'01	
conjunction	3203 Jun 12 23:00	22°II33'38	0°01'39	retrograde	3208 Oct 23 09:19	18°☾15'44	
minimum elong	3203 Jun 12 23:01	22°II33'38	0°01'40	opposition	3209 Jan 06 14:57	16°☾13'47	0°21'34
behind sun begin	3203 Jun 12 16:17	22°II32'41		min. Earth dist.	3209 Jan 06 21:23	16°☾13'06	18.11725 AU
behind sun end	3203 Jun 13 05:46	22°II34'35		direct	3209 Mar 22 07:08	14°☾12'14	
max. Earth dist.	3203 Jun 12 23:11	22°II33'39	20.47900 AU	evening set	3209 Jun 22 16:27	17°☾25'03	
morning rise	3203 Jun 29 14:21	23°II31'26					
retrograde	3203 Oct 02 00:41	26°II44'02		conjunction	3209 Jul 09 09:13	18°☾24'16	0°20'58

minimum elong	3209 Jul 09 09:13	18° $\Omega$ 24'16	0°20'58	minimum elong	3215 Aug 07 03:54	15° $\Omega$ 26'43	0°36'40
max. Earth dist.	3209 Jul 08 23:45	18° $\Omega$ 22'52	20.08461 AU	morning rise	3215 Aug 23 21:23	16° $\Omega$ 27'28	
morning rise	3209 Jul 26 03:02	19° $\Omega$ 23'41		retrograde	3215 Nov 25 02:41	19° $\Omega$ 47'22	
retrograde	3209 Oct 28 02:38	22° $\Omega$ 40'04		opposition	3216 Feb 07 06:48	17° $\Omega$ 44'45	0°41'56
opposition	3210 Jan 11 04:48	20° $\Omega$ 38'04	0°24'57	min. Earth dist.	3216 Feb 08 00:04	17° $\Omega$ 42'53	17.66577 AU
min. Earth dist.	3210 Jan 11 13:44	20° $\Omega$ 37'06	18.05173 AU	direct	3216 Apr 22 08:23	15° $\Omega$ 40'32	
direct	3210 Mar 26 20:45	18° $\Omega$ 36'11		evening set	3216 Jul 25 11:05	19° $\Omega$ 02'10	
evening set	3210 Jun 27 12:55	21° $\Omega$ 50'17		max. Earth dist.	3216 Aug 10 07:42	19° $\Omega$ 59'55	19.63633 AU
conjunction	3210 Jul 14 06:11	22° $\Omega$ 49'49	0°23'57	conjunction	3216 Aug 11 05:16	20° $\Omega$ 03'13	0°38'37
minimum elong	3210 Jul 14 06:11	22° $\Omega$ 49'49	0°23'58	minimum elong	3216 Aug 11 05:16	20° $\Omega$ 03'12	0°38'38
max. Earth dist.	3210 Jul 13 18:53	22° $\Omega$ 48'08	20.01907 AU	morning rise	3216 Aug 27 22:34	21° $\Omega$ 04'09	
morning rise	3210 Jul 31 00:14	23° $\Omega$ 49'28		retrograde	3216 Nov 29 01:00	24° $\Omega$ 24'32	
retrograde	3210 Nov 01 21:57	27° $\Omega$ 06'32		opposition	3217 Feb 11 01:31	22° $\Omega$ 21'47	0°43'59
opposition	3211 Jan 15 19:18	25° $\Omega$ 04'27	0°28'13	min. Earth dist.	3217 Feb 11 19:19	22° $\Omega$ 19'51	17.60804 AU
min. Earth dist.	3211 Jan 16 04:57	25° $\Omega$ 03'25	17.98609 AU	direct	3217 Apr 27 05:20	20° $\Omega$ 17'10	
direct	3211 Mar 31 13:02	23° $\Omega$ 02'13		evening set	3217 Jul 30 13:10	23° $\Omega$ 39'57	
evening set	3211 Jul 02 10:37	26° $\Omega$ 17'38		max. Earth dist.	3217 Aug 15 09:59	24° $\Omega$ 37'55	19.58031 AU
conjunction	3211 Jul 19 04:15	27° $\Omega$ 17'26	0°26'50	conjunction	3217 Aug 16 07:23	24° $\Omega$ 41'12	0°40'20
minimum elong	3211 Jul 19 04:15	27° $\Omega$ 17'26	0°26'50	minimum elong	3217 Aug 16 07:23	24° $\Omega$ 41'12	0°40'19
max. Earth dist.	3211 Jul 18 15:03	27° $\Omega$ 15'28	19.95320 AU	morning rise	3217 Sep 02 00:04	25° $\Omega$ 42'17	
morning rise	3211 Aug 04 22:18	28° $\Omega$ 17'21		retrograde	3217 Dec 03 23:33	29° $\Omega$ 03'07	
retrograde	3211 Sep 05 18:03	0° $\Omega$		opposition	3218 Feb 15 20:56	27° $\Omega$ 00'17	0°45'45
opposition	3211 Nov 06 16:23	1° $\Omega$ 35'01		min. Earth dist.	3218 Feb 16 15:41	26° $\Omega$ 58'14	17.55410 AU
min. Earth dist.	3212 Jan 09 20:23	30° $\Omega$		direct	3218 May 02 02:14	24° $\Omega$ 55'18	
direct	3212 Jan 20 10:36	29° $\Omega$ 32'52	0°31'21	evening set	3218 Aug 04 15:59	28° $\Omega$ 19'10	
evening set	3212 Jan 20 22:45	29° $\Omega$ 31'34	17.92025 AU	max. Earth dist.	3218 Aug 20 10:34	29° $\Omega$ 17'01	19.52858 AU
max. Earth dist.	3212 Apr 04 04:48	27° $\Omega$ 30'16		conjunction	3218 Aug 21 09:50	29° $\Omega$ 20'36	0°41'46
conjunction	3212 Jun 22 16:01	0° $\Omega$		minimum elong	3218 Aug 21 09:49	29° $\Omega$ 20'36	0°41'47
minimum elong	3212 Jul 06 09:11	0° $\Omega$ 46'58		morning rise	3218 Sep 01 02:10	0° $\Omega$	
morning rise	3212 Jul 22 11:38	1° $\Omega$ 44'44	19.88746 AU	retrograde	3218 Sep 07 02:12	0° $\Omega$ 21'50	
retrograde	3212 Jul 23 03:05	1° $\Omega$ 47'03	0°29'34	opposition	3218 Dec 08 22:18	3° $\Omega$ 43'04	
opposition	3212 Jul 23 03:05	1° $\Omega$ 47'03	0°29'33	min. Earth dist.	3219 Feb 20 17:04	1° $\Omega$ 40'09	0°47'13
min. Earth dist.	3212 Aug 08 21:12	2° $\Omega$ 47'11		direct	3219 Feb 21 12:17	1° $\Omega$ 38'03	17.50480 AU
direct	3212 Aug 08 21:12	2° $\Omega$ 47'11		evening set	3219 Apr 05 23:40	30° $\Omega$	
evening set	3212 Nov 10 12:44	6° $\Omega$ 05'28		max. Earth dist.	3219 May 06 23:52	29° $\Omega$ 34'51	
max. Earth dist.	3213 Jan 24 02:36	4° $\Omega$ 03'12	0°34'18	conjunction	3219 Jun 06 18:22	0° $\Omega$	
conjunction	3213 Jan 24 15:26	4° $\Omega$ 01'49	17.85468 AU	minimum elong	3219 Aug 09 19:16	2° $\Omega$ 59'47	
minimum elong	3213 Jan 24 15:26	4° $\Omega$ 01'49	17.85468 AU	morning rise	3219 Aug 26 12:57	4° $\Omega$ 01'23	0°42'57
morning rise	3213 Apr 08 23:26	2° $\Omega$ 00'12		max. Earth dist.	3219 Aug 26 12:57	4° $\Omega$ 01'23	0°42'57
retrograde	3213 Jul 11 08:23	5° $\Omega$ 18'11		morning rise	3219 Aug 25 14:18	3° $\Omega$ 57'53	19.48163 AU
opposition	3213 Jul 27 09:54	6° $\Omega$ 16'01	19.82209 AU	retrograde	3219 Sep 12 04:32	5° $\Omega$ 02'43	
conjunction	3213 Jul 28 02:33	6° $\Omega$ 18'32	0°32'07	opposition	3219 Dec 13 22:02	8° $\Omega$ 24'19	
minimum elong	3213 Jul 28 02:33	6° $\Omega$ 18'32	0°32'08	min. Earth dist.	3220 Feb 25 13:51	6° $\Omega$ 21'22	0°48'23
morning rise	3213 Aug 13 20:29	7° $\Omega$ 18'53		direct	3220 Feb 26 09:23	6° $\Omega$ 19'14	17.46045 AU
retrograde	3213 Nov 15 08:08	10° $\Omega$ 37'45		evening set	3220 May 10 23:00	4° $\Omega$ 15'50	
opposition	3214 Jan 28 19:25	8° $\Omega$ 35'23	0°37'04	conjunction	3220 Aug 13 23:11	7° $\Omega$ 41'45	
min. Earth dist.	3214 Jan 29 10:21	8° $\Omega$ 33'46	17.78987 AU	minimum elong	3220 Aug 30 16:17	8° $\Omega$ 43'28	0°43'51
direct	3214 Apr 13 16:56	6° $\Omega$ 31'58		max. Earth dist.	3220 Aug 30 16:17	8° $\Omega$ 43'28	0°43'51
evening set	3214 Jul 16 08:35	9° $\Omega$ 51'11		morning rise	3220 Aug 29 16:09	8° $\Omega$ 39'44	19.44001 AU
max. Earth dist.	3214 Aug 01 07:54	10° $\Omega$ 48'55	19.75803 AU	retrograde	3220 Sep 16 07:20	9° $\Omega$ 44'54	
conjunction	3214 Aug 02 02:49	10° $\Omega$ 51'47	0°34'30	opposition	3220 Dec 17 20:36	13° $\Omega$ 06'52	
minimum elong	3214 Aug 02 02:49	10° $\Omega$ 51'47	0°34'30	min. Earth dist.	3221 Mar 01 11:24	11° $\Omega$ 03'55	0°49'14
morning rise	3214 Aug 18 20:43	11° $\Omega$ 52'21		direct	3221 Mar 02 07:25	11° $\Omega$ 01'43	17.42168 AU
retrograde	3214 Oct 30 09:38	15° $\Omega$		evening set	3221 May 15 21:48	8° $\Omega$ 58'11	
opposition	3214 Nov 20 05:40	15° $\Omega$ 11'45		max. Earth dist.	3221 Aug 19 03:14	12° $\Omega$ 25'01	
min. Earth dist.	3214 Dec 11 05:17	15° $\Omega$		conjunction	3221 Sep 04 20:01	13° $\Omega$ 26'51	0°44'27
direct	3215 Feb 02 12:39	13° $\Omega$ 09'15	0°39'37	minimum elong	3221 Sep 04 20:01	13° $\Omega$ 26'51	0°44'27
evening set	3215 Feb 03 04:18	13° $\Omega$ 07'33	17.72672 AU	morning rise	3221 Sep 03 20:47	13° $\Omega$ 23'14	19.40394 AU
max. Earth dist.	3215 Apr 18 13:08	11° $\Omega$ 05'25		retrograde	3221 Sep 21 10:15	14° $\Omega$ 28'21	
conjunction	3215 Jul 21 09:29	14° $\Omega$ 25'53		opposition	3221 Dec 22 21:14	17° $\Omega$ 50'37	
minimum elong	3215 Jul 30 20:25	15° $\Omega$		morning rise	3222 Mar 06 09:33	15° $\Omega$ 47'44	0°49'46
morning rise	3215 Aug 06 08:24	15° $\Omega$ 23'45	19.69580 AU	retrograde			
retrograde				opposition			

min. Earth dist.	3222 Mar 07 05:27	15° <u>♏</u> 45'33	17.38822 AU	conjunction	3228 Oct 09 02:02	16° <u>♏</u> 54'09	0°40'11
direct	3222 May 20 23:05	13° <u>♏</u> 41'51		minimum elong	3228 Oct 09 02:02	16° <u>♏</u> 54'09	0°40'12
evening set	3222 Aug 24 08:02	17° <u>♏</u> 09'33		morning rise	3228 Oct 25 09:34	17° <u>♏</u> 55'28	
max. Earth dist.	3222 Sep 08 23:41	18° <u>♏</u> 07'39	19.37311 AU	retrograde	3229 Jan 24 23:00	21° <u>♏</u> 18'12	
				opposition	3229 Apr 08 11:33	19° <u>♏</u> 15'45	0°43'53
conjunction	3222 Sep 10 00:07	18° <u>♏</u> 11'28	0°44'45	min. Earth dist.	3229 Apr 09 07:48	19° <u>♏</u> 13'33	17.29049 AU
minimum elong	3222 Sep 10 00:07	18° <u>♏</u> 11'28	0°44'45	direct	3229 Jun 23 18:47	17° <u>♏</u> 09'23	
morning rise	3222 Sep 26 13:38	19° <u>♏</u> 13'01		evening set	3229 Sep 27 19:08	20° <u>♏</u> 39'56	
retrograde	3222 Dec 27 20:03	22° <u>♏</u> 35'32		max. Earth dist.	3229 Oct 13 06:39	21° <u>♏</u> 38'04	19.29248 AU
opposition	3223 Mar 11 08:16	20° <u>♏</u> 32'43	0°49'57				
min. Earth dist.	3223 Mar 12 05:04	20° <u>♏</u> 30'26	17.36003 AU	conjunction	3229 Oct 14 05:20	21° <u>♏</u> 41'39	0°38'23
direct	3223 May 25 23:32	18° <u>♏</u> 26'42		minimum elong	3229 Oct 14 05:20	21° <u>♏</u> 41'39	0°38'23
evening set	3223 Aug 29 13:04	21° <u>♏</u> 55'11		morning rise	3229 Oct 30 12:00	22° <u>♏</u> 42'50	
max. Earth dist.	3223 Sep 14 04:45	22° <u>♏</u> 53'25	19.34736 AU	retrograde	3230 Jan 30 00:26	26° <u>♏</u> 05'23	
				opposition	3230 Apr 13 12:58	24° <u>♏</u> 02'59	0°41'43
conjunction	3223 Sep 15 04:35	22° <u>♏</u> 57'09	0°44'46	min. Earth dist.	3230 Apr 14 07:32	24° <u>♏</u> 00'58	17.29651 AU
minimum elong	3223 Sep 15 04:35	22° <u>♏</u> 57'09	0°44'46	direct	3230 Jun 28 23:46	21° <u>♏</u> 56'37	
morning rise	3223 Oct 01 17:09	23° <u>♏</u> 58'43		evening set	3230 Oct 02 23:02	25° <u>♏</u> 27'05	
retrograde	3224 Jan 01 21:25	27° <u>♏</u> 21'26		max. Earth dist.	3230 Oct 18 11:36	26° <u>♏</u> 25'23	19.30131 AU
opposition	3224 Mar 15 07:42	25° <u>♏</u> 18'42	0°49'47				
min. Earth dist.	3224 Mar 16 04:00	25° <u>♏</u> 16'28	17.33662 AU	conjunction	3230 Oct 19 08:20	26° <u>♏</u> 28'40	0°36'20
direct	3224 May 30 02:46	23° <u>♏</u> 12'36		minimum elong	3230 Oct 19 08:20	26° <u>♏</u> 28'40	0°36'19
evening set	3224 Sep 02 18:14	26° <u>♏</u> 41'43		morning rise	3230 Nov 04 13:46	27° <u>♏</u> 29'42	
max. Earth dist.	3224 Sep 18 08:28	27° <u>♏</u> 39'53	19.32626 AU		3230 Dec 22 12:37	0° <u>♏</u>	
				retrograde	3231 Feb 03 23:29	0° <u>♏</u> 51'59	
conjunction	3224 Sep 19 08:56	27° <u>♏</u> 43'43	0°44'27		3231 Mar 20 20:04	30° <u>♏</u>	
minimum elong	3224 Sep 19 08:56	27° <u>♏</u> 43'43	0°44'27	opposition	3231 Apr 18 14:36	28° <u>♏</u> 49'40	0°39'17
morning rise	3224 Oct 05 20:35	28° <u>♏</u> 45'16		min. Earth dist.	3231 Apr 19 09:07	28° <u>♏</u> 47'39	17.30825 AU
	3224 Oct 27 06:08	0° <u>♏</u>		direct	3231 Jul 04 02:19	26° <u>♏</u> 43'20	
retrograde	3225 Jan 05 20:39	2° <u>♏</u> 08'09			3231 Oct 04 09:26	0° <u>♏</u>	
opposition	3225 Mar 20 07:47	0° <u>♏</u> 05'28	0°49'17	evening set	3231 Oct 08 02:30	0° <u>♏</u> 13'36	
min. Earth dist.	3225 Mar 21 04:59	0° <u>♏</u> 03'09	17.31798 AU				
	3225 Mar 22 09:48	30° <u>♏</u>		conjunction	3231 Oct 24 10:34	1° <u>♏</u> 15'01	0°34'01
direct	3225 Jun 04 04:21	27° <u>♏</u> 59'17		minimum elong	3231 Oct 24 10:34	1° <u>♏</u> 15'01	0°34'02
	3225 Aug 13 03:55	0° <u>♏</u>		max. Earth dist.	3231 Oct 23 14:11	1° <u>♏</u> 11'48	19.31617 AU
evening set	3225 Sep 07 23:31	1° <u>♏</u> 28'57		morning rise	3231 Nov 09 15:06	2° <u>♏</u> 15'53	
				retrograde	3232 Feb 09 00:02	5° <u>♏</u> 37'53	
conjunction	3225 Sep 24 13:27	2° <u>♏</u> 30'56	0°43'51	opposition	3232 Apr 22 16:14	3° <u>♏</u> 35'37	0°36'35
minimum elong	3225 Sep 24 13:27	2° <u>♏</u> 30'56	0°43'51	min. Earth dist.	3232 Apr 23 08:42	3° <u>♏</u> 33'50	17.32622 AU
max. Earth dist.	3225 Sep 23 13:19	2° <u>♏</u> 27'08	19.30993 AU	direct	3232 Jul 08 06:55	1° <u>♏</u> 29'23	
morning rise	3225 Oct 11 00:10	3° <u>♏</u> 32'28		evening set	3232 Oct 12 05:01	4° <u>♏</u> 59'21	
retrograde	3226 Jan 10 22:22	6° <u>♏</u> 55'24					
opposition	3226 Mar 25 08:04	4° <u>♏</u> 52'47	0°48'26	conjunction	3232 Oct 28 12:11	6° <u>♏</u> 00'34	0°31'29
min. Earth dist.	3226 Mar 26 04:23	4° <u>♏</u> 50'34	17.30389 AU	minimum elong	3232 Oct 28 12:11	6° <u>♏</u> 00'34	0°31'28
direct	3226 Jun 09 08:48	2° <u>♏</u> 46'32		max. Earth dist.	3232 Oct 27 18:29	5° <u>♏</u> 57'47	19.33730 AU
evening set	3226 Sep 13 04:50	6° <u>♏</u> 16'36		morning rise	3232 Nov 13 15:28	7° <u>♏</u> 01'15	
				retrograde	3233 Feb 12 22:35	10° <u>♏</u> 22'55	
conjunction	3226 Sep 29 17:57	7° <u>♏</u> 18'34	0°42'55	opposition	3233 Apr 27 17:57	8° <u>♏</u> 20'46	0°33'38
minimum elong	3226 Sep 29 17:57	7° <u>♏</u> 18'34	0°42'56	min. Earth dist.	3233 Apr 28 09:40	8° <u>♏</u> 19'04	17.35046 AU
max. Earth dist.	3226 Sep 28 17:52	7° <u>♏</u> 14'47	19.29813 AU	direct	3233 Jul 13 09:54	6° <u>♏</u> 14'43	
morning rise	3226 Oct 16 03:37	8° <u>♏</u> 20'03		evening set	3233 Oct 17 07:13	9° <u>♏</u> 44'15	
retrograde	3227 Jan 15 21:53	11° <u>♏</u> 42'59					
opposition	3227 Mar 30 09:01	9° <u>♏</u> 40'26	0°47'15	conjunction	3233 Nov 02 13:08	10° <u>♏</u> 45'16	0°28'45
min. Earth dist.	3227 Mar 31 06:10	9° <u>♏</u> 38'07	17.29448 AU	minimum elong	3233 Nov 02 13:08	10° <u>♏</u> 45'16	0°28'45
direct	3227 Jun 14 11:13	7° <u>♏</u> 34'07		max. Earth dist.	3233 Nov 01 19:56	10° <u>♏</u> 42'33	19.36483 AU
evening set	3227 Sep 18 09:58	11° <u>♏</u> 04'29		morning rise	3233 Nov 18 15:33	11° <u>♏</u> 45'45	
					3234 Feb 02 01:42	15° <u>♏</u>	
conjunction	3227 Oct 04 22:06	12° <u>♏</u> 06'23	0°41'42	retrograde	3234 Feb 17 21:50	15° <u>♏</u> 07'03	
minimum elong	3227 Oct 04 22:06	12° <u>♏</u> 06'23	0°41'42		3234 Mar 05 20:14	15° <u>♏</u>	
max. Earth dist.	3227 Oct 03 22:11	12° <u>♏</u> 02'37	19.29116 AU	opposition	3234 May 02 19:19	13° <u>♏</u> 05'02	0°30'28
morning rise	3227 Oct 21 06:49	13° <u>♏</u> 07'47		min. Earth dist.	3234 May 03 09:05	13° <u>♏</u> 03'34	17.38109 AU
retrograde	3228 Jan 20 23:31	16° <u>♏</u> 30'40		direct	3234 Jul 18 14:21	10° <u>♏</u> 59'12	
opposition	3228 Apr 03 10:06	14° <u>♏</u> 28'10	0°45'43	evening set	3234 Oct 22 08:36	14° <u>♏</u> 28'15	
min. Earth dist.	3228 Apr 04 05:53	14° <u>♏</u> 26'00	17.28989 AU		3234 Oct 30 21:06	15° <u>♏</u>	
direct	3228 Jun 18 16:18	12° <u>♏</u> 21'48					
evening set	3228 Sep 22 14:45	15° <u>♏</u> 52'20		conjunction	3234 Nov 07 13:36	15° <u>♏</u> 29'02	0°25'49
max. Earth dist.	3228 Oct 08 03:12	16° <u>♏</u> 50'33	19.28911 AU	minimum elong	3234 Nov 07 13:36	15° <u>♏</u> 29'02	0°25'49

max. Earth dist.	3234 Nov 06 23:13	15° $\mathbb{M}$ 26'47	19.39851 AU	behind sun begin	3240 Dec 04 17:06	13° $\mathbb{A}$ 25'18	
morning rise	3234 Nov 23 14:50	16° $\mathbb{M}$ 29'18		behind sun end	3240 Dec 05 05:46	13° $\mathbb{A}$ 27'13	
retrograde	3235 Feb 22 19:34	19° $\mathbb{M}$ 50'11		max. Earth dist.	3240 Dec 04 18:43	13° $\mathbb{A}$ 25'33	19.69337 AU
opposition	3235 May 07 20:51	17° $\mathbb{M}$ 48'23	0°27'06	morning rise	3240 Dec 20 19:19	14° $\mathbb{A}$ 24'59	
min. Earth dist.	3235 May 08 09:26	17° $\mathbb{M}$ 47'02	17.41749 AU	retrograde	3241 Mar 22 02:35	17° $\mathbb{A}$ 42'43	
direct	3235 Jul 23 17:48	15° $\mathbb{M}$ 42'50		opposition	3241 Jun 05 00:37	15° $\mathbb{A}$ 42'02	0°04'22
evening set	3235 Oct 27 09:18	19° $\mathbb{M}$ 11'16		min. Earth dist.	3241 Jun 05 03:45	15° $\mathbb{A}$ 41'43	17.72235 AU
				direct	3241 Aug 21 05:09	13° $\mathbb{A}$ 38'25	
conjunction	3235 Nov 12 13:03	20° $\mathbb{M}$ 11'48	0°22'44	evening set	3241 Nov 23 20:25	17° $\mathbb{A}$ 01'26	
minimum elong	3235 Nov 12 13:03	20° $\mathbb{M}$ 11'48	0°22'44				
max. Earth dist.	3235 Nov 11 23:23	20° $\mathbb{M}$ 09'40	19.43772 AU	conjunction	3241 Dec 09 18:08	18° $\mathbb{A}$ 00'14	0°02'10
morning rise	3235 Nov 28 13:24	21° $\mathbb{M}$ 11'51		minimum elong	3241 Dec 09 18:09	18° $\mathbb{A}$ 00'14	0°02'11
retrograde	3236 Feb 27 17:52	24° $\mathbb{M}$ 32'19		behind sun begin	3241 Dec 09 11:33	17° $\mathbb{A}$ 59'15	
opposition	3236 May 11 22:13	22° $\mathbb{M}$ 30'42	0°23'35	behind sun end	3241 Dec 10 00:44	18° $\mathbb{A}$ 01'14	
min. Earth dist.	3236 May 12 09:07	22° $\mathbb{M}$ 29'32	17.45926 AU	max. Earth dist.	3241 Dec 09 14:49	17° $\mathbb{A}$ 59'46	19.75210 AU
direct	3236 Jul 27 21:08	20° $\mathbb{M}$ 25'27		morning rise	3241 Dec 25 13:17	18° $\mathbb{A}$ 58'41	
evening set	3236 Oct 31 09:11	23° $\mathbb{M}$ 53'12		retrograde	3242 Mar 26 20:25	22° $\mathbb{A}$ 15'46	
				opposition	3242 Jun 09 23:44	20° $\mathbb{A}$ 15'14	0°00'24
conjunction	3236 Nov 16 12:00	24° $\mathbb{M}$ 53'29	0°19'31	min. Earth dist.	3242 Jun 10 02:11	20° $\mathbb{A}$ 14'58	17.78198 AU
minimum elong	3236 Nov 16 12:00	24° $\mathbb{M}$ 53'29	0°19'32	desc. node	3242 Jul 17 10:07	18° $\mathbb{A}$ 50'09	
max. Earth dist.	3236 Nov 16 01:03	24° $\mathbb{M}$ 51'47	19.48188 AU	direct	3242 Aug 26 03:22	18° $\mathbb{A}$ 11'54	
morning rise	3236 Dec 02 11:17	25° $\mathbb{M}$ 53'17		evening set	3242 Nov 28 15:03	21° $\mathbb{A}$ 33'47	
retrograde	3237 Mar 03 15:16	29° $\mathbb{M}$ 13'16					
opposition	3237 May 16 23:16	27° $\mathbb{M}$ 11'53	0°19'55	conjunction	3242 Dec 14 11:55	22° $\mathbb{A}$ 32'16	-0°01'29
min. Earth dist.	3237 May 17 08:41	27° $\mathbb{M}$ 10'52	17.50548 AU	minimum elong	3242 Dec 14 11:55	22° $\mathbb{A}$ 32'16	0°01'29
direct	3237 Aug 02 00:09	25° $\mathbb{M}$ 06'57		behind sun begin	3242 Dec 14 05:20	22° $\mathbb{A}$ 31'17	
evening set	3237 Nov 05 08:25	28° $\mathbb{M}$ 33'55		behind sun end	3242 Dec 14 18:30	22° $\mathbb{A}$ 33'16	
				max. Earth dist.	3242 Dec 14 10:18	22° $\mathbb{A}$ 32'05	19.81261 AU
conjunction	3237 Nov 21 10:04	29° $\mathbb{M}$ 33'55	0°16'11	morning rise	3242 Dec 30 06:24	23° $\mathbb{A}$ 30'26	
minimum elong	3237 Nov 21 10:04	29° $\mathbb{M}$ 33'55	0°16'10	retrograde	3243 Mar 31 15:59	26° $\mathbb{A}$ 46'51	
max. Earth dist.	3237 Nov 20 23:54	29° $\mathbb{M}$ 32'20	19.53013 AU	opposition	3243 Jun 14 22:16	24° $\mathbb{A}$ 46'25	-0°03'32
	3237 Nov 28 08:27	0° $\mathbb{A}$		min. Earth dist.	3243 Jun 14 22:09	24° $\mathbb{A}$ 46'26	17.84318 AU
morning rise	3237 Dec 07 08:32	0° $\mathbb{A}$ 33'28		direct	3243 Aug 31 04:07	22° $\mathbb{A}$ 43'25	
retrograde	3238 Mar 08 12:23	3° $\mathbb{A}$ 52'57		evening set	3243 Dec 03 08:29	26° $\mathbb{A}$ 04'05	
opposition	3238 May 22 00:10	1° $\mathbb{A}$ 51'45	0°16'08				
min. Earth dist.	3238 May 22 08:21	1° $\mathbb{A}$ 50'53	17.55558 AU	conjunction	3243 Dec 19 04:33	27° $\mathbb{A}$ 02'16	-0°05'02
	3238 Jul 15 13:42	30° $\mathbb{R}$ $\mathbb{M}$		minimum elong	3243 Dec 19 04:32	27° $\mathbb{A}$ 02'15	0°05'01
direct	3238 Aug 07 01:26	29° $\mathbb{M}$ 47'08		behind sun begin	3243 Dec 18 22:08	27° $\mathbb{A}$ 01'18	
	3238 Aug 29 05:48	0° $\mathbb{A}$		behind sun end	3243 Dec 19 10:56	27° $\mathbb{A}$ 03'13	
evening set	3238 Nov 10 06:45	3° $\mathbb{A}$ 13'15		max. Earth dist.	3243 Dec 19 04:56	27° $\mathbb{A}$ 02'18	19.87463 AU
				morning rise	3244 Jan 03 22:24	28° $\mathbb{A}$ 00'08	
conjunction	3238 Nov 26 07:26	4° $\mathbb{A}$ 12'58	0°12'45		3244 Feb 10 04:31	0° $\mathbb{B}$	
minimum elong	3238 Nov 26 07:26	4° $\mathbb{A}$ 12'58	0°12'46	retrograde	3244 Apr 04 08:24	1° $\mathbb{B}$ 15'54	
behind sun begin	3238 Nov 26 03:14	4° $\mathbb{A}$ 12'19			3244 May 31 13:55	30° $\mathbb{R}$ $\mathbb{A}$	
behind sun end	3238 Nov 26 11:37	4° $\mathbb{A}$ 13'36		opposition	3244 Jun 18 20:17	29° $\mathbb{A}$ 15'33	-0°07'25
max. Earth dist.	3238 Nov 25 23:36	4° $\mathbb{A}$ 11'45	19.58188 AU	min. Earth dist.	3244 Jun 18 19:24	29° $\mathbb{A}$ 15'38	17.90613 AU
morning rise	3238 Dec 12 04:54	5° $\mathbb{A}$ 12'14		direct	3244 Sep 04 00:58	27° $\mathbb{A}$ 12'51	
retrograde	3239 Mar 13 09:49	8° $\mathbb{A}$ 31'10			3244 Nov 27 21:30	0° $\mathbb{B}$	
opposition	3239 May 27 00:43	6° $\mathbb{A}$ 30'10	0°12'15	evening set	3244 Dec 07 01:00	0° $\mathbb{B}$ 32'18	
min. Earth dist.	3239 May 27 07:00	6° $\mathbb{A}$ 29'30	17.60869 AU				
direct	3239 Aug 12 03:57	4° $\mathbb{A}$ 25'53		conjunction	3244 Dec 22 20:14	1° $\mathbb{B}$ 30'09	-0°08'28
evening set	3239 Nov 15 04:19	7° $\mathbb{A}$ 51'02		minimum elong	3244 Dec 22 20:15	1° $\mathbb{B}$ 30'09	0°08'28
				behind sun begin	3244 Dec 22 14:28	1° $\mathbb{B}$ 29'17	
conjunction	3239 Dec 01 03:54	8° $\mathbb{A}$ 50'27	0°09'16	behind sun end	3244 Dec 23 02:01	1° $\mathbb{B}$ 31'01	
minimum elong	3239 Dec 01 03:53	8° $\mathbb{A}$ 50'27	0°09'16	max. Earth dist.	3244 Dec 22 22:19	1° $\mathbb{B}$ 30'27	19.93850 AU
behind sun begin	3239 Nov 30 22:18	8° $\mathbb{A}$ 49'36		morning rise	3245 Jan 07 13:38	2° $\mathbb{B}$ 27'45	
behind sun end	3239 Dec 01 09:29	8° $\mathbb{A}$ 51'18		retrograde	3245 Apr 09 02:09	5° $\mathbb{B}$ 42'50	
max. Earth dist.	3239 Nov 30 21:10	8° $\mathbb{A}$ 49'25	19.63640 AU	opposition	3245 Jun 23 17:15	3° $\mathbb{B}$ 42'35	-0°11'14
morning rise	3239 Dec 17 00:34	9° $\mathbb{A}$ 49'28		min. Earth dist.	3245 Jun 23 13:32	3° $\mathbb{B}$ 42'58	17.97087 AU
retrograde	3240 Mar 17 05:36	13° $\mathbb{A}$ 07'48		direct	3245 Sep 08 23:57	1° $\mathbb{B}$ 40'13	
opposition	3240 May 31 00:59	11° $\mathbb{A}$ 06'59	0°08'20	evening set	3245 Dec 11 16:30	4° $\mathbb{B}$ 58'26	
min. Earth dist.	3240 May 31 06:19	11° $\mathbb{A}$ 06'25	17.66454 AU				
direct	3240 Aug 16 03:18	9° $\mathbb{A}$ 03'02		conjunction	3245 Dec 27 11:05	5° $\mathbb{B}$ 56'00	-0°11'50
evening set	3240 Nov 19 00:45	12° $\mathbb{A}$ 27'09		minimum elong	3245 Dec 27 11:05	5° $\mathbb{B}$ 56'00	0°11'50
				behind sun begin	3245 Dec 27 06:26	5° $\mathbb{B}$ 55'18	
conjunction	3240 Dec 04 23:26	13° $\mathbb{A}$ 26'15	0°05'44	behind sun end	3245 Dec 27 15:43	5° $\mathbb{B}$ 56'41	
minimum elong	3240 Dec 04 23:26	13° $\mathbb{A}$ 26'16	0°05'44	max. Earth dist.	3245 Dec 27 15:30	5° $\mathbb{B}$ 56'39	20.00411 AU

morning rise	3246 Jan 12 03:54	6°35'18"	opposition	3252 Jul 25 02:49	4°00'44"	-0°34'10"
retrograde	3246 Apr 13 17:26	10°30'45"	min. Earth dist.	3252 Jul 24 12:31	4°02'11"	18.45156 AU
opposition	3246 Jun 28 13:52	8°30'37"	direct	3252 Oct 10 03:17	2°01'15"	
min. Earth dist.	3246 Jun 28 09:16	8°30'05"	evening set	3253 Jan 10 04:39	5°11'13"	
direct	3246 Sep 13 19:08	6°30'37"				
evening set	3246 Dec 16 07:01	9°32'37"	conjunction	3253 Jan 25 19:53	6°06'49"	-0°32'02"
			minimum elong	3253 Jan 25 19:53	6°06'49"	0°32'02"
conjunction	3247 Jan 01 00:51	10°31'51"	max. Earth dist.	3253 Jan 26 10:52	6°09'02"	20.48440 AU
minimum elong	3247 Jan 01 00:51	10°31'51"	morning rise	3253 Feb 10 11:22	7°02'25"	
behind sun begin	3246 Dec 31 22:22	10°31'29"	retrograde	3253 May 13 19:42	10°12'56"	
behind sun end	3247 Jan 01 03:19	10°32'013"	opposition	3253 Jul 29 18:29	8°13'57"	-0°36'45"
max. Earth dist.	3247 Jan 01 06:45	10°32'044"	min. Earth dist.	3253 Jul 29 02:26	8°15'34"	18.51655 AU
morning rise	3247 Jan 16 17:19	11°316'53"	direct	3253 Oct 14 17:51	6°14'49"	
retrograde	3247 Apr 18 09:58	14°330'42"	evening set	3254 Jan 14 13:46	9°23'42"	
opposition	3247 Jul 03 09:39	12°330'44"				
min. Earth dist.	3247 Jul 03 02:02	12°331'31"	conjunction	3254 Jan 30 04:56	10°19'04"	-0°34'16"
direct	3247 Sep 18 16:00	10°329'07"	minimum elong	3254 Jan 30 04:56	10°19'04"	0°34'16"
evening set	3247 Dec 20 20:36	13°344'54"	max. Earth dist.	3254 Jan 30 21:50	10°21'34"	20.54783 AU
			morning rise	3254 Feb 14 20:18	11°14'29"	
conjunction	3248 Jan 05 13:55	14°341'51"	retrograde	3254 May 18 06:29	14°24'29"	
minimum elong	3248 Jan 05 13:55	14°341'51"	opposition	3254 Aug 03 09:46	12°25'37"	-0°39'07"
max. Earth dist.	3248 Jan 05 22:22	14°343'08"	min. Earth dist.	3254 Aug 02 17:30	12°27'15"	18.57844 AU
morning rise	3248 Jan 21 05:57	15°338'37"	direct	3254 Oct 19 06:43	10°26'49"	
retrograde	3248 Apr 22 00:13	18°351'51"	evening set	3255 Jan 18 22:13	13°34'35"	
opposition	3248 Jul 07 04:51	16°352'02"				
min. Earth dist.	3248 Jul 06 20:27	16°352'54"	conjunction	3255 Feb 03 13:07	14°29'44"	-0°36'19"
direct	3248 Sep 22 09:44	14°350'51"	minimum elong	3255 Feb 03 13:07	14°29'44"	0°36'19"
evening set	3248 Dec 24 09:20	18°305'26"	max. Earth dist.	3255 Feb 04 05:56	14°32'13"	20.60806 AU
				3255 Feb 12 01:39	15°	
conjunction	3249 Jan 09 02:04	19°302'06"	morning rise	3255 Feb 19 04:47	15°24'58"	
minimum elong	3249 Jan 09 02:04	19°302'06"	retrograde	3255 May 22 18:46	18°34'30"	
max. Earth dist.	3249 Jan 09 11:34	19°303'32"	min. Earth dist.	3255 Aug 07 06:36	16°37'27"	18.63699 AU
morning rise	3249 Jan 24 17:58	19°358'37"	opposition	3255 Aug 08 00:19	16°35'40"	-0°41'15"
retrograde	3249 Apr 26 15:26	23°311'16"		3255 Sep 23 02:19	15°R	
opposition	3249 Jul 11 23:12	21°311'38"	direct	3255 Oct 23 19:52	14°37'09"	
min. Earth dist.	3249 Jul 11 12:08	21°312'46"		3255 Nov 22 19:47	15°	
direct	3249 Sep 27 04:11	19°310'53"	evening set	3256 Jan 23 05:58	17°43'52"	
evening set	3249 Dec 28 21:12	22°324'17"				
			conjunction	3256 Feb 07 20:59	18°38'49"	-0°38'10"
conjunction	3250 Jan 13 13:33	23°320'40"	minimum elong	3256 Feb 07 20:59	18°38'49"	0°38'09"
minimum elong	3250 Jan 13 13:33	23°320'40"	max. Earth dist.	3256 Feb 08 15:39	18°41'34"	20.66471 AU
max. Earth dist.	3250 Jan 14 01:29	23°322'28"	morning rise	3256 Feb 23 12:43	19°33'52"	
morning rise	3250 Jan 29 05:06	24°316'57"	retrograde	3256 May 26 04:34	22°42'55"	
retrograde	3250 May 01 04:33	27°329'02"	opposition	3256 Aug 11 14:02	20°44'07"	-0°43'10"
opposition	3250 Jul 16 17:02	25°329'35"	min. Earth dist.	3256 Aug 10 20:10	20°45'55"	18.69187 AU
min. Earth dist.	3250 Jul 16 05:25	25°330'46"	direct	3256 Oct 27 07:38	18°45'50"	
direct	3250 Oct 01 20:26	23°329'17"	evening set	3257 Jan 26 13:08	21°51'31"	
evening set	3251 Jan 02 08:27	26°341'31"				
			conjunction	3257 Feb 11 04:05	22°46'16"	-0°39'48"
conjunction	3251 Jan 18 00:18	27°337'38"	minimum elong	3257 Feb 11 04:05	22°46'16"	0°39'48"
minimum elong	3251 Jan 18 00:17	27°337'38"	max. Earth dist.	3257 Feb 11 22:31	22°48'59"	20.71788 AU
max. Earth dist.	3251 Jan 18 12:52	27°339'31"	morning rise	3257 Feb 26 20:15	23°41'11"	
morning rise	3251 Feb 02 15:50	28°333'40"	retrograde	3257 May 30 15:29	26°49'46"	
	3251 Feb 28 23:18	0°	min. Earth dist.	3257 Aug 15 08:00	24°52'51"	18.74340 AU
retrograde	3251 May 05 18:33	1°45'13"	opposition	3257 Aug 16 03:04	24°50'57"	-0°44'51"
	3251 Jul 15 15:28	30°R	direct	3257 Oct 31 18:47	22°52'52"	
opposition	3251 Jul 21 10:13	29°345'57"	evening set	3258 Jan 30 19:32	25°57'35"	
min. Earth dist.	3251 Jul 20 20:16	29°347'22"				
direct	3251 Oct 06 12:50	27°346'03"	conjunction	3258 Feb 15 10:40	26°52'09"	-0°41'13"
	3251 Dec 20 20:00	0°	minimum elong	3258 Feb 15 10:40	26°52'09"	0°41'13"
evening set	3252 Jan 06 18:46	0°57'09"	max. Earth dist.	3258 Feb 16 07:05	26°55'09"	20.76768 AU
			morning rise	3258 Mar 03 02:59	27°46'55"	
conjunction	3252 Jan 22 10:24	1°53'00"		3258 Apr 17 10:10	0°H	
minimum elong	3252 Jan 22 10:23	1°53'00"	retrograde	3258 Jun 04 00:28	0°H55'04"	
max. Earth dist.	3252 Jan 23 01:13	1°55'13"		3258 Jul 23 15:17	30°R	
morning rise	3252 Feb 07 01:44	2°48'49"	opposition	3258 Aug 20 15:29	28°56'14"	-0°46'17"
retrograde	3252 May 09 06:35	5°59'51"	min. Earth dist.	3258 Aug 19 19:58	28°58'12"	18.79170 AU

direct	3258 Nov 05 05:56	26° $\approx$ 58'23	morning rise	3265 Mar 30 19:57	25° $\cancel{\text{H}}$ 56'17
	3259 Feb 03 10:27	0° $\cancel{\text{H}}$	retrograde	3265 Jul 02 15:03	29° $\cancel{\text{H}}$ 02'48
evening set	3259 Feb 04 01:35	0° $\cancel{\text{H}}$ 02'09	opposition	3265 Sep 18 14:32	27° $\cancel{\text{H}}$ 04'05 -0°49'32
			min. Earth dist.	3265 Sep 17 16:01	27° $\cancel{\text{H}}$ 06'20 19.04361 AU
conjunction	3259 Feb 19 16:43	0° $\cancel{\text{H}}$ 56'34 -0°42'24	direct	3265 Dec 03 12:59	25° $\cancel{\text{H}}$ 07'41
minimum elong	3259 Feb 19 16:43	0° $\cancel{\text{H}}$ 56'34 0°42'25	evening set	3266 Mar 03 10:24	28° $\cancel{\text{H}}$ 07'00
max. Earth dist.	3259 Feb 20 12:59	0° $\cancel{\text{H}}$ 59'32 20.81459 AU			
morning rise	3259 Mar 07 09:35	1° $\cancel{\text{H}}$ 51'13	conjunction	3266 Mar 19 04:31	29° $\cancel{\text{H}}$ 00'54 -0°44'39
retrograde	3259 Jun 08 10:35	4° $\cancel{\text{H}}$ 59'00	minimum elong	3266 Mar 19 04:31	29° $\cancel{\text{H}}$ 00'54 0°44'40
min. Earth dist.	3259 Aug 24 06:34	3° $\cancel{\text{H}}$ 02'12 18.83734 AU	max. Earth dist.	3266 Mar 20 04:42	29° $\cancel{\text{H}}$ 04'22 21.05360 AU
opposition	3259 Aug 25 03:13	3° $\cancel{\text{H}}$ 00'08 -0°47'28	morning rise	3266 Apr 04 01:22	29° $\cancel{\text{H}}$ 55'12
direct	3259 Nov 09 14:56	1° $\cancel{\text{H}}$ 02'29		3266 Apr 05 11:40	0° $\cancel{\text{Y}}$
evening set	3260 Feb 08 06:57	4° $\cancel{\text{H}}$ 05'24	retrograde	3266 Jul 06 22:52	3° $\cancel{\text{Y}}$ 01'40
			opposition	3266 Sep 22 23:06	1° $\cancel{\text{Y}}$ 02'57 -0°49'03
conjunction	3260 Feb 23 22:29	4° $\cancel{\text{H}}$ 59'41 -0°43'23	min. Earth dist.	3266 Sep 22 00:43	1° $\cancel{\text{Y}}$ 05'11 19.06315 AU
minimum elong	3260 Feb 23 22:29	4° $\cancel{\text{H}}$ 59'41 0°43'23		3266 Oct 20 17:10	30° $\cancel{\text{R}}$ $\cancel{\text{H}}$
max. Earth dist.	3260 Feb 24 20:39	5° $\cancel{\text{H}}$ 02'55 20.85872 AU	direct	3266 Dec 07 19:29	29° $\cancel{\text{H}}$ 06'42
morning rise	3260 Mar 10 15:38	5° $\cancel{\text{H}}$ 54'14		3267 Jan 23 02:47	0° $\cancel{\text{Y}}$
retrograde	3260 Jun 11 18:53	9° $\cancel{\text{H}}$ 01'39	evening set	3267 Mar 07 14:50	2° $\cancel{\text{Y}}$ 05'39
opposition	3260 Aug 28 14:20	7° $\cancel{\text{H}}$ 02'48 -0°48'25			
min. Earth dist.	3260 Aug 27 17:11	7° $\cancel{\text{H}}$ 04'55 18.88006 AU	conjunction	3267 Mar 23 09:26	2° $\cancel{\text{Y}}$ 59'33 -0°44'06
direct	3260 Nov 13 00:57	5° $\cancel{\text{H}}$ 05'22	minimum elong	3267 Mar 23 09:26	2° $\cancel{\text{Y}}$ 59'33 0°44'06
evening set	3261 Feb 11 12:11	8° $\cancel{\text{H}}$ 07'30	max. Earth dist.	3267 Mar 24 08:10	3° $\cancel{\text{Y}}$ 02'49 21.07051 AU
			morning rise	3267 Apr 08 07:13	3° $\cancel{\text{Y}}$ 53'53
conjunction	3261 Feb 27 03:51	9° $\cancel{\text{H}}$ 01'40 -0°44'08	retrograde	3267 Jul 11 07:37	7° $\cancel{\text{Y}}$ 00'19
minimum elong	3261 Feb 27 03:51	9° $\cancel{\text{H}}$ 01'40 0°44'08	min. Earth dist.	3267 Sep 26 09:40	5° $\cancel{\text{Y}}$ 03'45 19.07733 AU
max. Earth dist.	3261 Feb 28 01:35	9° $\cancel{\text{H}}$ 04'50 20.90003 AU	opposition	3267 Sep 27 07:22	5° $\cancel{\text{Y}}$ 01'35 -0°48'19
morning rise	3261 Mar 14 21:38	9° $\cancel{\text{H}}$ 56'08	direct	3267 Dec 12 01:21	3° $\cancel{\text{Y}}$ 05'24
retrograde	3261 Jun 16 04:34	13° $\cancel{\text{H}}$ 03'17	evening set	3268 Mar 10 19:09	6° $\cancel{\text{Y}}$ 04'03
min. Earth dist.	3261 Sep 01 02:53	11° $\cancel{\text{H}}$ 06'38 18.91997 AU			
opposition	3261 Sep 02 00:46	11° $\cancel{\text{H}}$ 04'26 -0°49'08	conjunction	3268 Mar 26 14:37	6° $\cancel{\text{Y}}$ 57'59 -0°43'21
direct	3261 Nov 17 08:28	9° $\cancel{\text{H}}$ 07'13	minimum elong	3268 Mar 26 14:37	6° $\cancel{\text{Y}}$ 57'59 0°43'21
evening set	3262 Feb 15 16:55	12° $\cancel{\text{H}}$ 08'39	max. Earth dist.	3268 Mar 27 13:55	7° $\cancel{\text{Y}}$ 01'19 21.08172 AU
			morning rise	3268 Apr 11 13:04	7° $\cancel{\text{Y}}$ 52'22
conjunction	3262 Mar 03 09:05	13° $\cancel{\text{H}}$ 02'44 -0°44'41	retrograde	3268 Jul 14 15:48	10° $\cancel{\text{Y}}$ 58'46
minimum elong	3262 Mar 03 09:05	13° $\cancel{\text{H}}$ 02'44 0°44'41	opposition	3268 Sep 30 15:19	8° $\cancel{\text{Y}}$ 59'59 -0°47'22
max. Earth dist.	3262 Mar 04 08:30	13° $\cancel{\text{H}}$ 06'07 20.93831 AU	min. Earth dist.	3268 Sep 29 18:00	9° $\cancel{\text{Y}}$ 02'07 19.08553 AU
morning rise	3262 Mar 19 03:15	13° $\cancel{\text{H}}$ 57'07	direct	3268 Dec 15 07:44	7° $\cancel{\text{Y}}$ 03'51
retrograde	3262 Jun 20 12:26	17° $\cancel{\text{H}}$ 04'02	evening set	3269 Mar 14 23:38	10° $\cancel{\text{Y}}$ 02'14
opposition	3262 Sep 06 10:53	15° $\cancel{\text{H}}$ 05'14 -0°49'35			
min. Earth dist.	3262 Sep 05 12:34	15° $\cancel{\text{H}}$ 07'27 18.95660 AU	conjunction	3269 Mar 30 19:39	10° $\cancel{\text{Y}}$ 56'12 -0°42'23
direct	3262 Nov 21 17:02	13° $\cancel{\text{H}}$ 08'14	minimum elong	3269 Mar 30 19:39	10° $\cancel{\text{Y}}$ 56'12 0°42'23
evening set	3263 Feb 19 21:27	16° $\cancel{\text{H}}$ 09'01	max. Earth dist.	3269 Mar 31 17:13	10° $\cancel{\text{Y}}$ 59'17 21.08709 AU
			morning rise	3269 Apr 15 19:06	11° $\cancel{\text{Y}}$ 50'38
conjunction	3263 Mar 07 13:52	17° $\cancel{\text{H}}$ 03'01 -0°45'00	retrograde	3269 Jul 18 23:23	14° $\cancel{\text{Y}}$ 57'03
minimum elong	3263 Mar 07 13:52	17° $\cancel{\text{H}}$ 03'01 0°44'59	opposition	3269 Oct 04 23:00	12° $\cancel{\text{Y}}$ 58'09 -0°46'10
max. Earth dist.	3263 Mar 08 12:42	17° $\cancel{\text{H}}$ 06'19 20.97329 AU	min. Earth dist.	3269 Oct 04 02:36	13° $\cancel{\text{Y}}$ 00'12 19.08809 AU
morning rise	3263 Mar 23 08:50	17° $\cancel{\text{H}}$ 57'22	direct	3269 Dec 19 13:11	11° $\cancel{\text{Y}}$ 02'00
retrograde	3263 Jun 24 22:05	21° $\cancel{\text{H}}$ 04'07	evening set	3270 Mar 19 03:58	14° $\cancel{\text{Y}}$ 00'11
opposition	3263 Sep 10 20:34	19° $\cancel{\text{H}}$ 05'20 -0°49'49			
min. Earth dist.	3263 Sep 09 21:55	19° $\cancel{\text{H}}$ 07'36 18.98981 AU	conjunction	3270 Apr 04 00:56	14° $\cancel{\text{Y}}$ 54'13 -0°41'12
direct	3263 Nov 25 23:44	17° $\cancel{\text{H}}$ 08'33	minimum elong	3270 Apr 04 00:56	14° $\cancel{\text{Y}}$ 54'13 0°41'12
evening set	3264 Feb 24 01:49	20° $\cancel{\text{H}}$ 08'47	max. Earth dist.	3270 Apr 04 23:04	14° $\cancel{\text{Y}}$ 57'23 21.08695 AU
			morning rise	3270 Apr 20 01:06	15° $\cancel{\text{Y}}$ 48'43
conjunction	3264 Mar 10 18:52	21° $\cancel{\text{H}}$ 02'44 -0°45'06	retrograde	3270 Jul 23 07:38	18° $\cancel{\text{Y}}$ 55'10
minimum elong	3264 Mar 10 18:52	21° $\cancel{\text{H}}$ 02'44 0°45'06	min. Earth dist.	3270 Oct 08 10:16	16° $\cancel{\text{Y}}$ 58'09 19.08531 AU
max. Earth dist.	3264 Mar 11 19:04	21° $\cancel{\text{H}}$ 06'13 21.00448 AU	opposition	3270 Oct 09 06:23	16° $\cancel{\text{Y}}$ 56'08 -0°44'46
morning rise	3264 Mar 26 14:19	21° $\cancel{\text{H}}$ 57'03	direct	3270 Dec 23 19:34	14° $\cancel{\text{Y}}$ 59'56
retrograde	3264 Jun 28 05:44	25° $\cancel{\text{H}}$ 03'38	evening set	3271 Mar 23 08:28	17° $\cancel{\text{Y}}$ 57'58
min. Earth dist.	3264 Sep 13 06:55	23° $\cancel{\text{H}}$ 07'11 19.01891 AU			
opposition	3264 Sep 14 05:38	23° $\cancel{\text{H}}$ 04'54 -0°49'48	conjunction	3271 Apr 08 06:06	18° $\cancel{\text{Y}}$ 52'04 -0°39'50
direct	3264 Nov 29 06:52	21° $\cancel{\text{H}}$ 08'20	minimum elong	3271 Apr 08 06:06	18° $\cancel{\text{Y}}$ 52'04 0°39'50
evening set	3265 Feb 27 06:14	24° $\cancel{\text{H}}$ 08'04	max. Earth dist.	3271 Apr 09 02:37	18° $\cancel{\text{Y}}$ 55'00 21.08185 AU
			morning rise	3271 Apr 24 07:22	19° $\cancel{\text{Y}}$ 46'40
conjunction	3265 Mar 14 23:39	25° $\cancel{\text{H}}$ 01'59 -0°44'59	retrograde	3271 Jul 27 14:42	22° $\cancel{\text{Y}}$ 53'12
minimum elong	3265 Mar 14 23:39	25° $\cancel{\text{H}}$ 01'59 0°44'59	opposition	3271 Oct 13 13:35	20° $\cancel{\text{Y}}$ 54'00 -0°43'08
max. Earth dist.	3265 Mar 15 22:48	25° $\cancel{\text{H}}$ 05'19 21.03144 AU	min. Earth dist.	3271 Oct 12 18:28	20° $\cancel{\text{Y}}$ 55'55 19.07793 AU

direct	3271 Dec 28 00:14	18° $\Upsilon$ 57'43	evening set	3278 Apr 20 00:06	15° $\mathcal{B}$ 49'32
evening set	3272 Mar 26 13:06	21° $\Upsilon$ 55'42			
conjunction	3272 Apr 11 11:44	22° $\Upsilon$ 49'53 -0°38'16	conjunction	3278 May 06 04:20	16° $\mathcal{B}$ 44'39 -0°25'18
minimum elong	3272 Apr 11 11:44	22° $\Upsilon$ 49'53 0°38'15	minimum elong	3278 May 06 04:20	16° $\mathcal{B}$ 44'39 0°25'19
max. Earth dist.	3272 Apr 12 08:47	22° $\Upsilon$ 52'53 21.07225 AU	max. Earth dist.	3278 May 06 20:34	16° $\mathcal{B}$ 46'58 20.93689 AU
morning rise	3272 Apr 27 13:45	23° $\Upsilon$ 44'35	morning rise	3278 May 22 12:01	17° $\mathcal{B}$ 40'17
retrograde	3272 Jul 30 22:36	26° $\Upsilon$ 51'12	retrograde	3278 Aug 25 02:18	20° $\mathcal{B}$ 48'32
opposition	3272 Oct 16 20:19	24° $\Upsilon$ 51'52 -0°41'18	opposition	3278 Nov 10 13:29	18° $\mathcal{B}$ 48'34 -0°26'28
min. Earth dist.	3272 Oct 16 01:25	24° $\Upsilon$ 53'47 19.06623 AU	min. Earth dist.	3278 Nov 09 23:33	18° $\mathcal{B}$ 50'00 18.91965 AU
direct	3272 Dec 31 06:29	22° $\Upsilon$ 55'30	direct	3279 Jan 24 12:51	16° $\mathcal{B}$ 51'31
evening set	3273 Mar 30 18:05	25° $\Upsilon$ 53'30	evening set	3279 Apr 24 07:56	19° $\mathcal{B}$ 51'18
conjunction	3273 Apr 15 17:25	26° $\Upsilon$ 47'48 -0°36'31	conjunction	3279 May 10 12:59	20° $\mathcal{B}$ 46'37 -0°22'38
minimum elong	3273 Apr 15 17:25	26° $\Upsilon$ 47'48 0°36'31	minimum elong	3279 May 10 12:59	20° $\mathcal{B}$ 46'37 0°22'37
max. Earth dist.	3273 Apr 16 12:45	26° $\Upsilon$ 50'33 21.05867 AU	max. Earth dist.	3279 May 11 02:44	20° $\mathcal{B}$ 48'35 20.90123 AU
morning rise	3273 May 01 20:31	27° $\Upsilon$ 42'37	morning rise	3279 May 26 21:48	21° $\mathcal{B}$ 42'28
retrograde	3273 Jun 19 12:04	0° $\mathcal{B}$	retrograde	3279 Aug 29 12:24	24° $\mathcal{B}$ 51'08
	3273 Aug 04 06:15	0° $\mathcal{B}$ 49'24	opposition	3279 Nov 14 20:54	22° $\mathcal{B}$ 51'05 -0°23'26
	3273 Sep 20 03:32	30° $\mathcal{R}\Upsilon$	min. Earth dist.	3279 Nov 14 09:04	22° $\mathcal{B}$ 52'17 18.88181 AU
min. Earth dist.	3273 Oct 20 09:19	28° $\Upsilon$ 51'43 19.05080 AU	direct	3280 Jan 28 17:46	20° $\mathcal{B}$ 53'50
opposition	3273 Oct 21 03:12	28° $\Upsilon$ 49'55 -0°39'16	evening set	3280 Apr 27 16:26	23° $\mathcal{B}$ 54'12
direct	3274 Jan 04 10:34	26° $\Upsilon$ 53'26	conjunction	3280 May 13 22:37	24° $\mathcal{B}$ 49'45 -0°19'49
evening set	3274 Apr 03 23:02	29° $\Upsilon$ 51'32	minimum elong	3280 May 13 22:37	24° $\mathcal{B}$ 49'45 0°19'49
	3274 Apr 06 11:35	0° $\mathcal{B}$	max. Earth dist.	3280 May 14 11:51	24° $\mathcal{B}$ 51'38 20.86108 AU
conjunction	3274 Apr 19 23:26	0° $\mathcal{B}$ 45'58 -0°34'35	morning rise	3280 May 30 08:09	25° $\mathcal{B}$ 45'48
minimum elong	3274 Apr 19 23:26	0° $\mathcal{B}$ 45'58 0°34'35	retrograde	3280 Sep 01 23:22	28° $\mathcal{B}$ 54'53
max. Earth dist.	3274 Apr 20 19:18	0° $\mathcal{B}$ 48'48 21.04140 AU	opposition	3280 Nov 18 04:22	26° $\mathcal{B}$ 54'44 -0°20'16
morning rise	3274 May 06 03:18	1° $\mathcal{B}$ 40'55	min. Earth dist.	3280 Nov 17 17:24	26° $\mathcal{B}$ 55'52 18.83924 AU
retrograde	3274 Aug 08 14:06	4° $\mathcal{B}$ 47'54	direct	3281 Feb 01 00:58	24° $\mathcal{B}$ 57'17
opposition	3274 Oct 25 09:57	2° $\mathcal{B}$ 48'18 -0°37'03	evening set	3281 May 02 01:44	27° $\mathcal{B}$ 58'16
min. Earth dist.	3274 Oct 24 16:12	2° $\mathcal{B}$ 50'06 19.03167 AU	conjunction	3281 May 18 08:44	28° $\mathcal{B}$ 54'03 -0°16'54
direct	3275 Jan 08 16:34	0° $\mathcal{B}$ 51'43	minimum elong	3281 May 18 08:44	28° $\mathcal{B}$ 54'03 0°16'54
evening set	3275 Apr 08 04:39	3° $\mathcal{B}$ 50'00	max. Earth dist.	3281 May 18 19:04	28° $\mathcal{B}$ 55'32 20.81623 AU
conjunction	3275 Apr 24 05:50	4° $\mathcal{B}$ 44'34 -0°32'30	morning rise	3281 Jun 03 19:19	29° $\mathcal{B}$ 50'20
minimum elong	3275 Apr 24 05:50	4° $\mathcal{B}$ 44'34 0°32'30		3281 Jun 06 16:36	0° $\mathcal{I}$
max. Earth dist.	3275 Apr 24 23:51	4° $\mathcal{B}$ 47'08 21.02061 AU	retrograde	3281 Sep 06 10:00	2° $\mathcal{I}$ 59'53
morning rise	3275 May 10 10:51	5° $\mathcal{B}$ 39'40	opposition	3281 Nov 22 12:21	0° $\mathcal{I}$ 59'35 -0°16'59
retrograde	3275 Aug 12 22:45	8° $\mathcal{B}$ 46'55	min. Earth dist.	3281 Nov 22 03:41	1° $\mathcal{I}$ 00'28 18.79207 AU
opposition	3275 Oct 29 16:40	6° $\mathcal{B}$ 47'12 -0°34'39		3281 Dec 17 19:14	30° $\mathcal{R}\mathcal{B}$
min. Earth dist.	3275 Oct 29 00:13	6° $\mathcal{B}$ 48'52 19.00917 AU	direct	3282 Feb 05 06:54	29° $\mathcal{B}$ 01'52
direct	3276 Jan 12 20:34	4° $\mathcal{B}$ 50'29		3282 Mar 25 08:19	0° $\mathcal{I}$
evening set	3276 Apr 11 10:35	7° $\mathcal{B}$ 49'02	evening set	3282 May 06 11:25	2° $\mathcal{I}$ 03'31
conjunction	3276 Apr 27 12:53	8° $\mathcal{B}$ 43'46 -0°30'15	conjunction	3282 May 22 19:35	2° $\mathcal{I}$ 59'33 -0°13'53
minimum elong	3276 Apr 27 12:53	8° $\mathcal{B}$ 43'46 0°30'15	minimum elong	3282 May 22 19:35	2° $\mathcal{I}$ 59'33 0°13'53
max. Earth dist.	3276 Apr 28 07:10	8° $\mathcal{B}$ 46'23 20.99634 AU	behind sun begin	3282 May 22 16:13	2° $\mathcal{I}$ 59'05
morning rise	3276 May 13 18:41	9° $\mathcal{B}$ 39'02	behind sun end	3282 May 22 22:57	3° $\mathcal{I}$ 00'01
retrograde	3276 Aug 16 07:12	12° $\mathcal{B}$ 46'33	max. Earth dist.	3282 May 23 05:16	3° $\mathcal{I}$ 00'56 20.76684 AU
opposition	3276 Nov 01 23:26	10° $\mathcal{B}$ 46'46 -0°32'05	morning rise	3282 Jun 08 06:55	3° $\mathcal{I}$ 56'04
min. Earth dist.	3276 Nov 01 07:18	10° $\mathcal{B}$ 48'24 18.98302 AU	retrograde	3282 Sep 10 21:56	7° $\mathcal{I}$ 06'05
direct	3277 Jan 16 02:20	8° $\mathcal{B}$ 49'57	opposition	3282 Nov 26 20:29	5° $\mathcal{I}$ 05'36 -0°13'36
evening set	3277 Apr 15 17:05	11° $\mathcal{B}$ 48'50	min. Earth dist.	3282 Nov 26 12:39	5° $\mathcal{I}$ 06'25 18.74040 AU
conjunction	3277 May 01 20:10	12° $\mathcal{B}$ 43'44 -0°27'51	direct	3283 Feb 09 15:01	3° $\mathcal{I}$ 07'35
minimum elong	3277 May 01 20:10	12° $\mathcal{B}$ 43'44 0°27'51	evening set	3283 May 10 22:11	6° $\mathcal{I}$ 09'58
max. Earth dist.	3277 May 02 12:23	12° $\mathcal{B}$ 46'03 20.96847 AU	conjunction	3283 May 27 07:09	7° $\mathcal{I}$ 06'16 -0°10'47
morning rise	3277 May 18 03:04	13° $\mathcal{B}$ 39'11	minimum elong	3283 May 27 07:09	7° $\mathcal{I}$ 06'16 0°10'48
retrograde	3277 Jun 12 22:14	15° $\mathcal{B}$	behind sun begin	3283 May 27 02:04	7° $\mathcal{I}$ 05'33
	3277 Aug 20 16:31	16° $\mathcal{B}$ 47'04	behind sun end	3283 May 27 12:14	7° $\mathcal{I}$ 06'59
	3277 Nov 01 00:04	15° $\mathcal{R}\mathcal{B}$	max. Earth dist.	3283 May 27 13:55	7° $\mathcal{I}$ 07'13 20.71325 AU
opposition	3277 Nov 06 06:26	14° $\mathcal{B}$ 47'10 -0°29'21	morning rise	3283 Jun 12 19:30	8° $\mathcal{I}$ 03'02
min. Earth dist.	3277 Nov 05 15:54	14° $\mathcal{B}$ 48'39 18.95330 AU	retrograde	3283 Sep 15 09:11	11° $\mathcal{I}$ 13'31
direct	3278 Jan 20 06:39	12° $\mathcal{B}$ 50'15	opposition	3283 Dec 01 04:53	9° $\mathcal{I}$ 12'51 -0°10'07
	3278 Apr 04 16:26	15° $\mathcal{B}$	min. Earth dist.	3283 Nov 30 23:28	9° $\mathcal{I}$ 13'25 18.68499 AU
			direct	3284 Feb 13 22:04	7° $\mathcal{I}$ 14'29

evening set	3284 May 14 09:27	10°II17'40		minimum elong	3289 Jun 21 20:22	2°☾16'09	0°08'53
				behind sun begin	3289 Jun 21 14:36	2°☾15'19	
conjunction	3284 May 30 19:32	11°II14'14 -0°07'37		behind sun end	3289 Jun 22 02:08	2°☾16'58	
minimum elong	3284 May 30 19:33	11°II14'14 0°07'37		max. Earth dist.	3289 Jun 21 17:35	2°☾15'45	20.34228 AU
behind sun begin	3284 May 30 13:29	11°II13'23		morning rise	3289 Jul 08 12:45	3°☾14'30	
behind sun end	3284 May 31 01:37	11°II15'05		retrograde	3289 Oct 10 20:17	6°☾28'23	
max. Earth dist.	3284 May 31 01:38	11°II15'05 20.65622 AU		opposition	3289 Dec 25 15:53	4°☾26'44	0°11'38
morning rise	3284 Jun 16 08:32	12°II11'15		min. Earth dist.	3289 Dec 25 18:44	4°☾26'26	18.30970 AU
retrograde	3284 Sep 18 22:03	15°II22'13		direct	3290 Mar 10 05:36	2°☾26'13	
opposition	3284 Dec 04 13:34	13°II21'22 -0°06'34		evening set	3290 Jun 09 22:32	5°☾35'26	
min. Earth dist.	3284 Dec 04 08:47	13°II21'52 18.62641 AU					
direct	3285 Feb 17 06:45	11°II22'39		conjunction	3290 Jun 26 13:35	6°☾33'46	0°12'08
evening set	3285 May 18 21:30	14°II26'41		minimum elong	3290 Jun 26 13:35	6°☾33'46	0°12'07
				behind sun begin	3290 Jun 26 09:06	6°☾33'07	
conjunction	3285 Jun 04 08:20	15°II23'31 -0°04'24		behind sun end	3290 Jun 26 18:03	6°☾34'24	
minimum elong	3285 Jun 04 08:19	15°II23'31 0°04'25		max. Earth dist.	3290 Jun 26 09:59	6°☾33'15	20.27746 AU
behind sun begin	3285 Jun 04 01:44	15°II22'35		morning rise	3290 Jul 13 06:24	7°☾32'24	
behind sun end	3285 Jun 04 14:55	15°II24'27		retrograde	3290 Oct 15 14:13	10°☾46'56	
max. Earth dist.	3285 Jun 04 11:45	15°II23'58 20.59639 AU		opposition	3290 Dec 30 03:35	8°☾45'11	0°15'14
morning rise	3285 Jun 20 22:13	16°II20'48		min. Earth dist.	3290 Dec 30 06:51	8°☾44'50	18.24475 AU
retrograde	3285 Sep 23 10:22	19°II32'19		direct	3291 Mar 14 18:48	6°☾44'21	
opposition	3285 Dec 08 22:48	17°II31'16 -0°02'58		evening set	3291 Jun 14 16:13	9°☾54'46	
min. Earth dist.	3285 Dec 08 20:16	17°II31'32 18.56552 AU					
direct	3286 Feb 21 14:42	15°II32'10		conjunction	3291 Jul 01 07:48	10°☾53'24	0°15'20
evening set	3286 May 23 10:17	18°II37'07		minimum elong	3291 Jul 01 07:48	10°☾53'24	0°15'21
				behind sun begin	3291 Jul 01 06:12	10°☾53'10	
conjunction	3286 Jun 08 22:09	19°II34'15 -0°01'06		behind sun end	3291 Jul 01 09:24	10°☾53'38	
minimum elong	3286 Jun 08 22:10	19°II34'15 0°01'06		max. Earth dist.	3291 Jul 01 01:51	10°☾52'32	20.21241 AU
behind sun begin	3286 Jun 08 15:27	19°II33'18		morning rise	3291 Jul 18 01:04	11°☾52'18	
behind sun end	3286 Jun 09 04:54	19°II35'12		retrograde	3291 Oct 20 05:24	15°☾07'30	
max. Earth dist.	3286 Jun 09 01:02	19°II34'36 20.53458 AU		opposition	3292 Jan 03 15:59	13°☾05'41	0°18'46
morning rise	3286 Jun 25 12:39	20°II31'47		min. Earth dist.	3292 Jan 03 21:48	13°☾05'04	18.17966 AU
retrograde	3286 Sep 28 00:35	23°II43'51		direct	3292 Mar 18 05:46	11°☾04'31	
asc. node	3286 Oct 05 14:50	23°II42'25		evening set	3292 Jun 18 10:48	14°☾16'11	
opposition	3286 Dec 13 08:11	21°II42'38 0°00'41					
min. Earth dist.	3286 Dec 13 06:08	21°II42'50 18.50287 AU		conjunction	3292 Jul 05 03:03	15°☾15'08	0°18'30
direct	3287 Feb 26 00:27	19°II43'10		minimum elong	3292 Jul 05 03:03	15°☾15'08	0°18'29
evening set	3287 May 28 00:06	22°II49'06		max. Earth dist.	3292 Jul 04 19:50	15°☾14'04	20.14723 AU
				morning rise	3292 Jul 21 20:36	16°☾14'18	
conjunction	3287 Jun 13 12:42	23°II46'31 0°02'18		retrograde	3292 Oct 24 00:25	19°☾30'09	
minimum elong	3287 Jun 13 12:42	23°II46'31 0°02'18		opposition	3293 Jan 07 05:04	17°☾28'16	0°22'15
behind sun begin	3287 Jun 13 05:58	23°II45'33		min. Earth dist.	3293 Jan 07 11:29	17°☾27'35	18.11429 AU
behind sun end	3287 Jun 13 19:26	23°II47'28		direct	3293 Mar 22 21:03	15°☾26'46	
max. Earth dist.	3287 Jun 13 12:58	23°II46'32 20.47126 AU		evening set	3293 Jun 23 06:22	18°☾39'41	
morning rise	3287 Jun 30 03:59	24°II44'20					
retrograde	3287 Oct 02 14:01	27°II56'59		conjunction	3293 Jul 09 23:04	19°☾38'56	0°21'34
opposition	3287 Dec 17 18:17	25°II55'35 0°04'20		minimum elong	3293 Jul 09 23:04	19°☾38'56	0°21'34
min. Earth dist.	3287 Dec 17 18:30	25°II55'33 18.43906 AU		max. Earth dist.	3293 Jul 09 13:36	19°☾37'32	20.08154 AU
direct	3288 Mar 01 08:57	23°II55'45		morning rise	3293 Jul 26 16:52	20°☾38'22	
evening set	3288 May 31 14:37	27°II02'43		retrograde	3293 Oct 28 16:41	23°☾54'53	
				opposition	3294 Jan 11 19:06	21°☾52'54	0°25'37
conjunction	3288 Jun 17 04:11	28°II00'26 0°05'36		min. Earth dist.	3294 Jan 12 04:07	21°☾51'56	18.04845 AU
minimum elong	3288 Jun 17 04:10	28°II00'26 0°05'36		direct	3294 Mar 27 10:13	19°☾51'03	
behind sun begin	3288 Jun 16 21:42	27°II59'31		evening set	3294 Jun 28 03:01	23°☾05'14	
behind sun end	3288 Jun 17 10:38	28°II01'22					
max. Earth dist.	3288 Jun 17 03:46	28°II00'23 20.40703 AU		conjunction	3294 Jul 14 20:14	24°☾04'46	0°24'33
morning rise	3288 Jul 03 19:54	28°II58'31		minimum elong	3294 Jul 14 20:14	24°☾04'46	0°24'32
	3288 Jul 22 13:01	0°☾		max. Earth dist.	3294 Jul 14 08:59	24°☾03'05	20.01549 AU
retrograde	3288 Oct 06 06:06	2°☾11'47		morning rise	3294 Jul 31 14:14	25°☾04'27	
opposition	3288 Dec 21 04:41	0°☾10'14 0°07'59		retrograde	3294 Nov 02 12:40	28°☾21'35	
min. Earth dist.	3288 Dec 21 05:15	0°☾10'10 18.37449 AU		opposition	3295 Jan 16 09:33	26°☾19'30	0°28'52
	3288 Dec 25 05:46	30°☾II		min. Earth dist.	3295 Jan 16 19:17	26°☾18'27	17.98221 AU
direct	3289 Mar 05 20:20	28°II10'03		direct	3295 Apr 01 03:39	24°☾17'15	
	3289 May 12 02:01	0°☾		evening set	3295 Jul 03 00:43	27°☾32'42	
evening set	3289 Jun 05 06:12	1°☾18'08					
				conjunction	3295 Jul 19 18:19	28°☾32'32	0°27'24
conjunction	3289 Jun 21 20:21	2°☾16'09 0°08'53		minimum elong	3295 Jul 19 18:19	28°☾32'32	0°27'23



max. Earth dist.	3295 Jul 19 05:00	28° $\overline{53}$ 30'32	19.94903 AU	morning rise	3301 Sep 03 13:38	26° $\overline{02}$ 55'49	
morning rise	3295 Aug 05 12:21	29° $\overline{53}$ 32'26			3301 Nov 10 21:52	0° $\overline{00}$	
	3295 Aug 13 11:20	0° $\overline{00}$		retrograde	3301 Dec 05 12:26	0° $\overline{00}$ 16'36	
retrograde	3295 Nov 07 06:09	2° $\overline{00}$ 50'10			3301 Dec 30 08:21	30° $\overline{00}$ 00	
opposition	3296 Jan 21 01:00	0° $\overline{00}$ 47'58	0°31'58	opposition	3302 Feb 17 11:06	28° $\overline{00}$ 13'42	0°46'08
min. Earth dist.	3296 Jan 21 13:13	0° $\overline{00}$ 46'39	17.91584 AU	min. Earth dist.	3302 Feb 18 05:23	28° $\overline{00}$ 11'42	17.55488 AU
	3296 Feb 09 02:27	30° $\overline{00}$ 00		direct	3302 May 03 16:20	26° $\overline{00}$ 08'42	
direct	3296 Apr 04 19:06	28° $\overline{53}$ 45'19		evening set	3302 Aug 06 05:38	29° $\overline{00}$ 32'30	
	3296 May 29 01:20	0° $\overline{00}$			3302 Aug 13 19:00	0° $\overline{00}$	
evening set	3296 Jul 06 23:06	2° $\overline{00}$ 02'01					
				conjunction	3302 Aug 22 23:27	0° $\overline{00}$ 33'54	0°42'06
conjunction	3296 Jul 23 16:58	3° $\overline{00}$ 02'06	0°30'06	minimum elong	3302 Aug 22 23:27	0° $\overline{00}$ 33'54	0°42'05
minimum elong	3296 Jul 23 16:58	3° $\overline{00}$ 02'06	0°30'06	max. Earth dist.	3302 Aug 22 00:42	0° $\overline{00}$ 30'24	19.53027 AU
max. Earth dist.	3296 Jul 23 01:45	2° $\overline{00}$ 59'48	19.88289 AU	morning rise	3302 Sep 08 15:48	1° $\overline{00}$ 35'07	
morning rise	3296 Aug 09 11:04	4° $\overline{00}$ 02'14		retrograde	3302 Dec 10 12:00	4° $\overline{00}$ 56'20	
retrograde	3296 Nov 11 02:52	7° $\overline{00}$ 20'33		opposition	3303 Feb 22 07:07	2° $\overline{00}$ 53'24	0°47'33
opposition	3297 Jan 24 16:55	5° $\overline{00}$ 18'12	0°34'54	min. Earth dist.	3303 Feb 23 01:44	2° $\overline{00}$ 51'22	17.50740 AU
min. Earth dist.	3297 Jan 25 05:41	5° $\overline{00}$ 16'49	17.85006 AU	direct	3303 May 08 14:47	0° $\overline{00}$ 48'08	
direct	3297 Apr 09 13:58	3° $\overline{00}$ 15'08		evening set	3303 Aug 11 08:57	4° $\overline{00}$ 13'00	
evening set	3297 Jul 11 22:22	6° $\overline{00}$ 33'04		max. Earth dist.	3303 Aug 27 04:27	5° $\overline{00}$ 11'10	19.48514 AU
conjunction	3297 Jul 28 16:30	7° $\overline{00}$ 33'25	0°32'38	conjunction	3303 Aug 28 02:37	5° $\overline{00}$ 14'35	0°43'14
minimum elong	3297 Jul 28 16:30	7° $\overline{00}$ 33'25	0°32'38	minimum elong	3303 Aug 28 02:37	5° $\overline{00}$ 14'35	0°43'14
max. Earth dist.	3297 Jul 27 23:59	7° $\overline{00}$ 30'55	19.81756 AU	morning rise	3303 Sep 13 18:12	6° $\overline{00}$ 15'55	
morning rise	3297 Aug 14 10:25	8° $\overline{00}$ 33'46		retrograde	3303 Dec 15 11:15	9° $\overline{00}$ 37'31	
retrograde	3297 Nov 15 21:55	11° $\overline{00}$ 52'37		opposition	3304 Feb 27 04:01	7° $\overline{00}$ 34'37	0°48'41
opposition	3298 Jan 29 09:37	9° $\overline{00}$ 50'08	0°37'37	min. Earth dist.	3304 Feb 27 23:09	7° $\overline{00}$ 32'31	17.46475 AU
min. Earth dist.	3298 Jan 30 00:30	9° $\overline{00}$ 48'31	17.78555 AU	direct	3304 May 12 12:32	5° $\overline{00}$ 29'10	
direct	3298 Apr 14 07:22	7° $\overline{00}$ 46'38		evening set	3304 Aug 15 12:47	8° $\overline{00}$ 55'03	
evening set	3298 Jul 16 22:26	11° $\overline{00}$ 05'48		max. Earth dist.	3304 Aug 31 06:08	9° $\overline{00}$ 53'04	19.44501 AU
conjunction	3298 Aug 02 16:40	12° $\overline{00}$ 06'23	0°34'59	conjunction	3304 Sep 01 05:52	9° $\overline{00}$ 56'45	0°44'05
minimum elong	3298 Aug 02 16:40	12° $\overline{00}$ 06'23	0°35'00	minimum elong	3304 Sep 01 05:52	9° $\overline{00}$ 56'45	0°44'05
max. Earth dist.	3298 Aug 01 22:09	12° $\overline{00}$ 03'34	19.75401 AU	morning rise	3304 Sep 17 20:57	10° $\overline{00}$ 58'11	
morning rise	3298 Aug 19 10:34	13° $\overline{00}$ 06'57		retrograde	3304 Dec 19 11:33	14° $\overline{00}$ 20'11	
	3298 Sep 23 12:46	15° $\overline{00}$ 00		opposition	3305 Mar 03 01:33	12° $\overline{00}$ 17'19	0°49'29
retrograde	3298 Nov 20 19:33	16° $\overline{00}$ 26'19		min. Earth dist.	3305 Mar 03 21:12	12° $\overline{00}$ 15'10	17.42717 AU
	3299 Jan 19 23:27	15° $\overline{00}$ 00		direct	3305 May 17 12:09	10° $\overline{00}$ 11'42	
opposition	3299 Feb 03 02:53	14° $\overline{00}$ 23'42	0°40'08	evening set	3305 Aug 20 17:04	13° $\overline{00}$ 38'33	
min. Earth dist.	3299 Feb 03 18:14	14° $\overline{00}$ 22'02	17.72310 AU	max. Earth dist.	3305 Sep 05 10:49	14° $\overline{00}$ 36'48	19.40979 AU
direct	3299 Apr 19 03:30	12° $\overline{00}$ 19'46					
	3299 Jul 10 10:43	15° $\overline{00}$ 00		conjunction	3305 Sep 06 09:50	14° $\overline{00}$ 40'23	0°44'39
evening set	3299 Jul 21 23:15	15° $\overline{00}$ 40'08		minimum elong	3305 Sep 06 09:50	14° $\overline{00}$ 40'23	0°44'38
				morning rise	3305 Sep 23 00:03	15° $\overline{00}$ 41'52	
conjunction	3299 Aug 07 17:36	16° $\overline{00}$ 40'58	0°37'07	retrograde	3305 Dec 24 11:27	19° $\overline{00}$ 04'11	
minimum elong	3299 Aug 07 17:36	16° $\overline{00}$ 40'58	0°37'07	opposition	3306 Mar 07 23:39	17° $\overline{00}$ 01'25	0°49'57
max. Earth dist.	3299 Aug 06 22:28	16° $\overline{00}$ 38'03	19.69267 AU	min. Earth dist.	3306 Mar 08 19:31	16° $\overline{00}$ 59'14	17.39424 AU
morning rise	3299 Aug 24 11:04	17° $\overline{00}$ 41'42		direct	3306 May 22 11:59	14° $\overline{00}$ 55'39	
retrograde	3299 Nov 25 15:57	21° $\overline{00}$ 01'33		evening set	3306 Aug 25 21:59	18° $\overline{00}$ 23'23	
opposition	3300 Feb 07 20:55	18° $\overline{00}$ 58'50	0°42'24				
min. Earth dist.	3300 Feb 08 13:53	18° $\overline{00}$ 56'59	17.66329 AU	conjunction	3306 Sep 11 14:03	19° $\overline{00}$ 25'18	0°44'54
direct	3300 Apr 23 22:33	16° $\overline{00}$ 54'31		minimum elong	3306 Sep 11 14:03	19° $\overline{00}$ 25'17	0°44'55
evening set	3300 Jul 27 00:49	20° $\overline{00}$ 16'04		max. Earth dist.	3306 Sep 10 13:32	19° $\overline{00}$ 21'28	19.37912 AU
				morning rise	3306 Sep 28 03:34	20° $\overline{00}$ 26'51	
conjunction	3300 Aug 12 18:59	21° $\overline{00}$ 17'05	0°39'02	retrograde	3306 Dec 29 11:32	23° $\overline{00}$ 49'26	
minimum elong	3300 Aug 12 18:59	21° $\overline{00}$ 17'05	0°39'01	opposition	3307 Mar 12 22:35	21° $\overline{00}$ 46'43	0°50'05
max. Earth dist.	3300 Aug 11 21:56	21° $\overline{00}$ 13'52	19.63455 AU	min. Earth dist.	3307 Mar 13 19:16	21° $\overline{00}$ 44'27	17.36590 AU
morning rise	3300 Aug 29 12:16	22° $\overline{00}$ 18'01		direct	3307 May 27 13:08	19° $\overline{00}$ 40'50	
retrograde	3300 Nov 30 14:35	25° $\overline{00}$ 38'21		evening set	3307 Aug 31 03:01	23° $\overline{00}$ 09'20	
opposition	3301 Feb 12 15:37	23° $\overline{00}$ 35'30	0°44'24				
min. Earth dist.	3301 Feb 13 08:51	23° $\overline{00}$ 33'38	17.60708 AU	conjunction	3307 Sep 16 18:31	24° $\overline{00}$ 11'18	0°44'52
direct	3301 Apr 28 19:54	21° $\overline{00}$ 30'49		minimum elong	3307 Sep 16 18:31	24° $\overline{00}$ 11'18	0°44'52
evening set	3301 Aug 01 02:45	24° $\overline{00}$ 53'30		max. Earth dist.	3307 Sep 15 18:37	24° $\overline{00}$ 07'34	19.35289 AU
				morning rise	3307 Oct 03 07:04	25° $\overline{00}$ 12'52	
conjunction	3301 Aug 17 20:57	25° $\overline{00}$ 54'44	0°40'41	retrograde	3308 Jan 03 11:57	28° $\overline{00}$ 35'39	
minimum elong	3301 Aug 17 20:56	25° $\overline{00}$ 54'44	0°40'42	opposition	3308 Mar 16 22:03	26° $\overline{00}$ 33'00	0°49'53
max. Earth dist.	3301 Aug 17 00:03	25° $\overline{00}$ 51'32	19.58019 AU	min. Earth dist.	3308 Mar 17 18:25	26° $\overline{00}$ 30'46	17.34180 AU

direct	3308 May 31 15:50	24° <u>17</u> '02		minimum elong	3314 Oct 20 22:05	27° <u>14</u> '10	0°36'05
evening set	3308 Sep 04 08:21	27° <u>17</u> '56'10		max. Earth dist.	3314 Oct 20 01:33	27° <u>14</u> '39'56	19.30325 AU
				morning rise	3314 Nov 06 03:35	28° <u>14</u> '44'12	
conjunction	3308 Sep 20 23:02	28° <u>17</u> '58'09	0°44'31		3314 Nov 27 17:43	0° <u>17</u> '	
minimum elong	3308 Sep 20 23:02	28° <u>17</u> '58'09	0°44'31	retrograde	3315 Feb 05 13:21	2° <u>17</u> '06'27	
max. Earth dist.	3308 Sep 19 22:15	28° <u>17</u> '54'16	19.33098 AU	opposition	3315 Apr 20 04:41	0° <u>17</u> '04'04	0°38'59
morning rise	3308 Oct 07 10:42	29° <u>17</u> '59'43		min. Earth dist.	3315 Apr 20 23:00	0° <u>17</u> '02'05	17.31062 AU
	3308 Oct 07 12:35	0° <u>17</u> '			3315 Apr 21 18:12	30° <u>17</u> '	
retrograde	3309 Jan 07 11:33	3° <u>17</u> '22'38		direct	3315 Jul 05 16:24	27° <u>14</u> '57'44	
opposition	3309 Mar 21 22:05	1° <u>17</u> '20'02	0°49'19		3315 Sep 14 07:03	0° <u>17</u> '	
min. Earth dist.	3309 Mar 22 19:21	1° <u>17</u> '17'43	17.32223 AU	evening set	3315 Oct 09 16:04	1° <u>17</u> '27'55	
	3309 Apr 23 23:54	30° <u>17</u> '		max. Earth dist.	3315 Oct 25 04:12	2° <u>17</u> '26'09	19.31904 AU
direct	3309 Jun 05 18:19	29° <u>17</u> '13'57					
	3309 Jul 17 18:29	0° <u>17</u> '		conjunction	3315 Oct 26 00:10	2° <u>17</u> '29'18	0°33'44
evening set	3309 Sep 09 13:33	2° <u>17</u> '43'36		minimum elong	3315 Oct 26 00:10	2° <u>17</u> '29'18	0°33'44
max. Earth dist.	3309 Sep 25 03:14	3° <u>17</u> '41'47	19.31366 AU	morning rise	3315 Nov 11 04:44	3° <u>17</u> '30'10	
				retrograde	3316 Feb 10 13:46	6° <u>17</u> '52'07	
conjunction	3309 Sep 26 03:32	3° <u>17</u> '45'36	0°43'51	opposition	3316 Apr 24 06:16	4° <u>17</u> '49'50	0°36'14
minimum elong	3309 Sep 26 03:32	3° <u>17</u> '45'36	0°43'51	min. Earth dist.	3316 Apr 24 22:23	4° <u>17</u> '48'06	17.32965 AU
morning rise	3309 Oct 12 14:18	4° <u>17</u> '47'08		direct	3316 Jul 09 20:57	2° <u>17</u> '43'37	
retrograde	3310 Jan 12 12:40	8° <u>17</u> '10'06		evening set	3316 Oct 13 18:44	6° <u>17</u> '13'29	
opposition	3310 Mar 26 22:29	6° <u>17</u> '07'33	0°48'25	max. Earth dist.	3316 Oct 29 08:33	7° <u>17</u> '11'58	19.34135 AU
min. Earth dist.	3310 Mar 27 18:55	6° <u>17</u> '05'19	17.30708 AU				
direct	3310 Jun 10 22:44	4° <u>17</u> '01'22		conjunction	3316 Oct 30 01:56	7° <u>17</u> '14'42	0°31'09
evening set	3310 Sep 14 18:54	7° <u>17</u> '31'26		minimum elong	3316 Oct 30 01:56	7° <u>17</u> '14'42	0°31'10
max. Earth dist.	3310 Sep 30 07:38	8° <u>17</u> '29'33	19.30084 AU	morning rise	3316 Nov 15 05:16	8° <u>17</u> '15'22	
				retrograde	3317 Feb 14 12:14	11° <u>17</u> '36'59	
conjunction	3310 Oct 01 08:01	8° <u>17</u> '33'23	0°42'53	opposition	3317 Apr 29 07:51	9° <u>17</u> '34'51	0°33'14
minimum elong	3310 Oct 01 08:01	8° <u>17</u> '33'23	0°42'52	min. Earth dist.	3317 Apr 29 23:25	9° <u>17</u> '33'10	17.35511 AU
morning rise	3310 Oct 17 17:43	9° <u>17</u> '34'52		direct	3317 Jul 15 00:04	7° <u>17</u> '28'49	
retrograde	3311 Jan 17 12:02	12° <u>17</u> '57'49		evening set	3317 Oct 18 20:57	10° <u>17</u> '58'18	
opposition	3311 Mar 31 23:18	10° <u>17</u> '55'18	0°47'10	max. Earth dist.	3317 Nov 03 10:01	11° <u>17</u> '56'38	19.37003 AU
min. Earth dist.	3311 Apr 01 20:32	10° <u>17</u> '52'59	17.29676 AU				
direct	3311 Jun 16 01:30	8° <u>17</u> '49'02		conjunction	3317 Nov 04 02:56	11° <u>17</u> '59'18	0°28'23
evening set	3311 Sep 19 23:58	12° <u>17</u> '19'22		minimum elong	3317 Nov 04 02:56	11° <u>17</u> '59'18	0°28'22
				morning rise	3317 Nov 20 05:25	12° <u>17</u> '59'46	
conjunction	3311 Oct 06 12:10	13° <u>17</u> '21'16	0°41'36		3317 Dec 26 12:08	15° <u>17</u> '	
minimum elong	3311 Oct 06 12:10	13° <u>17</u> '21'16	0°41'37	retrograde	3318 Feb 19 11:40	16° <u>17</u> '21'01	
max. Earth dist.	3311 Oct 05 12:12	13° <u>17</u> '17'29	19.29312 AU		3318 Apr 18 05:29	15° <u>17</u> '	
morning rise	3311 Oct 22 20:55	14° <u>17</u> '22'40		opposition	3318 May 04 09:22	14° <u>17</u> '19'04	0°30'02
retrograde	3312 Jan 22 13:51	17° <u>17</u> '45'32		min. Earth dist.	3318 May 04 22:54	14° <u>17</u> '17'36	17.38668 AU
opposition	3312 Apr 05 00:21	15° <u>17</u> '43'03	0°45'35	direct	3318 Jul 20 03:57	12° <u>17</u> '13'16	
min. Earth dist.	3312 Apr 05 20:11	15° <u>17</u> '40'53	17.29157 AU		3318 Oct 12 04:29	15° <u>17</u> '	
direct	3312 Jun 20 06:22	13° <u>17</u> '36'43		evening set	3318 Oct 23 22:21	15° <u>17</u> '42'15	
evening set	3312 Sep 24 04:33	17° <u>17</u> '07'11					
				conjunction	3318 Nov 09 03:24	16° <u>17</u> '43'02	0°25'25
conjunction	3312 Oct 10 15:52	18° <u>17</u> '09'00	0°40'02	minimum elong	3318 Nov 09 03:24	16° <u>17</u> '43'02	0°25'25
minimum elong	3312 Oct 10 15:52	18° <u>17</u> '09'00	0°40'02	max. Earth dist.	3318 Nov 08 13:16	16° <u>17</u> '40'49	19.40440 AU
max. Earth dist.	3312 Oct 09 16:58	18° <u>17</u> '05'23	19.29063 AU	morning rise	3318 Nov 25 04:40	17° <u>17</u> '43'17	
morning rise	3312 Oct 26 23:30	19° <u>17</u> '10'18		retrograde	3319 Feb 24 10:01	21° <u>17</u> '04'08	
retrograde	3313 Jan 26 13:05	22° <u>17</u> '33'01		opposition	3319 May 09 10:55	19° <u>17</u> '02'23	0°26'38
opposition	3313 Apr 10 01:45	20° <u>17</u> '30'33	0°43'41	min. Earth dist.	3319 May 09 23:33	19° <u>17</u> '01'02	17.42355 AU
min. Earth dist.	3313 Apr 10 21:59	20° <u>17</u> '28'21	17.29191 AU	direct	3319 Jul 25 07:31	16° <u>17</u> '56'53	
direct	3313 Jun 25 08:59	18° <u>17</u> '24'10		evening set	3319 Oct 28 23:15	20° <u>17</u> '25'16	
evening set	3313 Sep 29 08:54	21° <u>17</u> '54'39					
				conjunction	3319 Nov 14 03:02	21° <u>17</u> '25'48	0°22'18
conjunction	3313 Oct 15 19:09	22° <u>17</u> '56'21	0°38'12	minimum elong	3319 Nov 14 03:02	21° <u>17</u> '25'48	0°22'18
minimum elong	3313 Oct 15 19:09	22° <u>17</u> '56'21	0°38'12	max. Earth dist.	3319 Nov 13 13:25	21° <u>17</u> '23'40	19.44383 AU
max. Earth dist.	3313 Oct 14 20:39	22° <u>17</u> '52'48	19.29395 AU	morning rise	3319 Nov 30 03:27	22° <u>17</u> '25'50	
morning rise	3313 Nov 01 01:53	23° <u>17</u> '57'33		retrograde	3320 Feb 29 08:10	25° <u>17</u> '46'15	
retrograde	3314 Jan 31 14:22	27° <u>17</u> '20'02		opposition	3320 May 13 12:17	23° <u>17</u> '44'42	0°23'04
opposition	3314 Apr 15 02:58	25° <u>17</u> '17'36	0°41'29	min. Earth dist.	3320 May 13 23:11	23° <u>17</u> '43'32	17.46531 AU
min. Earth dist.	3314 Apr 15 21:25	25° <u>17</u> '15'36	17.29815 AU	direct	3320 Jul 29 10:31	21° <u>17</u> '39'29	
direct	3314 Jun 30 13:34	23° <u>17</u> '11'13		evening set	3320 Nov 01 23:07	25° <u>17</u> '07'11	
evening set	3314 Oct 04 12:45	26° <u>17</u> '41'36					
				conjunction	3320 Nov 18 01:59	26° <u>17</u> '07'28	0°19'02
conjunction	3314 Oct 20 22:05	27° <u>17</u> '43'10	0°36'05	minimum elong	3320 Nov 18 01:59	26° <u>17</u> '07'28	0°19'02

max. Earth dist.	3320 Nov 17 15:03	26° $\mathcal{M}$ 05'45	19.48770 AU	opposition	3326 Jun 11 13:32	21° $\mathcal{A}$ 28'46	-0°00'17
morning rise	3320 Dec 04 01:20	27° $\mathcal{M}$ 07'15		min. Earth dist.	3326 Jun 11 16:08	21° $\mathcal{A}$ 28'30	17.78181 AU
	3321 Feb 01 20:54	0° $\mathcal{A}$		direct	3326 Aug 27 17:50	19° $\mathcal{A}$ 25'24	
retrograde	3321 Mar 05 06:02	0° $\mathcal{A}$ 27'11		evening set	3326 Nov 30 04:49	22° $\mathcal{A}$ 47'14	
	3321 Apr 06 09:56	30° $\mathcal{R}\mathcal{M}$					
opposition	3321 May 18 13:28	28° $\mathcal{M}$ 25'51	0°19'21	conjunction	3326 Dec 16 01:46	23° $\mathcal{A}$ 45'44	-0°02'07
min. Earth dist.	3321 May 18 23:07	28° $\mathcal{M}$ 24'49	17.51097 AU	minimum elong	3326 Dec 16 01:45	23° $\mathcal{A}$ 45'44	0°02'07
direct	3321 Aug 03 13:55	26° $\mathcal{M}$ 20'58		behind sun begin	3326 Dec 15 19:10	23° $\mathcal{A}$ 44'44	
evening set	3321 Nov 06 22:29	29° $\mathcal{M}$ 47'53		behind sun end	3326 Dec 16 08:20	23° $\mathcal{A}$ 46'43	
	3321 Nov 10 05:26	0° $\mathcal{A}$		max. Earth dist.	3326 Dec 16 00:08	23° $\mathcal{A}$ 45'33	19.81212 AU
				morning rise	3326 Dec 31 20:17	24° $\mathcal{A}$ 43'53	
conjunction	3321 Nov 23 00:09	0° $\mathcal{A}$ 47'52	0°15'40	retrograde	3327 Apr 02 05:15	28° $\mathcal{A}$ 00'16	
minimum elong	3321 Nov 23 00:09	0° $\mathcal{A}$ 47'52	0°15'40	opposition	3327 Jun 16 11:56	25° $\mathcal{A}$ 59'47	-0°04'14
behind sun begin	3321 Nov 22 22:33	0° $\mathcal{A}$ 47'38		min. Earth dist.	3327 Jun 16 11:53	25° $\mathcal{A}$ 59'48	17.84253 AU
behind sun end	3321 Nov 23 01:45	0° $\mathcal{A}$ 48'07		direct	3327 Sep 01 17:28	23° $\mathcal{A}$ 56'43	
max. Earth dist.	3321 Nov 22 13:47	0° $\mathcal{A}$ 46'16	19.53518 AU	evening set	3327 Dec 04 22:14	27° $\mathcal{A}$ 17'22	
morning rise	3321 Dec 08 22:39	1° $\mathcal{A}$ 47'24					
retrograde	3322 Mar 10 02:46	5° $\mathcal{A}$ 06'50		conjunction	3327 Dec 20 18:19	28° $\mathcal{A}$ 15'32	-0°05'39
opposition	3322 May 23 14:16	3° $\mathcal{A}$ 05'41	0°15'32	minimum elong	3327 Dec 20 18:19	28° $\mathcal{A}$ 15'33	0°05'39
min. Earth dist.	3322 May 23 22:37	3° $\mathcal{A}$ 04'48	17.56014 AU	behind sun begin	3327 Dec 20 12:00	28° $\mathcal{A}$ 14'35	
direct	3322 Aug 08 15:45	1° $\mathcal{A}$ 01'06		behind sun end	3327 Dec 21 00:39	28° $\mathcal{A}$ 16'30	
evening set	3322 Nov 11 20:53	4° $\mathcal{A}$ 27'10		max. Earth dist.	3327 Dec 20 18:38	28° $\mathcal{A}$ 15'35	19.87395 AU
				morning rise	3328 Jan 05 12:14	29° $\mathcal{A}$ 13'25	
conjunction	3322 Nov 27 21:37	5° $\mathcal{A}$ 26'52	0°12'12		3328 Jan 18 18:47	0° $\mathcal{B}$	
minimum elong	3322 Nov 27 21:37	5° $\mathcal{A}$ 26'52	0°12'12	retrograde	3328 Apr 05 21:52	2° $\mathcal{B}$ 29'08	
behind sun begin	3322 Nov 27 17:08	5° $\mathcal{A}$ 26'11		opposition	3328 Jun 20 09:41	0° $\mathcal{B}$ 28'45	-0°08'07
behind sun end	3322 Nov 28 02:06	5° $\mathcal{A}$ 27'33		min. Earth dist.	3328 Jun 20 08:42	0° $\mathcal{B}$ 28'51	17.90564 AU
max. Earth dist.	3322 Nov 27 13:38	5° $\mathcal{A}$ 25'38	19.58587 AU		3328 Jul 02 00:51	30° $\mathcal{R}\mathcal{A}$	
morning rise	3322 Dec 13 19:07	6° $\mathcal{A}$ 26'08		direct	3328 Sep 05 14:40	28° $\mathcal{A}$ 26'00	
retrograde	3323 Mar 14 23:51	9° $\mathcal{A}$ 45'01			3328 Nov 06 11:31	0° $\mathcal{B}$	
opposition	3323 May 28 14:52	7° $\mathcal{A}$ 44'03	0°11'38	evening set	3328 Dec 08 14:33	1° $\mathcal{B}$ 45'26	
min. Earth dist.	3323 May 28 21:30	7° $\mathcal{A}$ 43'21	17.61207 AU				
direct	3323 Aug 13 18:05	5° $\mathcal{A}$ 39'47		conjunction	3328 Dec 24 09:52	2° $\mathcal{B}$ 43'18	-0°09'05
evening set	3323 Nov 16 18:20	9° $\mathcal{A}$ 04'53		minimum elong	3328 Dec 24 09:52	2° $\mathcal{B}$ 43'18	0°09'05
				behind sun begin	3328 Dec 24 04:15	2° $\mathcal{B}$ 42'27	
conjunction	3323 Dec 02 17:57	10° $\mathcal{A}$ 04'18	0°08'41	behind sun end	3328 Dec 24 15:29	2° $\mathcal{B}$ 44'08	
minimum elong	3323 Dec 02 17:58	10° $\mathcal{A}$ 04'18	0°08'42	max. Earth dist.	3328 Dec 24 12:04	2° $\mathcal{B}$ 43'37	19.93824 AU
behind sun begin	3323 Dec 02 12:13	10° $\mathcal{A}$ 03'25		morning rise	3329 Jan 09 03:17	3° $\mathcal{B}$ 40'53	
behind sun end	3323 Dec 02 23:43	10° $\mathcal{A}$ 05'10		retrograde	3329 Apr 10 16:04	6° $\mathcal{B}$ 55'56	
max. Earth dist.	3323 Dec 02 10:54	10° $\mathcal{A}$ 03'13	19.63912 AU	opposition	3329 Jun 25 06:39	4° $\mathcal{B}$ 55'40	-0°11'55
morning rise	3323 Dec 18 14:42	11° $\mathcal{A}$ 03'17		min. Earth dist.	3329 Jun 25 02:44	4° $\mathcal{B}$ 56'05	17.97099 AU
retrograde	3324 Mar 18 19:33	14° $\mathcal{A}$ 21'36		direct	3329 Sep 10 12:47	2° $\mathcal{B}$ 53'17	
opposition	3324 Jun 01 15:03	12° $\mathcal{A}$ 20'47	0°07'40	evening set	3329 Dec 13 05:58	6° $\mathcal{B}$ 11'30	
min. Earth dist.	3324 Jun 01 20:36	12° $\mathcal{A}$ 20'12	17.66657 AU				
direct	3324 Aug 17 18:26	10° $\mathcal{A}$ 16'49		conjunction	3329 Dec 29 00:33	7° $\mathcal{B}$ 09'03	-0°12'27
evening set	3324 Nov 20 14:50	13° $\mathcal{A}$ 40'54		minimum elong	3329 Dec 29 00:33	7° $\mathcal{B}$ 09'03	0°12'28
				behind sun begin	3329 Dec 28 20:12	7° $\mathcal{B}$ 08'24	
conjunction	3324 Dec 06 13:36	14° $\mathcal{A}$ 40'01	0°05'09	behind sun end	3329 Dec 29 04:55	7° $\mathcal{B}$ 09'42	
minimum elong	3324 Dec 06 13:36	14° $\mathcal{A}$ 40'01	0°05'09	max. Earth dist.	3329 Dec 29 04:59	7° $\mathcal{B}$ 09'43	20.00462 AU
behind sun begin	3324 Dec 06 07:12	14° $\mathcal{A}$ 39'02		morning rise	3330 Jan 13 17:25	8° $\mathcal{B}$ 06'22	
behind sun end	3324 Dec 06 20:00	14° $\mathcal{A}$ 40'59		retrograde	3330 Apr 15 06:46	11° $\mathcal{B}$ 20'47	
max. Earth dist.	3324 Dec 06 08:39	14° $\mathcal{A}$ 39'16	19.69476 AU	opposition	3330 Jun 30 03:07	9° $\mathcal{B}$ 20'40	-0°15'37
morning rise	3324 Dec 22 09:31	15° $\mathcal{A}$ 38'44		min. Earth dist.	3330 Jun 29 22:18	9° $\mathcal{B}$ 21'10	18.03844 AU
retrograde	3325 Mar 23 15:38	18° $\mathcal{A}$ 56'25		direct	3330 Sep 15 08:34	7° $\mathcal{B}$ 18'40	
opposition	3325 Jun 06 14:27	16° $\mathcal{A}$ 55'44	0°03'41	evening set	3330 Dec 17 20:27	10° $\mathcal{B}$ 35'40	
min. Earth dist.	3325 Jun 06 17:56	16° $\mathcal{A}$ 55'22	17.72313 AU				
direct	3325 Aug 22 19:04	14° $\mathcal{A}$ 52'04		conjunction	3331 Jan 02 14:22	11° $\mathcal{B}$ 32'54	-0°15'43
evening set	3325 Nov 25 10:27	18° $\mathcal{A}$ 15'04		minimum elong	3331 Jan 02 14:22	11° $\mathcal{B}$ 32'54	0°15'43
				behind sun begin	3331 Jan 02 12:40	11° $\mathcal{B}$ 32'39	
conjunction	3325 Dec 11 08:14	19° $\mathcal{A}$ 13'52	0°01'33	behind sun end	3331 Jan 02 16:03	11° $\mathcal{B}$ 33'10	
minimum elong	3325 Dec 11 08:14	19° $\mathcal{A}$ 13'52	0°01'33	max. Earth dist.	3331 Jan 02 20:21	11° $\mathcal{B}$ 33'49	20.07303 AU
behind sun begin	3325 Dec 11 01:38	19° $\mathcal{A}$ 12'52		morning rise	3331 Jan 18 06:52	12° $\mathcal{B}$ 29'57	
behind sun end	3325 Dec 11 14:50	19° $\mathcal{A}$ 14'52		retrograde	3331 Apr 19 23:55	15° $\mathcal{B}$ 43'45	
max. Earth dist.	3325 Dec 11 04:33	19° $\mathcal{A}$ 13'21	19.75236 AU	opposition	3331 Jul 04 22:50	13° $\mathcal{B}$ 43'47	-0°19'11
morning rise	3325 Dec 27 03:27	20° $\mathcal{A}$ 12'18		min. Earth dist.	3331 Jul 04 15:04	13° $\mathcal{B}$ 44'35	18.10754 AU
retrograde	3326 Mar 28 10:10	23° $\mathcal{A}$ 29'21		direct	3331 Sep 20 05:03	11° $\mathcal{B}$ 42'12	
desc. node	3326 May 15 16:26	22° $\mathcal{A}$ 32'47		evening set	3331 Dec 22 09:55	14° $\mathcal{B}$ 57'59	

conjunction	3332 Jan 07 03:18	15° $\mathfrak{Z}$ 54'56 -0°18'53		3338 Apr 11 11:38	15° $\approx$
minimum elong	3332 Jan 07 03:17	15° $\mathfrak{Z}$ 54'56 0°18'53	retrograde	3338 May 19 19:48	15° $\approx$ 36'53
max. Earth dist.	3332 Jan 07 11:40	15° $\mathfrak{Z}$ 56'12 20.14266 AU		3338 Jun 28 12:01	15° $\mathfrak{R}$ $\approx$
morning rise	3332 Jan 22 19:24	16° $\mathfrak{Z}$ 51'43	opposition	3338 Aug 04 22:57	13° $\approx$ 37'56 -0°39'37
retrograde	3332 Apr 23 13:20	20° $\mathfrak{Z}$ 04'55	min. Earth dist.	3338 Aug 04 07:08	13° $\approx$ 39'32 18.57638 AU
opposition	3332 Jul 08 18:03	18° $\mathfrak{Z}$ 05'08 -0°22'38	direct	3338 Oct 20 20:54	11° $\approx$ 39'02
min. Earth dist.	3332 Jul 08 09:38	18° $\mathfrak{Z}$ 06'00 18.17759 AU	evening set	3339 Jan 20 11:45	14° $\approx$ 46'46
direct	3332 Sep 23 22:45	16° $\mathfrak{Z}$ 03'59		3339 Jan 24 06:52	15° $\approx$
evening set	3332 Dec 25 22:44	19° $\mathfrak{Z}$ 18'34			
conjunction	3333 Jan 10 15:31	20° $\mathfrak{Z}$ 15'13 -0°21'55	conjunction	3339 Feb 05 02:42	15° $\approx$ 41'54 -0°36'46
minimum elong	3333 Jan 10 15:31	20° $\mathfrak{Z}$ 15'13 0°21'55	minimum elong	3339 Feb 05 02:42	15° $\approx$ 41'54 0°36'45
max. Earth dist.	3333 Jan 11 00:59	20° $\mathfrak{Z}$ 16'39 20.21292 AU	max. Earth dist.	3339 Feb 05 19:14	15° $\approx$ 44'21 20.60544 AU
morning rise	3333 Jan 26 07:26	21° $\mathfrak{Z}$ 11'44	morning rise	3339 Feb 20 18:22	16° $\approx$ 37'08
retrograde	3333 Apr 28 05:10	24° $\mathfrak{Z}$ 24'21	retrograde	3339 May 24 07:47	19° $\approx$ 46'34
opposition	3333 Jul 13 12:17	22° $\mathfrak{Z}$ 24'45 -0°25'55	opposition	3339 Aug 09 13:21	17° $\approx$ 47'38 -0°41'44
min. Earth dist.	3333 Jul 13 01:19	22° $\mathfrak{Z}$ 25'52 18.24781 AU	min. Earth dist.	3339 Aug 08 19:52	17° $\approx$ 49'24 18.63388 AU
direct	3333 Sep 28 17:25	20° $\mathfrak{Z}$ 24'01	direct	3339 Oct 25 09:47	15° $\approx$ 49'00
evening set	3333 Dec 30 10:43	23° $\mathfrak{Z}$ 37'25	evening set	3340 Jan 24 19:19	18° $\approx$ 55'40
conjunction	3334 Jan 15 03:06	24° $\mathfrak{Z}$ 33'48 -0°24'49	conjunction	3340 Feb 09 10:22	19° $\approx$ 50'36 -0°38'34
minimum elong	3334 Jan 15 03:05	24° $\mathfrak{Z}$ 33'48 0°24'48	minimum elong	3340 Feb 09 10:22	19° $\approx$ 50'36 0°38'35
max. Earth dist.	3334 Jan 15 14:48	24° $\mathfrak{Z}$ 35'33 20.28286 AU	max. Earth dist.	3340 Feb 10 04:49	19° $\approx$ 53'19 20.66129 AU
morning rise	3334 Jan 30 18:41	25° $\mathfrak{Z}$ 30'04	morning rise	3340 Feb 25 02:08	20° $\approx$ 45'40
retrograde	3334 May 02 17:26	28° $\mathfrak{Z}$ 42'07	retrograde	3340 May 27 17:21	23° $\approx$ 54'37
opposition	3334 Jul 18 06:15	26° $\mathfrak{Z}$ 42'41 -0°29'02	min. Earth dist.	3340 Aug 12 09:22	21° $\approx$ 57'30 18.68827 AU
min. Earth dist.	3334 Jul 17 18:54	26° $\mathfrak{Z}$ 43'51 18.31744 AU	opposition	3340 Aug 13 03:04	21° $\approx$ 55'43 -0°43'36
direct	3334 Oct 03 09:25	24° $\mathfrak{Z}$ 42'22	direct	3340 Oct 28 21:41	19° $\approx$ 57'20
evening set	3335 Jan 03 21:54	27° $\mathfrak{Z}$ 54'36	evening set	3341 Jan 28 02:25	23° $\approx$ 02'58
conjunction	3335 Jan 19 13:46	28° $\mathfrak{Z}$ 50'42 -0°27'33	conjunction	3341 Feb 12 17:21	23° $\approx$ 57'43 -0°40'10
minimum elong	3335 Jan 19 13:46	28° $\mathfrak{Z}$ 50'42 0°27'34	minimum elong	3341 Feb 12 17:21	23° $\approx$ 57'43 0°40'10
max. Earth dist.	3335 Jan 20 02:13	28° $\mathfrak{Z}$ 52'34 20.35195 AU	max. Earth dist.	3341 Feb 13 11:46	24° $\approx$ 00'26 20.71429 AU
morning rise	3335 Feb 04 05:19	29° $\mathfrak{Z}$ 46'44	morning rise	3341 Feb 28 09:30	24° $\approx$ 52'37
	3335 Feb 08 00:24	0° $\approx$	retrograde	3341 Jun 01 04:08	28° $\approx$ 01'08
retrograde	3335 May 07 08:18	2° $\approx$ 58'14	opposition	3341 Aug 17 15:55	26° $\approx$ 02'14 -0°45'15
opposition	3335 Jul 22 23:26	0° $\approx$ 58'58 -0°31'59	min. Earth dist.	3341 Aug 16 20:41	26° $\approx$ 04'10 18.74003 AU
min. Earth dist.	3335 Jul 22 09:48	1° $\approx$ 00'21 18.38582 AU	direct	3341 Nov 02 08:54	24° $\approx$ 04'04
	3335 Aug 17 06:34	30° $\mathfrak{R}$ $\mathfrak{Z}$	evening set	3342 Feb 01 08:50	27° $\approx$ 08'46
direct	3335 Oct 08 02:04	28° $\mathfrak{Z}$ 59'02	conjunction	3342 Feb 16 23:57	28° $\approx$ 03'21 -0°41'33
	3335 Nov 26 12:20	0° $\approx$	minimum elong	3342 Feb 16 23:57	28° $\approx$ 03'21 0°41'34
evening set	3336 Jan 08 08:24	2° $\approx$ 10'07	max. Earth dist.	3342 Feb 17 20:23	28° $\approx$ 06'21 20.76470 AU
conjunction	3336 Jan 24 00:02	3° $\approx$ 05'57 -0°30'08	morning rise	3342 Mar 04 16:15	28° $\approx$ 58'07
minimum elong	3336 Jan 24 00:02	3° $\approx$ 05'57 0°30'07		3342 Mar 23 13:01	0° $\mathfrak{H}$
max. Earth dist.	3336 Jan 24 14:31	3° $\approx$ 08'07 20.41928 AU	retrograde	3342 Jun 05 12:49	2° $\mathfrak{H}$ 06'14
morning rise	3336 Feb 08 15:23	4° $\approx$ 01'46	min. Earth dist.	3342 Aug 21 08:38	0° $\mathfrak{H}$ 09'19 18.78928 AU
retrograde	3336 May 10 19:42	7° $\approx$ 12'43	opposition	3342 Aug 22 04:18	0° $\mathfrak{H}$ 07'21 -0°46'38
opposition	3336 Jul 26 15:55	5° $\approx$ 13'35 -0°34'44		3342 Aug 25 05:37	30° $\mathfrak{R}$ $\approx$
min. Earth dist.	3336 Jul 26 02:08	5° $\approx$ 14'59 18.45214 AU	direct	3342 Nov 06 18:42	28° $\approx$ 09'27
direct	3336 Oct 11 16:40	3° $\approx$ 14'03		3343 Jan 13 22:08	0° $\mathfrak{H}$
evening set	3337 Jan 11 18:16	6° $\approx$ 23'59	evening set	3343 Feb 05 14:44	1° $\mathfrak{H}$ 13'14
conjunction	3337 Jan 27 09:33	7° $\approx$ 19'34 -0°32'32	conjunction	3343 Feb 21 05:53	2° $\mathfrak{H}$ 07'39 -0°42'43
minimum elong	3337 Jan 27 09:33	7° $\approx$ 19'34 0°32'32	minimum elong	3343 Feb 21 05:53	2° $\mathfrak{H}$ 07'39 0°42'42
max. Earth dist.	3337 Jan 28 00:13	7° $\approx$ 21'45 20.48435 AU	max. Earth dist.	3343 Feb 22 02:18	2° $\mathfrak{H}$ 10'38 20.81279 AU
morning rise	3337 Feb 12 01:01	8° $\approx$ 15'11	morning rise	3343 Mar 08 22:43	3° $\mathfrak{H}$ 02'18
retrograde	3337 May 15 09:12	11° $\approx$ 25'37	retrograde	3343 Jun 09 23:09	6° $\mathfrak{H}$ 10'04
opposition	3337 Jul 31 07:42	9° $\approx$ 26'35 -0°37'17	opposition	3343 Aug 26 15:59	4° $\mathfrak{H}$ 11'13 -0°47'47
min. Earth dist.	3337 Jul 30 16:02	9° $\approx$ 28'10 18.51585 AU	min. Earth dist.	3343 Aug 25 18:59	4° $\mathfrak{H}$ 13'19 18.83622 AU
direct	3337 Oct 16 07:22	7° $\approx$ 27'22	direct	3343 Nov 11 04:34	2° $\mathfrak{H}$ 13'33
evening set	3338 Jan 16 03:17	10° $\approx$ 36'12	evening set	3344 Feb 09 20:11	5° $\mathfrak{H}$ 16'31
conjunction	3338 Jan 31 18:28	11° $\approx$ 31'33 -0°34'45	conjunction	3344 Feb 25 11:42	6° $\mathfrak{H}$ 10'49 -0°43'39
minimum elong	3338 Jan 31 18:28	11° $\approx$ 31'33 0°34'45	minimum elong	3344 Feb 25 11:42	6° $\mathfrak{H}$ 10'49 0°43'39
max. Earth dist.	3338 Feb 01 11:00	11° $\approx$ 34'01 20.54642 AU	max. Earth dist.	3344 Feb 26 09:58	6° $\mathfrak{H}$ 14'04 20.85833 AU
morning rise	3338 Feb 16 09:51	12° $\approx$ 26'58	morning rise	3344 Mar 12 04:50	7° $\mathfrak{H}$ 05'22
			retrograde	3344 Jun 13 07:34	10° $\mathfrak{H}$ 12'48

min. Earth dist.	3344 Aug 29 05:40	8° $\mathbf{\text{X}}$ 16'08	18.88041 AU	conjunction	3351 Mar 24 22:58	4° $\mathbf{\text{Y}}$ 12'34	-0°44'07
opposition	3344 Aug 30 02:56	8° $\mathbf{\text{X}}$ 14'00	-0°48'42	minimum elong	3351 Mar 24 22:58	4° $\mathbf{\text{Y}}$ 12'34	0°44'07
direct	3344 Nov 14 12:41	6° $\mathbf{\text{X}}$ 16'36		max. Earth dist.	3351 Mar 25 21:18	4° $\mathbf{\text{Y}}$ 15'46	21.07277 AU
evening set	3345 Feb 13 01:24	9° $\mathbf{\text{X}}$ 18'49		morning rise	3351 Apr 09 20:44	5° $\mathbf{\text{Y}}$ 06'53	
				retrograde	3351 Jul 12 21:04	8° $\mathbf{\text{Y}}$ 13'18	
conjunction	3345 Feb 28 17:04	10° $\mathbf{\text{X}}$ 12'59	-0°44'22	opposition	3351 Sep 28 20:32	6° $\mathbf{\text{Y}}$ 14'34	-0°48'18
minimum elong	3345 Feb 28 17:04	10° $\mathbf{\text{X}}$ 12'59	0°44'22	min. Earth dist.	3351 Sep 27 23:06	6° $\mathbf{\text{Y}}$ 16'43	19.07897 AU
max. Earth dist.	3345 Mar 01 14:59	10° $\mathbf{\text{X}}$ 16'10	20.90112 AU	direct	3351 Dec 13 14:36	4° $\mathbf{\text{Y}}$ 18'23	
morning rise	3345 Mar 16 10:50	11° $\mathbf{\text{X}}$ 07'27		evening set	3352 Mar 12 08:42	7° $\mathbf{\text{Y}}$ 17'01	
retrograde	3345 Jun 17 17:16	14° $\mathbf{\text{X}}$ 14'38					
opposition	3345 Sep 03 13:30	12° $\mathbf{\text{X}}$ 15'53	-0°49'22	conjunction	3352 Mar 28 04:08	8° $\mathbf{\text{Y}}$ 10'56	-0°43'19
min. Earth dist.	3345 Sep 02 15:20	12° $\mathbf{\text{X}}$ 18'06	18.92171 AU	minimum elong	3352 Mar 28 04:08	8° $\mathbf{\text{Y}}$ 10'56	0°43'19
direct	3345 Nov 18 21:09	10° $\mathbf{\text{X}}$ 18'44		max. Earth dist.	3352 Mar 29 02:58	8° $\mathbf{\text{Y}}$ 14'13	21.08279 AU
evening set	3346 Feb 17 06:03	13° $\mathbf{\text{X}}$ 20'15		morning rise	3352 Apr 13 02:33	9° $\mathbf{\text{Y}}$ 05'19	
				retrograde	3352 Jul 16 04:05	12° $\mathbf{\text{Y}}$ 11'39	
conjunction	3346 Mar 04 22:11	14° $\mathbf{\text{X}}$ 14'20	-0°44'52	min. Earth dist.	3352 Oct 01 07:24	10° $\mathbf{\text{Y}}$ 14'56	19.08606 AU
minimum elong	3346 Mar 04 22:11	14° $\mathbf{\text{X}}$ 14'20	0°44'52	opposition	3352 Oct 02 04:20	10° $\mathbf{\text{Y}}$ 12'50	-0°47'18
max. Earth dist.	3346 Mar 05 21:47	14° $\mathbf{\text{X}}$ 17'45	20.94067 AU	direct	3352 Dec 16 21:34	8° $\mathbf{\text{Y}}$ 16'40	
morning rise	3346 Mar 20 16:20	15° $\mathbf{\text{X}}$ 08'44		evening set	3353 Mar 16 13:06	11° $\mathbf{\text{Y}}$ 15'01	
retrograde	3346 Jun 22 01:51	18° $\mathbf{\text{X}}$ 15'42					
opposition	3346 Sep 07 23:40	16° $\mathbf{\text{X}}$ 17'00	-0°49'47	conjunction	3353 Apr 01 09:07	12° $\mathbf{\text{Y}}$ 08'58	-0°42'18
min. Earth dist.	3346 Sep 07 01:21	16° $\mathbf{\text{X}}$ 19'14	18.95948 AU	minimum elong	3353 Apr 01 09:07	12° $\mathbf{\text{Y}}$ 08'58	0°42'18
direct	3346 Nov 23 04:55	14° $\mathbf{\text{X}}$ 20'06		max. Earth dist.	3353 Apr 02 06:23	12° $\mathbf{\text{Y}}$ 12'00	21.08727 AU
evening set	3347 Feb 21 10:44	17° $\mathbf{\text{X}}$ 20'58		morning rise	3353 Apr 17 08:32	13° $\mathbf{\text{Y}}$ 03'23	
				retrograde	3353 Jul 20 12:40	16° $\mathbf{\text{Y}}$ 09'43	
conjunction	3347 Mar 09 03:09	18° $\mathbf{\text{X}}$ 14'59	-0°45'09	opposition	3353 Oct 06 12:01	14° $\mathbf{\text{Y}}$ 10'46	-0°46'04
minimum elong	3347 Mar 09 03:09	18° $\mathbf{\text{X}}$ 14'59	0°45'10	min. Earth dist.	3353 Oct 05 15:43	14° $\mathbf{\text{Y}}$ 12'48	19.08798 AU
max. Earth dist.	3347 Mar 10 02:07	18° $\mathbf{\text{X}}$ 18'18	20.97662 AU	direct	3353 Dec 21 02:45	12° $\mathbf{\text{Y}}$ 14'33	
morning rise	3347 Mar 24 22:05	19° $\mathbf{\text{X}}$ 09'20		evening set	3354 Mar 20 17:15	15° $\mathbf{\text{Y}}$ 12'40	
retrograde	3347 Jun 26 11:06	22° $\mathbf{\text{X}}$ 16'07					
min. Earth dist.	3347 Sep 11 10:38	20° $\mathbf{\text{X}}$ 19'43	18.99348 AU	conjunction	3354 Apr 05 14:11	16° $\mathbf{\text{Y}}$ 06'41	-0°41'06
opposition	3347 Sep 12 09:18	20° $\mathbf{\text{X}}$ 17'28	-0°49'58	minimum elong	3354 Apr 05 14:11	16° $\mathbf{\text{Y}}$ 06'41	0°41'06
direct	3347 Nov 27 11:49	18° $\mathbf{\text{X}}$ 20'47		max. Earth dist.	3354 Apr 06 12:12	16° $\mathbf{\text{Y}}$ 09'50	21.08671 AU
evening set	3348 Feb 25 15:09	21° $\mathbf{\text{X}}$ 21'05		morning rise	3354 Apr 21 14:19	17° $\mathbf{\text{Y}}$ 01'10	
				retrograde	3354 Jul 24 19:19	20° $\mathbf{\text{Y}}$ 07'32	
conjunction	3348 Mar 12 08:11	22° $\mathbf{\text{X}}$ 15'03	-0°45'13	opposition	3354 Oct 10 19:24	18° $\mathbf{\text{Y}}$ 08'26	-0°44'37
minimum elong	3348 Mar 12 08:11	22° $\mathbf{\text{X}}$ 15'03	0°45'13	min. Earth dist.	3354 Oct 09 23:23	18° $\mathbf{\text{Y}}$ 10'27	19.08506 AU
max. Earth dist.	3348 Mar 13 08:23	22° $\mathbf{\text{X}}$ 18'32	21.00835 AU	direct	3354 Dec 25 08:51	16° $\mathbf{\text{Y}}$ 12'10	
morning rise	3348 Mar 28 03:37	23° $\mathbf{\text{X}}$ 09'22		evening set	3355 Mar 24 21:48	19° $\mathbf{\text{Y}}$ 10'09	
retrograde	3348 Jun 29 19:32	26° $\mathbf{\text{X}}$ 16'01					
opposition	3348 Sep 15 18:35	24° $\mathbf{\text{X}}$ 17'23	-0°49'55	conjunction	3355 Apr 09 19:23	20° $\mathbf{\text{Y}}$ 04'14	-0°39'41
min. Earth dist.	3348 Sep 14 20:06	24° $\mathbf{\text{X}}$ 19'38	19.02284 AU	minimum elong	3355 Apr 09 19:23	20° $\mathbf{\text{Y}}$ 04'14	0°39'40
direct	3348 Nov 30 19:29	22° $\mathbf{\text{X}}$ 20'55		max. Earth dist.	3355 Apr 10 15:54	20° $\mathbf{\text{Y}}$ 07'09	21.08171 AU
evening set	3349 Feb 28 19:38	25° $\mathbf{\text{X}}$ 20'43		morning rise	3355 Apr 25 20:36	20° $\mathbf{\text{Y}}$ 58'49	
				retrograde	3355 Jul 29 03:45	24° $\mathbf{\text{Y}}$ 05'15	
conjunction	3349 Mar 16 13:00	26° $\mathbf{\text{X}}$ 14'38	-0°45'04	min. Earth dist.	3355 Oct 14 07:11	22° $\mathbf{\text{Y}}$ 07'57	19.07803 AU
minimum elong	3349 Mar 16 13:00	26° $\mathbf{\text{X}}$ 14'38	0°45'05	opposition	3355 Oct 15 02:26	22° $\mathbf{\text{Y}}$ 06'01	-0°42'57
max. Earth dist.	3349 Mar 17 12:04	26° $\mathbf{\text{X}}$ 17'57	21.03527 AU	direct	3355 Dec 29 13:38	20° $\mathbf{\text{Y}}$ 09'40	
morning rise	3349 Apr 01 09:14	27° $\mathbf{\text{X}}$ 08'56		evening set	3356 Mar 28 02:22	23° $\mathbf{\text{Y}}$ 07'36	
	3349 Jun 08 21:29	0° $\mathbf{\text{Y}}$					
retrograde	3349 Jul 04 04:23	0° $\mathbf{\text{Y}}$ 15'29		conjunction	3356 Apr 13 00:58	24° $\mathbf{\text{Y}}$ 01'47	-0°38'05
	3349 Jul 29 18:57	30° $\mathbf{\text{X}}$		minimum elong	3356 Apr 13 00:58	24° $\mathbf{\text{Y}}$ 01'47	0°38'06
min. Earth dist.	3349 Sep 19 05:11	28° $\mathbf{\text{X}}$ 19'05	19.04723 AU	max. Earth dist.	3356 Apr 13 22:05	24° $\mathbf{\text{Y}}$ 04'48	21.07263 AU
opposition	3349 Sep 20 03:31	28° $\mathbf{\text{X}}$ 16'51	-0°49'37	morning rise	3356 Apr 29 02:55	24° $\mathbf{\text{Y}}$ 56'28	
direct	3349 Dec 05 01:27	26° $\mathbf{\text{X}}$ 20'31		retrograde	3356 Aug 01 10:59	28° $\mathbf{\text{Y}}$ 03'01	
evening set	3350 Mar 04 23:59	29° $\mathbf{\text{X}}$ 19'54		opposition	3356 Oct 18 09:21	26° $\mathbf{\text{Y}}$ 03'40	-0°41'05
	3350 Mar 16 18:05	0° $\mathbf{\text{Y}}$		min. Earth dist.	3356 Oct 17 14:21	26° $\mathbf{\text{Y}}$ 05'35	19.06696 AU
				direct	3357 Jan 01 19:00	24° $\mathbf{\text{Y}}$ 07'15	
conjunction	3350 Mar 20 18:04	0° $\mathbf{\text{Y}}$ 13'47	-0°44'42	evening set	3357 Apr 01 07:14	27° $\mathbf{\text{Y}}$ 05'13	
minimum elong	3350 Mar 20 18:04	0° $\mathbf{\text{Y}}$ 13'47	0°44'42				
max. Earth dist.	3350 Mar 21 17:55	0° $\mathbf{\text{Y}}$ 17'13	21.05686 AU	conjunction	3357 Apr 17 06:31	27° $\mathbf{\text{Y}}$ 59'30	-0°36'18
morning rise	3350 Apr 05 14:52	1° $\mathbf{\text{Y}}$ 08'06		minimum elong	3357 Apr 17 06:31	27° $\mathbf{\text{Y}}$ 59'30	0°36'18
retrograde	3350 Jul 08 12:18	4° $\mathbf{\text{Y}}$ 14'33		max. Earth dist.	3357 Apr 18 02:03	28° $\mathbf{\text{Y}}$ 02'17	21.05975 AU
opposition	3350 Sep 24 12:11	2° $\mathbf{\text{Y}}$ 15'55	-0°49'05	morning rise	3357 May 03 09:33	28° $\mathbf{\text{Y}}$ 54'19	
min. Earth dist.	3350 Sep 23 14:13	2° $\mathbf{\text{Y}}$ 18'06	19.06597 AU		3357 May 24 01:32	0° $\mathbf{\text{Z}}$	
direct	3350 Dec 09 08:59	0° $\mathbf{\text{Y}}$ 19'42		retrograde	3357 Aug 05 19:17	2° $\mathbf{\text{Z}}$ 01'04	
evening set	3351 Mar 09 04:22	3° $\mathbf{\text{Y}}$ 18'40		opposition	3357 Oct 22 16:16	0° $\mathbf{\text{Z}}$ 01'35	-0°39'01

min. Earth dist.	3357 Oct 21 22:08	0°8'03"25	19.05228 AU	evening set	3364 Apr 29 06:20	25°8'07"30	
	3357 Oct 23 07:59	30°8'07"00					
direct	3358 Jan 05 23:39	28°0'05"06		conjunction	3364 May 15 12:28	26°8'03"03	-0°19'22
	3358 Mar 16 15:22	0°8'		minimum elong	3364 May 15 12:28	26°8'03"03	0°19'22
evening set	3358 Apr 05 12:20	1°8'03"11		max. Earth dist.	3364 May 16 01:13	26°8'04"52	20.86129 AU
				morning rise	3364 May 31 21:56	26°8'59"07	
conjunction	3358 Apr 21 12:41	1°8'57"37	-0°34'20		3364 Aug 16 05:58	0°0'00"00	
minimum elong	3358 Apr 21 12:41	1°8'57"37	0°34'21	retrograde	3364 Sep 03 13:07	0°0'08"16	
max. Earth dist.	3358 Apr 22 08:43	2°8'00"28	21.04325 AU		3364 Sep 22 00:07	30°8'08"00	
morning rise	3358 May 07 16:30	2°8'52"33		opposition	3364 Nov 19 18:03	28°8'08"11	-0°19'45
retrograde	3358 Aug 10 03:47	5°8'59"31		min. Earth dist.	3364 Nov 19 07:26	28°8'09"16	18.83867 AU
opposition	3358 Oct 26 23:02	3°8'59"57	-0°36'45	direct	3365 Feb 02 14:49	26°8'10"46	
min. Earth dist.	3358 Oct 26 05:15	4°8'01"45	19.03391 AU	evening set	3365 May 03 15:29	29°8'11"49	
direct	3359 Jan 10 04:58	2°8'03"25			3365 May 17 17:38	0°0'00"00	
evening set	3359 Apr 09 17:57	5°8'01"42					
				conjunction	3365 May 19 22:26	0°0'07"36	-0°16'25
conjunction	3359 Apr 25 19:06	5°8'56"16	-0°32'13	minimum elong	3365 May 19 22:26	0°0'07"36	0°16'26
minimum elong	3359 Apr 25 19:06	5°8'56"16	0°32'13	max. Earth dist.	3365 May 20 08:22	0°0'09"01	20.81495 AU
max. Earth dist.	3359 Apr 26 13:16	5°8'58"51	21.02318 AU	morning rise	3365 Jun 05 08:59	1°0'03"54	
morning rise	3359 May 12 00:04	6°8'51"22		retrograde	3365 Sep 07 23:41	4°0'13"30	
retrograde	3359 Aug 14 12:11	9°8'58"37		opposition	3365 Nov 24 02:05	2°0'13"13	-0°16'26
opposition	3359 Oct 31 05:56	7°8'58"58	-0°34'19	min. Earth dist.	3365 Nov 23 17:34	2°0'14"05	18.79009 AU
min. Earth dist.	3359 Oct 30 13:21	8°8'00"39	19.01197 AU	direct	3366 Feb 06 20:58	0°0'15"30	
direct	3360 Jan 14 09:25	6°8'02"20		evening set	3366 May 08 01:16	3°0'17"12	
evening set	3360 Apr 12 23:58	9°8'00"55					
				conjunction	3366 May 24 09:24	4°0'13"14	-0°13'23
conjunction	3360 Apr 29 02:12	9°8'55"39	-0°29'56	minimum elong	3366 May 24 09:23	4°0'13"14	0°13'23
minimum elong	3360 Apr 29 02:12	9°8'55"39	0°29'56	behind sun begin	3366 May 24 05:39	4°0'12"43	
max. Earth dist.	3360 Apr 29 20:34	9°8'58"16	20.99931 AU	behind sun end	3366 May 24 13:07	4°0'13"46	
morning rise	3360 May 15 07:56	10°8'50"55		max. Earth dist.	3366 May 24 18:49	4°0'14"35	20.76435 AU
retrograde	3360 Aug 17 21:34	13°8'58"29		morning rise	3366 Jun 09 20:40	5°0'09"46	
opposition	3360 Nov 03 12:40	11°8'58"46	-0°31'43	retrograde	3366 Sep 12 11:17	8°0'19"48	
min. Earth dist.	3360 Nov 02 20:41	12°8'00"24	18.98607 AU	opposition	3366 Nov 28 10:06	6°0'19"19	-0°13'01
direct	3361 Jan 17 15:13	10°8'02"04		min. Earth dist.	3366 Nov 28 02:26	6°0'20"07	18.73750 AU
evening set	3361 Apr 17 06:38	13°8'01"00		direct	3367 Feb 11 05:05	4°0'21"17	
				evening set	3367 May 12 11:54	7°0'23"42	
conjunction	3361 May 03 09:40	13°8'55"56	-0°27'30				
minimum elong	3361 May 03 09:40	13°8'55"56	0°27'31	conjunction	3367 May 28 20:50	8°0'19"59	-0°10'16
max. Earth dist.	3361 May 04 01:49	13°8'58"14	20.97155 AU	minimum elong	3367 May 28 20:50	8°0'19"59	0°10'16
morning rise	3361 May 19 16:30	14°8'51"22		behind sun begin	3367 May 28 15:33	8°0'19"14	
	3361 May 22 06:41	15°8'		behind sun end	3367 May 29 02:08	8°0'20"44	
retrograde	3361 Aug 22 06:29	17°8'59"19		max. Earth dist.	3367 May 29 03:29	8°0'20"55	20.71011 AU
opposition	3361 Nov 07 19:47	15°8'59"32	-0°28'57	morning rise	3367 Jun 14 09:09	9°0'16"45	
min. Earth dist.	3361 Nov 07 05:23	16°8'01"00	18.95624 AU	retrograde	3367 Sep 16 22:32	12°0'27"16	
	3361 Dec 03 09:41	15°8'08"00		opposition	3367 Dec 02 18:34	10°0'26"34	-0°09'31
direct	3362 Jan 21 19:46	14°8'02"42		min. Earth dist.	3367 Dec 02 13:04	10°0'27"08	18.68172 AU
	3362 Mar 10 15:26	15°8'		direct	3368 Feb 15 11:35	8°0'28"10	
evening set	3362 Apr 21 13:43	17°8'02"05		evening set	3368 May 15 23:03	11°0'31"21	
conjunction	3362 May 07 17:53	17°8'57"13	-0°24'55	conjunction	3368 Jun 01 09:04	12°0'27"55	-0°07'05
minimum elong	3362 May 07 17:53	17°8'57"13	0°24'55	minimum elong	3368 Jun 01 09:04	12°0'27"55	0°07'05
max. Earth dist.	3362 May 08 09:55	17°8'59"30	20.93953 AU	behind sun begin	3368 Jun 01 02:53	12°0'27"02	
morning rise	3362 May 24 01:31	18°8'52"51		behind sun end	3368 Jun 01 15:15	12°0'28"47	
retrograde	3362 Aug 26 16:35	22°8'01"11		max. Earth dist.	3368 Jun 01 15:18	12°0'28"47	20.65292 AU
opposition	3362 Nov 12 02:59	20°8'01"20	-0°26'01	morning rise	3368 Jun 17 21:59	13°0'24"55	
min. Earth dist.	3362 Nov 11 13:25	20°8'02"43	18.92185 AU	retrograde	3368 Sep 20 11:30	16°0'35"55	
direct	3363 Jan 26 02:18	18°8'04"22		opposition	3368 Dec 06 03:10	14°0'35"01	-0°05'57
evening set	3363 Apr 25 21:47	21°8'04"15		min. Earth dist.	3368 Dec 05 22:18	14°0'35"31	18.62326 AU
				direct	3369 Feb 18 20:50	12°0'36"15	
conjunction	3363 May 12 02:46	21°8'59"35	-0°22'12	evening set	3369 May 20 11:06	15°0'40"17	
minimum elong	3363 May 12 02:46	21°8'59"35	0°22'13				
max. Earth dist.	3363 May 12 16:04	22°8'01"29	20.90286 AU	conjunction	3369 Jun 05 21:51	16°0'37"07	-0°03'51
morning rise	3363 May 28 11:30	22°8'55"26		minimum elong	3369 Jun 05 21:52	16°0'37"07	0°03'50
retrograde	3363 Aug 31 02:27	26°8'04"11		behind sun begin	3369 Jun 05 15:13	16°0'36"11	
opposition	3363 Nov 16 10:23	24°8'04"13	-0°22'57	behind sun end	3369 Jun 06 04:31	16°0'38"03	
min. Earth dist.	3363 Nov 15 22:51	24°8'05"23	18.88276 AU	max. Earth dist.	3369 Jun 06 01:28	16°0'37"36	20.59349 AU
direct	3364 Jan 30 07:35	22°8'07"02		morning rise	3369 Jun 22 11:42	17°0'34"23	

retrograde	3369 Sep 24 23:32	20°II45'54		direct	3375 Mar 16 08:26	7°☾57'20	
opposition	3369 Dec 10 12:19	18°II44'48	-0°02'20	evening set	3375 Jun 16 05:43	11°☾07'43	
min. Earth dist.	3369 Dec 10 09:35	18°II45'05	18.56300 AU				
direct	3370 Feb 23 04:04	16°II45'40		conjunction	3375 Jul 02 21:14	12°☾06'20	0°15'54
evening set	3370 May 24 23:45	19°II50'35		minimum elong	3375 Jul 02 21:14	12°☾06'20	0°15'53
				max. Earth dist.	3375 Jul 02 15:15	12°☾05'28	20.21472 AU
conjunction	3370 Jun 10 11:36	20°II47'43	-0°00'31	morning rise	3375 Jul 19 14:28	13°☾05'14	
minimum elong	3370 Jun 10 11:36	20°II47'43	0°00'31	retrograde	3375 Oct 21 19:08	16°☾20'25	
behind sun begin	3370 Jun 10 04:53	20°II46'46		opposition	3376 Jan 05 05:44	14°☾18'36	0°19'24
behind sun end	3370 Jun 10 18:18	20°II48'39		min. Earth dist.	3376 Jan 05 11:34	14°☾17'59	18.18191 AU
max. Earth dist.	3370 Jun 10 14:48	20°II48'07	20.53245 AU	direct	3376 Mar 19 20:15	12°☾17'27	
morning rise	3370 Jun 27 02:01	21°II45'15		evening set	3376 Jun 20 00:13	15°☾29'04	
asc. node	3370 Aug 04 17:18	23°II42'32					
retrograde	3370 Sep 29 14:01	24°II57'18		conjunction	3376 Jul 06 16:24	16°☾28'00	0°19'03
opposition	3370 Dec 14 21:46	22°II56'01	0°01'18	minimum elong	3376 Jul 06 16:24	16°☾28'00	0°19'03
min. Earth dist.	3370 Dec 14 19:32	22°II56'15	18.50123 AU	max. Earth dist.	3376 Jul 06 09:11	16°☾26'56	20.14919 AU
direct	3371 Feb 27 14:11	20°II56'31		morning rise	3376 Jul 23 09:53	17°☾27'09	
evening set	3371 May 29 13:33	24°II02'25		retrograde	3376 Oct 25 13:27	20°☾43'00	
				opposition	3377 Jan 08 18:52	18°☾41'06	0°22'51
conjunction	3371 Jun 15 02:06	24°II59'50	0°02'53	min. Earth dist.	3377 Jan 09 01:20	18°☾40'24	18.11592 AU
minimum elong	3371 Jun 15 02:05	24°II59'50	0°02'53	direct	3377 Mar 24 10:40	16°☾39'36	
behind sun begin	3371 Jun 14 19:22	24°II58'53		evening set	3377 Jun 24 19:56	19°☾52'28	
behind sun end	3371 Jun 15 08:48	25°II00'47					
max. Earth dist.	3371 Jun 15 02:38	24°II59'53	20.47014 AU	conjunction	3377 Jul 11 12:33	20°☾51'41	0°22'07
morning rise	3371 Jul 01 17:18	25°II57'38		minimum elong	3377 Jul 11 12:33	20°☾51'41	0°22'06
retrograde	3371 Oct 04 03:15	29°II10'16		max. Earth dist.	3377 Jul 11 02:45	20°☾50'14	20.08271 AU
opposition	3371 Dec 19 07:45	27°II08'50	0°04'58	morning rise	3377 Jul 28 06:18	21°☾51'06	
min. Earth dist.	3371 Dec 19 07:43	27°II08'50	18.43853 AU	retrograde	3377 Oct 30 06:42	25°☾07'35	
direct	3372 Mar 02 22:56	25°II08'58		opposition	3378 Jan 13 08:48	23°☾05'35	0°26'13
evening set	3372 Jun 02 04:03	28°II15'54		min. Earth dist.	3378 Jan 13 17:55	23°☾04'36	18.04916 AU
				direct	3378 Mar 29 00:18	21°☾03'42	
conjunction	3372 Jun 18 17:33	29°II13'37	0°06'10	evening set	3378 Jun 29 16:28	24°☾17'49	
minimum elong	3372 Jun 18 17:33	29°II13'37	0°06'10				
behind sun begin	3372 Jun 18 11:10	29°II12'42		conjunction	3378 Jul 16 09:39	25°☾17'21	0°25'04
behind sun end	3372 Jun 18 23:56	29°II14'31		minimum elong	3378 Jul 16 09:39	25°☾17'21	0°25'04
max. Earth dist.	3372 Jun 18 17:33	29°II13'37	20.40710 AU	max. Earth dist.	3378 Jul 15 22:15	25°☾15'39	20.01569 AU
	3372 Jul 01 23:46	0°☾		morning rise	3378 Aug 02 03:36	26°☾17'00	
morning rise	3372 Jul 05 09:14	0°☾11'41		retrograde	3378 Nov 04 01:58	29°☾34'07	
retrograde	3372 Oct 07 18:51	3°☾24'55		opposition	3379 Jan 17 23:17	27°☾31'59	0°29'26
opposition	3372 Dec 22 18:17	1°☾23'21	0°08'37	min. Earth dist.	3379 Jan 18 09:01	27°☾30'56	17.98193 AU
min. Earth dist.	3372 Dec 22 18:36	1°☾23'19	18.37515 AU	direct	3379 Apr 02 16:55	25°☾29'42	
	3373 Jan 28 03:36	30°☾II		evening set	3379 Jul 04 14:03	28°☾45'05	
direct	3373 Mar 07 09:50	29°II23'11					
	3373 Apr 14 01:57	0°☾		conjunction	3379 Jul 21 07:34	29°☾44'53	0°27'54
evening set	3373 Jun 06 19:29	2°☾31'12		minimum elong	3379 Jul 21 07:33	29°☾44'53	0°27'54
				max. Earth dist.	3379 Jul 20 18:02	29°☾42'51	19.94837 AU
conjunction	3373 Jun 23 09:37	3°☾29'12	0°09'27		3379 Jul 25 12:16	0°☾	
minimum elong	3373 Jun 23 09:37	3°☾29'12	0°09'26	morning rise	3379 Aug 07 01:33	0°☾44'47	
behind sun begin	3373 Jun 23 04:01	3°☾28'24		retrograde	3379 Nov 08 19:56	4°☾02'28	
behind sun end	3373 Jun 23 15:12	3°☾30'00		opposition	3380 Jan 22 14:33	2°☾00'13	0°32'30
max. Earth dist.	3373 Jun 23 07:08	3°☾28'52	20.34350 AU	min. Earth dist.	3380 Jan 23 02:45	1°☾58'54	17.91487 AU
morning rise	3373 Jul 10 01:59	4°☾27'33			3380 Mar 27 18:02	30°☾	
retrograde	3373 Oct 12 09:48	7°☾41'26		direct	3380 Apr 06 08:29	29°☾57'31	
opposition	3373 Dec 27 05:33	5°☾39'46	0°12'15		3380 Apr 15 23:55	0°☾	
min. Earth dist.	3373 Dec 27 08:11	5°☾39'29	18.31135 AU	evening set	3380 Jul 08 12:22	3°☾14'09	
direct	3374 Mar 11 20:07	3°☾39'15					
evening set	3374 Jun 11 11:59	6°☾48'26		conjunction	3380 Jul 25 06:12	4°☾14'14	0°30'34
				minimum elong	3380 Jul 25 06:11	4°☾14'14	0°30'34
conjunction	3374 Jun 28 02:59	7°☾46'45	0°12'42	max. Earth dist.	3380 Jul 24 15:02	4°☾11'57	19.88177 AU
minimum elong	3374 Jun 28 02:59	7°☾46'45	0°12'42	morning rise	3380 Aug 11 00:14	5°☾14'21	
behind sun begin	3374 Jun 27 22:50	7°☾46'09		retrograde	3380 Nov 12 16:03	8°☾32'38	
behind sun end	3374 Jun 28 07:08	7°☾47'21		opposition	3381 Jan 26 06:21	6°☾30'13	0°35'24
max. Earth dist.	3374 Jun 27 23:40	7°☾46'17	20.27948 AU	min. Earth dist.	3381 Jan 26 18:57	6°☾28'52	17.84887 AU
morning rise	3374 Jul 14 19:45	8°☾45'22		direct	3381 Apr 11 03:15	4°☾27'07	
retrograde	3374 Oct 17 02:45	11°☾59'53		evening set	3381 Jul 13 11:24	7°☾44'59	
opposition	3374 Dec 31 17:10	9°☾58'09	0°15'51				
min. Earth dist.	3374 Dec 31 20:24	9°☾57'48	18.24698 AU	conjunction	3381 Jul 30 05:30	8°☾45'19	0°33'04

minimum elong	3381 Jul 30 05:30	8°♏45'19	0°33'05	max. Earth dist.	3387 Aug 27 17:28	6°♐22'49	19.49197 AU
max. Earth dist.	3381 Jul 29 13:01	8°♏42'50	19.81642 AU	morning rise	3387 Sep 14 06:36	7°♐27'28	
morning rise	3381 Aug 15 23:25	9°♏45'40		retrograde	3387 Dec 16 00:42	10°♐49'03	
retrograde	3381 Nov 17 10:55	13°♏04'29		opposition	3388 Feb 27 16:58	8°♐46'15	0°48'53
opposition	3382 Jan 30 23:00	11°♏01'57	0°38'05	min. Earth dist.	3388 Feb 28 11:51	8°♐44'10	17.47228 AU
min. Earth dist.	3382 Jan 31 13:43	11°♏00'22	17.78454 AU	direct	3388 May 13 01:25	6°♐40'53	
direct	3382 Apr 15 20:22	8°♏58'25		evening set	3388 Aug 16 01:21	10°♐06'43	
evening set	3382 Jul 18 11:24	12°♏17'32					
max. Earth dist.	3382 Aug 03 11:24	13°♏15'21	19.75326 AU	conjunction	3388 Sep 01 18:25	11°♐08'24	0°44'15
				minimum elong	3388 Sep 01 18:25	11°♐08'24	0°44'15
conjunction	3382 Aug 04 05:36	13°♏18'06	0°35'23	max. Earth dist.	3388 Aug 31 19:07	11°♐04'47	19.45316 AU
minimum elong	3382 Aug 04 05:36	13°♏18'06	0°35'23	morning rise	3388 Sep 18 09:30	12°♐09'49	
morning rise	3382 Aug 20 23:27	14°♏18'39		retrograde	3388 Dec 19 23:58	15°♐31'46	
	3382 Sep 01 21:09	15°♏		opposition	3389 Mar 03 14:25	13°♐29'00	0°49'38
retrograde	3382 Nov 22 08:18	17°♏38'00		min. Earth dist.	3389 Mar 04 09:50	13°♐26'52	17.43577 AU
opposition	3383 Feb 04 16:04	15°♏35'20	0°40'33	direct	3389 May 18 00:30	11°♐23'27	
min. Earth dist.	3383 Feb 05 07:05	15°♏33'43	17.72274 AU	evening set	3389 Aug 21 05:37	14°♐50'13	
	3383 Feb 18 09:58	15°♏♏					
direct	3383 Apr 20 16:57	13°♏31'24		conjunction	3389 Sep 06 22:24	15°♐52'02	0°44'46
	3383 Jun 18 23:09	15°♏		minimum elong	3389 Sep 06 22:24	15°♐52'01	0°44'47
evening set	3383 Jul 23 12:06	16°♏51'43		max. Earth dist.	3389 Sep 05 23:41	15°♐48'30	19.41865 AU
max. Earth dist.	3383 Aug 08 11:36	17°♏49'40	19.69283 AU	morning rise	3389 Sep 23 12:37	16°♐53'30	
				retrograde	3389 Dec 25 00:44	20°♐15'45	
conjunction	3383 Aug 09 06:25	17°♏52'32	0°37'29	opposition	3390 Mar 08 12:40	18°♐13'02	0°50'04
minimum elong	3383 Aug 09 06:24	17°♏52'32	0°37'29	min. Earth dist.	3390 Mar 09 08:32	18°♐10'51	17.40325 AU
morning rise	3383 Aug 25 23:52	18°♏53'16		direct	3390 May 23 01:14	16°♐07'21	
retrograde	3383 Nov 27 04:40	22°♏13'07		evening set	3390 Aug 26 10:33	19°♐34'56	
opposition	3384 Feb 09 10:07	20°♏10'22	0°42'47	max. Earth dist.	3390 Sep 11 02:11	20°♐33'00	19.38812 AU
min. Earth dist.	3384 Feb 10 02:46	20°♏08'33	17.66408 AU				
direct	3384 Apr 24 11:41	18°♏06'03		conjunction	3390 Sep 12 02:35	20°♐36'49	0°45'00
evening set	3384 Jul 27 13:22	21°♏27'32		minimum elong	3390 Sep 12 02:35	20°♐36'49	0°44'59
max. Earth dist.	3384 Aug 12 11:06	22°♏25'26	19.63606 AU	morning rise	3390 Sep 28 16:07	21°♐38'20	
				retrograde	3390 Dec 29 23:46	25°♐00'49	
conjunction	3384 Aug 13 07:30	22°♏28'33	0°39'21	opposition	3391 Mar 13 11:29	22°♐58'07	0°50'10
minimum elong	3384 Aug 13 07:30	22°♏28'33	0°39'21	min. Earth dist.	3391 Mar 14 08:06	22°♐55'52	17.37483 AU
morning rise	3384 Aug 30 00:46	23°♏29'28		direct	3391 May 28 02:14	20°♐52'17	
retrograde	3384 Dec 01 03:07	26°♏49'48		evening set	3391 Aug 31 15:32	24°♐20'37	
opposition	3385 Feb 13 04:44	24°♏46'58	0°44'44	max. Earth dist.	3391 Sep 16 07:17	25°♐18'49	19.36166 AU
min. Earth dist.	3385 Feb 13 21:27	24°♏45'09	17.60940 AU				
direct	3385 Apr 29 08:56	22°♏42'19		conjunction	3391 Sep 17 07:04	25°♐22'32	0°44'55
evening set	3385 Aug 01 15:21	26°♏04'57		minimum elong	3391 Sep 17 07:04	25°♐22'32	0°44'55
				morning rise	3391 Oct 03 19:38	26°♐24'04	
conjunction	3385 Aug 18 09:31	27°♏06'11	0°40'58	retrograde	3392 Jan 04 00:47	29°♐46'43	
minimum elong	3385 Aug 18 09:31	27°♏06'11	0°40'57	opposition	3392 Mar 17 10:57	27°♐44'04	0°49'54
max. Earth dist.	3385 Aug 17 13:11	27°♏03'04	19.58339 AU	min. Earth dist.	3392 Mar 18 07:23	27°♐41'50	17.35036 AU
morning rise	3385 Sep 04 02:11	28°♏07'15		direct	3392 Jun 01 05:00	25°♐38'06	
	3385 Oct 08 15:27	0°♐		evening set	3392 Sep 04 20:37	29°♐07'01	
retrograde	3385 Dec 06 01:28	1°♐28'01			3392 Sep 19 02:02	0°♏	
	3386 Feb 04 12:34	30°♏♏		max. Earth dist.	3392 Sep 20 10:30	0°♏05'05	19.33928 AU
opposition	3386 Feb 18 00:04	29°♏25'10	0°46'25				
min. Earth dist.	3386 Feb 18 17:58	29°♏23'12	17.55902 AU	conjunction	3392 Sep 21 11:20	0°♏08'58	0°44'31
direct	3386 May 04 05:15	27°♏20'14		minimum elong	3392 Sep 21 11:20	0°♏08'58	0°44'30
	3386 Jul 25 05:31	0°♐		morning rise	3392 Oct 07 23:04	1°♏10'30	
evening set	3386 Aug 06 18:10	0°♐43'59		retrograde	3393 Jan 07 23:50	4°♏33'16	
				opposition	3393 Mar 22 10:52	2°♏30'38	0°49'18
conjunction	3386 Aug 23 11:58	1°♐45'23	0°42'20	min. Earth dist.	3393 Mar 23 08:05	2°♏28'19	17.33021 AU
minimum elong	3386 Aug 23 11:58	1°♐45'23	0°42'20	direct	3393 Jun 06 07:02	0°♏24'32	
max. Earth dist.	3386 Aug 22 13:53	1°♐41'59	19.53538 AU	evening set	3393 Sep 10 01:46	3°♏53'59	
morning rise	3386 Sep 09 04:20	2°♐46'36					
retrograde	3386 Dec 11 00:47	6°♐07'48		conjunction	3393 Sep 26 15:48	4°♏55'55	0°43'49
opposition	3387 Feb 22 20:08	4°♐04'56	0°47'48	minimum elong	3393 Sep 26 15:48	4°♏55'55	0°43'48
min. Earth dist.	3387 Feb 23 14:14	4°♐02'57	17.51339 AU	max. Earth dist.	3393 Sep 25 15:34	4°♏52'07	19.32136 AU
direct	3387 May 09 03:08	1°♐59'45		morning rise	3393 Oct 13 02:34	5°♏57'25	
evening set	3387 Aug 11 21:23	5°♐24'35		retrograde	3394 Jan 13 01:01	9°♏20'13	
				opposition	3394 Mar 27 11:00	7°♏17'37	0°48'21
conjunction	3387 Aug 28 15:01	6°♐26'09	0°43'26	min. Earth dist.	3394 Mar 28 07:31	7°♏15'23	17.31449 AU
minimum elong	3387 Aug 28 15:01	6°♐26'09	0°43'26	direct	3394 Jun 11 11:21	5°♏11'24	



evening set	3394 Sep 15 06:58	8° <u>♏</u> 41'14		max. Earth dist.	3400 Oct 30 20:10	8° <u>♍</u> 20'01	19.35039 AU
				morning rise	3400 Nov 16 16:55	9° <u>♍</u> 23'25	
conjunction	3394 Oct 01 20:06	9° <u>♏</u> 43'10	0°42'48	retrograde	3401 Feb 16 00:26	12° <u>♍</u> 45'01	
minimum elong	3394 Oct 01 20:07	9° <u>♏</u> 43'10	0°42'48	opposition	3401 Apr 30 19:41	10° <u>♍</u> 43'02	0°32'54
max. Earth dist.	3394 Sep 30 19:40	9° <u>♏</u> 39'19	19.30804 AU	min. Earth dist.	3401 May 01 11:08	10° <u>♍</u> 41'22	17.36426 AU
morning rise	3394 Oct 18 05:53	10° <u>♏</u> 44'36		direct	3401 Jul 16 10:27	8° <u>♍</u> 37'09	
retrograde	3395 Jan 18 00:03	14° <u>♏</u> 07'23		evening set	3401 Oct 20 08:30	12° <u>♍</u> 06'38	
opposition	3395 Apr 01 11:44	12° <u>♏</u> 04'49	0°47'03				
min. Earth dist.	3395 Apr 02 08:54	12° <u>♏</u> 02'30	17.30376 AU	conjunction	3401 Nov 05 14:32	13° <u>♍</u> 07'37	0°28'04
direct	3395 Jun 16 13:57	9° <u>♏</u> 58'30		minimum elong	3401 Nov 05 14:32	13° <u>♍</u> 07'38	0°28'04
evening set	3395 Sep 20 11:43	13° <u>♏</u> 28'37		max. Earth dist.	3401 Nov 04 21:37	13° <u>♍</u> 04'58	19.37920 AU
				morning rise	3401 Nov 21 17:05	14° <u>♍</u> 08'06	
conjunction	3395 Oct 06 23:58	14° <u>♏</u> 30'28	0°41'29		3401 Dec 06 04:59	15° <u>♍</u>	
minimum elong	3395 Oct 06 23:58	14° <u>♏</u> 30'28	0°41'28	retrograde	3402 Feb 21 00:42	17° <u>♍</u> 29'22	
max. Earth dist.	3395 Oct 06 00:15	14° <u>♏</u> 26'44	19.29997 AU	opposition	3402 May 05 21:07	15° <u>♍</u> 27'34	0°29'40
morning rise	3395 Oct 23 08:47	15° <u>♏</u> 31'51		min. Earth dist.	3402 May 06 10:36	15° <u>♍</u> 26'07	17.39571 AU
retrograde	3396 Jan 23 01:18	18° <u>♏</u> 54'33			3402 May 16 15:46	15° <u>♏</u> ♍	
opposition	3396 Apr 05 12:37	16° <u>♏</u> 52'00	0°45'26	direct	3402 Jul 21 15:12	13° <u>♍</u> 21'56	
min. Earth dist.	3396 Apr 06 08:22	16° <u>♏</u> 49'51	17.29833 AU		3402 Sep 22 09:39	15° <u>♍</u>	
direct	3396 Jun 20 18:57	14° <u>♏</u> 45'39		evening set	3402 Oct 25 10:02	16° <u>♍</u> 50'57	
evening set	3396 Sep 24 16:18	18° <u>♏</u> 15'54					
max. Earth dist.	3396 Oct 10 04:49	19° <u>♏</u> 14'05	19.29739 AU	conjunction	3402 Nov 10 15:08	17° <u>♍</u> 51'43	0°25'05
				minimum elong	3402 Nov 10 15:08	17° <u>♍</u> 51'43	0°25'04
conjunction	3396 Oct 11 03:38	19° <u>♏</u> 17'41	0°39'53	max. Earth dist.	3402 Nov 10 00:50	17° <u>♍</u> 49'28	19.41319 AU
minimum elong	3396 Oct 11 03:38	19° <u>♏</u> 17'41	0°39'53	morning rise	3402 Nov 26 16:28	18° <u>♍</u> 51'58	
morning rise	3396 Oct 27 11:20	20° <u>♏</u> 18'57		retrograde	3403 Feb 25 22:18	22° <u>♍</u> 12'51	
retrograde	3397 Jan 27 00:15	23° <u>♏</u> 41'32		opposition	3403 May 10 22:46	20° <u>♍</u> 11'15	0°26'14
opposition	3397 Apr 10 13:44	21° <u>♏</u> 39'02	0°43'29	min. Earth dist.	3403 May 11 11:36	20° <u>♍</u> 09'53	17.43197 AU
min. Earth dist.	3397 Apr 11 09:50	21° <u>♏</u> 36'50	17.29879 AU	direct	3403 Jul 26 17:53	18° <u>♍</u> 05'54	
direct	3397 Jun 25 21:20	19° <u>♏</u> 32'38		evening set	3403 Oct 30 10:53	21° <u>♍</u> 34'19	
evening set	3397 Sep 29 20:31	23° <u>♏</u> 02'57					
max. Earth dist.	3397 Oct 15 08:39	24° <u>♏</u> 01'07	19.30098 AU	conjunction	3403 Nov 15 14:43	22° <u>♍</u> 34'50	0°21'56
				minimum elong	3403 Nov 15 14:43	22° <u>♍</u> 34'50	0°21'56
conjunction	3397 Oct 16 06:50	24° <u>♏</u> 04'37	0°38'00	max. Earth dist.	3403 Nov 15 00:50	22° <u>♍</u> 32'40	19.45174 AU
minimum elong	3397 Oct 16 06:50	24° <u>♏</u> 04'37	0°38'00	morning rise	3403 Dec 01 15:14	23° <u>♍</u> 34'52	
morning rise	3397 Nov 01 13:36	25° <u>♏</u> 05'47		retrograde	3404 Mar 01 21:16	26° <u>♍</u> 55'20	
retrograde	3398 Feb 01 01:44	28° <u>♏</u> 28'10		opposition	3404 May 15 00:10	24° <u>♍</u> 53'54	0°22'38
opposition	3398 Apr 15 15:00	26° <u>♏</u> 25'44	0°41'14	min. Earth dist.	3404 May 15 11:15	24° <u>♍</u> 52'43	17.47260 AU
min. Earth dist.	3398 Apr 16 09:10	26° <u>♏</u> 23'45	17.30545 AU	direct	3404 Jul 30 22:14	22° <u>♍</u> 48'49	
direct	3398 Jul 01 02:18	24° <u>♏</u> 19'22		evening set	3404 Nov 03 10:58	26° <u>♍</u> 16'32	
evening set	3398 Oct 05 00:16	27° <u>♏</u> 49'37					
				conjunction	3404 Nov 19 13:54	27° <u>♍</u> 16'49	0°18'38
conjunction	3398 Oct 21 09:37	28° <u>♏</u> 51'09	0°35'51	minimum elong	3404 Nov 19 13:54	27° <u>♍</u> 16'49	0°18'39
minimum elong	3398 Oct 21 09:37	28° <u>♏</u> 51'09	0°35'51	max. Earth dist.	3404 Nov 19 02:34	27° <u>♍</u> 15'03	19.49426 AU
max. Earth dist.	3398 Oct 20 13:16	28° <u>♏</u> 47'57	19.31085 AU	morning rise	3404 Dec 05 13:17	28° <u>♍</u> 16'36	
morning rise	3398 Nov 06 15:09	29° <u>♏</u> 52'10			3405 Jan 05 03:56	0° <u>♏</u>	
	3398 Nov 08 18:10	0° <u>♍</u>		retrograde	3405 Mar 06 17:55	1° <u>♏</u> 36'33	
retrograde	3399 Feb 06 00:31	3° <u>♍</u> 14'20			3405 May 10 07:33	30° <u>♏</u> ♍	
opposition	3399 Apr 20 16:35	1° <u>♍</u> 12'01	0°38'43	opposition	3405 May 20 01:15	29° <u>♍</u> 35'18	0°18'54
min. Earth dist.	3399 Apr 21 10:36	1° <u>♍</u> 10'04	17.31862 AU	min. Earth dist.	3405 May 20 11:22	29° <u>♍</u> 34'14	17.51677 AU
	3399 May 20 03:43	30° <u>♏</u> ♏		direct	3405 Aug 05 01:13	27° <u>♍</u> 30'31	
direct	3399 Jul 06 04:08	29° <u>♏</u> 05'45			3405 Oct 23 04:42	0° <u>♏</u>	
	3399 Aug 21 01:43	0° <u>♍</u>		evening set	3405 Nov 08 10:26	0° <u>♏</u> 57'27	
evening set	3399 Oct 10 03:37	2° <u>♍</u> 35'51					
				conjunction	3405 Nov 24 12:10	1° <u>♏</u> 57'26	0°15'15
conjunction	3399 Oct 26 11:48	3° <u>♍</u> 37'14	0°33'29	minimum elong	3405 Nov 24 12:10	1° <u>♏</u> 57'26	0°15'14
minimum elong	3399 Oct 26 11:48	3° <u>♍</u> 37'14	0°33'29	behind sun begin	3405 Nov 24 09:56	1° <u>♏</u> 57'06	
max. Earth dist.	3399 Oct 25 16:03	3° <u>♍</u> 34'07	19.32745 AU	behind sun end	3405 Nov 24 14:23	1° <u>♏</u> 57'47	
morning rise	3399 Nov 11 16:25	4° <u>♍</u> 38'05		max. Earth dist.	3405 Nov 24 01:13	1° <u>♏</u> 55'44	19.54014 AU
retrograde	3400 Feb 11 01:54	7° <u>♍</u> 59'59		morning rise	3405 Dec 10 10:44	2° <u>♏</u> 56'58	
opposition	3400 Apr 25 18:03	5° <u>♍</u> 57'48	0°35'56	retrograde	3406 Mar 11 15:18	6° <u>♏</u> 16'24	
min. Earth dist.	3400 Apr 26 09:51	5° <u>♍</u> 56'06	17.33840 AU	opposition	3406 May 25 02:10	4° <u>♏</u> 15'18	0°15'03
direct	3400 Jul 11 08:33	3° <u>♍</u> 51'42		min. Earth dist.	3406 May 25 10:50	4° <u>♏</u> 14'23	17.56422 AU
evening set	3400 Oct 15 06:12	7° <u>♍</u> 21'33		direct	3406 Aug 10 03:34	2° <u>♏</u> 10'46	
				evening set	3406 Nov 13 08:47	5° <u>♏</u> 36'49	
conjunction	3400 Oct 31 13:29	8° <u>♍</u> 22'45	0°30'52				
minimum elong	3400 Oct 31 13:29	8° <u>♍</u> 22'45	0°30'52	conjunction	3406 Nov 29 09:36	6° <u>♏</u> 36'32	0°11'46

minimum elong	3406 Nov 29 09:36	6°♊36'32	0°11'47	retrograde	3412 Apr 07 09:15	3°♊37'38	
behind sun begin	3406 Nov 29 04:55	6°♊35'49		opposition	3412 Jun 21 21:21	1°♊37'11	-0°08'40
behind sun end	3406 Nov 29 14:16	6°♊37'15		min. Earth dist.	3412 Jun 21 20:19	1°♊37'18	17.90408 AU
max. Earth dist.	3406 Nov 29 01:09	6°♊35'14	19.58902 AU		3412 Aug 05 20:13	30°♊♊	
morning rise	3406 Dec 15 07:08	7°♊35'47		direct	3412 Sep 07 02:31	29°♊34'22	
retrograde	3407 Mar 16 11:49	10°♊54'39			3412 Oct 08 17:47	0°♊	
opposition	3407 May 30 02:45	8°♊53'42	0°11'07	evening set	3412 Dec 10 02:19	2°♊53'47	
min. Earth dist.	3407 May 30 09:52	8°♊52'57	17.61434 AU				
direct	3407 Aug 15 06:00	6°♊49'27		conjunction	3412 Dec 25 21:43	3°♊51'39	-0°09'34
evening set	3407 Nov 18 06:21	10°♊14'31		minimum elong	3412 Dec 25 21:43	3°♊51'39	0°09'35
				behind sun begin	3412 Dec 25 16:15	3°♊50'49	
conjunction	3407 Dec 04 06:03	11°♊13'56	0°08'14	behind sun end	3412 Dec 26 03:11	3°♊52'28	
minimum elong	3407 Dec 04 06:02	11°♊13'56	0°08'14	max. Earth dist.	3412 Dec 26 00:03	3°♊51'59	19.93689 AU
behind sun begin	3407 Dec 04 00:10	11°♊13'02		morning rise	3413 Jan 10 15:09	4°♊49'14	
behind sun end	3407 Dec 04 11:54	11°♊14'50		retrograde	3413 Apr 12 02:50	8°♊04'15	
max. Earth dist.	3407 Dec 03 22:23	11°♊12'46	19.64052 AU	opposition	3413 Jun 26 18:14	6°♊03'58	-0°12'27
morning rise	3407 Dec 20 02:52	12°♊12'56		min. Earth dist.	3413 Jun 26 14:20	6°♊04'22	17.96986 AU
retrograde	3408 Mar 20 07:35	15°♊31'11		direct	3413 Sep 12 00:49	4°♊01'32	
opposition	3408 Jun 03 02:45	13°♊30'21	0°07'09	evening set	3413 Dec 14 17:51	7°♊19'46	
min. Earth dist.	3408 Jun 03 08:39	13°♊29'43	17.66719 AU				
direct	3408 Aug 19 05:53	11°♊26'20		conjunction	3413 Dec 30 12:30	8°♊17'20	-0°12'56
evening set	3408 Nov 22 02:44	14°♊50'22		minimum elong	3413 Dec 30 12:30	8°♊17'20	0°12'56
				behind sun begin	3413 Dec 30 08:24	8°♊16'43	
conjunction	3408 Dec 08 01:38	15°♊49'29	0°04'40	behind sun end	3413 Dec 30 16:37	8°♊17'57	
minimum elong	3408 Dec 08 01:37	15°♊49'29	0°04'41	max. Earth dist.	3413 Dec 30 16:53	8°♊17'59	20.00376 AU
behind sun begin	3408 Dec 07 19:09	15°♊48'31		morning rise	3414 Jan 15 05:26	9°♊14'39	
behind sun end	3408 Dec 08 08:04	15°♊50'28		retrograde	3414 Apr 16 18:49	12°♊29'04	
max. Earth dist.	3408 Dec 07 20:20	15°♊48'42	19.69465 AU	opposition	3414 Jul 01 14:49	10°♊28'57	-0°16'09
morning rise	3408 Dec 23 21:36	16°♊48'12		min. Earth dist.	3414 Jul 01 10:00	10°♊29'27	18.03774 AU
retrograde	3409 Mar 25 03:34	20°♊05'49		direct	3414 Sep 16 19:40	8°♊26'57	
opposition	3409 Jun 08 02:14	18°♊05'04	0°03'09	evening set	3414 Dec 19 08:18	11°♊43'59	
min. Earth dist.	3409 Jun 08 06:08	18°♊04'40	17.72237 AU				
direct	3409 Aug 24 07:31	16°♊01'20		conjunction	3415 Jan 04 02:17	12°♊41'14	-0°16'12
evening set	3409 Nov 26 22:14	19°♊24'16		minimum elong	3415 Jan 04 02:17	12°♊41'14	0°16'12
				behind sun begin	3415 Jan 04 01:51	12°♊41'10	
conjunction	3409 Dec 12 20:04	20°♊23'04	0°01'03	behind sun end	3415 Jan 04 02:43	12°♊41'18	
minimum elong	3409 Dec 12 20:04	20°♊23'04	0°01'03	max. Earth dist.	3415 Jan 04 08:25	12°♊42'10	20.07244 AU
behind sun begin	3409 Dec 12 13:29	20°♊22'04		morning rise	3415 Jan 19 18:51	13°♊38'18	
behind sun end	3409 Dec 13 02:40	20°♊24'04		retrograde	3415 Apr 21 11:26	16°♊52'07	
max. Earth dist.	3409 Dec 12 16:06	20°♊22'30	19.75110 AU	opposition	3415 Jul 06 10:36	14°♊52'12	-0°19'43
morning rise	3409 Dec 28 15:23	21°♊21'30		min. Earth dist.	3415 Jul 06 02:58	14°♊52'59	18.10692 AU
desc. node	3410 Mar 27 16:00	24°♊38'20		direct	3415 Sep 21 16:16	12°♊50'37	
retrograde	3410 Mar 29 21:35	24°♊38'28		evening set	3415 Dec 23 22:01	16°♊06'29	
opposition	3410 Jun 13 01:13	22°♊37'48	-0°00'50				
min. Earth dist.	3410 Jun 13 03:58	22°♊37'31	17.78020 AU	conjunction	3416 Jan 08 15:25	17°♊03'27	-0°19'22
direct	3410 Aug 29 05:48	20°♊34'20		minimum elong	3416 Jan 08 15:25	17°♊03'27	0°19'21
evening set	3410 Dec 01 16:35	23°♊56'07		max. Earth dist.	3416 Jan 08 23:38	17°♊04'41	20.14195 AU
				morning rise	3416 Jan 24 07:35	18°♊00'14	
conjunction	3410 Dec 17 13:37	24°♊54'36	-0°02'37	retrograde	3416 Apr 25 02:08	21°♊13'28	
minimum elong	3410 Dec 17 13:37	24°♊54'36	0°02'37	opposition	3416 Jul 10 05:44	19°♊13'45	-0°23'09
behind sun begin	3410 Dec 17 07:02	24°♊53'37		min. Earth dist.	3416 Jul 09 21:35	19°♊14'35	18.17671 AU
behind sun end	3410 Dec 17 20:11	24°♊55'35		direct	3416 Sep 25 09:55	17°♊12'37	
max. Earth dist.	3410 Dec 17 12:02	24°♊54'25	19.81032 AU	evening set	3416 Dec 27 10:55	20°♊27'18	
morning rise	3411 Jan 02 08:12	25°♊52'45					
retrograde	3411 Apr 03 16:29	29°♊09'03		conjunction	3417 Jan 12 03:46	21°♊23'58	-0°22'23
opposition	3411 Jun 17 23:34	27°♊08'29	-0°04'47	minimum elong	3417 Jan 12 03:46	21°♊23'58	0°22'23
min. Earth dist.	3411 Jun 17 23:40	27°♊08'29	17.84072 AU	max. Earth dist.	3417 Jan 12 13:07	21°♊25'23	20.21174 AU
direct	3411 Sep 03 05:57	25°♊05'20		morning rise	3417 Jan 27 19:42	22°♊20'31	
evening set	3411 Dec 06 09:54	28°♊25'55		retrograde	3417 Apr 29 17:35	25°♊33'11	
				opposition	3417 Jul 15 00:12	23°♊33'38	-0°26'26
conjunction	3411 Dec 22 06:04	29°♊24'06	-0°06'08	min. Earth dist.	3417 Jul 14 13:30	23°♊34'44	18.24626 AU
minimum elong	3411 Dec 22 06:03	29°♊24'06	0°06'08	direct	3417 Sep 30 04:36	21°♊32'56	
behind sun begin	3411 Dec 21 23:47	29°♊23'10		evening set	3417 Dec 31 22:57	24°♊46'27	
behind sun end	3411 Dec 22 12:18	29°♊25'02					
max. Earth dist.	3411 Dec 22 06:19	29°♊24'08	19.87221 AU	conjunction	3418 Jan 16 15:20	25°♊42'51	-0°25'16
	3411 Dec 31 23:23	0°♊		minimum elong	3418 Jan 16 15:20	25°♊42'51	0°25'17
morning rise	3412 Jan 07 00:03	0°♊21'58		max. Earth dist.	3418 Jan 17 02:41	25°♊44'33	20.28080 AU

morning rise	3418 Feb 01 06:57	26°33'08	min. Earth dist.	3424 Aug 13 21:17	23°07'28	18.67924 AU
retrograde	3418 May 04 06:47	29°35'16	direct	3424 Oct 30 09:43	21°07'13	
opposition	3418 Jul 19 18:14	27°35'53 -0°29'33	evening set	3425 Jan 29 14:46	24°12'56	
min. Earth dist.	3418 Jul 19 07:13	27°35'00 18.31485 AU				
direct	3418 Oct 04 21:14	25°35'36	conjunction	3425 Feb 14 05:44	25°07'42 -0°40'27	
evening set	3419 Jan 05 10:20	29°30'56	minimum elong	3425 Feb 14 05:44	25°07'42 0°40'27	
			max. Earth dist.	3425 Feb 15 00:15	25°10'25 20.70554 AU	
conjunction	3419 Jan 21 02:15	0°00'04 -0°28'00	morning rise	3425 Mar 01 21:52	26°02'37	
minimum elong	3419 Jan 21 02:15	0°00'04 0°28'00	retrograde	3425 Jun 02 15:59	29°11'09	
	3419 Jan 21 01:50	0°	min. Earth dist.	3425 Aug 18 08:23	27°14'07 18.73169 AU	
max. Earth dist.	3419 Jan 21 14:18	0°01'52 20.34869 AU	opposition	3425 Aug 19 03:41	27°12'10 -0°45'32	
morning rise	3419 Feb 05 17:48	0°56'07	direct	3425 Nov 03 20:40	25°13'55	
retrograde	3419 May 08 20:57	4°07'42	evening set	3426 Feb 02 21:03	28°18'41	
opposition	3419 Jul 24 11:23	2°08'28 -0°32'29				
min. Earth dist.	3419 Jul 23 22:06	2°09'49 18.38189 AU	conjunction	3426 Feb 18 12:12	29°13'17 -0°41'48	
direct	3419 Oct 09 14:07	0°08'33	minimum elong	3426 Feb 18 12:11	29°13'17 0°41'47	
evening set	3420 Jan 09 20:51	3°19'45	max. Earth dist.	3426 Feb 19 08:45	29°16'18 20.75683 AU	
				3426 Mar 03 20:20	0°	
conjunction	3420 Jan 25 12:31	4°15'37 -0°30'34	morning rise	3426 Mar 06 04:30	0°08'04	
minimum elong	3420 Jan 25 12:31	4°15'37 0°30'34	retrograde	3426 Jun 07 00:38	3°16'12	
max. Earth dist.	3420 Jan 26 02:22	4°17'41 20.41455 AU	opposition	3426 Aug 23 16:06	1°17'15 -0°46'53	
morning rise	3420 Feb 10 03:55	5°11'27	min. Earth dist.	3426 Aug 22 20:26	1°19'14 18.78196 AU	
retrograde	3420 May 12 08:41	8°22'29		3426 Sep 27 15:17	30°	
opposition	3420 Jul 28 04:00	6°23'22 -0°35'12	direct	3426 Nov 08 07:08	29°19'17	
min. Earth dist.	3420 Jul 27 14:38	6°24'43 18.44661 AU		3426 Dec 18 13:53	0°	
direct	3420 Oct 13 04:54	4°23'48	evening set	3427 Feb 07 03:03	2°23'09	
evening set	3421 Jan 13 06:45	7°33'51				
			conjunction	3427 Feb 22 18:14	3°17'35 -0°42'55	
conjunction	3421 Jan 28 22:04	8°29'28 -0°32'57	minimum elong	3427 Feb 22 18:14	3°17'35 0°42'55	
minimum elong	3421 Jan 28 22:04	8°29'28 0°32'56	max. Earth dist.	3427 Feb 23 14:51	3°20'36 20.80603 AU	
max. Earth dist.	3421 Jan 29 12:12	8°31'34 20.47797 AU	morning rise	3427 Mar 10 11:04	4°12'15	
morning rise	3421 Feb 13 13:32	9°25'06	retrograde	3427 Jun 11 11:14	7°20'02	
retrograde	3421 May 16 21:43	12°35'36	min. Earth dist.	3427 Aug 27 06:34	5°23'15 18.83003 AU	
opposition	3421 Aug 01 19:43	10°36'33 -0°37'44	opposition	3427 Aug 28 03:41	5°21'08 -0°48'00	
min. Earth dist.	3421 Aug 01 04:22	10°38'06 18.50868 AU	direct	3427 Nov 12 16:04	3°23'25	
direct	3421 Oct 17 20:04	8°37'17	evening set	3428 Feb 11 08:30	6°26'27	
evening set	3422 Jan 17 15:50	11°46'13				
			conjunction	3428 Feb 27 00:03	7°20'46 -0°43'50	
conjunction	3422 Feb 02 07:03	12°41'36 -0°35'08	minimum elong	3428 Feb 27 00:03	7°20'46 0°43'49	
minimum elong	3422 Feb 02 07:03	12°41'36 0°35'08	max. Earth dist.	3428 Feb 27 22:24	7°24'01 20.85268 AU	
max. Earth dist.	3422 Feb 02 23:00	12°43'58 20.53859 AU	morning rise	3428 Mar 13 17:11	8°15'19	
morning rise	3422 Feb 17 22:28	13°37'02	retrograde	3428 Jun 14 19:26	11°22'47	
	3422 Mar 15 10:18	15°	opposition	3428 Aug 31 14:52	9°23'57 -0°48'53	
retrograde	3422 May 21 07:48	16°47'00	min. Earth dist.	3428 Aug 30 17:36	9°26'05 18.87525 AU	
	3422 Aug 01 11:39	15°	direct	3428 Nov 16 01:29	7°26'31	
opposition	3422 Aug 06 10:57	14°48'00 -0°40'02	evening set	3429 Feb 14 13:43	10°28'48	
min. Earth dist.	3422 Aug 05 19:29	14°49'33 18.56798 AU				
direct	3422 Oct 22 09:05	12°49'01	conjunction	3429 Mar 02 05:23	11°22'59 -0°44'31	
	3423 Jan 04 23:02	15°	minimum elong	3429 Mar 02 05:23	11°22'59 0°44'31	
evening set	3423 Jan 22 00:06	15°56'49	max. Earth dist.	3429 Mar 03 03:28	11°26'11 20.89641 AU	
			morning rise	3429 Mar 17 23:08	12°17'27	
conjunction	3423 Feb 06 15:07	16°51'59 -0°37'07	retrograde	3429 Jun 19 05:45	15°24'41	
minimum elong	3423 Feb 06 15:07	16°51'59 0°37'07	min. Earth dist.	3429 Sep 04 03:12	13°28'08 18.91737 AU	
max. Earth dist.	3423 Feb 07 07:24	16°54'23 20.59663 AU	opposition	3429 Sep 05 01:32	13°25'54 -0°49'30	
morning rise	3423 Feb 22 06:48	17°47'13	direct	3429 Nov 20 09:26	11°28'43	
retrograde	3423 May 25 19:57	20°56'42	evening set	3430 Feb 18 18:36	14°30'18	
min. Earth dist.	3423 Aug 10 07:57	18°59'26 18.62479 AU				
opposition	3423 Aug 11 01:16	18°57'41 -0°42'06	conjunction	3430 Mar 06 10:44	15°24'24 -0°44'59	
direct	3423 Oct 26 22:16	16°58'57	minimum elong	3430 Mar 06 10:44	15°24'24 0°45'00	
evening set	3424 Jan 26 07:43	20°05'41	max. Earth dist.	3430 Mar 07 10:18	15°27'49 20.93668 AU	
			morning rise	3430 Mar 22 04:53	16°18'48	
conjunction	3424 Feb 10 22:47	21°00'39 -0°38'53	retrograde	3430 Jun 23 13:37	19°25'48	
minimum elong	3424 Feb 10 22:47	21°00'39 0°38'53	opposition	3430 Sep 09 11:49	17°27'06 -0°49'54	
max. Earth dist.	3424 Feb 11 17:03	21°03'21 20.65213 AU	min. Earth dist.	3430 Sep 08 13:35	17°29'19 18.95576 AU	
morning rise	3424 Feb 26 14:33	21°55'43	direct	3430 Nov 24 17:27	15°30'11	
retrograde	3424 May 29 04:52	25°04'42	evening set	3431 Feb 22 23:21	18°31'07	
opposition	3424 Aug 14 14:47	23°05'42 -0°43'56				

conjunction	3431 Mar 10 15:47	19° $\mathbf{K}$ 25'08 -0°45'14	retrograde	3437 Jul 22 00:36	17° $\mathbf{Y}$ 20'01
minimum elong	3431 Mar 10 15:47	19° $\mathbf{K}$ 25'08 0°45'14	min. Earth dist.	3437 Oct 07 03:54	15° $\mathbf{Y}$ 23'05 19.08456 AU
max. Earth dist.	3431 Mar 11 14:40	19° $\mathbf{K}$ 28'27 20.97307 AU	opposition	3437 Oct 08 00:28	15° $\mathbf{Y}$ 21'01 -0°45'54
morning rise	3431 Mar 26 10:41	20° $\mathbf{K}$ 19'30	direct	3437 Dec 22 14:52	13° $\mathbf{Y}$ 24'47
retrograde	3431 Jun 27 23:41	23° $\mathbf{K}$ 26'19	evening set	3438 Mar 22 06:01	16° $\mathbf{Y}$ 22'56
opposition	3431 Sep 13 21:37	21° $\mathbf{K}$ 27'39 -0°50'02			
min. Earth dist.	3431 Sep 12 22:54	21° $\mathbf{K}$ 29'55 18.98998 AU	conjunction	3438 Apr 07 02:53	17° $\mathbf{Y}$ 16'57 -0°40'56
direct	3431 Nov 29 00:50	19° $\mathbf{K}$ 30'57	minimum elong	3438 Apr 07 02:53	17° $\mathbf{Y}$ 16'57 0°40'55
evening set	3432 Feb 27 03:59	22° $\mathbf{K}$ 31'20	max. Earth dist.	3438 Apr 08 01:13	17° $\mathbf{Y}$ 20'08 21.08398 AU
			morning rise	3438 Apr 23 02:58	18° $\mathbf{Y}$ 11'26
conjunction	3432 Mar 13 20:58	23° $\mathbf{K}$ 25'18 -0°45'16	retrograde	3438 Jul 26 08:19	21° $\mathbf{Y}$ 17'49
minimum elong	3432 Mar 13 20:58	23° $\mathbf{K}$ 25'18 0°45'17	min. Earth dist.	3438 Oct 11 11:34	19° $\mathbf{Y}$ 20'45 19.08318 AU
max. Earth dist.	3432 Mar 14 20:54	23° $\mathbf{K}$ 28'45 21.00480 AU	opposition	3438 Oct 12 07:44	19° $\mathbf{Y}$ 18'43 -0°44'25
morning rise	3432 Mar 29 16:21	24° $\mathbf{K}$ 19'38	direct	3438 Dec 26 21:00	17° $\mathbf{Y}$ 22'27
retrograde	3432 Jul 01 07:17	27° $\mathbf{K}$ 26'18	evening set	3439 Mar 26 10:28	20° $\mathbf{Y}$ 20'29
min. Earth dist.	3432 Sep 16 08:39	25° $\mathbf{K}$ 29'54 19.01921 AU			
opposition	3432 Sep 17 06:54	25° $\mathbf{K}$ 27'41 -0°49'57	conjunction	3439 Apr 11 08:02	21° $\mathbf{Y}$ 14'34 -0°39'29
direct	3432 Dec 02 07:33	23° $\mathbf{K}$ 31'11	minimum elong	3439 Apr 11 08:02	21° $\mathbf{Y}$ 14'34 0°39'30
evening set	3433 Mar 02 08:36	26° $\mathbf{K}$ 31'03	max. Earth dist.	3439 Apr 12 04:54	21° $\mathbf{Y}$ 17'33 21.08068 AU
			morning rise	3439 Apr 27 09:11	22° $\mathbf{Y}$ 09'09
conjunction	3433 Mar 18 01:59	27° $\mathbf{K}$ 24'59 -0°45'05	retrograde	3439 Jul 30 16:12	25° $\mathbf{Y}$ 15'37
minimum elong	3433 Mar 18 01:59	27° $\mathbf{K}$ 24'59 0°45'04	opposition	3439 Oct 16 14:50	23° $\mathbf{Y}$ 16'24 -0°42'43
max. Earth dist.	3433 Mar 19 00:46	27° $\mathbf{K}$ 28'15 21.03147 AU	min. Earth dist.	3439 Oct 15 19:10	23° $\mathbf{Y}$ 18'22 19.07793 AU
morning rise	3433 Apr 02 22:10	28° $\mathbf{K}$ 19'17	direct	3439 Dec 31 01:32	21° $\mathbf{Y}$ 20'05
	3433 May 05 18:55	0° $\mathbf{Y}$	evening set	3440 Mar 29 15:00	24° $\mathbf{Y}$ 18'04
retrograde	3433 Jul 05 16:43	1° $\mathbf{Y}$ 25'51			
	3433 Sep 07 18:57	30° $\mathbf{K}$	conjunction	3440 Apr 14 13:31	25° $\mathbf{Y}$ 12'15 -0°37'51
opposition	3433 Sep 21 16:00	29° $\mathbf{K}$ 27'13 -0°49'36	minimum elong	3440 Apr 14 13:31	25° $\mathbf{Y}$ 12'15 0°37'50
min. Earth dist.	3433 Sep 20 17:43	29° $\mathbf{K}$ 29'27 19.04320 AU	max. Earth dist.	3440 Apr 15 10:56	25° $\mathbf{Y}$ 15'18 21.07341 AU
direct	3433 Dec 06 14:35	27° $\mathbf{K}$ 30'51	morning rise	3440 Apr 30 15:23	26° $\mathbf{Y}$ 06'56
	3434 Feb 25 08:46	0° $\mathbf{Y}$	retrograde	3440 Aug 02 23:45	29° $\mathbf{Y}$ 13'31
evening set	3434 Mar 06 12:54	0° $\mathbf{Y}$ 30'16	opposition	3440 Oct 19 21:39	27° $\mathbf{Y}$ 14'13 -0°40'49
			min. Earth dist.	3440 Oct 19 02:25	27° $\mathbf{Y}$ 16'09 19.06870 AU
conjunction	3434 Mar 22 06:59	1° $\mathbf{Y}$ 24'11 -0°44'41	direct	3441 Jan 03 07:29	25° $\mathbf{Y}$ 17'53
minimum elong	3434 Mar 22 06:59	1° $\mathbf{Y}$ 24'11 0°44'41	evening set	3441 Apr 02 19:55	28° $\mathbf{Y}$ 15'54
max. Earth dist.	3434 Mar 23 06:33	1° $\mathbf{Y}$ 27'34 21.05257 AU			
morning rise	3434 Apr 07 03:46	2° $\mathbf{Y}$ 18'30	conjunction	3441 Apr 18 19:10	29° $\mathbf{Y}$ 10'11 -0°36'03
retrograde	3434 Jul 10 00:28	5° $\mathbf{Y}$ 24'58	minimum elong	3441 Apr 18 19:10	29° $\mathbf{Y}$ 10'11 0°36'03
min. Earth dist.	3434 Sep 25 03:00	3° $\mathbf{Y}$ 28'28 19.06142 AU	max. Earth dist.	3441 Apr 19 14:58	29° $\mathbf{Y}$ 13'00 21.06243 AU
opposition	3434 Sep 26 00:44	3° $\mathbf{Y}$ 26'18 -0°49'02		3441 May 03 10:27	0° $\mathbf{Z}$
direct	3434 Dec 10 20:54	1° $\mathbf{Y}$ 30'02	morning rise	3441 May 04 22:08	0° $\mathbf{Z}$ 04'59
evening set	3435 Mar 10 17:21	4° $\mathbf{Y}$ 29'02	retrograde	3441 Aug 07 08:28	3° $\mathbf{Z}$ 11'46
			min. Earth dist.	3441 Oct 23 10:03	1° $\mathbf{Z}$ 14'14 19.05584 AU
conjunction	3435 Mar 26 11:57	5° $\mathbf{Y}$ 22'56 -0°44'03	opposition	3441 Oct 24 04:36	1° $\mathbf{Z}$ 12'22 -0°38'43
minimum elong	3435 Mar 26 11:57	5° $\mathbf{Y}$ 22'56 0°44'03		3441 Nov 25 10:50	30° $\mathbf{K}$
max. Earth dist.	3435 Mar 27 10:09	5° $\mathbf{Y}$ 26'08 21.06808 AU	direct	3442 Jan 07 11:44	29° $\mathbf{Y}$ 15'58
morning rise	3435 Apr 11 09:41	6° $\mathbf{Y}$ 17'17		3442 Feb 18 07:07	0° $\mathbf{Z}$
retrograde	3435 Jul 14 09:02	9° $\mathbf{Y}$ 23'41	evening set	3442 Apr 07 00:57	2° $\mathbf{Z}$ 14'06
min. Earth dist.	3435 Sep 29 11:32	7° $\mathbf{Y}$ 27'04 19.07419 AU			
opposition	3435 Sep 30 08:55	7° $\mathbf{Y}$ 24'55 -0°48'13	conjunction	3442 Apr 23 01:15	3° $\mathbf{Z}$ 08'31 -0°34'04
direct	3435 Dec 15 03:15	5° $\mathbf{Y}$ 28'41	minimum elong	3442 Apr 23 01:15	3° $\mathbf{Z}$ 08'31 0°34'03
evening set	3436 Mar 13 21:34	8° $\mathbf{Y}$ 27'21	max. Earth dist.	3442 Apr 23 21:30	3° $\mathbf{Z}$ 11'24 21.04763 AU
			morning rise	3442 May 09 05:02	4° $\mathbf{Z}$ 03'27
conjunction	3436 Mar 29 17:00	9° $\mathbf{Y}$ 21'17 -0°43'13	retrograde	3442 Aug 11 16:06	7° $\mathbf{Z}$ 10'27
minimum elong	3436 Mar 29 17:00	9° $\mathbf{Y}$ 21'17 0°43'13	opposition	3442 Oct 28 11:27	5° $\mathbf{Z}$ 11'00 -0°36'26
max. Earth dist.	3436 Mar 30 15:52	9° $\mathbf{Y}$ 24'33 21.07813 AU	min. Earth dist.	3442 Oct 27 17:29	5° $\mathbf{Z}$ 12'49 19.03898 AU
morning rise	3436 Apr 14 15:24	10° $\mathbf{Y}$ 15'39	direct	3443 Jan 11 17:25	3° $\mathbf{Z}$ 14'33
retrograde	3436 Jul 17 16:44	13° $\mathbf{Y}$ 21'59	evening set	3443 Apr 11 06:42	6° $\mathbf{Z}$ 12'52
opposition	3436 Oct 03 16:49	11° $\mathbf{Y}$ 23'08 -0°47'10			
min. Earth dist.	3436 Oct 02 19:57	11° $\mathbf{Y}$ 25'13 19.08165 AU	conjunction	3443 Apr 27 07:48	7° $\mathbf{Z}$ 07'26 -0°31'55
direct	3436 Dec 18 09:30	9° $\mathbf{Y}$ 26'55	minimum elong	3443 Apr 27 07:48	7° $\mathbf{Z}$ 07'26 0°31'55
evening set	3437 Mar 18 01:47	12° $\mathbf{Y}$ 25'17	max. Earth dist.	3443 Apr 28 02:06	7° $\mathbf{Z}$ 10'03 21.02889 AU
			morning rise	3443 May 13 12:41	8° $\mathbf{Z}$ 02'31
conjunction	3437 Apr 02 21:46	13° $\mathbf{Y}$ 19'14 -0°42'10	retrograde	3443 Aug 16 01:40	11° $\mathbf{Z}$ 09'47
minimum elong	3437 Apr 02 21:46	13° $\mathbf{Y}$ 19'14 0°42'11	opposition	3443 Nov 01 18:15	9° $\mathbf{Z}$ 10'16 -0°33'58
max. Earth dist.	3437 Apr 03 19:21	13° $\mathbf{Y}$ 22'19 21.08328 AU	min. Earth dist.	3443 Nov 01 01:28	9° $\mathbf{Z}$ 11'57 19.01816 AU
morning rise	3437 Apr 18 21:08	14° $\mathbf{Y}$ 13'40	direct	3444 Jan 15 21:52	7° $\mathbf{Z}$ 13'44

evening set	3444 Apr 14 12:48	10° <b>8</b> 12'20	conjunction	3450 May 25 22:05	5° <b>II</b> 23'58 -0°12'54
			minimum elong	3450 May 25 22:05	5° <b>II</b> 23'58 0°12'55
conjunction	3444 Apr 30 14:58	11° <b>8</b> 07'05 -0°29'36	behind sun begin	3450 May 25 18:03	5° <b>II</b> 23'24
minimum elong	3444 Apr 30 14:58	11° <b>8</b> 07'05 0°29'36	behind sun end	3450 May 26 02:07	5° <b>II</b> 24'32
max. Earth dist.	3444 May 01 09:23	11° <b>8</b> 09'42 21.00589 AU	max. Earth dist.	3450 May 26 07:28	5° <b>II</b> 25'18 20.76726 AU
morning rise	3444 May 16 20:38	12° <b>8</b> 02'19	morning rise	3450 Jun 11 09:19	6° <b>II</b> 20'28
	3444 Jul 30 06:15	15° <b>8</b>	retrograde	3450 Sep 13 23:38	9° <b>II</b> 30'23
retrograde	3444 Aug 19 09:49	15° <b>8</b> 09'54	opposition	3450 Nov 29 22:48	7° <b>II</b> 29'51 -0°12'29
	3444 Sep 08 17:30	15° <b>8</b>	min. Earth dist.	3450 Nov 29 15:16	7° <b>II</b> 30'37 18.74033 AU
min. Earth dist.	3444 Nov 04 09:18	13° <b>8</b> 11'55 18.99285 AU	direct	3451 Feb 12 18:08	5° <b>II</b> 31'46
opposition	3444 Nov 05 01:14	13° <b>8</b> 10'18 -0°31'20	evening set	3451 May 14 00:34	8° <b>II</b> 34'03
direct	3445 Jan 19 03:27	11° <b>8</b> 13'41			
evening set	3445 Apr 18 19:28	14° <b>8</b> 12'38	conjunction	3451 May 30 09:25	9° <b>II</b> 30'19 -0°09'46
	3445 May 02 17:45	15° <b>8</b>	minimum elong	3451 May 30 09:25	9° <b>II</b> 30'19 0°09'46
			behind sun begin	3451 May 30 03:58	9° <b>II</b> 29'33
conjunction	3445 May 04 22:26	15° <b>8</b> 07'32 -0°27'08	behind sun end	3451 May 30 14:53	9° <b>II</b> 31'05
minimum elong	3445 May 04 22:26	15° <b>8</b> 07'32 0°27'08	max. Earth dist.	3451 May 30 16:06	9° <b>II</b> 31'16 20.71297 AU
max. Earth dist.	3445 May 05 14:35	15° <b>8</b> 09'51 20.97837 AU	morning rise	3451 Jun 15 21:38	10° <b>II</b> 27'04
morning rise	3445 May 21 05:12	16° <b>8</b> 02'59	retrograde	3451 Sep 18 10:43	13° <b>II</b> 37'27
retrograde	3445 Aug 23 19:50	19° <b>8</b> 10'54	opposition	3451 Dec 04 07:05	11° <b>II</b> 36'43 -0°08'58
opposition	3445 Nov 09 08:29	17° <b>8</b> 11'13 -0°28'32	min. Earth dist.	3451 Dec 04 01:30	11° <b>II</b> 37'18 18.68473 AU
min. Earth dist.	3445 Nov 08 18:07	17° <b>8</b> 12'40 18.96292 AU	direct	3452 Feb 17 01:11	9° <b>II</b> 38'17
direct	3446 Jan 23 08:36	15° <b>8</b> 14'28	evening set	3452 May 17 11:37	12° <b>II</b> 41'23
evening set	3446 Apr 23 02:46	18° <b>8</b> 13'49			
			conjunction	3452 Jun 02 21:33	13° <b>II</b> 37'55 -0°06'35
conjunction	3446 May 09 06:52	19° <b>8</b> 08'56 -0°24'32	minimum elong	3452 Jun 02 21:34	13° <b>II</b> 37'55 0°06'34
minimum elong	3446 May 09 06:52	19° <b>8</b> 08'56 0°24'33	behind sun begin	3452 Jun 02 15:17	13° <b>II</b> 37'02
max. Earth dist.	3446 May 09 22:41	19° <b>8</b> 11'11 20.94589 AU	behind sun end	3452 Jun 03 03:51	13° <b>II</b> 38'48
morning rise	3446 May 25 14:25	20° <b>8</b> 04'33	max. Earth dist.	3452 Jun 03 03:55	13° <b>II</b> 38'49 20.65617 AU
retrograde	3446 Aug 28 05:15	23° <b>8</b> 12'50	morning rise	3452 Jun 19 10:25	14° <b>II</b> 34'54
opposition	3446 Nov 13 15:43	21° <b>8</b> 13'02 -0°25'35	retrograde	3452 Sep 21 23:12	17° <b>II</b> 45'48
min. Earth dist.	3446 Nov 13 02:27	21° <b>8</b> 14'23 18.92780 AU	opposition	3452 Dec 07 15:42	15° <b>II</b> 44'53 -0°05'24
direct	3447 Jan 27 14:48	19° <b>8</b> 16'06	min. Earth dist.	3452 Dec 07 10:44	15° <b>II</b> 45'24 18.62683 AU
evening set	3447 Apr 27 10:50	22° <b>8</b> 15'56	direct	3453 Feb 20 09:39	13° <b>II</b> 46'07
			evening set	3453 May 21 23:27	16° <b>II</b> 50'04
conjunction	3447 May 13 15:46	23° <b>8</b> 11'15 -0°21'48			
minimum elong	3447 May 13 15:46	23° <b>8</b> 11'15 0°21'47	conjunction	3453 Jun 07 10:10	17° <b>II</b> 46'52 -0°03'20
max. Earth dist.	3447 May 14 04:48	23° <b>8</b> 13'06 20.90828 AU	minimum elong	3453 Jun 07 10:09	17° <b>II</b> 46'52 0°03'21
morning rise	3447 May 30 00:26	24° <b>8</b> 07'05	behind sun begin	3453 Jun 07 03:29	17° <b>II</b> 45'56
retrograde	3447 Sep 01 15:27	27° <b>8</b> 15'45	behind sun end	3453 Jun 07 16:50	17° <b>II</b> 47'49
opposition	3447 Nov 17 23:17	25° <b>8</b> 15'47 -0°22'29	max. Earth dist.	3453 Jun 07 13:56	17° <b>II</b> 47'22 20.59741 AU
min. Earth dist.	3447 Nov 17 11:55	25° <b>8</b> 16'57 18.88760 AU	morning rise	3453 Jun 23 23:57	18° <b>II</b> 44'07
direct	3448 Jan 31 20:37	23° <b>8</b> 18'37	retrograde	3453 Sep 26 11:33	21° <b>II</b> 55'35
evening set	3448 Apr 30 19:14	26° <b>8</b> 18'59	opposition	3453 Dec 12 00:53	19° <b>II</b> 54'29 -0°01'46
			min. Earth dist.	3453 Dec 11 21:50	19° <b>II</b> 54'48 18.56730 AU
conjunction	3448 May 17 01:19	27° <b>8</b> 14'30 -0°18'56	direct	3454 Feb 24 17:29	17° <b>II</b> 55'22
minimum elong	3448 May 17 01:19	27° <b>8</b> 14'30 0°18'57	evening set	3454 May 26 12:08	21° <b>II</b> 00'15
max. Earth dist.	3448 May 17 13:50	27° <b>8</b> 16'18 20.86556 AU	asc. node	3454 Jun 09 15:10	21° <b>II</b> 49'06
morning rise	3448 Jun 02 10:42	28° <b>8</b> 10'33			
	3448 Jul 08 15:55	0° <b>II</b>	conjunction	3454 Jun 11 23:54	21° <b>II</b> 57'21 0°00'02
retrograde	3448 Sep 05 01:49	1° <b>II</b> 19'36	minimum elong	3454 Jun 11 23:54	21° <b>II</b> 57'21 0°00'02
	3448 Nov 04 11:27	30° <b>8</b>	behind sun begin	3454 Jun 11 18:25	21° <b>II</b> 56'35
opposition	3448 Nov 21 06:54	29° <b>8</b> 19'28 -0°19'15	behind sun end	3454 Jun 12 05:23	21° <b>II</b> 58'07
min. Earth dist.	3448 Nov 20 20:34	29° <b>8</b> 20'32 18.84241 AU	max. Earth dist.	3454 Jun 12 03:19	21° <b>II</b> 57'47 20.53715 AU
direct	3449 Feb 04 03:49	27° <b>8</b> 22'02	morning rise	3454 Jun 28 14:15	22° <b>II</b> 54'51
	3449 Apr 28 06:13	0° <b>II</b>	retrograde	3454 Oct 01 01:39	26° <b>II</b> 06'53
evening set	3449 May 05 04:25	0° <b>II</b> 22'58	opposition	3454 Dec 16 10:13	24° <b>II</b> 05'39 0°01'53
			min. Earth dist.	3454 Dec 16 07:45	24° <b>II</b> 05'55 18.50636 AU
conjunction	3449 May 21 11:19	1° <b>II</b> 18'44 -0°15'58	direct	3455 Mar 01 02:58	22° <b>II</b> 06'12
minimum elong	3449 May 21 11:19	1° <b>II</b> 18'44 0°15'58	evening set	3455 May 31 01:52	25° <b>II</b> 12'05
max. Earth dist.	3449 May 21 21:06	1° <b>II</b> 20'07 20.81834 AU			
morning rise	3449 Jun 06 21:48	2° <b>II</b> 14'59	conjunction	3455 Jun 16 14:19	26° <b>II</b> 09'28 0°03'24
retrograde	3449 Sep 09 12:17	5° <b>II</b> 24'28	minimum elong	3455 Jun 16 14:19	26° <b>II</b> 09'28 0°03'23
opposition	3449 Nov 25 14:47	3° <b>II</b> 24'08 -0°15'55	behind sun begin	3455 Jun 16 07:38	26° <b>II</b> 08'32
min. Earth dist.	3449 Nov 25 06:24	3° <b>II</b> 25'00 18.79318 AU	behind sun end	3455 Jun 16 21:01	26° <b>II</b> 10'25
direct	3450 Feb 08 10:12	1° <b>II</b> 26'22	max. Earth dist.	3455 Jun 16 15:03	26° <b>II</b> 09'33 20.47571 AU
evening set	3450 May 09 14:01	4° <b>II</b> 27'57	morning rise	3455 Jul 03 05:30	27° <b>II</b> 07'16

	3455 Sep 07 13:41	0°☿		max. Earth dist.	3461 Jul 12 14:41	22°☿01'00	20.08502 AU
retrograde	3455 Oct 05 15:19	0°☿19'54		morning rise	3461 Jul 29 18:34	23°☿01'55	
	3455 Nov 02 23:32	30°♄II		retrograde	3461 Oct 31 18:48	26°☿18'23	
opposition	3455 Dec 20 20:20	28°♄18'32	0°05'33	opposition	3462 Jan 14 21:24	24°☿16'22	0°26'46
min. Earth dist.	3455 Dec 20 19:57	28°♄18'35	18.44446 AU	min. Earth dist.	3462 Jan 15 06:47	24°☿15'21	18.05064 AU
direct	3456 Mar 04 11:18	26°♄18'47		direct	3462 Mar 30 12:49	22°☿14'28	
evening set	3456 Jun 03 16:13	29°♄25'42		evening set	3462 Jul 01 04:46	25°☿28'32	
	3456 Jun 13 13:37	0°☿					
				conjunction	3462 Jul 17 21:55	26°☿28'02	0°25'34
conjunction	3456 Jun 20 05:39	0°☿23'24	0°06'42	minimum elong	3462 Jul 17 21:54	26°☿28'02	0°25'34
minimum elong	3456 Jun 20 05:38	0°☿23'24	0°06'41	max. Earth dist.	3462 Jul 17 10:21	26°☿26'18	20.01645 AU
behind sun begin	3456 Jun 19 23:21	0°☿22'30		morning rise	3462 Aug 03 15:47	27°☿27'41	
behind sun end	3456 Jun 20 11:56	0°☿24'18			3462 Sep 24 19:44	0°♄	
max. Earth dist.	3456 Jun 20 05:56	0°☿23'26	20.41334 AU	retrograde	3462 Nov 05 14:18	0°♄44'43	
morning rise	3456 Jul 06 21:15	1°☿21'27			3462 Dec 17 21:11	30°♄☿	
retrograde	3456 Oct 09 07:33	4°☿34'43		opposition	3463 Jan 19 11:42	28°☿42'33	0°29'59
opposition	3456 Dec 24 06:51	2°☿33'16	0°09'12	min. Earth dist.	3463 Jan 19 21:41	28°☿41'29	17.98202 AU
min. Earth dist.	3456 Dec 24 07:01	2°☿33'15	18.38159 AU	direct	3463 Apr 04 05:54	26°☿40'13	
direct	3457 Mar 08 22:30	0°☿33'13		evening set	3463 Jul 06 02:13	29°☿55'30	
evening set	3457 Jun 08 07:50	3°☿41'15			3463 Jul 07 08:51	0°♄	
conjunction	3457 Jun 24 21:51	4°☿39'15	0°09'58	conjunction	3463 Jul 22 19:40	0°♄55'18	0°28'22
minimum elong	3457 Jun 24 21:52	4°☿39'15	0°09'58	minimum elong	3463 Jul 22 19:40	0°♄55'18	0°28'22
behind sun begin	3457 Jun 24 16:27	4°☿38'28		max. Earth dist.	3463 Jul 22 05:56	0°♄53'14	19.94795 AU
behind sun end	3457 Jun 25 03:16	4°☿40'01		morning rise	3463 Aug 08 13:39	1°♄55'11	
max. Earth dist.	3457 Jun 24 19:27	4°☿38'55	20.35006 AU	retrograde	3463 Nov 10 07:24	5°♄12'48	
morning rise	3457 Jul 11 14:10	5°☿37'35		opposition	3464 Jan 24 02:57	3°♄10'28	0°33'01
retrograde	3457 Oct 13 22:08	8°☿51'30		min. Earth dist.	3464 Jan 24 15:18	3°♄09'08	17.91400 AU
opposition	3457 Dec 28 18:01	6°☿49'58	0°12'51	direct	3464 Apr 07 21:18	1°♄07'41	
min. Earth dist.	3457 Dec 28 20:38	6°☿49'41	18.31787 AU	evening set	3464 Jul 10 00:12	4°♄24'12	
direct	3458 Mar 13 07:41	4°☿49'35					
evening set	3458 Jun 13 00:23	7°☿58'48		conjunction	3464 Jul 26 18:01	5°♄24'15	0°31'01
				minimum elong	3464 Jul 26 18:01	5°♄24'15	0°31'02
conjunction	3458 Jun 29 15:18	8°☿57'06	0°13'13	max. Earth dist.	3464 Jul 26 03:00	5°♄22'00	19.88054 AU
minimum elong	3458 Jun 29 15:18	8°☿57'06	0°13'13	morning rise	3464 Aug 12 12:02	6°♄24'22	
behind sun begin	3458 Jun 29 11:28	8°☿56'33		retrograde	3464 Nov 14 03:51	9°♄42'34	
behind sun end	3458 Jun 29 19:07	8°☿57'39		opposition	3465 Jan 27 18:39	7°♄40'03	0°35'53
max. Earth dist.	3458 Jun 29 12:01	8°☿56'38	20.28577 AU	min. Earth dist.	3465 Jan 28 07:17	7°♄38'41	17.84737 AU
morning rise	3458 Jul 16 07:58	9°☿55'43		direct	3465 Apr 12 15:53	5°♄36'50	
retrograde	3458 Oct 18 16:24	13°☿10'17		evening set	3465 Jul 14 23:14	8°♄54'35	
opposition	3459 Jan 02 05:47	11°☿08'40	0°16'27				
min. Earth dist.	3459 Jan 02 09:11	11°☿08'18	18.25290 AU	conjunction	3465 Jul 31 17:16	9°♄54'54	0°33'30
direct	3459 Mar 17 20:52	9°☿07'57		minimum elong	3465 Jul 31 17:16	9°♄54'54	0°33'29
evening set	3459 Jun 17 18:09	12°☿18'22		max. Earth dist.	3465 Jul 31 00:47	9°♄52'25	19.81477 AU
				morning rise	3465 Aug 17 11:10	10°♄55'14	
conjunction	3459 Jul 04 09:33	13°☿16'58	0°16'26	retrograde	3465 Nov 18 22:25	14°♄13'58	
minimum elong	3459 Jul 04 09:32	13°☿16'58	0°16'27	opposition	3466 Feb 01 11:06	12°♄11'19	0°38'33
max. Earth dist.	3459 Jul 04 03:20	13°☿16'04	20.22006 AU	min. Earth dist.	3466 Feb 02 01:49	12°♄09'43	17.78285 AU
morning rise	3459 Jul 21 02:40	14°☿15'51		direct	3466 Apr 17 09:05	10°♄07'41	
retrograde	3459 Oct 23 07:40	17°☿31'04		evening set	3466 Jul 19 23:04	13°♄26'39	
opposition	3460 Jan 06 18:20	15°☿29'21	0°19'59				
min. Earth dist.	3460 Jan 07 00:23	15°☿28'42	18.18659 AU	conjunction	3466 Aug 05 17:14	14°♄27'13	0°35'46
direct	3460 Mar 21 08:08	13°☿28'16		minimum elong	3466 Aug 05 17:14	14°♄27'13	0°35'47
evening set	3460 Jun 21 12:43	16°☿39'53		max. Earth dist.	3466 Aug 04 23:19	14°♄24'30	19.75159 AU
					3466 Aug 14 17:29	15°♄	
conjunction	3460 Jul 08 04:50	17°☿38'48	0°19'34	morning rise	3466 Aug 22 11:03	15°♄27'45	
minimum elong	3460 Jul 08 04:50	17°☿38'48	0°19'34	retrograde	3466 Nov 23 19:55	18°♄47'02	
max. Earth dist.	3460 Jul 07 21:24	17°☿37'42	20.15311 AU	opposition	3467 Feb 06 04:11	16°♄44'15	0°40'58
morning rise	3460 Jul 24 22:13	18°☿37'56		min. Earth dist.	3467 Feb 06 18:59	16°♄42'38	17.72120 AU
retrograde	3460 Oct 27 02:39	21°☿53'48			3467 Mar 25 17:21	15°♄♄	
opposition	3461 Jan 10 07:27	19°☿51'56	0°23'26	direct	3467 Apr 22 04:55	14°♄40'13	
min. Earth dist.	3461 Jan 10 14:13	19°☿51'13	18.11903 AU		3467 May 19 09:51	15°♄	
direct	3461 Mar 25 23:15	17°☿50'28		evening set	3467 Jul 24 23:33	18°♄00'24	
evening set	3461 Jun 26 08:16	21°☿03'18					
				conjunction	3467 Aug 10 17:47	19°♄01'12	0°37'50
conjunction	3461 Jul 13 00:51	22°☿02'31	0°22'38	minimum elong	3467 Aug 10 17:47	19°♄01'12	0°37'50
minimum elong	3461 Jul 13 00:50	22°☿02'31	0°22'38	max. Earth dist.	3467 Aug 09 23:10	18°♄58'22	19.69144 AU

morning rise	3467 Aug 27 11:13	20° $\Omega$ 01'55	direct	3474 May 24 12:41	17° $\eta$ 15'56	
retrograde	3467 Nov 28 16:00	23° $\Omega$ 21'43	evening set	3474 Aug 27 22:12	20° $\eta$ 43'34	
opposition	3468 Feb 10 22:09	21° $\Omega$ 18'51 0°43'09				
min. Earth dist.	3468 Feb 11 14:33	21° $\Omega$ 17'04 17.66299 AU	conjunction	3474 Sep 13 14:15	21° $\eta$ 45'28 0°45'06	
direct	3468 Apr 25 23:41	19° $\Omega$ 14'29	minimum elong	3474 Sep 13 14:15	21° $\eta$ 45'28 0°45'06	
evening set	3468 Jul 29 00:50	22° $\Omega$ 35'52	max. Earth dist.	3474 Sep 12 13:34	21° $\eta$ 41'37 19.38537 AU	
			morning rise	3474 Sep 30 03:50	22° $\eta$ 47'00	
conjunction	3468 Aug 14 18:58	23° $\Omega$ 36'53 0°39'40	retrograde	3474 Dec 31 12:55	26° $\eta$ 09'35	
minimum elong	3468 Aug 14 18:58	23° $\Omega$ 36'52 0°39'40	opposition	3475 Mar 14 23:42	24° $\eta$ 06'53 0°50'15	
max. Earth dist.	3468 Aug 13 22:52	23° $\Omega$ 33'48 19.63527 AU	min. Earth dist.	3475 Mar 15 20:18	24° $\eta$ 04'38 17.37145 AU	
morning rise	3468 Aug 31 12:13	24° $\Omega$ 37'46	direct	3475 May 29 13:50	22° $\eta$ 01'04	
retrograde	3468 Dec 02 14:46	27° $\Omega$ 58'05	evening set	3475 Sep 02 03:04	25° $\eta$ 29'25	
opposition	3469 Feb 14 16:40	25° $\Omega$ 55'10 0°45'05				
min. Earth dist.	3469 Feb 15 09:00	25° $\Omega$ 53'23 17.60895 AU	conjunction	3475 Sep 18 18:37	26° $\eta$ 31'22 0°44'58	
direct	3469 Apr 30 20:52	23° $\Omega$ 50'29	minimum elong	3475 Sep 18 18:37	26° $\eta$ 31'22 0°44'58	
evening set	3469 Aug 03 02:46	27° $\Omega$ 13'04	max. Earth dist.	3475 Sep 17 18:44	26° $\eta$ 27'38 19.35770 AU	
			morning rise	3475 Oct 05 07:13	27° $\eta$ 32'55	
conjunction	3469 Aug 19 20:55	28° $\Omega$ 14'17 0°41'15		3475 Nov 21 06:09	0° $\Omega$	
minimum elong	3469 Aug 19 20:55	28° $\Omega$ 14'17 0°41'16	retrograde	3476 Jan 05 12:55	0° $\Omega$ 55'41	
max. Earth dist.	3469 Aug 19 00:43	28° $\Omega$ 11'11 19.58325 AU		3476 Feb 20 23:11	30° $\kappa$ $\eta$	
morning rise	3469 Sep 05 13:37	29° $\Omega$ 15'20	opposition	3476 Mar 18 23:07	28° $\eta$ 53'00 0°49'57	
	3469 Sep 18 07:43	0° $\eta$	min. Earth dist.	3476 Mar 19 19:40	28° $\eta$ 50'45 17.34588 AU	
retrograde	3469 Dec 07 12:28	2° $\eta$ 36'07	direct	3476 Jun 02 16:16	26° $\eta$ 47'02	
opposition	3470 Feb 19 12:05	0° $\eta$ 33'13 0°46'43		3476 Sep 01 22:41	0° $\Omega$	
min. Earth dist.	3470 Feb 20 05:46	0° $\eta$ 31'17 17.55911 AU	evening set	3476 Sep 06 08:18	0° $\Omega$ 16'00	
	3470 Mar 04 07:40	30° $\kappa$ $\Omega$				
direct	3470 May 05 17:00	28° $\Omega$ 28'18	conjunction	3476 Sep 22 23:01	1° $\Omega$ 17'58 0°44'32	
	3470 Jul 05 00:37	0° $\eta$	minimum elong	3476 Sep 22 23:02	1° $\Omega$ 17'58 0°44'32	
evening set	3470 Aug 08 05:36	1° $\eta$ 52'01	max. Earth dist.	3476 Sep 21 22:02	1° $\Omega$ 14'04 19.33441 AU	
			morning rise	3476 Oct 09 10:50	2° $\Omega$ 19'32	
conjunction	3470 Aug 24 23:23	2° $\eta$ 53'25 0°42'35	retrograde	3477 Jan 09 12:23	5° $\Omega$ 42'23	
minimum elong	3470 Aug 24 23:23	2° $\eta$ 53'25 0°42'35	opposition	3477 Mar 23 22:53	3° $\Omega$ 39'43 0°49'18	
max. Earth dist.	3470 Aug 24 01:29	2° $\eta$ 50'03 19.53562 AU	min. Earth dist.	3477 Mar 24 20:03	3° $\Omega$ 37'24 17.32503 AU	
morning rise	3470 Sep 10 15:45	3° $\eta$ 54'37	direct	3477 Jun 07 18:39	1° $\Omega$ 33'35	
retrograde	3470 Dec 12 12:34	7° $\eta$ 15'52	evening set	3477 Sep 11 13:26	5° $\Omega$ 03'05	
opposition	3471 Feb 24 08:06	5° $\eta$ 13'00 0°48'04	max. Earth dist.	3477 Sep 27 03:24	6° $\Omega$ 01'16 19.31601 AU	
min. Earth dist.	3471 Feb 25 01:58	5° $\eta$ 11'03 17.51366 AU				
direct	3471 May 10 15:31	3° $\eta$ 07'52	conjunction	3477 Sep 28 03:32	6° $\Omega$ 05'03 0°43'47	
evening set	3471 Aug 13 08:55	6° $\eta$ 32'42	minimum elong	3477 Sep 28 03:32	6° $\Omega$ 05'03 0°43'47	
max. Earth dist.	3471 Aug 29 04:58	7° $\eta$ 30'55 19.49215 AU	morning rise	3477 Oct 14 14:21	7° $\Omega$ 06'34	
			retrograde	3478 Jan 14 12:49	10° $\Omega$ 29'27	
conjunction	3471 Aug 30 02:33	7° $\eta$ 34'15 0°43'39	opposition	3478 Mar 28 23:06	8° $\Omega$ 26'48 0°48'18	
minimum elong	3471 Aug 30 02:33	7° $\eta$ 34'15 0°43'40	min. Earth dist.	3478 Mar 29 19:36	8° $\Omega$ 24'33 17.30907 AU	
morning rise	3471 Sep 15 18:09	8° $\eta$ 35'35	direct	3478 Jun 12 23:00	6° $\Omega$ 20'33	
retrograde	3471 Dec 17 11:48	11° $\eta$ 57'14	evening set	3478 Sep 16 18:33	9° $\Omega$ 50'25	
opposition	3472 Feb 29 05:01	9° $\eta$ 54'27 0°49'06	max. Earth dist.	3478 Oct 02 07:22	10° $\Omega$ 48'31 19.30270 AU	
min. Earth dist.	3472 Feb 29 23:57	9° $\eta$ 52'22 17.47225 AU				
direct	3472 May 14 13:09	7° $\eta$ 49'08	conjunction	3478 Oct 03 07:42	10° $\Omega$ 52'21 0°42'43	
evening set	3472 Aug 17 12:49	11° $\eta$ 14'59	minimum elong	3478 Oct 03 07:42	10° $\Omega$ 52'21 0°42'44	
max. Earth dist.	3472 Sep 02 06:30	12° $\eta$ 13'03 19.45274 AU	morning rise	3478 Oct 19 17:33	11° $\Omega$ 53'49	
			retrograde	3479 Jan 19 11:56	15° $\Omega$ 16'40	
conjunction	3472 Sep 03 05:54	12° $\eta$ 16'40 0°44'26	opposition	3479 Apr 02 23:45	13° $\Omega$ 14'01 0°46'57	
minimum elong	3472 Sep 03 05:54	12° $\eta$ 16'40 0°44'26	min. Earth dist.	3479 Apr 03 20:41	13° $\Omega$ 11'44 17.29864 AU	
morning rise	3472 Sep 19 21:02	13° $\eta$ 18'06	direct	3479 Jun 18 01:58	11° $\Omega$ 07'40	
retrograde	3472 Dec 21 12:41	16° $\eta$ 40'08	evening set	3479 Sep 21 23:20	14° $\Omega$ 37'48	
opposition	3473 Mar 05 02:36	14° $\eta$ 37'23 0°49'50				
min. Earth dist.	3473 Mar 05 21:58	14° $\eta$ 35'15 17.43484 AU	conjunction	3479 Oct 08 11:39	15° $\Omega$ 39'40 0°41'22	
direct	3473 May 19 12:57	12° $\eta$ 31'53	minimum elong	3479 Oct 08 11:39	15° $\Omega$ 39'40 0°41'23	
evening set	3473 Aug 22 17:14	15° $\eta$ 58'40	max. Earth dist.	3479 Oct 07 12:20	15° $\Omega$ 36'00 19.29523 AU	
max. Earth dist.	3473 Sep 07 11:05	16° $\eta$ 56'55 19.41713 AU	morning rise	3479 Oct 24 20:30	16° $\Omega$ 41'04	
			retrograde	3480 Jan 24 13:02	20° $\Omega$ 03'49	
conjunction	3473 Sep 08 10:01	17° $\eta$ 00'29 0°44'55	opposition	3480 Apr 07 00:33	18° $\Omega$ 01'12 0°45'17	
minimum elong	3473 Sep 08 10:01	17° $\eta$ 00'29 0°44'54	min. Earth dist.	3480 Apr 07 20:03	17° $\Omega$ 59'04 17.29412 AU	
morning rise	3473 Sep 25 00:15	18° $\eta$ 01'59	direct	3480 Jun 22 06:45	15° $\Omega$ 54'47	
retrograde	3473 Dec 26 12:27	21° $\eta$ 24'19	evening set	3480 Sep 26 03:48	19° $\Omega$ 25'03	
opposition	3474 Mar 10 00:47	19° $\eta$ 21'36 0°50'13				
min. Earth dist.	3474 Mar 10 20:50	19° $\eta$ 19'24 17.40112 AU	conjunction	3480 Oct 12 15:11	20° $\Omega$ 26'50 0°39'43	

minimum elong	3480 Oct 12 15:11	20° <u>♂</u> 26'50	0°39'43	retrograde	3487 Feb 26 10:52	23° <u>♂</u> 22'12	
max. Earth dist.	3480 Oct 11 16:41	20° <u>♂</u> 23'18	19.29381 AU	opposition	3487 May 11 10:56	21° <u>♂</u> 20'37	0°25'49
morning rise	3480 Oct 28 22:59	21° <u>♂</u> 28'08		min. Earth dist.	3487 May 11 24:00	21° <u>♂</u> 19'13	17.43424 AU
retrograde	3481 Jan 28 12:11	24° <u>♂</u> 50'44		direct	3487 Jul 27 06:13	19° <u>♂</u> 15'18	
opposition	3481 Apr 12 01:45	22° <u>♂</u> 48'11	0°43'18	evening set	3487 Oct 30 22:59	22° <u>♂</u> 43'41	
min. Earth dist.	3481 Apr 12 21:25	22° <u>♂</u> 46'02	17.29596 AU				
direct	3481 Jun 27 09:17	20° <u>♂</u> 41'45		conjunction	3487 Nov 16 02:53	23° <u>♂</u> 44'13	0°21'33
evening set	3481 Oct 01 08:03	24° <u>♂</u> 12'04		minimum elong	3487 Nov 16 02:53	23° <u>♂</u> 44'13	0°21'33
				max. Earth dist.	3487 Nov 15 12:50	23° <u>♂</u> 42'00	19.45359 AU
conjunction	3481 Oct 17 18:24	25° <u>♂</u> 13'44	0°37'48	morning rise	3487 Dec 02 03:28	24° <u>♂</u> 44'15	
minimum elong	3481 Oct 17 18:25	25° <u>♂</u> 13'44	0°37'48	retrograde	3488 Mar 02 09:19	28° <u>♂</u> 04'41	
max. Earth dist.	3481 Oct 16 20:47	25° <u>♂</u> 10'19	19.29898 AU	opposition	3488 May 15 12:16	26° <u>♂</u> 03'16	0°22'12
morning rise	3481 Nov 03 01:13	26° <u>♂</u> 14'54		min. Earth dist.	3488 May 15 23:31	26° <u>♂</u> 02'04	17.47398 AU
retrograde	3482 Feb 02 13:24	29° <u>♂</u> 37'18		direct	3488 Jul 31 09:33	23° <u>♂</u> 58'12	
opposition	3482 Apr 17 02:55	27° <u>♂</u> 34'51	0°41'00	evening set	3488 Nov 03 23:06	27° <u>♂</u> 25'55	
min. Earth dist.	3482 Apr 17 20:38	27° <u>♂</u> 32'55	17.30432 AU				
direct	3482 Jul 02 13:37	25° <u>♂</u> 28'29		conjunction	3488 Nov 20 02:08	28° <u>♂</u> 26'11	0°18'14
evening set	3482 Oct 06 11:52	28° <u>♂</u> 58'44		minimum elong	3488 Nov 20 02:08	28° <u>♂</u> 26'11	0°18'14
				max. Earth dist.	3488 Nov 19 14:34	28° <u>♂</u> 24'23	19.49505 AU
conjunction	3482 Oct 22 21:16	0° <u>♂</u> 00'16	0°35'38	morning rise	3488 Dec 06 01:36	29° <u>♂</u> 25'59	
minimum elong	3482 Oct 22 21:16	0° <u>♂</u> 00'17	0°35'38		3488 Dec 15 11:47	0° <u>♂</u>	
max. Earth dist.	3482 Oct 22 01:18	29° <u>♂</u> 57'08	19.31066 AU	retrograde	3489 Mar 07 07:00	2° <u>♂</u> 45'56	
	3482 Oct 22 19:31	0° <u>♂</u>		opposition	3489 May 20 13:32	0° <u>♂</u> 44'41	0°18'26
morning rise	3482 Nov 08 02:53	1° <u>♂</u> 01'18		min. Earth dist.	3489 May 20 23:58	0° <u>♂</u> 43'35	17.51697 AU
retrograde	3483 Feb 07 12:47	4° <u>♂</u> 23'28			3489 Jun 07 11:11	30° <u>♂</u>	
opposition	3483 Apr 22 04:32	2° <u>♂</u> 21'09	0°38'27	direct	3489 Aug 05 13:05	28° <u>♂</u> 39'53	
min. Earth dist.	3483 Apr 22 22:10	2° <u>♂</u> 19'14	17.31925 AU		3489 Oct 01 00:34	0° <u>♂</u>	
direct	3483 Jul 07 16:02	0° <u>♂</u> 14'55		evening set	3489 Nov 08 22:36	2° <u>♂</u> 06'49	
evening set	3483 Oct 11 15:07	3° <u>♂</u> 45'00					
				conjunction	3489 Nov 25 00:23	3° <u>♂</u> 06'49	0°14'49
conjunction	3483 Oct 27 23:23	4° <u>♂</u> 46'23	0°33'13	minimum elong	3489 Nov 25 00:23	3° <u>♂</u> 06'49	0°14'49
minimum elong	3483 Oct 27 23:23	4° <u>♂</u> 46'23	0°33'13	behind sun begin	3489 Nov 24 21:42	3° <u>♂</u> 06'24	
max. Earth dist.	3483 Oct 27 04:09	4° <u>♂</u> 43'21	19.32885 AU	behind sun end	3489 Nov 25 03:04	3° <u>♂</u> 07'13	
morning rise	3483 Nov 13 04:06	5° <u>♂</u> 47'15		max. Earth dist.	3489 Nov 24 13:10	3° <u>♂</u> 05'04	19.53967 AU
retrograde	3484 Feb 12 13:34	9° <u>♂</u> 09'10		morning rise	3489 Dec 10 23:02	4° <u>♂</u> 06'21	
opposition	3484 Apr 26 06:01	7° <u>♂</u> 07'00	0°35'37	retrograde	3490 Mar 12 03:51	7° <u>♂</u> 25'47	
min. Earth dist.	3484 Apr 26 21:34	7° <u>♂</u> 05'19	17.34035 AU	opposition	3490 May 25 14:25	5° <u>♂</u> 24'41	0°14'33
direct	3484 Jul 11 20:09	5° <u>♂</u> 00'57		min. Earth dist.	3490 May 25 23:13	5° <u>♂</u> 23'45	17.56313 AU
evening set	3484 Oct 15 17:55	8° <u>♂</u> 30'46		direct	3490 Aug 10 15:37	3° <u>♂</u> 20'08	
max. Earth dist.	3484 Oct 31 08:11	9° <u>♂</u> 29'17	19.35280 AU	evening set	3490 Nov 13 21:01	6° <u>♂</u> 46'12	
conjunction	3484 Nov 01 01:16	9° <u>♂</u> 31'59	0°30'35	conjunction	3490 Nov 29 21:56	7° <u>♂</u> 45'55	0°11'19
minimum elong	3484 Nov 01 01:16	9° <u>♂</u> 31'59	0°30'36	minimum elong	3490 Nov 29 21:56	7° <u>♂</u> 45'55	0°11'19
morning rise	3484 Nov 17 04:46	10° <u>♂</u> 32'39		behind sun begin	3490 Nov 29 17:03	7° <u>♂</u> 45'11	
retrograde	3485 Feb 16 12:28	13° <u>♂</u> 54'16		behind sun end	3490 Nov 30 02:49	7° <u>♂</u> 46'40	
opposition	3485 May 01 07:36	11° <u>♂</u> 52'18	0°32'34	max. Earth dist.	3490 Nov 29 13:18	7° <u>♂</u> 44'35	19.58736 AU
min. Earth dist.	3485 May 01 23:05	11° <u>♂</u> 50'38	17.36694 AU	morning rise	3490 Dec 15 19:34	8° <u>♂</u> 45'11	
direct	3485 Jul 16 22:51	9° <u>♂</u> 46'28		retrograde	3491 Mar 17 00:22	12° <u>♂</u> 04'04	
evening set	3485 Oct 20 20:22	13° <u>♂</u> 15'56		opposition	3491 May 30 14:59	10° <u>♂</u> 03'05	0°10'37
max. Earth dist.	3485 Nov 05 09:43	14° <u>♂</u> 14'17	19.38201 AU	min. Earth dist.	3491 May 30 22:23	10° <u>♂</u> 02'18	17.61216 AU
				direct	3491 Aug 15 18:12	7° <u>♂</u> 58'49	
conjunction	3485 Nov 06 02:29	14° <u>♂</u> 16'56	0°27'45	evening set	3491 Nov 18 18:29	11° <u>♂</u> 23'54	
minimum elong	3485 Nov 06 02:29	14° <u>♂</u> 16'56	0°27'44				
	3485 Nov 17 12:42	15° <u>♂</u>		conjunction	3491 Dec 04 18:17	12° <u>♂</u> 23'20	0°07'46
morning rise	3485 Nov 22 05:06	15° <u>♂</u> 17'25		minimum elong	3491 Dec 04 18:17	12° <u>♂</u> 23'20	0°07'46
retrograde	3486 Feb 21 12:27	18° <u>♂</u> 38'40		behind sun begin	3491 Dec 04 12:18	12° <u>♂</u> 22'25	
opposition	3486 May 06 09:13	16° <u>♂</u> 36'54	0°29'17	behind sun end	3491 Dec 05 00:15	12° <u>♂</u> 24'14	
min. Earth dist.	3486 May 06 22:44	16° <u>♂</u> 35'27	17.39847 AU	max. Earth dist.	3491 Dec 04 10:25	12° <u>♂</u> 22'07	19.63792 AU
	3486 Jun 18 09:05	15° <u>♂</u>		morning rise	3491 Dec 20 15:14	13° <u>♂</u> 22'20	
direct	3486 Jul 22 02:49	14° <u>♂</u> 31'18		retrograde	3492 Mar 20 19:54	16° <u>♂</u> 40'37	
	3486 Aug 24 07:18	15° <u>♂</u>		opposition	3492 Jun 03 15:00	14° <u>♂</u> 39'44	0°06'37
evening set	3486 Oct 25 21:54	18° <u>♂</u> 00'17		min. Earth dist.	3492 Jun 03 20:56	14° <u>♂</u> 39'07	17.66421 AU
				direct	3492 Aug 19 18:55	12° <u>♂</u> 35'43	
conjunction	3486 Nov 11 03:04	19° <u>♂</u> 01'04	0°24'43	evening set	3492 Nov 22 14:55	15° <u>♂</u> 59'47	
minimum elong	3486 Nov 11 03:04	19° <u>♂</u> 01'04	0°24'44				
max. Earth dist.	3486 Nov 10 12:46	18° <u>♂</u> 58'49	19.41574 AU	conjunction	3492 Dec 08 13:52	16° <u>♂</u> 58'54	0°04'11
morning rise	3486 Nov 27 04:28	20° <u>♂</u> 01'19		minimum elong	3492 Dec 08 13:52	16° <u>♂</u> 58'54	0°04'11



behind sun begin	3492 Dec 08 07:22	16° $\mathring{A}$ 57'55		morning rise	3498 Jan 15 18:02	10° $\mathring{B}$ 25'30	
behind sun end	3492 Dec 08 20:23	16° $\mathring{A}$ 59'54		retrograde	3498 Apr 17 07:39	13° $\mathring{B}$ 40'01	
max. Earth dist.	3492 Dec 08 08:36	16° $\mathring{A}$ 58'07	19.69145 AU	opposition	3498 Jul 02 03:14	11° $\mathring{B}$ 40'00	-0°16'42
morning rise	3492 Dec 24 09:55	17° $\mathring{A}$ 57'38		min. Earth dist.	3498 Jul 01 22:21	11° $\mathring{B}$ 40'31	18.03814 AU
retrograde	3493 Mar 25 15:21	21° $\mathring{A}$ 15'16		direct	3498 Sep 17 07:30	9° $\mathring{B}$ 38'06	
opposition	3493 Jun 08 14:23	19° $\mathring{A}$ 14'31	0°02'37	evening set	3498 Dec 19 21:02	12° $\mathring{B}$ 55'16	
min. Earth dist.	3493 Jun 08 18:21	19° $\mathring{A}$ 14'06	17.71912 AU				
direct	3493 Aug 24 19:39	17° $\mathring{A}$ 10'46		conjunction	3499 Jan 04 15:05	13° $\mathring{B}$ 52'32	-0°16'42
evening set	3493 Nov 27 10:28	20° $\mathring{A}$ 33'44		minimum elong	3499 Jan 04 15:05	13° $\mathring{B}$ 52'32	0°16'42
				max. Earth dist.	3499 Jan 04 21:13	13° $\mathring{B}$ 53'28	20.07297 AU
conjunction	3493 Dec 13 08:22	21° $\mathring{A}$ 32'34	0°00'33	morning rise	3499 Jan 20 07:40	14° $\mathring{B}$ 49'36	
minimum elong	3493 Dec 13 08:22	21° $\mathring{A}$ 32'34	0°00'33	retrograde	3499 Apr 22 01:19	18° $\mathring{B}$ 03'31	
behind sun begin	3493 Dec 13 01:47	21° $\mathring{A}$ 31'34		opposition	3499 Jul 06 23:02	16° $\mathring{B}$ 03'41	-0°20'17
behind sun end	3493 Dec 13 14:57	21° $\mathring{A}$ 33'33		min. Earth dist.	3499 Jul 06 15:34	16° $\mathring{B}$ 04'28	18.10748 AU
max. Earth dist.	3493 Dec 13 04:22	21° $\mathring{A}$ 31'59	19.74797 AU	direct	3499 Sep 22 04:21	14° $\mathring{B}$ 02'12	
morning rise	3493 Dec 29 03:45	22° $\mathring{A}$ 31'01		evening set	3499 Dec 24 10:50	17° $\mathring{B}$ 18'10	
desc. node	3494 Feb 05 16:41	24° $\mathring{A}$ 35'06					
retrograde	3494 Mar 30 09:45	25° $\mathring{A}$ 48'01		conjunction	3500 Jan 09 04:18	18° $\mathring{B}$ 15'09	-0°19'52
opposition	3494 Jun 13 13:27	23° $\mathring{A}$ 47'22	-0°01'23	minimum elong	3500 Jan 09 04:18	18° $\mathring{B}$ 15'09	0°19'51
min. Earth dist.	3494 Jun 13 15:56	23° $\mathring{A}$ 47'06	17.77734 AU	max. Earth dist.	3500 Jan 09 12:14	18° $\mathring{B}$ 16'21	20.14241 AU
direct	3494 Aug 29 18:17	21° $\mathring{A}$ 43'54		morning rise	3500 Jan 24 20:31	19° $\mathring{B}$ 11'58	
evening set	3494 Dec 02 04:45	25° $\mathring{A}$ 05'45		retrograde	3500 Apr 26 15:02	22° $\mathring{B}$ 25'16	
				opposition	3500 Jul 11 18:24	20° $\mathring{B}$ 25'37	-0°23'42
conjunction	3494 Dec 18 01:52	26° $\mathring{A}$ 04'16	-0°03'07	min. Earth dist.	3500 Jul 11 10:27	20° $\mathring{B}$ 26'26	18.17697 AU
minimum elong	3494 Dec 18 01:51	26° $\mathring{A}$ 04'16	0°03'06	direct	3500 Sep 26 21:58	18° $\mathring{B}$ 24'32	
behind sun begin	3494 Dec 17 19:17	26° $\mathring{A}$ 03'17		evening set	3500 Dec 28 23:54	21° $\mathring{B}$ 39'19	
behind sun end	3494 Dec 18 08:24	26° $\mathring{A}$ 05'15					
max. Earth dist.	3494 Dec 18 00:30	26° $\mathring{A}$ 04'06	19.80781 AU	conjunction	3501 Jan 13 16:47	22° $\mathring{B}$ 36'00	-0°22'53
morning rise	3495 Jan 02 20:29	27° $\mathring{A}$ 02'26		minimum elong	3501 Jan 13 16:47	22° $\mathring{B}$ 36'00	0°22'54
	3495 Mar 08 18:45	0° $\mathring{B}$		max. Earth dist.	3501 Jan 14 01:56	22° $\mathring{B}$ 37'23	20.21166 AU
retrograde	3495 Apr 04 04:45	0° $\mathring{B}$ 18'48		morning rise	3501 Jan 29 08:43	23° $\mathring{B}$ 32'33	
	3495 May 01 04:27	30° $\mathring{R}$ $\mathring{A}$		retrograde	3501 May 01 07:00	26° $\mathring{B}$ 45'16	
opposition	3495 Jun 18 11:49	28° $\mathring{A}$ 18'17	-0°05'19	opposition	3501 Jul 16 12:55	24° $\mathring{B}$ 45'46	-0°26'59
min. Earth dist.	3495 Jun 18 11:42	28° $\mathring{A}$ 18'18	17.83867 AU	min. Earth dist.	3501 Jul 16 02:33	24° $\mathring{B}$ 46'49	18.24578 AU
direct	3495 Sep 03 17:36	26° $\mathring{A}$ 15'10		direct	3501 Oct 01 17:35	22° $\mathring{B}$ 45'05	
evening set	3495 Dec 06 22:16	29° $\mathring{A}$ 35'52		evening set	3502 Jan 02 12:10	25° $\mathring{B}$ 58'40	
	3495 Dec 13 13:10	0° $\mathring{B}$					
conjunction	3495 Dec 22 18:28	0° $\mathring{B}$ 34'04	-0°06'38	conjunction	3502 Jan 18 04:34	26° $\mathring{B}$ 55'04	-0°25'46
minimum elong	3495 Dec 22 18:28	0° $\mathring{B}$ 34'04	0°06'38	minimum elong	3502 Jan 18 04:34	26° $\mathring{B}$ 55'04	0°25'45
behind sun begin	3495 Dec 22 12:17	0° $\mathring{B}$ 33'08		max. Earth dist.	3502 Jan 18 15:28	26° $\mathring{B}$ 56'42	20.27984 AU
behind sun end	3495 Dec 23 00:39	0° $\mathring{B}$ 34'59		morning rise	3502 Feb 02 20:13	27° $\mathring{B}$ 51'22	
max. Earth dist.	3495 Dec 22 18:45	0° $\mathring{B}$ 34'06	19.87067 AU		3502 Mar 16 15:07	0° $\mathring{\approx}$	
morning rise	3496 Jan 07 12:32	1° $\mathring{B}$ 31'57		retrograde	3502 May 05 19:30	1° $\mathring{\approx}$ 03'31	
retrograde	3496 Apr 07 21:45	4° $\mathring{B}$ 47'42			3502 Jun 27 12:05	30° $\mathring{R}$ $\mathring{B}$	
opposition	3496 Jun 22 09:28	2° $\mathring{B}$ 47'20	-0°09'13	opposition	3502 Jul 21 07:03	29° $\mathring{B}$ 04'09	-0°30'05
min. Earth dist.	3496 Jun 22 08:10	2° $\mathring{B}$ 47'28	17.90305 AU	min. Earth dist.	3502 Jul 20 20:26	29° $\mathring{B}$ 05'13	18.31336 AU
direct	3496 Sep 07 14:06	0° $\mathring{B}$ 44'35		direct	3502 Oct 06 09:33	27° $\mathring{B}$ 03'50	
evening set	3496 Dec 10 14:46	4° $\mathring{B}$ 04'07			3503 Jan 02 08:04	0° $\mathring{\approx}$	
				evening set	3503 Jan 06 23:33	0° $\mathring{\approx}$ 16'13	
conjunction	3496 Dec 26 10:15	5° $\mathring{B}$ 02'01	-0°10'04	conjunction	3503 Jan 22 15:31	1° $\mathring{\approx}$ 12'21	-0°28'29
minimum elong	3496 Dec 26 10:15	5° $\mathring{B}$ 02'01	0°10'03	minimum elong	3503 Jan 22 15:31	1° $\mathring{\approx}$ 12'21	0°28'29
behind sun begin	3496 Dec 26 04:55	5° $\mathring{B}$ 01'13		max. Earth dist.	3503 Jan 23 03:16	1° $\mathring{\approx}$ 14'06	20.34655 AU
behind sun end	3496 Dec 26 15:35	5° $\mathring{B}$ 02'49		morning rise	3503 Feb 07 07:06	2° $\mathring{\approx}$ 08'25	
max. Earth dist.	3496 Dec 26 12:45	5° $\mathring{B}$ 02'23	19.93636 AU	retrograde	3503 May 10 10:09	5° $\mathring{\approx}$ 19'59	
morning rise	3497 Jan 11 03:44	5° $\mathring{B}$ 59'38		min. Earth dist.	3503 Jul 25 11:25	3° $\mathring{\approx}$ 22'01	18.37905 AU
retrograde	3497 Apr 12 16:25	9° $\mathring{B}$ 14'45		opposition	3503 Jul 26 00:17	3° $\mathring{\approx}$ 20'43	-0°33'00
opposition	3497 Jun 27 06:33	7° $\mathring{B}$ 14'33	-0°13'01	direct	3503 Oct 11 03:11	1° $\mathring{\approx}$ 20'44	
min. Earth dist.	3497 Jun 27 02:34	7° $\mathring{B}$ 14'58	17.96972 AU	evening set	3504 Jan 11 10:12	4° $\mathring{\approx}$ 31'57	
direct	3497 Sep 12 12:13	5° $\mathring{B}$ 12'13					
evening set	3497 Dec 15 06:20	8° $\mathring{B}$ 30'35		conjunction	3504 Jan 27 01:54	5° $\mathring{\approx}$ 27'49	-0°31'01
				minimum elong	3504 Jan 27 01:54	5° $\mathring{\approx}$ 27'49	0°31'01
conjunction	3497 Dec 31 01:02	9° $\mathring{B}$ 28'10	-0°13'26	max. Earth dist.	3504 Jan 27 15:15	5° $\mathring{\approx}$ 29'49	20.41102 AU
minimum elong	3497 Dec 31 01:02	9° $\mathring{B}$ 28'10	0°13'26	morning rise	3504 Feb 11 17:19	6° $\mathring{\approx}$ 23'39	
behind sun begin	3497 Dec 30 21:13	9° $\mathring{B}$ 27'35		retrograde	3504 May 13 21:25	9° $\mathring{\approx}$ 34'39	
behind sun end	3497 Dec 31 04:51	9° $\mathring{B}$ 28'44		opposition	3504 Jul 29 16:46	7° $\mathring{\approx}$ 35'27	-0°35'42
max. Earth dist.	3497 Dec 31 05:22	9° $\mathring{B}$ 28'48	20.00395 AU	min. Earth dist.	3504 Jul 29 03:54	7° $\mathring{\approx}$ 36'46	18.44241 AU

direct	3504 Oct 14 17:48	5° $\approx$ 35'48	evening set	3511 Feb 08 16:04	3° $\approx$ 34'03
evening set	3505 Jan 14 20:05	8° $\approx$ 45'50	conjunction	3511 Feb 24 07:18	4° $\approx$ 28'30 -0°43'10
conjunction	3505 Jan 30 11:28	9° $\approx$ 41'27 -0°33'23	minimum elong	3511 Feb 24 07:18	4° $\approx$ 28'30 0°43'09
minimum elong	3505 Jan 30 11:28	9° $\approx$ 41'27 0°33'23	max. Earth dist.	3511 Feb 25 03:59	4° $\approx$ 31'32 20.80387 AU
max. Earth dist.	3505 Jan 31 01:22	9° $\approx$ 43'32 20.47323 AU	morning rise	3511 Mar 12 00:07	5° $\approx$ 23'11
morning rise	3505 Feb 15 02:58	10° $\approx$ 37'05	retrograde	3511 Jun 13 00:08	8° $\approx$ 31'01
retrograde	3505 May 18 10:33	13° $\approx$ 47'31	opposition	3511 Aug 29 16:26	6° $\approx$ 32'08 -0°48'15
opposition	3505 Aug 03 08:32	11° $\approx$ 48'22 -0°38'12	min. Earth dist.	3511 Aug 28 19:05	6° $\approx$ 34'17 18.82827 AU
min. Earth dist.	3505 Aug 02 17:32	11° $\approx$ 49'53 18.50344 AU	direct	3511 Nov 14 05:36	4° $\approx$ 34'27
direct	3505 Oct 19 09:21	9° $\approx$ 48'59	evening set	3512 Feb 12 21:37	7° $\approx$ 37'35
evening set	3506 Jan 19 04:58	12° $\approx$ 57'53	conjunction	3512 Feb 28 13:08	8° $\approx$ 31'55 -0°44'02
conjunction	3506 Feb 03 20:13	13° $\approx$ 53'16 -0°35'32	minimum elong	3512 Feb 28 13:08	8° $\approx$ 31'55 0°44'02
minimum elong	3506 Feb 03 20:13	13° $\approx$ 53'16 0°35'32	max. Earth dist.	3512 Feb 29 11:27	8° $\approx$ 35'10 20.85129 AU
max. Earth dist.	3506 Feb 04 12:00	13° $\approx$ 55'36 20.53304 AU	morning rise	3512 Mar 15 06:16	9° $\approx$ 26'29
morning rise	3506 Feb 19 11:42	14° $\approx$ 48'42	retrograde	3512 Jun 16 08:23	12° $\approx$ 34'01
retrograde	3506 Feb 22 18:07	15° $\approx$	min. Earth dist.	3512 Sep 01 06:21	10° $\approx$ 37'22 18.87414 AU
opposition	3506 May 22 20:55	17° $\approx$ 58'36	opposition	3512 Sep 02 03:34	10° $\approx$ 35'15 -0°49'05
opposition	3506 Aug 07 23:43	15° $\approx$ 59'28 -0°40'28	direct	3512 Nov 17 13:31	8° $\approx$ 37'51
min. Earth dist.	3506 Aug 07 08:31	16° $\approx$ 01'00 18.56226 AU	evening set	3513 Feb 16 02:56	11° $\approx$ 40'14
direct	3506 Sep 02 16:27	15° $\approx$	conjunction	3513 Mar 03 18:37	12° $\approx$ 34'26 -0°44'41
evening set	3506 Oct 23 22:31	14° $\approx$ 00'21	minimum elong	3513 Mar 03 18:37	12° $\approx$ 34'26 0°44'41
conjunction	3506 Dec 11 21:38	15° $\approx$	max. Earth dist.	3513 Mar 04 16:43	12° $\approx$ 37'39 20.89555 AU
minimum elong	3507 Jan 23 13:15	17° $\approx$ 08'08	morning rise	3513 Mar 19 12:20	13° $\approx$ 28'56
max. Earth dist.	3507 Feb 08 04:19	18° $\approx$ 03'18 -0°37'29	retrograde	3513 Jun 20 18:34	16° $\approx$ 36'13
morning rise	3507 Feb 08 20:40	18° $\approx$ 03'18 0°37'29	opposition	3513 Sep 06 14:19	14° $\approx$ 37'31 -0°49'40
retrograde	3507 Feb 23 20:01	18° $\approx$ 05'43 20.59091 AU	min. Earth dist.	3513 Sep 05 16:01	14° $\approx$ 39'44 18.91662 AU
opposition	3507 May 27 08:30	18° $\approx$ 58'32	direct	3513 Nov 21 22:10	12° $\approx$ 40'24
min. Earth dist.	3507 Aug 12 13:52	22° $\approx$ 07'56	evening set	3514 Feb 20 07:48	15° $\approx$ 42'05
direct	3507 Aug 11 20:32	20° $\approx$ 08'50 -0°42'30	conjunction	3514 Mar 07 23:55	16° $\approx$ 36'12 -0°45'07
evening set	3507 Oct 28 11:50	20° $\approx$ 10'34 18.61927 AU	minimum elong	3514 Mar 07 23:55	16° $\approx$ 36'12 0°45'07
conjunction	3508 Jan 27 20:48	18° $\approx$ 09'58	max. Earth dist.	3514 Mar 08 23:23	16° $\approx$ 39'36 20.93594 AU
minimum elong	3508 Feb 12 11:53	21° $\approx$ 16'42	morning rise	3514 Mar 23 18:04	17° $\approx$ 30'37
max. Earth dist.	3508 Feb 12 11:52	22° $\approx$ 11'40 -0°39'14	retrograde	3514 Jun 25 02:57	20° $\approx$ 37'42
morning rise	3508 Feb 13 06:08	22° $\approx$ 11'40 0°39'14	min. Earth dist.	3514 Sep 10 02:45	18° $\approx$ 41'15 18.95491 AU
retrograde	3508 Feb 28 03:40	22° $\approx$ 14'22 20.64690 AU	opposition	3514 Sep 11 00:40	18° $\approx$ 39'03 -0°50'01
min. Earth dist.	3508 May 30 17:57	23° $\approx$ 06'44	direct	3514 Nov 26 05:53	16° $\approx$ 42'11
opposition	3508 Aug 15 09:53	26° $\approx$ 15'41	evening set	3515 Feb 24 12:43	19° $\approx$ 43'14
direct	3508 Aug 16 03:29	24° $\approx$ 18'23 18.67446 AU	conjunction	3515 Mar 12 05:08	20° $\approx$ 37'16 -0°45'20
evening set	3508 Oct 31 23:00	24° $\approx$ 16'36 -0°44'18	minimum elong	3515 Mar 12 05:08	20° $\approx$ 37'16 0°45'20
conjunction	3509 Jan 31 03:45	22° $\approx$ 18'02	max. Earth dist.	3515 Mar 13 03:53	20° $\approx$ 40'33 20.97200 AU
minimum elong	3509 Feb 15 18:44	25° $\approx$ 23'46	morning rise	3515 Mar 27 23:59	21° $\approx$ 31'38
max. Earth dist.	3509 Feb 15 18:44	26° $\approx$ 18'32 -0°40'45	retrograde	3515 Jun 29 12:34	24° $\approx$ 38'31
morning rise	3509 Feb 16 13:24	26° $\approx$ 18'32 0°40'45	min. Earth dist.	3515 Sep 14 11:57	22° $\approx$ 42'09 18.98860 AU
retrograde	3509 Feb 28 03:40	26° $\approx$ 21'17 20.70122 AU	opposition	3515 Sep 15 10:21	22° $\approx$ 39'55 -0°50'07
min. Earth dist.	3509 Mar 03 10:50	27° $\approx$ 13'28	direct	3515 Nov 30 13:00	20° $\approx$ 43'15
opposition	3509 May 05 11:50	0° $\approx$	evening set	3516 Feb 28 17:23	23° $\approx$ 43'43
direct	3509 Jun 04 04:46	0° $\approx$ 21'59	conjunction	3516 Mar 15 10:22	24° $\approx$ 37'42 -0°45'20
evening set	3509 Jul 04 14:06	30° $\approx$	minimum elong	3516 Mar 15 10:22	24° $\approx$ 37'42 0°45'19
conjunction	3509 Aug 20 16:22	28° $\approx$ 22'58 -0°45'51	max. Earth dist.	3516 Mar 16 09:58	24° $\approx$ 41'06 21.00299 AU
minimum elong	3509 Aug 19 20:45	28° $\approx$ 24'56 18.72791 AU	morning rise	3516 Mar 31 05:43	25° $\approx$ 32'02
max. Earth dist.	3509 Nov 05 10:26	26° $\approx$ 24'41	retrograde	3516 Jul 02 20:25	28° $\approx$ 38'44
morning rise	3510 Feb 04 10:09	29° $\approx$ 29'30	opposition	3516 Sep 18 19:49	26° $\approx$ 40'08 -0°49'59
retrograde	3510 Feb 13 04:50	0° $\approx$	min. Earth dist.	3516 Sep 17 22:01	26° $\approx$ 42'19 19.01692 AU
opposition	3510 Feb 20 01:17	0° $\approx$ 24'06 -0°42'04	direct	3516 Dec 03 20:48	24° $\approx$ 43'38
direct	3510 Feb 20 01:17	0° $\approx$ 24'06 0°42'04	evening set	3517 Mar 03 21:53	27° $\approx$ 43'34
evening set	3510 Feb 20 21:50	0° $\approx$ 27'07 20.75361 AU	conjunction	3517 Mar 19 15:15	28° $\approx$ 37'29 -0°45'06
morning rise	3510 Mar 07 17:36	1° $\approx$ 18'53	minimum elong	3517 Mar 19 15:15	28° $\approx$ 37'29 0°45'07
retrograde	3510 Jun 08 13:30	4° $\approx$ 27'03	max. Earth dist.	3517 Mar 20 13:46	28° $\approx$ 40'44 21.02865 AU
min. Earth dist.	3510 Aug 24 08:56	2° $\approx$ 30'05 18.77929 AU	morning rise	3517 Apr 04 11:24	29° $\approx$ 31'49
opposition	3510 Aug 25 04:45	2° $\approx$ 28'06 -0°47'10	evening set	3517 Apr 12 23:33	0° $\approx$
direct	3510 Nov 09 19:38	0° $\approx$ 30'07			

retrograde	3517 Jul 07 05:48	2°♊38'23		conjunction	3524 Apr 16 02:22	26°♊23'03	-0°37'37
min. Earth dist.	3517 Sep 22 06:53	0°♊41'56	19.03984 AU	minimum elong	3524 Apr 16 02:22	26°♊23'03	0°37'38
opposition	3517 Sep 23 04:55	0°♊39'44	-0°49'36	max. Earth dist.	3524 Apr 17 00:06	26°♊26'09	21.07468 AU
	3517 Oct 10 03:09	30°♋		morning rise	3524 May 02 04:12	27°♊17'43	
direct	3517 Dec 08 03:12	28°♋43'19			3524 Jul 03 17:00	0°♋	
	3518 Feb 02 05:28	0°♊		retrograde	3524 Aug 04 11:49	0°♋24'14	
evening set	3518 Mar 08 02:15	1°♊42'46			3524 Sep 05 17:48	30°♋♊	
				opposition	3524 Oct 21 10:12	28°♊24'56	-0°40'33
conjunction	3518 Mar 23 20:18	2°♊36'40	-0°44'39	min. Earth dist.	3524 Oct 20 14:42	28°♊26'54	19.07085 AU
minimum elong	3518 Mar 23 20:18	2°♊36'40	0°44'39	direct	3525 Jan 04 19:26	26°♊28'35	
max. Earth dist.	3518 Mar 24 19:31	2°♊40'00	21.04878 AU	evening set	3525 Apr 04 08:39	29°♊26'34	
morning rise	3518 Apr 08 17:04	3°♊30'59			3525 Apr 14 05:51	0°♋	
retrograde	3518 Jul 11 12:47	6°♊37'26					
opposition	3518 Sep 27 13:29	4°♊38'42	-0°48'59	conjunction	3525 Apr 20 07:53	0°♋20'50	-0°35'47
min. Earth dist.	3518 Sep 26 16:06	4°♊40'50	19.05728 AU	minimum elong	3525 Apr 20 07:53	0°♋20'50	0°35'47
direct	3518 Dec 12 10:35	2°♊42'21		max. Earth dist.	3525 Apr 21 04:09	0°♋23'44	21.06547 AU
evening set	3519 Mar 12 06:30	5°♊41'20		morning rise	3525 May 06 10:48	1°♋15'38	
				retrograde	3525 Aug 08 20:41	4°♋22'21	
conjunction	3519 Mar 28 01:06	6°♊35'14	-0°43'59	opposition	3525 Oct 25 17:12	2°♋22'59	-0°38'25
minimum elong	3519 Mar 28 01:06	6°♊35'14	0°44'00	min. Earth dist.	3525 Oct 24 22:18	2°♋24'54	19.05967 AU
max. Earth dist.	3519 Mar 28 23:09	6°♊38'24	21.06376 AU	direct	3526 Jan 09 00:15	0°♋26'37	
morning rise	3519 Apr 12 22:48	7°♊29'34		evening set	3526 Apr 08 13:51	3°♋24'44	
retrograde	3519 Jul 15 21:52	10°♊35'55					
opposition	3519 Oct 01 21:39	8°♊37'04	-0°48'08	conjunction	3526 Apr 24 14:06	4°♋19'08	-0°33'46
min. Earth dist.	3519 Oct 01 00:14	8°♊39'12	19.06982 AU	minimum elong	3526 Apr 24 14:06	4°♋19'08	0°33'47
direct	3519 Dec 16 16:36	6°♊40'43		max. Earth dist.	3526 Apr 25 10:41	4°♋22'04	21.05222 AU
evening set	3520 Mar 15 10:37	9°♊39'21		morning rise	3526 May 10 17:49	5°♋14'03	
				retrograde	3526 Aug 13 05:18	8°♋21'01	
conjunction	3520 Mar 31 05:59	10°♊33'16	-0°43'07	min. Earth dist.	3526 Oct 29 06:00	6°♋23'26	19.04425 AU
minimum elong	3520 Mar 31 05:59	10°♊33'16	0°43'07	opposition	3526 Oct 30 00:01	6°♋21'37	-0°36'06
max. Earth dist.	3520 Apr 01 04:47	10°♊36'32	21.07388 AU	direct	3527 Jan 13 05:21	4°♋25'14	
morning rise	3520 Apr 16 04:19	11°♊27'38		evening set	3527 Apr 12 19:37	7°♋23'33	
retrograde	3520 Jul 19 04:13	14°♊33'54					
min. Earth dist.	3520 Oct 04 08:31	12°♊37'02	19.07773 AU	conjunction	3527 Apr 28 20:40	8°♋18'06	-0°31'36
opposition	3520 Oct 05 05:25	12°♊34'57	-0°47'03	minimum elong	3527 Apr 28 20:40	8°♋18'06	0°31'36
direct	3520 Dec 19 22:52	10°♊38'37		max. Earth dist.	3527 Apr 29 15:16	8°♋20'45	21.03472 AU
evening set	3521 Mar 19 14:49	13°♊36'56		morning rise	3527 May 15 01:30	9°♋13'10	
				retrograde	3527 Aug 17 14:16	12°♋20'25	
conjunction	3521 Apr 04 10:46	14°♊30'53	-0°42'02	opposition	3527 Nov 03 07:00	10°♋20'58	-0°33'36
minimum elong	3521 Apr 04 10:46	14°♊30'53	0°42'02	min. Earth dist.	3527 Nov 02 14:05	10°♋22'41	19.02442 AU
max. Earth dist.	3521 Apr 05 08:28	14°♊33'59	21.07984 AU	direct	3528 Jan 17 10:00	8°♋24'31	
morning rise	3521 Apr 20 10:05	15°♊25'18		evening set	3528 Apr 16 01:44	11°♋23'07	
retrograde	3521 Jul 23 13:05	18°♊31'34					
opposition	3521 Oct 09 12:58	16°♊32'29	-0°45'44	conjunction	3528 May 02 03:48	12°♋17'50	-0°29'16
min. Earth dist.	3521 Oct 08 16:04	16°♊34'35	19.08175 AU	minimum elong	3528 May 02 03:48	12°♋17'50	0°29'16
direct	3521 Dec 24 04:23	14°♊36'08		max. Earth dist.	3528 May 02 22:17	12°♋20'28	21.01238 AU
evening set	3522 Mar 23 18:54	17°♊34'15		morning rise	3528 May 18 09:23	13°♋13'05	
					3528 Jun 22 20:39	15°♋	
conjunction	3522 Apr 08 15:45	18°♊28'16	-0°40'45	retrograde	3528 Aug 20 23:36	16°♋20'38	
minimum elong	3522 Apr 08 15:45	18°♊28'16	0°40'46		3528 Oct 21 07:04	15°♋♋	
max. Earth dist.	3522 Apr 09 14:14	18°♊31'28	21.08185 AU	opposition	3528 Nov 06 14:02	14°♋21'08	-0°30'56
morning rise	3522 Apr 24 15:48	19°♊22'44		min. Earth dist.	3528 Nov 05 22:14	14°♋22'44	18.99950 AU
retrograde	3522 Jul 27 19:41	22°♊29'02		direct	3529 Jan 20 16:00	12°♋24'36	
opposition	3522 Oct 13 20:15	20°♊29'52	-0°44'13		3529 Apr 13 05:05	15°♋	
min. Earth dist.	3522 Oct 12 23:51	20°♊31'55	19.08183 AU	evening set	3529 Apr 20 08:34	15°♋23'33	
direct	3522 Dec 28 09:34	18°♊33'32					
evening set	3523 Mar 27 23:22	21°♊31'31		conjunction	3529 May 06 11:28	16°♋18'26	-0°26'46
				minimum elong	3529 May 06 11:28	16°♋18'26	0°26'47
conjunction	3523 Apr 12 20:54	22°♊25'35	-0°39'17	max. Earth dist.	3529 May 07 03:30	16°♋20'44	20.98499 AU
minimum elong	3523 Apr 12 20:54	22°♊25'35	0°39'16	morning rise	3529 May 22 18:09	17°♋13'51	
max. Earth dist.	3523 Apr 13 18:04	22°♊28'36	21.08016 AU	retrograde	3529 Aug 25 09:01	20°♋21'46	
morning rise	3523 Apr 28 21:58	23°♊20'09		opposition	3529 Nov 10 21:16	18°♋22'09	-0°28'07
retrograde	3523 Aug 01 04:23	26°♊26'32		min. Earth dist.	3529 Nov 10 06:57	18°♋23'37	18.96944 AU
min. Earth dist.	3523 Oct 17 07:08	24°♊29'18	19.07828 AU	direct	3530 Jan 24 21:06	16°♋25'28	
opposition	3523 Oct 18 03:13	24°♊27'17	-0°42'29	evening set	3530 Apr 24 15:48	19°♋24'49	
direct	3524 Jan 01 14:39	22°♊30'56					
evening set	3524 Mar 31 03:53	25°♊28'53		conjunction	3530 May 10 19:50	20°♋19'55	-0°24'09

minimum elong	3530 May 10 19:51	20°♄19'55	0°24'08	conjunction	3536 Jun 04 09:40	14°♄48'33	-0°06'07
max. Earth dist.	3530 May 11 11:23	20°♄22'08	20.95218 AU	minimum elong	3536 Jun 04 09:40	14°♄48'33	0°06'07
morning rise	3530 May 27 03:20	21°♄15'32		behind sun begin	3536 Jun 04 03:18	14°♄47'39	
retrograde	3530 Aug 29 18:32	24°♄23'46		behind sun end	3536 Jun 04 16:02	14°♄49'27	
opposition	3530 Nov 15 04:35	22°♄24'03	-0°25'08	max. Earth dist.	3536 Jun 04 16:27	14°♄49'30	20.66453 AU
min. Earth dist.	3530 Nov 14 15:30	22°♄25'23	18.93382 AU	morning rise	3536 Jun 20 22:25	15°♄45'30	
direct	3531 Jan 29 03:52	20°♄27'10		retrograde	3536 Sep 23 11:12	18°♄56'21	
evening set	3531 Apr 28 23:46	23°♄26'58		opposition	3536 Dec 09 04:06	16°♄55'29	-0°04'52
				min. Earth dist.	3536 Dec 08 22:51	16°♄56'02	18.63585 AU
conjunction	3531 May 15 04:39	24°♄22'16	-0°21'23	direct	3537 Feb 21 22:08	14°♄56'47	
minimum elong	3531 May 15 04:38	24°♄22'16	0°21'23	evening set	3537 May 23 11:44	18°♄00'39	
max. Earth dist.	3531 May 15 17:28	24°♄24'06	20.91406 AU				
morning rise	3531 May 31 13:13	25°♄18'04		conjunction	3537 Jun 08 22:20	18°♄57'25	-0°02'52
retrograde	3531 Sep 03 04:36	28°♄26'42		minimum elong	3537 Jun 08 22:21	18°♄57'25	0°02'51
opposition	3531 Nov 19 11:57	26°♄26'47	-0°22'01	behind sun begin	3537 Jun 08 15:39	18°♄56'29	
min. Earth dist.	3531 Nov 19 00:34	26°♄27'57	18.89317 AU	behind sun end	3537 Jun 09 05:03	18°♄58'22	
direct	3532 Feb 02 09:41	24°♄29'39		max. Earth dist.	3537 Jun 09 02:31	18°♄57'59	20.60708 AU
evening set	3532 May 02 08:05	27°♄29'58		morning rise	3537 Jun 25 12:03	19°♄54'38	
				retrograde	3537 Sep 27 23:50	23°♄06'01	
conjunction	3532 May 18 14:05	28°♄25'29	-0°18'30	opposition	3537 Dec 13 13:09	21°♄05'00	-0°01'15
minimum elong	3532 May 18 14:05	28°♄25'29	0°18'30	min. Earth dist.	3537 Dec 13 09:45	21°♄05'21	18.57766 AU
max. Earth dist.	3532 May 19 02:30	28°♄27'16	20.87108 AU	direct	3538 Feb 26 05:38	19°♄05'58	
morning rise	3532 Jun 03 23:26	29°♄21'30		asc. node	3538 Apr 18 09:29	20°♄11'50	
	3532 Jun 15 17:16	0°♄		evening set	3538 May 28 00:22	22°♄10'45	
retrograde	3532 Sep 06 14:10	2°♄30'30					
opposition	3532 Nov 22 19:32	0°♄30'25	-0°18'46	conjunction	3538 Jun 13 12:03	23°♄07'49	0°00'31
min. Earth dist.	3532 Nov 22 09:12	0°♄31'29	18.84796 AU	minimum elong	3538 Jun 13 12:03	23°♄07'49	0°00'30
	3532 Dec 05 07:39	30°♄		behind sun begin	3538 Jun 13 05:21	23°♄06'52	
direct	3533 Feb 05 16:46	28°♄33'01		behind sun end	3538 Jun 13 18:46	23°♄08'46	
	3533 Apr 06 06:21	0°♄		max. Earth dist.	3538 Jun 13 15:51	23°♄08'19	20.54815 AU
evening set	3533 May 06 16:59	1°♄33'54		morning rise	3538 Jun 30 02:19	24°♄05'18	
				retrograde	3538 Oct 02 13:49	27°♄17'14	
conjunction	3533 May 22 23:50	2°♄29'38	-0°15'31	opposition	3538 Dec 17 22:37	25°♄16'05	0°02'25
minimum elong	3533 May 22 23:50	2°♄29'38	0°15'32	min. Earth dist.	3538 Dec 17 19:57	25°♄16'22	18.51797 AU
behind sun begin	3533 May 22 22:20	2°♄29'25		direct	3539 Mar 02 15:07	23°♄16'45	
behind sun end	3533 May 23 01:20	2°♄29'50		evening set	3539 Jun 01 14:03	26°♄22'31	
max. Earth dist.	3533 May 23 09:45	2°♄31'03	20.82404 AU				
morning rise	3533 Jun 08 10:16	3°♄25'53		conjunction	3539 Jun 18 02:25	27°♄19'53	0°03'53
retrograde	3533 Sep 11 00:58	6°♄35'18		minimum elong	3539 Jun 18 02:24	27°♄19'52	0°03'53
opposition	3533 Nov 27 03:20	4°♄35'00	-0°15'25	behind sun begin	3539 Jun 17 19:45	27°♄18'56	
min. Earth dist.	3533 Nov 26 18:42	4°♄35'53	18.79911 AU	behind sun end	3539 Jun 18 09:04	27°♄20'49	
direct	3534 Feb 09 23:12	2°♄37'16		max. Earth dist.	3539 Jun 18 03:27	27°♄19'59	20.48785 AU
evening set	3534 May 11 02:34	5°♄38'48		morning rise	3539 Jul 04 17:29	28°♄17'37	
					3539 Aug 06 13:17	0°♄	
conjunction	3534 May 27 10:33	6°♄34'47	-0°12'27	retrograde	3539 Oct 07 03:45	1°♄30'10	
minimum elong	3534 May 27 10:33	6°♄34'47	0°12'27		3539 Dec 09 20:52	30°♄	
behind sun begin	3534 May 27 06:14	6°♄34'11		opposition	3539 Dec 22 08:39	29°♄28'55	0°06'05
behind sun end	3534 May 27 14:51	6°♄35'24		min. Earth dist.	3539 Dec 22 08:04	29°♄28'58	18.45705 AU
max. Earth dist.	3534 May 27 20:08	6°♄36'09	20.77351 AU	direct	3540 Mar 06 00:03	27°♄29'15	
morning rise	3534 Jun 12 21:41	7°♄31'15			3540 May 25 09:50	0°♄	
retrograde	3534 Sep 15 11:30	10°♄41'07		evening set	3540 Jun 05 04:32	0°♄36'05	
opposition	3534 Dec 01 11:10	8°♄40'37	-0°11'58				
min. Earth dist.	3534 Dec 01 03:28	8°♄41'25	18.74703 AU	conjunction	3540 Jun 21 17:51	1°♄33'44	0°07'10
direct	3535 Feb 14 06:47	6°♄42'34		minimum elong	3540 Jun 21 17:52	1°♄33'44	0°07'10
evening set	3535 May 15 13:00	9°♄44'49		behind sun begin	3540 Jun 21 11:40	1°♄32'52	
				behind sun end	3540 Jun 22 00:03	1°♄34'37	
conjunction	3535 May 31 21:45	10°♄41'03	-0°09'19	max. Earth dist.	3540 Jun 21 18:23	1°♄33'48	20.42627 AU
minimum elong	3535 May 31 21:46	10°♄41'03	0°09'18	morning rise	3540 Jul 08 09:23	2°♄31'45	
behind sun begin	3535 May 31 16:09	10°♄40'16		retrograde	3540 Oct 10 19:14	5°♄44'55	
behind sun end	3535 Jun 01 03:22	10°♄41'50		opposition	3540 Dec 25 19:11	3°♄43'35	0°09'45
max. Earth dist.	3535 Jun 01 04:46	10°♄42'02	20.72017 AU	min. Earth dist.	3540 Dec 25 19:24	3°♄43'33	18.39472 AU
morning rise	3535 Jun 17 09:54	11°♄37'46		direct	3541 Mar 10 10:32	1°♄43'37	
retrograde	3535 Sep 19 23:00	14°♄48'06		evening set	3541 Jun 09 20:09	4°♄51'33	
opposition	3535 Dec 05 19:29	12°♄47'24	-0°08'27				
min. Earth dist.	3535 Dec 05 13:31	12°♄48'01	18.69251 AU	conjunction	3541 Jun 26 10:05	5°♄49'30	0°10'27
direct	3536 Feb 18 13:33	10°♄49'01		minimum elong	3541 Jun 26 10:05	5°♄49'30	0°10'27
evening set	3536 May 18 23:49	13°♄52'03		behind sun begin	3541 Jun 26 04:51	5°♄48'46	

behind sun end	3541 Jun 26 15:19	5°☾50'15		morning rise	3547 Aug 10 01:01	3°♊03'22	
max. Earth dist.	3541 Jun 26 07:39	5°☾49'10	20.36320 AU	retrograde	3547 Nov 11 19:26	6°♊20'51	
morning rise	3541 Jul 13 02:20	6°☾47'48		opposition	3548 Jan 25 14:51	4°♊18'30	0°33'28
retrograde	3541 Oct 15 10:43	10°☾01'37		min. Earth dist.	3548 Jan 26 03:01	4°♊17'12	17.92303 AU
opposition	3541 Dec 30 06:29	8°☾00'10	0°13'23	direct	3548 Apr 09 08:49	2°♊15'44	
min. Earth dist.	3541 Dec 30 09:08	7°☾59'53	18.33086 AU	evening set	3548 Jul 11 11:37	5°♊32'05	
direct	3542 Mar 14 21:10	5°☾59'52					
evening set	3542 Jun 14 12:46	9°☾08'57		conjunction	3548 Jul 28 05:22	6°♊32'05	0°31'24
				minimum elong	3548 Jul 28 05:21	6°♊32'05	0°31'24
conjunction	3542 Jul 01 03:36	10°☾07'13	0°13'42	max. Earth dist.	3548 Jul 27 14:42	6°♊29'53	19.88972 AU
minimum elong	3542 Jul 01 03:35	10°☾07'13	0°13'43	morning rise	3548 Aug 13 23:19	7°♊32'10	
behind sun begin	3542 Jul 01 00:08	10°☾06'43		retrograde	3548 Nov 15 15:28	10°♊50'14	
behind sun end	3542 Jul 01 07:03	10°☾07'43		opposition	3549 Jan 29 06:19	8°♊47'43	0°36'17
max. Earth dist.	3542 Jul 01 00:09	10°☾06'43	20.29841 AU	min. Earth dist.	3549 Jan 29 18:41	8°♊46'23	17.85682 AU
morning rise	3542 Jul 17 20:09	11°☾05'47		direct	3549 Apr 14 03:21	6°♊44'32	
retrograde	3542 Oct 20 03:25	14°☾20'13		evening set	3549 Jul 16 10:24	10°♊02'07	
opposition	3543 Jan 03 18:11	12°☾18'40	0°16'59				
min. Earth dist.	3543 Jan 03 21:46	12°☾18'17	18.26512 AU	conjunction	3549 Aug 02 04:22	11°♊02'24	0°33'51
direct	3543 Mar 19 09:27	10°☾18'01		minimum elong	3549 Aug 02 04:22	11°♊02'24	0°33'51
evening set	3543 Jun 19 06:30	13°☾28'17		max. Earth dist.	3549 Aug 01 12:06	10°♊59'57	19.82453 AU
				morning rise	3549 Aug 18 22:15	12°♊02'41	
conjunction	3543 Jul 05 21:48	14°☾26'50	0°16'55		3549 Oct 23 03:54	15°♊	
minimum elong	3543 Jul 05 21:49	14°☾26'50	0°16'54	retrograde	3549 Nov 20 09:49	15°♊21'19	
max. Earth dist.	3543 Jul 05 15:14	14°☾25'53	20.23179 AU		3549 Dec 18 22:44	15°♊	
morning rise	3543 Jul 22 14:54	15°☾25'40		opposition	3550 Feb 02 22:44	13°♊18'41	0°38'54
retrograde	3543 Oct 24 19:54	18°☾40'45		min. Earth dist.	3550 Feb 03 13:07	13°♊17'07	17.79302 AU
opposition	3544 Jan 08 06:48	16°☾39'03	0°20'30	direct	3550 Apr 18 19:50	11°♊15'06	
min. Earth dist.	3544 Jan 08 12:55	16°☾38'24	18.19778 AU	evening set	3550 Jul 21 10:00	14°♊33'55	
direct	3544 Mar 22 21:32	14°☾38'00			3550 Jul 28 16:45	15°♊	
evening set	3544 Jun 23 00:47	17°☾49'27		max. Earth dist.	3550 Aug 06 10:42	15°♊31'48	19.76217 AU
conjunction	3544 Jul 09 16:52	18°☾48'19	0°20'03	conjunction	3550 Aug 07 04:06	15°♊34'26	0°36'05
minimum elong	3544 Jul 09 16:51	18°☾48'19	0°20'03	minimum elong	3550 Aug 07 04:06	15°♊34'26	0°36'05
max. Earth dist.	3544 Jul 09 09:16	18°☾47'12	20.16376 AU	morning rise	3550 Aug 23 21:51	16°♊34'56	
morning rise	3544 Jul 26 10:11	19°☾47'24		retrograde	3550 Nov 25 07:09	19°♊54'07	
retrograde	3544 Oct 28 13:54	23°☾03'07		opposition	3551 Feb 07 15:36	17°♊51'23	0°41'18
opposition	3545 Jan 11 19:52	21°☾01'16	0°23'57	min. Earth dist.	3551 Feb 08 05:59	17°♊49'49	17.73230 AU
min. Earth dist.	3545 Jan 12 02:42	21°☾00'32	18.12914 AU	direct	3551 Apr 23 16:23	15°♊47'26	
direct	3545 Mar 27 12:01	18°☾59'48		evening set	3551 Jul 26 10:22	19°♊07'29	
evening set	3545 Jun 27 20:19	22°☾12'27		max. Earth dist.	3551 Aug 11 10:15	20°♊05'27	19.70309 AU
conjunction	3545 Jul 14 12:48	23°☾11'37	0°23'05	conjunction	3551 Aug 12 04:33	20°♊08'14	0°38'07
minimum elong	3545 Jul 14 12:48	23°☾11'37	0°23'04	minimum elong	3551 Aug 12 04:33	20°♊08'14	0°38'07
max. Earth dist.	3545 Jul 14 02:25	23°☾10'04	20.09473 AU	morning rise	3551 Aug 28 21:58	21°♊08'55	
morning rise	3545 Jul 31 06:30	24°☾10'58		retrograde	3551 Nov 30 02:53	24°♊28'38	
retrograde	3545 Nov 02 06:50	27°☾27'16		opposition	3552 Feb 12 09:28	22°♊25'51	0°43'27
opposition	3546 Jan 16 09:34	25°☾25'15	0°27'16	min. Earth dist.	3552 Feb 13 01:33	22°♊24'06	17.67517 AU
min. Earth dist.	3546 Jan 16 18:57	25°☾24'15	18.06000 AU	direct	3552 Apr 27 10:25	20°♊21'36	
direct	3546 Apr 01 01:23	23°☾23'22		evening set	3552 Jul 30 11:24	23°♊42'51	
evening set	3546 Jul 02 16:35	26°☾37'14		max. Earth dist.	3552 Aug 15 09:57	24°♊40'49	19.64794 AU
conjunction	3546 Jul 19 09:41	27°☾36'42	0°26'00	conjunction	3552 Aug 16 05:31	24°♊43'49	0°39'55
minimum elong	3546 Jul 19 09:41	27°☾36'41	0°26'00	minimum elong	3552 Aug 16 05:31	24°♊43'49	0°39'55
max. Earth dist.	3546 Jul 18 22:13	27°☾34'59	20.02560 AU	morning rise	3552 Sep 01 22:45	25°♊44'41	
morning rise	3546 Aug 05 03:30	28°☾36'18		retrograde	3552 Dec 04 01:39	29°♊04'55	
	3546 Aug 30 15:00	0°♊		opposition	3553 Feb 16 03:55	27°♊02'06	0°45'20
retrograde	3546 Nov 07 01:59	1°♊53'12		min. Earth dist.	3553 Feb 16 19:57	27°♊00'22	17.62194 AU
	3547 Jan 17 12:05	30°♊		direct	3553 May 02 08:00	24°♊57'34	
opposition	3547 Jan 20 23:49	29°☾51'00	0°30'27	evening set	3553 Aug 04 13:21	28°♊20'00	
min. Earth dist.	3547 Jan 21 09:42	29°☾49'57	17.99102 AU	max. Earth dist.	3553 Aug 20 11:30	29°♊18'08	19.59652 AU
direct	3547 Apr 05 17:53	27°☾48'41					
	3547 Jun 18 13:56	0°♊		conjunction	3553 Aug 21 07:27	29°♊21'11	0°41'28
evening set	3547 Jul 07 13:44	1°♊03'47		minimum elong	3553 Aug 21 07:26	29°♊21'11	0°41'27
					3553 Aug 31 21:00	0°♊	
conjunction	3547 Jul 24 07:05	2°♊03'31	0°28'47	morning rise	3553 Sep 07 00:08	0°♊22'12	
minimum elong	3547 Jul 24 07:05	2°♊03'31	0°28'47	retrograde	3553 Dec 08 23:32	3°♊42'55	
max. Earth dist.	3547 Jul 23 17:26	2°♊01'28	19.95691 AU	opposition	3554 Feb 20 23:08	1°♊40'08	0°46'56

min. Earth dist.	3554 Feb 21 16:51	1° $\mathring{M}$ 38'12	17.57246 AU	evening set	3560 Sep 07 17:56	1° $\mathring{A}$ 20'15	
	3554 Apr 06 10:06	30° $\mathring{R}$ 8		max. Earth dist.	3560 Sep 23 07:30	2° $\mathring{A}$ 18'14	19.33971 AU
direct	3554 May 07 03:53	29° $\mathring{O}$ 35'21					
	3554 Jun 06 14:21	0° $\mathring{M}$		conjunction	3560 Sep 24 08:42	2° $\mathring{A}$ 22'11	0°44'28
evening set	3554 Aug 09 16:07	2° $\mathring{M}$ 58'56		minimum elong	3560 Sep 24 08:42	2° $\mathring{A}$ 22'11	0°44'28
				morning rise	3560 Oct 10 20:36	3° $\mathring{A}$ 23'42	
conjunction	3554 Aug 26 09:53	4° $\mathring{M}$ 00'17	0°42'46	retrograde	3561 Jan 10 21:45	6° $\mathring{A}$ 46'21	
minimum elong	3554 Aug 26 09:53	4° $\mathring{M}$ 00'17	0°42'47	opposition	3561 Mar 25 08:56	4° $\mathring{A}$ 43'34	0°49'12
max. Earth dist.	3554 Aug 25 12:14	3° $\mathring{M}$ 56'58	19.54891 AU	min. Earth dist.	3561 Mar 26 06:08	4° $\mathring{A}$ 41'15	17.32979 AU
morning rise	3554 Sep 12 02:14	5° $\mathring{M}$ 01'28		direct	3561 Jun 09 05:21	2° $\mathring{A}$ 37'20	
retrograde	3554 Dec 13 23:18	8° $\mathring{M}$ 22'37		evening set	3561 Sep 12 22:50	6° $\mathring{A}$ 06'34	
opposition	3555 Feb 25 19:09	6° $\mathring{M}$ 19'52	0°48'15				
min. Earth dist.	3555 Feb 26 13:02	6° $\mathring{M}$ 17'54	17.52669 AU	conjunction	3561 Sep 29 12:59	7° $\mathring{A}$ 08'30	0°43'41
direct	3555 May 12 02:22	4° $\mathring{M}$ 14'50		minimum elong	3561 Sep 29 12:59	7° $\mathring{A}$ 08'30	0°43'41
evening set	3555 Aug 14 19:16	7° $\mathring{M}$ 39'30		max. Earth dist.	3561 Sep 28 12:54	7° $\mathring{A}$ 04'44	19.32033 AU
				morning rise	3561 Oct 15 23:51	8° $\mathring{A}$ 09'59	
conjunction	3555 Aug 31 12:51	8° $\mathring{M}$ 41'01	0°43'48	retrograde	3562 Jan 15 22:13	11° $\mathring{A}$ 32'40	
minimum elong	3555 Aug 31 12:51	8° $\mathring{M}$ 41'01	0°43'47	opposition	3562 Mar 30 08:53	9° $\mathring{A}$ 29'55	0°48'09
max. Earth dist.	3555 Aug 30 15:16	8° $\mathring{M}$ 37'41	19.50474 AU	min. Earth dist.	3562 Mar 31 05:26	9° $\mathring{A}$ 27'39	17.31308 AU
morning rise	3555 Sep 17 04:26	9° $\mathring{M}$ 42'18		direct	3562 Jun 14 08:47	7° $\mathring{A}$ 23'34	
retrograde	3555 Dec 18 22:46	13° $\mathring{M}$ 03'52		evening set	3562 Sep 18 03:45	10° $\mathring{A}$ 53'11	
opposition	3556 Mar 01 16:01	11° $\mathring{M}$ 01'07	0°49'14				
min. Earth dist.	3556 Mar 02 11:12	10° $\mathring{M}$ 59'02	17.48429 AU	conjunction	3562 Oct 04 16:58	11° $\mathring{A}$ 55'05	0°42'35
direct	3556 May 16 00:08	8° $\mathring{M}$ 55'53		minimum elong	3562 Oct 04 16:58	11° $\mathring{A}$ 55'05	0°42'36
evening set	3556 Aug 18 23:13	12° $\mathring{M}$ 21'33		max. Earth dist.	3562 Oct 03 16:35	11° $\mathring{A}$ 51'16	19.30654 AU
				morning rise	3562 Oct 21 02:54	12° $\mathring{A}$ 56'32	
conjunction	3556 Sep 04 16:16	13° $\mathring{M}$ 23'11	0°44'32	retrograde	3563 Jan 20 21:12	16° $\mathring{A}$ 19'12	
minimum elong	3556 Sep 04 16:16	13° $\mathring{M}$ 23'11	0°44'32	opposition	3563 Apr 04 09:21	14° $\mathring{A}$ 16'27	0°46'47
max. Earth dist.	3556 Sep 03 16:45	13° $\mathring{M}$ 19'33	19.46409 AU	min. Earth dist.	3563 Apr 05 06:04	14° $\mathring{A}$ 14'11	17.30243 AU
morning rise	3556 Sep 21 07:23	14° $\mathring{M}$ 24'35		direct	3563 Jun 19 11:33	12° $\mathring{A}$ 10'01	
retrograde	3556 Dec 22 22:36	17° $\mathring{M}$ 46'29		evening set	3563 Sep 23 08:11	15° $\mathring{A}$ 39'56	
opposition	3557 Mar 06 13:20	15° $\mathring{M}$ 43'44	0°49'55				
min. Earth dist.	3557 Mar 07 08:53	15° $\mathring{M}$ 41'36	17.44545 AU	conjunction	3563 Oct 09 20:35	16° $\mathring{A}$ 41'47	0°41'12
direct	3557 May 20 23:55	13° $\mathring{M}$ 38'16		minimum elong	3563 Oct 09 20:35	16° $\mathring{A}$ 41'47	0°41'11
evening set	3557 Aug 24 03:30	17° $\mathring{M}$ 04'50		max. Earth dist.	3563 Oct 08 21:34	16° $\mathring{A}$ 38'10	19.29905 AU
				morning rise	3563 Oct 26 05:31	17° $\mathring{A}$ 43'09	
conjunction	3557 Sep 09 20:17	18° $\mathring{M}$ 06'36	0°44'59	retrograde	3564 Jan 25 21:59	21° $\mathring{A}$ 05'46	
minimum elong	3557 Sep 09 20:16	18° $\mathring{M}$ 06'36	0°44'59	opposition	3564 Apr 08 10:02	19° $\mathring{A}$ 03'05	0°45'04
max. Earth dist.	3557 Sep 08 21:06	18° $\mathring{M}$ 03'00	19.42690 AU	min. Earth dist.	3564 Apr 09 05:17	19° $\mathring{A}$ 00'59	17.29809 AU
morning rise	3557 Sep 26 10:31	19° $\mathring{M}$ 08'03		direct	3564 Jun 23 15:58	16° $\mathring{A}$ 56'38	
retrograde	3557 Dec 27 22:48	22° $\mathring{M}$ 30'13		evening set	3564 Sep 27 12:39	20° $\mathring{A}$ 26'44	
opposition	3558 Mar 11 11:30	20° $\mathring{M}$ 27'29	0°50'15	max. Earth dist.	3564 Oct 13 01:40	21° $\mathring{A}$ 24'58	19.29803 AU
min. Earth dist.	3558 Mar 12 07:52	20° $\mathring{M}$ 25'15	17.41007 AU				
direct	3558 May 25 23:51	18° $\mathring{M}$ 21'49		conjunction	3564 Oct 14 00:05	21° $\mathring{A}$ 28'30	0°39'32
evening set	3558 Aug 29 08:14	21° $\mathring{M}$ 49'12		minimum elong	3564 Oct 14 00:05	21° $\mathring{A}$ 28'30	0°39'32
max. Earth dist.	3558 Sep 13 23:22	22° $\mathring{M}$ 47'10	19.39346 AU	morning rise	3564 Oct 30 07:58	22° $\mathring{A}$ 29'46	
				retrograde	3565 Jan 29 20:53	25° $\mathring{A}$ 52'17	
conjunction	3558 Sep 15 00:15	22° $\mathring{M}$ 51'02	0°45'07	opposition	3565 Apr 13 10:58	23° $\mathring{A}$ 49'42	0°43'03
minimum elong	3558 Sep 15 00:15	22° $\mathring{M}$ 51'02	0°45'07	min. Earth dist.	3565 Apr 14 06:18	23° $\mathring{A}$ 47'36	17.30048 AU
morning rise	3558 Oct 01 13:51	23° $\mathring{M}$ 52'32		direct	3565 Jun 28 18:27	21° $\mathring{A}$ 43'17	
retrograde	3559 Jan 01 22:10	27° $\mathring{M}$ 14'56		evening set	3565 Oct 02 16:48	25° $\mathring{A}$ 13'30	
opposition	3559 Mar 16 10:09	25° $\mathring{M}$ 12'10	0°50'15	max. Earth dist.	3565 Oct 18 05:57	26° $\mathring{A}$ 11'48	19.30385 AU
min. Earth dist.	3559 Mar 17 06:52	25° $\mathring{M}$ 09'54	17.37874 AU				
direct	3559 May 31 01:13	23° $\mathring{M}$ 06'17		conjunction	3565 Oct 19 03:16	26° $\mathring{A}$ 15'09	0°37'35
evening set	3559 Sep 03 12:59	26° $\mathring{M}$ 34'24		minimum elong	3565 Oct 19 03:16	26° $\mathring{A}$ 15'09	0°37'35
max. Earth dist.	3559 Sep 19 04:31	27° $\mathring{M}$ 32'32	19.36425 AU	morning rise	3565 Nov 04 10:09	27° $\mathring{A}$ 16'19	
					3565 Dec 28 14:54	0° $\mathring{M}$	
conjunction	3559 Sep 20 04:34	27° $\mathring{M}$ 36'18	0°44'57	retrograde	3566 Feb 03 22:21	0° $\mathring{M}$ 38'41	
minimum elong	3559 Sep 20 04:34	27° $\mathring{M}$ 36'18	0°44'58		3566 Mar 14 03:59	30° $\mathring{R}$ 8	
morning rise	3559 Oct 06 17:11	28° $\mathring{M}$ 37'49		opposition	3566 Apr 18 12:07	28° $\mathring{A}$ 36'15	0°40'45
	3559 Oct 30 12:15	0° $\mathring{A}$		min. Earth dist.	3566 Apr 19 05:35	28° $\mathring{A}$ 34'21	17.30947 AU
retrograde	3560 Jan 06 22:31	2° $\mathring{A}$ 00'21		direct	3566 Jul 03 23:04	26° $\mathring{A}$ 29'57	
	3560 Mar 19 11:24	30° $\mathring{R}$ 17		evening set	3566 Oct 07 20:28	0° $\mathring{M}$ 00'08	
opposition	3560 Mar 20 09:18	29° $\mathring{M}$ 57'36	0°49'54		3566 Oct 07 19:35	0° $\mathring{M}$	
min. Earth dist.	3560 Mar 21 06:08	29° $\mathring{M}$ 55'19	17.35177 AU	max. Earth dist.	3566 Oct 23 10:05	0° $\mathring{M}$ 58'33	19.31607 AU
direct	3560 Jun 04 02:55	27° $\mathring{M}$ 51'32					
	3560 Aug 15 13:52	0° $\mathring{A}$		conjunction	3566 Oct 24 05:57	1° $\mathring{M}$ 01'40	0°35'23

minimum elong	3566 Oct 24 05:57	1°M.01'40	0°35'23		3573 Jul 11 15:15	30°R.M.	
morning rise	3566 Nov 09 11:41	2°M.02'42		direct	3573 Aug 06 21:34	29°M.42'31	
retrograde	3567 Feb 08 21:18	5°M.24'53			3573 Sep 01 18:57	0°J	
opposition	3567 Apr 23 13:40	3°M.22'38	0°38'09	evening set	3573 Nov 10 07:37	3°J.09'25	
min. Earth dist.	3567 Apr 24 07:08	3°M.20'44	17.32481 AU				
direct	3567 Jul 09 00:44	1°M.16'30		conjunction	3573 Nov 26 09:31	4°J.09'25	0°14'25
evening set	3567 Oct 12 23:52	4°M.46'34		minimum elong	3573 Nov 26 09:30	4°J.09'25	0°14'25
				behind sun begin	3573 Nov 26 06:27	4°J.08'57	
conjunction	3567 Oct 29 08:14	5°M.47'57	0°32'57	behind sun end	3573 Nov 26 12:34	4°J.09'53	
minimum elong	3567 Oct 29 08:14	5°M.47'57	0°32'58	max. Earth dist.	3573 Nov 25 21:55	4°J.07'37	19.54015 AU
max. Earth dist.	3567 Oct 28 13:08	5°M.44'56	19.33447 AU	morning rise	3573 Dec 12 08:16	5°J.08'58	
morning rise	3567 Nov 14 13:02	6°M.48'49		retrograde	3574 Mar 13 13:20	8°J.28'21	
retrograde	3568 Feb 13 23:13	10°M.10'46		opposition	3574 May 26 23:23	6°J.27'13	0°14'07
opposition	3568 Apr 27 15:01	8°M.08'42	0°35'19	min. Earth dist.	3574 May 27 08:20	6°J.26'16	17.56308 AU
min. Earth dist.	3568 Apr 28 06:33	8°M.07'02	17.34591 AU	direct	3574 Aug 12 00:56	4°J.22'38	
direct	3568 Jul 13 05:14	6°M.02'45		evening set	3574 Nov 15 05:50	7°J.48'38	
evening set	3568 Oct 17 02:44	9°M.32'36					
				conjunction	3574 Dec 01 06:53	8°J.48'22	0°10'55
conjunction	3568 Nov 02 10:10	10°M.33'49	0°30'17	minimum elong	3574 Dec 01 06:52	8°J.48'21	0°10'55
minimum elong	3568 Nov 02 10:10	10°M.33'49	0°30'17	behind sun begin	3574 Dec 01 01:50	8°J.47'35	
max. Earth dist.	3568 Nov 01 16:54	10°M.31'06	19.35819 AU	behind sun end	3574 Dec 01 11:54	8°J.49'08	
morning rise	3568 Nov 18 13:47	11°M.34'30		max. Earth dist.	3574 Nov 30 22:04	8°J.47'00	19.58688 AU
retrograde	3569 Feb 17 21:45	14°M.56'09		morning rise	3574 Dec 17 04:36	9°J.47'38	
opposition	3569 May 02 16:46	12°M.54'18	0°32'13	retrograde	3575 Mar 18 08:56	13°J.06'26	
min. Earth dist.	3569 May 03 08:20	12°M.52'37	17.37208 AU	opposition	3575 May 31 23:51	11°J.05'24	0°10'10
direct	3569 Jul 18 06:48	10°M.48'34		min. Earth dist.	3575 Jun 01 07:34	11°J.04'35	17.61131 AU
evening set	3569 Oct 22 05:12	14°M.18'03		direct	3575 Aug 17 03:03	9°J.01'03	
	3569 Nov 02 10:35	15°M.		evening set	3575 Nov 20 03:21	12°J.26'04	
conjunction	3569 Nov 07 11:24	15°M.19'03	0°27'26	conjunction	3575 Dec 06 03:15	13°J.25'30	0°07'22
minimum elong	3569 Nov 07 11:24	15°M.19'03	0°27'26	minimum elong	3575 Dec 06 03:14	13°J.25'30	0°07'21
max. Earth dist.	3569 Nov 06 18:30	15°M.16'24	19.38677 AU	behind sun begin	3575 Dec 05 21:10	13°J.24'35	
morning rise	3569 Nov 23 14:06	16°M.19'32		behind sun end	3575 Dec 06 09:18	13°J.26'25	
retrograde	3570 Feb 22 22:45	19°M.40'51		max. Earth dist.	3575 Dec 05 19:10	13°J.24'16	19.63682 AU
opposition	3570 May 07 18:22	17°M.39'10	0°28'55	morning rise	3575 Dec 22 00:17	14°J.24'30	
min. Earth dist.	3570 May 08 07:56	17°M.37'42	17.40283 AU	retrograde	3576 Mar 22 04:45	17°J.42'42	
direct	3570 Jul 23 11:45	15°M.33'39		opposition	3576 Jun 04 23:37	15°J.41'45	0°06'10
evening set	3570 Oct 27 06:55	19°M.02'40		min. Earth dist.	3576 Jun 05 05:37	15°J.41'07	17.66297 AU
				direct	3576 Aug 21 03:42	13°J.37'37	
conjunction	3570 Nov 12 12:09	20°M.03'27	0°24'23	evening set	3576 Nov 23 23:44	17°J.01'38	
minimum elong	3570 Nov 12 12:09	20°M.03'27	0°24'23				
max. Earth dist.	3570 Nov 11 21:31	20°M.01'09	19.41962 AU	conjunction	3576 Dec 09 22:47	18°J.00'46	0°03'47
morning rise	3570 Nov 28 13:39	21°M.03'43		minimum elong	3576 Dec 09 22:48	18°J.00'46	0°03'47
retrograde	3571 Feb 27 20:13	24°M.24'37		behind sun begin	3576 Dec 09 16:16	17°J.59'46	
opposition	3571 May 12 20:04	22°M.23'06	0°25'26	behind sun end	3576 Dec 10 05:20	18°J.01'45	
min. Earth dist.	3571 May 13 09:22	22°M.21'41	17.43764 AU	max. Earth dist.	3576 Dec 09 17:35	17°J.59'59	19.69018 AU
direct	3571 Jul 28 13:48	20°M.17'50		morning rise	3576 Dec 25 18:55	18°J.59'29	
evening set	3571 Nov 01 07:55	23°M.46'14		retrograde	3577 Mar 26 23:56	22°J.17'03	
				opposition	3577 Jun 09 23:05	20°J.16'13	0°02'10
conjunction	3571 Nov 17 11:56	24°M.46'46	0°21'11	min. Earth dist.	3577 Jun 10 03:11	20°J.15'47	17.71797 AU
minimum elong	3571 Nov 17 11:56	24°M.46'46	0°21'11	direct	3577 Aug 26 04:41	18°J.12'23	
max. Earth dist.	3571 Nov 16 21:33	24°M.44'31	19.45640 AU	evening set	3577 Nov 28 19:13	21°J.35'18	
morning rise	3571 Dec 03 12:38	25°M.46'49					
retrograde	3572 Mar 03 19:39	29°M.07'16		conjunction	3577 Dec 14 17:10	22°J.34'07	0°00'08
opposition	3572 May 16 21:25	27°M.05'53	0°21'47	minimum elong	3577 Dec 14 17:11	22°J.34'07	0°00'08
min. Earth dist.	3572 May 17 08:49	27°M.04'40	17.47617 AU	behind sun begin	3577 Dec 14 10:44	22°J.33'09	
direct	3572 Aug 01 18:53	25°M.00'51		behind sun end	3577 Dec 14 23:37	22°J.35'06	
evening set	3572 Nov 05 08:07	28°M.28'33		max. Earth dist.	3577 Dec 14 13:11	22°J.33'33	19.74697 AU
				desc. node	3577 Dec 27 03:39	23°J.20'15	
conjunction	3572 Nov 21 11:14	29°M.28'50	0°17'51	morning rise	3577 Dec 30 12:38	23°J.32'35	
minimum elong	3572 Nov 21 11:14	29°M.28'50	0°17'51	retrograde	3578 Mar 31 18:34	26°J.49'32	
max. Earth dist.	3572 Nov 20 23:18	29°M.26'58	19.49663 AU	opposition	3578 Jun 14 22:03	24°J.48'49	-0°01'49
	3572 Nov 29 17:56	0°J		min. Earth dist.	3578 Jun 15 00:26	24°J.48'34	17.77660 AU
morning rise	3572 Dec 07 10:46	0°J.28'38		direct	3578 Aug 31 03:09	22°J.45'18	
retrograde	3573 Mar 08 15:43	3°J.48'34		evening set	3578 Dec 03 13:38	26°J.07'09	
opposition	3573 May 21 22:32	1°J.47'19	0°18'00				
min. Earth dist.	3573 May 22 09:20	1°J.46'10	17.51796 AU	conjunction	3578 Dec 19 10:50	27°J.05'39	-0°03'31

minimum elong	3578 Dec 19 10:50	27° <del>2</del> 05'39	0°03'31	direct	3584 Sep 27 06:37	19° <del>3</del> 27'09	
behind sun begin	3578 Dec 19 04:18	27° <del>2</del> 04'40		evening set	3584 Dec 29 09:41	22° <del>3</del> 42'05	
behind sun end	3578 Dec 19 17:22	27° <del>2</del> 06'38					
max. Earth dist.	3578 Dec 19 09:37	27° <del>2</del> 05'31	19.80732 AU	conjunction	3585 Jan 14 02:39	23° <del>3</del> 38'48	-0°23'16
morning rise	3579 Jan 04 05:31	28° <del>2</del> 03'50		minimum elong	3585 Jan 14 02:39	23° <del>3</del> 38'48	0°23'15
	3579 Feb 08 23:20	0° <del>3</del>		max. Earth dist.	3585 Jan 14 11:22	23° <del>3</del> 40'07	20.20783 AU
retrograde	3579 Apr 05 13:10	1° <del>3</del> 20'09		morning rise	3585 Jan 29 18:37	24° <del>3</del> 35'23	
	3579 Jun 03 09:39	30° <del>8</del> <del>2</del>		retrograde	3585 May 01 17:03	27° <del>3</del> 48'13	
opposition	3579 Jun 19 20:19	29° <del>2</del> 19'37	-0°05'46	opposition	3585 Jul 16 22:14	25° <del>3</del> 48'47	-0°27'24
min. Earth dist.	3579 Jun 19 20:22	29° <del>2</del> 19'37	17.83844 AU	min. Earth dist.	3585 Jul 16 12:22	25° <del>3</del> 49'47	18.24108 AU
direct	3579 Sep 05 02:28	27° <del>2</del> 16'29		direct	3585 Oct 02 01:40	23° <del>3</del> 48'08	
	3579 Nov 27 18:20	0° <del>3</del>		evening set	3586 Jan 02 22:02	27° <del>3</del> 01'53	
evening set	3579 Dec 08 07:11	0° <del>3</del> 37'12					
				conjunction	3586 Jan 18 14:30	27° <del>3</del> 58'19	-0°26'08
conjunction	3579 Dec 24 03:29	1° <del>3</del> 35'25	-0°07'01	minimum elong	3586 Jan 18 14:30	27° <del>3</del> 58'19	0°26'08
minimum elong	3579 Dec 24 03:29	1° <del>3</del> 35'25	0°07'01	max. Earth dist.	3586 Jan 19 00:42	27° <del>3</del> 59'52	20.27419 AU
behind sun begin	3579 Dec 23 21:22	1° <del>3</del> 34'30		morning rise	3586 Feb 03 06:12	28° <del>3</del> 54'40	
behind sun end	3579 Dec 24 09:35	1° <del>3</del> 36'20			3586 Feb 22 14:50	0° <del>4</del>	
max. Earth dist.	3579 Dec 24 03:38	1° <del>3</del> 35'26	19.87063 AU	retrograde	3586 May 06 06:20	2° <del>4</del> 06'56	
morning rise	3580 Jan 08 21:39	2° <del>3</del> 33'19		opposition	3586 Jul 21 16:32	0° <del>4</del> 07'37	-0°30'29
retrograde	3580 Apr 09 06:46	5° <del>3</del> 49'03		min. Earth dist.	3586 Jul 21 06:24	0° <del>4</del> 08'38	18.30676 AU
opposition	3580 Jun 23 18:07	3° <del>3</del> 48'42	-0°09'39		3586 Jul 24 19:18	30° <del>8</del> <del>2</del>	
min. Earth dist.	3580 Jun 23 16:52	3° <del>3</del> 48'50	17.90308 AU	direct	3586 Oct 06 18:51	28° <del>3</del> 07'19	
direct	3580 Sep 08 23:10	1° <del>3</del> 45'58			3586 Dec 14 06:22	0° <del>4</del>	
evening set	3580 Dec 11 23:45	5° <del>3</del> 05'34		evening set	3587 Jan 07 09:38	1° <del>4</del> 19'52	
conjunction	3580 Dec 27 19:19	6° <del>3</del> 03'28	-0°10'28	conjunction	3587 Jan 23 01:42	2° <del>4</del> 16'03	-0°28'50
minimum elong	3580 Dec 27 19:19	6° <del>3</del> 03'28	0°10'28	minimum elong	3587 Jan 23 01:42	2° <del>4</del> 16'03	0°28'49
behind sun begin	3580 Dec 27 14:08	6° <del>3</del> 02'41		max. Earth dist.	3587 Jan 23 12:53	2° <del>4</del> 17'44	20.33899 AU
behind sun end	3580 Dec 28 00:30	6° <del>3</del> 04'14		morning rise	3587 Feb 07 17:18	3° <del>4</del> 12'09	
max. Earth dist.	3580 Dec 27 21:51	6° <del>3</del> 03'50	19.93637 AU	retrograde	3587 May 10 20:48	6° <del>4</del> 23'51	
morning rise	3581 Jan 12 12:51	7° <del>3</del> 01'05		opposition	3587 Jul 26 09:43	4° <del>4</del> 24'36	-0°33'23
retrograde	3581 Apr 14 00:31	10° <del>3</del> 16'13		min. Earth dist.	3587 Jul 25 21:23	4° <del>4</del> 25'51	18.37057 AU
opposition	3581 Jun 28 15:16	8° <del>3</del> 16'05	-0°13'27	direct	3587 Oct 11 12:18	2° <del>4</del> 24'37	
min. Earth dist.	3581 Jun 28 11:33	8° <del>3</del> 16'28	17.96960 AU	evening set	3588 Jan 11 20:22	5° <del>4</del> 36'00	
direct	3581 Sep 13 20:57	6° <del>3</del> 13'47					
evening set	3581 Dec 16 15:34	9° <del>3</del> 32'14		conjunction	3588 Jan 27 12:08	6° <del>4</del> 31'55	-0°31'22
				minimum elong	3588 Jan 27 12:07	6° <del>4</del> 31'55	0°31'22
conjunction	3582 Jan 01 10:20	10° <del>3</del> 29'50	-0°13'50	max. Earth dist.	3588 Jan 28 00:48	6° <del>4</del> 33'49	20.40173 AU
minimum elong	3582 Jan 01 10:20	10° <del>3</del> 29'50	0°13'49	morning rise	3588 Feb 12 03:37	7° <del>4</del> 27'48	
behind sun begin	3582 Jan 01 06:46	10° <del>3</del> 29'18		retrograde	3588 May 14 08:07	10° <del>4</del> 38'55	
behind sun end	3582 Jan 01 13:54	10° <del>3</del> 30'22		opposition	3588 Jul 30 02:26	8° <del>4</del> 39'43	-0°36'05
max. Earth dist.	3582 Jan 01 14:21	10° <del>3</del> 30'26	20.00364 AU	min. Earth dist.	3588 Jul 29 13:59	8° <del>4</del> 40'59	18.43240 AU
morning rise	3582 Jan 17 03:25	11° <del>3</del> 27'12		direct	3588 Oct 15 03:31	6° <del>4</del> 40'01	
retrograde	3582 Apr 18 17:17	14° <del>3</del> 41'45		evening set	3589 Jan 15 06:11	9° <del>4</del> 50'14	
opposition	3582 Jul 03 12:03	12° <del>3</del> 41'49	-0°17'08				
min. Earth dist.	3582 Jul 03 07:25	12° <del>3</del> 42'17	18.03752 AU	conjunction	3589 Jan 30 21:38	10° <del>4</del> 45'54	-0°33'42
direct	3582 Sep 18 16:06	10° <del>3</del> 39'56		minimum elong	3589 Jan 30 21:38	10° <del>4</del> 45'54	0°33'42
evening set	3582 Dec 21 06:18	13° <del>3</del> 57'13		max. Earth dist.	3589 Jan 31 11:15	10° <del>4</del> 47'55	20.46265 AU
				morning rise	3589 Feb 15 13:09	11° <del>4</del> 41'34	
conjunction	3583 Jan 06 00:28	14° <del>3</del> 54'31	-0°17'06	retrograde	3589 May 18 21:15	14° <del>4</del> 52'08	
minimum elong	3583 Jan 06 00:28	14° <del>3</del> 54'31	0°17'06	opposition	3589 Aug 03 18:15	12° <del>4</del> 52'57	-0°38'33
max. Earth dist.	3583 Jan 06 06:24	14° <del>3</del> 55'25	20.07190 AU	min. Earth dist.	3589 Aug 03 03:28	12° <del>4</del> 54'26	18.49246 AU
morning rise	3583 Jan 21 17:06	15° <del>3</del> 51'37		direct	3589 Oct 19 19:18	10° <del>4</del> 53'31	
retrograde	3583 Apr 23 10:03	19° <del>3</del> 05'36		evening set	3590 Jan 19 15:15	14° <del>4</del> 02'35	
opposition	3583 Jul 08 08:03	17° <del>3</del> 05'51	-0°20'43				
min. Earth dist.	3583 Jul 08 00:59	17° <del>3</del> 06'34	18.10585 AU	conjunction	3590 Feb 04 06:31	14° <del>4</del> 58'01	-0°35'50
direct	3583 Sep 23 12:33	15° <del>3</del> 04'24		minimum elong	3590 Feb 04 06:31	14° <del>4</del> 58'01	0°35'50
evening set	3583 Dec 25 20:25	18° <del>3</del> 20'31			3590 Feb 04 19:56	15° <del>4</del>	
				max. Earth dist.	3590 Feb 04 21:59	15° <del>4</del> 00'18	20.52184 AU
conjunction	3584 Jan 10 13:55	19° <del>3</del> 17'31	-0°20'15	morning rise	3590 Feb 19 22:02	15° <del>4</del> 53'29	
minimum elong	3584 Jan 10 13:55	19° <del>3</del> 17'31	0°20'15	retrograde	3590 May 23 06:56	19° <del>4</del> 03'31	
max. Earth dist.	3584 Jan 10 21:17	19° <del>3</del> 18'38	20.14011 AU	opposition	3590 Aug 08 09:27	17° <del>4</del> 04'21	-0°40'47
morning rise	3584 Jan 26 06:11	20° <del>3</del> 14'21		min. Earth dist.	3590 Aug 07 18:25	17° <del>4</del> 05'52	18.55106 AU
retrograde	3584 Apr 27 01:16	23° <del>3</del> 27'45		direct	3590 Oct 24 08:16	15° <del>4</del> 05'11	
opposition	3584 Jul 12 03:28	21° <del>3</del> 28'11	-0°24'08	evening set	3591 Jan 23 23:32	18° <del>4</del> 13'09	
min. Earth dist.	3584 Jul 11 19:57	21° <del>3</del> 28'57	18.17395 AU				



conjunction	3591 Feb 08 14:39	19° <del>08</del> '21 -0°37'46	retrograde	3597 Jun 21 06:01	17° <del>43</del> '27	
minimum elong	3591 Feb 08 14:39	19° <del>08</del> '21 0°37'46	min. Earth dist.	3597 Sep 06 02:59	15° <del>46</del> '56	18.90692 AU
max. Earth dist.	3591 Feb 09 06:59	19° <del>10</del> '46 20.57977 AU	opposition	3597 Sep 07 01:04	15° <del>44</del> '43	-0°49'46
morning rise	3591 Feb 24 06:21	20° <del>03</del> '38	direct	3597 Nov 22 09:30	13° <del>47</del> '33	
retrograde	3591 May 27 19:13	23° <del>13</del> '10	evening set	3598 Feb 20 19:18	16° <del>49</del> '23	
opposition	3591 Aug 12 23:45	21° <del>14</del> '02 -0°42'47				
min. Earth dist.	3591 Aug 12 06:25	21° <del>15</del> '47 18.60832 AU	conjunction	3598 Mar 08 11:23	17° <del>43</del> '32	-0°45'11
direct	3591 Oct 28 21:39	19° <del>15</del> '08	minimum elong	3598 Mar 08 11:23	17° <del>43</del> '32	0°45'11
evening set	3592 Jan 28 07:14	22° <del>22</del> '03	max. Earth dist.	3598 Mar 09 10:23	17° <del>46</del> '52	20.92583 AU
			morning rise	3598 Mar 24 05:30	18° <del>37</del> '58	
conjunction	3592 Feb 12 22:18	23° <del>17</del> '04 -0°39'29	retrograde	3598 Jun 25 13:50	21° <del>45</del> '08	
minimum elong	3592 Feb 12 22:18	23° <del>17</del> '04 0°39'28	opposition	3598 Sep 11 11:29	19° <del>46</del> '27	-0°50'05
max. Earth dist.	3592 Feb 13 16:28	23° <del>19</del> '44 20.63619 AU	min. Earth dist.	3598 Sep 10 13:59	19° <del>48</del> '36	18.94437 AU
morning rise	3592 Feb 28 14:05	24° <del>12</del> '10	direct	3598 Nov 26 17:08	17° <del>49</del> '31	
retrograde	3592 May 31 03:57	27° <del>21</del> '15	evening set	3599 Feb 25 00:20	20° <del>50</del> '42	
opposition	3592 Aug 16 13:25	25° <del>22</del> '10 -0°44'34				
min. Earth dist.	3592 Aug 15 19:54	25° <del>23</del> '56 18.66406 AU	conjunction	3599 Mar 12 16:46	21° <del>44</del> '45	-0°45'22
direct	3592 Nov 01 08:54	23° <del>23</del> '34	minimum elong	3599 Mar 12 16:46	21° <del>44</del> '45	0°45'22
evening set	3593 Jan 31 14:21	26° <del>29</del> '30	max. Earth dist.	3599 Mar 13 15:02	21° <del>47</del> '59	20.96088 AU
			morning rise	3599 Mar 28 11:35	22° <del>39</del> '09	
conjunction	3593 Feb 16 05:23	27° <del>24</del> '18 -0°40'59	retrograde	3599 Jun 29 23:53	25° <del>46</del> '07	
minimum elong	3593 Feb 16 05:23	27° <del>24</del> '18 0°40'59	opposition	3599 Sep 15 21:26	23° <del>47</del> '26	-0°50'08
max. Earth dist.	3593 Feb 17 00:08	27° <del>27</del> '04 20.69117 AU	min. Earth dist.	3599 Sep 14 23:16	23° <del>49</del> '39	18.97686 AU
morning rise	3593 Mar 03 21:29	28° <del>19</del> '16	direct	3599 Dec 01 01:22	21° <del>50</del> '40	
	3593 Apr 04 23:20	0° <del>27</del> '55	evening set	3600 Feb 29 05:04	24° <del>51</del> '16	
retrograde	3593 Jun 04 15:33	30° <del>30</del> '55				
	3593 Aug 08 01:17	29° <del>30</del> '52 18.71814 AU	conjunction	3600 Mar 15 22:01	25° <del>45</del> '16	-0°45'19
min. Earth dist.	3593 Aug 20 06:52	29° <del>28</del> '54 -0°46'05	minimum elong	3600 Mar 15 22:01	25° <del>45</del> '16	0°45'20
opposition	3593 Aug 21 02:28	27° <del>30</del> '36	max. Earth dist.	3600 Mar 16 21:01	25° <del>48</del> '35	20.99060 AU
direct	3593 Nov 05 20:07	0° <del>35</del> '35	morning rise	3600 Mar 31 17:20	26° <del>39</del> '37	
	3594 Jan 25 06:38	0° <del>35</del> '35	retrograde	3600 Jul 03 07:11	29° <del>46</del> '24	
evening set	3594 Feb 04 20:48	0° <del>35</del> '35	min. Earth dist.	3600 Sep 18 09:33	27° <del>49</del> '51	19.00392 AU
			opposition	3600 Sep 19 06:58	27° <del>47</del> '42	-0°49'58
conjunction	3594 Feb 20 11:58	1° <del>30</del> '14 -0°42'16	direct	3600 Dec 04 07:58	25° <del>51</del> '05	
minimum elong	3594 Feb 20 11:58	1° <del>30</del> '14 0°42'15	evening set	3601 Mar 04 09:40	28° <del>51</del> '06	
max. Earth dist.	3594 Feb 21 08:30	1° <del>33</del> '15 20.74411 AU				
morning rise	3594 Mar 08 04:18	2° <del>25</del> '03	conjunction	3601 Mar 20 03:04	29° <del>45</del> '04	-0°45'03
retrograde	3594 Jun 09 00:14	5° <del>33</del> '21	minimum elong	3601 Mar 20 03:04	29° <del>45</del> '04	0°45'03
opposition	3594 Aug 25 15:03	3° <del>34</del> '24 -0°47'22	max. Earth dist.	3601 Mar 21 01:13	29° <del>48</del> '15	21.01518 AU
min. Earth dist.	3594 Aug 24 19:25	3° <del>36</del> '22 18.76997 AU		3601 Mar 24 10:39	0° <del>39</del> '24	
direct	3594 Nov 10 06:09	1° <del>36</del> '25	morning rise	3601 Apr 04 23:11	0° <del>39</del> '24	
evening set	3595 Feb 09 02:58	4° <del>40</del> '31	retrograde	3601 Jul 07 16:24	3° <del>46</del> '02	
			opposition	3601 Sep 23 16:04	1° <del>47</del> '16	-0°49'32
conjunction	3595 Feb 24 18:14	5° <del>35</del> '00 -0°43'19	min. Earth dist.	3601 Sep 22 18:12	1° <del>49</del> '27	19.02596 AU
minimum elong	3595 Feb 24 18:14	5° <del>35</del> '00 0°43'19		3601 Nov 19 09:00	30° <del>49</del> '27	
max. Earth dist.	3595 Feb 25 14:57	5° <del>38</del> '02 20.79470 AU	direct	3601 Dec 08 15:37	29° <del>50</del> '43	
morning rise	3595 Mar 12 11:02	6° <del>29</del> '42		3601 Dec 27 16:53	0° <del>50</del> '43	
retrograde	3595 Jun 13 11:08	9° <del>37</del> '39				
min. Earth dist.	3595 Aug 29 05:33	7° <del>40</del> '55 18.81914 AU				
opposition	3595 Aug 30 02:44	7° <del>38</del> '47 -0°48'25				
direct	3595 Nov 14 15:45	5° <del>41</del> '05				
evening set	3596 Feb 13 08:43	8° <del>44</del> '23				
conjunction	3596 Feb 29 00:14	9° <del>38</del> '44 -0°44'10				
minimum elong	3596 Feb 29 00:14	9° <del>38</del> '44 0°44'10				
max. Earth dist.	3596 Feb 29 22:21	9° <del>41</del> '57 20.84217 AU				
morning rise	3596 Mar 15 17:22	10° <del>33</del> '20				
retrograde	3596 Jun 16 19:29	13° <del>40</del> '59				
opposition	3596 Sep 02 14:11	11° <del>42</del> '12 -0°49'13				
min. Earth dist.	3596 Sep 01 17:16	11° <del>44</del> '17 18.86493 AU				
direct	3596 Nov 18 00:42	9° <del>44</del> '47				
evening set	3597 Feb 16 14:07	12° <del>47</del> '18				
conjunction	3597 Mar 04 05:48	13° <del>41</del> '32 -0°44'47				
minimum elong	3597 Mar 04 05:48	13° <del>41</del> '32 0°44'47				
max. Earth dist.	3597 Mar 05 03:44	13° <del>44</del> '44 20.88613 AU				
morning rise	3597 Mar 19 23:29	14° <del>36</del> '03				