

	100 Jan 06 j 20:59	0°♊		conjunction	105 Jul 23 j 18:30	28°♄29'23	0°43'06
evening set	100 Jan 12 j 23:36	1°♊27'00		minimum elong	105 Jul 23 j 18:28	28°♄29'22	0°43'06
				max. Earth dist.	105 Jul 23 j 22:27	28°♄31'33	6.36879 AU
conjunction	100 Jan 25 j 22:24	4°♊33'08	0°-48'-32		105 Jul 30 j 16:10	0°♈	
minimum elong	100 Jan 25 j 22:21	4°♊33'07	0°48'34	morning rise	105 Aug 06 j 02:25	1°♈24'00	
max. Earth dist.	100 Jan 26 j 01:03	4°♊34'44	6.01051 AU		105 Oct 17 j 13:00	15°♈	
morning rise	100 Feb 07 j 23:36	7°♊40'45		retrograde	105 Dec 05 j 07:54	18°♈33'20	
	100 Mar 10 j 18:20	15°♊			106 Jan 23 j 17:54	15°♈♈	
retrograde	100 Jun 18 j 15:14	27°♊59'21		opposition	106 Feb 03 j 10:09	13°♈37'15	1°22'06
opposition	100 Aug 17 j 19:50	22°♊58'40	-1°-33'-23	min. Earth dist.	106 Feb 03 j 16:09	13°♈35'17	4.40813 AU
min. Earth dist.	100 Aug 17 j 07:43	23°♊02'42	3.97961 AU	direct	106 Apr 06 j 07:58	8°♈34'06	
direct	100 Oct 15 j 06:03	18°♊05'09			106 Jun 14 j 23:42	15°♈	
	101 Jan 15 j 05:29	0°♋		evening set	106 Aug 11 j 10:54	26°♈16'21	
evening set	101 Feb 17 j 08:12	7°♋39'18					
				conjunction	106 Aug 24 j 13:04	29°♈06'27	1°06'09
conjunction	101 Mar 02 j 14:25	10°♋50'40	-1°-9'-17	minimum elong	106 Aug 24 j 13:03	29°♈06'26	1°06'09
minimum elong	101 Mar 02 j 14:24	10°♋50'39	1°09'18	max. Earth dist.	106 Aug 23 j 14:06	28°♈53'58	6.43119 AU
max. Earth dist.	101 Mar 03 j 22:48	11°♋10'10	5.96817 AU		106 Aug 28 j 15:43	0°♎	
morning rise	101 Mar 15 j 23:52	14°♋03'45		morning rise	106 Sep 06 j 12:23	1°♎55'04	
	101 May 31 j 18:54	0°♌		retrograde	107 Jan 04 j 15:54	18°♎44'25	
retrograde	101 Jul 26 j 09:34	4°♌38'17		opposition	107 Mar 06 j 02:32	13°♎51'13	1°42'48
	101 Sep 20 j 23:49	30°♌♌		min. Earth dist.	107 Mar 07 j 01:14	13°♎43'54	4.43828 AU
min. Earth dist.	101 Sep 22 j 23:01	29°♌44'02	3.98019 AU	direct	107 May 07 j 18:23	8°♎48'44	
opposition	101 Sep 24 j 03:51	29°♌34'16	-1°-44'-36	evening set	107 Sep 11 j 11:00	26°♎25'54	
direct	101 Nov 21 j 00:42	24°♌39'08		max. Earth dist.	107 Sep 22 j 14:10	28°♎51'24	6.42590 AU
	102 Jan 18 j 12:30	0°♌					
evening set	102 Mar 26 j 17:50	14°♌10'52		conjunction	107 Sep 24 j 06:24	29°♎13'23	1°10'50
				minimum elong	107 Sep 24 j 06:25	29°♎13'24	1°10'49
conjunction	102 Apr 09 j 07:43	17°♌23'47	-1°-3'-9		107 Sep 27 j 19:39	0°♏	
minimum elong	102 Apr 09 j 07:46	17°♌23'49	1°03'09	morning rise	107 Oct 06 j 22:58	1°♏59'38	
max. Earth dist.	102 Apr 11 j 09:44	17°♌53'26	6.01055 AU	retrograde	108 Feb 04 j 12:14	18°♏56'44	
morning rise	102 Apr 23 j 00:25	20°♌37'58		opposition	108 Apr 05 j 08:04	14°♏04'55	1°35'52
	102 Jun 04 j 00:04	0°♍		min. Earth dist.	108 Apr 06 j 16:12	13°♏54'40	4.39864 AU
retrograde	102 Aug 31 j 14:59	10°♍40'10		direct	108 Jun 07 j 00:28	9°♏04'10	
min. Earth dist.	102 Oct 28 j 19:18	5°♍46'17	4.05969 AU	evening set	108 Oct 11 j 03:34	26°♏51'25	
opposition	102 Oct 30 j 04:20	5°♍35'00	-1°-15'-9	max. Earth dist.	108 Oct 21 j 19:17	29°♏13'28	6.35436 AU
direct	102 Dec 27 j 10:59	0°♍36'54					
	103 Apr 11 j 19:17	15°♍		conjunction	108 Oct 23 j 19:00	29°♏40'06	0°56'00
evening set	103 May 02 j 19:56	19°♍44'05		minimum elong	108 Oct 23 j 19:02	29°♏40'07	0°56'01
					108 Oct 25 j 06:41	0°♎	
conjunction	103 May 16 j 14:29	22°♍54'07	0°-33'-27	morning rise	108 Nov 05 j 08:47	2°♎28'08	
minimum elong	103 May 16 j 14:32	22°♍54'09	0°33'28		109 Jan 07 j 19:30	15°♎	
max. Earth dist.	103 May 18 j 16:18	23°♍22'48	6.12005 AU	retrograde	109 Mar 07 j 22:42	19°♎59'42	
morning rise	103 May 30 j 09:49	26°♍04'20		opposition	109 May 07 j 21:40	15°♎07'37	1°01'41
	103 Jun 16 j 21:19	0°♎			109 May 08 j 21:37	15°♎♎	
retrograde	103 Oct 04 j 16:31	15°♎03'48		min. Earth dist.	109 May 09 j 08:13	14°♎56'38	4.29891 AU
min. Earth dist.	103 Dec 02 j 03:09	10°♎09'12	4.18668 AU	direct	109 Jul 09 j 00:18	10°♎09'15	
opposition	103 Dec 03 j 05:09	10°♎00'24	0°-20'-18		109 Sep 05 j 13:03	15°♎	
direct	104 Jan 31 j 14:02	4°♎59'28		evening set	109 Nov 11 j 10:24	28°♎20'31	
asc. node	104 Apr 15 j 18:48	12°♎50'00			109 Nov 18 j 16:41	0°♏	
evening set	104 Jun 06 j 12:25	23°♎32'23		max. Earth dist.	109 Nov 22 j 07:06	0°♏49'31	6.23457 AU
conjunction	104 Jun 20 j 05:22	26°♎35'55	0°06'42	conjunction	109 Nov 24 j 01:38	1°♏13'54	0°24'26
minimum elong	104 Jun 20 j 05:21	26°♎35'54	0°06'42	minimum elong	109 Nov 24 j 01:39	1°♏13'55	0°24'26
behind sun begin	104 Jun 19 j 21:35	26°♎31'36		morning rise	109 Dec 06 j 16:36	4°♏07'24	
behind sun end	104 Jun 20 j 13:06	26°♎40'13		retrograde	110 Apr 11 j 09:02	22°♏35'17	
max. Earth dist.	104 Jun 21 j 10:45	26°♎52'20	6.25431 AU	opposition	110 Jun 11 j 07:20	17°♏41'19	0°06'36
morning rise	104 Jul 03 j 21:23	29°♎38'40		min. Earth dist.	110 Jun 12 j 07:28	17°♏33'34	4.16626 AU
	104 Jul 05 j 11:55	0°♏		desc. node	110 Jul 24 j 04:36	13°♏16'16	
retrograde	104 Nov 04 j 15:51	17°♏34'00		direct	110 Aug 11 j 03:48	12°♏45'32	
opposition	105 Jan 03 j 09:51	12°♏34'05	0°37'49		110 Dec 07 j 17:11	0°♏	
min. Earth dist.	105 Jan 02 j 22:42	12°♏37'49	4.31591 AU	evening set	110 Dec 14 j 04:19	1°♏30'21	
direct	105 Mar 05 j 03:32	7°♏31'21					
evening set	105 Jul 10 j 07:54	25°♏33'21		conjunction	110 Dec 26 j 22:27	4°♏30'32	0°-16'-15
				minimum elong	110 Dec 26 j 22:26	4°♏30'32	0°16'15

behind sun begin	110 Dec 26 j 22:08	4°♄30'21		behind sun begin	116 Jun 24 j 18:33	1°♄12'04	
behind sun end	110 Dec 26 j 22:44	4°♄30'42		behind sun end	116 Jun 25 j 05:25	1°♄18'05	
max. Earth dist.	110 Dec 25 j 23:56	4°♄17'15	6.10087 AU	max. Earth dist.	116 Jun 26 j 03:06	1°♄30'10	6.27589 AU
morning rise	111 Jan 08 j 17:49	7°♄31'39		morning rise	116 Jul 08 j 14:53	4°♄16'27	
retrograde	111 May 18 j 00:47	27°♄05'13		retrograde	116 Nov 08 j 22:57	22°♄02'39	
opposition	111 Jul 17 j 14:29	22°♄08'00	0°-54'-13	opposition	117 Jan 07 j 17:47	17°♄03'16	0°44'58
min. Earth dist.	111 Jul 17 j 20:57	22°♄05'53	4.04236 AU	min. Earth dist.	117 Jan 07 j 09:00	17°♄06'11	4.33551 AU
direct	111 Sep 15 j 01:26	17°♄14'12		direct	117 Mar 09 j 16:22	12°♄00'22	
	111 Dec 20 j 18:03	0°♄		evening set	117 Jul 14 j 19:53	29°♄57'22	
evening set	112 Jan 17 j 22:09	6°♄32'00			117 Jul 15 j 00:45	0°♄	
conjunction	112 Jan 30 j 21:51	9°♄39'06	0°-52'-46	conjunction	117 Jul 28 j 05:11	2°♄52'15	0°47'10
minimum elong	112 Jan 30 j 21:49	9°♄39'05	0°52'47	minimum elong	117 Jul 28 j 05:09	2°♄52'13	0°47'09
max. Earth dist.	112 Jan 31 j 04:06	9°♄42'52	5.99814 AU	max. Earth dist.	117 Jul 28 j 03:59	2°♄51'35	6.38470 AU
morning rise	112 Feb 13 j 00:16	12°♄47'47		morning rise	117 Aug 10 j 11:57	5°♄45'42	
	112 Feb 22 j 07:10	15°♄			117 Sep 24 j 23:50	15°♄	
	112 May 09 j 01:33	0°♄		retrograde	117 Dec 09 j 11:12	22°♄49'26	
retrograde	112 Jun 23 j 22:07	3°♄12'10		opposition	118 Feb 07 j 14:35	17°♄53'45	1°26'21
	112 Aug 09 j 03:00	30°♄		min. Earth dist.	118 Feb 07 j 23:34	17°♄50'49	4.41944 AU
min. Earth dist.	112 Aug 22 j 09:35	28°♄16'15	3.97267 AU		118 Mar 03 j 07:18	15°♄	
opposition	112 Aug 23 j 01:13	28°♄11'02	-1°-37'-26	direct	118 Apr 10 j 16:06	12°♄50'30	
direct	112 Oct 20 j 07:19	23°♄17'29			118 May 19 j 09:48	15°♄	
	112 Dec 25 j 12:03	0°♄			118 Aug 13 j 08:50	0°♄	
evening set	113 Feb 22 j 12:44	12°♄53'42		evening set	118 Aug 15 j 16:57	0°♄30'08	
conjunction	113 Mar 07 j 20:01	16°♄05'37	-1°-10'-6	conjunction	118 Aug 28 j 18:12	3°♄19'35	1°07'52
minimum elong	113 Mar 07 j 20:01	16°♄05'37	1°10'07	minimum elong	118 Aug 28 j 18:10	3°♄19'34	1°07'53
max. Earth dist.	113 Mar 09 j 07:18	16°♄26'51	5.96725 AU	max. Earth dist.	118 Aug 27 j 16:59	3°♄05'54	6.43686 AU
morning rise	113 Mar 21 j 06:39	19°♄19'14		morning rise	118 Sep 10 j 16:15	6°♄07'31	
	113 May 07 j 21:19	0°♄		retrograde	119 Jan 08 j 18:00	22°♄55'40	
retrograde	113 Jul 31 j 13:34	9°♄52'50		opposition	119 Mar 10 j 06:46	18°♄02'43	1°43'27
min. Earth dist.	113 Sep 28 j 01:02	4°♄58'46	3.98562 AU	min. Earth dist.	119 Mar 11 j 07:03	17°♄54'55	4.43804 AU
opposition	113 Sep 29 j 07:16	4°♄48'29	-1°-42'-44	direct	119 May 11 j 22:58	13°♄00'23	
	113 Nov 18 j 01:05	30°♄			119 Sep 12 j 16:50	0°♄	
direct	113 Nov 26 j 04:28	29°♄53'02		evening set	119 Sep 15 j 14:35	0°♄37'47	
	113 Dec 04 j 08:14	0°♄		max. Earth dist.	119 Sep 26 j 13:24	3°♄01'14	6.41951 AU
evening set	114 Mar 31 j 23:48	19°♄22'57		conjunction	119 Sep 28 j 09:07	3°♄25'11	1°09'54
conjunction	114 Apr 14 j 14:47	22°♄35'48	-1°00'-9	minimum elong	119 Sep 28 j 09:08	3°♄25'11	1°09'53
minimum elong	114 Apr 14 j 14:49	22°♄35'49	1°00'10	morning rise	119 Oct 11 j 01:13	6°♄11'28	
max. Earth dist.	114 Apr 16 j 19:55	23°♄07'11	6.02218 AU	retrograde	120 Feb 08 j 20:30	23°♄12'00	
morning rise	114 Apr 28 j 08:03	25°♄49'43		opposition	120 Apr 09 j 15:44	18°♄20'14	1°32'44
	114 May 16 j 10:36	0°♄		min. Earth dist.	120 Apr 11 j 02:12	18°♄09'15	4.38637 AU
	114 Aug 15 j 07:28	15°♄		direct	120 Jun 11 j 07:53	13°♄19'40	
retrograde	114 Sep 05 j 13:41	15°♄44'15			120 Oct 10 j 01:08	0°♄	
	114 Sep 26 j 14:03	15°♄		evening set	120 Oct 15 j 08:13	1°♄10'13	
min. Earth dist.	114 Nov 02 j 16:55	10°♄50'27	4.07631 AU	max. Earth dist.	120 Oct 25 j 23:09	3°♄32'24	6.33710 AU
opposition	114 Nov 04 j 01:56	10°♄39'12	-1°-8'-28	conjunction	120 Oct 27 j 23:37	3°♄59'32	0°52'34
direct	115 Jan 01 j 11:39	5°♄40'44		minimum elong	120 Oct 27 j 23:39	3°♄59'33	0°52'34
	115 Mar 23 j 22:21	15°♄		morning rise	120 Nov 09 j 13:21	6°♄48'16	
evening set	115 May 07 j 22:18	24°♄42'47			120 Dec 18 j 05:29	15°♄	
conjunction	115 May 21 j 16:49	27°♄51'56	0°-28'-8	retrograde	121 Mar 12 j 12:00	24°♄27'34	
minimum elong	115 May 21 j 16:51	27°♄51'58	0°28'08	opposition	121 May 12 j 11:33	19°♄35'18	0°55'11
max. Earth dist.	115 May 23 j 16:27	28°♄19'14	6.14022 AU	min. Earth dist.	121 May 13 j 20:54	19°♄24'40	4.27772 AU
	115 May 31 j 00:40	0°♄			121 Jun 27 j 16:48	15°♄	
morning rise	115 Jun 04 j 12:10	1°♄01'11		direct	121 Jul 13 j 09:08	14°♄37'15	
retrograde	115 Oct 09 j 05:07	19°♄50'18			121 Jul 29 j 02:58	15°♄	
opposition	115 Dec 07 j 19:22	14°♄47'13	0°-11'-57		121 Nov 02 j 23:12	0°♄	
min. Earth dist.	115 Dec 06 j 18:29	14°♄55'39	4.20836 AU	evening set	121 Nov 15 j 20:00	2°♄54'21	
direct	116 Feb 05 j 09:02	9°♄45'55		max. Earth dist.	121 Nov 26 j 19:02	5°♄25'28	6.21121 AU
asc. node	116 Feb 25 j 05:43	10°♄23'55		conjunction	121 Nov 28 j 11:31	5°♄48'49	0°19'09
evening set	116 Jun 11 j 07:41	28°♄12'47		minimum elong	121 Nov 28 j 11:32	5°♄48'50	0°19'09
	116 Jun 19 j 09:03	0°♄		morning rise	121 Dec 11 j 03:00	8°♄43'32	
conjunction	116 Jun 25 j 00:00	1°♄15'05	0°12'12	retrograde	122 Apr 16 j 10:08	27°♄22'14	
minimum elong	116 Jun 24 j 23:59	1°♄15'05	0°12'12	desc. node	122 Jun 03 j 21:46	24°♄01'20	

opposition	122 Jun 16 j 05:45	22°♂27'54	0°-1'-54	direct	128 Feb 10 j 04:07	14°♃30'51	
min. Earth dist.	122 Jun 17 j 04:48	22°♂20'29	4.14233 AU		128 Jun 02 j 22:39	0°♄	
direct	122 Aug 15 j 21:56	17°♂32'28		evening set	128 Jun 16 j 02:41	2°♄52'14	
	122 Nov 20 j 19:37	0°♄					
evening set	122 Dec 18 j 21:41	6°♄24'06		conjunction	128 Jun 29 j 18:10	5°♄53'22	0°17'40
				minimum elong	128 Jun 29 j 18:09	5°♄53'22	0°17'40
conjunction	122 Dec 31 j 16:33	9°♄25'35	0°-21'-54	max. Earth dist.	128 Jun 30 j 17:13	6°♄06'08	6.29553 AU
minimum elong	122 Dec 31 j 16:32	9°♄25'34	0°21'56	morning rise	128 Jul 13 j 08:07	8°♄53'30	
max. Earth dist.	122 Dec 30 j 21:19	9°♄14'11	6.07860 AU	retrograde	128 Nov 13 j 05:31	26°♄31'49	
morning rise	123 Jan 13 j 12:55	12°♄28'05		opposition	129 Jan 12 j 02:09	21°♄33'00	0°51'56
	123 Apr 15 j 09:05	0°♄		min. Earth dist.	129 Jan 11 j 19:29	21°♄35'12	4.35203 AU
retrograde	123 May 23 j 07:14	2°♄12'11		direct	129 Mar 14 j 04:15	16°♄29'59	
	123 Jun 30 j 10:31	30°♃			129 Jun 28 j 15:20	0°♄	
opposition	123 Jul 22 j 19:52	27°♃14'27	-1°-1'-53	evening set	129 Jul 19 j 08:13	4°♄23'20	
min. Earth dist.	123 Jul 22 j 22:12	27°♃13'41	4.02419 AU				
direct	123 Sep 20 j 00:33	22°♃20'52		conjunction	129 Aug 01 j 16:25	7°♄17'15	0°51'03
	123 Nov 30 j 21:57	0°♄		minimum elong	129 Aug 01 j 16:22	7°♄17'13	0°51'02
evening set	124 Jan 23 j 00:10	11°♄43'59		max. Earth dist.	129 Aug 01 j 11:48	7°♄14'44	6.39692 AU
				morning rise	129 Aug 14 j 21:49	10°♄09'42	
conjunction	124 Feb 05 j 00:51	14°♄52'06	0°-56'-38		129 Sep 06 j 19:17	15°♄	
minimum elong	124 Feb 05 j 00:48	14°♄52'04	0°56'39	retrograde	129 Dec 13 j 16:28	27°♄09'28	
max. Earth dist.	124 Feb 05 j 11:58	14°♄58'48	5.98566 AU	opposition	130 Feb 11 j 20:45	22°♄14'18	1°30'17
	124 Feb 05 j 13:57	15°♄		min. Earth dist.	130 Feb 12 j 08:25	22°♄10'30	4.42675 AU
morning rise	124 Feb 18 j 04:25	18°♄01'51		direct	130 Apr 15 j 01:08	17°♄11'11	
	124 Apr 12 j 05:53	0°♃			130 Jul 28 j 02:07	0°♃	
retrograde	124 Jun 29 j 08:08	8°♃31'37		evening set	130 Aug 20 j 01:00	4°♃49'31	
opposition	124 Aug 28 j 09:18	3°♃29'52	-1°-40'-43	max. Earth dist.	130 Aug 31 j 19:13	7°♃22'14	6.43855 AU
min. Earth dist.	124 Aug 27 j 14:44	3°♃36'05	3.96743 AU				
	124 Sep 26 j 14:34	30°♃		conjunction	130 Sep 02 j 01:05	7°♃38'27	1°09'19
direct	124 Oct 25 j 13:13	28°♃36'09		minimum elong	130 Sep 02 j 01:04	7°♃38'26	1°09'18
	124 Nov 23 j 08:16	0°♃		morning rise	130 Sep 14 j 22:16	10°♃25'57	
evening set	125 Feb 27 j 19:59	18°♃13'28		retrograde	131 Jan 13 j 01:01	27°♃14'21	
				opposition	131 Mar 14 j 13:59	22°♃21'41	1°43'37
conjunction	125 Mar 13 j 04:35	21°♃25'50	-1°-10'-19	min. Earth dist.	131 Mar 15 j 16:41	22°♃13'06	4.43425 AU
minimum elong	125 Mar 13 j 04:35	21°♃25'50	1°10'20	direct	131 May 16 j 06:59	17°♃19'29	
max. Earth dist.	125 Mar 14 j 21:32	21°♃50'27	5.96961 AU		131 Aug 27 j 10:51	0°♄	
morning rise	125 Mar 26 j 16:13	24°♃39'48		evening set	131 Sep 19 j 20:59	4°♄58'13	
	125 Apr 18 j 13:15	0°♃		max. Earth dist.	131 Sep 30 j 18:55	7°♄21'30	6.41051 AU
retrograde	125 Aug 05 j 19:58	15°♃10'21					
min. Earth dist.	125 Oct 03 j 04:32	10°♃16'26	3.99527 AU	conjunction	131 Oct 02 j 15:04	7°♄45'45	1°08'35
opposition	125 Oct 04 j 12:07	10°♃05'42	-1°-39'-57	minimum elong	131 Oct 02 j 15:05	7°♄45'46	1°08'35
direct	125 Dec 01 j 09:34	5°♃09'53		morning rise	131 Oct 15 j 06:29	10°♄32'10	
evening set	126 Apr 06 j 06:53	24°♃36'12		retrograde	132 Feb 13 j 06:42	27°♄37'01	
				opposition	132 Apr 14 j 03:08	22°♄45'19	1°28'59
conjunction	126 Apr 19 j 22:28	27°♃48'40	0°-56'-39	min. Earth dist.	132 Apr 15 j 13:39	22°♄34'20	4.37273 AU
minimum elong	126 Apr 19 j 22:31	27°♃48'41	0°56'40	direct	132 Jun 15 j 16:38	17°♄45'07	
max. Earth dist.	126 Apr 22 j 03:30	28°♃19'51	6.03768 AU		132 Sep 23 j 12:45	0°♃	
	126 Apr 29 j 06:10	0°♃		evening set	132 Oct 19 j 16:24	5°♃39'13	
morning rise	126 May 03 j 16:30	1°♃02'07		max. Earth dist.	132 Oct 30 j 06:42	8°♃01'41	6.31989 AU
	126 Jul 09 j 17:07	15°♃					
retrograde	126 Sep 10 j 09:56	20°♃47'29		conjunction	132 Nov 01 j 07:30	8°♃29'08	0°48'42
opposition	126 Nov 08 j 23:17	15°♃42'31	-1°-1'-16	minimum elong	132 Nov 01 j 07:33	8°♃29'09	0°48'41
min. Earth dist.	126 Nov 07 j 14:05	15°♃53'51	4.09568 AU	morning rise	132 Nov 13 j 21:24	11°♃18'37	
	126 Nov 14 j 04:26	15°♃			132 Nov 30 j 15:05	15°♃	
direct	127 Jan 06 j 12:15	10°♃43'36		retrograde	133 Mar 17 j 07:30	29°♃05'49	
	127 Feb 28 j 07:23	15°♃		opposition	133 May 17 j 05:44	24°♃13'22	0°48'03
evening set	127 May 13 j 00:21	29°♃39'54		min. Earth dist.	133 May 18 j 14:56	24°♃02'47	4.25792 AU
	127 May 14 j 11:47	0°♃		direct	133 Jul 18 j 00:18	19°♃15'42	
					133 Oct 16 j 14:22	0°♃	
conjunction	127 May 26 j 18:56	2°♃48'07	0°-22'-35	evening set	133 Nov 20 j 08:57	7°♃37'56	
minimum elong	127 May 26 j 18:57	2°♃48'08	0°22'37	max. Earth dist.	133 Dec 01 j 10:57	10°♃11'27	6.19079 AU
max. Earth dist.	127 May 28 j 16:43	3°♃14'14	6.16179 AU				
morning rise	127 Jun 09 j 13:49	5°♃56'13		conjunction	133 Dec 03 j 00:54	10°♃33'25	0°13'34
retrograde	127 Oct 13 j 19:19	24°♃35'00		minimum elong	133 Dec 03 j 00:55	10°♃33'26	0°13'34
min. Earth dist.	127 Dec 11 j 10:52	19°♃39'57	4.22983 AU	behind sun begin	133 Dec 02 j 20:21	10°♃30'48	
opposition	127 Dec 12 j 09:10	19°♃32'25	0°-3'-31	behind sun end	133 Dec 03 j 05:28	10°♃36'03	
asc. node	128 Jan 04 j 21:06	16°♃35'08		morning rise	133 Dec 15 j 16:52	13°♃29'13	

	134 Mar 13 j 12:30	0°♁		direct	140 Feb 14 j 17:28	19°♁06'09	
desc. node	134 Apr 13 j 09:33	2°♁11'22			140 May 16 j 18:47	0°♁	
retrograde	134 Apr 21 j 10:55	2°♁17'31		evening set	140 Jun 20 j 18:21	7°♁23'12	
	134 May 30 j 19:02	30°♁♂					
opposition	134 Jun 21 j 06:51	27°♁22'48	0°-10'-41	conjunction	140 Jul 04 j 08:59	10°♁23'20	0°22'52
min. Earth dist.	134 Jun 22 j 02:33	27°♁16'27	4.12316 AU	minimum elong	140 Jul 04 j 08:57	10°♁23'19	0°22'52
direct	134 Aug 20 j 17:19	22°♁27'46		max. Earth dist.	140 Jul 05 j 03:12	10°♁33'23	6.31134 AU
	134 Nov 01 j 05:12	0°♁		morning rise	140 Jul 17 j 21:55	13°♁22'22	
evening set	134 Dec 23 j 17:38	11°♁24'27			140 Oct 24 j 14:28	0°♁	
				retrograde	140 Nov 17 j 11:52	0°♁54'24	
conjunction	135 Jan 05 j 13:05	14°♁26'53	0°-27'-32		140 Dec 11 j 04:06	30°♁♂	
minimum elong	135 Jan 05 j 13:03	14°♁26'52	0°27'34	opposition	141 Jan 16 j 08:23	25°♁56'09	0°58'27
max. Earth dist.	135 Jan 04 j 21:58	14°♁17'55	6.06256 AU	min. Earth dist.	141 Jan 16 j 05:16	25°♁57'11	4.36408 AU
morning rise	135 Jan 18 j 10:21	17°♁30'29		direct	141 Mar 18 j 15:15	20°♁53'04	
	135 Mar 17 j 06:05	0°♁			141 Jun 10 j 23:39	0°♁	
retrograde	135 May 28 j 15:04	7°♁22'29		evening set	141 Jul 23 j 18:44	8°♁44'13	
opposition	135 Jul 28 j 02:02	2°♁24'09	-1°-9'-10				
min. Earth dist.	135 Jul 28 j 01:11	2°♁24'26	4.01300 AU	conjunction	141 Aug 06 j 01:54	11°♁37'24	0°54'33
	135 Aug 16 j 05:05	30°♁♂		minimum elong	141 Aug 06 j 01:51	11°♁37'22	0°54'34
direct	135 Sep 25 j 03:32	27°♁30'39		max. Earth dist.	141 Aug 05 j 17:10	11°♁32'39	6.40424 AU
	135 Nov 03 j 08:41	0°♁		morning rise	141 Aug 19 j 06:11	14°♁29'06	
	136 Jan 19 j 22:52	15°♁			141 Aug 21 j 15:28	15°♁	
evening set	136 Jan 28 j 02:10	16°♁56'20			141 Nov 17 j 09:00	0°♁	
				retrograde	141 Dec 17 j 20:26	1°♁26'31	
conjunction	136 Feb 10 j 03:57	20°♁05'09	-1°00'-5		142 Jan 17 j 07:19	30°♁♂	
minimum elong	136 Feb 10 j 03:54	20°♁05'07	1°00'06	opposition	142 Feb 16 j 02:09	26°♁23'46	1°33'42
max. Earth dist.	136 Feb 10 j 21:07	20°♁15'30	5.98043 AU	min. Earth dist.	142 Feb 16 j 15:46	26°♁27'20	4.42934 AU
morning rise	136 Feb 23 j 08:30	23°♁15'34		direct	142 Apr 19 j 07:54	21°♁28'43	
	136 Mar 23 j 08:55	0°♁			142 Jul 10 j 05:43	0°♁	
retrograde	136 Jul 04 j 15:36	13°♁47'17		evening set	142 Aug 24 j 08:25	9°♁07'11	
opposition	136 Sep 02 j 15:21	8°♁45'00	-1°-43'-7	max. Earth dist.	142 Sep 05 j 00:09	11°♁38'44	6.43623 AU
min. Earth dist.	136 Sep 01 j 18:24	8°♁52'02	3.96905 AU				
direct	136 Oct 30 j 17:10	3°♁51'06		conjunction	142 Sep 06 j 07:37	11°♁55'50	1°10'21
evening set	137 Mar 05 j 01:05	23°♁27'02		minimum elong	142 Sep 06 j 07:36	11°♁55'50	1°10'20
				morning rise	142 Sep 19 j 03:47	14°♁43'04	
conjunction	137 Mar 18 j 10:32	26°♁39'26	-1°-10'00		142 Dec 16 j 12:16	0°♁	
minimum elong	137 Mar 18 j 10:33	26°♁39'27	1°10'00	retrograde	143 Jan 17 j 08:11	1°♁32'59	
max. Earth dist.	137 Mar 20 j 05:09	27°♁04'59	5.97753 AU		143 Feb 18 j 05:43	30°♁♂	
morning rise	137 Mar 31 j 23:19	29°♁53'29		opposition	143 Mar 18 j 21:52	26°♁40'35	1°43'13
	137 Apr 01 j 10:18	0°♁		min. Earth dist.	143 Mar 20 j 02:04	26°♁31'33	4.42737 AU
retrograde	137 Aug 10 j 19:44	20°♁18'38		direct	143 May 20 j 15:18	21°♁38'43	
min. Earth dist.	137 Oct 08 j 03:28	15°♁25'00	4.00863 AU		143 Aug 09 j 10:38	0°♁	
opposition	137 Oct 09 j 12:36	15°♁13'43	-1°-36'-28	evening set	143 Sep 24 j 03:54	9°♁19'27	
direct	137 Dec 06 j 11:21	10°♁17'27		max. Earth dist.	143 Oct 04 j 22:48	11°♁41'35	6.39948 AU
evening set	138 Apr 11 j 10:04	29°♁39'13					
	138 Apr 12 j 21:46	0°♁		conjunction	143 Oct 06 j 21:17	12°♁07'10	1°06'52
				minimum elong	143 Oct 06 j 21:18	12°♁07'11	1°06'52
conjunction	138 Apr 25 j 02:25	2°♁51'10	0°-52'-50	morning rise	143 Oct 19 j 12:26	14°♁53'54	
minimum elong	138 Apr 25 j 02:28	2°♁51'12	0°52'51		144 Jan 11 j 19:24	0°♁	
max. Earth dist.	138 Apr 27 j 07:35	3°♁22'18	6.05524 AU	retrograde	144 Feb 17 j 19:31	2°♁03'45	
morning rise	138 May 08 j 20:44	6°♁03'57			144 Mar 26 j 03:14	30°♁♂	
	138 Jun 18 j 07:39	15°♁		opposition	144 Apr 18 j 15:52	27°♁12'02	1°24'40
retrograde	138 Sep 15 j 03:44	25°♁39'44		min. Earth dist.	144 Apr 20 j 02:42	27°♁00'56	4.35832 AU
min. Earth dist.	138 Nov 12 j 09:06	20°♁45'34	4.11525 AU	direct	144 Jun 20 j 03:36	22°♁12'10	
opposition	138 Nov 13 j 16:17	20°♁34'56	0°-53'-53		144 Sep 04 j 22:51	0°♁	
direct	139 Jan 11 j 09:49	15°♁35'34		evening set	144 Oct 24 j 01:19	10°♁09'49	
	139 Apr 27 j 22:23	0°♁		max. Earth dist.	144 Nov 03 j 17:46	12°♁34'01	6.30337 AU
evening set	139 May 17 j 22:10	4°♁26'20					
				conjunction	144 Nov 05 j 16:30	13°♁00'24	0°44'30
conjunction	139 May 31 j 16:39	7°♁33'38	0°-17'-6	minimum elong	144 Nov 05 j 16:32	13°♁00'25	0°44'29
minimum elong	139 May 31 j 16:41	7°♁33'39	0°17'06		144 Nov 14 j 12:24	15°♁	
max. Earth dist.	139 Jun 02 j 11:53	7°♁58'10	6.18172 AU	morning rise	144 Nov 18 j 06:20	15°♁50'35	
morning rise	139 Jun 14 j 11:13	10°♁40'42			145 Jan 30 j 10:16	0°♁	
retrograde	139 Oct 18 j 03:47	29°♁10'06		retrograde	145 Mar 22 j 01:34	3°♁45'15	
asc. node	139 Nov 15 j 19:36	27°♁50'06			145 May 13 j 03:15	30°♁♂	
opposition	139 Dec 16 j 19:20	24°♁08'00	0°04'38	opposition	145 May 22 j 00:31	28°♁52'36	0°40'31
min. Earth dist.	139 Dec 15 j 22:26	24°♁15'03	4.24838 AU	min. Earth dist.	145 May 23 j 07:48	28°♁42'37	4.24035 AU

direct	145 Jul 22 j 14:52	23°♄55'23		evening set	151 May 22 j 20:15	9°♂13'43	
	145 Sep 26 j 06:03	0°♂					
evening set	145 Nov 24 j 22:19	12°♂21'50		conjunction	151 Jun 05 j 14:29	12°♂20'12	0°-11'-29
max. Earth dist.	145 Dec 06 j 02:31	14°♂57'16	6.17354 AU	minimum elong	151 Jun 05 j 14:29	12°♂20'12	0°11'30
				behind sun begin	151 Jun 05 j 08:36	12°♂16'53	
conjunction	145 Dec 07 j 14:25	15°♂18'09	0°07'53	behind sun end	151 Jun 05 j 20:23	12°♂23'32	
minimum elong	145 Dec 07 j 14:26	15°♂18'09	0°07'53	max. Earth dist.	151 Jun 07 j 05:33	12°♂42'18	6.19838 AU
behind sun begin	145 Dec 07 j 07:14	15°♂14'00		morning rise	151 Jun 19 j 08:40	15°♂26'20	
behind sun end	145 Dec 07 j 21:37	15°♂22'19			151 Sep 02 j 12:15	0°♁	
morning rise	145 Dec 20 j 07:03	18°♂14'56		asc. node	151 Sep 26 j 03:08	2°♁40'15	
	146 Feb 13 j 17:54	0°♁		retrograde	151 Oct 22 j 04:56	3°♁47'43	
desc. node	146 Feb 21 j 04:38	1°♁17'48			151 Dec 12 j 00:13	30°R♂	
retrograde	146 Apr 26 j 12:44	7°♁11'45		opposition	151 Dec 21 j 06:15	28°♂46'05	0°12'47
opposition	146 Jun 26 j 07:45	2°♁16'35	0°-19'-24	min. Earth dist.	151 Dec 20 j 12:30	28°♂52'03	4.26384 AU
min. Earth dist.	146 Jun 27 j 00:56	2°♁11'01	4.10739 AU	direct	152 Feb 19 j 09:47	23°♂43'58	
	146 Jul 14 j 15:26	30°R♂			152 Apr 26 j 11:21	0°♁	
direct	146 Aug 25 j 14:25	27°♂21'48		evening set	152 Jun 25 j 10:59	11°♁57'41	
	146 Oct 05 j 17:13	0°♁					
evening set	146 Dec 28 j 12:34	16°♁22'21		conjunction	152 Jul 09 j 00:55	14°♁56'56	0°28'01
				minimum elong	152 Jul 09 j 00:54	14°♁56'55	0°28'00
conjunction	147 Jan 10 j 08:49	19°♁25'40	0°-32'-57	max. Earth dist.	152 Jul 09 j 16:26	15°♁05'29	6.32449 AU
minimum elong	147 Jan 10 j 08:47	19°♁25'38	0°32'58	morning rise	152 Jul 22 j 12:44	17°♁54'59	
max. Earth dist.	147 Jan 09 j 22:45	19°♁19'40	6.04966 AU		152 Sep 21 j 22:16	0°♂	
morning rise	147 Jan 23 j 06:51	22°♁30'10		retrograde	152 Nov 21 j 17:35	5°♂21'34	
	147 Feb 25 j 02:29	0°♁		opposition	153 Jan 20 j 16:10	0°♂23'50	1°04'43
retrograde	147 Jun 02 j 21:28	12°♁28'50		min. Earth dist.	153 Jan 20 j 14:29	0°♂24'23	4.37422 AU
opposition	147 Aug 02 j 06:20	7°♁30'00	-1°-15'-50		153 Jan 23 j 16:25	30°R♁	
min. Earth dist.	147 Aug 02 j 02:52	7°♁31'08	4.00441 AU	direct	153 Mar 23 j 01:30	25°♁20'43	
direct	147 Sep 30 j 03:35	2°♁36'36			153 May 20 j 01:09	0°♁	
	148 Jan 02 j 15:23	15°♁		evening set	153 Jul 28 j 06:44	13°♂10'02	
evening set	148 Feb 02 j 02:54	22°♁04'20			153 Aug 05 j 17:45	15°♂	
conjunction	148 Feb 15 j 05:28	25°♁13'43	-1°-3'-1	conjunction	153 Aug 10 j 12:40	16°♂02'30	0°57'50
minimum elong	148 Feb 15 j 05:26	25°♁13'41	1°03'03	minimum elong	153 Aug 10 j 12:38	16°♂02'28	0°57'50
max. Earth dist.	148 Feb 16 j 01:08	25°♁25'34	5.97663 AU	max. Earth dist.	153 Aug 10 j 00:16	15°♂55'45	6.41070 AU
morning rise	148 Feb 28 j 11:15	28°♁24'48		morning rise	153 Aug 23 j 15:49	18°♂53'28	
	148 Mar 06 j 03:05	0°♂			153 Oct 19 j 04:05	0°♂	
retrograde	148 Jul 09 j 18:50	18°♂57'59		retrograde	153 Dec 22 j 03:43	5°♂48'47	
opposition	148 Sep 07 j 18:41	13°♂55'13	-1°-44'-42	opposition	154 Feb 20 j 09:47	0°♂54'29	1°36'41
min. Earth dist.	148 Sep 06 j 19:00	14°♂03'11	3.97072 AU	min. Earth dist.	154 Feb 21 j 02:05	0°♂49'12	4.43204 AU
direct	148 Nov 04 j 18:29	9°♂01'05			154 Feb 27 j 10:40	30°R♂	
evening set	149 Mar 10 j 04:27	28°♂36'11		direct	154 Apr 23 j 19:09	25°♂51'35	
	149 Mar 16 j 01:07	0°♂			154 Jun 17 j 16:08	0°♂	
				evening set	154 Aug 28 j 17:18	13°♂29'42	
conjunction	149 Mar 23 j 15:05	1°♂48'48	-1°-9'-9	max. Earth dist.	154 Sep 09 j 05:42	15°♂59'36	6.43506 AU
minimum elong	149 Mar 23 j 15:07	1°♂48'48	1°09'10				
max. Earth dist.	149 Mar 25 j 12:46	2°♂16'06	5.98444 AU	conjunction	154 Sep 10 j 15:33	16°♂18'01	1°11'02
morning rise	149 Apr 06 j 04:41	5°♂02'54		minimum elong	154 Sep 10 j 15:33	16°♂18'00	1°11'02
retrograde	149 Aug 15 j 20:43	25°♂23'22		morning rise	154 Sep 23 j 10:51	19°♂04'56	
min. Earth dist.	149 Oct 13 j 02:59	20°♂29'24	4.01988 AU		154 Nov 17 j 18:57	0°♂	
opposition	149 Oct 14 j 11:28	20°♂18'20	-1°-32'-21	retrograde	155 Jan 21 j 15:44	5°♂55'51	
direct	149 Dec 11 j 12:37	15°♂21'38		opposition	155 Mar 23 j 07:21	1°♂03'36	1°42'17
	150 Mar 27 j 01:31	0°♂		min. Earth dist.	155 Mar 24 j 11:56	0°♂54'27	4.42280 AU
evening set	150 Apr 16 j 12:13	4°♂39'59			155 Mar 31 j 15:35	30°R♂	
				direct	155 May 25 j 00:40	26°♂01'58	
conjunction	150 Apr 30 j 05:11	7°♂51'35	0°-48'-42		155 Jul 17 j 15:50	0°♂	
minimum elong	150 Apr 30 j 05:14	7°♂51'36	0°48'42	evening set	155 Sep 28 j 11:35	13°♂43'35	
max. Earth dist.	150 May 02 j 10:15	8°♂22'31	6.06978 AU	max. Earth dist.	155 Oct 09 j 07:04	16°♂06'18	6.39206 AU
morning rise	150 May 13 j 23:58	11°♂03'52					
	150 May 31 j 06:52	15°♂		conjunction	155 Oct 11 j 04:28	16°♂31'23	1°04'49
	150 Sep 01 j 23:32	0°♂		minimum elong	155 Oct 11 j 04:30	16°♂31'24	1°04'49
retrograde	150 Sep 19 j 19:24	0°♂31'21		morning rise	155 Oct 23 j 19:02	19°♂18'12	
	150 Oct 07 j 12:21	30°R♂			155 Dec 15 j 19:59	0°♂	
min. Earth dist.	150 Nov 17 j 01:43	25°♂37'20	4.13150 AU	retrograde	156 Feb 22 j 07:20	6°♂31'40	
opposition	150 Nov 18 j 08:36	25°♂26'49	0°-46'-13	opposition	156 Apr 23 j 05:08	1°♂39'55	1°19'53
direct	151 Jan 16 j 04:08	20°♂27'04		min. Earth dist.	156 Apr 24 j 15:50	1°♂28'53	4.34842 AU
	151 Apr 09 j 15:00	0°♂			156 May 06 j 13:18	30°R♂	

direct	156 Jun 24 j 15:48	26°♄40'27		direct	161 Dec 16 j 07:50	20°♃16'56	
	156 Aug 11 j 22:22	0°♆			162 Mar 09 j 00:35	0°♄	
evening set	156 Oct 28 j 09:50	14°♆39'48		evening set	162 Apr 21 j 12:04	9°♄33'20	
	156 Oct 29 j 21:48	15°♆					
max. Earth dist.	156 Nov 08 j 01:57	17°♆04'17	6.29178 AU	conjunction	162 May 05 j 05:34	12°♄44'41	0°-44'-20
				minimum elong	162 May 05 j 05:37	12°♄44'42	0°44'21
conjunction	156 Nov 10 j 00:44	17°♆30'46	0°40'07	max. Earth dist.	162 May 07 j 08:30	13°♄14'18	6.08117 AU
minimum elong	156 Nov 10 j 00:46	17°♆30'47	0°40'07		162 May 14 j 22:42	15°♄	
morning rise	156 Nov 22 j 14:48	20°♆21'30		morning rise	162 May 19 j 00:47	15°♄56'37	
	157 Jan 07 j 07:12	0°♄			162 Jul 26 j 17:29	0°♃	
retrograde	157 Mar 26 j 18:50	8°♄22'01		retrograde	162 Sep 24 j 10:27	5°♃17'15	
opposition	157 May 26 j 18:25	3°♄29'02	0°32'53	opposition	162 Nov 22 j 22:57	0°♃13'00	0°-38'-28
min. Earth dist.	157 May 28 j 00:04	3°♄19'33	4.22760 AU	min. Earth dist.	162 Nov 21 j 18:00	0°♃22'52	4.14447 AU
	157 Jun 26 j 02:06	30°♃			162 Nov 24 j 13:08	30°♃	
direct	157 Jul 27 j 05:53	28°♆32'07		direct	163 Jan 20 j 22:31	25°♄12'54	
	157 Aug 27 j 04:47	0°♄			163 Mar 18 j 13:28	0°♃	
evening set	157 Nov 29 j 09:47	17°♄01'02		evening set	163 May 27 j 16:41	13°♃56'41	
max. Earth dist.	157 Dec 10 j 18:14	19°♄39'18	6.16088 AU				
				conjunction	163 Jun 10 j 10:54	17°♃02'32	0°-5'-56
conjunction	157 Dec 12 j 02:21	19°♄58'01	0°02'18	minimum elong	163 Jun 10 j 10:55	17°♃02'33	0°05'56
minimum elong	157 Dec 12 j 02:20	19°♄58'00	0°02'17	behind sun begin	163 Jun 10 j 02:58	16°♃58'05	
behind sun begin	157 Dec 11 j 18:20	19°♄53'22		behind sun end	163 Jun 10 j 18:51	17°♃07'00	
behind sun end	157 Dec 12 j 10:20	20°♄02'38		max. Earth dist.	163 Jun 12 j 00:56	17°♃23'58	6.21215 AU
morning rise	157 Dec 24 j 19:16	22°♄55'30		morning rise	163 Jun 24 j 04:29	20°♃07'51	
desc. node	158 Jan 02 j 16:10	24°♄58'01		asc. node	163 Aug 07 j 04:28	29°♃24'34	
	158 Jan 25 j 10:13	0°♃			163 Aug 10 j 07:18	0°♄	
retrograde	158 May 01 j 11:25	11°♃59'02		retrograde	163 Oct 27 j 00:11	8°♄22'16	
opposition	158 Jul 01 j 05:41	7°♃03'27	0°-27'-44	opposition	163 Dec 25 j 16:16	3°♄21'10	0°20'43
min. Earth dist.	158 Jul 01 j 20:58	6°♃58'30	4.09577 AU	min. Earth dist.	163 Dec 24 j 23:34	3°♄26'47	4.27726 AU
direct	158 Aug 30 j 08:27	2°♃08'56			164 Jan 22 j 04:11	30°♃	
evening set	159 Jan 02 j 04:57	21°♃12'04		direct	164 Feb 23 j 22:51	28°♃18'54	
					164 Mar 28 j 04:55	0°♄	
conjunction	159 Jan 15 j 01:40	24°♃16'02	0°-37'-56	evening set	164 Jun 30 j 02:51	16°♄29'49	
minimum elong	159 Jan 15 j 01:38	24°♃16'00	0°37'56				
max. Earth dist.	159 Jan 14 j 17:28	24°♃11'08	6.04001 AU	conjunction	164 Jul 13 j 15:42	19°♄28'10	0°32'54
morning rise	159 Jan 28 j 00:41	27°♃21'21		minimum elong	164 Jul 13 j 15:40	19°♄28'09	0°32'55
	159 Feb 08 j 06:25	0°♄		max. Earth dist.	164 Jul 14 j 02:45	19°♄34'14	6.33652 AU
	159 Apr 29 j 03:42	15°♄		morning rise	164 Jul 27 j 02:34	22°♄25'17	
retrograde	159 Jun 07 j 21:19	17°♄25'22			164 Sep 01 j 09:34	0°♃	
	159 Jul 17 j 19:38	15°♃		retrograde	164 Nov 26 j 00:54	9°♃46'50	
opposition	159 Aug 07 j 06:26	12°♄25'59	-1°-21'-43	opposition	165 Jan 24 j 23:39	4°♃49'35	1°10'32
min. Earth dist.	159 Aug 06 j 23:54	12°♄28'08	3.99777 AU	min. Earth dist.	165 Jan 25 j 00:52	4°♃49'11	4.38408 AU
direct	159 Oct 04 j 23:51	7°♄32'33			165 Mar 15 j 11:30	30°♃	
	159 Dec 14 j 11:57	15°♄		direct	165 Mar 27 j 13:57	29°♄46'24	
evening set	160 Feb 06 j 23:53	27°♄01'58			165 Apr 08 j 17:05	0°♃	
	160 Feb 19 j 07:48	0°♄			165 Jul 20 j 17:45	15°♃	
				evening set	165 Aug 01 j 17:40	17°♃33'41	
conjunction	160 Feb 20 j 03:35	0°♄11'56	-1°-5'-24				
minimum elong	160 Feb 20 j 03:33	0°♄11'55	1°05'25	conjunction	165 Aug 14 j 22:38	20°♃25'26	1°00'45
max. Earth dist.	160 Feb 21 j 03:25	0°♄26'19	5.97363 AU	minimum elong	165 Aug 14 j 22:36	20°♃25'25	1°00'45
morning rise	160 Mar 04 j 10:14	3°♄23'35		max. Earth dist.	165 Aug 14 j 08:30	20°♃17'45	6.41745 AU
retrograde	160 Jul 14 j 20:45	23°♄58'00		morning rise	165 Aug 28 j 00:28	23°♃15'38	
opposition	160 Sep 12 j 18:01	18°♄54'53	-1°-45'-29		165 Sep 29 j 10:53	0°♄	
min. Earth dist.	160 Sep 11 j 17:58	19°♄03'00	3.97179 AU	retrograde	165 Dec 26 j 07:40	10°♄08'41	
direct	160 Nov 09 j 17:40	14°♄00'29		opposition	166 Feb 24 j 16:26	5°♄14'41	1°39'05
	161 Feb 27 j 21:30	0°♄		min. Earth dist.	166 Feb 25 j 09:32	5°♄09'09	4.43531 AU
evening set	161 Mar 15 j 04:28	3°♄35'20		direct	166 Apr 28 j 03:02	0°♄11'54	
				evening set	166 Sep 02 j 00:44	17°♄49'18	
conjunction	161 Mar 28 j 16:06	6°♄48'11	-1°-7'-50	max. Earth dist.	166 Sep 13 j 10:02	20°♄17'40	6.43421 AU
minimum elong	161 Mar 28 j 16:08	6°♄48'12	1°07'51				
max. Earth dist.	161 Mar 30 j 15:09	7°♄16'15	5.98941 AU	conjunction	166 Sep 14 j 21:57	20°♄37'15	1°11'19
morning rise	161 Apr 11 j 06:46	10°♄02'30		minimum elong	166 Sep 14 j 21:57	20°♄37'15	1°11'20
	161 Aug 06 j 19:32	0°♄		morning rise	166 Sep 27 j 16:24	23°♄23'52	
retrograde	161 Aug 20 j 16:33	0°♄19'03			166 Oct 29 j 07:39	0°♄	
	161 Sep 03 j 11:21	30°♃		retrograde	167 Jan 25 j 23:38	10°♄15'52	
min. Earth dist.	161 Oct 17 j 21:22	25°♄25'21	4.02840 AU	opposition	167 Mar 27 j 16:01	5°♄23'47	1°40'46
opposition	161 Oct 19 j 06:41	25°♄14'00	-1°-27'-45	min. Earth dist.	167 Mar 28 j 22:37	5°♄14'00	4.41759 AU

direct	167 May 29 j 10:43	0°♃22'23		minimum elong	173 Apr 02 j 22:53	12°♃01'19	1°05'56
evening set	167 Oct 02 j 17:42	18°♃05'05		max. Earth dist.	173 Apr 04 j 23:20	12°♃30'10	5.99687 AU
max. Earth dist.	167 Oct 13 j 10:48	20°♃26'52	6.38256 AU	morning rise	173 Apr 16 j 14:28	15°♃15'40	
					173 Jun 26 j 03:10	0°♃	
conjunction	167 Oct 15 j 10:05	20°♃53'02	1°02'24	retrograde	173 Aug 25 j 16:28	5°♃26'42	
minimum elong	167 Oct 15 j 10:06	20°♃53'03	1°02'23	min. Earth dist.	173 Oct 22 j 20:56	0°♃32'56	4.04126 AU
morning rise	167 Oct 28 j 00:23	23°♃40'08		opposition	173 Oct 24 j 06:19	0°♃21'32	-1°-22'-17
	167 Nov 26 j 17:53	0°♃			173 Oct 26 j 21:25	30°♃	
retrograde	168 Feb 26 j 18:44	10°♃58'18		direct	173 Dec 21 j 10:02	25°♃24'03	
opposition	168 Apr 27 j 17:47	6°♃06'26	1°14'39		174 Feb 13 j 20:17	0°♃	
min. Earth dist.	168 Apr 29 j 03:59	5°♃55'34	4.33503 AU	evening set	174 Apr 26 j 15:42	14°♃36'22	
direct	168 Jun 29 j 01:49	1°♃07'15			174 Apr 28 j 08:43	15°♃	
	168 Oct 13 j 21:39	15°♃					
evening set	168 Nov 01 j 17:55	19°♃09'46		conjunction	174 May 10 j 09:48	17°♃47'10	0°-39'-30
max. Earth dist.	168 Nov 12 j 12:18	21°♃36'02	6.27560 AU	minimum elong	174 May 10 j 09:51	17°♃47'11	0°39'31
				max. Earth dist.	174 May 12 j 14:07	18°♃17'27	6.09869 AU
conjunction	168 Nov 14 j 08:56	22°♃01'23	0°35'27	morning rise	174 May 24 j 05:02	20°♃58'20	
minimum elong	168 Nov 14 j 08:58	22°♃01'24	0°35'28		174 Jul 04 j 15:38	0°♃	
morning rise	168 Nov 26 j 23:03	24°♃52'51		retrograde	174 Sep 29 j 02:50	10°♃09'12	
	168 Dec 20 j 03:09	0°♃		min. Earth dist.	174 Nov 26 j 11:10	5°♃14'56	4.16483 AU
retrograde	169 Mar 31 j 14:09	13°♃01'06		opposition	174 Nov 27 j 15:37	5°♃05'16	0°-30'-18
opposition	169 May 31 j 12:58	8°♃07'54	0°24'56	direct	175 Jan 25 j 19:09	0°♃04'50	
min. Earth dist.	169 Jun 01 j 18:01	7°♃58'36	4.20951 AU	evening set	175 Jun 01 j 14:36	18°♃42'45	
direct	169 Jul 31 j 20:54	3°♃11'19					
desc. node	169 Nov 13 j 03:44	17°♃01'28		conjunction	175 Jun 15 j 08:09	21°♃47'25	0°00'-13
evening set	169 Dec 03 j 22:51	21°♃44'53		minimum elong	175 Jun 15 j 08:09	21°♃47'24	0°00'15
max. Earth dist.	169 Dec 15 j 08:44	24°♃24'40	6.14237 AU	behind sun begin	175 Jun 14 j 23:51	21°♃42'47	
				behind sun end	175 Jun 15 j 16:26	21°♃52'02	
conjunction	169 Dec 16 j 15:42	24°♃42'47	0°-3'-32	max. Earth dist.	175 Jun 16 j 18:18	22°♃06'34	6.23369 AU
minimum elong	169 Dec 16 j 15:42	24°♃42'47	0°03'34	asc. node	175 Jun 17 j 14:26	22°♃17'52	
behind sun begin	169 Dec 16 j 07:45	24°♃38'09		morning rise	175 Jun 29 j 01:08	24°♃51'28	
behind sun end	169 Dec 16 j 23:39	24°♃47'24			175 Jul 22 j 16:50	0°♃	
morning rise	169 Dec 29 j 09:29	27°♃41'24		retrograde	175 Oct 31 j 08:43	12°♃56'08	
	170 Jan 08 j 09:33	0°♃		min. Earth dist.	175 Dec 29 j 11:53	8°♃00'16	4.29808 AU
retrograde	170 May 06 j 12:51	16°♃54'10		opposition	175 Dec 30 j 02:09	7°♃55'29	0°28'28
opposition	170 Jul 06 j 06:26	11°♃58'04	0°-36'-9	direct	176 Feb 28 j 14:30	2°♃52'56	
min. Earth dist.	170 Jul 06 j 18:26	11°♃54'10	4.07839 AU	evening set	176 Jul 04 j 17:03	20°♃58'23	
direct	170 Sep 04 j 03:23	7°♃03'45					
evening set	171 Jan 07 j 00:44	26°♃11'42		conjunction	176 Jul 18 j 05:00	23°♃55'31	0°37'32
				minimum elong	176 Jul 18 j 04:58	23°♃55'30	0°37'32
conjunction	171 Jan 19 j 22:26	29°♃16'42	0°-42'-50	max. Earth dist.	176 Jul 18 j 13:53	24°♃00'24	6.35505 AU
minimum elong	171 Jan 19 j 22:24	29°♃16'40	0°42'51	morning rise	176 Jul 31 j 14:26	26°♃51'19	
max. Earth dist.	171 Jan 19 j 19:30	29°♃14'57	6.02539 AU		176 Aug 15 j 05:46	0°♃	
	171 Jan 22 j 22:43	0°♃		retrograde	176 Nov 30 j 03:47	14°♃05'54	
morning rise	171 Feb 01 j 22:17	2°♃23'04		opposition	177 Jan 29 j 04:56	9°♃09'09	1°15'46
	171 Mar 31 j 21:24	15°♃		min. Earth dist.	177 Jan 29 j 07:54	9°♃08'10	4.39900 AU
retrograde	171 Jun 13 j 04:47	22°♃34'21		direct	177 Mar 31 j 22:40	4°♃05'56	
opposition	171 Aug 12 j 11:13	17°♃34'25	-1°-27'-17		177 Jul 04 j 02:29	15°♃	
min. Earth dist.	171 Aug 12 j 02:52	17°♃37'11	3.98755 AU	evening set	177 Aug 06 j 01:21	21°♃49'31	
	171 Sep 01 j 22:36	15°♃		max. Earth dist.	177 Aug 18 j 09:46	24°♃29'56	6.42739 AU
direct	171 Oct 10 j 01:39	12°♃41'00					
	171 Nov 16 j 15:17	15°♃		conjunction	177 Aug 19 j 04:57	24°♃40'21	1°03'14
	172 Feb 02 j 18:31	0°♃		minimum elong	177 Aug 19 j 04:55	24°♃40'20	1°03'13
evening set	172 Feb 12 j 02:26	2°♃13'21		morning rise	177 Sep 01 j 05:45	27°♃29'42	
					177 Sep 12 j 23:14	0°♃	
conjunction	172 Feb 25 j 07:10	5°♃24'02	-1°-7'-24	retrograde	177 Dec 30 j 11:07	14°♃19'56	
minimum elong	172 Feb 25 j 07:09	5°♃24'01	1°07'24	opposition	178 Feb 28 j 20:24	9°♃26'16	1°40'51
max. Earth dist.	172 Feb 26 j 10:24	5°♃40'27	5.96866 AU	min. Earth dist.	178 Mar 01 j 16:53	9°♃19'39	4.43968 AU
morning rise	172 Mar 09 j 15:09	8°♃36'27		direct	178 May 02 j 10:20	4°♃23'31	
retrograde	172 Jul 20 j 02:10	29°♃12'08		evening set	178 Sep 06 j 04:23	21°♃59'57	
opposition	172 Sep 17 j 22:08	24°♃08'38	-1°-45'-28	max. Earth dist.	178 Sep 17 j 10:33	24°♃26'43	6.43245 AU
min. Earth dist.	172 Sep 16 j 19:13	24°♃17'44	3.97308 AU				
direct	172 Nov 14 j 19:29	19°♃13'59		conjunction	178 Sep 19 j 00:54	24°♃47'38	1°11'13
	173 Feb 09 j 14:15	0°♃		minimum elong	178 Sep 19 j 00:54	24°♃47'38	1°11'12
evening set	173 Mar 20 j 10:11	8°♃48'18		morning rise	178 Oct 01 j 18:28	27°♃34'00	
					178 Oct 13 j 02:17	0°♃	
conjunction	173 Apr 02 j 22:51	12°♃01'18	-1°-5'-56	retrograde	179 Jan 30 j 03:13	14°♃27'42	

opposition	179 Mar 31 j 21:37	9°♃35'44	1°38'47		185 Jan 18 j 02:04	0°♃	
min. Earth dist.	179 Apr 02 j 05:00	9°♃25'43	4.40984 AU	evening set	185 Mar 25 j 18:07	14°♃06'03	
direct	179 Jun 02 j 14:54	4°♃34'32					
evening set	179 Oct 06 j 21:10	22°♃19'23		conjunction	185 Apr 08 j 07:54	17°♃19'00	-1°-3'-27
max. Earth dist.	179 Oct 17 j 13:01	24°♃40'57	6.36932 AU	minimum elong	185 Apr 08 j 07:56	17°♃19'01	1°03'27
				max. Earth dist.	185 Apr 10 j 12:09	17°♃50'00	6.00799 AU
conjunction	179 Oct 19 j 13:09	25°♃07'41	0°59'42	morning rise	185 Apr 22 j 00:13	20°♃33'10	
minimum elong	179 Oct 19 j 13:11	25°♃07'42	0°59'42		185 Jun 03 j 08:30	0°♃	
morning rise	179 Nov 01 j 03:14	27°♃55'15		retrograde	185 Aug 30 j 17:22	10°♃36'38	
	179 Nov 10 j 14:45	0°♃		min. Earth dist.	185 Oct 27 j 20:51	5°♃42'57	4.05788 AU
	180 Feb 16 j 18:08	15°♃		opposition	185 Oct 29 j 06:31	5°♃31'28	-1°-16'-6
retrograde	180 Mar 02 j 06:42	15°♃19'38		direct	185 Dec 26 j 12:40	0°♃33'34	
	180 Mar 16 j 18:31	15°♃			186 Apr 11 j 02:04	15°♃	
opposition	180 May 02 j 04:52	10°♃27'44	1°09'07	evening set	186 May 01 j 20:19	19°♃40'38	
min. Earth dist.	180 May 03 j 16:27	10°♃16'25	4.31681 AU				
direct	180 Jul 03 j 11:01	5°♃28'51		conjunction	186 May 15 j 14:29	22°♃50'36	0°-34'-21
	180 Sep 26 j 18:51	15°♃		minimum elong	186 May 15 j 14:32	22°♃50'37	0°34'21
evening set	180 Nov 06 j 00:47	23°♃36'20		max. Earth dist.	186 May 17 j 16:21	23°♃19'18	6.11890 AU
max. Earth dist.	180 Nov 16 j 18:47	26°♃03'08	6.25384 AU	morning rise	186 May 29 j 09:53	26°♃00'51	
					186 Jun 16 j 03:31	0°♃	
conjunction	180 Nov 18 j 15:56	26°♃28'54	0°30'40	retrograde	186 Oct 03 j 17:50	15°♃01'13	
minimum elong	180 Nov 18 j 15:58	26°♃28'55	0°30'40	min. Earth dist.	186 Dec 01 j 04:50	10°♃06'48	4.18635 AU
morning rise	180 Dec 01 j 06:33	29°♃21'27		opposition	186 Dec 02 j 07:53	9°♃57'37	0°-21'-52
	180 Dec 04 j 02:34	0°♃		direct	187 Jan 30 j 16:15	4°♃56'46	
retrograde	181 Apr 05 j 09:16	17°♃39'45		asc. node	187 Apr 27 j 01:52	14°♃54'58	
opposition	181 Jun 05 j 07:42	12°♃46'13	0°16'53	evening set	187 Jun 06 j 12:15	23°♃28'54	
min. Earth dist.	181 Jun 06 j 10:29	12°♃37'38	4.18566 AU				
direct	181 Aug 05 j 09:35	7°♃50'00		conjunction	187 Jun 20 j 05:22	26°♃32'26	0°05'32
desc. node	181 Sep 24 j 04:56	11°♃31'48		minimum elong	187 Jun 20 j 05:21	26°♃32'25	0°05'32
evening set	181 Dec 08 j 12:50	26°♃30'27		behind sun begin	187 Jun 19 j 21:21	26°♃27'59	
max. Earth dist.	181 Dec 20 j 03:34	29°♃13'51	6.11865 AU	behind sun end	187 Jun 20 j 13:20	26°♃36'52	
				max. Earth dist.	187 Jun 21 j 13:00	26°♃50'07	6.25484 AU
conjunction	181 Dec 21 j 06:23	29°♃29'38	0°-9'-13	morning rise	187 Jul 03 j 21:20	29°♃35'11	
minimum elong	181 Dec 21 j 06:22	29°♃29'37	0°09'14		187 Jul 05 j 18:13	0°♃	
behind sun begin	181 Dec 20 j 23:34	29°♃25'38		retrograde	187 Nov 04 j 18:24	17°♃30'48	
behind sun end	181 Dec 21 j 13:11	29°♃33'36		opposition	188 Jan 03 j 12:15	12°♃30'44	0°36'07
	181 Dec 23 j 09:59	0°♃		min. Earth dist.	188 Jan 03 j 00:26	12°♃34'41	4.31706 AU
morning rise	182 Jan 03 j 00:50	2°♃29'35		direct	188 Mar 04 j 05:16	7°♃28'03	
retrograde	182 May 11 j 18:46	21°♃53'40		evening set	188 Jul 09 j 07:46	25°♃28'59	
opposition	182 Jul 11 j 09:11	16°♃57'08	0°-44'-23				
min. Earth dist.	182 Jul 11 j 19:17	16°♃53'50	4.05687 AU	conjunction	188 Jul 22 j 18:28	28°♃25'01	0°42'01
direct	182 Sep 09 j 01:33	12°♃03'06		minimum elong	188 Jul 22 j 18:25	28°♃25'00	0°42'01
	183 Jan 06 j 13:12	0°♃		max. Earth dist.	188 Jul 22 j 21:59	28°♃26'57	6.37027 AU
evening set	183 Jan 11 j 23:40	1°♃17'33			188 Jul 30 j 00:19	0°♃	
				morning rise	188 Aug 05 j 02:49	1°♃19'43	
conjunction	183 Jan 24 j 22:15	4°♃23'44	0°-47'-27		188 Oct 17 j 03:12	15°♃	
minimum elong	183 Jan 24 j 22:13	4°♃23'43	0°47'29	retrograde	188 Dec 04 j 09:45	18°♃28'52	
max. Earth dist.	183 Jan 24 j 23:15	4°♃24'20	6.00808 AU		189 Jan 22 j 04:37	15°♃	
morning rise	183 Feb 06 j 23:22	7°♃31'25		opposition	189 Feb 02 j 11:39	13°♃32'36	1°20'45
	183 Mar 11 j 10:28	15°♃		min. Earth dist.	189 Feb 02 j 17:40	13°♃30'37	4.40977 AU
retrograde	183 Jun 18 j 13:30	27°♃50'33		direct	189 Apr 05 j 09:07	8°♃29'19	
opposition	183 Aug 17 j 18:35	22°♃50'06	-1°-32'-12		189 Jun 14 j 11:57	15°♃	
min. Earth dist.	183 Aug 17 j 05:55	22°♃54'18	3.97669 AU	evening set	189 Aug 10 j 10:42	26°♃10'45	
direct	183 Oct 15 j 04:05	17°♃56'41					
	184 Jan 15 j 19:32	0°♃		conjunction	189 Aug 23 j 13:21	29°♃00'56	1°05'28
evening set	184 Feb 17 j 08:25	7°♃32'09		minimum elong	189 Aug 23 j 13:19	29°♃00'55	1°05'29
				max. Earth dist.	189 Aug 22 j 15:54	28°♃49'17	6.43290 AU
conjunction	184 Mar 01 j 14:19	10°♃43'32	-1°-8'-50		189 Aug 28 j 02:13	0°♃	
minimum elong	184 Mar 01 j 14:18	10°♃43'31	1°08'51	morning rise	189 Sep 05 j 12:49	1°♃49'35	
max. Earth dist.	184 Mar 02 j 21:57	11°♃02'37	5.96508 AU	retrograde	190 Jan 03 j 15:45	18°♃38'29	
morning rise	184 Mar 14 j 23:29	13°♃56'38		opposition	190 Mar 05 j 02:52	13°♃45'09	1°42'13
	184 May 31 j 10:31	0°♃		min. Earth dist.	190 Mar 06 j 00:53	13°♃38'04	4.43984 AU
retrograde	184 Jul 25 j 09:38	4°♃32'33		direct	190 May 06 j 17:22	8°♃42'35	
	184 Sep 19 j 07:47	30°♃		evening set	190 Sep 10 j 11:13	26°♃19'21	
min. Earth dist.	184 Sep 21 j 23:49	29°♃38'20	3.97714 AU	max. Earth dist.	190 Sep 21 j 13:05	28°♃44'06	6.42709 AU
opposition	184 Sep 23 j 04:38	29°♃28'34	-1°-44'-32				
direct	184 Nov 20 j 02:03	24°♃33'33		conjunction	190 Sep 23 j 06:47	29°♃06'53	1°10'45

minimum elong	190 Sep 23 j 06:47	29°♄06'53	1°10'44		196 May 07 j 11:26	0°♃	
	190 Sep 27 j 07:59	0°♄		retrograde	196 Jul 30 j 13:55	9°♃45'05	
morning rise	190 Oct 05 j 23:47	1°♄53'13		min. Earth dist.	196 Sep 27 j 01:33	4°♃51'01	3.98718 AU
retrograde	191 Feb 03 j 13:39	18°♄49'49		opposition	196 Sep 28 j 07:45	4°♃40'47	-1°-42'-45
opposition	191 Apr 05 j 07:34	13°♄57'58	1°36'13		196 Nov 13 j 09:14	30°♃	
min. Earth dist.	191 Apr 06 j 17:11	13°♄47'15	4.39929 AU	direct	196 Nov 25 j 04:59	29°♃45'26	
direct	191 Jun 07 j 00:55	8°♄56'59			196 Dec 07 j 02:00	0°♃	
evening set	191 Oct 11 j 04:21	26°♄44'35		evening set	197 Mar 30 j 22:54	19°♃14'12	
max. Earth dist.	191 Oct 21 j 19:32	29°♄06'16	6.35436 AU				
				conjunction	197 Apr 13 j 13:20	22°♃26'47	-1°00'-34
conjunction	191 Oct 23 j 20:09	29°♄33'23	0°56'34	minimum elong	197 Apr 13 j 13:23	22°♃26'49	1°00'35
minimum elong	191 Oct 23 j 20:11	29°♄33'24	0°56'34	max. Earth dist.	197 Apr 15 j 17:08	22°♃57'23	6.02320 AU
	191 Oct 25 j 19:54	0°♄		morning rise	197 Apr 27 j 06:30	25°♃40'33	
morning rise	191 Nov 05 j 10:04	2°♄21'29			197 May 16 j 01:14	0°♃	
	192 Jan 08 j 14:07	15°♄			197 Aug 16 j 15:04	15°♃	
retrograde	192 Mar 06 j 21:22	19°♄52'37		retrograde	197 Sep 04 j 12:11	15°♃35'13	
opposition	192 May 06 j 20:30	15°♄00'35	1°02'55		197 Sep 23 j 06:58	15°♃	
	192 May 06 j 22:18	15°♄		min. Earth dist.	197 Nov 01 j 16:37	10°♃41'35	4.07645 AU
min. Earth dist.	192 May 08 j 06:46	14°♄49'40	4.29844 AU	opposition	197 Nov 03 j 02:18	10°♃30'05	-1°-9'-35
direct	192 Jul 07 j 22:09	10°♄02'03		direct	197 Dec 31 j 11:35	5°♃31'43	
	192 Sep 05 j 07:12	15°♄			198 Mar 23 j 16:11	15°♃	
evening set	192 Nov 10 j 12:03	28°♄14'18		evening set	198 May 06 j 20:16	24°♃33'13	
	192 Nov 18 j 05:12	0°♄					
max. Earth dist.	192 Nov 21 j 08:28	0°♄43'09	6.23370 AU	conjunction	198 May 20 j 14:44	27°♃42'21	0°-29'-8
				minimum elong	198 May 20 j 14:46	27°♃42'23	0°29'09
conjunction	192 Nov 23 j 03:21	1°♄07'46	0°25'29	max. Earth dist.	198 May 22 j 14:59	28°♃10'01	6.13934 AU
minimum elong	192 Nov 23 j 03:22	1°♄07'46	0°25'28		198 May 30 j 15:12	0°♄	
morning rise	192 Dec 05 j 18:18	4°♄01'18		morning rise	198 Jun 03 j 09:51	0°♄51'35	
retrograde	193 Apr 10 j 10:23	22°♄28'57		retrograde	198 Oct 08 j 06:55	19°♄42'02	
opposition	193 Jun 10 j 06:42	17°♄35'08	0°08'21	opposition	198 Dec 06 j 20:24	14°♄38'55	0°-13'-38
min. Earth dist.	193 Jun 11 j 08:27	17°♄26'52	4.16521 AU	min. Earth dist.	198 Dec 05 j 19:54	14°♄47'12	4.20642 AU
desc. node	193 Aug 03 j 15:53	12°♄43'22		direct	199 Feb 04 j 09:42	9°♄37'46	
direct	193 Aug 10 j 04:47	12°♄39'16		asc. node	199 Mar 07 j 20:24	11°♄10'58	
	193 Dec 07 j 04:23	0°♄		evening set	199 Jun 11 j 06:04	28°♄04'52	
evening set	193 Dec 13 j 06:26	1°♄25'08			199 Jun 19 j 21:29	0°♄	
max. Earth dist.	193 Dec 25 j 00:49	4°♄11'22	6.09992 AU				
				conjunction	199 Jun 24 j 22:28	1°♄07'21	0°11'00
conjunction	193 Dec 26 j 00:34	4°♄25'23	0°-15'-3	minimum elong	199 Jun 24 j 22:28	1°♄07'21	0°11'00
minimum elong	193 Dec 26 j 00:32	4°♄25'22	0°15'03	behind sun begin	199 Jun 24 j 16:19	1°♄03'56	
behind sun begin	193 Dec 25 j 21:23	4°♄23'31		behind sun end	199 Jun 25 j 04:36	1°♄10'45	
behind sun end	193 Dec 26 j 03:41	4°♄27'13		max. Earth dist.	199 Jun 26 j 01:45	1°♄22'32	6.27293 AU
morning rise	194 Jan 07 j 19:55	7°♄26'31		morning rise	199 Jul 08 j 13:42	4°♄08'59	
retrograde	194 May 16 j 23:52	26°♄59'39		retrograde	199 Nov 09 j 00:11	21°♄57'05	
opposition	194 Jul 16 j 14:16	22°♄02'36	0°-52'-31	opposition	200 Jan 07 j 19:25	16°♄57'34	0°43'19
min. Earth dist.	194 Jul 16 j 20:09	22°♄00'40	4.04199 AU	min. Earth dist.	200 Jan 07 j 09:52	17°♄00'46	4.33195 AU
direct	194 Sep 14 j 00:47	17°♄08'49		direct	200 Mar 08 j 15:52	11°♄54'44	
	194 Dec 20 j 05:04	0°♄		evening set	200 Jul 13 j 19:48	29°♄52'44	
evening set	195 Jan 17 j 00:11	6°♄27'03			200 Jul 14 j 09:13	0°♄	
				conjunction	200 Jul 27 j 05:31	2°♄47'55	0°46'10
conjunction	195 Jan 29 j 23:38	9°♄34'03	0°-51'-48	minimum elong	200 Jul 27 j 05:29	2°♄47'53	0°46'09
minimum elong	195 Jan 29 j 23:35	9°♄34'02	0°51'49	max. Earth dist.	200 Jul 27 j 05:28	2°♄47'53	6.38098 AU
max. Earth dist.	195 Jan 30 j 05:41	9°♄37'42	5.99845 AU	morning rise	200 Aug 09 j 12:35	5°♄41'41	
morning rise	195 Feb 12 j 01:45	12°♄42'36			200 Sep 24 j 08:24	15°♄	
	195 Feb 21 j 17:30	15°♄		retrograde	200 Dec 08 j 14:43	22°♄47'09	
	195 May 09 j 19:34	0°♄		opposition	201 Feb 06 j 17:03	17°♄51'26	1°25'13
retrograde	195 Jun 23 j 22:15	3°♄06'15		min. Earth dist.	201 Feb 07 j 01:45	17°♄48'36	4.41580 AU
	195 Aug 08 j 07:58	30°♄			201 Mar 02 j 00:31	15°♄	
min. Earth dist.	195 Aug 22 j 10:17	28°♄10'16	3.97354 AU	direct	201 Apr 09 j 17:16	12°♄48'17	
opposition	195 Aug 23 j 01:35	28°♄05'10	-1°-36'-22		201 May 18 j 18:59	15°♄	
direct	195 Oct 20 j 09:25	23°♄11'37			201 Aug 12 j 12:48	0°♄	
	195 Dec 26 j 02:30	0°♄		evening set	201 Aug 14 j 18:49	0°♄29'02	
evening set	196 Feb 22 j 13:21	12°♄47'12					
				conjunction	201 Aug 27 j 20:20	3°♄18'45	1°07'19
conjunction	196 Mar 06 j 20:25	15°♄58'55	-1°-9'-44	minimum elong	201 Aug 27 j 20:19	3°♄18'44	1°07'19
minimum elong	196 Mar 06 j 20:25	15°♄58'55	1°09'45	max. Earth dist.	201 Aug 26 j 18:17	3°♄04'37	6.43366 AU
max. Earth dist.	196 Mar 08 j 09:19	16°♄21'08	5.96864 AU	morning rise	201 Sep 09 j 18:57	6°♄07'01	
morning rise	196 Mar 20 j 06:34	19°♄12'17					

retrograde	202 Jan 07 j 22:38	22°♄56'20		direct	207 Oct 25 j 10:58	28°♁22'22	
opposition	202 Mar 09 j 09:49	18°♄03'20	1°43'01		207 Nov 25 j 15:21	0°♁	
min. Earth dist.	202 Mar 10 j 10:07	17°♄55'31	4.43565 AU	evening set	208 Feb 27 j 16:35	17°♁57'49	
direct	202 May 11 j 01:06	13°♄00'57					
	202 Sep 11 j 17:23	0°♁		conjunction	208 Mar 12 j 00:32	21°♁09'47	-1°-10'-6
evening set	202 Sep 14 j 17:56	0°♁39'18		minimum elong	208 Mar 12 j 00:32	21°♁09'47	1°10'06
max. Earth dist.	202 Sep 25 j 19:04	3°♁03'58	6.41831 AU	max. Earth dist.	208 Mar 13 j 14:55	21°♁32'50	5.97263 AU
				morning rise	208 Mar 25 j 11:54	24°♁23'26	
conjunction	202 Sep 27 j 12:59	3°♁26'56	1°09'53		208 Apr 18 j 14:05	0°♁	
minimum elong	202 Sep 27 j 13:00	3°♁26'56	1°09'52	retrograde	208 Aug 04 j 14:18	14°♁53'07	
morning rise	202 Oct 10 j 05:13	6°♁13'21		min. Earth dist.	208 Oct 02 j 00:44	9°♁59'18	3.99613 AU
retrograde	203 Feb 07 j 23:18	23°♁14'00		opposition	208 Oct 03 j 08:28	9°♁48'30	-1°-40'-16
opposition	203 Apr 09 j 18:28	18°♁22'16	1°33'05	direct	208 Nov 30 j 06:11	4°♁52'45	
min. Earth dist.	203 Apr 11 j 03:55	18°♁11'36	4.38661 AU	evening set	209 Apr 05 j 01:52	24°♁18'32	
direct	203 Jun 11 j 09:29	13°♁21'42					
	203 Oct 10 j 01:10	0°♁		conjunction	209 Apr 18 j 17:15	27°♁30'55	0°-57'-16
evening set	203 Oct 15 j 12:39	1°♁12'35		minimum elong	209 Apr 18 j 17:18	27°♁30'56	0°57'17
max. Earth dist.	203 Oct 26 j 03:15	3°♁34'33	6.33882 AU	max. Earth dist.	209 Apr 20 j 22:06	28°♁02'01	6.03636 AU
					209 Apr 29 j 07:03	0°♁	
conjunction	203 Oct 28 j 04:04	4°♁01'52	0°53'04	morning rise	209 May 02 j 10:51	0°♁44'16	
minimum elong	203 Oct 28 j 04:06	4°♁01'54	0°53'04		209 Jul 10 j 05:21	15°♁	
morning rise	203 Nov 09 j 18:02	6°♁50'37		retrograde	209 Sep 09 j 08:05	20°♁31'11	
	203 Dec 18 j 05:50	15°♁		opposition	209 Nov 07 j 20:46	15°♁26'10	-1°-2'-41
retrograde	204 Mar 11 j 15:42	24°♁28'44		min. Earth dist.	209 Nov 06 j 12:43	15°♁37'07	4.09217 AU
opposition	204 May 11 j 13:41	19°♁36'34	0°56'15		209 Nov 11 j 01:35	15°♁	
min. Earth dist.	204 May 12 j 23:47	19°♁25'42	4.28087 AU	direct	210 Jan 05 j 09:51	10°♁27'21	
	204 Jun 27 j 05:27	15°♁			210 Feb 28 j 22:10	15°♁	
direct	204 Jul 12 j 12:44	14°♁38'25		evening set	210 May 11 j 19:47	29°♁24'32	
	204 Jul 27 j 19:27	15°♁			210 May 14 j 10:10	0°♁	
	204 Nov 02 j 01:52	0°♁					
evening set	204 Nov 14 j 23:53	2°♁54'54		conjunction	210 May 25 j 14:18	2°♁32'58	0°-23'-46
max. Earth dist.	204 Nov 25 j 22:59	5°♁25'53	6.21569 AU	minimum elong	210 May 25 j 14:20	2°♁32'59	0°23'47
				max. Earth dist.	210 May 27 j 12:20	2°♁59'14	6.15627 AU
conjunction	204 Nov 27 j 15:29	5°♁49'13	0°20'05	morning rise	210 Jun 08 j 09:19	5°♁41'21	
minimum elong	204 Nov 27 j 15:30	5°♁49'13	0°20'05	retrograde	210 Oct 12 j 17:42	24°♁23'08	
morning rise	204 Dec 10 j 06:50	8°♁43'41		min. Earth dist.	210 Dec 10 j 09:08	19°♁28'18	4.22300 AU
retrograde	205 Apr 15 j 09:04	27°♁19'52		opposition	210 Dec 11 j 08:30	19°♁20'24	0°-5'-21
desc. node	205 Jun 13 j 07:26	22°♁40'40		asc. node	211 Jan 16 j 05:01	15°♁14'22	
opposition	205 Jun 15 j 06:09	22°♁25'39	0°00'-17	direct	211 Feb 09 j 00:43	14°♁18'55	
min. Earth dist.	205 Jun 16 j 04:37	22°♁18'26	4.14807 AU		211 Jun 03 j 15:15	0°♁	
direct	205 Aug 14 j 22:48	17°♁30'12		evening set	211 Jun 16 j 00:14	2°♁42'13	
	205 Nov 20 j 04:10	0°♁					
evening set	205 Dec 18 j 00:02	6°♁20'11		conjunction	211 Jun 29 j 15:57	5°♁43'46	0°16'26
				minimum elong	211 Jun 29 j 15:56	5°♁43'46	0°16'26
conjunction	205 Dec 30 j 18:36	9°♁21'17	0°-20'-46	max. Earth dist.	211 Jun 30 j 15:01	5°♁56'34	6.28793 AU
minimum elong	205 Dec 30 j 18:35	9°♁21'16	0°20'48	morning rise	211 Jul 13 j 06:16	8°♁44'23	
max. Earth dist.	205 Dec 29 j 22:41	9°♁09'29	6.08504 AU	retrograde	211 Nov 13 j 08:48	26°♁26'00	
morning rise	206 Jan 12 j 14:43	12°♁23'23		opposition	212 Jan 12 j 03:50	21°♁27'02	0°50'21
	206 Apr 15 j 11:48	0°♁		min. Earth dist.	212 Jan 11 j 21:30	21°♁29'08	4.34422 AU
retrograde	206 May 22 j 05:22	2°♁04'08		direct	212 Mar 13 j 05:05	16°♁24'04	
	206 Jun 28 j 02:20	30°♁			212 Jun 27 j 23:44	0°♁	
opposition	206 Jul 21 j 18:16	27°♁06'31	-1°00'-12	evening set	212 Jul 18 j 08:48	4°♁19'39	
min. Earth dist.	206 Jul 21 j 21:35	27°♁05'25	4.03062 AU				
direct	206 Sep 19 j 01:54	22°♁12'50		conjunction	212 Jul 31 j 17:28	7°♁14'03	0°50'06
	206 Nov 30 j 16:35	0°♁		minimum elong	212 Jul 31 j 17:25	7°♁14'02	0°50'06
evening set	207 Jan 21 j 23:34	11°♁33'47		max. Earth dist.	212 Jul 31 j 13:40	7°♁11'59	6.38950 AU
				morning rise	212 Aug 13 j 23:23	10°♁07'00	
conjunction	207 Feb 04 j 00:00	14°♁41'29	0°-55'-43		212 Sep 06 j 01:21	15°♁	
minimum elong	207 Feb 03 j 23:58	14°♁41'28	0°55'44	retrograde	212 Dec 12 j 20:08	27°♁09'24	
max. Earth dist.	207 Feb 04 j 11:08	14°♁48'11	5.99158 AU	opposition	213 Feb 11 j 00:09	22°♁14'06	1°29'17
	207 Feb 05 j 06:45	15°♁		min. Earth dist.	213 Feb 11 j 10:36	22°♁10'41	4.42048 AU
morning rise	207 Feb 17 j 03:04	17°♁50'46		direct	213 Apr 14 j 02:13	17°♁10'59	
	207 Apr 13 j 05:36	0°♁			213 Jul 27 j 02:45	0°♁	
retrograde	207 Jun 29 j 04:26	8°♁17'36		evening set	213 Aug 19 j 04:23	4°♁51'12	
opposition	207 Aug 28 j 06:08	3°♁16'01	-1°-39'-44	max. Earth dist.	213 Aug 31 j 01:30	7°♁25'34	6.43430 AU
min. Earth dist.	207 Aug 27 j 12:29	3°♁21'55	3.97222 AU				
	207 Sep 24 j 02:20	30°♁		conjunction	213 Sep 01 j 04:55	7°♁40'28	1°08'51

minimum elong	213 Sep 01 j 04:54	7°♄40'28	1°08'50	retrograde	219 Jul 04 j 04:39	13°♃18'37	
morning rise	213 Sep 14 j 02:23	10°♄28'17		min. Earth dist.	219 Sep 01 j 10:22	8°♃23'16	3.97167 AU
retrograde	214 Jan 12 j 06:09	27°♄17'51		opposition	219 Sep 02 j 06:24	8°♃16'33	-1°-42'-15
opposition	214 Mar 13 j 18:24	22°♄25'10	1°43'19	direct	219 Oct 30 j 08:55	3°♃22'42	
min. Earth dist.	214 Mar 14 j 20:04	22°♄16'56	4.43253 AU	evening set	220 Mar 03 j 16:06	22°♃58'13	
direct	214 May 15 j 10:52	17°♄23'04					
	214 Aug 26 j 07:43	0°♄		conjunction	220 Mar 17 j 01:17	26°♃10'32	-1°-9'-56
evening set	214 Sep 19 j 01:57	5°♄02'15		minimum elong	220 Mar 17 j 01:18	26°♃10'33	1°09'56
max. Earth dist.	214 Sep 30 j 00:04	7°♄25'38	6.41173 AU	max. Earth dist.	220 Mar 18 j 18:53	26°♃35'30	5.97623 AU
				morning rise	220 Mar 30 j 13:29	29°♃24'27	
conjunction	214 Oct 01 j 20:10	7°♄49'50	1°08'39		220 Apr 02 j 01:24	0°♃	
minimum elong	214 Oct 01 j 20:11	7°♄49'51	1°08'39	retrograde	220 Aug 09 j 13:46	19°♃51'23	
morning rise	214 Oct 14 j 12:00	10°♄36'20		min. Earth dist.	220 Oct 06 j 22:06	14°♃57'16	4.00348 AU
retrograde	215 Feb 12 j 11:15	27°♄40'14		opposition	220 Oct 08 j 05:15	14°♃46'40	-1°-37'-10
opposition	215 Apr 14 j 06:51	22°♄48'30	1°29'26	direct	220 Dec 05 j 04:33	9°♃50'33	
min. Earth dist.	215 Apr 15 j 16:41	22°♄37'43	4.37709 AU	evening set	221 Apr 10 j 01:55	29°♃14'29	
direct	215 Jun 15 j 21:00	17°♄48'14			221 Apr 13 j 07:48	0°♃	
	215 Sep 23 j 12:47	0°♄					
evening set	215 Oct 19 j 20:55	5°♄40'59		conjunction	221 Apr 23 j 18:03	2°♃26'45	0°-53'-42
max. Earth dist.	215 Oct 30 j 13:25	8°♄04'23	6.32728 AU	minimum elong	221 Apr 23 j 18:06	2°♃26'47	0°53'42
				max. Earth dist.	221 Apr 25 j 22:41	2°♃57'38	6.04683 AU
conjunction	215 Nov 01 j 12:15	8°♄30'40	0°49'18	morning rise	221 May 07 j 12:22	5°♃39'56	
minimum elong	215 Nov 01 j 12:17	8°♄30'41	0°49'18		221 Jun 18 j 19:55	15°♃	
morning rise	215 Nov 14 j 01:58	11°♄19'49		retrograde	221 Sep 13 j 23:38	25°♃20'18	
	215 Nov 30 j 18:16	15°♄		min. Earth dist.	221 Nov 11 j 04:17	20°♃26'28	4.10472 AU
retrograde	216 Mar 16 j 07:07	29°♄03'32		opposition	221 Nov 12 j 12:21	20°♃15'32	0°-55'-37
opposition	216 May 16 j 06:39	24°♄11'09	0°49'19	direct	222 Jan 10 j 02:46	15°♃16'22	
min. Earth dist.	216 May 17 j 14:59	24°♄00'51	4.26800 AU		222 Apr 27 j 23:25	0°♄	
direct	216 Jul 17 j 02:13	19°♄13'28		evening set	222 May 16 j 17:09	4°♄10'43	
	216 Oct 16 j 00:45	0°♄					
evening set	216 Nov 19 j 11:04	7°♄32'28		conjunction	222 May 30 j 11:41	7°♄18'34	0°-18'-23
max. Earth dist.	216 Nov 30 j 11:52	10°♄04'56	6.20255 AU	minimum elong	222 May 30 j 11:42	7°♄18'35	0°18'24
				max. Earth dist.	222 Jun 01 j 06:27	7°♄42'55	6.17007 AU
conjunction	216 Dec 02 j 02:40	10°♄27'21	0°14'41	morning rise	222 Jun 13 j 06:31	10°♄26'16	
minimum elong	216 Dec 02 j 02:40	10°♄27'22	0°14'42	retrograde	222 Oct 17 j 05:34	29°♄00'55	
behind sun begin	216 Dec 01 j 23:08	10°♄25'19		asc. node	222 Nov 27 j 11:13	26°♄21'08	
behind sun end	216 Dec 02 j 06:13	10°♄29'24		opposition	222 Dec 15 j 19:35	23°♄58'39	0°02'44
morning rise	216 Dec 14 j 18:28	13°♄22'33		min. Earth dist.	222 Dec 14 j 22:55	24°♄05'37	4.23667 AU
	217 Mar 14 j 02:48	0°♄		direct	223 Feb 13 j 16:36	18°♄56'55	
retrograde	217 Apr 20 j 07:07	2°♄05'37			223 May 17 j 07:38	0°♄	
desc. node	217 Apr 24 j 12:07	2°♄03'56		evening set	223 Jun 20 j 17:11	7°♄17'22	
	217 May 27 j 18:39	30°♄					
opposition	217 Jun 20 j 03:46	27°♄10'59	0°-8'-43	conjunction	223 Jul 04 j 08:20	10°♄18'07	0°21'40
min. Earth dist.	217 Jun 21 j 00:22	27°♄04'21	4.13545 AU	minimum elong	223 Jul 04 j 08:18	10°♄18'06	0°21'40
direct	217 Aug 19 j 17:23	22°♄15'47		max. Earth dist.	223 Jul 05 j 05:17	10°♄29'43	6.30059 AU
	217 Nov 01 j 08:49	0°♄		morning rise	223 Jul 17 j 21:38	13°♄17'48	
evening set	217 Dec 22 j 15:21	11°♄08'29			223 Oct 24 j 22:33	0°♄	
				retrograde	223 Nov 17 j 14:30	0°♄53'46	
conjunction	218 Jan 04 j 10:36	14°♄10'18	0°-26'-11		223 Dec 11 j 04:26	30°♄	
minimum elong	218 Jan 04 j 10:34	14°♄10'17	0°26'12	opposition	224 Jan 16 j 11:31	25°♄55'17	0°56'57
max. Earth dist.	218 Jan 03 j 18:48	14°♄00'56	6.07415 AU	min. Earth dist.	224 Jan 16 j 06:16	25°♄57'02	4.35510 AU
morning rise	218 Jan 17 j 07:21	17°♄13'11		direct	224 Mar 17 j 15:17	20°♄52'15	
	218 Mar 17 j 21:48	0°♄			224 Jun 10 j 00:25	0°♄	
retrograde	218 May 27 j 07:18	6°♄59'57		evening set	224 Jul 22 j 21:10	8°♄45'43	
opposition	218 Jul 26 j 18:51	2°♄01'53	-1°-7'-12				
min. Earth dist.	218 Jul 26 j 19:45	2°♄01'36	4.02263 AU	conjunction	224 Aug 05 j 04:39	11°♄39'19	0°53'42
	218 Aug 11 j 17:59	30°♄		minimum elong	224 Aug 05 j 04:36	11°♄39'17	0°53'43
direct	218 Sep 23 j 22:15	27°♄08'21		max. Earth dist.	224 Aug 04 j 21:23	11°♄35'21	6.39779 AU
	218 Nov 05 j 04:25	0°♄		morning rise	224 Aug 18 j 09:25	14°♄31'27	
	219 Jan 20 j 10:50	15°♄			224 Aug 20 j 14:19	15°♄	
evening set	219 Jan 26 j 19:48	16°♄31'05			224 Nov 15 j 20:22	0°♄	
				retrograde	224 Dec 17 j 02:31	1°♄30'46	
conjunction	219 Feb 08 j 20:55	19°♄39'21	0°-59'-5		225 Jan 17 j 06:43	30°♄	
minimum elong	219 Feb 08 j 20:53	19°♄39'19	0°59'06	opposition	225 Feb 15 j 06:57	26°♄35'52	1°32'48
max. Earth dist.	219 Feb 09 j 10:03	19°♄47'15	5.98697 AU	min. Earth dist.	225 Feb 15 j 20:02	26°♄31'37	4.42563 AU
morning rise	219 Feb 22 j 01:07	22°♄49'17		direct	225 Apr 18 j 13:00	21°♄32'49	
	219 Mar 25 j 01:51	0°♄			225 Jul 08 j 23:38	0°♄	

evening set	225 Aug 23 j 12:36	9°♄11'53		231 Jan 03 j 06:53	15°♁	
max. Earth dist.	225 Sep 04 j 05:59	11°♄44'18	6.43554 AU	evening set	231 Jan 31 j 20:16	21°♁38'36
conjunction	225 Sep 05 j 12:10	12°♄00'42	1°09'58	conjunction	231 Feb 13 j 22:37	24°♁47'44 -1°-2'-8
minimum elong	225 Sep 05 j 12:09	12°♄00'41	1°09'57	minimum elong	231 Feb 13 j 22:35	24°♁47'43 1°02'10
morning rise	225 Sep 18 j 08:42	14°♄48'05		max. Earth dist.	231 Feb 14 j 17:07	24°♁58'53 5.97866 AU
	225 Dec 14 j 21:00	0°♄		morning rise	231 Feb 27 j 03:47	27°♁58'30
retrograde	226 Jan 16 j 12:01	1°♄37'45			231 Mar 07 j 16:11	0°♁
	226 Feb 18 j 06:10	30°♄		retrograde	231 Jul 09 j 12:12	18°♁31'16
opposition	226 Mar 18 j 02:17	26°♄45'10	1°43'01	opposition	231 Sep 07 j 11:07	13°♁28'44 -1°-44'-5
min. Earth dist.	226 Mar 19 j 04:49	26°♄36'39	4.42973 AU	min. Earth dist.	231 Sep 06 j 13:44	13°♁35'56 3.96910 AU
direct	226 May 19 j 19:07	21°♄43'12		direct	231 Nov 04 j 12:19	8°♁34'42
	226 Aug 08 j 06:00	0°♄		evening set	232 Mar 08 j 21:08	28°♁10'51
evening set	226 Sep 23 j 08:16	9°♄22'52			232 Mar 16 j 11:52	0°♁
max. Earth dist.	226 Oct 04 j 05:53	11°♄46'15	6.40483 AU	conjunction	232 Mar 22 j 07:23	1°♁23'33 -1°-9'-12
conjunction	226 Oct 06 j 01:55	12°♄10'28	1°07'02	minimum elong	232 Mar 22 j 07:24	1°♁23'33 1°09'14
minimum elong	226 Oct 06 j 01:56	12°♄10'29	1°07'02	max. Earth dist.	232 Mar 24 j 03:25	1°♁49'54 5.97952 AU
morning rise	226 Oct 18 j 17:04	14°♄57'01		morning rise	232 Apr 04 j 20:49	4°♁37'48
	227 Jan 10 j 18:35	0°♄		retrograde	232 Aug 14 j 15:24	25°♁01'17
retrograde	227 Feb 16 j 21:03	2°♄04'21		min. Earth dist.	232 Oct 11 j 21:27	20°♁07'40 4.01261 AU
	227 Mar 26 j 07:49	30°♄		opposition	232 Oct 13 j 06:31	19°♁56'24 -1°-33'-12
opposition	227 Apr 18 j 18:01	27°♄12'37	1°25'17	direct	232 Dec 10 j 05:32	14°♁59'56
min. Earth dist.	227 Apr 20 j 04:27	27°♄01'40	4.36620 AU		233 Mar 27 j 07:07	0°♁
direct	227 Jun 20 j 07:15	22°♄12'40		evening set	233 Apr 15 j 06:49	4°♁21'03
	227 Sep 05 j 03:08	0°♄		conjunction	233 Apr 28 j 23:35	7°♁32'58 0°-49'-35
evening set	227 Oct 24 j 04:15	10°♄07'46		minimum elong	233 Apr 28 j 23:38	7°♁33'00 0°49'35
max. Earth dist.	227 Nov 03 j 19:20	12°♄30'56	6.31305 AU	max. Earth dist.	233 May 01 j 03:54	8°♁03'33 6.06114 AU
conjunction	227 Nov 05 j 19:16	12°♄57'56	0°45'15	morning rise	233 May 12 j 18:22	10°♁45'40
minimum elong	227 Nov 05 j 19:18	12°♄57'57	0°45'15		233 May 31 j 08:49	15°♁
	227 Nov 14 j 20:08	15°♄			233 Sep 05 j 12:19	0°♁
morning rise	227 Nov 18 j 09:12	15°♄47'43		retrograde	233 Sep 18 j 18:52	0°♁17'32
	228 Jan 31 j 04:04	0°♄			233 Oct 01 j 23:08	30°♄
retrograde	228 Mar 20 j 23:47	3°♄38'12		min. Earth dist.	233 Nov 16 j 00:36	25°♁23'26 4.12271 AU
	228 May 11 j 03:04	30°♄		opposition	233 Nov 17 j 07:23	25°♁12'57 0°-47'-55
opposition	228 May 20 j 23:17	28°♄45'32	0°42'02	direct	234 Jan 15 j 02:15	20°♁13'23
min. Earth dist.	228 May 22 j 06:46	28°♄35'29	4.25107 AU		234 Apr 09 j 13:16	0°♁
direct	228 Jul 21 j 15:53	23°♄48'06		evening set	234 May 21 j 17:23	9°♁02'32
	228 Sep 26 j 02:05	0°♄		conjunction	234 Jun 04 j 11:52	12°♁09'27 0°-12'-45
evening set	228 Nov 23 j 22:04	12°♄11'13		minimum elong	234 Jun 04 j 11:53	12°♁09'27 0°12'46
max. Earth dist.	228 Dec 05 j 02:33	14°♄46'21	6.18445 AU	behind sun begin	234 Jun 04 j 06:49	12°♁06'36
conjunction	228 Dec 06 j 14:10	15°♄07'00	0°09'09	behind sun end	234 Jun 04 j 16:57	12°♁12'19
minimum elong	228 Dec 06 j 14:11	15°♄07'01	0°09'09	max. Earth dist.	234 Jun 06 j 06:16	12°♁33'28 6.19055 AU
behind sun begin	228 Dec 06 j 07:22	15°♄03'05		morning rise	234 Jun 18 j 06:06	15°♁15'59
behind sun end	228 Dec 06 j 20:59	15°♄10'56			234 Sep 02 j 10:19	0°♁
morning rise	228 Dec 19 j 06:22	18°♄03'11		asc. node	234 Oct 07 j 18:11	3°♁21'39
	229 Feb 13 j 23:45	0°♄		retrograde	234 Oct 21 j 15:50	3°♁40'40
desc. node	229 Mar 05 j 00:32	3°♄03'14			234 Dec 10 j 03:37	30°♄
retrograde	229 Apr 25 j 07:03	6°♄55'05		min. Earth dist.	234 Dec 19 j 11:44	28°♁45'33 4.25781 AU
opposition	229 Jun 25 j 02:40	2°♄00'03	0°-17'-17	opposition	234 Dec 20 j 07:33	28°♁38'53 0°10'55
min. Earth dist.	229 Jun 25 j 21:17	1°♄54'03	4.11753 AU	direct	235 Feb 18 j 08:34	23°♁36'55
	229 Jul 11 j 01:37	30°♄			235 Apr 27 j 02:30	0°♁
direct	229 Aug 24 j 11:29	27°♄05'09		evening set	235 Jun 25 j 10:20	11°♁51'45
	229 Oct 06 j 21:14	0°♄		conjunction	235 Jul 09 j 00:21	14°♁51'14 0°26'46
evening set	229 Dec 27 j 08:58	16°♄02'37		minimum elong	235 Jul 09 j 00:19	14°♁51'13 0°26'46
conjunction	230 Jan 09 j 04:44	19°♄05'23	0°-31'-33	max. Earth dist.	235 Jul 09 j 16:38	15°♁00'12 6.32065 AU
minimum elong	230 Jan 09 j 04:42	19°♄05'22	0°31'34	morning rise	235 Jul 22 j 12:39	17°♁49'36
max. Earth dist.	230 Jan 08 j 15:10	18°♄57'19	6.05790 AU		235 Sep 22 j 10:28	0°♁
morning rise	230 Jan 22 j 02:32	22°♄09'24		retrograde	235 Nov 21 j 20:36	5°♁17'37
	230 Feb 25 j 14:16	0°♁		opposition	236 Jan 20 j 18:25	0°♁19'39 1°03'07
retrograde	230 Jun 01 j 11:40	12°♁04'20		min. Earth dist.	236 Jan 20 j 16:26	0°♁20'18 4.37260 AU
opposition	230 Jul 31 j 22:25	7°♁05'39	-1°-13'-58		236 Jan 23 j 05:52	30°♄
min. Earth dist.	230 Jul 31 j 19:54	7°♁06'29	4.00972 AU	direct	236 Mar 22 j 04:05	25°♁16'30
direct	230 Sep 28 j 21:09	2°♁12'08			236 May 19 j 13:14	0°♁

evening set	236 Jul 27 j 06:53	13°♍05'33		direct	241 Aug 29 j 04:45	1°♌56'40	
	236 Aug 05 j 02:18	15°♍		evening set	242 Jan 01 j 04:19	21°♌01'14	
conjunction	236 Aug 09 j 13:18	15°♍58'08	0°56'55	conjunction	242 Jan 14 j 01:07	24°♌05'19	0°-36'-42
minimum elong	236 Aug 09 j 13:16	15°♍58'07	0°56'55	minimum elong	242 Jan 14 j 01:05	24°♌05'18	0°36'42
max. Earth dist.	236 Aug 09 j 03:30	15°♍52'48	6.41121 AU	max. Earth dist.	242 Jan 13 j 17:03	24°♌00'30	6.03726 AU
morning rise	236 Aug 22 j 16:40	18°♍49'12		morning rise	242 Jan 26 j 23:49	27°♌10'40	
	236 Oct 18 j 16:08	0°♎			242 Feb 07 j 23:47	0°♎	
retrograde	236 Dec 21 j 03:30	5°♎44'13			242 Apr 29 j 13:17	15°♎	
opposition	237 Feb 19 j 10:59	0°♎49'41	1°35'41	retrograde	242 Jun 06 j 20:49	17°♎15'24	
min. Earth dist.	237 Feb 20 j 01:32	0°♎44'58	4.43427 AU		242 Jul 15 j 06:05	15°♎	
	237 Feb 25 j 20:52	30°♎♍		opposition	242 Aug 06 j 04:25	12°♎16'12	-1°-20'-14
direct	237 Apr 22 j 19:02	25°♎46'43		min. Earth dist.	242 Aug 05 j 23:33	12°♎17'49	3.99397 AU
	237 Jun 17 j 07:04	0°♎		direct	242 Oct 03 j 22:56	7°♎22'48	
evening set	237 Aug 27 j 17:30	13°♎23'45			242 Dec 14 j 06:33	15°♎	
max. Earth dist.	237 Sep 08 j 06:33	15°♎53'52	6.43854 AU	evening set	243 Feb 05 j 23:56	26°♎54'01	
					243 Feb 18 j 20:33	0°♏	
conjunction	237 Sep 09 j 15:57	16°♎12'01	1°10'39	conjunction	243 Feb 19 j 03:20	0°♏04'06	-1°-4'-42
minimum elong	237 Sep 09 j 15:56	16°♎12'01	1°10'39	minimum elong	243 Feb 19 j 03:18	0°♏04'04	1°04'43
morning rise	237 Sep 22 j 11:32	18°♎58'55		max. Earth dist.	243 Feb 20 j 01:57	0°♏17'44	5.96917 AU
	237 Nov 17 j 12:00	0°♏		morning rise	243 Mar 04 j 09:56	3°♏15'54	
retrograde	238 Jan 20 j 15:59	5°♏48'32		retrograde	243 Jul 14 j 20:34	23°♏51'55	
opposition	238 Mar 22 j 06:56	0°♏56'13	1°42'09	opposition	243 Sep 12 j 18:16	18°♏48'54	-1°-45'-2
min. Earth dist.	238 Mar 23 j 12:18	0°♏46'49	4.42682 AU	min. Earth dist.	243 Sep 11 j 17:08	18°♏57'22	3.96726 AU
	238 Mar 29 j 15:32	30°♏♎		direct	243 Nov 09 j 16:43	13°♏54'38	
direct	238 May 24 j 01:35	25°♏54'27			244 Feb 28 j 06:16	0°♐	
	238 Jul 17 j 13:38	0°♏		evening set	244 Mar 14 j 05:12	3°♐30'56	
evening set	238 Sep 27 j 11:14	13°♏34'58					
max. Earth dist.	238 Oct 08 j 05:16	15°♏56'45	6.39597 AU	conjunction	244 Mar 27 j 16:34	6°♐43'52	-1°-7'-52
				minimum elong	244 Mar 27 j 16:35	6°♐43'53	1°07'53
conjunction	238 Oct 10 j 04:21	16°♏22'42	1°05'06	max. Earth dist.	244 Mar 29 j 15:25	7°♐11'52	5.98527 AU
minimum elong	238 Oct 10 j 04:23	16°♏22'43	1°05'06	morning rise	244 Apr 10 j 07:00	9°♐58'16	
morning rise	238 Oct 22 j 19:12	19°♏09'29			244 Aug 06 j 19:45	0°♑	
	238 Dec 15 j 18:16	0°♑		retrograde	244 Aug 19 j 18:28	0°♑16'42	
retrograde	239 Feb 21 j 04:54	6°♑21'23			244 Sep 01 j 15:34	30°♑♐	
opposition	239 Apr 23 j 02:40	1°♑29'36	1°20'47	min. Earth dist.	244 Oct 16 j 23:46	25°♑22'58	4.02493 AU
min. Earth dist.	239 Apr 24 j 13:29	1°♑18'30	4.35180 AU	opposition	244 Oct 18 j 09:12	25°♑11'33	-1°-28'-22
	239 May 05 j 00:30	30°♑♏		direct	244 Dec 15 j 10:42	20°♑14'35	
direct	239 Jun 24 j 13:26	26°♏29'54			245 Mar 08 j 06:16	0°♒	
	239 Aug 13 j 05:06	0°♑		evening set	245 Apr 20 j 13:11	9°♒31'29	
evening set	239 Oct 28 j 09:08	14°♑28'54					
	239 Oct 30 j 16:33	15°♑		conjunction	245 May 04 j 06:40	12°♒42'53	0°-45'-1
max. Earth dist.	239 Nov 08 j 01:32	16°♑53'24	6.29425 AU	minimum elong	245 May 04 j 06:43	12°♒42'55	0°45'02
				max. Earth dist.	245 May 06 j 12:31	13°♒14'13	6.07876 AU
conjunction	239 Nov 10 j 00:16	17°♑19'50	0°41'02		245 May 14 j 02:42	15°♒	
minimum elong	239 Nov 10 j 00:18	17°♑19'51	0°41'03	morning rise	245 May 18 j 01:38	15°♒54'51	
morning rise	239 Nov 22 j 14:13	20°♑10'27			245 Jul 25 j 21:38	0°♓	
	240 Jan 08 j 06:56	0°♓		retrograde	245 Sep 23 j 13:37	5°♓16'37	
retrograde	240 Mar 25 j 16:09	8°♓09'39		min. Earth dist.	245 Nov 20 j 20:16	0°♓22'34	4.14330 AU
opposition	240 May 25 j 14:48	3°♓16'50	0°34'38	opposition	245 Nov 22 j 02:35	0°♓12'16	0°-39'-49
min. Earth dist.	240 May 26 j 22:11	3°♓06'49	4.22891 AU		245 Nov 23 j 14:39	30°♓♒	
	240 Jun 22 j 17:39	30°♓♑		direct	246 Jan 20 j 01:12	25°♓12'17	
direct	240 Jul 26 j 03:34	28°♑19'46			246 Mar 17 j 17:36	0°♓	
	240 Aug 28 j 06:17	0°♓		evening set	246 May 26 j 17:52	13°♓55'29	
evening set	240 Nov 28 j 09:03	16°♓49'12					
max. Earth dist.	240 Dec 09 j 14:23	19°♓25'43	6.16077 AU	conjunction	246 Jun 09 j 11:51	17°♓01'15	0°-7'00
				minimum elong	246 Jun 09 j 11:51	17°♓01'15	0°07'00
conjunction	240 Dec 11 j 01:28	19°♓46'10	0°03'37	behind sun begin	246 Jun 09 j 04:09	16°♓56'56	
minimum elong	240 Dec 11 j 01:27	19°♓46'09	0°03'37	behind sun end	246 Jun 09 j 19:33	17°♓05'35	
behind sun begin	240 Dec 10 j 17:31	19°♓41'33		max. Earth dist.	246 Jun 11 j 02:00	17°♓22'46	6.21210 AU
behind sun end	240 Dec 11 j 09:23	19°♓50'45		morning rise	246 Jun 23 j 05:38	20°♓06'36	
morning rise	240 Dec 23 j 18:30	22°♓43'40			246 Aug 09 j 11:13	0°♔	
desc. node	241 Jan 14 j 09:02	27°♓38'06		asc. node	246 Aug 17 j 00:33	1°♔22'28	
	241 Jan 25 j 07:41	0°♔		retrograde	246 Oct 26 j 03:07	8°♔21'24	
retrograde	241 Apr 30 j 08:00	11°♔46'47		opposition	246 Dec 24 j 19:53	3°♔20'04	0°19'04
opposition	241 Jun 30 j 02:07	6°♔51'19	0°-25'-44	min. Earth dist.	246 Dec 24 j 02:45	3°♔25'49	4.27826 AU
min. Earth dist.	241 Jun 30 j 17:45	6°♔46'15	4.09423 AU				

	247 Jan 21 j 03:10	30°RⅡ		minimum elong	252 Dec 15 j 17:28	24°♁36'26	0°02'21
direct	247 Feb 23 j 02:41	28°Ⅱ17'47		behind sun begin	252 Dec 15 j 09:27	24°♁31'47	
	247 Mar 28 j 12:16	0°☾		behind sun end	252 Dec 16 j 01:28	24°♁41'06	
evening set	247 Jun 30 j 03:30	16°☾27'28		morning rise	252 Dec 28 j 11:03	27°♁35'05	
					253 Jan 07 j 22:06	0°♁	
conjunction	247 Jul 13 j 16:42	19°☾25'49	0°31'47	retrograde	253 May 05 j 14:28	16°♁48'03	
minimum elong	247 Jul 13 j 16:39	19°☾25'48	0°31'48	opposition	253 Jul 05 j 06:01	11°♁52'10	0°-34'-22
max. Earth dist.	247 Jul 14 j 06:24	19°☾33'21	6.33849 AU	min. Earth dist.	253 Jul 05 j 19:35	11°♁47'46	4.07636 AU
morning rise	247 Jul 27 j 03:36	22°☾22'55		direct	253 Sep 03 j 04:22	6°♁57'52	
	247 Sep 01 j 16:16	0°♁		evening set	254 Jan 06 j 03:03	26°♁07'11	
retrograde	247 Nov 26 j 02:17	9°♁44'03					
opposition	248 Jan 25 j 02:06	4°♁46'38	1°09'03	conjunction	254 Jan 19 j 00:33	29°♁12'13	0°-41'-45
min. Earth dist.	248 Jan 25 j 02:01	4°♁46'39	4.38667 AU	minimum elong	254 Jan 19 j 00:30	29°♁12'12	0°41'47
	248 Mar 13 j 06:57	30°R☾		max. Earth dist.	254 Jan 18 j 20:16	29°♁09'40	6.02351 AU
direct	248 Mar 26 j 15:17	29°☾43'26			254 Jan 22 j 08:18	0°≈	
	248 Apr 09 j 02:18	0°♁		morning rise	254 Feb 01 j 00:21	2°≈18'38	
	248 Jul 20 j 02:04	15°♁			254 Mar 31 j 08:09	15°≈	
evening set	248 Jul 31 j 18:13	17°♁29'23		retrograde	254 Jun 12 j 04:25	22°≈29'58	
				opposition	254 Aug 11 j 11:44	17°≈30'13	-1°-25'-59
conjunction	248 Aug 13 j 23:17	20°♁21'05	0°59'55	min. Earth dist.	254 Aug 11 j 02:27	17°≈33'18	3.98628 AU
minimum elong	248 Aug 13 j 23:15	20°♁21'04	0°59'55		254 Aug 31 j 08:36	15°R≈	
max. Earth dist.	248 Aug 13 j 08:09	20°♁12'52	6.42036 AU	direct	254 Oct 09 j 01:33	12°≈36'53	
morning rise	248 Aug 27 j 01:36	23°♁11'19			254 Nov 16 j 06:22	15°≈	
	248 Sep 28 j 21:39	0°♁		evening set	255 Feb 02 j 02:39	0°♁	
retrograde	248 Dec 25 j 09:59	10°♁03'34			255 Feb 11 j 04:29	2°♁09'46	
opposition	249 Feb 23 j 17:41	5°♁09'26	1°38'13	conjunction	255 Feb 24 j 08:55	5°♁20'21	-1°-6'-48
min. Earth dist.	249 Feb 24 j 11:38	5°♁03'37	4.43817 AU	minimum elong	255 Feb 24 j 08:53	5°♁20'20	1°06'49
direct	249 Apr 27 j 05:09	0°♁06'30		max. Earth dist.	255 Feb 25 j 12:11	5°♁36'48	5.96814 AU
evening set	249 Sep 01 j 00:53	17°♁42'55		morning rise	255 Mar 09 j 16:31	8°♁32'39	
max. Earth dist.	249 Sep 12 j 10:51	20°♁11'28	6.43676 AU	retrograde	255 Jul 20 j 03:08	29°♁08'17	
				opposition	255 Sep 17 j 23:43	24°♁04'47	-1°-45'-7
conjunction	249 Sep 13 j 22:34	20°♁30'54	1°11'02	min. Earth dist.	255 Sep 16 j 21:00	24°♁13'49	3.97309 AU
minimum elong	249 Sep 13 j 22:33	20°♁30'54	1°11'02	direct	255 Nov 14 j 22:25	19°♁10'12	
morning rise	249 Sep 26 j 17:12	23°♁17'31			256 Feb 09 j 23:26	0°♁	
	249 Oct 28 j 22:02	0°♁		evening set	256 Mar 19 j 10:58	8°♁43'58	
retrograde	250 Jan 24 j 22:40	10°♁08'40					
opposition	250 Mar 26 j 15:39	5°♁16'29	1°40'48	conjunction	256 Apr 01 j 23:24	11°♁56'49	-1°-6'-4
min. Earth dist.	250 Mar 27 j 21:40	5°♁06'53	4.41967 AU	minimum elong	256 Apr 01 j 23:26	11°♁56'50	1°06'04
direct	250 May 28 j 09:11	0°♁14'56		max. Earth dist.	256 Apr 04 j 01:43	12°♁26'46	5.99727 AU
evening set	250 Oct 01 j 18:13	17°♁57'24		morning rise	256 Apr 15 j 14:36	15°♁11'00	
max. Earth dist.	250 Oct 12 j 11:09	20°♁19'01	6.38396 AU		256 Jun 25 j 14:55	0°♁	
				retrograde	256 Aug 24 j 17:56	5°♁22'02	
conjunction	250 Oct 14 j 10:48	20°♁45'23	1°02'45	min. Earth dist.	256 Oct 21 j 22:23	0°♁28'23	4.04171 AU
minimum elong	250 Oct 14 j 10:50	20°♁45'24	1°02'44	opposition	256 Oct 23 j 08:10	0°♁16'52	-1°-23'00
morning rise	250 Oct 27 j 01:18	23°♁32'31			256 Oct 25 j 09:41	30°R♁	
	250 Nov 26 j 10:17	0°♁		direct	256 Dec 20 j 11:16	25°♁19'31	
retrograde	251 Feb 25 j 19:04	10°♁49'57			257 Feb 13 j 09:34	0°♁	
opposition	251 Apr 27 j 16:29	5°♁58'10	1°15'37	evening set	257 Apr 25 j 15:35	14°♁31'04	
min. Earth dist.	251 Apr 29 j 04:29	5°♁46'43	4.33553 AU		257 Apr 27 j 17:47	15°♁	
direct	251 Jun 29 j 01:51	0°♁58'48					
	251 Oct 14 j 12:59	15°♁		conjunction	257 May 09 j 09:15	17°♁41'42	0°-40'-17
evening set	251 Nov 01 j 18:55	19°♁02'00		minimum elong	257 May 09 j 09:17	17°♁41'44	0°40'18
max. Earth dist.	251 Nov 12 j 11:00	21°♁26'59	6.27507 AU	max. Earth dist.	257 May 11 j 12:28	18°♁11'21	6.09853 AU
				morning rise	257 May 23 j 04:29	20°♁52'50	
conjunction	251 Nov 14 j 10:03	21°♁53'42	0°36'23		257 Jul 04 j 01:46	0°♁	
minimum elong	251 Nov 14 j 10:05	21°♁53'43	0°36'23	retrograde	257 Sep 28 j 03:30	10°♁04'30	
morning rise	251 Nov 27 j 00:22	24°♁45'14		opposition	257 Nov 26 j 17:35	5°♁00'28	0°-31'-46
	251 Dec 20 j 18:40	0°♁		min. Earth dist.	257 Nov 25 j 12:49	5°♁10'14	4.16395 AU
retrograde	252 Mar 30 j 12:49	12°♁53'15		direct	258 Jan 24 j 20:49	0°♁00'05	
opposition	252 May 30 j 11:31	8°♁00'09	0°26'36	evening set	258 May 31 j 14:01	18°♁37'49	
min. Earth dist.	252 May 31 j 16:33	7°♁50'51	4.20819 AU				
direct	252 Jul 30 j 18:56	3°♁03'27					
desc. node	252 Nov 23 j 18:00	19°♁30'18		conjunction	258 Jun 14 j 07:44	21°♁42'35	0°-1'-22
evening set	252 Dec 03 j 00:29	21°♁38'25		minimum elong	258 Jun 14 j 07:43	21°♁42'35	0°01'24
max. Earth dist.	252 Dec 14 j 10:50	24°♁18'31	6.14054 AU	behind sun begin	258 Jun 13 j 23:22	21°♁37'55	
				behind sun end	258 Jun 14 j 16:05	21°♁47'15	
conjunction	252 Dec 15 j 17:27	24°♁36'26	0°-2'-19	max. Earth dist.	258 Jun 15 j 19:22	22°♁02'36	6.23209 AU

asc. node	258 Jun 27 j 14:44	24° Π 41'13		evening set	264 Dec 07 j 16:42	26° \mathcal{A} 30'09	
morning rise	258 Jun 28 j 00:38	24° Π 46'44		max. Earth dist.	264 Dec 19 j 06:10	29° \mathcal{A} 12'40	6.12364 AU
		258 Jul 22 j 01:08	0° \mathcal{E}				
retrograde	258 Oct 30 j 11:44	12° \mathcal{E} 52'49		conjunction	264 Dec 20 j 10:06	29° \mathcal{A} 29'04	0°-8'-10
opposition	258 Dec 29 j 04:38	7° \mathcal{E} 52'06	0°26'50	minimum elong	264 Dec 20 j 10:05	29° \mathcal{A} 29'04	0°08'10
min. Earth dist.	258 Dec 28 j 14:01	7° \mathcal{E} 57'00	4.29587 AU	behind sun begin	264 Dec 20 j 02:57	29° \mathcal{A} 24'53	
direct	259 Feb 27 j 15:52	2° \mathcal{E} 49'41		behind sun end	264 Dec 20 j 17:14	29° \mathcal{A} 33'14	
evening set	259 Jul 04 j 17:26	20° \mathcal{E} 55'30			264 Dec 22 j 14:45	0° \mathcal{E}	
				morning rise	265 Jan 02 j 04:28	2° \mathcal{E} 28'44	
conjunction	259 Jul 18 j 05:30	23° \mathcal{E} 52'51	0°36'29	retrograde	265 May 10 j 17:07	21° \mathcal{E} 49'56	
minimum elong	259 Jul 18 j 05:28	23° \mathcal{E} 52'50	0°36'29	opposition	265 Jul 10 j 09:23	16° \mathcal{E} 53'31	0°-42'-44
max. Earth dist.	259 Jul 18 j 13:36	23° \mathcal{E} 57'17	6.35227 AU	min. Earth dist.	265 Jul 10 j 18:58	16° \mathcal{E} 50'23	4.06250 AU
morning rise	259 Jul 31 j 15:28	26° \mathcal{E} 48'57		direct	265 Sep 08 j 02:14	11° \mathcal{E} 59'25	
	259 Aug 15 j 11:00	0° Ω			266 Jan 05 j 23:59	0° \approx	
retrograde	259 Nov 30 j 07:45	14° Ω 05'04		evening set	266 Jan 11 j 01:23	1° \approx 12'03	
opposition	260 Jan 29 j 07:55	9° Ω 08'10	1°14'29				
min. Earth dist.	260 Jan 29 j 10:59	9° Ω 07'10	4.39599 AU	conjunction	266 Jan 23 j 23:40	4° \approx 17'51	0°-46'-28
direct	260 Mar 31 j 00:41	4° Ω 04'56		minimum elong	266 Jan 23 j 23:37	4° \approx 17'49	0°46'29
	260 Jul 03 j 05:02	15° Ω		max. Earth dist.	266 Jan 24 j 00:07	4° \approx 18'07	6.01378 AU
evening set	260 Aug 05 j 03:13	21° Ω 49'24		morning rise	266 Feb 06 j 00:21	7° \approx 25'05	
					266 Mar 11 j 00:07	15° \approx	
conjunction	260 Aug 18 j 07:22	24° Ω 40'32	1°02'32	retrograde	266 Jun 17 j 11:51	27° \approx 41'19	
minimum elong	260 Aug 18 j 07:20	24° Ω 40'30	1°02'32	opposition	266 Aug 16 j 17:16	22° \approx 40'57	-1°-30'-59
max. Earth dist.	260 Aug 17 j 13:59	24° Ω 31'05	6.42454 AU	min. Earth dist.	266 Aug 16 j 05:50	22° \approx 44'45	3.98170 AU
morning rise	260 Aug 31 j 08:23	27° Ω 30'08		direct	266 Oct 14 j 05:26	17° \approx 47'30	
	260 Sep 12 j 01:04	0° \mathcal{M}			267 Jan 15 j 13:56	0° \mathcal{K}	
retrograde	260 Dec 29 j 14:27	14° \mathcal{M} 21'27		evening set	267 Feb 16 j 07:11	7° \mathcal{K} 21'02	
opposition	261 Feb 27 j 23:43	9° \mathcal{M} 27'44	1°40'12				
min. Earth dist.	261 Feb 28 j 19:09	9° \mathcal{M} 21'27	4.43726 AU	conjunction	267 Mar 01 j 12:45	10° \mathcal{K} 32'03	-1°-8'-22
direct	261 May 01 j 11:44	4° \mathcal{M} 25'00		minimum elong	267 Mar 01 j 12:44	10° \mathcal{K} 32'03	1°08'23
evening set	261 Sep 05 j 08:00	22° \mathcal{M} 02'19		max. Earth dist.	267 Mar 02 j 20:40	10° \mathcal{K} 51'17	5.96901 AU
max. Earth dist.	261 Sep 16 j 13:43	24° \mathcal{M} 28'55	6.43077 AU	morning rise	267 Mar 14 j 21:24	13° \mathcal{K} 44'45	
					267 Jun 01 j 18:13	0° \mathcal{V}	
conjunction	261 Sep 18 j 04:41	24° \mathcal{M} 50'10	1°11'01	retrograde	267 Jul 25 j 07:07	4° \mathcal{V} 19'03	
minimum elong	261 Sep 18 j 04:41	24° \mathcal{M} 50'10	1°11'01		267 Sep 17 j 13:38	30° \mathcal{R} \mathcal{K}	
morning rise	261 Sep 30 j 22:43	27° \mathcal{M} 36'46		min. Earth dist.	267 Sep 21 j 22:14	29° \mathcal{K} 24'46	3.97959 AU
	261 Oct 12 j 01:16	0° \mathcal{L}		opposition	267 Sep 23 j 02:33	29° \mathcal{K} 15'11	-1°-44'-24
retrograde	262 Jan 29 j 08:46	14° \mathcal{L} 30'51		direct	267 Nov 20 j 00:06	24° \mathcal{K} 20'17	
opposition	262 Mar 31 j 01:11	9° \mathcal{L} 38'52	1°38'53		268 Jan 19 j 08:20	0° \mathcal{V}	
min. Earth dist.	262 Apr 01 j 09:20	9° \mathcal{L} 28'36	4.40910 AU	evening set	268 Mar 24 j 14:56	13° \mathcal{V} 51'37	
direct	262 Jun 01 j 18:59	4° \mathcal{L} 37'34					
evening set	262 Oct 06 j 01:46	22° \mathcal{L} 22'57		conjunction	268 Apr 07 j 04:09	17° \mathcal{V} 04'19	-1°-3'-47
max. Earth dist.	262 Oct 16 j 18:12	24° \mathcal{L} 44'46	6.36967 AU	minimum elong	268 Apr 07 j 04:11	17° \mathcal{V} 04'21	1°03'47
				max. Earth dist.	268 Apr 09 j 06:07	17° \mathcal{V} 33'58	6.00851 AU
conjunction	262 Oct 18 j 18:06	25° \mathcal{L} 11'22	1°00'01	morning rise	268 Apr 20 j 20:18	20° \mathcal{V} 18'21	
minimum elong	262 Oct 18 j 18:08	25° \mathcal{L} 11'23	1°00'01		268 Jun 03 j 09:18	0° \mathcal{S}	
morning rise	262 Oct 31 j 08:21	27° \mathcal{L} 58'59		retrograde	268 Aug 29 j 13:56	10° \mathcal{S} 22'24	
	262 Nov 09 j 13:01	0° \mathcal{M}		min. Earth dist.	268 Oct 26 j 18:52	5° \mathcal{S} 28'46	4.05640 AU
	263 Feb 14 j 19:40	15° \mathcal{M}		opposition	268 Oct 28 j 04:44	5° \mathcal{S} 17'12	-1°-17'-10
retrograde	263 Mar 02 j 09:14	15° \mathcal{M} 22'42		direct	268 Dec 25 j 10:35	0° \mathcal{S} 19'22	
	263 Mar 18 j 00:18	15° \mathcal{R} \mathcal{M}			269 Apr 11 j 00:11	15° \mathcal{S}	
opposition	263 May 02 j 07:44	10° \mathcal{M} 30'49	1°09'57	evening set	269 Apr 30 j 16:33	19° \mathcal{S} 26'39	
min. Earth dist.	263 May 03 j 18:14	10° \mathcal{M} 19'50	4.31851 AU				
direct	263 Jul 03 j 12:56	5° \mathcal{M} 31'51		conjunction	269 May 14 j 10:44	22° \mathcal{S} 36'43	0°-35'-21
	263 Sep 26 j 17:09	15° \mathcal{M}		minimum elong	269 May 14 j 10:46	22° \mathcal{S} 36'44	0°35'21
evening set	263 Nov 06 j 05:45	23° \mathcal{M} 39'13		max. Earth dist.	269 May 16 j 13:03	23° \mathcal{S} 05'44	6.11560 AU
max. Earth dist.	263 Nov 17 j 00:25	26° \mathcal{M} 06'17	6.25682 AU	morning rise	269 May 28 j 05:54	25° \mathcal{S} 47'03	
					269 Jun 16 j 00:15	0° \mathcal{I}	
conjunction	263 Nov 18 j 20:55	26° \mathcal{M} 31'41	0°31'27	retrograde	269 Oct 02 j 18:37	14° \mathcal{I} 49'45	
minimum elong	263 Nov 18 j 20:57	26° \mathcal{M} 31'42	0°31'27	min. Earth dist.	269 Nov 30 j 05:06	9° \mathcal{I} 55'07	4.18146 AU
morning rise	263 Dec 01 j 11:28	29° \mathcal{M} 24'05		opposition	269 Dec 01 j 07:41	9° \mathcal{I} 46'05	0°-23'-35
	263 Dec 04 j 02:54	0° \mathcal{A}		direct	270 Jan 29 j 15:20	4° \mathcal{I} 45'22	
retrograde	264 Apr 04 j 12:33	17° \mathcal{A} 40'31		asc. node	270 May 07 j 23:36	17° \mathcal{I} 09'49	
opposition	264 Jun 04 j 09:42	12° \mathcal{A} 47'07	0°18'18	evening set	270 Jun 05 j 09:50	23° \mathcal{I} 18'46	
min. Earth dist.	264 Jun 05 j 13:40	12° \mathcal{A} 38'09	4.18979 AU				
direct	264 Aug 04 j 13:40	7° \mathcal{A} 50'47		conjunction	270 Jun 19 j 03:02	26° \mathcal{I} 22'38	0°04'19
desc. node	264 Oct 03 j 04:33	13° \mathcal{A} 01'15		minimum elong	270 Jun 19 j 03:01	26° \mathcal{I} 22'37	0°04'19

behind sun begin	270 Jun 18 j 18:49	26°II18'03		opposition	276 Jun 09 j 06:36	17°♄31'13	0°10'01
behind sun end	270 Jun 19 j 11:12	26°II27'10		min. Earth dist.	276 Jun 10 j 07:34	17°♄23'13	4.17618 AU
max. Earth dist.	270 Jun 20 j 10:35	26°II40'16	6.24861 AU	direct	276 Aug 09 j 05:36	12°♄35'18	
morning rise	270 Jul 02 j 19:22	29°II25'47		desc. node	276 Aug 14 j 01:54	12°♄37'32	
	270 Jul 05 j 09:10	0°♅			276 Dec 06 j 17:58	0°♄	
retrograde	270 Nov 03 j 19:44	17°♅24'28		evening set	276 Dec 12 j 07:22	1°♄17'34	
opposition	271 Jan 02 j 13:51	12°♅24'14	0°34'26	max. Earth dist.	276 Dec 24 j 00:40	4°♄02'46	6.11142 AU
min. Earth dist.	271 Jan 02 j 01:14	12°♅28'27	4.31014 AU				
direct	271 Mar 04 j 04:30	7°♅21'35		conjunction	276 Dec 25 j 01:07	4°♄17'11	0°-13'-47
evening set	271 Jul 09 j 07:51	25°♅24'31		minimum elong	276 Dec 25 j 01:06	4°♄17'10	0°13'48
				behind sun begin	276 Dec 24 j 20:43	4°♄14'36	
conjunction	271 Jul 22 j 19:01	28°♅21'01	0°40'59	behind sun end	276 Dec 25 j 05:30	4°♄19'45	
minimum elong	271 Jul 22 j 18:58	28°♅21'00	0°40'59	morning rise	277 Jan 06 j 20:06	7°♄17'39	
max. Earth dist.	271 Jul 22 j 23:54	28°♅23'42	6.36332 AU	retrograde	277 May 15 j 19:16	26°♄45'37	
	271 Jul 30 j 07:53	0°♄		opposition	277 Jul 15 j 10:19	21°♄48'42	0°-50'-33
morning rise	271 Aug 05 j 03:42	1°♄16'10		min. Earth dist.	277 Jul 15 j 17:51	21°♄46'14	4.05262 AU
	271 Oct 17 j 10:20	15°♄		direct	277 Sep 13 j 00:24	16°♄54'47	
retrograde	271 Dec 04 j 14:21	18°♄28'05			277 Dec 20 j 07:49	0°♄	
	272 Jan 22 j 05:26	15°♄		evening set	278 Jan 15 j 20:47	6°♄09'32	
opposition	272 Feb 02 j 15:00	13°♄31'44	1°19'34				
min. Earth dist.	272 Feb 02 j 20:31	13°♄29'56	4.40324 AU	conjunction	278 Jan 28 j 19:54	9°♄15'58	0°-50'-41
direct	272 Apr 04 j 10:51	8°♄28'33		minimum elong	278 Jan 28 j 19:52	9°♄15'57	0°50'42
	272 Jun 13 j 14:08	15°♄		max. Earth dist.	278 Jan 29 j 00:35	9°♄18'47	6.00713 AU
evening set	272 Aug 09 j 13:42	26°♄11'59		morning rise	278 Feb 10 j 21:29	12°♄23'54	
					278 Feb 21 j 21:31	15°♄	
conjunction	272 Aug 22 j 16:40	29°♄02'33	1°04'51		278 May 11 j 09:32	0°♄	
minimum elong	272 Aug 22 j 16:38	29°♄02'32	1°04'52	retrograde	278 Jun 22 j 15:00	2°♄43'48	
max. Earth dist.	272 Aug 21 j 18:51	28°♄50'42	6.42737 AU		278 Aug 03 j 22:57	30°♄	
	272 Aug 27 j 02:30	0°♄		opposition	278 Aug 21 j 18:48	27°♄42'58	-1°-35'-6
morning rise	272 Sep 04 j 16:45	1°♄51'38		min. Earth dist.	278 Aug 21 j 05:02	27°♄47'34	3.97931 AU
retrograde	273 Jan 02 j 22:07	18°♄42'24		direct	278 Oct 19 j 03:33	22°♄49'29	
opposition	273 Mar 04 j 07:41	13°♄49'02	1°41'41		278 Dec 26 j 22:20	0°♄	
min. Earth dist.	273 Mar 05 j 05:17	13°♄42'03	4.43592 AU	evening set	279 Feb 21 j 06:45	12°♄23'22	
direct	273 May 05 j 21:00	8°♄46'28					
evening set	273 Sep 09 j 16:09	26°♄24'30		conjunction	279 Mar 06 j 13:10	15°♄34'44	-1°-9'-21
max. Earth dist.	273 Sep 20 j 21:12	28°♄50'58	6.42551 AU	minimum elong	279 Mar 06 j 13:10	15°♄34'44	1°09'22
				max. Earth dist.	279 Mar 07 j 22:19	15°♄54'41	5.97080 AU
conjunction	273 Sep 22 j 12:13	29°♄12'18	1°10'38	morning rise	279 Mar 19 j 23:00	18°♄47'50	
minimum elong	273 Sep 22 j 12:14	29°♄12'18	1°10'37		279 May 09 j 04:47	0°♄	
	273 Sep 26 j 03:30	0°♄		retrograde	279 Jul 30 j 05:36	9°♄20'35	
morning rise	273 Oct 05 j 05:23	1°♄58'47		min. Earth dist.	279 Sep 26 j 19:27	4°♄26'27	3.98550 AU
retrograde	274 Feb 02 j 18:12	18°♄55'35		opposition	279 Sep 28 j 01:02	4°♄16'25	-1°-42'-57
opposition	274 Apr 04 j 12:21	14°♄03'46	1°36'25		279 Nov 05 j 13:41	30°♄	
min. Earth dist.	274 Apr 05 j 20:13	13°♄53'36	4.40051 AU	direct	279 Nov 24 j 22:18	29°♄21'11	
direct	274 Jun 06 j 04:30	9°♄02'52			279 Dec 14 j 09:03	0°♄	
evening set	274 Oct 10 j 10:10	26°♄50'10		evening set	280 Mar 29 j 15:23	18°♄50'49	
max. Earth dist.	274 Oct 21 j 01:51	29°♄12'03	6.35851 AU				
				conjunction	280 Apr 12 j 05:42	22°♄03'33	-1°-1'-8
conjunction	274 Oct 23 j 01:57	29°♄38'51	0°56'58	minimum elong	280 Apr 12 j 05:44	22°♄03'35	1°01'09
minimum elong	274 Oct 23 j 01:59	29°♄38'52	0°56'58	max. Earth dist.	280 Apr 14 j 09:13	22°♄34'02	6.01812 AU
	274 Oct 24 j 15:54	0°♄		morning rise	280 Apr 25 j 22:27	25°♄17'26	
morning rise	274 Nov 04 j 16:04	2°♄26'52			280 May 16 j 09:36	0°♄	
	275 Jan 07 j 08:41	15°♄			280 Aug 21 j 21:24	15°♄	
retrograde	275 Mar 07 j 01:49	19°♄55'55		retrograde	280 Sep 03 j 09:46	15°♄15'31	
opposition	275 May 06 j 23:47	15°♄03'56	1°03'52		280 Sep 15 j 18:51	15°♄	
	275 May 07 j 12:08	15°♄		opposition	280 Nov 01 j 22:19	10°♄10'26	-1°-11'-2
min. Earth dist.	275 May 08 j 10:18	14°♄52'56	4.30538 AU	min. Earth dist.	280 Oct 31 j 13:51	10°♄21'31	4.06856 AU
direct	275 Jul 08 j 03:15	10°♄05'21		direct	280 Dec 30 j 07:04	5°♄12'13	
	275 Sep 05 j 04:25	15°♄			281 Mar 23 j 23:21	15°♄	
evening set	275 Nov 10 j 16:18	28°♄15'27		evening set	281 May 05 j 15:00	24°♄16'27	
	275 Nov 18 j 07:51	0°♄					
max. Earth dist.	275 Nov 21 j 13:05	0°♄44'10	6.24295 AU	conjunction	281 May 19 j 09:24	27°♄26'02	0°-30'-19
				minimum elong	281 May 19 j 09:26	27°♄26'03	0°30'19
conjunction	275 Nov 23 j 07:37	1°♄08'31	0°26'24	max. Earth dist.	281 May 21 j 09:45	27°♄53'49	6.12933 AU
minimum elong	275 Nov 23 j 07:39	1°♄08'32	0°26'23		281 May 30 j 13:57	0°♄	
morning rise	275 Dec 05 j 22:24	4°♄01'37		morning rise	281 Jun 02 j 04:44	0°♄35'48	
retrograde	276 Apr 09 j 08:20	22°♄24'58		retrograde	281 Oct 07 j 05:58	19°♄31'00	

opposition	281 Dec 05 j 19:50	14°II27'44	0°-15'-31		287 Nov 02 j 12:22	0°♁	
min. Earth dist.	281 Dec 04 j 18:05	14°II36'28	4.19556 AU	evening set	287 Nov 15 j 02:10	2°♁49'52	
direct	282 Feb 03 j 05:54	9°II26'42		max. Earth dist.	287 Nov 25 j 23:51	5°♁19'45	6.22584 AU
asc. node	282 Mar 19 j 07:44	12°II24'04					
evening set	282 Jun 10 j 04:16	27°II57'05		conjunction	287 Nov 27 j 17:30	5°♁43'41	0°21'09
	282 Jun 19 j 09:13	0°♁		minimum elong	287 Nov 27 j 17:31	5°♁43'42	0°21'10
				morning rise	287 Dec 10 j 08:45	8°♁37'40	
conjunction	282 Jun 23 j 20:57	1°♁00'08	0°09'45	retrograde	288 Apr 14 j 06:29	27°♁09'23	
minimum elong	282 Jun 23 j 20:56	1°♁00'08	0°09'45	opposition	288 Jun 14 j 03:46	22°♁15'13	0°01'35
behind sun begin	282 Jun 23 j 14:12	0°♁56'23		min. Earth dist.	288 Jun 15 j 03:27	22°♁07'37	4.15813 AU
behind sun end	282 Jun 24 j 03:41	1°♁03'53		desc. node	288 Jun 24 j 13:04	20°♁56'02	
max. Earth dist.	282 Jun 25 j 01:04	1°♁15'50	6.26220 AU	direct	288 Aug 13 j 23:22	17°♁19'34	
morning rise	282 Jul 07 j 12:31	4°♁02'23			288 Nov 20 j 02:39	0°♁	
retrograde	282 Nov 08 j 04:46	21°♁54'44		evening set	288 Dec 16 j 22:51	6°♁06'30	
opposition	283 Jan 06 j 22:19	16°♁55'01	0°41'41				
min. Earth dist.	283 Jan 06 j 12:33	16°♁58'16	4.32218 AU	conjunction	288 Dec 29 j 17:18	9°♁07'07	0°-19'-25
direct	283 Mar 08 j 17:35	11°♁52'14		minimum elong	288 Dec 29 j 17:17	9°♁07'06	0°19'26
evening set	283 Jul 13 j 21:29	29°♁52'46		max. Earth dist.	288 Dec 28 j 20:27	8°♁54'48	6.09415 AU
	283 Jul 14 j 10:48	0°♁		morning rise	289 Jan 11 j 12:59	12°♁08'39	
					289 Apr 17 j 05:13	0°♁	
conjunction	283 Jul 27 j 07:39	2°♁48'28	0°45'12	retrograde	289 May 20 j 23:05	1°♁45'11	
minimum elong	283 Jul 27 j 07:37	2°♁48'27	0°45'11		289 Jun 23 j 18:35	30°R♁	
max. Earth dist.	283 Jul 27 j 09:14	2°♁49'19	6.37287 AU	opposition	289 Jul 20 j 12:39	26°♁47'48	0°-58'-14
morning rise	283 Aug 09 j 15:15	5°♁42'46		min. Earth dist.	289 Jul 20 j 17:25	26°♁46'14	4.03785 AU
	283 Sep 24 j 06:53	15°♁		direct	289 Sep 17 j 21:40	21°♁54'03	
retrograde	283 Dec 08 j 19:22	22°♁50'51			289 Dec 01 j 05:50	0°♁	
opposition	284 Feb 06 j 21:47	17°♁54'52	1°24'07	evening set	290 Jan 20 j 19:22	11°♁13'01	
min. Earth dist.	284 Feb 07 j 04:52	17°♁52'33	4.40992 AU				
	284 Mar 01 j 17:42	15°R♁		conjunction	290 Feb 02 j 19:17	14°♁20'19	0°-54'-39
direct	284 Apr 08 j 19:49	12°♁51'40		minimum elong	290 Feb 02 j 19:14	14°♁20'18	0°54'39
	284 May 17 j 08:41	15°♁		max. Earth dist.	290 Feb 03 j 02:40	14°♁24'46	5.99604 AU
	284 Aug 11 j 08:14	0°♁			290 Feb 05 j 13:13	15°♁	
evening set	284 Aug 13 j 23:04	0°♁33'46		morning rise	290 Feb 15 j 22:04	17°♁29'14	
max. Earth dist.	284 Aug 26 j 01:48	3°♁11'08	6.43058 AU		290 Apr 13 j 23:12	0°♁	
				retrograde	290 Jun 27 j 20:14	7°♁54'22	
conjunction	284 Aug 27 j 01:01	3°♁23'45	1°06'46	opposition	290 Aug 26 j 23:27	2°♁53'00	-1°-38'-40
minimum elong	284 Aug 27 j 00:59	3°♁23'44	1°06'46	min. Earth dist.	290 Aug 26 j 06:45	2°♁58'35	3.97323 AU
morning rise	284 Sep 08 j 23:53	6°♁12'15			290 Sep 19 j 02:50	30°R♁	
retrograde	285 Jan 07 j 04:07	23°♁02'09		direct	290 Oct 24 j 05:09	27°♁59'21	
opposition	285 Mar 08 j 15:02	18°♁09'01	1°42'35		290 Nov 28 j 00:18	0°♁	
min. Earth dist.	285 Mar 09 j 14:11	18°♁01'34	4.43541 AU	evening set	291 Feb 26 j 10:31	17°♁35'02	
direct	285 May 10 j 06:11	13°♁06'37					
	285 Sep 10 j 12:40	0°♁		conjunction	291 Mar 11 j 18:17	20°♁46'59	-1°-9'-50
evening set	285 Sep 13 j 23:10	0°♁44'39		minimum elong	291 Mar 11 j 18:17	20°♁46'59	1°09'50
max. Earth dist.	285 Sep 25 j 00:23	3°♁09'18	6.42091 AU	max. Earth dist.	291 Mar 13 j 08:08	21°♁09'45	5.97036 AU
				morning rise	291 Mar 25 j 05:06	24°♁00'35	
conjunction	285 Sep 26 j 18:19	3°♁32'15	1°09'50		291 Apr 19 j 23:18	0°♁	
minimum elong	285 Sep 26 j 18:20	3°♁32'15	1°09'50	retrograde	291 Aug 04 j 11:02	14°♁32'10	
morning rise	285 Oct 09 j 10:57	6°♁18'41		min. Earth dist.	291 Oct 01 j 21:42	9°♁37'59	3.99085 AU
retrograde	286 Feb 07 j 03:52	23°♁17'52		opposition	291 Oct 03 j 03:45	9°♁27'47	-1°-40'-39
opposition	286 Apr 08 j 22:27	18°♁26'01	1°33'23	direct	291 Nov 30 j 01:53	4°♁32'14	
min. Earth dist.	286 Apr 10 j 07:28	18°♁15'29	4.39184 AU	evening set	292 Apr 03 j 20:49	24°♁00'14	
direct	286 Jun 10 j 14:22	13°♁25'17					
	286 Oct 09 j 01:57	0°♁		conjunction	292 Apr 17 j 11:57	27°♁12'54	0°-57'-55
evening set	286 Oct 14 j 17:00	1°♁14'25		minimum elong	292 Apr 17 j 12:00	27°♁12'55	0°57'55
max. Earth dist.	286 Oct 25 j 09:25	3°♁37'05	6.34631 AU	max. Earth dist.	292 Apr 19 j 16:23	27°♁43'48	6.02882 AU
					292 Apr 29 j 08:03	0°♁	
conjunction	286 Oct 27 j 08:40	4°♁03'29	0°53'36	morning rise	292 May 01 j 05:34	0°♁26'37	
minimum elong	286 Oct 27 j 08:42	4°♁03'30	0°53'36		292 Jul 10 j 14:23	15°♁	
morning rise	286 Nov 08 j 22:30	6°♁51'54		retrograde	292 Sep 08 j 06:17	20°♁17'36	
	286 Dec 17 j 09:43	15°♁		min. Earth dist.	292 Nov 05 j 09:57	15°♁24'01	4.08367 AU
retrograde	287 Mar 11 j 15:20	24°♁26'39		opposition	292 Nov 06 j 19:16	15°♁12'39	-1°-4'-8
opposition	287 May 11 j 14:42	19°♁34'29	0°57'25		292 Nov 08 j 08:23	15°R♁	
min. Earth dist.	287 May 13 j 00:10	19°♁23'49	4.29015 AU	direct	293 Jan 04 j 05:44	10°R♁14'05	
	287 Jun 26 j 13:01	15°R♁			293 Mar 01 j 03:57	15°♁	
direct	287 Jul 12 j 14:35	14°♁36'15		evening set	293 May 10 j 17:22	29°♁14'06	
	287 Jul 28 j 17:24	15°♁			293 May 14 j 01:57	0°♁	

conjunction	293 May 24 j 11:53	2°♄22'56	0°-24'-54	direct	299 Jul 17 j 00:29	19°♃02'01	
minimum elong	293 May 24 j 11:55	2°♄22'57	0°24'55		299 Oct 16 j 21:57	0°♂	
max. Earth dist.	293 May 26 j 10:17	2°♄49'29	6.14793 AU	evening set	299 Nov 19 j 10:19	7°♂21'03	
morning rise	293 Jun 07 j 07:01	5°♄31'46		max. Earth dist.	299 Nov 30 j 10:41	9°♂53'09	6.20359 AU
retrograde	293 Oct 11 j 20:47	24°♄17'24					
min. Earth dist.	293 Dec 09 j 10:49	19°♄22'30	4.21581 AU	conjunction	299 Dec 02 j 02:08	10°♂15'56	0°15'54
opposition	293 Dec 10 j 10:20	19°♄14'33	0°-7'-10	minimum elong	299 Dec 02 j 02:09	10°♂15'56	0°15'55
asc. node	294 Jan 27 j 09:08	14°♄26'43		behind sun begin	299 Dec 02 j 00:24	10°♂14'56	
direct	294 Feb 08 j 01:54	14°♄13'14		behind sun end	299 Dec 02 j 03:54	10°♂16'57	
	294 Jun 02 j 22:57	0°♄		morning rise	299 Dec 14 j 17:45	13°♂11'02	
evening set	294 Jun 15 j 00:03	2°♄38'12			300 Mar 14 j 22:51	0°♂	
				retrograde	300 Apr 19 j 04:06	1°♂53'09	
conjunction	294 Jun 28 j 16:05	5°♄40'06	0°15'12	desc. node	300 May 06 j 02:32	1°♂26'17	
minimum elong	294 Jun 28 j 16:04	5°♄40'05	0°15'13		300 May 24 j 15:01	30°♃♂	
behind sun begin	294 Jun 28 j 13:50	5°♄38'51		opposition	300 Jun 19 j 00:07	26°♂58'41	0°-6'-44
behind sun end	294 Jun 28 j 18:18	5°♄41'19		min. Earth dist.	300 Jun 19 j 22:08	26°♂51'36	4.13479 AU
max. Earth dist.	294 Jun 29 j 18:18	5°♄54'40	6.28265 AU	direct	300 Aug 18 j 14:19	22°♂03'21	
morning rise	294 Jul 12 j 06:37	8°♄41'03			300 Nov 01 j 08:52	0°♂	
retrograde	294 Nov 12 j 10:39	26°♄24'43		evening set	300 Dec 21 j 14:49	10°♂57'12	
opposition	295 Jan 11 j 06:56	21°♄25'31	0°48'40				
min. Earth dist.	295 Jan 10 j 22:19	21°♄28'23	4.34127 AU	conjunction	301 Jan 03 j 09:52	13°♂59'04	0°-24'-52
direct	295 Mar 13 j 05:44	16°♄22'38		minimum elong	301 Jan 03 j 09:50	13°♂59'03	0°24'54
	295 Jun 28 j 03:33	0°♃		max. Earth dist.	301 Jan 02 j 15:09	13°♂47'58	6.07170 AU
evening set	295 Jul 18 j 10:06	4°♃18'21		morning rise	301 Jan 16 j 06:39	17°♂02'02	
					301 Mar 17 j 20:48	0°♂	
conjunction	295 Jul 31 j 18:58	7°♃12'52	0°49'05	retrograde	301 May 26 j 04:48	6°♂49'22	
minimum elong	295 Jul 31 j 18:55	7°♃12'51	0°49'05	opposition	301 Jul 25 j 16:21	1°♂51'24	-1°-5'-29
max. Earth dist.	295 Jul 31 j 16:33	7°♃11'33	6.38909 AU	min. Earth dist.	301 Jul 25 j 17:39	1°♂50'58	4.01848 AU
morning rise	295 Aug 14 j 01:16	10°♃05'59			301 Aug 09 j 04:49	30°♃♂	
	295 Sep 06 j 05:20	15°♃		direct	301 Sep 22 j 19:54	26°♂57'45	
retrograde	295 Dec 12 j 23:36	27°♃08'24			301 Nov 05 j 10:29	0°♂	
opposition	296 Feb 11 j 02:55	22°♃12'55	1°28'04		302 Jan 20 j 01:26	15°♂	
min. Earth dist.	296 Feb 11 j 13:10	22°♃09'35	4.42219 AU	evening set	302 Jan 25 j 19:58	16°♂22'40	
direct	296 Apr 13 j 05:50	17°♃09'46					
	296 Jul 26 j 08:03	0°♄		conjunction	302 Feb 07 j 21:08	19°♂31'09	0°-58'-11
evening set	296 Aug 18 j 05:41	4°♄48'50		minimum elong	302 Feb 07 j 21:06	19°♂31'08	0°58'12
max. Earth dist.	296 Aug 30 j 03:30	7°♄23'26	6.43769 AU	max. Earth dist.	302 Feb 08 j 10:43	19°♂39'21	5.98169 AU
				morning rise	302 Feb 21 j 00:59	22°♂41'13	
conjunction	296 Aug 31 j 06:32	7°♄38'06	1°08'16		302 Mar 24 j 15:11	0°♄	
minimum elong	296 Aug 31 j 06:31	7°♄38'05	1°08'15	retrograde	302 Jul 03 j 06:28	13°♄12'28	
morning rise	296 Sep 13 j 04:20	10°♄25'54		min. Earth dist.	302 Aug 31 j 11:44	8°♄16'53	3.96571 AU
retrograde	297 Jan 11 j 06:32	27°♄14'08		opposition	302 Sep 01 j 06:39	8°♄10'33	-1°-41'-27
opposition	297 Mar 12 j 19:25	22°♄21'14	1°42'52	direct	302 Oct 29 j 09:47	3°♄16'46	
min. Earth dist.	297 Mar 13 j 20:17	22°♄13'14	4.43704 AU	evening set	303 Mar 03 j 17:38	22°♄54'30	
direct	297 May 14 j 11:35	17°♄18'57					
	297 Aug 25 j 18:27	0°♃		conjunction	303 Mar 17 j 02:30	26°♄07'00	-1°-9'-43
evening set	297 Sep 18 j 02:29	4°♃56'38		minimum elong	303 Mar 17 j 02:30	26°♄07'00	1°09'43
max. Earth dist.	297 Sep 29 j 01:55	7°♃20'29	6.41676 AU	max. Earth dist.	303 Mar 18 j 19:41	26°♄31'43	5.97017 AU
				morning rise	303 Mar 30 j 14:40	29°♄21'08	
conjunction	297 Sep 30 j 21:01	7°♃44'07	1°08'41		303 Apr 02 j 08:02	0°♄	
minimum elong	297 Sep 30 j 21:02	7°♃44'07	1°08'41	retrograde	303 Aug 09 j 16:01	19°♄50'30	
morning rise	297 Oct 13 j 12:54	10°♃30'28		min. Earth dist.	303 Oct 06 j 23:37	14°♄56'53	3.99810 AU
retrograde	298 Feb 11 j 09:43	27°♃32'24		opposition	303 Oct 08 j 08:20	14°♄45'45	-1°-37'-25
opposition	298 Apr 13 j 05:31	22°♃40'38	1°29'57	direct	303 Dec 05 j 05:57	9°♄49'45	
min. Earth dist.	298 Apr 14 j 15:57	22°♃29'40	4.38196 AU	evening set	304 Apr 09 j 04:33	29°♄15'04	
direct	298 Jun 14 j 20:37	17°♃40'12			304 Apr 12 j 09:21	0°♃	
	298 Sep 23 j 05:35	0°♃					
evening set	298 Oct 18 j 20:49	5°♃31'51		conjunction	304 Apr 22 j 20:29	2°♃27'27	0°-54'-9
max. Earth dist.	298 Oct 29 j 10:38	7°♃53'39	6.33126 AU	minimum elong	304 Apr 22 j 20:32	2°♃27'29	0°54'09
				max. Earth dist.	304 Apr 25 j 01:39	2°♃58'41	6.04257 AU
conjunction	298 Oct 31 j 12:07	8°♃21'24	0°50'01	morning rise	304 May 06 j 14:40	5°♃40'45	
minimum elong	298 Oct 31 j 12:09	8°♃21'25	0°50'00		304 Jun 17 j 19:27	15°♃	
morning rise	298 Nov 13 j 02:06	11°♃10'27		retrograde	304 Sep 13 j 04:40	25°♃23'01	
	298 Nov 30 j 12:08	15°♃		min. Earth dist.	304 Nov 10 j 09:18	20°♃29'03	4.10183 AU
retrograde	299 Mar 16 j 04:45	28°♃52'22		opposition	304 Nov 11 j 17:29	20°♃18'04	0°-56'-40
opposition	299 May 16 j 03:27	24°♃00'00	0°50'47	direct	305 Jan 09 j 08:17	15°♃18'59	
min. Earth dist.	299 May 17 j 13:02	23°♃49'18	4.27064 AU		305 Apr 26 j 21:49	0°♄	

evening set	305 May 15 j 20:14	4°♄13'23		conjunction	310 Nov 04 j 20:49	12°♄51'30	0°45'59
				minimum elong	310 Nov 04 j 20:51	12°♄51'32	0°45'59
conjunction	305 May 29 j 14:49	7°♄21'17	0°-19'-16		310 Nov 14 j 09:04	15°♄	
minimum elong	305 May 29 j 14:50	7°♄21'18	0°19'17	morning rise	310 Nov 17 j 10:42	15°♄41'17	
max. Earth dist.	305 May 31 j 12:47	7°♄47'27	6.16873 AU		311 Jan 31 j 00:58	0°♄	
morning rise	305 Jun 12 j 09:31	10°♄29'00		retrograde	311 Mar 20 j 23:36	3°♄31'09	
retrograde	305 Oct 16 j 09:39	29°♄04'17			311 May 10 j 03:29	30°♄	
asc. node	305 Dec 06 j 09:27	25°♄11'18		opposition	311 May 20 j 22:12	28°♄38'40	0°43'29
min. Earth dist.	305 Dec 14 j 02:30	24°♄09'27	4.23697 AU	min. Earth dist.	311 May 22 j 07:17	28°♄28'07	4.25069 AU
opposition	305 Dec 15 j 01:02	24°♄01'51	0°01'17	direct	311 Jul 21 j 15:38	23°♄41'09	
direct	306 Feb 12 j 20:37	19°♄00'13			311 Sep 26 j 18:15	0°♄	
	306 May 16 j 05:36	0°♄		evening set	311 Nov 23 j 23:58	12°♄05'26	
evening set	306 Jun 19 j 20:06	7°♄19'35		max. Earth dist.	311 Dec 05 j 01:31	14°♄39'01	6.18276 AU
conjunction	306 Jul 03 j 11:08	10°♄20'16	0°20'38	conjunction	311 Dec 06 j 15:57	15°♄01'18	0°10'17
minimum elong	306 Jul 03 j 11:06	10°♄20'15	0°20'37	minimum elong	311 Dec 06 j 15:58	15°♄01'19	0°10'17
max. Earth dist.	306 Jul 04 j 08:16	10°♄31'57	6.30233 AU	behind sun begin	311 Dec 06 j 09:34	14°♄57'37	
morning rise	306 Jul 17 j 00:43	13°♄19'56		behind sun end	311 Dec 06 j 22:21	15°♄05'00	
	306 Oct 23 j 16:30	0°♄		morning rise	311 Dec 19 j 08:19	17°♄57'35	
retrograde	306 Nov 16 j 19:28	0°♄55'35			312 Feb 14 j 13:26	0°♄	
	306 Dec 10 j 18:05	30°♄		desc. node	312 Mar 15 j 09:26	4°♄25'27	
opposition	307 Jan 15 j 16:16	25°♄56'54	0°55'29	retrograde	312 Apr 24 j 07:04	6°♄49'46	
min. Earth dist.	307 Jan 15 j 11:11	25°♄58'36	4.35797 AU	opposition	312 Jun 24 j 02:14	1°♄54'55	0°-15'-31
direct	307 Mar 17 j 20:59	20°♄53'51		min. Earth dist.	312 Jun 24 j 21:06	1°♄48'49	4.11479 AU
	307 Jun 10 j 01:30	0°♄			312 Jul 09 j 08:01	30°♄	
evening set	307 Jul 22 j 23:16	8°♄45'42		direct	312 Aug 23 j 10:56	26°♄59'56	
					312 Oct 06 j 13:14	0°♄	
conjunction	307 Aug 05 j 07:07	11°♄39'16	0°52'48	evening set	312 Dec 26 j 11:34	15°♄59'17	
minimum elong	307 Aug 05 j 07:05	11°♄39'14	0°52'49				
max. Earth dist.	307 Aug 05 j 01:47	11°♄36'21	6.40147 AU	conjunction	313 Jan 08 j 07:28	19°♄02'14	0°-30'-25
morning rise	307 Aug 18 j 12:02	14°♄31'20		minimum elong	313 Jan 08 j 07:26	19°♄02'13	0°30'25
	307 Aug 20 j 17:12	15°♄		max. Earth dist.	313 Jan 07 j 18:33	18°♄54'33	6.05470 AU
	307 Nov 16 j 03:29	0°♄		morning rise	313 Jan 21 j 04:59	22°♄06'19	
retrograde	307 Dec 17 j 03:52	1°♄29'39			313 Feb 24 j 21:38	0°♄	
	308 Jan 17 j 04:24	30°♄		retrograde	313 May 31 j 14:29	12°♄02'04	
opposition	308 Feb 15 j 09:52	26°♄34'35	1°31'44	opposition	313 Jul 30 j 23:39	7°♄03'37	-1°-12'-30
min. Earth dist.	308 Feb 15 j 21:42	26°♄30'44	4.42974 AU	min. Earth dist.	313 Jul 30 j 22:20	7°♄04'02	4.00650 AU
direct	308 Apr 17 j 14:46	21°♄31'30		direct	313 Sep 27 j 23:10	2°♄10'11	
	308 Jul 08 j 06:04	0°♄			314 Jan 02 j 11:39	15°♄	
evening set	308 Aug 22 j 14:16	9°♄09'04		evening set	314 Jan 30 j 23:36	21°♄38'10	
max. Earth dist.	308 Sep 03 j 07:40	11°♄41'21	6.43976 AU				
				conjunction	314 Feb 13 j 01:38	24°♄47'20	-1°-1'-23
conjunction	308 Sep 04 j 13:59	11°♄57'48	1°09'29	minimum elong	314 Feb 13 j 01:36	24°♄47'19	1°01'24
minimum elong	308 Sep 04 j 13:58	11°♄57'48	1°09'28	max. Earth dist.	314 Feb 13 j 19:08	24°♄57'53	5.97580 AU
morning rise	308 Sep 17 j 10:48	14°♄45'08		morning rise	314 Feb 26 j 06:45	27°♄58'12	
	308 Dec 14 j 15:53	0°♄			314 Mar 06 j 19:25	0°♄	
retrograde	309 Jan 15 j 13:59	1°♄33'31		retrograde	314 Jul 08 j 13:54	18°♄31'37	
	309 Feb 16 j 13:30	30°♄		opposition	314 Sep 06 j 13:51	13°♄29'12	-1°-43'-25
opposition	309 Mar 17 j 03:31	26°♄40'55	1°42'42	min. Earth dist.	314 Sep 05 j 15:08	13°♄36'50	3.96702 AU
min. Earth dist.	309 Mar 18 j 07:06	26°♄32'04	4.43358 AU	direct	314 Nov 03 j 14:26	8°♄35'16	
direct	309 May 18 j 21:32	21°♄38'51		evening set	315 Mar 09 j 00:11	28°♄11'51	
	309 Aug 07 j 17:36	0°♄			315 Mar 16 j 13:13	0°♄	
evening set	309 Sep 22 j 09:27	9°♄17'35					
max. Earth dist.	309 Oct 03 j 05:28	11°♄39'58	6.40790 AU	conjunction	315 Mar 22 j 10:07	1°♄24'26	-1°-9'-5
				minimum elong	315 Mar 22 j 10:08	1°♄24'27	1°09'06
conjunction	309 Oct 05 j 03:20	12°♄05'09	1°07'09	max. Earth dist.	315 Mar 24 j 06:22	1°♄50'57	5.97831 AU
minimum elong	309 Oct 05 j 03:21	12°♄05'10	1°07'09	morning rise	315 Apr 04 j 23:12	4°♄38'36	
morning rise	309 Oct 17 j 18:48	14°♄51'41		retrograde	315 Aug 14 j 18:29	25°♄02'35	
	310 Jan 10 j 19:14	0°♄		min. Earth dist.	315 Oct 12 j 01:28	20°♄08'48	4.01199 AU
retrograde	310 Feb 15 j 20:55	1°♄57'57		opposition	315 Oct 13 j 10:21	19°♄57'35	-1°-33'-31
	310 Mar 24 j 06:21	30°♄		direct	315 Dec 10 j 10:23	15°♄01'10	
opposition	310 Apr 17 j 17:35	27°♄06'11	1°25'55		316 Mar 26 j 08:10	0°♄	
min. Earth dist.	310 Apr 19 j 04:17	26°♄55'08	4.36828 AU	evening set	316 Apr 14 j 08:58	4°♄21'43	
direct	310 Jun 19 j 06:38	22°♄06'03					
	310 Sep 04 j 18:17	0°♄		conjunction	316 Apr 28 j 01:36	7°♄33'33	0°-50'-6
evening set	310 Oct 23 j 05:30	10°♄01'18		minimum elong	316 Apr 28 j 01:39	7°♄33'35	0°50'06
max. Earth dist.	310 Nov 02 j 20:53	12°♄24'31	6.31394 AU	max. Earth dist.	316 Apr 30 j 08:00	8°♄05'21	6.06087 AU

morning rise	316 May 11 j 20:04	10°♄46'09		conjunction	321 Oct 09 j 10:08	16°♃28'34	1°05'14
	316 May 30 j 09:43	15°♄		minimum elong	321 Oct 09 j 10:09	16°♃28'35	1°05'14
	316 Sep 04 j 06:34	0°♂		morning rise	321 Oct 22 j 01:12	19°♃15'26	
retrograde	316 Sep 17 j 22:00	0°♂18'25			321 Dec 14 j 10:25	0°♃	
	316 Oct 01 j 11:15	30°♃		retrograde	322 Feb 20 j 10:48	6°♃27'05	
min. Earth dist.	316 Nov 15 j 03:41	25°♄24'32	4.12247 AU	opposition	322 Apr 22 j 07:16	1°♃35'20	1°21'19
opposition	316 Nov 16 j 11:22	25°♄13'45	0°-49'-3	min. Earth dist.	322 Apr 23 j 18:56	1°♃23'59	4.35244 AU
direct	317 Jan 14 j 05:20	20°♄14'17			322 May 04 j 23:48	30°♃	
	317 Apr 08 j 14:26	0°♂		direct	322 Jun 23 j 19:06	26°♃35'32	
evening set	317 May 20 j 19:09	9°♂02'50			322 Aug 11 j 16:55	0°♃	
				evening set	322 Oct 27 j 15:19	14°♃34'43	
conjunction	317 Jun 03 j 13:22	12°♂09'41	0°-13'-42		322 Oct 29 j 12:23	15°♃	
minimum elong	317 Jun 03 j 13:23	12°♂09'42	0°13'42	max. Earth dist.	322 Nov 07 j 06:36	16°♃58'32	6.29581 AU
behind sun begin	317 Jun 03 j 09:07	12°♂07'18					
behind sun end	317 Jun 03 j 17:38	12°♂12'06		conjunction	322 Nov 09 j 06:32	17°♃25'38	0°41'38
max. Earth dist.	317 Jun 05 j 06:47	12°♂33'09	6.18986 AU	minimum elong	322 Nov 09 j 06:34	17°♃25'39	0°41'38
morning rise	317 Jun 17 j 07:46	15°♂16'17		morning rise	322 Nov 21 j 20:41	20°♃16'14	
	317 Sep 01 j 10:20	0°♄			323 Jan 07 j 01:38	0°♄	
asc. node	317 Oct 16 j 18:55	3°♄40'16		retrograde	323 Mar 25 j 19:31	8°♄14'13	
retrograde	317 Oct 20 j 19:46	3°♄41'54		opposition	323 May 25 j 18:30	3°♄21'26	0°35'47
	317 Dec 09 j 11:17	30°♃		min. Earth dist.	323 May 27 j 01:10	3°♄11'38	4.23153 AU
opposition	317 Dec 19 j 11:52	28°♂39'56	0°09'25		323 Jun 23 j 16:49	30°♃	
min. Earth dist.	317 Dec 18 j 16:13	28°♂46'33	4.25662 AU	direct	323 Jul 26 j 07:11	28°♃24'15	
direct	318 Feb 17 j 12:59	23°♂38'00			323 Aug 27 j 16:37	0°♄	
	318 Apr 26 j 02:26	0°♄		evening set	323 Nov 28 j 14:48	16°♄53'14	
evening set	318 Jun 24 j 12:03	11°♄52'40		max. Earth dist.	323 Dec 09 j 21:19	19°♄30'16	6.16435 AU
conjunction	318 Jul 08 j 02:26	14°♄52'19	0°25'45	conjunction	323 Dec 11 j 07:16	19°♄50'02	0°04'32
minimum elong	318 Jul 08 j 02:24	14°♄52'18	0°25'45	minimum elong	323 Dec 11 j 07:15	19°♄50'02	0°04'32
max. Earth dist.	318 Jul 08 j 20:44	15°♄02'25	6.31906 AU	behind sun begin	323 Dec 10 j 23:25	19°♄45'29	
morning rise	318 Jul 21 j 14:47	17°♄50'50		behind sun end	323 Dec 11 j 15:05	19°♄54'34	
	318 Sep 21 j 08:54	0°♃		morning rise	323 Dec 24 j 00:01	22°♄47'18	
retrograde	318 Nov 21 j 00:26	5°♃19'58		desc. node	324 Jan 23 j 15:12	29°♄38'54	
opposition	319 Jan 19 j 22:50	0°♃21'52	1°01'46		324 Jan 25 j 07:01	0°♃	
min. Earth dist.	319 Jan 19 j 19:45	0°♃22'53	4.37071 AU	retrograde	324 Apr 29 j 11:45	11°♃48'16	
	319 Jan 22 j 17:04	30°♃		opposition	324 Jun 29 j 04:53	6°♃52'57	0°-24'-14
direct	319 Mar 22 j 06:50	25°♄18'46		min. Earth dist.	324 Jun 29 j 21:47	6°♃47'29	4.09858 AU
	319 May 19 j 09:50	0°♃		direct	324 Aug 28 j 09:36	1°♃58'15	
evening set	319 Jul 27 j 09:57	13°♃08'09		evening set	324 Dec 31 j 08:35	21°♃01'30	
	319 Aug 05 j 00:27	15°♃					
				conjunction	325 Jan 13 j 05:04	24°♃05'17	0°-35'-43
conjunction	319 Aug 09 j 16:32	16°♃00'55	0°56'08	minimum elong	325 Jan 13 j 05:02	24°♃05'16	0°35'44
minimum elong	319 Aug 09 j 16:29	16°♃00'54	0°56'08	max. Earth dist.	325 Jan 12 j 19:23	23°♃59'30	6.04196 AU
max. Earth dist.	319 Aug 09 j 05:39	15°♃55'00	6.40916 AU	morning rise	325 Jan 26 j 03:38	27°♃10'20	
morning rise	319 Aug 22 j 20:25	18°♃52'15			325 Feb 07 j 04:21	0°♃	
	319 Oct 18 j 11:54	0°♃			325 Apr 28 j 23:52	15°♃	
retrograde	319 Dec 21 j 09:50	5°♃48'12		retrograde	325 Jun 05 j 20:13	17°♃12'26	
opposition	320 Feb 19 j 15:45	0°♃53'35	1°34'51		325 Jul 13 j 20:26	15°♃	
min. Earth dist.	320 Feb 20 j 07:02	0°♃48'37	4.43223 AU	opposition	325 Aug 05 j 05:37	12°♃13'21	-1°-18'-54
	320 Feb 26 j 13:30	30°♃		min. Earth dist.	325 Aug 05 j 00:10	12°♃15'09	3.99868 AU
direct	320 Apr 22 j 00:02	25°♃50'31		direct	325 Oct 03 j 00:23	7°♃19'57	
	320 Jun 15 j 23:36	0°♃			325 Dec 13 j 16:28	15°♃	
evening set	320 Aug 26 j 21:50	13°♃28'12		evening set	326 Feb 05 j 01:52	26°♃49'33	
conjunction	320 Sep 08 j 20:46	16°♃16'42	1°10'18	conjunction	326 Feb 18 j 04:55	29°♃59'15	-1°-4'-4
minimum elong	320 Sep 08 j 20:45	16°♃16'41	1°10'18	minimum elong	326 Feb 18 j 04:53	29°♃59'14	1°04'05
max. Earth dist.	320 Sep 07 j 12:07	15°♃58'57	6.43680 AU		326 Feb 18 j 06:09	0°♃	
morning rise	320 Sep 21 j 16:36	19°♃03'47		max. Earth dist.	326 Feb 19 j 03:03	0°♃12'37	5.97341 AU
	320 Nov 16 j 04:52	0°♃		morning rise	326 Mar 03 j 10:59	3°♃10'38	
retrograde	321 Jan 19 j 20:23	5°♃53'54		retrograde	326 Jul 13 j 20:25	23°♃44'50	
opposition	321 Mar 21 j 11:42	1°♃01'29	1°42'00	opposition	326 Sep 11 j 18:38	18°♃41'54	-1°-44'-32
min. Earth dist.	321 Mar 22 j 15:54	0°♃52'27	4.42568 AU	min. Earth dist.	326 Sep 10 j 18:37	18°♃50'00	3.97039 AU
	321 Mar 29 j 13:02	30°♃		direct	326 Nov 08 j 19:05	13°♃47'40	
direct	321 May 23 j 04:42	25°♃59'38			327 Feb 27 j 20:06	0°♃	
	321 Jul 16 j 02:55	0°♃		evening set	327 Mar 14 j 04:43	3°♃22'38	
evening set	321 Sep 26 j 16:48	13°♃40'44					
max. Earth dist.	321 Oct 07 j 11:47	16°♃03'01	6.39567 AU	conjunction	327 Mar 27 j 15:46	6°♃35'19	-1°-7'-55

minimum elong	327 Mar 27 j 15:48	6°♃35'20	1°07'57	conjunction	332 Sep 13 j 04:24	20°♎38'39	1°10'45
max. Earth dist.	327 Mar 29 j 15:13	7°♃03'39	5.98706 AU	minimum elong	332 Sep 13 j 04:24	20°♎38'39	1°10'45
morning rise	327 Apr 10 j 05:45	9°♃49'27		morning rise	332 Sep 25 j 23:33	23°♎25'34	
	327 Aug 10 j 23:09	0°♄			332 Oct 27 j 11:33	0°♌	
retrograde	327 Aug 19 j 18:28	0°♄07'42		retrograde	333 Jan 24 j 06:46	10°♌17'39	
	327 Aug 28 j 12:46	30°♃♂		opposition	333 Mar 25 j 21:51	5°♌25'31	1°40'44
min. Earth dist.	327 Oct 17 j 00:04	25°♃14'02	4.02525 AU	min. Earth dist.	333 Mar 27 j 04:05	5°♌15'50	4.41835 AU
opposition	327 Oct 18 j 09:33	25°♃02'38	-1°-29'00	direct	333 May 27 j 15:42	0°♌23'58	
direct	327 Dec 15 j 10:08	20°♃05'50		evening set	333 Oct 01 j 01:03	18°♌06'59	
	328 Mar 07 j 23:17	0°♄		max. Earth dist.	333 Oct 11 j 19:31	20°♌29'22	6.38506 AU
evening set	328 Apr 19 j 11:44	9°♄22'19					
				conjunction	333 Oct 13 j 17:59	20°♌55'04	1°02'57
conjunction	328 May 03 j 04:47	12°♄33'39	0°-45'-46	minimum elong	333 Oct 13 j 18:01	20°♌55'05	1°02'56
minimum elong	328 May 03 j 04:50	12°♄33'40	0°45'47	morning rise	333 Oct 26 j 08:38	23°♌42'13	
max. Earth dist.	328 May 05 j 08:48	13°♄03'55	6.07731 AU		333 Nov 24 j 22:42	0°♍	
	328 May 13 j 16:46	15°♄		retrograde	334 Feb 24 j 23:48	10°♍58'44	
morning rise	328 May 16 j 23:46	15°♄45'39		opposition	334 Apr 26 j 21:50	6°♍06'59	1°16'15
	328 Jul 25 j 17:14	0°♅		min. Earth dist.	334 Apr 28 j 08:04	5°♍56'05	4.33939 AU
retrograde	328 Sep 22 j 13:45	5°♅09'00		direct	334 Jun 28 j 06:19	1°♍07'36	
min. Earth dist.	328 Nov 19 j 21:27	0°♅14'53	4.14025 AU		334 Oct 13 j 04:46	15°♍	
opposition	328 Nov 21 j 03:43	0°♅04'34	0°-41'-16	evening set	334 Nov 01 j 01:36	19°♍09'42	
	328 Nov 21 j 17:08	30°♃♂		max. Earth dist.	334 Nov 11 j 19:06	21°♍35'16	6.28154 AU
direct	329 Jan 19 j 01:49	25°♄04'41					
	329 Mar 17 j 12:25	0°♅		conjunction	334 Nov 13 j 16:43	22°♍01'09	0°37'03
evening set	329 May 25 j 16:46	13°♅48'38		minimum elong	334 Nov 13 j 16:45	22°♍01'11	0°37'04
				morning rise	334 Nov 26 j 06:57	24°♍52'24	
conjunction	329 Jun 08 j 10:57	16°♅54'39	0°-8'-6		334 Dec 19 j 12:42	0°♆	
minimum elong	329 Jun 08 j 10:57	16°♅54'39	0°08'06	retrograde	335 Mar 30 j 16:50	12°♆57'14	
behind sun begin	329 Jun 08 j 03:34	16°♅50'30		opposition	335 May 30 j 14:47	8°♆04'14	0°27'55
behind sun end	329 Jun 08 j 18:20	16°♅58'48		min. Earth dist.	335 May 31 j 20:37	7°♆54'41	4.21682 AU
max. Earth dist.	329 Jun 10 j 02:27	17°♅16'56	6.20773 AU	direct	335 Jul 31 j 00:36	3°♆07'27	
morning rise	329 Jun 22 j 04:40	20°♅00'13		evening set	335 Dec 03 j 04:46	21°♆39'34	
	329 Aug 08 j 22:31	0°♆		desc. node	335 Dec 04 j 04:24	21°♆53'16	
asc. node	329 Aug 27 j 02:30	3°♆08'51					
retrograde	329 Oct 25 j 06:27	8°♆17'32		conjunction	335 Dec 15 j 21:29	24°♆37'03	0°-1'-14
opposition	329 Dec 23 j 22:30	3°♆16'09	0°17'27	minimum elong	335 Dec 15 j 21:30	24°♆37'04	0°01'15
min. Earth dist.	329 Dec 23 j 05:02	3°♆22'01	4.27294 AU	behind sun begin	335 Dec 15 j 13:29	24°♆32'25	
	330 Jan 19 j 13:44	30°♃♅		behind sun end	335 Dec 16 j 05:31	24°♆41'44	
direct	330 Feb 22 j 03:48	28°♅14'01		max. Earth dist.	335 Dec 14 j 13:42	24°♆18'30	6.15052 AU
	330 Mar 28 j 03:58	0°♆		morning rise	335 Dec 28 j 14:55	27°♆35'11	
evening set	330 Jun 29 j 04:16	16°♆25'09			336 Jan 08 j 02:17	0°♇	
				retrograde	336 May 04 j 11:25	16°♇43'22	
conjunction	330 Jul 12 j 17:37	19°♆23'52	0°30'44	opposition	336 Jul 04 j 05:39	11°♇47'33	0°-32'-35
minimum elong	330 Jul 12 j 17:35	19°♆23'50	0°30'44	min. Earth dist.	336 Jul 04 j 18:49	11°♇43'17	4.08682 AU
max. Earth dist.	330 Jul 13 j 06:35	19°♆30'59	6.33248 AU	direct	336 Sep 02 j 05:06	6°♇53'08	
morning rise	330 Jul 26 j 05:05	22°♆21'24		evening set	337 Jan 05 j 03:33	25°♇58'54	
	330 Aug 31 j 19:34	0°♈					
retrograde	330 Nov 25 j 07:33	9°♈45'13		conjunction	337 Jan 18 j 00:42	29°♇03'20	0°-40'-37
opposition	331 Jan 24 j 06:14	4°♈47'40	1°07'45	minimum elong	337 Jan 18 j 00:40	29°♇03'19	0°40'38
min. Earth dist.	331 Jan 24 j 06:09	4°♈47'42	4.38052 AU	max. Earth dist.	337 Jan 17 j 19:28	29°♇00'13	6.03327 AU
	331 Mar 13 j 20:48	30°♃♆			337 Jan 21 j 23:26	0°♉	
direct	331 Mar 26 j 18:05	29°♆44'29		morning rise	337 Jan 31 j 00:00	2°♉09'06	
	331 Apr 08 j 17:12	0°♈			337 Mar 31 j 08:29	15°♉	
	331 Jul 20 j 00:03	15°♈		retrograde	337 Jun 11 j 00:34	22°♉16'02	
evening set	331 Jul 31 j 21:20	17°♈32'18		opposition	337 Aug 10 j 08:13	17°♉16'25	-1°-24'-29
				min. Earth dist.	337 Aug 10 j 01:02	17°♉18'48	3.99397 AU
conjunction	331 Aug 14 j 03:00	20°♈24'27	0°59'12		337 Aug 28 j 05:34	15°♉	
minimum elong	331 Aug 14 j 02:57	20°♈24'26	0°59'11	direct	337 Oct 08 j 01:27	12°♉22'59	
max. Earth dist.	331 Aug 13 j 13:59	20°♈17'23	6.41467 AU		337 Nov 17 j 03:12	15°♉	
morning rise	331 Aug 27 j 05:34	23°♈15'04			338 Feb 02 j 02:59	0°♊	
	331 Sep 28 j 17:03	0°♉		evening set	338 Feb 10 j 01:09	1°♊53'19	
retrograde	331 Dec 25 j 15:32	10°♉09'24					
opposition	332 Feb 23 j 23:00	5°♉15'14	1°37'30	conjunction	338 Feb 23 j 05:13	5°♊03'29	-1°-6'-10
min. Earth dist.	332 Feb 24 j 15:38	5°♉09'51	4.43338 AU	minimum elong	338 Feb 23 j 05:11	5°♊03'28	1°06'11
direct	332 Apr 26 j 08:14	0°♉12'24		max. Earth dist.	338 Feb 24 j 07:10	5°♊19'07	5.97303 AU
	332 Aug 31 j 06:32	17°♉50'24		morning rise	338 Mar 08 j 12:19	8°♊15'20	
evening set	332 Aug 31 j 06:32	17°♉50'24		retrograde	338 Jul 18 j 21:59	28°♊49'14	
max. Earth dist.	332 Sep 11 j 16:37	20°♉19'09	6.43349 AU				

opposition	338 Sep 16 j 19:03	23° κ 45'57	-1°-44'-48	direct	344 Apr 30 j 17:28	4° η 32'42	
min. Earth dist.	338 Sep 15 j 17:23	23° κ 54'36	3.97468 AU	evening set	344 Sep 04 j 14:20	22° η 10'31	
direct	338 Nov 13 j 17:39	18° κ 51'27		max. Earth dist.	344 Sep 15 j 23:17	24° η 38'46	6.43095 AU
	339 Feb 10 j 06:39	0° γ					
evening set	339 Mar 19 j 05:48	8° γ 24'53		conjunction	344 Sep 17 j 11:29	24° η 58'31	1°10'48
				minimum elong	344 Sep 17 j 11:29	24° η 58'31	1°10'48
conjunction	339 Apr 01 j 17:42	11° γ 37'35	-1°-6'-19	morning rise	344 Sep 30 j 05:37	27° η 45'10	
minimum elong	339 Apr 01 j 17:44	11° γ 37'36	1°06'19		344 Oct 10 j 16:33	0° ♁	
max. Earth dist.	339 Apr 03 j 16:51	12° γ 05'40	5.99537 AU	retrograde	345 Jan 28 j 13:55	14° ♁ 38'42	
morning rise	339 Apr 15 j 08:44	14° γ 51'46		opposition	345 Mar 30 j 07:02	9° ♁ 46'38	1°38'54
	339 Jun 27 j 06:32	0° ♁		min. Earth dist.	345 Mar 31 j 13:30	9° ♁ 36'55	4.41197 AU
retrograde	339 Aug 24 j 13:39	5° ♁ 04'42		direct	345 Jun 01 j 00:00	4° ♁ 45'20	
min. Earth dist.	339 Oct 21 j 19:28	0° ♁ 10'59	4.03663 AU	evening set	345 Oct 05 j 08:08	22° ♁ 29'42	
opposition	339 Oct 23 j 04:57	29° γ 59'33	-1°-24'-1	max. Earth dist.	345 Oct 16 j 00:44	24° ♁ 51'29	6.37498 AU
	339 Oct 23 j 03:39	30° ♁					
direct	339 Dec 20 j 07:42	25° γ 02'18		conjunction	345 Oct 18 j 00:27	25° ♁ 17'57	1°00'19
	340 Feb 15 j 00:04	0° ♁		minimum elong	345 Oct 18 j 00:29	25° ♁ 17'58	1°00'19
evening set	340 Apr 24 j 11:12	14° ♁ 15'42		morning rise	345 Oct 30 j 14:54	28° ♁ 05'24	
	340 Apr 27 j 15:55	15° ♁			345 Nov 08 j 08:04	0° ♁	
					346 Feb 12 j 15:05	15° ♁	
conjunction	340 May 08 j 04:57	17° ♁ 26'40	0°-41'-16	retrograde	346 Mar 01 j 14:07	15° ♁ 26'43	
minimum elong	340 May 08 j 05:00	17° ♁ 26'42	0°41'16		346 Mar 18 j 11:49	15° ♁	
max. Earth dist.	340 May 10 j 08:40	17° ♁ 56'40	6.09102 AU	opposition	346 May 01 j 11:36	10° ♁ 34'51	1°10'44
morning rise	340 May 22 j 00:01	20° ♁ 38'07		min. Earth dist.	346 May 02 j 22:42	10° ♁ 23'40	4.32580 AU
	340 Jul 04 j 00:40	0° ♁		direct	346 Jul 02 j 18:48	5° ♁ 35'44	
retrograde	340 Sep 27 j 04:58	9° ♁ 53'47			346 Sep 25 j 16:14	15° ♁	
opposition	340 Nov 25 j 17:28	4° ♁ 49'42	0°-33'-28	evening set	346 Nov 05 j 10:26	23° ♁ 40'55	
min. Earth dist.	340 Nov 24 j 13:03	4° ♁ 59'22	4.15483 AU	max. Earth dist.	346 Nov 16 j 04:55	26° ♁ 07'34	6.26547 AU
	341 Jan 13 j 13:03	30° ♁					
direct	341 Jan 23 j 19:20	29° ♁ 49'28		conjunction	346 Nov 18 j 01:40	26° ♁ 33'03	0°32'16
	341 Feb 03 j 02:14	0° ♁		minimum elong	346 Nov 18 j 01:42	26° ♁ 33'04	0°32'16
evening set	341 May 30 j 12:39	18° ♁ 30'04		morning rise	346 Nov 30 j 16:05	29° ♁ 25'03	
					346 Dec 03 j 05:54	0° ♁	
conjunction	341 Jun 13 j 06:28	21° ♁ 35'20	0°-2'-36	retrograde	347 Apr 04 j 11:26	17° ♁ 37'35	
minimum elong	341 Jun 13 j 06:27	21° ♁ 35'19	0°02'37	opposition	347 Jun 04 j 10:09	12° ♁ 44'15	0°19'52
behind sun begin	341 Jun 12 j 22:06	21° ♁ 30'39		min. Earth dist.	347 Jun 05 j 13:38	12° ♁ 35'28	4.19925 AU
behind sun end	341 Jun 13 j 14:48	21° ♁ 39'59		direct	347 Aug 04 j 14:45	7° ♁ 47'51	
max. Earth dist.	341 Jun 14 j 18:10	21° ♁ 55'24	6.22210 AU	desc. node	347 Oct 14 j 12:33	14° ♁ 52'33	
morning rise	341 Jun 26 j 23:48	24° ♁ 40'04		evening set	347 Dec 07 j 18:40	26° ♁ 24'25	
asc. node	341 Jul 08 j 11:06	27° ♁ 12'13		max. Earth dist.	347 Dec 19 j 06:58	29° ♁ 05'56	6.13293 AU
	341 Jul 21 j 11:41	0° ♁					
retrograde	341 Oct 29 j 14:48	12° ♁ 50'22		conjunction	347 Dec 20 j 11:48	29° ♁ 22'50	0°-6'-58
opposition	341 Dec 28 j 07:41	7° ♁ 49'26	0°25'10	minimum elong	347 Dec 20 j 11:47	29° ♁ 22'50	0°06'58
min. Earth dist.	341 Dec 27 j 15:58	7° ♁ 54'42	4.28607 AU	behind sun begin	347 Dec 20 j 04:20	29° ♁ 18'29	
direct	342 Feb 26 j 16:19	2° ♁ 47'02		behind sun end	347 Dec 20 j 19:13	29° ♁ 27'11	
evening set	342 Jul 03 j 19:19	20° ♁ 55'36			347 Dec 23 j 03:08	0° ♁	
				morning rise	348 Jan 02 j 05:50	2° ♁ 21'58	
conjunction	342 Jul 17 j 07:52	23° ♁ 53'29	0°35'26	retrograde	348 May 09 j 14:36	21° ♁ 39'02	
minimum elong	342 Jul 17 j 07:50	23° ♁ 53'28	0°35'27	opposition	348 Jul 09 j 06:52	16° ♁ 42'45	0°-40'-50
max. Earth dist.	342 Jul 17 j 18:10	23° ♁ 59'08	6.34358 AU	min. Earth dist.	348 Jul 09 j 18:20	16° ♁ 39'02	4.07056 AU
morning rise	342 Jul 30 j 18:08	26° ♁ 50'06		direct	348 Sep 07 j 02:47	11° ♁ 48'32	
	342 Aug 14 j 11:00	0° ♁			349 Jan 05 j 20:50	0° ♁	
retrograde	342 Nov 29 j 14:16	14° ♁ 09'16		evening set	349 Jan 09 j 23:58	0° ♁ 58'50	
opposition	343 Jan 28 j 13:21	9° ♁ 12'13	1°13'15				
min. Earth dist.	343 Jan 28 j 15:24	9° ♁ 11'33	4.38893 AU	conjunction	349 Jan 22 j 22:00	4° ♁ 04'14	0°-45'-19
direct	343 Mar 31 j 04:31	4° ♁ 09'01		minimum elong	349 Jan 22 j 21:58	4° ♁ 04'13	0°45'20
	343 Jul 02 j 22:48	15° ♁		max. Earth dist.	349 Jan 22 j 20:47	4° ♁ 03'30	6.01984 AU
evening set	343 Aug 05 j 08:07	21° ♁ 55'16		morning rise	349 Feb 04 j 22:19	7° ♁ 11'03	
					349 Mar 11 j 00:54	15° ♁	
conjunction	343 Aug 18 j 12:33	24° ♁ 46'44	1°01'52	retrograde	349 Jun 16 j 07:15	27° ♁ 24'35	
minimum elong	343 Aug 18 j 12:31	24° ♁ 46'43	1°01'52	opposition	349 Aug 15 j 12:50	22° ♁ 24'30	-1°-29'-36
max. Earth dist.	343 Aug 17 j 19:25	24° ♁ 37'25	6.41959 AU	min. Earth dist.	349 Aug 15 j 02:39	22° ♁ 27'53	3.98506 AU
morning rise	343 Aug 31 j 14:08	27° ♁ 36'43		direct	349 Oct 13 j 01:29	17° ♁ 31'05	
	343 Sep 11 j 18:02	0° ♁			350 Jan 15 j 17:22	0° ♁	
retrograde	343 Dec 29 j 22:00	14° ♁ 29'24		evening set	350 Feb 15 j 03:42	7° ♁ 04'00	
opposition	344 Feb 28 j 06:09	9° ♁ 35'30	1°39'33				
min. Earth dist.	344 Feb 29 j 00:59	9° ♁ 29'25	4.43472 AU	conjunction	350 Feb 28 j 08:45	10° ♁ 14'49	-1°-7'-50

minimum elong	350 Feb 28 j 08:44	10° Υ 14'48	1°07'51	morning rise	355 Sep 04 j 20:22	1° Υ 54'14	
max. Earth dist.	350 Mar 01 j 13:09	10° Υ 31'57	5.96920 AU	retrograde	356 Jan 03 j 01:06	18° Υ 43'44	
morning rise	350 Mar 13 j 17:08	13° Υ 27'22		opposition	356 Mar 03 j 10:56	13° Υ 50'12	1°40'58
	350 Jun 02 j 11:51	0° Υ		min. Earth dist.	356 Mar 04 j 07:55	13° Υ 43'26	4.44058 AU
retrograde	350 Jul 24 j 02:16	4° Υ 02'16		direct	356 May 05 j 00:47	8° Υ 47'32	
	350 Sep 14 j 08:11	30° Υ 38'		evening set	356 Sep 08 j 18:36	26° Υ 23'42	
opposition	350 Sep 21 j 22:50	28° Υ 58'35	-1°-44'-18	max. Earth dist.	356 Sep 19 j 22:31	28° Υ 49'22	6.43121 AU
min. Earth dist.	350 Sep 20 j 19:11	29° Υ 07'56	3.97649 AU				
direct	350 Nov 18 j 20:18	24° Υ 03'49		conjunction	356 Sep 21 j 14:43	29° Υ 11'18	1°10'26
	351 Jan 19 j 18:09	0° Υ		minimum elong	356 Sep 21 j 14:44	29° Υ 11'18	1°10'25
evening set	351 Mar 24 j 11:10	13° Υ 36'42			356 Sep 25 j 08:00	0° Υ	
				morning rise	356 Oct 04 j 08:14	1° Υ 57'40	
conjunction	351 Apr 07 j 00:18	16° Υ 49'36	-1°-4'-7	retrograde	357 Feb 01 j 19:41	18° Υ 52'16	
minimum elong	351 Apr 07 j 00:20	16° Υ 49'38	1°04'08	opposition	357 Apr 03 j 13:17	14° Υ 00'16	1°36'33
max. Earth dist.	351 Apr 09 j 02:42	17° Υ 19'34	6.00280 AU	min. Earth dist.	357 Apr 04 j 21:45	13° Υ 49'54	4.40648 AU
morning rise	351 Apr 20 j 16:04	20° Υ 03'48		direct	357 Jun 05 j 06:34	8° Υ 59'06	
	351 Jun 04 j 07:44	0° Υ		evening set	357 Oct 09 j 11:18	26° Υ 44'40	
retrograde	351 Aug 29 j 15:08	10° Υ 11'20		max. Earth dist.	357 Oct 20 j 03:20	29° Υ 06'28	6.36408 AU
min. Earth dist.	351 Oct 26 j 19:04	5° Υ 17'31	4.04887 AU				
opposition	351 Oct 28 j 04:07	5° Υ 06'15	-1°-18'-15	conjunction	357 Oct 22 j 03:24	29° Υ 33'12	0°57'25
direct	351 Dec 25 j 09:23	0° Υ 08'39		minimum elong	357 Oct 22 j 03:26	29° Υ 33'14	0°57'26
	352 Apr 10 j 14:09	15° Υ			357 Oct 24 j 03:34	0° Υ	
evening set	352 Apr 29 j 15:04	19° Υ 18'36		morning rise	357 Nov 03 j 17:28	2° Υ 20'59	
					358 Jan 07 j 04:22	15° Υ	
conjunction	352 May 13 j 09:07	22° Υ 29'03	0°-36'-18	retrograde	358 Mar 05 j 23:17	19° Υ 47'41	
minimum elong	352 May 13 j 09:10	22° Υ 29'04	0°36'18	opposition	358 May 05 j 22:03	14° Υ 55'41	1°04'59
max. Earth dist.	352 May 15 j 11:56	22° Υ 58'24	6.10719 AU		358 May 05 j 08:30	15° Υ	
morning rise	352 May 27 j 04:29	25° Υ 39'51		min. Earth dist.	358 May 07 j 08:57	14° Υ 44'35	4.30997 AU
	352 Jun 15 j 10:57	0° Υ		direct	358 Jul 07 j 01:46	9° Υ 56'53	
retrograde	352 Oct 01 j 20:36	14° Υ 46'34			358 Sep 05 j 02:42	15° Υ	
min. Earth dist.	352 Nov 29 j 05:59	9° Υ 52'25	4.17350 AU	evening set	358 Nov 09 j 16:43	28° Υ 06'11	
opposition	352 Nov 30 j 10:13	9° Υ 42'50	0°-25'-12		358 Nov 18 j 00:35	0° Υ	
direct	353 Jan 28 j 15:07	4° Υ 42'18		max. Earth dist.	358 Nov 20 j 10:59	0° Υ 33'24	6.24589 AU
asc. node	353 May 18 j 07:04	19° Υ 31'39					
evening set	353 Jun 04 j 10:57	23° Υ 17'54		conjunction	358 Nov 22 j 07:56	0° Υ 59'07	0°27'26
				minimum elong	358 Nov 22 j 07:57	0° Υ 59'08	0°27'25
conjunction	353 Jun 18 j 04:19	26° Υ 22'06	0°03'11	morning rise	358 Dec 04 j 22:46	3° Υ 52'05	
minimum elong	353 Jun 18 j 04:17	26° Υ 22'06	0°03'10	retrograde	359 Apr 09 j 06:42	22° Υ 13'55	
behind sun begin	353 Jun 17 j 20:00	26° Υ 17'28		opposition	359 Jun 09 j 03:47	17° Υ 20'15	0°11'51
behind sun end	353 Jun 18 j 12:35	26° Υ 26'43		min. Earth dist.	359 Jun 10 j 06:47	17° Υ 11'35	4.17698 AU
max. Earth dist.	353 Jun 19 j 13:33	26° Υ 40'44	6.24215 AU	direct	359 Aug 09 j 04:48	12° Υ 24'04	
morning rise	353 Jul 01 j 20:49	29° Υ 25'37		desc. node	359 Aug 26 j 05:48	12° Υ 51'41	
	353 Jul 04 j 10:50	0° Υ			359 Dec 07 j 12:15	0° Υ	
retrograde	353 Nov 03 j 01:39	17° Υ 26'56		evening set	359 Dec 12 j 07:17	1° Υ 06'59	
opposition	354 Jan 01 j 18:37	12° Υ 26'32	0°32'49	max. Earth dist.	359 Dec 23 j 23:07	3° Υ 51'20	6.11003 AU
min. Earth dist.	354 Jan 01 j 05:25	12° Υ 30'57	4.30576 AU				
direct	354 Mar 03 j 08:40	7° Υ 24'00		conjunction	359 Dec 25 j 01:08	4° Υ 06'39	0°-12'-30
evening set	354 Jul 08 j 10:36	25° Υ 27'28		minimum elong	359 Dec 25 j 01:07	4° Υ 06'39	0°12'31
				behind sun begin	359 Dec 24 j 19:49	4° Υ 03'32	
conjunction	354 Jul 21 j 22:01	28° Υ 24'09	0°39'57	behind sun end	359 Dec 25 j 06:25	4° Υ 09'45	
minimum elong	354 Jul 21 j 21:59	28° Υ 24'08	0°39'57	morning rise	360 Jan 06 j 19:57	7° Υ 07'07	
max. Earth dist.	354 Jul 22 j 04:55	28° Υ 27'55	6.36139 AU	retrograde	360 May 14 j 17:31	26° Υ 35'08	
	354 Jul 29 j 05:13	0° Υ		opposition	360 Jul 14 j 08:04	21° Υ 38'24	0°-48'-43
morning rise	354 Aug 04 j 07:04	1° Υ 19'31		min. Earth dist.	360 Jul 14 j 16:38	21° Υ 35'37	4.04916 AU
	354 Oct 16 j 03:29	15° Υ		direct	360 Sep 11 j 21:58	16° Υ 44'25	
retrograde	354 Dec 03 j 18:12	18° Υ 31'59			360 Dec 20 j 00:19	0° Υ	
	355 Jan 21 j 22:11	15° Υ		evening set	361 Jan 14 j 21:35	6° Υ 01'15	
opposition	355 Feb 01 j 19:46	13° Υ 35'22	1°18'15				
min. Earth dist.	355 Feb 01 j 23:39	13° Υ 34'05	4.40378 AU	conjunction	361 Jan 27 j 20:28	9° Υ 07'51	0°-49'-38
direct	355 Apr 04 j 14:11	8° Υ 32'08		minimum elong	361 Jan 27 j 20:25	9° Υ 07'49	0°49'39
	355 Jun 13 j 09:32	15° Υ		max. Earth dist.	361 Jan 27 j 22:28	9° Υ 09'03	6.00183 AU
evening set	355 Aug 09 j 16:49	26° Υ 14'38		morning rise	361 Feb 09 j 22:01	12° Υ 15'59	
					361 Feb 21 j 11:08	15° Υ	
conjunction	355 Aug 22 j 20:07	29° Υ 05'11	1°04'09		361 May 11 j 06:44	0° Υ	
minimum elong	355 Aug 22 j 20:05	29° Υ 05'10	1°04'09	retrograde	361 Jun 21 j 14:49	2° Υ 37'51	
max. Earth dist.	355 Aug 22 j 00:44	28° Υ 54'40	6.43031 AU		361 Aug 02 j 03:05	30° Υ	
	355 Aug 27 j 01:08	0° Υ		opposition	361 Aug 20 j 18:59	27° Υ 37'08	-1°-34'00

min. Earth dist.	361 Aug 20 j 05:28	27° 41 '38	3.97250 AU	direct	367 Apr 09 j 02:42	12° 05 '10	
direct	361 Oct 18 j 03:47	22° 43 '37			367 May 16 j 17:49	15° 00	
	361 Dec 26 j 09:54	0° 00			367 Aug 11 j 05:22	0° 00	
evening set	362 Feb 20 j 08:57	12° 00 '26		evening set	367 Aug 14 j 02:56	0° 00 '37'20	
				max. Earth dist.	367 Aug 26 j 05:45	3° 00 '14'33	6.43590 AU
conjunction	362 Mar 05 j 15:24	15° 00 '32'06	-1°-8'-54				
minimum elong	362 Mar 05 j 15:24	15° 00 '32'06	1°08'56	conjunction	367 Aug 27 j 05:07	3° 00 '27'13	1°06'10
max. Earth dist.	362 Mar 07 j 01:43	15° 00 '52'48	5.96340 AU	minimum elong	367 Aug 27 j 05:05	3° 00 '27'12	1°06'10
morning rise	362 Mar 19 j 00:53	18° 00 '45'27		morning rise	367 Sep 09 j 04:16	6° 00 '15'37	
	362 May 08 j 08:49	0° 00 ' 00		retrograde	368 Jan 07 j 07:07	23° 00 '03'55	
retrograde	362 Jul 29 j 11:01	9° 00 '21'17		opposition	368 Mar 07 j 18:34	18° 00 '10'41	1°42'00
min. Earth dist.	362 Sep 25 j 23:45	4° 00 '27'03	3.97820 AU	min. Earth dist.	368 Mar 08 j 17:20	18° 00 '03'21	4.44077 AU
opposition	362 Sep 27 j 04:51	4° 00 '17'11	-1°-42'-51	direct	368 May 09 j 09:23	13° 00 '08'10	
	362 Nov 04 j 21:59	30° 00 ' 00			368 Sep 09 j 15:25	0° 00 ' 00	
direct	362 Nov 24 j 02:15	29° 00 '22'05		evening set	368 Sep 13 j 02:07	0° 00 ' 00 44'40	
	362 Dec 13 j 06:33	0° 00 ' 00		max. Earth dist.	368 Sep 24 j 04:15	3° 00 ' 00 09'36	6.42593 AU
evening set	363 Mar 29 j 19:24	18° 00 ' 00 54'03					
				conjunction	368 Sep 25 j 21:33	3° 00 ' 00 32'11	1°09'44
conjunction	363 Apr 12 j 09:26	22° 00 ' 00 07'01	-1°-1'-20	minimum elong	368 Sep 25 j 21:34	3° 00 ' 00 32'11	1°09'44
minimum elong	363 Apr 12 j 09:29	22° 00 ' 00 07'02	1°01'21	morning rise	368 Oct 08 j 14:14	6° 00 ' 00 18'28	
max. Earth dist.	363 Apr 14 j 13:40	22° 00 ' 00 37'57	6.01155 AU	retrograde	369 Feb 06 j 05:19	23° 00 ' 00 16'01	
morning rise	363 Apr 26 j 02:14	25° 00 ' 00 21'11		opposition	369 Apr 07 j 23:57	18° 00 ' 00 24'12	1°33'39
	363 May 16 j 05:54	0° 00 ' 00		min. Earth dist.	369 Apr 09 j 09:40	18° 00 ' 00 13'27	4.39605 AU
	363 Aug 19 j 18:04	15° 00 ' 00		direct	369 Jun 09 j 16:20	13° 00 ' 00 23'23	
retrograde	363 Sep 03 j 15:06	15° 00 ' 00 21'57			369 Oct 08 j 09:08	0° 00 ' 00	
	363 Sep 18 j 10:19	15° 00 ' 00 28'00		evening set	369 Oct 13 j 19:26	1° 00 ' 00 11'44	
min. Earth dist.	363 Oct 31 j 18:21	10° 00 ' 00 28'31	4.06347 AU	max. Earth dist.	369 Oct 24 j 09:10	3° 00 ' 00 32'51	6.34920 AU
opposition	363 Nov 02 j 04:46	10° 00 ' 00 16'47	-1°-11'-44				
direct	363 Dec 30 j 11:45	5° 00 ' 00 18'41		conjunction	369 Oct 26 j 11:07	4° 00 ' 00 00'44	0°54'06
	364 Mar 22 j 14:42	15° 00 ' 00		minimum elong	369 Oct 26 j 11:09	4° 00 ' 00 00'45	0°54'06
evening set	364 May 04 j 20:19	24° 00 ' 00 23'59		morning rise	369 Nov 08 j 01:15	6° 00 ' 00 14'08	
					369 Dec 16 j 18:46	15° 00 ' 00	
conjunction	364 May 18 j 14:38	27° 00 ' 00 33'40	0°-30'-58	retrograde	370 Mar 10 j 16:45	24° 00 ' 00 12'45	
minimum elong	364 May 18 j 14:40	27° 00 ' 00 33'41	0°30'59	opposition	370 May 10 j 14:48	19° 00 ' 00 13'38	0°58'33
max. Earth dist.	364 May 20 j 16:08	28° 00 ' 00 02'09	6.12610 AU	min. Earth dist.	370 May 12 j 01:36	19° 00 ' 00 19'32	4.29144 AU
	364 May 29 j 05:34	0° 00 ' 00			370 Jun 24 j 05:55	15° 00 ' 00 15'00	
morning rise	364 Jun 01 j 09:54	0° 00 ' 00 43'33		direct	370 Jul 11 j 15:47	14° 00 ' 00 13'21	
retrograde	364 Oct 06 j 14:15	19° 00 ' 00 40'08			370 Jul 29 j 01:34	15° 00 ' 00	
min. Earth dist.	364 Dec 04 j 01:41	14° 00 ' 00 45'30	4.19424 AU		370 Nov 01 j 21:09	0° 00 ' 00	
opposition	364 Dec 05 j 03:38	14° 00 ' 00 36'42	0°-16'-41	evening set	370 Nov 14 j 04:32	2° 00 ' 00 27'46'23	
direct	365 Feb 02 j 14:06	9° 00 ' 00 35'46		max. Earth dist.	370 Nov 25 j 01:52	5° 00 ' 00 27'16'00	6.22541 AU
asc. node	365 Mar 27 j 01:06	13° 00 ' 00 41'40					
evening set	365 Jun 09 j 09:42	28° 00 ' 00 05'39		conjunction	370 Nov 26 j 20:08	5° 00 ' 00 27'40'17	0°22'08
	365 Jun 17 j 23:19	0° 00 ' 00		minimum elong	370 Nov 26 j 20:09	5° 00 ' 00 27'40'18	0°22'09
				morning rise	370 Dec 09 j 11:15	8° 00 ' 00 27'34'16	
conjunction	365 Jun 23 j 02:29	1° 00 ' 00 08'42	0°08'52	retrograde	371 Apr 14 j 07:02	27° 00 ' 00 27'05'45	
minimum elong	365 Jun 23 j 02:28	1° 00 ' 00 08'41	0°08'52	opposition	371 Jun 14 j 03:45	22° 00 ' 00 27'11'50	0°03'15
behind sun begin	365 Jun 22 j 19:22	1° 00 ' 00 04'45		min. Earth dist.	371 Jun 15 j 04:36	22° 00 ' 00 27'03'51	4.15614 AU
behind sun end	365 Jun 23 j 09:33	1° 00 ' 00 12'38		desc. node	371 Jul 05 j 09:56	19° 00 ' 00 27'36'13	
max. Earth dist.	365 Jun 24 j 09:21	1° 00 ' 00 25'55	6.26278 AU	direct	371 Aug 13 j 23:31	17° 00 ' 00 27'16'06	
morning rise	365 Jul 06 j 18:04	4° 00 ' 00 10'56			371 Nov 20 j 09:37	0° 00 ' 00	
retrograde	365 Nov 07 j 10:06	22° 00 ' 00 03'14		evening set	371 Dec 17 j 02:04	6° 00 ' 00 28'04'46	
opposition	366 Jan 06 j 05:34	17° 00 ' 00 03'20	0°40'21				
min. Earth dist.	366 Jan 05 j 17:52	17° 00 ' 00 07'14	4.32454 AU	conjunction	371 Dec 29 j 20:21	9° 00 ' 00 28'05'30	0°-18'-17
direct	366 Mar 07 j 23:14	12° 00 ' 00 00'37		minimum elong	371 Dec 29 j 20:20	9° 00 ' 00 28'05'29	0°18'19
evening set	366 Jul 13 j 02:18	29° 00 ' 00 05'38		max. Earth dist.	371 Dec 28 j 21:07	8° 00 ' 00 28'51'45	6.09076 AU
	366 Jul 13 j 03:00	0° 00 ' 00		morning rise	372 Jan 11 j 16:07	12° 00 ' 00 28'07'12	
					372 Apr 16 j 09:57	0° 00 ' 00	
conjunction	366 Jul 26 j 12:32	2° 00 ' 00 55'12	0°44'19	retrograde	372 May 20 j 01:25	1° 00 ' 00 28'44'45	
minimum elong	366 Jul 26 j 12:29	2° 00 ' 00 55'11	0°44'18		372 Jun 22 j 18:50	30° 00 ' 00 15'00	
max. Earth dist.	366 Jul 26 j 14:53	2° 00 ' 00 56'29	6.37675 AU	opposition	372 Jul 19 j 14:16	26° 00 ' 00 28'47'31	0°-56'-41
morning rise	366 Aug 08 j 20:20	5° 00 ' 00 49'25		min. Earth dist.	372 Jul 19 j 19:16	26° 00 ' 00 28'45'53	4.03349 AU
	366 Sep 22 j 22:37	15° 00 ' 00		direct	372 Sep 16 j 23:21	21° 00 ' 00 28'53'44	
retrograde	366 Dec 08 j 01:34	22° 00 ' 00 56'27			372 Nov 30 j 07:52	0° 00 ' 00	
opposition	367 Feb 06 j 03:37	18° 00 ' 00 00'22	1°22'58	evening set	373 Jan 19 j 23:31	11° 00 ' 00 28'14'53	
min. Earth dist.	367 Feb 06 j 10:53	17° 00 ' 00 57'59	4.41478 AU				
	367 Mar 02 j 20:20	15° 00 ' 00 15'00		conjunction	373 Feb 01 j 23:31	14° 00 ' 00 28'22'25	0°-53'-47

minimum elong	373 Feb 01 j 23:29	14°≈22'24	0°53'47	morning rise	378 Aug 13 j 06:26	10°Ω12'54	
max. Earth dist.	373 Feb 02 j 08:00	14°≈27'32	5.99148 AU		378 Sep 04 j 21:02	15°Ω	
	373 Feb 04 j 13:53	15°≈		retrograde	378 Dec 12 j 05:02	27°Ω16'04	
morning rise	373 Feb 15 j 02:01	17°≈31'28		opposition	379 Feb 10 j 09:22	22°Ω20'26	1°27'08
	373 Apr 12 j 20:24	0°✕		min. Earth dist.	379 Feb 10 j 18:25	22°Ω17'29	4.42094 AU
retrograde	373 Jun 27 j 01:31	7°✕58'04		direct	379 Apr 13 j 10:28	17°Ω17'15	
min. Earth dist.	373 Aug 25 j 11:26	3°✕02'10	3.96903 AU		379 Jul 25 j 22:29	0°♄	
opposition	373 Aug 26 j 03:26	2°✕56'49	-1°-37'-46	evening set	379 Aug 18 j 11:26	4°♄56'38	
	373 Sep 18 j 21:17	30°R≈		max. Earth dist.	379 Aug 30 j 09:31	7°♄31'24	6.43655 AU
direct	373 Oct 23 j 09:29	28°≈03'16					
	373 Nov 26 j 14:14	0°✕		conjunction	379 Aug 31 j 12:32	7°♄46'03	1°07'48
evening set	374 Feb 25 j 15:37	17°✕40'23		minimum elong	379 Aug 31 j 12:30	7°♄46'03	1°07'47
				morning rise	379 Sep 13 j 10:42	10°♄34'02	
conjunction	374 Mar 10 j 23:01	20°✕52'22	-1°-9'-30	retrograde	380 Jan 11 j 14:12	27°♄22'45	
minimum elong	374 Mar 10 j 23:01	20°✕52'22	1°09'30	opposition	380 Mar 12 j 01:58	22°♄29'49	1°42'29
max. Earth dist.	374 Mar 12 j 12:24	21°✕14'52	5.96687 AU	min. Earth dist.	380 Mar 13 j 03:28	22°♄21'37	4.43605 AU
morning rise	374 Mar 24 j 09:47	24°✕06'03		direct	380 May 13 j 18:36	17°♄27'30	
	374 Apr 18 j 17:39	0°♃			380 Aug 24 j 07:31	0°♁	
retrograde	374 Aug 03 j 15:32	14°♃38'43		evening set	380 Sep 17 j 09:14	5°♁05'37	
min. Earth dist.	374 Oct 01 j 01:46	9°♃45'02	3.98845 AU	max. Earth dist.	380 Sep 28 j 08:02	7°♁29'09	6.41609 AU
opposition	374 Oct 02 j 09:27	9°♃34'17	-1°-40'-37				
direct	374 Nov 29 j 06:35	4°♃38'47		conjunction	380 Sep 30 j 04:02	7°♁53'15	1°08'39
evening set	375 Apr 04 j 01:45	24°♃06'56		minimum elong	380 Sep 30 j 04:03	7°♁53'15	1°08'39
				morning rise	380 Oct 12 j 20:16	10°♁39'45	
conjunction	375 Apr 17 j 16:37	27°♃19'31	0°-58'-10	retrograde	381 Feb 10 j 16:26	27°♁41'45	
minimum elong	375 Apr 17 j 16:40	27°♃19'33	0°58'11	opposition	381 Apr 12 j 11:52	22°♁49'56	1°30'13
max. Earth dist.	375 Apr 19 j 21:36	27°♃50'46	6.02746 AU	min. Earth dist.	381 Apr 13 j 21:45	22°♁39'08	4.38186 AU
	375 Apr 29 j 01:16	0°♂		direct	381 Jun 14 j 02:20	17°♁49'24	
morning rise	375 May 01 j 09:59	0°♂33'11			381 Sep 21 j 18:20	0°♆	
	375 Jul 10 j 02:04	15°♂		evening set	381 Oct 18 j 04:23	5°♆41'29	
retrograde	375 Sep 08 j 12:31	20°♂24'49		max. Earth dist.	381 Oct 28 j 19:51	8°♆04'07	6.33193 AU
min. Earth dist.	375 Nov 05 j 16:52	15°♂30'56	4.08296 AU				
opposition	375 Nov 07 j 01:53	15°♂19'40	-1°-4'-54	conjunction	381 Oct 30 j 19:59	8°♆31'06	0°50'25
	375 Nov 09 j 11:31	15°R♂		minimum elong	381 Oct 30 j 20:02	8°♆31'07	0°50'24
direct	376 Jan 04 j 13:05	10°♂21'06		morning rise	381 Nov 12 j 09:57	11°♆20'09	
	376 Feb 28 j 15:54	15°♂			381 Nov 29 j 02:08	15°♆	
evening set	376 May 09 j 21:43	29°♂20'27		retrograde	382 Mar 15 j 10:54	29°♆01'22	
	376 May 12 j 19:09	0°♁		opposition	382 May 15 j 09:15	24°♆09'08	0°51'39
				min. Earth dist.	382 May 16 j 19:20	23°♆58'16	4.27218 AU
conjunction	376 May 23 j 16:13	2°♁29'14	0°-25'-37	direct	382 Jul 16 j 07:00	19°♆11'07	
minimum elong	376 May 23 j 16:15	2°♁29'16	0°25'39		382 Oct 15 j 11:37	0°♁	
max. Earth dist.	376 May 25 j 16:49	2°♁57'03	6.14752 AU	evening set	382 Nov 18 j 18:09	7°♁30'08	
morning rise	376 Jun 06 j 11:14	5°♁38'03		max. Earth dist.	382 Nov 29 j 16:47	10°♁01'14	6.20585 AU
retrograde	376 Oct 11 j 01:54	24°♁24'10					
opposition	376 Dec 09 j 16:56	19°♁21'09	0°-8'-24	conjunction	382 Dec 01 j 09:50	10°♁24'55	0°16'39
min. Earth dist.	376 Dec 08 j 16:09	19°♁29'32	4.21544 AU	minimum elong	382 Dec 01 j 09:51	10°♁24'55	0°16'39
asc. node	377 Feb 04 j 04:54	14°♁20'50		morning rise	382 Dec 14 j 01:35	13°♁19'57	
direct	377 Feb 07 j 07:07	14°♁19'54			383 Mar 13 j 23:52	0°♂	
	377 Jun 01 j 15:51	0°♁		retrograde	383 Apr 19 j 08:57	2°♂00'37	
evening set	377 Jun 14 j 04:18	2°♁44'17		desc. node	383 May 14 j 10:33	1°♂02'33	
					383 May 26 j 01:26	30°R♁	
conjunction	377 Jun 27 j 20:14	5°♁46'11	0°14'18	opposition	383 Jun 19 j 05:11	27°♁06'15	0°-5'-28
minimum elong	377 Jun 27 j 20:13	5°♁46'10	0°14'18	min. Earth dist.	383 Jun 20 j 02:56	26°♁59'14	4.13773 AU
behind sun begin	377 Jun 27 j 16:38	5°♁44'11		direct	383 Aug 18 j 20:08	22°♁10'50	
behind sun end	377 Jun 27 j 23:49	5°♁48'10			383 Nov 01 j 00:10	0°♂	
max. Earth dist.	377 Jun 28 j 21:45	6°♁00'21	6.28204 AU	evening set	383 Dec 21 j 21:36	11°♂04'04	
morning rise	377 Jul 11 j 11:03	8°♁47'14					
retrograde	377 Nov 11 j 17:56	26°♁31'39		conjunction	384 Jan 03 j 16:40	14°♂05'45	0°-23'-59
opposition	378 Jan 10 j 13:39	21°♁32'17	0°47'24	minimum elong	384 Jan 03 j 16:38	14°♂05'44	0°24'00
min. Earth dist.	378 Jan 10 j 05:38	21°♁34'57	4.34037 AU	max. Earth dist.	384 Jan 02 j 23:05	13°♂55'20	6.07525 AU
direct	378 Mar 12 j 13:00	16°♁29'23		morning rise	384 Jan 16 j 13:04	17°♂08'27	
	378 Jun 26 j 19:21	0°Ω			384 Mar 16 j 14:17	0°≈	
evening set	378 Jul 17 j 14:37	4°Ω24'56		retrograde	384 May 25 j 09:42	6°≈53'46	
				opposition	384 Jul 24 j 20:34	1°≈55'59	-1°-4'-11
conjunction	378 Jul 30 j 23:55	7°Ω19'38	0°48'18	min. Earth dist.	384 Jul 24 j 23:02	1°≈55'10	4.02238 AU
minimum elong	378 Jul 30 j 23:53	7°Ω19'37	0°48'18		384 Aug 09 j 00:13	30°R♂	
max. Earth dist.	378 Jul 30 j 23:00	7°Ω19'08	6.38794 AU	direct	384 Sep 22 j 01:40	27°♂02'23	

	384 Nov 04 j 02:42	0°♊		morning rise	390 Aug 17 j 17:04	14°♋38'06	
	385 Jan 19 j 00:53	15°♊			390 Aug 19 j 09:38	15°♋	
evening set	385 Jan 25 j 01:12	16°♊26'03			390 Nov 13 j 22:29	0°♌	
				retrograde	390 Dec 16 j 12:18	1°♌38'26	
conjunction	385 Feb 07 j 01:56	19°♊34'12	0°-57'-28		391 Jan 18 j 00:44	30°♌♋	
minimum elong	385 Feb 07 j 01:53	19°♊34'11	0°57'29	opposition	391 Feb 14 j 16:31	26°♌243'17	1°30'53
max. Earth dist.	385 Feb 07 j 13:45	19°♊41'20	5.98548 AU	min. Earth dist.	391 Feb 15 j 04:54	26°♌239'15	4.42485 AU
morning rise	385 Feb 20 j 05:37	22°♊43'59		direct	391 Apr 17 j 21:17	21°♌240'09	
	385 Mar 23 j 15:17	0°♋			391 Jul 07 j 14:58	0°♌	
retrograde	385 Jul 02 j 07:37	13°♋13'17		evening set	391 Aug 22 j 20:42	9°♌19'18	
opposition	385 Aug 31 j 09:41	8°♋11'31	-1°-40'-42				
min. Earth dist.	385 Aug 30 j 14:05	8°♋18'04	3.96906 AU	conjunction	391 Sep 04 j 20:56	12°♌08'23	1°09'05
direct	385 Oct 28 j 12:55	3°♋17'49		minimum elong	391 Sep 04 j 20:55	12°♌08'23	1°09'04
evening set	386 Mar 02 j 20:38	22°♋54'17		max. Earth dist.	391 Sep 03 j 15:50	11°♌52'35	6.43561 AU
				morning rise	391 Sep 17 j 18:02	14°♌56'01	
conjunction	386 Mar 16 j 05:09	26°♋06'30	-1°-9'-32		391 Dec 12 j 22:32	0°♍	
minimum elong	386 Mar 16 j 05:09	26°♋06'30	1°09'32	retrograde	392 Jan 15 j 21:04	1°♍45'41	
max. Earth dist.	386 Mar 17 j 21:45	26°♋30'53	5.97275 AU		392 Feb 19 j 00:09	30°♌♍	
morning rise	386 Mar 29 j 16:49	29°♋20'19		opposition	392 Mar 16 j 10:52	26°♌53'02	1°42'26
	386 Apr 01 j 11:37	0°♎		min. Earth dist.	392 Mar 17 j 12:57	26°♌44'39	4.43072 AU
retrograde	386 Aug 08 j 18:27	19°♎49'01		direct	392 May 18 j 03:02	21°♌50'58	
min. Earth dist.	386 Oct 06 j 03:31	14°♎55'07	3.99947 AU		392 Aug 05 j 21:08	0°♎	
opposition	386 Oct 07 j 11:15	14°♎44'19	-1°-37'-38	evening set	392 Sep 21 j 17:45	9°♎30'46	
direct	386 Dec 04 j 10:17	9°♎48'26		max. Earth dist.	392 Oct 02 j 15:20	11°♎54'02	6.40689 AU
evening set	387 Apr 09 j 05:49	29°♎12'58					
	387 Apr 12 j 14:11	0°♏		conjunction	392 Oct 04 j 11:50	12°♎18'30	1°07'11
				minimum elong	392 Oct 04 j 11:51	12°♎18'30	1°07'11
conjunction	387 Apr 22 j 21:33	2°♏25'14	0°-54'-37	morning rise	392 Oct 17 j 03:31	15°♎05'09	
minimum elong	387 Apr 22 j 21:36	2°♏25'15	0°54'37		393 Jan 08 j 01:45	0°♏	
max. Earth dist.	387 Apr 25 j 03:44	2°♏57'03	6.04260 AU	retrograde	393 Feb 15 j 05:34	2°♏11'20	
morning rise	387 May 06 j 15:25	5°♏38'25			393 Mar 25 j 18:11	30°♌♏	
	387 Jun 18 j 00:37	15°♏		opposition	393 Apr 17 j 01:10	27°♎19'38	1°26'15
retrograde	387 Sep 13 j 07:12	25°♏21'28		min. Earth dist.	393 Apr 18 j 12:05	27°♎08'31	4.36946 AU
min. Earth dist.	387 Nov 10 j 11:55	20°♏27'43	4.10061 AU	direct	393 Jun 18 j 15:14	22°♎19'28	
opposition	387 Nov 11 j 20:43	20°♏16'33	0°-57'-45		393 Sep 02 j 20:46	0°♏	
direct	388 Jan 09 j 10:04	15°♏17'38		evening set	393 Oct 22 j 14:14	10°♏14'27	
	388 Apr 26 j 01:37	0°♐		max. Earth dist.	393 Nov 02 j 05:21	12°♏37'26	6.31743 AU
evening set	388 May 14 j 21:32	4°♐12'09					
				conjunction	393 Nov 04 j 05:37	13°♏04'35	0°46'26
conjunction	388 May 28 j 15:51	7°♐20'06	0°-20'-11	minimum elong	393 Nov 04 j 05:39	13°♏04'36	0°46'26
minimum elong	388 May 28 j 15:53	7°♐20'07	0°20'11		393 Nov 12 j 18:52	15°♏	
max. Earth dist.	388 May 30 j 12:19	7°♐45'25	6.16612 AU	morning rise	393 Nov 16 j 19:41	15°♏54'16	
morning rise	388 Jun 11 j 10:44	10°♐27'58			394 Jan 28 j 23:03	0°♑	
retrograde	388 Oct 15 j 13:48	29°♐05'10		retrograde	394 Mar 20 j 05:04	3°♑42'07	
min. Earth dist.	388 Dec 13 j 07:08	24°♐10'05	4.23322 AU		394 May 10 j 21:23	30°♌♐	
opposition	388 Dec 14 j 05:14	24°♐02'37	0°00'-10	opposition	394 May 20 j 04:17	28°♌49'38	0°44'26
asc. node	388 Dec 15 j 09:49	23°♐52'58		min. Earth dist.	394 May 21 j 12:11	28°♌39'27	4.25657 AU
direct	389 Feb 12 j 00:37	19°♐01'02		direct	394 Jul 20 j 22:02	23°♌51'59	
	389 May 15 j 05:08	0°♑			394 Sep 25 j 01:29	0°♑	
evening set	389 Jun 18 j 22:16	7°♑21'22		evening set	394 Nov 23 j 07:24	12°♑14'25	
				max. Earth dist.	394 Dec 04 j 10:34	14°♑48'36	6.19060 AU
conjunction	389 Jul 02 j 13:40	10°♑22'21	0°19'38				
minimum elong	389 Jul 02 j 13:39	10°♑22'20	0°19'37	conjunction	394 Dec 05 j 23:23	15°♑09'56	0°11'07
max. Earth dist.	389 Jul 03 j 12:40	10°♑35'05	6.29775 AU	minimum elong	394 Dec 05 j 23:24	15°♑09'56	0°11'07
morning rise	389 Jul 16 j 03:20	13°♑22'18		behind sun begin	394 Dec 05 j 17:23	15°♑06'28	
	389 Oct 21 j 22:29	0°♒		behind sun end	394 Dec 06 j 05:25	15°♑13'24	
retrograde	389 Nov 16 j 00:34	1°♒00'11		morning rise	394 Dec 18 j 15:25	18°♑05'46	
	389 Dec 10 j 23:44	30°♌♑			395 Feb 13 j 05:25	0°♒	
opposition	390 Jan 14 j 21:37	26°♑01'25	0°54'10	desc. node	395 Mar 24 j 15:48	5°♒26'54	
min. Earth dist.	390 Jan 14 j 15:26	26°♑03'28	4.35295 AU	retrograde	395 Apr 24 j 10:48	6°♒53'59	
direct	390 Mar 17 j 00:18	20°♑58'27		opposition	395 Jun 24 j 05:39	1°♒59'13	0°-14'-1
	390 Jun 08 j 17:54	0°♓		min. Earth dist.	395 Jun 25 j 01:41	1°♒52'46	4.12396 AU
evening set	390 Jul 22 j 03:32	8°♓51'43			395 Jul 10 j 02:01	30°♌♑	
				direct	395 Aug 23 j 16:57	27°♑04'08	
conjunction	390 Aug 04 j 11:35	11°♓45'37	0°52'01		395 Oct 06 j 07:05	0°♒	
minimum elong	390 Aug 04 j 11:32	11°♓45'35	0°52'02	evening set	395 Dec 26 j 15:57	16°♒00'18	
max. Earth dist.	390 Aug 04 j 05:17	11°♓42'11	6.39632 AU				

conjunction	396 Jan 08 j 11:26	19°☾02'40	0°-29'-22	max. Earth dist.	401 Jul 07 j 23:24	15°☾04'36	6.31033 AU
minimum elong	396 Jan 08 j 11:24	19°☾02'39	0°29'22	morning rise	401 Jul 20 j 18:13	17°☾53'41	
max. Earth dist.	396 Jan 07 j 20:29	18°☾53'47	6.06411 AU		401 Sep 20 j 01:26	0°♈	
morning rise	396 Jan 21 j 08:45	22°☾06'12		retrograde	401 Nov 20 j 07:58	5°♈26'13	
	396 Feb 25 j 03:28	0°♌		opposition	402 Jan 19 j 05:17	0°♈27'57	1°00'29
retrograde	396 May 30 j 12:06	11°♌57'22		min. Earth dist.	402 Jan 19 j 01:45	0°♈29'07	4.36295 AU
opposition	396 Jul 29 j 23:44	6°♌59'00	-1°-10'-58		402 Jan 22 j 17:46	30°♌☽	
min. Earth dist.	396 Jul 29 j 22:22	6°♌59'27	4.01512 AU	direct	402 Mar 21 j 11:53	25°☽24'52	
direct	396 Sep 27 j 00:20	2°♌05'27			402 May 17 j 20:27	0°♈	
	397 Jan 02 j 00:54	15°♌		evening set	402 Jul 26 j 15:27	13°♈16'21	
evening set	397 Jan 30 j 00:11	21°♌30'29			402 Aug 03 j 14:43	15°♈	
conjunction	397 Feb 12 j 01:53	24°♌39'09	-1°00'-36	conjunction	402 Aug 08 j 22:35	16°♈09'34	0°55'23
minimum elong	397 Feb 12 j 01:51	24°♌39'08	1°00'37	minimum elong	402 Aug 08 j 22:33	16°♈09'33	0°55'23
max. Earth dist.	397 Feb 12 j 18:15	24°♌49'01	5.98266 AU	max. Earth dist.	402 Aug 08 j 14:34	16°♈05'12	6.40311 AU
morning rise	397 Feb 25 j 06:26	27°♌49'28		morning rise	402 Aug 22 j 02:44	19°♈01'16	
	397 Mar 06 j 10:16	0°♌			402 Oct 16 j 18:21	0°♌	
retrograde	397 Jul 07 j 12:03	18°♌20'05		retrograde	402 Dec 20 j 17:27	5°♌59'10	
opposition	397 Sep 05 j 12:05	13°♌17'48	-1°-42'-42	opposition	403 Feb 18 j 23:24	1°♌04'26	1°34'03
min. Earth dist.	397 Sep 04 j 15:27	13°♌24'44	3.97105 AU	min. Earth dist.	403 Feb 19 j 12:57	1°♌00'02	4.42820 AU
direct	397 Nov 02 j 15:03	8°♌23'51			403 Feb 27 j 07:18	30°♌♈	
evening set	398 Mar 07 j 22:01	27°♌59'08		direct	403 Apr 22 j 05:41	26°♈01'26	
	398 Mar 16 j 08:14	0°♌			403 Jun 14 j 22:05	0°♌	
conjunction	398 Mar 21 j 07:37	1°♌11'31	-1°-9'-1	evening set	403 Aug 27 j 05:30	13°♌40'08	
minimum elong	398 Mar 21 j 07:38	1°♌11'31	1°09'02	max. Earth dist.	403 Sep 07 j 20:13	16°♌11'13	6.43511 AU
max. Earth dist.	398 Mar 23 j 03:02	1°♌37'32	5.97926 AU	conjunction	403 Sep 09 j 04:35	16°♌28'49	1°09'56
morning rise	398 Apr 03 j 20:17	4°♌25'27		minimum elong	403 Sep 09 j 04:34	16°♌28'48	1°09'56
retrograde	398 Aug 13 j 16:58	24°♌49'50		morning rise	403 Sep 22 j 00:53	19°♌16'07	
min. Earth dist.	398 Oct 11 j 00:28	19°♌56'03	4.00991 AU		403 Nov 15 j 07:16	0°♌	
opposition	398 Oct 12 j 08:59	19°♌44'59	-1°-34'-3	retrograde	404 Jan 20 j 05:46	6°♌06'27	
direct	398 Dec 09 j 07:47	14°♌48'44		opposition	404 Mar 20 j 19:39	1°♌14'01	1°41'46
	399 Mar 27 j 02:58	0°♌		min. Earth dist.	404 Mar 21 j 23:58	1°♌04'57	4.42634 AU
evening set	399 Apr 14 j 06:38	4°♌10'08			404 Mar 30 j 12:49	30°♌♌	
conjunction	399 Apr 27 j 22:55	7°♌22'05	0°-50'-48	direct	404 May 22 j 13:24	26°♌12'08	
minimum elong	399 Apr 27 j 22:58	7°♌22'06	0°50'49		404 Jul 13 j 22:07	0°♌	
max. Earth dist.	399 Apr 30 j 02:52	7°♌52'30	6.05595 AU	evening set	404 Sep 26 j 00:49	13°♌52'54	
morning rise	399 May 11 j 17:26	10°♌34'53		max. Earth dist.	404 Oct 06 j 21:16	16°♌15'50	6.39869 AU
	399 May 31 j 02:32	15°♌		conjunction	404 Oct 08 j 18:27	16°♌40'44	1°05'19
	399 Sep 07 j 19:36	0°♌		minimum elong	404 Oct 08 j 18:29	16°♌40'45	1°05'18
retrograde	399 Sep 17 j 22:33	0°♌10'18		morning rise	404 Oct 21 j 09:37	19°♌27'32	
	399 Sep 28 j 01:21	30°♌♌			404 Dec 12 j 16:10	0°♌	
min. Earth dist.	399 Nov 15 j 04:53	25°♌16'16	4.11538 AU	retrograde	405 Feb 19 j 16:11	6°♌37'40	
opposition	399 Nov 16 j 12:17	25°♌05'34	0°-50'-29	opposition	405 Apr 21 j 13:40	1°♌45'54	1°21'46
direct	400 Jan 14 j 05:26	20°♌06'12		min. Earth dist.	405 Apr 22 j 23:46	1°♌35'02	4.35771 AU
	400 Apr 08 j 03:53	0°♌			405 May 05 j 17:45	30°♌♌	
evening set	400 May 19 j 18:43	8°♌57'08		direct	405 Jun 23 j 00:55	26°♌46'03	
conjunction	400 Jun 02 j 13:13	12°♌04'26	0°-14'-46		405 Aug 09 j 16:34	0°♌	
minimum elong	400 Jun 02 j 13:14	12°♌04'27	0°14'46	evening set	405 Oct 26 j 22:35	14°♌43'40	
behind sun begin	400 Jun 02 j 10:15	12°♌02'46			405 Oct 28 j 03:46	15°♌	
behind sun end	400 Jun 02 j 16:13	12°♌06'08		max. Earth dist.	405 Nov 06 j 14:47	17°♌07'45	6.30289 AU
max. Earth dist.	400 Jun 04 j 08:11	12°♌28'49	6.18144 AU	conjunction	405 Nov 08 j 13:48	17°♌34'18	0°42'12
morning rise	400 Jun 16 j 07:38	15°♌11'28		minimum elong	405 Nov 08 j 13:50	17°♌34'19	0°42'12
	400 Aug 31 j 17:57	0°♌		morning rise	405 Nov 21 j 03:51	20°♌24'35	
retrograde	400 Oct 20 j 00:47	3°♌41'00			406 Jan 05 j 17:09	0°♌	
asc. node	400 Oct 26 j 17:26	3°♌36'33		retrograde	406 Mar 25 j 00:09	8°♌19'25	
	400 Dec 08 j 12:20	30°♌♌		opposition	406 May 24 j 22:21	3°♌26'45	0°36'57
opposition	400 Dec 18 j 15:46	28°♌38'59	0°07'50	min. Earth dist.	406 May 26 j 06:12	3°♌16'35	4.23979 AU
min. Earth dist.	400 Dec 17 j 19:30	28°♌45'49	4.24770 AU		406 Jun 23 j 20:10	30°♌♌	
direct	401 Feb 16 j 14:54	23°♌37'12		direct	406 Jul 25 j 13:23	28°♌29'28	
	401 Apr 25 j 04:25	0°♌			406 Aug 26 j 00:49	0°♌	
evening set	401 Jun 23 j 14:48	11°♌54'30		evening set	406 Nov 27 j 19:49	16°♌56'00	
conjunction	401 Jul 07 j 05:19	14°♌54'37	0°24'43	max. Earth dist.	406 Dec 09 j 00:19	19°♌31'35	6.17299 AU
minimum elong	401 Jul 07 j 05:17	14°♌54'36	0°24'43	conjunction	406 Dec 10 j 12:05	19°♌52'22	0°05'32

minimum elong	406 Dec 10 j 12:05	19°♄52'22	0°05'31	behind sun begin	412 Jun 07 j 06:25	16°♃53'16	
behind sun begin	406 Dec 10 j 04:23	19°♄47'55		behind sun end	412 Jun 07 j 20:30	17°♃01'11	
behind sun end	406 Dec 10 j 19:47	19°♄56'49		max. Earth dist.	412 Jun 09 j 05:41	17°♃19'58	6.20024 AU
morning rise	406 Dec 23 j 04:44	22°♄49'11		morning rise	412 Jun 21 j 07:31	20°♃03'15	
	407 Jan 24 j 09:40	0°♃			412 Aug 07 j 16:40	0°♃	
desc. node	407 Feb 01 j 21:10	1°♃44'52		asc. node	412 Sep 05 j 07:19	4°♃43'28	
retrograde	407 Apr 29 j 10:25	11°♃46'12		retrograde	412 Oct 24 j 12:13	8°♃23'41	
opposition	407 Jun 29 j 05:33	6°♃50'59	0°-22'-33	min. Earth dist.	412 Dec 22 j 09:38	3°♃28'30	4.26706 AU
min. Earth dist.	407 Jun 29 j 22:16	6°♃45'35	4.10688 AU	opposition	412 Dec 23 j 04:38	3°♃22'06	0°15'58
direct	407 Aug 28 j 10:57	1°♃56'12			413 Jan 19 j 19:32	30°♃	
evening set	407 Dec 31 j 10:31	20°♃56'58		direct	413 Feb 21 j 07:56	28°♃20'03	
					413 Mar 26 j 07:20	0°♃	
conjunction	408 Jan 13 j 06:45	24°♃00'19	0°-34'-36	evening set	413 Jun 28 j 08:49	16°♃32'22	
minimum elong	408 Jan 13 j 06:42	24°♃00'17	0°34'37				
max. Earth dist.	408 Jan 12 j 20:10	23°♃54'01	6.04907 AU	conjunction	413 Jul 11 j 22:28	19°♃31'19	0°29'45
morning rise	408 Jan 26 j 04:51	27°♃04'52		minimum elong	413 Jul 11 j 22:26	19°♃31'18	0°29'45
	408 Feb 07 j 15:30	0°♃		max. Earth dist.	413 Jul 12 j 14:21	19°♃40'03	6.32903 AU
	408 Apr 29 j 04:38	15°♃		morning rise	413 Jul 25 j 10:04	22°♃29'04	
retrograde	408 Jun 04 j 18:59	17°♃03'50			413 Aug 30 j 08:25	0°♃	
	408 Jul 11 j 10:46	15°♃		retrograde	413 Nov 24 j 14:57	9°♃54'02	
opposition	408 Aug 04 j 04:12	12°♃04'56	-1°-17'-23	opposition	414 Jan 23 j 13:19	4°♃56'17	1°06'27
min. Earth dist.	408 Aug 04 j 00:58	12°♃05'59	4.00358 AU	min. Earth dist.	414 Jan 23 j 11:54	4°♃56'45	4.37966 AU
direct	408 Oct 02 j 01:59	7°♃11'27			414 Mar 17 j 10:30	30°♃	
	408 Dec 13 j 11:23	15°♃		direct	414 Mar 26 j 00:19	29°♃53'09	
evening set	409 Feb 04 j 01:13	26°♃39'43			414 Apr 03 j 15:03	0°♃	
					414 Jul 18 j 13:54	15°♃	
conjunction	409 Feb 17 j 03:58	29°♃49'10	-1°-3'-21	evening set	414 Jul 31 j 02:41	17°♃40'21	
minimum elong	409 Feb 17 j 03:56	29°♃49'09	1°03'21				
	409 Feb 17 j 21:55	0°♃		conjunction	414 Aug 13 j 08:29	20°♃32'30	0°58'25
max. Earth dist.	409 Feb 18 j 00:27	0°♃01'31	5.97561 AU	minimum elong	414 Aug 13 j 08:26	20°♃32'29	0°58'25
morning rise	409 Mar 02 j 09:41	3°♃00'18		max. Earth dist.	414 Aug 12 j 19:59	20°♃25'43	6.41639 AU
retrograde	409 Jul 12 j 18:25	23°♃33'46		morning rise	414 Aug 26 j 11:30	23°♃23'11	
opposition	409 Sep 10 j 16:49	18°♃31'05	-1°-44'00		414 Sep 27 j 07:04	0°♃	
min. Earth dist.	409 Sep 09 j 17:38	18°♃38'53	3.96964 AU	retrograde	414 Dec 24 j 21:44	10°♃16'40	
direct	409 Nov 07 j 16:47	13°♃36'57		opposition	415 Feb 23 j 05:03	5°♃22'15	1°36'36
	410 Feb 27 j 12:11	0°♃		min. Earth dist.	415 Feb 23 j 21:13	5°♃17'01	4.43734 AU
evening set	410 Mar 13 j 03:15	3°♃12'36		direct	415 Apr 26 j 14:27	0°♃19'15	
				evening set	415 Aug 31 j 11:15	17°♃55'27	
conjunction	410 Mar 26 j 13:50	6°♃25'16	-1°-7'-58	max. Earth dist.	415 Sep 11 j 23:52	20°♃25'17	6.43927 AU
minimum elong	410 Mar 26 j 13:51	6°♃25'17	1°07'59				
max. Earth dist.	410 Mar 28 j 10:27	6°♃51'58	5.98337 AU	conjunction	415 Sep 13 j 09:29	20°♃43'34	1°10'23
morning rise	410 Apr 09 j 03:39	9°♃39'30		minimum elong	415 Sep 13 j 09:29	20°♃43'34	1°10'23
	410 Aug 17 j 06:25	0°♃		morning rise	415 Sep 26 j 04:38	23°♃30'17	
retrograde	410 Aug 18 j 17:58	0°♃00'13			415 Oct 27 j 08:25	0°♃	
	410 Aug 20 j 05:34	30°♃		retrograde	416 Jan 24 j 08:58	10°♃20'06	
min. Earth dist.	410 Oct 16 j 00:41	25°♃06'33	4.01909 AU	opposition	416 Mar 25 j 01:22	5°♃27'48	1°40'32
opposition	410 Oct 17 j 09:55	24°♃55'13	-1°-29'-39	min. Earth dist.	416 Mar 26 j 06:39	5°♃18'26	4.42521 AU
direct	410 Dec 14 j 10:10	19°♃58'34		direct	416 May 26 j 19:06	0°♃26'06	
	411 Mar 08 j 11:06	0°♃		evening set	416 Sep 30 j 04:30	18°♃06'51	
evening set	411 Apr 19 j 11:24	9°♃17'20		max. Earth dist.	416 Oct 10 j 21:45	20°♃28'21	6.39216 AU
conjunction	411 May 03 j 04:32	12°♃29'01	0°-46'-28	conjunction	416 Oct 12 j 21:24	20°♃54'39	1°03'09
minimum elong	411 May 03 j 04:35	12°♃29'02	0°46'30	minimum elong	416 Oct 12 j 21:26	20°♃54'40	1°03'09
max. Earth dist.	411 May 05 j 09:52	13°♃00'07	6.06968 AU	morning rise	416 Oct 25 j 12:15	23°♃41'34	
	411 May 13 j 23:53	15°♃			416 Nov 24 j 04:59	0°♃	
morning rise	411 May 16 j 23:18	15°♃41'21		retrograde	417 Feb 24 j 01:44	10°♃55'21	
	411 Jul 25 j 22:53	0°♃		opposition	417 Apr 25 j 22:41	6°♃03'32	1°16'58
retrograde	411 Sep 22 j 19:03	5°♃08'37		min. Earth dist.	417 Apr 27 j 10:38	5°♃52'05	4.34584 AU
min. Earth dist.	411 Nov 20 j 00:58	0°♃14'33	4.13222 AU	direct	417 Jun 27 j 09:20	1°♃03'53	
opposition	411 Nov 21 j 07:25	0°♃04'12	0°-42'-37		417 Oct 12 j 15:50	15°♃	
	411 Nov 21 j 19:44	30°♃		evening set	417 Oct 31 j 03:25	19°♃04'23	
direct	412 Jan 19 j 04:15	25°♃04'31		max. Earth dist.	417 Nov 10 j 19:14	21°♃28'46	6.28658 AU
	412 Mar 16 j 13:24	0°♃					
evening set	412 May 24 j 19:18	13°♃50'51		conjunction	417 Nov 12 j 18:42	21°♃55'40	0°37'52
				minimum elong	417 Nov 12 j 18:44	21°♃55'41	0°37'52
conjunction	412 Jun 07 j 13:27	16°♃57'13	0°-9'-6	morning rise	417 Nov 25 j 08:54	24°♃46'42	
minimum elong	412 Jun 07 j 13:27	16°♃57'14	0°09'06		417 Dec 19 j 02:09	0°♃	

retrograde	418 Mar 29 j 14:31	12°♌49'19		opposition	423 Nov 26 j 03:12	5°♈04'34	0°-34'-21
opposition	418 May 29 j 13:15	7°♌56'21	0°29'28	direct	424 Jan 24 j 03:26	0°♈04'27	
min. Earth dist.	418 May 30 j 19:34	7°♌46'39	4.21995 AU	evening set	424 May 29 j 20:45	18°♈45'25	
direct	418 Jul 29 j 23:00	2°♌59'22					
evening set	418 Dec 02 j 05:51	21°♌31'22		conjunction	424 Jun 12 j 14:35	21°♈50'45	0°-3'-18
				minimum elong	424 Jun 12 j 14:35	21°♈50'45	0°03'19
conjunction	418 Dec 14 j 22:30	24°♌28'49	0°00'-1	behind sun begin	424 Jun 12 j 06:18	21°♈46'06	
minimum elong	418 Dec 14 j 22:31	24°♌28'49	0°00'02	behind sun end	424 Jun 12 j 22:53	21°♈55'24	
behind sun begin	418 Dec 14 j 16:06	24°♌25'06		max. Earth dist.	424 Jun 14 j 04:14	22°♈11'56	6.22091 AU
behind sun end	418 Dec 15 j 04:56	24°♌32'32		morning rise	424 Jun 26 j 07:55	24°♈55'32	
max. Earth dist.	418 Dec 13 j 12:56	24°♌09'12	6.15130 AU	asc. node	424 Jul 14 j 20:41	28°♈59'31	
desc. node	418 Dec 14 j 16:30	24°♌25'20			424 Jul 19 j 14:19	0°♉	
morning rise	418 Dec 27 j 15:48	27°♌26'50		retrograde	424 Oct 29 j 01:40	13°♉06'23	
	419 Jan 07 j 17:53	0°♉		opposition	424 Dec 27 j 17:55	8°♉05'18	0°24'03
retrograde	419 May 04 j 11:23	16°♉34'26		min. Earth dist.	424 Dec 27 j 01:43	8°♉10'44	4.28707 AU
opposition	419 Jul 04 j 04:02	11°♉38'47	0°-30'-45	direct	425 Feb 26 j 02:43	3°♉03'01	
min. Earth dist.	419 Jul 04 j 19:37	11°♉33'44	4.08488 AU	evening set	425 Jul 03 j 02:59	21°♉10'19	
direct	419 Sep 02 j 05:19	6°♉44'12					
evening set	420 Jan 05 j 04:43	25°♉51'39		conjunction	425 Jul 16 j 15:36	24°♉08'06	0°34'39
				minimum elong	425 Jul 16 j 15:34	24°♉08'05	0°34'40
conjunction	420 Jan 18 j 01:52	28°♉56'16	0°-39'-30	max. Earth dist.	425 Jul 17 j 03:28	24°♉14'37	6.34655 AU
minimum elong	420 Jan 18 j 01:50	28°♉56'14	0°39'31	morning rise	425 Jul 30 j 02:04	27°♉04'40	
max. Earth dist.	420 Jan 17 j 18:45	28°♉52'00	6.02887 AU		425 Aug 12 j 15:44	0°♊	
	420 Jan 22 j 12:22	0°♊		retrograde	425 Nov 28 j 21:43	14°♊22'58	
morning rise	420 Jan 31 j 01:05	2°♊02'12		opposition	426 Jan 27 j 22:12	9°♊25'43	1°12'09
	420 Mar 30 j 22:27	15°♊		min. Earth dist.	426 Jan 27 j 22:58	9°♊25'28	4.39354 AU
retrograde	420 Jun 10 j 01:38	22°♊10'42		direct	426 Mar 30 j 12:21	4°♊22'31	
opposition	420 Aug 09 j 08:31	17°♊11'19	-1°-23'-10		426 Jul 01 j 04:34	15°♊	
min. Earth dist.	420 Aug 09 j 01:55	17°♊13'30	3.98752 AU	evening set	426 Aug 04 j 14:42	22°♊06'42	
	420 Aug 26 j 12:27	15°♊					
direct	420 Oct 07 j 00:46	12°♊17'54		conjunction	426 Aug 17 j 19:22	24°♊58'00	1°01'13
	420 Nov 16 j 19:22	15°♊		minimum elong	426 Aug 17 j 19:20	24°♊57'59	1°01'13
	421 Feb 01 j 09:28	0°♋		max. Earth dist.	426 Aug 17 j 04:01	24°♊49'41	6.42554 AU
evening set	421 Feb 09 j 04:01	1°♋51'21		morning rise	426 Aug 30 j 21:02	27°♊47'49	
					426 Sep 10 j 04:29	0°♌	
conjunction	421 Feb 22 j 07:52	5°♋01'49	-1°-5'-32	retrograde	426 Dec 29 j 04:14	14°♌38'38	
minimum elong	421 Feb 22 j 07:50	5°♋01'48	1°05'33	opposition	427 Feb 27 j 12:40	9°♌44'41	1°38'47
max. Earth dist.	421 Feb 23 j 07:42	5°♋16'13	5.96509 AU	min. Earth dist.	427 Feb 28 j 07:14	9°♌38'40	4.44131 AU
morning rise	421 Mar 07 j 14:57	8°♋14'01		direct	427 May 01 j 00:25	4°♌41'51	
retrograde	421 Jul 18 j 01:50	28°♋51'22		evening set	427 Sep 04 j 19:40	22°♌17'26	
opposition	421 Sep 15 j 23:01	23°♋48'09	-1°-44'-25	max. Earth dist.	427 Sep 16 j 03:00	24°♌44'38	6.43755 AU
min. Earth dist.	421 Sep 14 j 21:13	23°♋56'52	3.96593 AU				
direct	421 Nov 12 j 21:03	18°♋53'45		conjunction	427 Sep 17 j 16:52	25°♌05'14	1°10'31
	422 Feb 09 j 03:22	0°♌		minimum elong	427 Sep 17 j 16:52	25°♌05'14	1°10'31
evening set	422 Mar 18 j 10:46	8°♌30'29		morning rise	427 Sep 30 j 11:20	27°♌51'44	
					427 Oct 10 j 10:14	0°♍	
conjunction	422 Mar 31 j 22:45	11°♌43'35	-1°-6'-17	retrograde	428 Jan 28 j 18:50	14°♍43'09	
minimum elong	422 Mar 31 j 22:46	11°♌43'37	1°06'17	opposition	428 Mar 29 j 11:09	9°♍51'01	1°38'49
max. Earth dist.	422 Apr 03 j 00:04	12°♌13'03	5.98691 AU	min. Earth dist.	428 Mar 30 j 18:26	9°♍41'01	4.41804 AU
morning rise	422 Apr 14 j 13:30	14°♌58'06		direct	428 May 31 j 05:00	4°♍49'31	
	422 Jun 25 j 14:29	0°♎		evening set	428 Oct 04 j 12:06	22°♍32'16	
retrograde	422 Aug 23 j 23:05	5°♎14'41		max. Earth dist.	428 Oct 15 j 04:59	24°♍53'57	6.38004 AU
min. Earth dist.	422 Oct 21 j 03:03	0°♎21'01	4.02926 AU				
opposition	422 Oct 22 j 12:43	0°♎09'32	-1°-24'-25	conjunction	428 Oct 17 j 04:46	25°♍20'24	1°00'35
	422 Oct 23 j 16:41	30°♎♌		minimum elong	428 Oct 17 j 04:47	25°♍20'25	1°00'35
direct	422 Dec 19 j 14:57	25°♌12'28		morning rise	428 Oct 29 j 19:10	28°♍07'41	
	423 Feb 13 j 04:00	0°♏			428 Nov 07 j 08:28	0°♎	
evening set	423 Apr 24 j 18:22	14°♏27'55			429 Feb 11 j 13:53	15°♎	
	423 Apr 27 j 01:51	15°♏		retrograde	429 Feb 28 j 15:22	15°♎27'10	
					429 Mar 17 j 17:54	15°♎♌	
conjunction	423 May 08 j 11:56	17°♏39'07	0°-41'-42	opposition	429 Apr 30 j 13:27	10°♎35'18	1°11'31
minimum elong	423 May 08 j 11:59	17°♏39'08	0°41'43	min. Earth dist.	429 May 02 j 00:53	10°♎24'01	4.32948 AU
max. Earth dist.	423 May 10 j 16:59	18°♏09'55	6.08528 AU	direct	429 Jul 01 j 20:18	5°♎36'02	
morning rise	423 May 22 j 07:10	20°♏50'52			429 Sep 24 j 19:20	15°♎	
	423 Jul 03 j 04:47	0°♐		evening set	429 Nov 04 j 14:04	23°♎40'47	
retrograde	423 Sep 27 j 13:34	10°♐08'48		max. Earth dist.	429 Nov 15 j 06:10	26°♎06'02	6.26728 AU
min. Earth dist.	423 Nov 24 j 20:49	5°♐14'55	4.15123 AU				

conjunction	429 Nov 17 j 05:15	26°♄32'50	0°33'04	retrograde	435 Oct 02 j 06:06	14°♃59'24	
minimum elong	429 Nov 17 j 05:16	26°♄32'51	0°33'03	opposition	435 Nov 30 j 19:25	9°♃55'28	0°-26'-8
morning rise	429 Nov 29 j 19:47	29°♄24'47		min. Earth dist.	435 Nov 29 j 15:35	10°♃04'56	4.17309 AU
	429 Dec 02 j 10:07	0°♂		direct	436 Jan 29 j 01:01	4°♃54'56	
retrograde	430 Apr 03 j 14:02	17°♂36'26		asc. node	436 May 24 j 20:08	21°♃18'24	
opposition	430 Jun 03 j 11:11	12°♂43'12	0°21'18	evening set	436 Jun 03 j 17:51	23°♃29'52	
min. Earth dist.	430 Jun 04 j 16:44	12°♂33'44	4.19889 AU				
direct	430 Aug 03 j 17:31	7°♂46'33		conjunction	436 Jun 17 j 11:15	26°♃34'04	0°02'26
desc. node	430 Oct 23 j 18:04	16°♂45'58		minimum elong	436 Jun 17 j 11:14	26°♃34'04	0°02'26
evening set	430 Dec 06 j 22:24	26°♂24'16		behind sun begin	436 Jun 17 j 02:54	26°♃29'25	
max. Earth dist.	430 Dec 18 j 09:20	29°♂05'02	6.13053 AU	behind sun end	436 Jun 17 j 19:35	26°♃38'43	
				max. Earth dist.	436 Jun 18 j 22:07	26°♃53'36	6.24193 AU
conjunction	430 Dec 19 j 15:40	29°♂22'49	0°-5'-55	morning rise	436 Jul 01 j 03:48	29°♃37'37	
minimum elong	430 Dec 19 j 15:40	29°♂22'49	0°05'55		436 Jul 02 j 20:09	0°♄	
behind sun begin	430 Dec 19 j 08:01	29°♂18'21		retrograde	436 Nov 02 j 08:49	17°♄39'20	
behind sun end	430 Dec 19 j 23:20	29°♂27'18		opposition	437 Jan 01 j 03:28	12°♄38'46	0°31'42
	430 Dec 22 j 07:02	0°♄		min. Earth dist.	436 Dec 31 j 13:00	12°♄43'36	4.30561 AU
morning rise	431 Jan 01 j 09:38	2°♄22'03		direct	437 Mar 02 j 15:52	7°♄36'15	
retrograde	431 May 09 j 17:02	21°♄39'38		evening set	437 Jul 07 j 17:33	25°♄39'18	
opposition	431 Jul 09 j 08:52	16°♄43'34	0°-39'-16				
min. Earth dist.	431 Jul 09 j 20:58	16°♄39'38	4.06650 AU	conjunction	437 Jul 21 j 05:04	28°♄36'02	0°39'13
direct	431 Sep 07 j 04:18	11°♄49'19		minimum elong	437 Jul 21 j 05:02	28°♄36'01	0°39'12
	432 Jan 05 j 20:44	0°♄		max. Earth dist.	437 Jul 21 j 11:58	28°♄39'49	6.36119 AU
evening set	432 Jan 10 j 04:56	1°♄01'52			437 Jul 27 j 14:29	0°♄	
				morning rise	437 Aug 03 j 14:22	1°♄31'30	
conjunction	432 Jan 23 j 02:48	4°♄07'28	0°-44'-23		437 Oct 13 j 23:37	15°♄	
minimum elong	432 Jan 23 j 02:46	4°♄07'27	0°44'24	retrograde	437 Dec 03 j 03:54	18°♄44'28	
max. Earth dist.	432 Jan 22 j 23:44	4°♄05'37	6.01463 AU		438 Jan 22 j 22:01	15°♄	
morning rise	432 Feb 05 j 03:07	7°♄14'30		opposition	438 Feb 01 j 04:31	13°♄47'45	1°17'18
	432 Mar 09 j 22:06	15°♄		min. Earth dist.	438 Feb 01 j 08:56	13°♄46'18	4.40343 AU
retrograde	432 Jun 15 j 11:42	27°♄29'56		direct	438 Apr 03 j 23:18	8°♄44'32	
opposition	432 Aug 14 j 17:21	22°♄29'55	-1°-28'-32		438 Jun 11 j 11:01	15°♄	
min. Earth dist.	432 Aug 14 j 07:13	22°♄33'17	3.97926 AU	evening set	438 Aug 09 j 00:17	26°♄26'59	
direct	432 Oct 12 j 06:09	17°♄36'29		max. Earth dist.	438 Aug 21 j 08:16	29°♄07'03	6.42976 AU
	433 Jan 14 j 10:50	0°♄					
evening set	433 Feb 14 j 10:04	7°♄11'46		conjunction	438 Aug 22 j 03:54	29°♄17'42	1°03'37
				minimum elong	438 Aug 22 j 03:52	29°♄17'41	1°03'37
conjunction	433 Feb 27 j 15:10	10°♄22'50	-1°-7'-20		438 Aug 25 j 09:55	0°♄	
minimum elong	433 Feb 27 j 15:08	10°♄22'49	1°07'21	morning rise	438 Sep 04 j 04:30	2°♄06'55	
max. Earth dist.	433 Feb 28 j 21:13	10°♄40'58	5.96371 AU	retrograde	439 Jan 02 j 09:33	18°♄56'49	
morning rise	433 Mar 12 j 23:14	13°♄35'32		opposition	439 Mar 03 j 19:18	14°♄03'11	1°40'26
	433 May 31 j 15:57	0°♄		min. Earth dist.	439 Mar 04 j 15:46	13°♄56'34	4.44000 AU
retrograde	433 Jul 23 j 10:39	4°♄12'21		direct	439 May 05 j 07:58	9°♄00'28	
	433 Sep 14 j 21:34	30°♄		evening set	439 Sep 09 j 02:59	26°♄37'02	
min. Earth dist.	433 Sep 20 j 02:37	29°♄17'58	3.97190 AU	max. Earth dist.	439 Sep 20 j 08:23	29°♄03'27	6.43080 AU
opposition	433 Sep 21 j 06:02	29°♄08'42	-1°-44'00				
direct	433 Nov 18 j 03:56	24°♄14'00		conjunction	439 Sep 21 j 23:29	29°♄24'47	1°10'16
	434 Jan 18 j 01:08	0°♄		minimum elong	439 Sep 21 j 23:29	29°♄24'47	1°10'15
evening set	434 Mar 23 j 18:31	13°♄48'02			439 Sep 24 j 16:01	0°♄	
				morning rise	439 Oct 04 j 17:06	2°♄11'15	
conjunction	434 Apr 06 j 07:17	17°♄00'58	-1°-4'-9	retrograde	440 Feb 02 j 04:11	19°♄05'57	
minimum elong	434 Apr 06 j 07:19	17°♄00'59	1°04'10	opposition	440 Apr 02 j 21:24	14°♄14'01	1°36'34
max. Earth dist.	434 Apr 08 j 09:58	17°♄31'06	5.99932 AU	min. Earth dist.	440 Apr 04 j 05:55	14°♄03'38	4.40635 AU
morning rise	434 Apr 19 j 23:02	20°♄15'15		direct	440 Jun 04 j 14:23	9°♄12'52	
	434 Jun 02 j 15:10	0°♄		evening set	440 Oct 08 j 20:34	26°♄58'53	
retrograde	434 Aug 28 j 22:10	10°♄23'57		max. Earth dist.	440 Oct 19 j 11:11	29°♄19'56	6.36429 AU
min. Earth dist.	434 Oct 26 j 02:02	5°♄30'34	4.04672 AU				
opposition	434 Oct 27 j 12:48	5°♄18'42	-1°-18'-39	conjunction	440 Oct 21 j 12:44	29°♄47'29	0°57'38
direct	434 Dec 24 j 16:58	0°♄21'08		minimum elong	440 Oct 21 j 12:46	29°♄47'30	0°57'39
	435 Apr 09 j 23:17	15°♄			440 Oct 22 j 11:14	0°♄	
evening set	435 Apr 29 j 22:15	19°♄30'56		morning rise	440 Nov 03 j 03:08	2°♄35'22	
					441 Jan 05 j 01:04	15°♄	
conjunction	435 May 13 j 16:11	22°♄41'20	0°-36'-46	retrograde	441 Mar 05 j 08:35	20°♄01'45	
minimum elong	435 May 13 j 16:13	22°♄41'22	0°36'47	opposition	441 May 05 j 05:55	15°♄09'48	1°05'34
max. Earth dist.	435 May 15 j 19:44	23°♄11'08	6.10615 AU		441 May 06 j 12:40	15°♄	
morning rise	435 May 27 j 11:23	25°♄52'07		min. Earth dist.	441 May 06 j 17:12	14°♄58'33	4.31065 AU
	435 Jun 14 j 19:28	0°♄		direct	441 Jul 06 j 10:18	10°♄10'54	

	441 Sep 02 j 22:40	15°♍			447 Mar 22 j 08:40	15°♄	
evening set	441 Nov 09 j 02:13	28°♍20'34		evening set	447 May 05 j 00:01	24°♄28'59	
	441 Nov 16 j 09:01	0°♄					
max. Earth dist.	441 Nov 19 j 21:33	0°♄48'18	6.24713 AU	conjunction	447 May 18 j 18:16	27°♄38'41	0°-31'-40
				minimum elong	447 May 18 j 18:18	27°♄38'42	0°31'41
conjunction	441 Nov 21 j 17:42	1°♄13'33	0°27'59	max. Earth dist.	447 May 20 j 21:04	28°♄07'54	6.12497 AU
minimum elong	441 Nov 21 j 17:44	1°♄13'34	0°27'59		447 May 29 j 00:23	0°♄	
morning rise	441 Dec 04 j 08:26	4°♄06'27		morning rise	447 Jun 01 j 13:25	0°♄48'35	
retrograde	442 Apr 08 j 13:37	22°♄27'16		retrograde	447 Oct 06 j 19:07	19°♄46'19	
opposition	442 Jun 08 j 10:57	17°♄33'47	0°12'52	min. Earth dist.	447 Dec 04 j 06:49	14°♄51'56	4.19214 AU
min. Earth dist.	442 Jun 09 j 14:05	17°♄25'05	4.17893 AU	opposition	447 Dec 05 j 09:43	14°♄42'49	0°-17'-54
direct	442 Aug 08 j 12:11	12°♄37'37		direct	448 Feb 02 j 18:28	9°♄41'58	
desc. node	442 Sep 01 j 14:37	13°♄32'09		asc. node	448 Apr 03 j 22:02	15°♄07'14	
	442 Dec 05 j 22:16	0°♄		evening set	448 Jun 08 j 14:01	28°♄12'13	
evening set	442 Dec 11 j 16:38	1°♄20'25			448 Jun 16 j 15:43	0°♄	
max. Earth dist.	442 Dec 23 j 06:58	4°♄03'52	6.11250 AU				
				conjunction	448 Jun 22 j 06:45	1°♄15'24	0°07'59
conjunction	442 Dec 24 j 10:14	4°♄19'56	0°-11'-45	minimum elong	448 Jun 22 j 06:44	1°♄15'23	0°07'59
minimum elong	442 Dec 24 j 10:13	4°♄19'55	0°11'46	behind sun begin	448 Jun 21 j 23:21	1°♄11'17	
behind sun begin	442 Dec 24 j 04:30	4°♄16'34		behind sun end	448 Jun 22 j 14:07	1°♄19'30	
behind sun end	442 Dec 24 j 15:57	4°♄23'17		max. Earth dist.	448 Jun 23 j 12:31	1°♄32'01	6.25974 AU
morning rise	443 Jan 06 j 05:02	7°♄20'16		morning rise	448 Jul 05 j 22:37	4°♄17'52	
retrograde	443 May 15 j 00:02	26°♄46'47		retrograde	448 Nov 06 j 18:09	22°♄11'54	
opposition	443 Jul 14 j 14:39	21°♄50'10	0°-47'-33	opposition	449 Jan 05 j 12:46	17°♄11'52	0°39'06
min. Earth dist.	443 Jul 14 j 23:18	21°♄47'21	4.05196 AU	min. Earth dist.	449 Jan 05 j 01:47	17°♄15'32	4.32076 AU
direct	443 Sep 12 j 05:48	16°♄56'09		direct	449 Mar 07 j 06:38	12°♄09'10	
	443 Dec 19 j 12:07	0°♄			449 Jul 11 j 15:02	0°♄	
evening set	444 Jan 15 j 05:31	6°♄12'17		evening set	449 Jul 12 j 07:45	0°♄09'04	
conjunction	444 Jan 28 j 04:23	9°♄18'42	0°-48'-55	conjunction	449 Jul 25 j 18:24	3°♄04'57	0°43'32
minimum elong	444 Jan 28 j 04:20	9°♄18'41	0°48'56	minimum elong	449 Jul 25 j 18:22	3°♄04'56	0°43'31
max. Earth dist.	444 Jan 28 j 07:28	9°♄20'33	6.00492 AU	max. Earth dist.	449 Jul 25 j 22:15	3°♄07'03	6.37250 AU
morning rise	444 Feb 10 j 05:31	12°♄26'33		morning rise	449 Aug 08 j 02:27	5°♄59'28	
	444 Feb 21 j 00:47	15°♄			449 Sep 21 j 05:54	15°♄	
	444 May 09 j 06:48	0°♄		retrograde	449 Dec 07 j 08:44	23°♄08'17	
retrograde	444 Jun 20 j 21:11	2°♄46'42		opposition	450 Feb 05 j 11:35	18°♄12'03	1°22'03
	444 Aug 02 j 15:17	30°♄		min. Earth dist.	450 Feb 05 j 17:35	18°♄10'05	4.41044 AU
opposition	444 Aug 20 j 00:56	27°♄46'09	-1°-33'-8		450 Mar 04 j 01:38	15°♄	
min. Earth dist.	444 Aug 19 j 12:22	27°♄50'20	3.97559 AU	direct	450 Apr 08 j 08:35	13°♄08'51	
direct	444 Oct 17 j 10:41	22°♄52'44			450 May 14 j 01:59	15°♄	
	444 Dec 24 j 22:17	0°♄			450 Aug 09 j 12:42	0°♄	
evening set	445 Feb 19 j 15:17	12°♄28'25		evening set	450 Aug 13 j 10:29	0°♄50'18	
conjunction	445 Mar 04 j 21:15	15°♄39'48	-1°-8'-33	conjunction	450 Aug 26 j 12:57	3°♄40'28	1°05'41
minimum elong	445 Mar 04 j 21:15	15°♄39'48	1°08'34	minimum elong	450 Aug 26 j 12:55	3°♄40'27	1°05'41
max. Earth dist.	445 Mar 06 j 05:50	15°♄59'26	5.96604 AU	max. Earth dist.	450 Aug 25 j 13:44	3°♄27'52	6.43189 AU
morning rise	445 Mar 18 j 06:35	18°♄52'55		morning rise	450 Sep 08 j 12:30	6°♄29'10	
	445 May 07 j 00:06	0°♄		retrograde	451 Jan 06 j 17:16	23°♄18'49	
retrograde	445 Jul 28 j 14:49	9°♄27'36		opposition	451 Mar 08 j 03:27	18°♄25'32	1°41'34
min. Earth dist.	445 Sep 25 j 04:19	4°♄33'44	3.98017 AU	min. Earth dist.	451 Mar 09 j 02:37	18°♄18'04	4.43736 AU
opposition	445 Sep 26 j 10:14	4°♄23'36	-1°-42'-44	direct	451 May 09 j 18:29	13°♄23'01	
	445 Nov 05 j 22:12	30°♄			451 Sep 08 j 19:07	0°♄	
direct	445 Nov 23 j 07:27	29°♄28'35		evening set	451 Sep 13 j 11:28	1°♄00'40	
	445 Dec 10 j 18:44	0°♄		max. Earth dist.	451 Sep 24 j 13:33	3°♄25'38	6.42352 AU
evening set	446 Mar 28 j 23:54	18°♄59'37					
				conjunction	451 Sep 26 j 07:13	3°♄48'24	1°09'37
conjunction	446 Apr 11 j 13:39	22°♄12'22	-1°-1'-33	minimum elong	451 Sep 26 j 07:13	3°♄48'24	1°09'37
minimum elong	446 Apr 11 j 13:42	22°♄12'24	1°01'34	morning rise	451 Oct 09 j 00:15	6°♄34'55	
max. Earth dist.	446 Apr 13 j 17:26	22°♄43'03	6.01268 AU	retrograde	452 Feb 06 j 14:58	23°♄33'00	
morning rise	446 Apr 25 j 06:04	25°♄26'20		opposition	452 Apr 07 j 09:18	18°♄41'08	1°33'45
	446 May 15 j 00:32	0°♄		min. Earth dist.	452 Apr 08 j 18:01	18°♄30'41	4.39518 AU
	446 Aug 17 j 05:31	15°♄		direct	452 Jun 09 j 00:59	13°♄40'16	
retrograde	446 Sep 02 j 20:45	15°♄27'19			452 Oct 06 j 11:45	0°♄	
	446 Sep 19 j 08:04	15°♄		evening set	452 Oct 13 j 05:46	1°♄29'03	
min. Earth dist.	446 Oct 31 j 01:01	10°♄33'32	4.06348 AU	max. Earth dist.	452 Oct 23 j 21:59	3°♄51'27	6.35032 AU
opposition	446 Nov 01 j 10:29	10°♄22'07	-1°-12'-27				
direct	446 Dec 29 j 18:15	5°♄24'07		conjunction	452 Oct 25 j 21:44	4°♄18'06	0°54'21

minimum elong	452 Oct 25 j 21:46	4°♌18'07	0°54'21		458 Jul 09 j 14:06	15°♄	
morning rise	452 Nov 07 j 11:50	7°♌06'28		retrograde	458 Sep 07 j 14:46	20°♄20'53	
	452 Dec 14 j 18:21	15°♌		min. Earth dist.	458 Nov 04 j 18:55	15°♄27'13	4.07824 AU
retrograde	453 Mar 10 j 01:24	24°♌39'06		opposition	458 Nov 06 j 04:20	15°♄15'49	-1°-5'-58
opposition	453 May 09 j 23:37	19°♌47'03	0°59'12		458 Nov 08 j 02:46	15°♄	
min. Earth dist.	453 May 11 j 10:12	19°♌36'03	4.29480 AU	direct	459 Jan 03 j 13:26	10°♄17'28	
	453 Jun 29 j 21:46	15°♌			459 Feb 28 j 01:37	15°♄	
direct	453 Jul 11 j 01:26	14°♌48'36		evening set	459 May 09 j 22:51	29°♄18'29	
	453 Jul 22 j 04:36	15°♌			459 May 12 j 23:37	0°♄	
	453 Oct 31 j 03:02	0°♄					
evening set	453 Nov 13 j 14:42	3°♄01'47		conjunction	459 May 23 j 17:11	2°♄27'33	0°-26'-31
max. Earth dist.	453 Nov 24 j 11:01	5°♄30'42	6.23079 AU	minimum elong	459 May 23 j 17:13	2°♄27'34	0°26'32
				max. Earth dist.	459 May 25 j 16:09	2°♄54'28	6.14088 AU
conjunction	453 Nov 26 j 06:07	5°♄55'26	0°22'46	morning rise	459 Jun 06 j 12:25	5°♄36'44	
minimum elong	453 Nov 26 j 06:08	5°♄55'26	0°22'46	retrograde	459 Oct 11 j 07:21	24°♄26'26	
morning rise	453 Dec 08 j 21:20	8°♄49'11		opposition	459 Dec 09 j 21:54	19°♄23'20	0°-9'-50
retrograde	454 Apr 13 j 13:13	27°♄17'50		min. Earth dist.	459 Dec 08 j 21:30	19°♄31'36	4.20767 AU
opposition	454 Jun 13 j 10:34	22°♄23'55	0°04'25	direct	460 Feb 07 j 11:18	14°♄22'11	
min. Earth dist.	454 Jun 14 j 10:57	22°♄16'05	4.16326 AU	asc. node	460 Feb 14 j 02:49	14°♄26'32	
desc. node	454 Jul 12 j 12:24	19°♄00'58			460 May 31 j 11:22	0°♄	
direct	454 Aug 13 j 07:47	17°♄28'03		evening set	460 Jun 13 j 07:54	2°♄49'01	
	454 Nov 18 j 22:39	0°♄					
evening set	454 Dec 16 j 09:55	6°♄14'19		conjunction	460 Jun 27 j 00:15	5°♄51'25	0°13'20
max. Earth dist.	454 Dec 28 j 06:04	9°♄01'35	6.09901 AU	minimum elong	460 Jun 27 j 00:14	5°♄51'24	0°13'20
				behind sun begin	460 Jun 26 j 19:40	5°♄48'52	
conjunction	454 Dec 29 j 04:09	9°♄14'37	0°-17'-24	behind sun end	460 Jun 27 j 04:49	5°♄53'56	
minimum elong	454 Dec 29 j 04:08	9°♄14'36	0°17'26	max. Earth dist.	460 Jun 28 j 04:01	6°♄06'52	6.27393 AU
morning rise	455 Jan 10 j 23:27	12°♄15'47		morning rise	460 Jul 10 j 15:10	8°♄52'55	
	455 Apr 15 j 18:39	0°♄		retrograde	460 Nov 11 j 01:19	26°♄40'44	
retrograde	455 May 20 j 05:26	1°♄49'15		opposition	461 Jan 09 j 21:00	21°♄41'17	0°46'07
	455 Jun 23 j 16:52	30°♄		min. Earth dist.	461 Jan 09 j 11:31	21°♄44'27	4.33268 AU
opposition	455 Jul 19 j 18:23	26°♄52'07	0°-55'-16	direct	461 Mar 11 j 17:59	16°♄38'32	
min. Earth dist.	455 Jul 20 j 00:41	26°♄50'04	4.04200 AU		461 Jun 25 j 04:41	0°♄	
direct	455 Sep 17 j 05:40	21°♄58'17		evening set	461 Jul 16 j 21:11	4°♄36'16	
	455 Nov 30 j 06:35	0°♄					
evening set	456 Jan 20 j 04:03	11°♄16'23		conjunction	461 Jul 30 j 06:39	7°♄31'21	0°47'31
				minimum elong	461 Jul 30 j 06:36	7°♄31'20	0°47'31
conjunction	456 Feb 02 j 03:32	14°♄23'22	0°-52'-57	max. Earth dist.	461 Jul 30 j 05:34	7°♄30'46	6.38129 AU
minimum elong	456 Feb 02 j 03:29	14°♄23'21	0°52'58	morning rise	461 Aug 12 j 13:42	10°♄25'05	
max. Earth dist.	456 Feb 02 j 09:29	14°♄26'57	5.99912 AU		461 Sep 03 j 03:50	15°♄	
	456 Feb 04 j 16:26	15°♄		retrograde	461 Dec 11 j 15:49	27°♄30'37	
morning rise	456 Feb 15 j 05:47	17°♄31'55		opposition	462 Feb 09 j 18:33	22°♄34'53	1°26'15
	456 Apr 12 j 02:00	0°♄		min. Earth dist.	462 Feb 10 j 03:38	22°♄31'54	4.41578 AU
retrograde	456 Jun 26 j 00:45	7°♄55'04		direct	462 Apr 12 j 19:28	17°♄31'42	
opposition	456 Aug 25 j 04:56	2°♄53'57	-1°-36'-48		462 Jul 24 j 00:13	0°♄	
min. Earth dist.	456 Aug 24 j 12:56	2°♄59'17	3.97484 AU	evening set	462 Aug 17 j 20:03	5°♄12'27	
	456 Sep 17 j 12:37	30°♄					
direct	456 Oct 22 j 11:36	28°♄00'23		conjunction	462 Aug 30 j 21:38	8°♄02'10	1°07'20
	456 Nov 26 j 04:10	0°♄		minimum elong	462 Aug 30 j 21:36	8°♄02'10	1°07'19
evening set	457 Feb 24 j 16:57	17°♄35'34		max. Earth dist.	462 Aug 29 j 20:38	7°♄48'36	6.43332 AU
				morning rise	462 Sep 12 j 20:03	10°♄50'24	
conjunction	457 Mar 10 j 00:01	20°♄47'13	-1°-9'-11	retrograde	463 Jan 10 j 23:02	27°♄39'57	
minimum elong	457 Mar 10 j 00:01	20°♄47'13	1°09'12	opposition	463 Mar 12 j 11:28	22°♄46'56	1°42'05
max. Earth dist.	457 Mar 11 j 12:10	21°♄08'58	5.97025 AU	min. Earth dist.	463 Mar 13 j 11:12	22°♄39'18	4.43497 AU
morning rise	457 Mar 23 j 10:13	24°♄00'31		direct	463 May 14 j 02:33	17°♄44'37	
	457 Apr 18 j 04:09	0°♄			463 Aug 23 j 07:05	0°♄	
retrograde	457 Aug 02 j 16:31	14°♄32'28		evening set	463 Sep 17 j 19:06	5°♄22'58	
min. Earth dist.	457 Sep 30 j 04:33	9°♄38'19	3.98887 AU	max. Earth dist.	463 Sep 28 j 19:31	7°♄47'20	6.41734 AU
opposition	457 Oct 01 j 10:28	9°♄28'09	-1°-40'-42				
direct	457 Nov 28 j 09:05	4°♄32'46		conjunction	463 Sep 30 j 14:03	8°♄10'38	1°08'34
evening set	458 Apr 03 j 01:45	24°♄00'54		minimum elong	463 Sep 30 j 14:03	8°♄10'38	1°08'34
				morning rise	463 Oct 13 j 06:27	10°♄57'09	
conjunction	458 Apr 16 j 16:23	27°♄13'29	0°-58'-35	retrograde	464 Feb 11 j 01:56	23°♄06'31	1°30'22
minimum elong	458 Apr 16 j 16:26	27°♄13'31	0°58'36	opposition	464 Apr 11 j 20:47	22°♄55'38	4.38528 AU
max. Earth dist.	458 Apr 18 j 21:17	27°♄44'43	6.02503 AU	min. Earth dist.	464 Apr 13 j 06:55	22°♄55'38	4.38528 AU
	458 Apr 28 j 11:05	0°♄		direct	464 Jun 13 j 12:44	18°♄05'57	
morning rise	458 Apr 30 j 09:29	0°♄27'11			464 Sep 19 j 20:54	0°♄	

evening set	464 Oct 17 j 13:51	5°♄56'55		max. Earth dist.	470 Apr 24 j 02:50	2°♄54'09	6.03616 AU
max. Earth dist.	464 Oct 28 j 04:46	8°♄19'05	6.33723 AU	morning rise	470 May 05 j 16:36	5°♄36'58	
					470 Jun 17 j 02:35	15°♄	
conjunction	464 Oct 30 j 05:30	8°♄46'22	0°50'46	retrograde	470 Sep 12 j 11:39	25°♄23'32	
minimum elong	464 Oct 30 j 05:32	8°♄46'23	0°50'45	min. Earth dist.	470 Nov 09 j 16:38	20°♄29'45	4.09289 AU
morning rise	464 Nov 11 j 19:36	11°♄35'15		opposition	470 Nov 11 j 01:24	20°♄18'34	0°-58'-48
	464 Nov 27 j 08:17	15°♄		direct	471 Jan 08 j 14:08	15°♄19'46	
retrograde	465 Mar 14 j 16:50	29°♄14'00			471 Apr 25 j 21:46	0°♄	
opposition	465 May 14 j 16:00	24°♄21'45	0°52'28	evening set	471 May 15 j 01:12	4°♄16'48	
min. Earth dist.	465 May 16 j 01:16	24°♄11'08	4.27904 AU				
direct	465 Jul 15 j 14:18	19°♄23'35		conjunction	471 May 28 j 19:48	7°♄25'11	0°-21'00
	465 Oct 13 j 21:17	0°♄		minimum elong	471 May 28 j 19:49	7°♄25'11	0°21'01
evening set	465 Nov 18 j 01:57	7°♄40'33		max. Earth dist.	471 May 30 j 18:34	7°♄51'52	6.15827 AU
max. Earth dist.	465 Nov 29 j 01:39	10°♄11'56	6.21369 AU	morning rise	471 Jun 11 j 14:39	10°♄33'27	
				retrograde	471 Oct 15 j 22:18	29°♄14'06	
conjunction	465 Nov 30 j 17:39	10°♄34'59	0°17'25	opposition	471 Dec 14 j 12:47	24°♄11'30	0°-1'-28
minimum elong	465 Nov 30 j 17:41	10°♄35'00	0°17'25	min. Earth dist.	471 Dec 13 j 13:31	24°♄19'21	4.22630 AU
morning rise	465 Dec 13 j 09:06	13°♄29'36		asc. node	471 Dec 24 j 11:16	22°♄51'59	
	466 Mar 12 j 04:27	0°♄		direct	472 Feb 12 j 06:25	19°♄10'06	
retrograde	466 Apr 18 j 13:23	2°♄06'37			472 May 13 j 14:58	0°♄	
desc. node	466 May 22 j 14:21	0°♄21'48		evening set	472 Jun 18 j 04:40	7°♄32'10	
	466 May 26 j 04:40	30°♄					
opposition	466 Jun 18 j 09:11	27°♄12'23	0°-4'-4	conjunction	472 Jul 01 j 20:05	10°♄33'25	0°18'44
min. Earth dist.	466 Jun 19 j 08:25	27°♄04'54	4.14582 AU	minimum elong	472 Jul 01 j 20:04	10°♄33'24	0°18'44
direct	466 Aug 18 j 02:21	22°♄16'51		max. Earth dist.	472 Jul 02 j 19:38	10°♄46'28	6.29258 AU
	466 Oct 30 j 19:14	0°♄		morning rise	472 Jul 15 j 10:12	13°♄33'44	
evening set	466 Dec 21 j 02:48	11°♄07'34			472 Oct 18 j 14:36	0°♄	
				retrograde	472 Nov 15 j 10:09	1°♄13'31	
conjunction	467 Jan 02 j 21:29	14°♄08'48	0°-22'-58		472 Dec 13 j 01:37	30°♄	
minimum elong	467 Jan 02 j 21:28	14°♄08'47	0°22'59	opposition	473 Jan 14 j 06:50	26°♄14'33	0°52'57
max. Earth dist.	467 Jan 02 j 01:17	13°♄56'50	6.08271 AU	min. Earth dist.	473 Jan 13 j 23:43	26°♄16'55	4.35015 AU
morning rise	467 Jan 15 j 17:46	17°♄11'03		direct	473 Mar 16 j 08:48	21°♄11'36	
	467 Mar 16 j 16:11	0°♄			473 Jun 06 j 20:51	0°♄	
retrograde	467 May 25 j 08:47	6°♄52'50		evening set	473 Jul 21 j 10:55	9°♄04'57	
opposition	467 Jul 24 j 21:55	1°♄55'08	-1°-2'-40				
min. Earth dist.	467 Jul 25 j 00:31	1°♄54'17	4.02840 AU	conjunction	473 Aug 03 j 19:23	11°♄58'58	0°51'15
	467 Aug 08 j 23:26	30°♄		minimum elong	473 Aug 03 j 19:20	11°♄58'56	0°51'16
direct	467 Sep 22 j 03:47	27°♄01'26		max. Earth dist.	473 Aug 03 j 16:36	11°♄57'27	6.39639 AU
	467 Nov 04 j 09:34	0°♄		morning rise	473 Aug 17 j 00:58	14°♄51'30	
	468 Jan 19 j 07:44	15°♄			473 Aug 17 j 16:41	15°♄	
evening set	468 Jan 25 j 03:32	16°♄23'18			473 Nov 11 j 01:49	0°♄	
				retrograde	473 Dec 15 j 20:00	1°♄51'38	
conjunction	468 Feb 07 j 04:04	19°♄31'08	0°-56'-38		474 Jan 19 j 14:42	30°♄	
minimum elong	468 Feb 07 j 04:01	19°♄31'06	0°56'39	opposition	474 Feb 14 j 01:13	26°♄56'19	1°29'55
max. Earth dist.	468 Feb 07 j 14:56	19°♄37'41	5.98949 AU	min. Earth dist.	474 Feb 14 j 11:39	26°♄52'55	4.42760 AU
morning rise	468 Feb 20 j 07:15	22°♄40'33		direct	474 Apr 17 j 04:52	21°♄53'12	
	468 Mar 22 j 23:47	0°♄			474 Jul 05 j 19:02	0°♄	
retrograde	468 Jul 01 j 08:48	13°♄08'13		evening set	474 Aug 22 j 04:04	9°♄30'49	
opposition	468 Aug 30 j 10:11	8°♄06'35	-1°-39'-51	max. Earth dist.	474 Sep 02 j 23:24	12°♄04'02	6.44078 AU
min. Earth dist.	468 Aug 29 j 16:47	8°♄12'25	3.97027 AU				
direct	468 Oct 27 j 15:39	3°♄12'50		conjunction	474 Sep 04 j 04:21	12°♄19'44	1°08'35
evening set	469 Mar 01 j 21:28	22°♄49'12		minimum elong	474 Sep 04 j 04:19	12°♄19'44	1°08'35
				morning rise	474 Sep 17 j 01:48	15°♄07'16	
conjunction	469 Mar 15 j 05:43	26°♄01'21	-1°-9'-19		474 Dec 10 j 16:15	0°♄	
minimum elong	469 Mar 15 j 05:43	26°♄01'21	1°09'19	retrograde	475 Jan 15 j 04:22	1°♄54'56	
max. Earth dist.	469 Mar 16 j 21:16	26°♄25'07	5.97108 AU		475 Feb 19 j 19:47	30°♄	
morning rise	469 Mar 28 j 17:07	29°♄15'08		opposition	475 Mar 16 j 17:33	27°♄02'09	1°41'59
	469 Mar 31 j 20:34	0°♄		min. Earth dist.	475 Mar 17 j 20:07	26°♄53'37	4.43761 AU
retrograde	469 Aug 07 j 20:10	19°♄45'05		direct	475 May 18 j 11:26	21°♄59'56	
min. Earth dist.	469 Oct 05 j 05:24	14°♄51'16	3.99520 AU		475 Aug 05 j 09:50	0°♄	
opposition	469 Oct 06 j 13:00	14°♄40'32	-1°-37'-54	evening set	475 Sep 21 j 23:34	9°♄37'18	
direct	469 Dec 03 j 10:26	9°♄44'47		max. Earth dist.	475 Oct 02 j 21:40	12°♄00'32	6.41475 AU
evening set	470 Apr 08 j 07:17	29°♄11'01					
	470 Apr 11 j 18:51	0°♄		conjunction	475 Oct 04 j 17:55	12°♄24'48	1°07'09
				minimum elong	475 Oct 04 j 17:56	12°♄24'48	1°07'09
conjunction	470 Apr 21 j 22:42	2°♄23'28	0°-55'-4	morning rise	475 Oct 17 j 09:38	15°♄11'10	
minimum elong	470 Apr 21 j 22:45	2°♄23'30	0°55'04		476 Jan 07 j 17:31	0°♄	

retrograde	476 Feb 15 j 07:41	2°♄14'26		min. Earth dist.	481 Oct 10 j 07:57	20°♃08'09	4.00042 AU
	476 Mar 25 j 09:04	30°♄♁		opposition	481 Oct 11 j 16:59	19°♃56'54	-1°-34'-12
opposition	476 Apr 16 j 04:44	27°♁22'38	1°26'34	direct	481 Dec 08 j 15:02	15°♃00'45	
min. Earth dist.	476 Apr 17 j 15:00	27°♁11'43	4.37752 AU		482 Mar 25 j 09:17	0°♃	
direct	476 Jun 17 j 18:44	22°♁22'17		evening set	482 Apr 13 j 14:49	4°♃25'18	
	476 Sep 01 j 21:00	0°♄					
evening set	476 Oct 21 j 18:11	10°♄14'58		conjunction	482 Apr 27 j 07:14	7°♃37'39	0°-51'-3
max. Earth dist.	476 Nov 01 j 08:48	12°♄37'24	6.32477 AU	minimum elong	482 Apr 27 j 07:17	7°♃37'41	0°51'04
				max. Earth dist.	482 Apr 29 j 14:06	8°♃09'50	6.04777 AU
conjunction	476 Nov 03 j 09:36	13°♄04'48	0°47'00	morning rise	482 May 11 j 01:34	10°♃50'49	
minimum elong	476 Nov 03 j 09:38	13°♄04'50	0°46'59		482 May 29 j 05:21	15°♃	
	476 Nov 11 j 22:45	15°♄			482 Aug 31 j 03:21	0°♄	
morning rise	476 Nov 15 j 23:37	15°♄54'11		retrograde	482 Sep 17 j 11:12	0°♄29'32	
	477 Jan 28 j 07:49	0°♃			482 Oct 04 j 14:16	30°♄	
retrograde	477 Mar 19 j 06:53	3°♃39'13		opposition	482 Nov 15 j 23:36	25°♃24'43	0°-51'-6
	477 May 09 j 12:45	30°♄♄		min. Earth dist.	482 Nov 14 j 15:17	25°♃35'44	4.10919 AU
opposition	477 May 19 j 05:05	28°♄46'49	0°45'38	direct	483 Jan 13 j 15:53	20°♃25'30	
min. Earth dist.	477 May 20 j 15:14	28°♄35'55	4.26230 AU		483 Apr 06 j 21:23	0°♄	
direct	477 Jul 20 j 01:04	23°♄48'56		evening set	483 May 20 j 04:54	9°♄17'45	
	477 Sep 24 j 11:57	0°♃					
evening set	477 Nov 22 j 09:52	12°♃10'18		conjunction	483 Jun 02 j 23:17	12°♄25'13	0°-15'-17
max. Earth dist.	477 Dec 03 j 09:35	14°♃42'23	6.19400 AU	minimum elong	483 Jun 02 j 23:18	12°♄25'13	0°15'17
				behind sun begin	483 Jun 02 j 21:15	12°♄24'04	
conjunction	477 Dec 05 j 01:49	15°♃05'39	0°12'09	behind sun end	483 Jun 03 j 01:21	12°♄26'23	
minimum elong	477 Dec 05 j 01:49	15°♃05'40	0°12'08	max. Earth dist.	483 Jun 04 j 19:31	12°♄50'20	6.17755 AU
behind sun begin	477 Dec 04 j 20:19	15°♃02'30		morning rise	483 Jun 16 j 17:57	15°♄32'29	
behind sun end	477 Dec 05 j 07:19	15°♃08'50			483 Aug 29 j 15:05	0°♄	
morning rise	477 Dec 17 j 17:52	18°♃01'20		retrograde	483 Oct 20 j 12:18	4°♄03'22	
	478 Feb 12 j 19:00	0°♄		asc. node	483 Nov 01 j 21:31	3°♄48'05	
desc. node	478 Apr 03 j 10:57	6°♄10'45			483 Dec 11 j 20:35	30°♄♄	
retrograde	478 Apr 23 j 09:25	6°♄48'01		min. Earth dist.	483 Dec 18 j 06:20	29°♄08'30	4.24635 AU
opposition	478 Jun 23 j 04:51	1°♄53'23	0°-12'-19	opposition	483 Dec 19 j 04:12	29°♄01'08	0°06'58
min. Earth dist.	478 Jun 24 j 01:34	1°♄46'42	4.12462 AU	direct	484 Feb 17 j 02:14	23°♄59'22	
	478 Jul 08 j 05:50	30°♄♃			484 Apr 22 j 10:26	0°♄	
direct	478 Aug 22 j 15:57	26°♃58'08		evening set	484 Jun 23 j 01:17	12°♄16'11	
	478 Oct 06 j 02:13	0°♄					
evening set	478 Dec 25 j 17:56	15°♄55'12		conjunction	484 Jul 06 j 15:57	15°♄16'17	0°24'05
				minimum elong	484 Jul 06 j 15:56	15°♄16'16	0°24'05
conjunction	479 Jan 07 j 13:24	18°♄57'39	0°-28'-15	max. Earth dist.	484 Jul 07 j 12:49	15°♄27'49	6.31163 AU
minimum elong	479 Jan 07 j 13:22	18°♄57'38	0°28'15	morning rise	484 Jul 20 j 04:50	18°♄15'18	
max. Earth dist.	479 Jan 06 j 20:59	18°♄47'53	6.06193 AU		484 Sep 17 j 07:55	0°♄	
morning rise	479 Jan 20 j 10:29	22°♄01'11		retrograde	484 Nov 19 j 19:45	5°♄47'18	
	479 Feb 24 j 13:57	0°♄		opposition	485 Jan 18 j 17:07	0°♄48'53	0°59'31
retrograde	479 May 30 j 14:25	11°♄53'15		min. Earth dist.	485 Jan 18 j 12:31	0°♄50'25	4.36650 AU
opposition	479 Jul 30 j 00:17	6°♄55'05	-1°-9'-30		485 Jan 24 j 21:29	30°♄♄	
min. Earth dist.	479 Jul 30 j 01:18	6°♄54'45	4.01001 AU	direct	485 Mar 20 j 23:31	25°♄45'52	
direct	479 Sep 27 j 02:14	2°♄01'30			485 May 14 j 22:14	0°♄	
	480 Jan 02 j 07:20	15°♄		evening set	485 Jul 26 j 01:05	13°♄35'22	
evening set	480 Jan 30 j 03:11	21°♄29'17			485 Aug 01 j 13:30	15°♄	
conjunction	480 Feb 12 j 04:50	24°♄38'18	0°-59'-50	conjunction	485 Aug 08 j 08:13	16°♄28'23	0°54'46
minimum elong	480 Feb 12 j 04:48	24°♄38'16	0°59'51	minimum elong	485 Aug 08 j 08:10	16°♄28'21	0°54'46
max. Earth dist.	480 Feb 12 j 19:41	24°♄47'15	5.97521 AU	max. Earth dist.	485 Aug 08 j 00:18	16°♄24'05	6.40850 AU
morning rise	480 Feb 25 j 09:22	27°♄48'57		morning rise	485 Aug 21 j 12:40	19°♄19'57	
	480 Mar 05 j 13:33	0°♃			485 Oct 14 j 10:02	0°♄	
retrograde	480 Jul 06 j 16:52	18°♃22'47		retrograde	485 Dec 20 j 03:04	6°♄16'03	
opposition	480 Sep 04 j 15:54	13°♃20'42	-1°-42'-3	opposition	486 Feb 18 j 09:11	1°♄21'08	1°33'14
min. Earth dist.	480 Sep 03 j 19:16	13°♃27'37	3.96206 AU	min. Earth dist.	486 Feb 18 j 22:35	1°♄16'46	4.43490 AU
direct	480 Nov 01 j 17:11	8°♃26'51			486 Feb 28 j 21:52	30°♄♄	
evening set	481 Mar 07 j 03:39	28°♃05'55		direct	486 Apr 21 j 15:49	26°♄18'01	
	481 Mar 15 j 02:04	0°♃			486 Jun 12 j 07:51	0°♄	
				evening set	486 Aug 26 j 13:28	13°♄54'11	
conjunction	481 Mar 20 j 13:03	1°♃18'42	-1°-8'-49	max. Earth dist.	486 Sep 07 j 06:14	16°♄26'01	6.44264 AU
minimum elong	481 Mar 20 j 13:03	1°♃18'42	1°08'50				
max. Earth dist.	481 Mar 22 j 07:12	1°♃44'01	5.96954 AU	conjunction	486 Sep 08 j 12:53	16°♄42'39	1°09'33
morning rise	481 Apr 03 j 01:44	4°♃33'06		minimum elong	486 Sep 08 j 12:52	16°♄42'39	1°09'33
retrograde	481 Aug 13 j 00:42	25°♃01'45		morning rise	486 Sep 21 j 09:10	19°♄29'41	

	486 Nov 13 j 10:13	0°♅		max. Earth dist.	492 Feb 18 j 05:58	0°♁09'19	5.96901 AU
retrograde	487 Jan 19 j 11:19	6°♅17'30		morning rise	492 Mar 01 j 16:34	3°♁09'12	
opposition	487 Mar 21 j 02:28	1°♅24'58	1°41'26	retrograde	492 Jul 12 j 01:50	23°♁45'16	
min. Earth dist.	487 Mar 22 j 06:08	1°♅16'06	4.43403 AU	min. Earth dist.	492 Sep 09 j 01:01	18°♁50'29	3.96311 AU
	487 Apr 01 j 07:22	30°♁		opposition	492 Sep 10 j 00:25	18°♁42'36	-1°-43'-29
direct	487 May 22 j 20:02	26°♁22'59		direct	492 Nov 07 j 00:25	13°♁48'31	
	487 Jul 12 j 22:26	0°♅			493 Feb 25 j 21:36	0°♁	
evening set	487 Sep 26 j 07:21	14°♅01'23		evening set	493 Mar 12 j 11:54	3°♁26'29	
max. Earth dist.	487 Oct 07 j 02:11	16°♅23'13	6.40587 AU				
				conjunction	493 Mar 25 j 22:32	6°♁39'24	-1°-7'-49
conjunction	487 Oct 09 j 00:56	16°♅48'56	1°05'22	minimum elong	493 Mar 25 j 22:33	6°♁39'25	1°07'50
minimum elong	487 Oct 09 j 00:58	16°♅48'57	1°05'21	max. Earth dist.	493 Mar 27 j 21:29	7°♁07'31	5.97778 AU
morning rise	487 Oct 21 j 16:19	19°♅35'30		morning rise	493 Apr 08 j 12:03	9°♁53'48	
	487 Dec 12 j 07:00	0°♁			493 Aug 05 j 06:29	0°♁	
retrograde	488 Feb 19 j 21:45	6°♁43'07		retrograde	493 Aug 18 j 05:24	0°♁16'35	
opposition	488 Apr 20 j 18:00	1°♁51'20	1°22'11		493 Aug 31 j 01:24	30°♁	
min. Earth dist.	488 Apr 22 j 05:55	1°♁39'54	4.36372 AU	min. Earth dist.	493 Oct 15 j 10:44	25°♁22'57	4.01490 AU
	488 May 05 j 16:04	30°♁		opposition	493 Oct 16 j 20:11	25°♁11'33	-1°-29'-48
direct	488 Jun 22 j 07:10	26°♅51'15		direct	493 Dec 13 j 20:24	20°♁14'59	
	488 Aug 08 j 06:06	0°♁			494 Mar 06 j 11:29	0°♁	
evening set	488 Oct 26 j 03:40	14°♁47'26		evening set	494 Apr 18 j 20:53	9°♁34'30	
	488 Oct 27 j 02:09	15°♁					
max. Earth dist.	488 Nov 05 j 18:13	17°♁10'24	6.30718 AU	conjunction	494 May 02 j 13:43	12°♁46'12	0°-46'-45
				minimum elong	494 May 02 j 13:46	12°♁46'14	0°46'46
conjunction	488 Nov 07 j 19:04	17°♁37'56	0°42'46	max. Earth dist.	494 May 04 j 19:45	13°♁17'43	6.06686 AU
minimum elong	488 Nov 07 j 19:06	17°♁37'57	0°42'47		494 May 12 j 03:24	15°♁	
morning rise	488 Nov 20 j 09:08	20°♁28'03		morning rise	494 May 16 j 08:33	15°♁58'38	
	489 Jan 04 j 16:24	0°♁			494 Jul 23 j 11:55	0°♁	
retrograde	489 Mar 24 j 01:46	8°♁21'05		retrograde	494 Sep 22 j 04:36	5°♁26'57	
opposition	489 May 24 j 00:35	3°♁28'27	0°38'08	min. Earth dist.	494 Nov 19 j 10:38	0°♁33'12	4.13074 AU
min. Earth dist.	489 May 25 j 08:50	3°♁18'09	4.24206 AU	opposition	494 Nov 20 j 18:35	0°♁22'19	0°-43'-16
	489 Jun 23 j 05:36	30°♁			494 Nov 23 j 12:12	30°♁	
direct	489 Jul 24 j 15:13	28°♁30'57		direct	495 Jan 18 j 14:28	25°♁22'39	
	489 Aug 24 j 21:51	0°♁			495 Mar 15 j 00:54	0°♁	
evening set	489 Nov 27 j 00:34	16°♁57'41		evening set	495 May 25 j 04:42	14°♁08'41	
max. Earth dist.	489 Dec 08 j 03:31	19°♁32'21	6.17293 AU				
				conjunction	495 Jun 07 j 22:51	17°♁15'03	0°-9'-39
conjunction	489 Dec 09 j 16:50	19°♁54'03	0°06'28	minimum elong	495 Jun 07 j 22:52	17°♁15'03	0°09'40
minimum elong	489 Dec 09 j 16:50	19°♁54'03	0°06'27	behind sun begin	495 Jun 07 j 16:04	17°♁11'13	
behind sun begin	489 Dec 09 j 09:19	19°♁49'42		behind sun end	495 Jun 08 j 05:41	17°♁18'53	
behind sun end	489 Dec 10 j 00:22	19°♁58'25		max. Earth dist.	495 Jun 09 j 16:10	17°♁38'24	6.19980 AU
morning rise	489 Dec 22 j 09:25	22°♁50'51		morning rise	495 Jun 21 j 16:51	20°♁21'03	
	490 Jan 23 j 11:10	0°♁			495 Aug 06 j 12:12	0°♁	
desc. node	490 Feb 10 j 11:25	3°♁36'38		asc. node	495 Sep 11 j 17:22	5°♁49'11	
retrograde	490 Apr 28 j 14:35	11°♁47'38		retrograde	495 Oct 25 j 00:14	8°♁41'54	
opposition	490 Jun 28 j 08:00	6°♁52'35	0°-21'-3	opposition	495 Dec 23 j 15:54	3°♁40'11	0°15'02
min. Earth dist.	490 Jun 29 j 03:04	6°♁46'25	4.10431 AU	min. Earth dist.	495 Dec 22 j 21:09	3°♁46'30	4.26711 AU
direct	490 Aug 27 j 15:06	1°♁57'38			496 Jan 23 j 11:30	30°♁	
evening set	490 Dec 30 j 15:50	21°♁00'18		direct	496 Feb 21 j 19:28	28°♁38'10	
					496 Mar 22 j 12:02	0°♁	
conjunction	491 Jan 12 j 12:05	24°♁03'51	0°-33'-39	evening set	496 Jun 27 j 18:03	16°♁49'55	
minimum elong	491 Jan 12 j 12:02	24°♁03'49	0°33'39				
max. Earth dist.	491 Jan 11 j 23:41	23°♁56'27	6.04444 AU	conjunction	496 Jul 11 j 07:47	19°♁48'53	0°29'05
morning rise	491 Jan 25 j 10:09	27°♁08'36		minimum elong	496 Jul 11 j 07:45	19°♁48'52	0°29'06
	491 Feb 06 j 13:57	0°♁		max. Earth dist.	496 Jul 12 j 00:07	19°♁57'52	6.32920 AU
	491 Apr 28 j 14:58	15°♁		morning rise	496 Jul 24 j 19:36	22°♁46'43	
retrograde	491 Jun 04 j 23:55	17°♁09'08			496 Aug 28 j 06:01	0°♁	
	491 Jul 12 j 11:59	15°♁		retrograde	496 Nov 24 j 00:53	10°♁12'00	
opposition	491 Aug 04 j 08:41	12°♁10'27	-1°-16'-12	opposition	497 Jan 23 j 00:09	5°♁14'06	1°05'33
min. Earth dist.	491 Aug 04 j 05:34	12°♁11'28	3.99757 AU	min. Earth dist.	497 Jan 22 j 22:02	5°♁14'48	4.37985 AU
direct	491 Oct 02 j 05:23	7°♁17'00		direct	497 Mar 25 j 09:44	0°♁10'58	
	491 Dec 13 j 03:39	15°♁			497 Jul 16 j 13:46	15°♁	
evening set	492 Feb 04 j 08:18	26°♁48'04		evening set	497 Jul 30 j 11:59	17°♁57'54	
conjunction	492 Feb 17 j 10:53	29°♁57'47	-1°-2'-44	conjunction	497 Aug 12 j 18:04	20°♁50'09	0°57'53
minimum elong	492 Feb 17 j 10:51	29°♁57'46	1°02'44	minimum elong	497 Aug 12 j 18:02	20°♁50'07	0°57'52
	492 Feb 17 j 14:32	0°♁		max. Earth dist.	497 Aug 12 j 06:46	20°♁44'00	6.41662 AU

morning rise	497 Aug 25 j 21:14	23°♈40'54		503 Nov 15 j 02:51	15°♁	
	497 Sep 25 j 05:00	0°♎		504 Jan 31 j 17:41	0°♋	
retrograde	497 Dec 24 j 08:39	10°♐34'38		evening set	504 Feb 09 j 12:56	2°♌06'00
opposition	498 Feb 22 j 15:27	5°♐40'13	1°35'59			
min. Earth dist.	498 Feb 23 j 07:31	5°♐35'01	4.43748 AU	conjunction	504 Feb 22 j 16:41	5°♌16'17 -1°-5'-6
direct	498 Apr 26 j 00:21	0°♐37'16		minimum elong	504 Feb 22 j 16:39	5°♌16'16 1°05'06
evening set	498 Aug 30 j 21:17	18°♐13'31		max. Earth dist.	504 Feb 23 j 17:39	5°♌31'21 5.96748 AU
max. Earth dist.	498 Sep 11 j 08:32	20°♐42'39	6.43928 AU	morning rise	504 Mar 06 j 23:20	8°♌28'12
				retrograde	504 Jul 17 j 10:06	29°♌04'20
conjunction	498 Sep 12 j 19:39	21°♐01'44	1°10'06	min. Earth dist.	504 Sep 14 j 06:00	24°♌09'40 3.96807 AU
minimum elong	498 Sep 12 j 19:39	21°♐01'44	1°10'07	opposition	504 Sep 15 j 07:03	24°♌01'13 -1°-44'-2
morning rise	498 Sep 25 j 15:14	23°♐48'36		direct	504 Nov 12 j 05:58	19°♌06'55
	498 Oct 25 j 06:05	0°♑			505 Feb 07 j 11:51	0°♍
retrograde	499 Jan 23 j 20:36	10°♑38'30		evening set	505 Mar 17 j 18:18	8°♍42'35
opposition	499 Mar 25 j 11:24	5°♑46'12	1°40'22			
min. Earth dist.	499 Mar 26 j 17:10	5°♑36'39	4.42519 AU	conjunction	505 Mar 31 j 05:46	11°♍55'26 -1°-6'-18
direct	499 May 27 j 05:03	0°♑44'25		minimum elong	505 Mar 31 j 05:48	11°♍55'27 1°06'18
evening set	499 Sep 30 j 15:06	18°♑25'35		max. Earth dist.	505 Apr 02 j 05:48	12°♍24'05 5.98840 AU
max. Earth dist.	499 Oct 11 j 09:35	20°♑47'40	6.39226 AU	morning rise	505 Apr 13 j 20:23	15°♍09'45
					505 Jun 23 j 17:11	0°♎
conjunction	499 Oct 13 j 08:23	21°♑13'31	1°03'13	retrograde	505 Aug 23 j 05:07	5°♎25'57
minimum elong	499 Oct 13 j 08:25	21°♑13'32	1°03'13	min. Earth dist.	505 Oct 20 j 09:58	0°♎32'34 4.03007 AU
morning rise	499 Oct 25 j 23:15	24°♑00'29		opposition	505 Oct 21 j 20:32	0°♎20'47 -1°-24'-47
	499 Nov 23 j 02:41	0°♏			505 Oct 24 j 09:35	30°♏
retrograde	500 Feb 24 j 11:10	11°♏14'04		direct	505 Dec 18 j 22:14	25°♏23'47
opposition	500 Apr 25 j 08:20	6°♏22'19	1°17'18		506 Feb 11 j 07:07	0°♏
min. Earth dist.	500 Apr 26 j 19:42	6°♏11'04	4.34628 AU	evening set	506 Apr 24 j 00:36	14°♏38'30
direct	500 Jun 26 j 17:41	1°♏22'40			506 Apr 25 j 13:48	15°♏
	500 Oct 10 j 15:09	15°♏				
evening set	500 Oct 30 j 14:37	19°♏23'32		conjunction	506 May 07 j 18:00	17°♏49'35 0°-42'-10
max. Earth dist.	500 Nov 10 j 05:39	21°♏47'30	6.28734 AU	minimum elong	506 May 07 j 18:02	17°♏49'37 0°42'11
				max. Earth dist.	506 May 09 j 22:59	18°♏20'23 6.08531 AU
conjunction	500 Nov 12 j 05:53	22°♏14'50	0°38'15	morning rise	506 May 21 j 12:58	21°♏01'15
minimum elong	500 Nov 12 j 05:55	22°♏14'51	0°38'15		506 Jul 01 j 13:54	0°♐
morning rise	500 Nov 24 j 20:15	25°♏05'52		retrograde	506 Sep 26 j 22:20	10°♐19'52
	500 Dec 17 j 01:35	0°♑		min. Earth dist.	506 Nov 24 j 05:58	5°♐25'35 4.15037 AU
retrograde	501 Mar 29 j 01:31	13°♑07'54		opposition	506 Nov 25 j 11:30	5°♐15'32 0°-35'-18
opposition	501 May 28 j 22:37	8°♑15'01	0°30'15	direct	507 Jan 23 j 12:09	0°♐15'28
min. Earth dist.	501 May 30 j 05:55	8°♑05'00	4.22106 AU	evening set	507 May 30 j 02:53	18°♐56'15
direct	501 Jul 29 j 09:51	3°♑17'57				
evening set	501 Dec 01 j 16:57	21°♑50'07		conjunction	507 Jun 12 j 20:46	22°♐01'39 0°-4'-3
max. Earth dist.	501 Dec 12 j 23:58	24°♑27'50	6.15277 AU	minimum elong	507 Jun 12 j 20:47	22°♐01'39 0°04'04
				behind sun begin	507 Jun 12 j 12:33	21°♐57'03
conjunction	501 Dec 14 j 09:44	24°♑47'32	0°00'37	behind sun end	507 Jun 13 j 05:01	22°♐06'16
minimum elong	501 Dec 14 j 09:43	24°♑47'32	0°00'37	max. Earth dist.	507 Jun 14 j 11:29	22°♐23'26 6.21910 AU
behind sun begin	501 Dec 14 j 01:43	24°♑42'53		morning rise	507 Jun 26 j 14:12	25°♐06'34
behind sun end	501 Dec 14 j 17:43	24°♑52'11			507 Jul 18 j 23:37	0°♑
desc. node	501 Dec 20 j 04:56	26°♑08'49		asc. node	507 Jul 22 j 16:51	0°♑46'59
morning rise	501 Dec 27 j 02:53	27°♑45'28		retrograde	507 Oct 29 j 08:51	13°♑18'38
	502 Jan 05 j 20:23	0°♒		min. Earth dist.	507 Dec 27 j 09:22	8°♑23'12 4.28455 AU
retrograde	502 May 03 j 19:27	16°♒51'50		opposition	507 Dec 28 j 02:36	8°♑17'25 0°22'55
opposition	502 Jul 03 j 12:46	11°♒56'22	0°-29'-44	direct	508 Feb 26 j 09:31	3°♑15'10
min. Earth dist.	502 Jul 04 j 04:05	11°♒51'24	4.08688 AU	evening set	508 Jul 02 j 10:04	21°♑22'57
direct	502 Sep 01 j 14:05	7°♒01'48				
evening set	503 Jan 04 j 15:15	26°♒08'53		conjunction	508 Jul 15 j 22:49	24°♑20'55 0°33'55
				minimum elong	508 Jul 15 j 22:47	24°♑20'54 0°33'55
conjunction	503 Jan 17 j 12:06	29°♒13'19	0°-38'-50	max. Earth dist.	508 Jul 16 j 10:29	24°♑27'19 6.34348 AU
minimum elong	503 Jan 17 j 12:04	29°♒13'17	0°38'51	morning rise	508 Jul 29 j 09:33	27°♑17'42
max. Earth dist.	503 Jan 17 j 04:01	29°♒08'28	6.03118 AU		508 Aug 10 j 22:31	0°♓
	503 Jan 20 j 18:07	0°♓		retrograde	508 Nov 28 j 08:25	14°♓37'30
morning rise	503 Jan 30 j 11:09	2°♓19'03		opposition	509 Jan 27 j 07:46	9°♓40'08 1°11'12
	503 Mar 29 j 20:31	15°♓		min. Earth dist.	509 Jan 27 j 09:04	9°♓39'42 4.39007 AU
retrograde	503 Jun 10 j 09:33	22°♓26'11		direct	509 Mar 29 j 22:00	4°♓36'57
opposition	503 Aug 09 j 16:54	17°♓26'51	-1°-22'-16		509 Jun 29 j 06:02	15°♓
min. Earth dist.	503 Aug 09 j 10:28	17°♓28'59	3.98990 AU	evening set	509 Aug 03 j 23:10	22°♓22'00
	503 Aug 29 j 02:53	15°♓				
direct	503 Oct 07 j 10:27	12°♓33'25		conjunction	509 Aug 17 j 04:11	25°♓13'35 1°00'41

minimum elong	509 Aug 17 j 04:09	25°♏13'34	1°00'40	opposition	515 Aug 14 j 22:18	22°♊35'46	-1°-27'-27
max. Earth dist.	509 Aug 16 j 12:52	25°♏05'17	6.42187 AU	min. Earth dist.	515 Aug 14 j 13:26	22°♊38'42	3.98611 AU
morning rise	509 Aug 30 j 06:15	28°♏03'42		direct	515 Oct 12 j 12:33	17°♊42'22	
	509 Sep 08 j 07:31	0°♎			516 Jan 14 j 08:33	0°♋	
retrograde	509 Dec 28 j 14:29	14°♎55'54		evening set	516 Feb 14 j 14:57	7°♋15'15	
opposition	510 Feb 26 j 22:48	10°♎01'48	1°38'14				
min. Earth dist.	510 Feb 27 j 16:39	9°♎56'02	4.43782 AU	conjunction	516 Feb 27 j 19:29	10°♋25'51	-1°-6'-51
direct	510 Apr 30 j 09:03	4°♎58'56		minimum elong	516 Feb 27 j 19:28	10°♋25'50	1°06'53
evening set	510 Sep 04 j 05:56	22°♎35'42		max. Earth dist.	516 Feb 28 j 22:41	10°♋42'16	5.96879 AU
max. Earth dist.	510 Sep 15 j 15:08	25°♎03'56	6.43470 AU	morning rise	516 Mar 12 j 03:20	13°♋38'12	
					516 May 30 j 15:46	0°♌	
conjunction	510 Sep 17 j 03:31	25°♎23'45	1°10'17	retrograde	516 Jul 22 j 12:08	4°♌13'09	
minimum elong	510 Sep 17 j 03:31	25°♎23'45	1°10'17		516 Sep 14 j 03:48	30°♌	
morning rise	510 Sep 29 j 22:11	28°♎10'28		min. Earth dist.	516 Sep 19 j 05:53	29°♌18'57	3.97457 AU
	510 Oct 08 j 09:56	0°♍		opposition	516 Sep 20 j 09:23	29°♌09'40	-1°-43'-43
retrograde	511 Jan 28 j 05:57	15°♍02'42		direct	516 Nov 17 j 07:21	24°♌15'03	
opposition	511 Mar 29 j 21:51	10°♍10'36	1°38'44		517 Jan 17 j 02:58	0°♍	
min. Earth dist.	511 Mar 31 j 04:49	10°♍00'42	4.41612 AU	evening set	517 Mar 22 j 21:14	13°♍48'20	
direct	511 May 31 j 15:11	5°♍09'09					
evening set	511 Oct 04 j 23:51	22°♍52'43		conjunction	517 Apr 05 j 09:45	17°♍01'08	-1°-4'-18
max. Earth dist.	511 Oct 15 j 16:00	25°♍14'04	6.37943 AU	minimum elong	517 Apr 05 j 09:47	17°♍01'09	1°04'19
				max. Earth dist.	517 Apr 07 j 11:14	17°♍30'35	5.99942 AU
conjunction	511 Oct 17 j 16:34	25°♍40'58	1°00'41	morning rise	517 Apr 19 j 01:04	20°♍15'17	
minimum elong	511 Oct 17 j 16:35	25°♍40'59	1°00'41		517 Jun 01 j 16:46	0°♎	
morning rise	511 Oct 30 j 07:19	28°♍28'22		retrograde	517 Aug 28 j 02:57	10°♎25'01	
	511 Nov 06 j 06:31	0°♏		min. Earth dist.	517 Oct 25 j 07:40	5°♎31'13	4.04422 AU
	512 Feb 06 j 10:11	15°♏		opposition	517 Oct 26 j 16:59	5°♎19'52	-1°-19'-21
retrograde	512 Feb 29 j 03:24	15°♏47'43		direct	517 Dec 23 j 21:45	0°♎22'27	
	512 Mar 22 j 20:33	15°♏			518 Apr 08 j 22:29	15°♎	
opposition	512 Apr 30 j 00:20	10°♏55'53	1°11'54	evening set	518 Apr 29 j 00:55	19°♎33'10	
min. Earth dist.	512 May 01 j 11:34	10°♏44'39	4.33056 AU				
direct	512 Jul 01 j 07:49	5°♏56'36		conjunction	518 May 12 j 18:48	22°♎43'46	0°-37'-28
	512 Sep 22 j 12:22	15°♏		minimum elong	518 May 12 j 18:51	22°♎43'47	0°37'28
evening set	512 Nov 04 j 02:03	24°♏01'12		max. Earth dist.	518 May 14 j 23:03	23°♎13'59	6.10143 AU
max. Earth dist.	512 Nov 14 j 20:05	26°♏27'24	6.27032 AU	morning rise	518 May 26 j 13:58	25°♎54'46	
					518 Jun 13 j 16:43	0°♏	
conjunction	512 Nov 16 j 17:28	26°♏53'13	0°33'29	retrograde	518 Oct 01 j 11:27	15°♏04'56	
minimum elong	512 Nov 16 j 17:30	26°♏53'14	0°33'28	min. Earth dist.	518 Nov 28 j 20:37	10°♏10'47	4.16691 AU
morning rise	512 Nov 29 j 07:53	29°♏45'01		opposition	518 Nov 30 j 01:24	10°♏01'00	0°-27'-22
	512 Nov 30 j 10:23	0°♐		direct	519 Jan 28 j 04:29	5°♏00'39	
retrograde	513 Apr 02 j 22:44	17°♐54'51		asc. node	519 Jun 02 j 19:45	23°♏22'37	
opposition	513 Jun 02 j 20:46	13°♐01'43	0°22'10	evening set	519 Jun 03 j 22:39	23°♏37'36	
min. Earth dist.	513 Jun 04 j 01:46	12°♐52'27	4.20399 AU				
direct	513 Aug 03 j 03:32	8°♐05'06		conjunction	519 Jun 17 j 16:03	26°♏42'09	0°01'32
desc. node	513 Oct 29 j 19:57	18°♐23'12		minimum elong	519 Jun 17 j 16:04	26°♏42'09	0°01'32
evening set	513 Dec 06 j 09:22	26°♐41'14		behind sun begin	519 Jun 17 j 07:42	26°♏37'30	
max. Earth dist.	513 Dec 17 j 19:20	29°♐21'15	6.13718 AU	behind sun end	519 Jun 18 j 00:25	26°♏46'49	
				max. Earth dist.	519 Jun 19 j 02:04	27°♏01'14	6.23484 AU
conjunction	513 Dec 19 j 02:22	29°♐39'26	0°-5'-12	morning rise	519 Jul 01 j 08:57	29°♏46'09	
minimum elong	513 Dec 19 j 02:20	29°♐39'25	0°05'13		519 Jul 02 j 09:53	0°♑	
behind sun begin	513 Dec 18 j 18:34	29°♐34'54		retrograde	519 Nov 02 j 18:30	17°♑51'08	
behind sun end	513 Dec 19 j 10:06	29°♐43'57		opposition	520 Jan 01 j 11:53	12°♑50'28	0°30'28
	513 Dec 20 j 13:28	0°♒		min. Earth dist.	519 Dec 31 j 21:53	12°♑55'10	4.29829 AU
morning rise	513 Dec 31 j 20:13	2°♒38'18		direct	520 Mar 01 j 23:49	7°♑48'03	
retrograde	514 May 08 j 23:45	21°♒52'34		evening set	520 Jul 07 j 00:49	25°♑53'13	
opposition	514 Jul 08 j 16:15	16°♒56'34	0°-38'-3				
min. Earth dist.	514 Jul 09 j 04:30	16°♒52'35	4.07403 AU	conjunction	520 Jul 20 j 12:47	28°♑50'24	0°38'26
direct	514 Sep 06 j 13:52	12°♒02'13		minimum elong	520 Jul 20 j 12:45	28°♑50'23	0°38'25
	515 Jan 04 j 11:09	0°♓		max. Earth dist.	520 Jul 20 j 21:47	28°♑55'20	6.35431 AU
evening set	515 Jan 09 j 12:51	1°♓12'08			520 Jul 25 j 19:45	0°♒	
				morning rise	520 Aug 02 j 22:20	1°♒46'17	
conjunction	515 Jan 22 j 10:35	4°♓17'17	0°-43'-35		520 Oct 11 j 09:59	15°♒	
minimum elong	515 Jan 22 j 10:33	4°♓17'16	0°43'37	retrograde	520 Dec 02 j 13:23	19°♒01'48	
max. Earth dist.	515 Jan 22 j 08:12	4°♓15'51	6.02230 AU		521 Jan 24 j 14:16	15°♒	
morning rise	515 Feb 04 j 10:24	7°♓23'47		opposition	521 Jan 31 j 14:39	14°♒04'58	1°16'22
	515 Mar 09 j 13:39	15°♓		min. Earth dist.	521 Jan 31 j 17:19	14°♒04'05	4.39762 AU
retrograde	515 Jun 15 j 16:27	27°♓35'37		direct	521 Apr 03 j 07:09	9°♒01'48	

	521 Jun 09 j 00:03	15°♈		max. Earth dist.	527 Jan 27 j 09:16	9°♌21'45	6.01018 AU
evening set	521 Aug 08 j 09:54	26°♈♌45'47		morning rise	527 Feb 09 j 10:08	12°♌29'10	
					527 Feb 20 j 01:06	15°♌	
conjunction	521 Aug 21 j 13:46	29°♈♌36'47	1°03'05		527 May 09 j 07:44	0°♋	
minimum elong	521 Aug 21 j 13:44	29°♈♌36'46	1°03'06	retrograde	527 Jun 20 j 21:54	2°♋46'54	
max. Earth dist.	521 Aug 20 j 19:03	29°♈♌26'37	6.42557 AU		527 Aug 02 j 18:44	30°♌	
	521 Aug 23 j 08:33	0°♎		opposition	527 Aug 20 j 03:30	27°♌46'27	-1°-32'-5
morning rise	521 Sep 03 j 14:47	2°♎26'18		min. Earth dist.	527 Aug 19 j 15:10	27°♌50'33	3.97859 AU
retrograde	522 Jan 01 j 21:43	19°♎17'29		direct	527 Oct 17 j 13:43	22°♌52'57	
opposition	522 Mar 03 j 06:27	14°♎23'46	1°39'54		527 Dec 25 j 02:08	0°♋	
min. Earth dist.	522 Mar 04 j 02:52	14°♎17'11	4.43761 AU	evening set	528 Feb 19 j 18:21	12°♋27'52	
direct	522 May 04 j 19:29	9°♎21'03					
evening set	522 Sep 08 j 14:05	26°♎58'08		conjunction	528 Mar 04 j 00:09	15°♋39'06	-1°-8'-8
max. Earth dist.	522 Sep 19 j 20:02	29°♎24'51	6.43038 AU	minimum elong	528 Mar 04 j 00:08	15°♋39'05	1°08'09
				max. Earth dist.	528 Mar 05 j 07:49	15°♋58'12	5.96653 AU
conjunction	522 Sep 21 j 10:50	29°♎46'01	1°10'03	morning rise	528 Mar 17 j 09:01	18°♋52'01	
minimum elong	522 Sep 21 j 10:51	29°♎46'01	1°10'02		528 May 06 j 04:04	0°♎	
	522 Sep 22 j 12:29	0°♏		retrograde	528 Jul 27 j 18:35	9°♎27'01	
morning rise	522 Oct 04 j 04:48	2°♏32'37		min. Earth dist.	528 Sep 24 j 09:20	4°♎32'37	3.97780 AU
retrograde	523 Feb 01 j 14:47	19°♏27'03		opposition	528 Sep 25 j 13:24	4°♎23'07	-1°-42'-37
opposition	523 Apr 03 j 08:12	14°♏35'01	1°36'30		528 Nov 04 j 22:01	30°♌	
min. Earth dist.	523 Apr 04 j 15:36	14°♏24'59	4.40800 AU	direct	528 Nov 22 j 11:47	29°♋28'08	
direct	523 Jun 05 j 00:56	9°♏33'46			528 Dec 10 j 00:41	0°♎	
evening set	523 Oct 09 j 07:51	27°♏19'12		evening set	529 Mar 28 j 02:50	19°♎00'15	
max. Earth dist.	523 Oct 20 j 00:49	29°♏41'22	6.36801 AU				
	523 Oct 21 j 10:20	0°♍		conjunction	529 Apr 10 j 16:24	22°♎13'08	-1°-1'-46
conjunction	523 Oct 22 j 00:14	0°♍07'43	0°57'47	minimum elong	529 Apr 10 j 16:26	22°♎13'10	1°01'47
minimum elong	523 Oct 22 j 00:16	0°♍07'44	0°57'48	max. Earth dist.	529 Apr 12 j 19:59	22°♎43'44	6.00777 AU
morning rise	523 Nov 03 j 14:34	2°♍55'27		morning rise	529 Apr 24 j 08:39	25°♎27'17	
	524 Jan 03 j 11:52	15°♍			529 May 14 j 00:49	0°♎	
retrograde	524 Mar 04 j 17:20	20°♍19'58		retrograde	529 Aug 15 j 07:57	15°♎	
opposition	524 May 04 j 15:19	15°♍28'02	1°06'04		529 Sep 02 j 02:11	15°♎31'04	
min. Earth dist.	524 May 06 j 02:33	15°♍16'49	4.31620 AU	min. Earth dist.	529 Sep 19 j 16:49	15°♎	
	524 May 08 j 07:30	15°♍		opposition	529 Oct 30 j 05:49	10°♎37'34	4.05682 AU
direct	524 Jul 05 j 20:56	10°♍29'05		direct	529 Oct 31 j 15:55	10°♎25'56	-1°-13'-12
	524 Aug 31 j 09:49	15°♍			529 Dec 28 j 21:23	5°♎28'08	
evening set	524 Nov 08 j 12:26	28°♍36'57		evening set	530 Mar 21 j 02:51	15°♎	
	524 Nov 14 j 14:41	0°♎			530 May 04 j 04:50	24°♎35'22	
max. Earth dist.	524 Nov 19 j 06:17	1°♎03'39	6.25394 AU	conjunction	530 May 17 j 22:57	27°♎45'23	0°-32'-20
				minimum elong	530 May 17 j 22:59	27°♎45'25	0°32'21
conjunction	524 Nov 21 j 03:44	1°♎29'36	0°28'32	max. Earth dist.	530 May 20 j 00:38	28°♎14'02	6.11726 AU
minimum elong	524 Nov 21 j 03:46	1°♎29'37	0°28'32		530 May 27 j 16:57	0°♌	
morning rise	524 Dec 03 j 18:35	4°♎22'14		morning rise	530 May 31 j 18:19	0°♌55'43	
retrograde	525 Apr 07 j 19:58	22°♎39'54		retrograde	530 Oct 06 j 04:11	19°♌57'12	
opposition	525 Jun 07 j 17:49	17°♎46'23	0°13'57	opposition	530 Dec 04 j 18:15	14°♌53'38	0°-19'-2
min. Earth dist.	525 Jun 08 j 21:00	17°♎37'40	4.18644 AU	min. Earth dist.	530 Dec 03 j 15:18	15°♌02'47	4.18442 AU
direct	525 Aug 07 j 20:44	12°♎50'01		direct	531 Feb 02 j 02:16	9°♌52'56	
desc. node	525 Sep 08 j 18:55	14°♎24'28		asc. node	531 Apr 12 j 00:08	16°♌37'07	
	525 Dec 04 j 12:30	0°♎		evening set	531 Jun 08 j 21:24	28°♌25'28	
evening set	525 Dec 11 j 00:29	1°♎30'28			531 Jun 15 j 23:07	0°♌	
conjunction	525 Dec 23 j 18:05	4°♎29'36	0°-10'-53	conjunction	531 Jun 22 j 14:29	1°♌29'04	0°07'11
minimum elong	525 Dec 23 j 18:04	4°♎29'36	0°10'54	minimum elong	531 Jun 22 j 14:29	1°♌29'04	0°07'12
behind sun begin	525 Dec 23 j 11:55	4°♎26'00		behind sun begin	531 Jun 22 j 06:52	1°♌24'49	
behind sun end	525 Dec 24 j 00:13	4°♎33'11		behind sun end	531 Jun 22 j 22:06	1°♌33'18	
max. Earth dist.	525 Dec 22 j 15:16	4°♎13'51	6.12003 AU	max. Earth dist.	531 Jun 23 j 23:22	1°♌47'26	6.25313 AU
morning rise	526 Jan 05 j 12:28	7°♎29'28		morning rise	531 Jul 06 j 06:27	4°♌31'54	
retrograde	526 May 14 j 04:28	26°♎52'20		retrograde	531 Nov 07 j 04:31	22°♌28'33	
opposition	526 Jul 13 j 18:53	21°♎55'51	0°-46'-9	opposition	532 Jan 05 j 23:23	17°♌28'28	0°38'00
min. Earth dist.	526 Jul 14 j 05:07	21°♎52'31	4.05879 AU	min. Earth dist.	532 Jan 05 j 10:23	17°♌32'48	4.31610 AU
direct	526 Sep 11 j 11:54	17°♎01'43		direct	532 Mar 06 j 15:12	12°♌25'56	
	526 Dec 18 j 10:24	0°♌			532 Jul 09 j 15:53	0°♌	
evening set	527 Jan 14 j 10:45	6°♌15'40		evening set	532 Jul 11 j 17:12	0°♌26'43	
conjunction	527 Jan 27 j 09:09	9°♌21'41	0°-48'-4	conjunction	532 Jul 25 j 03:53	3°♌22'46	0°42'48
minimum elong	527 Jan 27 j 09:06	9°♌21'39	0°48'04	minimum elong	532 Jul 25 j 03:51	3°♌22'44	0°42'48

max. Earth dist.	532 Jul 25 j 08:23	3°♏25'13	6.37044 AU	opposition	538 Jul 18 j 18:50	26°♁49'25	0°-53'-43
morning rise	532 Aug 07 j 12:21	6°♏17'29		min. Earth dist.	538 Jul 19 j 01:55	26°♁47'06	4.03943 AU
	532 Sep 19 j 00:24	15°♏		direct	538 Sep 16 j 05:49	21°♁55'28	
retrograde	532 Dec 06 j 20:43	23°♏26'57			538 Nov 29 j 13:17	0°♁	
opposition	533 Feb 04 j 22:46	18°♏30'35	1°21'06	evening set	539 Jan 19 j 07:11	11°♁15'34	
min. Earth dist.	533 Feb 05 j 04:21	18°♏28'45	4.41114 AU				
	533 Mar 06 j 17:40	15°♏♌		conjunction	539 Feb 01 j 06:42	14°♁22'47	0°-52'-4
direct	533 Apr 07 j 20:17	13°♏27'25		minimum elong	539 Feb 01 j 06:40	14°♁22'46	0°52'05
	533 May 10 j 06:51	15°♏		max. Earth dist.	539 Feb 01 j 11:37	14°♁25'45	5.99361 AU
	533 Aug 07 j 13:07	0°♏♐			539 Feb 03 j 20:27	15°♁	
evening set	533 Aug 12 j 20:02	1°♏07'57		morning rise	539 Feb 14 j 08:41	17°♁31'31	
					539 Apr 12 j 03:02	0°♏	
conjunction	533 Aug 25 j 22:51	3°♏58'06	1°05'08	retrograde	539 Jun 26 j 06:06	7°♏57'10	
minimum elong	533 Aug 25 j 22:49	3°♏58'05	1°05'08	opposition	539 Aug 25 j 08:14	2°♏56'14	-1°-35'-55
max. Earth dist.	533 Aug 25 j 02:10	3°♏46'54	6.43543 AU	min. Earth dist.	539 Aug 24 j 18:16	3°♏00'54	3.96666 AU
morning rise	533 Sep 07 j 22:31	6°♏46'45			539 Sep 18 j 00:26	30°♏♁	
retrograde	534 Jan 06 j 01:05	23°♏34'59		direct	539 Oct 22 j 15:57	28°♁02'41	
opposition	534 Mar 07 j 12:52	18°♏41'34	1°40'57		539 Nov 25 j 22:23	0°♏	
min. Earth dist.	534 Mar 08 j 10:12	18°♏34'41	4.44333 AU	evening set	540 Feb 24 j 22:22	17°♏41'31	
	534 May 09 j 03:10	13°♏39'00					
direct	534 Sep 07 j 01:44	0°♏♌		conjunction	540 Mar 09 j 05:23	20°♏53'38	-1°-8'-50
evening set	534 Sep 12 j 20:02	1°♏14'25		minimum elong	540 Mar 09 j 05:22	20°♏53'38	1°08'50
max. Earth dist.	534 Sep 23 j 23:08	3°♏39'41	6.43143 AU	max. Earth dist.	540 Mar 10 j 16:58	21°♏15'05	5.96033 AU
				morning rise	540 Mar 22 j 15:36	24°♏07'25	
conjunction	534 Sep 25 j 15:50	4°♏01'53	1°09'25		540 Apr 16 j 19:41	0°♏	
minimum elong	534 Sep 25 j 15:50	4°♏01'54	1°09'25	retrograde	540 Aug 02 j 00:43	14°♏43'38	
morning rise	534 Oct 08 j 08:59	6°♏48'09		min. Earth dist.	540 Sep 29 j 11:17	9°♏49'48	3.97834 AU
retrograde	535 Feb 05 j 21:33	23°♏43'18		opposition	540 Sep 30 j 17:54	9°♏39'25	-1°-40'-38
opposition	535 Apr 07 j 15:54	18°♏51'25	1°33'45	direct	540 Nov 27 j 14:08	4°♏44'09	
min. Earth dist.	535 Apr 09 j 01:27	18°♏40'43	4.40407 AU	evening set	541 Apr 02 j 10:22	24°♏16'11	
	535 Jun 09 j 09:53	13°♏50'25					
direct	535 Oct 06 j 04:16	0°♏♌		conjunction	541 Apr 16 j 00:51	27°♏29'12	0°-58'-41
evening set	535 Oct 13 j 12:09	1°♏36'26		minimum elong	541 Apr 16 j 00:54	27°♏29'14	0°58'42
max. Earth dist.	535 Oct 24 j 02:32	3°♏57'33	6.35920 AU	max. Earth dist.	541 Apr 18 j 05:11	28°♏00'11	6.01485 AU
					541 Apr 26 j 16:10	0°♏	
conjunction	535 Oct 26 j 04:07	4°♏25'09	0°54'40	morning rise	541 Apr 29 j 18:03	0°♏43'24	
minimum elong	535 Oct 26 j 04:09	4°♏25'10	0°54'40		541 Jul 07 j 01:36	15°♏	
morning rise	535 Nov 07 j 18:19	7°♏13'11		retrograde	541 Sep 07 j 02:09	20°♏41'18	
	535 Dec 14 j 13:04	15°♏		min. Earth dist.	541 Nov 04 j 05:50	15°♏47'45	4.06935 AU
retrograde	536 Mar 09 j 03:36	24°♏42'30		opposition	541 Nov 05 j 15:56	15°♏36'06	-1°-6'-23
opposition	536 May 09 j 02:45	19°♏50'25	1°00'01		541 Nov 10 j 01:57	15°♏♌	
min. Earth dist.	536 May 10 j 13:37	19°♏39'19	4.30280 AU	direct	542 Jan 03 j 00:37	10°♏37'48	
	536 Jun 30 j 18:27	15°♏♌			542 Feb 25 j 05:38	15°♏	
direct	536 Jul 10 j 05:28	14°♏51'44		evening set	542 May 09 j 09:57	29°♏41'17	
	536 Jul 19 j 16:32	15°♏			542 May 10 j 18:44	0°♏♐	
	536 Oct 30 j 04:45	0°♏♌					
evening set	536 Nov 12 j 18:56	3°♏02'55		conjunction	542 May 23 j 04:30	2°♏50'42	0°-26'-53
max. Earth dist.	536 Nov 23 j 14:45	5°♏31'16	6.23709 AU	minimum elong	542 May 23 j 04:32	2°♏50'43	0°26'55
				max. Earth dist.	542 May 25 j 06:54	3°♏19'37	6.13419 AU
conjunction	536 Nov 25 j 10:27	5°♏56'19	0°23'36	morning rise	542 Jun 05 j 23:38	6°♏00'10	
minimum elong	536 Nov 25 j 10:28	5°♏56'20	0°23'35	retrograde	542 Oct 10 j 21:43	24°♏52'13	
morning rise	536 Dec 08 j 01:25	8°♏49'45		min. Earth dist.	542 Dec 08 j 09:49	19°♏57'46	4.20360 AU
retrograde	537 Apr 12 j 14:50	27°♏15'49		opposition	542 Dec 09 j 11:50	19°♏48'58	0°-10'-30
opposition	537 Jun 12 j 11:15	22°♏22'04	0°05'55	direct	543 Feb 07 j 00:11	14°♏47'53	
min. Earth dist.	537 Jun 13 j 14:08	22°♏13'26	4.16705 AU	asc. node	543 Feb 18 j 08:18	15°♏00'26	
	537 Jul 21 j 16:10	18°♏10'24			543 May 29 j 23:39	0°♏	
desc. node	537 Jul 21 j 16:10	18°♏10'24		evening set	543 Jun 13 j 20:33	3°♏15'08	
direct	537 Aug 12 j 10:15	17°♏26'01					
	537 Nov 18 j 05:44	0°♏♌					
evening set	537 Dec 15 j 12:58	6°♏12'01		conjunction	543 Jun 27 j 12:48	6°♏17'34	0°12'49
max. Earth dist.	537 Dec 27 j 04:51	8°♏56'48	6.09975 AU	minimum elong	543 Jun 27 j 12:47	6°♏17'33	0°12'49
				behind sun begin	543 Jun 27 j 07:47	6°♏14'47	
conjunction	537 Dec 28 j 06:59	9°♏12'14	0°-16'-20	behind sun end	543 Jun 27 j 17:46	6°♏20'19	
minimum elong	537 Dec 28 j 06:58	9°♏12'13	0°16'21	max. Earth dist.	543 Jun 28 j 17:20	6°♏33'27	6.27258 AU
morning rise	538 Jan 10 j 02:20	12°♏13'20		morning rise	543 Jul 11 j 04:00	9°♏19'11	
	538 Apr 15 j 07:16	0°♏♌		retrograde	543 Nov 11 j 15:11	27°♏07'14	
retrograde	538 May 19 j 05:07	1°♏46'23		opposition	544 Jan 10 j 11:09	22°♏07'33	0°45'19
	538 Jun 22 j 06:10	30°♏♌		min. Earth dist.	544 Jan 10 j 00:49	22°♏11'00	4.33398 AU

direct	544 Mar 11 j 08:14	17°♄04'44		morning rise	550 Jan 14 j 23:16	17°♄14'55	
	544 Jun 22 j 16:00	0°♄			550 Mar 15 j 11:33	0°♄	
evening set	544 Jul 16 j 09:21	5°♄01'08		retrograde	550 May 24 j 15:05	6°♄57'39	
				opposition	550 Jul 24 j 02:14	2°♄00'11	-1°-1'-24
conjunction	544 Jul 29 j 19:03	7°♄56'07	0°46'58	min. Earth dist.	550 Jul 24 j 07:03	1°♄58'37	4.02347 AU
minimum elong	544 Jul 29 j 19:01	7°♄56'05	0°46'58		550 Aug 08 j 20:22	30°♄	
max. Earth dist.	544 Jul 29 j 21:06	7°♄57'14	6.38518 AU	direct	550 Sep 21 j 09:14	27°♄06'28	
morning rise	544 Aug 12 j 02:02	10°♄49'40			550 Nov 02 j 22:13	0°♄	
	544 Aug 31 j 17:13	15°♄			551 Jan 18 j 01:54	15°♄	
retrograde	544 Dec 11 j 03:03	27°♄53'43		evening set	551 Jan 24 j 10:25	16°♄31'01	
opposition	545 Feb 09 j 07:07	22°♄57'49	1°25'28				
min. Earth dist.	545 Feb 09 j 14:36	22°♄55'23	4.42175 AU	conjunction	551 Feb 06 j 10:52	19°♄39'09	0°-55'-56
direct	545 Apr 12 j 07:28	17°♄54'39		minimum elong	551 Feb 06 j 10:49	19°♄39'07	0°55'57
	545 Jul 21 j 17:20	0°♄		max. Earth dist.	551 Feb 06 j 20:21	19°♄44'52	5.98287 AU
evening set	545 Aug 17 j 06:52	5°♄32'51		morning rise	551 Feb 19 j 14:04	22°♄48'52	
max. Earth dist.	545 Aug 29 j 07:03	8°♄08'33	6.44083 AU		551 Mar 22 j 13:58	0°♄	
				retrograde	551 Jul 01 j 16:45	13°♄19'14	
conjunction	545 Aug 30 j 08:24	8°♄22'17	1°06'54	opposition	551 Aug 30 j 17:29	8°♄17'48	-1°-39'-10
minimum elong	545 Aug 30 j 08:22	8°♄22'16	1°06'53	min. Earth dist.	551 Aug 29 j 23:39	8°♄23'46	3.96296 AU
morning rise	545 Sep 12 j 07:06	11°♄10'17		direct	551 Oct 27 j 21:23	3°♄24'11	
retrograde	546 Jan 10 j 09:26	27°♄57'17		evening set	552 Mar 01 j 06:31	23°♄03'34	
opposition	546 Mar 11 j 21:28	23°♄04'09	1°41'35				
min. Earth dist.	546 Mar 12 j 21:57	22°♄56'16	4.44332 AU	conjunction	552 Mar 14 j 14:35	26°♄16'00	-1°-9'-2
direct	546 May 13 j 14:22	18°♄01'41		minimum elong	552 Mar 14 j 14:35	26°♄16'00	1°09'02
	546 Aug 21 j 10:15	0°♄		max. Earth dist.	552 Mar 16 j 05:25	26°♄39'23	5.96390 AU
evening set	546 Sep 17 j 03:56	5°♄37'14		morning rise	552 Mar 28 j 01:57	29°♄30'06	
max. Earth dist.	546 Sep 28 j 04:38	8°♄01'24	6.42584 AU		552 Mar 30 j 04:06	0°♄	
				retrograde	552 Aug 07 j 06:21	20°♄03'04	
conjunction	546 Sep 29 j 23:07	8°♄24'38	1°08'27	opposition	552 Oct 05 j 23:33	14°♄58'29	-1°-37'-51
minimum elong	546 Sep 29 j 23:08	8°♄24'38	1°08'27	min. Earth dist.	552 Oct 04 j 15:30	15°♄09'23	3.98882 AU
morning rise	546 Oct 12 j 15:32	11°♄10'50		direct	552 Dec 02 j 20:45	10°♄02'50	
retrograde	547 Feb 10 j 07:13	28°♄09'01		evening set	553 Apr 07 j 17:46	29°♄30'55	
opposition	547 Apr 12 j 03:30	23°♄17'10	1°30'29		553 Apr 09 j 19:20	0°♄	
min. Earth dist.	547 Apr 13 j 13:11	23°♄06'26	4.39332 AU				
direct	547 Jun 13 j 19:19	18°♄16'25		conjunction	553 Apr 21 j 09:13	2°♄43'36	0°-55'-12
	547 Sep 19 j 10:34	0°♄		minimum elong	553 Apr 21 j 09:16	2°♄43'37	0°55'12
evening set	547 Oct 17 j 20:57	6°♄05'11		max. Earth dist.	553 Apr 23 j 16:14	3°♄16'01	6.03128 AU
max. Earth dist.	547 Oct 28 j 11:11	8°♄26'43	6.34412 AU	morning rise	553 May 05 j 02:52	5°♄57'14	
					553 Jun 14 j 19:59	15°♄	
conjunction	547 Oct 30 j 12:37	8°♄54'21	0°51'07	retrograde	553 Sep 12 j 01:02	25°♄45'40	
minimum elong	547 Oct 30 j 12:39	8°♄54'22	0°51'07	min. Earth dist.	553 Nov 09 j 04:32	20°♄52'02	4.08969 AU
morning rise	547 Nov 12 j 02:41	11°♄42'56		opposition	553 Nov 10 j 14:01	20°♄40'37	0°-59'-14
	547 Nov 27 j 01:43	15°♄		direct	554 Jan 08 j 02:17	15°♄41'56	
retrograde	548 Mar 13 j 22:11	29°♄19'10			554 Apr 23 j 16:03	0°♄	
opposition	548 May 13 j 20:18	24°♄26'58	0°53'20	evening set	554 May 14 j 12:22	4°♄39'12	
min. Earth dist.	548 May 15 j 07:47	24°♄15'40	4.28413 AU				
direct	548 Jul 14 j 20:39	19°♄28'37		conjunction	554 May 28 j 06:44	7°♄47'35	0°-21'-25
	548 Oct 12 j 18:13	0°♄		minimum elong	554 May 28 j 06:46	7°♄47'36	0°21'26
evening set	548 Nov 17 j 07:43	7°♄44'39		max. Earth dist.	554 May 30 j 05:58	8°♄14'32	6.15651 AU
max. Earth dist.	548 Nov 28 j 04:07	10°♄14'04	6.21640 AU	morning rise	554 Jun 11 j 01:46	10°♄55'58	
				retrograde	554 Oct 15 j 10:08	29°♄37'21	
conjunction	548 Nov 29 j 23:25	10°♄38'59	0°18'13	min. Earth dist.	554 Dec 13 j 01:31	24°♄42'43	4.22567 AU
minimum elong	548 Nov 29 j 23:26	10°♄39'00	0°18'13	opposition	554 Dec 14 j 01:45	24°♄34'32	0°-2'-12
morning rise	548 Dec 12 j 14:57	13°♄33'29		asc. node	554 Dec 29 j 01:22	22°♄36'35	
	549 Mar 10 j 22:28	0°♄		direct	555 Feb 11 j 18:42	19°♄33'07	
retrograde	549 Apr 17 j 15:57	2°♄09'18			555 May 12 j 04:25	0°♄	
	549 May 25 j 18:09	30°♄		evening set	555 Jun 18 j 15:38	7°♄54'41	
desc. node	549 May 30 j 16:14	29°♄27'34					
opposition	549 Jun 17 j 12:07	27°♄15'10	0°-2'-41	conjunction	555 Jul 02 j 07:15	10°♄55'58	0°18'11
min. Earth dist.	549 Jun 18 j 11:57	27°♄07'30	4.14592 AU	minimum elong	555 Jul 02 j 07:13	10°♄55'58	0°18'10
direct	549 Aug 17 j 04:59	22°♄19'28		max. Earth dist.	555 Jul 03 j 08:28	11°♄09'58	6.29278 AU
	549 Oct 29 j 17:48	0°♄		morning rise	555 Jul 15 j 21:19	13°♄56'17	
evening set	549 Dec 20 j 08:30	11°♄11'17			555 Oct 14 j 23:03	0°♄	
max. Earth dist.	550 Jan 01 j 05:56	14°♄00'00	6.08021 AU	retrograde	555 Nov 15 j 23:17	1°♄36'16	
					555 Dec 17 j 17:53	30°♄	
conjunction	550 Jan 02 j 03:13	14°♄12'37	0°-22'-2	opposition	556 Jan 14 j 19:33	26°♄37'13	0°52'07
minimum elong	550 Jan 02 j 03:12	14°♄12'36	0°22'03	min. Earth dist.	556 Jan 14 j 12:04	26°♄39'41	4.35070 AU

direct	556 Mar 15 j 21:02	21°♄34'19		opposition	561 Jun 22 j 15:20	2°♃14'37	0°-11'-27
	556 Jun 04 j 07:08	0°♄		min. Earth dist.	561 Jun 23 j 13:16	2°♃07'33	4.12587 AU
evening set	556 Jul 20 j 21:53	9°♄27'04			561 Jul 10 j 16:54	30°♃♂	
				direct	561 Aug 22 j 04:16	27°♂19'18	
conjunction	556 Aug 03 j 06:22	12°♄21'06	0°50'43		561 Oct 02 j 18:54	0°♃	
minimum elong	556 Aug 03 j 06:20	12°♄21'04	0°50'44	evening set	561 Dec 25 j 06:05	16°♃16'17	
max. Earth dist.	556 Aug 03 j 02:49	12°♄19'10	6.39697 AU	max. Earth dist.	562 Jan 06 j 08:20	19°♃08'26	6.06342 AU
	556 Aug 15 j 10:55	15°♄					
morning rise	556 Aug 16 j 12:19	15°♄13'44		conjunction	562 Jan 07 j 01:29	19°♃18'38	0°-27'-38
	556 Nov 07 j 02:43	0°♄		minimum elong	562 Jan 07 j 01:27	19°♃18'37	0°27'39
retrograde	556 Dec 15 j 08:43	2°♄14'00		morning rise	562 Jan 19 j 22:27	22°♃22'03	
	557 Jan 22 j 15:58	30°♃♄			562 Feb 22 j 11:06	0°♃	
opposition	557 Feb 13 j 13:26	27°♄18'34	1°29'15	retrograde	562 May 29 j 23:39	12°♃12'51	
min. Earth dist.	557 Feb 14 j 00:05	27°♄15'05	4.42813 AU	opposition	562 Jul 29 j 10:25	7°♃14'49	-1°-8'-37
direct	557 Apr 16 j 16:34	22°♄15'24		min. Earth dist.	562 Jul 29 j 10:52	7°♃14'40	4.01185 AU
	557 Jul 03 j 04:21	0°♄		direct	562 Sep 26 j 12:18	2°♃21'15	
evening set	557 Aug 21 j 15:10	9°♄52'46			562 Dec 31 j 07:52	15°♃	
				evening set	563 Jan 29 j 14:23	21°♃48'26	
conjunction	557 Sep 03 j 15:52	12°♄41'49	1°08'15	conjunction	563 Feb 11 j 15:43	24°♃57'14	0°-59'-20
minimum elong	557 Sep 03 j 15:51	12°♄41'48	1°08'14	minimum elong	563 Feb 11 j 15:41	24°♃57'12	0°59'21
max. Earth dist.	557 Sep 02 j 12:25	12°♄26'55	6.44130 AU	max. Earth dist.	563 Feb 12 j 05:39	25°♃05'38	5.97720 AU
morning rise	557 Sep 16 j 13:24	15°♄29'23		morning rise	563 Feb 24 j 20:00	28°♃07'40	
	557 Dec 06 j 18:19	0°♄			563 Mar 04 j 16:37	0°♃	
retrograde	558 Jan 14 j 15:25	2°♄17'01		retrograde	563 Jul 07 j 01:36	18°♃40'25	
	558 Feb 22 j 20:01	30°♃♄		min. Earth dist.	563 Sep 04 j 05:25	13°♃45'12	3.96390 AU
opposition	558 Mar 16 j 05:00	27°♄24'13	1°41'40	opposition	563 Sep 05 j 01:52	13°♃38'20	-1°-41'-31
min. Earth dist.	558 Mar 17 j 06:48	27°♄15'56	4.43807 AU	direct	563 Nov 02 j 04:22	8°♃44'29	
direct	558 May 17 j 21:30	22°♄22'00		evening set	564 Mar 06 j 13:25	28°♃22'39	
	558 Aug 02 j 19:29	0°♄			564 Mar 13 j 08:01	0°♃	
evening set	558 Sep 21 j 11:24	9°♄59'28					
max. Earth dist.	558 Oct 02 j 08:27	12°♄22'08	6.41517 AU	conjunction	564 Mar 19 j 22:41	1°♃35'15	-1°-8'-40
				minimum elong	564 Mar 19 j 22:41	1°♃35'16	1°08'41
conjunction	558 Oct 04 j 05:48	12°♄47'00	1°07'06	max. Earth dist.	564 Mar 21 j 18:11	2°♃01'23	5.97120 AU
minimum elong	558 Oct 04 j 05:49	12°♄47'01	1°07'06	morning rise	564 Apr 02 j 10:55	4°♃49'25	
morning rise	558 Oct 16 j 21:51	15°♄33'28		retrograde	564 Aug 12 j 10:58	25°♃17'24	
	559 Jan 04 j 00:45	0°♄		min. Earth dist.	564 Oct 09 j 18:16	20°♃23'40	4.00172 AU
retrograde	559 Feb 14 j 20:54	2°♄36'31		opposition	564 Oct 11 j 02:49	20°♃12'36	-1°-34'-18
	559 Mar 29 j 05:12	30°♃♄		direct	564 Dec 08 j 01:33	15°♃16'33	
opposition	559 Apr 16 j 15:58	27°♄44'45	1°26'43		565 Mar 23 j 15:17	0°♃	
min. Earth dist.	559 Apr 18 j 03:20	27°♄33'29	4.37788 AU	evening set	565 Apr 12 j 23:26	4°♃40'11	
direct	559 Jun 18 j 06:49	22°♄44'18					
	559 Aug 31 j 06:39	0°♄		conjunction	565 Apr 26 j 15:25	7°♃52'21	0°-51'-20
evening set	559 Oct 22 j 06:20	10°♄37'16		minimum elong	565 Apr 26 j 15:27	7°♃52'23	0°51'21
max. Earth dist.	559 Nov 01 j 20:43	12°♄59'30	6.32519 AU	max. Earth dist.	565 Apr 28 j 21:27	8°♃24'02	6.04837 AU
				morning rise	565 May 10 j 09:42	11°♃05'25	
conjunction	559 Nov 03 j 21:59	13°♄27'10	0°47'15		565 May 27 j 11:23	15°♃	
minimum elong	559 Nov 03 j 22:01	13°♄27'11	0°47'14		565 Aug 26 j 13:24	0°♄	
	559 Nov 10 j 19:20	15°♄		retrograde	565 Sep 16 j 19:17	0°♄44'21	
morning rise	559 Nov 16 j 12:04	16°♄16'33			565 Oct 07 j 21:50	30°♃♂	
	560 Jan 26 j 05:06	0°♄		min. Earth dist.	565 Nov 14 j 00:19	25°♃50'44	4.10917 AU
retrograde	560 Mar 18 j 17:10	4°♄01'07		opposition	565 Nov 15 j 09:25	25°♃39'26	0°-51'-48
	560 May 11 j 22:16	30°♃♄		direct	566 Jan 13 j 00:57	20°♃40'17	
opposition	560 May 18 j 15:48	29°♄08'45	0°46'13		566 Apr 05 j 00:16	0°♄	
min. Earth dist.	560 May 20 j 01:09	28°♄58'07	4.26301 AU	evening set	566 May 19 j 12:45	9°♄32'04	
direct	560 Jul 19 j 10:35	24°♄10'50					
	560 Sep 21 j 19:21	0°♄		conjunction	566 Jun 02 j 07:08	12°♄39'31	0°-15'-53
evening set	560 Nov 21 j 22:23	12°♄32'25		minimum elong	566 Jun 02 j 07:09	12°♄39'32	0°15'54
max. Earth dist.	560 Dec 02 j 22:21	15°♄04'36	6.19501 AU	max. Earth dist.	566 Jun 04 j 03:47	13°♄04'55	6.17690 AU
				morning rise	566 Jun 16 j 01:40	15°♄46'48	
conjunction	560 Dec 04 j 14:20	15°♄27'44	0°12'39		566 Aug 27 j 07:00	0°♄	
minimum elong	560 Dec 04 j 14:21	15°♄27'45	0°12'38	retrograde	566 Oct 19 j 23:26	4°♄18'37	
behind sun begin	560 Dec 04 j 09:09	15°♄24'45		asc. node	566 Nov 07 j 22:53	3°♄42'44	
behind sun end	560 Dec 04 j 19:33	15°♄30'45			566 Dec 13 j 04:18	30°♃♄	
morning rise	560 Dec 17 j 06:20	18°♄23'21		opposition	566 Dec 18 j 14:27	29°♄16'17	0°05'58
	561 Feb 10 j 06:28	0°♄		min. Earth dist.	566 Dec 17 j 17:09	29°♄23'28	4.24501 AU
desc. node	561 Apr 08 j 08:15	6°♄49'20		direct	567 Feb 16 j 12:33	24°♄14'34	
retrograde	561 Apr 22 j 21:01	7°♄09'10					

	567 Apr 21 j 06:11	0°♄			572 Aug 19 j 22:31	0°♃	
evening set	567 Jun 23 j 09:36	12°♄31'28		evening set	572 Nov 26 j 13:20	17°♃20'13	
				max. Earth dist.	572 Dec 07 j 16:54	19°♃55'04	6.17757 AU
conjunction	567 Jul 07 j 00:23	15°♄31'42	0°23'23				
minimum elong	567 Jul 07 j 00:21	15°♄31'41	0°23'23	conjunction	572 Dec 09 j 05:42	20°♃16'26	0°07'01
max. Earth dist.	567 Jul 07 j 21:23	15°♄43'18	6.30951 AU	minimum elong	572 Dec 09 j 05:41	20°♃16'26	0°07'01
morning rise	567 Jul 20 j 13:31	18°♄30'53		behind sun begin	572 Dec 08 j 22:17	20°♃12'09	
	567 Sep 16 j 02:07	0°♃		behind sun end	572 Dec 09 j 13:06	20°♃20'43	
retrograde	567 Nov 20 j 05:31	6°♃04'08		morning rise	572 Dec 21 j 22:08	23°♃13'00	
opposition	568 Jan 19 j 03:39	1°♃05'34	0°58'35		573 Jan 21 j 06:51	0°♃	
min. Earth dist.	568 Jan 18 j 22:28	1°♃07'17	4.36388 AU	desc. node	573 Feb 15 j 18:46	5°♃01'46	
	568 Jan 27 j 11:15	30°♃♄		retrograde	573 Apr 27 j 23:04	12°♃07'14	
direct	568 Mar 20 j 08:25	26°♄02'32		opposition	573 Jun 27 j 17:50	7°♃12'18	0°-20'-2
	568 May 12 j 07:35	0°♃		min. Earth dist.	573 Jun 28 j 12:14	7°♃06'21	4.11054 AU
evening set	568 Jul 25 j 10:26	13°♃52'44		direct	573 Aug 27 j 01:12	2°♃17'23	
	568 Jul 30 j 14:50	15°♃		evening set	573 Dec 30 j 02:43	21°♃17'58	
conjunction	568 Aug 07 j 17:52	16°♃45'58	0°54'12	conjunction	574 Jan 11 j 22:37	24°♃21'04	0°-32'-56
minimum elong	568 Aug 07 j 17:50	16°♃45'57	0°54'12	minimum elong	574 Jan 11 j 22:35	24°♃21'03	0°32'57
max. Earth dist.	568 Aug 07 j 11:02	16°♃42'15	6.40563 AU	max. Earth dist.	574 Jan 11 j 09:33	24°♃13'17	6.05151 AU
morning rise	568 Aug 20 j 22:31	19°♃37'45		morning rise	574 Jan 24 j 20:27	27°♃25'23	
	568 Oct 12 j 00:59	0°♃			574 Feb 04 j 19:46	0°♃	
retrograde	568 Dec 19 j 14:59	6°♃35'07			574 Apr 25 j 21:59	15°♃	
opposition	569 Feb 17 j 20:20	1°♃40'10	1°32'36	retrograde	574 Jun 04 j 06:52	17°♃22'30	
min. Earth dist.	569 Feb 18 j 09:36	1°♃35'51	4.43193 AU		574 Jul 13 j 19:54	15°♃	
	569 Mar 02 j 22:25	30°♃♄		opposition	574 Aug 03 j 16:14	12°♃23'53	-1°-15'-7
direct	569 Apr 21 j 02:08	26°♃37'06		min. Earth dist.	574 Aug 03 j 13:44	12°♃24'43	4.00453 AU
	569 Jun 09 j 07:14	0°♃		direct	574 Oct 01 j 15:12	7°♃30'23	
evening set	569 Aug 26 j 00:21	14°♃14'15			574 Dec 11 j 10:09	15°♃	
				evening set	575 Feb 03 j 15:54	26°♃58'55	
conjunction	569 Sep 07 j 23:58	17°♃02'57	1°09'14	conjunction	575 Feb 16 j 18:17	0°♃08'14	-1°-2'-10
minimum elong	569 Sep 07 j 23:57	17°♃02'56	1°09'14	minimum elong	575 Feb 16 j 18:15	0°♃08'13	1°02'10
max. Earth dist.	569 Sep 06 j 16:08	16°♃45'40	6.43974 AU		575 Feb 16 j 04:38	0°♃	
morning rise	569 Sep 20 j 20:44	19°♃50'15		max. Earth dist.	575 Feb 17 j 13:42	0°♃19'57	5.97514 AU
	569 Nov 10 j 20:41	0°♃		morning rise	575 Mar 01 j 23:29	3°♃19'11	
retrograde	570 Jan 19 j 00:44	6°♃39'07		retrograde	575 Jul 12 j 07:29	23°♃52'39	
opposition	570 Mar 20 j 14:11	1°♃46'34	1°41'13	min. Earth dist.	575 Sep 09 j 08:02	18°♃57'35	3.96758 AU
min. Earth dist.	570 Mar 21 j 18:02	1°♃37'37	4.43153 AU	opposition	575 Sep 10 j 06:10	18°♃50'09	-1°-42'-56
	570 Apr 03 j 17:51	30°♃♄		direct	575 Nov 07 j 06:54	13°♃56'08	
direct	570 May 22 j 07:14	26°♃44'31			576 Feb 25 j 16:05	0°♃	
	570 Jul 09 j 14:35	0°♃		evening set	576 Mar 11 j 17:07	3°♃32'34	
evening set	570 Sep 25 j 19:39	14°♃24'03					
max. Earth dist.	570 Oct 06 j 16:22	16°♃46'53	6.40420 AU				
conjunction	570 Oct 08 j 13:40	17°♃11'48	1°05'21	conjunction	576 Mar 25 j 03:13	6°♃45'11	-1°-7'-45
minimum elong	570 Oct 08 j 13:41	17°♃11'49	1°05'21	minimum elong	576 Mar 25 j 03:15	6°♃45'12	1°07'46
morning rise	570 Oct 21 j 05:05	19°♃58'31		max. Earth dist.	576 Mar 26 j 23:30	7°♃11'42	5.97993 AU
	570 Dec 09 j 14:51	0°♃		morning rise	576 Apr 07 j 16:36	9°♃59'23	
retrograde	571 Feb 19 j 09:28	7°♃06'29			576 Aug 02 j 12:02	0°♃	
opposition	571 Apr 21 j 05:53	2°♃14'47	1°22'23	retrograde	576 Aug 17 j 09:22	0°♃21'58	
min. Earth dist.	571 Apr 22 j 16:44	2°♃03'41	4.36333 AU		576 Sep 01 j 05:24	30°♃♄	
	571 May 09 j 13:06	30°♃♄		min. Earth dist.	576 Oct 14 j 15:55	25°♃28'29	4.01458 AU
direct	571 Jun 22 j 17:34	27°♃14'47		opposition	576 Oct 16 j 01:34	25°♃17'02	-1°-30'-9
	571 Aug 05 j 13:49	0°♃		direct	576 Dec 13 j 01:19	20°♃20'34	
	571 Oct 25 j 20:29	15°♃			577 Mar 05 j 05:11	0°♃	
evening set	571 Oct 26 j 17:01	15°♃11'28		evening set	577 Apr 18 j 01:09	9°♃40'17	
max. Earth dist.	571 Nov 06 j 07:36	17°♃34'27	6.30837 AU				
conjunction	571 Nov 08 j 08:23	18°♃01'58	0°43'03	conjunction	577 May 01 j 17:52	12°♃52'02	0°-47'-14
minimum elong	571 Nov 08 j 08:25	18°♃01'59	0°43'04	minimum elong	577 May 01 j 17:55	12°♃52'03	0°47'15
morning rise	571 Nov 20 j 22:38	20°♃52'06		max. Earth dist.	577 May 03 j 23:16	13°♃23'14	6.06428 AU
	572 Jan 03 j 03:26	0°♃			577 May 10 j 21:14	15°♃	
retrograde	572 Mar 23 j 15:01	8°♃44'18		morning rise	577 May 15 j 12:27	16°♃04'31	
opposition	572 May 23 j 12:16	3°♃51'45	0°38'45		577 Jul 21 j 23:29	0°♃	
min. Earth dist.	572 May 24 j 20:55	3°♃41'19	4.24499 AU	retrograde	577 Sep 21 j 12:47	5°♃34'56	
	572 Jun 27 j 07:21	30°♃♄		min. Earth dist.	577 Nov 18 j 18:44	0°♃40'50	4.12624 AU
direct	572 Jul 24 j 04:20	28°♃54'15		opposition	577 Nov 20 j 01:35	0°♃30'19	0°-44'-17
					577 Nov 23 j 18:43	30°♃♄	
				direct	578 Jan 17 j 21:15	25°♃30'47	

	578 Mar 13 j 08:18	0°♈		minimum elong	583 Nov 12 j 17:53	22°♌35'03	0°38'37
evening set	578 May 24 j 10:10	14°♈18'14		morning rise	583 Nov 25 j 08:03	25°♌25'48	
					583 Dec 16 j 01:01	0°♌	
conjunction	578 Jun 07 j 04:27	17°♈24'55	0°-10'-26	retrograde	584 Mar 28 j 09:12	13°♌25'08	
minimum elong	578 Jun 07 j 04:27	17°♈24'56	0°10'27	opposition	584 May 28 j 07:40	8°♌32'18	0°31'03
behind sun begin	578 Jun 06 j 21:59	17°♈21'17		min. Earth dist.	584 May 29 j 14:43	8°♌22'23	4.22793 AU
behind sun end	578 Jun 07 j 10:55	17°♈28'34		direct	584 Jul 28 j 19:39	3°♌35'09	
max. Earth dist.	578 Jun 08 j 22:36	17°♈48'47	6.19386 AU	evening set	584 Dec 01 j 03:08	22°♌05'10	
morning rise	578 Jun 20 j 22:37	20°♈31'16		max. Earth dist.	584 Dec 12 j 08:35	24°♌41'45	6.16016 AU
	578 Aug 04 j 18:48	0°♉					
asc. node	578 Sep 18 j 23:59	6°♉57'10		conjunction	584 Dec 13 j 19:36	25°♌02'10	0°01'21
retrograde	578 Oct 24 j 08:07	8°♉55'02		minimum elong	584 Dec 13 j 19:37	25°♌02'11	0°01'21
min. Earth dist.	578 Dec 22 j 04:47	3°♉59'56	4.26054 AU	behind sun begin	584 Dec 13 j 11:37	24°♌57'32	
opposition	578 Dec 23 j 00:44	3°♉53'13	0°13'52	behind sun end	584 Dec 14 j 03:37	25°♌06'49	
	579 Jan 25 j 08:01	30°♈♈		morning rise	584 Dec 26 j 12:43	27°♌59'44	
direct	579 Feb 21 j 01:45	28°♈51'17		desc. node	584 Dec 26 j 15:17	28°♌01'13	
	579 Mar 20 j 05:25	0°♉			585 Jan 04 j 05:35	0°♉	
evening set	579 Jun 28 j 01:59	17°♉05'00		retrograde	585 May 03 j 01:28	17°♉02'39	
				opposition	585 Jul 02 j 19:09	12°♉07'12	0°-28'-30
conjunction	579 Jul 11 j 15:55	20°♉04'21	0°28'19	min. Earth dist.	585 Jul 03 j 11:16	12°♉01'59	4.09400 AU
minimum elong	579 Jul 11 j 15:53	20°♉04'19	0°28'20	direct	585 Aug 31 j 22:51	7°♉12'28	
max. Earth dist.	579 Jul 12 j 08:27	20°♉13'27	6.32263 AU	evening set	586 Jan 03 j 22:37	26°♉17'20	
morning rise	579 Jul 25 j 04:04	23°♉02'35					
	579 Aug 27 j 05:14	0°♊		conjunction	586 Jan 16 j 19:24	29°♉21'24	0°-38'00
retrograde	579 Nov 24 j 13:18	10°♊30'27		minimum elong	586 Jan 16 j 19:21	29°♉21'23	0°38'01
opposition	580 Jan 23 j 11:07	5°♊32'27	1°04'35	max. Earth dist.	586 Jan 16 j 11:13	29°♉16'31	6.03740 AU
min. Earth dist.	580 Jan 23 j 09:08	5°♊33'07	4.37378 AU		586 Jan 19 j 11:58	0°♊	
direct	580 Mar 24 j 20:21	0°♊29'22		morning rise	586 Jan 29 j 18:00	2°♊26'42	
	580 Jul 14 j 10:06	15°♊			586 Mar 28 j 13:02	15°♊	
evening set	580 Jul 29 j 22:07	18°♊17'53		retrograde	586 Jun 09 j 14:04	22°♊30'54	
				opposition	586 Aug 08 j 21:24	17°♊31'44	-1°-21'-6
conjunction	580 Aug 12 j 04:33	21°♊10'28	0°57'18	min. Earth dist.	586 Aug 08 j 16:29	17°♊33'22	3.99447 AU
minimum elong	580 Aug 12 j 04:31	21°♊10'27	0°57'18		586 Aug 29 j 00:47	15°♊	
max. Earth dist.	580 Aug 11 j 18:08	21°♊04'48	6.41155 AU	direct	586 Oct 06 j 16:08	12°♊38'17	
morning rise	580 Aug 25 j 08:06	24°♊01'34			586 Nov 13 j 17:22	15°♊	
	580 Sep 22 j 21:34	0°♋			587 Jan 30 j 16:43	0°♋	
retrograde	580 Dec 23 j 20:34	10°♋56'57		evening set	587 Feb 08 j 18:03	2°♋09'30	
opposition	581 Feb 22 j 03:30	6°♋02'20	1°35'21				
min. Earth dist.	581 Feb 22 j 18:15	5°♋57'33	4.43389 AU	conjunction	587 Feb 21 j 21:19	5°♋19'29	-1°-4'-32
direct	581 Apr 25 j 10:54	0°♋59'21		minimum elong	587 Feb 21 j 21:17	5°♋19'28	1°04'33
evening set	581 Aug 30 j 09:09	18°♋36'28		max. Earth dist.	587 Feb 22 j 19:09	5°♋32'40	5.96978 AU
max. Earth dist.	581 Sep 10 j 22:53	21°♋06'55	6.43760 AU	morning rise	587 Mar 07 j 03:49	8°♋31'12	
				retrograde	587 Jul 17 j 12:35	29°♋06'38	
conjunction	581 Sep 12 j 07:54	21°♋24'52	1°09'48	min. Earth dist.	587 Sep 14 j 10:07	24°♋12'04	3.96770 AU
minimum elong	581 Sep 12 j 07:53	21°♋24'52	1°09'48	opposition	587 Sep 15 j 11:07	24°♋03'39	-1°-43'-37
morning rise	581 Sep 25 j 03:39	24°♋11'53		direct	587 Nov 12 j 09:55	19°♋09'22	
	581 Oct 22 j 19:43	0°♌			588 Feb 07 j 11:17	0°♌	
retrograde	582 Jan 23 j 08:43	11°♌01'59		evening set	588 Mar 16 j 22:29	8°♌45'31	
opposition	582 Mar 24 j 23:30	6°♌09'37	1°40'08				
min. Earth dist.	582 Mar 26 j 04:36	6°♌00'18	4.42547 AU	conjunction	588 Mar 30 j 09:49	11°♌58'25	-1°-6'-18
direct	582 May 26 j 17:03	1°♌07'49		minimum elong	588 Mar 30 j 09:50	11°♌58'26	1°06'19
evening set	582 Sep 30 j 03:43	18°♌48'45		max. Earth dist.	588 Apr 01 j 08:57	12°♌26'35	5.98547 AU
max. Earth dist.	582 Oct 10 j 21:37	21°♌10'30	6.39446 AU	morning rise	588 Apr 13 j 00:03	15°♌12'46	
					588 Jun 22 j 11:06	0°♍	
conjunction	582 Oct 12 j 21:02	21°♌36'39	1°03'13	retrograde	588 Aug 22 j 12:02	5°♍31'03	
minimum elong	582 Oct 12 j 21:03	21°♌36'40	1°03'13	min. Earth dist.	588 Oct 19 j 17:17	0°♍37'17	4.02477 AU
morning rise	582 Oct 25 j 12:13	24°♌23'37		opposition	588 Oct 21 j 02:25	0°♍25'59	-1°-25'-16
	582 Nov 20 j 18:47	0°♎			588 Oct 24 j 06:41	30°♎♎	
retrograde	583 Feb 23 j 23:01	11°♎35'57		direct	588 Dec 18 j 04:31	25°♎29'07	
opposition	583 Apr 25 j 19:34	6°♎44'08	1°17'33		589 Feb 09 j 21:26	0°♎	
min. Earth dist.	583 Apr 27 j 06:47	6°♎32'54	4.35028 AU	evening set	589 Apr 23 j 05:55	14°♎45'53	
direct	583 Jun 27 j 06:07	1°♎44'21			589 Apr 24 j 06:17	15°♎	
	583 Oct 09 j 12:01	15°♎					
evening set	583 Oct 31 j 02:23	19°♎43'55		conjunction	589 May 06 j 23:15	17°♎57'17	0°-42'-41
max. Earth dist.	583 Nov 10 j 19:03	22°♎08'33	6.29293 AU	minimum elong	589 May 06 j 23:18	17°♎57'19	0°42'42
				max. Earth dist.	589 May 09 j 04:57	18°♎28'32	6.07825 AU
conjunction	583 Nov 12 j 17:51	22°♎35'01	0°38'37	morning rise	589 May 20 j 18:14	21°♎09'18	

	589 Jun 30 j 01:12	0°♄		direct	595 Jul 01 j 15:32	6°♄05'56	
retrograde	589 Sep 26 j 06:40	10°♄31'31			595 Sep 22 j 02:23	15°♄	
opposition	589 Nov 24 j 20:08	5°♄27'13	0°-36'-15	evening set	595 Nov 04 j 08:16	24°♄07'38	
min. Earth dist.	589 Nov 23 j 13:20	5°♄37'42	4.14263 AU	max. Earth dist.	595 Nov 14 j 23:20	26°♄31'55	6.27913 AU
direct	590 Jan 22 j 18:04	0°♄27'22					
evening set	590 May 29 j 10:45	19°♄10'43		conjunction	595 Nov 16 j 23:29	26°♄59'14	0°34'07
				minimum elong	595 Nov 16 j 23:30	26°♄59'15	0°34'07
conjunction	590 Jun 12 j 04:41	22°♄16'31	0°-4'-45	morning rise	595 Nov 29 j 13:58	29°♄50'40	
minimum elong	590 Jun 12 j 04:41	22°♄16'31	0°04'47		595 Nov 30 j 06:31	0°♄	
behind sun begin	590 Jun 11 j 20:32	22°♄11'57		retrograde	596 Apr 02 j 00:50	17°♄57'03	
behind sun end	590 Jun 12 j 12:49	22°♄21'05		opposition	596 Jun 01 j 23:09	13°♄03'56	0°23'26
max. Earth dist.	590 Jun 13 j 19:15	22°♄38'16	6.21156 AU	min. Earth dist.	596 Jun 03 j 05:29	12°♄54'14	4.21082 AU
morning rise	590 Jun 25 j 22:23	25°♄21'53		direct	596 Aug 02 j 07:49	8°♄07'01	
	590 Jul 17 j 01:59	0°♄		desc. node	596 Nov 07 j 12:42	20°♄23'51	
asc. node	590 Jul 29 j 02:44	2°♄30'29		evening set	596 Dec 05 j 13:18	26°♄41'38	
retrograde	590 Oct 28 j 21:26	13°♄37'16		max. Earth dist.	596 Dec 16 j 22:08	29°♄20'46	6.14132 AU
opposition	590 Dec 27 j 13:59	8°♄35'59	0°21'54	conjunction	596 Dec 18 j 06:23	29°♄39'38	0°-4'-13
min. Earth dist.	590 Dec 26 j 20:39	8°♄41'48	4.27817 AU	minimum elong	596 Dec 18 j 06:22	29°♄39'38	0°04'13
direct	591 Feb 25 j 20:22	3°♄33'53		behind sun begin	596 Dec 17 j 22:29	29°♄35'02	
evening set	591 Jul 02 j 20:19	21°♄43'22		behind sun end	596 Dec 18 j 14:15	29°♄44'13	
					596 Dec 19 j 17:10	0°♄	
conjunction	591 Jul 16 j 09:25	24°♄41'40	0°33'14	morning rise	596 Dec 30 j 23:56	2°♄38'14	
minimum elong	591 Jul 16 j 09:23	24°♄41'39	0°33'14	retrograde	597 May 08 j 01:40	21°♄50'38	
max. Earth dist.	591 Jul 17 j 00:08	24°♄49'45	6.33916 AU	opposition	597 Jul 07 j 17:03	16°♄54'50	0°-36'-30
morning rise	591 Jul 29 j 20:19	27°♄38'43		min. Earth dist.	597 Jul 08 j 07:48	16°♄50'02	4.07491 AU
	591 Aug 09 j 17:41	0°♄		direct	597 Sep 05 j 15:43	12°♄00'20	
retrograde	591 Nov 28 j 19:44	15°♄00'02		evening set	598 Jan 03 j 16:32	0°♄	
	591 Nov 28 j 07:07	15°♄			598 Jan 08 j 16:09	1°♄10'56	
opposition	592 Jan 27 j 20:12	10°♄02'34	1°10'18	conjunction	598 Jan 21 j 13:35	4°♄16'07	0°-42'-38
min. Earth dist.	592 Jan 27 j 19:11	10°♄02'54	4.38841 AU	minimum elong	598 Jan 21 j 13:33	4°♄16'05	0°42'39
direct	592 Mar 29 j 08:36	4°♄59'31		max. Earth dist.	598 Jan 21 j 07:10	4°♄12'15	6.01969 AU
	592 Jun 26 j 18:12	15°♄		morning rise	598 Feb 03 j 13:24	7°♄22'41	
evening set	592 Aug 03 j 10:33	22°♄44'30			598 Mar 08 j 17:53	15°♄	
				retrograde	598 Jun 14 j 17:58	27°♄35'39	
conjunction	592 Aug 16 j 15:39	25°♄36'06	1°00'07	opposition	598 Aug 14 j 00:23	22°♄35'56	-1°-26'-21
minimum elong	592 Aug 16 j 15:37	25°♄36'05	1°00'07	min. Earth dist.	598 Aug 13 j 16:10	22°♄38'39	3.98008 AU
max. Earth dist.	592 Aug 16 j 01:53	25°♄28'38	6.42328 AU	direct	598 Oct 11 j 14:03	17°♄42'28	
morning rise	592 Aug 29 j 17:58	28°♄26'15			599 Jan 13 j 08:54	0°♄	
	592 Sep 06 j 00:57	0°♄		evening set	599 Feb 13 j 19:22	7°♄18'24	
retrograde	592 Dec 28 j 02:38	15°♄17'48					
opposition	593 Feb 26 j 10:40	10°♄23'37	1°37'33	conjunction	599 Feb 26 j 23:58	10°♄29'24	-1°-6'-21
min. Earth dist.	593 Feb 27 j 04:08	10°♄17'58	4.44207 AU	minimum elong	599 Feb 26 j 23:57	10°♄29'23	1°06'22
direct	593 Apr 29 j 22:02	5°♄20'46		max. Earth dist.	599 Feb 28 j 02:47	10°♄45'37	5.96017 AU
evening set	593 Sep 03 j 16:32	22°♄55'40		morning rise	599 Mar 12 j 07:35	13°♄42'05	
max. Earth dist.	593 Sep 15 j 02:28	25°♄24'04	6.44143 AU		599 May 30 j 02:51	0°♄	
				retrograde	599 Jul 22 j 20:26	4°♄21'01	
conjunction	593 Sep 16 j 14:17	25°♄43'32	1°09'59		599 Sep 15 j 09:42	30°♄	
minimum elong	593 Sep 16 j 14:17	25°♄43'32	1°09'59	opposition	599 Sep 20 j 15:32	29°♄17'36	-1°-43'-27
morning rise	593 Sep 29 j 09:08	28°♄30'03		min. Earth dist.	599 Sep 19 j 13:28	29°♄26'25	3.96405 AU
	593 Oct 06 j 08:28	0°♄		direct	599 Nov 17 j 13:41	24°♄23'02	
retrograde	594 Jan 27 j 14:07	15°♄19'46			600 Jan 16 j 12:00	0°♄	
opposition	594 Mar 29 j 07:04	10°♄27'31	1°38'30	evening set	600 Mar 22 j 04:47	14°♄00'26	
min. Earth dist.	594 Mar 30 j 13:08	10°♄17'54	4.42473 AU				
direct	594 May 31 j 00:57	5°♄25'57		conjunction	600 Apr 04 j 17:17	17°♄13'46	-1°-4'-17
evening set	594 Oct 04 j 08:33	23°♄06'39		minimum elong	600 Apr 04 j 17:19	17°♄13'47	1°04'18
max. Earth dist.	594 Oct 15 j 02:11	25°♄28'27	6.38914 AU	max. Earth dist.	600 Apr 06 j 19:24	17°♄43'39	5.98811 AU
				morning rise	600 Apr 18 j 08:41	20°♄28'28	
conjunction	594 Oct 17 j 01:23	25°♄54'32	1°00'48		600 May 30 j 19:28	0°♄	
minimum elong	594 Oct 17 j 01:25	25°♄54'33	1°00'48	retrograde	600 Aug 27 j 13:55	10°♄42'56	
morning rise	594 Oct 29 j 15:59	28°♄41'31		min. Earth dist.	600 Oct 24 j 16:50	5°♄49'37	4.03342 AU
	594 Nov 04 j 15:28	0°♄		opposition	600 Oct 26 j 03:38	5°♄37'45	-1°-19'-40
retrograde	595 Feb 03 j 10:18	15°♄		direct	600 Dec 23 j 05:37	0°♄40'27	
	595 Feb 28 j 08:02	15°♄57'12					
	595 Mar 25 j 07:07	15°♄					
opposition	595 Apr 30 j 06:01	11°♄05'22	1°12'24				
min. Earth dist.	595 May 01 j 18:02	10°♄53'55	4.34038 AU				