

	100 Jan 17 j 13:14	30°♄	max. Earth dist.	105 Jun 19 j 11:31	26°♄27'08	19.74552 AU
direct	100 Feb 07 j 22:54	29°♄47'54				
	100 Feb 29 j 08:08	0°♄	conjunction	105 Jun 20 j 08:53	26°♄30'23	0°16'31
evening set	100 May 10 j 18:15	3°♄01'31	minimum elong	105 Jun 20 j 08:53	26°♄30'23	0°16'31
			morning rise	105 Jul 07 j 03:04	27°♄31'02	
conjunction	100 May 27 j 12:56	4°♄01'01 -0°00'22		105 Aug 25 j 15:36	0°♄	
minimum elong	100 May 27 j 12:56	4°♄01'01 0°00'21	retrograde	105 Oct 08 j 01:47	0°♄49'47	
behind sun begin	100 May 27 j 06:11	4°♄00'02		105 Nov 21 j 07:36	30°♄	
behind sun end	100 May 27 j 19:41	4°♄01'59	opposition	105 Dec 21 j 02:42	28°♄47'31	0°20'08
max. Earth dist.	100 May 27 j 00:20	3°♄59'09 20.05240 AU	min. Earth dist.	105 Dec 21 j 21:35	28°♄45'28	17.71645 AU
morning rise	100 Jun 13 j 08:09	5°♄00'38	direct	106 Mar 06 j 06:43	26°♄43'24	
asc. node	100 Jul 04 j 06:41	6°♄10'13		106 Jun 07 j 07:22	0°♄	
retrograde	100 Sep 15 j 00:59	8°♄16'40	evening set	106 Jun 08 j 14:49	0°♄04'40	
opposition	100 Nov 28 j 19:06	6°♄14'35 0°01'30	max. Earth dist.	106 Jun 24 j 10:08	1°♄02'01	19.68778 AU
min. Earth dist.	100 Nov 29 j 05:43	6°♄13'26 18.02063 AU				
direct	101 Feb 11 j 14:18	4°♄12'12	conjunction	106 Jun 25 j 10:02	1°♄05'39	0°19'43
evening set	101 May 15 j 15:32	7°♄27'08	minimum elong	106 Jun 25 j 10:01	1°♄05'39	0°19'42
			morning rise	106 Jul 12 j 03:56	2°♄06'29	
conjunction	101 Jun 01 j 10:35	8°♄26'55 0°03'07	retrograde	106 Oct 12 j 22:42	5°♄25'41	
minimum elong	101 Jun 01 j 10:35	8°♄26'55 0°03'07	opposition	106 Dec 25 j 20:42	3°♄23'20	0°23'38
behind sun begin	101 Jun 01 j 03:49	8°♄25'56	min. Earth dist.	106 Dec 26 j 16:26	3°♄21'11	17.65994 AU
behind sun end	101 Jun 01 j 17:20	8°♄27'54	direct	107 Mar 11 j 03:53	1°♄18'49	
max. Earth dist.	101 May 31 j 20:23	8°♄24'48 19.98935 AU	evening set	107 Jun 13 j 16:39	4°♄41'15	
morning rise	101 Jun 18 j 05:43	9°♄26'46	max. Earth dist.	107 Jun 29 j 11:46	5°♄38'45	19.63246 AU
retrograde	101 Sep 19 j 18:43	12°♄43'23				
opposition	101 Dec 03 j 09:34	10°♄41'18 0°05'17	conjunction	107 Jun 30 j 11:50	5°♄42'26	0°22'48
min. Earth dist.	101 Dec 03 j 22:37	10°♄39'53 17.95807 AU	minimum elong	107 Jun 30 j 11:50	5°♄42'26	0°22'48
direct	102 Feb 16 j 05:05	8°♄38'36	morning rise	107 Jul 17 j 05:04	6°♄43'24	
evening set	102 May 20 j 13:36	11°♄54'49	retrograde	107 Oct 17 j 19:56	10°♄03'00	
			opposition	107 Dec 30 j 15:32	8°♄00'35	0°27'01
conjunction	102 Jun 06 j 08:50	12°♄54'53 0°06'31	min. Earth dist.	107 Dec 31 j 12:32	7°♄58'18	17.60607 AU
minimum elong	102 Jun 06 j 08:49	12°♄54'53 0°06'31	direct	108 Mar 15 j 01:09	5°♄55'43	
behind sun begin	102 Jun 06 j 02:28	12°♄53'57	evening set	108 Jun 17 j 19:19	9°♄19'15	
behind sun end	102 Jun 06 j 15:11	12°♄55'48	max. Earth dist.	108 Jul 03 j 11:40	10°♄16'34	19.58025 AU
max. Earth dist.	102 Jun 05 j 16:23	12°♄52'25 19.92722 AU				
morning rise	102 Jun 23 j 03:59	13°♄54'57	conjunction	108 Jul 04 j 13:58	10°♄20'36	0°25'45
retrograde	102 Sep 24 j 14:33	17°♄12'10	minimum elong	108 Jul 04 j 13:58	10°♄20'36	0°25'46
opposition	102 Dec 08 j 00:41	15°♄10'03 0°09'03	morning rise	108 Jul 21 j 06:42	11°♄21'41	
min. Earth dist.	102 Dec 08 j 14:32	15°♄08'33 17.89635 AU	retrograde	108 Oct 21 j 17:58	14°♄41'40	
direct	103 Feb 20 j 22:16	13°♄07'01	opposition	109 Jan 03 j 10:53	12°♄39'11	0°30'14
evening set	103 May 25 j 12:42	16°♄24'32	min. Earth dist.	109 Jan 04 j 08:40	12°♄36'48	17.55580 AU
			direct	109 Mar 19 j 23:23	10°♄33'57	
conjunction	103 Jun 11 j 08:10	17°♄24'52 0°09'53	evening set	109 Jun 22 j 22:13	13°♄58'32	
minimum elong	103 Jun 11 j 08:09	17°♄24'52 0°09'53				
behind sun begin	103 Jun 11 j 02:42	17°♄24'04	conjunction	109 Jul 09 j 16:36	15°♄00'02	0°28'33
behind sun end	103 Jun 11 j 13:37	17°♄25'40	minimum elong	109 Jul 09 j 16:36	15°♄00'02	0°28'32
max. Earth dist.	103 Jun 10 j 14:21	17°♄22'11 19.86571 AU	max. Earth dist.	109 Jul 08 j 14:44	14°♄56'03	19.53189 AU
morning rise	103 Jun 28 j 03:01	18°♄25'09	morning rise	109 Jul 26 j 08:27	16°♄01'13	
retrograde	103 Sep 29 j 09:36	21°♄42'54	retrograde	109 Oct 26 j 16:32	19°♄21'32	
opposition	103 Dec 12 j 16:36	19°♄40'45 0°12'49	opposition	110 Jan 08 j 07:05	17°♄19'00	0°33'15
min. Earth dist.	103 Dec 13 j 08:45	19°♄39'00 17.83528 AU	min. Earth dist.	110 Jan 09 j 05:20	17°♄16'34	17.50965 AU
direct	104 Feb 25 j 15:40	17°♄37'22	direct	110 Mar 24 j 21:52	15°♄13'28	
evening set	104 May 29 j 12:44	20°♄56'10	evening set	110 Jun 28 j 01:31	18°♄39'01	
max. Earth dist.	104 Jun 14 j 11:40	21°♄53'38 19.80510 AU				
			conjunction	110 Jul 14 j 19:11	19°♄40'38	0°31'09
conjunction	104 Jun 15 j 08:11	21°♄56'44 0°13'14	minimum elong	110 Jul 14 j 19:11	19°♄40'38	0°31'10
minimum elong	104 Jun 15 j 08:10	21°♄56'44 0°13'13	max. Earth dist.	110 Jul 13 j 15:45	19°♄36'23	19.48809 AU
behind sun begin	104 Jun 15 j 04:22	21°♄56'11	morning rise	110 Jul 31 j 10:23	20°♄41'54	
behind sun end	104 Jun 15 j 11:59	21°♄57'18	retrograde	110 Oct 31 j 15:21	24°♄02'33	
morning rise	104 Jul 02 j 02:55	22°♄57'13	opposition	111 Jan 13 j 03:53	21°♄59'58	0°36'04
retrograde	104 Oct 03 j 05:44	26°♄15'30	min. Earth dist.	111 Jan 14 j 02:46	21°♄57'28	17.46850 AU
opposition	104 Dec 16 j 09:15	24°♄13'17 0°16'30	direct	111 Mar 29 j 20:36	19°♄54'09	
min. Earth dist.	104 Dec 17 j 02:19	24°♄11'26 17.77521 AU	evening set	111 Jul 03 j 05:11	23°♄20'38	
direct	105 Mar 01 j 11:00	22°♄09'32				
evening set	105 Jun 03 j 13:23	25°♄29'35	conjunction	111 Jul 19 j 22:23	24°♄22'21	0°33'35

minimum elong	111 Jul 19 j 22:23	24° Ω 22'21	0°33'34	max. Earth dist.	117 Aug 16 j 17:33	22° Ω 47'42	19.33409 AU
max. Earth dist.	111 Jul 18 j 19:43	24° Ω 18'12	19.44952 AU	morning rise	117 Sep 03 j 03:35	23° Ω 52'59	
morning rise	111 Aug 05 j 12:36	25° Ω 23'40		retrograde	117 Dec 03 j 14:09	27° Ω 14'48	
retrograde	111 Nov 05 j 14:54	28° Ω 44'34		opposition	118 Feb 14 j 22:36	25° Ω 12'47	0°48'21
opposition	112 Jan 18 j 01:14	26° Ω 42'00	0°38'39	min. Earth dist.	118 Feb 15 j 20:29	25° Ω 10'24	17.33306 AU
min. Earth dist.	112 Jan 18 j 23:55	26° Ω 39'31	17.43265 AU	direct	118 May 02 j 09:22	23° Ω 06'29	
direct	112 Apr 02 j 20:41	24° Ω 35'59		evening set	118 Aug 06 j 12:23	26° Ω 36'57	
evening set	112 Jul 07 j 09:24	28° Ω 03'19					
max. Earth dist.	112 Jul 22 j 22:01	29° Ω 00'47	19.41650 AU	conjunction	118 Aug 22 j 23:00	27° Ω 38'34	0°43'38
				minimum elong	118 Aug 22 j 23:00	27° Ω 38'34	0°43'38
conjunction	112 Jul 24 j 01:44	29° Ω 05'06	0°35'47	max. Earth dist.	118 Aug 21 j 21:51	27° Ω 34'37	19.33217 AU
minimum elong	112 Jul 24 j 01:44	29° Ω 05'06	0°35'46	morning rise	118 Sep 08 j 05:34	28° Ω 39'37	
	112 Aug 07 j 20:38	0° Ω			118 Oct 01 j 06:55	0° Ω	
morning rise	112 Aug 09 j 15:04	0° Ω 06'28		retrograde	118 Dec 08 j 12:51	2° Ω 01'24	
retrograde	112 Nov 09 j 13:46	3° Ω 27'37		opposition	119 Feb 19 j 23:54	29° Ω 59'29	0°48'52
opposition	113 Jan 21 j 23:24	1° Ω 25'06	0°40'59		119 Feb 19 j 19:07	30° Ω	
min. Earth dist.	113 Jan 22 j 22:42	1° Ω 22'33	17.40265 AU	min. Earth dist.	119 Feb 20 j 22:21	29° Ω 57'03	17.33343 AU
	113 Feb 26 j 14:22	30° Ω		direct	119 May 07 j 11:52	27° Ω 53'12	
direct	113 Apr 07 j 20:00	29° Ω 18'55			119 Jul 18 j 14:09	0° Ω	
	113 May 17 j 13:20	0° Ω		evening set	119 Aug 11 j 16:33	1° Ω 23'47	
evening set	113 Jul 12 j 13:33	2° Ω 47'03		max. Earth dist.	119 Aug 27 j 00:47	2° Ω 21'19	19.33487 AU
max. Earth dist.	113 Jul 28 j 02:22	3° Ω 44'41	19.38937 AU				
				conjunction	119 Aug 28 j 01:55	2° Ω 25'16	0°43'56
conjunction	113 Jul 29 j 05:11	3° Ω 48'52	0°37'45	minimum elong	119 Aug 28 j 01:55	2° Ω 25'16	0°43'55
minimum elong	113 Jul 29 j 05:11	3° Ω 48'52	0°37'45	morning rise	119 Sep 13 j 07:25	3° Ω 26'11	
morning rise	113 Aug 14 j 17:26	4° Ω 50'14		retrograde	119 Dec 13 j 13:46	6° Ω 47'52	
retrograde	113 Nov 14 j 14:14	8° Ω 11'37		opposition	120 Feb 25 j 01:13	4° Ω 46'02	0°49'01
opposition	114 Jan 26 j 22:06	6° Ω 09'11	0°43'04	min. Earth dist.	120 Feb 25 j 22:05	4° Ω 43'46	17.33835 AU
min. Earth dist.	114 Jan 27 j 20:42	6° Ω 06'42	17.37831 AU	direct	120 May 11 j 17:13	2° Ω 39'48	
direct	114 Apr 12 j 22:10	4° Ω 02'56		evening set	120 Aug 15 j 20:10	6° Ω 10'20	
evening set	114 Jul 17 j 18:07	7° Ω 31'44		max. Earth dist.	120 Aug 31 j 05:13	7° Ω 08'01	19.34211 AU
max. Earth dist.	114 Aug 02 j 05:38	8° Ω 29'20	19.36784 AU				
				conjunction	120 Sep 01 j 04:31	7° Ω 11'41	0°43'55
conjunction	114 Aug 03 j 08:48	8° Ω 33'35	0°39'29	minimum elong	120 Sep 01 j 04:31	7° Ω 11'41	0°43'56
minimum elong	114 Aug 03 j 08:48	8° Ω 33'35	0°39'28	morning rise	120 Sep 17 j 08:40	8° Ω 12'28	
morning rise	114 Aug 19 j 20:01	9° Ω 34'55		retrograde	120 Dec 17 j 12:37	11° Ω 33'59	
retrograde	114 Nov 19 j 12:58	12° Ω 56'30		opposition	121 Mar 01 j 03:01	9° Ω 32'13	0°48'51
opposition	115 Jan 31 j 21:23	10° Ω 54'10	0°44'51	min. Earth dist.	121 Mar 01 j 23:57	9° Ω 29'57	17.34796 AU
min. Earth dist.	115 Feb 01 j 20:47	10° Ω 51'36	17.35962 AU	direct	121 May 16 j 20:15	7° Ω 26'03	
direct	115 Apr 17 j 22:37	8° Ω 47'51		evening set	121 Aug 20 j 23:12	10° Ω 56'25	
evening set	115 Jul 22 j 22:45	12° Ω 17'17		max. Earth dist.	121 Sep 05 j 07:10	11° Ω 53'58	19.35426 AU
max. Earth dist.	115 Aug 07 j 09:53	13° Ω 14'56	19.35177 AU				
				conjunction	121 Sep 06 j 06:12	11° Ω 57'35	0°43'37
conjunction	115 Aug 08 j 12:32	13° Ω 19'06	0°40'56	minimum elong	121 Sep 06 j 06:12	11° Ω 57'35	0°43'36
minimum elong	115 Aug 08 j 12:32	13° Ω 19'06	0°40'57	morning rise	121 Sep 22 j 09:23	12° Ω 58'13	
morning rise	115 Aug 24 j 22:41	14° Ω 20'24		retrograde	121 Dec 22 j 12:50	16° Ω 19'32	
	115 Sep 04 j 23:16	15° Ω		opposition	122 Mar 06 j 04:42	14° Ω 17'48	0°48'20
retrograde	115 Nov 24 j 14:01	17° Ω 42'07		min. Earth dist.	122 Mar 06 j 23:45	14° Ω 15'45	17.36257 AU
opposition	116 Feb 05 j 21:14	15° Ω 39'54	0°46'20	direct	122 May 22 j 00:33	12° Ω 11'43	
min. Earth dist.	116 Feb 06 j 19:42	15° Ω 37'27	17.34599 AU	evening set	122 Aug 26 j 01:33	15° Ω 41'47	
	116 Feb 21 j 09:29	15° Ω		max. Earth dist.	122 Sep 10 j 11:03	16° Ω 39'33	19.37142 AU
direct	116 Apr 22 j 02:32	13° Ω 33'35					
	116 Jun 19 j 16:00	15° Ω		conjunction	122 Sep 11 j 07:34	16° Ω 42'47	0°43'00
evening set	116 Jul 27 j 03:29	17° Ω 03'29		minimum elong	122 Sep 11 j 07:34	16° Ω 42'47	0°43'00
				morning rise	122 Sep 27 j 09:27	17° Ω 43'13	
conjunction	116 Aug 12 j 16:14	18° Ω 05'15	0°42'08	retrograde	122 Dec 27 j 11:42	21° Ω 04'15	
minimum elong	116 Aug 12 j 16:14	18° Ω 05'15	0°42'08	opposition	123 Mar 11 j 06:22	19° Ω 02'36	0°47'28
max. Earth dist.	116 Aug 11 j 13:50	18° Ω 01'07	19.34050 AU	min. Earth dist.	123 Mar 12 j 00:54	19° Ω 00'36	17.38230 AU
morning rise	116 Aug 29 j 01:09	19° Ω 06'30		direct	123 May 27 j 03:33	16° Ω 56'37	
retrograde	116 Nov 28 j 12:51	22° Ω 28'18		evening set	123 Aug 31 j 03:24	20° Ω 26'17	
opposition	117 Feb 09 j 21:46	20° Ω 26'11	0°47'31				
min. Earth dist.	117 Feb 10 j 21:00	20° Ω 23'39	17.33720 AU	conjunction	123 Sep 16 j 08:04	21° Ω 27'04	0°42'05
direct	117 Apr 27 j 04:15	18° Ω 19'52		minimum elong	123 Sep 16 j 08:04	21° Ω 27'04	0°42'06
evening set	117 Aug 01 j 08:07	21° Ω 50'07		max. Earth dist.	123 Sep 15 j 12:03	21° Ω 23'55	19.39393 AU
				morning rise	123 Oct 02 j 09:00	22° Ω 27'18	
conjunction	117 Aug 17 j 19:45	22° Ω 51'49	0°43'02	retrograde	124 Jan 01 j 11:02	25° Ω 48'03	
minimum elong	117 Aug 17 j 19:45	22° Ω 51'49	0°43'02	opposition	124 Mar 15 j 08:03	23° Ω 46'27	0°46'18

min. Earth dist.	124 Mar 16 j 00:32	23° 10 44'40	17.40758 AU	conjunction	130 Oct 18 j 14:36	24° 05 05'08	0°28'40
direct	124 May 31 j 06:34	21° 10 40'37		minimum elong	130 Oct 18 j 14:36	24° 05 05'08	0°28'40
evening set	124 Sep 04 j 04:15	25° 10 09'46		max. Earth dist.	130 Oct 18 j 09:13	24° 04 04'17	19.69456 AU
				morning rise	130 Nov 03 j 08:56	25° 03 03'41	
conjunction	124 Sep 20 j 07:53	26° 10 10'20	0°40'54	retrograde	131 Feb 02 j 14:48	28° 02 21'33	
minimum elong	124 Sep 20 j 07:53	26° 10 10'20	0°40'54	opposition	131 Apr 18 j 14:54	26° 02 20'59	0°30'24
max. Earth dist.	124 Sep 19 j 14:56	26° 10 07'40	19.42202 AU	min. Earth dist.	131 Apr 18 j 18:39	26° 02 20'36	17.72263 AU
morning rise	124 Oct 06 j 07:33	27° 10 10'21		direct	131 Jul 04 j 22:06	24° 02 17'30	
	124 Dec 03 j 01:42	0° 02		evening set	131 Oct 07 j 12:50	27° 02 40'44	
retrograde	125 Jan 05 j 09:43	0° 02 30'45					
	125 Feb 08 j 12:46	30° 08		conjunction	131 Oct 23 j 09:01	28° 03 39'23	0°25'55
opposition	125 Mar 20 j 09:47	28° 08 29'15	0°44'49	minimum elong	131 Oct 23 j 09:01	28° 03 39'23	0°25'54
min. Earth dist.	125 Mar 21 j 00:52	28° 08 27'38	17.43843 AU	max. Earth dist.	131 Oct 23 j 05:13	28° 03 38'48	19.75135 AU
direct	125 Jun 05 j 10:03	26° 08 23'39		morning rise	131 Nov 08 j 02:39	29° 03 37'41	
evening set	125 Sep 09 j 04:33	29° 08 52'11			131 Nov 14 j 07:22	0° 03	
	125 Sep 11 j 07:19	0° 03		retrograde	132 Feb 07 j 09:19	2° 03 55'02	
				opposition	132 Apr 22 j 14:45	0° 03 54'37	0°27'15
conjunction	125 Sep 25 j 06:52	0° 03 52'30	0°39'27	min. Earth dist.	132 Apr 22 j 17:33	0° 03 54'19	17.78034 AU
minimum elong	125 Sep 25 j 06:52	0° 03 52'30	0°39'27		132 May 15 j 05:18	30° 08	
max. Earth dist.	125 Sep 24 j 14:50	0° 03 49'59	19.45581 AU	direct	132 Jul 08 j 20:35	28° 05 51'29	
morning rise	125 Oct 11 j 05:38	1° 03 52'17			132 Aug 30 j 02:18	0° 03	
retrograde	126 Jan 10 j 07:32	5° 03 12'21		evening set	132 Oct 11 j 07:08	2° 03 13'36	
opposition	126 Mar 25 j 11:09	3° 03 10'57	0°43'03				
min. Earth dist.	126 Mar 26 j 00:13	3° 03 09'33	17.47506 AU	conjunction	132 Oct 27 j 02:29	3° 03 11'57	0°23'02
direct	126 Jun 10 j 12:19	1° 03 05'37		minimum elong	132 Oct 27 j 02:29	3° 03 11'57	0°23'02
evening set	126 Sep 14 j 03:50	4° 03 33'28		max. Earth dist.	132 Oct 27 j 00:38	3° 03 11'40	19.80982 AU
				morning rise	132 Nov 11 j 19:30	4° 03 09'59	
conjunction	126 Sep 30 j 05:13	5° 03 33'32	0°37'44	retrograde	133 Feb 11 j 05:06	7° 03 26'48	
minimum elong	126 Sep 30 j 05:13	5° 03 33'32	0°37'44	opposition	133 Apr 27 j 13:57	5° 03 26'30	0°23'57
max. Earth dist.	126 Sep 29 j 16:12	5° 03 31'30	19.49517 AU	min. Earth dist.	133 Apr 27 j 14:04	5° 03 26'29	17.83931 AU
morning rise	126 Oct 16 j 02:54	6° 03 33'05		direct	133 Jul 13 j 21:01	3° 03 23'44	
retrograde	127 Jan 15 j 05:28	9° 03 52'45		evening set	133 Oct 16 j 00:38	6° 03 44'40	
opposition	127 Mar 30 j 12:27	7° 03 51'31	0°41'00				
min. Earth dist.	127 Mar 30 j 23:41	7° 03 50'19	17.51677 AU	conjunction	133 Oct 31 j 19:12	7° 03 42'43	0°20'00
direct	127 Jun 15 j 15:57	5° 03 46'31		minimum elong	133 Oct 31 j 19:13	7° 03 42'43	0°20'01
evening set	127 Sep 19 j 02:33	9° 03 13'36		max. Earth dist.	133 Oct 31 j 19:13	7° 03 42'43	19.86930 AU
				morning rise	133 Nov 16 j 11:40	8° 03 40'30	
conjunction	127 Oct 05 j 02:41	10° 03 13'24	0°35'48	retrograde	134 Feb 15 j 22:04	11° 03 56'45	
minimum elong	127 Oct 05 j 02:41	10° 03 13'24	0°35'47	opposition	134 May 02 j 12:32	9° 03 56'32	0°20'31
max. Earth dist.	127 Oct 04 j 14:50	10° 03 11'33	19.53935 AU	min. Earth dist.	134 May 02 j 11:56	9° 03 56'35	17.89930 AU
morning rise	127 Oct 20 j 23:31	11° 03 12'42		direct	134 Jul 18 j 17:51	7° 03 54'05	
retrograde	128 Jan 20 j 02:01	14° 03 31'58		evening set	134 Oct 20 j 17:09	11° 03 13'49	
opposition	128 Apr 03 j 13:30	12° 03 30'54	0°38'42				
min. Earth dist.	128 Apr 03 j 23:06	12° 03 29'53	17.56318 AU	conjunction	134 Nov 05 j 11:00	12° 03 11'35	0°16'53
direct	128 Jun 19 j 17:29	10° 03 26'15		minimum elong	134 Nov 05 j 11:00	12° 03 11'35	0°16'53
evening set	128 Sep 23 j 00:20	13° 03 52'30		max. Earth dist.	134 Nov 05 j 12:34	12° 03 11'49	19.92974 AU
				morning rise	134 Nov 21 j 03:03	13° 03 09'06	
conjunction	128 Oct 08 j 23:30	14° 03 52'01	0°33'37		134 Dec 25 j 03:07	15° 03	
minimum elong	128 Oct 08 j 23:30	14° 03 52'01	0°33'37	retrograde	135 Feb 20 j 16:54	16° 03 24'45	
max. Earth dist.	128 Oct 08 j 14:26	14° 03 50'36	19.58786 AU		135 Apr 22 j 22:41	15° 03	
morning rise	128 Oct 24 j 19:23	15° 03 51'04		opposition	135 May 07 j 10:25	14° 03 24'36	0°16'59
retrograde	129 Jan 23 j 23:00	19° 03 09'54		min. Earth dist.	135 May 07 j 07:01	14° 03 24'57	17.95999 AU
opposition	129 Apr 08 j 14:22	17° 03 09'01	0°36'09	direct	135 Jul 23 j 16:54	12° 03 22'29	
min. Earth dist.	129 Apr 08 j 21:45	17° 03 08'14	17.61340 AU		135 Oct 13 j 16:15	15° 03	
direct	129 Jun 24 j 20:30	15° 03 04'46		evening set	135 Oct 25 j 08:35	15° 03 40'57	
evening set	129 Sep 27 j 21:17	18° 03 30'03					
				conjunction	135 Nov 10 j 01:48	16° 03 38'26	0°13'41
conjunction	129 Oct 13 j 19:21	19° 03 29'18	0°31'14	minimum elong	135 Nov 10 j 01:48	16° 03 38'26	0°13'41
minimum elong	129 Oct 13 j 19:21	19° 03 29'18	0°31'13	behind sun begin	135 Nov 09 j 22:08	16° 03 37'53	
max. Earth dist.	129 Oct 13 j 11:42	19° 03 28'06	19.63978 AU	behind sun end	135 Nov 10 j 05:28	16° 03 38'59	
morning rise	129 Oct 29 j 14:29	20° 03 28'06		max. Earth dist.	135 Nov 10 j 05:40	16° 03 39'01	19.99079 AU
retrograde	130 Jan 28 j 18:32	23° 03 46'29		morning rise	135 Nov 25 j 17:23	17° 03 35'42	
opposition	130 Apr 13 j 14:55	21° 03 45'45	0°33'22	retrograde	136 Feb 25 j 08:08	20° 03 50'46	
min. Earth dist.	130 Apr 13 j 21:04	21° 03 45'06	17.66685 AU	opposition	136 May 11 j 07:50	18° 03 50'40	0°13'22
direct	130 Jun 29 j 20:33	19° 03 41'52		min. Earth dist.	136 May 11 j 03:36	18° 03 51'06	18.02152 AU
evening set	130 Oct 02 j 17:26	23° 03 40'11		direct	136 Jul 27 j 12:22	16° 03 48'52	
				evening set	136 Oct 28 j 23:06	20° 03 06'04	

conjunction	136 Nov 13 j 15:40	21° \mathbb{M} 03'15	0°10'26	behind sun end	141 Dec 05 j 07:15	12° \mathbb{X} 40'08	
minimum elong	136 Nov 13 j 15:40	21° \mathbb{M} 03'15	0°10'25	max. Earth dist.	141 Dec 05 j 17:00	12° \mathbb{X} 41'37	20.37605 AU
behind sun begin	136 Nov 13 j 10:28	21° \mathbb{M} 02'29		morning rise	141 Dec 20 j 15:46	13° \mathbb{X} 35'08	
behind sun end	136 Nov 13 j 20:52	21° \mathbb{M} 04'02		retrograde	142 Mar 23 j 00:58	16° \mathbb{X} 46'54	
max. Earth dist.	136 Nov 13 j 21:06	21° \mathbb{M} 04'04	20.05287 AU	min. Earth dist.	142 Jun 07 j 08:42	14° \mathbb{X} 48'58	18.40835 AU
morning rise	136 Nov 29 j 07:01	22° \mathbb{M} 00'16		opposition	142 Jun 08 j 00:18	14° \mathbb{X} 47'23	-0°08'32
retrograde	137 Mar 01 j 01:36	25° \mathbb{M} 14'44		direct	142 Aug 23 j 23:13	12° \mathbb{X} 47'53	
opposition	137 May 16 j 04:19	23° \mathbb{M} 14'41	0°09'43	evening set	142 Nov 23 j 19:59	15° \mathbb{X} 57'52	
min. Earth dist.	137 May 15 j 21:03	23° \mathbb{M} 15'25	18.08409 AU				
direct	137 Aug 01 j 09:39	21° \mathbb{M} 13'13		conjunction	142 Dec 09 j 10:27	16° \mathbb{X} 53'31	-0°09'20
evening set	137 Nov 02 j 12:33	24° \mathbb{M} 29'08		minimum elong	142 Dec 09 j 10:26	16° \mathbb{X} 53'31	0°09'20
				behind sun begin	142 Dec 09 j 04:55	16° \mathbb{X} 52'43	
conjunction	137 Nov 18 j 04:41	25° \mathbb{M} 26'04	0°07'08	behind sun end	142 Dec 09 j 15:58	16° \mathbb{X} 54'20	
minimum elong	137 Nov 18 j 04:40	25° \mathbb{M} 26'03	0°07'09	max. Earth dist.	142 Dec 10 j 03:02	16° \mathbb{X} 56'00	20.44056 AU
behind sun begin	137 Nov 17 j 22:37	25° \mathbb{M} 25'09		morning rise	142 Dec 25 j 01:24	17° \mathbb{X} 49'15	
behind sun end	137 Nov 18 j 10:44	25° \mathbb{M} 26'57		retrograde	143 Mar 27 j 14:28	21° \mathbb{X} 00'33	
max. Earth dist.	137 Nov 18 j 12:47	25° \mathbb{M} 27'17	20.11591 AU	opposition	143 Jun 12 j 16:39	19° \mathbb{X} 01'10	-0°12'03
morning rise	137 Dec 03 j 19:42	26° \mathbb{M} 22'50		min. Earth dist.	143 Jun 11 j 22:51	19° \mathbb{X} 02'58	18.47221 AU
retrograde	138 Mar 05 j 15:48	29° \mathbb{M} 36'43		direct	143 Aug 28 j 14:20	17° \mathbb{X} 02'03	
opposition	138 May 21 j 00:13	27° \mathbb{M} 36'43	0°06'02	evening set	143 Nov 28 j 04:51	20° \mathbb{X} 10'56	
min. Earth dist.	138 May 20 j 15:58	27° \mathbb{M} 37'34	18.14774 AU				
direct	138 Aug 06 j 03:14	25° \mathbb{M} 35'37		conjunction	143 Dec 13 j 19:18	21° \mathbb{X} 06'23	-0°12'28
evening set	138 Nov 07 j 01:15	28° \mathbb{M} 50'18		minimum elong	143 Dec 13 j 19:18	21° \mathbb{X} 06'23	0°12'29
				behind sun begin	143 Dec 13 j 14:58	21° \mathbb{X} 05'45	
conjunction	138 Nov 22 j 16:49	29° \mathbb{M} 46'56	0°03'51	behind sun end	143 Dec 13 j 23:39	21° \mathbb{X} 07'01	
minimum elong	138 Nov 22 j 16:49	29° \mathbb{M} 46'56	0°03'50	max. Earth dist.	143 Dec 14 j 14:18	21° \mathbb{X} 09'13	20.50343 AU
behind sun begin	138 Nov 22 j 10:21	29° \mathbb{M} 45'58		morning rise	143 Dec 29 j 10:17	22° \mathbb{X} 01'56	
behind sun end	138 Nov 22 j 23:17	29° \mathbb{M} 47'53		retrograde	144 Mar 31 j 02:21	25° \mathbb{X} 12'47	
max. Earth dist.	138 Nov 23 j 02:18	29° \mathbb{M} 48'21	20.18012 AU	opposition	144 Jun 16 j 08:30	23° \mathbb{X} 13'32	-0°15'29
	138 Nov 26 j 06:43	0° \mathbb{X}		min. Earth dist.	144 Jun 15 j 14:07	23° \mathbb{X} 15'23	18.53408 AU
morning rise	138 Dec 08 j 07:44	0° \mathbb{X} 43'29		direct	144 Sep 01 j 04:17	21° \mathbb{X} 14'47	
retrograde	139 Mar 10 j 07:46	3° \mathbb{X} 56'47		evening set	144 Dec 01 j 13:24	24° \mathbb{X} 22'36	
opposition	139 May 25 j 19:09	1° \mathbb{X} 56'54	0°02'21				
min. Earth dist.	139 May 25 j 07:55	1° \mathbb{X} 58'03	18.21241 AU	conjunction	144 Dec 17 j 03:41	25° \mathbb{X} 17'51	-0°15'31
	139 Jul 29 j 15:14	30° \mathbb{R} \mathbb{M}		minimum elong	144 Dec 17 j 03:41	25° \mathbb{X} 17'51	0°15'31
direct	139 Aug 10 j 22:42	29° \mathbb{M} 56'10		behind sun begin	144 Dec 17 j 01:38	25° \mathbb{X} 17'33	
	139 Aug 23 j 03:50	0° \mathbb{X}		behind sun end	144 Dec 17 j 05:44	25° \mathbb{X} 18'08	
evening set	139 Nov 11 j 13:03	3° \mathbb{X} 09'38		max. Earth dist.	144 Dec 17 j 22:52	25° \mathbb{X} 20'41	20.56412 AU
				morning rise	145 Jan 01 j 19:02	26° \mathbb{X} 13'13	
conjunction	139 Nov 27 j 04:21	4° \mathbb{X} 06'01	0°00'29	retrograde	145 Apr 04 j 14:31	29° \mathbb{X} 23'39	
minimum elong	139 Nov 27 j 04:20	4° \mathbb{X} 06'01	0°00'28	opposition	145 Jun 20 j 23:29	27° \mathbb{X} 24'29	-0°18'49
behind sun begin	139 Nov 26 j 21:48	4° \mathbb{X} 05'03		min. Earth dist.	145 Jun 20 j 03:27	27° \mathbb{X} 26'29	18.59350 AU
behind sun end	139 Nov 27 j 10:51	4° \mathbb{X} 06'58		direct	145 Sep 05 j 17:24	25° \mathbb{X} 26'04	
max. Earth dist.	139 Nov 27 j 16:34	4° \mathbb{X} 07'51	20.24514 AU	evening set	145 Dec 05 j 21:15	28° \mathbb{X} 32'52	
morning rise	139 Dec 12 j 19:01	5° \mathbb{X} 02'20					
desc. node	140 Jan 17 j 14:31	6° \mathbb{X} 56'06		conjunction	145 Dec 21 j 11:43	29° \mathbb{X} 27'55	-0°18'28
retrograde	140 Mar 13 j 21:23	8° \mathbb{X} 15'07		minimum elong	145 Dec 21 j 11:43	29° \mathbb{X} 27'55	0°18'29
opposition	140 May 29 j 13:41	6° \mathbb{X} 15'20	-0°01'19	max. Earth dist.	145 Dec 22 j 08:51	29° \mathbb{X} 31'02	20.62185 AU
min. Earth dist.	140 May 29 j 01:28	6° \mathbb{X} 16'35	18.27778 AU		145 Dec 30 j 12:43	0° \mathbb{Z}	
direct	140 Aug 14 j 14:49	4° \mathbb{X} 15'00		morning rise	146 Jan 06 j 03:13	0° \mathbb{Z} 23'08	
evening set	140 Nov 15 j 00:00	7° \mathbb{X} 27'16		retrograde	146 Apr 09 j 01:16	3° \mathbb{Z} 33'07	
				opposition	146 Jun 25 j 13:56	1° \mathbb{Z} 34'02	-0°22'02
conjunction	140 Nov 30 j 14:52	8° \mathbb{X} 23'24	-0°02'54	min. Earth dist.	146 Jun 24 j 17:32	1° \mathbb{Z} 36'05	18.64955 AU
minimum elong	140 Nov 30 j 14:52	8° \mathbb{X} 23'24	0°02'54		146 Aug 09 j 16:01	30° \mathbb{R} \mathbb{X}	
behind sun begin	140 Nov 30 j 08:22	8° \mathbb{X} 22'26		direct	146 Sep 10 j 05:50	29° \mathbb{X} 35'55	
behind sun end	140 Nov 30 j 21:23	8° \mathbb{X} 24'21			146 Oct 10 j 22:42	0° \mathbb{Z}	
max. Earth dist.	140 Dec 01 j 04:15	8° \mathbb{X} 25'24	20.31073 AU	evening set	146 Dec 10 j 04:41	2° \mathbb{Z} 41'43	
morning rise	140 Dec 16 j 05:41	9° \mathbb{X} 19'31					
retrograde	141 Mar 18 j 12:17	12° \mathbb{X} 31'47		conjunction	146 Dec 25 j 19:06	3° \mathbb{Z} 36'35	-0°21'19
opposition	141 Jun 03 j 07:21	10° \mathbb{X} 32'08	-0°04'57	minimum elong	146 Dec 25 j 19:06	3° \mathbb{Z} 36'35	0°21'20
min. Earth dist.	141 Jun 02 j 16:27	10° \mathbb{X} 33'39	18.34336 AU	max. Earth dist.	146 Dec 26 j 16:02	3° \mathbb{Z} 39'40	20.67610 AU
direct	141 Aug 19 j 08:10	8° \mathbb{X} 32'12		morning rise	147 Jan 10 j 11:06	4° \mathbb{Z} 31'40	
evening set	141 Nov 19 j 10:17	11° \mathbb{X} 43'19		retrograde	147 Apr 13 j 12:39	7° \mathbb{Z} 41'15	
				min. Earth dist.	147 Jun 29 j 06:03	5° \mathbb{Z} 44'21	18.70201 AU
conjunction	141 Dec 05 j 01:02	12° \mathbb{X} 39'13	-0°06'09	opposition	147 Jun 30 j 03:40	5° \mathbb{Z} 42'11	-0°25'07
minimum elong	141 Dec 05 j 01:02	12° \mathbb{X} 39'13	0°06'09	direct	147 Sep 14 j 17:30	3° \mathbb{Z} 44'19	
behind sun begin	141 Dec 04 j 18:49	12° \mathbb{X} 38'18		evening set	147 Dec 14 j 11:30	6° \mathbb{Z} 49'08	

conjunction	147 Dec 30 j 02:15	7°343'51 -0°24'02	retrograde	154 May 12 j 04:57	6°02'35	
minimum elong	147 Dec 30 j 02:14	7°343'51 0°24'02	min. Earth dist.	154 Jul 28 j 08:07	4°05'57	18.97454 AU
max. Earth dist.	147 Dec 31 j 00:59	7°347'11 20.72657 AU	opposition	154 Jul 29 j 09:33	4°03'24	-0°41'54
morning rise	148 Jan 14 j 18:30	8°338'48	direct	154 Oct 13 j 07:41	2°06'43	
retrograde	148 Apr 16 j 22:04	11°347'58	evening set	155 Jan 10 j 23:54	5°06'22	
opposition	148 Jul 03 j 16:47	9°348'55 -0°28'03				
min. Earth dist.	148 Jul 02 j 18:50	9°351'07 18.75058 AU	conjunction	155 Jan 26 j 17:26	6°00'25	-0°38'40
direct	148 Sep 18 j 04:24	7°351'16	minimum elong	155 Jan 26 j 17:26	6°00'25	0°38'40
evening set	148 Dec 17 j 17:50	10°355'08	max. Earth dist.	155 Jan 27 j 19:41	6°04'12	20.98781 AU
			morning rise	155 Feb 11 j 14:15	6°54'54	
conjunction	149 Jan 02 j 08:42	11°349'42 -0°26'37	retrograde	155 May 16 j 14:14	10°02'08	
minimum elong	149 Jan 02 j 08:42	11°349'42 0°26'38	opposition	155 Aug 02 j 18:40	8°02'59	-0°43'31
max. Earth dist.	149 Jan 03 j 07:09	11°352'59 20.77334 AU	min. Earth dist.	155 Aug 01 j 17:10	8°05'32	19.00109 AU
morning rise	149 Jan 18 j 01:38	12°344'32	direct	155 Oct 17 j 13:13	6°06'27	
retrograde	149 Apr 21 j 08:49	15°353'19	evening set	156 Jan 15 j 04:15	9°05'40	
min. Earth dist.	149 Jul 07 j 06:19	13°356'31 18.79561 AU				
opposition	149 Jul 08 j 05:10	13°354'14 -0°30'49	conjunction	156 Jan 30 j 22:35	9°59'42	-0°40'03
direct	149 Sep 22 j 14:35	11°356'44	minimum elong	156 Jan 30 j 22:35	9°59'42	0°40'03
evening set	149 Dec 21 j 23:38	14°359'44	max. Earth dist.	156 Feb 01 j 02:06	10°03'39	21.01247 AU
			morning rise	156 Feb 15 j 20:03	10°54'11	
conjunction	150 Jan 06 j 14:57	15°354'10 -0°29'03	retrograde	156 May 19 j 22:26	14°01'19	
minimum elong	150 Jan 06 j 14:57	15°354'10 0°29'03	min. Earth dist.	156 Aug 05 j 01:40	12°04'46	19.02378 AU
max. Earth dist.	150 Jan 07 j 15:14	15°357'43 20.81652 AU	opposition	156 Aug 06 j 03:17	12°02'12	-0°44'56
morning rise	150 Jan 22 j 08:15	16°348'54	direct	156 Oct 20 j 19:57	10°05'50	
retrograde	150 Apr 25 j 17:13	19°357'18	evening set	157 Jan 18 j 08:48	13°04'41	
opposition	150 Jul 12 j 16:42	17°358'11 -0°33'25				
min. Earth dist.	150 Jul 11 j 17:25	18°300'30 18.83717 AU	conjunction	157 Feb 03 j 03:42	13°58'43	-0°41'14
direct	150 Sep 27 j 00:17	16°300'51	minimum elong	157 Feb 03 j 03:42	13°58'43	0°41'14
evening set	150 Dec 26 j 05:08	19°303'01	max. Earth dist.	157 Feb 04 j 06:00	14°02'29	21.03314 AU
			morning rise	157 Feb 19 j 02:10	14°53'13	
conjunction	151 Jan 10 j 20:39	19°357'20 -0°31'19		157 Feb 21 j 02:45	15°	
minimum elong	151 Jan 10 j 20:39	19°357'20 0°31'20	retrograde	157 May 24 j 07:52	18°00'19	
max. Earth dist.	151 Jan 11 j 20:40	20°300'50 20.85659 AU	min. Earth dist.	157 Aug 09 j 10:36	16°03'44	19.04229 AU
morning rise	151 Jan 26 j 14:41	20°351'59	opposition	157 Aug 10 j 11:40	16°01'14	-0°46'08
retrograde	151 Apr 30 j 03:05	24°300'04		157 Sep 06 j 07:21	15°R	
min. Earth dist.	151 Jul 16 j 03:43	22°303'18 18.87588 AU	direct	157 Oct 25 j 01:14	14°04'59	
opposition	151 Jul 17 j 03:48	22°300'54 -0°35'49		157 Dec 10 j 23:58	15°	
direct	151 Oct 01 j 08:30	20°303'43	evening set	158 Jan 22 j 13:20	17°03'33	
evening set	151 Dec 30 j 10:02	23°305'08				
			conjunction	158 Feb 07 j 09:05	17°57'35	-0°42'14
conjunction	152 Jan 15 j 02:07	23°359'22 -0°33'25	minimum elong	158 Feb 07 j 09:05	17°57'35	0°42'14
minimum elong	152 Jan 15 j 02:06	23°359'22 0°33'25	max. Earth dist.	158 Feb 08 j 12:11	18°01'28	21.04920 AU
max. Earth dist.	152 Jan 16 j 04:00	24°303'07 20.89376 AU	morning rise	158 Feb 23 j 08:13	18°52'08	
morning rise	152 Jan 30 j 20:36	24°353'56	retrograde	158 May 28 j 16:06	21°59'12	
retrograde	152 May 03 j 11:24	28°301'44	opposition	158 Aug 14 j 19:36	20°00'08	-0°47'07
opposition	152 Jul 20 j 14:19	26°302'33 -0°38'03	min. Earth dist.	158 Aug 13 j 18:46	20°02'37	19.05585 AU
min. Earth dist.	152 Jul 19 j 13:40	26°305'01 18.91167 AU	direct	158 Oct 29 j 06:58	18°04'00	
direct	152 Oct 04 j 17:24	24°305'32	evening set	159 Jan 26 j 18:10	21°02'20	
evening set	153 Jan 02 j 14:56	27°306'17				
			conjunction	159 Feb 11 j 14:32	21°56'25	-0°43'01
conjunction	153 Jan 18 j 07:21	28°300'25 -0°35'21	minimum elong	159 Feb 11 j 14:32	21°56'25	0°43'00
minimum elong	153 Jan 18 j 07:20	28°300'25 0°35'21	max. Earth dist.	159 Feb 12 j 15:58	22°00'03	21.06025 AU
max. Earth dist.	153 Jan 19 j 08:46	28°304'06 20.92816 AU	morning rise	159 Feb 27 j 14:44	22°51'00	
morning rise	153 Feb 03 j 02:41	28°354'57	retrograde	159 Jun 02 j 01:25	25°58'07	
	153 Feb 23 j 05:59	0°	min. Earth dist.	159 Aug 18 j 03:41	24°01'24	19.06427 AU
retrograde	153 May 07 j 20:46	2°02'31	opposition	159 Aug 19 j 03:32	23°59'01	-0°47'52
min. Earth dist.	153 Jul 23 j 23:04	0°05'50 18.94472 AU	direct	159 Nov 02 j 12:11	22°02'55	
opposition	153 Jul 25 j 00:08	0°03'19 -0°40'04	evening set	160 Jan 30 j 22:55	25°01'05	
	153 Jul 26 j 09:20	30°R3				
direct	153 Oct 08 j 23:45	28°306'27	conjunction	160 Feb 15 j 20:18	25°55'14	-0°43'36
	153 Dec 17 j 01:37	0°	minimum elong	160 Feb 15 j 20:18	25°55'14	0°43'36
evening set	154 Jan 06 j 19:27	1°06'37	max. Earth dist.	160 Feb 16 j 22:08	25°58'55	21.06582 AU
			morning rise	160 Mar 02 j 21:16	26°49'53	
conjunction	154 Jan 22 j 12:34	2°00'43 -0°37'06	retrograde	160 Jun 05 j 10:05	29°57'01	
minimum elong	154 Jan 22 j 12:34	2°00'43 0°37'06	min. Earth dist.	160 Aug 21 j 11:43	28°00'13	19.06693 AU
max. Earth dist.	154 Jan 23 j 15:33	2°04'37 20.95960 AU	opposition	160 Aug 22 j 11:08	27°57'52	-0°48'24
morning rise	154 Feb 07 j 08:28	2°55'13	direct	160 Nov 05 j 17:52	26°01'47	

evening set	161 Feb 03 j 04:07	28° \approx 59'50	retrograde	167 Jul 04 j 22:50	27° \times 53'22	
			opposition	167 Sep 20 j 11:12	25° \times 53'20	-0°45'29
conjunction	161 Feb 19 j 02:14	29° \approx 54'02 -0°43'58	min. Earth dist.	167 Sep 19 j 18:56	25° \times 54'59	18.95364 AU
minimum elong	161 Feb 19 j 02:14	29° \approx 54'02 0°43'57	direct	167 Dec 04 j 06:29	23° \times 56'23	
max. Earth dist.	161 Feb 20 j 02:02	29° \approx 57'26 21.06572 AU	evening set	168 Mar 02 j 22:38	26° \times 55'29	
	161 Feb 20 j 19:57	0° \times				
morning rise	161 Mar 07 j 04:19	0° \times 48'47	conjunction	168 Mar 19 j 03:47	27° \times 50'38	-0°40'36
retrograde	161 Jun 09 j 18:42	3° \times 55'57	minimum elong	168 Mar 19 j 03:47	27° \times 50'38	0°40'35
opposition	161 Aug 26 j 18:25	1° \times 56'43 -0°48'41	max. Earth dist.	168 Mar 19 j 22:06	27° \times 53'15	20.93848 AU
min. Earth dist.	161 Aug 25 j 20:25	1° \times 58'56 19.06405 AU	morning rise	168 Apr 04 j 12:36	28° \times 46'20	
direct	161 Nov 09 j 22:54	0° \times 00'34		168 Apr 27 j 20:31	0° γ	
evening set	162 Feb 07 j 09:16	2° \times 58'34	retrograde	168 Jul 08 j 08:30	1° γ 54'44	
				168 Sep 21 j 13:19	30° \times	
conjunction	162 Feb 23 j 08:28	3° \times 52'51 -0°44'07	opposition	168 Sep 23 j 17:56	29° \times 54'37	-0°44'10
minimum elong	162 Feb 23 j 08:28	3° \times 52'51 0°44'07	min. Earth dist.	168 Sep 23 j 02:08	29° \times 56'14	18.92301 AU
max. Earth dist.	162 Feb 24 j 08:30	3° \times 56'17 21.06013 AU	direct	168 Dec 07 j 13:06	27° \times 57'31	
morning rise	162 Mar 11 j 11:20	4° \times 47'41		169 Feb 17 j 11:48	0° γ	
retrograde	162 Jun 14 j 03:42	7° \times 54'55	evening set	169 Mar 07 j 06:42	0° γ 57'05	
min. Earth dist.	162 Aug 30 j 03:57	5° \times 57'44 19.05580 AU				
opposition	162 Aug 31 j 01:30	5° \times 55'34 -0°48'44	conjunction	169 Mar 23 j 12:43	1° γ 52'26	-0°39'17
direct	162 Nov 14 j 04:54	3° \times 59'20	minimum elong	169 Mar 23 j 12:43	1° γ 52'26	0°39'17
evening set	163 Feb 11 j 14:37	6° \times 57'19	max. Earth dist.	169 Mar 24 j 04:32	1° γ 54'42	20.90629 AU
			morning rise	169 Apr 08 j 22:40	2° γ 48'20	
conjunction	163 Feb 27 j 14:34	7° \times 51'42 -0°44'03	retrograde	169 Jul 12 j 18:17	5° γ 57'04	
minimum elong	163 Feb 27 j 14:34	7° \times 51'42 0°44'04	min. Earth dist.	169 Sep 27 j 11:04	3° γ 58'17	18.88916 AU
max. Earth dist.	163 Feb 28 j 12:42	7° \times 54'52 21.04954 AU	opposition	169 Sep 28 j 00:50	3° γ 56'52	-0°42'36
morning rise	163 Mar 15 j 18:37	8° \times 46'39	direct	169 Dec 11 j 17:47	1° γ 59'36	
retrograde	163 Jun 18 j 11:34	11° \times 54'00	evening set	170 Mar 11 j 15:13	4° γ 59'42	
opposition	163 Sep 04 j 08:32	9° \times 54'29 -0°48'33				
min. Earth dist.	163 Sep 03 j 12:22	9° \times 56'31 19.04297 AU	conjunction	170 Mar 27 j 22:25	5° γ 55'17	-0°37'47
direct	163 Nov 18 j 09:26	7° \times 58'08	minimum elong	170 Mar 27 j 22:25	5° γ 55'17	0°37'47
evening set	164 Feb 15 j 20:13	10° \times 56'11	max. Earth dist.	170 Mar 28 j 13:55	5° γ 57'30	20.87077 AU
			morning rise	170 Apr 13 j 09:09	6° γ 51'23	
conjunction	164 Mar 02 j 21:18	11° \times 50'41 -0°43'47	retrograde	170 Jul 17 j 04:45	10° γ 00'28	
minimum elong	164 Mar 02 j 21:18	11° \times 50'41 0°43'47	opposition	170 Oct 02 j 07:56	8° γ 00'13	-0°40'50
max. Earth dist.	164 Mar 03 j 19:45	11° \times 53'53 21.03456 AU	min. Earth dist.	170 Oct 01 j 18:52	8° γ 01'34	18.85176 AU
morning rise	164 Mar 19 j 02:10	12° \times 45'45	direct	170 Dec 16 j 00:29	6° γ 02'48	
retrograde	164 Jun 21 j 20:57	15° \times 53'13	evening set	171 Mar 16 j 00:31	9° γ 03'30	
opposition	164 Sep 07 j 15:10	13° \times 53'34 -0°48'08				
min. Earth dist.	164 Sep 06 j 19:24	13° \times 55'34 19.02592 AU	conjunction	171 Apr 01 j 08:35	9° γ 59'18	-0°36'04
direct	164 Nov 21 j 15:41	11° \times 57'05	minimum elong	171 Apr 01 j 08:35	9° γ 59'18	0°36'04
evening set	165 Feb 19 j 02:19	14° \times 55'16	max. Earth dist.	171 Apr 01 j 21:20	10° γ 01'07	20.83159 AU
			morning rise	171 Apr 17 j 20:25	10° γ 55'37	
conjunction	165 Mar 07 j 04:14	15° \times 49'55 -0°43'18	retrograde	171 Jul 21 j 15:26	14° γ 05'08	
minimum elong	165 Mar 07 j 04:14	15° \times 49'55 0°43'18	opposition	171 Oct 06 j 15:30	12° γ 04'48	-0°38'51
max. Earth dist.	165 Mar 08 j 00:35	15° \times 52'49 21.01566 AU	min. Earth dist.	171 Oct 06 j 04:51	12° γ 05'53	18.81062 AU
morning rise	165 Mar 23 j 10:16	16° \times 45'08	direct	171 Dec 20 j 06:15	10° γ 07'09	
retrograde	165 Jun 26 j 04:45	19° \times 52'46	evening set	172 Mar 19 j 10:37	13° γ 08'33	
opposition	165 Sep 11 j 21:53	17° \times 52'58 -0°47'29				
min. Earth dist.	165 Sep 11 j 03:39	17° \times 54'49 19.00522 AU	conjunction	172 Apr 04 j 19:53	14° γ 04'36	-0°34'11
direct	165 Nov 25 j 19:48	15° \times 56'19	minimum elong	172 Apr 04 j 19:53	14° γ 04'36	0°34'11
evening set	166 Feb 23 j 08:33	18° \times 54'45	max. Earth dist.	172 Apr 05 j 07:49	14° γ 06'19	20.78840 AU
			morning rise	172 Apr 21 j 08:27	15° γ 01'08	
conjunction	166 Mar 11 j 11:37	19° \times 49'32 -0°42'36	retrograde	172 Jul 25 j 03:07	18° γ 11'04	
minimum elong	166 Mar 11 j 11:37	19° \times 49'32 0°42'35	opposition	172 Oct 09 j 23:04	16° γ 10'39	-0°36'39
max. Earth dist.	166 Mar 12 j 08:09	19° \times 52'28 20.99316 AU	min. Earth dist.	172 Oct 09 j 13:28	16° γ 11'38	18.76521 AU
morning rise	166 Mar 27 j 18:26	20° \times 44'54	direct	172 Dec 23 j 13:51	14° γ 12'46	
retrograde	166 Jun 30 j 14:05	23° \times 52'44	evening set	173 Mar 23 j 21:41	17° γ 14'54	
min. Earth dist.	166 Sep 15 j 10:31	21° \times 54'39 18.98098 AU				
opposition	166 Sep 16 j 04:26	21° \times 52'50 -0°46'36	conjunction	173 Apr 09 j 07:48	18° γ 11'12	-0°32'06
direct	166 Nov 30 j 02:21	19° \times 56'03	minimum elong	173 Apr 09 j 07:48	18° γ 11'12	0°32'05
evening set	167 Feb 27 j 15:26	22° \times 54'46	max. Earth dist.	173 Apr 09 j 16:29	18° γ 12'27	20.74086 AU
			morning rise	173 Apr 25 j 21:22	19° γ 07'59	
conjunction	167 Mar 15 j 19:21	23° \times 49'44 -0°41'42	retrograde	173 Jul 29 j 14:20	22° γ 18'21	
minimum elong	167 Mar 15 j 19:21	23° \times 49'44 0°41'42	opposition	173 Oct 14 j 07:14	20° γ 17'48	-0°34'15
max. Earth dist.	167 Mar 16 j 13:42	23° \times 52'21 20.96739 AU	min. Earth dist.	173 Oct 14 j 00:22	20° γ 18'31	18.71549 AU
morning rise	167 Apr 01 j 03:20	24° \times 45'15	direct	173 Dec 27 j 20:42	18° γ 19'38	

evening set	174 Mar 28 j 09:12	21°♈22'33	conjunction	180 May 09 j 15:59	17°♈35'47 -0°13'07
			minimum elong	180 May 09 j 15:59	17°♈35'47 0°13'06
conjunction	174 Apr 13 j 20:27	22°♈19'07 -0°29'50	behind sun begin	180 May 09 j 12:06	17°♈35'13
minimum elong	174 Apr 13 j 20:27	22°♈19'07 0°29'50	behind sun end	180 May 09 j 19:52	17°♈36'20
max. Earth dist.	174 Apr 14 j 04:04	22°♈20'13 20.68904 AU	max. Earth dist.	180 May 09 j 11:22	17°♈35'07 20.32040 AU
morning rise	174 Apr 30 j 10:41	23°♈16'08	morning rise	180 May 26 j 10:04	18°♈34'21
retrograde	174 Aug 03 j 03:02	26°♈26'57	retrograde	180 Aug 28 j 13:41	21°♈48'07
opposition	174 Oct 18 j 15:36	24°♈26'15 -0°31'40	opposition	180 Nov 12 j 01:55	19°♈46'27 -0°12'45
min. Earth dist.	174 Oct 18 j 09:44	24°♈26'52 18.66154 AU	min. Earth dist.	180 Nov 12 j 06:05	19°♈46'00 18.28775 AU
direct	175 Jan 01 j 05:48	22°♈27'46	direct	181 Jan 25 j 18:01	17°♈45'37
evening set	175 Apr 01 j 21:42	25°♈31'31	evening set	181 Apr 27 j 17:00	20°♈55'30
conjunction	175 Apr 18 j 09:46	26°♈28'21 -0°27'24	conjunction	181 May 14 j 10:00	21°♈54'05 -0°09'57
minimum elong	175 Apr 18 j 09:46	26°♈28'21 0°27'24	minimum elong	181 May 14 j 10:00	21°♈54'05 0°09'56
max. Earth dist.	175 Apr 18 j 14:12	26°♈28'59 20.63330 AU	behind sun begin	181 May 14 j 04:34	21°♈53'18
morning rise	175 May 05 j 00:56	27°♈25'37	behind sun end	181 May 14 j 15:26	21°♈54'52
	175 Jun 29 j 22:10	0°♈	max. Earth dist.	181 May 14 j 02:57	21°♈53'04 20.25551 AU
retrograde	175 Aug 07 j 14:36	0°♈36'53	morning rise	181 May 31 j 04:30	22°♈52'55
	175 Sep 15 j 20:20	30°♈	retrograde	181 Sep 02 j 04:53	26°♈07'15
opposition	175 Oct 23 j 00:21	28°♈36'01 -0°28'53	opposition	181 Nov 16 j 13:37	24°♈05'28 -0°09'10
min. Earth dist.	175 Oct 22 j 21:16	28°♈36'21 18.60410 AU	min. Earth dist.	181 Nov 16 j 20:13	24°♈04'46 18.22309 AU
direct	176 Jan 05 j 13:33	26°♈37'10	direct	182 Jan 30 j 04:48	22°♈04'17
evening set	176 Apr 05 j 10:48	29°♈41'48	evening set	182 May 02 j 11:03	25°♈15'21
	176 Apr 10 j 18:41	0°♈			
conjunction	176 Apr 22 j 00:01	0°♈38'55 -0°24'48	conjunction	182 May 19 j 04:45	26°♈14'14 -0°06'42
minimum elong	176 Apr 22 j 00:01	0°♈38'55 0°24'48	minimum elong	182 May 19 j 04:45	26°♈14'14 0°06'42
max. Earth dist.	176 Apr 22 j 03:19	0°♈39'23 20.57437 AU	behind sun begin	182 May 18 j 22:26	26°♈13'20
morning rise	176 May 08 j 15:48	1°♈36'26	behind sun end	182 May 19 j 11:03	26°♈15'09
retrograde	176 Aug 11 j 04:23	4°♈48'10	max. Earth dist.	182 May 18 j 20:27	26°♈13'02 20.19115 AU
opposition	176 Oct 26 j 09:21	2°♈47'08 -0°25'56	morning rise	182 Jun 04 j 23:32	27°♈13'20
min. Earth dist.	176 Oct 26 j 07:09	2°♈47'21 18.54371 AU		182 Aug 04 j 19:10	0°♈
direct	177 Jan 08 j 23:53	0°♈47'53	retrograde	182 Sep 06 j 22:56	0°♈28'14
evening set	177 Apr 10 j 00:53	3°♈53'28		182 Oct 10 j 07:32	30°♈
conjunction	177 Apr 26 j 14:48	4°♈50'52 -0°22'04	opposition	182 Nov 21 j 01:47	28°♈26'23 -0°05'31
minimum elong	177 Apr 26 j 14:48	4°♈50'52 0°22'04	min. Earth dist.	182 Nov 21 j 08:51	28°♈25'38 18.15895 AU
max. Earth dist.	177 Apr 26 j 15:07	4°♈50'55 20.51281 AU	direct	183 Feb 03 j 18:54	26°♈24'51
morning rise	177 May 13 j 07:21	5°♈48'39	evening set	183 May 07 j 06:23	29°♈37'09
retrograde	177 Aug 15 j 16:40	9°♈00'52		183 May 13 j 18:57	0°♈
opposition	177 Oct 30 j 18:49	6°♈59'39 -0°22'50	conjunction	183 May 24 j 00:32	0°♈36'20 -0°03'23
min. Earth dist.	177 Oct 30 j 19:17	6°♈59'36 18.48121 AU	minimum elong	183 May 24 j 00:32	0°♈36'20 0°03'23
direct	178 Jan 13 j 08:40	5°♈00'00	behind sun begin	183 May 23 j 17:47	0°♈35'21
evening set	178 Apr 14 j 15:33	8°♈06'35	behind sun end	183 May 24 j 07:16	0°♈37'18
conjunction	178 May 01 j 06:27	9°♈04'16 -0°19'12	max. Earth dist.	183 May 23 j 14:05	0°♈34'48 20.12725 AU
minimum elong	178 May 01 j 06:27	9°♈04'16 0°19'11	morning rise	183 Jun 09 j 19:32	1°♈35'41
max. Earth dist.	178 May 01 j 05:42	9°♈04'10 20.44958 AU	retrograde	183 Sep 11 j 15:06	4°♈51'09
morning rise	178 May 17 j 23:29	10°♈02'19	opposition	183 Nov 25 j 14:40	2°♈49'16 -0°01'49
retrograde	178 Aug 20 j 07:35	13°♈15'01	min. Earth dist.	183 Nov 26 j 00:20	2°♈48'14 18.09538 AU
opposition	178 Nov 04 j 04:38	11°♈13'38 -0°19'36	direct	184 Feb 08 j 06:55	0°♈47'23
min. Earth dist.	178 Nov 04 j 05:44	11°♈13'31 18.41731 AU	evening set	184 May 11 j 02:40	4°♈00'58
direct	179 Jan 17 j 19:46	9°♈13'36	asc. node	184 May 21 j 22:21	4°♈39'09
evening set	179 Apr 19 j 07:06	12°♈21'13	conjunction	184 May 27 j 21:17	5°♈00'27 0°00'04
conjunction	179 May 05 j 22:40	13°♈19'12 -0°16'12	minimum elong	184 May 27 j 21:18	5°♈00'26 0°00'03
minimum elong	179 May 05 j 22:41	13°♈19'12 0°16'12	behind sun begin	184 May 27 j 15:17	4°♈59'35
max. Earth dist.	179 May 05 j 19:15	13°♈18'43 20.38520 AU	behind sun end	184 May 28 j 03:19	5°♈01'18
morning rise	179 May 22 j 16:22	14°♈17'31	max. Earth dist.	184 May 27 j 09:05	4°♈58'38 20.06397 AU
	179 Jun 04 j 09:57	15°♈	morning rise	184 Jun 13 j 16:28	6°♈00'02
retrograde	179 Aug 24 j 21:27	17°♈30'45	retrograde	184 Sep 15 j 10:34	9°♈16'06
opposition	179 Nov 08 j 15:09	15°♈29'12 -0°16'13	opposition	184 Nov 29 j 04:13	7°♈14'09 0°01'57
min. Earth dist.	179 Nov 08 j 18:46	15°♈28'49 18.35266 AU	min. Earth dist.	184 Nov 29 j 14:36	7°♈13'02 18.03226 AU
	179 Nov 20 j 05:33	15°♈	direct	185 Feb 11 j 23:02	5°♈11'56
direct	180 Jan 22 j 05:42	13°♈28'46	evening set	185 May 15 j 23:55	8°♈26'48
	180 Mar 23 j 01:00	15°♈	conjunction	185 Jun 01 j 18:50	9°♈26'33 0°03'31
evening set	180 Apr 22 j 23:32	16°♈37'30	minimum elong	185 Jun 01 j 18:51	9°♈26'33 0°03'32
			behind sun begin	185 Jun 01 j 12:07	9°♈25'34

behind sun end	185 Jun 02 j 01:35	9° Π 27'32		conjunction	191 Jun 30 j 19:31	6° \ominus 40'13	0°23'07
max. Earth dist.	185 Jun 01 j 04:39	9° Π 24'26	20.00085 AU	minimum elong	191 Jun 30 j 19:31	6° \ominus 40'13	0°23'07
morning rise	185 Jun 18 j 13:57	10° Π 26'23		max. Earth dist.	191 Jun 29 j 19:41	6° \ominus 36'34	19.63943 AU
retrograde	185 Sep 20 j 03:41	13° Π 43'00		morning rise	191 Jul 17 j 12:46	7° \ominus 41'08	
opposition	185 Dec 03 j 18:40	11° Π 41'01	0°05'43	retrograde	191 Oct 18 j 03:36	11° \ominus 00'34	
min. Earth dist.	185 Dec 04 j 07:40	11° Π 39'37	17.96934 AU	opposition	191 Dec 30 j 23:54	8° \ominus 58'04	0°27'21
direct	186 Feb 16 j 13:09	9° Π 38'27		min. Earth dist.	191 Dec 31 j 20:53	8° \ominus 55'47	17.61302 AU
evening set	186 May 20 j 22:04	12° Π 54'35		direct	192 Mar 15 j 09:20	6° \ominus 53'09	
				evening set	192 Jun 18 j 02:50	10° \ominus 16'25	
conjunction	186 Jun 06 j 17:14	13° Π 54'37	0°06'54				
minimum elong	186 Jun 06 j 17:15	13° Π 54'37	0°06'55	conjunction	192 Jul 04 j 21:29	11° \ominus 17'44	0°26'02
behind sun begin	186 Jun 06 j 10:58	13° Π 53'41		minimum elong	192 Jul 04 j 21:29	11° \ominus 17'44	0°26'02
behind sun end	186 Jun 06 j 23:31	13° Π 55'32		max. Earth dist.	192 Jul 03 j 19:34	11° \ominus 13'45	19.58728 AU
max. Earth dist.	186 Jun 06 j 00:50	13° Π 52'09	19.93810 AU	morning rise	192 Jul 21 j 14:16	12° \ominus 18'47	
morning rise	186 Jun 23 j 12:22	14° Π 54'39		retrograde	192 Oct 22 j 01:32	15° \ominus 38'35	
retrograde	186 Sep 24 j 23:53	18° Π 11'50		opposition	193 Jan 03 j 19:11	13° \ominus 36'01	0°30'32
opposition	186 Dec 08 j 09:43	16° Π 09'46	0°09'30	min. Earth dist.	193 Jan 04 j 16:39	13° \ominus 33'41	17.56298 AU
min. Earth dist.	186 Dec 08 j 23:30	16° Π 08'17	17.90678 AU	direct	193 Mar 20 j 07:48	11° \ominus 30'45	
direct	187 Feb 21 j 07:35	14° Π 06'50		evening set	193 Jun 23 j 05:27	14° \ominus 55'05	
evening set	187 May 25 j 21:03	17° Π 24'13					
				conjunction	193 Jul 09 j 23:49	15° \ominus 56'32	0°28'48
conjunction	187 Jun 11 j 16:28	18° Π 24'30	0°10'16	minimum elong	193 Jul 09 j 23:49	15° \ominus 56'32	0°28'49
minimum elong	187 Jun 11 j 16:29	18° Π 24'30	0°10'17	max. Earth dist.	193 Jul 08 j 22:26	15° \ominus 52'38	19.53928 AU
behind sun begin	187 Jun 11 j 11:09	18° Π 23'43		morning rise	193 Jul 26 j 15:41	16° \ominus 57'41	
behind sun end	187 Jun 11 j 21:48	18° Π 25'17		retrograde	193 Oct 26 j 23:34	20° \ominus 17'51	
max. Earth dist.	187 Jun 10 j 22:25	18° Π 21'47	19.87561 AU	opposition	194 Jan 08 j 15:13	18° \ominus 15'15	0°33'31
morning rise	187 Jun 28 j 11:21	19° Π 24'45		min. Earth dist.	194 Jan 09 j 13:16	18° \ominus 12'50	17.51735 AU
retrograde	187 Sep 29 j 17:48	22° Π 42'26		direct	194 Mar 25 j 06:02	16° \ominus 09'42	
opposition	187 Dec 13 j 01:40	20° Π 40'18	0°13'14	evening set	194 Jun 28 j 08:45	19° \ominus 35'02	
min. Earth dist.	187 Dec 13 j 17:53	20° Π 38'32	17.84461 AU	max. Earth dist.	194 Jul 13 j 23:23	20° \ominus 32'26	19.49614 AU
direct	188 Feb 26 j 00:01	18° Π 36'57					
evening set	188 May 29 j 20:58	21° Π 55'35		conjunction	194 Jul 15 j 02:25	20° \ominus 36'36	0°31'23
				minimum elong	194 Jul 15 j 02:25	20° \ominus 36'36	0°31'23
conjunction	188 Jun 15 j 16:22	22° Π 56'06	0°13'36	morning rise	194 Jul 31 j 17:40	21° \ominus 37'50	
minimum elong	188 Jun 15 j 16:22	22° Π 56'06	0°13'37	retrograde	194 Oct 31 j 22:11	24° \ominus 58'21	
behind sun begin	188 Jun 15 j 12:51	22° Π 55'35		opposition	195 Jan 13 j 11:45	22° \ominus 55'45	0°36'18
behind sun end	188 Jun 15 j 19:53	22° Π 56'38		min. Earth dist.	195 Jan 14 j 10:14	22° \ominus 53'17	17.47693 AU
max. Earth dist.	188 Jun 14 j 19:53	22° Π 53'01	19.81390 AU	direct	195 Mar 30 j 05:04	20° \ominus 49'57	
morning rise	188 Jul 02 j 11:06	23° Π 56'33		evening set	195 Jul 03 j 12:19	24° \ominus 16'15	
retrograde	188 Oct 03 j 14:40	27° Π 14'43		max. Earth dist.	195 Jul 19 j 03:20	25° \ominus 13'52	19.45831 AU
opposition	188 Dec 16 j 18:07	25° Π 12'29	0°16'55				
min. Earth dist.	188 Dec 17 j 11:07	25° Π 10'38	17.78349 AU	conjunction	195 Jul 20 j 05:34	25° \ominus 17'56	0°33'47
direct	189 Mar 01 j 20:31	23° Π 08'44		minimum elong	195 Jul 20 j 05:34	25° \ominus 17'56	0°33'47
evening set	189 Jun 03 j 21:30	26° Π 28'35		morning rise	195 Aug 05 j 19:49	26° \ominus 19'13	
				retrograde	195 Nov 05 j 21:51	29° \ominus 40'01	
conjunction	189 Jun 20 j 16:58	27° Π 29'20	0°16'52	opposition	196 Jan 18 j 09:06	27° \ominus 37'29	0°38'52
minimum elong	189 Jun 20 j 16:58	27° Π 29'20	0°16'52	min. Earth dist.	196 Jan 19 j 07:38	27° \ominus 35'01	17.44175 AU
max. Earth dist.	189 Jun 19 j 19:34	27° Π 26'05	19.75342 AU	direct	196 Apr 03 j 04:24	25° \ominus 31'32	
morning rise	189 Jul 07 j 11:11	28° Π 29'57		evening set	196 Jul 07 j 16:25	28° \ominus 58'43	
	189 Aug 03 j 14:13	0° \ominus		max. Earth dist.	196 Jul 23 j 05:19	29° \ominus 56'12	19.42584 AU
retrograde	189 Oct 08 j 09:41	1° \ominus 48'33					
	189 Dec 16 j 04:33	30° κ Π		conjunction	196 Jul 24 j 08:46	0° Π 00'28	0°35'57
opposition	189 Dec 21 j 11:28	29° Π 46'14	0°20'31	minimum elong	196 Jul 24 j 08:46	0° Π 00'28	0°35'57
min. Earth dist.	189 Dec 22 j 06:24	29° Π 44'10	17.72400 AU		196 Jul 24 j 05:44	0° Π	
direct	190 Mar 06 j 15:07	27° Π 42'05		morning rise	196 Aug 09 j 22:10	1° Π 01'48	
	190 May 21 j 11:35	0° \ominus		retrograde	196 Nov 09 j 21:17	4° Π 22'54	
evening set	190 Jun 08 j 22:35	1° \ominus 03'06		opposition	197 Jan 22 j 07:05	2° Π 20'26	0°41'10
				min. Earth dist.	197 Jan 23 j 06:10	2° Π 17'55	17.41208 AU
conjunction	190 Jun 25 j 17:49	2° \ominus 04'03	0°20'03	direct	197 Apr 08 j 04:20	0° Π 14'21	
minimum elong	190 Jun 25 j 17:49	2° \ominus 04'03	0°20'04	evening set	197 Jul 12 j 20:37	3° Π 42'22	
max. Earth dist.	190 Jun 24 j 18:12	2° \ominus 00'27	19.69509 AU	max. Earth dist.	197 Jul 28 j 09:45	4° Π 40'02	19.39878 AU
morning rise	190 Jul 12 j 11:46	3° \ominus 04'50					
retrograde	190 Oct 13 j 07:05	6° \ominus 23'53		conjunction	197 Jul 29 j 12:19	4° Π 44'10	0°37'54
opposition	190 Dec 26 j 05:21	4° \ominus 21'27	0°24'00	minimum elong	197 Jul 29 j 12:19	4° Π 44'10	0°37'54
min. Earth dist.	190 Dec 27 j 00:55	4° \ominus 19'19	17.66701 AU	morning rise	197 Aug 15 j 00:38	5° Π 45'31	
direct	191 Mar 11 j 12:42	2° \ominus 16'54		retrograde	197 Nov 14 j 21:46	9° Π 06'51	
evening set	191 Jun 14 j 00:21	5° \ominus 39'04		opposition	198 Jan 27 j 05:42	7° Π 04'30	0°43'13

min. Earth dist.	198 Jan 28 j 04:24	7°Ω02'01	17.38754 AU	direct	204 May 12 j 00:17	3°♊34'45	
direct	198 Apr 13 j 04:46	4°Ω58'21		evening set	204 Aug 16 j 02:36	7°♊05'12	
evening set	198 Jul 18 j 01:06	8°Ω27'05		max. Earth dist.	204 Aug 31 j 11:24	8°♊02'50	19.34085 AU
conjunction	198 Aug 03 j 15:50	9°Ω28'54	0°39'36	conjunction	204 Sep 01 j 11:03	8°♊06'33	0°43'50
minimum elong	198 Aug 03 j 15:50	9°Ω28'54	0°39'37	minimum elong	204 Sep 01 j 11:03	8°♊06'33	0°43'50
max. Earth dist.	198 Aug 02 j 12:31	9°Ω24'38	19.37670 AU	morning rise	204 Sep 17 j 15:22	9°♊07'20	
morning rise	198 Aug 20 j 03:11	10°Ω30'15		retrograde	204 Dec 17 j 18:50	12°♊28'48	
retrograde	198 Nov 19 j 21:22	13°Ω51'48		opposition	205 Mar 01 j 09:45	10°♊26'56	0°48'44
opposition	199 Feb 01 j 05:00	11°Ω49'32	0°44'58	min. Earth dist.	205 Mar 02 j 06:52	10°♊24'39	17.34612 AU
min. Earth dist.	199 Feb 02 j 04:28	11°Ω46'59	17.36795 AU	direct	205 May 17 j 03:00	8°♊20'41	
direct	199 Apr 18 j 06:01	9°Ω43'19		evening set	205 Aug 21 j 05:34	11°♊50'57	
evening set	199 Jul 23 j 05:45	13°Ω12'40					
conjunction	199 Aug 08 j 19:36	14°Ω14'29	0°41'02	conjunction	205 Sep 06 j 12:44	12°♊52'08	0°43'30
minimum elong	199 Aug 08 j 19:36	14°Ω14'29	0°41'01	minimum elong	205 Sep 06 j 12:44	12°♊52'08	0°43'30
max. Earth dist.	199 Aug 07 j 16:51	14°Ω10'17	19.35938 AU	max. Earth dist.	205 Sep 05 j 13:34	12°♊48'29	19.35195 AU
	199 Aug 20 j 23:11	15°Ω		morning rise	205 Sep 22 j 16:04	13°♊52'45	
morning rise	199 Aug 25 j 05:49	15°Ω15'47		retrograde	205 Dec 22 j 19:27	17°♊14'00	
retrograde	199 Nov 24 j 21:52	18°Ω37'28		opposition	206 Mar 06 j 11:11	15°♊12'10	0°48'11
opposition	200 Feb 06 j 04:44	16°Ω35'19	0°46'25	min. Earth dist.	206 Mar 07 j 06:14	15°♊10'07	17.35995 AU
min. Earth dist.	200 Feb 07 j 03:27	16°Ω32'50	17.35283 AU	direct	206 May 22 j 07:34	13°♊05'58	
	200 Mar 18 j 13:40	15°♊Ω		evening set	206 Aug 26 j 07:48	16°♊35'58	
direct	200 Apr 22 j 08:47	14°Ω29'04		conjunction	206 Sep 11 j 13:57	17°♊36'58	0°42'51
	200 May 26 j 17:44	15°Ω		minimum elong	206 Sep 11 j 13:57	17°♊36'58	0°42'51
evening set	200 Jul 27 j 10:29	17°Ω58'54		max. Earth dist.	206 Sep 10 j 17:19	17°♊33'43	19.36859 AU
conjunction	200 Aug 12 j 23:17	19°Ω00'40	0°42'11	morning rise	206 Sep 27 j 15:59	18°♊37'24	
minimum elong	200 Aug 12 j 23:17	19°Ω00'40	0°42'11	retrograde	206 Dec 27 j 17:36	21°♊58'23	
max. Earth dist.	200 Aug 11 j 20:25	18°Ω56'27	19.34647 AU	opposition	207 Mar 11 j 12:53	19°♊56'37	0°47'18
morning rise	200 Aug 29 j 08:19	20°Ω01'54		min. Earth dist.	207 Mar 12 j 07:24	19°♊54'37	17.37945 AU
retrograde	200 Nov 28 j 20:53	23°Ω23'41		direct	207 May 27 j 09:50	17°♊50'32	
opposition	201 Feb 10 j 05:13	21°Ω21'36	0°47'33	evening set	207 Aug 31 j 09:34	21°♊20'08	
min. Earth dist.	201 Feb 11 j 04:38	21°Ω19'03	17.34226 AU	conjunction	207 Sep 16 j 14:21	22°♊20'55	0°41'56
direct	201 Apr 27 j 11:25	19°Ω15'20		minimum elong	207 Sep 16 j 14:21	22°♊20'55	0°41'55
evening set	201 Aug 01 j 14:52	22°Ω45'30		max. Earth dist.	207 Sep 15 j 18:23	22°♊17'47	19.39113 AU
max. Earth dist.	201 Aug 17 j 00:12	23°Ω43'03	19.33815 AU	morning rise	207 Oct 02 j 15:24	23°♊21'09	
conjunction	201 Aug 18 j 02:37	23°Ω47'12	0°43'03	retrograde	208 Jan 01 j 17:27	26°♊41'51	
minimum elong	201 Aug 18 j 02:37	23°Ω47'12	0°43'03	opposition	208 Mar 15 j 14:27	24°♊40'09	0°46'06
morning rise	201 Sep 03 j 10:34	24°Ω48'22		min. Earth dist.	208 Mar 16 j 06:38	24°♊38'25	17.40498 AU
retrograde	201 Dec 03 j 21:17	28°Ω10'10		direct	208 May 31 j 13:49	22°♊34'15	
opposition	202 Feb 15 j 05:54	26°Ω08'09	0°48'21	evening set	208 Sep 04 j 10:30	26°♊03'22	
min. Earth dist.	202 Feb 16 j 04:03	26°Ω05'44	17.33611 AU	conjunction	208 Sep 20 j 14:16	27°♊03'56	0°40'43
direct	202 May 02 j 15:54	24°Ω01'51		minimum elong	208 Sep 20 j 14:16	27°♊03'56	0°40'44
evening set	202 Aug 06 j 19:10	27°Ω32'15		max. Earth dist.	208 Sep 19 j 21:21	27°♊01'17	19.41970 AU
max. Earth dist.	202 Aug 22 j 04:13	28°Ω29'50	19.33424 AU	morning rise	208 Oct 06 j 14:04	28°♊03'57	
conjunction	202 Aug 23 j 05:53	28°Ω33'52	0°43'37		208 Nov 10 j 10:55	0°♊Ω	
minimum elong	202 Aug 23 j 05:53	28°Ω33'52	0°43'36	retrograde	209 Jan 05 j 15:22	1°♊Ω24'20	
morning rise	202 Sep 08 j 12:34	29°Ω34'55			209 Mar 05 j 22:32	30°♊♊	
	202 Sep 15 j 09:57	0°♊		opposition	209 Mar 20 j 16:07	29°♊22'46	0°44'36
retrograde	202 Dec 08 j 19:55	2°♊56'39		min. Earth dist.	209 Mar 21 j 07:08	29°♊21'09	17.43644 AU
opposition	203 Feb 20 j 06:54	0°♊54'42	0°48'49	direct	209 Jun 05 j 16:01	27°♊17'07	
min. Earth dist.	203 Feb 21 j 05:39	0°♊52'14	17.33456 AU		209 Aug 27 j 17:04	0°♊Ω	
	203 Mar 14 j 00:16	30°♊Ω		evening set	209 Sep 09 j 10:43	0°♊Ω45'38	
direct	203 May 07 j 19:11	28°Ω48'24		conjunction	209 Sep 25 j 13:12	1°♊Ω45'58	0°39'15
	203 Jun 29 j 20:31	0°♊		minimum elong	209 Sep 25 j 13:12	1°♊Ω45'58	0°39'14
evening set	203 Aug 11 j 23:12	2°♊18'54		max. Earth dist.	209 Sep 24 j 21:10	1°♊Ω43'27	19.45416 AU
max. Earth dist.	203 Aug 27 j 07:20	3°♊16'24	19.33514 AU	morning rise	209 Oct 11 j 12:09	2°♊Ω45'47	
conjunction	203 Aug 28 j 08:43	3°♊20'24	0°43'53	retrograde	210 Jan 10 j 14:13	6°♊Ω05'49	
minimum elong	203 Aug 28 j 08:43	3°♊20'24	0°43'53	opposition	210 Mar 25 j 17:31	4°♊Ω04'24	0°42'49
morning rise	203 Sep 13 j 14:22	4°♊21'19		min. Earth dist.	210 Mar 26 j 06:23	4°♊Ω03'02	17.47361 AU
retrograde	203 Dec 13 j 20:28	7°♊42'57		direct	210 Jun 10 j 19:01	1°♊Ω59'03	
opposition	204 Feb 25 j 08:10	5°♊41'03	0°48'57	evening set	210 Sep 14 j 10:11	5°♊Ω26'55	
min. Earth dist.	204 Feb 26 j 05:13	5°♊38'46	17.33780 AU	conjunction	210 Sep 30 j 11:42	6°♊Ω27'00	0°37'31

minimum elong	210 Sep 30 j 11:42	6° <u>♂</u> 27'00	0°37'31	opposition	217 Apr 27 j 20:32	6° <u>♂</u> 20'57	0°23'33
max. Earth dist.	210 Sep 29 j 22:43	6° <u>♂</u> 24'58	19.49394 AU	min. Earth dist.	217 Apr 27 j 21:07	6° <u>♂</u> 20'54	17.83469 AU
morning rise	210 Oct 16 j 09:30	7° <u>♂</u> 26'34		direct	217 Jul 14 j 03:49	4° <u>♂</u> 18'09	
retrograde	211 Jan 15 j 11:44	10° <u>♂</u> 46'14		evening set	217 Oct 16 j 07:50	7° <u>♂</u> 39'10	
opposition	211 Mar 30 j 18:46	8° <u>♂</u> 45'01	0°40'45				
min. Earth dist.	211 Mar 31 j 06:10	8° <u>♂</u> 43'48	17.51564 AU	conjunction	217 Nov 01 j 02:31	8° <u>♂</u> 37'16	0°19'39
direct	211 Jun 15 j 21:29	6° <u>♂</u> 40'01		minimum elong	217 Nov 01 j 02:31	8° <u>♂</u> 37'16	0°19'39
evening set	211 Sep 19 j 09:06	10° <u>♂</u> 07'08		max. Earth dist.	217 Nov 01 j 02:05	8° <u>♂</u> 37'12	19.86430 AU
				morning rise	217 Nov 16 j 19:06	9° <u>♂</u> 35'04	
conjunction	211 Oct 05 j 09:21	11° <u>♂</u> 06'57	0°35'33	retrograde	218 Feb 16 j 04:54	12° <u>♂</u> 51'20	
minimum elong	211 Oct 05 j 09:21	11° <u>♂</u> 06'57	0°35'33	opposition	218 May 02 j 19:09	10° <u>♂</u> 51'06	0°20'07
max. Earth dist.	211 Oct 04 j 21:20	11° <u>♂</u> 05'04	19.53830 AU	min. Earth dist.	218 May 02 j 18:51	10° <u>♂</u> 51'08	17.89397 AU
morning rise	211 Oct 21 j 06:20	12° <u>♂</u> 06'17		direct	218 Jul 19 j 01:17	8° <u>♂</u> 48'36	
retrograde	212 Jan 20 j 09:14	15° <u>♂</u> 25'34		evening set	218 Oct 21 j 00:17	12° <u>♂</u> 08'25	
opposition	212 Apr 03 j 19:58	13° <u>♂</u> 24'31	0°38'25				
min. Earth dist.	212 Apr 04 j 05:34	13° <u>♂</u> 23'30	17.56209 AU	conjunction	218 Nov 05 j 18:15	13° <u>♂</u> 06'13	0°16'31
direct	212 Jun 19 j 23:26	11° <u>♂</u> 19'53		minimum elong	218 Nov 05 j 18:16	13° <u>♂</u> 06'13	0°16'31
evening set	212 Sep 23 j 06:55	14° <u>♂</u> 46'10		max. Earth dist.	218 Nov 05 j 19:45	13° <u>♂</u> 06'26	19.92418 AU
				morning rise	218 Nov 21 j 10:22	14° <u>♂</u> 03'45	
conjunction	212 Oct 09 j 06:14	15° <u>♂</u> 45'43	0°33'21		218 Dec 07 j 14:13	15° <u>♂</u>	
minimum elong	212 Oct 09 j 06:14	15° <u>♂</u> 45'43	0°33'21	retrograde	219 Feb 20 j 22:58	17° <u>♂</u> 19'25	
max. Earth dist.	212 Oct 08 j 21:06	15° <u>♂</u> 44'18	19.58664 AU	opposition	219 May 07 j 16:55	15° <u>♂</u> 19'15	0°16'34
morning rise	212 Oct 25 j 02:12	16° <u>♂</u> 44'48		min. Earth dist.	219 May 07 j 13:47	15° <u>♂</u> 19'34	17.95433 AU
retrograde	213 Jan 24 j 06:29	20° <u>♂</u> 03'40			219 May 15 j 11:55	15° <u>♂</u>	
opposition	213 Apr 08 j 20:55	18° <u>♂</u> 02'48	0°35'50	direct	219 Jul 23 j 23:23	13° <u>♂</u> 17'05	
min. Earth dist.	213 Apr 09 j 04:38	18° <u>♂</u> 01'59	17.61198 AU		219 Sep 26 j 20:37	15° <u>♂</u>	
direct	213 Jun 25 j 01:58	15° <u>♂</u> 58'33		evening set	219 Oct 25 j 15:45	16° <u>♂</u> 35'38	
evening set	213 Sep 28 j 04:11	19° <u>♂</u> 23'55					
				conjunction	219 Nov 10 j 09:03	17° <u>♂</u> 33'09	0°13'19
conjunction	213 Oct 14 j 02:21	20° <u>♂</u> 23'11	0°30'57	minimum elong	219 Nov 10 j 09:03	17° <u>♂</u> 33'09	0°13'18
minimum elong	213 Oct 14 j 02:21	20° <u>♂</u> 23'11	0°30'57	behind sun begin	219 Nov 10 j 05:09	17° <u>♂</u> 32'34	
max. Earth dist.	213 Oct 13 j 18:21	20° <u>♂</u> 21'56	19.63810 AU	behind sun end	219 Nov 10 j 12:57	17° <u>♂</u> 33'44	
morning rise	213 Oct 29 j 21:35	21° <u>♂</u> 22'01		max. Earth dist.	219 Nov 10 j 12:44	17° <u>♂</u> 33'42	19.98518 AU
retrograde	214 Jan 29 j 02:09	24° <u>♂</u> 40'25		morning rise	219 Nov 26 j 00:43	18° <u>♂</u> 30'26	
opposition	214 Apr 13 j 21:24	22° <u>♂</u> 39'43	0°33'03	retrograde	220 Feb 25 j 14:57	21° <u>♂</u> 45'31	
min. Earth dist.	214 Apr 14 j 03:48	22° <u>♂</u> 39'02	17.66487 AU	opposition	220 May 11 j 14:18	19° <u>♂</u> 45'23	0°12'58
direct	214 Jun 30 j 02:40	20° <u>♂</u> 35'50		min. Earth dist.	220 May 11 j 10:08	19° <u>♂</u> 45'49	18.01611 AU
evening set	214 Oct 03 j 00:29	24° <u>♂</u> 00'14		direct	220 Jul 27 j 19:13	17° <u>♂</u> 43'33	
				evening set	220 Oct 29 j 06:08	21° <u>♂</u> 00'51	
conjunction	214 Oct 18 j 21:47	24° <u>♂</u> 59'12	0°28'21				
minimum elong	214 Oct 18 j 21:47	24° <u>♂</u> 59'12	0°28'21	conjunction	220 Nov 13 j 22:49	21° <u>♂</u> 58'04	0°10'04
max. Earth dist.	214 Oct 18 j 16:11	24° <u>♂</u> 58'20	19.69219 AU	minimum elong	220 Nov 13 j 22:49	21° <u>♂</u> 58'04	0°10'04
morning rise	214 Nov 03 j 16:11	25° <u>♂</u> 57'46		behind sun begin	220 Nov 13 j 17:30	21° <u>♂</u> 57'16	
retrograde	215 Feb 02 j 22:30	29° <u>♂</u> 15'41		behind sun end	220 Nov 14 j 04:08	21° <u>♂</u> 58'51	
opposition	215 Apr 18 j 21:35	27° <u>♂</u> 15'08	0°30'03	max. Earth dist.	220 Nov 14 j 04:24	21° <u>♂</u> 58'54	20.04772 AU
min. Earth dist.	215 Apr 19 j 01:48	27° <u>♂</u> 14'41	17.71984 AU	morning rise	220 Nov 29 j 14:13	22° <u>♂</u> 55'07	
direct	215 Jul 05 j 04:35	25° <u>♂</u> 11'38		retrograde	221 Mar 01 j 08:10	26° <u>♂</u> 09'36	
evening set	215 Oct 07 j 19:56	28° <u>♂</u> 34'58		opposition	221 May 16 j 10:48	24° <u>♂</u> 09'33	0°09'19
				min. Earth dist.	221 May 16 j 03:30	24° <u>♂</u> 10'18	18.07931 AU
conjunction	215 Oct 23 j 16:12	29° <u>♂</u> 33'38	0°25'36	direct	221 Aug 01 j 15:33	22° <u>♂</u> 08'03	
minimum elong	215 Oct 23 j 16:13	29° <u>♂</u> 33'38	0°25'36	evening set	221 Nov 02 j 19:44	25° <u>♂</u> 24'06	
max. Earth dist.	215 Oct 23 j 11:58	29° <u>♂</u> 32'59	19.74808 AU				
	215 Oct 30 j 17:51	0° <u>♂</u>		conjunction	221 Nov 18 j 11:55	26° <u>♂</u> 21'03	0°06'47
morning rise	215 Nov 08 j 09:56	0° <u>♂</u> 31'57		minimum elong	221 Nov 18 j 11:55	26° <u>♂</u> 21'03	0°06'46
retrograde	216 Feb 07 j 16:38	3° <u>♂</u> 49'21		behind sun begin	221 Nov 18 j 05:48	26° <u>♂</u> 20'08	
opposition	216 Apr 22 j 21:25	1° <u>♂</u> 48'56	0°26'52	behind sun end	221 Nov 18 j 18:03	26° <u>♂</u> 21'57	
min. Earth dist.	216 Apr 23 j 00:33	1° <u>♂</u> 48'36	17.77662 AU	max. Earth dist.	221 Nov 18 j 19:56	26° <u>♂</u> 22'15	20.11155 AU
	216 Jun 15 j 07:50	30° <u>♂</u>		morning rise	221 Dec 04 j 03:00	27° <u>♂</u> 17'51	
direct	216 Jul 09 j 03:43	29° <u>♂</u> 45'47			222 Jan 30 j 00:25	0° <u>♂</u>	
	216 Aug 01 j 13:53	0° <u>♂</u>		retrograde	222 Mar 05 j 22:38	0° <u>♂</u> 31'46	
evening set	216 Oct 11 j 14:24	3° <u>♂</u> 07'59			222 Apr 10 j 23:52	30° <u>♂</u>	
				opposition	222 May 21 j 06:34	28° <u>♂</u> 31'48	0°05'38
conjunction	216 Oct 27 j 09:53	4° <u>♂</u> 06'22	0°22'41	min. Earth dist.	222 May 20 j 22:19	28° <u>♂</u> 32'39	18.14385 AU
minimum elong	216 Oct 27 j 09:53	4° <u>♂</u> 06'22	0°22'41	direct	222 Aug 06 j 09:59	26° <u>♂</u> 30'42	
max. Earth dist.	216 Oct 27 j 07:46	4° <u>♂</u> 06'03	19.80563 AU	evening set	222 Nov 07 j 08:31	29° <u>♂</u> 45'31	
morning rise	216 Nov 12 j 02:58	5° <u>♂</u> 04'26			222 Nov 11 j 09:37	0° <u>♂</u>	
retrograde	217 Feb 11 j 11:57	8° <u>♂</u> 21'16					

conjunction	222 Nov 23 j 00:11	0°♏42'11	0°03'29	retrograde	228 Mar 31 j 09:40	26°♏09'41	
minimum elong	222 Nov 23 j 00:11	0°♏42'11	0°03'29	opposition	228 Jun 16 j 15:49	24°♏10'28	-0°15'53
behind sun begin	222 Nov 22 j 17:41	0°♏41'13		min. Earth dist.	228 Jun 15 j 22:00	24°♏12'15	18.53007 AU
behind sun end	222 Nov 23 j 06:41	0°♏43'09		direct	228 Sep 01 j 11:08	22°♏11'42	
max. Earth dist.	222 Nov 23 j 09:44	0°♏43'37	20.17671 AU	evening set	228 Dec 01 j 21:36	25°♏19'38	
morning rise	222 Dec 08 j 15:08	1°♏38'45					
retrograde	223 Mar 10 j 15:18	4°♏52'07		conjunction	228 Dec 17 j 11:56	26°♏14'53	-0°15'52
opposition	223 May 26 j 01:42	2°♏52'16	0°01'57	minimum elong	228 Dec 17 j 11:56	26°♏14'53	0°15'53
min. Earth dist.	223 May 25 j 14:24	2°♏53'26	18.20940 AU	behind sun begin	228 Dec 17 j 10:28	26°♏14'40	
direct	223 Aug 11 j 04:35	0°♏51'34		behind sun end	228 Dec 17 j 13:24	26°♏15'06	
evening set	223 Nov 11 j 20:19	4°♏05'10		max. Earth dist.	228 Dec 18 j 06:37	26°♏17'39	20.55943 AU
				morning rise	229 Jan 02 j 03:16	27°♏10'17	
conjunction	223 Nov 27 j 11:39	5°♏01'35	0°00'06		229 Mar 07 j 04:26	0°♏	
minimum elong	223 Nov 27 j 11:39	5°♏01'35	0°00'07	retrograde	229 Apr 04 j 23:05	0°♏20'44	
behind sun begin	223 Nov 27 j 05:21	5°♏00'39			229 May 04 j 07:32	30°♏♏	
behind sun end	223 Nov 27 j 17:58	5°♏02'30		min. Earth dist.	229 Jun 20 j 11:27	28°♏23'33	18.58804 AU
max. Earth dist.	223 Nov 27 j 23:45	5°♏03'24	20.24250 AU	opposition	229 Jun 21 j 07:01	28°♏21'35	-0°19'13
desc. node	223 Dec 08 j 13:42	5°♏41'45		direct	229 Sep 06 j 01:00	26°♏23'07	
morning rise	223 Dec 13 j 02:25	5°♏57'56		evening set	229 Dec 06 j 05:40	29°♏30'01	
retrograde	224 Mar 14 j 04:27	9°♏10'46			229 Dec 14 j 18:43	0°♏	
opposition	224 May 29 j 20:22	7°♏11'03	-0°01'43				
min. Earth dist.	224 May 29 j 08:14	7°♏12'17	18.27538 AU	conjunction	229 Dec 21 j 20:07	0°♏25'05	-0°18'49
direct	224 Aug 14 j 21:41	5°♏10'46		minimum elong	229 Dec 21 j 20:07	0°♏25'05	0°18'49
evening set	224 Nov 15 j 07:32	8°♏23'10		max. Earth dist.	229 Dec 22 j 16:37	0°♏28'07	20.61558 AU
				morning rise	230 Jan 06 j 11:36	1°♏20'19	
conjunction	224 Nov 30 j 22:27	9°♏19'19	-0°03'16	retrograde	230 Apr 09 j 09:11	4°♏30'20	
minimum elong	224 Nov 30 j 22:28	9°♏19'19	0°03'16	opposition	230 Jun 25 j 21:30	2°♏31'14	-0°22'25
behind sun begin	224 Nov 30 j 15:58	9°♏18'22		min. Earth dist.	230 Jun 25 j 01:48	2°♏33'12	18.64247 AU
behind sun end	224 Dec 01 j 04:58	9°♏20'17		direct	230 Sep 10 j 13:31	0°♏33'03	
max. Earth dist.	224 Dec 01 j 11:43	9°♏21'19	20.30851 AU	evening set	230 Dec 10 j 13:13	3°♏38'56	
morning rise	224 Dec 16 j 13:18	10°♏15'27					
retrograde	225 Mar 18 j 20:08	13°♏27'47		conjunction	230 Dec 26 j 03:40	4°♏33'49	-0°21'39
opposition	225 Jun 03 j 14:03	11°♏28'12	-0°05'21	minimum elong	230 Dec 26 j 03:40	4°♏33'49	0°21'39
min. Earth dist.	225 Jun 02 j 23:16	11°♏29'42	18.34120 AU	max. Earth dist.	230 Dec 27 j 00:07	4°♏36'50	20.66831 AU
direct	225 Aug 19 j 14:41	9°♏28'18		morning rise	231 Jan 10 j 19:38	5°♏28'55	
evening set	225 Nov 19 j 17:57	12°♏39'34		retrograde	231 Apr 13 j 21:05	8°♏38'31	
				opposition	231 Jun 30 j 11:22	6°♏39'24	-0°25'29
conjunction	225 Dec 05 j 08:44	13°♏35'29	-0°06'31	min. Earth dist.	231 Jun 29 j 14:11	6°♏41'32	18.69349 AU
minimum elong	225 Dec 05 j 08:44	13°♏35'29	0°06'30	direct	231 Sep 15 j 01:40	4°♏41'27	
behind sun begin	225 Dec 05 j 02:34	13°♏34'34		evening set	231 Dec 14 j 19:57	7°♏46'21	
behind sun end	225 Dec 05 j 14:54	13°♏36'23					
max. Earth dist.	225 Dec 06 j 00:19	13°♏37'49	20.37385 AU	conjunction	231 Dec 30 j 10:42	8°♏41'05	-0°24'22
morning rise	225 Dec 20 j 23:30	14°♏31'25		minimum elong	231 Dec 30 j 10:42	8°♏41'05	0°24'22
retrograde	226 Mar 23 j 08:08	17°♏43'14		max. Earth dist.	231 Dec 31 j 09:03	8°♏44'23	20.71751 AU
opposition	226 Jun 08 j 07:19	15°♏43'48	-0°08'56	morning rise	232 Jan 15 j 02:58	9°♏36'03	
min. Earth dist.	226 Jun 07 j 16:02	15°♏45'20	18.40601 AU	retrograde	232 Apr 17 j 06:37	12°♏45'15	
direct	226 Aug 24 j 05:54	13°♏44'18		min. Earth dist.	232 Jul 03 j 03:08	10°♏48'16	18.74105 AU
evening set	226 Nov 24 j 03:46	16°♏54'25		opposition	232 Jul 04 j 00:34	10°♏46'07	-0°28'24
				direct	232 Sep 18 j 12:59	8°♏48'22	
conjunction	226 Dec 09 j 18:15	17°♏50'06	-0°09'42	evening set	232 Dec 18 j 02:22	11°♏52'21	
minimum elong	226 Dec 09 j 18:15	17°♏50'06	0°09'43				
behind sun begin	226 Dec 09 j 12:51	17°♏49'18		conjunction	233 Jan 02 j 17:14	12°♏46'56	-0°26'55
behind sun end	226 Dec 09 j 23:40	17°♏50'53		minimum elong	233 Jan 02 j 17:14	12°♏46'56	0°26'55
max. Earth dist.	226 Dec 10 j 10:32	17°♏52'32	20.43793 AU	max. Earth dist.	233 Jan 03 j 15:31	12°♏50'12	20.76354 AU
morning rise	226 Dec 25 j 09:11	18°♏45'50		morning rise	233 Jan 18 j 10:08	13°♏41'47	
retrograde	227 Mar 27 j 22:38	21°♏57'12		retrograde	233 Apr 21 j 16:51	16°♏50'36	
opposition	227 Jun 12 j 23:49	19°♏57'52	-0°12'27	opposition	233 Jul 08 j 12:49	14°♏51'27	-0°31'08
min. Earth dist.	227 Jun 12 j 06:18	19°♏59'38	18.46921 AU	min. Earth dist.	233 Jul 07 j 14:08	14°♏53'43	18.78569 AU
direct	227 Aug 28 j 21:27	17°♏58'45		direct	233 Sep 22 j 23:08	12°♏53'51	
evening set	227 Nov 28 j 12:58	21°♏07'46		evening set	233 Dec 22 j 08:12	15°♏56'59	
conjunction	227 Dec 14 j 03:26	22°♏03'14	-0°12'50	conjunction	234 Jan 06 j 23:29	16°♏51'27	-0°29'20
minimum elong	227 Dec 14 j 03:25	22°♏03'14	0°12'49	minimum elong	234 Jan 06 j 23:28	16°♏51'27	0°29'20
behind sun begin	227 Dec 13 j 23:15	22°♏02'37		max. Earth dist.	234 Jan 07 j 23:37	16°♏54'58	20.80662 AU
behind sun end	227 Dec 14 j 07:35	22°♏03'50		morning rise	234 Jan 22 j 16:44	17°♏46'12	
max. Earth dist.	227 Dec 14 j 21:51	22°♏05'58	20.49996 AU	retrograde	234 Apr 26 j 01:43	20°♏54'39	
morning rise	227 Dec 29 j 18:24	22°♏58'47		min. Earth dist.	234 Jul 12 j 01:27	18°♏57'48	18.82746 AU

opposition	234 Jul 13 j 00:32	18° $\overline{3}$ 55'29 -0°33'42	evening set	241 Jan 18 j 18:05	14° \approx 04'48	
direct	234 Sep 27 j 08:44	16° $\overline{3}$ 58'06				
evening set	234 Dec 26 j 13:37	20° $\overline{3}$ 00'25	conjunction	241 Feb 03 j 12:54	14° \approx 58'51 -0°41'21	
			minimum elong	241 Feb 03 j 12:54	14° \approx 58'51 0°41'21	
conjunction	235 Jan 11 j 05:06	20° $\overline{3}$ 54'46 -0°31'34		241 Feb 03 j 20:54	15° \approx	
minimum elong	235 Jan 11 j 05:06	20° $\overline{3}$ 54'46 0°31'34	max. Earth dist.	241 Feb 04 j 15:00	15° \approx 02'36 21.02614 AU	
max. Earth dist.	235 Jan 12 j 05:07	20° $\overline{3}$ 58'15 20.84712 AU	morning rise	241 Feb 19 j 11:17	15° \approx 53'23	
morning rise	235 Jan 26 j 23:03	21° $\overline{3}$ 49'26	retrograde	241 May 24 j 16:46	19° \approx 00'37	
retrograde	235 Apr 30 j 11:19	24° $\overline{3}$ 57'37	opposition	241 Aug 10 j 20:16	17° \approx 01'34 -0°46'15	
min. Earth dist.	235 Jul 16 j 11:28	23° $\overline{3}$ 00'51 18.86677 AU	min. Earth dist.	241 Aug 09 j 19:26	17° \approx 04'03 19.03497 AU	
opposition	235 Jul 17 j 11:41	22° $\overline{3}$ 58'26 -0°36'06	direct	241 Oct 25 j 09:26	15° \approx 05'20	
direct	235 Oct 01 j 17:22	21° $\overline{3}$ 01'13	evening set	242 Jan 22 j 22:46	18° \approx 04'04	
evening set	235 Dec 30 j 18:43	24° $\overline{3}$ 02'49				
			conjunction	242 Feb 07 j 18:27	18° \approx 58'08 -0°42'18	
conjunction	236 Jan 15 j 10:45	24° $\overline{3}$ 57'04 -0°33'39	minimum elong	242 Feb 07 j 18:27	18° \approx 58'08 0°42'17	
minimum elong	236 Jan 15 j 10:44	24° $\overline{3}$ 57'04 0°33'39	max. Earth dist.	242 Feb 08 j 21:12	19° \approx 01'58 21.04145 AU	
max. Earth dist.	236 Jan 16 j 12:32	25° $\overline{3}$ 00'49 20.88502 AU	morning rise	242 Feb 23 j 17:30	19° \approx 52'41	
morning rise	236 Jan 31 j 05:10	25° $\overline{3}$ 51'40	retrograde	242 May 29 j 01:19	22° \approx 59'53	
retrograde	236 May 03 j 19:39	28° $\overline{3}$ 59'35	min. Earth dist.	242 Aug 14 j 04:07	21° \approx 03'15 19.04758 AU	
opposition	236 Jul 20 j 22:12	27° $\overline{3}$ 00'25 -0°38'17	opposition	242 Aug 15 j 04:29	21° \approx 00'49 -0°47'11	
min. Earth dist.	236 Jul 19 j 21:37	27° $\overline{3}$ 02'53 18.90335 AU	direct	242 Oct 29 j 16:18	19° \approx 04'39	
direct	236 Oct 05 j 01:05	25° $\overline{3}$ 03'24	evening set	243 Jan 27 j 03:32	22° \approx 03'06	
evening set	237 Jan 02 j 23:37	28° $\overline{3}$ 04'21				
			conjunction	243 Feb 11 j 23:52	22° \approx 57'12 -0°43'04	
conjunction	237 Jan 18 j 16:00	28° $\overline{3}$ 58'31 -0°35'33	minimum elong	243 Feb 11 j 23:52	22° \approx 57'12 0°43'04	
minimum elong	237 Jan 18 j 16:00	28° $\overline{3}$ 58'31 0°35'33	max. Earth dist.	243 Feb 13 j 00:57	23° \approx 00'47 21.05138 AU	
max. Earth dist.	237 Jan 19 j 17:22	29° $\overline{3}$ 02'12 20.92024 AU	morning rise	243 Feb 27 j 23:59	23° \approx 51'48	
morning rise	237 Feb 03 j 11:17	29° $\overline{3}$ 53'05	retrograde	243 Jun 02 j 10:25	26° \approx 59'00	
	237 Feb 05 j 12:24	0° \approx	opposition	243 Aug 19 j 12:32	24° \approx 59'51 -0°47'54	
retrograde	237 May 08 j 05:20	3° \approx 00'47	min. Earth dist.	243 Aug 18 j 12:59	25° \approx 02'12 19.05475 AU	
min. Earth dist.	237 Jul 24 j 07:00	1° \approx 04'09 18.93713 AU	direct	243 Nov 02 j 21:08	23° \approx 03'41	
opposition	237 Jul 25 j 08:13	1° \approx 01'38 -0°40'18	evening set	244 Jan 31 j 08:25	26° \approx 01'56	
	237 Aug 21 j 08:51	30° \overline{R} $\overline{3}$				
direct	237 Oct 09 j 08:36	29° $\overline{3}$ 04'48	conjunction	244 Feb 16 j 05:44	26° \approx 56'05 -0°43'36	
	237 Nov 25 j 08:24	0° \approx	minimum elong	244 Feb 16 j 05:44	26° \approx 56'05 0°43'35	
evening set	238 Jan 07 j 04:14	2° \approx 05'10	max. Earth dist.	244 Feb 17 j 07:11	26° \approx 59'43 21.05570 AU	
			morning rise	244 Mar 03 j 06:37	27° \approx 50'45	
conjunction	238 Jan 22 j 21:17	2° \approx 59'18 -0°37'17		244 Apr 17 j 00:46	0° \overline{H}	
minimum elong	238 Jan 22 j 21:17	2° \approx 59'18 0°37'17	retrograde	244 Jun 05 j 18:29	0° \overline{H} 57'55	
max. Earth dist.	238 Jan 24 j 00:09	3° \approx 03'11 20.95231 AU		244 Jul 27 j 01:56	30° \overline{R} \approx	
morning rise	238 Feb 07 j 17:06	3° \approx 53'49	opposition	244 Aug 22 j 20:05	28° \approx 58'40 -0°48'23	
retrograde	238 May 12 j 13:29	7° \approx 01'21	min. Earth dist.	244 Aug 21 j 21:08	29° \approx 00'59 19.05626 AU	
opposition	238 Jul 29 j 17:45	5° \approx 02'14 -0°42'06	direct	244 Nov 06 j 03:51	27° \approx 02'28	
min. Earth dist.	238 Jul 28 j 16:24	5° \approx 04'46 18.96751 AU	evening set	245 Feb 03 j 13:30	0° \overline{H} 00'34	
direct	238 Oct 13 j 15:14	3° \approx 05'36		245 Feb 03 j 09:26	0° \overline{H}	
evening set	239 Jan 11 j 08:54	6° \approx 05'27				
			conjunction	245 Feb 19 j 11:34	0° \overline{H} 54'47 -0°43'56	
conjunction	239 Jan 27 j 02:23	6° \approx 59'31 -0°38'50	minimum elong	245 Feb 19 j 11:34	0° \overline{H} 54'47 0°43'56	
minimum elong	239 Jan 27 j 02:23	6° \approx 59'31 0°38'50	max. Earth dist.	245 Feb 20 j 11:08	0° \overline{H} 58'09 21.05466 AU	
max. Earth dist.	239 Jan 28 j 04:32	7° \approx 03'18 20.98101 AU	morning rise	245 Mar 07 j 13:35	1° \overline{H} 49'32	
morning rise	239 Feb 11 j 23:07	7° \approx 54'02	retrograde	245 Jun 10 j 03:27	4° \overline{H} 56'43	
retrograde	239 May 16 j 23:01	11° \approx 01'26	min. Earth dist.	245 Aug 26 j 05:34	2° \overline{H} 59'33 19.05269 AU	
min. Earth dist.	239 Aug 02 j 01:30	9° \approx 04'54 18.99440 AU	opposition	245 Aug 27 j 03:28	2° \overline{H} 57'20 -0°48'38	
opposition	239 Aug 03 j 03:01	9° \approx 02'21 -0°43'42	direct	245 Nov 10 j 08:44	1° \overline{H} 01'03	
direct	239 Oct 17 j 21:38	7° \approx 05'52	evening set	246 Feb 07 j 18:31	3° \overline{H} 59'04	
evening set	240 Jan 15 j 13:19	10° \approx 05'17				
			conjunction	246 Feb 23 j 17:36	4° \overline{H} 53'21 -0°44'03	
conjunction	240 Jan 31 j 07:36	10° \approx 59'21 -0°40'11	minimum elong	246 Feb 23 j 17:36	4° \overline{H} 53'21 0°44'04	
minimum elong	240 Jan 31 j 07:36	10° \approx 59'21 0°40'11	max. Earth dist.	246 Feb 24 j 17:35	4° \overline{H} 56'47 21.04862 AU	
max. Earth dist.	240 Feb 01 j 10:58	11° \approx 03'17 21.00580 AU	morning rise	246 Mar 11 j 20:24	5° \overline{H} 48'12	
morning rise	240 Feb 16 j 05:00	11° \approx 53'51	retrograde	246 Jun 14 j 11:08	8° \overline{H} 55'26	
	240 May 13 j 09:50	15° \approx	opposition	246 Aug 31 j 10:33	6° \overline{H} 55'55 -0°48'39	
retrograde	240 May 20 j 07:35	15° \approx 01'10	min. Earth dist.	246 Aug 30 j 13:06	6° \overline{H} 58'05 19.04434 AU	
	240 May 27 j 07:22	15° \overline{R} \approx	direct	246 Nov 14 j 14:44	4° \overline{H} 59'32	
min. Earth dist.	240 Aug 05 j 10:33	13° \approx 04'38 19.01699 AU	evening set	247 Feb 11 j 23:56	7° \overline{H} 57'32	
opposition	240 Aug 06 j 11:52	13° \approx 02'06 -0°45'05				
direct	240 Oct 21 j 04:16	11° \approx 05'46	conjunction	247 Feb 27 j 23:48	8° \overline{H} 51'55 -0°43'57	

minimum elong	247 Feb 27 j 23:48	8° $\mathbf{\text{X}}$ 51'55	0°43'57	opposition	253 Sep 28 j 10:11	4° $\mathbf{\text{Y}}$ 57'04	-0°42'18
max. Earth dist.	247 Feb 28 j 21:58	8° $\mathbf{\text{X}}$ 55'05	21.03829 AU	min. Earth dist.	253 Sep 27 j 20:15	4° $\mathbf{\text{Y}}$ 58'29	18.88507 AU
morning rise	247 Mar 16 j 03:44	9° $\mathbf{\text{X}}$ 46'52		direct	253 Dec 12 j 02:13	2° $\mathbf{\text{Y}}$ 59'51	
retrograde	247 Jun 18 j 20:14	12° $\mathbf{\text{X}}$ 54'12		evening set	254 Mar 12 j 00:30	6° $\mathbf{\text{Y}}$ 00'04	
opposition	247 Sep 04 j 17:30	10° $\mathbf{\text{X}}$ 54'33	-0°48'25				
min. Earth dist.	247 Sep 03 j 21:07	10° $\mathbf{\text{X}}$ 56'36	19.03207 AU	conjunction	254 Mar 28 j 07:36	6° $\mathbf{\text{Y}}$ 55'39	-0°37'29
direct	247 Nov 18 j 19:28	8° $\mathbf{\text{X}}$ 58'02		minimum elong	254 Mar 28 j 07:36	6° $\mathbf{\text{Y}}$ 55'39	0°37'29
evening set	248 Feb 16 j 05:27	11° $\mathbf{\text{X}}$ 56'06		max. Earth dist.	254 Mar 28 j 23:20	6° $\mathbf{\text{Y}}$ 57'54	20.86689 AU
				morning rise	254 Apr 13 j 18:13	7° $\mathbf{\text{Y}}$ 51'46	
conjunction	248 Mar 03 j 06:26	12° $\mathbf{\text{X}}$ 50'37	-0°43'39	retrograde	254 Jul 17 j 15:20	11° $\mathbf{\text{Y}}$ 01'00	
minimum elong	248 Mar 03 j 06:26	12° $\mathbf{\text{X}}$ 50'37	0°43'40	opposition	254 Oct 02 j 17:26	9° $\mathbf{\text{Y}}$ 00'48	-0°40'30
max. Earth dist.	248 Mar 04 j 05:00	12° $\mathbf{\text{X}}$ 53'51	21.02406 AU	min. Earth dist.	254 Oct 02 j 04:28	9° $\mathbf{\text{Y}}$ 02'08	18.84799 AU
morning rise	248 Mar 19 j 11:13	13° $\mathbf{\text{X}}$ 45'42		direct	254 Dec 16 j 09:31	7° $\mathbf{\text{Y}}$ 03'26	
retrograde	248 Jun 22 j 04:17	16° $\mathbf{\text{X}}$ 53'10		evening set	255 Mar 16 j 10:05	10° $\mathbf{\text{Y}}$ 04'15	
min. Earth dist.	248 Sep 07 j 04:17	14° $\mathbf{\text{X}}$ 55'25	19.01595 AU				
opposition	248 Sep 08 j 00:14	14° $\mathbf{\text{X}}$ 53'23	-0°47'58	conjunction	255 Apr 01 j 18:02	11° $\mathbf{\text{Y}}$ 00'04	-0°35'45
direct	248 Nov 22 j 00:46	12° $\mathbf{\text{X}}$ 56'46		minimum elong	255 Apr 01 j 18:02	11° $\mathbf{\text{Y}}$ 00'04	0°35'46
evening set	249 Feb 19 j 11:30	15° $\mathbf{\text{X}}$ 54'59		max. Earth dist.	255 Apr 02 j 06:48	11° $\mathbf{\text{Y}}$ 01'54	20.82779 AU
				morning rise	255 Apr 18 j 05:46	11° $\mathbf{\text{Y}}$ 56'25	
conjunction	249 Mar 07 j 13:19	16° $\mathbf{\text{X}}$ 49'38	-0°43'08	retrograde	255 Jul 22 j 01:20	15° $\mathbf{\text{Y}}$ 06'03	
minimum elong	249 Mar 07 j 13:19	16° $\mathbf{\text{X}}$ 49'38	0°43'07	opposition	255 Oct 07 j 01:01	13° $\mathbf{\text{Y}}$ 05'45	-0°38'29
max. Earth dist.	249 Mar 08 j 09:53	16° $\mathbf{\text{X}}$ 52'34	21.00626 AU	min. Earth dist.	255 Oct 06 j 14:26	13° $\mathbf{\text{Y}}$ 06'51	18.80672 AU
morning rise	249 Mar 23 j 19:14	17° $\mathbf{\text{X}}$ 44'51		direct	255 Dec 20 j 15:09	11° $\mathbf{\text{Y}}$ 08'10	
retrograde	249 Jun 26 j 13:27	20° $\mathbf{\text{X}}$ 52'30		evening set	256 Mar 19 j 20:14	14° $\mathbf{\text{Y}}$ 09'39	
opposition	249 Sep 12 j 06:51	18° $\mathbf{\text{X}}$ 52'37	-0°47'17				
min. Earth dist.	249 Sep 11 j 12:11	18° $\mathbf{\text{X}}$ 54'31	18.99648 AU	conjunction	256 Apr 05 j 05:25	15° $\mathbf{\text{Y}}$ 05'43	-0°33'50
direct	249 Nov 26 j 05:25	16° $\mathbf{\text{X}}$ 55'53		minimum elong	256 Apr 05 j 05:25	15° $\mathbf{\text{Y}}$ 05'43	0°33'49
evening set	250 Feb 23 j 17:46	19° $\mathbf{\text{X}}$ 54'21		max. Earth dist.	256 Apr 05 j 17:16	15° $\mathbf{\text{Y}}$ 07'25	20.78428 AU
				morning rise	256 Apr 21 j 17:53	16° $\mathbf{\text{Y}}$ 02'17	
conjunction	250 Mar 11 j 20:44	20° $\mathbf{\text{X}}$ 49'09	-0°42'25	retrograde	256 Jul 25 j 13:15	19° $\mathbf{\text{Y}}$ 12'19	
minimum elong	250 Mar 11 j 20:44	20° $\mathbf{\text{X}}$ 49'09	0°42'25	opposition	256 Oct 10 j 08:49	17° $\mathbf{\text{Y}}$ 11'55	-0°36'15
max. Earth dist.	250 Mar 12 j 17:32	20° $\mathbf{\text{X}}$ 52'07	20.98510 AU	min. Earth dist.	256 Oct 09 j 23:20	17° $\mathbf{\text{Y}}$ 12'54	18.76086 AU
morning rise	250 Mar 28 j 03:27	21° $\mathbf{\text{X}}$ 44'31		direct	256 Dec 23 j 23:40	15° $\mathbf{\text{Y}}$ 14'04	
retrograde	250 Jun 30 j 22:32	24° $\mathbf{\text{X}}$ 52'24		evening set	257 Mar 24 j 07:16	18° $\mathbf{\text{Y}}$ 16'17	
opposition	250 Sep 16 j 13:32	22° $\mathbf{\text{X}}$ 52'26	-0°46'22				
min. Earth dist.	250 Sep 15 j 19:19	22° $\mathbf{\text{X}}$ 54'17	18.97361 AU	conjunction	257 Apr 09 j 17:16	19° $\mathbf{\text{Y}}$ 12'35	-0°31'43
direct	250 Nov 30 j 10:42	20° $\mathbf{\text{X}}$ 55'36		minimum elong	257 Apr 09 j 17:16	19° $\mathbf{\text{Y}}$ 12'35	0°31'43
evening set	251 Feb 28 j 00:31	23° $\mathbf{\text{X}}$ 54'22		max. Earth dist.	257 Apr 10 j 01:50	19° $\mathbf{\text{Y}}$ 13'49	20.73630 AU
				morning rise	257 Apr 26 j 06:45	20° $\mathbf{\text{Y}}$ 09'23	
conjunction	251 Mar 16 j 04:22	24° $\mathbf{\text{X}}$ 49'20	-0°41'29	retrograde	257 Jul 29 j 23:56	23° $\mathbf{\text{Y}}$ 19'50	
minimum elong	251 Mar 16 j 04:22	24° $\mathbf{\text{X}}$ 49'20	0°41'28	opposition	257 Oct 14 j 16:56	21° $\mathbf{\text{Y}}$ 19'16	-0°33'50
max. Earth dist.	251 Mar 16 j 23:04	24° $\mathbf{\text{X}}$ 52'00	20.96073 AU	min. Earth dist.	257 Oct 14 j 09:59	21° $\mathbf{\text{Y}}$ 20'00	18.71079 AU
morning rise	251 Apr 01 j 12:16	25° $\mathbf{\text{X}}$ 44'53		direct	257 Dec 28 j 06:29	19° $\mathbf{\text{Y}}$ 21'07	
retrograde	251 Jul 05 j 07:55	28° $\mathbf{\text{X}}$ 53'03		evening set	258 Mar 28 j 18:46	22° $\mathbf{\text{Y}}$ 24'04	
opposition	251 Sep 20 j 20:23	26° $\mathbf{\text{X}}$ 53'00	-0°45'14				
min. Earth dist.	251 Sep 20 j 03:42	26° $\mathbf{\text{X}}$ 54'42	18.94760 AU	conjunction	258 Apr 14 j 05:57	23° $\mathbf{\text{Y}}$ 20'39	-0°29'26
direct	251 Dec 04 j 15:22	24° $\mathbf{\text{X}}$ 56'03		minimum elong	258 Apr 14 j 05:57	23° $\mathbf{\text{Y}}$ 20'39	0°29'26
evening set	252 Mar 03 j 07:50	27° $\mathbf{\text{X}}$ 55'13		max. Earth dist.	258 Apr 14 j 13:36	23° $\mathbf{\text{Y}}$ 21'45	20.68434 AU
				morning rise	258 Apr 30 j 20:06	24° $\mathbf{\text{Y}}$ 17'40	
conjunction	252 Mar 19 j 12:53	28° $\mathbf{\text{X}}$ 50'23	-0°40'21	retrograde	258 Aug 03 j 12:18	27° $\mathbf{\text{Y}}$ 28'32	
minimum elong	252 Mar 19 j 12:53	28° $\mathbf{\text{X}}$ 50'23	0°40'21	opposition	258 Oct 19 j 01:15	25° $\mathbf{\text{Y}}$ 27'49	-0°31'13
max. Earth dist.	252 Mar 20 j 07:33	28° $\mathbf{\text{X}}$ 53'03	20.93304 AU	min. Earth dist.	258 Oct 18 j 19:17	25° $\mathbf{\text{Y}}$ 28'26	18.65695 AU
morning rise	252 Apr 04 j 21:37	29° $\mathbf{\text{X}}$ 46'06		direct	259 Jan 01 j 15:41	23° $\mathbf{\text{Y}}$ 29'19	
	252 Apr 09 j 02:06	0° $\mathbf{\text{Y}}$		evening set	259 Apr 02 j 07:06	26° $\mathbf{\text{Y}}$ 33'04	
retrograde	252 Jul 08 j 18:24	2° $\mathbf{\text{Y}}$ 54'35					
min. Earth dist.	252 Sep 23 j 11:10	0° $\mathbf{\text{Y}}$ 56'07	18.91810 AU	conjunction	259 Apr 18 j 19:06	27° $\mathbf{\text{Y}}$ 29'54	-0°26'59
opposition	252 Sep 24 j 03:05	0° $\mathbf{\text{Y}}$ 54'30	-0°43'53	minimum elong	259 Apr 18 j 19:06	27° $\mathbf{\text{Y}}$ 29'54	0°26'59
	252 Oct 17 j 05:11	30° $\mathbf{\text{R}}$ $\mathbf{\text{X}}$		max. Earth dist.	259 Apr 18 j 23:40	27° $\mathbf{\text{Y}}$ 30'33	20.62897 AU
direct	252 Dec 07 j 21:22	28° $\mathbf{\text{X}}$ 57'25		morning rise	259 May 05 j 10:14	28° $\mathbf{\text{Y}}$ 27'11	
	253 Jan 26 j 21:54	0° $\mathbf{\text{Y}}$			259 Jun 04 j 01:41	0° $\mathbf{\text{Z}}$	
evening set	253 Mar 07 j 15:59	1° $\mathbf{\text{Y}}$ 57'05		retrograde	259 Aug 07 j 23:54	1° $\mathbf{\text{Z}}$ 38'29	
					259 Oct 14 j 09:50	30° $\mathbf{\text{R}}$ $\mathbf{\text{Y}}$	
conjunction	253 Mar 23 j 21:54	2° $\mathbf{\text{Y}}$ 52'27	-0°39'01	opposition	259 Oct 23 j 10:01	29° $\mathbf{\text{Y}}$ 37'34	-0°28'25
minimum elong	253 Mar 23 j 21:54	2° $\mathbf{\text{Y}}$ 52'27	0°39'01	min. Earth dist.	259 Oct 23 j 06:35	29° $\mathbf{\text{Y}}$ 37'55	18.60013 AU
max. Earth dist.	253 Mar 24 j 14:01	2° $\mathbf{\text{Y}}$ 54'45	20.90187 AU	direct	260 Jan 05 j 23:35	27° $\mathbf{\text{Y}}$ 38'40	
morning rise	253 Apr 09 j 07:46	3° $\mathbf{\text{Y}}$ 48'22			260 Mar 23 j 17:02	0° $\mathbf{\text{Z}}$	
retrograde	253 Jul 13 j 03:52	6° $\mathbf{\text{Y}}$ 57'13		evening set	260 Apr 05 j 20:09	0° $\mathbf{\text{Z}}$ 43'18	

conjunction	260 Apr 22 j 09:16	1°840'25 -0°24'23	conjunction	266 May 19 j 13:45	27°814'53 -0°06'15
minimum elong	260 Apr 22 j 09:16	1°840'25 0°24'23	minimum elong	266 May 19 j 13:45	27°814'53 0°06'15
max. Earth dist.	260 Apr 22 j 12:56	1°840'56 20.57089 AU	behind sun begin	266 May 19 j 07:21	27°813'58
morning rise	260 May 09 j 00:58	2°837'56	behind sun end	266 May 19 j 20:08	27°815'48
retrograde	260 Aug 11 j 13:16	5°849'40	max. Earth dist.	266 May 19 j 06:06	27°813'47 20.19787 AU
opposition	260 Oct 26 j 18:52	3°848'34 -0°25'28	morning rise	266 Jun 05 j 08:28	28°813'57
min. Earth dist.	260 Oct 26 j 16:19	3°848'51 18.54086 AU		266 Jul 08 j 23:36	0°II
direct	261 Jan 09 j 09:35	1°849'18	retrograde	266 Sep 07 j 07:49	1°II28'50
evening set	261 Apr 10 j 10:08	4°854'51		266 Nov 08 j 10:54	30°88
			opposition	266 Nov 21 j 11:23	29°827'03 -0°05'01
conjunction	261 Apr 26 j 23:57	5°852'14 -0°21'38	min. Earth dist.	266 Nov 21 j 18:12	29°826'19 18.16620 AU
minimum elong	261 Apr 26 j 23:57	5°852'14 0°21'37	direct	267 Feb 04 j 04:17	27°825'36
max. Earth dist.	261 Apr 27 j 00:41	5°852'20 20.51071 AU		267 Apr 26 j 11:38	0°II
morning rise	261 May 13 j 16:27	6°850'01	evening set	267 May 07 j 15:29	0°II37'50
retrograde	261 Aug 16 j 01:49	10°802'13			
opposition	261 Oct 31 j 04:24	8°800'56 -0°22'21	conjunction	267 May 24 j 09:34	1°II36'59 -0°02'56
min. Earth dist.	261 Oct 31 j 04:18	8°800'57 18.47995 AU	minimum elong	267 May 24 j 09:33	1°II36'59 0°02'56
direct	262 Jan 13 j 18:12	6°801'16	behind sun begin	267 May 24 j 02:48	1°II36'01
evening set	262 Apr 15 j 00:33	9°807'47	behind sun end	267 May 24 j 16:19	1°II37'58
			max. Earth dist.	267 May 23 j 23:22	1°II35'30 20.13483 AU
conjunction	262 May 01 j 15:23	10°805'27 -0°18'46	morning rise	267 Jun 10 j 04:33	2°II36'19
minimum elong	262 May 01 j 15:23	10°805'27 0°18'46	retrograde	267 Sep 12 j 00:32	5°II51'47
max. Earth dist.	262 May 01 j 15:20	10°805'27 20.44918 AU	opposition	267 Nov 26 j 00:26	3°II49'57 -0°01'18
morning rise	262 May 18 j 08:22	11°803'29	min. Earth dist.	267 Nov 26 j 10:01	3°II48'56 18.10311 AU
retrograde	262 Aug 20 j 16:50	14°816'11	direct	268 Feb 08 j 17:16	1°II48'10
opposition	262 Nov 04 j 14:16	12°814'45 -0°19'06	asc. node	268 Apr 03 j 01:02	3°II02'25
min. Earth dist.	262 Nov 04 j 14:49	12°814'41 18.41785 AU	evening set	268 May 11 j 11:51	5°II01'41
direct	263 Jan 18 j 05:28	10°814'42			
evening set	263 Apr 19 j 16:10	13°822'15	conjunction	268 May 28 j 06:25	6°II01'07 0°00'32
			minimum elong	268 May 28 j 06:24	6°II01'07 0°00'33
conjunction	263 May 06 j 07:40	14°820'12 -0°15'46	behind sun begin	268 May 27 j 23:39	6°II00'08
minimum elong	263 May 06 j 07:40	14°820'12 0°15'46	behind sun end	268 May 28 j 13:10	6°II02'06
max. Earth dist.	263 May 06 j 04:50	14°819'48 20.38670 AU	max. Earth dist.	268 May 27 j 18:27	5°II59'21 20.07163 AU
	263 May 17 j 16:34	15°8	morning rise	268 Jun 14 j 01:29	7°II00'42
morning rise	263 May 23 j 01:18	15°818'30	retrograde	268 Sep 15 j 19:32	10°II16'44
retrograde	263 Aug 25 j 06:23	18°831'42	opposition	268 Nov 29 j 13:59	8°II14'52 0°02'27
opposition	263 Nov 09 j 00:41	16°830'08 -0°15'44	min. Earth dist.	268 Nov 30 j 00:22	8°II13'45 18.03975 AU
min. Earth dist.	263 Nov 09 j 03:44	16°829'49 18.35517 AU	direct	269 Feb 12 j 08:40	6°II12'44
	263 Dec 19 j 02:57	15°88	evening set	269 May 16 j 09:11	9°II27'31
direct	264 Jan 22 j 15:03	14°829'42			
	264 Feb 25 j 17:38	15°8	conjunction	269 Jun 02 j 04:04	10°II27'15 0°03'58
evening set	264 Apr 23 j 08:33	17°838'21	minimum elong	269 Jun 02 j 04:03	10°II27'15 0°03'58
			behind sun begin	269 Jun 01 j 21:21	10°II26'16
conjunction	264 May 10 j 00:56	18°836'37 -0°12'41	behind sun end	269 Jun 02 j 10:45	10°II28'13
minimum elong	264 May 10 j 00:56	18°836'37 0°12'41	max. Earth dist.	269 Jun 01 j 13:43	10°II25'07 20.00803 AU
behind sun begin	264 May 09 j 20:47	18°836'01	morning rise	269 Jun 18 j 23:07	11°II27'03
behind sun end	264 May 10 j 05:06	18°837'12	retrograde	269 Sep 20 j 13:31	14°II43'39
max. Earth dist.	264 May 09 j 21:06	18°836'04 20.32387 AU	opposition	269 Dec 04 j 04:32	12°II41'43 0°06'13
morning rise	264 May 26 j 18:57	19°835'10	min. Earth dist.	269 Dec 04 j 17:35	12°II40'19 17.97615 AU
retrograde	264 Aug 28 j 23:02	22°848'54	direct	270 Feb 16 j 23:28	10°II39'13
opposition	264 Nov 12 j 11:36	20°847'13 -0°12'15	evening set	270 May 21 j 07:12	13°II55'16
min. Earth dist.	264 Nov 12 j 15:14	20°846'50 18.29216 AU	max. Earth dist.	270 Jun 06 j 10:03	14°II52'49 19.94445 AU
direct	265 Jan 26 j 03:31	18°846'26			
evening set	265 Apr 28 j 01:55	21°856'14	conjunction	270 Jun 07 j 02:23	14°II55'16 0°07'21
			minimum elong	270 Jun 07 j 02:22	14°II55'16 0°07'21
conjunction	265 May 14 j 18:49	22°854'47 -0°09'30	behind sun begin	270 Jun 06 j 20:11	14°II54'21
minimum elong	265 May 14 j 18:49	22°854'47 0°09'30	behind sun end	270 Jun 07 j 08:33	14°II56'10
behind sun begin	265 May 14 j 13:14	22°853'59	morning rise	270 Jun 23 j 21:28	15°II55'18
behind sun end	265 May 15 j 00:24	22°855'35	retrograde	270 Sep 25 j 09:21	19°II12'26
max. Earth dist.	265 May 14 j 12:23	22°853'52 20.26079 AU	opposition	270 Dec 08 j 19:38	17°II10'25 0°09'59
morning rise	265 May 31 j 13:17	23°853'36	min. Earth dist.	270 Dec 09 j 09:25	17°II08'56 17.91261 AU
retrograde	265 Sep 02 j 13:55	27°807'54	direct	271 Feb 21 j 16:58	15°II07'31
opposition	265 Nov 16 j 23:17	25°806'10 -0°08'41	evening set	271 May 26 j 06:16	18°II24'49
min. Earth dist.	265 Nov 17 j 05:26	25°805'31 18.22915 AU	max. Earth dist.	271 Jun 11 j 07:26	19°II22'21 19.88101 AU
direct	266 Jan 30 j 14:40	23°805'02			
evening set	266 May 02 j 20:08	26°816'02	conjunction	271 Jun 12 j 01:39	19°II25'05 0°10'43
			minimum elong	271 Jun 12 j 01:38	19°II25'05 0°10'43

behind sun begin	271 Jun 11 j 20:29	19° Π 24'20		morning rise	277 Jul 27 j 00:24	17° \mathfrak{D} 57'49	
behind sun end	271 Jun 12 j 06:47	19° Π 25'50		retrograde	277 Oct 27 j 08:32	21° \mathfrak{D} 17'58	
morning rise	271 Jun 28 j 20:30	20° Π 25'19		opposition	278 Jan 09 j 00:30	19° \mathfrak{D} 15'25	0°33'50
retrograde	271 Sep 30 j 04:04	23° Π 42'58		min. Earth dist.	278 Jan 09 j 22:11	19° \mathfrak{D} 13'03	17.52471 AU
opposition	271 Dec 13 j 11:27	21° Π 40'52	0°13'43	direct	278 Mar 25 j 14:50	17° \mathfrak{D} 09'58	
min. Earth dist.	271 Dec 14 j 03:44	21° Π 39'06	17.84960 AU	evening set	278 Jun 28 j 17:19	20° \mathfrak{D} 35'13	
direct	272 Feb 26 j 09:53	19° Π 37'34		max. Earth dist.	278 Jul 14 j 08:23	21° \mathfrak{D} 32'40	19.50415 AU
evening set	272 May 30 j 06:06	22° Π 56'06					
max. Earth dist.	272 Jun 15 j 05:10	23° Π 53'32	19.81861 AU	conjunction	278 Jul 15 j 11:02	21° \mathfrak{D} 36'46	0°31'40
				minimum elong	278 Jul 15 j 11:02	21° \mathfrak{D} 36'46	0°31'40
conjunction	272 Jun 16 j 01:30	23° Π 56'36	0°14'02	morning rise	278 Aug 01 j 02:21	22° \mathfrak{D} 38'00	
minimum elong	272 Jun 16 j 01:30	23° Π 56'36	0°14'01	retrograde	278 Nov 01 j 07:31	25° \mathfrak{D} 58'29	
behind sun begin	272 Jun 15 j 22:19	23° Π 56'08		opposition	279 Jan 13 j 21:05	23° \mathfrak{D} 55'58	0°36'36
behind sun end	272 Jun 16 j 04:42	23° Π 57'05		min. Earth dist.	279 Jan 14 j 19:02	23° \mathfrak{D} 53'34	17.48548 AU
morning rise	272 Jul 02 j 20:14	24° Π 57'02		direct	279 Mar 30 j 13:52	21° \mathfrak{D} 50'17	
retrograde	272 Oct 04 j 00:08	28° Π 15'10		evening set	279 Jul 03 j 20:55	25° \mathfrak{D} 16'30	
opposition	272 Dec 17 j 03:54	26° Π 12'57	0°17'23				
min. Earth dist.	272 Dec 17 j 20:44	26° Π 11'08	17.78795 AU	conjunction	279 Jul 20 j 14:12	26° \mathfrak{D} 18'10	0°34'01
direct	273 Mar 02 j 05:22	24° Π 09'15		minimum elong	279 Jul 20 j 14:12	26° \mathfrak{D} 18'10	0°34'01
evening set	273 Jun 04 j 06:25	27° Π 29'00		max. Earth dist.	279 Jul 19 j 12:19	26° \mathfrak{D} 14'10	19.46738 AU
max. Earth dist.	273 Jun 20 j 04:31	28° Π 26'29	19.75775 AU	morning rise	279 Aug 06 j 04:29	27° \mathfrak{D} 19'27	
					279 Sep 28 j 22:09	0° Ω	
conjunction	273 Jun 21 j 01:51	28° Π 29'43	0°17'16	retrograde	279 Nov 06 j 07:10	0° Ω 40'14	
minimum elong	273 Jun 21 j 01:51	28° Π 29'43	0°17'17		279 Dec 15 j 08:46	30° \mathfrak{R} \mathfrak{D}	
morning rise	273 Jul 07 j 20:05	29° Π 30'20		opposition	280 Jan 18 j 18:20	28° \mathfrak{D} 37'47	0°39'07
	273 Jul 16 j 07:43	0° \mathfrak{D}		min. Earth dist.	280 Jan 19 j 16:41	28° \mathfrak{D} 35'20	17.45118 AU
retrograde	273 Oct 08 j 19:38	2° \mathfrak{D} 48'55		direct	280 Apr 03 j 13:18	26° \mathfrak{D} 31'57	
opposition	273 Dec 21 j 21:09	0° \mathfrak{D} 46'36	0°20'57	evening set	280 Jul 08 j 01:05	29° \mathfrak{D} 59'03	
min. Earth dist.	273 Dec 22 j 15:57	0° \mathfrak{D} 44'34	17.72828 AU		280 Jul 08 j 07:19	0° Ω	
	274 Jan 09 j 04:59	30° \mathfrak{R} Π					
direct	274 Mar 07 j 00:18	28° Π 42'30		conjunction	280 Jul 24 j 17:28	1° Ω 00'47	0°36'10
	274 May 01 j 10:02	0° \mathfrak{D}		minimum elong	280 Jul 24 j 17:28	1° Ω 00'47	0°36'11
evening set	274 Jun 09 j 07:32	2° \mathfrak{D} 03'25		max. Earth dist.	280 Jul 23 j 14:12	0° Ω 56'33	19.43559 AU
max. Earth dist.	274 Jun 25 j 03:24	3° \mathfrak{D} 00'48	19.69943 AU	morning rise	280 Aug 10 j 06:57	2° Ω 02'06	
				retrograde	280 Nov 10 j 06:31	5° Ω 23'10	
conjunction	274 Jun 26 j 02:45	3° \mathfrak{D} 04'22	0°20'26	opposition	281 Jan 22 j 16:22	3° Ω 20'47	0°41'24
minimum elong	274 Jun 26 j 02:45	3° \mathfrak{D} 04'22	0°20'25	min. Earth dist.	281 Jan 23 j 15:11	3° Ω 18'18	17.42192 AU
morning rise	274 Jul 12 j 20:43	4° \mathfrak{D} 05'08		direct	281 Apr 08 j 12:43	1° Ω 14'49	
retrograde	274 Oct 13 j 16:17	7° \mathfrak{D} 24'09		evening set	281 Jul 13 j 05:09	4° Ω 42'43	
opposition	274 Dec 26 j 14:48	5° \mathfrak{D} 21'44	0°24'25				
min. Earth dist.	274 Dec 27 j 10:02	5° \mathfrak{D} 19'38	17.67152 AU	conjunction	281 Jul 29 j 20:55	5° Ω 44'30	0°38'05
direct	275 Mar 11 j 21:45	3° \mathfrak{D} 17'13		minimum elong	281 Jul 29 j 20:55	5° Ω 44'30	0°38'05
evening set	275 Jun 14 j 09:11	6° \mathfrak{D} 39'19		max. Earth dist.	281 Jul 28 j 18:32	5° Ω 40'23	19.40857 AU
max. Earth dist.	275 Jun 30 j 04:42	7° \mathfrak{D} 36'50	19.64419 AU	morning rise	281 Aug 15 j 09:18	6° Ω 45'49	
				retrograde	281 Nov 15 j 07:15	10° Ω 07'07	
conjunction	275 Jul 01 j 04:20	7° \mathfrak{D} 40'26	0°23'28	opposition	282 Jan 27 j 15:00	8° Ω 04'49	0°43'24
minimum elong	275 Jul 01 j 04:20	7° \mathfrak{D} 40'26	0°23'28	min. Earth dist.	282 Jan 28 j 13:46	8° Ω 02'20	17.39712 AU
morning rise	275 Jul 17 j 21:36	8° \mathfrak{D} 41'21		direct	282 Apr 13 j 14:19	5° Ω 58'45	
retrograde	275 Oct 18 j 12:42	12° \mathfrak{D} 00'46		evening set	282 Jul 18 j 09:47	9° Ω 27'21	
opposition	275 Dec 31 j 09:24	9° \mathfrak{D} 58'17	0°27'44	max. Earth dist.	282 Aug 02 j 21:06	10° Ω 24'51	19.38594 AU
min. Earth dist.	276 Jan 01 j 06:04	9° \mathfrak{D} 56'02	17.61816 AU				
direct	276 Mar 15 j 18:15	7° \mathfrak{D} 53'25		conjunction	282 Aug 04 j 00:33	10° Ω 29'08	0°39'45
evening set	276 Jun 18 j 11:29	11° \mathfrak{D} 16'36		minimum elong	282 Aug 04 j 00:33	10° Ω 29'08	0°39'44
max. Earth dist.	276 Jul 04 j 04:38	12° \mathfrak{D} 13'59	19.59284 AU	morning rise	282 Aug 20 j 11:58	11° Ω 30'27	
				retrograde	282 Nov 20 j 06:01	14° Ω 51'55	
conjunction	276 Jul 05 j 06:07	12° \mathfrak{D} 17'53	0°26'22	opposition	283 Feb 01 j 14:10	12° Ω 49'42	0°45'07
minimum elong	276 Jul 05 j 06:07	12° \mathfrak{D} 17'53	0°26'22	min. Earth dist.	283 Feb 02 j 13:41	12° Ω 47'08	17.37677 AU
morning rise	276 Jul 21 j 22:54	13° \mathfrak{D} 18'55		direct	283 Apr 18 j 14:51	10° Ω 43'31	
retrograde	276 Oct 22 j 10:34	16° \mathfrak{D} 38'43		evening set	283 Jul 23 j 14:24	14° Ω 12'43	
opposition	277 Jan 04 j 04:33	14° \mathfrak{D} 36'11	0°30'53		283 Aug 05 j 07:49	15° Ω	
min. Earth dist.	277 Jan 05 j 01:26	14° \mathfrak{D} 33'54	17.56909 AU	max. Earth dist.	283 Aug 08 j 01:33	15° Ω 10'18	19.36767 AU
direct	277 Mar 20 j 17:01	12° \mathfrak{D} 30'59					
evening set	277 Jun 23 j 14:07	15° \mathfrak{D} 55'15		conjunction	283 Aug 09 j 04:20	15° Ω 14'30	0°41'09
max. Earth dist.	277 Jul 09 j 07:29	16° \mathfrak{D} 52'50	19.54598 AU	minimum elong	283 Aug 09 j 04:20	15° Ω 14'30	0°41'09
				morning rise	283 Aug 25 j 14:37	16° Ω 15'46	
conjunction	277 Jul 10 j 08:30	16° \mathfrak{D} 56'41	0°29'06	retrograde	283 Nov 25 j 07:04	19° Ω 37'20	
minimum elong	277 Jul 10 j 08:29	16° \mathfrak{D} 56'41	0°29'06	opposition	284 Feb 06 j 13:56	17° Ω 35'11	0°46'31

min. Earth dist.	284 Feb 07 j 12:52	17°♈32'41	17.36056 AU	conjunction	290 Sep 11 j 21:48	18°♏33'37	0°42'41
direct	284 Apr 22 j 18:26	15°♈28'57		minimum elong	290 Sep 11 j 21:48	18°♏33'37	0°42'40
evening set	284 Jul 27 j 18:58	18°♈58'35		max. Earth dist.	290 Sep 11 j 01:20	18°♏30'24	19.37267 AU
max. Earth dist.	284 Aug 12 j 04:42	19°♈56'04	19.35357 AU	morning rise	290 Sep 27 j 23:55	19°♏34'02	
				retrograde	290 Dec 28 j 00:50	22°♏54'55	
conjunction	284 Aug 13 j 07:49	20°♈00'19	0°42'16	opposition	291 Mar 11 j 20:48	20°♏53'07	0°47'06
minimum elong	284 Aug 13 j 07:49	20°♈00'19	0°42'15	min. Earth dist.	291 Mar 12 j 15:12	20°♏51'08	17.38390 AU
morning rise	284 Aug 29 j 16:57	21°♈01'32		direct	291 May 27 j 18:21	18°♏47'02	
retrograde	284 Nov 29 j 05:28	24°♈23'11		evening set	291 Aug 31 j 17:15	22°♏16'32	
opposition	285 Feb 10 j 14:16	22°♈21'04	0°47'36				
min. Earth dist.	285 Feb 11 j 13:50	22°♈18'30	17.34875 AU	conjunction	291 Sep 16 j 22:09	23°♏17'19	0°41'43
direct	285 Apr 27 j 20:12	20°♈14'45		minimum elong	291 Sep 16 j 22:09	23°♏17'19	0°41'43
evening set	285 Aug 01 j 23:23	23°♈44'45		max. Earth dist.	291 Sep 16 j 02:27	23°♏14'13	19.39601 AU
max. Earth dist.	285 Aug 17 j 08:45	24°♈42'16	19.34404 AU	morning rise	291 Oct 02 j 23:18	24°♏17'33	
				retrograde	292 Jan 02 j 00:50	27°♏38'10	
conjunction	285 Aug 18 j 11:13	24°♈46'25	0°43'05	opposition	292 Mar 15 j 22:14	25°♏36'30	0°45'52
minimum elong	285 Aug 18 j 11:13	24°♈46'25	0°43'05	min. Earth dist.	292 Mar 16 j 14:09	25°♏34'47	17.41024 AU
morning rise	285 Sep 03 j 19:15	25°♈47'33		direct	292 May 31 j 21:41	23°♏30'38	
retrograde	285 Dec 04 j 06:21	29°♈09'11		evening set	292 Sep 04 j 17:58	26°♏59'40	
opposition	286 Feb 15 j 14:41	27°♈07'07	0°48'22				
min. Earth dist.	286 Feb 16 j 13:05	27°♈04'41	17.34144 AU	conjunction	292 Sep 20 j 21:52	28°♏00'15	0°40'29
direct	286 May 03 j 01:03	25°♈00'46		minimum elong	292 Sep 20 j 21:52	28°♏00'15	0°40'28
evening set	286 Aug 07 j 03:34	28°♈30'58		max. Earth dist.	292 Sep 20 j 05:10	27°♏57'37	19.42534 AU
				morning rise	292 Oct 06 j 21:47	29°♏00'16	
conjunction	286 Aug 23 j 14:22	29°♈32'33	0°43'36		292 Oct 23 j 17:31	0°♏	
minimum elong	286 Aug 23 j 14:22	29°♈32'33	0°43'37	retrograde	293 Jan 05 j 22:54	2°♏20'36	
max. Earth dist.	286 Aug 22 j 12:25	29°♈28'29	19.33907 AU	opposition	293 Mar 20 j 23:46	0°♏19'05	0°44'20
	286 Aug 30 j 21:00	0°♏		min. Earth dist.	293 Mar 21 j 14:46	0°♏17'29	17.44233 AU
morning rise	286 Sep 08 j 21:10	0°♏33'35			293 Mar 28 j 10:39	30°♏	
retrograde	286 Dec 09 j 04:22	3°♏55'10		direct	293 Jun 05 j 23:29	28°♏13'31	
opposition	287 Feb 20 j 15:39	1°♏53'08	0°48'47		293 Aug 10 j 16:58	0°♏	
min. Earth dist.	287 Feb 21 j 14:32	1°♏50'39	17.33894 AU	evening set	293 Sep 09 j 18:18	1°♏42'00	
	287 Apr 15 j 14:12	30°♏♈					
direct	287 May 08 j 03:24	29°♈46'45		conjunction	293 Sep 25 j 20:53	2°♏42'21	0°38'59
	287 May 30 j 13:22	0°♏		minimum elong	293 Sep 25 j 20:53	2°♏42'21	0°39'00
evening set	287 Aug 12 j 07:24	3°♏17'03		max. Earth dist.	293 Sep 25 j 04:56	2°♏39'50	19.46025 AU
				morning rise	293 Oct 11 j 19:57	3°♏42'09	
conjunction	287 Aug 28 j 17:01	4°♏18'31	0°43'49	retrograde	294 Jan 10 j 22:09	7°♏02'09	
minimum elong	287 Aug 28 j 17:01	4°♏18'31	0°43'49	opposition	294 Mar 26 j 00:55	5°♏00'49	0°42'31
max. Earth dist.	287 Aug 27 j 15:42	4°♏14'32	19.33914 AU	min. Earth dist.	294 Mar 26 j 13:44	4°♏59'27	17.47973 AU
morning rise	287 Sep 13 j 22:44	5°♏19'25		direct	294 Jun 11 j 01:57	2°♏55'33	
retrograde	287 Dec 14 j 04:56	8°♏40'54		evening set	294 Sep 14 j 17:48	6°♏23'25	
opposition	288 Feb 25 j 16:41	6°♏38'54	0°48'52				
min. Earth dist.	288 Feb 26 j 13:48	6°♏36'37	17.34153 AU	conjunction	294 Sep 30 j 19:26	7°♏23'30	0°37'14
direct	288 May 12 j 09:00	4°♏32'32		minimum elong	294 Sep 30 j 19:26	7°♏23'30	0°37'14
evening set	288 Aug 16 j 10:42	8°♏02'48		max. Earth dist.	294 Sep 30 j 06:25	7°♏21'28	19.50000 AU
				morning rise	294 Oct 16 j 17:20	8°♏23'05	
conjunction	288 Sep 01 j 19:15	9°♏04'08	0°43'44	retrograde	295 Jan 15 j 19:46	11°♏42'43	
minimum elong	288 Sep 01 j 19:15	9°♏04'08	0°43'45	opposition	295 Mar 31 j 02:15	9°♏41'35	0°40'25
max. Earth dist.	288 Aug 31 j 19:36	9°♏00'24	19.34445 AU	min. Earth dist.	295 Mar 31 j 13:54	9°♏40'20	17.52152 AU
morning rise	288 Sep 17 j 23:41	10°♏04'53		direct	295 Jun 16 j 04:13	7°♏36'40	
retrograde	288 Dec 18 j 02:46	13°♏26'12		evening set	295 Sep 19 j 16:41	11°♏03'46	
opposition	289 Mar 01 j 18:04	11°♏24'15	0°48'36				
min. Earth dist.	289 Mar 02 j 15:11	11°♏21'58	17.34971 AU	conjunction	295 Oct 05 j 17:01	12°♏03'36	0°35'14
direct	289 May 17 j 11:33	9°♏17'55		minimum elong	295 Oct 05 j 17:01	12°♏03'36	0°35'15
evening set	289 Aug 21 j 13:24	12°♏48'02		max. Earth dist.	295 Oct 05 j 04:46	12°♏01'41	19.54385 AU
				morning rise	295 Oct 21 j 14:05	13°♏02'56	
conjunction	289 Sep 06 j 20:41	13°♏49'11	0°43'21	retrograde	296 Jan 20 j 17:39	16°♏22'11	
minimum elong	289 Sep 06 j 20:41	13°♏49'11	0°43'21	opposition	296 Apr 04 j 03:22	14°♏21'12	0°38'03
max. Earth dist.	289 Sep 05 j 21:47	13°♏45'35	19.35560 AU	min. Earth dist.	296 Apr 04 j 13:06	14°♏20'10	17.56723 AU
morning rise	289 Sep 23 j 00:07	14°♏49'48		direct	296 Jun 20 j 06:38	12°♏16'37	
retrograde	289 Dec 23 j 02:52	18°♏10'55		evening set	296 Sep 23 j 14:37	15°♏42'55	
opposition	290 Mar 06 j 19:22	16°♏09'01	0°48'01				
min. Earth dist.	290 Mar 07 j 14:15	16°♏06'59	17.36377 AU	conjunction	296 Oct 09 j 14:03	16°♏42'28	0°33'01
direct	290 May 22 j 16:16	14°♏02'46		minimum elong	296 Oct 09 j 14:03	16°♏42'28	0°33'02
evening set	290 Aug 26 j 15:33	17°♏32'38		max. Earth dist.	296 Oct 09 j 04:38	16°♏41'00	19.59125 AU
				morning rise	296 Oct 25 j 10:06	17°♏41'33	

retrograde	297 Jan 24 j 13:56	21°♌00'21		opposition	303 May 07 j 23:40	16°♍14'17	0°16'07
opposition	297 Apr 09 j 04:11	18°♌59'32	0°35'27	min. Earth dist.	303 May 07 j 20:37	16°♍14'36	17.95293 AU
min. Earth dist.	297 Apr 09 j 12:22	18°♌58'40	17.61606 AU		303 Jun 09 j 03:47	15°♍	
direct	297 Jun 25 j 09:07	16°♌55'19		direct	303 Jul 24 j 07:25	14°♍12'00	
evening set	297 Sep 28 j 11:50	20°♌20'40			303 Sep 05 j 18:57	15°♍	
				evening set	303 Oct 25 j 22:56	17°♍30'29	
conjunction	297 Oct 14 j 10:07	21°♌19'56	0°30'36				
minimum elong	297 Oct 14 j 10:07	21°♌19'56	0°30'35	conjunction	303 Nov 10 j 16:16	18°♍27'59	0°12'55
max. Earth dist.	297 Oct 14 j 01:32	21°♌18'36	19.64149 AU	minimum elong	303 Nov 10 j 16:17	18°♍27'59	0°12'55
morning rise	297 Oct 30 j 05:29	22°♌18'46		behind sun begin	303 Nov 10 j 12:09	18°♍27'22	
retrograde	298 Jan 29 j 10:17	25°♌37'07		behind sun end	303 Nov 10 j 20:24	18°♍28'36	
opposition	298 Apr 14 j 04:41	23°♌36'25	0°32'38	max. Earth dist.	303 Nov 10 j 19:54	18°♍28'31	19.98416 AU
min. Earth dist.	298 Apr 14 j 11:20	23°♌35'43	17.66756 AU	morning rise	303 Nov 26 j 08:02	19°♍25'16	
direct	298 Jun 30 j 10:10	21°♌32'32		retrograde	304 Feb 25 j 21:22	22°♍40'14	
evening set	298 Oct 03 j 08:04	24°♌56'54		opposition	304 May 11 j 20:59	20°♍40'02	0°12'31
				min. Earth dist.	304 May 11 j 16:42	20°♍40'28	18.01561 AU
conjunction	298 Oct 19 j 05:30	25°♌55'52	0°27'59	direct	304 Jul 28 j 02:26	18°♍38'06	
minimum elong	298 Oct 19 j 05:30	25°♌55'52	0°27'59	evening set	304 Oct 29 j 13:25	21°♍55'21	
max. Earth dist.	298 Oct 18 j 23:27	25°♌54'56	19.69409 AU				
morning rise	298 Nov 03 j 23:57	26°♌54'26		conjunction	304 Nov 14 j 06:11	22°♍52'34	0°09'40
	299 Jan 13 j 01:06	0°♍		minimum elong	304 Nov 14 j 06:11	22°♍52'34	0°09'39
retrograde	299 Feb 03 j 05:29	0°♍12'16		behind sun begin	304 Nov 14 j 00:44	22°♍51'45	
	299 Feb 24 j 18:57	30°♋		behind sun end	304 Nov 14 j 11:37	22°♍53'23	
opposition	299 Apr 19 j 04:43	28°♌11'42	0°29'37	max. Earth dist.	304 Nov 14 j 11:57	22°♍53'26	20.04783 AU
min. Earth dist.	299 Apr 19 j 09:24	28°♌11'13	17.72102 AU	morning rise	304 Nov 29 j 21:36	23°♍49'36	
direct	299 Jul 05 j 11:55	26°♌08'09		retrograde	305 Mar 01 j 14:26	27°♍03'59	
evening set	299 Oct 08 j 03:32	29°♌31'26		opposition	305 May 16 j 17:17	25°♍03'54	0°08'52
	299 Oct 15 j 21:59	0°♍		min. Earth dist.	305 May 16 j 09:56	25°♍04'39	18.08009 AU
				direct	305 Aug 01 j 23:17	23°♍02'22	
conjunction	299 Oct 23 j 23:55	0°♍30'07	0°25'13	evening set	305 Nov 03 j 03:00	26°♍18'24	
minimum elong	299 Oct 23 j 23:55	0°♍30'07	0°25'12				
max. Earth dist.	299 Oct 23 j 19:01	0°♍29'21	19.74858 AU	conjunction	305 Nov 18 j 19:14	27°♍15'21	0°06'23
morning rise	299 Nov 08 j 17:46	1°♍28'26		minimum elong	305 Nov 18 j 19:15	27°♍15'21	0°06'24
retrograde	300 Feb 08 j 00:13	4°♍45'43		behind sun begin	305 Nov 18 j 13:04	27°♍14'26	
opposition	300 Apr 23 j 04:28	2°♍45'14	0°26'26	behind sun end	305 Nov 19 j 01:26	27°♍16'16	
min. Earth dist.	300 Apr 23 j 07:49	2°♍44'53	17.77646 AU	max. Earth dist.	305 Nov 19 j 03:13	27°♍16'32	20.11303 AU
direct	300 Jul 09 j 11:02	0°♍42'00		morning rise	305 Dec 04 j 10:23	28°♍12'09	
evening set	300 Oct 11 j 21:45	4°♍04'09			306 Jan 06 j 18:17	0°♋	
				retrograde	306 Mar 06 j 05:13	1°♋25'59	
conjunction	300 Oct 27 j 17:24	5°♍02'32	0°22'17		306 May 07 j 12:54	30°♋	
minimum elong	300 Oct 27 j 17:24	5°♍02'32	0°22'17	opposition	306 May 21 j 13:11	29°♍26'02	0°05'11
max. Earth dist.	300 Oct 27 j 14:58	5°♍02'09	19.80491 AU	min. Earth dist.	306 May 21 j 04:52	29°♍26'53	18.14597 AU
morning rise	300 Nov 12 j 10:36	6°♍00'35		direct	306 Aug 06 j 16:27	27°♍24'55	
retrograde	301 Feb 11 j 18:51	9°♍17'18			306 Oct 27 j 04:51	0°♋	
opposition	301 Apr 28 j 03:29	7°♍16'54	0°23'07	evening set	306 Nov 07 j 15:43	0°♋39'45	
min. Earth dist.	301 Apr 28 j 04:25	7°♍16'48	17.83348 AU				
direct	301 Jul 14 j 11:29	5°♍13'59		conjunction	306 Nov 23 j 07:28	1°♋36'25	0°03'05
evening set	301 Oct 16 j 15:11	8°♍34'55		minimum elong	306 Nov 23 j 07:27	1°♋36'25	0°03'04
				behind sun begin	306 Nov 23 j 00:56	1°♋35'27	
conjunction	301 Nov 01 j 09:59	9°♍33'01	0°19'15	behind sun end	306 Nov 23 j 13:58	1°♋37'23	
minimum elong	301 Nov 01 j 09:59	9°♍33'00	0°19'15	max. Earth dist.	306 Nov 23 j 17:12	1°♋37'53	20.17941 AU
max. Earth dist.	301 Nov 01 j 09:06	9°♍32'53	19.86279 AU	morning rise	306 Dec 08 j 22:25	2°♋32'59	
morning rise	301 Nov 17 j 02:40	10°♍30'48		retrograde	307 Mar 10 j 21:21	5°♋46'18	
retrograde	302 Feb 16 j 11:50	13°♍46'56		opposition	307 May 26 j 08:17	3°♋46'31	0°01'31
opposition	302 May 03 j 01:52	11°♍46'35	0°19'40	min. Earth dist.	307 May 25 j 21:01	3°♋47'40	18.21257 AU
min. Earth dist.	302 May 03 j 01:41	11°♍46'36	17.89230 AU	direct	307 Aug 11 j 11:36	1°♋45'50	
direct	302 Jul 19 j 08:26	9°♍43'58		desc. node	307 Oct 25 j 07:31	3°♋58'52	
evening set	302 Oct 21 j 07:34	13°♍03'42		evening set	307 Nov 12 j 03:41	4°♋59'28	
conjunction	302 Nov 06 j 01:40	14°♍01'30	0°16'07	conjunction	307 Nov 27 j 19:02	5°♋55'53	-0°00'19
minimum elong	302 Nov 06 j 01:40	14°♍01'30	0°16'06	minimum elong	307 Nov 27 j 19:03	5°♋55'53	0°00'19
behind sun begin	302 Nov 06 j 00:47	14°♍01'22		behind sun begin	307 Nov 27 j 12:32	5°♋54'56	
behind sun end	302 Nov 06 j 02:32	14°♍01'38		behind sun end	307 Nov 28 j 01:33	5°♋56'51	
max. Earth dist.	302 Nov 06 j 03:09	14°♍01'43	19.92257 AU	max. Earth dist.	307 Nov 28 j 07:02	5°♋57'41	20.24610 AU
morning rise	302 Nov 21 j 17:50	14°♍59'02		morning rise	307 Dec 13 j 09:51	6°♋52'14	
	302 Nov 22 j 00:19	15°♍		retrograde	308 Mar 14 j 11:41	10°♋05'03	
retrograde	303 Feb 21 j 05:45	18°♍14'34		opposition	308 May 30 j 02:56	8°♋05'25	-0°02'09

min. Earth dist.	308 May 29 j 14:59	8° ♂ 06'38	18.27929 AU	conjunction	313 Dec 22 j 03:51	1° ♂ 20'45	-0°19'11
direct	308 Aug 15 j 03:25	6° ♂ 05'10		minimum elong	313 Dec 22 j 03:51	1° ♂ 20'45	0°19'11
evening set	308 Nov 15 j 14:51	9° ♂ 17'38		max. Earth dist.	313 Dec 22 j 23:37	1° ♂ 23'40	20.61482 AU
				morning rise	314 Jan 06 j 19:19	2° ♂ 15'59	
conjunction	308 Dec 01 j 05:53	10° ♂ 13'47	-0°03'40	retrograde	314 Apr 09 j 16:40	5° ♂ 25'59	
minimum elong	308 Dec 01 j 05:52	10° ♂ 13'47	0°03'40	min. Earth dist.	314 Jun 25 j 09:05	3° ♂ 28'50	18.64100 AU
behind sun begin	308 Nov 30 j 23:23	10° ♂ 12'50		opposition	314 Jun 26 j 04:14	3° ♂ 26'54	-0°22'48
behind sun end	308 Dec 01 j 12:21	10° ♂ 14'44		direct	314 Sep 10 j 20:45	1° ♂ 28'43	
max. Earth dist.	308 Dec 01 j 19:08	10° ♂ 15'47	20.31258 AU	evening set	314 Dec 10 j 20:45	4° ♂ 34'39	
morning rise	308 Dec 16 j 20:42	11° ♂ 09'56					
retrograde	309 Mar 19 j 02:48	14° ♂ 22'14		conjunction	314 Dec 26 j 11:13	5° ♂ 29'33	-0°21'59
opposition	309 Jun 03 j 20:44	12° ♂ 22'46	-0°05'47	minimum elong	314 Dec 26 j 11:13	5° ♂ 29'33	0°21'59
min. Earth dist.	309 Jun 03 j 06:12	12° ♂ 24'14	18.34527 AU	max. Earth dist.	314 Dec 27 j 07:13	5° ♂ 32'30	20.66624 AU
direct	309 Aug 19 j 20:52	10° ♂ 22'56		morning rise	315 Jan 11 j 03:09	6° ♂ 24'39	
evening set	309 Nov 20 j 01:25	13° ♂ 34'16		retrograde	315 Apr 14 j 04:29	9° ♂ 34'14	
				opposition	315 Jun 30 j 18:02	7° ♂ 35'07	-0°25'50
conjunction	309 Dec 05 j 16:12	14° ♂ 30'11	-0°06'54	min. Earth dist.	315 Jun 29 j 21:08	7° ♂ 37'12	18.69092 AU
minimum elong	309 Dec 05 j 16:12	14° ♂ 30'11	0°06'55	direct	315 Sep 15 j 09:04	5° ♂ 37'07	
behind sun begin	309 Dec 05 j 10:07	14° ♂ 29'18		evening set	315 Dec 15 j 03:32	8° ♂ 42'05	
behind sun end	309 Dec 05 j 22:17	14° ♂ 31'05					
max. Earth dist.	309 Dec 06 j 07:28	14° ♂ 32'28	20.37779 AU	conjunction	315 Dec 30 j 18:15	9° ♂ 36'49	-0°24'40
morning rise	309 Dec 21 j 06:57	15° ♂ 26'07		minimum elong	315 Dec 30 j 18:15	9° ♂ 36'49	0°24'40
retrograde	310 Mar 23 j 15:54	18° ♂ 37'57		max. Earth dist.	315 Dec 31 j 16:09	9° ♂ 40'02	20.71461 AU
opposition	310 Jun 08 j 13:58	16° ♂ 38'37	-0°09'22	morning rise	316 Jan 15 j 10:29	10° ♂ 31'47	
min. Earth dist.	310 Jun 07 j 23:08	16° ♂ 40'07	18.40973 AU	retrograde	316 Apr 17 j 13:07	13° ♂ 40'57	
direct	310 Aug 24 j 12:04	14° ♂ 39'12		min. Earth dist.	316 Jul 03 j 10:01	11° ♂ 43'56	18.73801 AU
evening set	310 Nov 24 j 11:24	17° ♂ 49'24		opposition	316 Jul 04 j 07:06	11° ♂ 41'49	-0°28'44
				direct	316 Sep 18 j 19:57	9° ♂ 44'01	
conjunction	310 Dec 10 j 01:55	18° ♂ 45'05	-0°10'05	evening set	316 Dec 18 j 09:52	12° ♂ 48'03	
minimum elong	310 Dec 10 j 01:54	18° ♂ 45'05	0°10'05				
behind sun begin	310 Dec 09 j 20:37	18° ♂ 44'18		conjunction	317 Jan 03 j 00:43	13° ♂ 42'38	-0°27'13
behind sun end	310 Dec 10 j 07:12	18° ♂ 45'51		minimum elong	317 Jan 03 j 00:43	13° ♂ 42'38	0°27'13
max. Earth dist.	310 Dec 10 j 17:54	18° ♂ 47'28	20.44129 AU	max. Earth dist.	317 Jan 03 j 22:48	13° ♂ 45'52	20.76043 AU
morning rise	310 Dec 25 j 16:48	19° ♂ 40'50		morning rise	317 Jan 18 j 17:33	14° ♂ 37'30	
retrograde	311 Mar 28 j 06:01	22° ♂ 52'12		retrograde	317 Apr 22 j 00:20	17° ♂ 46'17	
opposition	311 Jun 13 j 06:34	20° ♂ 52'58	-0°12'53	opposition	317 Jul 08 j 19:28	15° ♂ 47'07	-0°31'27
min. Earth dist.	311 Jun 12 j 13:27	20° ♂ 54'42	18.47209 AU	min. Earth dist.	317 Jul 07 j 20:49	15° ♂ 49'23	18.78265 AU
direct	311 Aug 29 j 03:40	18° ♂ 53'55		direct	317 Sep 23 j 06:18	13° ♂ 49'29	
evening set	311 Nov 28 j 20:35	22° ♂ 03'01		evening set	317 Dec 22 j 15:41	16° ♂ 52'41	
conjunction	311 Dec 14 j 11:03	22° ♂ 58'29	-0°13'12	conjunction	318 Jan 07 j 06:53	17° ♂ 47'08	-0°29'36
minimum elong	311 Dec 14 j 11:03	22° ♂ 58'29	0°13'13	minimum elong	318 Jan 07 j 06:53	17° ♂ 47'08	0°29'36
behind sun begin	311 Dec 14 j 07:06	22° ♂ 57'55		max. Earth dist.	318 Jan 08 j 06:50	17° ♂ 50'38	20.80369 AU
behind sun end	311 Dec 14 j 14:59	22° ♂ 59'03		morning rise	318 Jan 23 j 00:04	18° ♂ 41'54	
max. Earth dist.	311 Dec 15 j 04:53	23° ♂ 01'08	20.50221 AU	retrograde	318 Apr 26 j 08:14	21° ♂ 50'21	
morning rise	311 Dec 30 j 02:00	23° ♂ 54'03		min. Earth dist.	318 Jul 12 j 08:20	19° ♂ 53'28	18.82474 AU
retrograde	312 Mar 31 j 17:44	27° ♂ 04'58		opposition	318 Jul 13 j 07:14	19° ♂ 51'11	-0°34'00
opposition	312 Jun 16 j 22:38	25° ♂ 05'49	-0°16'18	direct	318 Sep 27 j 15:44	17° ♂ 53'46	
min. Earth dist.	312 Jun 16 j 05:23	25° ♂ 07'33	18.53163 AU	evening set	318 Dec 26 j 21:13	20° ♂ 56'09	
direct	312 Sep 01 j 18:04	23° ♂ 07'06					
evening set	312 Dec 02 j 05:21	26° ♂ 15'07		conjunction	319 Jan 11 j 12:41	21° ♂ 50'30	-0°31'49
				minimum elong	319 Jan 11 j 12:41	21° ♂ 50'30	0°31'50
conjunction	312 Dec 17 j 19:42	27° ♂ 10'23	-0°16'15	max. Earth dist.	319 Jan 12 j 12:39	21° ♂ 53'59	20.84463 AU
minimum elong	312 Dec 17 j 19:42	27° ♂ 10'23	0°16'14	morning rise	319 Jan 27 j 06:33	22° ♂ 45'11	
behind sun begin	312 Dec 17 j 19:13	27° ♂ 10'19		retrograde	319 Apr 30 j 18:52	25° ♂ 53'21	
behind sun end	312 Dec 17 j 20:11	27° ♂ 10'27		opposition	319 Jul 17 j 18:28	23° ♂ 54'11	-0°36'22
max. Earth dist.	312 Dec 18 j 13:49	27° ♂ 13'04	20.56021 AU	min. Earth dist.	319 Jul 16 j 18:15	23° ♂ 56'36	18.86448 AU
morning rise	313 Jan 02 j 10:59	28° ♂ 05'47		direct	319 Oct 02 j 00:14	21° ♂ 56'57	
	313 Feb 08 j 05:01	0° ♂		evening set	319 Dec 31 j 02:18	24° ♂ 58'38	
retrograde	313 Apr 05 j 06:31	1° ♂ 16'14					
	313 Jun 03 j 09:39	30° ♂ 17'08	-0°19'37	conjunction	320 Jan 15 j 18:18	25° ♂ 52'53	-0°33'53
opposition	313 Jun 21 j 13:39	29° ♂ 17'08	-0°19'37	minimum elong	320 Jan 15 j 18:18	25° ♂ 52'53	0°33'53
min. Earth dist.	313 Jun 20 j 18:33	29° ♂ 19'03	18.58802 AU	max. Earth dist.	320 Jan 16 j 19:58	25° ♂ 56'37	20.88291 AU
direct	313 Sep 06 j 07:58	27° ♂ 18'41		morning rise	320 Jan 31 j 12:41	27° ♂ 47'30	
	313 Nov 29 j 01:12	0° ♂		retrograde	320 May 04 j 03:01	29° ♂ 55'26	
evening set	313 Dec 06 j 13:23	0° ♂ 25'40		min. Earth dist.	320 Jul 20 j 04:53	27° ♂ 58'43	18.90133 AU
				opposition	320 Jul 21 j 05:12	27° ♂ 56'17	-0°38'32

direct	320 Oct 05 j 08:39	25° $\mathring{3}$ 59'17	conjunction	327 Feb 12 j 08:20	23° $\mathring{\approx}$ 54'25 -0°43'07
evening set	321 Jan 03 j 07:21	29° $\mathring{3}$ 00'18	minimum elong	327 Feb 12 j 08:19	23° $\mathring{\approx}$ 54'25 0°43'07
			max. Earth dist.	327 Feb 13 j 08:49	23° $\mathring{\approx}$ 57'55 21.04224 AU
conjunction	321 Jan 18 j 23:43	29° $\mathring{3}$ 54'29 -0°35'46	morning rise	327 Feb 28 j 08:20	24° $\mathring{\approx}$ 49'02
minimum elong	321 Jan 18 j 23:43	29° $\mathring{3}$ 54'29 0°35'46	retrograde	327 Jun 02 j 18:00	27° $\mathring{\approx}$ 56'18
max. Earth dist.	321 Jan 20 j 01:00	29° $\mathring{3}$ 58'09 20.91827 AU	opposition	327 Aug 19 j 20:30	25° $\mathring{\approx}$ 57'07 -0°47'57
	321 Jan 20 j 13:46	0° $\mathring{\approx}$	min. Earth dist.	327 Aug 18 j 21:15	25° $\mathring{\approx}$ 59'27 19.04470 AU
morning rise	321 Feb 03 j 18:55	0° $\mathring{\approx}$ 49'03	direct	327 Nov 03 j 06:11	24° $\mathring{\approx}$ 00'53
retrograde	321 May 08 j 13:02	3° $\mathring{\approx}$ 56'46	evening set	328 Jan 31 j 16:52	26° $\mathring{\approx}$ 59'15
opposition	321 Jul 25 j 15:14	1° $\mathring{\approx}$ 57'40 -0°40'31			
min. Earth dist.	321 Jul 24 j 14:10	2° $\mathring{\approx}$ 00'10 18.93510 AU	conjunction	328 Feb 16 j 14:07	27° $\mathring{\approx}$ 53'25 -0°43'38
direct	321 Oct 09 j 15:45	0° $\mathring{\approx}$ 00'50	minimum elong	328 Feb 16 j 14:07	27° $\mathring{\approx}$ 53'25 0°43'38
evening set	322 Jan 07 j 12:08	3° $\mathring{\approx}$ 01'18	max. Earth dist.	328 Feb 17 j 15:05	27° $\mathring{\approx}$ 57'00 21.04489 AU
			morning rise	328 Mar 03 j 14:56	28° $\mathring{\approx}$ 48'06
conjunction	322 Jan 23 j 05:08	3° $\mathring{\approx}$ 55'26 -0°37'29		328 Mar 26 j 07:37	0° $\mathring{\mathbb{H}}$
minimum elong	322 Jan 23 j 05:08	3° $\mathring{\approx}$ 55'26 0°37'29	retrograde	328 Jun 06 j 02:08	1° $\mathring{\mathbb{H}}$ 55'22
max. Earth dist.	322 Jan 24 j 07:45	3° $\mathring{\approx}$ 59'17 20.95020 AU		328 Aug 21 j 13:05	30° $\mathring{\mathbb{R}}$
morning rise	322 Feb 08 j 00:53	4° $\mathring{\approx}$ 49'58	min. Earth dist.	328 Aug 22 j 05:37	29° $\mathring{\approx}$ 58'20 19.04479 AU
retrograde	322 May 12 j 21:17	7° $\mathring{\approx}$ 57'31	opposition	328 Aug 23 j 04:10	29° $\mathring{\approx}$ 56'04 -0°48'23
min. Earth dist.	322 Jul 29 j 00:07	6° $\mathring{\approx}$ 00'57 18.96517 AU	direct	328 Nov 06 j 11:46	27° $\mathring{\approx}$ 59'47
opposition	322 Jul 30 j 01:03	5° $\mathring{\approx}$ 58'28 -0°42'18		329 Jan 16 j 19:47	0° $\mathring{\mathbb{H}}$
direct	322 Oct 13 j 23:16	4° $\mathring{\approx}$ 01'50	evening set	329 Feb 03 j 21:56	0° $\mathring{\mathbb{H}}$ 58'00
evening set	323 Jan 11 j 16:49	7° $\mathring{\approx}$ 01'47			
			conjunction	329 Feb 19 j 19:54	1° $\mathring{\mathbb{H}}$ 52'14 -0°43'55
conjunction	323 Jan 27 j 10:16	7° $\mathring{\approx}$ 55'52 -0°39'00	minimum elong	329 Feb 19 j 19:54	1° $\mathring{\mathbb{H}}$ 52'14 0°43'55
minimum elong	323 Jan 27 j 10:16	7° $\mathring{\approx}$ 55'52 0°39'00	max. Earth dist.	329 Feb 20 j 19:17	1° $\mathring{\mathbb{H}}$ 55'35 21.04272 AU
max. Earth dist.	323 Jan 28 j 12:11	7° $\mathring{\approx}$ 59'37 20.97835 AU	morning rise	329 Mar 07 j 21:48	2° $\mathring{\mathbb{H}}$ 47'00
morning rise	323 Feb 12 j 06:55	8° $\mathring{\approx}$ 50'24	retrograde	329 Jun 10 j 10:44	5° $\mathring{\mathbb{H}}$ 54'18
retrograde	323 May 17 j 07:06	11° $\mathring{\approx}$ 57'51	opposition	329 Aug 27 j 11:28	3° $\mathring{\mathbb{H}}$ 54'52 -0°48'36
min. Earth dist.	323 Aug 02 j 09:15	10° $\mathring{\approx}$ 01'20 18.99125 AU	min. Earth dist.	329 Aug 26 j 13:37	3° $\mathring{\mathbb{H}}$ 57'04 19.04044 AU
opposition	323 Aug 03 j 10:29	9° $\mathring{\approx}$ 58'48 -0°43'52	direct	329 Nov 10 j 16:51	1° $\mathring{\mathbb{H}}$ 58'30
direct	323 Oct 18 j 05:47	8° $\mathring{\approx}$ 02'20	evening set	330 Feb 08 j 03:00	4° $\mathring{\mathbb{H}}$ 56'39
evening set	324 Jan 15 j 21:33	11° $\mathring{\approx}$ 01'52			
			conjunction	330 Feb 24 j 01:59	5° $\mathring{\mathbb{H}}$ 50'58 -0°44'00
conjunction	324 Jan 31 j 15:45	11° $\mathring{\approx}$ 55'56 -0°40'20	minimum elong	330 Feb 24 j 01:59	5° $\mathring{\mathbb{H}}$ 50'58 0°44'00
minimum elong	324 Jan 31 j 15:44	11° $\mathring{\approx}$ 55'56 0°40'20	max. Earth dist.	330 Feb 25 j 01:52	5° $\mathring{\mathbb{H}}$ 54'23 21.03624 AU
max. Earth dist.	324 Feb 01 j 18:34	11° $\mathring{\approx}$ 59'48 21.00205 AU	morning rise	330 Mar 12 j 04:40	6° $\mathring{\mathbb{H}}$ 45'50
morning rise	324 Feb 16 j 13:03	12° $\mathring{\approx}$ 50'27	retrograde	330 Jun 14 j 19:12	9° $\mathring{\mathbb{H}}$ 53'11
	324 Apr 01 j 03:22	15° $\mathring{\approx}$	opposition	330 Aug 31 j 18:36	7° $\mathring{\mathbb{H}}$ 53'37 -0°48'34
retrograde	324 May 20 j 15:12	15° $\mathring{\approx}$ 57'49	min. Earth dist.	330 Aug 30 j 21:17	7° $\mathring{\mathbb{H}}$ 55'46 19.03197 AU
	324 Jul 10 j 23:52	15° $\mathring{\mathbb{R}}$	direct	330 Nov 14 j 22:40	5° $\mathring{\mathbb{H}}$ 57'11
opposition	324 Aug 06 j 19:23	13° $\mathring{\approx}$ 58'48 -0°45'14	evening set	331 Feb 12 j 08:16	8° $\mathring{\mathbb{H}}$ 55'19
min. Earth dist.	324 Aug 05 j 18:41	14° $\mathring{\approx}$ 01'16 19.01257 AU			
direct	324 Oct 21 j 12:11	12° $\mathring{\approx}$ 02'28	conjunction	331 Feb 28 j 08:03	9° $\mathring{\mathbb{H}}$ 49'44 -0°43'52
	325 Jan 18 j 14:52	15° $\mathring{\approx}$	minimum elong	331 Feb 28 j 08:03	9° $\mathring{\mathbb{H}}$ 49'44 0°43'52
evening set	325 Jan 19 j 02:25	15° $\mathring{\approx}$ 01'37	max. Earth dist.	331 Mar 01 j 06:20	9° $\mathring{\mathbb{H}}$ 52'55 21.02601 AU
			morning rise	331 Mar 16 j 11:54	10° $\mathring{\mathbb{H}}$ 44'43
conjunction	325 Feb 03 j 21:11	15° $\mathring{\approx}$ 55'41 -0°41'28	retrograde	331 Jun 19 j 03:55	13° $\mathring{\mathbb{H}}$ 52'12
minimum elong	325 Feb 03 j 21:11	15° $\mathring{\approx}$ 55'41 0°41'27	min. Earth dist.	331 Sep 04 j 05:05	11° $\mathring{\mathbb{H}}$ 54'34 19.01998 AU
max. Earth dist.	325 Feb 04 j 22:41	15° $\mathring{\approx}$ 59'21 21.02088 AU	opposition	331 Sep 05 j 01:37	11° $\mathring{\mathbb{H}}$ 52'30 -0°48'19
morning rise	325 Feb 19 j 19:27	16° $\mathring{\approx}$ 50'14	direct	331 Nov 19 j 02:50	9° $\mathring{\mathbb{H}}$ 55'57
retrograde	325 May 25 j 00:50	19° $\mathring{\approx}$ 57'33	evening set	332 Feb 16 j 13:53	12° $\mathring{\mathbb{H}}$ 54'10
min. Earth dist.	325 Aug 10 j 03:37	18° $\mathring{\approx}$ 00'57 19.02879 AU			
opposition	325 Aug 11 j 04:04	17° $\mathring{\approx}$ 58'30 -0°46'22	conjunction	332 Mar 03 j 14:47	13° $\mathring{\mathbb{H}}$ 48'43 -0°43'32
direct	325 Oct 25 j 18:28	16° $\mathring{\approx}$ 02'14	minimum elong	332 Mar 03 j 14:47	13° $\mathring{\mathbb{H}}$ 48'43 0°43'31
evening set	326 Jan 23 j 07:08	19° $\mathring{\approx}$ 01'05	max. Earth dist.	332 Mar 04 j 13:24	13° $\mathring{\mathbb{H}}$ 51'57 21.01220 AU
			morning rise	332 Mar 19 j 19:27	14° $\mathring{\mathbb{H}}$ 43'49
conjunction	326 Feb 08 j 02:43	19° $\mathring{\approx}$ 55'10 -0°42'24	retrograde	332 Jun 22 j 12:41	17° $\mathring{\mathbb{H}}$ 51'26
minimum elong	326 Feb 08 j 02:43	19° $\mathring{\approx}$ 55'10 0°42'24	opposition	332 Sep 08 j 08:18	15° $\mathring{\mathbb{H}}$ 51'38 -0°47'49
max. Earth dist.	326 Feb 09 j 04:47	19° $\mathring{\approx}$ 58'55 21.03426 AU	min. Earth dist.	332 Sep 07 j 12:25	15° $\mathring{\mathbb{H}}$ 53'39 19.00442 AU
morning rise	326 Feb 24 j 01:41	20° $\mathring{\approx}$ 49'45	direct	332 Nov 22 j 08:51	13° $\mathring{\mathbb{H}}$ 55'00
retrograde	326 May 29 j 08:47	23° $\mathring{\approx}$ 57'02	evening set	333 Feb 19 j 19:57	16° $\mathring{\mathbb{H}}$ 53'23
opposition	326 Aug 15 j 12:27	21° $\mathring{\approx}$ 57'56 -0°47'16			
min. Earth dist.	326 Aug 14 j 12:39	22° $\mathring{\approx}$ 00'19 19.03938 AU	conjunction	333 Mar 07 j 21:41	17° $\mathring{\mathbb{H}}$ 48'04 -0°42'59
direct	326 Oct 30 j 00:09	20° $\mathring{\approx}$ 01'43	minimum elong	333 Mar 07 j 21:41	17° $\mathring{\mathbb{H}}$ 48'04 0°42'59
evening set	327 Jan 27 j 12:03	23° $\mathring{\approx}$ 00'18	max. Earth dist.	333 Mar 08 j 18:24	17° $\mathring{\mathbb{H}}$ 51'01 20.99507 AU
			morning rise	333 Mar 24 j 03:30	18° $\mathring{\mathbb{H}}$ 43'18

retrograde	333 Jun 26 j 21:54	21° H 51'08		evening set	340 Mar 20 j 05:28	15° Y 10'01	
opposition	333 Sep 12 j 15:09	19° H 51'14	-0°47'06				
min. Earth dist.	333 Sep 11 j 20:17	19° H 53'09	18.98564 AU	conjunction	340 Apr 05 j 14:34	16° Y 06'06	-0°33'28
direct	333 Nov 26 j 13:02	17° H 54'29		minimum elong	340 Apr 05 j 14:34	16° Y 06'06	0°33'28
evening set	334 Feb 24 j 02:09	20° H 53'07		max. Earth dist.	340 Apr 06 j 02:09	16° Y 07'46	20.77132 AU
				morning rise	340 Apr 22 j 02:57	17° Y 02'41	
conjunction	334 Mar 12 j 05:02	21° H 47'57	-0°42'14	retrograde	340 Jul 25 j 22:03	20° Y 12'48	
minimum elong	334 Mar 12 j 05:02	21° H 47'57	0°42'13	opposition	340 Oct 10 j 18:05	18° Y 12'16	-0°35'50
max. Earth dist.	334 Mar 13 j 01:57	21° H 50'56	20.97460 AU	min. Earth dist.	340 Oct 10 j 08:49	18° Y 13'14	18.74733 AU
morning rise	334 Mar 28 j 11:40	22° H 43'21		direct	340 Dec 24 j 08:35	16° Y 14'18	
retrograde	334 Jul 01 j 06:58	25° H 51'24		evening set	341 Mar 24 j 16:27	19° Y 16'33	
opposition	334 Sep 16 j 22:01	23° H 51'26	-0°46'10				
min. Earth dist.	334 Sep 16 j 03:48	23° H 53'17	18.96341 AU	conjunction	341 Apr 10 j 02:24	20° Y 12'52	-0°31'20
direct	334 Nov 30 j 19:04	21° H 54'36		minimum elong	341 Apr 10 j 02:24	20° Y 12'52	0°31'19
evening set	335 Feb 28 j 09:09	24° H 53'32		max. Earth dist.	341 Apr 10 j 10:53	20° Y 14'05	20.72238 AU
				morning rise	341 Apr 26 j 15:50	21° Y 09'41	
conjunction	335 Mar 16 j 12:55	25° H 48'32	-0°41'16	retrograde	341 Jul 30 j 09:15	24° Y 20'13	
minimum elong	335 Mar 16 j 12:55	25° H 48'32	0°41'17	opposition	341 Oct 15 j 02:19	22° Y 19'30	-0°33'23
max. Earth dist.	335 Mar 17 j 07:41	25° H 51'13	20.95080 AU	min. Earth dist.	341 Oct 14 j 19:19	22° Y 20'13	18.69654 AU
morning rise	335 Apr 01 j 20:44	26° H 44'06		direct	341 Dec 28 j 15:53	20° Y 21'11	
retrograde	335 Jul 05 j 17:10	29° H 52'27		evening set	342 Mar 29 j 03:48	23° Y 24'11	
opposition	335 Sep 21 j 04:55	27° H 52'24	-0°44'59				
min. Earth dist.	335 Sep 20 j 12:07	27° H 54'07	18.93785 AU	conjunction	342 Apr 14 j 14:55	24° Y 20'46	-0°29'01
direct	335 Dec 04 j 23:53	25° H 55'27		minimum elong	342 Apr 14 j 14:55	24° Y 20'46	0°29'02
evening set	336 Mar 03 j 16:37	28° H 54'47		max. Earth dist.	342 Apr 14 j 22:45	24° Y 21'54	20.66994 AU
				morning rise	342 May 01 j 05:02	25° Y 17'49	
conjunction	336 Mar 19 j 21:35	29° H 49'59	-0°40'07	retrograde	342 Aug 03 j 21:40	28° Y 28'46	
minimum elong	336 Mar 19 j 21:35	29° H 49'59	0°40'07	opposition	342 Oct 19 j 10:43	26° Y 27'52	-0°30'45
max. Earth dist.	336 Mar 20 j 16:11	29° H 52'39	20.92337 AU	min. Earth dist.	342 Oct 19 j 04:45	26° Y 28'30	18.64251 AU
	336 Mar 22 j 19:33	0° Y		direct	343 Jan 02 j 00:54	24° Y 29'14	
morning rise	336 Apr 05 j 06:14	0° Y 45'44		evening set	343 Apr 02 j 16:13	27° Y 33'02	
retrograde	336 Jul 09 j 02:36	3° Y 54'23					
opposition	336 Sep 24 j 11:55	1° Y 54'17	-0°43'36	conjunction	343 Apr 19 j 04:09	28° Y 29'53	-0°26'33
min. Earth dist.	336 Sep 23 j 20:07	1° Y 55'54	18.90840 AU	minimum elong	343 Apr 19 j 04:09	28° Y 29'53	0°26'33
	336 Nov 27 j 20:38	30° R H		max. Earth dist.	343 Apr 19 j 08:58	28° Y 30'35	20.61468 AU
direct	336 Dec 08 j 05:54	29° H 57'12		morning rise	343 May 05 j 19:14	29° Y 27'11	
	336 Dec 18 j 14:34	0° Y			343 May 15 j 16:10	0° B	
evening set	337 Mar 08 j 00:52	2° Y 57'00		retrograde	343 Aug 08 j 09:10	2° B 38'34	
				opposition	343 Oct 23 j 19:24	0° B 37'30	-0°27'56
conjunction	337 Mar 24 j 06:40	3° Y 52'24	-0°38'45	min. Earth dist.	343 Oct 23 j 15:45	0° B 37'53	18.58612 AU
minimum elong	337 Mar 24 j 06:40	3° Y 52'24	0°38'45		343 Nov 08 j 00:10	30° R Y	
max. Earth dist.	337 Mar 24 j 22:41	3° Y 54'41	20.89199 AU	direct	344 Jan 06 j 08:48	28° Y 38'29	
morning rise	337 Apr 09 j 16:25	4° Y 48'20			344 Mar 03 j 17:14	0° B	
retrograde	337 Jul 13 j 13:30	7° Y 57'21		evening set	344 Apr 06 j 05:15	1° B 43'10	
opposition	337 Sep 28 j 19:08	5° Y 57'10	-0°41'59				
min. Earth dist.	337 Sep 28 j 05:12	5° Y 58'36	18.87492 AU	conjunction	344 Apr 22 j 18:17	2° B 40'18	-0°23'56
direct	337 Dec 12 j 11:36	3° Y 59'55		minimum elong	344 Apr 22 j 18:18	2° B 40'18	0°23'56
evening set	338 Mar 12 j 09:40	7° Y 00'16		max. Earth dist.	344 Apr 22 j 22:24	2° B 40'54	20.55728 AU
				morning rise	344 May 09 j 09:56	3° B 37'51	
conjunction	338 Mar 28 j 16:39	7° Y 55'53	-0°37'11	retrograde	344 Aug 11 j 22:42	6° B 49'42	
minimum elong	338 Mar 28 j 16:39	7° Y 55'53	0°37'11	opposition	344 Oct 27 j 04:26	4° B 48'28	-0°24'58
max. Earth dist.	338 Mar 29 j 08:07	7° Y 58'06	20.85631 AU	min. Earth dist.	344 Oct 27 j 01:38	4° B 48'46	18.52781 AU
morning rise	338 Apr 14 j 03:11	8° Y 52'01		direct	345 Jan 09 j 19:01	2° B 49'07	
retrograde	338 Jul 17 j 23:38	12° Y 01'23		evening set	345 Apr 10 j 19:06	5° B 54'43	
opposition	338 Oct 03 j 02:33	10° Y 01'07	-0°40'09				
min. Earth dist.	338 Oct 02 j 13:48	10° Y 02'26	18.83692 AU	conjunction	345 Apr 27 j 08:50	6° B 52'08	-0°21'11
direct	338 Dec 16 j 18:11	8° Y 03'41		minimum elong	345 Apr 27 j 08:50	6° B 52'08	0°21'11
evening set	339 Mar 16 j 19:14	11° Y 04'36		max. Earth dist.	345 Apr 27 j 10:04	6° B 52'19	20.49829 AU
				morning rise	345 May 14 j 01:16	7° B 49'56	
conjunction	339 Apr 02 j 03:08	12° Y 00'26	-0°35'25	retrograde	345 Aug 16 j 11:02	11° B 02'17	
minimum elong	339 Apr 02 j 03:08	12° Y 00'26	0°35'24	opposition	345 Oct 31 j 13:59	9° B 00'54	-0°21'51
max. Earth dist.	339 Apr 02 j 15:35	12° Y 02'13	20.81612 AU	min. Earth dist.	345 Oct 31 j 13:24	9° B 00'58	18.46832 AU
morning rise	339 Apr 18 j 14:48	12° Y 56'48		direct	346 Jan 14 j 03:47	7° B 01'11	
retrograde	339 Jul 22 j 10:52	16° Y 06'33		evening set	346 Apr 15 j 09:39	10° B 07'48	
opposition	339 Oct 07 j 10:20	14° Y 06'09	-0°38'06				
min. Earth dist.	339 Oct 06 j 23:47	14° Y 07'14	18.79439 AU	conjunction	346 May 02 j 00:25	11° B 05'30	-0°18'18
direct	339 Dec 21 j 00:53	12° Y 08'28		minimum elong	346 May 02 j 00:25	11° B 05'30	0°18'17

max. Earth dist.	346 May 02 j 00:58	11°805'35	20.43837 AU	morning rise	351 Jun 10 j 14:11	3°II38'43	
morning rise	346 May 18 j 17:20	12°803'34		retrograde	351 Sep 12 j 10:38	6°II54'21	
	346 Jul 26 j 16:29	15°8		opposition	351 Nov 26 j 10:39	4°II52'35	-0°00'45
retrograde	346 Aug 21 j 01:51	15°816'24		min. Earth dist.	351 Nov 26 j 20:00	4°II51'35	18.10071 AU
	346 Sep 15 j 15:40	15°8		asc. node	352 Feb 07 j 18:34	2°II50'55	
opposition	346 Nov 04 j 23:51	13°814'55	-0°18'35	direct	352 Feb 09 j 02:32	2°II50'52	
min. Earth dist.	346 Nov 04 j 23:56	13°814'55	18.40800 AU	evening set	352 May 11 j 21:42	6°II04'28	
direct	347 Jan 18 j 14:55	11°814'52					
evening set	347 Apr 20 j 01:18	14°822'32		conjunction	352 May 28 j 16:13	7°II03'56	0°01'03
	347 Apr 30 j 20:31	15°8		minimum elong	352 May 28 j 16:13	7°II03'56	0°01'03
				behind sun begin	352 May 28 j 09:27	7°II02'57	
conjunction	347 May 06 j 16:43	15°820'31	-0°15'18	behind sun end	352 May 28 j 23:00	7°II04'55	
minimum elong	347 May 06 j 16:44	15°820'31	0°15'18	max. Earth dist.	352 May 28 j 04:33	7°II02'12	20.06934 AU
behind sun begin	347 May 06 j 15:03	15°820'17		morning rise	352 Jun 14 j 11:16	8°II03'31	
behind sun end	347 May 06 j 18:24	15°820'46		retrograde	352 Sep 16 j 06:40	11°II19'42	
max. Earth dist.	347 May 06 j 14:23	15°820'11	20.37783 AU	opposition	352 Nov 30 j 00:26	9°II17'51	0°03'01
morning rise	347 May 23 j 10:21	16°818'51		min. Earth dist.	352 Nov 30 j 10:36	9°II16'46	18.03750 AU
retrograde	347 Aug 25 j 15:48	19°832'14		direct	353 Feb 12 j 18:57	7°II15'46	
opposition	347 Nov 09 j 10:27	17°830'39	-0°15'12	evening set	353 May 16 j 18:58	10°II30'35	
min. Earth dist.	347 Nov 09 j 12:52	17°830'24	18.34729 AU				
direct	348 Jan 23 j 00:49	15°830'15		conjunction	353 Jun 02 j 13:46	11°II30'19	0°04'29
evening set	348 Apr 23 j 17:45	18°839'02		minimum elong	353 Jun 02 j 13:46	11°II30'19	0°04'29
				behind sun begin	353 Jun 02 j 07:07	11°II29'21	
conjunction	348 May 10 j 10:03	19°837'20	-0°12'12	behind sun end	353 Jun 02 j 20:25	11°II31'17	
minimum elong	348 May 10 j 10:03	19°837'20	0°12'11	max. Earth dist.	353 Jun 01 j 23:31	11°II28'12	20.00578 AU
behind sun begin	348 May 10 j 05:37	19°836'42		morning rise	353 Jun 19 j 08:51	12°II30'09	
behind sun end	348 May 10 j 14:29	19°837'58		retrograde	353 Sep 20 j 23:32	15°II46'50	
max. Earth dist.	348 May 10 j 06:52	19°836'53	20.31696 AU	opposition	353 Dec 04 j 15:03	13°II44'54	0°06'47
morning rise	348 May 27 j 04:00	20°835'55		min. Earth dist.	353 Dec 05 j 03:55	13°II43'31	17.97386 AU
retrograde	348 Aug 29 j 08:16	23°849'51		direct	354 Feb 17 j 09:20	11°II42'24	
opposition	348 Nov 12 j 21:24	21°848'13	-0°11'43	evening set	354 May 21 j 17:06	14°II58'27	
min. Earth dist.	348 Nov 13 j 00:30	21°847'54	18.28622 AU				
direct	349 Jan 26 j 13:08	19°847'31		conjunction	354 Jun 07 j 12:15	15°II58'27	0°07'51
evening set	349 Apr 28 j 11:18	22°857'27		minimum elong	354 Jun 07 j 12:15	15°II58'27	0°07'50
				behind sun begin	354 Jun 07 j 06:11	15°II57'33	
conjunction	349 May 15 j 04:08	23°856'02	-0°09'01	behind sun end	354 Jun 07 j 18:19	15°II59'20	
minimum elong	349 May 15 j 04:08	23°856'02	0°09'01	max. Earth dist.	354 Jun 06 j 20:13	15°II56'03	19.94217 AU
behind sun begin	349 May 14 j 22:23	23°855'13		morning rise	354 Jun 24 j 07:19	16°II58'29	
behind sun end	349 May 15 j 09:52	23°856'52		retrograde	354 Sep 25 j 19:56	20°II15'40	
max. Earth dist.	349 May 14 j 22:07	23°855'11	20.25579 AU	opposition	354 Dec 09 j 06:00	18°II13'36	0°10'32
morning rise	349 May 31 j 22:34	24°854'53		min. Earth dist.	354 Dec 09 j 19:36	18°II12'08	17.91036 AU
retrograde	349 Sep 02 j 23:45	28°809'23		direct	355 Feb 22 j 03:38	16°II10'42	
opposition	349 Nov 17 j 09:12	26°807'43	-0°08'08	evening set	355 May 26 j 16:09	19°II27'57	
min. Earth dist.	349 Nov 17 j 14:51	26°807'07	18.22496 AU				
direct	350 Jan 30 j 24:00	24°806'41		conjunction	355 Jun 12 j 11:29	20°II28'13	0°11'12
evening set	350 May 03 j 05:35	27°817'49		minimum elong	355 Jun 12 j 11:28	20°II28'13	0°11'11
				behind sun begin	355 Jun 12 j 06:32	20°II27'29	
conjunction	350 May 19 j 23:09	28°816'43	-0°05'45	behind sun end	355 Jun 12 j 16:25	20°II28'56	
minimum elong	350 May 19 j 23:10	28°816'43	0°05'45	max. Earth dist.	355 Jun 11 j 17:24	20°II25'30	19.87889 AU
behind sun begin	350 May 19 j 16:41	28°815'47		morning rise	355 Jun 29 j 06:21	21°II28'27	
behind sun end	350 May 20 j 05:38	28°817'39		retrograde	355 Sep 30 j 13:32	24°II46'06	
max. Earth dist.	350 May 19 j 16:02	28°815'41	20.19435 AU	opposition	355 Dec 13 j 21:53	22°II43'56	0°14'15
morning rise	350 Jun 05 j 17:51	29°815'49		min. Earth dist.	355 Dec 14 j 13:59	22°II42'11	17.84765 AU
	350 Jun 18 j 20:31	0°II		direct	356 Feb 26 j 20:07	20°II40'35	
retrograde	350 Sep 07 j 18:20	2°II30'53		evening set	356 May 30 j 15:49	23°II59'03	
opposition	350 Nov 21 j 21:33	0°II29'11	-0°04'28				
min. Earth dist.	350 Nov 22 j 04:02	0°II28'29	18.16317 AU	conjunction	356 Jun 16 j 11:11	24°II59'33	0°14'29
	350 Dec 03 j 09:35	30°8		minimum elong	356 Jun 16 j 11:11	24°II59'33	0°14'30
direct	351 Feb 04 j 14:16	28°827'49		behind sun begin	356 Jun 16 j 08:28	24°II59'09	
	351 Apr 06 j 13:37	0°II		behind sun end	356 Jun 16 j 13:55	24°II59'57	
evening set	351 May 08 j 01:14	1°II40'11		max. Earth dist.	356 Jun 15 j 15:21	24°II56'33	19.81689 AU
				morning rise	356 Jul 03 j 05:53	25°II59'59	
conjunction	351 May 24 j 19:13	2°II39'21	-0°02'25	retrograde	356 Oct 04 j 10:27	29°II18'05	
minimum elong	351 May 24 j 19:13	2°II39'22	0°02'25	opposition	356 Dec 17 j 14:14	27°II15'48	0°17'53
behind sun begin	351 May 24 j 12:27	2°II38'23		min. Earth dist.	356 Dec 18 j 06:46	27°II14'00	17.78655 AU
behind sun end	351 May 25 j 02:00	2°II40'20		direct	357 Mar 02 j 16:15	25°II12'02	
max. Earth dist.	351 May 24 j 09:11	2°II37'53	20.13217 AU	evening set	357 Jun 04 j 16:10	28°II31'41	

conjunction	357 Jun 21 j 11:34	29° Π 32'24	0°17'43		363 Sep 04 j 23:49	0° Ω	
minimum elong	357 Jun 21 j 11:34	29° Π 32'24	0°17'43	retrograde	363 Nov 06 j 16:55	1° Ω 42'05	
max. Earth dist.	357 Jun 20 j 14:36	29° Π 29'14	19.75678 AU		364 Jan 11 j 10:23	30° κ Ξ	
	357 Jun 29 j 01:36	0° Ξ		opposition	364 Jan 19 j 04:44	29° Ξ 39'44	0°39'26
morning rise	357 Jul 08 j 05:50	0° Ξ 33'00		min. Earth dist.	364 Jan 20 j 02:58	29° Ξ 37'18	17.45874 AU
retrograde	357 Oct 09 j 05:00	3° Ξ 51'33		direct	364 Apr 03 j 23:07	27° Ξ 34'02	
opposition	357 Dec 22 j 07:24	1° Ξ 49'09	0°21'26		364 Jun 20 j 23:13	0° Ω	
min. Earth dist.	357 Dec 23 j 01:58	1° Ξ 47'08	17.72784 AU	evening set	364 Jul 08 j 10:44	1° Ω 01'06	
	358 Feb 11 j 14:03	30° κ Π		max. Earth dist.	364 Jul 24 j 00:05	1° Ω 58'37	19.44323 AU
direct	358 Mar 07 j 10:30	29° Π 44'59					
	358 Mar 31 j 05:51	0° Ξ		conjunction	364 Jul 25 j 03:07	2° Ω 02'49	0°36'26
evening set	358 Jun 09 j 17:07	3° Ξ 05'48		minimum elong	364 Jul 25 j 03:07	2° Ω 02'49	0°36'26
				morning rise	364 Aug 10 j 16:40	3° Ω 04'08	
conjunction	358 Jun 26 j 12:22	4° Ξ 06'43	0°20'51	retrograde	364 Nov 10 j 17:01	6° Ω 25'14	
minimum elong	358 Jun 26 j 12:22	4° Ξ 06'43	0°20'52	opposition	365 Jan 23 j 02:46	4° Ω 22'57	0°41'40
max. Earth dist.	358 Jun 25 j 13:39	4° Ξ 03'16	19.69956 AU	min. Earth dist.	365 Jan 24 j 01:25	4° Ω 20'29	17.42954 AU
morning rise	358 Jul 13 j 06:22	5° Ξ 07'29		direct	365 Apr 08 j 23:34	2° Ω 17'06	
retrograde	358 Oct 14 j 02:38	8° Ξ 26'27		evening set	365 Jul 13 j 15:02	5° Ω 44'59	
opposition	358 Dec 27 j 01:08	6° Ξ 23'58	0°24'52	max. Earth dist.	365 Jul 29 j 04:31	6° Ω 42'39	19.41599 AU
min. Earth dist.	358 Dec 27 j 19:54	6° Ξ 21'56	17.67229 AU				
direct	359 Mar 12 j 07:54	4° Ξ 19'25		conjunction	365 Jul 30 j 06:49	6° Ω 46'45	0°38'19
evening set	359 Jun 14 j 18:47	7° Ξ 41'23		minimum elong	365 Jul 30 j 06:49	6° Ω 46'45	0°38'19
				morning rise	365 Aug 15 j 19:14	7° Ω 48'04	
conjunction	359 Jul 01 j 13:54	8° Ξ 42'30	0°23'52	retrograde	365 Nov 15 j 17:04	11° Ω 09'23	
minimum elong	359 Jul 01 j 13:54	8° Ξ 42'30	0°23'52	opposition	366 Jan 28 j 01:21	9° Ω 07'11	0°43'38
max. Earth dist.	359 Jun 30 j 14:49	8° Ξ 38'59	19.64566 AU	min. Earth dist.	366 Jan 29 j 00:13	9° Ω 04'41	17.40430 AU
morning rise	359 Jul 18 j 07:11	9° Ξ 43'24		direct	366 Apr 13 j 23:53	7° Ω 01'13	
retrograde	359 Oct 18 j 22:40	13° Ξ 02'46		evening set	366 Jul 18 j 19:43	10° Ω 29'47	
opposition	359 Dec 31 j 19:40	11° Ξ 00'14	0°28'09	max. Earth dist.	366 Aug 03 j 06:53	11° Ω 27'15	19.39276 AU
min. Earth dist.	360 Jan 01 j 15:58	10° Ξ 58'01	17.62044 AU				
direct	360 Mar 16 j 04:11	8° Ξ 55'21		conjunction	366 Aug 04 j 10:31	11° Ω 31'34	0°39'57
evening set	360 Jun 18 j 21:03	12° Ξ 18'27		minimum elong	366 Aug 04 j 10:31	11° Ω 31'34	0°39'58
				morning rise	366 Aug 20 j 22:00	12° Ω 32'53	
conjunction	360 Jul 05 j 15:43	13° Ξ 19'43	0°26'44		366 Oct 07 j 01:11	15° Ω	
minimum elong	360 Jul 05 j 15:43	13° Ξ 19'43	0°26'44	retrograde	366 Nov 20 j 17:21	15° Ω 54'21	
max. Earth dist.	360 Jul 04 j 14:56	13° Ξ 15'55	19.59597 AU		367 Jan 05 j 13:22	15° κ Ω	
morning rise	360 Jul 22 j 08:32	14° Ξ 20'44		opposition	367 Feb 02 j 00:37	13° Ω 52'13	0°45'19
retrograde	360 Oct 22 j 20:55	17° Ξ 40'30		min. Earth dist.	367 Feb 03 j 00:03	13° Ω 49'39	17.38318 AU
opposition	361 Jan 04 j 14:53	15° Ξ 37'57	0°31'17	direct	367 Apr 19 j 01:28	11° Ω 46'07	
min. Earth dist.	361 Jan 05 j 11:08	15° Ξ 35'44	17.57307 AU		367 Jul 19 j 19:27	15° Ω	
direct	361 Mar 21 j 02:32	13° Ξ 32'47		evening set	367 Jul 24 j 00:18	15° Ω 15'16	
evening set	361 Jun 23 j 23:33	16° Ξ 56'57		max. Earth dist.	367 Aug 08 j 11:26	16° Ω 12'50	19.37363 AU
conjunction	361 Jul 10 j 17:58	17° Ξ 58'22	0°29'27	conjunction	367 Aug 09 j 14:17	16° Ω 17'03	0°41'18
minimum elong	361 Jul 10 j 17:58	17° Ξ 58'22	0°29'27	minimum elong	367 Aug 09 j 14:17	16° Ω 17'03	0°41'18
max. Earth dist.	361 Jul 09 j 17:34	17° Ξ 54'37	19.55081 AU	morning rise	367 Aug 26 j 00:35	17° Ω 18'19	
morning rise	361 Jul 27 j 09:56	18° Ξ 59'29		retrograde	367 Nov 25 j 17:16	20° Ω 39'53	
retrograde	361 Oct 27 j 18:34	22° Ξ 19'38		opposition	368 Feb 07 j 00:18	18° Ω 37'47	0°46'40
opposition	362 Jan 09 j 10:53	20° Ξ 17'07	0°34'13	min. Earth dist.	368 Feb 07 j 23:18	18° Ω 35'17	17.36608 AU
min. Earth dist.	362 Jan 10 j 08:10	20° Ξ 14'48	17.53029 AU	direct	368 Apr 23 j 03:44	16° Ω 31'36	
direct	362 Mar 26 j 00:29	18° Ξ 11'45		evening set	368 Jul 28 j 04:56	20° Ω 01'12	
evening set	362 Jun 29 j 02:54	21° Ξ 36'57					
				conjunction	368 Aug 13 j 17:50	21° Ω 02'56	0°42'22
conjunction	362 Jul 15 j 20:38	22° Ξ 38'29	0°31'59	minimum elong	368 Aug 13 j 17:50	21° Ω 02'56	0°42'23
minimum elong	362 Jul 15 j 20:38	22° Ξ 38'29	0°31'58	max. Earth dist.	368 Aug 12 j 14:27	20° Ω 58'38	19.35871 AU
max. Earth dist.	362 Jul 14 j 18:33	22° Ξ 34'27	19.51045 AU	morning rise	368 Aug 30 j 03:03	22° Ω 04'08	
morning rise	362 Aug 01 j 12:01	23° Ξ 39'42		retrograde	368 Nov 29 j 16:34	25° Ω 25'45	
retrograde	362 Nov 01 j 17:43	27° Ξ 00'11		opposition	369 Feb 11 j 00:30	23° Ω 23'41	0°47'43
opposition	363 Jan 14 j 07:20	24° Ξ 57'44	0°36'56	min. Earth dist.	369 Feb 11 j 23:59	23° Ω 21'07	17.35354 AU
min. Earth dist.	363 Jan 15 j 04:52	24° Ξ 55'24	17.49232 AU	direct	369 Apr 28 j 06:14	21° Ω 17'24	
direct	363 Mar 30 j 23:54	22° Ξ 52'10		evening set	369 Aug 02 j 09:08	24° Ω 47'19	
evening set	363 Jul 04 j 06:35	26° Ξ 18'22					
				conjunction	369 Aug 18 j 21:05	25° Ω 48'59	0°43'09
conjunction	363 Jul 20 j 23:54	27° Ξ 20'00	0°34'19	minimum elong	369 Aug 18 j 21:05	25° Ω 48'59	0°43'09
minimum elong	363 Jul 20 j 23:53	27° Ξ 20'00	0°34'20	max. Earth dist.	369 Aug 17 j 18:37	25° Ω 44'50	19.34852 AU
max. Earth dist.	363 Jul 19 j 22:26	27° Ξ 16'04	19.47467 AU	morning rise	369 Sep 04 j 05:12	26° Ω 50'06	
morning rise	363 Aug 06 j 14:14	28° Ξ 21'17			369 Nov 14 j 07:13	0° η	

retrograde	369 Dec 04 j 16:18	0° $\mathring{\text{M}}$ 11'43		conjunction	376 Sep 21 j 07:17	29° $\mathring{\text{M}}$ 01'08	0°40'16	
	369 Dec 25 j 05:23	30° $\mathring{\text{R}}$ 0		minimum elong	376 Sep 21 j 07:17	29° $\mathring{\text{M}}$ 01'08	0°40'17	
	opposition	370 Feb 16 j 00:53	28° $\mathring{\text{O}}$ 09'39	0°48'25	max. Earth dist.	376 Sep 20 j 14:33	28° $\mathring{\text{M}}$ 58'30	19.43305 AU
	min. Earth dist.	370 Feb 16 j 23:16	28° $\mathring{\text{O}}$ 07'13	17.34564 AU		376 Oct 06 j 23:56	0° $\mathring{\text{A}}$	
direct	370 May 03 j 10:25	26° $\mathring{\text{O}}$ 03'19		morning rise	376 Oct 07 j 07:18	0° $\mathring{\text{A}}$ 01'08		
evening set	370 Aug 07 j 13:16	29° $\mathring{\text{O}}$ 33'25		retrograde	377 Jan 06 j 08:08	3° $\mathring{\text{A}}$ 21'21		
max. Earth dist.	370 Aug 14 j 17:03	0° $\mathring{\text{M}}$		opposition	377 Mar 21 j 08:57	1° $\mathring{\text{A}}$ 19'53	0°44'04	
	370 Aug 22 j 22:03	0° $\mathring{\text{M}}$ 30'54	19.34312 AU	min. Earth dist.	377 Mar 22 j 00:07	1° $\mathring{\text{A}}$ 18'15	17.45014 AU	
					377 Apr 24 j 02:46	30° $\mathring{\text{R}}$ $\mathring{\text{M}}$		
conjunction	370 Aug 24 j 00:07	0° $\mathring{\text{M}}$ 35'00	0°43'38	direct	377 Jun 06 j 08:48	29° $\mathring{\text{M}}$ 14'20		
minimum elong	370 Aug 24 j 00:07	0° $\mathring{\text{M}}$ 35'00	0°43'38		377 Jul 18 j 13:06	0° $\mathring{\text{A}}$		
morning rise	370 Sep 09 j 07:02	1° $\mathring{\text{M}}$ 36'01		evening set	377 Sep 10 j 03:33	2° $\mathring{\text{A}}$ 42'43		
retrograde	370 Dec 09 j 14:36	4° $\mathring{\text{M}}$ 57'32						
opposition	371 Feb 21 j 01:36	2° $\mathring{\text{M}}$ 55'29	0°48'47	conjunction	377 Sep 26 j 06:15	3° $\mathring{\text{A}}$ 43'02	0°38'44	
min. Earth dist.	371 Feb 22 j 00:22	2° $\mathring{\text{M}}$ 53'01	17.34291 AU	minimum elong	377 Sep 26 j 06:15	3° $\mathring{\text{A}}$ 43'02	0°38'43	
direct	371 May 08 j 13:43	0° $\mathring{\text{M}}$ 49'07		max. Earth dist.	377 Sep 25 j 14:11	3° $\mathring{\text{A}}$ 40'30	19.46799 AU	
evening set	371 Aug 12 j 16:58	4° $\mathring{\text{M}}$ 19'18		morning rise	377 Oct 12 j 05:26	4° $\mathring{\text{A}}$ 42'49		
max. Earth dist.	371 Aug 28 j 01:34	5° $\mathring{\text{M}}$ 16'48	19.34316 AU	retrograde	378 Jan 11 j 07:11	8° $\mathring{\text{A}}$ 02'43		
conjunction	371 Aug 29 j 02:41	5° $\mathring{\text{M}}$ 20'45	0°43'48	opposition	378 Mar 26 j 10:11	6° $\mathring{\text{A}}$ 01'24	0°42'12	
	minimum elong	371 Aug 29 j 02:41	5° $\mathring{\text{M}}$ 20'45	0°43'49	min. Earth dist.	378 Mar 26 j 23:07	6° $\mathring{\text{A}}$ 00'01	17.48726 AU
	morning rise	371 Sep 14 j 08:29	6° $\mathring{\text{M}}$ 21'38	direct	378 Jun 11 j 11:38	3° $\mathring{\text{A}}$ 56'09		
	retrograde	371 Dec 14 j 14:20	9° $\mathring{\text{M}}$ 43'02	evening set	378 Sep 15 j 03:02	7° $\mathring{\text{A}}$ 23'54		
opposition	372 Feb 26 j 02:33	7° $\mathring{\text{M}}$ 41'00	0°48'49	conjunction	378 Oct 01 j 04:45	8° $\mathring{\text{A}}$ 23'59	0°36'56	
min. Earth dist.	372 Feb 26 j 23:30	7° $\mathring{\text{M}}$ 38'44	17.34569 AU	minimum elong	378 Oct 01 j 04:45	8° $\mathring{\text{A}}$ 23'59	0°36'57	
direct	372 May 12 j 18:37	5° $\mathring{\text{M}}$ 34'37		max. Earth dist.	378 Sep 30 j 15:31	8° $\mathring{\text{A}}$ 21'54	19.50716 AU	
evening set	372 Aug 16 j 20:01	9° $\mathring{\text{M}}$ 04'45		morning rise	378 Oct 17 j 02:44	9° $\mathring{\text{A}}$ 23'32		
max. Earth dist.	372 Sep 01 j 05:05	10° $\mathring{\text{M}}$ 02'21	19.34885 AU	retrograde	379 Jan 16 j 04:43	12° $\mathring{\text{A}}$ 43'04		
conjunction	372 Sep 02 j 04:38	10° $\mathring{\text{M}}$ 06'03	0°43'41	opposition	379 Mar 31 j 11:27	10° $\mathring{\text{A}}$ 41'56	0°40'04	
	minimum elong	372 Sep 02 j 04:38	10° $\mathring{\text{M}}$ 06'03	0°43'40	min. Earth dist.	379 Mar 31 j 23:30	10° $\mathring{\text{A}}$ 40'39	17.52826 AU
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	retrograde	372 Dec 18 j 12:18	14° $\mathring{\text{M}}$ 28'02	evening set	379 Sep 20 j 01:57	12° $\mathring{\text{A}}$ 04'01		
opposition	373 Mar 02 j 03:47	12° $\mathring{\text{M}}$ 26'02	0°48'30	conjunction	379 Oct 06 j 02:23	13° $\mathring{\text{A}}$ 03'50	0°34'55	
min. Earth dist.	373 Mar 03 j 00:38	12° $\mathring{\text{M}}$ 23'47	17.35446 AU	minimum elong	379 Oct 06 j 02:23	13° $\mathring{\text{A}}$ 03'50	0°34'54	
direct	373 May 17 j 21:17	10° $\mathring{\text{M}}$ 19'42		max. Earth dist.	379 Oct 05 j 13:46	13° $\mathring{\text{A}}$ 01'51	19.55004 AU	
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max. Earth dist.	373 Sep 06 j 07:29	14° $\mathring{\text{M}}$ 47'15	19.36078 AU	retrograde	380 Jan 21 j 02:30	17° $\mathring{\text{A}}$ 22'17		
conjunction	373 Sep 07 j 06:06	14° $\mathring{\text{M}}$ 50'49	0°43'15	opposition	380 Apr 04 j 12:29	15° $\mathring{\text{A}}$ 21'18	0°37'40	
	minimum elong	373 Sep 07 j 06:06	14° $\mathring{\text{M}}$ 50'49	0°43'15	min. Earth dist.	380 Apr 04 j 22:29	15° $\mathring{\text{A}}$ 20'14	17.57282 AU
	morning rise	373 Sep 23 j 09:37	15° $\mathring{\text{M}}$ 51'23	direct	380 Jun 20 j 15:30	13° $\mathring{\text{A}}$ 16'42		
	retrograde	373 Dec 23 j 12:20	19° $\mathring{\text{M}}$ 12'24	evening set	380 Sep 23 j 23:44	16° $\mathring{\text{A}}$ 42'53		
opposition	374 Mar 07 j 04:49	17° $\mathring{\text{M}}$ 10'29	0°47'52	conjunction	380 Oct 09 j 23:17	17° $\mathring{\text{A}}$ 42'25	0°32'40	
min. Earth dist.	374 Mar 07 j 23:24	17° $\mathring{\text{M}}$ 08'29	17.36944 AU	minimum elong	380 Oct 09 j 23:17	17° $\mathring{\text{A}}$ 42'25	0°32'39	
direct	374 May 23 j 01:42	15° $\mathring{\text{M}}$ 04'15		max. Earth dist.	380 Oct 09 j 13:31	17° $\mathring{\text{A}}$ 40'54	19.59609 AU	
evening set	374 Aug 27 j 00:53	18° $\mathring{\text{M}}$ 33'59		morning rise	380 Oct 25 j 19:26	18° $\mathring{\text{A}}$ 41'29		
max. Earth dist.	374 Sep 11 j 10:50	19° $\mathring{\text{M}}$ 31'45	19.37889 AU	retrograde	381 Jan 24 j 23:29	22° $\mathring{\text{A}}$ 00'11		
conjunction	374 Sep 12 j 07:12	19° $\mathring{\text{M}}$ 34'57	0°42'32	opposition	381 Apr 09 j 13:16	19° $\mathring{\text{A}}$ 59'21	0°35'02	
	minimum elong	374 Sep 12 j 07:12	19° $\mathring{\text{M}}$ 34'57	0°42'32	min. Earth dist.	381 Apr 09 j 21:58	19° $\mathring{\text{A}}$ 58'26	17.62013 AU
	morning rise	374 Sep 28 j 09:25	20° $\mathring{\text{M}}$ 35'21	direct	381 Jun 25 j 17:50	17° $\mathring{\text{A}}$ 55'06		
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opposition	375 Mar 12 j 06:15	21° $\mathring{\text{M}}$ 54'20	0°46'55	conjunction	381 Oct 14 j 19:22	22° $\mathring{\text{A}}$ 19'37	0°30'12	
min. Earth dist.	375 Mar 13 j 00:26	21° $\mathring{\text{M}}$ 52'22	17.39061 AU	minimum elong	381 Oct 14 j 19:22	22° $\mathring{\text{A}}$ 19'37	0°30'12	
direct	375 May 28 j 03:35	19° $\mathring{\text{M}}$ 48'16		max. Earth dist.	381 Oct 14 j 10:16	22° $\mathring{\text{A}}$ 18'12	19.64474 AU	
evening set	375 Sep 01 j 02:26	23° $\mathring{\text{M}}$ 17'38		morning rise	381 Oct 30 j 14:49	23° $\mathring{\text{A}}$ 18'26		
max. Earth dist.	375 Sep 16 j 11:56	24° $\mathring{\text{M}}$ 15'20	19.40317 AU	retrograde	382 Jan 29 j 19:09	26° $\mathring{\text{A}}$ 36'40		
conjunction	375 Sep 17 j 07:26	24° $\mathring{\text{M}}$ 18'24	0°41'32	opposition	382 Apr 14 j 13:31	24° $\mathring{\text{A}}$ 35'57	0°32'11	
	minimum elong	375 Sep 17 j 07:26	24° $\mathring{\text{M}}$ 18'24	0°41'32	min. Earth dist.	382 Apr 14 j 20:32	24° $\mathring{\text{A}}$ 35'12	17.66999 AU
	morning rise	375 Oct 03 j 08:41	25° $\mathring{\text{M}}$ 18'37	direct	382 Jun 30 j 18:44	22° $\mathring{\text{A}}$ 32'00		
	retrograde	376 Jan 02 j 10:11	28° $\mathring{\text{M}}$ 39'08	evening set	382 Oct 03 j 17:13	25° $\mathring{\text{A}}$ 56'17		
opposition	376 Mar 16 j 07:35	26° $\mathring{\text{M}}$ 37'29	0°45'38	conjunction	382 Oct 19 j 14:45	26° $\mathring{\text{A}}$ 55'16	0°27'34	
min. Earth dist.	376 Mar 16 j 23:19	26° $\mathring{\text{M}}$ 35'47	17.41771 AU	minimum elong	382 Oct 19 j 14:45	26° $\mathring{\text{A}}$ 55'16	0°27'34	
direct	376 Jun 01 j 07:11	24° $\mathring{\text{M}}$ 31'39		max. Earth dist.	382 Oct 19 j 08:22	26° $\mathring{\text{A}}$ 54'16	19.69575 AU	
evening set	376 Sep 05 j 03:17	28° $\mathring{\text{M}}$ 00'35		morning rise	382 Nov 04 j 09:18	27° $\mathring{\text{A}}$ 53'49		

























































































































	382 Dec 13 j 12:40	0° <u>ℳ</u>		behind sun end	388 Nov 14 j 20:19	23° <u>ℳ</u> 51'45	
retrograde	383 Feb 03 j 15:06	1° <u>ℳ</u> 11'32		max. Earth dist.	388 Nov 14 j 20:36	23° <u>ℳ</u> 51'48	20.04830 AU
	383 Mar 30 j 11:15	30° <u>ℳ</u> <u>♂</u>		morning rise	388 Nov 30 j 06:14	24° <u>ℳ</u> 47'58	
opposition	383 Apr 19 j 13:32	29° <u>♂</u> 10'56	0°29'09	retrograde	389 Mar 01 j 22:37	28° <u>ℳ</u> 02'21	
min. Earth dist.	383 Apr 19 j 18:45	29° <u>♂</u> 10'23	17.72193 AU	opposition	389 May 17 j 01:16	26° <u>ℳ</u> 02'19	0°08'21
direct	383 Jul 05 j 20:45	27° <u>♂</u> 07'19		min. Earth dist.	389 May 16 j 17:53	26° <u>ℳ</u> 03'04	18.08087 AU
	383 Sep 29 j 23:38	0° <u>ℳ</u>		direct	389 Aug 02 j 06:59	24° <u>ℳ</u> 00'48	
evening set	383 Oct 08 j 12:28	0° <u>ℳ</u> 30'31		evening set	389 Nov 03 j 11:30	27° <u>ℳ</u> 16'54	
conjunction	383 Oct 24 j 08:57	1° <u>ℳ</u> 29'12	0°24'46	conjunction	389 Nov 19 j 03:48	28° <u>ℳ</u> 13'51	0°05'55
minimum elong	383 Oct 24 j 08:57	1° <u>ℳ</u> 29'12	0°24'47	minimum elong	389 Nov 19 j 03:47	28° <u>ℳ</u> 13'51	0°05'54
max. Earth dist.	383 Oct 24 j 03:40	1° <u>ℳ</u> 28'23	19.74884 AU	behind sun begin	389 Nov 18 j 21:32	28° <u>ℳ</u> 12'55	
morning rise	383 Nov 09 j 02:54	2° <u>ℳ</u> 27'30		behind sun end	389 Nov 19 j 10:03	28° <u>ℳ</u> 14'47	
retrograde	384 Feb 08 j 08:59	5° <u>ℳ</u> 44'42		max. Earth dist.	389 Nov 19 j 11:35	28° <u>ℳ</u> 15'01	20.11411 AU
opposition	384 Apr 23 j 13:04	3° <u>ℳ</u> 44'10	0°25'57	morning rise	389 Dec 04 j 18:59	29° <u>ℳ</u> 10'40	
min. Earth dist.	384 Apr 23 j 16:43	3° <u>ℳ</u> 43'47	17.77614 AU		389 Dec 19 j 01:08	0° <u>♂</u>	
direct	384 Jul 09 j 20:08	1° <u>ℳ</u> 40'51		retrograde	390 Mar 06 j 13:22	2° <u>♂</u> 24'30	
evening set	384 Oct 12 j 06:39	5° <u>ℳ</u> 02'56		opposition	390 May 21 j 21:05	0° <u>♂</u> 24'38	0°04'40
				min. Earth dist.	390 May 21 j 12:45	0° <u>♂</u> 25'29	18.14726 AU
conjunction	384 Oct 28 j 02:25	6° <u>ℳ</u> 01'19	0°21'50		390 May 31 j 23:07	30° <u>ℳ</u>	
minimum elong	384 Oct 28 j 02:25	6° <u>ℳ</u> 01'19	0°21'50	direct	390 Aug 07 j 00:31	28° <u>ℳ</u> 23'33	
max. Earth dist.	384 Oct 27 j 23:52	6° <u>ℳ</u> 00'56	19.80416 AU		390 Oct 08 j 20:51	0° <u>♂</u>	
morning rise	384 Nov 12 j 19:40	6° <u>ℳ</u> 59'22		evening set	390 Nov 08 j 00:19	1° <u>♂</u> 38'27	
retrograde	385 Feb 12 j 03:26	10° <u>ℳ</u> 16'00					
opposition	385 Apr 28 j 11:47	8° <u>ℳ</u> 15'32	0°22'36	conjunction	390 Nov 23 j 16:08	2° <u>♂</u> 35'08	0°02'37
min. Earth dist.	385 Apr 28 j 13:08	8° <u>ℳ</u> 15'24	17.83245 AU	minimum elong	390 Nov 23 j 16:08	2° <u>♂</u> 35'08	0°02'37
direct	385 Jul 14 j 20:23	6° <u>ℳ</u> 12'32		behind sun begin	390 Nov 23 j 09:36	2° <u>♂</u> 34'10	
evening set	385 Oct 16 j 23:57	9° <u>ℳ</u> 33'27		behind sun end	390 Nov 23 j 22:40	2° <u>♂</u> 36'06	
				max. Earth dist.	390 Nov 24 j 01:50	2° <u>♂</u> 36'35	20.18088 AU
conjunction	385 Nov 01 j 18:49	10° <u>ℳ</u> 31'32	0°18'47	morning rise	390 Dec 09 j 07:07	3° <u>♂</u> 31'42	
minimum elong	385 Nov 01 j 18:49	10° <u>ℳ</u> 31'32	0°18'48	retrograde	391 Mar 11 j 06:20	6° <u>♂</u> 45'01	
max. Earth dist.	385 Nov 01 j 17:46	10° <u>ℳ</u> 31'23	19.86164 AU	opposition	391 May 26 j 16:16	4° <u>♂</u> 45'18	0°01'00
morning rise	385 Nov 17 j 11:36	11° <u>ℳ</u> 29'20		min. Earth dist.	391 May 26 j 05:07	4° <u>♂</u> 46'26	18.21410 AU
retrograde	386 Feb 16 j 20:02	14° <u>ℳ</u> 45'24		direct	391 Aug 11 j 19:24	2° <u>♂</u> 44'39	
opposition	386 May 03 j 10:08	12° <u>ℳ</u> 45'00	0°19'09	desc. node	391 Sep 03 j 18:47	2° <u>♂</u> 58'12	
min. Earth dist.	386 May 03 j 09:59	12° <u>ℳ</u> 45'01	17.89119 AU	evening set	391 Nov 12 j 12:17	5° <u>♂</u> 58'22	
direct	386 Jul 19 j 17:42	10° <u>ℳ</u> 42'19					
evening set	386 Oct 21 j 16:09	14° <u>ℳ</u> 02'03		conjunction	391 Nov 28 j 03:42	6° <u>♂</u> 54'47	-0°00'48
				minimum elong	391 Nov 28 j 03:41	6° <u>♂</u> 54'46	0°00'48
conjunction	386 Nov 06 j 10:19	14° <u>ℳ</u> 59'51	0°15'39	behind sun begin	391 Nov 27 j 21:09	6° <u>♂</u> 53'49	
minimum elong	386 Nov 06 j 10:19	14° <u>ℳ</u> 59'51	0°15'39	behind sun end	391 Nov 28 j 10:13	6° <u>♂</u> 55'44	
behind sun begin	386 Nov 06 j 08:30	14° <u>ℳ</u> 59'34		max. Earth dist.	391 Nov 28 j 15:21	6° <u>♂</u> 56'32	20.24762 AU
behind sun end	386 Nov 06 j 12:07	15° <u>ℳ</u> 00'07		morning rise	391 Dec 13 j 18:32	7° <u>♂</u> 51'08	
max. Earth dist.	386 Nov 06 j 11:56	15° <u>ℳ</u> 00'05	19.92158 AU	retrograde	392 Mar 14 j 19:43	11° <u>♂</u> 03'56	
	386 Nov 06 j 11:22	15° <u>ℳ</u>		opposition	392 May 30 j 10:58	9° <u>♂</u> 04'22	-0°02'40
morning rise	386 Nov 22 j 02:31	15° <u>ℳ</u> 57'23		min. Earth dist.	392 May 29 j 23:14	9° <u>♂</u> 05'33	18.28069 AU
retrograde	387 Feb 21 j 13:36	19° <u>ℳ</u> 12'52		direct	392 Aug 15 j 11:41	7° <u>♂</u> 04'08	
opposition	387 May 08 j 07:48	17° <u>ℳ</u> 12'34	0°15'37	evening set	392 Nov 15 j 23:39	10° <u>♂</u> 16'40	
min. Earth dist.	387 May 08 j 04:45	17° <u>ℳ</u> 12'53	17.95224 AU				
direct	387 Jul 24 j 15:39	15° <u>ℳ</u> 10'16		conjunction	392 Dec 01 j 14:42	11° <u>♂</u> 12'49	-0°04'07
evening set	387 Oct 26 j 07:32	18° <u>ℳ</u> 28'46		minimum elong	392 Dec 01 j 14:42	11° <u>♂</u> 12'49	0°04'08
				behind sun begin	392 Dec 01 j 08:16	11° <u>♂</u> 11'53	
conjunction	387 Nov 11 j 00:57	19° <u>ℳ</u> 26'17	0°12'27	behind sun end	392 Dec 01 j 21:09	11° <u>♂</u> 13'46	
minimum elong	387 Nov 11 j 00:57	19° <u>ℳ</u> 26'17	0°12'27	max. Earth dist.	392 Dec 02 j 03:42	11° <u>♂</u> 14'47	20.31379 AU
behind sun begin	387 Nov 10 j 20:35	19° <u>ℳ</u> 25'38		morning rise	392 Dec 17 j 05:31	12° <u>♂</u> 08'58	
behind sun end	387 Nov 11 j 05:19	19° <u>ℳ</u> 26'56		retrograde	393 Mar 19 j 11:39	15° <u>♂</u> 21'15	
max. Earth dist.	387 Nov 11 j 04:28	19° <u>ℳ</u> 26'48	19.98382 AU	opposition	393 Jun 04 j 04:39	13° <u>♂</u> 21'49	-0°06'18
morning rise	387 Nov 26 j 16:46	20° <u>ℳ</u> 23'34		min. Earth dist.	393 Jun 03 j 14:27	13° <u>♂</u> 23'15	18.34621 AU
retrograde	388 Feb 26 j 05:26	23° <u>ℳ</u> 38'30		direct	393 Aug 20 j 05:19	11° <u>♂</u> 21'59	
opposition	388 May 12 j 04:56	21° <u>ℳ</u> 38'19	0°12'00	evening set	393 Nov 20 j 10:22	14° <u>♂</u> 33'22	
min. Earth dist.	388 May 12 j 00:30	21° <u>ℳ</u> 38'47	18.01569 AU				
direct	388 Jul 28 j 10:50	19° <u>ℳ</u> 36'24		conjunction	393 Dec 06 j 01:10	15° <u>♂</u> 29'17	-0°07'22
evening set	388 Oct 29 j 21:52	22° <u>ℳ</u> 53'42		minimum elong	393 Dec 06 j 01:09	15° <u>♂</u> 29'17	0°07'21
				behind sun begin	393 Dec 05 j 19:09	15° <u>♂</u> 28'24	
conjunction	388 Nov 14 j 14:45	23° <u>ℳ</u> 50'55	0°09'12	behind sun end	393 Dec 06 j 07:09	15° <u>♂</u> 30'10	
minimum elong	388 Nov 14 j 14:45	23° <u>ℳ</u> 50'55	0°09'12	max. Earth dist.	393 Dec 06 j 15:52	15° <u>♂</u> 31'29	20.37841 AU
behind sun begin	388 Nov 14 j 09:11	23° <u>ℳ</u> 50'06		morning rise	393 Dec 21 j 15:55	16° <u>♂</u> 25'13	

retrograde	394 Mar 23 j 23:48	19°♄37'00		retrograde	400 Apr 17 j 21:50	14°♄38'30	
opposition	394 Jun 08 j 22:03	17°♄37'41 -0°09'53		opposition	400 Jul 04 j 15:05	12°♄39'19 -0°29'07	
min. Earth dist.	394 Jun 08 j 07:37	17°♄39'09 18.40997 AU		min. Earth dist.	400 Jul 03 j 18:01	12°♄41'26 18.73682 AU	
direct	394 Aug 24 j 20:02	15°♄38'14		direct	400 Sep 19 j 04:11	10°♄41'28	
evening set	394 Nov 24 j 20:17	18°♄48'27		evening set	400 Dec 18 j 18:30	13°♄45'30	
conjunction	394 Dec 10 j 10:50	19°♄44'08 -0°10'32		conjunction	401 Jan 03 j 09:21	14°♄40'06 -0°27'33	
minimum elong	394 Dec 10 j 10:50	19°♄44'08 0°10'33		minimum elong	401 Jan 03 j 09:21	14°♄40'06 0°27'33	
behind sun begin	394 Dec 10 j 05:41	19°♄43'23		max. Earth dist.	401 Jan 04 j 07:35	14°♄43'21 20.75979 AU	
behind sun end	394 Dec 10 j 15:58	19°♄44'53		morning rise	401 Jan 19 j 02:05	15°♄34'57	
max. Earth dist.	394 Dec 11 j 02:28	19°♄46'28 20.44107 AU		retrograde	401 Apr 22 j 08:19	18°♄43'41	
morning rise	394 Dec 26 j 01:42	20°♄39'53		min. Earth dist.	401 Jul 08 j 04:27	16°♄46'48 18.78262 AU	
retrograde	395 Mar 28 j 14:17	23°♄51'11		opposition	401 Jul 09 j 03:17	16°♄44'31 -0°31'49	
opposition	395 Jun 13 j 14:40	21°♄51'57 -0°13'23		direct	401 Sep 23 j 14:47	14°♄46'53	
min. Earth dist.	395 Jun 12 j 21:57	21°♄53'38 18.47138 AU		evening set	401 Dec 23 j 00:21	17°♄50'07	
direct	395 Aug 29 j 12:36	19°♄52'50		conjunction	402 Jan 07 j 15:31	18°♄44'35 -0°29'55	
evening set	395 Nov 29 j 05:37	23°♄01'56		minimum elong	402 Jan 07 j 15:31	18°♄44'35 0°29'56	
conjunction	395 Dec 14 j 20:05	23°♄57'24 -0°13'39		max. Earth dist.	402 Jan 08 j 15:27	18°♄48'04 20.80429 AU	
minimum elong	395 Dec 14 j 20:05	23°♄57'24 0°13'38		morning rise	402 Jan 23 j 08:40	19°♄39'20	
behind sun begin	395 Dec 14 j 16:23	23°♄56'52		retrograde	402 Apr 26 j 17:19	22°♄47'46	
behind sun end	395 Dec 14 j 23:46	23°♄57'56		opposition	402 Jul 13 j 15:10	20°♄48'39 -0°34'20	
max. Earth dist.	395 Dec 15 j 13:21	23°♄59'58 20.50102 AU		min. Earth dist.	402 Jul 12 j 16:12	20°♄50'57 18.82594 AU	
morning rise	395 Dec 30 j 11:03	24°♄52'58		direct	402 Sep 27 j 23:52	18°♄51'16	
retrograde	396 Apr 01 j 01:28	28°♄03'47		evening set	402 Dec 27 j 05:46	21°♄53'44	
opposition	396 Jun 17 j 06:38	26°♄04'36 -0°16'47		conjunction	403 Jan 11 j 21:13	22°♄48'05 -0°32'08	
min. Earth dist.	396 Jun 16 j 13:52	26°♄06'17 18.53000 AU		minimum elong	403 Jan 11 j 21:13	22°♄48'05 0°32'07	
direct	396 Sep 02 j 01:48	24°♄05'47		max. Earth dist.	403 Jan 12 j 21:16	22°♄51'35 20.84637 AU	
evening set	396 Dec 02 j 14:15	27°♄13'47		morning rise	403 Jan 27 j 15:02	23°♄42'45	
conjunction	396 Dec 18 j 04:40	28°♄09'02 -0°16'40		retrograde	403 May 01 j 03:34	26°♄50'57	
minimum elong	396 Dec 18 j 04:39	28°♄09'02 0°16'41		min. Earth dist.	403 Jul 17 j 02:02	24°♄54'18 18.86666 AU	
max. Earth dist.	396 Dec 18 j 22:28	28°♄11'41 20.55820 AU		opposition	403 Jul 18 j 02:26	24°♄51'52 -0°36'41	
morning rise	397 Jan 02 j 19:56	29°♄04'26		direct	403 Oct 02 j 08:55	22°♄54'43	
	397 Jan 19 j 09:54	0°♄		evening set	403 Dec 31 j 11:00	25°♄56'30	
retrograde	397 Apr 05 j 14:27	2°♄14'46		conjunction	404 Jan 16 j 02:57	26°♄50'46 -0°34'10	
opposition	397 Jun 21 j 21:44	0°♄15'37 -0°20'05		minimum elong	404 Jan 16 j 02:56	26°♄50'45 0°34'10	
min. Earth dist.	397 Jun 21 j 02:57	0°♄17'30 18.58567 AU		max. Earth dist.	404 Jan 17 j 04:27	26°♄54'28 20.88547 AU	
	397 Jun 28 j 09:27	30°♄17'03		morning rise	404 Jan 31 j 21:17	27°♄45'22	
direct	397 Sep 06 j 16:39	28°♄17'03			404 Mar 18 j 07:26	0°♄	
	397 Nov 10 j 22:40	0°♄		retrograde	404 May 04 j 11:50	0°♄53'20	
evening set	397 Dec 06 j 22:09	1°♄23'59			404 Jun 22 j 12:23	30°♄	
conjunction	397 Dec 22 j 12:36	2°♄19'04 -0°19'35		opposition	404 Jul 21 j 13:07	28°♄54'19 -0°38'50	
minimum elong	397 Dec 22 j 12:36	2°♄19'04 0°19'35		min. Earth dist.	404 Jul 20 j 12:56	28°♄56'44 18.90417 AU	
max. Earth dist.	397 Dec 23 j 08:08	2°♄21'57 20.61230 AU		direct	404 Oct 05 j 16:32	26°♄57'25	
morning rise	398 Jan 07 j 04:04	3°♄14'17		evening set	405 Jan 03 j 16:05	29°♄58'33	
retrograde	398 Apr 10 j 00:37	6°♄24'11			405 Jan 04 j 02:18	0°♄	
opposition	398 Jun 26 j 12:16	4°♄25'01 -0°23'15		conjunction	405 Jan 19 j 08:25	0°♄52'45 -0°36'02	
min. Earth dist.	398 Jun 25 j 17:24	4°♄26'55 18.63845 AU		minimum elong	405 Jan 19 j 08:25	0°♄52'45 0°36'01	
direct	398 Sep 11 j 04:47	2°♄26'42		max. Earth dist.	405 Jan 20 j 09:36	0°♄56'24 20.92130 AU	
evening set	398 Dec 11 j 05:30	5°♄32'37		morning rise	405 Feb 04 j 03:32	1°♄47'19	
conjunction	398 Dec 26 j 19:58	6°♄27'30 -0°22'23		retrograde	405 May 08 j 22:13	4°♄55'06	
minimum elong	398 Dec 26 j 19:58	6°♄27'30 0°22'23		opposition	405 Jul 25 j 23:22	2°♄56'08 -0°40'48	
max. Earth dist.	398 Dec 27 j 16:04	6°♄30'28 20.66384 AU		min. Earth dist.	405 Jul 24 j 22:19	2°♄58'38 18.93816 AU	
morning rise	399 Jan 11 j 11:52	7°♄22'35		direct	405 Oct 10 j 00:23	0°♄59'26	
retrograde	399 Apr 14 j 12:18	10°♄32'03		evening set	406 Jan 07 j 20:54	4°♄00'01	
min. Earth dist.	399 Jun 30 j 05:06	8°♄34'58 18.68882 AU		conjunction	406 Jan 23 j 13:48	4°♄54'09 -0°37'43	
opposition	399 Jul 01 j 01:59	8°♄32'53 -0°26'16		minimum elong	406 Jan 23 j 13:48	4°♄54'09 0°37'43	
direct	399 Sep 15 j 17:30	6°♄34'47		max. Earth dist.	406 Jan 24 j 16:10	4°♄57'58 20.95316 AU	
evening set	399 Dec 15 j 12:10	9°♄39'43		morning rise	406 Feb 08 j 09:29	5°♄48'41	
conjunction	399 Dec 31 j 02:52	10°♄34'28 -0°25'02		retrograde	406 May 13 j 05:58	8°♄56'21	
minimum elong	399 Dec 31 j 02:51	10°♄34'28 0°25'03		min. Earth dist.	406 Jul 29 j 08:44	6°♄59'52 18.96792 AU	
max. Earth dist.	400 Jan 01 j 00:47	10°♄37'41 20.71291 AU		opposition	406 Jul 30 j 09:20	6°♄57'25 -0°42'33	
morning rise	400 Jan 15 j 19:05	11°♄29'25		direct	406 Oct 14 j 07:19	5°♄00'54	

evening set	407 Jan 12 j 01:50	8°≈00'59		conjunction	413 Feb 20 j 04:53	2°≈52'02	-0°43'57
				minimum elong	413 Feb 20 j 04:53	2°≈52'02	0°43'57
conjunction	407 Jan 27 j 19:13	8°≈55'04	-0°39'13	max. Earth dist.	413 Feb 21 j 04:09	2°≈55'21	21.03795 AU
minimum elong	407 Jan 27 j 19:13	8°≈55'04	0°39'13	morning rise	413 Mar 08 j 06:41	3°≈46'47	
max. Earth dist.	407 Jan 28 j 20:51	8°≈58'46	20.98073 AU	retrograde	413 Jun 10 j 19:22	6°≈54'03	
morning rise	407 Feb 12 j 15:45	9°≈49'36		opposition	413 Aug 27 j 20:03	4°≈54'32	-0°48'37
retrograde	407 May 17 j 16:10	12°≈57'08		min. Earth dist.	413 Aug 26 j 22:09	4°≈56'45	19.03567 AU
opposition	407 Aug 03 j 18:47	10°≈58'13	-0°44'06	direct	413 Nov 11 j 02:33	2°≈58'06	
min. Earth dist.	407 Aug 02 j 17:52	11°≈00'42	18.99316 AU	evening set	414 Feb 08 j 11:55	5°≈56'15	
direct	407 Oct 18 j 14:08	9°≈01'50					
evening set	408 Jan 16 j 06:39	12°≈01'29		conjunction	414 Feb 24 j 10:48	6°≈50'34	-0°44'00
				minimum elong	414 Feb 24 j 10:48	6°≈50'34	0°44'00
conjunction	408 Feb 01 j 00:46	12°≈55'34	-0°40'31	max. Earth dist.	414 Feb 25 j 10:35	6°≈53'57	21.03155 AU
minimum elong	408 Feb 01 j 00:46	12°≈55'34	0°40'31	morning rise	414 Mar 12 j 13:25	7°≈45'25	
max. Earth dist.	408 Feb 02 j 03:05	12°≈59'21	21.00331 AU	retrograde	414 Jun 15 j 02:50	10°≈52'45	
morning rise	408 Feb 16 j 21:59	13°≈50'05		min. Earth dist.	414 Aug 31 j 06:01	8°≈55'17	19.02746 AU
	408 Mar 09 j 19:08	15°≈		opposition	414 Sep 01 j 03:17	8°≈53'08	-0°48'33
retrograde	408 May 21 j 00:01	16°≈57'31		direct	414 Nov 15 j 07:36	6°≈56'37	
min. Earth dist.	408 Aug 06 j 03:49	15°≈01'00	19.01308 AU	evening set	415 Feb 12 j 17:19	9°≈54'46	
	408 Aug 06 j 13:47	15°≈					
opposition	408 Aug 07 j 03:56	14°≈58'35	-0°45'25	conjunction	415 Feb 28 j 17:01	10°≈49'11	-0°43'50
direct	408 Oct 21 j 20:56	13°≈02'18		minimum elong	415 Feb 28 j 17:02	10°≈49'11	0°43'50
	408 Dec 31 j 07:58	15°≈		max. Earth dist.	415 Mar 01 j 15:19	10°≈52'22	21.02171 AU
evening set	409 Jan 19 j 11:36	16°≈01'33		morning rise	415 Mar 16 j 20:45	11°≈44'09	
				retrograde	415 Jun 19 j 12:22	14°≈51'38	
conjunction	409 Feb 04 j 06:17	16°≈55'37	-0°41'38	opposition	415 Sep 05 j 10:15	12°≈51'53	-0°48'15
minimum elong	409 Feb 04 j 06:17	16°≈55'37	0°41'38	min. Earth dist.	415 Sep 04 j 13:32	12°≈53'59	19.01594 AU
max. Earth dist.	409 Feb 05 j 07:20	16°≈59'14	21.02055 AU	direct	415 Nov 19 j 12:52	10°≈55'17	
morning rise	409 Feb 20 j 04:25	17°≈50'10		evening set	416 Feb 16 j 22:56	13°≈53'32	
retrograde	409 May 25 j 09:36	20°≈57'31					
opposition	409 Aug 11 j 12:37	18°≈58'31	-0°46'32	conjunction	416 Mar 03 j 23:44	14°≈48'05	-0°43'28
min. Earth dist.	409 Aug 10 j 12:34	19°≈00'56	19.02758 AU	minimum elong	416 Mar 03 j 23:44	14°≈48'05	0°43'28
direct	409 Oct 26 j 02:48	17°≈02'17		max. Earth dist.	416 Mar 04 j 22:19	14°≈51'19	21.00842 AU
evening set	410 Jan 23 j 16:22	20°≈01'11		morning rise	416 Mar 20 j 04:19	15°≈43'11	
				retrograde	416 Jun 22 j 20:39	18°≈50'49	
conjunction	410 Feb 08 j 11:53	20°≈55'16	-0°42'32	opposition	416 Sep 08 j 17:12	16°≈51'00	-0°47'44
minimum elong	410 Feb 08 j 11:53	20°≈55'16	0°42'31	min. Earth dist.	416 Sep 07 j 21:16	16°≈53'01	19.00088 AU
max. Earth dist.	410 Feb 09 j 13:23	20°≈58'56	21.03225 AU	direct	416 Nov 22 j 17:28	14°≈54'20	
morning rise	410 Feb 24 j 10:46	21°≈49'51		evening set	417 Feb 20 j 04:57	17°≈52'46	
retrograde	410 May 29 j 17:14	24°≈57'08					
opposition	410 Aug 15 j 21:03	22°≈58'02	-0°47'24	conjunction	417 Mar 08 j 06:35	18°≈47'27	-0°42'53
min. Earth dist.	410 Aug 14 j 21:48	23°≈00'22	19.03658 AU	minimum elong	417 Mar 08 j 06:35	18°≈47'27	0°42'52
direct	410 Oct 30 j 09:36	21°≈01'48		max. Earth dist.	417 Mar 09 j 03:27	18°≈50'25	20.99176 AU
evening set	411 Jan 27 j 21:08	24°≈00'24		morning rise	417 Mar 24 j 12:18	19°≈42'41	
				retrograde	417 Jun 27 j 06:20	22°≈50'33	
conjunction	411 Feb 12 j 17:22	24°≈54'31	-0°43'13	min. Earth dist.	417 Sep 12 j 05:02	20°≈52'36	18.98249 AU
minimum elong	411 Feb 12 j 17:22	24°≈54'31	0°43'13	opposition	417 Sep 13 j 00:07	20°≈50'40	-0°46'58
max. Earth dist.	411 Feb 13 j 17:33	24°≈57'59	21.03880 AU	direct	417 Nov 26 j 22:33	18°≈53'55	
morning rise	411 Feb 28 j 17:18	25°≈49'08		evening set	418 Feb 24 j 11:22	21°≈52'37	
retrograde	411 Jun 03 j 02:42	28°≈56'23					
min. Earth dist.	411 Aug 19 j 06:07	26°≈59'27	19.04066 AU	conjunction	418 Mar 12 j 14:07	22°≈47'27	-0°42'06
opposition	411 Aug 20 j 05:06	26°≈57'09	-0°48'02	minimum elong	418 Mar 12 j 14:07	22°≈47'27	0°42'06
direct	411 Nov 03 j 15:06	25°≈00'51		max. Earth dist.	418 Mar 13 j 11:05	22°≈50'27	20.97158 AU
evening set	412 Feb 01 j 01:59	27°≈59'14		morning rise	418 Mar 28 j 20:41	23°≈42'51	
				retrograde	418 Jul 01 j 15:49	26°≈50'59	
conjunction	412 Feb 16 j 23:08	28°≈53'24	-0°43'41	opposition	418 Sep 17 j 07:04	24°≈51'02	-0°45'59
minimum elong	412 Feb 16 j 23:08	28°≈53'24	0°43'41	min. Earth dist.	418 Sep 16 j 12:58	24°≈52'53	18.96043 AU
max. Earth dist.	412 Feb 17 j 23:46	28°≈56'55	21.04047 AU	direct	418 Dec 01 j 03:40	22°≈54'14	
morning rise	412 Mar 03 j 23:52	29°≈48'05		evening set	419 Feb 28 j 18:23	25°≈53'15	
	412 Mar 07 j 13:48	0°≈					
retrograde	412 Jun 06 j 09:55	2°≈55'18		conjunction	419 Mar 16 j 22:04	26°≈48'16	-0°41'06
opposition	412 Aug 23 j 12:38	0°≈55'56	-0°48'27	minimum elong	419 Mar 16 j 22:04	26°≈48'16	0°41'06
min. Earth dist.	412 Aug 22 j 14:25	0°≈58'10	19.04011 AU	max. Earth dist.	419 Mar 17 j 16:54	26°≈50'57	20.94777 AU
	412 Sep 16 j 16:34	30°≈		morning rise	419 Apr 02 j 05:48	27°≈43'51	
direct	412 Nov 06 j 21:10	28°≈59'34			419 May 20 j 00:37	0°≈	
	412 Dec 26 j 03:09	0°≈		retrograde	419 Jul 06 j 01:59	0°≈52'17	
evening set	413 Feb 04 j 06:59	1°≈57'48			419 Aug 23 j 03:20	30°≈	

opposition	419 Sep 21 j 14:09	28° $\mathbf{\text{X}}$ 52'17	-0°44'47	minimum elong	426 Apr 15 j 00:11	25° $\mathbf{\text{Y}}$ 22'04	0°28'37
min. Earth dist.	419 Sep 20 j 21:23	28° $\mathbf{\text{X}}$ 54'00	18.93460 AU	max. Earth dist.	426 Apr 15 j 08:01	25° $\mathbf{\text{Y}}$ 23'12	20.65928 AU
direct	419 Dec 05 j 08:29	26° $\mathbf{\text{X}}$ 55'22		morning rise	426 May 01 j 14:12	26° $\mathbf{\text{Y}}$ 19'09	
evening set	420 Mar 04 j 02:02	29° $\mathbf{\text{X}}$ 54'48		retrograde	426 Aug 04 j 06:30	29° $\mathbf{\text{Y}}$ 30'11	
	420 Mar 05 j 15:09	0° $\mathbf{\text{Y}}$		opposition	426 Oct 19 j 20:12	27° $\mathbf{\text{Y}}$ 29'13	-0°30'17
				min. Earth dist.	426 Oct 19 j 14:12	27° $\mathbf{\text{Y}}$ 29'50	18.63186 AU
conjunction	420 Mar 20 j 06:51	0° $\mathbf{\text{Y}}$ 50'01	-0°39'54	direct	427 Jan 02 j 10:19	25° $\mathbf{\text{Y}}$ 30'30	
minimum elong	420 Mar 20 j 06:51	0° $\mathbf{\text{Y}}$ 50'01	0°39'54	evening set	427 Apr 03 j 01:29	28° $\mathbf{\text{Y}}$ 34'21	
max. Earth dist.	420 Mar 21 j 01:18	0° $\mathbf{\text{Y}}$ 52'39	20.91977 AU				
morning rise	420 Apr 05 j 15:23	1° $\mathbf{\text{Y}}$ 45'47		conjunction	427 Apr 19 j 13:19	29° $\mathbf{\text{Y}}$ 31'14	-0°26'08
retrograde	420 Jul 09 j 12:31	4° $\mathbf{\text{Y}}$ 54'33		minimum elong	427 Apr 19 j 13:19	29° $\mathbf{\text{Y}}$ 31'14	0°26'08
opposition	420 Sep 24 j 21:11	2° $\mathbf{\text{Y}}$ 54'29	-0°43'21	max. Earth dist.	427 Apr 19 j 18:16	29° $\mathbf{\text{Y}}$ 31'56	20.60412 AU
min. Earth dist.	420 Sep 24 j 05:46	2° $\mathbf{\text{Y}}$ 56'04	18.90433 AU		427 Apr 27 j 20:20	0° $\mathbf{\text{B}}$	
direct	420 Dec 08 j 14:45	0° $\mathbf{\text{Y}}$ 57'27		morning rise	427 May 06 j 04:20	0° $\mathbf{\text{B}}$ 28'33	
evening set	421 Mar 08 j 10:23	3° $\mathbf{\text{Y}}$ 57'22		retrograde	427 Aug 08 j 18:49	3° $\mathbf{\text{B}}$ 40'02	
				opposition	427 Oct 24 j 04:58	1° $\mathbf{\text{B}}$ 38'52	-0°27'27
conjunction	421 Mar 24 j 16:06	4° $\mathbf{\text{Y}}$ 52'47	-0°38'30	min. Earth dist.	427 Oct 24 j 00:59	1° $\mathbf{\text{B}}$ 39'17	18.57576 AU
minimum elong	421 Mar 24 j 16:06	4° $\mathbf{\text{Y}}$ 52'47	0°38'30		427 Dec 09 j 16:35	30° $\mathbf{\text{R}}$ $\mathbf{\text{Y}}$	
max. Earth dist.	421 Mar 25 j 07:52	4° $\mathbf{\text{Y}}$ 55'02	20.88734 AU	direct	428 Jan 06 j 18:47	29° $\mathbf{\text{Y}}$ 39'47	
morning rise	421 Apr 10 j 01:45	5° $\mathbf{\text{Y}}$ 48'44			428 Feb 03 j 13:27	0° $\mathbf{\text{B}}$	
retrograde	421 Jul 13 j 22:50	8° $\mathbf{\text{Y}}$ 57'52		evening set	428 Apr 06 j 14:27	2° $\mathbf{\text{B}}$ 44'32	
opposition	421 Sep 29 j 04:37	6° $\mathbf{\text{Y}}$ 57'43	-0°41'41				
min. Earth dist.	421 Sep 28 j 14:54	6° $\mathbf{\text{Y}}$ 59'07	18.86956 AU	conjunction	428 Apr 23 j 03:23	3° $\mathbf{\text{B}}$ 41'41	-0°23'29
direct	421 Dec 12 j 20:00	5° $\mathbf{\text{Y}}$ 00'30		minimum elong	428 Apr 23 j 03:23	3° $\mathbf{\text{B}}$ 41'41	0°23'29
evening set	422 Mar 12 j 19:07	8° $\mathbf{\text{Y}}$ 00'56		max. Earth dist.	428 Apr 23 j 07:45	3° $\mathbf{\text{B}}$ 42'19	20.54714 AU
				morning rise	428 May 09 j 18:55	4° $\mathbf{\text{B}}$ 39'15	
conjunction	422 Mar 29 j 02:02	8° $\mathbf{\text{Y}}$ 56'34	-0°36'54	retrograde	428 Aug 12 j 07:26	7° $\mathbf{\text{B}}$ 51'11	
minimum elong	422 Mar 29 j 02:02	8° $\mathbf{\text{Y}}$ 56'34	0°36'53	opposition	428 Oct 27 j 13:57	5° $\mathbf{\text{B}}$ 49'53	-0°24'28
max. Earth dist.	422 Mar 29 j 17:06	8° $\mathbf{\text{Y}}$ 58'44	20.85014 AU	min. Earth dist.	428 Oct 27 j 10:53	5° $\mathbf{\text{B}}$ 50'12	18.51804 AU
morning rise	422 Apr 14 j 12:29	9° $\mathbf{\text{Y}}$ 52'44		direct	429 Jan 10 j 04:17	3° $\mathbf{\text{B}}$ 50'27	
retrograde	422 Jul 18 j 09:59	13° $\mathbf{\text{Y}}$ 02'13		evening set	429 Apr 11 j 04:20	6° $\mathbf{\text{B}}$ 56'07	
opposition	422 Oct 03 j 12:11	11° $\mathbf{\text{Y}}$ 01'57	-0°39'49				
min. Earth dist.	422 Oct 02 j 23:52	11° $\mathbf{\text{Y}}$ 03'13	18.82988 AU	conjunction	429 Apr 27 j 17:59	7° $\mathbf{\text{B}}$ 53'33	-0°20'43
direct	422 Dec 17 j 03:31	9° $\mathbf{\text{Y}}$ 04'31		minimum elong	429 Apr 27 j 18:00	7° $\mathbf{\text{B}}$ 53'33	0°20'43
evening set	423 Mar 17 j 04:47	12° $\mathbf{\text{Y}}$ 05'32		max. Earth dist.	429 Apr 27 j 19:30	7° $\mathbf{\text{B}}$ 53'46	20.48894 AU
				morning rise	429 May 14 j 10:22	8° $\mathbf{\text{B}}$ 51'22	
conjunction	423 Apr 02 j 12:37	13° $\mathbf{\text{Y}}$ 01'23	-0°35'06	retrograde	429 Aug 16 j 20:37	12° $\mathbf{\text{B}}$ 03'48	
minimum elong	423 Apr 02 j 12:37	13° $\mathbf{\text{Y}}$ 01'23	0°35'06	opposition	429 Oct 31 j 23:35	10° $\mathbf{\text{B}}$ 02'21	-0°21'20
max. Earth dist.	423 Apr 03 j 00:41	13° $\mathbf{\text{Y}}$ 03'07	20.80827 AU	min. Earth dist.	429 Oct 31 j 22:33	10° $\mathbf{\text{B}}$ 02'28	18.45942 AU
morning rise	423 Apr 19 j 00:11	13° $\mathbf{\text{Y}}$ 57'46		direct	430 Jan 14 j 13:25	8° $\mathbf{\text{B}}$ 02'35	
retrograde	423 Jul 22 j 20:37	17° $\mathbf{\text{Y}}$ 07'38		evening set	430 Apr 15 j 18:50	11° $\mathbf{\text{B}}$ 09'14	
opposition	423 Oct 07 j 19:52	15° $\mathbf{\text{Y}}$ 07'12	-0°37'43				
min. Earth dist.	423 Oct 07 j 09:33	15° $\mathbf{\text{Y}}$ 08'16	18.78575 AU	conjunction	430 May 02 j 09:33	12° $\mathbf{\text{B}}$ 06'58	-0°17'49
direct	423 Dec 21 j 09:58	13° $\mathbf{\text{Y}}$ 09'29		minimum elong	430 May 02 j 09:33	12° $\mathbf{\text{B}}$ 06'58	0°17'50
evening set	424 Mar 20 j 14:56	16° $\mathbf{\text{Y}}$ 11'07		max. Earth dist.	430 May 02 j 10:30	12° $\mathbf{\text{B}}$ 07'06	20.42993 AU
				morning rise	430 May 19 j 02:25	13° $\mathbf{\text{B}}$ 05'03	
conjunction	424 Apr 05 j 23:57	17° $\mathbf{\text{Y}}$ 07'14	-0°33'07		430 Jun 25 j 15:00	15° $\mathbf{\text{B}}$	
minimum elong	424 Apr 05 j 23:57	17° $\mathbf{\text{Y}}$ 07'14	0°33'06	retrograde	430 Aug 21 j 11:15	16° $\mathbf{\text{B}}$ 18'00	
max. Earth dist.	424 Apr 06 j 11:15	17° $\mathbf{\text{Y}}$ 08'51	20.76204 AU		430 Oct 18 j 19:29	15° $\mathbf{\text{R}}$ $\mathbf{\text{B}}$	
morning rise	424 Apr 22 j 12:17	18° $\mathbf{\text{Y}}$ 03'50		opposition	430 Nov 05 j 09:37	14° $\mathbf{\text{B}}$ 16'27	-0°18'03
retrograde	424 Jul 26 j 07:42	21° $\mathbf{\text{Y}}$ 14'04		min. Earth dist.	430 Nov 05 j 09:25	14° $\mathbf{\text{B}}$ 16'28	18.39998 AU
opposition	424 Oct 11 j 03:44	19° $\mathbf{\text{Y}}$ 13'28	-0°35'26	direct	431 Jan 19 j 00:13	12° $\mathbf{\text{B}}$ 16'21	
min. Earth dist.	424 Oct 10 j 18:42	19° $\mathbf{\text{Y}}$ 14'24	18.73749 AU		431 Apr 13 j 07:35	15° $\mathbf{\text{B}}$	
direct	424 Dec 24 j 18:07	17° $\mathbf{\text{Y}}$ 15'26		evening set	431 Apr 20 j 10:37	15° $\mathbf{\text{B}}$ 24'04	
evening set	425 Mar 25 j 01:43	20° $\mathbf{\text{Y}}$ 17'45					
				conjunction	431 May 07 j 01:58	16° $\mathbf{\text{B}}$ 22'05	-0°14'49
conjunction	425 Apr 10 j 11:34	21° $\mathbf{\text{Y}}$ 14'06	-0°30'57	minimum elong	431 May 07 j 01:58	16° $\mathbf{\text{B}}$ 22'05	0°14'48
minimum elong	425 Apr 10 j 11:34	21° $\mathbf{\text{Y}}$ 14'06	0°30'58	behind sun begin	431 May 06 j 23:33	16° $\mathbf{\text{B}}$ 21'44	
max. Earth dist.	425 Apr 10 j 19:59	21° $\mathbf{\text{Y}}$ 15'18	20.71214 AU	behind sun end	431 May 07 j 04:22	16° $\mathbf{\text{B}}$ 22'25	
morning rise	425 Apr 27 j 00:56	22° $\mathbf{\text{Y}}$ 10'56		max. Earth dist.	431 May 06 j 23:57	16° $\mathbf{\text{B}}$ 21'47	20.37025 AU
retrograde	425 Jul 30 j 19:06	25° $\mathbf{\text{Y}}$ 21'34		morning rise	431 May 23 j 19:32	17° $\mathbf{\text{B}}$ 20'25	
opposition	425 Oct 15 j 11:55	23° $\mathbf{\text{Y}}$ 20'46	-0°32'57	retrograde	431 Aug 26 j 01:36	20° $\mathbf{\text{B}}$ 33'55	
min. Earth dist.	425 Oct 15 j 04:50	23° $\mathbf{\text{Y}}$ 21'30	18.68602 AU	opposition	431 Nov 09 j 20:11	18° $\mathbf{\text{B}}$ 32'17	-0°14'40
direct	425 Dec 29 j 01:40	21° $\mathbf{\text{Y}}$ 22'24		min. Earth dist.	431 Nov 09 j 22:20	18° $\mathbf{\text{B}}$ 32'04	18.34005 AU
evening set	426 Mar 29 j 13:10	24° $\mathbf{\text{Y}}$ 25'28		direct	432 Jan 23 j 10:19	16° $\mathbf{\text{B}}$ 31'52	
				evening set	432 Apr 24 j 03:10	19° $\mathbf{\text{B}}$ 40'43	
conjunction	426 Apr 15 j 00:11	25° $\mathbf{\text{Y}}$ 22'04	-0°28'37				

conjunction	432 May 10 j 19:25	20° 8 39'01	-0°11'42	behind sun end	437 Jun 03 j 06:12	12° II 33'25	
minimum elong	432 May 10 j 19:26	20° 8 39'01	0°11'42	max. Earth dist.	437 Jun 02 j 09:14	12° II 30'19	19.99640 AU
behind sun begin	432 May 10 j 14:44	20° 8 38'21		morning rise	437 Jun 19 j 18:42	13° II 32'18	
behind sun end	432 May 11 j 00:07	20° 8 39'41		retrograde	437 Sep 21 j 09:37	16° II 49'05	
max. Earth dist.	432 May 10 j 16:38	20° 8 38'38	20.31003 AU	opposition	437 Dec 05 j 01:23	14° II 47'03	0°07'22
morning rise	432 May 27 j 13:20	21° 8 37'37		min. Earth dist.	437 Dec 05 j 14:11	14° II 45'40	17.96433 AU
retrograde	432 Aug 29 j 18:07	24° 8 51'40		direct	438 Feb 17 j 20:23	12° II 44'29	
opposition	432 Nov 13 j 07:22	22° 8 50'00	-0°11'09	evening set	438 May 22 j 02:53	16° II 00'34	
min. Earth dist.	432 Nov 13 j 10:24	22° 8 49'40	18.27944 AU				
direct	433 Jan 26 j 22:36	20° 8 49'17		conjunction	438 Jun 07 j 22:03	17° II 00'35	0°08'22
evening set	433 Apr 28 j 20:44	23° 8 59'16		minimum elong	438 Jun 07 j 22:03	17° II 00'35	0°08'22
				behind sun begin	438 Jun 07 j 16:07	16° II 59'43	
conjunction	433 May 15 j 13:29	24° 8 57'53	-0°08'30	behind sun end	438 Jun 08 j 03:59	17° II 01'27	
minimum elong	433 May 15 j 13:29	24° 8 57'53	0°08'30	max. Earth dist.	438 Jun 07 j 06:15	16° II 58'13	19.93260 AU
behind sun begin	433 May 15 j 07:36	24° 8 57'02		morning rise	438 Jun 24 j 17:08	18° II 00'39	
behind sun end	433 May 15 j 19:22	24° 8 58'43		retrograde	438 Sep 26 j 05:32	21° II 17'55	
max. Earth dist.	433 May 15 j 07:42	24° 8 57'03	20.24906 AU	opposition	438 Dec 09 j 16:27	19° II 15'47	0°11'06
morning rise	433 Jun 01 j 07:54	25° 8 56'45		min. Earth dist.	438 Dec 10 j 05:50	19° II 14'20	17.90087 AU
retrograde	433 Sep 03 j 09:46	29° 8 11'22		direct	439 Feb 22 j 14:06	17° II 12'47	
opposition	433 Nov 17 j 19:20	27° 8 09'39	-0°07'33	evening set	439 May 27 j 01:55	20° II 30'06	
min. Earth dist.	433 Nov 18 j 00:58	27° 8 09'03	18.21812 AU				
direct	434 Jan 31 j 10:15	25° 8 08'36		conjunction	439 Jun 12 j 21:12	21° II 30'22	0°11'42
evening set	434 May 03 j 15:18	28° 8 19'48		minimum elong	439 Jun 12 j 21:12	21° II 30'22	0°11'42
				behind sun begin	439 Jun 12 j 16:30	21° II 29'41	
conjunction	434 May 20 j 08:50	29° 8 18'42	-0°05'14	behind sun end	439 Jun 13 j 01:54	21° II 31'04	
minimum elong	434 May 20 j 08:49	29° 8 18'42	0°05'14	max. Earth dist.	439 Jun 12 j 03:18	21° II 27'41	19.86962 AU
behind sun begin	434 May 20 j 02:16	29° 8 17'45		morning rise	439 Jun 29 j 16:07	22° II 30'38	
behind sun end	434 May 20 j 15:22	29° 8 19'39		retrograde	439 Oct 01 j 00:05	25° II 48'23	
max. Earth dist.	434 May 20 j 01:50	29° 8 17'41	20.18725 AU	opposition	439 Dec 14 j 08:15	23° II 46'08	0°14'48
	434 Jun 01 j 00:47	0° II		min. Earth dist.	439 Dec 15 j 00:02	23° II 44'26	17.83875 AU
morning rise	434 Jun 06 j 03:27	0° II 17'49		direct	440 Feb 27 j 06:25	21° II 42'44	
retrograde	434 Sep 08 j 03:41	3° II 33'00		evening set	440 May 31 j 01:33	25° II 01'15	
opposition	434 Nov 22 j 07:43	1° II 31'14	-0°03'53				
min. Earth dist.	434 Nov 22 j 14:21	1° II 30'31	18.15575 AU	conjunction	440 Jun 16 j 20:56	26° II 01'46	0°14'59
	435 Jan 01 j 15:40	30° R8		minimum elong	440 Jun 16 j 20:56	26° II 01'46	0°14'58
direct	435 Feb 05 j 00:12	29° 8 29'50		behind sun begin	440 Jun 16 j 18:47	26° II 01'27	
	435 Mar 10 j 22:22	0° II		behind sun end	440 Jun 16 j 23:05	26° II 02'05	
evening set	435 May 08 j 11:03	2° II 42'15		max. Earth dist.	440 Jun 16 j 01:38	25° II 58'51	19.80849 AU
				morning rise	440 Jul 03 j 15:39	27° II 02'13	
conjunction	435 May 25 j 04:59	3° II 41'27	-0°01'53		440 Sep 07 j 05:16	0° III	
minimum elong	435 May 25 j 04:58	3° II 41'27	0°01'54	retrograde	440 Oct 04 j 20:39	0° III 20'27	
behind sun begin	435 May 24 j 22:11	3° II 40'28			440 Nov 01 j 15:01	30° RII	
behind sun end	435 May 25 j 11:45	3° II 42'26		opposition	440 Dec 18 j 00:40	28° II 18'05	0°18'25
max. Earth dist.	435 May 24 j 18:47	3° II 39'57	20.12433 AU	min. Earth dist.	440 Dec 18 j 16:40	28° II 16'21	17.77878 AU
morning rise	435 Jun 10 j 23:56	4° II 40'49		direct	441 Mar 03 j 01:59	26° II 14'16	
retrograde	435 Sep 12 j 20:44	7° II 56'33		evening set	441 Jun 05 j 01:44	29° II 33'59	
opposition	435 Nov 26 j 21:03	5° II 54'43	-0°00'09		441 Jun 12 j 07:53	0° III	
min. Earth dist.	435 Nov 27 j 06:26	5° II 53'43	18.09243 AU				
asc. node	435 Dec 12 j 11:32	5° II 15'19		conjunction	441 Jun 21 j 21:08	0° III 34'43	0°18'11
direct	436 Feb 09 j 13:44	3° II 52'56		minimum elong	441 Jun 21 j 21:08	0° III 34'43	0°18'12
evening set	436 May 12 j 07:27	7° II 06'35		max. Earth dist.	441 Jun 21 j 00:38	0° III 31'37	19.74973 AU
				morning rise	441 Jul 08 j 15:28	1° III 35'21	
conjunction	436 May 29 j 01:58	8° II 06'04	0°01'36	retrograde	441 Oct 09 j 15:55	4° III 54'01	
minimum elong	436 May 29 j 01:56	8° II 06'04	0°01'36	opposition	441 Dec 22 j 17:54	2° III 51'35	0°21'57
behind sun begin	436 May 28 j 19:09	8° II 05'05		min. Earth dist.	441 Dec 23 j 11:54	2° III 49'37	17.72160 AU
behind sun end	436 May 29 j 08:43	8° II 07'03		direct	442 Mar 07 j 20:03	0° III 47'24	
max. Earth dist.	436 May 28 j 14:19	8° II 04'21	20.06060 AU	evening set	442 Jun 10 j 02:47	4° III 08'16	
morning rise	436 Jun 14 j 20:56	9° II 05'40					
retrograde	436 Sep 16 j 15:34	12° II 21'56		conjunction	442 Jun 26 j 22:02	5° III 09'13	0°21'18
opposition	436 Nov 30 j 10:50	10° II 20'01	0°03'36	minimum elong	442 Jun 26 j 22:02	5° III 09'13	0°21'17
min. Earth dist.	436 Nov 30 j 21:00	10° II 18'55	18.02838 AU	max. Earth dist.	442 Jun 26 j 00:00	5° III 05'52	19.69420 AU
direct	437 Feb 13 j 05:29	8° II 17'51		morning rise	442 Jul 13 j 16:02	6° III 10'00	
evening set	437 May 17 j 04:50	11° II 32'43		retrograde	442 Oct 14 j 13:05	9° III 29'06	
				opposition	442 Dec 27 j 11:33	7° III 26'36	0°25'21
conjunction	437 Jun 02 j 23:35	12° II 32'28	0°05'00	min. Earth dist.	442 Dec 28 j 05:37	7° III 24'38	17.66789 AU
minimum elong	437 Jun 02 j 23:36	12° II 32'28	0°04'59	direct	443 Mar 12 j 17:39	5° III 22'04	
behind sun begin	437 Jun 02 j 17:00	12° II 31'30		evening set	443 Jun 15 j 04:30	8° III 44'07	

conjunction	443 Jul 01 j 23:36	9°  45'15	0°24'17	retrograde	449 Nov 16 j 04:24	12°  14'08	
minimum elong	443 Jul 01 j 23:36	9°  45'15	0°24'17	opposition	450 Jan 28 j 12:27	10°  11'56	0°43'55
max. Earth dist.	443 Jul 01 j 01:03	9°  41'48	19.64227 AU	min. Earth dist.	450 Jan 29 j 11:27	10°  09'25	17.40502 AU
morning rise	443 Jul 18 j 16:56	10°  46'10		direct	450 Apr 14 j 11:08	8°  05'59	
retrograde	443 Oct 19 j 09:16	14°  05'40		evening set	450 Jul 19 j 06:17	11°  03'30	
opposition	444 Jan 01 j 06:14	12°  03'09	0°28'37				
min. Earth dist.	444 Jan 02 j 01:55	12°  01'01	17.61806 AU	conjunction	450 Aug 04 j 21:07	12°  03'17	0°40'11
direct	444 Mar 16 j 13:19	9°  58'21		minimum elong	450 Aug 04 j 21:07	12°  03'17	0°40'10
evening set	444 Jun 19 j 06:42	13°  21'30		max. Earth dist.	450 Aug 03 j 17:21	12°  03'15	19.39309 AU
max. Earth dist.	444 Jul 05 j 01:17	14°  19'06	19.59457 AU	morning rise	450 Aug 21 j 08:40	13°  03'36	
					450 Sep 14 j 05:58	15°  00'00	
conjunction	444 Jul 06 j 01:22	14°  22'47	0°27'08	retrograde	450 Nov 21 j 03:31	16°  05'04	
minimum elong	444 Jul 06 j 01:22	14°  22'47	0°27'08		451 Feb 01 j 07:05	15°  00'00	
morning rise	444 Jul 22 j 18:13	15°  23'49		opposition	451 Feb 02 j 11:37	14°  05'53	0°45'33
retrograde	444 Oct 23 j 07:41	18°  43'44		min. Earth dist.	451 Feb 03 j 11:03	14°  05'20	17.38314 AU
opposition	445 Jan 05 j 01:27	16°  41'14	0°31'43	direct	451 Apr 19 j 12:20	12°  05'47	
min. Earth dist.	445 Jan 05 j 21:05	16°  39'06	17.57254 AU		451 Jul 01 j 09:32	15°  00'00	
direct	445 Mar 21 j 12:40	14°  36'11		evening set	451 Jul 24 j 10:55	16°  01'52	
evening set	445 Jun 24 j 09:29	18°  00'25		max. Earth dist.	451 Aug 08 j 22:12	17°  01'27	19.37330 AU
max. Earth dist.	445 Jul 10 j 03:56	18°  58'11	19.55110 AU				
				conjunction	451 Aug 10 j 00:58	17°  02'13	0°41'30
conjunction	445 Jul 11 j 03:53	19°  01'51	0°29'50	minimum elong	451 Aug 10 j 00:58	17°  02'13	0°41'30
minimum elong	445 Jul 11 j 03:53	19°  01'51	0°29'49	morning rise	451 Aug 26 j 11:20	18°  02'24	
morning rise	445 Jul 27 j 19:54	20°  03'00		retrograde	451 Nov 26 j 04:21	21°  04'27	
retrograde	445 Oct 28 j 05:16	23°  23'16		opposition	452 Feb 07 j 11:22	19°  04'18	0°46'52
opposition	446 Jan 09 j 21:25	21°  20'51	0°34'37	min. Earth dist.	452 Feb 08 j 10:28	19°  03'47	17.36550 AU
min. Earth dist.	446 Jan 10 j 18:26	21°  18'33	17.53122 AU	direct	452 Apr 23 j 15:20	17°  03'05	
direct	446 Mar 26 j 10:01	19°  15'34		evening set	452 Jul 28 j 15:24	21°  05'34	
evening set	446 Jun 29 j 12:59	22°  40'51		max. Earth dist.	452 Aug 13 j 01:01	22°  03'02	19.35799 AU
max. Earth dist.	446 Jul 15 j 05:01	23°  38'26	19.51187 AU				
				conjunction	452 Aug 14 j 04:22	22°  07'19	0°42'31
conjunction	446 Jul 16 j 06:44	23°  42'24	0°32'20	minimum elong	452 Aug 14 j 04:21	22°  07'19	0°42'31
minimum elong	446 Jul 16 j 06:44	23°  42'24	0°32'21	morning rise	452 Aug 30 j 13:41	23°  08'31	
morning rise	446 Aug 01 j 22:10	24°  43'38		retrograde	452 Nov 30 j 02:50	26°  03'06	
retrograde	446 Nov 02 j 04:45	28°  04'15		opposition	453 Feb 11 j 11:28	24°  02'57	0°47'51
opposition	447 Jan 14 j 18:05	26°  01'53	0°37'19	min. Earth dist.	453 Feb 12 j 10:54	24°  02'52	17.35271 AU
min. Earth dist.	447 Jan 15 j 15:21	25°  59'34	17.49403 AU	direct	453 Apr 28 j 17:20	22°  02'13	
direct	447 Mar 31 j 10:04	23°  56'25		evening set	453 Aug 02 j 19:41	25°  05'12	
evening set	447 Jul 04 j 16:49	27°  22'39		max. Earth dist.	453 Aug 18 j 05:32	26°  04'00	19.34773 AU
max. Earth dist.	447 Jul 20 j 08:49	28°  20'24	19.47647 AU				
				conjunction	453 Aug 19 j 07:43	26°  05'07	0°43'15
conjunction	447 Jul 21 j 10:06	28°  24'19	0°34'39	minimum elong	453 Aug 19 j 07:43	26°  05'07	0°43'15
minimum elong	447 Jul 21 j 10:06	28°  24'19	0°34'39	morning rise	453 Sep 04 j 15:54	27°  05'14	
morning rise	447 Aug 07 j 00:27	29°  25'35			453 Oct 13 j 02:12	0°  00'00	
	447 Aug 16 j 16:23	0°  00'00		retrograde	453 Dec 05 j 03:20	1°  00'15	46
retrograde	447 Nov 07 j 04:09	2°  46'30			454 Jan 29 j 06:37	30°  00'00	
opposition	448 Jan 19 j 15:36	0°  44'13	0°39'47	opposition	454 Feb 16 j 11:42	29°  01'38	0°48'30
min. Earth dist.	448 Jan 20 j 13:51	0°  41'47	17.46054 AU	min. Earth dist.	454 Feb 17 j 10:06	29°  01'12	17.34498 AU
	448 Feb 05 j 21:20	30°  00'00		direct	454 May 03 j 21:29	27°  07'15	
direct	448 Apr 04 j 09:25	28°  38'35			454 Jul 28 j 15:29	0°  00'00	
	448 May 31 j 02:55	0°  00'00		evening set	454 Aug 07 j 23:47	0°  00'00	37'16
evening set	448 Jul 08 j 21:10	2°  05'41		max. Earth dist.	454 Aug 23 j 08:50	1°  00'34	47 19.34274 AU
max. Earth dist.	448 Jul 24 j 10:33	3°  03'12	19.44488 AU				
				conjunction	454 Aug 24 j 10:42	1°  00'38	50 0°43'41
conjunction	448 Jul 25 j 13:35	3°  07'24	0°36'44	minimum elong	454 Aug 24 j 10:42	1°  00'38	50 0°43'41
minimum elong	448 Jul 25 j 13:35	3°  07'24	0°36'45	morning rise	454 Sep 09 j 17:43	2°  00'39	51
morning rise	448 Aug 11 j 03:10	4°  08'43		retrograde	454 Dec 10 j 01:20	6°  00'01	19
retrograde	448 Nov 11 j 03:55	7°  02'53		opposition	455 Feb 21 j 12:28	3°  00'59	13 0°48'50
opposition	449 Jan 23 j 13:41	5°  02'73	0°41'59	min. Earth dist.	455 Feb 22 j 10:59	3°  00'56	46 17.34293 AU
min. Earth dist.	449 Jan 24 j 12:16	5°  02'51	17.43097 AU	direct	455 May 08 j 23:54	1°  00'52	47
direct	449 Apr 09 j 09:50	3°  02'15		evening set	455 Aug 13 j 03:20	5°  00'22	54
evening set	449 Jul 14 j 01:29	6°  04'42					
				conjunction	455 Aug 29 j 13:08	6°  00'24	21 0°43'49
conjunction	449 Jul 30 j 17:20	7°  05'12	0°38'35	minimum elong	455 Aug 29 j 13:08	6°  00'24	21 0°43'49
minimum elong	449 Jul 30 j 17:20	7°  05'12	0°38'36	max. Earth dist.	455 Aug 28 j 12:34	6°  00'20	29 19.34369 AU
max. Earth dist.	449 Jul 29 j 15:00	7°  04'72	19.41708 AU	morning rise	455 Sep 14 j 19:01	7°  00'25	14
morning rise	449 Aug 16 j 05:48	8° 05'24		retrograde	455 Dec 15 j 01:36	10° 00'46	35

opposition	456 Feb 26 j 13:22	8° <u>♏</u> 44'32	0°48'48	minimum elong	462 Oct 01 j 15:44	9° <u>♏</u> 28'53	0°36'39
min. Earth dist.	456 Feb 27 j 09:59	8° <u>♏</u> 42'17	17.34687 AU	max. Earth dist.	462 Oct 01 j 02:21	9° <u>♏</u> 26'48	19.51427 AU
direct	456 May 13 j 05:03	6° <u>♏</u> 38'08		morning rise	462 Oct 17 j 13:46	10° <u>♏</u> 28'27	
evening set	456 Aug 17 j 06:31	10° <u>♏</u> 08'12		retrograde	463 Jan 16 j 15:45	13° <u>♏</u> 47'57	
				opposition	463 Mar 31 j 22:21	11° <u>♏</u> 46'56	0°39'44
conjunction	456 Sep 02 j 15:11	11° <u>♏</u> 09'31	0°43'39	min. Earth dist.	463 Apr 01 j 10:33	11° <u>♏</u> 45'38	17.53513 AU
minimum elong	456 Sep 02 j 15:11	11° <u>♏</u> 09'31	0°43'39	direct	463 Jun 16 j 23:35	9° <u>♏</u> 42'06	
max. Earth dist.	456 Sep 01 j 16:00	11° <u>♏</u> 05'53	19.35077 AU	evening set	463 Sep 20 j 12:46	13° <u>♏</u> 09'05	
morning rise	456 Sep 18 j 19:49	12° <u>♏</u> 10'15					
retrograde	456 Dec 18 j 23:09	15° <u>♏</u> 31'28		conjunction	463 Oct 06 j 13:17	14° <u>♏</u> 08'53	0°34'36
opposition	457 Mar 02 j 14:27	13° <u>♏</u> 29'29	0°48'27	minimum elong	463 Oct 06 j 13:17	14° <u>♏</u> 08'53	0°34'35
min. Earth dist.	457 Mar 03 j 10:54	13° <u>♏</u> 27'16	17.35724 AU	max. Earth dist.	463 Oct 06 j 00:28	14° <u>♏</u> 06'53	19.55657 AU
direct	457 May 18 j 07:20	11° <u>♏</u> 23'11		morning rise	463 Oct 22 j 10:32	15° <u>♏</u> 08'12	
evening set	457 Aug 22 j 09:11	14° <u>♏</u> 53'08		retrograde	464 Jan 21 j 14:15	18° <u>♏</u> 27'18	
				opposition	464 Apr 04 j 23:19	16° <u>♏</u> 26'23	0°37'17
conjunction	457 Sep 07 j 16:41	15° <u>♏</u> 54'17	0°43'11	min. Earth dist.	464 Apr 05 j 09:23	16° <u>♏</u> 25'19	17.57894 AU
minimum elong	457 Sep 07 j 16:41	15° <u>♏</u> 54'17	0°43'11	direct	464 Jun 21 j 02:36	14° <u>♏</u> 21'50	
max. Earth dist.	457 Sep 06 j 18:36	15° <u>♏</u> 50'49	19.36440 AU	evening set	464 Sep 24 j 10:42	17° <u>♏</u> 47'58	
morning rise	457 Sep 23 j 20:17	16° <u>♏</u> 54'52					
retrograde	457 Dec 23 j 23:19	20° <u>♏</u> 15'54		conjunction	464 Oct 10 j 10:19	18° <u>♏</u> 47'30	0°32'18
opposition	458 Mar 07 j 15:38	18° <u>♏</u> 14'02	0°47'46	minimum elong	464 Oct 10 j 10:19	18° <u>♏</u> 47'30	0°32'18
min. Earth dist.	458 Mar 08 j 09:47	18° <u>♏</u> 12'05	17.37386 AU	max. Earth dist.	464 Oct 10 j 00:16	18° <u>♏</u> 45'56	19.60179 AU
direct	458 May 23 j 12:09	16° <u>♏</u> 07'53		morning rise	464 Oct 26 j 06:31	19° <u>♏</u> 46'33	
evening set	458 Aug 27 j 11:22	19° <u>♏</u> 37'37		retrograde	465 Jan 25 j 09:48	23° <u>♏</u> 05'10	
				opposition	465 Apr 09 j 23:52	21° <u>♏</u> 04'22	0°34'37
conjunction	458 Sep 12 j 17:45	20° <u>♏</u> 38'36	0°42'26	min. Earth dist.	465 Apr 10 j 08:53	21° <u>♏</u> 03'25	17.62540 AU
minimum elong	458 Sep 12 j 17:46	20° <u>♏</u> 38'36	0°42'26	direct	465 Jun 26 j 04:07	19° <u>♏</u> 00'07	
max. Earth dist.	458 Sep 11 j 21:46	20° <u>♏</u> 35'27	19.38408 AU	evening set	465 Sep 29 j 07:54	22° <u>♏</u> 25'17	
morning rise	458 Sep 28 j 20:05	21° <u>♏</u> 39'00					
retrograde	458 Dec 28 j 21:04	24° <u>♏</u> 59'48		conjunction	465 Oct 15 j 06:21	23° <u>♏</u> 24'32	0°29'49
opposition	459 Mar 12 j 17:02	22° <u>♏</u> 58'07	0°46'46	minimum elong	465 Oct 15 j 06:22	23° <u>♏</u> 24'32	0°29'49
min. Earth dist.	459 Mar 13 j 10:54	22° <u>♏</u> 56'11	17.39647 AU	max. Earth dist.	465 Oct 14 j 20:53	23° <u>♏</u> 23'04	19.64962 AU
direct	459 May 28 j 14:03	20° <u>♏</u> 52'11		morning rise	465 Oct 31 j 01:53	24° <u>♏</u> 23'20	
evening set	459 Sep 01 j 13:02	24° <u>♏</u> 21'35		retrograde	466 Jan 30 j 06:30	27° <u>♏</u> 41'27	
				opposition	466 Apr 15 j 00:06	25° <u>♏</u> 40'43	0°31'44
conjunction	459 Sep 17 j 18:09	25° <u>♏</u> 22'21	0°41'23	min. Earth dist.	466 Apr 15 j 07:13	25° <u>♏</u> 39'58	17.67448 AU
minimum elong	459 Sep 17 j 18:09	25° <u>♏</u> 22'21	0°41'24	direct	466 Jul 01 j 06:04	23° <u>♏</u> 36'44	
max. Earth dist.	459 Sep 16 j 23:02	25° <u>♏</u> 19'21	19.40963 AU	evening set	466 Oct 04 j 03:54	27° <u>♏</u> 00'53	
morning rise	459 Oct 03 j 19:30	26° <u>♏</u> 22'34					
retrograde	460 Jan 02 j 21:19	29° <u>♏</u> 43'07		conjunction	466 Oct 20 j 01:32	27° <u>♏</u> 59'51	0°27'09
opposition	460 Mar 16 j 18:23	27° <u>♏</u> 41'36	0°45'27	minimum elong	466 Oct 20 j 01:32	27° <u>♏</u> 59'51	0°27'10
min. Earth dist.	460 Mar 17 j 09:53	27° <u>♏</u> 39'56	17.42460 AU	max. Earth dist.	466 Oct 19 j 18:57	27° <u>♏</u> 58'50	19.69993 AU
direct	460 Jun 01 j 17:56	25° <u>♏</u> 35'55		morning rise	466 Nov 04 j 20:08	28° <u>♏</u> 58'23	
evening set	460 Sep 05 j 13:52	29° <u>♏</u> 04'52			466 Nov 22 j 10:20	0° <u>♏</u>	
	460 Sep 20 j 07:27	0° <u>♏</u>		retrograde	467 Feb 04 j 00:41	2° <u>♏</u> 15'57	
conjunction	460 Sep 21 j 17:57	0° <u>♏</u> 05'26	0°40'05	opposition	467 Apr 19 j 23:57	0° <u>♏</u> 15'17	0°28'40
minimum elong	460 Sep 21 j 17:57	0° <u>♏</u> 05'26	0°40'04	min. Earth dist.	467 Apr 20 j 05:23	0° <u>♏</u> 14'43	17.72590 AU
max. Earth dist.	460 Sep 21 j 01:23	0° <u>♏</u> 02'49	19.44025 AU		467 Apr 26 j 02:08	30° <u>♏</u>	
morning rise	460 Oct 07 j 18:05	1° <u>♏</u> 05'26		direct	467 Jul 06 j 07:21	28° <u>♏</u> 11'36	
retrograde	461 Jan 06 j 18:56	4° <u>♏</u> 25'42			467 Sep 10 j 21:15	0° <u>♏</u>	
opposition	461 Mar 21 j 19:52	2° <u>♏</u> 24'21	0°43'50	evening set	467 Oct 08 j 23:04	1° <u>♏</u> 34'39	
min. Earth dist.	461 Mar 22 j 10:58	2° <u>♏</u> 22'44	17.45748 AU				
direct	461 Jun 06 j 19:07	0° <u>♏</u> 18'57		conjunction	467 Oct 24 j 19:38	2° <u>♏</u> 33'18	0°24'19
evening set	461 Sep 10 j 14:19	3° <u>♏</u> 47'21		minimum elong	467 Oct 24 j 19:38	2° <u>♏</u> 33'18	0°24'19
				max. Earth dist.	467 Oct 24 j 14:07	2° <u>♏</u> 32'27	19.75273 AU
conjunction	461 Sep 26 j 17:06	4° <u>♏</u> 47'40	0°38'30	morning rise	467 Nov 09 j 13:41	3° <u>♏</u> 31'35	
minimum elong	461 Sep 26 j 17:06	4° <u>♏</u> 47'40	0°38'30	retrograde	468 Feb 08 j 19:24	6° <u>♏</u> 48'35	
max. Earth dist.	461 Sep 26 j 01:03	4° <u>♏</u> 45'09	19.47535 AU	opposition	468 Apr 23 j 23:11	4° <u>♏</u> 47'58	0°25'26
morning rise	461 Oct 12 j 16:20	5° <u>♏</u> 47'28		min. Earth dist.	468 Apr 24 j 02:48	4° <u>♏</u> 47'35	17.78008 AU
retrograde	462 Jan 11 j 18:46	9° <u>♏</u> 07'22		direct	468 Jul 10 j 06:57	2° <u>♏</u> 44'33	
opposition	462 Mar 26 j 21:01	7° <u>♏</u> 06'11	0°41'55	evening set	468 Oct 12 j 16:59	6° <u>♏</u> 06'28	
min. Earth dist.	462 Mar 27 j 09:54	7° <u>♏</u> 04'49	17.49454 AU				
direct	462 Jun 11 j 22:17	5° <u>♏</u> 01'03		conjunction	468 Oct 28 j 12:51	7° <u>♏</u> 04'49	0°21'22
evening set	462 Sep 15 j 13:56	8° <u>♏</u> 28'49		minimum elong	468 Oct 28 j 12:51	7° <u>♏</u> 04'49	0°21'23
				max. Earth dist.	468 Oct 28 j 10:20	7° <u>♏</u> 04'26	19.80826 AU
conjunction	462 Oct 01 j 15:44	9° <u>♏</u> 28'53	0°36'40	morning rise	468 Nov 13 j 06:10	8° <u>♏</u> 02'50	
				retrograde	469 Feb 12 j 12:59	11° <u>♏</u> 19'16	

opposition	469 Apr 28 j 21:50	9° M 18'43	0°22'05	evening set	474 Nov 08 j 10:06	2° ♂ 39'26	
min. Earth dist.	469 Apr 28 j 23:10	9° M 18'34	17.83685 AU				
direct	469 Jul 15 j 06:46	7° M 15'37		conjunction	474 Nov 24 j 02:00	3° ♂ 36'06	0°02'06
evening set	469 Oct 17 j 10:10	10° M 36'21		minimum elong	474 Nov 24 j 01:59	3° ♂ 36'06	0°02'05
				behind sun begin	474 Nov 23 j 19:27	3° ♂ 35'08	
conjunction	469 Nov 02 j 05:03	11° M 34'25	0°18'19	behind sun end	474 Nov 24 j 08:31	3° ♂ 37'03	
minimum elong	469 Nov 02 j 05:03	11° M 34'25	0°18'18	max. Earth dist.	474 Nov 24 j 11:41	3° ♂ 37'33	20.18957 AU
max. Earth dist.	469 Nov 02 j 03:59	11° M 34'15	19.86644 AU	morning rise	474 Dec 09 j 16:59	4° ♂ 32'38	
morning rise	469 Nov 17 j 21:52	12° M 32'11		retrograde	475 Mar 11 j 14:48	7° ♂ 45'50	
	470 Jan 05 j 14:45	15° M		opposition	475 May 27 j 01:29	5° ♂ 46'10	0°00'26
retrograde	470 Feb 17 j 06:00	15° M 48'02		min. Earth dist.	475 May 26 j 14:41	5° ♂ 47'16	18.22266 AU
	470 Apr 02 j 15:46	15° R M		desc. node	475 Jul 08 j 23:58	4° ♂ 13'51	
opposition	470 May 03 j 19:55	13° M 47'34	0°18'37	direct	475 Aug 12 j 05:08	3° ♂ 45'34	
min. Earth dist.	470 May 03 j 19:31	13° M 47'37	17.89652 AU	evening set	475 Nov 12 j 22:11	6° ♂ 59'13	
direct	470 Jul 20 j 03:50	11° M 44'49					
	470 Oct 20 j 21:03	15° M		conjunction	475 Nov 28 j 13:36	7° ♂ 55'36	-0°01'19
evening set	470 Oct 22 j 02:18	15° M 04'23		minimum elong	475 Nov 28 j 13:36	7° ♂ 55'36	0°01'19
				behind sun begin	475 Nov 28 j 07:04	7° ♂ 54'39	
conjunction	470 Nov 06 j 20:32	16° M 02'09	0°15'10	behind sun end	475 Nov 28 j 20:09	7° ♂ 56'34	
minimum elong	470 Nov 06 j 20:32	16° M 02'09	0°15'10	max. Earth dist.	475 Nov 29 j 00:54	7° ♂ 57'18	20.25595 AU
behind sun begin	470 Nov 06 j 18:06	16° M 01'47		morning rise	475 Dec 14 j 04:29	8° ♂ 51'56	
behind sun end	470 Nov 06 j 22:59	16° M 02'31		retrograde	476 Mar 15 j 05:07	12° ♂ 04'38	
max. Earth dist.	470 Nov 06 j 22:21	16° M 02'25	19.92750 AU	opposition	476 May 30 j 20:00	10° ♂ 05'07	-0°03'14
morning rise	470 Nov 22 j 12:46	16° M 59'39		min. Earth dist.	476 May 30 j 08:41	10° ♂ 06'16	18.28872 AU
retrograde	471 Feb 21 j 23:15	20° M 14'56		direct	476 Aug 15 j 21:00	8° ♂ 04'55	
opposition	471 May 08 j 17:27	18° M 14'36	0°15'04	evening set	476 Nov 16 j 09:28	11° ♂ 17'25	
min. Earth dist.	471 May 08 j 14:20	18° M 14'56	17.95875 AU				
direct	471 Jul 25 j 02:04	16° M 12'15		conjunction	476 Dec 02 j 00:35	12° ♂ 13'33	-0°04'38
evening set	471 Oct 26 j 17:28	19° M 30'37		minimum elong	476 Dec 02 j 00:35	12° ♂ 13'33	0°04'38
				behind sun begin	476 Dec 01 j 18:11	12° ♂ 12'37	
conjunction	471 Nov 11 j 10:57	20° M 28'06	0°11'57	behind sun end	476 Dec 02 j 06:59	12° ♂ 14'30	
minimum elong	471 Nov 11 j 10:57	20° M 28'06	0°11'58	max. Earth dist.	476 Dec 02 j 13:18	12° ♂ 15'28	20.32135 AU
behind sun begin	471 Nov 11 j 06:21	20° M 27'25		morning rise	476 Dec 17 j 15:23	13° ♂ 09'41	
behind sun end	471 Nov 11 j 15:32	20° M 28'47		retrograde	477 Mar 19 j 20:08	16° ♂ 21'52	
max. Earth dist.	471 Nov 11 j 14:28	20° M 28'37	19.99093 AU	opposition	477 Jun 04 j 13:47	14° ♂ 22'29	-0°06'52
morning rise	471 Nov 27 j 02:50	21° M 25'21		min. Earth dist.	477 Jun 04 j 00:02	14° ♂ 23'53	18.35325 AU
retrograde	472 Feb 26 j 15:11	24° M 40'07		direct	477 Aug 20 j 14:10	12° ♂ 22'41	
opposition	472 May 12 j 14:25	22° M 39'55	0°11'27	evening set	477 Nov 20 j 20:05	15° ♂ 34'01	
min. Earth dist.	472 May 12 j 09:54	22° M 40'23	18.02327 AU				
direct	472 Jul 28 j 20:53	20° M 37'59		conjunction	477 Dec 06 j 10:52	16° ♂ 29'56	-0°07'51
evening set	472 Oct 30 j 07:49	23° M 55'10		minimum elong	477 Dec 06 j 10:52	16° ♂ 29'56	0°07'52
				behind sun begin	477 Dec 06 j 04:58	16° ♂ 29'04	
conjunction	472 Nov 15 j 00:47	24° M 52'22	0°08'42	behind sun end	477 Dec 06 j 16:46	16° ♂ 30'47	
minimum elong	472 Nov 15 j 00:47	24° M 52'22	0°08'41	max. Earth dist.	477 Dec 07 j 01:03	16° ♂ 32'03	20.38481 AU
behind sun begin	472 Nov 14 j 19:04	24° M 51'31		morning rise	477 Dec 22 j 01:38	17° ♂ 25'51	
behind sun end	472 Nov 15 j 06:29	24° M 53'13		retrograde	478 Mar 24 j 09:09	20° ♂ 37'32	
max. Earth dist.	472 Nov 15 j 06:45	24° M 53'16	20.05631 AU	opposition	478 Jun 09 j 07:06	18° ♂ 38'16	-0°10'26
morning rise	472 Nov 30 j 16:16	25° M 49'23		min. Earth dist.	478 Jun 08 j 17:05	18° ♂ 39'41	18.41573 AU
retrograde	473 Mar 02 j 07:48	29° M 03'35		direct	478 Aug 25 j 05:22	16° ♂ 38'50	
opposition	473 May 17 j 10:31	27° M 03'35	0°07'47	evening set	478 Nov 25 j 06:00	19° ♂ 49'01	
min. Earth dist.	473 May 17 j 03:20	27° M 04'19	18.08919 AU				
direct	473 Aug 02 j 17:13	25° M 02'05		conjunction	478 Dec 10 j 20:35	20° ♂ 44'41	-0°11'02
evening set	473 Nov 03 j 21:27	28° M 18'06		minimum elong	478 Dec 10 j 20:35	20° ♂ 44'41	0°11'01
				behind sun begin	478 Dec 10 j 15:37	20° ♂ 43'58	
conjunction	473 Nov 19 j 13:47	29° M 15'01	0°05'25	behind sun end	478 Dec 11 j 01:34	20° ♂ 45'25	
minimum elong	473 Nov 19 j 13:47	29° M 15'01	0°05'26	max. Earth dist.	478 Dec 11 j 11:49	20° ♂ 46'58	20.44613 AU
behind sun begin	473 Nov 19 j 07:27	29° M 14'05		morning rise	478 Dec 26 j 11:27	21° ♂ 40'25	
behind sun end	473 Nov 19 j 20:06	29° M 15'58		retrograde	479 Mar 28 j 23:22	24° ♂ 51'37	
max. Earth dist.	473 Nov 19 j 21:25	29° M 16'10	20.12270 AU	opposition	479 Jun 13 j 23:34	22° ♂ 52'24	-0°13'55
	473 Dec 01 j 22:06	0° ♂		min. Earth dist.	479 Jun 13 j 07:15	22° ♂ 54'03	18.47578 AU
morning rise	473 Dec 05 j 05:01	0° ♂ 11'48		direct	479 Aug 29 j 20:59	20° ♂ 53'17	
retrograde	474 Mar 06 j 22:49	3° ♂ 25'30		evening set	479 Nov 29 j 15:07	24° ♂ 02'20	
opposition	474 May 22 j 06:21	1° ♂ 25'40	0°04'07				
min. Earth dist.	474 May 21 j 22:13	1° ♂ 26'30	18.15595 AU	conjunction	479 Dec 15 j 05:37	24° ♂ 57'48	-0°14'07
	474 Jun 29 j 23:50	30° R M		minimum elong	479 Dec 15 j 05:37	24° ♂ 57'48	0°14'08
direct	474 Aug 07 j 10:28	29° M 24'37		behind sun begin	479 Dec 15 j 02:15	24° ♂ 57'19	
	474 Sep 13 j 18:30	0° ♂		behind sun end	479 Dec 15 j 08:58	24° ♂ 58'17	

max. Earth dist.	479 Dec 15 j 22:18	25° \mathbb{A} 00'17	20.50482 AU	min. Earth dist.	486 Jul 13 j 00:22	21° \mathbb{B} 50'01	18.83262 AU
morning rise	479 Dec 30 j 20:37	25° \mathbb{A} 53'21		direct	486 Sep 28 j 08:06	19° \mathbb{B} 50'22	
retrograde	480 Apr 01 j 10:28	29° \mathbb{A} 04'03		evening set	486 Dec 27 j 14:35	22° \mathbb{B} 52'47	
opposition	480 Jun 17 j 15:26	27° \mathbb{A} 04'52	-0°17'18				
min. Earth dist.	480 Jun 16 j 23:02	27° \mathbb{A} 06'32	18.53323 AU	conjunction	487 Jan 12 j 06:01	23° \mathbb{B} 47'06	-0°32'26
direct	480 Sep 02 j 11:19	25° \mathbb{A} 06'02		minimum elong	487 Jan 12 j 06:01	23° \mathbb{B} 47'06	0°32'27
evening set	480 Dec 02 j 23:36	28° \mathbb{A} 13'59		max. Earth dist.	487 Jan 13 j 06:14	23° \mathbb{B} 50'38	20.85356 AU
				morning rise	487 Jan 27 j 23:45	24° \mathbb{B} 41'45	
conjunction	480 Dec 18 j 14:02	29° \mathbb{A} 09'14	-0°17'07	retrograde	487 May 01 j 12:01	27° \mathbb{B} 49'50	
minimum elong	480 Dec 18 j 14:02	29° \mathbb{A} 09'14	0°17'07	min. Earth dist.	487 Jul 17 j 10:04	25° \mathbb{B} 53'15	18.87425 AU
max. Earth dist.	480 Dec 19 j 07:35	29° \mathbb{A} 11'50	20.56103 AU	opposition	487 Jul 18 j 10:27	25° \mathbb{B} 50'49	-0°37'01
	481 Jan 01 j 21:37	0° \mathbb{B}		direct	487 Oct 02 j 17:09	23° \mathbb{B} 53'42	
morning rise	481 Jan 03 j 05:16	0° \mathbb{B} 04'36		evening set	487 Dec 31 j 19:48	26° \mathbb{B} 55'26	
retrograde	481 Apr 05 j 23:33	3° \mathbb{B} 14'50					
min. Earth dist.	481 Jun 21 j 11:40	1° \mathbb{B} 17'31	18.58823 AU	conjunction	488 Jan 16 j 11:41	27° \mathbb{B} 49'40	-0°34'27
opposition	481 Jun 22 j 06:16	1° \mathbb{B} 15'39	-0°20'34	minimum elong	488 Jan 16 j 11:41	27° \mathbb{B} 49'40	0°34'27
	481 Jul 26 j 05:11	30° \mathbb{R} \mathbb{A}		max. Earth dist.	488 Jan 17 j 13:08	27° \mathbb{B} 53'22	20.89339 AU
direct	481 Sep 07 j 01:26	29° \mathbb{A} 17'03		morning rise	488 Feb 01 j 05:58	28° \mathbb{B} 44'15	
	481 Oct 18 j 07:50	0° \mathbb{B}			488 Feb 24 j 21:33	0° \mathbb{B}	
evening set	481 Dec 07 j 07:25	2° \mathbb{B} 23'56		retrograde	488 May 04 j 20:16	1° \mathbb{B} 52'07	
					488 Jul 19 j 00:38	30° \mathbb{R} \mathbb{B}	
conjunction	481 Dec 22 j 21:51	3° \mathbb{B} 19'00	-0°20'01	opposition	488 Jul 21 j 21:15	29° \mathbb{B} 53'09	-0°39'09
minimum elong	481 Dec 22 j 21:51	3° \mathbb{B} 19'00	0°20'02	min. Earth dist.	488 Jul 20 j 21:18	29° \mathbb{B} 55'33	18.91230 AU
max. Earth dist.	481 Dec 23 j 17:04	3° \mathbb{B} 21'50	20.61483 AU	direct	488 Oct 06 j 00:59	27° \mathbb{B} 56'16	
morning rise	482 Jan 07 j 13:18	4° \mathbb{B} 14'13			488 Dec 17 j 09:58	0° \mathbb{B}	
retrograde	482 Apr 10 j 09:03	7° \mathbb{B} 23'59		evening set	489 Jan 04 j 00:53	0° \mathbb{B} 57'22	
opposition	482 Jun 26 j 20:42	5° \mathbb{B} 24'48	-0°23'42				
min. Earth dist.	482 Jun 26 j 01:55	5° \mathbb{B} 26'41	18.64110 AU	conjunction	489 Jan 19 j 17:08	1° \mathbb{B} 51'32	-0°36'18
direct	482 Sep 11 j 13:51	3° \mathbb{B} 26'27		minimum elong	489 Jan 19 j 17:08	1° \mathbb{B} 51'32	0°36'19
evening set	482 Dec 11 j 14:31	6° \mathbb{B} 32'18		max. Earth dist.	489 Jan 20 j 18:19	1° \mathbb{B} 55'11	20.92950 AU
				morning rise	489 Feb 04 j 12:07	2° \mathbb{B} 46'04	
conjunction	482 Dec 27 j 05:00	7° \mathbb{B} 27'11	-0°22'47	retrograde	489 May 09 j 06:25	5° \mathbb{B} 53'45	
minimum elong	482 Dec 27 j 04:59	7° \mathbb{B} 27'11	0°22'47	min. Earth dist.	489 Jul 25 j 06:33	3° \mathbb{B} 57'19	18.94633 AU
max. Earth dist.	482 Dec 28 j 01:07	7° \mathbb{B} 30'09	20.66675 AU	opposition	489 Jul 26 j 07:27	3° \mathbb{B} 54'50	-0°41'05
morning rise	483 Jan 11 j 20:50	8° \mathbb{B} 22'15		direct	489 Oct 10 j 09:02	1° \mathbb{B} 58'09	
retrograde	483 Apr 14 j 21:14	11° \mathbb{B} 31'37		evening set	490 Jan 08 j 05:51	4° \mathbb{B} 58'42	
opposition	483 Jul 01 j 10:17	9° \mathbb{B} 32'25	-0°26'41				
min. Earth dist.	483 Jun 30 j 13:17	9° \mathbb{B} 34'32	18.69212 AU	conjunction	490 Jan 23 j 22:39	5° \mathbb{B} 52'48	-0°37'58
direct	483 Sep 16 j 02:23	7° \mathbb{B} 34'18		minimum elong	490 Jan 23 j 22:39	5° \mathbb{B} 52'48	0°37'58
evening set	483 Dec 15 j 21:12	10° \mathbb{B} 39'12		max. Earth dist.	490 Jan 25 j 00:39	5° \mathbb{B} 56'34	20.96118 AU
				morning rise	490 Feb 08 j 18:15	6° \mathbb{B} 47'18	
conjunction	483 Dec 31 j 11:51	11° \mathbb{B} 33'56	-0°25'25	retrograde	490 May 13 j 14:47	9° \mathbb{B} 54'50	
minimum elong	483 Dec 31 j 11:51	11° \mathbb{B} 33'56	0°25'25	opposition	490 Jul 30 j 17:27	7° \mathbb{B} 55'57	-0°42'49
max. Earth dist.	484 Jan 01 j 09:40	11° \mathbb{B} 37'08	20.71669 AU	min. Earth dist.	490 Jul 29 j 17:16	7° \mathbb{B} 58'22	18.97567 AU
morning rise	484 Jan 16 j 04:01	12° \mathbb{B} 28'52		direct	490 Oct 14 j 16:04	5° \mathbb{B} 59'28	
retrograde	484 Apr 18 j 05:38	15° \mathbb{B} 37'50		evening set	491 Jan 12 j 10:43	8° \mathbb{B} 59'29	
opposition	484 Jul 04 j 23:09	13° \mathbb{B} 38'40	-0°29'32				
min. Earth dist.	484 Jul 04 j 02:05	13° \mathbb{B} 40'47	18.74119 AU	conjunction	491 Jan 28 j 04:03	9° \mathbb{B} 53'33	-0°39'26
direct	484 Sep 19 j 12:35	11° \mathbb{B} 40'48		minimum elong	491 Jan 28 j 04:03	9° \mathbb{B} 53'33	0°39'26
evening set	484 Dec 19 j 03:25	14° \mathbb{B} 44'49		max. Earth dist.	491 Jan 29 j 05:18	9° \mathbb{B} 57'12	20.98805 AU
				morning rise	491 Feb 13 j 00:28	10° \mathbb{B} 48'03	
conjunction	485 Jan 03 j 18:15	15° \mathbb{B} 39'23	-0°27'55	retrograde	491 May 18 j 00:33	13° \mathbb{B} 55'28	
minimum elong	485 Jan 03 j 18:15	15° \mathbb{B} 39'23	0°27'55	min. Earth dist.	491 Aug 03 j 02:19	11° \mathbb{B} 59'02	18.99991 AU
max. Earth dist.	485 Jan 04 j 16:37	15° \mathbb{B} 42'40	20.76476 AU	opposition	491 Aug 04 j 02:58	11° \mathbb{B} 56'35	-0°44'19
morning rise	485 Jan 19 j 10:55	16° \mathbb{B} 34'13		direct	491 Oct 18 j 23:31	10° \mathbb{B} 00'12	
retrograde	485 Apr 22 j 17:04	19° \mathbb{B} 42'50		evening set	492 Jan 16 j 15:36	12° \mathbb{B} 59'47	
opposition	485 Jul 09 j 11:25	17° \mathbb{B} 43'43	-0°32'12				
min. Earth dist.	485 Jul 08 j 12:26	17° \mathbb{B} 46'01	18.78818 AU	conjunction	492 Feb 01 j 09:37	13° \mathbb{B} 53'50	-0°40'43
direct	485 Sep 23 j 23:15	15° \mathbb{B} 46'06		minimum elong	492 Feb 01 j 09:37	13° \mathbb{B} 53'50	0°40'43
evening set	485 Dec 23 j 09:06	18° \mathbb{B} 49'17		max. Earth dist.	492 Feb 02 j 11:15	13° \mathbb{B} 57'32	21.00942 AU
				morning rise	492 Feb 17 j 06:45	14° \mathbb{B} 48'20	
conjunction	486 Jan 08 j 00:14	19° \mathbb{B} 43'44	-0°30'15		492 Feb 20 j 18:21	15° \mathbb{B}	
minimum elong	486 Jan 08 j 00:13	19° \mathbb{B} 43'44	0°30'15	retrograde	492 May 21 j 08:19	17° \mathbb{B} 55'38	
max. Earth dist.	486 Jan 09 j 00:12	19° \mathbb{B} 47'14	20.81044 AU	opposition	492 Aug 07 j 11:59	15° \mathbb{B} 56'43	-0°45'37
morning rise	486 Jan 23 j 17:19	20° \mathbb{B} 38'27		min. Earth dist.	492 Aug 06 j 12:21	15° \mathbb{B} 59'05	19.01851 AU
retrograde	486 Apr 27 j 01:07	23° \mathbb{B} 46'48			492 Sep 01 j 04:21	15° \mathbb{R} \mathbb{B}	
opposition	486 Jul 13 j 23:17	21° \mathbb{B} 47'43	-0°34'42	direct	492 Oct 22 j 05:44	14° \mathbb{B} 00'25	

	492 Dec 10 j 03:43	15°♊	minimum elong	499 Mar 01 j 01:12	11°♋46'52 0°43'50
evening set	493 Jan 19 j 20:25	16°♊59'36	max. Earth dist.	499 Mar 01 j 23:37	11°♋50'05 21.02560 AU
			morning rise	499 Mar 17 j 04:49	12°♋41'50
conjunction	493 Feb 04 j 15:03	17°♊53'39 -0°41'48	retrograde	499 Jun 19 j 20:22	15°♋49'21
minimum elong	493 Feb 04 j 15:03	17°♊53'39 0°41'47	opposition	499 Sep 05 j 18:21	13°♋49'43 -0°48'14
max. Earth dist.	493 Feb 05 j 15:37	17°♊57'11 21.02536 AU	min. Earth dist.	499 Sep 04 j 21:30	13°♋51'50 19.01997 AU
morning rise	493 Feb 20 j 13:06	18°♊48'10	direct	499 Nov 19 j 20:04	11°♋53'13
retrograde	493 May 25 j 17:45	21°♊55'24	evening set	500 Feb 17 j 07:13	14°♋51'33
opposition	493 Aug 11 j 20:42	19°♊56'24 -0°46'41			
min. Earth dist.	493 Aug 10 j 20:53	19°♊58'47 19.03174 AU	conjunction	500 Mar 04 j 07:53	15°♋46'05 -0°43'26
direct	493 Oct 26 j 12:37	18°♊00'08	minimum elong	500 Mar 04 j 07:53	15°♋46'05 0°43'25
evening set	494 Jan 24 j 00:57	20°♊58'58	max. Earth dist.	500 Mar 05 j 06:24	15°♋49'18 21.01256 AU
			morning rise	500 Mar 20 j 12:22	16°♋41'10
conjunction	494 Feb 08 j 20:23	21°♊53'02 -0°42'40	retrograde	500 Jun 23 j 04:34	19°♋48'52
minimum elong	494 Feb 08 j 20:23	21°♊53'02 0°42'40	min. Earth dist.	500 Sep 08 j 05:29	17°♋51'11 19.00507 AU
max. Earth dist.	494 Feb 09 j 21:27	21°♊56'38 21.03593 AU	opposition	500 Sep 09 j 01:17	17°♋49'11 -0°47'40
morning rise	494 Feb 24 j 19:13	22°♊47'35	direct	500 Nov 23 j 01:31	15°♋52'38
retrograde	494 May 30 j 01:00	25°♊54'46	evening set	501 Feb 20 j 13:19	18°♋51'08
min. Earth dist.	494 Aug 15 j 06:12	23°♊57'57 19.03983 AU			
opposition	494 Aug 16 j 05:06	23°♊55'40 -0°47'32	conjunction	501 Mar 08 j 14:52	19°♋45'49 -0°42'49
direct	494 Oct 30 j 18:12	21°♊59'23	minimum elong	501 Mar 08 j 14:52	19°♋45'49 0°42'50
evening set	495 Jan 28 j 05:41	24°♊57'57	max. Earth dist.	501 Mar 09 j 11:41	19°♋48'47 20.99597 AU
			morning rise	501 Mar 24 j 20:27	20°♋41'03
conjunction	495 Feb 13 j 01:50	25°♊52'02 -0°43'19	retrograde	501 Jun 27 j 15:10	23°♋49'00
minimum elong	495 Feb 13 j 01:50	25°♊52'02 0°43'18	opposition	501 Sep 13 j 08:20	21°♋49'13 -0°46'53
max. Earth dist.	495 Feb 14 j 01:54	25°♊55'29 21.04180 AU	min. Earth dist.	501 Sep 12 j 13:14	21°♋51'10 18.98656 AU
morning rise	495 Mar 01 j 01:39	26°♊46'38	direct	501 Nov 27 j 06:17	19°♋52'36
retrograde	495 Jun 03 j 10:13	29°♊53'48	evening set	502 Feb 24 j 19:43	22°♋51'22
opposition	495 Aug 20 j 12:57	27°♊54'35 -0°48'08			
min. Earth dist.	495 Aug 19 j 14:01	27°♊56'52 19.04353 AU	conjunction	502 Mar 12 j 22:22	23°♋46'12 -0°42'00
direct	495 Nov 04 j 00:14	25°♊58'16	minimum elong	502 Mar 12 j 22:22	23°♋46'12 0°42'00
evening set	496 Feb 01 j 10:25	28°♊56'38	max. Earth dist.	502 Mar 13 j 19:04	23°♋49'09 20.97541 AU
			morning rise	502 Mar 29 j 04:50	24°♋41'36
conjunction	496 Feb 17 j 07:27	29°♊50'47 -0°43'46	retrograde	502 Jul 01 j 23:58	27°♋49'48
minimum elong	496 Feb 17 j 07:27	29°♊50'47 0°43'46	opposition	502 Sep 17 j 15:27	25°♋49'59 -0°45'52
max. Earth dist.	496 Feb 18 j 07:57	29°♊54'17 21.04329 AU	min. Earth dist.	502 Sep 16 j 21:39	25°♋51'47 18.96385 AU
	496 Feb 19 j 23:51	0°♋	direct	502 Dec 01 j 11:34	23°♋53'16
morning rise	496 Mar 04 j 08:06	0°♋45'26	evening set	503 Mar 01 j 02:57	26°♋52'21
retrograde	496 Jun 06 j 17:35	3°♋52'37			
opposition	496 Aug 23 j 20:36	1°♋53'17 -0°48'30	conjunction	503 Mar 17 j 06:31	27°♋47'22 -0°40'59
min. Earth dist.	496 Aug 22 j 22:32	1°♋55'30 19.04303 AU	minimum elong	503 Mar 17 j 06:31	27°♋47'22 0°40'59
	496 Oct 27 j 06:50	30°♋	max. Earth dist.	503 Mar 18 j 01:02	27°♋50'01 20.95065 AU
direct	496 Nov 07 j 05:26	29°♊56'56	morning rise	503 Apr 02 j 14:07	28°♋42'56
	496 Nov 18 j 02:57	0°♋		503 Apr 27 j 01:27	0°♋
evening set	497 Feb 04 j 15:14	2°♋55'10	retrograde	503 Jul 06 j 11:10	1°♋51'27
				503 Sep 18 j 11:17	30°♋
conjunction	497 Feb 20 j 13:02	3°♋49'23 -0°44'00	opposition	503 Sep 21 j 22:29	29°♋51'32 -0°44'37
minimum elong	497 Feb 20 j 13:02	3°♋49'23 0°43'59	min. Earth dist.	503 Sep 21 j 05:58	29°♋53'13 18.93680 AU
max. Earth dist.	497 Feb 21 j 12:27	3°♋52'44 21.04097 AU	direct	503 Dec 05 j 17:23	27°♋54'41
morning rise	497 Mar 08 j 14:41	4°♋44'08		504 Feb 16 j 15:04	0°♋
retrograde	497 Jun 11 j 02:41	7°♋51'23	evening set	504 Mar 04 j 10:42	0°♋54'10
min. Earth dist.	497 Aug 27 j 05:57	5°♋54'09 19.03889 AU			
opposition	497 Aug 28 j 04:00	5°♋51'56 -0°48'39	conjunction	504 Mar 20 j 15:23	1°♋49'23 -0°39'45
direct	497 Nov 11 j 10:25	3°♋55'32	minimum elong	504 Mar 20 j 15:24	1°♋49'23 0°39'44
evening set	498 Feb 08 j 20:15	6°♋53'43	max. Earth dist.	504 Mar 21 j 09:17	1°♋51'56 20.92113 AU
			morning rise	504 Apr 05 j 23:49	2°♋45'08
conjunction	498 Feb 24 j 19:01	7°♋48'02 -0°44'01	retrograde	504 Jul 09 j 20:23	5°♋53'57
minimum elong	498 Feb 24 j 19:01	7°♋48'02 0°44'01	opposition	504 Sep 25 j 05:47	3°♋53'56 -0°43'09
max. Earth dist.	498 Feb 25 j 18:49	7°♋51'26 21.03497 AU	min. Earth dist.	504 Sep 24 j 14:50	3°♋55'28 18.90476 AU
morning rise	498 Mar 12 j 21:31	8°♋42'52	direct	504 Dec 08 j 22:51	1°♋56'55
retrograde	498 Jun 15 j 10:37	11°♋50'14	evening set	505 Mar 08 j 19:00	4°♋56'51
opposition	498 Sep 01 j 11:14	9°♋50'41 -0°48'33			
min. Earth dist.	498 Aug 31 j 14:03	9°♋52'50 19.03114 AU	conjunction	505 Mar 25 j 00:36	5°♋52'15 -0°38'18
direct	498 Nov 15 j 15:45	7°♋54'15	minimum elong	505 Mar 25 j 00:36	5°♋52'15 0°38'18
evening set	499 Feb 13 j 01:33	10°♋52'28	max. Earth dist.	505 Mar 25 j 15:55	5°♋54'26 20.88675 AU
			morning rise	505 Apr 10 j 10:08	6°♋48'12
conjunction	499 Mar 01 j 01:12	11°♋46'52 -0°43'50	retrograde	505 Jul 14 j 07:44	9°♋57'21

opposition	505 Sep 29 j 13:19	7° Υ 57'11 -0°41'27	conjunction	512 Apr 23 j 11:44	4° B 39'57 -0°23'07
min. Earth dist.	505 Sep 28 j 23:51	7° Υ 58'34 18.86790 AU	minimum elong	512 Apr 23 j 11:44	4° B 39'57 0°23'06
direct	505 Dec 13 j 05:44	5° Υ 59'57	max. Earth dist.	512 Apr 23 j 16:18	4° B 40'36 20.54090 AU
evening set	506 Mar 13 j 03:52	9° Υ 00'23	morning rise	512 May 10 j 03:12	5° B 37'32
			retrograde	512 Aug 12 j 16:41	8° B 49'33
conjunction	506 Mar 29 j 10:39	9° Υ 56'00 -0°36'40	opposition	512 Oct 27 j 22:49	6° B 48'12 -0°24'02
minimum elong	506 Mar 29 j 10:39	9° Υ 56'00 0°36'41	min. Earth dist.	512 Oct 27 j 19:37	6° B 48'32 18.51206 AU
max. Earth dist.	506 Mar 30 j 01:13	9° Υ 58'05 20.84747 AU	direct	513 Jan 10 j 12:41	4° B 48'46
morning rise	506 Apr 14 j 21:01	10° Υ 52'09	evening set	513 Apr 11 j 12:39	7° B 54'29
retrograde	506 Jul 18 j 17:31	14° Υ 01'38			
opposition	506 Oct 03 j 20:50	12° Υ 01'19 -0°39'33	conjunction	513 Apr 28 j 02:15	8° B 51'56 -0°20'19
min. Earth dist.	506 Oct 03 j 08:56	12° Υ 02'32 18.82624 AU	minimum elong	513 Apr 28 j 02:14	8° B 51'56 0°20'20
direct	506 Dec 17 j 12:10	10° Υ 03'48	max. Earth dist.	513 Apr 28 j 04:00	8° B 52'11 20.48324 AU
evening set	507 Mar 17 j 13:26	13° Υ 04'47	morning rise	513 May 14 j 18:35	9° B 49'46
			retrograde	513 Aug 17 j 05:43	13° B 02'20
conjunction	507 Apr 02 j 21:11	14° Υ 00'38 -0°34'50	opposition	513 Nov 01 j 08:33	11° B 00'52 -0°20'52
minimum elong	507 Apr 02 j 21:11	14° Υ 00'38 0°34'50	min. Earth dist.	513 Nov 01 j 07:14	11° B 01'01 18.45395 AU
max. Earth dist.	507 Apr 03 j 09:00	14° Υ 02'20 20.80383 AU	direct	514 Jan 14 j 21:46	9° B 01'08
morning rise	507 Apr 19 j 08:40	14° Υ 57'01	evening set	514 Apr 16 j 03:21	12° B 07'53
retrograde	507 Jul 23 j 04:50	18° Υ 06'51			
opposition	507 Oct 08 j 04:35	16° Υ 06'19 -0°37'25	conjunction	514 May 02 j 17:59	13° B 05'38 -0°17'24
min. Earth dist.	507 Oct 07 j 18:23	16° Υ 07'23 18.78055 AU	minimum elong	514 May 02 j 17:59	13° B 05'38 0°17'24
direct	507 Dec 21 j 19:21	14° Υ 08'31	max. Earth dist.	514 May 02 j 19:09	13° B 05'48 20.42468 AU
evening set	508 Mar 20 j 23:30	17° Υ 10'07	morning rise	514 May 19 j 10:48	14° B 03'44
				514 Jun 05 j 12:54	15° B
conjunction	508 Apr 06 j 08:24	18° Υ 06'12 -0°32'49	retrograde	514 Aug 21 j 20:24	17° B 16'50
minimum elong	508 Apr 06 j 08:24	18° Υ 06'12 0°32'50	opposition	514 Nov 05 j 18:36	15° B 15'19 -0°17'35
max. Earth dist.	508 Apr 06 j 19:33	18° Υ 07'48 20.75625 AU	min. Earth dist.	514 Nov 05 j 18:20	15° B 15'20 18.39486 AU
morning rise	508 Apr 22 j 20:36	19° Υ 02'48		514 Nov 11 j 20:00	15° R B
retrograde	508 Jul 26 j 15:41	22° Υ 13'00	direct	515 Jan 19 j 08:44	13° B 15'17
opposition	508 Oct 11 j 12:24	20° Υ 12'18 -0°35'06		515 Mar 25 j 20:46	15° B
min. Earth dist.	508 Oct 11 j 03:34	20° Υ 13'13 18.73126 AU	evening set	515 Apr 20 j 19:13	16° B 23'07
direct	508 Dec 25 j 02:54	18° Υ 14'10			
evening set	509 Mar 25 j 10:18	21° Υ 16'27	conjunction	515 May 07 j 10:30	17° B 21'09 -0°14'22
			minimum elong	515 May 07 j 10:30	17° B 21'09 0°14'23
conjunction	509 Apr 10 j 20:04	22° Υ 12'47 -0°30'38	behind sun begin	515 May 07 j 07:39	17° B 20'45
minimum elong	509 Apr 10 j 20:04	22° Υ 12'47 0°30'38	behind sun end	515 May 07 j 13:22	17° B 21'34
max. Earth dist.	509 Apr 11 j 04:32	22° Υ 14'00 20.70564 AU	max. Earth dist.	515 May 07 j 08:35	17° B 20'53 20.36519 AU
morning rise	509 Apr 27 j 09:20	23° Υ 09'38	morning rise	515 May 24 j 04:03	18° B 19'32
retrograde	509 Jul 31 j 03:03	26° Υ 20'15	retrograde	515 Aug 26 j 10:55	21° B 33'12
opposition	509 Oct 15 j 20:33	24° Υ 19'21 -0°32'36	opposition	515 Nov 10 j 05:24	19° B 31'37 -0°14'10
min. Earth dist.	509 Oct 15 j 13:23	24° Υ 20'05 18.67935 AU	min. Earth dist.	515 Nov 10 j 07:23	19° B 31'25 18.33489 AU
direct	509 Dec 29 j 10:10	22° Υ 20'52	direct	516 Jan 23 j 19:10	17° B 31'17
evening set	510 Mar 29 j 21:36	25° Υ 23'55	evening set	516 Apr 24 j 11:49	20° B 40'15
conjunction	510 Apr 15 j 08:32	26° Υ 20'31 -0°28'17	conjunction	516 May 11 j 03:59	21° B 38'36 -0°11'15
minimum elong	510 Apr 15 j 08:32	26° Υ 20'31 0°28'17	minimum elong	516 May 11 j 03:59	21° B 38'36 0°11'14
max. Earth dist.	510 Apr 15 j 16:28	26° Υ 21'40 20.65252 AU	behind sun begin	516 May 10 j 23:05	21° B 37'54
morning rise	510 May 01 j 22:30	27° Υ 17'36	behind sun end	516 May 11 j 08:53	21° B 39'18
	510 Jul 01 j 12:40	0° B	max. Earth dist.	516 May 11 j 01:14	21° B 38'13 20.30460 AU
retrograde	510 Aug 04 j 15:25	0° B 28'39	morning rise	516 May 27 j 21:49	22° B 37'14
	510 Sep 08 j 00:48	30° R Υ	retrograde	516 Aug 30 j 03:12	25° B 51'28
opposition	510 Oct 20 j 04:57	28° Υ 27'35 -0°29'54	opposition	516 Nov 13 j 16:41	23° B 49'51 -0°10'39
min. Earth dist.	510 Oct 19 j 22:58	28° Υ 28'12 18.62512 AU	min. Earth dist.	516 Nov 13 j 19:47	23° B 49'32 18.27364 AU
direct	511 Jan 02 j 18:54	26° Υ 28'47	direct	517 Jan 27 j 07:34	21° B 49'12
evening set	511 Apr 03 j 09:56	29° Υ 32'39	evening set	517 Apr 29 j 05:39	24° B 59'20
	511 Apr 11 j 09:37	0° B			
conjunction	511 Apr 19 j 21:41	0° B 29'32 -0°25'46	conjunction	517 May 15 j 22:18	25° B 57'58 -0°08'02
minimum elong	511 Apr 19 j 21:42	0° B 29'32 0°25'45	minimum elong	517 May 15 j 22:19	25° B 57'58 0°08'02
max. Earth dist.	511 Apr 20 j 02:48	0° B 30'16 20.59747 AU	behind sun begin	517 May 15 j 16:18	25° B 57'06
morning rise	511 May 06 j 12:36	1° B 26'51	behind sun end	517 May 16 j 04:19	25° B 58'50
retrograde	511 Aug 09 j 03:14	4° B 38'23	max. Earth dist.	517 May 15 j 16:17	25° B 57'06 20.24273 AU
opposition	511 Oct 24 j 13:38	2° B 37'09 -0°27'03	morning rise	517 Jun 01 j 16:42	26° B 56'52
min. Earth dist.	511 Oct 24 j 09:27	2° B 37'35 18.56929 AU		517 Aug 13 j 14:53	0° II
direct	512 Jan 07 j 02:51	0° B 38'01	retrograde	517 Sep 03 j 19:00	0° II 11'41
evening set	512 Apr 06 j 22:53	3° B 42'47		517 Sep 25 j 04:06	30° R B
			opposition	517 Nov 18 j 04:43	28° B 09'59 -0°07'02

min. Earth dist.	517 Nov 18 j 10:23	28°♄09'23	18.21118 AU	minimum elong	523 Jun 13 j 06:02	22°♄31'23	0°12'09
direct	518 Jan 31 j 19:22	26°♄08'59		behind sun begin	523 Jun 13 j 01:34	22°♄30'44	
evening set	518 May 04 j 00:14	29°♄20'18		behind sun end	523 Jun 13 j 10:30	22°♄32'03	
	518 May 15 j 07:43	0°♄		max. Earth dist.	523 Jun 12 j 12:23	22°♄28'44	19.85756 AU
				morning rise	523 Jun 30 j 00:59	23°♄31'41	
conjunction	518 May 20 j 17:43	0°♄19'14	-0°04'45	retrograde	523 Oct 01 j 08:45	26°♄49'31	
minimum elong	518 May 20 j 17:43	0°♄19'14	0°04'45	opposition	523 Dec 14 j 17:52	24°♄47'07	0°15'18
behind sun begin	518 May 20 j 11:06	0°♄18'17		min. Earth dist.	523 Dec 15 j 09:25	24°♄45'26	17.82691 AU
behind sun end	518 May 21 j 00:20	0°♄20'11		direct	524 Feb 27 j 16:21	22°♄43'34	
max. Earth dist.	518 May 20 j 10:30	0°♄18'12	20.17956 AU	evening set	524 May 31 j 10:16	26°♄02'06	
morning rise	518 Jun 06 j 12:19	1°♄18'23		max. Earth dist.	524 Jun 16 j 10:58	26°♄59'49	19.79698 AU
retrograde	518 Sep 08 j 13:14	4°♄33'45					
opposition	518 Nov 22 j 17:19	2°♄31'58	-0°03'21	conjunction	524 Jun 17 j 05:39	27°♄02'38	0°15'25
min. Earth dist.	518 Nov 23 j 00:04	2°♄31'15	18.14727 AU	minimum elong	524 Jun 17 j 05:38	27°♄02'38	0°15'26
direct	519 Feb 05 j 09:45	0°♄30'35		behind sun begin	524 Jun 17 j 04:16	27°♄02'26	
evening set	519 May 08 j 20:00	3°♄43'06		behind sun end	524 Jun 17 j 07:00	27°♄02'50	
				morning rise	524 Jul 04 j 00:21	28°♄03'07	
conjunction	519 May 25 j 13:51	4°♄42'19	-0°01'23		524 Aug 09 j 16:13	0°♄	
minimum elong	519 May 25 j 13:51	4°♄42'19	0°01'23	retrograde	524 Oct 05 j 05:45	1°♄21'25	
behind sun begin	519 May 25 j 07:04	4°♄41'20			524 Dec 02 j 08:19	30°♄	
behind sun end	519 May 25 j 20:38	4°♄43'18		opposition	524 Dec 18 j 10:17	29°♄18'55	0°18'55
max. Earth dist.	519 May 25 j 03:22	4°♄40'46	20.11507 AU	min. Earth dist.	524 Dec 19 j 01:55	29°♄17'13	17.76774 AU
morning rise	519 Jun 11 j 08:47	5°♄41'43		direct	525 Mar 03 j 11:47	27°♄15'00	
retrograde	519 Sep 13 j 05:39	8°♄57'37			525 May 26 j 11:21	0°♄	
asc. node	519 Oct 19 j 21:51	8°♄23'43		evening set	525 Jun 05 j 10:38	0°♄34'42	
opposition	519 Nov 27 j 06:36	6°♄55'43	0°00'23	max. Earth dist.	525 Jun 21 j 09:56	1°♄32'26	19.73925 AU
min. Earth dist.	519 Nov 27 j 16:01	6°♄54'43	18.08243 AU				
direct	520 Feb 09 j 22:52	4°♄53'54		conjunction	525 Jun 22 j 06:00	1°♄35'28	0°18'37
evening set	520 May 12 j 16:24	8°♄07'37		minimum elong	525 Jun 22 j 06:00	1°♄35'28	0°18'36
				morning rise	525 Jul 09 j 00:20	2°♄36'07	
conjunction	520 May 29 j 10:52	9°♄07'08	0°02'06	retrograde	525 Oct 10 j 00:42	5°♄54'52	
minimum elong	520 May 29 j 10:52	9°♄07'08	0°02'05	opposition	525 Dec 23 j 03:28	3°♄52'18	0°22'25
behind sun begin	520 May 29 j 04:05	9°♄06'09		min. Earth dist.	525 Dec 23 j 21:05	3°♄50'23	17.71184 AU
behind sun end	520 May 29 j 17:39	9°♄08'07		direct	526 Mar 08 j 05:56	1°♄48'01	
max. Earth dist.	520 May 28 j 23:14	9°♄05'24	20.04998 AU	evening set	526 Jun 10 j 11:43	5°♄08'56	
morning rise	520 Jun 15 j 05:51	10°♄06'46		max. Earth dist.	526 Jun 26 j 09:41	6°♄06'39	19.68519 AU
retrograde	520 Sep 17 j 01:26	13°♄23'10					
opposition	520 Nov 30 j 20:25	11°♄21'09	0°04'09	conjunction	526 Jun 27 j 06:59	6°♄09'54	0°21'42
min. Earth dist.	520 Dec 01 j 06:38	11°♄20'03	18.01720 AU	minimum elong	526 Jun 27 j 06:59	6°♄09'54	0°21'43
direct	521 Feb 13 j 15:07	9°♄18'55		morning rise	526 Jul 14 j 01:00	7°♄10'42	
evening set	521 May 17 j 13:39	12°♄33'49		retrograde	526 Oct 14 j 22:45	10°♄29'53	
				opposition	526 Dec 27 j 21:19	8°♄27'18	0°25'48
conjunction	521 Jun 03 j 08:23	13°♄33'36	0°05'29	min. Earth dist.	526 Dec 28 j 14:51	8°♄25'23	17.65970 AU
minimum elong	521 Jun 03 j 08:23	13°♄33'36	0°05'30	direct	527 Mar 13 j 02:55	6°♄22'43	
behind sun begin	521 Jun 03 j 01:51	13°♄32'39		evening set	527 Jun 15 j 13:28	9°♄44'48	
behind sun end	521 Jun 03 j 14:55	13°♄34'33		max. Earth dist.	527 Jul 01 j 10:34	10°♄42'36	19.63491 AU
max. Earth dist.	521 Jun 02 j 18:01	13°♄31'28	19.98483 AU				
morning rise	521 Jun 20 j 03:31	14°♄33'29		conjunction	527 Jul 02 j 08:33	10°♄45'57	0°24'41
retrograde	521 Sep 21 j 18:25	17°♄50'23		minimum elong	527 Jul 02 j 08:33	10°♄45'57	0°24'41
opposition	521 Dec 05 j 11:01	15°♄48'13	0°07'54	morning rise	527 Jul 19 j 01:55	11°♄46'54	
min. Earth dist.	521 Dec 05 j 23:45	15°♄46'51	17.95240 AU	retrograde	527 Oct 19 j 19:06	15°♄06'30	
direct	522 Feb 18 j 05:54	13°♄45'32		opposition	528 Jan 01 j 16:02	13°♄03'57	0°29'03
evening set	522 May 22 j 11:46	17°♄01'39		min. Earth dist.	528 Jan 02 j 11:17	13°♄01'51	17.61152 AU
				direct	528 Mar 16 j 22:57	10°♄59'07	
conjunction	522 Jun 08 j 06:55	18°♄01'42	0°08'50	evening set	528 Jun 19 j 15:53	14°♄22'20	
minimum elong	522 Jun 08 j 06:55	18°♄01'42	0°08'50	max. Earth dist.	528 Jul 05 j 11:11	15°♄20'04	19.58884 AU
behind sun begin	522 Jun 08 j 01:07	18°♄00'51					
behind sun end	522 Jun 08 j 12:43	18°♄02'33		conjunction	528 Jul 06 j 10:35	15°♄23'39	0°27'31
max. Earth dist.	522 Jun 07 j 15:26	17°♄59'23	19.92050 AU	minimum elong	528 Jul 06 j 10:35	15°♄23'39	0°27'31
morning rise	522 Jun 25 j 01:59	19°♄01'47		morning rise	528 Jul 23 j 03:29	16°♄24'44	
retrograde	522 Sep 26 j 14:50	22°♄19'10		retrograde	528 Oct 23 j 17:52	19°♄44'45	
opposition	522 Dec 10 j 01:58	20°♄16'52	0°11'38	opposition	529 Jan 05 j 11:18	17°♄42'15	0°32'07
min. Earth dist.	522 Dec 10 j 15:14	20°♄15'26	17.88870 AU	min. Earth dist.	529 Jan 06 j 06:30	17°♄40'09	17.56750 AU
direct	523 Feb 22 j 23:42	18°♄13'46		direct	529 Mar 21 j 21:14	15°♄37'12	
evening set	523 May 27 j 10:47	21°♄31'05		evening set	529 Jun 24 j 18:47	19°♄01'31	
conjunction	523 Jun 13 j 06:03	22°♄31'23	0°12'09	conjunction	529 Jul 11 j 13:13	20°♄02'59	0°30'11

minimum elong	529 Jul 11 j 13:13	20° Ω 02'59	0°30'12	minimum elong	535 Aug 10 j 10:42	18° Ω 24'07	0°41'40
max. Earth dist.	529 Jul 10 j 13:40	19° Ω 59'22	19.54664 AU	morning rise	535 Aug 26 j 21:09	19° Ω 25'25	
morning rise	529 Jul 28 j 05:18	21° Ω 04'09		retrograde	535 Nov 26 j 14:04	22° Ω 47'01	
retrograde	529 Oct 28 j 15:43	24° Ω 24'34		opposition	536 Feb 07 j 21:36	20° Ω 44'50	0°47'02
opposition	530 Jan 10 j 07:31	22° Ω 22'08	0°35'01	min. Earth dist.	536 Feb 08 j 20:35	20° Ω 42'20	17.36225 AU
min. Earth dist.	530 Jan 11 j 04:19	22° Ω 19'52	17.52720 AU	direct	536 Apr 24 j 00:52	18° Ω 38'36	
direct	530 Mar 26 j 19:22	20° Ω 16'54		evening set	536 Jul 29 j 01:07	22° Ω 08'07	
evening set	530 Jun 29 j 22:30	23° Ω 42'15		max. Earth dist.	536 Aug 13 j 10:53	23° Ω 05'35	19.35494 AU
conjunction	530 Jul 16 j 16:17	24° Ω 43'50	0°32'41	conjunction	536 Aug 14 j 14:09	23° Ω 09'52	0°42'39
minimum elong	530 Jul 16 j 16:17	24° Ω 43'50	0°32'40	minimum elong	536 Aug 14 j 14:09	23° Ω 09'52	0°42'40
max. Earth dist.	530 Jul 15 j 14:55	24° Ω 39'55	19.50816 AU	morning rise	536 Aug 30 j 23:36	24° Ω 11'05	
morning rise	530 Aug 02 j 07:44	25° Ω 45'05		retrograde	536 Nov 30 j 13:44	27° Ω 32'43	
retrograde	530 Nov 02 j 15:08	29° Ω 05'50		opposition	537 Feb 11 j 21:33	25° Ω 30'32	0°47'59
opposition	531 Jan 15 j 04:15	27° Ω 03'28	0°37'41	min. Earth dist.	537 Feb 12 j 20:39	25° Ω 28'01	17.34994 AU
min. Earth dist.	531 Jan 16 j 01:12	27° Ω 01'11	17.49054 AU	direct	537 Apr 29 j 03:05	23° Ω 24'11	
direct	531 Mar 31 j 19:31	24° Ω 58'03		evening set	537 Aug 03 j 05:19	26° Ω 54'00	
evening set	531 Jul 05 j 02:31	28° Ω 24'22		conjunction	537 Aug 19 j 17:27	27° Ω 55'42	0°43'21
conjunction	531 Jul 21 j 19:50	29° Ω 26'02	0°34'58	minimum elong	537 Aug 19 j 17:27	27° Ω 55'42	0°43'21
minimum elong	531 Jul 21 j 19:50	29° Ω 26'02	0°34'58	max. Earth dist.	537 Aug 18 j 15:35	27° Ω 51'38	19.34530 AU
max. Earth dist.	531 Jul 20 j 18:41	29° Ω 22'09	19.47311 AU	morning rise	537 Sep 05 j 01:44	28° Ω 56'50	
	531 Jul 30 j 23:11	0° Ω			537 Sep 22 j 22:52	0° Ω	
morning rise	531 Aug 07 j 10:15	0° Ω 27'21		retrograde	537 Dec 05 j 13:21	2° Ω 18'25	
retrograde	531 Nov 07 j 14:00	3° Ω 48'22		opposition	538 Feb 16 j 21:53	0° Ω 16'15	0°48'36
opposition	532 Jan 20 j 01:56	1° Ω 46'05	0°40'07	min. Earth dist.	538 Feb 17 j 19:59	0° Ω 13'50	17.34298 AU
min. Earth dist.	532 Jan 21 j 00:04	1° Ω 43'40	17.45726 AU		538 Feb 23 j 03:28	30° Ω	
	532 Mar 08 j 10:19	30° Ω		direct	538 May 04 j 06:52	28° Ω 09'50	
direct	532 Apr 04 j 19:12	29° Ω 40'29			538 Jul 10 j 01:42	0° Ω	
	532 May 01 j 21:38	0° Ω		evening set	538 Aug 08 j 09:22	1° Ω 39'51	
evening set	532 Jul 09 j 06:49	3° Ω 07'39		conjunction	538 Aug 24 j 20:20	2° Ω 41'26	0°43'45
conjunction	532 Jul 25 j 23:17	4° Ω 09'23	0°37'01	minimum elong	538 Aug 24 j 20:20	2° Ω 41'26	0°43'45
minimum elong	532 Jul 25 j 23:17	4° Ω 09'23	0°37'01	max. Earth dist.	538 Aug 23 j 18:43	2° Ω 37'25	19.34124 AU
max. Earth dist.	532 Jul 24 j 20:23	4° Ω 05'12	19.44159 AU	morning rise	538 Sep 10 j 03:27	3° Ω 42'28	
morning rise	532 Aug 11 j 12:58	5° Ω 10'44		retrograde	538 Dec 10 j 11:50	7° Ω 03'58	
retrograde	532 Nov 11 j 14:14	8° Ω 32'00		opposition	539 Feb 21 j 22:35	5° Ω 01'50	0°48'52
opposition	533 Jan 24 j 00:05	6° Ω 29'45	0°42'17	min. Earth dist.	539 Feb 22 j 20:35	4° Ω 59'27	17.34206 AU
min. Earth dist.	533 Jan 24 j 22:23	6° Ω 27'19	17.42761 AU	direct	539 May 09 j 09:47	2° Ω 55'25	
direct	533 Apr 09 j 20:29	4° Ω 23'58		evening set	539 Aug 13 j 13:00	6° Ω 25'31	
evening set	533 Jul 14 j 11:18	7° Ω 51'53		conjunction	539 Aug 29 j 22:53	7° Ω 26'59	0°43'50
max. Earth dist.	533 Jul 30 j 00:57	8° Ω 49'35	19.41367 AU	minimum elong	539 Aug 29 j 22:53	7° Ω 26'59	0°43'51
conjunction	533 Jul 31 j 03:12	8° Ω 53'40	0°38'50	max. Earth dist.	539 Aug 28 j 22:47	7° Ω 23'11	19.34349 AU
minimum elong	533 Jul 31 j 03:12	8° Ω 53'40	0°38'50	morning rise	539 Sep 15 j 04:50	8° Ω 27'52	
morning rise	533 Aug 16 j 15:45	9° Ω 55'01		retrograde	539 Dec 15 j 11:33	11° Ω 49'16	
retrograde	533 Nov 16 j 13:50	13° Ω 16'26		opposition	540 Feb 26 j 23:29	9° Ω 47'12	0°48'49
opposition	534 Jan 28 j 22:43	11° Ω 14'14	0°44'11	min. Earth dist.	540 Feb 27 j 19:41	9° Ω 45'00	17.34741 AU
min. Earth dist.	534 Jan 29 j 21:42	11° Ω 11'44	17.40156 AU	direct	540 May 13 j 14:23	7° Ω 40'50	
direct	534 Apr 14 j 21:07	9° Ω 08'17		evening set	540 Aug 17 j 16:08	11° Ω 10'55	
evening set	534 Jul 19 j 16:07	12° Ω 36'51		max. Earth dist.	540 Sep 02 j 01:57	12° Ω 08'38	19.35205 AU
max. Earth dist.	534 Aug 04 j 03:18	13° Ω 34'19	19.38964 AU	conjunction	540 Sep 03 j 00:54	12° Ω 12'14	0°43'38
conjunction	534 Aug 05 j 07:01	13° Ω 38'39	0°40'23	minimum elong	540 Sep 03 j 00:54	12° Ω 12'14	0°43'37
minimum elong	534 Aug 05 j 07:01	13° Ω 38'39	0°40'24	morning rise	540 Sep 19 j 05:40	13° Ω 12'59	
morning rise	534 Aug 21 j 18:40	14° Ω 39'59		retrograde	540 Dec 19 j 09:42	16° Ω 34'14	
	534 Aug 27 j 07:16	15° Ω		opposition	541 Mar 03 j 00:39	14° Ω 32'17	0°48'25
retrograde	534 Nov 21 j 14:23	18° Ω 01'32		min. Earth dist.	541 Mar 03 j 20:40	14° Ω 30'07	17.35916 AU
opposition	535 Feb 02 j 21:57	15° Ω 59'20	0°45'46	direct	541 May 18 j 17:00	12° Ω 26'02	
min. Earth dist.	535 Feb 03 j 21:07	15° Ω 56'49	17.37971 AU	evening set	541 Aug 22 j 18:58	15° Ω 56'00	
	535 Feb 26 j 12:12	15° Ω		max. Earth dist.	541 Sep 07 j 04:50	16° Ω 53'44	19.36695 AU
direct	535 Apr 19 j 22:56	13° Ω 53'13		conjunction	541 Sep 08 j 02:33	16° Ω 57'09	0°43'08
	535 Jun 10 j 01:22	15° Ω		minimum elong	541 Sep 08 j 02:33	16° Ω 57'09	0°43'08
evening set	535 Jul 24 j 20:35	17° Ω 22'19		morning rise	541 Sep 24 j 06:14	17° Ω 57'44	
max. Earth dist.	535 Aug 09 j 08:08	18° Ω 19'58	19.36993 AU	retrograde	541 Dec 24 j 09:46	21° Ω 18'47	
conjunction	535 Aug 10 j 10:42	18° Ω 24'07	0°41'40	opposition	542 Mar 08 j 01:44	19° Ω 17'00	0°47'42

min. Earth dist.	542 Mar 08 j 19:42	19° <u>♏</u> 15'03	17.37687 AU	conjunction	548 Oct 10 j 21:03	19° <u>♊</u> 50'44	0°32'00
direct	542 May 23 j 21:38	17° <u>♏</u> 10'55		minimum elong	548 Oct 10 j 21:03	19° <u>♊</u> 50'44	0°32'00
evening set	542 Aug 27 j 21:19	20° <u>♏</u> 40'40		max. Earth dist.	548 Oct 10 j 10:43	19° <u>♊</u> 49'08	19.60197 AU
max. Earth dist.	542 Sep 12 j 07:51	21° <u>♏</u> 38'30	19.38753 AU	morning rise	548 Oct 26 j 17:21	20° <u>♊</u> 49'48	
				retrograde	549 Jan 25 j 20:34	24° <u>♊</u> 08'22	
conjunction	542 Sep 13 j 03:47	21° <u>♏</u> 41'38	0°42'21	opposition	549 Apr 10 j 10:21	22° <u>♊</u> 07'33	0°34'16
minimum elong	542 Sep 13 j 03:47	21° <u>♏</u> 41'38	0°42'21	min. Earth dist.	549 Apr 10 j 19:42	22° <u>♊</u> 06'33	17.62515 AU
morning rise	542 Sep 29 j 06:13	22° <u>♏</u> 42'03		direct	549 Jun 26 j 14:46	20° <u>♊</u> 03'15	
retrograde	542 Dec 29 j 07:51	26° <u>♏</u> 02'53		evening set	549 Sep 29 j 18:28	23° <u>♊</u> 28'25	
opposition	543 Mar 13 j 03:16	24° <u>♏</u> 01'15	0°46'39				
min. Earth dist.	543 Mar 13 j 21:04	23° <u>♏</u> 59'20	17.40015 AU	conjunction	549 Oct 15 j 17:01	24° <u>♊</u> 27'40	0°29'29
direct	543 May 28 j 23:39	21° <u>♏</u> 55'23		minimum elong	549 Oct 15 j 17:01	24° <u>♊</u> 27'40	0°29'29
evening set	543 Sep 01 j 23:01	25° <u>♏</u> 24'47		max. Earth dist.	549 Oct 15 j 07:22	24° <u>♊</u> 26'10	19.64903 AU
max. Earth dist.	543 Sep 17 j 09:14	26° <u>♏</u> 22'34	19.41343 AU	morning rise	549 Oct 31 j 12:38	25° <u>♊</u> 26'28	
				retrograde	550 Jan 30 j 16:33	28° <u>♊</u> 44'32	
conjunction	543 Sep 18 j 04:13	26° <u>♏</u> 25'33	0°41'16	opposition	550 Apr 15 j 10:26	26° <u>♊</u> 43'46	0°31'21
minimum elong	543 Sep 18 j 04:13	26° <u>♏</u> 25'33	0°41'16	min. Earth dist.	550 Apr 15 j 17:38	26° <u>♊</u> 43'01	17.67365 AU
morning rise	543 Oct 04 j 05:39	27° <u>♏</u> 25'47		direct	550 Jul 01 j 15:42	24° <u>♊</u> 39'45	
	543 Nov 23 j 06:42	0° <u>♊</u>		evening set	550 Oct 04 j 14:26	28° <u>♊</u> 03'53	
retrograde	544 Jan 03 j 07:56	0° <u>♊</u> 46'21					
	544 Feb 14 j 17:45	30° <u>♏</u>		conjunction	550 Oct 20 j 12:11	29° <u>♊</u> 02'51	0°26'47
opposition	544 Mar 17 j 04:42	28° <u>♏</u> 44'52	0°45'18	minimum elong	550 Oct 20 j 12:11	29° <u>♊</u> 02'51	0°26'47
min. Earth dist.	544 Mar 17 j 20:15	28° <u>♏</u> 43'12	17.42835 AU	max. Earth dist.	550 Oct 20 j 05:38	29° <u>♊</u> 01'50	19.69903 AU
direct	544 Jun 02 j 03:42	26° <u>♏</u> 39'15			550 Nov 04 j 21:39	0° <u>♏</u>	
	544 Sep 03 j 18:26	0° <u>♊</u>		morning rise	550 Nov 05 j 06:52	0° <u>♏</u> 01'24	
evening set	544 Sep 06 j 00:08	0° <u>♊</u> 08'12		retrograde	551 Feb 04 j 11:51	3° <u>♏</u> 18'55	
max. Earth dist.	544 Sep 21 j 11:32	1° <u>♊</u> 06'08	19.44384 AU	opposition	551 Apr 20 j 10:13	1° <u>♏</u> 18'14	0°28'15
				min. Earth dist.	551 Apr 20 j 15:47	1° <u>♏</u> 17'39	17.72506 AU
conjunction	544 Sep 22 j 04:18	1° <u>♊</u> 08'46	0°39'55		551 May 24 j 02:27	30° <u>♏</u>	
minimum elong	544 Sep 22 j 04:18	1° <u>♊</u> 08'46	0°39'56	direct	551 Jul 06 j 17:22	29° <u>♊</u> 14'31	
morning rise	544 Oct 08 j 04:30	2° <u>♊</u> 08'46			551 Aug 17 j 23:09	0° <u>♏</u>	
retrograde	545 Jan 07 j 05:43	5° <u>♊</u> 29'01		evening set	551 Oct 09 j 09:26	2° <u>♏</u> 37'33	
opposition	545 Mar 22 j 06:08	3° <u>♊</u> 27'43	0°43'38				
min. Earth dist.	545 Mar 22 j 21:30	3° <u>♊</u> 26'04	17.46085 AU	conjunction	551 Oct 25 j 06:06	3° <u>♏</u> 36'13	0°23'56
direct	545 Jun 07 j 05:33	1° <u>♊</u> 22'20		minimum elong	551 Oct 25 j 06:06	3° <u>♏</u> 36'13	0°23'56
evening set	545 Sep 11 j 00:45	4° <u>♊</u> 50'44		max. Earth dist.	551 Oct 25 j 00:41	3° <u>♏</u> 35'23	19.75208 AU
max. Earth dist.	545 Sep 26 j 11:25	5° <u>♊</u> 48'31	19.47838 AU	morning rise	551 Nov 10 j 00:15	4° <u>♏</u> 34'31	
				retrograde	552 Feb 09 j 06:00	7° <u>♏</u> 51'30	
conjunction	545 Sep 27 j 03:37	5° <u>♊</u> 51'03	0°38'18	opposition	552 Apr 24 j 09:25	5° <u>♏</u> 50'51	0°25'00
minimum elong	545 Sep 27 j 03:37	5° <u>♊</u> 51'03	0°38'18	min. Earth dist.	552 Apr 24 j 12:49	5° <u>♏</u> 50'30	17.77976 AU
morning rise	545 Oct 13 j 02:56	6° <u>♊</u> 50'51		direct	552 Jul 10 j 16:49	3° <u>♏</u> 47'26	
retrograde	546 Jan 12 j 04:54	10° <u>♊</u> 10'44		evening set	552 Oct 13 j 03:26	7° <u>♏</u> 09'22	
opposition	546 Mar 27 j 07:28	8° <u>♊</u> 09'34	0°41'41				
min. Earth dist.	546 Mar 27 j 20:35	8° <u>♊</u> 08'11	17.49717 AU	conjunction	552 Oct 28 j 23:22	8° <u>♏</u> 07'44	0°20'58
direct	546 Jun 12 j 08:49	6° <u>♊</u> 04'28		minimum elong	552 Oct 28 j 23:22	8° <u>♏</u> 07'44	0°20'57
evening set	546 Sep 16 j 00:24	9° <u>♊</u> 32'12		max. Earth dist.	552 Oct 28 j 21:06	8° <u>♏</u> 07'23	19.80836 AU
				morning rise	552 Nov 13 j 16:44	9° <u>♏</u> 05'46	
conjunction	546 Oct 02 j 02:16	10° <u>♊</u> 32'16	0°36'26	retrograde	553 Feb 12 j 23:45	12° <u>♏</u> 22'10	
minimum elong	546 Oct 02 j 02:16	10° <u>♊</u> 32'16	0°36'26	opposition	553 Apr 29 j 07:54	10° <u>♏</u> 21'39	0°21'37
max. Earth dist.	546 Oct 01 j 12:38	10° <u>♊</u> 30'08	19.51641 AU	min. Earth dist.	553 Apr 29 j 09:10	10° <u>♏</u> 21'31	17.83751 AU
morning rise	546 Oct 18 j 00:23	11° <u>♊</u> 31'49		direct	553 Jul 15 j 16:55	8° <u>♏</u> 18'35	
retrograde	547 Jan 17 j 02:13	14° <u>♊</u> 51'19		evening set	553 Oct 17 j 20:40	11° <u>♏</u> 39'22	
opposition	547 Apr 01 j 08:50	12° <u>♊</u> 50'17	0°39'27				
min. Earth dist.	547 Apr 01 j 21:24	12° <u>♊</u> 48'57	17.53679 AU	conjunction	553 Nov 02 j 15:38	12° <u>♏</u> 37'26	0°17'53
direct	547 Jun 17 j 10:45	10° <u>♊</u> 45'27		minimum elong	553 Nov 02 j 15:38	12° <u>♏</u> 37'26	0°17'53
evening set	547 Sep 20 j 23:26	14° <u>♊</u> 12'25		max. Earth dist.	553 Nov 02 j 14:40	12° <u>♏</u> 37'18	19.86772 AU
max. Earth dist.	547 Oct 06 j 10:55	15° <u>♊</u> 10'10	19.55770 AU	morning rise	553 Nov 18 j 08:32	13° <u>♏</u> 35'13	
					553 Dec 13 j 09:09	15° <u>♏</u>	
conjunction	547 Oct 07 j 00:02	15° <u>♊</u> 12'13	0°34'20	retrograde	554 Feb 17 j 16:50	16° <u>♏</u> 51'05	
minimum elong	547 Oct 07 j 00:02	15° <u>♊</u> 12'13	0°34'19		554 Apr 30 j 12:03	15° <u>♏</u>	
morning rise	547 Oct 22 j 21:22	16° <u>♊</u> 11'32		opposition	554 May 04 j 06:03	14° <u>♏</u> 50'40	0°18'07
retrograde	548 Jan 22 j 00:07	19° <u>♊</u> 30'35		min. Earth dist.	554 May 04 j 05:22	14° <u>♏</u> 50'45	17.89840 AU
opposition	548 Apr 05 j 09:42	17° <u>♊</u> 29'40	0°36'58	direct	554 Jul 20 j 14:09	12° <u>♏</u> 47'59	
min. Earth dist.	548 Apr 05 j 20:01	17° <u>♊</u> 28'34	17.57959 AU		554 Oct 02 j 20:37	15° <u>♏</u>	
direct	548 Jun 21 j 12:44	15° <u>♊</u> 25'06		evening set	554 Oct 22 j 12:41	16° <u>♏</u> 07'36	
evening set	548 Sep 24 j 21:18	18° <u>♊</u> 51'12					
				conjunction	554 Nov 07 j 07:02	17° <u>♏</u> 05'23	0°14'43

minimum elong	554 Nov 07 j 07:02	17° $\overline{\text{M}}$ 05'23	0°14'43	max. Earth dist.	559 Nov 29 j 11:12	9° $\overline{\text{A}}$ 01'32	20.25899 AU
behind sun begin	554 Nov 07 j 04:10	17° $\overline{\text{M}}$ 04'57		morning rise	559 Dec 14 j 15:19	9° $\overline{\text{A}}$ 56'14	
behind sun end	554 Nov 07 j 09:54	17° $\overline{\text{M}}$ 05'49		retrograde	560 Mar 15 j 15:22	13° $\overline{\text{A}}$ 08'52	
max. Earth dist.	554 Nov 07 j 09:05	17° $\overline{\text{M}}$ 05'42	19.92997 AU	opposition	560 May 31 j 06:18	11° $\overline{\text{A}}$ 09'22	-0°03'48
morning rise	554 Nov 22 j 23:19	18° $\overline{\text{M}}$ 02'54		min. Earth dist.	560 May 30 j 19:16	11° $\overline{\text{A}}$ 10'30	18.29128 AU
retrograde	555 Feb 22 j 09:47	21° $\overline{\text{M}}$ 18'13		direct	560 Aug 16 j 07:26	9° $\overline{\text{A}}$ 09'10	
opposition	555 May 09 j 03:36	19° $\overline{\text{M}}$ 17'59	0°14'33	evening set	560 Nov 16 j 20:17	12° $\overline{\text{A}}$ 21'37	
min. Earth dist.	555 May 09 j 00:26	19° $\overline{\text{M}}$ 18'18	17.96170 AU				
direct	555 Jul 25 j 12:02	17° $\overline{\text{M}}$ 15'42		conjunction	560 Dec 02 j 11:26	13° $\overline{\text{A}}$ 17'46	-0°05'08
evening set	555 Oct 27 j 04:03	20° $\overline{\text{M}}$ 34'09		minimum elong	560 Dec 02 j 11:26	13° $\overline{\text{A}}$ 17'46	0°05'09
				behind sun begin	560 Dec 02 j 05:05	13° $\overline{\text{A}}$ 16'50	
conjunction	555 Nov 11 j 21:35	21° $\overline{\text{M}}$ 31'38	0°11'30	behind sun end	560 Dec 02 j 17:47	13° $\overline{\text{A}}$ 18'41	
minimum elong	555 Nov 11 j 21:36	21° $\overline{\text{M}}$ 31'38	0°11'30	max. Earth dist.	560 Dec 02 j 23:46	13° $\overline{\text{A}}$ 19'37	20.32333 AU
behind sun begin	555 Nov 11 j 16:48	21° $\overline{\text{M}}$ 30'55		morning rise	560 Dec 18 j 02:12	14° $\overline{\text{A}}$ 13'52	
behind sun end	555 Nov 12 j 02:23	21° $\overline{\text{M}}$ 32'21		retrograde	561 Mar 20 j 06:37	17° $\overline{\text{A}}$ 25'57	
max. Earth dist.	555 Nov 12 j 01:04	21° $\overline{\text{M}}$ 32'09	19.99433 AU	opposition	561 Jun 04 j 23:57	15° $\overline{\text{A}}$ 26'34	-0°07'26
morning rise	555 Nov 27 j 13:34	22° $\overline{\text{M}}$ 28'54		min. Earth dist.	561 Jun 04 j 10:38	15° $\overline{\text{A}}$ 27'55	18.35464 AU
retrograde	556 Feb 27 j 01:54	25° $\overline{\text{M}}$ 43'41		direct	561 Aug 21 j 01:28	13° $\overline{\text{A}}$ 26'42	
opposition	556 May 13 j 00:28	23° $\overline{\text{M}}$ 43'36	0°10'55	evening set	561 Nov 21 j 06:57	16° $\overline{\text{A}}$ 37'59	
min. Earth dist.	556 May 12 j 19:51	23° $\overline{\text{M}}$ 44'04	18.02700 AU				
direct	556 Jul 29 j 07:03	21° $\overline{\text{M}}$ 41'44		conjunction	561 Dec 06 j 21:45	17° $\overline{\text{A}}$ 33'52	-0°08'22
evening set	556 Oct 30 j 18:25	24° $\overline{\text{M}}$ 59'00		minimum elong	561 Dec 06 j 21:45	17° $\overline{\text{A}}$ 33'52	0°08'22
				behind sun begin	561 Dec 06 j 15:58	17° $\overline{\text{A}}$ 33'02	
conjunction	556 Nov 15 j 11:28	25° $\overline{\text{M}}$ 56'13	0°08'13	behind sun end	561 Dec 07 j 03:32	17° $\overline{\text{A}}$ 34'43	
minimum elong	556 Nov 15 j 11:28	25° $\overline{\text{M}}$ 56'13	0°08'14	max. Earth dist.	561 Dec 07 j 11:21	17° $\overline{\text{A}}$ 35'54	20.38564 AU
behind sun begin	556 Nov 15 j 05:39	25° $\overline{\text{M}}$ 55'21		morning rise	561 Dec 22 j 12:33	18° $\overline{\text{A}}$ 29'46	
behind sun end	556 Nov 15 j 17:17	25° $\overline{\text{M}}$ 57'05		retrograde	562 Mar 24 j 18:51	21° $\overline{\text{A}}$ 41'21	
max. Earth dist.	556 Nov 15 j 17:27	25° $\overline{\text{M}}$ 57'06	20.06027 AU	opposition	562 Jun 09 j 17:15	19° $\overline{\text{A}}$ 42'00	-0°10'59
morning rise	556 Dec 01 j 03:00	26° $\overline{\text{M}}$ 53'14		min. Earth dist.	562 Jun 09 j 03:37	19° $\overline{\text{A}}$ 43'23	18.41600 AU
	557 Feb 13 j 23:36	0° $\overline{\text{A}}$		direct	562 Aug 25 j 15:51	17° $\overline{\text{A}}$ 42'28	
retrograde	557 Mar 02 j 18:28	0° $\overline{\text{A}}$ 07'27		evening set	562 Nov 25 j 16:38	20° $\overline{\text{A}}$ 52'34	
	557 Mar 19 j 19:46	30° $\overline{\text{R}}$ $\overline{\text{M}}$					
opposition	557 May 17 j 20:46	28° $\overline{\text{M}}$ 07'33	0°07'15	conjunction	562 Dec 11 j 07:18	21° $\overline{\text{A}}$ 48'13	-0°11'31
min. Earth dist.	557 May 17 j 13:42	28° $\overline{\text{M}}$ 08'17	18.09324 AU	minimum elong	562 Dec 11 j 07:18	21° $\overline{\text{A}}$ 48'13	0°11'32
direct	557 Aug 03 j 03:18	26° $\overline{\text{M}}$ 06'08		behind sun begin	562 Dec 11 j 02:32	21° $\overline{\text{A}}$ 47'32	
evening set	557 Nov 04 j 08:04	29° $\overline{\text{M}}$ 22'11		behind sun end	562 Dec 11 j 12:04	21° $\overline{\text{A}}$ 48'55	
	557 Nov 14 j 18:57	0° $\overline{\text{A}}$		max. Earth dist.	562 Dec 11 j 22:16	21° $\overline{\text{A}}$ 50'27	20.44594 AU
conjunction	557 Nov 20 j 00:26	0° $\overline{\text{A}}$ 19'07	0°04'55	morning rise	562 Dec 26 j 22:09	22° $\overline{\text{A}}$ 43'55	
minimum elong	557 Nov 20 j 00:26	0° $\overline{\text{A}}$ 19'07	0°04'55	retrograde	563 Mar 29 j 08:35	25° $\overline{\text{A}}$ 54'59	
behind sun begin	557 Nov 19 j 18:02	0° $\overline{\text{A}}$ 18'10		opposition	563 Jun 14 j 09:35	23° $\overline{\text{A}}$ 55'40	-0°14'27
behind sun end	557 Nov 20 j 06:49	0° $\overline{\text{A}}$ 20'04		min. Earth dist.	563 Jun 13 j 17:39	23° $\overline{\text{A}}$ 57'17	18.47515 AU
max. Earth dist.	557 Nov 20 j 07:49	0° $\overline{\text{A}}$ 20'13	20.12674 AU	direct	563 Aug 30 j 08:36	21° $\overline{\text{A}}$ 56'25	
morning rise	557 Dec 05 j 15:43	1° $\overline{\text{A}}$ 15'54		evening set	563 Nov 30 j 01:44	25° $\overline{\text{A}}$ 05'22	
retrograde	558 Mar 07 j 09:29	4° $\overline{\text{A}}$ 29'36					
opposition	558 May 22 j 16:38	2° $\overline{\text{A}}$ 29'51	0°03'33	conjunction	563 Dec 15 j 16:14	26° $\overline{\text{A}}$ 00'48	-0°14'36
min. Earth dist.	558 May 22 j 08:33	2° $\overline{\text{A}}$ 30'40	18.15989 AU	minimum elong	563 Dec 15 j 16:14	26° $\overline{\text{A}}$ 00'48	0°14'36
direct	558 Aug 07 j 20:30	0° $\overline{\text{A}}$ 28'51		behind sun begin	563 Dec 15 j 13:14	26° $\overline{\text{A}}$ 00'22	
evening set	558 Nov 08 j 20:53	3° $\overline{\text{A}}$ 43'42		behind sun end	563 Dec 15 j 19:14	26° $\overline{\text{A}}$ 01'14	
				max. Earth dist.	563 Dec 16 j 08:37	26° $\overline{\text{A}}$ 03'14	20.50396 AU
conjunction	558 Nov 24 j 12:49	4° $\overline{\text{A}}$ 40'22	0°01'35	morning rise	563 Dec 31 j 07:15	26° $\overline{\text{A}}$ 56'19	
minimum elong	558 Nov 24 j 12:49	4° $\overline{\text{A}}$ 40'22	0°01'35		564 Mar 16 j 09:17	0° $\overline{\text{B}}$	
behind sun begin	558 Nov 24 j 06:17	4° $\overline{\text{A}}$ 39'24		retrograde	564 Apr 01 j 19:44	0° $\overline{\text{B}}$ 06'52	
behind sun end	558 Nov 24 j 19:22	4° $\overline{\text{A}}$ 41'20			564 Apr 18 j 11:22	30° $\overline{\text{R}}$ $\overline{\text{A}}$	
max. Earth dist.	558 Nov 24 j 22:19	4° $\overline{\text{A}}$ 41'47	20.19329 AU	min. Earth dist.	564 Jun 17 j 09:03	28° $\overline{\text{A}}$ 09'12	18.53228 AU
morning rise	558 Dec 10 j 03:49	5° $\overline{\text{A}}$ 36'54		opposition	564 Jun 18 j 01:09	28° $\overline{\text{A}}$ 07'34	-0°17'49
retrograde	559 Mar 12 j 01:46	8° $\overline{\text{A}}$ 50'04		direct	564 Sep 02 j 21:15	26° $\overline{\text{A}}$ 08'34	
desc. node	559 May 13 j 16:06	7° $\overline{\text{A}}$ 23'51		evening set	564 Dec 03 j 10:03	29° $\overline{\text{A}}$ 16'26	
opposition	559 May 27 j 11:44	6° $\overline{\text{A}}$ 50'27	-0°00'08		564 Dec 15 j 18:10	0° $\overline{\text{B}}$	
min. Earth dist.	559 May 27 j 01:14	6° $\overline{\text{A}}$ 51'32	18.22611 AU	conjunction	564 Dec 19 j 00:30	0° $\overline{\text{B}}$ 11'39	-0°17'35
direct	559 Aug 12 j 15:40	4° $\overline{\text{A}}$ 49'52		minimum elong	564 Dec 19 j 00:30	0° $\overline{\text{B}}$ 11'39	0°17'36
evening set	559 Nov 13 j 08:57	8° $\overline{\text{A}}$ 03'31		max. Earth dist.	564 Dec 19 j 18:07	0° $\overline{\text{B}}$ 14'16	20.56017 AU
				morning rise	565 Jan 03 j 15:43	1° $\overline{\text{B}}$ 07'00	
conjunction	559 Nov 29 j 00:25	8° $\overline{\text{A}}$ 59'55	-0°01'50	retrograde	565 Apr 06 j 08:01	4° $\overline{\text{B}}$ 17'04	
minimum elong	559 Nov 29 j 00:24	8° $\overline{\text{A}}$ 59'55	0°01'51	opposition	565 Jun 22 j 15:57	2° $\overline{\text{B}}$ 17'47	-0°21'04
behind sun begin	559 Nov 28 j 17:52	8° $\overline{\text{A}}$ 58'57		min. Earth dist.	565 Jun 21 j 21:27	2° $\overline{\text{B}}$ 19'39	18.58762 AU
behind sun end	559 Nov 29 j 06:57	9° $\overline{\text{A}}$ 00'52		direct	565 Sep 07 j 12:02	0° $\overline{\text{B}}$ 19'03	

evening set	565 Dec 07 j 17:38	3° $\overline{3}$ 25'51	retrograde	572 May 05 j 06:21	2° \approx 53'32	
			min. Earth dist.	572 Jul 21 j 06:50	0° \approx 57'03	18.91755 AU
conjunction	565 Dec 23 j 08:03	4° $\overline{3}$ 20'53 -0°20'27	opposition	572 Jul 22 j 06:33	0° \approx 54'41	-0°39'28
minimum elong	565 Dec 23 j 08:02	4° $\overline{3}$ 20'53 0°20'27		572 Aug 15 j 00:14	30° \overline{R} $\overline{3}$	
max. Earth dist.	565 Dec 24 j 03:18	4° $\overline{3}$ 23'44 20.61458 AU	direct	572 Oct 06 j 10:33	28° $\overline{3}$ 57'53	
morning rise	566 Jan 07 j 23:29	5° $\overline{3}$ 16'04		572 Nov 25 j 10:22	0° \approx	
retrograde	566 Apr 10 j 18:27	8° $\overline{3}$ 25'42	evening set	573 Jan 04 j 11:03	1° \approx 59'02	
min. Earth dist.	566 Jun 26 j 11:27	6° $\overline{3}$ 28'20 18.64139 AU				
opposition	566 Jun 27 j 06:16	6° $\overline{3}$ 26'26 -0°24'11	conjunction	573 Jan 20 j 03:16	2° \approx 53'12	-0°36'35
direct	566 Sep 11 j 23:24	4° $\overline{3}$ 27'59	minimum elong	573 Jan 20 j 03:16	2° \approx 53'12	0°36'35
evening set	566 Dec 12 j 00:44	7° $\overline{3}$ 33'47	max. Earth dist.	573 Jan 21 j 04:15	2° \approx 56'49	20.93466 AU
			morning rise	573 Feb 04 j 22:10	3° \approx 47'43	
conjunction	566 Dec 27 j 15:13	8° $\overline{3}$ 28'39 -0°23'12	retrograde	573 May 09 j 17:04	6° \approx 55'24	
minimum elong	566 Dec 27 j 15:13	8° $\overline{3}$ 28'39 0°23'12	opposition	573 Jul 26 j 16:53	4° \approx 56'35	-0°41'23
max. Earth dist.	566 Dec 28 j 11:33	8° $\overline{3}$ 31'39 20.66759 AU	min. Earth dist.	573 Jul 25 j 16:10	4° \approx 59'03	18.95128 AU
morning rise	567 Jan 12 j 07:00	9° $\overline{3}$ 23'42	direct	573 Oct 10 j 18:53	2° \approx 59'59	
retrograde	567 Apr 15 j 06:00	12° $\overline{3}$ 32'56	evening set	574 Jan 08 j 15:56	6° \approx 00'33	
opposition	567 Jul 01 j 19:37	10° $\overline{3}$ 33'43 -0°27'08				
min. Earth dist.	567 Jun 30 j 22:31	10° $\overline{3}$ 35'50 18.69361 AU	conjunction	574 Jan 24 j 08:41	6° \approx 54'40	-0°38'13
direct	567 Sep 16 j 11:47	8° $\overline{3}$ 35'32	minimum elong	574 Jan 24 j 08:41	6° \approx 54'40	0°38'13
evening set	567 Dec 16 j 07:16	11° $\overline{3}$ 40'25	max. Earth dist.	574 Jan 25 j 10:16	6° \approx 58'22	20.96582 AU
			morning rise	574 Feb 09 j 04:13	7° \approx 49'09	
conjunction	567 Dec 31 j 21:55	12° $\overline{3}$ 35'07 -0°25'49	retrograde	574 May 14 j 00:15	10° \approx 56'41	
minimum elong	567 Dec 31 j 21:55	12° $\overline{3}$ 35'07 0°25'49	min. Earth dist.	574 Jul 30 j 03:08	9° \approx 00'14	18.97994 AU
max. Earth dist.	568 Jan 01 j 19:44	12° $\overline{3}$ 38'19 20.71881 AU	opposition	574 Jul 31 j 02:56	8° \approx 57'52	-0°43'05
morning rise	568 Jan 16 j 14:04	13° $\overline{3}$ 30'02	direct	574 Oct 15 j 01:55	7° \approx 01'25	
retrograde	568 Apr 18 j 15:38	16° $\overline{3}$ 38'55	evening set	575 Jan 12 j 20:51	10° \approx 01'27	
min. Earth dist.	568 Jul 04 j 11:22	14° $\overline{3}$ 41'53 18.74392 AU				
opposition	568 Jul 05 j 08:32	14° $\overline{3}$ 39'46 -0°29'57	conjunction	575 Jan 28 j 14:09	10° \approx 55'31	-0°39'40
direct	568 Sep 19 j 21:57	12° $\overline{3}$ 41'54	minimum elong	575 Jan 28 j 14:08	10° \approx 55'31	0°39'40
evening set	568 Dec 19 j 13:22	15° $\overline{3}$ 45'54	max. Earth dist.	575 Jan 29 j 15:09	10° \approx 59'07	20.99191 AU
			morning rise	575 Feb 13 j 10:29	11° \approx 49'59	
conjunction	569 Jan 04 j 04:12	16° $\overline{3}$ 40'28 -0°28'17	retrograde	575 May 18 j 10:25	14° \approx 57'21	
minimum elong	569 Jan 04 j 04:12	16° $\overline{3}$ 40'28 0°28'17	min. Earth dist.	575 Aug 03 j 11:54	13° \approx 00'56	19.00338 AU
max. Earth dist.	569 Jan 05 j 02:44	16° $\overline{3}$ 43'46 20.76806 AU	opposition	575 Aug 04 j 12:16	12° \approx 58'30	-0°44'34
morning rise	569 Jan 19 j 20:48	17° $\overline{3}$ 35'16	direct	575 Oct 19 j 09:16	11° \approx 02'08	
retrograde	569 Apr 23 j 02:40	20° $\overline{3}$ 43'51	evening set	576 Jan 17 j 01:35	14° \approx 01'42	
opposition	569 Jul 09 j 20:44	18° $\overline{3}$ 44'46 -0°32'36				
min. Earth dist.	569 Jul 08 j 21:35	18° $\overline{3}$ 47'05 18.79198 AU	conjunction	576 Feb 01 j 19:33	14° \approx 55'45	-0°40'55
direct	569 Sep 24 j 08:32	16° $\overline{3}$ 47'11	minimum elong	576 Feb 01 j 19:33	14° \approx 55'45	0°40'55
evening set	569 Dec 23 j 19:09	19° $\overline{3}$ 50'23	max. Earth dist.	576 Feb 02 j 20:52	14° \approx 59'23	21.01259 AU
				576 Feb 03 j 01:07	15° \approx	
conjunction	570 Jan 08 j 10:15	20° $\overline{3}$ 44'49 -0°30'36	morning rise	576 Feb 17 j 16:38	15° \approx 50'13	
minimum elong	570 Jan 08 j 10:14	20° $\overline{3}$ 44'49 0°30'37	retrograde	576 May 21 j 17:18	18° \approx 57'27	
max. Earth dist.	570 Jan 09 j 10:05	20° $\overline{3}$ 48'19 20.81474 AU	opposition	576 Aug 07 j 21:21	16° \approx 58'32	-0°45'49
morning rise	570 Jan 24 j 03:18	21° $\overline{3}$ 39'33	min. Earth dist.	576 Aug 06 j 22:03	17° \approx 00'51	19.02145 AU
retrograde	570 Apr 27 j 11:34	24° $\overline{3}$ 47'51	direct	576 Oct 22 j 15:47	15° \approx 02'12	
min. Earth dist.	570 Jul 13 j 09:41	22° $\overline{3}$ 51'09 18.83732 AU	evening set	577 Jan 20 j 06:06	18° \approx 01'20	
opposition	570 Jul 14 j 08:37	22° $\overline{3}$ 48'51 -0°35'04				
direct	570 Sep 28 j 17:29	20° $\overline{3}$ 51'34	conjunction	577 Feb 05 j 00:42	18° \approx 55'22	-0°41'57
evening set	570 Dec 28 j 00:34	23° $\overline{3}$ 54'01	minimum elong	577 Feb 05 j 00:42	18° \approx 55'22	0°41'58
			max. Earth dist.	577 Feb 06 j 01:22	18° \approx 58'54	21.02824 AU
conjunction	571 Jan 12 j 15:59	24° $\overline{3}$ 48'20 -0°32'46	morning rise	577 Feb 20 j 22:39	19° \approx 49'51	
minimum elong	571 Jan 12 j 15:59	24° $\overline{3}$ 48'20 0°32'46	retrograde	577 May 26 j 02:40	22° \approx 56'59	
max. Earth dist.	571 Jan 13 j 16:12	24° $\overline{3}$ 51'52 20.85856 AU	min. Earth dist.	577 Aug 11 j 06:08	21° \approx 00'20	19.03470 AU
morning rise	571 Jan 28 j 09:40	25° $\overline{3}$ 42'59	opposition	577 Aug 12 j 05:57	20° \approx 57'57	-0°46'51
retrograde	571 May 01 j 22:26	28° $\overline{3}$ 51'03	direct	577 Oct 26 j 22:18	19° \approx 01'38	
opposition	571 Jul 18 j 19:50	26° $\overline{3}$ 52'07 -0°37'22	evening set	578 Jan 24 j 10:38	22° \approx 00'23	
min. Earth dist.	571 Jul 17 j 19:26	26° $\overline{3}$ 54'34 18.87942 AU				
direct	571 Oct 03 j 02:52	24° $\overline{3}$ 55'05	conjunction	578 Feb 09 j 05:59	22° \approx 54'25	-0°42'47
evening set	572 Jan 01 j 05:54	27° $\overline{3}$ 56'52	minimum elong	578 Feb 09 j 05:59	22° \approx 54'25	0°42'47
			max. Earth dist.	578 Feb 10 j 07:04	22° \approx 58'01	21.03916 AU
conjunction	572 Jan 16 j 21:43	28° $\overline{3}$ 51'06 -0°34'46	morning rise	578 Feb 25 j 04:43	23° \approx 48'56	
minimum elong	572 Jan 16 j 21:43	28° $\overline{3}$ 51'06 0°34'47	retrograde	578 May 30 j 09:39	26° \approx 56'00	
max. Earth dist.	572 Jan 17 j 22:51	28° $\overline{3}$ 54'45 20.89865 AU	opposition	578 Aug 16 j 14:12	24° \approx 56'51	-0°47'39
morning rise	572 Feb 01 j 15:56	29° $\overline{3}$ 45'41	min. Earth dist.	578 Aug 15 j 15:18	24° \approx 59'08	19.04352 AU
	572 Feb 05 j 21:45	0° \approx	direct	578 Oct 31 j 04:09	23° \approx 00'31	

evening set	579 Jan 28 j 15:09	25° \approx 58'59		max. Earth dist.	585 Mar 09 j 20:46	20° \mathbb{H} 48'08	21.00792 AU
				morning rise	585 Mar 25 j 05:11	21° \mathbb{H} 40'20	
conjunction	579 Feb 13 j 11:15	26° \approx 53'03 -0°43'25		retrograde	585 Jun 27 j 23:17	24° \mathbb{H} 48'12	
minimum elong	579 Feb 13 j 11:15	26° \approx 53'03 0°43'26		opposition	585 Sep 13 j 17:11	22° \mathbb{H} 48'32 -0°46'48	
max. Earth dist.	579 Feb 14 j 11:35	26° \approx 56'32 21.04602 AU		min. Earth dist.	585 Sep 12 j 22:04	22° \mathbb{H} 50'28	18.99853 AU
morning rise	579 Mar 01 j 10:58	27° \approx 47'36		direct	585 Nov 27 j 15:45	20° \mathbb{H} 52'01	
	579 Apr 16 j 14:04	0° \mathbb{H}		evening set	586 Feb 25 j 04:55	23° \mathbb{H} 50'43	
retrograde	579 Jun 03 j 18:56	0° \mathbb{H} 54'38					
	579 Jul 23 j 12:13	30° \mathbb{R}		conjunction	586 Mar 13 j 07:25	24° \mathbb{H} 45'31 -0°41'55	
opposition	579 Aug 20 j 22:01	28° \approx 55'22 -0°48'13		minimum elong	586 Mar 13 j 07:25	24° \mathbb{H} 45'31 0°41'55	
min. Earth dist.	579 Aug 19 j 22:45	28° \approx 57'42 19.04843 AU		max. Earth dist.	586 Mar 14 j 03:59	24° \mathbb{H} 48'27	20.98724 AU
direct	579 Nov 04 j 10:03	26° \approx 59'01		morning rise	586 Mar 29 j 13:46	25° \mathbb{H} 40'53	
evening set	580 Feb 01 j 19:48	29° \approx 57'16		retrograde	586 Jul 02 j 08:38	28° \mathbb{H} 49'01	
	580 Feb 02 j 15:23	0° \mathbb{H}		min. Earth dist.	586 Sep 17 j 06:51	26° \mathbb{H} 51'04	18.97540 AU
				opposition	586 Sep 18 j 00:16	26° \mathbb{H} 49'18 -0°45'45	
conjunction	580 Feb 17 j 16:43	0° \mathbb{H} 51'22 -0°43'50		direct	586 Dec 01 j 20:50	24° \mathbb{H} 52'41	
minimum elong	580 Feb 17 j 16:43	0° \mathbb{H} 51'22 0°43'49		evening set	587 Mar 01 j 12:09	27° \mathbb{H} 51'44	
max. Earth dist.	580 Feb 18 j 17:20	0° \mathbb{H} 54'54 21.04889 AU					
morning rise	580 Mar 04 j 17:14	1° \mathbb{H} 46'00		conjunction	587 Mar 17 j 15:37	28° \mathbb{H} 46'42 -0°40'52	
retrograde	580 Jun 07 j 01:55	4° \mathbb{H} 53'02		minimum elong	587 Mar 17 j 15:38	28° \mathbb{H} 46'42 0°40'51	
min. Earth dist.	580 Aug 23 j 07:11	2° \mathbb{H} 55'55 19.04946 AU		max. Earth dist.	587 Mar 18 j 09:58	28° \mathbb{H} 49'19	20.96172 AU
opposition	580 Aug 24 j 05:30	2° \mathbb{H} 53'40 -0°48'34		morning rise	587 Apr 02 j 23:05	29° \mathbb{H} 42'14	
direct	580 Nov 07 j 14:58	0° \mathbb{H} 57'18			587 Apr 08 j 07:40	0° \mathbb{Y}	
evening set	581 Feb 05 j 00:33	3° \mathbb{H} 55'25		retrograde	587 Jul 06 j 19:19	2° \mathbb{Y} 50'41	
				opposition	587 Sep 22 j 07:30	0° \mathbb{Y} 50'52 -0°44'29	
conjunction	581 Feb 20 j 22:16	4° \mathbb{H} 49'36 -0°44'02		min. Earth dist.	587 Sep 21 j 15:12	0° \mathbb{Y} 52'32	18.94725 AU
minimum elong	581 Feb 20 j 22:16	4° \mathbb{H} 49'36 0°44'02			587 Oct 13 j 20:02	30° \mathbb{R} \mathbb{H}	
max. Earth dist.	581 Feb 21 j 21:58	4° \mathbb{H} 52'59 21.04823 AU		direct	587 Dec 06 j 02:02	28° \mathbb{H} 54'07	
morning rise	581 Mar 08 j 23:47	5° \mathbb{H} 44'18			588 Jan 26 j 13:06	0° \mathbb{Y}	
retrograde	581 Jun 11 j 11:30	8° \mathbb{H} 51'25		evening set	588 Mar 04 j 19:51	1° \mathbb{Y} 53'33	
opposition	581 Aug 28 j 12:51	6° \mathbb{H} 51'57 -0°48'40					
min. Earth dist.	581 Aug 27 j 14:20	6° \mathbb{H} 54'13 19.04700 AU		conjunction	588 Mar 21 j 00:24	2° \mathbb{Y} 48'43 -0°39'36	
direct	581 Nov 11 j 20:33	4° \mathbb{H} 55'34		minimum elong	588 Mar 21 j 00:24	2° \mathbb{Y} 48'43 0°39'36	
evening set	582 Feb 09 j 05:23	7° \mathbb{H} 53'38		max. Earth dist.	588 Mar 21 j 17:53	2° \mathbb{Y} 51'13	20.93085 AU
				morning rise	588 Apr 06 j 08:42	3° \mathbb{Y} 44'26	
conjunction	582 Feb 25 j 04:03	8° \mathbb{H} 47'54 -0°44'02		retrograde	588 Jul 10 j 05:05	6° \mathbb{Y} 53'12	
minimum elong	582 Feb 25 j 04:02	8° \mathbb{H} 47'54 0°44'01		opposition	588 Sep 25 j 14:49	4° \mathbb{Y} 53'16 -0°42'58	
max. Earth dist.	582 Feb 26 j 03:58	8° \mathbb{H} 51'19 21.04388 AU		min. Earth dist.	588 Sep 25 j 00:15	4° \mathbb{Y} 54'45	18.91372 AU
morning rise	582 Mar 13 j 06:27	9° \mathbb{H} 42'42		direct	588 Dec 09 j 08:20	2° \mathbb{Y} 56'20	
retrograde	582 Jun 15 j 18:58	12° \mathbb{H} 49'56		evening set	589 Mar 09 j 04:07	5° \mathbb{Y} 56'12	
opposition	582 Sep 01 j 20:05	10° \mathbb{H} 50'25 -0°48'33					
min. Earth dist.	582 Aug 31 j 22:40	10° \mathbb{H} 52'34 19.04078 AU		conjunction	589 Mar 25 j 09:38	6° \mathbb{Y} 51'34 -0°38'08	
direct	582 Nov 16 j 00:47	8° \mathbb{H} 54'01		minimum elong	589 Mar 25 j 09:38	6° \mathbb{Y} 51'34 0°38'08	
evening set	583 Feb 13 j 10:40	11° \mathbb{H} 52'06		max. Earth dist.	589 Mar 26 j 00:39	6° \mathbb{Y} 53'43	20.89500 AU
				morning rise	589 Apr 10 j 19:03	7° \mathbb{Y} 47'29	
conjunction	583 Mar 01 j 10:13	12° \mathbb{H} 46'29 -0°43'49		retrograde	589 Jul 14 j 16:07	10° \mathbb{Y} 56'35	
minimum elong	583 Mar 01 j 10:13	12° \mathbb{H} 46'29 0°43'49		opposition	589 Sep 29 j 22:14	8° \mathbb{Y} 56'28 -0°41'15	
max. Earth dist.	583 Mar 02 j 08:54	12° \mathbb{H} 49'43 21.03592 AU		min. Earth dist.	589 Sep 29 j 08:58	8° \mathbb{Y} 57'50	18.87543 AU
morning rise	583 Mar 17 j 13:42	13° \mathbb{H} 41'24		direct	589 Dec 13 j 14:08	6° \mathbb{Y} 59'17	
retrograde	583 Jun 20 j 04:47	16° \mathbb{H} 48'47		evening set	590 Mar 13 j 12:47	9° \mathbb{Y} 59'39	
min. Earth dist.	583 Sep 05 j 05:52	14° \mathbb{H} 51'21 19.03087 AU					
opposition	583 Sep 06 j 03:00	14° \mathbb{H} 49'13 -0°48'12		conjunction	590 Mar 29 j 19:29	10° \mathbb{Y} 55'14 -0°36'28	
direct	583 Nov 20 j 06:13	12° \mathbb{H} 52'46		minimum elong	590 Mar 29 j 19:29	10° \mathbb{Y} 55'14 0°36'28	
evening set	584 Feb 17 j 16:20	15° \mathbb{H} 51'00		max. Earth dist.	590 Mar 30 j 09:41	10° \mathbb{Y} 57'16	20.85442 AU
				morning rise	590 Apr 15 j 05:46	11° \mathbb{Y} 51'22	
conjunction	584 Mar 04 j 16:52	16° \mathbb{H} 45'30 -0°43'24		retrograde	590 Jul 19 j 02:13	15° \mathbb{Y} 00'47	
minimum elong	584 Mar 04 j 16:52	16° \mathbb{H} 45'30 0°43'24		opposition	590 Oct 04 j 05:45	13° \mathbb{Y} 00'31 -0°39'18	
max. Earth dist.	584 Mar 05 j 15:27	16° \mathbb{H} 48'44 21.02396 AU		min. Earth dist.	590 Oct 03 j 18:08	13° \mathbb{Y} 01'42	18.83264 AU
morning rise	584 Mar 20 j 21:15	17° \mathbb{H} 40'33		direct	590 Dec 17 j 21:02	11° \mathbb{Y} 03'03	
retrograde	584 Jun 23 j 13:06	20° \mathbb{H} 48'09		evening set	591 Mar 17 j 22:14	14° \mathbb{Y} 03'58	
opposition	584 Sep 09 j 10:05	18° \mathbb{H} 48'32 -0°47'37					
min. Earth dist.	584 Sep 08 j 14:18	18° \mathbb{H} 50'33 19.01682 AU		conjunction	591 Apr 03 j 05:52	14° \mathbb{Y} 59'47 -0°34'37	
direct	584 Nov 23 j 10:28	16° \mathbb{H} 52'05		minimum elong	591 Apr 03 j 05:52	14° \mathbb{Y} 59'47 0°34'37	
evening set	585 Feb 20 j 22:18	19° \mathbb{H} 50'30		max. Earth dist.	591 Apr 03 j 17:33	15° \mathbb{Y} 01'27	20.80985 AU
				morning rise	591 Apr 19 j 17:14	15° \mathbb{Y} 56'08	
conjunction	585 Mar 08 j 23:45	20° \mathbb{H} 45'08 -0°42'46		retrograde	591 Jul 23 j 13:41	19° \mathbb{Y} 05'55	
minimum elong	585 Mar 08 j 23:45	20° \mathbb{H} 45'08 0°42'45		opposition	591 Oct 08 j 13:16	17° \mathbb{Y} 05'25 -0°37'09	

min. Earth dist.	591 Oct 08 j 03:03	17° Υ 06'29	18.78630 AU	conjunction	598 May 03 j 02:05	14° \mathcal{B} 04'31	-0°17'02
direct	591 Dec 22 j 04:00	15° Υ 07'39		minimum elong	598 May 03 j 02:05	14° \mathcal{B} 04'31	0°17'03
evening set	592 Mar 21 j 08:10	18° Υ 09'11		max. Earth dist.	598 May 03 j 03:24	14° \mathcal{B} 04'42	20.43185 AU
				morning rise	598 May 19 j 18:49	15° \mathcal{B} 02'36	
conjunction	592 Apr 06 j 16:56	19° Υ 05'15	-0°32'34		598 May 19 j 00:36	15° \mathcal{B}	
minimum elong	592 Apr 06 j 16:56	19° Υ 05'15	0°32'34	retrograde	598 Aug 22 j 04:55	18° \mathcal{B} 15'41	
max. Earth dist.	592 Apr 07 j 03:58	19° Υ 06'50	20.76186 AU	opposition	598 Nov 06 j 03:20	16° \mathcal{B} 14'13	-0°17'10
morning rise	592 Apr 23 j 05:03	20° Υ 01'50		min. Earth dist.	598 Nov 06 j 03:11	16° \mathcal{B} 14'14	18.40181 AU
retrograde	592 Jul 27 j 00:00	23° Υ 11'59			598 Dec 07 j 17:52	15° \mathcal{R} \mathcal{B}	
opposition	592 Oct 11 j 21:06	21° Υ 11'19	-0°34'49	direct	599 Jan 19 j 16:54	14° \mathcal{B} 14'16	
min. Earth dist.	592 Oct 11 j 12:17	21° Υ 12'14	18.73683 AU		599 Mar 02 j 20:44	15° \mathcal{B}	
direct	592 Dec 25 j 10:56	19° Υ 13'14		evening set	599 Apr 21 j 03:27	17° \mathcal{B} 22'01	
evening set	593 Mar 25 j 18:41	22° Υ 15'27					
				conjunction	599 May 07 j 18:36	18° \mathcal{B} 20'02	-0°13'59
conjunction	593 Apr 11 j 04:21	23° Υ 11'46	-0°30'22	minimum elong	599 May 07 j 18:36	18° \mathcal{B} 20'02	0°13'58
minimum elong	593 Apr 11 j 04:22	23° Υ 11'46	0°30'22	behind sun begin	599 May 07 j 15:21	18° \mathcal{B} 19'34	
max. Earth dist.	593 Apr 11 j 12:58	23° Υ 13'00	20.71126 AU	behind sun end	599 May 07 j 21:50	18° \mathcal{B} 20'30	
morning rise	593 Apr 27 j 17:31	24° Υ 08'35		max. Earth dist.	599 May 07 j 16:42	18° \mathcal{B} 19'46	20.37175 AU
retrograde	593 Jul 31 j 12:25	27° Υ 19'10		morning rise	599 May 24 j 12:02	19° \mathcal{B} 18'23	
opposition	593 Oct 16 j 05:14	25° Υ 18'18	-0°32'17	retrograde	599 Aug 26 j 19:41	22° \mathcal{B} 32'02	
min. Earth dist.	593 Oct 15 j 21:47	25° Υ 19'04	18.68507 AU	opposition	599 Nov 10 j 14:04	20° \mathcal{B} 30'30	-0°13'44
direct	593 Dec 29 j 19:08	23° Υ 19'53		min. Earth dist.	599 Nov 10 j 16:10	20° \mathcal{B} 30'17	18.34093 AU
evening set	594 Mar 30 j 06:00	26° Υ 22'51		direct	600 Jan 24 j 03:37	18° \mathcal{B} 30'12	
				evening set	600 Apr 24 j 20:08	21° \mathcal{B} 39'06	
conjunction	594 Apr 15 j 16:49	27° Υ 19'26	-0°27'59				
minimum elong	594 Apr 15 j 16:49	27° Υ 19'26	0°27'59	conjunction	600 May 11 j 12:12	22° \mathcal{B} 37'25	-0°10'51
max. Earth dist.	594 Apr 16 j 00:51	27° Υ 20'36	20.65839 AU	minimum elong	600 May 11 j 12:12	22° \mathcal{B} 37'25	0°10'51
morning rise	594 May 02 j 06:41	28° Υ 16'30		behind sun begin	600 May 11 j 07:07	22° \mathcal{B} 36'41	
	594 Jun 04 j 21:26	0° \mathcal{B}		behind sun end	600 May 11 j 17:16	22° \mathcal{B} 38'09	
retrograde	594 Aug 04 j 23:14	1° \mathcal{B} 27'31		max. Earth dist.	600 May 11 j 09:17	22° \mathcal{B} 37'00	20.30996 AU
	594 Oct 06 j 23:30	30° \mathcal{R} Υ		morning rise	600 May 28 j 05:56	23° \mathcal{B} 36'02	
opposition	594 Oct 20 j 13:31	29° Υ 26'29	-0°29'34	retrograde	600 Aug 30 j 11:47	26° \mathcal{B} 50'14	
min. Earth dist.	594 Oct 20 j 07:25	29° Υ 27'07	18.63123 AU	opposition	600 Nov 14 j 01:27	24° \mathcal{B} 48'37	-0°10'11
direct	595 Jan 03 j 02:45	27° Υ 27'45		min. Earth dist.	600 Nov 14 j 04:53	24° \mathcal{B} 48'15	18.27822 AU
	595 Mar 25 j 06:13	0° \mathcal{B}		direct	601 Jan 27 j 16:00	22° \mathcal{B} 47'59	
evening set	595 Apr 03 j 18:13	0° \mathcal{B} 31'33		evening set	601 Apr 29 j 13:51	25° \mathcal{B} 58'01	
conjunction	595 Apr 20 j 05:53	1° \mathcal{B} 28'24	-0°25'27	conjunction	601 May 16 j 06:27	26° \mathcal{B} 56'38	-0°07'37
minimum elong	595 Apr 20 j 05:53	1° \mathcal{B} 28'24	0°25'28	minimum elong	601 May 16 j 06:27	26° \mathcal{B} 56'38	0°07'37
max. Earth dist.	595 Apr 20 j 11:16	1° \mathcal{B} 29'11	20.60382 AU	behind sun begin	601 May 16 j 00:20	26° \mathcal{B} 55'45	
morning rise	595 May 06 j 20:42	2° \mathcal{B} 25'43		behind sun end	601 May 16 j 12:34	26° \mathcal{B} 57'31	
retrograde	595 Aug 09 j 12:24	5° \mathcal{B} 37'13		max. Earth dist.	601 May 16 j 00:07	26° \mathcal{B} 55'43	20.24641 AU
opposition	595 Oct 24 j 22:19	3° \mathcal{B} 36'02	-0°26'41	morning rise	601 Jun 02 j 00:48	27° \mathcal{B} 55'31	
min. Earth dist.	595 Oct 24 j 17:45	3° \mathcal{B} 36'30	18.57589 AU		601 Jul 12 j 19:44	0° Π	
direct	596 Jan 07 j 11:46	1° \mathcal{B} 36'59		retrograde	601 Sep 04 j 03:35	1° Π 10'17	
evening set	596 Apr 07 j 07:01	4° \mathcal{B} 41'40			601 Oct 28 j 18:12	30° \mathcal{R} \mathcal{B}	
				opposition	601 Nov 18 j 13:33	29° \mathcal{B} 08'33	-0°06'33
conjunction	596 Apr 23 j 19:44	5° \mathcal{B} 38'49	-0°22'47	min. Earth dist.	601 Nov 18 j 19:26	29° \mathcal{B} 07'56	18.21386 AU
minimum elong	596 Apr 23 j 19:44	5° \mathcal{B} 38'49	0°22'47				
max. Earth dist.	596 Apr 24 j 00:35	5° \mathcal{B} 39'31	20.54772 AU				
morning rise	596 May 10 j 11:07	6° \mathcal{B} 36'22					
retrograde	596 Aug 13 j 00:40	9° \mathcal{B} 48'22					
opposition	596 Oct 28 j 07:31	7° \mathcal{B} 47'05	-0°23'40				
min. Earth dist.	596 Oct 28 j 04:09	7° \mathcal{B} 47'26	18.51908 AU				
direct	597 Jan 10 j 20:44	5° \mathcal{B} 47'44					
evening set	597 Apr 11 j 20:52	8° \mathcal{B} 53'23					
conjunction	597 Apr 28 j 10:21	9° \mathcal{B} 50'48	-0°19'58				
minimum elong	597 Apr 28 j 10:21	9° \mathcal{B} 50'48	0°19'58				
max. Earth dist.	597 Apr 28 j 12:24	9° \mathcal{B} 51'05	20.49043 AU				
morning rise	597 May 15 j 02:36	10° \mathcal{B} 48'37					
retrograde	597 Aug 17 j 14:29	14° \mathcal{B} 01'10					
opposition	597 Nov 01 j 17:10	11° \mathcal{B} 59'46	-0°20'29				
min. Earth dist.	597 Nov 01 j 15:37	11° \mathcal{B} 59'56	18.46119 AU				
direct	598 Jan 15 j 06:21	10° \mathcal{B} 00'06					
evening set	598 Apr 16 j 11:33	13° \mathcal{B} 06'47					