

direct	100 Mar 07 j 22:00	25° Π 48'37		conjunction	106 Jul 06 j 12:26	11° \mathfrak{C} 41'51	-0°18'15
evening set	100 Jun 05 j 17:07	27° Π 44'03		minimum elong	106 Jul 06 j 12:26	11° \mathfrak{C} 41'51	0°18'14
				max. Earth dist.	106 Jul 06 j 01:03	11° \mathfrak{C} 40'49	31.02102 AU
conjunction	100 Jun 22 j 01:51	28° Π 20'12	-0°43'21	morning rise	106 Jul 22 j 18:24	12° \mathfrak{C} 17'46	
minimum elong	100 Jun 22 j 01:51	28° Π 20'12	0°43'21	retrograde	106 Oct 18 j 19:39	14° \mathfrak{C} 11'35	
max. Earth dist.	100 Jun 21 j 20:39	28° Π 19'43	30.95923 AU	opposition	107 Jan 04 j 03:04	12° \mathfrak{C} 48'27	-0°17'12
morning rise	100 Jul 08 j 09:18	28° Π 56'16		min. Earth dist.	107 Jan 04 j 13:56	12° \mathfrak{C} 47'40	29.02510 AU
	100 Aug 09 j 18:44	0° \mathfrak{C}		direct	107 Mar 24 j 12:08	11° \mathfrak{C} 23'18	
retrograde	100 Oct 04 j 22:07	0° \mathfrak{C} 50'49		evening set	107 Jun 22 j 18:02	13° \mathfrak{C} 19'10	
	100 Dec 01 j 15:45	30° \mathfrak{R} Π					
opposition	100 Dec 21 j 13:04	29° Π 27'08	-0°44'11	conjunction	107 Jul 09 j 01:55	13° \mathfrak{C} 55'14	-0°13'57
min. Earth dist.	100 Dec 21 j 17:39	29° Π 26'49	28.96477 AU	minimum elong	107 Jul 09 j 01:54	13° \mathfrak{C} 55'14	0°13'57
direct	101 Mar 10 j 10:49	28° Π 02'03		behind sun begin	107 Jul 08 j 22:43	13° \mathfrak{C} 54'57	
evening set	101 Jun 08 j 07:06	29° Π 57'35		behind sun end	107 Jul 09 j 05:05	13° \mathfrak{C} 55'31	
	101 Jun 09 j 09:54	0° \mathfrak{C}		max. Earth dist.	107 Jul 08 j 13:15	13° \mathfrak{C} 54'04	31.02888 AU
				morning rise	107 Jul 25 j 07:41	14° \mathfrak{C} 31'07	
conjunction	101 Jun 24 j 15:39	0° \mathfrak{C} 33'43	-0°39'18	retrograde	107 Oct 21 j 06:33	16° \mathfrak{C} 24'46	
minimum elong	101 Jun 24 j 15:40	0° \mathfrak{C} 33'43	0°39'18	opposition	108 Jan 06 j 13:17	15° \mathfrak{C} 01'40	-0°12'36
max. Earth dist.	101 Jun 24 j 08:50	0° \mathfrak{C} 33'05	30.97026 AU	min. Earth dist.	108 Jan 07 j 00:03	15° \mathfrak{C} 00'55	29.03266 AU
morning rise	101 Jul 10 j 23:01	1° \mathfrak{C} 09'45		direct	108 Mar 26 j 00:47	13° \mathfrak{C} 36'28	
retrograde	101 Oct 07 j 10:40	3° \mathfrak{C} 04'12		evening set	108 Jun 24 j 07:42	15° \mathfrak{C} 32'22	
opposition	101 Dec 23 j 23:25	1° \mathfrak{C} 40'38	-0°39'49				
min. Earth dist.	101 Dec 24 j 05:07	1° \mathfrak{C} 40'14	28.97616 AU	conjunction	108 Jul 10 j 15:19	16° \mathfrak{C} 08'24	-0°09'39
direct	102 Mar 12 j 22:23	0° \mathfrak{C} 15'34		minimum elong	108 Jul 10 j 15:19	16° \mathfrak{C} 08'24	0°09'38
evening set	102 Jun 10 j 20:46	2° \mathfrak{C} 11'10		behind sun begin	108 Jul 10 j 09:55	16° \mathfrak{C} 07'55	
				behind sun end	108 Jul 10 j 20:44	16° \mathfrak{C} 08'53	
conjunction	102 Jun 27 j 05:24	2° \mathfrak{C} 47'18	-0°35'10	max. Earth dist.	108 Jul 10 j 01:47	16° \mathfrak{C} 07'09	31.03629 AU
minimum elong	102 Jun 27 j 05:25	2° \mathfrak{C} 47'18	0°35'09	morning rise	108 Jul 26 j 20:42	16° \mathfrak{C} 44'15	
max. Earth dist.	102 Jun 26 j 22:48	2° \mathfrak{C} 46'42	30.98176 AU	retrograde	108 Oct 22 j 16:24	18° \mathfrak{C} 37'45	
morning rise	102 Jul 13 j 12:26	3° \mathfrak{C} 23'19		opposition	109 Jan 07 j 23:32	17° \mathfrak{C} 14'41	-0°07'59
retrograde	102 Oct 09 j 21:55	5° \mathfrak{C} 17'40		min. Earth dist.	109 Jan 08 j 11:52	17° \mathfrak{C} 13'49	29.04020 AU
opposition	102 Dec 26 j 09:45	3° \mathfrak{C} 54'13	-0°35'23	direct	109 Mar 28 j 10:27	15° \mathfrak{C} 49'25	
min. Earth dist.	102 Dec 26 j 16:20	3° \mathfrak{C} 53'45	28.98750 AU	evening set	109 Jun 26 j 21:09	17° \mathfrak{C} 45'20	
direct	103 Mar 15 j 11:51	2° \mathfrak{C} 29'10					
evening set	103 Jun 13 j 10:47	4° \mathfrak{C} 24'51		conjunction	109 Jul 13 j 04:36	18° \mathfrak{C} 21'21	-0°05'20
				minimum elong	109 Jul 13 j 04:35	18° \mathfrak{C} 21'20	0°05'21
conjunction	103 Jun 29 j 19:11	5° \mathfrak{C} 00'58	-0°31'00	behind sun begin	109 Jul 12 j 22:14	18° \mathfrak{C} 20'47	
minimum elong	103 Jun 29 j 19:11	5° \mathfrak{C} 00'58	0°31'00	behind sun end	109 Jul 13 j 10:57	18° \mathfrak{C} 21'54	
max. Earth dist.	103 Jun 29 j 10:25	5° \mathfrak{C} 00'10	30.99293 AU	max. Earth dist.	109 Jul 12 j 14:50	18° \mathfrak{C} 20'05	31.04402 AU
morning rise	103 Jul 16 j 02:09	5° \mathfrak{C} 36'58		morning rise	109 Jul 29 j 09:35	18° \mathfrak{C} 57'09	
retrograde	103 Oct 12 j 10:44	7° \mathfrak{C} 31'12		retrograde	109 Oct 25 j 02:07	20° \mathfrak{C} 50'30	
opposition	103 Dec 28 j 19:58	6° \mathfrak{C} 07'51	-0°30'53	opposition	110 Jan 10 j 09:46	19° \mathfrak{C} 27'29	-0°03'21
min. Earth dist.	103 Dec 29 j 03:16	6° \mathfrak{C} 07'20	28.99838 AU	min. Earth dist.	110 Jan 10 j 21:57	19° \mathfrak{C} 26'38	29.04815 AU
direct	104 Mar 16 j 23:25	4° \mathfrak{C} 42'47		direct	110 Mar 30 j 23:48	18° \mathfrak{C} 02'10	
evening set	104 Jun 15 j 00:42	6° \mathfrak{C} 38'33		evening set	110 Jun 29 j 10:26	19° \mathfrak{C} 58'06	
conjunction	104 Jul 01 j 09:09	7° \mathfrak{C} 14'40	-0°26'47	conjunction	110 Jul 15 j 17:28	20° \mathfrak{C} 34'04	-0°00'59
minimum elong	104 Jul 01 j 09:09	7° \mathfrak{C} 14'40	0°26'46	minimum elong	110 Jul 15 j 17:28	20° \mathfrak{C} 34'04	0°00'58
max. Earth dist.	104 Jul 01 j 00:17	7° \mathfrak{C} 13'51	31.00328 AU	behind sun begin	110 Jul 15 j 10:53	20° \mathfrak{C} 33'29	
morning rise	104 Jul 17 j 15:41	7° \mathfrak{C} 50'38		behind sun end	110 Jul 16 j 00:03	20° \mathfrak{C} 34'39	
retrograde	104 Oct 13 j 22:02	9° \mathfrak{C} 44'44		max. Earth dist.	110 Jul 15 j 02:26	20° \mathfrak{C} 32'41	31.05236 AU
opposition	104 Dec 30 j 06:26	8° \mathfrak{C} 21'28	-0°26'21	morning rise	110 Jul 31 j 22:10	21° \mathfrak{C} 09'51	
min. Earth dist.	104 Dec 30 j 15:20	8° \mathfrak{C} 20'51	29.00818 AU	asc. node	110 Oct 03 j 12:19	22° \mathfrak{C} 53'09	
direct	105 Mar 19 j 12:27	6° \mathfrak{C} 56'24		retrograde	110 Oct 27 j 12:55	23° \mathfrak{C} 03'04	
evening set	105 Jun 17 j 14:37	8° \mathfrak{C} 52'13		opposition	111 Jan 12 j 20:02	21° \mathfrak{C} 40'05	0°01'17
				min. Earth dist.	111 Jan 13 j 08:57	21° \mathfrak{C} 39'10	29.05711 AU
conjunction	105 Jul 03 j 22:45	9° \mathfrak{C} 28'19	-0°22'31	direct	111 Apr 02 j 11:05	20° \mathfrak{C} 14'44	
minimum elong	105 Jul 03 j 22:45	9° \mathfrak{C} 28'19	0°22'32	evening set	111 Jul 01 j 23:40	22° \mathfrak{C} 10'41	
max. Earth dist.	105 Jul 03 j 11:47	9° \mathfrak{C} 27'18	31.01264 AU				
morning rise	105 Jul 20 j 05:09	10° \mathfrak{C} 04'16		conjunction	111 Jul 18 j 06:34	22° \mathfrak{C} 46'38	0°03'28
retrograde	105 Oct 16 j 10:41	11° \mathfrak{C} 58'13		minimum elong	111 Jul 18 j 06:33	22° \mathfrak{C} 46'38	0°03'27
opposition	106 Jan 01 j 16:43	10° \mathfrak{C} 35'01	-0°21'48	behind sun begin	111 Jul 18 j 00:01	22° \mathfrak{C} 46'03	
min. Earth dist.	106 Jan 02 j 01:41	10° \mathfrak{C} 34'23	29.01705 AU	behind sun end	111 Jul 18 j 13:05	22° \mathfrak{C} 47'12	
direct	106 Mar 22 j 00:49	9° \mathfrak{C} 09'55		max. Earth dist.	111 Jul 17 j 16:03	22° \mathfrak{C} 45'18	31.06187 AU
evening set	106 Jun 20 j 04:22	11° \mathfrak{C} 05'47		morning rise	111 Aug 03 j 10:43	23° \mathfrak{C} 22'21	

retrograde	111 Oct 29 j 22:52	25°☾15'27		retrograde	117 Nov 11 j 17:21	8°♈29'26	
opposition	112 Jan 15 j 06:11	23°☾52'32	0°05'54	opposition	118 Jan 27 j 20:31	7°♈07'01	0°33'13
min. Earth dist.	112 Jan 15 j 19:35	23°☾51'35	29.06716 AU	min. Earth dist.	118 Jan 28 j 13:58	7°♈05'48	29.13686 AU
direct	112 Apr 04 j 00:01	22°☾27'10		direct	118 Apr 17 j 23:06	5°♈41'45	
evening set	112 Jul 03 j 13:05	24°☾23'10		evening set	118 Jul 17 j 20:02	7°♈38'03	
				max. Earth dist.	118 Aug 02 j 04:42	8°♈11'58	31.14111 AU
conjunction	112 Jul 19 j 19:28	24°☾59'04	0°07'46	conjunction	118 Aug 03 j 00:04	8°♈13'46	0°33'12
minimum elong	112 Jul 19 j 19:28	24°☾59'04	0°07'46	minimum elong	118 Aug 03 j 00:04	8°♈13'46	0°33'13
behind sun begin	112 Jul 19 j 13:33	24°☾58'33		morning rise	118 Aug 19 j 00:50	8°♈49'12	
behind sun end	112 Jul 20 j 01:23	24°☾59'36		retrograde	118 Nov 14 j 02:49	10°♈41'42	
max. Earth dist.	112 Jul 19 j 03:26	24°☾57'36	31.07261 AU	opposition	119 Jan 30 j 07:02	9°♈19'21	0°37'38
morning rise	112 Aug 04 j 23:20	25°☾34'46		min. Earth dist.	119 Jan 31 j 00:36	9°♈18'08	29.14558 AU
retrograde	112 Oct 31 j 11:07	27°☾27'45		direct	119 Apr 20 j 12:26	7°♈54'05	
opposition	113 Jan 16 j 16:27	26°☾04'54	0°10'31	evening set	119 Jul 20 j 09:09	9°♈50'24	
min. Earth dist.	113 Jan 17 j 05:51	26°☾03'58	29.07858 AU				
direct	113 Apr 06 j 11:24	24°☾39'33		conjunction	119 Aug 05 j 12:36	10°♈26'04	0°37'18
evening set	113 Jul 06 j 02:08	26°☾35'36		minimum elong	119 Aug 05 j 12:36	10°♈26'04	0°37'18
conjunction	113 Jul 22 j 08:20	27°☾11'29	0°12'04	max. Earth dist.	119 Aug 04 j 15:39	10°♈24'07	31.14924 AU
minimum elong	113 Jul 22 j 08:20	27°☾11'29	0°12'03	morning rise	119 Aug 21 j 12:53	11°♈01'28	
behind sun begin	113 Jul 22 j 03:55	27°☾11'05		retrograde	119 Nov 16 j 13:16	12°♈53'53	
behind sun end	113 Jul 22 j 12:44	27°☾11'52		opposition	120 Feb 01 j 17:28	11°♈31'34	0°41'59
max. Earth dist.	113 Jul 21 j 17:01	27°☾10'04	31.08448 AU	min. Earth dist.	120 Feb 02 j 12:01	11°♈30'16	29.15334 AU
morning rise	113 Aug 07 j 11:34	27°☾47'07		direct	120 Apr 21 j 23:10	10°♈06'16	
retrograde	113 Nov 02 j 21:57	29°☾40'02		evening set	120 Jul 21 j 22:01	12°♈02'36	
opposition	114 Jan 19 j 02:49	28°☾17'16	0°15'07	max. Earth dist.	120 Aug 06 j 04:29	12°♈36'19	31.15653 AU
min. Earth dist.	114 Jan 19 j 17:19	28°☾16'15	29.09081 AU				
direct	114 Apr 09 j 00:44	26°☾51'57		conjunction	120 Aug 07 j 01:07	12°♈38'14	0°41'21
evening set	114 Jul 08 j 15:24	28°☾48'04		minimum elong	120 Aug 07 j 01:07	12°♈38'14	0°41'21
				morning rise	120 Aug 23 j 00:42	13°♈13'34	
conjunction	114 Jul 24 j 21:04	29°☾23'54	0°16'21		120 Oct 30 j 12:14	15°♈	
minimum elong	114 Jul 24 j 21:04	29°☾23'54	0°16'22	retrograde	120 Nov 17 j 22:44	15°♈05'55	
max. Earth dist.	114 Jul 24 j 04:13	29°☾22'21	31.09703 AU		120 Dec 06 j 16:06	15°♈♈	
morning rise	114 Aug 10 j 00:01	29°☾59'31		opposition	121 Feb 03 j 04:03	13°♈43'37	0°46'16
	114 Aug 10 j 05:25	0°♈		min. Earth dist.	121 Feb 03 j 23:18	13°♈42'16	29.16025 AU
retrograde	114 Nov 05 j 10:12	1°♈52'21		direct	121 Apr 24 j 11:49	12°♈18'18	
opposition	115 Jan 21 j 12:59	0°♈29'41	0°19'42	evening set	121 Jul 24 j 10:44	14°♈14'38	
min. Earth dist.	115 Jan 22 j 03:14	0°♈28'41	29.10344 AU				
	115 Feb 08 j 13:38	30°♈☾		conjunction	121 Aug 09 j 13:08	14°♈50'13	0°45'19
direct	115 Apr 11 j 13:11	29°☾04'23		minimum elong	121 Aug 09 j 13:08	14°♈50'13	0°45'19
	115 Jun 10 j 13:59	0°♈		max. Earth dist.	121 Aug 08 j 15:02	14°♈48'10	31.16325 AU
evening set	115 Jul 11 j 04:35	1°♈00'34			121 Aug 13 j 22:28	15°♈	
conjunction	115 Jul 27 j 09:59	1°♈36'23	0°20'37	morning rise	121 Aug 25 j 12:18	15°♈25'31	
minimum elong	115 Jul 27 j 09:59	1°♈36'23	0°20'37	retrograde	121 Nov 20 j 10:21	17°♈17'47	
max. Earth dist.	115 Jul 26 j 17:03	1°♈34'49	31.10943 AU	opposition	122 Feb 05 j 14:33	15°♈55'30	0°50'29
morning rise	115 Aug 12 j 12:18	2°♈11'57		min. Earth dist.	122 Feb 06 j 09:45	15°♈54'09	29.16703 AU
retrograde	115 Nov 07 j 19:57	4°♈04'42			122 Mar 13 j 18:27	15°♈♈	
opposition	116 Jan 23 j 23:29	2°♈42'08	0°24'15	direct	122 Apr 26 j 23:26	14°♈30'09	
min. Earth dist.	116 Jan 24 j 15:31	2°♈41'01	29.11561 AU		122 Jun 09 j 11:32	15°♈	
direct	116 Apr 13 j 00:34	1°♈16'52		evening set	122 Jul 26 j 23:14	16°♈26'30	
evening set	116 Jul 12 j 17:53	3°♈13'06		max. Earth dist.	122 Aug 11 j 04:01	17°♈00'04	31.17000 AU
conjunction	116 Jul 28 j 22:45	3°♈48'52	0°24'51	conjunction	122 Aug 12 j 01:17	17°♈02'02	0°49'14
minimum elong	116 Jul 28 j 22:45	3°♈48'52	0°24'52	minimum elong	122 Aug 12 j 01:17	17°♈02'02	0°49'14
max. Earth dist.	116 Jul 28 j 04:37	3°♈47'12	31.12116 AU	morning rise	122 Aug 27 j 23:42	17°♈37'16	
morning rise	116 Aug 14 j 00:38	4°♈24'24		retrograde	122 Nov 22 j 20:34	19°♈29'28	
retrograde	116 Nov 09 j 07:17	6°♈17'04		opposition	123 Feb 08 j 01:02	18°♈07'12	0°54'37
opposition	117 Jan 25 j 09:53	4°♈54'36	0°28'45	min. Earth dist.	123 Feb 08 j 21:14	18°♈05'48	29.17402 AU
min. Earth dist.	117 Jan 26 j 01:47	4°♈53'29	29.12679 AU	direct	123 Apr 29 j 13:07	16°♈41'51	
direct	117 Apr 15 j 13:12	3°♈29'20		evening set	123 Jul 29 j 11:48	18°♈38'13	
evening set	117 Jul 15 j 07:06	5°♈25'36					
conjunction	117 Jul 31 j 11:32	6°♈01'21	0°29'03	conjunction	123 Aug 14 j 13:10	19°♈13'42	0°53'04
minimum elong	117 Jul 31 j 11:31	6°♈01'21	0°29'03	minimum elong	123 Aug 14 j 13:09	19°♈13'42	0°53'04
max. Earth dist.	117 Jul 30 j 16:33	5°♈59'36	31.13168 AU	max. Earth dist.	123 Aug 13 j 14:42	19°♈11'37	31.17731 AU
morning rise	117 Aug 16 j 12:48	6°♈36'50		morning rise	123 Aug 30 j 11:09	19°♈48'54	
				retrograde	123 Nov 25 j 08:12	21°♈41'02	
				opposition	124 Feb 10 j 11:31	20°♈18'47	0°58'40

min. Earth dist.	124 Feb 11 j 06:54	20°Ω17'27	29.18178 AU	evening set	130 Aug 14 j 01:17	3°♏59'50	
direct	124 May 01 j 01:56	18°Ω53'26					
evening set	124 Jul 31 j 00:09	20°Ω49'49		conjunction	130 Aug 29 j 22:27	4°♏35'01	1°17'24
max. Earth dist.	124 Aug 15 j 03:09	21°Ω23'14	31.18543 AU	minimum elong	130 Aug 29 j 22:26	4°♏35'01	1°17'24
				max. Earth dist.	130 Aug 28 j 22:11	4°♏32'45	31.23957 AU
conjunction	124 Aug 16 j 01:02	21°Ω25'16	0°56'49	morning rise	130 Sep 14 j 16:06	5°♏09'54	
minimum elong	124 Aug 16 j 01:02	21°Ω25'16	0°56'49	retrograde	130 Dec 10 j 06:25	7°♏01'53	
morning rise	124 Aug 31 j 22:15	22°Ω00'25		opposition	131 Feb 25 j 14:52	5°♏40'02	1°24'18
retrograde	124 Nov 26 j 17:34	23°Ω52'30		min. Earth dist.	131 Feb 26 j 12:33	5°♏38'32	29.24351 AU
opposition	125 Feb 11 j 22:14	22°Ω30'19	1°02'38	direct	131 May 17 j 10:22	4°♏14'54	
min. Earth dist.	125 Feb 12 j 18:42	22°Ω28'54	29.19050 AU	evening set	131 Aug 16 j 13:15	6°♏11'25	
direct	125 May 03 j 13:35	21°Ω04'59		max. Earth dist.	131 Aug 31 j 10:22	6°♏44'22	31.24534 AU
evening set	125 Aug 02 j 12:29	23°Ω01'24					
				conjunction	131 Sep 01 j 09:59	6°♏46'33	1°20'27
conjunction	125 Aug 18 j 12:44	23°Ω36'48	1°00'29	minimum elong	131 Sep 01 j 09:58	6°♏46'33	1°20'27
minimum elong	125 Aug 18 j 12:43	23°Ω36'48	1°00'29	morning rise	131 Sep 17 j 02:50	7°♏21'23	
max. Earth dist.	125 Aug 17 j 14:26	23°Ω34'44	31.19469 AU	retrograde	131 Dec 12 j 16:14	9°♏13'21	
morning rise	125 Sep 03 j 09:27	24°Ω11'54		opposition	132 Feb 28 j 01:59	7°♏51'29	1°27'30
retrograde	125 Nov 29 j 04:53	26°Ω03'57		min. Earth dist.	132 Feb 29 j 00:47	7°♏49'55	29.24863 AU
opposition	126 Feb 14 j 08:47	24°Ω41'51	1°06'30	direct	132 May 18 j 23:36	6°♏26'21	
min. Earth dist.	126 Feb 15 j 04:25	24°Ω40'29	29.20014 AU	evening set	132 Aug 18 j 01:11	8°♏22'51	
direct	126 May 06 j 02:20	23°Ω16'34					
evening set	126 Aug 05 j 00:36	25°Ω13'00		conjunction	132 Sep 02 j 21:07	8°♏57'56	1°23'24
max. Earth dist.	126 Aug 20 j 01:56	25°Ω46'18	31.20456 AU	minimum elong	132 Sep 02 j 21:07	8°♏57'56	1°23'24
				max. Earth dist.	132 Sep 01 j 20:18	8°♏55'37	31.24989 AU
conjunction	126 Aug 21 j 00:19	25°Ω48'22	1°04'04	morning rise	132 Sep 18 j 13:31	9°♏32'43	
minimum elong	126 Aug 21 j 00:18	25°Ω48'22	1°04'04	retrograde	132 Dec 14 j 03:30	11°♏24'39	
morning rise	126 Sep 05 j 20:24	26°Ω23'26		opposition	133 Mar 01 j 12:56	10°♏02'46	1°30'34
retrograde	126 Dec 01 j 14:53	28°Ω15'29		min. Earth dist.	133 Mar 02 j 11:00	10°♏01'15	29.25270 AU
opposition	127 Feb 16 j 19:31	26°Ω53'26	1°10'17	direct	133 May 21 j 12:11	8°♏37'37	
min. Earth dist.	127 Feb 17 j 16:12	26°Ω52'00	29.21024 AU	evening set	133 Aug 20 j 12:51	10°♏34'05	
direct	127 May 08 j 12:21	25°Ω28'12		max. Earth dist.	133 Sep 04 j 07:58	11°♏06'51	31.25347 AU
evening set	127 Aug 07 j 12:50	27°Ω24'41					
				conjunction	133 Sep 05 j 08:18	11°♏09'07	1°26'13
conjunction	127 Aug 23 j 11:59	28°Ω00'00	1°07'33	minimum elong	133 Sep 05 j 08:17	11°♏09'07	1°26'13
minimum elong	127 Aug 23 j 11:59	28°Ω00'00	1°07'33	morning rise	133 Sep 20 j 23:57	11°♏43'50	
max. Earth dist.	127 Aug 22 j 13:44	27°Ω57'56	31.21459 AU	retrograde	133 Dec 16 j 13:06	13°♏35'45	
morning rise	127 Sep 08 j 07:26	28°Ω35'01		opposition	134 Mar 03 j 24:00	12°♏13'50	1°33'31
	127 Oct 24 j 23:04	0°♏		min. Earth dist.	134 Mar 04 j 23:15	12°♏12'14	29.25612 AU
retrograde	127 Dec 03 j 23:40	0°♏27'03		direct	134 May 24 j 00:30	10°♏48'40	
	128 Jan 14 j 01:06	30°♏Ω		evening set	134 Aug 23 j 00:20	12°♏45'05	
opposition	128 Feb 19 j 06:10	29°Ω05'05	1°13'57				
min. Earth dist.	128 Feb 20 j 02:41	29°Ω03'40	29.22002 AU	conjunction	134 Sep 07 j 19:08	13°♏20'04	1°28'54
direct	128 May 10 j 01:18	27°Ω39'54		minimum elong	134 Sep 07 j 19:07	13°♏20'04	1°28'54
evening set	128 Aug 09 j 01:09	29°Ω36'25		max. Earth dist.	134 Sep 06 j 18:33	13°♏17'47	31.25677 AU
	128 Aug 19 j 17:57	0°♏		morning rise	134 Sep 23 j 10:18	13°♏54'45	
conjunction	128 Aug 24 j 23:34	0°♏11'41	1°10'56	retrograde	134 Dec 19 j 00:00	15°♏46'37	
minimum elong	128 Aug 24 j 23:34	0°♏11'41	1°10'56	opposition	135 Mar 06 j 10:57	14°♏24'41	1°36'20
max. Earth dist.	128 Aug 24 j 00:11	0°♏09'31	31.22398 AU	min. Earth dist.	135 Mar 07 j 09:15	14°♏23'09	29.25935 AU
morning rise	128 Sep 09 j 18:26	0°♏46'40		direct	135 May 26 j 14:21	12°♏59'30	
retrograde	128 Dec 05 j 09:53	2°♏38'41		evening set	135 Aug 25 j 11:47	14°♏55'53	
opposition	129 Feb 20 j 17:05	1°♏16'46	1°17'31	max. Earth dist.	135 Sep 09 j 05:30	15°♏28'33	31.26004 AU
min. Earth dist.	129 Feb 21 j 14:12	1°♏15'19	29.22912 AU				
	129 Apr 19 j 10:59	30°♏Ω		conjunction	135 Sep 10 j 05:56	15°♏30'49	1°31'28
direct	129 May 12 j 11:02	29°Ω51'37		minimum elong	135 Sep 10 j 05:56	15°♏30'49	1°31'27
	129 Jun 04 j 07:31	0°♏		morning rise	135 Sep 25 j 20:27	16°♏05'27	
evening set	129 Aug 11 j 13:06	1°♏48'08		retrograde	135 Dec 21 j 09:32	17°♏57'18	
				opposition	136 Mar 07 j 22:00	16°♏35'22	1°39'00
conjunction	129 Aug 27 j 11:03	2°♏23'23	1°14'13	min. Earth dist.	136 Mar 08 j 20:53	16°♏33'47	29.26307 AU
minimum elong	129 Aug 27 j 11:02	2°♏23'23	1°14'13	direct	136 May 28 j 01:27	15°♏10'10	
max. Earth dist.	129 Aug 26 j 12:16	2°♏21'16	31.23244 AU	evening set	136 Aug 26 j 23:04	17°♏06'31	
morning rise	129 Sep 12 j 05:10	2°♏58'18					
retrograde	129 Dec 07 j 19:11	4°♏50'19		conjunction	136 Sep 11 j 16:39	17°♏41'25	1°33'54
opposition	130 Feb 23 j 04:05	3°♏28'26	1°20'58	minimum elong	136 Sep 11 j 16:39	17°♏41'25	1°33'54
min. Earth dist.	130 Feb 24 j 01:48	3°♏26'56	29.23693 AU	max. Earth dist.	136 Sep 10 j 17:01	17°♏39'13	31.26416 AU
direct	130 May 14 j 22:53	2°♏03'19		morning rise	136 Sep 27 j 06:32	18°♏16'00	
				retrograde	136 Dec 22 j 18:04	20°♏07'52	

opposition	137 Mar 10 j 09:08	18° 0 45'55	1°41'31	conjunction	143 Sep 27 j 17:27	2° 0 56'44	1°46'57
min. Earth dist.	137 Mar 11 j 07:07	18° 0 44'24	29.26764 AU	minimum elong	143 Sep 27 j 17:27	2° 0 56'44	1°46'56
direct	137 May 30 j 14:24	17° 0 20'46		max. Earth dist.	143 Sep 26 j 18:51	2° 0 54'37	31.30233 AU
evening set	137 Aug 29 j 10:11	19° 0 17'05		morning rise	143 Oct 13 j 03:34	3° 0 31'05	
max. Earth dist.	137 Sep 13 j 03:02	19° 0 49'42	31.26924 AU	retrograde	144 Jan 07 j 20:04	5° 0 23'18	
				opposition	144 Mar 25 j 16:33	4° 0 01'33	1°54'55
conjunction	137 Sep 14 j 03:03	19° 0 51'57	1°36'11	min. Earth dist.	144 Mar 26 j 13:30	4° 0 00'07	29.30481 AU
minimum elong	137 Sep 14 j 03:03	19° 0 51'57	1°36'11	direct	144 Jun 14 j 23:29	2° 0 36'49	
morning rise	137 Sep 29 j 16:27	20° 0 26'30		evening set	144 Sep 13 j 14:52	4° 0 33'06	
retrograde	137 Dec 25 j 04:04	22° 0 18'23		max. Earth dist.	144 Sep 28 j 05:04	5° 0 05'34	31.30440 AU
opposition	138 Mar 12 j 20:16	20° 0 56'28	1°43'54				
min. Earth dist.	138 Mar 13 j 18:02	20° 0 54'58	29.27335 AU	conjunction	144 Sep 29 j 03:43	5° 0 07'41	1°48'13
direct	138 Jun 02 j 00:03	19° 0 31'21		minimum elong	144 Sep 29 j 03:43	5° 0 07'41	1°48'13
evening set	138 Aug 31 j 21:12	21° 0 27'41		morning rise	144 Oct 14 j 13:20	5° 0 42'00	
				retrograde	145 Jan 09 j 06:17	7° 0 34'16	
conjunction	138 Sep 16 j 13:38	22° 0 02'30	1°38'21	opposition	145 Mar 28 j 04:17	6° 0 12'29	1°56'11
minimum elong	138 Sep 16 j 13:38	22° 0 02'30	1°38'21	min. Earth dist.	145 Mar 29 j 01:53	6° 0 11'01	29.30639 AU
max. Earth dist.	138 Sep 15 j 14:56	22° 0 00'23	31.27533 AU	direct	145 Jun 17 j 10:59	4° 0 47'47	
morning rise	138 Oct 02 j 02:21	22° 0 37'01		evening set	145 Sep 16 j 01:21	6° 0 44'00	
retrograde	138 Dec 27 j 13:00	24° 0 28'56					
opposition	139 Mar 15 j 07:20	23° 0 07'04	1°46'08	conjunction	145 Oct 01 j 13:46	7° 0 18'33	1°49'20
min. Earth dist.	139 Mar 16 j 05:11	23° 0 05'34	29.27967 AU	minimum elong	145 Oct 01 j 13:46	7° 0 18'33	1°49'19
direct	139 Jun 04 j 11:22	21° 0 42'02		max. Earth dist.	145 Sep 30 j 15:53	7° 0 16'30	31.30542 AU
evening set	139 Sep 03 j 08:24	23° 0 38'22		morning rise	145 Oct 16 j 22:53	7° 0 52'50	
max. Earth dist.	139 Sep 18 j 00:35	24° 0 10'57	31.28186 AU	retrograde	146 Jan 11 j 14:43	9° 0 45'07	
				opposition	146 Mar 30 j 15:55	8° 0 23'18	1°57'18
conjunction	139 Sep 19 j 00:04	24° 0 13'08	1°40'21	min. Earth dist.	146 Mar 31 j 12:50	8° 0 21'52	29.30683 AU
minimum elong	139 Sep 19 j 00:04	24° 0 13'08	1°40'21	direct	146 Jun 20 j 00:24	6° 0 58'36	
morning rise	139 Oct 04 j 12:23	24° 0 47'38		evening set	146 Sep 18 j 11:56	8° 0 54'45	
retrograde	139 Dec 30 j 00:22	26° 0 39'37					
opposition	140 Mar 16 j 18:34	25° 0 17'47	1°48'12	conjunction	146 Oct 03 j 23:44	9° 0 29'16	1°50'17
min. Earth dist.	140 Mar 17 j 15:44	25° 0 16'20	29.28631 AU	minimum elong	146 Oct 03 j 23:44	9° 0 29'16	1°50'17
direct	140 Jun 05 j 21:59	23° 0 52'49		max. Earth dist.	146 Oct 03 j 01:16	9° 0 27'10	31.30552 AU
evening set	140 Sep 04 j 19:15	25° 0 49'10		morning rise	146 Oct 19 j 08:31	10° 0 03'32	
				retrograde	147 Jan 14 j 00:37	11° 0 55'49	
conjunction	140 Sep 20 j 10:29	26° 0 23'55	1°42'14	opposition	147 Apr 02 j 03:26	10° 0 33'58	1°58'15
minimum elong	140 Sep 20 j 10:29	26° 0 23'55	1°42'14	min. Earth dist.	147 Apr 03 j 00:12	10° 0 32'33	29.30682 AU
max. Earth dist.	140 Sep 19 j 12:17	26° 0 21'50	31.28826 AU	direct	147 Jun 22 j 11:13	9° 0 09'16	
morning rise	140 Oct 05 j 22:03	26° 0 58'21		evening set	147 Sep 20 j 22:15	11° 0 05'19	
retrograde	140 Dec 31 j 10:22	28° 0 50'25					
opposition	141 Mar 19 j 06:04	27° 0 28'37	1°50'07	conjunction	147 Oct 06 j 09:42	11° 0 39'49	1°51'05
min. Earth dist.	141 Mar 20 j 03:56	27° 0 27'07	29.29248 AU	minimum elong	147 Oct 06 j 09:41	11° 0 39'49	1°51'05
direct	141 Jun 08 j 09:54	26° 0 03'45		max. Earth dist.	147 Oct 05 j 12:45	11° 0 37'51	31.30541 AU
evening set	141 Sep 07 j 06:18	28° 0 00'05		morning rise	147 Oct 21 j 17:54	12° 0 14'03	
				retrograde	148 Jan 16 j 09:13	14° 0 06'22	
conjunction	141 Sep 22 j 20:47	28° 0 34'47	1°43'57	opposition	148 Apr 03 j 15:14	12° 0 44'28	1°59'01
minimum elong	141 Sep 22 j 20:47	28° 0 34'47	1°43'57	min. Earth dist.	148 Apr 04 j 11:45	12° 0 43'04	29.30675 AU
max. Earth dist.	141 Sep 21 j 21:50	28° 0 32'38	31.29410 AU	direct	148 Jun 23 j 23:40	11° 0 19'46	
morning rise	141 Oct 08 j 07:59	29° 0 09'12		evening set	148 Sep 22 j 08:30	13° 0 15'45	
	141 Nov 02 j 06:26	0° 0 00'00					
retrograde	142 Jan 02 j 22:02	1° 0 01'19		conjunction	148 Oct 07 j 19:16	13° 0 50'12	1°51'44
	142 Mar 09 j 03:16	30° 0 00'00		minimum elong	148 Oct 07 j 19:16	13° 0 50'12	1°51'44
opposition	142 Mar 21 j 17:24	29° 0 39'33	1°51'53	max. Earth dist.	148 Oct 06 j 22:01	13° 0 48'12	31.30564 AU
min. Earth dist.	142 Mar 22 j 14:14	29° 0 38'08	29.29789 AU	morning rise	148 Oct 23 j 03:13	14° 0 24'24	
direct	142 Jun 10 j 21:10	28° 0 14'44		retrograde	149 Jan 17 j 19:29	16° 0 16'46	
	142 Sep 04 j 14:04	0° 0 00'00		opposition	149 Apr 06 j 02:59	14° 0 54'49	1°59'38
evening set	142 Sep 09 j 17:08	0° 0 11'05		min. Earth dist.	149 Apr 06 j 22:12	14° 0 53'31	29.30743 AU
max. Earth dist.	142 Sep 24 j 08:47	0° 0 43'39	31.29883 AU	direct	149 Jun 26 j 10:21	13° 0 30'09	
				evening set	149 Sep 24 j 18:35	15° 0 26'03	
conjunction	142 Sep 25 j 07:11	0° 0 45'45	1°45'31	max. Earth dist.	149 Oct 09 j 09:33	15° 0 58'39	31.30670 AU
minimum elong	142 Sep 25 j 07:11	0° 0 45'45	1°45'31				
morning rise	142 Oct 10 j 17:45	1° 0 20'08		conjunction	149 Oct 10 j 05:03	16° 0 00'29	1°52'13
retrograde	143 Jan 05 j 08:23	3° 0 12'18		minimum elong	149 Oct 10 j 05:02	16° 0 00'29	1°52'13
opposition	143 Mar 24 j 05:01	1° 0 50'33	1°53'29	morning rise	149 Oct 25 j 12:26	16° 0 34'40	
min. Earth dist.	143 Mar 25 j 02:55	1° 0 49'03	29.30205 AU	retrograde	150 Jan 20 j 04:39	18° 0 27'06	
direct	143 Jun 13 j 09:26	0° 0 25'47		opposition	150 Apr 08 j 14:45	17° 0 05'07	2°00'04
evening set	143 Sep 12 j 04:02	2° 0 22'06		min. Earth dist.	150 Apr 09 j 10:05	17° 0 03'48	29.30899 AU

direct	150 Jun 28 j 21:15	15° <u>♂</u> 40'29		conjunction	156 Oct 25 j 00:05	1° <u>♂</u> .14'06	1°51'05
evening set	150 Sep 27 j 04:43	17° <u>♂</u> 36'21		minimum elong	156 Oct 25 j 00:06	1° <u>♂</u> .14'06	1°51'05
				morning rise	156 Nov 09 j 05:21	1° <u>♂</u> .48'12	
conjunction	150 Oct 12 j 14:37	18° <u>♂</u> 10'44	1°52'33	retrograde	157 Feb 04 j 07:34	3° <u>♂</u> .41'15	
minimum elong	150 Oct 12 j 14:37	18° <u>♂</u> 10'44	1°52'33	opposition	157 Apr 24 j 03:25	2° <u>♂</u> .19'14	1°58'15
max. Earth dist.	150 Oct 11 j 19:02	18° <u>♂</u> 08'54	31.30879 AU	min. Earth dist.	157 Apr 24 j 19:19	2° <u>♂</u> .18'10	29.31728 AU
morning rise	150 Oct 27 j 21:49	18° <u>♂</u> 44'55		direct	157 Jul 14 j 08:39	0° <u>♂</u> .55'06	
retrograde	151 Jan 22 j 16:03	20° <u>♂</u> 37'24		evening set	157 Oct 12 j 02:20	2° <u>♂</u> .50'36	
opposition	151 Apr 11 j 02:29	19° <u>♂</u> 15'25	2°00'19				
min. Earth dist.	151 Apr 11 j 20:07	19° <u>♂</u> 14'14	29.31138 AU	conjunction	157 Oct 27 j 09:33	3° <u>♂</u> .24'52	1°50'17
direct	151 Jul 01 j 07:52	17° <u>♂</u> 50'52		minimum elong	157 Oct 27 j 09:33	3° <u>♂</u> .24'52	1°50'17
evening set	151 Sep 29 j 14:41	19° <u>♂</u> 46'41		max. Earth dist.	157 Oct 26 j 17:07	3° <u>♂</u> .23'19	31.31451 AU
max. Earth dist.	151 Oct 14 j 05:46	20° <u>♂</u> 19'19	31.31140 AU	morning rise	157 Nov 11 j 14:48	3° <u>♂</u> .58'58	
				retrograde	158 Feb 06 j 18:15	5° <u>♂</u> .52'05	
conjunction	151 Oct 15 j 00:14	20° <u>♂</u> 21'03	1°52'42	opposition	158 Apr 26 j 15:34	4° <u>♂</u> .30'02	1°57'19
minimum elong	151 Oct 15 j 00:13	20° <u>♂</u> 21'03	1°52'42	min. Earth dist.	158 Apr 27 j 06:31	4° <u>♂</u> .29'01	29.31384 AU
morning rise	151 Oct 30 j 06:57	20° <u>♂</u> 55'12		direct	158 Jul 16 j 19:22	3° <u>♂</u> .05'55	
retrograde	152 Jan 25 j 02:42	22° <u>♂</u> 47'47		evening set	158 Oct 14 j 11:59	5° <u>♂</u> .01'20	
opposition	152 Apr 12 j 14:30	21° <u>♂</u> 25'49	2°00'25				
min. Earth dist.	152 Apr 13 j 08:35	21° <u>♂</u> 24'35	29.31417 AU	conjunction	158 Oct 29 j 19:06	5° <u>♂</u> .35'35	1°49'20
direct	152 Jul 02 j 19:37	20° <u>♂</u> 01'20		minimum elong	158 Oct 29 j 19:06	5° <u>♂</u> .35'35	1°49'20
evening set	152 Oct 01 j 00:43	21° <u>♂</u> 57'07		max. Earth dist.	158 Oct 29 j 04:03	5° <u>♂</u> .34'10	31.31041 AU
				morning rise	158 Nov 14 j 00:01	6° <u>♂</u> .09'41	
conjunction	152 Oct 16 j 09:48	22° <u>♂</u> 31'27	1°52'42	retrograde	159 Feb 09 j 03:36	8° <u>♂</u> .02'53	
minimum elong	152 Oct 16 j 09:48	22° <u>♂</u> 31'27	1°52'43	opposition	159 Apr 29 j 04:02	6° <u>♂</u> .40'45	1°56'13
max. Earth dist.	152 Oct 15 j 15:54	22° <u>♂</u> 29'47	31.31430 AU	min. Earth dist.	159 Apr 29 j 19:18	6° <u>♂</u> .39'43	29.30919 AU
morning rise	152 Oct 31 j 16:15	23° <u>♂</u> 05'35		direct	159 Jul 19 j 06:30	5° <u>♂</u> .16'39	
retrograde	153 Jan 26 j 14:37	24° <u>♂</u> 58'16		evening set	159 Oct 16 j 21:36	7° <u>♂</u> .11'58	
opposition	153 Apr 15 j 02:28	23° <u>♂</u> 36'18	2°00'19				
min. Earth dist.	153 Apr 15 j 19:08	23° <u>♂</u> 35'10	29.31687 AU	conjunction	159 Nov 01 j 04:18	7° <u>♂</u> .46'12	1°48'13
direct	153 Jul 05 j 08:35	22° <u>♂</u> 11'55		minimum elong	159 Nov 01 j 04:18	7° <u>♂</u> .46'12	1°48'13
evening set	153 Oct 03 j 10:37	24° <u>♂</u> 07'39		max. Earth dist.	159 Oct 31 j 13:17	7° <u>♂</u> .44'48	31.30553 AU
				morning rise	159 Nov 16 j 09:11	8° <u>♂</u> .20'18	
conjunction	153 Oct 18 j 19:17	24° <u>♂</u> 41'59	1°52'33	retrograde	160 Feb 11 j 14:52	10° <u>♂</u> .13'35	
minimum elong	153 Oct 18 j 19:17	24° <u>♂</u> 41'59	1°52'32	opposition	160 Apr 30 j 16:21	8° <u>♂</u> .51'23	1°54'57
max. Earth dist.	153 Oct 18 j 01:38	24° <u>♂</u> 40'19	31.31671 AU	min. Earth dist.	160 May 01 j 05:50	8° <u>♂</u> .50'28	29.30408 AU
morning rise	153 Nov 03 j 01:27	25° <u>♂</u> 16'06		direct	160 Jul 20 j 17:16	7° <u>♂</u> .27'17	
retrograde	154 Jan 29 j 01:35	27° <u>♂</u> 08'53		evening set	160 Oct 18 j 07:03	9° <u>♂</u> .22'31	
opposition	154 Apr 17 j 14:37	25° <u>♂</u> 46'55	2°00'04				
min. Earth dist.	154 Apr 18 j 07:39	25° <u>♂</u> 45'46	29.31896 AU	conjunction	160 Nov 02 j 13:34	9° <u>♂</u> .56'44	1°46'57
direct	154 Jul 07 j 19:29	24° <u>♂</u> 22'36		minimum elong	160 Nov 02 j 13:34	9° <u>♂</u> .56'44	1°46'57
evening set	154 Oct 05 j 20:35	26° <u>♂</u> 18'18		max. Earth dist.	160 Nov 01 j 23:42	9° <u>♂</u> .55'26	31.30040 AU
				morning rise	160 Nov 17 j 18:14	10° <u>♂</u> .30'50	
conjunction	154 Oct 21 j 04:57	26° <u>♂</u> 52'37	1°52'13	retrograde	161 Feb 13 j 01:40	12° <u>♂</u> .24'12	
minimum elong	154 Oct 21 j 04:57	26° <u>♂</u> 52'37	1°52'13	opposition	161 May 03 j 04:51	11° <u>♂</u> .01'55	1°53'31
max. Earth dist.	154 Oct 20 j 12:19	26° <u>♂</u> 51'03	31.31828 AU	min. Earth dist.	161 May 03 j 18:28	11° <u>♂</u> .01'00	29.29920 AU
morning rise	154 Nov 05 j 10:45	27° <u>♂</u> 26'43		direct	161 Jul 23 j 05:02	9° <u>♂</u> .37'51	
retrograde	155 Jan 31 j 11:06	29° <u>♂</u> 19'36		evening set	161 Oct 20 j 16:23	11° <u>♂</u> .32'59	
opposition	155 Apr 20 j 02:40	27° <u>♂</u> 57'38	1°59'38				
min. Earth dist.	155 Apr 20 j 18:55	27° <u>♂</u> 56'32	29.31982 AU	conjunction	161 Nov 04 j 22:41	12° <u>♂</u> .07'12	1°45'32
direct	155 Jul 10 j 08:48	26° <u>♂</u> 33'23		minimum elong	161 Nov 04 j 22:41	12° <u>♂</u> .07'12	1°45'32
evening set	155 Oct 08 j 06:39	28° <u>♂</u> 29'02		max. Earth dist.	161 Nov 04 j 09:53	12° <u>♂</u> .06'00	31.29589 AU
				morning rise	161 Nov 20 j 03:15	12° <u>♂</u> .41'17	
conjunction	155 Oct 23 j 14:31	29° <u>♂</u> 03'20	1°51'44	retrograde	162 Feb 15 j 13:42	14° <u>♂</u> .34'45	
minimum elong	155 Oct 23 j 14:31	29° <u>♂</u> 03'20	1°51'44	opposition	162 May 05 j 17:10	13° <u>♂</u> .12'25	1°51'56
max. Earth dist.	155 Oct 22 j 21:17	29° <u>♂</u> 01'43	31.31849 AU	min. Earth dist.	162 May 06 j 04:53	13° <u>♂</u> .11'38	29.29493 AU
morning rise	155 Nov 07 j 20:10	29° <u>♂</u> 37'26		direct	162 Jul 25 j 17:33	11° <u>♂</u> .48'23	
	155 Nov 18 j 08:04	0° <u>♂</u>		evening set	162 Oct 23 j 01:48	13° <u>♂</u> .43'28	
retrograde	156 Feb 02 j 22:18	1° <u>♂</u> .30'24					
opposition	156 Apr 21 j 15:00	0° <u>♂</u> .08'25	1°59'02	conjunction	162 Nov 07 j 07:49	14° <u>♂</u> .17'40	1°43'58
min. Earth dist.	156 Apr 22 j 06:57	0° <u>♂</u> .07'20	29.31938 AU	minimum elong	162 Nov 07 j 07:49	14° <u>♂</u> .17'40	1°43'58
	156 Apr 26 j 19:41	30° <u>♂</u> . <u>♂</u>		max. Earth dist.	162 Nov 06 j 19:33	14° <u>♂</u> .16'31	31.29203 AU
direct	156 Jul 11 j 19:55	28° <u>♂</u> 44'14		morning rise	162 Nov 22 j 12:19	14° <u>♂</u> .51'46	
	156 Sep 20 j 15:11	0° <u>♂</u>			162 Nov 26 j 06:34	15° <u>♂</u>	
evening set	156 Oct 09 j 16:24	0° <u>♂</u> .39'49		retrograde	163 Feb 18 j 00:48	16° <u>♂</u> .45'19	
max. Earth dist.	156 Oct 24 j 08:17	1° <u>♂</u> .12'37	31.31726 AU	opposition	163 May 08 j 05:35	15° <u>♂</u> .22'57	1°50'10
				min. Earth dist.	163 May 08 j 17:04	15° <u>♂</u> .22'11	29.29154 AU

	163 May 22 j 13:37	15° \mathbb{M}		max. Earth dist.	169 Nov 21 j 17:26	29° \mathbb{M} 33'03	31.26510 AU
direct	163 Jul 28 j 03:55	13° \mathbb{M} 58'59			169 Dec 03 j 15:36	0° \mathbb{A}	
	163 Sep 28 j 22:53	15° \mathbb{M}		morning rise	169 Dec 07 j 04:42	0° \mathbb{A} 07'54	
evening set	163 Oct 25 j 11:06	15° \mathbb{M} 54'00		retrograde	170 Mar 05 j 04:16	2° \mathbb{A} 02'15	
				opposition	170 May 23 j 22:30	0° \mathbb{A} 39'38	1°33'35
conjunction	163 Nov 09 j 17:02	16° \mathbb{M} 28'12	1°42'15	min. Earth dist.	170 May 24 j 05:12	0° \mathbb{A} 39'11	29.26199 AU
minimum elong	163 Nov 09 j 17:02	16° \mathbb{M} 28'12	1°42'15		170 Jun 18 j 10:30	30° \mathbb{R} \mathbb{M}	
max. Earth dist.	163 Nov 09 j 06:30	16° \mathbb{M} 27'12	31.28908 AU	direct	170 Aug 12 j 13:31	29° \mathbb{M} 16'03	
morning rise	163 Nov 24 j 21:22	17° \mathbb{M} 02'18			170 Oct 04 j 02:02	0° \mathbb{A}	
retrograde	164 Feb 20 j 11:01	18° \mathbb{M} 55'58		evening set	170 Nov 09 j 04:23	1° \mathbb{A} 10'31	
opposition	164 May 09 j 18:07	17° \mathbb{M} 33'35	1°48'16				
min. Earth dist.	164 May 10 j 04:09	17° \mathbb{M} 32'54	29.28872 AU	conjunction	170 Nov 24 j 09:32	1° \mathbb{A} 44'45	1°26'14
direct	164 Jul 29 j 17:21	16° \mathbb{M} 09'41		minimum elong	170 Nov 24 j 09:32	1° \mathbb{A} 44'45	1°26'14
evening set	164 Oct 26 j 20:22	18° \mathbb{M} 04'38		max. Earth dist.	170 Nov 24 j 03:33	1° \mathbb{A} 44'11	31.25707 AU
				morning rise	170 Dec 09 j 14:01	2° \mathbb{A} 18'56	
conjunction	164 Nov 11 j 01:59	18° \mathbb{M} 38'50	1°40'23	retrograde	171 Mar 07 j 16:00	4° \mathbb{A} 13'24	
minimum elong	164 Nov 11 j 02:00	18° \mathbb{M} 38'50	1°40'23	opposition	171 May 26 j 11:13	2° \mathbb{A} 50'41	1°30'38
max. Earth dist.	164 Nov 10 j 15:26	18° \mathbb{M} 37'51	31.28654 AU	min. Earth dist.	171 May 26 j 16:21	2° \mathbb{A} 50'20	29.25322 AU
morning rise	164 Nov 26 j 06:26	19° \mathbb{M} 12'57		direct	171 Aug 15 j 01:31	1° \mathbb{A} 27'05	
retrograde	165 Feb 21 j 23:14	21° \mathbb{M} 06'45		evening set	171 Nov 11 j 13:42	3° \mathbb{A} 21'27	
opposition	165 May 12 j 06:43	19° \mathbb{M} 44'20	1°46'11				
min. Earth dist.	165 May 12 j 15:57	19° \mathbb{M} 43'43	29.28627 AU	conjunction	171 Nov 26 j 18:43	3° \mathbb{A} 55'41	1°23'25
direct	165 Aug 01 j 04:49	18° \mathbb{M} 20'31		minimum elong	171 Nov 26 j 18:44	3° \mathbb{A} 55'41	1°23'25
evening set	165 Oct 29 j 05:37	20° \mathbb{M} 15'25		max. Earth dist.	171 Nov 26 j 12:57	3° \mathbb{A} 55'08	31.24793 AU
				morning rise	171 Dec 11 j 23:24	4° \mathbb{A} 29'54	
conjunction	165 Nov 13 j 11:16	20° \mathbb{M} 49'37	1°38'22	retrograde	172 Mar 09 j 03:42	6° \mathbb{A} 24'26	
minimum elong	165 Nov 13 j 11:16	20° \mathbb{M} 49'37	1°38'22	opposition	172 May 28 j 00:10	5° \mathbb{A} 01'37	1°27'35
max. Earth dist.	165 Nov 13 j 02:33	20° \mathbb{M} 48'48	31.28402 AU	min. Earth dist.	172 May 28 j 05:14	5° \mathbb{A} 01'16	29.24385 AU
morning rise	165 Nov 28 j 15:32	21° \mathbb{M} 23'45		direct	172 Aug 16 j 11:58	3° \mathbb{A} 38'00	
retrograde	166 Feb 24 j 08:53	23° \mathbb{M} 17'39		evening set	172 Nov 12 j 22:39	5° \mathbb{A} 32'16	
opposition	166 May 14 j 19:14	21° \mathbb{M} 55'14	1°43'57				
min. Earth dist.	166 May 15 j 04:07	21° \mathbb{M} 54'38	29.28346 AU	conjunction	172 Nov 28 j 03:49	6° \mathbb{A} 06'30	1°20'30
direct	166 Aug 03 j 17:14	20° \mathbb{M} 31'29		minimum elong	172 Nov 28 j 03:50	6° \mathbb{A} 06'30	1°20'30
evening set	166 Oct 31 j 15:05	22° \mathbb{M} 26'19		max. Earth dist.	172 Nov 27 j 23:53	6° \mathbb{A} 06'08	31.23850 AU
				morning rise	172 Dec 13 j 08:31	6° \mathbb{A} 40'44	
conjunction	166 Nov 15 j 20:26	23° \mathbb{M} 00'32	1°36'13	retrograde	173 Mar 11 j 14:28	8° \mathbb{A} 35'21	
minimum elong	166 Nov 15 j 20:26	23° \mathbb{M} 00'32	1°36'13	opposition	173 May 30 j 12:58	7° \mathbb{A} 12'26	1°24'24
max. Earth dist.	166 Nov 15 j 11:26	22° \mathbb{M} 59'41	31.28101 AU	min. Earth dist.	173 May 30 j 16:33	7° \mathbb{A} 12'11	29.23437 AU
morning rise	166 Dec 01 j 00:50	23° \mathbb{M} 34'40		direct	173 Aug 19 j 01:37	5° \mathbb{A} 48'49	
retrograde	167 Feb 26 j 19:47	25° \mathbb{M} 28'42		evening set	173 Nov 15 j 07:52	7° \mathbb{A} 42'59	
opposition	167 May 17 j 07:55	24° \mathbb{M} 06'15	1°41'35				
min. Earth dist.	167 May 17 j 15:33	24° \mathbb{M} 05'44	29.28002 AU	conjunction	173 Nov 30 j 12:53	8° \mathbb{A} 17'13	1°17'28
direct	167 Aug 06 j 04:06	22° \mathbb{M} 42'34		minimum elong	173 Nov 30 j 12:53	8° \mathbb{A} 17'13	1°17'27
evening set	167 Nov 03 j 00:19	24° \mathbb{M} 37'19		max. Earth dist.	173 Nov 30 j 08:56	8° \mathbb{A} 16'51	31.22933 AU
				morning rise	173 Dec 15 j 17:52	8° \mathbb{A} 51'29	
conjunction	167 Nov 18 j 05:40	25° \mathbb{M} 11'32	1°33'55	retrograde	174 Mar 14 j 03:06	10° \mathbb{A} 46'11	
minimum elong	167 Nov 18 j 05:40	25° \mathbb{M} 11'32	1°33'55	opposition	174 Jun 02 j 01:38	9° \mathbb{A} 23'10	1°21'05
max. Earth dist.	167 Nov 17 j 22:11	25° \mathbb{M} 10'50	31.27699 AU	min. Earth dist.	174 Jun 02 j 04:13	9° \mathbb{A} 23'00	29.22562 AU
morning rise	167 Dec 03 j 09:56	25° \mathbb{M} 45'42		direct	174 Aug 21 j 12:55	7° \mathbb{A} 59'35	
retrograde	168 Feb 29 j 05:29	27° \mathbb{M} 39'51		evening set	174 Nov 17 j 16:54	9° \mathbb{A} 53'40	
opposition	168 May 18 j 20:51	26° \mathbb{M} 17'22	1°39'03				
min. Earth dist.	168 May 19 j 04:43	26° \mathbb{M} 16'50	29.27538 AU	conjunction	174 Dec 02 j 22:05	10° \mathbb{A} 27'55	1°14'19
direct	168 Aug 07 j 15:22	24° \mathbb{M} 53'44		minimum elong	174 Dec 02 j 22:06	10° \mathbb{A} 27'55	1°14'18
evening set	168 Nov 04 j 09:46	26° \mathbb{M} 48'24		max. Earth dist.	174 Dec 02 j 20:17	10° \mathbb{A} 27'45	31.22102 AU
				morning rise	174 Dec 18 j 03:03	11° \mathbb{A} 02'12	
conjunction	168 Nov 19 j 14:57	27° \mathbb{M} 22'37	1°31'29	retrograde	175 Mar 16 j 13:00	12° \mathbb{A} 57'01	
minimum elong	168 Nov 19 j 14:57	27° \mathbb{M} 22'37	1°31'29	opposition	175 Jun 04 j 14:31	11° \mathbb{A} 33'57	1°17'40
max. Earth dist.	168 Nov 19 j 07:29	27° \mathbb{M} 21'55	31.27182 AU	min. Earth dist.	175 Jun 04 j 16:11	11° \mathbb{A} 33'50	29.21773 AU
morning rise	168 Dec 04 j 19:21	27° \mathbb{M} 56'47		direct	175 Aug 24 j 01:20	10° \mathbb{A} 10'24	
retrograde	169 Mar 02 j 17:19	29° \mathbb{M} 51'03		evening set	175 Nov 20 j 01:57	12° \mathbb{A} 04'24	
opposition	169 May 21 j 09:35	28° \mathbb{M} 28'30	1°36'23				
min. Earth dist.	169 May 21 j 15:48	28° \mathbb{M} 28'05	29.26944 AU	conjunction	175 Dec 05 j 07:01	12° \mathbb{A} 38'40	1°11'03
direct	169 Aug 10 j 02:23	27° \mathbb{M} 04'54		minimum elong	175 Dec 05 j 07:02	12° \mathbb{A} 38'40	1°11'03
evening set	169 Nov 06 j 19:06	28° \mathbb{M} 59'29		max. Earth dist.	175 Dec 05 j 05:30	12° \mathbb{A} 38'32	31.21379 AU
				morning rise	175 Dec 20 j 12:19	13° \mathbb{A} 12'58	
conjunction	169 Nov 22 j 00:15	29° \mathbb{M} 33'42	1°28'55	retrograde	176 Mar 18 j 00:31	15° \mathbb{A} 07'56	
minimum elong	169 Nov 22 j 00:15	29° \mathbb{M} 33'42	1°28'55	opposition	176 Jun 06 j 03:23	13° \mathbb{A} 44'49	1°14'07

min. Earth dist.	176 Jun 06 j 03:17	13° $\mathring{\text{A}}$ 44'49	29.21097 AU	morning rise	183 Jan 04 j 07:33	28° $\mathring{\text{A}}$ 33'27	
direct	176 Aug 25 j 12:19	12° $\mathring{\text{A}}$ 21'19			183 Feb 19 j 21:13	0° $\mathring{\text{B}}$	
evening set	176 Nov 21 j 10:59	14° $\mathring{\text{A}}$ 15'16		retrograde	183 Apr 03 j 14:12	0° $\mathring{\text{B}}$ 29'24	
					183 May 17 j 17:44	30° $\mathring{\text{R}}$ $\mathring{\text{A}}$	
conjunction	176 Dec 06 j 16:14	14° $\mathring{\text{A}}$ 49'34	1°07'41	opposition	183 Jun 22 j 22:36	29° $\mathring{\text{A}}$ 06'00	0°46'31
minimum elong	176 Dec 06 j 16:15	14° $\mathring{\text{A}}$ 49'34	1°07'41	min. Earth dist.	183 Jun 22 j 17:21	29° $\mathring{\text{A}}$ 06'22	29.16142 AU
max. Earth dist.	176 Dec 06 j 16:34	14° $\mathring{\text{A}}$ 49'35	31.20743 AU	direct	183 Sep 10 j 17:14	27° $\mathring{\text{A}}$ 42'52	
morning rise	176 Dec 21 j 21:37	15° $\mathring{\text{A}}$ 23'53		evening set	183 Dec 07 j 04:06	29° $\mathring{\text{A}}$ 36'27	
retrograde	177 Mar 20 j 10:47	17° $\mathring{\text{A}}$ 18'59			183 Dec 17 j 15:32	0° $\mathring{\text{B}}$	
opposition	177 Jun 08 j 16:17	15° $\mathring{\text{A}}$ 55'51	1°10'28				
min. Earth dist.	177 Jun 08 j 16:00	15° $\mathring{\text{A}}$ 55'52	29.20494 AU	conjunction	183 Dec 22 j 10:13	0° $\mathring{\text{B}}$ 10'52	0°41'34
direct	177 Aug 27 j 23:18	14° $\mathring{\text{A}}$ 32'26		minimum elong	183 Dec 22 j 10:13	0° $\mathring{\text{B}}$ 10'52	0°41'35
evening set	177 Nov 23 j 20:05	16° $\mathring{\text{A}}$ 26'19		max. Earth dist.	183 Dec 22 j 15:55	0° $\mathring{\text{B}}$ 11'25	31.15589 AU
				morning rise	184 Jan 06 j 17:17	0° $\mathring{\text{B}}$ 45'25	
conjunction	177 Dec 09 j 01:23	17° $\mathring{\text{A}}$ 00'38	1°04'13	retrograde	184 Apr 05 j 00:37	2° $\mathring{\text{B}}$ 41'28	
minimum elong	177 Dec 09 j 01:23	17° $\mathring{\text{A}}$ 00'38	1°04'13	opposition	184 Jun 24 j 11:48	1° $\mathring{\text{B}}$ 17'58	0°42'16
max. Earth dist.	177 Dec 09 j 02:17	17° $\mathring{\text{A}}$ 00'43	31.20177 AU	min. Earth dist.	184 Jun 24 j 06:04	1° $\mathring{\text{B}}$ 18'21	29.15052 AU
morning rise	177 Dec 24 j 07:03	17° $\mathring{\text{A}}$ 35'00			184 Aug 25 j 10:24	30° $\mathring{\text{R}}$ $\mathring{\text{A}}$	
retrograde	178 Mar 22 j 23:00	19° $\mathring{\text{A}}$ 30'15		direct	184 Sep 12 j 05:42	29° $\mathring{\text{A}}$ 54'49	
opposition	178 Jun 11 j 05:07	18° $\mathring{\text{A}}$ 07'05	1°06'43		184 Sep 29 j 18:54	0° $\mathring{\text{B}}$	
min. Earth dist.	178 Jun 11 j 02:50	18° $\mathring{\text{A}}$ 07'14	29.19929 AU	evening set	184 Dec 08 j 13:35	1° $\mathring{\text{B}}$ 48'18	
direct	178 Aug 30 j 10:01	16° $\mathring{\text{A}}$ 43'44					
evening set	178 Nov 26 j 05:15	18° $\mathring{\text{A}}$ 37'36		conjunction	184 Dec 23 j 19:45	2° $\mathring{\text{B}}$ 22'44	0°37'33
				minimum elong	184 Dec 23 j 19:45	2° $\mathring{\text{B}}$ 22'44	0°37'34
conjunction	178 Dec 11 j 10:36	19° $\mathring{\text{A}}$ 11'55	1°00'39	max. Earth dist.	184 Dec 24 j 01:28	2° $\mathring{\text{B}}$ 23'17	31.14487 AU
minimum elong	178 Dec 11 j 10:36	19° $\mathring{\text{A}}$ 11'55	1°00'39	morning rise	185 Jan 08 j 03:17	2° $\mathring{\text{B}}$ 57'19	
max. Earth dist.	178 Dec 11 j 12:23	19° $\mathring{\text{A}}$ 12'05	31.19607 AU	retrograde	185 Apr 07 j 13:02	4° $\mathring{\text{B}}$ 53'27	
morning rise	178 Dec 26 j 16:27	19° $\mathring{\text{A}}$ 46'19		opposition	185 Jun 27 j 00:44	3° $\mathring{\text{B}}$ 29'50	0°37'56
retrograde	179 Mar 25 j 10:25	21° $\mathring{\text{A}}$ 41'44		min. Earth dist.	185 Jun 26 j 17:38	3° $\mathring{\text{B}}$ 30'19	29.13943 AU
opposition	179 Jun 13 j 18:12	20° $\mathring{\text{A}}$ 18'33	1°02'51	direct	185 Sep 14 j 17:49	2° $\mathring{\text{B}}$ 06'40	
min. Earth dist.	179 Jun 13 j 16:07	20° $\mathring{\text{A}}$ 18'41	29.19350 AU	evening set	185 Dec 10 j 22:56	4° $\mathring{\text{B}}$ 00'04	
direct	179 Sep 01 j 20:13	18° $\mathring{\text{A}}$ 55'17					
evening set	179 Nov 28 j 14:30	20° $\mathring{\text{A}}$ 49'06		conjunction	185 Dec 26 j 05:22	4° $\mathring{\text{B}}$ 34'31	0°33'29
				minimum elong	185 Dec 26 j 05:22	4° $\mathring{\text{B}}$ 34'31	0°33'29
conjunction	179 Dec 13 j 20:00	21° $\mathring{\text{A}}$ 23'26	0°56'59	max. Earth dist.	185 Dec 26 j 12:39	4° $\mathring{\text{B}}$ 35'13	31.13377 AU
minimum elong	179 Dec 13 j 20:00	21° $\mathring{\text{A}}$ 23'26	0°56'59	morning rise	186 Jan 10 j 13:08	5° $\mathring{\text{B}}$ 09'08	
max. Earth dist.	179 Dec 13 j 23:00	21° $\mathring{\text{A}}$ 23'43	31.19017 AU	retrograde	186 Apr 09 j 23:59	7° $\mathring{\text{B}}$ 05'21	
morning rise	179 Dec 29 j 02:02	21° $\mathring{\text{A}}$ 57'52		opposition	186 Jun 29 j 13:49	5° $\mathring{\text{B}}$ 41'38	0°33'33
retrograde	180 Mar 26 j 22:57	23° $\mathring{\text{A}}$ 53'26		min. Earth dist.	186 Jun 29 j 06:36	5° $\mathring{\text{B}}$ 42'07	29.12857 AU
opposition	180 Jun 15 j 07:14	22° $\mathring{\text{A}}$ 30'13	0°58'53	direct	186 Sep 17 j 06:03	4° $\mathring{\text{B}}$ 18'28	
min. Earth dist.	180 Jun 15 j 03:28	22° $\mathring{\text{A}}$ 30'28	29.18718 AU	evening set	186 Dec 13 j 08:18	6° $\mathring{\text{B}}$ 11'46	
direct	180 Sep 03 j 06:57	21° $\mathring{\text{A}}$ 07'00					
evening set	180 Nov 29 j 23:51	23° $\mathring{\text{A}}$ 00'47		conjunction	186 Dec 28 j 14:52	6° $\mathring{\text{B}}$ 46'15	0°29'22
				minimum elong	186 Dec 28 j 14:53	6° $\mathring{\text{B}}$ 46'15	0°29'22
conjunction	180 Dec 15 j 05:22	23° $\mathring{\text{A}}$ 35'09	0°53'15	max. Earth dist.	186 Dec 28 j 22:55	6° $\mathring{\text{B}}$ 47'00	31.12335 AU
minimum elong	180 Dec 15 j 05:22	23° $\mathring{\text{A}}$ 35'09	0°53'14	morning rise	187 Jan 12 j 22:57	7° $\mathring{\text{B}}$ 20'53	
max. Earth dist.	180 Dec 15 j 08:24	23° $\mathring{\text{A}}$ 35'26	31.18340 AU	retrograde	187 Apr 12 j 11:48	9° $\mathring{\text{B}}$ 17'12	
morning rise	180 Dec 30 j 11:46	24° $\mathring{\text{A}}$ 09'36		opposition	187 Jul 02 j 02:45	7° $\mathring{\text{B}}$ 53'24	0°29'07
retrograde	181 Mar 29 j 11:44	26° $\mathring{\text{A}}$ 05'19		min. Earth dist.	187 Jul 01 j 17:23	7° $\mathring{\text{B}}$ 54'02	29.11859 AU
opposition	181 Jun 17 j 20:26	24° $\mathring{\text{A}}$ 42'04	0°54'51	direct	187 Sep 19 j 17:36	6° $\mathring{\text{B}}$ 30'14	
min. Earth dist.	181 Jun 17 j 16:48	24° $\mathring{\text{A}}$ 42'19	29.17992 AU	evening set	187 Dec 15 j 17:45	8° $\mathring{\text{B}}$ 23'28	
direct	181 Sep 05 j 16:38	23° $\mathring{\text{A}}$ 18'54					
evening set	181 Dec 02 j 09:16	25° $\mathring{\text{A}}$ 12'37		conjunction	187 Dec 31 j 00:30	8° $\mathring{\text{B}}$ 57'58	0°25'12
				minimum elong	187 Dec 31 j 00:30	8° $\mathring{\text{B}}$ 57'58	0°25'12
conjunction	181 Dec 17 j 15:04	25° $\mathring{\text{A}}$ 47'00	0°49'26	max. Earth dist.	187 Dec 31 j 09:28	8° $\mathring{\text{B}}$ 58'48	31.11384 AU
minimum elong	181 Dec 17 j 15:04	25° $\mathring{\text{A}}$ 47'00	0°49'25	morning rise	188 Jan 15 j 08:56	9° $\mathring{\text{B}}$ 32'38	
max. Earth dist.	181 Dec 17 j 19:33	25° $\mathring{\text{A}}$ 47'26	31.17552 AU	retrograde	188 Apr 13 j 22:32	11° $\mathring{\text{B}}$ 29'05	
morning rise	182 Jan 01 j 21:33	26° $\mathring{\text{A}}$ 21'30		opposition	188 Jul 03 j 15:52	10° $\mathring{\text{B}}$ 05'12	0°24'39
retrograde	182 Mar 31 j 23:58	28° $\mathring{\text{A}}$ 17'20		min. Earth dist.	188 Jul 03 j 06:25	10° $\mathring{\text{B}}$ 05'51	29.10969 AU
opposition	182 Jun 20 j 09:24	26° $\mathring{\text{A}}$ 54'01	0°50'43	direct	188 Sep 21 j 03:49	8° $\mathring{\text{B}}$ 42'03	
min. Earth dist.	182 Jun 20 j 04:43	26° $\mathring{\text{A}}$ 54'20	29.17126 AU	evening set	188 Dec 17 j 03:09	10° $\mathring{\text{B}}$ 35'14	
direct	182 Sep 08 j 05:57	25° $\mathring{\text{A}}$ 30'53					
evening set	182 Dec 04 j 18:50	27° $\mathring{\text{A}}$ 24'32		conjunction	189 Jan 01 j 10:14	11° $\mathring{\text{B}}$ 09'45	0°21'00
				minimum elong	189 Jan 01 j 10:14	11° $\mathring{\text{B}}$ 09'45	0°21'00
conjunction	182 Dec 20 j 00:37	27° $\mathring{\text{A}}$ 58'56	0°45'32	max. Earth dist.	189 Jan 01 j 20:45	11° $\mathring{\text{B}}$ 10'45	31.10552 AU
minimum elong	182 Dec 20 j 00:37	27° $\mathring{\text{A}}$ 58'57	0°45'32	morning rise	189 Jan 16 j 18:57	11° $\mathring{\text{B}}$ 44'27	
max. Earth dist.	182 Dec 20 j 04:36	27° $\mathring{\text{A}}$ 59'19	31.16629 AU	retrograde	189 Apr 16 j 10:29	13° $\mathring{\text{B}}$ 41'01	

opposition	189 Jul 06 j 04:48	12° $\overline{3}$ 17'06	0°20'08	behind sun end	195 Jan 15 j 05:00	24° $\overline{3}$ 24'47	
min. Earth dist.	189 Jul 05 j 17:25	12° $\overline{3}$ 17'53	29.10171 AU	max. Earth dist.	195 Jan 15 j 13:13	24° $\overline{3}$ 25'35	31.05852 AU
direct	189 Sep 23 j 14:39	10° $\overline{3}$ 53'59		morning rise	195 Jan 30 j 09:37	24° $\overline{3}$ 59'08	
evening set	189 Dec 19 j 12:48	12° $\overline{3}$ 47'08		retrograde	195 Apr 30 j 17:33	26° $\overline{3}$ 56'32	
				opposition	195 Jul 20 j 11:34	25° $\overline{3}$ 32'22	-0°07'29
conjunction	190 Jan 03 j 19:58	13° $\overline{3}$ 21'40	0°16'45	min. Earth dist.	195 Jul 19 j 21:30	25° $\overline{3}$ 33'20	29.05336 AU
minimum elong	190 Jan 03 j 19:58	13° $\overline{3}$ 21'40	0°16'45	direct	195 Oct 07 j 10:22	24° $\overline{3}$ 09'28	
max. Earth dist.	190 Jan 04 j 06:40	13° $\overline{3}$ 22'41	31.09790 AU	evening set	196 Jan 02 j 00:26	26° $\overline{3}$ 02'29	
morning rise	190 Jan 19 j 05:09	13° $\overline{3}$ 56'25					
retrograde	190 Apr 18 j 23:31	15° $\overline{3}$ 53'07		conjunction	196 Jan 17 j 09:15	26° $\overline{3}$ 37'11	-0°09'10
opposition	190 Jul 08 j 17:47	14° $\overline{3}$ 29'09	0°15'34	minimum elong	196 Jan 17 j 09:14	26° $\overline{3}$ 37'11	0°09'10
min. Earth dist.	190 Jul 08 j 06:21	14° $\overline{3}$ 29'56	29.09445 AU	behind sun begin	196 Jan 17 j 03:47	26° $\overline{3}$ 36'42	
direct	190 Sep 26 j 00:02	13° $\overline{3}$ 06'05		behind sun end	196 Jan 17 j 14:42	26° $\overline{3}$ 37'41	
evening set	190 Dec 21 j 22:23	14° $\overline{3}$ 59'12		max. Earth dist.	196 Jan 17 j 23:56	26° $\overline{3}$ 38'34	31.04770 AU
				morning rise	196 Feb 01 j 20:32	27° $\overline{3}$ 12'09	
conjunction	191 Jan 06 j 05:57	15° $\overline{3}$ 33'46	0°12'29	retrograde	196 May 02 j 06:20	29° $\overline{3}$ 09'38	
minimum elong	191 Jan 06 j 05:57	15° $\overline{3}$ 33'46	0°12'29	min. Earth dist.	196 Jul 21 j 09:08	27° $\overline{3}$ 46'28	29.04196 AU
behind sun begin	191 Jan 06 j 01:43	15° $\overline{3}$ 33'23		opposition	196 Jul 22 j 00:38	27° $\overline{3}$ 45'24	-0°12'06
behind sun end	191 Jan 06 j 10:11	15° $\overline{3}$ 34'09		direct	196 Oct 08 j 22:21	26° $\overline{3}$ 22'29	
max. Earth dist.	191 Jan 06 j 18:30	15° $\overline{3}$ 34'57	31.09087 AU	evening set	197 Jan 03 j 10:38	28° $\overline{3}$ 15'27	
morning rise	191 Jan 21 j 15:19	16° $\overline{3}$ 08'32					
retrograde	191 Apr 21 j 12:07	18° $\overline{3}$ 05'23		conjunction	197 Jan 18 j 19:42	28° $\overline{3}$ 50'10	-0°13'28
opposition	191 Jul 11 j 06:53	16° $\overline{3}$ 41'24	0°10'59	minimum elong	197 Jan 18 j 19:42	28° $\overline{3}$ 50'10	0°13'28
min. Earth dist.	191 Jul 10 j 18:08	16° $\overline{3}$ 42'16	29.08744 AU	behind sun begin	197 Jan 18 j 16:00	28° $\overline{3}$ 49'50	
direct	191 Sep 28 j 12:14	15° $\overline{3}$ 18'23		behind sun end	197 Jan 18 j 23:23	28° $\overline{3}$ 50'31	
evening set	191 Dec 24 j 08:09	17° $\overline{3}$ 11'29		max. Earth dist.	197 Jan 19 j 10:40	28° $\overline{3}$ 51'35	31.03580 AU
				morning rise	197 Feb 03 j 07:28	29° $\overline{3}$ 25'10	
conjunction	192 Jan 08 j 15:47	17° $\overline{3}$ 46'05	0°08'13		197 Feb 19 j 15:51	0° \approx	
minimum elong	192 Jan 08 j 15:47	17° $\overline{3}$ 46'05	0°08'13	retrograde	197 May 04 j 17:22	1° \approx 22'46	
behind sun begin	192 Jan 08 j 10:06	17° $\overline{3}$ 45'34			197 Jul 23 j 14:41	30° \approx $\overline{3}$	
behind sun end	192 Jan 08 j 21:29	17° $\overline{3}$ 46'36		opposition	197 Jul 24 j 13:48	29° $\overline{3}$ 58'25	-0°16'41
max. Earth dist.	192 Jan 09 j 04:04	17° $\overline{3}$ 47'14	31.08390 AU	min. Earth dist.	197 Jul 23 j 22:48	29° $\overline{3}$ 59'27	29.02983 AU
morning rise	192 Jan 24 j 01:41	18° $\overline{3}$ 20'53		direct	197 Oct 11 j 09:12	28° $\overline{3}$ 35'29	
retrograde	192 Apr 23 j 02:55	20° $\overline{3}$ 17'53			197 Dec 23 j 15:27	0° \approx	
opposition	192 Jul 12 j 20:05	18° $\overline{3}$ 53'52	0°06'23	evening set	198 Jan 05 j 20:48	0° \approx 28'23	
min. Earth dist.	192 Jul 12 j 06:47	18° $\overline{3}$ 54'46	29.08038 AU				
direct	192 Sep 29 j 22:22	17° $\overline{3}$ 30'53		conjunction	198 Jan 21 j 06:16	1° \approx 03'09	-0°17'44
evening set	192 Dec 25 j 18:03	19° $\overline{3}$ 23'59		minimum elong	198 Jan 21 j 06:15	1° \approx 03'09	0°17'44
				max. Earth dist.	198 Jan 21 j 22:28	1° \approx 04'40	31.02358 AU
conjunction	193 Jan 10 j 02:06	19° $\overline{3}$ 58'36	0°03'55	morning rise	198 Feb 05 j 18:17	1° \approx 38'09	
minimum elong	193 Jan 10 j 02:05	19° $\overline{3}$ 58'36	0°03'55	retrograde	198 May 07 j 05:20	3° \approx 35'50	
behind sun begin	193 Jan 09 j 19:45	19° $\overline{3}$ 58'02		min. Earth dist.	198 Jul 26 j 10:01	2° \approx 12'33	29.01765 AU
behind sun end	193 Jan 10 j 08:25	19° $\overline{3}$ 59'11		opposition	198 Jul 27 j 02:37	2° \approx 11'25	-0°21'15
max. Earth dist.	193 Jan 10 j 15:57	19° $\overline{3}$ 59'55	31.07647 AU	direct	198 Oct 13 j 20:30	0° \approx 48'26	
morning rise	193 Jan 25 j 12:11	20° $\overline{3}$ 33'27		evening set	199 Jan 08 j 07:08	2° \approx 41'19	
retrograde	193 Apr 25 j 14:43	22° $\overline{3}$ 30'35					
opposition	193 Jul 15 j 09:07	21° $\overline{3}$ 06'32	0°01'46	conjunction	199 Jan 23 j 16:44	3° \approx 16'05	-0°21'59
min. Earth dist.	193 Jul 14 j 19:36	21° $\overline{3}$ 07'27	29.07254 AU	minimum elong	199 Jan 23 j 16:44	3° \approx 16'05	0°22'00
direct	193 Oct 02 j 10:08	19° $\overline{3}$ 43'36		max. Earth dist.	199 Jan 24 j 08:55	3° \approx 17'37	31.01161 AU
desc. node	193 Dec 02 j 10:38	20° $\overline{3}$ 43'49		morning rise	199 Feb 08 j 05:17	3° \approx 51'08	
evening set	193 Dec 28 j 04:11	21° $\overline{3}$ 36'41		retrograde	199 May 09 j 18:03	5° \approx 48'55	
				opposition	199 Jul 29 j 15:42	4° \approx 24'24	-0°25'47
conjunction	194 Jan 12 j 12:23	22° $\overline{3}$ 11'20	-0°00'30	min. Earth dist.	199 Jul 28 j 23:09	4° \approx 25'32	29.00618 AU
minimum elong	194 Jan 12 j 12:23	22° $\overline{3}$ 11'20	0°00'30	direct	199 Oct 16 j 06:20	3° \approx 01'24	
behind sun begin	194 Jan 12 j 05:59	22° $\overline{3}$ 10'45		evening set	200 Jan 10 j 17:16	4° \approx 54'15	
behind sun end	194 Jan 12 j 18:46	22° $\overline{3}$ 11'55					
max. Earth dist.	194 Jan 13 j 01:53	22° $\overline{3}$ 12'36	31.06818 AU	conjunction	200 Jan 26 j 03:20	5° \approx 29'02	-0°26'12
morning rise	194 Jan 27 j 22:58	22° $\overline{3}$ 46'13		minimum elong	200 Jan 26 j 03:20	5° \approx 29'02	0°26'12
retrograde	194 Apr 28 j 05:07	24° $\overline{3}$ 43'29		max. Earth dist.	200 Jan 26 j 21:24	5° \approx 30'45	31.00055 AU
opposition	194 Jul 17 j 22:16	23° $\overline{3}$ 19'24	-0°02'52	morning rise	200 Feb 10 j 16:08	6° \approx 04'07	
min. Earth dist.	194 Jul 17 j 07:48	23° $\overline{3}$ 20'23	29.06367 AU	retrograde	200 May 11 j 06:09	8° \approx 02'00	
direct	194 Oct 04 j 22:03	21° $\overline{3}$ 56'29		min. Earth dist.	200 Jul 30 j 10:41	6° \approx 38'38	28.99563 AU
evening set	194 Dec 30 j 14:14	23° $\overline{3}$ 49'32		opposition	200 Jul 31 j 04:35	6° \approx 37'25	-0°30'17
				direct	200 Oct 17 j 18:16	5° \approx 14'24	
conjunction	195 Jan 14 j 22:43	24° $\overline{3}$ 24'13	-0°04'53	evening set	201 Jan 12 j 03:45	7° \approx 07'14	
minimum elong	195 Jan 14 j 22:44	24° $\overline{3}$ 24'13	0°04'53				
behind sun begin	195 Jan 14 j 16:29	24° $\overline{3}$ 23'39		conjunction	201 Jan 27 j 13:59	7° \approx 42'03	-0°30'24

minimum elong	201 Jan 27 j 13:59	7°42'03	0°30'24	opposition	207 Aug 16 j 22:27	22°12'14	-1°00'14
max. Earth dist.	201 Jan 28 j 07:43	7°43'44	30.99057 AU	min. Earth dist.	207 Aug 16 j 01:14	22°13'42	28.93951 AU
morning rise	201 Feb 12 j 03:21	8°17'10		direct	207 Nov 03 j 01:59	20°49'17	
retrograde	201 May 13 j 20:27	10°15'09		evening set	208 Jan 28 j 07:32	22°42'10	
opposition	201 Aug 02 j 17:21	8°50'30	-0°34'44				
min. Earth dist.	201 Aug 01 j 22:54	8°51'46	28.98630 AU	conjunction	208 Feb 12 j 20:08	23°17'10	-0°58'11
direct	201 Oct 20 j 03:35	7°27'29		minimum elong	208 Feb 12 j 20:07	23°17'10	0°58'11
evening set	202 Jan 14 j 14:08	9°20'19		max. Earth dist.	208 Feb 13 j 17:01	23°19'09	30.93420 AU
				morning rise	208 Feb 28 j 12:19	23°52'31	
conjunction	202 Jan 30 j 00:50	9°55'11	-0°34'32	retrograde	208 May 29 j 17:21	25°51'12	
minimum elong	202 Jan 30 j 00:50	9°55'11	0°34'32	opposition	208 Aug 18 j 11:24	24°26'15	-1°04'13
max. Earth dist.	202 Jan 30 j 20:19	9°57'01	30.98166 AU	min. Earth dist.	208 Aug 17 j 14:59	24°27'39	28.92975 AU
morning rise	202 Feb 14 j 14:27	10°30'19		direct	208 Nov 04 j 12:16	23°03'15	
retrograde	202 May 16 j 08:35	12°28'25		evening set	209 Jan 29 j 18:47	24°56'07	
min. Earth dist.	202 Aug 04 j 11:12	11°05'01	28.97789 AU				
opposition	202 Aug 05 j 06:12	11°03'43	-0°39'09	conjunction	209 Feb 14 j 07:56	25°31'09	-1°01'52
direct	202 Oct 22 j 15:01	9°40'43		minimum elong	209 Feb 14 j 07:56	25°31'09	1°01'52
evening set	203 Jan 17 j 00:36	11°33'34		max. Earth dist.	209 Feb 15 j 05:58	25°33'14	30.92396 AU
				morning rise	209 Mar 02 j 00:23	26°06'31	
conjunction	203 Feb 01 j 11:31	12°08'26	-0°38'38	retrograde	209 Jun 01 j 04:55	28°05'14	
minimum elong	203 Feb 01 j 11:31	12°08'26	0°38'38	opposition	209 Aug 20 j 23:56	26°40'12	-1°08'06
max. Earth dist.	203 Feb 02 j 07:00	12°10'17	30.97377 AU	min. Earth dist.	209 Aug 20 j 02:53	26°41'40	28.91917 AU
morning rise	203 Feb 17 j 01:39	12°43'37		direct	209 Nov 07 j 00:19	25°17'09	
retrograde	203 May 19 j 00:02	14°41'49		evening set	210 Feb 01 j 06:11	27°10'00	
opposition	203 Aug 07 j 19:05	13°17'05	-0°43'30				
min. Earth dist.	203 Aug 06 j 22:59	13°18'28	28.97039 AU	conjunction	210 Feb 16 j 19:32	27°45'04	-1°05'27
direct	203 Oct 25 j 02:54	11°54'06		minimum elong	210 Feb 16 j 19:32	27°45'04	1°05'26
evening set	204 Jan 19 j 11:18	13°46'58		max. Earth dist.	210 Feb 17 j 16:43	27°47'04	30.91326 AU
				morning rise	210 Mar 04 j 12:34	28°20'27	
conjunction	204 Feb 03 j 22:35	14°21'52	-0°42'41		210 Apr 30 j 06:04	0°	
minimum elong	204 Feb 03 j 22:35	14°21'52	0°42'41	retrograde	210 Jun 03 j 18:44	0°19'13	
max. Earth dist.	204 Feb 04 j 19:11	14°23'49	30.96641 AU		210 Jul 09 j 01:12	30°	
morning rise	204 Feb 19 j 13:03	14°57'05		opposition	210 Aug 23 j 12:38	28°54'06	-1°11'53
	204 Feb 20 j 20:44	15°		min. Earth dist.	210 Aug 22 j 15:33	28°55'34	28.90860 AU
retrograde	204 May 20 j 13:05	16°55'24		direct	210 Nov 09 j 09:58	27°30'59	
opposition	204 Aug 09 j 07:56	15°30'39	-0°47'48	evening set	211 Feb 03 j 17:20	29°23'50	
min. Earth dist.	204 Aug 08 j 12:14	15°32'00	28.96326 AU				
	204 Aug 28 j 07:59	15°		conjunction	211 Feb 19 j 07:11	29°58'54	-1°08'56
direct	204 Oct 26 j 14:38	14°07'41		minimum elong	211 Feb 19 j 07:11	29°58'54	1°08'56
	204 Dec 21 j 21:24	15°			211 Feb 19 j 18:45	0°	
evening set	205 Jan 20 j 22:06	16°00'33		max. Earth dist.	211 Feb 20 j 05:49	0°01'03	30.90276 AU
				morning rise	211 Mar 07 j 00:29	0°34'20	
conjunction	205 Feb 05 j 09:46	16°35'29	-0°46'40	retrograde	211 Jun 06 j 06:41	2°33'08	
minimum elong	205 Feb 05 j 09:46	16°35'29	0°46'40	min. Earth dist.	211 Aug 25 j 03:52	1°09'25	28.89847 AU
max. Earth dist.	205 Feb 06 j 06:38	16°37'28	30.95936 AU	opposition	211 Aug 26 j 01:15	1°07'56	-1°15'33
morning rise	205 Feb 21 j 00:39	17°10'44			211 Oct 12 j 15:55	30°	
retrograde	205 May 23 j 02:57	19°09'10		direct	211 Nov 11 j 21:51	29°44'47	
opposition	205 Aug 11 j 20:42	17°44'22	-0°52'01		211 Dec 11 j 14:43	0°	
min. Earth dist.	205 Aug 10 j 23:45	17°45'49	28.95609 AU	evening set	212 Feb 06 j 04:48	1°37'37	
direct	205 Oct 29 j 02:30	16°21'26					
evening set	206 Jan 23 j 09:10	18°14'19		conjunction	212 Feb 21 j 18:56	2°12'43	-1°12'18
				minimum elong	212 Feb 21 j 18:56	2°12'43	1°12'18
conjunction	206 Feb 07 j 21:03	18°49'16	-0°50'35	max. Earth dist.	212 Feb 22 j 17:16	2°14'50	30.89315 AU
minimum elong	206 Feb 07 j 21:03	18°49'16	0°50'35	morning rise	212 Mar 08 j 12:46	2°48'10	
max. Earth dist.	206 Feb 08 j 17:55	18°51'15	30.95178 AU	retrograde	212 Jun 07 j 21:44	4°47'02	
morning rise	206 Feb 23 j 12:22	19°24'34		opposition	212 Aug 27 j 13:39	3°21'46	-1°19'06
retrograde	206 May 25 j 15:29	21°23'05		min. Earth dist.	212 Aug 26 j 15:28	3°23'18	28.88952 AU
opposition	206 Aug 14 j 09:37	19°58'15	-0°56'10	direct	212 Nov 13 j 09:18	1°58'33	
min. Earth dist.	206 Aug 13 j 13:31	19°59'38	28.94827 AU	evening set	213 Feb 07 j 16:16	3°51'25	
direct	206 Oct 31 j 13:45	18°35'19					
evening set	207 Jan 25 j 20:16	20°28'12		conjunction	213 Feb 23 j 06:51	4°26'33	-1°15'35
				minimum elong	213 Feb 23 j 06:50	4°26'33	1°15'35
conjunction	207 Feb 10 j 08:38	21°03'12	-0°54'25	max. Earth dist.	213 Feb 24 j 06:09	4°28'46	30.88466 AU
minimum elong	207 Feb 10 j 08:38	21°03'12	0°54'26	morning rise	213 Mar 11 j 01:02	5°02'02	
max. Earth dist.	207 Feb 11 j 06:15	21°05'15	30.94354 AU	retrograde	213 Jun 10 j 10:19	7°00'57	
morning rise	207 Feb 26 j 00:14	21°38'30		min. Earth dist.	213 Aug 29 j 04:19	5°37'09	28.88178 AU
retrograde	207 May 28 j 05:01	23°37'07		opposition	213 Aug 30 j 02:08	5°35'38	-1°22'33

direct	213 Nov 15 j 20:49	4° ✕ 12'25		retrograde	220 Jun 26 j 07:32	22° ✕ 42'54	
evening set	214 Feb 10 j 03:45	6° ✕ 05'18		opposition	220 Sep 14 j 16:31	21° ✕ 17'36	-1°42'56
				min. Earth dist.	220 Sep 13 j 18:19	21° ✕ 19'09	28.85043 AU
conjunction	214 Feb 25 j 18:43	6° ✕ 40'28	-1°18'45	direct	220 Dec 01 j 03:06	19° ✕ 54'25	
minimum elong	214 Feb 25 j 18:42	6° ✕ 40'28	1°18'44	evening set	221 Feb 25 j 16:23	21° ✕ 47'39	
max. Earth dist.	214 Feb 26 j 18:19	6° ✕ 42'42	30.87763 AU				
morning rise	214 Mar 13 j 13:17	7° ✕ 15'59		conjunction	221 Mar 13 j 10:11	22° ✕ 23'00	-1°37'21
retrograde	214 Jun 13 j 00:49	9° ✕ 14'57		minimum elong	221 Mar 13 j 10:11	22° ✕ 23'00	1°37'21
opposition	214 Sep 01 j 14:28	7° ✕ 49'37	-1°25'52	max. Earth dist.	221 Mar 14 j 09:24	22° ✕ 25'12	30.84650 AU
min. Earth dist.	214 Aug 31 j 15:17	7° ✕ 51'14	28.87548 AU	morning rise	221 Mar 29 j 07:42	22° ✕ 58'43	
direct	214 Nov 18 j 08:42	6° ✕ 26'24		retrograde	221 Jun 28 j 21:56	24° ✕ 58'01	
evening set	215 Feb 12 j 15:26	8° ✕ 19'20		min. Earth dist.	221 Sep 16 j 06:31	23° ✕ 34'14	28.84458 AU
				opposition	221 Sep 17 j 04:46	23° ✕ 32'41	-1°45'15
conjunction	215 Feb 28 j 06:42	8° ✕ 54'31	-1°21'47	direct	221 Dec 03 j 14:29	22° ✕ 09'26	
minimum elong	215 Feb 28 j 06:42	8° ✕ 54'31	1°21'48	evening set	222 Feb 28 j 04:49	24° ✕ 02'41	
max. Earth dist.	215 Mar 01 j 06:28	8° ✕ 56'46	30.87192 AU				
morning rise	215 Mar 16 j 01:45	9° ✕ 30'04		conjunction	222 Mar 15 j 23:03	24° ✕ 38'04	-1°39'26
retrograde	215 Jun 15 j 14:21	11° ✕ 29'06		minimum elong	222 Mar 15 j 23:03	24° ✕ 38'04	1°39'26
min. Earth dist.	215 Sep 03 j 04:26	10° ✕ 05'20	28.87051 AU	max. Earth dist.	222 Mar 16 j 22:39	24° ✕ 40'18	30.84022 AU
opposition	215 Sep 04 j 02:57	10° ✕ 03'46	-1°29'04	morning rise	222 Mar 31 j 20:53	25° ✕ 13'48	
direct	215 Nov 20 j 19:57	8° ✕ 40'34		retrograde	222 Jul 01 j 09:53	27° ✕ 13'05	
evening set	216 Feb 15 j 03:04	10° ✕ 33'32		opposition	222 Sep 19 j 16:59	25° ✕ 47'42	-1°47'25
				min. Earth dist.	222 Sep 18 j 19:42	25° ✕ 49'11	28.83819 AU
conjunction	216 Mar 01 j 18:55	11° ✕ 08'46	-1°24'43	direct	222 Dec 06 j 01:45	24° ✕ 24'23	
minimum elong	216 Mar 01 j 18:54	11° ✕ 08'46	1°24'42	evening set	223 Mar 02 j 17:20	26° ✕ 17'39	
max. Earth dist.	216 Mar 02 j 19:36	11° ✕ 11'06	30.86753 AU				
morning rise	216 Mar 17 j 14:17	11° ✕ 44'20		conjunction	223 Mar 18 j 12:03	26° ✕ 53'03	-1°41'23
retrograde	216 Jun 17 j 04:48	13° ✕ 43'27		minimum elong	223 Mar 18 j 12:03	26° ✕ 53'03	1°41'24
opposition	216 Sep 05 j 15:15	12° ✕ 18'07	-1°32'07	max. Earth dist.	223 Mar 19 j 11:17	26° ✕ 55'14	30.83395 AU
min. Earth dist.	216 Sep 04 j 15:35	12° ✕ 19'46	28.86652 AU	morning rise	223 Apr 03 j 10:19	27° ✕ 28'48	
direct	216 Nov 22 j 08:15	10° ✕ 54'57		retrograde	223 Jul 04 j 00:39	29° ✕ 28'03	
evening set	217 Feb 16 j 15:09	12° ✕ 47'59		min. Earth dist.	223 Sep 21 j 06:57	28° ✕ 04'09	28.83210 AU
				opposition	223 Sep 22 j 04:58	28° ✕ 02'36	-1°49'25
conjunction	217 Mar 04 j 07:13	13° ✕ 23'14	-1°27'31	direct	223 Dec 08 j 14:20	26° ✕ 39'12	
minimum elong	217 Mar 04 j 07:12	13° ✕ 23'14	1°27'31	evening set	224 Mar 04 j 05:58	28° ✕ 32'29	
max. Earth dist.	217 Mar 05 j 07:14	13° ✕ 25'30	30.86378 AU				
morning rise	217 Mar 20 j 03:07	13° ✕ 58'51		conjunction	224 Mar 20 j 01:03	29° ✕ 07'55	-1°43'11
retrograde	217 Jun 19 j 17:08	15° ✕ 58'01		minimum elong	224 Mar 20 j 01:03	29° ✕ 07'55	1°43'11
min. Earth dist.	217 Sep 07 j 04:50	14° ✕ 34'18	28.86308 AU	max. Earth dist.	224 Mar 21 j 00:02	29° ✕ 10'05	30.82802 AU
opposition	217 Sep 08 j 03:33	14° ✕ 32'43	-1°35'02	morning rise	224 Apr 04 j 23:48	29° ✕ 43'42	
direct	217 Nov 24 j 18:09	13° ✕ 09'34			224 Apr 12 j 12:09	0° ∇	
evening set	218 Feb 19 j 03:11	15° ✕ 02'40		retrograde	224 Jul 05 j 14:09	1° ∇ 42'54	
				opposition	224 Sep 23 j 17:01	0° ∇ 17'24	-1°51'15
conjunction	218 Mar 06 j 19:48	15° ✕ 37'56	-1°30'11	min. Earth dist.	224 Sep 22 j 20:05	0° ∇ 18'52	28.82666 AU
minimum elong	218 Mar 06 j 19:48	15° ✕ 37'56	1°30'10		224 Oct 04 j 02:27	30° ✕	
max. Earth dist.	218 Mar 07 j 20:52	15° ✕ 40'19	30.86035 AU	direct	224 Dec 10 j 02:34	28° ✕ 53'57	
morning rise	218 Mar 22 j 15:56	16° ✕ 13'35			225 Feb 11 j 22:09	0° ∇	
retrograde	218 Jun 22 j 05:26	18° ✕ 12'49		evening set	225 Mar 06 j 18:35	0° ∇ 47'14	
opposition	218 Sep 10 j 15:52	16° ✕ 47'32	-1°37'49				
min. Earth dist.	218 Sep 09 j 16:42	16° ✕ 49'09	28.85954 AU	conjunction	225 Mar 22 j 14:13	1° ∇ 22'42	-1°44'49
direct	218 Nov 27 j 05:49	15° ✕ 24'23		minimum elong	225 Mar 22 j 14:13	1° ∇ 22'42	1°44'50
evening set	219 Feb 21 j 15:25	17° ✕ 17'33		max. Earth dist.	225 Mar 23 j 13:40	1° ∇ 24'55	30.82308 AU
				morning rise	225 Apr 07 j 13:15	1° ∇ 58'30	
conjunction	219 Mar 09 j 08:17	17° ✕ 52'51	-1°32'42	retrograde	225 Jul 08 j 04:02	3° ∇ 57'39	
minimum elong	219 Mar 09 j 08:17	17° ✕ 52'51	1°32'42	min. Earth dist.	225 Sep 25 j 06:52	2° ∇ 33'40	28.82229 AU
max. Earth dist.	219 Mar 10 j 08:04	17° ✕ 55'06	30.85657 AU	opposition	225 Sep 26 j 04:44	2° ∇ 32'08	-1°52'55
morning rise	219 Mar 25 j 05:00	18° ✕ 28'31		direct	225 Dec 12 j 15:47	1° ∇ 08'37	
retrograde	219 Jun 24 j 19:46	20° ✕ 27'49		evening set	226 Mar 09 j 07:22	3° ∇ 01'57	
min. Earth dist.	219 Sep 12 j 05:40	19° ✕ 04'06	28.85551 AU				
opposition	219 Sep 13 j 04:18	19° ✕ 02'31	-1°40'27	conjunction	226 Mar 25 j 03:16	3° ∇ 37'26	-1°46'18
direct	219 Nov 29 j 15:06	17° ✕ 39'22		minimum elong	226 Mar 25 j 03:16	3° ∇ 37'26	1°46'17
evening set	220 Feb 24 j 03:48	19° ✕ 32'34		max. Earth dist.	226 Mar 26 j 01:57	3° ∇ 39'34	30.81932 AU
				morning rise	226 Apr 10 j 02:50	4° ∇ 13'15	
conjunction	220 Mar 10 j 21:14	20° ✕ 07'54	-1°35'06	retrograde	226 Jul 10 j 16:52	6° ∇ 12'23	
minimum elong	220 Mar 10 j 21:14	20° ✕ 07'54	1°35'05	opposition	226 Sep 28 j 16:42	4° ∇ 46'50	-1°54'25
max. Earth dist.	220 Mar 11 j 21:42	20° ✕ 10'13	30.85197 AU	min. Earth dist.	226 Sep 27 j 19:41	4° ∇ 48'19	28.81934 AU
morning rise	220 Mar 26 j 18:13	20° ✕ 43'36		direct	226 Dec 15 j 02:12	3° ∇ 23'18	

evening set	227 Mar 11 j 19:55	5°♈16'40		min. Earth dist.	233 Oct 13 j 09:14	20°♈34'09	28.81762 AU
				opposition	233 Oct 14 j 02:53	20°♈32'54	-1°59'51
conjunction	227 Mar 27 j 16:28	5°♈52'10 -1°47'37		direct	233 Dec 30 j 10:09	19°♈09'16	
minimum elong	227 Mar 27 j 16:28	5°♈52'10 1°47'37		evening set	234 Mar 27 j 16:44	21°♈03'06	
max. Earth dist.	227 Mar 28 j 16:13	5°♈54'24 30.81707 AU					
morning rise	227 Apr 12 j 16:17	6°♈28'01		conjunction	234 Apr 12 j 16:26	21°♈38'49	-1°52'08
retrograde	227 Jul 13 j 06:00	8°♈27'07		minimum elong	234 Apr 12 j 16:26	21°♈38'49	1°52'07
min. Earth dist.	227 Sep 30 j 06:57	7°♈03'06 28.81772 AU		max. Earth dist.	234 Apr 13 j 12:14	21°♈40'41	30.81533 AU
opposition	227 Oct 01 j 04:29	7°♈01'35 -1°55'44		morning rise	234 Apr 28 j 18:58	22°♈14'49	
direct	227 Dec 17 j 14:43	5°♈38'01		retrograde	234 Jul 29 j 03:27	24°♈13'40	
evening set	228 Mar 13 j 08:54	7°♈31'26		opposition	234 Oct 16 j 14:23	22°♈48'22	-1°59'54
				min. Earth dist.	234 Oct 15 j 20:24	22°♈49'39	28.81550 AU
conjunction	228 Mar 29 j 05:45	8°♈06'59 -1°48'46		direct	235 Jan 01 j 23:47	21°♈24'40	
minimum elong	228 Mar 29 j 05:45	8°♈06'59 1°48'46		evening set	235 Mar 30 j 06:14	23°♈18'33	
max. Earth dist.	228 Mar 30 j 04:15	8°♈09'06 30.81613 AU					
morning rise	228 Apr 14 j 06:09	8°♈42'51		conjunction	235 Apr 15 j 06:16	23°♈54'17	-1°52'05
retrograde	228 Jul 14 j 19:45	10°♈41'56		minimum elong	235 Apr 15 j 06:17	23°♈54'17	1°52'06
opposition	228 Oct 02 j 16:12	9°♈16'25 -1°56'52		max. Earth dist.	235 Apr 16 j 00:43	23°♈56'01	30.81301 AU
min. Earth dist.	228 Oct 01 j 19:11	9°♈17'54 28.81744 AU		morning rise	235 May 01 j 09:19	24°♈30'18	
direct	228 Dec 19 j 00:28	7°♈52'51		retrograde	235 Jul 31 j 16:41	26°♈29'04	
evening set	229 Mar 15 j 21:52	9°♈46'20		min. Earth dist.	235 Oct 18 j 09:31	25°♈04'55	28.81313 AU
				opposition	235 Oct 19 j 01:58	25°♈03'45	-1°59'46
conjunction	229 Mar 31 j 19:19	10°♈21'55 -1°49'45		direct	236 Jan 04 j 10:56	23°♈39'58	
minimum elong	229 Mar 31 j 19:19	10°♈21'55 1°49'46		evening set	236 Mar 31 j 19:46	25°♈33'53	
max. Earth dist.	229 Apr 01 j 18:38	10°♈24'06 30.81626 AU					
morning rise	229 Apr 16 j 19:57	10°♈57'48		conjunction	236 Apr 16 j 20:25	26°♈09'39	-1°51'53
retrograde	229 Jul 17 j 07:17	12°♈56'52		minimum elong	236 Apr 16 j 20:26	26°♈09'39	1°51'52
min. Earth dist.	229 Oct 04 j 07:17	11°♈32'53 28.81790 AU		max. Earth dist.	236 Apr 17 j 15:15	26°♈11'25	30.81072 AU
opposition	229 Oct 05 j 03:58	11°♈31'25 -1°57'50		morning rise	236 May 02 j 23:41	26°♈45'41	
direct	229 Dec 21 j 12:13	10°♈07'52		retrograde	236 Aug 02 j 06:29	28°♈44'19	
evening set	230 Mar 18 j 10:57	12°♈01'25		opposition	236 Oct 20 j 13:09	27°♈19'00	-1°59'28
				min. Earth dist.	236 Oct 19 j 20:40	27°♈20'10	28.81095 AU
conjunction	230 Apr 03 j 08:42	12°♈37'01 -1°50'34		direct	237 Jan 06 j 00:32	25°♈55'09	
minimum elong	230 Apr 03 j 08:42	12°♈37'01 1°50'34		evening set	237 Apr 03 j 09:25	27°♈49'05	
max. Earth dist.	230 Apr 04 j 06:48	12°♈39'05 30.81705 AU					
morning rise	230 Apr 19 j 09:50	13°♈12'56		conjunction	237 Apr 19 j 10:21	28°♈24'53	-1°51'30
retrograde	230 Jul 19 j 21:20	15°♈11'59		minimum elong	237 Apr 19 j 10:21	28°♈24'53	1°51'31
opposition	230 Oct 07 j 15:44	13°♈46'35 -1°58'37		max. Earth dist.	237 Apr 20 j 03:33	28°♈26'30	30.80890 AU
min. Earth dist.	230 Oct 06 j 19:08	13°♈48'03 28.81880 AU		morning rise	237 May 05 j 14:07	29°♈00'56	
direct	230 Dec 23 j 22:48	12°♈23'02			237 Jun 03 j 20:45	0°♈	
evening set	231 Mar 21 j 00:15	14°♈16'41		retrograde	237 Aug 04 j 19:21	0°♈59'28	
					237 Oct 07 j 13:30	30°♈	
conjunction	231 Apr 05 j 22:31	14°♈52'18 -1°51'13		min. Earth dist.	237 Oct 22 j 08:46	29°♈35'15	28.80965 AU
minimum elong	231 Apr 05 j 22:31	14°♈52'18 1°51'14		opposition	237 Oct 23 j 00:29	29°♈34'09	-1°58'58
max. Earth dist.	231 Apr 06 j 20:46	14°♈54'24 30.81776 AU		direct	238 Jan 08 j 11:22	28°♈10'13	
morning rise	231 Apr 21 j 23:57	15°♈28'15			238 Apr 04 j 00:35	0°♈	
retrograde	231 Jul 22 j 09:36	17°♈27'17		evening set	238 Apr 05 j 22:46	0°♈04'12	
min. Earth dist.	231 Oct 09 j 08:16	16°♈03'18 28.81931 AU					
opposition	231 Oct 10 j 03:29	16°♈01'56 -1°59'12		conjunction	238 Apr 22 j 00:17	0°♈40'01	-1°50'58
direct	231 Dec 26 j 09:21	14°♈38'22		minimum elong	238 Apr 22 j 00:18	0°♈40'01	1°50'57
evening set	232 Mar 22 j 13:42	16°♈32'06		max. Earth dist.	238 Apr 22 j 18:11	0°♈41'42	30.80809 AU
				morning rise	238 May 08 j 04:13	1°♈16'05	
conjunction	232 Apr 07 j 12:27	17°♈07'45 -1°51'41		retrograde	238 Aug 07 j 06:20	3°♈14'30	
minimum elong	232 Apr 07 j 12:27	17°♈07'45 1°51'41		opposition	238 Oct 25 j 11:43	1°♈49'12	-1°58'17
max. Earth dist.	232 Apr 08 j 09:35	17°♈09'44 30.81798 AU		min. Earth dist.	238 Oct 24 j 20:20	1°♈50'17	28.80940 AU
morning rise	232 Apr 23 j 14:19	17°♈43'43		direct	239 Jan 10 j 23:47	0°♈25'13	
retrograde	232 Jul 24 j 00:20	19°♈42'43		evening set	239 Apr 08 j 12:25	2°♈19'14	
opposition	232 Oct 11 j 15:10	18°♈17'24 -1°59'37					
min. Earth dist.	232 Oct 10 j 19:49	18°♈18'46 28.81901 AU		conjunction	239 Apr 24 j 14:16	2°♈55'04	-1°50'15
direct	232 Dec 27 j 21:57	16°♈53'48		minimum elong	239 Apr 24 j 14:16	2°♈55'04	1°50'15
evening set	233 Mar 25 j 03:18	18°♈47'36		max. Earth dist.	239 Apr 25 j 06:44	2°♈56'37	30.80865 AU
				morning rise	239 May 10 j 18:42	3°♈31'10	
conjunction	233 Apr 10 j 02:25	19°♈23'17 -1°52'00		retrograde	239 Aug 09 j 19:39	5°♈29'28	
minimum elong	233 Apr 10 j 02:25	19°♈23'17 1°52'00		opposition	239 Oct 27 j 22:48	4°♈04'11	-1°57'26
max. Earth dist.	233 Apr 10 j 22:36	19°♈25'11 30.81704 AU		min. Earth dist.	239 Oct 27 j 07:27	4°♈05'17	28.81072 AU
morning rise	233 Apr 26 j 04:39	19°♈59'16		direct	240 Jan 13 j 10:11	2°♈40'09	
retrograde	233 Jul 26 j 13:27	21°♈58'13		evening set	240 Apr 10 j 02:04	4°♈34'14	

conjunction	240 Apr 26 j 04:27	5°8'10"06 -1°49'22	retrograde	246 Aug 25 j 13:19	21°8'14"48
minimum elong	240 Apr 26 j 04:27	5°8'10"06 1°49'21	opposition	246 Nov 12 j 04:13	19°8'49"55 -1°46'29
max. Earth dist.	240 Apr 26 j 21:16	5°8'11"40 30.81062 AU	min. Earth dist.	246 Nov 11 j 18:28	19°8'50"37 28.83875 AU
morning rise	240 May 12 j 09:06	5°8'46"12	direct	247 Jan 28 j 21:53	18°8'25"39
retrograde	240 Aug 11 j 07:01	7°8'44"24	evening set	247 Apr 27 j 03:33	20°8'20"10
opposition	240 Oct 29 j 10:00	6°8'19"10 -1°56'24			
min. Earth dist.	240 Oct 28 j 19:44	6°8'20"11 28.81337 AU	conjunction	247 May 13 j 08:48	20°8'56"12 -1°38'34
direct	241 Jan 14 j 20:25	4°8'55"06	minimum elong	247 May 13 j 08:49	20°8'56"12 1°38'35
evening set	241 Apr 12 j 15:44	6°8'49"15	max. Earth dist.	247 May 13 j 19:44	20°8'57"13 30.83910 AU
			morning rise	247 May 29 j 15:22	21°8'32"23
conjunction	241 Apr 28 j 18:30	7°8'25"08 -1°48'18	retrograde	247 Aug 28 j 01:04	23°8'29"44
minimum elong	241 Apr 28 j 18:30	7°8'25"08 1°48'19	opposition	247 Nov 14 j 15:00	22°8'04"52 -1°44'15
max. Earth dist.	241 Apr 29 j 10:23	7°8'26"37 30.81407 AU	min. Earth dist.	247 Nov 14 j 06:11	22°8'05"30 28.84123 AU
morning rise	241 May 14 j 23:31	8°8'01"15	direct	248 Jan 31 j 10:52	20°8'40"32
retrograde	241 Aug 13 j 19:49	9°8'59"21	evening set	248 Apr 28 j 17:43	22°8'35"05
opposition	241 Oct 31 j 20:59	8°8'34"11 -1°55'11			
min. Earth dist.	241 Oct 31 j 06:21	8°8'35"13 28.81737 AU	conjunction	248 May 14 j 23:13	23°8'11"08 -1°36'25
direct	242 Jan 17 j 08:44	7°8'10"06	minimum elong	248 May 14 j 23:13	23°8'11"08 1°36'24
evening set	242 Apr 15 j 05:31	9°8'04"19	max. Earth dist.	248 May 15 j 08:03	23°8'11"57 30.84163 AU
			morning rise	248 May 31 j 06:10	23°8'47"19
conjunction	242 May 01 j 08:40	9°8'40"13 -1°47'05	retrograde	248 Aug 29 j 14:29	25°8'44"30
minimum elong	242 May 01 j 08:40	9°8'40"13 1°47'05	opposition	248 Nov 16 j 01:47	24°8'19"40 -1°41'52
max. Earth dist.	242 May 02 j 00:03	9°8'41"40 30.81855 AU	min. Earth dist.	248 Nov 15 j 17:25	24°8'20"16 28.84378 AU
morning rise	242 May 17 j 13:59	10°8'16"21	direct	249 Feb 01 j 22:11	22°8'55"15
retrograde	242 Aug 16 j 07:43	12°8'14"22	evening set	249 May 01 j 07:38	24°8'49"50
opposition	242 Nov 03 j 08:06	10°8'49"16 -1°53'47			
min. Earth dist.	242 Nov 02 j 19:04	10°8'50"11 28.82223 AU	conjunction	249 May 17 j 13:32	25°8'25"53 -1°34'07
direct	243 Jan 19 j 19:53	9°8'25"10	minimum elong	249 May 17 j 13:33	25°8'25"53 1°34'07
evening set	243 Apr 17 j 19:18	11°8'19"28	max. Earth dist.	249 May 17 j 22:29	25°8'26"43 30.84428 AU
			morning rise	249 Jun 02 j 20:32	26°8'02"05
conjunction	243 May 03 j 22:58	11°8'55"24 -1°45'42	retrograde	249 Sep 01 j 00:52	27°8'59"06
minimum elong	243 May 03 j 22:58	11°8'55"24 1°45'42	opposition	249 Nov 18 j 12:31	26°8'34"18 -1°39'20
max. Earth dist.	243 May 04 j 13:49	11°8'56"47 30.82371 AU	min. Earth dist.	249 Nov 18 j 05:32	26°8'34"48 28.84668 AU
morning rise	243 May 20 j 04:33	12°8'31"32	direct	250 Feb 04 j 09:12	25°8'09"49
retrograde	243 Aug 18 j 21:31	14°8'29"27	evening set	250 May 03 j 21:35	27°8'04"26
opposition	243 Nov 05 j 19:05	13°8'04"26 -1°52'12			
min. Earth dist.	243 Nov 05 j 05:54	13°8'05"22 28.82728 AU	conjunction	250 May 20 j 03:46	27°8'40"30 -1°31'40
direct	244 Jan 22 j 08:48	11°8'40"18	minimum elong	250 May 20 j 03:46	27°8'40"30 1°31'40
evening set	244 Apr 19 j 09:28	13°8'34"41	max. Earth dist.	250 May 20 j 11:25	27°8'41"13 30.84775 AU
			morning rise	250 Jun 05 j 11:03	28°8'16"42
conjunction	244 May 05 j 13:24	14°8'10"39 -1°44'09		250 Aug 06 j 00:53	0°II
minimum elong	244 May 05 j 13:24	14°8'10"39 1°44'08	retrograde	250 Sep 03 j 12:52	0°II13'33
max. Earth dist.	244 May 06 j 02:36	14°8'11"53 30.82858 AU		250 Oct 02 j 06:20	30°R8
morning rise	244 May 21 j 19:19	14°8'46"48	opposition	250 Nov 20 j 23:03	28°8'48"48 -1°36'39
	244 May 27 j 21:54	15°8'	min. Earth dist.	250 Nov 20 j 15:50	28°8'49"19 28.85063 AU
retrograde	244 Aug 20 j 10:44	16°8'44"36	direct	251 Feb 06 j 21:30	27°8'24"14
opposition	244 Nov 07 j 06:07	15°8'19"38 -1°50'28	evening set	251 May 06 j 11:29	29°8'18"54
min. Earth dist.	244 Nov 06 j 18:47	15°8'20"26 28.83191 AU			
	244 Nov 18 j 21:10	15°R8	conjunction	251 May 22 j 18:01	29°8'55"00 -1°29'05
direct	245 Jan 23 j 20:07	13°8'55"29	minimum elong	251 May 22 j 18:01	29°8'55"00 1°29'05
	245 Mar 28 j 12:21	15°8'	max. Earth dist.	251 May 23 j 01:15	29°8'55"40 30.85224 AU
evening set	245 Apr 21 j 23:30	15°8'49"55		251 May 24 j 23:41	0°II
			morning rise	251 Jun 08 j 01:26	0°II31'11
conjunction	245 May 08 j 03:59	16°8'25"54 -1°42'26	retrograde	251 Sep 05 j 23:36	2°II27'54
minimum elong	245 May 08 j 03:59	16°8'25"54 1°42'26	opposition	251 Nov 23 j 09:44	1°II03'12 -1°33'49
max. Earth dist.	245 May 08 j 17:00	16°8'27"07 30.83288 AU	min. Earth dist.	251 Nov 23 j 04:01	1°II03'36 28.85579 AU
morning rise	245 May 24 j 10:01	17°8'02"04		252 Jan 04 j 05:33	30°R8
retrograde	245 Aug 23 j 00:26	18°8'59"44	direct	252 Feb 09 j 08:18	29°8'38"35
opposition	245 Nov 09 j 17:09	17°8'34"49 -1°48'33		252 Mar 16 j 04:16	0°II
min. Earth dist.	245 Nov 09 j 06:09	17°8'35"36 28.83567 AU	evening set	252 May 08 j 01:26	1°II33'19
direct	246 Jan 26 j 10:17	16°8'10"37			
evening set	246 Apr 24 j 13:31	18°8'05"06	conjunction	252 May 24 j 08:17	2°II09'25 -1°26'23
			minimum elong	252 May 24 j 08:17	2°II09'25 1°26'22
conjunction	246 May 10 j 18:13	18°8'41"07 -1°40'35	max. Earth dist.	252 May 24 j 14:55	2°II10'02 30.85822 AU
minimum elong	246 May 10 j 18:14	18°8'41"07 1°40'34	morning rise	252 Jun 09 j 15:50	2°II45'37
max. Earth dist.	246 May 11 j 05:07	18°8'42"08 30.83631 AU	retrograde	252 Sep 07 j 12:10	4°II42'10
morning rise	246 May 27 j 00:42	19°8'17"17	opposition	252 Nov 24 j 20:09	3°II17'33 -1°30'51

min. Earth dist.	252 Nov 24 j 13:58	3° Π 17'59	28.86240 AU	morning rise	259 Jun 26 j 20:33	18° Π 27'45	
direct	253 Feb 10 j 20:40	1° Π 52'55		retrograde	259 Sep 24 j 02:55	20° Π 23'19	
evening set	253 May 10 j 15:28	3° Π 47'43		opposition	259 Dec 10 j 21:54	18° Π 59'20	-1°06'27
				min. Earth dist.	259 Dec 10 j 22:04	18° Π 59'19	28.92377 AU
conjunction	253 May 26 j 22:29	4° Π 23'50	-1°23'32	direct	260 Feb 27 j 10:09	17° Π 34'35	
minimum elong	253 May 26 j 22:29	4° Π 23'50	1°23'33	evening set	260 May 26 j 18:24	19° Π 29'51	
max. Earth dist.	253 May 27 j 03:59	4° Π 24'20	30.86562 AU				
morning rise	253 Jun 12 j 06:12	5° Π 00'02		conjunction	260 Jun 12 j 02:50	20° Π 06'02	-1°00'20
retrograde	253 Sep 10 j 00:22	6° Π 56'28		minimum elong	260 Jun 12 j 02:50	20° Π 06'02	1°00'19
opposition	253 Nov 27 j 06:48	5° Π 31'55	-1°27'44	max. Earth dist.	260 Jun 12 j 01:21	20° Π 05'53	30.92676 AU
min. Earth dist.	253 Nov 27 j 02:00	5° Π 32'16	28.87057 AU	morning rise	260 Jun 28 j 10:46	20° Π 42'11	
direct	254 Feb 13 j 07:49	4° Π 07'17		retrograde	260 Sep 25 j 13:23	22° Π 37'34	
evening set	254 May 13 j 05:13	6° Π 02'10		opposition	260 Dec 12 j 08:23	21° Π 13'38	-1°02'32
				min. Earth dist.	260 Dec 12 j 10:29	21° Π 13'29	28.93040 AU
conjunction	254 May 29 j 12:39	6° Π 38'17	-1°20'34	direct	261 Feb 28 j 20:43	19° Π 48'49	
minimum elong	254 May 29 j 12:39	6° Π 38'17	1°20'33	evening set	261 May 29 j 08:28	21° Π 44'06	
max. Earth dist.	254 May 29 j 18:20	6° Π 38'49	30.87452 AU				
morning rise	254 Jun 14 j 20:24	7° Π 14'29		conjunction	261 Jun 14 j 17:00	22° Π 20'16	-0°56'37
retrograde	254 Sep 12 j 13:25	9° Π 10'48		minimum elong	261 Jun 14 j 17:01	22° Π 20'16	0°56'37
opposition	254 Nov 29 j 17:18	7° Π 46'22	-1°24'29	max. Earth dist.	261 Jun 14 j 14:26	22° Π 20'02	30.93339 AU
min. Earth dist.	254 Nov 29 j 12:37	7° Π 46'42	28.87982 AU	morning rise	261 Jul 01 j 00:55	22° Π 56'25	
direct	255 Feb 15 j 21:47	6° Π 21'44		retrograde	261 Sep 28 j 00:38	24° Π 51'37	
evening set	255 May 15 j 19:26	8° Π 16'43		opposition	261 Dec 14 j 18:42	23° Π 27'43	-0°58'31
				min. Earth dist.	261 Dec 14 j 20:39	23° Π 27'35	28.93693 AU
conjunction	255 Jun 01 j 02:56	8° Π 52'51	-1°17'28	direct	262 Mar 03 j 09:09	22° Π 02'49	
minimum elong	255 Jun 01 j 02:57	8° Π 52'51	1°17'28	evening set	262 May 31 j 22:23	23° Π 58'07	
max. Earth dist.	255 Jun 01 j 06:45	8° Π 53'12	30.88422 AU				
morning rise	255 Jun 17 j 10:56	9° Π 29'03		conjunction	262 Jun 17 j 06:57	24° Π 34'17	-0°52'50
retrograde	255 Sep 15 j 02:13	11° Π 25'14		minimum elong	262 Jun 17 j 06:57	24° Π 34'17	0°52'49
opposition	255 Dec 02 j 03:45	10° Π 00'55	-1°21'07	max. Earth dist.	262 Jun 17 j 03:08	24° Π 33'56	30.94002 AU
min. Earth dist.	255 Dec 02 j 00:18	10° Π 01'10	28.88974 AU	morning rise	262 Jul 03 j 14:50	25° Π 10'25	
direct	256 Feb 18 j 08:55	8° Π 36'17		retrograde	262 Sep 30 j 10:59	27° Π 05'26	
evening set	256 May 17 j 09:35	10° Π 31'22		opposition	262 Dec 17 j 05:08	25° Π 41'34	-0°54'26
				min. Earth dist.	262 Dec 17 j 08:40	25° Π 41'19	28.94380 AU
conjunction	256 Jun 02 j 17:28	11° Π 07'31	-1°14'15	direct	263 Mar 05 j 20:49	24° Π 16'35	
minimum elong	256 Jun 02 j 17:28	11° Π 07'31	1°14'14	evening set	263 Jun 03 j 12:18	26° Π 11'56	
max. Earth dist.	256 Jun 02 j 21:18	11° Π 07'52	30.89414 AU				
morning rise	256 Jun 19 j 01:20	11° Π 43'43		conjunction	263 Jun 19 j 21:02	26° Π 48'05	-0°48'58
retrograde	256 Sep 16 j 14:46	13° Π 39'46		minimum elong	263 Jun 19 j 21:03	26° Π 48'05	0°48'58
opposition	256 Dec 03 j 14:20	12° Π 15'34	-1°17'37	max. Earth dist.	263 Jun 19 j 17:07	26° Π 47'43	30.94725 AU
min. Earth dist.	256 Dec 03 j 11:54	12° Π 15'44	28.89940 AU	morning rise	263 Jul 06 j 04:45	27° Π 24'11	
direct	257 Feb 19 j 22:00	10° Π 50'56		retrograde	263 Oct 02 j 22:09	29° Π 19'01	
evening set	257 May 19 j 23:48	12° Π 46'04		opposition	263 Dec 19 j 15:18	27° Π 55'12	-0°50'16
				min. Earth dist.	263 Dec 19 j 19:00	27° Π 54'56	28.95132 AU
conjunction	257 Jun 05 j 07:41	13° Π 22'15	-1°10'55	direct	264 Mar 07 j 10:29	26° Π 30'10	
minimum elong	257 Jun 05 j 07:41	13° Π 22'15	1°10'55	evening set	264 Jun 05 j 02:20	28° Π 25'33	
max. Earth dist.	257 Jun 05 j 09:12	13° Π 22'23	30.90357 AU				
morning rise	257 Jun 21 j 15:44	13° Π 58'26		conjunction	264 Jun 21 j 10:55	29° Π 01'41	-0°45'02
retrograde	257 Sep 19 j 04:44	15° Π 54'21		minimum elong	264 Jun 21 j 10:55	29° Π 01'41	0°45'02
opposition	257 Dec 06 j 00:54	14° Π 30'14	-1°14'00	max. Earth dist.	264 Jun 21 j 05:21	29° Π 01'10	30.95531 AU
min. Earth dist.	257 Dec 05 j 23:05	14° Π 30'21	28.90846 AU	morning rise	264 Jul 07 j 18:36	29° Π 37'46	
direct	258 Feb 22 j 09:57	13° Π 05'35			264 Jul 18 j 06:06	0° Θ	
evening set	258 May 22 j 13:58	15° Π 00'47		retrograde	264 Oct 04 j 10:09	1° Θ 32'26	
				opposition	264 Dec 21 j 01:40	0° Θ 08'40	-0°46'01
conjunction	258 Jun 07 j 22:09	15° Π 36'57	-1°07'29	min. Earth dist.	264 Dec 21 j 06:10	0° Θ 08'21	28.96004 AU
minimum elong	258 Jun 07 j 22:10	15° Π 36'57	1°07'29		264 Dec 26 j 04:20	30° \Re Π	
max. Earth dist.	258 Jun 07 j 23:24	15° Π 37'04	30.91215 AU	direct	265 Mar 09 j 21:37	28° Π 43'36	
morning rise	258 Jun 24 j 06:04	16° Π 13'08			265 May 19 j 18:58	0° Θ	
retrograde	258 Sep 21 j 14:58	18° Π 08'53		evening set	265 Jun 07 j 15:57	0° Θ 39'01	
opposition	258 Dec 08 j 11:28	16° Π 44'51	-1°10'16				
min. Earth dist.	258 Dec 08 j 11:26	16° Π 44'51	28.91652 AU	conjunction	265 Jun 24 j 00:41	1° Θ 15'09	-0°41'02
direct	259 Feb 24 j 21:42	15° Π 20'10		minimum elong	265 Jun 24 j 00:41	1° Θ 15'09	0°41'02
evening set	259 May 25 j 04:13	17° Π 15'24		max. Earth dist.	265 Jun 23 j 19:37	1° Θ 14'41	30.96462 AU
				morning rise	265 Jul 10 j 08:04	1° Θ 51'12	
conjunction	259 Jun 10 j 12:30	17° Π 51'34	-1°03'57	retrograde	265 Oct 06 j 21:38	3° Θ 45'44	
minimum elong	259 Jun 10 j 12:30	17° Π 51'34	1°03'57	opposition	265 Dec 23 j 12:00	2° Θ 22'03	-0°41'42
max. Earth dist.	259 Jun 10 j 11:46	17° Π 51'30	30.91990 AU	min. Earth dist.	265 Dec 23 j 17:04	2° Θ 21'41	28.96990 AU

direct	266 Mar 12 j 11:07	0°☾56'58		max. Earth dist.	272 Jul 09 j 12:41	16°☾48'39	31.03838 AU
evening set	266 Jun 10 j 05:49	2°☾52'26		morning rise	272 Jul 26 j 06:27	17°☾25'39	
				retrograde	272 Oct 22 j 03:48	19°☾19'19	
conjunction	266 Jun 26 j 14:22	3°☾28'34 -0°36'58		opposition	273 Jan 07 j 12:18	17°☾56'17 -0°10'11	
minimum elong	266 Jun 26 j 14:22	3°☾28'34 0°36'59		min. Earth dist.	273 Jan 07 j 23:17	17°☾55'31	29.04222 AU
max. Earth dist.	266 Jun 26 j 07:27	3°☾27'56 30.97521 AU		direct	273 Mar 27 j 22:01	16°☾31'09	
morning rise	266 Jul 12 j 21:45	4°☾04'36		evening set	273 Jun 26 j 06:36	18°☾27'04	
retrograde	266 Oct 09 j 10:48	5°☾59'00					
opposition	266 Dec 25 j 22:07	4°☾35'24 -0°37'20		conjunction	273 Jul 12 j 14:05	19°☾03'06 -0°07'25	
min. Earth dist.	266 Dec 26 j 03:23	4°☾35'02 28.98103 AU		minimum elong	273 Jul 12 j 14:05	19°☾03'06 0°07'25	
direct	267 Mar 14 j 23:11	3°☾10'19		behind sun begin	273 Jul 12 j 08:05	19°☾02'34	
evening set	267 Jun 12 j 19:36	5°☾05'53		behind sun end	273 Jul 12 j 20:05	19°☾03'38	
				max. Earth dist.	273 Jul 12 j 00:10	19°☾01'49	31.04581 AU
conjunction	267 Jun 29 j 04:15	5°☾42'00 -0°32'51		morning rise	273 Jul 28 j 19:29	19°☾38'56	
minimum elong	267 Jun 29 j 04:15	5°☾42'00 0°32'51		retrograde	273 Oct 24 j 15:09	21°☾32'29	
max. Earth dist.	267 Jun 28 j 21:34	5°☾41'23 30.98672 AU		opposition	274 Jan 09 j 22:38	20°☾09'29 -0°05'36	
morning rise	267 Jul 15 j 11:17	6°☾18'01		min. Earth dist.	274 Jan 10 j 10:39	20°☾08'39	29.04947 AU
retrograde	267 Oct 11 j 21:08	8°☾12'17		direct	274 Mar 30 j 08:52	18°☾44'18	
opposition	267 Dec 28 j 08:30	6°☾48'49 -0°32'54		evening set	274 Jun 28 j 20:05	20°☾40'15	
min. Earth dist.	267 Dec 28 j 15:17	6°☾48'20 28.99272 AU					
direct	268 Mar 16 j 11:06	5°☾23'45		conjunction	274 Jul 15 j 03:31	21°☾16'14 -0°03'07	
evening set	268 Jun 14 j 09:32	7°☾19'24		minimum elong	274 Jul 15 j 03:30	21°☾16'14 0°03'08	
				behind sun begin	274 Jul 14 j 20:57	21°☾15'39	
conjunction	268 Jun 30 j 17:56	7°☾55'30 -0°28'41		behind sun end	274 Jul 15 j 10:04	21°☾16'49	
minimum elong	268 Jun 30 j 17:56	7°☾55'30 0°28'41		max. Earth dist.	274 Jul 14 j 13:49	21°☾14'59	31.05284 AU
max. Earth dist.	268 Jun 30 j 09:35	7°☾54'44 30.99856 AU		morning rise	274 Jul 31 j 08:24	21°☾52'02	
morning rise	268 Jul 17 j 00:51	8°☾31'30		retrograde	274 Oct 27 j 01:54	23°☾45'26	
retrograde	268 Oct 13 j 09:27	10°☾25'39		opposition	275 Jan 12 j 08:48	22°☾22'28 -0°01'00	
opposition	268 Dec 29 j 18:43	9°☾02'19 -0°28'25		min. Earth dist.	275 Jan 12 j 21:43	22°☾21'34	29.05637 AU
min. Earth dist.	268 Dec 30 j 01:31	9°☾01'50 29.00444 AU		direct	275 Apr 01 j 23:02	20°☾57'14	
direct	269 Mar 18 j 23:07	7°☾37'16		asc. node	275 Apr 02 j 00:01	20°☾57'14	
evening set	269 Jun 16 j 23:24	9°☾32'59		evening set	275 Jul 01 j 09:41	22°☾53'12	
conjunction	269 Jul 03 j 07:44	10°☾09'05 -0°24'29		conjunction	275 Jul 17 j 16:39	23°☾29'09 0°01'18	
minimum elong	269 Jul 03 j 07:44	10°☾09'05 0°24'28		minimum elong	275 Jul 17 j 16:39	23°☾29'09 0°01'18	
max. Earth dist.	269 Jul 02 j 22:52	10°☾08'16 31.00997 AU		behind sun begin	275 Jul 17 j 10:04	23°☾28'35	
morning rise	269 Jul 19 j 14:16	10°☾45'03		behind sun end	275 Jul 17 j 23:14	23°☾29'44	
retrograde	269 Oct 15 j 20:14	12°☾39'06		max. Earth dist.	275 Jul 17 j 01:05	23°☾27'43	31.05985 AU
opposition	270 Jan 01 j 05:10	11°☾15'52 -0°23'54		morning rise	275 Aug 02 j 21:20	24°☾04'55	
min. Earth dist.	270 Jan 01 j 13:54	11°☾15'15 29.01555 AU		retrograde	275 Oct 29 j 14:14	25°☾58'10	
direct	270 Mar 21 j 09:17	9°☾50'49		opposition	276 Jan 14 j 19:01	24°☾35'14 0°03'36	
evening set	270 Jun 19 j 13:12	11°☾46'36		min. Earth dist.	276 Jan 15 j 08:01	24°☾34'19	29.06363 AU
				direct	276 Apr 03 j 12:02	23°☾09'56	
conjunction	270 Jul 05 j 21:24	12°☾22'42 -0°20'14		evening set	276 Jul 02 j 22:55	25°☾05'56	
minimum elong	270 Jul 05 j 21:24	12°☾22'42 0°20'14					
max. Earth dist.	270 Jul 05 j 11:13	12°☾21'46 31.02064 AU		conjunction	276 Jul 19 j 05:44	25°☾41'52 0°05'37	
morning rise	270 Jul 22 j 03:44	12°☾58'38		minimum elong	276 Jul 19 j 05:43	25°☾41'52 0°05'37	
retrograde	270 Oct 18 j 07:16	14°☾52'34		behind sun begin	276 Jul 18 j 23:24	25°☾41'18	
opposition	271 Jan 03 j 15:31	13°☾29'26 -0°19'21		behind sun end	276 Jul 19 j 12:02	25°☾42'25	
min. Earth dist.	271 Jan 04 j 00:17	13°☾28'49 29.02555 AU		max. Earth dist.	276 Jul 18 j 14:39	25°☾40'29	31.06731 AU
direct	271 Mar 23 j 21:36	12°☾04'22		morning rise	276 Aug 04 j 09:47	26°☾17'35	
evening set	271 Jun 22 j 03:10	14°☾00'12		retrograde	276 Oct 30 j 23:44	28°☾10'42	
				opposition	277 Jan 16 j 05:21	26°☾47'48 0°08'11	
conjunction	271 Jul 08 j 11:09	14°☾36'17 -0°15'58		min. Earth dist.	277 Jan 16 j 19:33	26°☾46'48	29.07153 AU
minimum elong	271 Jul 08 j 11:09	14°☾36'17 0°15'58		direct	277 Apr 06 j 00:29	25°☾22'28	
max. Earth dist.	271 Jul 07 j 23:28	14°☾35'12 31.03001 AU		evening set	277 Jul 05 j 12:13	27°☾18'29	
morning rise	271 Jul 24 j 17:10	15°☾12'12					
retrograde	271 Oct 20 j 17:13	17°☾06'00		conjunction	277 Jul 21 j 18:32	27°☾54'23 0°09'52	
opposition	272 Jan 06 j 01:54	15°☾42'55 -0°14'47		minimum elong	277 Jul 21 j 18:33	27°☾54'23 0°09'52	
min. Earth dist.	272 Jan 06 j 12:29	15°☾42'11 29.03443 AU		behind sun begin	277 Jul 21 j 13:14	27°☾53'54	
direct	272 Mar 25 j 08:52	14°☾17'50		behind sun end	277 Jul 21 j 23:51	27°☾54'51	
evening set	272 Jun 23 j 16:58	16°☾13'43		max. Earth dist.	277 Jul 21 j 02:13	27°☾52'52	31.07582 AU
				morning rise	277 Aug 06 j 22:19	28°☾30'03	
conjunction	272 Jul 10 j 00:50	16°☾49'46 -0°11'42			277 Sep 26 j 10:53	0°☾	
minimum elong	272 Jul 10 j 00:50	16°☾49'46 0°11'42		retrograde	277 Nov 02 j 11:46	0°☾23'03	
behind sun begin	272 Jul 09 j 20:15	16°☾49'22			277 Dec 09 j 23:49	30°☾	
behind sun end	272 Jul 10 j 05:24	16°☾50'10		opposition	278 Jan 18 j 15:30	29°☾00'12 0°12'45	

min. Earth dist.	278 Jan 19 j 05:08	28° $\mathring{\Omega}$ 59'15	29.08067 AU	evening set	284 Jul 21 j 07:46	12° $\mathring{\Omega}$ 44'58	
direct	278 Apr 08 j 13:10	27° $\mathring{\mathfrak{A}}$ 34'51					
evening set	278 Jul 08 j 01:18	29° $\mathring{\mathfrak{A}}$ 30'54		conjunction	284 Aug 06 j 11:05	13° $\mathring{\Omega}$ 20'38	0°39'02
	278 Jul 21 j 06:27	0° $\mathring{\Omega}$		minimum elong	284 Aug 06 j 11:05	13° $\mathring{\Omega}$ 20'38	0°39'02
				max. Earth dist.	284 Aug 05 j 14:16	13° $\mathring{\Omega}$ 18'42	31.14909 AU
conjunction	278 Jul 24 j 07:24	0° $\mathring{\Omega}$ 06'46	0°14'08	morning rise	284 Aug 22 j 11:18	13° $\mathring{\Omega}$ 56'00	
minimum elong	278 Jul 24 j 07:24	0° $\mathring{\Omega}$ 06'46	0°14'07		284 Sep 24 j 02:40	15° $\mathring{\Omega}$	
behind sun begin	278 Jul 24 j 04:20	0° $\mathring{\Omega}$ 06'30		retrograde	284 Nov 17 j 12:52	15° $\mathring{\Omega}$ 48'26	
behind sun end	278 Jul 24 j 10:28	0° $\mathring{\Omega}$ 07'02			285 Jan 12 j 19:20	15° $\mathring{\mathfrak{R}}$ $\mathring{\Omega}$	
max. Earth dist.	278 Jul 23 j 15:16	0° $\mathring{\Omega}$ 05'17	31.08551 AU	opposition	285 Feb 02 j 16:20	14° $\mathring{\Omega}$ 26'05	0°43'48
morning rise	278 Aug 09 j 10:37	0° $\mathring{\Omega}$ 42'24		min. Earth dist.	285 Feb 03 j 10:16	14° $\mathring{\Omega}$ 24'50	29.15343 AU
retrograde	278 Nov 04 j 22:13	2° $\mathring{\Omega}$ 35'17		direct	285 Apr 23 j 23:04	13° $\mathring{\Omega}$ 00'47	
opposition	279 Jan 21 j 01:52	1° $\mathring{\Omega}$ 12'31	0°17'18	evening set	285 Jul 23 j 20:33	14° $\mathring{\Omega}$ 57'07	
min. Earth dist.	279 Jan 21 j 16:50	1° $\mathring{\Omega}$ 11'28	29.09099 AU		285 Jul 25 j 04:26	15° $\mathring{\Omega}$	
	279 Mar 13 j 15:12	30° $\mathring{\mathfrak{R}}$ $\mathring{\mathfrak{A}}$					
direct	279 Apr 11 j 00:09	29° $\mathring{\mathfrak{A}}$ 47'10		conjunction	285 Aug 08 j 23:33	15° $\mathring{\Omega}$ 32'44	0°43'01
	279 May 09 j 01:58	0° $\mathring{\Omega}$		minimum elong	285 Aug 08 j 23:33	15° $\mathring{\Omega}$ 32'44	0°43'01
evening set	279 Jul 10 j 14:29	1° $\mathring{\Omega}$ 43'15		max. Earth dist.	285 Aug 08 j 03:04	15° $\mathring{\Omega}$ 30'50	31.15676 AU
				morning rise	285 Aug 24 j 23:02	16° $\mathring{\Omega}$ 08'04	
conjunction	279 Jul 26 j 20:10	2° $\mathring{\Omega}$ 19'05	0°18'22	retrograde	285 Nov 19 j 22:28	18° $\mathring{\Omega}$ 00'25	
minimum elong	279 Jul 26 j 20:10	2° $\mathring{\Omega}$ 19'05	0°18'22	opposition	286 Feb 05 j 02:51	16° $\mathring{\Omega}$ 38'05	0°48'01
max. Earth dist.	279 Jul 26 j 03:22	2° $\mathring{\Omega}$ 17'32	31.09639 AU	min. Earth dist.	286 Feb 05 j 22:16	16° $\mathring{\Omega}$ 36'44	29.16068 AU
morning rise	279 Aug 11 j 23:00	2° $\mathring{\Omega}$ 54'41		direct	286 Apr 26 j 11:27	15° $\mathring{\Omega}$ 12'46	
retrograde	279 Nov 07 j 08:17	4° $\mathring{\Omega}$ 47'29		evening set	286 Jul 26 j 09:21	17° $\mathring{\Omega}$ 09'06	
opposition	280 Jan 23 j 12:02	3° $\mathring{\Omega}$ 24'48	0°21'49				
min. Earth dist.	280 Jan 24 j 02:31	3° $\mathring{\Omega}$ 23'47	29.10220 AU	conjunction	286 Aug 11 j 11:43	17° $\mathring{\Omega}$ 44'40	0°46'55
direct	280 Apr 12 j 12:35	1° $\mathring{\Omega}$ 59'28		minimum elong	286 Aug 11 j 11:43	17° $\mathring{\Omega}$ 44'40	0°46'55
evening set	280 Jul 12 j 03:40	3° $\mathring{\Omega}$ 55'36		max. Earth dist.	286 Aug 10 j 13:47	17° $\mathring{\Omega}$ 42'38	31.16366 AU
				morning rise	286 Aug 27 j 10:49	18° $\mathring{\Omega}$ 19'57	
conjunction	280 Jul 28 j 08:55	4° $\mathring{\Omega}$ 31'25	0°22'35	retrograde	286 Nov 22 j 10:21	20° $\mathring{\Omega}$ 12'13	
minimum elong	280 Jul 28 j 08:55	4° $\mathring{\Omega}$ 31'25	0°22'35	opposition	287 Feb 07 j 13:17	18° $\mathring{\Omega}$ 49'55	0°52'09
max. Earth dist.	280 Jul 27 j 15:23	4° $\mathring{\Omega}$ 29'47	31.10785 AU	min. Earth dist.	287 Feb 08 j 08:19	18° $\mathring{\Omega}$ 48'36	29.16727 AU
morning rise	280 Aug 13 j 11:13	5° $\mathring{\Omega}$ 06'58		direct	287 Apr 29 j 00:53	17° $\mathring{\Omega}$ 24'34	
retrograde	280 Nov 08 j 17:56	6° $\mathring{\Omega}$ 59'41		evening set	287 Jul 28 j 21:58	19° $\mathring{\Omega}$ 20'55	
opposition	281 Jan 24 j 22:29	5° $\mathring{\Omega}$ 37'06	0°26'19				
min. Earth dist.	281 Jan 25 j 14:16	5° $\mathring{\Omega}$ 36'00	29.11390 AU	conjunction	287 Aug 13 j 23:53	19° $\mathring{\Omega}$ 56'26	0°50'46
direct	281 Apr 14 j 22:46	4° $\mathring{\Omega}$ 11'47		minimum elong	287 Aug 13 j 23:53	19° $\mathring{\Omega}$ 56'26	0°50'47
evening set	281 Jul 14 j 16:34	6° $\mathring{\Omega}$ 07'58		max. Earth dist.	287 Aug 13 j 02:07	19° $\mathring{\Omega}$ 54'25	31.16996 AU
				morning rise	287 Aug 29 j 22:15	20° $\mathring{\Omega}$ 31'40	
conjunction	281 Jul 30 j 21:27	6° $\mathring{\Omega}$ 43'45	0°26'46	retrograde	287 Nov 24 j 20:24	22° $\mathring{\Omega}$ 23'51	
minimum elong	281 Jul 30 j 21:27	6° $\mathring{\Omega}$ 43'45	0°26'46	opposition	288 Feb 09 j 23:52	21° $\mathring{\Omega}$ 01'34	0°56'13
max. Earth dist.	281 Jul 30 j 03:54	6° $\mathring{\Omega}$ 42'08	31.11947 AU	min. Earth dist.	288 Feb 10 j 20:16	21° $\mathring{\Omega}$ 00'09	29.17363 AU
morning rise	281 Aug 15 j 23:13	7° $\mathring{\Omega}$ 19'16		direct	288 Apr 30 j 12:42	19° $\mathring{\Omega}$ 36'12	
retrograde	281 Nov 11 j 03:57	9° $\mathring{\Omega}$ 11'55		evening set	288 Jul 30 j 10:28	21° $\mathring{\Omega}$ 32'33	
opposition	282 Jan 27 j 08:52	7° $\mathring{\Omega}$ 49'25	0°30'46				
min. Earth dist.	282 Jan 28 j 00:54	7° $\mathring{\Omega}$ 48'17	29.12522 AU	conjunction	288 Aug 15 j 11:47	22° $\mathring{\Omega}$ 08'01	0°54'32
direct	282 Apr 17 j 10:43	6° $\mathring{\Omega}$ 24'07		minimum elong	288 Aug 15 j 11:47	22° $\mathring{\Omega}$ 08'01	0°54'31
evening set	282 Jul 17 j 05:44	8° $\mathring{\Omega}$ 20'21		max. Earth dist.	288 Aug 14 j 13:35	22° $\mathring{\Omega}$ 05'58	31.17644 AU
				morning rise	288 Aug 31 j 09:39	22° $\mathring{\Omega}$ 43'12	
conjunction	282 Aug 02 j 10:03	8° $\mathring{\Omega}$ 56'06	0°30'54	retrograde	288 Nov 26 j 06:00	24° $\mathring{\Omega}$ 35'19	
minimum elong	282 Aug 02 j 10:03	8° $\mathring{\Omega}$ 56'06	0°30'54	opposition	289 Feb 11 j 10:22	23° $\mathring{\Omega}$ 13'04	1°00'11
max. Earth dist.	282 Aug 01 j 14:55	8° $\mathring{\Omega}$ 54'19	31.13039 AU	min. Earth dist.	289 Feb 12 j 06:00	23° $\mathring{\Omega}$ 11'42	29.18033 AU
morning rise	282 Aug 18 j 11:23	9° $\mathring{\Omega}$ 31'34		direct	289 May 03 j 01:40	21° $\mathring{\Omega}$ 47'41	
retrograde	282 Nov 13 j 14:58	11° $\mathring{\Omega}$ 24'09		evening set	289 Aug 01 j 22:41	23° $\mathring{\Omega}$ 44'01	
opposition	283 Jan 29 j 19:15	10° $\mathring{\Omega}$ 01'43	0°35'10				
min. Earth dist.	283 Jan 30 j 12:10	10° $\mathring{\Omega}$ 00'32	29.13582 AU	conjunction	289 Aug 17 j 23:26	24° $\mathring{\Omega}$ 19'27	0°58'12
direct	283 Apr 19 j 21:09	8° $\mathring{\Omega}$ 36'25		minimum elong	289 Aug 17 j 23:26	24° $\mathring{\Omega}$ 19'27	0°58'13
evening set	283 Jul 19 j 18:46	10° $\mathring{\Omega}$ 32'42		max. Earth dist.	289 Aug 17 j 00:56	24° $\mathring{\Omega}$ 17'22	31.18342 AU
				morning rise	289 Sep 02 j 20:41	24° $\mathring{\Omega}$ 54'36	
conjunction	283 Aug 04 j 22:46	11° $\mathring{\Omega}$ 08'24	0°35'00	retrograde	289 Nov 28 j 15:08	26° $\mathring{\Omega}$ 46'39	
minimum elong	283 Aug 04 j 22:46	11° $\mathring{\Omega}$ 08'24	0°35'00	opposition	290 Feb 13 j 20:59	25° $\mathring{\Omega}$ 24'25	1°04'05
max. Earth dist.	283 Aug 04 j 03:51	11° $\mathring{\Omega}$ 06'39	31.14034 AU	min. Earth dist.	290 Feb 14 j 17:24	25° $\mathring{\Omega}$ 23'00	29.18793 AU
morning rise	283 Aug 20 j 23:24	11° $\mathring{\Omega}$ 43'50		direct	290 May 05 j 11:59	23° $\mathring{\Omega}$ 59'03	
retrograde	283 Nov 16 j 00:58	13° $\mathring{\Omega}$ 36'20		evening set	290 Aug 04 j 10:55	25° $\mathring{\Omega}$ 55'24	
opposition	284 Feb 01 j 05:49	12° $\mathring{\Omega}$ 13'57	0°39'31				
min. Earth dist.	284 Feb 01 j 23:41	12° $\mathring{\Omega}$ 12'43	29.14516 AU	conjunction	290 Aug 20 j 11:10	26° $\mathring{\Omega}$ 30'48	1°01'48
direct	284 Apr 21 j 10:41	10° $\mathring{\Omega}$ 48'40		minimum elong	290 Aug 20 j 11:10	26° $\mathring{\Omega}$ 30'48	1°01'47

max. Earth dist.	290 Aug 19 j 13:10	26°02'45	31.19152 AU	min. Earth dist.	297 Mar 01 j 22:46	10°04'43'08	29.25236 AU
morning rise	290 Sep 05 j 07:46	27°02'05'53		direct	297 May 20 j 22:44	9°00'19'36	
retrograde	290 Dec 01 j 00:19	28°02'57'54		evening set	297 Aug 19 j 23:14	11°00'16'07	
opposition	291 Feb 16 j 07:27	27°02'35'44	1°07'52				
min. Earth dist.	291 Feb 17 j 03:32	27°02'34'20	29.19653 AU	conjunction	297 Sep 04 j 19:11	11°00'51'12	1°24'10
direct	291 May 07 j 23:27	26°02'10'22		minimum elong	297 Sep 04 j 19:11	11°00'51'12	1°24'10
evening set	291 Aug 06 j 23:13	28°02'06'45		max. Earth dist.	297 Sep 03 j 19:19	11°00'48'59	31.25453 AU
				morning rise	297 Sep 20 j 11:30	12°00'25'59	
conjunction	291 Aug 22 j 22:46	28°02'42'06	1°05'18	retrograde	297 Dec 16 j 02:53	14°00'17'58	
minimum elong	291 Aug 22 j 22:46	28°02'42'06	1°05'18	opposition	298 Mar 03 j 11:26	12°00'56'08	1°31'21
max. Earth dist.	291 Aug 21 j 23:56	28°02'39'59	31.20067 AU	min. Earth dist.	298 Mar 04 j 09:11	12°00'54'38	29.25814 AU
morning rise	291 Sep 07 j 18:50	29°02'17'09		direct	298 May 23 j 12:06	11°00'31'04	
	291 Sep 28 j 14:43	0°00'		evening set	298 Aug 22 j 11:02	13°00'27'34	
retrograde	291 Dec 03 j 10:55	1°00'09'10		max. Earth dist.	298 Sep 06 j 05:54	14°00'00'20	31.25958 AU
	292 Feb 10 j 22:25	30°00'00'					
opposition	292 Feb 18 j 18:06	29°02'47'03	1°11'34	conjunction	298 Sep 07 j 06:22	14°00'02'36	1°26'54
min. Earth dist.	292 Feb 19 j 14:18	29°02'45'39	29.20630 AU	minimum elong	298 Sep 07 j 06:22	14°00'02'36	1°26'53
direct	292 May 09 j 09:27	28°02'21'45		morning rise	298 Sep 22 j 22:04	14°00'37'20	
	292 Jul 30 j 22:37	0°00'		retrograde	298 Dec 18 j 12:32	16°00'29'17	
evening set	292 Aug 08 j 11:10	0°00'18'10		opposition	299 Mar 05 j 22:26	15°00'07'27	1°34'13
				min. Earth dist.	299 Mar 06 j 21:10	15°00'05'53	29.26273 AU
conjunction	292 Aug 24 j 10:16	0°00'53'28	1°08'43	direct	299 May 25 j 23:19	13°00'42'23	
minimum elong	292 Aug 24 j 10:16	0°00'53'28	1°08'42	evening set	299 Aug 24 j 22:40	15°00'38'50	
max. Earth dist.	292 Aug 23 j 12:30	0°00'51'27	31.21076 AU				
morning rise	292 Sep 09 j 05:34	1°00'28'29		conjunction	299 Sep 09 j 17:27	16°00'13'50	1°29'31
retrograde	292 Dec 04 j 20:24	3°00'20'29		minimum elong	299 Sep 09 j 17:27	16°00'13'50	1°29'31
opposition	293 Feb 20 j 04:52	1°00'58'27	1°15'09	max. Earth dist.	299 Sep 08 j 17:26	16°00'11'35	31.26366 AU
min. Earth dist.	293 Feb 21 j 01:28	1°00'57'01	29.21658 AU	morning rise	299 Sep 25 j 08:30	16°00'48'30	
direct	293 May 11 j 21:58	0°00'33'13		retrograde	299 Dec 20 j 21:32	18°00'40'26	
evening set	293 Aug 10 j 23:20	2°00'29'40		opposition	300 Mar 07 j 09:35	17°00'18'35	1°36'56
				min. Earth dist.	300 Mar 08 j 08:06	17°00'17'02	29.26637 AU
conjunction	293 Aug 26 j 21:40	3°00'04'56	1°12'01	direct	300 May 27 j 12:06	15°00'53'29	
minimum elong	293 Aug 26 j 21:40	3°00'04'56	1°12'02	evening set	300 Aug 26 j 10:05	17°00'49'54	
max. Earth dist.	293 Aug 25 j 22:38	3°00'02'47	31.22113 AU	max. Earth dist.	300 Sep 10 j 03:22	18°00'22'31	31.26704 AU
morning rise	293 Sep 11 j 16:32	3°00'39'54					
retrograde	293 Dec 07 j 08:11	5°00'31'55		conjunction	300 Sep 11 j 04:08	18°00'24'50	1°31'59
opposition	294 Feb 22 j 15:27	4°00'09'56	1°18'38	minimum elong	300 Sep 11 j 04:08	18°00'24'50	1°31'59
min. Earth dist.	294 Feb 23 j 11:44	4°00'08'32	29.22697 AU	morning rise	300 Sep 26 j 18:42	18°00'59'28	
direct	294 May 14 j 08:56	2°00'44'45		retrograde	300 Dec 22 j 07:19	20°00'51'23	
evening set	294 Aug 13 j 11:21	4°00'41'16		opposition	301 Mar 09 j 20:41	19°00'29'30	1°39'31
max. Earth dist.	294 Aug 28 j 10:53	5°00'14'24	31.23113 AU	min. Earth dist.	301 Mar 10 j 19:11	19°00'27'57	29.26980 AU
				direct	301 May 29 j 22:54	18°00'04'23	
conjunction	294 Aug 29 j 09:15	5°00'16'29	1°15'14	evening set	301 Aug 28 j 21:19	20°00'00'45	
minimum elong	294 Aug 29 j 09:14	5°00'16'29	1°15'13				
morning rise	294 Sep 14 j 03:19	5°00'51'24		conjunction	301 Sep 13 j 14:55	20°00'35'38	1°34'20
retrograde	294 Dec 09 j 18:07	7°00'43'25		minimum elong	301 Sep 13 j 14:55	20°00'35'38	1°34'21
opposition	295 Feb 25 j 02:26	6°00'21'31	1°22'00	max. Earth dist.	301 Sep 12 j 15:26	20°00'33'27	31.27043 AU
min. Earth dist.	295 Feb 25 j 23:59	6°00'20'02	29.23660 AU	morning rise	301 Sep 29 j 04:45	21°00'10'14	
direct	295 May 16 j 20:41	4°00'56'23		retrograde	301 Dec 24 j 15:32	23°00'02'07	
evening set	295 Aug 15 j 23:29	6°00'52'55		opposition	302 Mar 12 j 07:45	21°00'40'13	1°41'57
				min. Earth dist.	302 Mar 13 j 06:25	21°00'38'39	29.27337 AU
conjunction	295 Aug 31 j 20:36	7°00'28'05	1°18'19	direct	302 Jun 01 j 11:04	20°00'15'06	
minimum elong	295 Aug 31 j 20:35	7°00'28'05	1°18'20	evening set	302 Aug 31 j 08:40	22°00'11'25	
max. Earth dist.	295 Aug 30 j 21:02	7°00'25'53	31.24023 AU	max. Earth dist.	302 Sep 15 j 01:10	22°00'44'00	31.27432 AU
morning rise	295 Sep 16 j 14:11	8°00'02'57					
retrograde	295 Dec 12 j 06:30	9°00'54'58		conjunction	302 Sep 16 j 01:29	22°00'46'16	1°36'33
opposition	296 Feb 27 j 13:19	8°00'33'06	1°25'14	minimum elong	302 Sep 16 j 01:29	22°00'46'16	1°36'32
min. Earth dist.	296 Feb 28 j 10:18	8°00'31'40	29.24513 AU	morning rise	302 Oct 01 j 14:55	23°00'20'49	
direct	296 May 18 j 10:30	7°00'08'01		retrograde	302 Dec 27 j 02:40	25°00'12'43	
evening set	296 Aug 17 j 11:26	9°00'04'33		opposition	303 Mar 14 j 18:53	23°00'50'48	1°44'14
max. Earth dist.	296 Sep 01 j 08:40	9°00'37'30	31.24800 AU	min. Earth dist.	303 Mar 15 j 16:31	23°00'49'19	29.27774 AU
				direct	303 Jun 03 j 21:38	22°00'25'43	
conjunction	296 Sep 02 j 08:02	9°00'39'41	1°21'18	evening set	303 Sep 02 j 19:41	24°00'22'01	
minimum elong	296 Sep 02 j 08:02	9°00'39'41	1°21'18				
morning rise	296 Sep 18 j 00:51	10°00'14'30		conjunction	303 Sep 18 j 12:04	24°00'56'49	1°38'37
retrograde	296 Dec 13 j 17:07	12°00'06'31		minimum elong	303 Sep 18 j 12:03	24°00'56'49	1°38'38
opposition	297 Mar 01 j 00:27	10°00'44'40	1°28'22	max. Earth dist.	303 Sep 17 j 13:06	24°00'54'41	31.27903 AU

morning rise	303 Oct 04 j 00:43	25° \mathring{M} 31'20		direct	310 Jun 19 j 09:17	7° \mathring{A} 41'51	
retrograde	303 Dec 29 j 12:05	27° \mathring{M} 23'16		evening set	310 Sep 17 j 23:56	9° \mathring{A} 38'04	
opposition	304 Mar 16 j 06:14	26° \mathring{M} 01'22	1°46'22				
min. Earth dist.	304 Mar 17 j 04:25	25° \mathring{M} 59'51	29.28291 AU	conjunction	310 Oct 03 j 12:22	10° \mathring{A} 12'38	1°48'59
direct	304 Jun 05 j 09:14	24° \mathring{M} 36'20		minimum elong	310 Oct 03 j 12:22	10° \mathring{A} 12'38	1°48'59
evening set	304 Sep 04 j 06:49	26° \mathring{M} 32'37		max. Earth dist.	310 Oct 02 j 14:44	10° \mathring{A} 10'36	31.30965 AU
				morning rise	310 Oct 18 j 21:27	10° \mathring{A} 46'56	
conjunction	304 Sep 19 j 22:28	27° \mathring{M} 07'23	1°40'33	retrograde	311 Jan 13 j 11:37	12° \mathring{A} 39'15	
minimum elong	304 Sep 19 j 22:27	27° \mathring{M} 07'23	1°40'32	opposition	311 Apr 01 j 14:48	11° \mathring{A} 17'29	1°56'53
max. Earth dist.	304 Sep 18 j 23:08	27° \mathring{M} 05'12	31.28467 AU	min. Earth dist.	311 Apr 02 j 12:10	11° \mathring{A} 16'02	29.31101 AU
morning rise	304 Oct 05 j 10:43	27° \mathring{M} 41'51		direct	311 Jun 21 j 21:19	9° \mathring{A} 52'52	
retrograde	304 Dec 31 j 00:07	29° \mathring{M} 33'50		evening set	311 Sep 20 j 10:34	11° \mathring{A} 49'01	
opposition	305 Mar 18 j 17:25	28° \mathring{M} 11'58	1°48'21				
min. Earth dist.	305 Mar 19 j 14:20	28° \mathring{M} 10'32	29.28884 AU	conjunction	311 Oct 05 j 22:20	12° \mathring{A} 23'33	1°49'51
direct	305 Jun 07 j 22:03	26° \mathring{M} 47'00		minimum elong	311 Oct 05 j 22:20	12° \mathring{A} 23'33	1°49'52
evening set	305 Sep 06 j 17:39	28° \mathring{M} 43'17		max. Earth dist.	311 Oct 04 j 23:48	12° \mathring{A} 21'26	31.30948 AU
max. Earth dist.	305 Sep 21 j 10:19	29° \mathring{M} 15'55	31.29068 AU	morning rise	311 Oct 21 j 07:08	12° \mathring{A} 57'49	
				retrograde	312 Jan 15 j 22:43	14° \mathring{A} 50'11	
conjunction	305 Sep 22 j 08:50	29° \mathring{M} 18'01	1°42'20	opposition	312 Apr 03 j 02:31	13° \mathring{A} 28'22	1°57'44
minimum elong	305 Sep 22 j 08:50	29° \mathring{M} 18'01	1°42'20	min. Earth dist.	312 Apr 03 j 22:57	13° \mathring{A} 26'59	29.31033 AU
morning rise	305 Oct 07 j 20:29	29° \mathring{M} 52'28		direct	312 Jun 23 j 07:35	12° \mathring{A} 03'45	
	305 Oct 11 j 07:47	0° \mathring{A}		evening set	312 Sep 21 j 20:58	13° \mathring{A} 59'50	
retrograde	306 Jan 02 j 10:55	1° \mathring{A} 44'30		max. Earth dist.	312 Oct 06 j 11:06	14° \mathring{A} 32'20	31.30831 AU
opposition	306 Mar 21 j 04:50	0° \mathring{A} 22'40	1°50'11				
min. Earth dist.	306 Mar 22 j 02:36	0° \mathring{A} 21'11	29.29491 AU	conjunction	312 Oct 07 j 08:24	14° \mathring{A} 34'20	1°50'34
	306 Apr 04 j 04:00	30° \mathring{R} \mathring{M}		minimum elong	312 Oct 07 j 08:24	14° \mathring{A} 34'20	1°50'34
direct	306 Jun 10 j 09:35	28° \mathring{M} 57'47		morning rise	312 Oct 22 j 16:38	15° \mathring{A} 08'35	
	306 Aug 13 j 10:10	0° \mathring{A}		retrograde	313 Jan 17 j 07:56	17° \mathring{A} 00'58	
evening set	306 Sep 09 j 04:38	0° \mathring{A} 54'05		opposition	313 Apr 05 j 14:18	15° \mathring{A} 39'06	1°58'25
				min. Earth dist.	313 Apr 06 j 11:22	15° \mathring{A} 37'40	29.30890 AU
conjunction	306 Sep 24 j 19:12	1° \mathring{A} 28'47	1°43'58	direct	313 Jun 25 j 19:21	14° \mathring{A} 14'29	
minimum elong	306 Sep 24 j 19:11	1° \mathring{A} 28'47	1°43'57	evening set	313 Sep 24 j 07:14	16° \mathring{A} 10'29	
max. Earth dist.	306 Sep 23 j 20:47	1° \mathring{A} 26'41	31.29660 AU				
morning rise	306 Oct 10 j 06:21	2° \mathring{A} 03'12		conjunction	313 Oct 09 j 18:06	16° \mathring{A} 44'57	1°51'08
retrograde	307 Jan 04 j 21:02	3° \mathring{A} 55'17		minimum elong	313 Oct 09 j 18:05	16° \mathring{A} 44'57	1°51'08
opposition	307 Mar 23 j 16:09	2° \mathring{A} 33'30	1°51'51	max. Earth dist.	313 Oct 08 j 20:38	16° \mathring{A} 42'56	31.30681 AU
min. Earth dist.	307 Mar 24 j 12:57	2° \mathring{A} 32'05	29.30048 AU	morning rise	313 Oct 25 j 02:06	17° \mathring{A} 19'10	
direct	307 Jun 12 j 22:32	1° \mathring{A} 08'42		retrograde	314 Jan 19 j 19:33	19° \mathring{A} 11'35	
evening set	307 Sep 11 j 15:36	3° \mathring{A} 05'00		opposition	314 Apr 08 j 01:57	17° \mathring{A} 49'40	1°58'56
max. Earth dist.	307 Sep 26 j 06:55	3° \mathring{A} 37'33	31.30171 AU	min. Earth dist.	314 Apr 08 j 21:32	17° \mathring{A} 48'20	29.30737 AU
				direct	314 Jun 28 j 08:11	16° \mathring{A} 25'02	
conjunction	307 Sep 27 j 05:33	3° \mathring{A} 39'40	1°45'27	evening set	314 Sep 26 j 17:22	18° \mathring{A} 20'58	
minimum elong	307 Sep 27 j 05:33	3° \mathring{A} 39'40	1°45'27	max. Earth dist.	314 Oct 11 j 07:23	18° \mathring{A} 53'29	31.30537 AU
morning rise	307 Oct 12 j 16:11	4° \mathring{A} 14'03					
retrograde	308 Jan 07 j 07:37	6° \mathring{A} 06'12		conjunction	314 Oct 12 j 03:49	18° \mathring{A} 55'24	1°51'32
opposition	308 Mar 25 j 03:49	4° \mathring{A} 44'27	1°53'21	minimum elong	314 Oct 12 j 03:49	18° \mathring{A} 55'24	1°51'31
min. Earth dist.	308 Mar 26 j 01:12	4° \mathring{A} 43'00	29.30522 AU	morning rise	314 Oct 27 j 11:20	19° \mathring{A} 29'35	
direct	308 Jun 14 j 09:44	3° \mathring{A} 19'43		retrograde	315 Jan 22 j 06:00	21° \mathring{A} 22'04	
evening set	308 Sep 13 j 02:19	5° \mathring{A} 16'00		opposition	315 Apr 10 j 13:49	20° \mathring{A} 00'05	1°59'17
				min. Earth dist.	315 Apr 11 j 09:43	19° \mathring{A} 58'43	29.30634 AU
conjunction	308 Sep 28 j 15:47	5° \mathring{A} 50'38	1°46'47	direct	315 Jun 30 j 19:15	18° \mathring{A} 35'28	
minimum elong	308 Sep 28 j 15:47	5° \mathring{A} 50'38	1°46'46	evening set	315 Sep 29 j 03:27	20° \mathring{A} 31'20	
max. Earth dist.	308 Sep 27 j 17:55	5° \mathring{A} 48'35	31.30581 AU				
morning rise	308 Oct 14 j 01:51	6° \mathring{A} 24'59		conjunction	315 Oct 14 j 13:26	21° \mathring{A} 05'43	1°51'46
retrograde	309 Jan 08 j 17:06	8° \mathring{A} 17'12		minimum elong	315 Oct 14 j 13:26	21° \mathring{A} 05'43	1°51'46
opposition	309 Mar 27 j 15:29	6° \mathring{A} 55'28	1°54'42	max. Earth dist.	315 Oct 13 j 17:50	21° \mathring{A} 03'53	31.30483 AU
min. Earth dist.	309 Mar 28 j 12:32	6° \mathring{A} 54'02	29.30858 AU	morning rise	315 Oct 29 j 20:36	21° \mathring{A} 39'54	
direct	309 Jun 16 j 22:34	5° \mathring{A} 30'47		retrograde	316 Jan 24 j 16:05	23° \mathring{A} 32'25	
evening set	309 Sep 15 j 13:13	7° \mathring{A} 27'03		opposition	316 Apr 12 j 01:38	22° \mathring{A} 10'24	1°59'27
max. Earth dist.	309 Sep 30 j 03:17	7° \mathring{A} 59'30	31.30845 AU	min. Earth dist.	316 Apr 12 j 19:49	22° \mathring{A} 09'10	29.30620 AU
				direct	316 Jul 02 j 08:24	20° \mathring{A} 45'50	
conjunction	309 Oct 01 j 02:01	8° \mathring{A} 01'38	1°47'58	evening set	316 Sep 30 j 13:20	22° \mathring{A} 41'38	
minimum elong	309 Oct 01 j 02:01	8° \mathring{A} 01'38	1°47'58				
morning rise	309 Oct 16 j 11:43	8° \mathring{A} 35'58		conjunction	316 Oct 15 j 22:52	23° \mathring{A} 16'01	1°51'51
retrograde	310 Jan 11 j 03:20	10° \mathring{A} 28'14		minimum elong	316 Oct 15 j 22:52	23° \mathring{A} 16'01	1°51'50
opposition	310 Mar 30 j 03:00	9° \mathring{A} 06'30	1°55'53	max. Earth dist.	316 Oct 15 j 03:37	23° \mathring{A} 14'12	31.30518 AU
min. Earth dist.	310 Mar 31 j 00:04	9° \mathring{A} 05'04	29.31059 AU	morning rise	316 Oct 31 j 05:44	23° \mathring{A} 50'10	

retrograde	317 Jan 26 j 03:19	25° <u>♂</u> 42'46		min. Earth dist.	323 Apr 29 j 04:51	7° <u>♂</u> 23'14	29.30730 AU
opposition	317 Apr 14 j 13:35	24° <u>♂</u> 20'44	1°59'27	direct	323 Jul 18 j 17:16	6° <u>♂</u> 00'04	
min. Earth dist.	317 Apr 15 j 07:37	24° <u>♂</u> 19'30	29.30706 AU	evening set	323 Oct 16 j 10:21	7° <u>♂</u> 55'29	
direct	317 Jul 04 j 20:04	22° <u>♂</u> 56'13					
evening set	317 Oct 02 j 23:13	24° <u>♂</u> 51'58		conjunction	323 Oct 31 j 17:27	8° <u>♂</u> 29'44	1°47'57
				minimum elong	323 Oct 31 j 17:27	8° <u>♂</u> 29'44	1°47'57
conjunction	317 Oct 18 j 08:27	25° <u>♂</u> 26'19	1°51'46	max. Earth dist.	323 Oct 31 j 02:16	8° <u>♂</u> 28'18	31.30434 AU
minimum elong	317 Oct 18 j 08:27	25° <u>♂</u> 26'19	1°51'47	morning rise	323 Nov 15 j 22:29	9° <u>♂</u> 03'50	
max. Earth dist.	317 Oct 17 j 14:40	25° <u>♂</u> 24'39	31.30640 AU	retrograde	324 Feb 11 j 04:06	10° <u>♂</u> 57'05	
morning rise	317 Nov 02 j 14:56	26° <u>♂</u> 00'28		opposition	324 Apr 30 j 02:54	9° <u>♂</u> 34'55	1°54'42
retrograde	318 Jan 28 j 12:53	27° <u>♂</u> 53'08		min. Earth dist.	324 Apr 30 j 17:54	9° <u>♂</u> 33'54	29.30351 AU
opposition	318 Apr 17 j 01:22	26° <u>♂</u> 31'06	1°59'17	direct	324 Jul 20 j 03:47	8° <u>♂</u> 10'48	
min. Earth dist.	318 Apr 17 j 18:34	26° <u>♂</u> 29'56	29.30835 AU	evening set	324 Oct 17 j 19:54	10° <u>♂</u> 06'08	
direct	318 Jul 07 j 09:14	25° <u>♂</u> 06'39					
evening set	318 Oct 05 j 09:14	27° <u>♂</u> 02'22		conjunction	324 Nov 02 j 02:46	10° <u>♂</u> 40'22	1°46'46
				minimum elong	324 Nov 02 j 02:46	10° <u>♂</u> 40'22	1°46'45
conjunction	318 Oct 20 j 17:56	27° <u>♂</u> 36'42	1°51'32	max. Earth dist.	324 Nov 01 j 12:21	10° <u>♂</u> 39'01	31.30009 AU
minimum elong	318 Oct 20 j 17:56	27° <u>♂</u> 36'42	1°51'31	morning rise	324 Nov 17 j 07:41	11° <u>♂</u> 14'28	
max. Earth dist.	318 Oct 19 j 23:52	27° <u>♂</u> 35'00	31.30785 AU	retrograde	325 Feb 12 j 14:42	13° <u>♂</u> 07'47	
morning rise	318 Nov 05 j 00:14	28° <u>♂</u> 10'50		opposition	325 May 02 j 15:14	11° <u>♂</u> 45'34	1°53'22
	319 Jan 16 j 09:50	0° <u>♂</u>		min. Earth dist.	325 May 03 j 04:45	11° <u>♂</u> 44'39	29.29866 AU
retrograde	319 Jan 30 j 23:27	0° <u>♂</u> 03'36		direct	325 Jul 22 j 17:08	10° <u>♂</u> 21'28	
	319 Feb 14 j 15:23	30° <u>♂</u>		evening set	325 Oct 20 j 05:29	12° <u>♂</u> 16'42	
opposition	319 Apr 19 j 13:26	28° <u>♂</u> 41'34	1°58'57				
min. Earth dist.	319 Apr 20 j 06:00	28° <u>♂</u> 40'27	29.30984 AU	conjunction	325 Nov 04 j 12:03	12° <u>♂</u> 50'56	1°45'26
direct	319 Jul 09 j 19:38	27° <u>♂</u> 17'12		minimum elong	325 Nov 04 j 12:03	12° <u>♂</u> 50'56	1°45'26
evening set	319 Oct 07 j 18:58	29° <u>♂</u> 12'51		max. Earth dist.	325 Nov 03 j 21:41	12° <u>♂</u> 49'35	31.29494 AU
max. Earth dist.	319 Oct 22 j 11:06	29° <u>♂</u> 45'38	31.30913 AU	morning rise	325 Nov 19 j 16:54	13° <u>♂</u> 25'02	
					326 Jan 12 j 21:10	15° <u>♂</u>	
conjunction	319 Oct 23 j 03:26	29° <u>♂</u> 47'11	1°51'08	retrograde	326 Feb 15 j 02:26	15° <u>♂</u> 18'24	
minimum elong	319 Oct 23 j 03:26	29° <u>♂</u> 47'11	1°51'08		326 Mar 21 j 03:35	15° <u>♂</u>	
	319 Oct 28 j 19:59	0° <u>♂</u>		opposition	326 May 05 j 03:31	13° <u>♂</u> 56'07	1°51'52
morning rise	319 Nov 07 j 09:17	0° <u>♂</u> 21'18		min. Earth dist.	326 May 05 j 16:58	13° <u>♂</u> 55'12	29.29342 AU
retrograde	320 Feb 02 j 08:01	2° <u>♂</u> 14'10		direct	326 Jul 25 j 04:57	12° <u>♂</u> 32'02	
opposition	320 Apr 21 j 01:42	0° <u>♂</u> 52'08	1°58'26	evening set	326 Oct 22 j 14:54	14° <u>♂</u> 27'11	
min. Earth dist.	320 Apr 21 j 18:10	0° <u>♂</u> 51'01	29.31077 AU				
	320 May 25 j 14:44	30° <u>♂</u>		conjunction	326 Nov 06 j 21:20	15° <u>♂</u> 01'24	1°43'57
direct	320 Jul 11 j 07:48	29° <u>♂</u> 27'50		minimum elong	326 Nov 06 j 21:20	15° <u>♂</u> 01'24	1°43'56
	320 Aug 25 j 08:04	0° <u>♂</u>		max. Earth dist.	326 Nov 06 j 08:42	15° <u>♂</u> 00'13	31.28976 AU
evening set	320 Oct 09 j 04:56	1° <u>♂</u> 23'26			326 Nov 06 j 06:25	15° <u>♂</u>	
				morning rise	326 Nov 22 j 01:57	15° <u>♂</u> 35'30	
conjunction	320 Oct 24 j 12:53	1° <u>♂</u> 57'44	1°50'34	retrograde	327 Feb 17 j 12:18	17° <u>♂</u> 28'57	
minimum elong	320 Oct 24 j 12:53	1° <u>♂</u> 57'44	1°50'34	opposition	327 May 07 j 15:59	16° <u>♂</u> 06'36	1°50'12
max. Earth dist.	320 Oct 23 j 20:00	1° <u>♂</u> 56'09	31.30976 AU	min. Earth dist.	327 May 08 j 04:15	16° <u>♂</u> 05'46	29.28832 AU
morning rise	320 Nov 08 j 18:39	2° <u>♂</u> 31'51			327 Jun 24 j 00:17	15° <u>♂</u>	
retrograde	321 Feb 03 j 19:40	4° <u>♂</u> 24'49		direct	327 Jul 27 j 18:28	14° <u>♂</u> 42'32	
opposition	321 Apr 23 j 13:46	3° <u>♂</u> 02'46	1°57'45		327 Aug 29 j 13:21	15° <u>♂</u>	
min. Earth dist.	321 Apr 24 j 05:03	3° <u>♂</u> 01'44	29.31096 AU	evening set	327 Oct 25 j 00:16	16° <u>♂</u> 37'36	
direct	321 Jul 13 j 17:58	1° <u>♂</u> 38'32					
evening set	321 Oct 11 j 14:42	3° <u>♂</u> 34'05		conjunction	327 Nov 09 j 06:19	17° <u>♂</u> 11'49	1°42'20
				minimum elong	327 Nov 09 j 06:19	17° <u>♂</u> 11'49	1°42'20
conjunction	321 Oct 26 j 22:29	4° <u>♂</u> 08'22	1°49'51	max. Earth dist.	327 Nov 08 j 17:45	17° <u>♂</u> 10'38	31.28505 AU
minimum elong	321 Oct 26 j 22:29	4° <u>♂</u> 08'22	1°49'51	morning rise	327 Nov 24 j 10:59	17° <u>♂</u> 45'56	
max. Earth dist.	321 Oct 26 j 06:47	4° <u>♂</u> 06'54	31.30929 AU	retrograde	328 Feb 19 j 23:04	19° <u>♂</u> 39'29	
morning rise	321 Nov 11 j 03:53	4° <u>♂</u> 42'29		opposition	328 May 09 j 04:28	18° <u>♂</u> 17'04	1°48'23
retrograde	322 Feb 06 j 05:15	6° <u>♂</u> 35'33		min. Earth dist.	328 May 09 j 15:36	18° <u>♂</u> 16'19	29.28409 AU
opposition	322 Apr 26 j 02:08	5° <u>♂</u> 13'29	1°56'54	direct	328 Jul 29 j 05:06	16° <u>♂</u> 53'03	
min. Earth dist.	322 Apr 26 j 18:01	5° <u>♂</u> 12'24	29.30982 AU	evening set	328 Oct 26 j 09:30	18° <u>♂</u> 48'02	
direct	322 Jul 16 j 05:24	3° <u>♂</u> 49'18					
evening set	322 Oct 14 j 00:35	5° <u>♂</u> 44'47		conjunction	328 Nov 10 j 15:33	19° <u>♂</u> 22'15	1°40'33
				minimum elong	328 Nov 10 j 15:33	19° <u>♂</u> 22'15	1°40'33
conjunction	322 Oct 29 j 07:55	6° <u>♂</u> 19'03	1°48'58	max. Earth dist.	328 Nov 10 j 05:06	19° <u>♂</u> 21'16	31.28128 AU
minimum elong	322 Oct 29 j 07:55	6° <u>♂</u> 19'03	1°48'58	morning rise	328 Nov 25 j 19:59	19° <u>♂</u> 56'22	
max. Earth dist.	322 Oct 28 j 16:05	6° <u>♂</u> 17'34	31.30754 AU	retrograde	329 Feb 21 j 07:38	21° <u>♂</u> 50'01	
morning rise	322 Nov 13 j 13:12	6° <u>♂</u> 53'10		opposition	329 May 11 j 16:52	20° <u>♂</u> 27'35	1°46'25
retrograde	323 Feb 08 j 17:01	8° <u>♂</u> 46'18		min. Earth dist.	329 May 12 j 03:24	20° <u>♂</u> 26'52	29.28071 AU
opposition	323 Apr 28 j 14:24	7° <u>♂</u> 24'12	1°55'53	direct	329 Jul 31 j 17:28	19° <u>♂</u> 03'38	

evening set	329 Oct 28 j 18:52	20° \mathbb{M} 58'33		conjunction	335 Nov 26 j 07:55	4° \mathbb{A} 38'50	1°24'11
				minimum elong	335 Nov 26 j 07:55	4° \mathbb{A} 38'50	1°24'12
conjunction	329 Nov 13 j 00:37	21° \mathbb{M} 32'46	1°38'38	max. Earth dist.	335 Nov 26 j 02:44	4° \mathbb{A} 38'20	31.25741 AU
minimum elong	329 Nov 13 j 00:37	21° \mathbb{M} 32'46	1°38'39	morning rise	335 Dec 11 j 12:28	5° \mathbb{A} 13'02	
max. Earth dist.	329 Nov 12 j 14:08	21° \mathbb{M} 31'47	31.27845 AU	retrograde	336 Mar 08 j 16:19	7° \mathbb{A} 07'33	
morning rise	329 Nov 28 j 05:11	22° \mathbb{M} 06'54		opposition	336 May 27 j 10:06	5° \mathbb{A} 44'54	1°28'26
retrograde	330 Feb 23 j 19:41	24° \mathbb{M} 00'40		min. Earth dist.	336 May 27 j 15:08	5° \mathbb{A} 44'34	29.25441 AU
opposition	330 May 14 j 05:17	22° \mathbb{M} 38'13	1°44'17	direct	336 Aug 16 j 00:11	4° \mathbb{A} 21'23	
min. Earth dist.	330 May 14 j 14:04	22° \mathbb{M} 37'37	29.27817 AU	evening set	336 Nov 12 j 12:06	6° \mathbb{A} 15'49	
direct	330 Aug 03 j 03:46	21° \mathbb{M} 14'20					
evening set	330 Oct 31 j 04:01	23° \mathbb{M} 09'12		conjunction	336 Nov 27 j 17:13	6° \mathbb{A} 50'04	1°21'20
				minimum elong	336 Nov 27 j 17:13	6° \mathbb{A} 50'04	1°21'20
conjunction	330 Nov 15 j 09:43	23° \mathbb{M} 43'25	1°36'34	max. Earth dist.	336 Nov 27 j 11:37	6° \mathbb{A} 49'32	31.24986 AU
minimum elong	330 Nov 15 j 09:43	23° \mathbb{M} 43'25	1°36'33	morning rise	336 Dec 12 j 22:04	7° \mathbb{A} 24'18	
max. Earth dist.	330 Nov 15 j 00:54	23° \mathbb{M} 42'35	31.27610 AU	retrograde	337 Mar 11 j 04:08	9° \mathbb{A} 18'54	
morning rise	330 Nov 30 j 14:07	24° \mathbb{M} 17'34		opposition	337 May 29 j 22:53	7° \mathbb{A} 56'09	1°25'19
retrograde	331 Feb 26 j 05:10	26° \mathbb{M} 11'28		min. Earth dist.	337 May 30 j 03:17	7° \mathbb{A} 55'52	29.24622 AU
opposition	331 May 16 j 17:58	24° \mathbb{M} 49'00	1°42'00	direct	337 Aug 18 j 11:22	6° \mathbb{A} 32'38	
min. Earth dist.	331 May 17 j 02:49	24° \mathbb{M} 48'24	29.27591 AU	evening set	337 Nov 14 j 21:19	8° \mathbb{A} 26'58	
direct	331 Aug 05 j 14:46	23° \mathbb{M} 25'13					
evening set	331 Nov 02 j 13:19	25° \mathbb{M} 20'01		conjunction	337 Nov 30 j 02:36	9° \mathbb{A} 01'14	1°18'22
				minimum elong	337 Nov 30 j 02:37	9° \mathbb{A} 01'14	1°18'22
conjunction	331 Nov 17 j 18:50	25° \mathbb{M} 54'14	1°34'22	max. Earth dist.	337 Nov 29 j 22:43	9° \mathbb{A} 00'51	31.24111 AU
minimum elong	331 Nov 17 j 18:50	25° \mathbb{M} 54'14	1°34'22	morning rise	337 Dec 15 j 07:25	9° \mathbb{A} 35'29	
max. Earth dist.	331 Nov 17 j 10:30	25° \mathbb{M} 53'27	31.27401 AU	retrograde	338 Mar 13 j 13:42	11° \mathbb{A} 30'09	
morning rise	331 Dec 02 j 23:19	26° \mathbb{M} 28'23		opposition	338 Jun 01 j 11:51	10° \mathbb{A} 07'18	1°22'05
retrograde	332 Feb 28 j 17:08	28° \mathbb{M} 22'26		min. Earth dist.	338 Jun 01 j 15:55	10° \mathbb{A} 07'02	29.23697 AU
opposition	332 May 18 j 06:35	26° \mathbb{M} 59'57	1°39'34	direct	338 Aug 21 j 00:59	8° \mathbb{A} 43'47	
min. Earth dist.	332 May 18 j 13:38	26° \mathbb{M} 59'28	29.27362 AU	evening set	338 Nov 17 j 06:31	10° \mathbb{A} 38'00	
direct	332 Aug 07 j 01:23	25° \mathbb{M} 36'14					
evening set	332 Nov 03 j 22:33	27° \mathbb{M} 30'59		conjunction	338 Dec 02 j 11:39	11° \mathbb{A} 12'16	1°15'17
				minimum elong	338 Dec 02 j 11:39	11° \mathbb{A} 12'16	1°15'16
conjunction	332 Nov 19 j 03:58	28° \mathbb{M} 05'13	1°32'01	max. Earth dist.	338 Dec 02 j 07:47	11° \mathbb{A} 11'54	31.23177 AU
minimum elong	332 Nov 19 j 03:59	28° \mathbb{M} 05'13	1°32'00	morning rise	338 Dec 17 j 16:44	11° \mathbb{A} 46'32	
max. Earth dist.	332 Nov 18 j 20:29	28° \mathbb{M} 04'30	31.27146 AU	retrograde	339 Mar 16 j 01:52	13° \mathbb{A} 41'17	
morning rise	332 Dec 04 j 08:28	28° \mathbb{M} 39'23		opposition	339 Jun 04 j 00:45	12° \mathbb{A} 18'21	1°18'45
	333 Jan 15 j 23:31	0° \mathbb{A}		min. Earth dist.	339 Jun 04 j 03:03	12° \mathbb{A} 18'11	29.22758 AU
retrograde	333 Mar 02 j 04:42	0° \mathbb{A} 33'34		direct	339 Aug 23 j 12:26	10° \mathbb{A} 54'49	
	333 Apr 18 j 10:29	30° \mathbb{R} \mathbb{M}		evening set	339 Nov 19 j 15:38	12° \mathbb{A} 48'55	
opposition	333 May 20 j 19:25	29° \mathbb{M} 11'03	1°37'00				
min. Earth dist.	333 May 21 j 02:49	29° \mathbb{M} 10'34	29.27072 AU	conjunction	339 Dec 04 j 20:54	13° \mathbb{A} 23'11	1°12'06
direct	333 Aug 09 j 10:35	27° \mathbb{M} 47'25		minimum elong	339 Dec 04 j 20:54	13° \mathbb{A} 23'11	1°12'06
evening set	333 Nov 06 j 07:53	29° \mathbb{M} 42'06		max. Earth dist.	339 Dec 04 j 18:39	13° \mathbb{A} 22'59	31.22248 AU
	333 Nov 14 j 08:07	0° \mathbb{A}		morning rise	339 Dec 20 j 02:01	13° \mathbb{A} 57'29	
				retrograde	340 Mar 17 j 11:05	15° \mathbb{A} 52'20	
conjunction	333 Nov 21 j 13:16	0° \mathbb{A} 16'20	1°29'32	opposition	340 Jun 05 j 13:43	14° \mathbb{A} 29'18	1°15'17
minimum elong	333 Nov 21 j 13:16	0° \mathbb{A} 16'20	1°29'32	min. Earth dist.	340 Jun 05 j 15:53	14° \mathbb{A} 29'09	29.21858 AU
max. Earth dist.	333 Nov 21 j 06:44	0° \mathbb{A} 15'43	31.26812 AU	direct	340 Aug 24 j 23:53	13° \mathbb{A} 05'47	
morning rise	333 Dec 06 j 17:44	0° \mathbb{A} 50'31		evening set	340 Nov 21 j 00:45	14° \mathbb{A} 59'48	
retrograde	334 Mar 04 j 16:18	2° \mathbb{A} 44'49					
opposition	334 May 23 j 08:05	1° \mathbb{A} 22'17	1°34'16	conjunction	340 Dec 06 j 06:01	15° \mathbb{A} 34'04	1°08'49
min. Earth dist.	334 May 23 j 14:01	1° \mathbb{A} 21'53	29.26667 AU	minimum elong	340 Dec 06 j 06:01	15° \mathbb{A} 34'04	1°08'48
	334 Aug 03 j 02:11	30° \mathbb{R} \mathbb{M}		max. Earth dist.	340 Dec 06 j 04:37	15° \mathbb{A} 33'57	31.21398 AU
direct	334 Aug 11 j 23:44	29° \mathbb{M} 58'42		morning rise	340 Dec 21 j 11:23	16° \mathbb{A} 08'23	
	334 Aug 20 j 22:23	0° \mathbb{A}		retrograde	341 Mar 19 j 22:35	18° \mathbb{A} 03'21	
evening set	334 Nov 08 j 17:23	1° \mathbb{A} 53'19		opposition	341 Jun 08 j 02:30	16° \mathbb{A} 40'15	1°11'43
				min. Earth dist.	341 Jun 08 j 02:31	16° \mathbb{A} 40'15	29.21041 AU
conjunction	334 Nov 23 j 22:34	2° \mathbb{A} 27'34	1°26'55	direct	341 Aug 27 j 10:47	15° \mathbb{A} 16'46	
minimum elong	334 Nov 23 j 22:35	2° \mathbb{A} 27'34	1°26'54	evening set	341 Nov 23 j 09:55	17° \mathbb{A} 10'42	
max. Earth dist.	334 Nov 23 j 15:53	2° \mathbb{A} 26'56	31.26345 AU				
morning rise	334 Dec 09 j 03:11	3° \mathbb{A} 01'46		conjunction	341 Dec 08 j 15:12	17° \mathbb{A} 45'00	1°05'25
retrograde	335 Mar 07 j 05:40	4° \mathbb{A} 56'10		minimum elong	341 Dec 08 j 15:12	17° \mathbb{A} 45'00	1°05'25
opposition	335 May 25 j 21:07	3° \mathbb{A} 33'35	1°31'25	max. Earth dist.	341 Dec 08 j 14:47	17° \mathbb{A} 44'58	31.20620 AU
min. Earth dist.	335 May 26 j 03:01	3° \mathbb{A} 33'11	29.26135 AU	morning rise	341 Dec 23 j 20:45	18° \mathbb{A} 19'20	
direct	335 Aug 14 j 10:54	2° \mathbb{A} 10'03		retrograde	342 Mar 22 j 10:03	20° \mathbb{A} 14'27	
evening set	335 Nov 11 j 02:37	4° \mathbb{A} 04'35		opposition	342 Jun 10 j 15:26	18° \mathbb{A} 51'17	1°08'02
				min. Earth dist.	342 Jun 10 j 15:24	18° \mathbb{A} 51'17	29.20308 AU

direct	342 Aug 29 j 19:59	17° \mathring{A} 27'51		minimum elong	348 Dec 23 j 09:22	3° \mathring{B} 06'16	0°39'12
evening set	342 Nov 25 j 19:03	19° \mathring{A} 21'44		max. Earth dist.	348 Dec 23 j 14:46	3° \mathring{B} 06'47	31.15380 AU
				morning rise	349 Jan 07 j 16:36	3° \mathring{B} 40'50	
conjunction	342 Dec 11 j 00:29	19° \mathring{A} 56'02	1°01'56	retrograde	349 Apr 06 j 23:06	5° \mathring{B} 36'55	
minimum elong	342 Dec 11 j 00:29	19° \mathring{A} 56'02	1°01'55	opposition	349 Jun 26 j 11:00	4° \mathring{B} 13'28	0°39'44
max. Earth dist.	342 Dec 11 j 01:37	19° \mathring{A} 56'09	31.19937 AU	min. Earth dist.	349 Jun 26 j 05:36	4° \mathring{B} 13'50	29.14844 AU
morning rise	342 Dec 26 j 06:10	20° \mathring{A} 30'25		direct	349 Sep 14 j 05:51	2° \mathring{B} 50'22	
retrograde	343 Mar 24 j 22:04	22° \mathring{A} 25'39		evening set	349 Dec 10 j 12:43	4° \mathring{B} 43'54	
opposition	343 Jun 13 j 04:23	21° \mathring{A} 02'28	1°04'15				
min. Earth dist.	343 Jun 13 j 02:20	21° \mathring{A} 02'36	29.19643 AU	conjunction	349 Dec 25 j 19:02	5° \mathring{B} 18'22	0°35'11
direct	343 Sep 01 j 08:20	19° \mathring{A} 39'05		minimum elong	349 Dec 25 j 19:02	5° \mathring{B} 18'22	0°35'12
evening set	343 Nov 28 j 04:12	21° \mathring{A} 32'56		max. Earth dist.	349 Dec 26 j 00:57	5° \mathring{B} 18'55	31.14254 AU
				morning rise	350 Jan 10 j 02:34	5° \mathring{B} 52'57	
conjunction	343 Dec 13 j 09:37	22° \mathring{A} 07'15	0°58'20	retrograde	350 Apr 09 j 10:41	7° \mathring{B} 49'08	
minimum elong	343 Dec 13 j 09:37	22° \mathring{A} 07'15	0°58'21	opposition	350 Jun 29 j 00:02	6° \mathring{B} 25'35	0°35'24
max. Earth dist.	343 Dec 13 j 10:58	22° \mathring{A} 07'23	31.19298 AU	min. Earth dist.	350 Jun 28 j 16:57	6° \mathring{B} 26'04	29.13662 AU
morning rise	343 Dec 28 j 15:39	22° \mathring{A} 41'40		direct	350 Sep 16 j 17:28	5° \mathring{B} 02'28	
retrograde	344 Mar 26 j 12:00	24° \mathring{A} 37'03		evening set	350 Dec 12 j 22:15	6° \mathring{B} 55'54	
opposition	344 Jun 14 j 17:28	23° \mathring{A} 13'50	1°00'22				
min. Earth dist.	344 Jun 14 j 15:06	23° \mathring{A} 14'00	29.19018 AU	conjunction	350 Dec 28 j 04:41	7° \mathring{B} 30'23	0°31'07
direct	344 Sep 02 j 18:21	21° \mathring{A} 50'32		minimum elong	350 Dec 28 j 04:41	7° \mathring{B} 30'23	0°31'06
evening set	344 Nov 29 j 13:26	23° \mathring{A} 44'20		max. Earth dist.	350 Dec 28 j 11:11	7° \mathring{B} 31'00	31.13043 AU
				morning rise	351 Jan 12 j 12:35	8° \mathring{B} 05'01	
conjunction	344 Dec 14 j 19:06	24° \mathring{A} 18'41	0°54'40	retrograde	351 Apr 11 j 22:11	10° \mathring{B} 01'18	
minimum elong	344 Dec 14 j 19:07	24° \mathring{A} 18'41	0°54'39	opposition	351 Jul 01 j 13:17	8° \mathring{B} 37'38	0°31'02
max. Earth dist.	344 Dec 14 j 22:19	24° \mathring{A} 19'00	31.18672 AU	min. Earth dist.	351 Jul 01 j 06:24	8° \mathring{B} 38'06	29.12446 AU
morning rise	344 Dec 30 j 01:13	24° \mathring{A} 53'07		direct	351 Sep 19 j 03:18	7° \mathring{B} 14'29	
retrograde	345 Mar 28 j 23:22	26° \mathring{A} 48'40		evening set	351 Dec 15 j 07:34	9° \mathring{B} 07'50	
opposition	345 Jun 17 j 06:19	25° \mathring{A} 25'26	0°56'24				
min. Earth dist.	345 Jun 17 j 02:55	25° \mathring{A} 25'39	29.18367 AU	conjunction	351 Dec 30 j 14:20	9° \mathring{B} 42'19	0°27'01
direct	345 Sep 05 j 06:27	24° \mathring{A} 02'11		minimum elong	351 Dec 30 j 14:20	9° \mathring{B} 42'19	0°27'01
evening set	345 Dec 01 j 22:52	25° \mathring{A} 55'58		max. Earth dist.	351 Dec 30 j 22:24	9° \mathring{B} 43'05	31.11838 AU
				morning rise	352 Jan 14 j 22:28	10° \mathring{B} 16'59	
conjunction	345 Dec 17 j 04:29	26° \mathring{A} 30'20	0°50'55	retrograde	352 Apr 13 j 09:43	12° \mathring{B} 13'22	
minimum elong	345 Dec 17 j 04:29	26° \mathring{A} 30'20	0°50'55	opposition	352 Jul 03 j 02:17	10° \mathring{B} 49'35	0°26'37
max. Earth dist.	345 Dec 17 j 07:26	26° \mathring{A} 30'37	31.18004 AU	min. Earth dist.	352 Jul 02 j 17:31	10° \mathring{B} 50'11	29.11256 AU
morning rise	346 Jan 01 j 11:00	27° \mathring{A} 04'48		direct	352 Sep 20 j 15:52	9° \mathring{B} 26'24	
retrograde	346 Mar 31 j 12:42	29° \mathring{A} 00'30		evening set	352 Dec 16 j 17:11	11° \mathring{B} 19'41	
opposition	346 Jun 19 j 19:26	27° \mathring{A} 37'14	0°52'20				
min. Earth dist.	346 Jun 19 j 15:18	27° \mathring{A} 37'30	29.17667 AU	conjunction	352 Dec 31 j 23:59	11° \mathring{B} 54'12	0°22'52
direct	346 Sep 07 j 17:12	26° \mathring{A} 14'03		minimum elong	352 Dec 31 j 23:59	11° \mathring{B} 54'12	0°22'51
evening set	346 Dec 04 j 08:09	28° \mathring{A} 07'47		max. Earth dist.	353 Jan 01 j 08:08	11° \mathring{B} 54'58	31.10683 AU
				morning rise	353 Jan 16 j 08:34	12° \mathring{B} 28'53	
conjunction	346 Dec 19 j 14:02	28° \mathring{A} 42'11	0°47'05	retrograde	353 Apr 15 j 22:58	14° \mathring{B} 25'22	
minimum elong	346 Dec 19 j 14:02	28° \mathring{A} 42'11	0°47'04	opposition	353 Jul 05 j 15:13	13° \mathring{B} 01'29	0°22'09
max. Earth dist.	346 Dec 19 j 18:41	28° \mathring{A} 42'37	31.17251 AU	min. Earth dist.	353 Jul 05 j 06:03	13° \mathring{B} 02'06	29.10158 AU
morning rise	347 Jan 03 j 20:38	29° \mathring{A} 16'41		direct	353 Sep 23 j 01:08	11° \mathring{B} 38'18	
	347 Jan 24 j 11:59	0° \mathring{B}		evening set	353 Dec 19 j 02:37	13° \mathring{B} 31'31	
retrograde	347 Apr 02 j 23:58	1° \mathring{B} 12'31					
	347 Jun 15 j 16:39	30° \mathring{R} \mathring{A}		conjunction	354 Jan 03 j 09:48	14° \mathring{B} 06'03	0°18'41
opposition	347 Jun 22 j 08:41	29° \mathring{A} 49'13	0°48'12	minimum elong	354 Jan 03 j 09:48	14° \mathring{B} 06'03	0°18'41
min. Earth dist.	347 Jun 22 j 04:17	29° \mathring{A} 49'30	29.16853 AU	max. Earth dist.	354 Jan 03 j 20:02	14° \mathring{B} 07'01	31.09637 AU
direct	347 Sep 10 j 06:37	28° \mathring{A} 26'05		morning rise	354 Jan 18 j 18:32	14° \mathring{B} 40'45	
	347 Nov 27 j 15:08	0° \mathring{B}		retrograde	354 Apr 18 j 10:19	16° \mathring{B} 37'21	
evening set	347 Dec 06 j 17:44	0° \mathring{B} 19'46		opposition	354 Jul 08 j 04:13	15° \mathring{B} 13'24	0°17'39
				min. Earth dist.	354 Jul 07 j 17:36	15° \mathring{B} 14'07	29.09163 AU
conjunction	347 Dec 21 j 23:38	0° \mathring{B} 54'11	0°43'10	direct	354 Sep 25 j 12:53	13° \mathring{B} 50'13	
minimum elong	347 Dec 21 j 23:38	0° \mathring{B} 54'11	0°43'11	evening set	354 Dec 21 j 12:08	15° \mathring{B} 43'23	
max. Earth dist.	347 Dec 22 j 04:03	0° \mathring{B} 54'36	31.16387 AU				
morning rise	348 Jan 06 j 06:38	1° \mathring{B} 28'43		conjunction	355 Jan 05 j 19:22	16° \mathring{B} 17'56	0°14'28
retrograde	348 Apr 04 j 13:32	3° \mathring{B} 24'41		minimum elong	355 Jan 05 j 19:22	16° \mathring{B} 17'56	0°14'28
opposition	348 Jun 23 j 21:45	2° \mathring{B} 01'19	0°44'00	behind sun begin	355 Jan 05 j 16:21	16° \mathring{B} 17'40	
min. Earth dist.	348 Jun 23 j 16:01	2° \mathring{B} 01'42	29.15922 AU	behind sun end	355 Jan 05 j 22:23	16° \mathring{B} 18'13	
direct	348 Sep 11 j 17:59	0° \mathring{B} 38'12		max. Earth dist.	355 Jan 06 j 05:43	16° \mathring{B} 18'54	31.08707 AU
evening set	348 Dec 08 j 03:13	2° \mathring{B} 31'50		morning rise	355 Jan 21 j 04:37	16° \mathring{B} 52'41	
				retrograde	355 Apr 21 j 00:27	18° \mathring{B} 49'24	
conjunction	348 Dec 23 j 09:22	3° \mathring{B} 06'16	0°39'12	opposition	355 Jul 10 j 17:18	17° \mathring{B} 25'23	0°13'08

min. Earth dist.	355 Jul 10 j 05:38	17° $\overline{3}$ 26'10	29.08293 AU	behind sun begin	361 Jan 18 j 03:38	29° $\overline{3}$ 32'09	
direct	355 Sep 27 j 23:34	16° $\overline{3}$ 02'14		behind sun end	361 Jan 18 j 13:10	29° $\overline{3}$ 33'01	
evening set	355 Dec 23 j 21:42	17° $\overline{3}$ 55'22		max. Earth dist.	361 Jan 18 j 23:52	29° $\overline{3}$ 34'03	31.03946 AU
					361 Jan 30 j 10:27	0° \approx	
conjunction	356 Jan 08 j 05:19	18° $\overline{3}$ 29'56	0°10'14	morning rise	361 Feb 02 j 19:39	0° \approx 07'33	
minimum elong	356 Jan 08 j 05:19	18° $\overline{3}$ 29'56	0°10'15	retrograde	361 May 04 j 03:07	2° \approx 05'04	
behind sun begin	356 Jan 08 j 00:10	18° $\overline{3}$ 29'29		opposition	361 Jul 23 j 23:37	0° \approx 40'48	-0°14'18
behind sun end	356 Jan 08 j 10:27	18° $\overline{3}$ 30'24		min. Earth dist.	361 Jul 23 j 07:56	0° \approx 41'52	29.03455 AU
max. Earth dist.	356 Jan 08 j 17:37	18° $\overline{3}$ 31'06	31.07880 AU		361 Aug 18 j 23:45	30° $\overline{8}$ $\overline{3}$	
morning rise	356 Jan 23 j 14:47	19° $\overline{3}$ 04'43		direct	361 Oct 10 j 20:42	29° $\overline{3}$ 17'51	
retrograde	356 Apr 22 j 12:45	21° $\overline{3}$ 01'34			361 Nov 30 j 05:37	0° \approx	
opposition	356 Jul 12 j 06:15	19° $\overline{3}$ 37'29	0°08'35	evening set	362 Jan 05 j 09:54	1° \approx 10'51	
min. Earth dist.	356 Jul 11 j 18:05	19° $\overline{3}$ 38'19	29.07505 AU				
direct	356 Sep 29 j 12:12	18° $\overline{3}$ 14'23		conjunction	362 Jan 20 j 18:55	1° \approx 45'35	-0°15'30
evening set	356 Dec 25 j 07:26	20° $\overline{3}$ 07'29		minimum elong	362 Jan 20 j 18:55	1° \approx 45'35	0°15'29
				behind sun begin	362 Jan 20 j 16:59	1° \approx 45'24	
conjunction	357 Jan 09 j 15:13	20° $\overline{3}$ 42'05	0°05'59	behind sun end	362 Jan 20 j 20:52	1° \approx 45'45	
minimum elong	357 Jan 09 j 15:13	20° $\overline{3}$ 42'05	0°05'59	max. Earth dist.	362 Jan 21 j 09:49	1° \approx 46'59	31.02913 AU
behind sun begin	357 Jan 09 j 09:06	20° $\overline{3}$ 41'32		morning rise	362 Feb 05 j 06:43	2° \approx 20'34	
behind sun end	357 Jan 09 j 21:20	20° $\overline{3}$ 42'39		retrograde	362 May 06 j 16:30	4° \approx 18'12	
max. Earth dist.	357 Jan 10 j 03:38	20° $\overline{3}$ 43'15	31.07133 AU	opposition	362 Jul 26 j 12:49	2° \approx 53'51	-0°18'51
morning rise	357 Jan 25 j 01:09	21° $\overline{3}$ 16'54		min. Earth dist.	362 Jul 25 j 21:21	2° \approx 54'54	29.02378 AU
retrograde	357 Apr 25 j 02:40	23° $\overline{3}$ 13'53		direct	362 Oct 13 j 06:01	1° \approx 30'53	
opposition	357 Jul 14 j 19:14	21° $\overline{3}$ 49'47	0°04'01	evening set	363 Jan 07 j 19:58	3° \approx 23'50	
min. Earth dist.	357 Jul 14 j 05:33	21° $\overline{3}$ 50'42	29.06777 AU				
direct	357 Oct 01 j 23:04	20° $\overline{3}$ 26'42		conjunction	363 Jan 23 j 05:28	3° \approx 58'36	-0°19'44
evening set	357 Dec 27 j 17:12	22° $\overline{3}$ 19'48		minimum elong	363 Jan 23 j 05:28	3° \approx 58'36	0°19'44
				max. Earth dist.	363 Jan 23 j 21:59	4° \approx 00'09	31.01794 AU
conjunction	358 Jan 12 j 01:15	22° $\overline{3}$ 54'25	0°01'42	morning rise	363 Feb 07 j 17:30	4° \approx 33'37	
minimum elong	358 Jan 12 j 01:13	22° $\overline{3}$ 54'25	0°01'42	retrograde	363 May 09 j 04:20	6° \approx 31'20	
behind sun begin	358 Jan 11 j 18:49	22° $\overline{3}$ 53'51		min. Earth dist.	363 Jul 28 j 09:29	5° \approx 08'02	29.01229 AU
behind sun end	358 Jan 12 j 07:38	22° $\overline{3}$ 55'00		opposition	363 Jul 29 j 01:51	5° \approx 06'54	-0°23'22
max. Earth dist.	358 Jan 12 j 14:51	22° $\overline{3}$ 55'42	31.06402 AU	direct	363 Oct 15 j 17:52	3° \approx 43'55	
morning rise	358 Jan 27 j 11:27	23° $\overline{3}$ 29'17		evening set	364 Jan 10 j 06:22	5° \approx 36'50	
retrograde	358 Apr 27 j 13:44	25° $\overline{3}$ 26'24					
desc. node	358 Jun 01 j 18:35	25° $\overline{3}$ 07'20		conjunction	364 Jan 25 j 16:02	6° \approx 11'37	-0°23'56
opposition	358 Jul 17 j 08:23	24° $\overline{3}$ 02'16	-0°00'34	minimum elong	364 Jan 25 j 16:02	6° \approx 11'37	0°23'56
min. Earth dist.	358 Jul 16 j 18:54	24° $\overline{3}$ 03'11	29.06047 AU	max. Earth dist.	364 Jan 26 j 08:11	6° \approx 13'08	31.00643 AU
direct	358 Oct 04 j 10:48	22° $\overline{3}$ 39'15		morning rise	364 Feb 10 j 04:38	6° \approx 46'40	
evening set	358 Dec 30 j 03:10	24° $\overline{3}$ 32'18		retrograde	364 May 10 j 18:49	8° \approx 44'28	
				opposition	364 Jul 30 j 14:43	7° \approx 19'56	-0°27'51
conjunction	359 Jan 14 j 11:28	25° $\overline{3}$ 06'58	-0°02'43	min. Earth dist.	364 Jul 29 j 21:52	7° \approx 21'06	29.00096 AU
minimum elong	359 Jan 14 j 11:28	25° $\overline{3}$ 06'58	0°02'44	direct	364 Oct 17 j 04:35	5° \approx 56'55	
behind sun begin	359 Jan 14 j 05:05	25° $\overline{3}$ 06'23		evening set	365 Jan 11 j 16:40	7° \approx 49'48	
behind sun end	359 Jan 14 j 17:52	25° $\overline{3}$ 07'33					
max. Earth dist.	359 Jan 15 j 01:45	25° $\overline{3}$ 08'19	31.05667 AU	conjunction	365 Jan 27 j 02:45	8° \approx 24'37	-0°28'07
morning rise	359 Jan 29 j 22:02	25° $\overline{3}$ 41'51		minimum elong	365 Jan 27 j 02:45	8° \approx 24'37	0°28'07
retrograde	359 Apr 30 j 02:58	27° $\overline{3}$ 39'07		max. Earth dist.	365 Jan 27 j 20:34	8° \approx 26'18	30.99519 AU
opposition	359 Jul 19 j 21:27	26° $\overline{3}$ 14'57	-0°05'09	morning rise	365 Feb 11 j 15:37	8° \approx 59'42	
min. Earth dist.	359 Jul 19 j 06:25	26° $\overline{3}$ 15'58	29.05285 AU	retrograde	365 May 13 j 07:33	10° \approx 57'35	
direct	359 Oct 06 j 22:30	24° $\overline{3}$ 51'58		min. Earth dist.	365 Aug 01 j 10:23	9° \approx 34'09	28.99012 AU
evening set	360 Jan 01 j 13:17	26° $\overline{3}$ 45'01		opposition	365 Aug 02 j 03:38	9° \approx 32'59	-0°32'17
				direct	365 Oct 19 j 17:11	8° \approx 09'56	
conjunction	360 Jan 16 j 21:47	27° $\overline{3}$ 19'42	-0°06'59	evening set	366 Jan 14 j 03:00	10° \approx 02'48	
minimum elong	360 Jan 16 j 21:47	27° $\overline{3}$ 19'42	0°06'59				
behind sun begin	360 Jan 16 j 15:50	27° $\overline{3}$ 19'10		conjunction	366 Jan 29 j 13:18	10° \approx 37'38	-0°32'15
behind sun end	360 Jan 17 j 03:45	27° $\overline{3}$ 20'14		minimum elong	366 Jan 29 j 13:18	10° \approx 37'38	0°32'14
max. Earth dist.	360 Jan 17 j 12:15	27° $\overline{3}$ 21'04	31.04856 AU	max. Earth dist.	366 Jan 30 j 07:14	10° \approx 39'20	30.98488 AU
morning rise	360 Feb 01 j 08:48	27° $\overline{3}$ 54'37		morning rise	366 Feb 14 j 02:38	11° \approx 12'45	
retrograde	360 May 01 j 15:12	29° $\overline{3}$ 52'01		retrograde	366 May 15 j 21:36	13° \approx 10'45	
opposition	360 Jul 21 j 10:41	28° $\overline{3}$ 27'49	-0°09'44	opposition	366 Aug 04 j 16:31	11° \approx 46'04	-0°36'41
min. Earth dist.	360 Jul 20 j 20:18	28° $\overline{3}$ 28'47	29.04432 AU	min. Earth dist.	366 Aug 03 j 21:46	11° \approx 47'21	28.98042 AU
direct	360 Oct 08 j 08:32	27° $\overline{3}$ 04'51		direct	366 Oct 22 j 04:02	10° \approx 23'00	
evening set	361 Jan 02 j 23:30	28° $\overline{3}$ 57'53		evening set	367 Jan 16 j 13:29	12° \approx 15'52	
conjunction	361 Jan 18 j 08:24	29° $\overline{3}$ 32'35	-0°11'15	conjunction	367 Feb 01 j 00:07	12° \approx 50'44	-0°36'20
minimum elong	361 Jan 18 j 08:24	29° $\overline{3}$ 32'35	0°11'15	minimum elong	367 Feb 01 j 00:07	12° \approx 50'44	0°36'20

max. Earth dist.	367 Feb 01 j 19:11	12°52'32	30.97566 AU	retrograde	373 May 31 j 16:22	28°46'54	
morning rise	367 Feb 16 j 13:48	13°25'53		opposition	373 Aug 20 j 10:23	27°22'01	-1°05'41
	367 Apr 09 j 17:18	15°		min. Earth dist.	373 Aug 19 j 13:12	27°23'29	28.93202 AU
retrograde	367 May 18 j 09:40	15°23'59		direct	373 Nov 06 j 09:33	25°59'04	
	367 Jun 27 j 01:06	15°		evening set	374 Jan 31 j 18:06	27°52'01	
min. Earth dist.	367 Aug 06 j 10:46	14°00'31	28.97190 AU				
opposition	367 Aug 07 j 05:25	13°59'15	-0°41'02	conjunction	374 Feb 16 j 07:11	28°27'03	-1°03'12
direct	367 Oct 24 j 16:07	12°36'12		minimum elong	374 Feb 16 j 07:11	28°27'03	1°03'11
evening set	368 Jan 18 j 23:58	14°29'04		max. Earth dist.	374 Feb 17 j 05:31	28°29'10	30.92712 AU
	368 Feb 01 j 17:25	15°		morning rise	374 Mar 03 j 23:38	29°02'26	
					374 Apr 01 j 04:30	0°	
conjunction	368 Feb 03 j 11:00	15°03'57	-0°40'22	retrograde	374 Jun 03 j 04:54	1°01'14	
minimum elong	368 Feb 03 j 11:00	15°03'57	0°40'22		374 Aug 08 j 11:02	30°	
max. Earth dist.	368 Feb 04 j 06:52	15°05'50	30.96778 AU	opposition	374 Aug 22 j 23:18	29°36'16	-1°09'30
morning rise	368 Feb 19 j 01:05	15°39'08		min. Earth dist.	374 Aug 22 j 02:21	29°37'43	28.92320 AU
retrograde	368 May 20 j 00:12	17°37'20		direct	374 Nov 08 j 21:37	28°13'18	
opposition	368 Aug 08 j 18:12	16°12'34	-0°45'19		375 Jan 31 j 09:39	0°	
min. Earth dist.	368 Aug 07 j 21:52	16°13'58	28.96454 AU	evening set	375 Feb 03 j 05:35	0°06'14	
	368 Oct 01 j 00:46	15°					
direct	368 Oct 26 j 04:22	14°49'33		conjunction	375 Feb 18 j 18:59	0°41'17	-1°06'43
	368 Nov 19 j 17:14	15°		minimum elong	375 Feb 18 j 18:59	0°41'17	1°06'43
evening set	369 Jan 20 j 10:43	16°42'25		max. Earth dist.	375 Feb 19 j 16:40	0°43'20	30.91789 AU
				morning rise	375 Mar 06 j 11:57	1°16'41	
conjunction	369 Feb 04 j 21:58	17°17'20	-0°44'21	retrograde	375 Jun 05 j 19:30	3°15'32	
minimum elong	369 Feb 04 j 21:58	17°17'20	0°44'22	opposition	375 Aug 25 j 12:00	1°50'30	-1°13'12
max. Earth dist.	369 Feb 05 j 18:08	17°19'14	30.96077 AU	min. Earth dist.	375 Aug 24 j 14:25	1°51'59	28.91362 AU
morning rise	369 Feb 20 j 12:31	17°52'33		direct	375 Nov 11 j 08:39	0°27'27	
retrograde	369 May 22 j 12:15	19°50'52		evening set	376 Feb 05 j 17:03	2°20'22	
min. Earth dist.	369 Aug 10 j 11:13	18°27'26	28.95803 AU				
opposition	369 Aug 11 j 07:01	18°26'04	-0°49'33	conjunction	376 Feb 21 j 06:52	2°55'28	-1°10'07
direct	369 Oct 28 j 14:37	17°03'05		minimum elong	376 Feb 21 j 06:52	2°55'28	1°10'07
evening set	370 Jan 22 j 21:26	18°55'58		max. Earth dist.	376 Feb 22 j 05:02	2°57'33	30.90791 AU
				morning rise	376 Mar 08 j 00:14	3°30'53	
conjunction	370 Feb 07 j 09:09	19°30'54	-0°48'16	retrograde	376 Jun 07 j 08:27	5°29'46	
minimum elong	370 Feb 07 j 09:09	19°30'54	0°48'16	min. Earth dist.	376 Aug 26 j 03:49	4°06'05	28.90357 AU
max. Earth dist.	370 Feb 08 j 06:37	19°32'56	30.95460 AU	opposition	376 Aug 27 j 00:43	4°04'38	-1°16'47
morning rise	370 Feb 22 j 23:58	20°06'10		direct	376 Nov 12 j 21:22	2°41'33	
retrograde	370 May 25 j 00:14	22°04'35		evening set	377 Feb 07 j 04:33	4°34'27	
opposition	370 Aug 13 j 19:49	20°39'47	-0°53'42				
min. Earth dist.	370 Aug 12 j 22:38	20°41'15	28.95203 AU	conjunction	377 Feb 22 j 18:46	5°09'33	-1°13'26
direct	370 Oct 31 j 02:28	19°16'50		minimum elong	377 Feb 22 j 18:45	5°09'33	1°13'26
evening set	371 Jan 25 j 08:22	21°09'44		max. Earth dist.	377 Feb 23 j 17:14	5°11'41	30.89793 AU
				morning rise	377 Mar 10 j 12:29	5°45'00	
conjunction	371 Feb 09 j 20:16	21°44'41	-0°52'07	retrograde	377 Jun 09 j 23:07	7°43'54	
minimum elong	371 Feb 09 j 20:15	21°44'41	0°52'08	opposition	377 Aug 29 j 13:07	6°18'42	-1°20'16
max. Earth dist.	371 Feb 10 j 17:14	21°46'41	30.94863 AU	min. Earth dist.	377 Aug 28 j 15:00	6°20'14	28.89383 AU
morning rise	371 Feb 25 j 11:40	22°19'59		direct	377 Nov 15 j 10:12	4°55'33	
retrograde	371 May 27 j 13:35	24°18'32		evening set	378 Feb 09 j 16:09	6°48'27	
opposition	371 Aug 16 j 08:47	22°53'42	-0°57'47				
min. Earth dist.	371 Aug 15 j 12:02	22°55'08	28.94610 AU	conjunction	378 Feb 25 j 06:38	7°23'35	-1°16'37
direct	371 Nov 02 j 11:28	21°30'46		minimum elong	378 Feb 25 j 06:37	7°23'35	1°16'37
evening set	372 Jan 27 j 19:28	23°23'41		max. Earth dist.	378 Feb 26 j 05:08	7°25'43	30.88843 AU
				morning rise	378 Mar 13 j 00:51	7°59'04	
conjunction	372 Feb 12 j 07:53	23°58'41	-0°55'54	retrograde	378 Jun 12 j 11:19	9°58'00	
minimum elong	372 Feb 12 j 07:53	23°58'41	0°55'53	min. Earth dist.	378 Aug 31 j 04:18	8°34'13	28.88493 AU
max. Earth dist.	372 Feb 13 j 06:09	24°00'47	30.94240 AU	opposition	378 Sep 01 j 01:43	8°32'44	-1°23'37
morning rise	372 Feb 27 j 23:31	24°34'00		direct	378 Nov 17 j 21:05	7°09'32	
retrograde	372 May 29 j 02:03	26°32'38		evening set	379 Feb 12 j 03:37	9°02'27	
opposition	372 Aug 17 j 21:28	25°07'48	-1°01'47				
min. Earth dist.	372 Aug 17 j 00:13	25°09'16	28.93952 AU	conjunction	379 Feb 27 j 18:39	9°37'36	-1°19'42
direct	372 Nov 03 j 23:11	23°44'52		minimum elong	379 Feb 27 j 18:39	9°37'36	1°19'42
evening set	373 Jan 29 j 06:52	25°37'49		max. Earth dist.	379 Feb 28 j 18:18	9°39'50	30.88007 AU
				morning rise	379 Mar 15 j 13:10	10°13'07	
conjunction	373 Feb 13 j 19:29	26°12'50	-0°59'36	retrograde	379 Jun 15 j 00:02	12°12'05	
minimum elong	373 Feb 13 j 19:29	26°12'49	0°59'36	opposition	379 Sep 03 j 14:05	10°46'46	-1°26'51
max. Earth dist.	373 Feb 14 j 16:48	26°14'51	30.93536 AU	min. Earth dist.	379 Sep 02 j 15:25	10°48'21	28.87715 AU
morning rise	373 Mar 01 j 11:40	26°48'11		direct	379 Nov 20 j 09:31	9°23'33	

evening set	380 Feb 14 j 15:27	11° ✕ 16'29		min. Earth dist.	386 Sep 18 j 05:45	26° ✕ 30'54	28.84417 AU
				opposition	386 Sep 19 j 04:19	26° ✕ 29'19	-1°45'33
conjunction	380 Mar 01 j 06:43	11° ✕ 51'40	-1°22'40	direct	386 Dec 05 j 15:24	25° ✕ 06'05	
minimum elong	380 Mar 01 j 06:43	11° ✕ 51'40	1°22'39	evening set	387 Mar 02 j 04:47	26° ✕ 59'23	
max. Earth dist.	380 Mar 02 j 05:44	11° ✕ 53'51	30.87285 AU				
morning rise	380 Mar 17 j 01:49	12° ✕ 27'13		conjunction	387 Mar 17 j 22:59	27° ✕ 34'47	-1°39'41
retrograde	380 Jun 16 j 13:23	14° ✕ 26'14		minimum elong	387 Mar 17 j 22:59	27° ✕ 34'47	1°39'41
min. Earth dist.	380 Sep 04 j 04:11	13° ✕ 02'26	28.87070 AU	max. Earth dist.	387 Mar 18 j 22:06	27° ✕ 36'58	30.84005 AU
opposition	380 Sep 05 j 02:25	13° ✕ 00'53	-1°29'57	morning rise	387 Apr 02 j 20:55	28° ✕ 10'31	
direct	380 Nov 21 j 18:56	11° ✕ 37'40			387 Jun 08 j 22:24	0° ∇	
evening set	381 Feb 16 j 03:11	13° ✕ 30'38		retrograde	387 Jul 03 j 12:19	0° ∇ 09'50	
					387 Jul 28 j 07:22	30° ✕	
conjunction	381 Mar 03 j 19:01	14° ✕ 05'51	-1°25'30	opposition	387 Sep 21 j 16:38	28° ✕ 44'28	-1°47'37
minimum elong	381 Mar 03 j 19:01	14° ✕ 05'51	1°25'30	min. Earth dist.	387 Sep 20 j 19:31	28° ✕ 45'57	28.83813 AU
max. Earth dist.	381 Mar 04 j 19:25	14° ✕ 08'10	30.86695 AU	direct	387 Dec 08 j 02:43	27° ✕ 21'11	
morning rise	381 Mar 19 j 14:21	14° ✕ 41'25		evening set	388 Mar 03 j 17:22	29° ✕ 14'30	
retrograde	381 Jun 19 j 01:29	16° ✕ 40'30					
opposition	381 Sep 07 j 14:45	15° ✕ 15'09	-1°32'55	conjunction	388 Mar 19 j 12:10	29° ✕ 49'55	-1°41'32
min. Earth dist.	381 Sep 06 j 15:46	15° ✕ 16'45	28.86535 AU	minimum elong	388 Mar 19 j 12:10	29° ✕ 49'55	1°41'31
direct	381 Nov 24 j 06:42	13° ✕ 51'56		max. Earth dist.	388 Mar 20 j 11:36	29° ✕ 52'08	30.83373 AU
evening set	382 Feb 18 j 15:01	15° ✕ 44'57			388 Mar 23 j 23:05	0° ∇	
				morning rise	388 Apr 04 j 10:24	0° ∇ 25'41	
conjunction	382 Mar 06 j 07:06	16° ✕ 20'11	-1°28'13	retrograde	388 Jul 05 j 02:18	2° ∇ 24'57	
minimum elong	382 Mar 06 j 07:06	16° ✕ 20'11	1°28'12	min. Earth dist.	388 Sep 22 j 06:51	1° ∇ 01'04	28.83159 AU
max. Earth dist.	382 Mar 07 j 06:48	16° ✕ 22'26	30.86217 AU	opposition	388 Sep 23 j 04:32	0° ∇ 59'32	-1°49'31
morning rise	382 Mar 22 j 03:01	16° ✕ 55'48			388 Nov 01 j 12:43	30° ✕	
retrograde	382 Jun 21 j 15:12	18° ✕ 54'56		direct	388 Dec 09 j 16:08	29° ✕ 36'11	
min. Earth dist.	382 Sep 09 j 04:11	17° ✕ 31'12	28.86111 AU		389 Jan 15 j 20:37	0° ∇	
opposition	382 Sep 10 j 03:11	17° ✕ 29'36	-1°35'44	evening set	389 Mar 06 j 06:06	1° ∇ 29'31	
direct	382 Nov 26 j 16:30	16° ✕ 06'23					
evening set	383 Feb 21 j 03:02	17° ✕ 59'28		conjunction	389 Mar 22 j 01:10	2° ∇ 04'57	-1°43'14
				minimum elong	389 Mar 22 j 01:10	2° ∇ 04'57	1°43'14
conjunction	383 Mar 08 j 19:39	18° ✕ 34'45	-1°30'47	max. Earth dist.	389 Mar 22 j 23:27	2° ∇ 07'04	30.82716 AU
minimum elong	383 Mar 08 j 19:39	18° ✕ 34'45	1°30'48	morning rise	389 Apr 06 j 23:57	2° ∇ 40'45	
max. Earth dist.	383 Mar 09 j 20:30	18° ✕ 37'05	30.85816 AU	retrograde	389 Jul 07 j 16:10	4° ∇ 39'59	
morning rise	383 Mar 24 j 15:51	19° ✕ 10'22		opposition	389 Sep 25 j 16:38	3° ∇ 14'30	-1°51'15
retrograde	383 Jun 24 j 03:37	21° ✕ 09'35		min. Earth dist.	389 Sep 24 j 19:52	3° ∇ 15'58	28.82526 AU
opposition	383 Sep 12 j 15:27	19° ✕ 44'15	-1°38'25	direct	389 Dec 12 j 03:02	1° ∇ 51'05	
min. Earth dist.	383 Sep 11 j 16:47	19° ✕ 45'50	28.85734 AU	evening set	390 Mar 08 j 18:31	3° ∇ 44'24	
direct	383 Nov 29 j 03:30	18° ✕ 21'04					
evening set	384 Feb 23 j 15:19	20° ✕ 14'13		conjunction	390 Mar 24 j 14:12	4° ∇ 19'53	-1°44'46
				minimum elong	390 Mar 24 j 14:12	4° ∇ 19'53	1°44'46
conjunction	384 Mar 10 j 08:17	20° ✕ 49'31	-1°33'13	max. Earth dist.	390 Mar 25 j 13:30	4° ∇ 22'04	30.82107 AU
minimum elong	384 Mar 10 j 08:17	20° ✕ 49'31	1°33'13	morning rise	390 Apr 09 j 13:14	4° ∇ 55'41	
max. Earth dist.	384 Mar 11 j 08:19	20° ✕ 51'47	30.85451 AU	retrograde	390 Jul 10 j 03:25	6° ∇ 54'52	
morning rise	384 Mar 26 j 05:00	21° ✕ 25'11		min. Earth dist.	390 Sep 27 j 07:19	5° ∇ 30'51	28.81955 AU
retrograde	384 Jun 25 j 18:42	23° ✕ 24'27		opposition	390 Sep 28 j 04:31	5° ∇ 29'22	-1°52'49
min. Earth dist.	384 Sep 13 j 04:44	22° ✕ 00'44	28.85366 AU	direct	390 Dec 14 j 15:47	4° ∇ 05'52	
opposition	384 Sep 14 j 03:45	21° ✕ 59'08	-1°40'57	evening set	391 Mar 11 j 07:20	5° ∇ 59'13	
direct	384 Nov 30 j 13:50	20° ✕ 35'56					
evening set	385 Feb 25 j 03:42	22° ✕ 29'10		conjunction	391 Mar 27 j 03:18	6° ∇ 34'42	-1°46'09
				minimum elong	391 Mar 27 j 03:18	6° ∇ 34'42	1°46'10
conjunction	385 Mar 12 j 21:04	23° ✕ 04'30	-1°35'31	max. Earth dist.	391 Mar 28 j 01:30	6° ∇ 36'47	30.81591 AU
minimum elong	385 Mar 12 j 21:04	23° ✕ 04'30	1°35'32	morning rise	391 Apr 12 j 02:55	7° ∇ 10'32	
max. Earth dist.	385 Mar 13 j 21:15	23° ✕ 06'46	30.85042 AU	retrograde	391 Jul 12 j 16:16	9° ∇ 09'40	
morning rise	385 Mar 28 j 18:05	23° ✕ 40'11		opposition	391 Sep 30 j 16:18	7° ∇ 44'07	-1°54'12
retrograde	385 Jun 28 j 08:10	25° ✕ 39'29		min. Earth dist.	391 Sep 29 j 19:23	7° ∇ 45'35	28.81511 AU
opposition	385 Sep 16 j 16:05	24° ✕ 14'11	-1°43'20	direct	391 Dec 17 j 01:55	6° ∇ 20'33	
min. Earth dist.	385 Sep 15 j 18:09	24° ✕ 15'43	28.84931 AU	evening set	392 Mar 12 j 20:04	8° ∇ 13'56	
direct	385 Dec 03 j 02:25	22° ✕ 50'59					
evening set	386 Feb 27 j 16:12	24° ✕ 44'15		conjunction	392 Mar 28 j 16:37	8° ∇ 49'27	-1°47'23
				minimum elong	392 Mar 28 j 16:37	8° ∇ 49'27	1°47'23
conjunction	386 Mar 15 j 10:02	25° ✕ 19'37	-1°37'40	max. Earth dist.	392 Mar 29 j 15:48	8° ∇ 51'38	30.81203 AU
minimum elong	386 Mar 15 j 10:02	25° ✕ 19'37	1°37'40	morning rise	392 Apr 13 j 16:29	9° ∇ 25'18	
max. Earth dist.	386 Mar 16 j 09:49	25° ✕ 21'52	30.84574 AU	retrograde	392 Jul 14 j 03:55	11° ∇ 24'23	
morning rise	386 Mar 31 j 07:27	25° ✕ 55'19		min. Earth dist.	392 Oct 01 j 07:25	10° ∇ 00'17	28.81195 AU
retrograde	386 Jun 30 j 23:27	27° ✕ 54'39		opposition	392 Oct 02 j 04:04	9° ∇ 58'50	-1°55'26

direct	392 Dec 18 j 12:55	8°♊35'13		retrograde	399 Jul 31 j 02:48	27°♊09'30	
evening set	393 Mar 15 j 08:50	10°♊28'38		opposition	399 Oct 18 j 13:27	25°♊44'11	-1°58'56
				min. Earth dist.	399 Oct 17 j 19:32	25°♊45'27	28.81471 AU
conjunction	393 Mar 31 j 05:44	11°♊04'10	-1°48'27	direct	400 Jan 03 j 23:44	24°♊20'29	
minimum elong	393 Mar 31 j 05:44	11°♊04'10	1°48'27	evening set	400 Mar 31 j 05:51	26°♊14'21	
max. Earth dist.	393 Apr 01 j 04:05	11°♊06'17	30.80967 AU				
morning rise	393 Apr 16 j 06:05	11°♊40'02		conjunction	400 Apr 16 j 05:55	26°♊50'05	-1°51'09
retrograde	393 Jul 16 j 17:37	13°♊39'06		minimum elong	400 Apr 16 j 05:55	26°♊50'05	1°51'09
opposition	393 Oct 04 j 15:46	12°♊13'33	-1°56'28	max. Earth dist.	400 Apr 17 j 00:26	26°♊51'50	30.81311 AU
min. Earth dist.	393 Oct 03 j 18:38	12°♊15'02	28.81039 AU	morning rise	400 May 02 j 09:01	27°♊26'07	
direct	393 Dec 20 j 23:30	10°♊49'54		retrograde	400 Aug 01 j 16:25	29°♊24'51	
evening set	394 Mar 17 j 21:43	12°♊43'22		min. Earth dist.	400 Oct 19 j 08:01	28°♊00'45	28.81395 AU
				opposition	400 Oct 20 j 01:01	27°♊59'33	-1°58'43
conjunction	394 Apr 02 j 19:06	13°♊18'56	-1°49'20	direct	401 Jan 05 j 10:29	26°♊35'46	
minimum elong	394 Apr 02 j 19:06	13°♊18'56	1°49'20	evening set	401 Apr 02 j 19:15	28°♊29'41	
max. Earth dist.	394 Apr 03 j 17:51	13°♊21'04	30.80877 AU				
morning rise	394 Apr 18 j 19:47	13°♊54'50		conjunction	401 Apr 18 j 19:55	29°♊05'27	-1°50'51
retrograde	394 Jul 19 j 05:39	15°♊53'52		minimum elong	401 Apr 18 j 19:55	29°♊05'27	1°50'51
min. Earth dist.	394 Oct 06 j 07:14	14°♊29'45	28.81021 AU	max. Earth dist.	401 Apr 19 j 14:52	29°♊07'14	30.81210 AU
opposition	394 Oct 07 j 03:29	14°♊28'19	-1°57'20	morning rise	401 May 04 j 23:11	29°♊41'30	
direct	394 Dec 23 j 11:10	13°♊04'40			401 May 13 j 13:24	0°♊	
evening set	395 Mar 20 j 10:40	14°♊58'12		retrograde	401 Aug 04 j 04:07	1°♊40'07	
				opposition	401 Oct 22 j 12:27	0°♊14'50	-1°58'19
conjunction	395 Apr 05 j 08:34	15°♊33'48	-1°50'04	min. Earth dist.	401 Oct 21 j 20:15	0°♊15'58	28.81281 AU
minimum elong	395 Apr 05 j 08:34	15°♊33'48	1°50'04		401 Oct 31 j 07:01	30°♊	
max. Earth dist.	395 Apr 06 j 06:59	15°♊35'54	30.80931 AU	direct	402 Jan 07 j 21:59	28°♊51'00	
morning rise	395 Apr 21 j 09:40	16°♊09'42			402 Mar 14 j 15:05	0°♊	
retrograde	395 Jul 21 j 20:14	18°♊08'43		evening set	402 Apr 05 j 08:52	0°♊44'56	
opposition	395 Oct 09 j 15:03	16°♊43'13	-1°58'01				
min. Earth dist.	395 Oct 08 j 18:10	16°♊44'41	28.81117 AU	conjunction	402 Apr 21 j 09:53	1°♊20'43	-1°50'24
direct	395 Dec 25 j 23:18	15°♊19'34		minimum elong	402 Apr 21 j 09:53	1°♊20'43	1°50'24
evening set	396 Mar 21 j 23:57	17°♊13'10		max. Earth dist.	402 Apr 22 j 03:21	1°♊22'22	30.81117 AU
				morning rise	402 May 07 j 13:40	1°♊56'47	
conjunction	396 Apr 06 j 22:12	17°♊48'48	-1°50'37	retrograde	402 Aug 06 j 16:59	3°♊55'18	
minimum elong	396 Apr 06 j 22:12	17°♊48'48	1°50'37	opposition	402 Oct 24 j 23:40	2°♊30'01	-1°57'44
max. Earth dist.	396 Apr 07 j 20:02	17°♊50'51	30.81052 AU	min. Earth dist.	402 Oct 24 j 07:34	2°♊31'09	28.81209 AU
morning rise	396 Apr 22 j 23:43	18°♊24'44		direct	403 Jan 10 j 09:01	1°♊06'06	
retrograde	396 Jul 23 j 09:23	20°♊23'43		evening set	403 Apr 07 j 22:26	3°♊00'05	
min. Earth dist.	396 Oct 10 j 07:20	18°♊59'38	28.81263 AU				
opposition	396 Oct 11 j 02:40	18°♊58'16	-1°58'31	conjunction	403 Apr 23 j 23:59	3°♊35'54	-1°49'46
direct	396 Dec 27 j 10:07	17°♊34'37		minimum elong	403 Apr 23 j 23:59	3°♊35'54	1°49'46
evening set	397 Mar 24 j 13:12	19°♊28'19		max. Earth dist.	403 Apr 24 j 17:30	3°♊37'33	30.81068 AU
				morning rise	403 May 10 j 04:02	4°♊11'59	
conjunction	397 Apr 09 j 12:01	20°♊03'58	-1°51'00	retrograde	403 Aug 09 j 03:47	6°♊10'23	
minimum elong	397 Apr 09 j 12:02	20°♊03'58	1°51'00	opposition	403 Oct 27 j 10:58	4°♊45'06	-1°56'59
max. Earth dist.	397 Apr 10 j 09:56	20°♊06'01	30.81208 AU	min. Earth dist.	403 Oct 26 j 20:04	4°♊46'10	28.81200 AU
morning rise	397 Apr 25 j 13:49	20°♊39'56		direct	404 Jan 12 j 20:50	3°♊21'08	
retrograde	397 Jul 26 j 00:14	22°♊38'52		evening set	404 Apr 09 j 12:04	5°♊15'10	
opposition	397 Oct 13 j 14:14	21°♊13'29	-1°58'51				
min. Earth dist.	397 Oct 12 j 18:36	21°♊14'52	28.81404 AU	conjunction	404 Apr 25 j 14:02	5°♊51'00	-1°48'59
direct	397 Dec 29 j 23:29	19°♊49'50		minimum elong	404 Apr 25 j 14:02	5°♊51'00	1°48'58
evening set	398 Mar 27 j 02:37	21°♊43'35		max. Earth dist.	404 Apr 26 j 06:43	5°♊52'34	30.81120 AU
				morning rise	404 May 11 j 18:26	6°♊27'05	
conjunction	398 Apr 12 j 01:45	22°♊19'17	-1°51'13	retrograde	404 Aug 10 j 17:21	8°♊25'23	
minimum elong	398 Apr 12 j 01:45	22°♊19'17	1°51'13	opposition	404 Oct 28 j 21:58	7°♊00'07	-1°56'02
max. Earth dist.	398 Apr 12 j 22:04	22°♊21'11	30.81320 AU	min. Earth dist.	404 Oct 28 j 06:33	7°♊01'13	28.81308 AU
morning rise	398 Apr 28 j 04:04	22°♊55'16		direct	405 Jan 14 j 08:34	5°♊36'05	
retrograde	398 Jul 28 j 14:26	24°♊54'10		evening set	405 Apr 12 j 01:43	7°♊30'10	
min. Earth dist.	398 Oct 15 j 07:50	23°♊30'06	28.81486 AU				
opposition	398 Oct 16 j 02:00	23°♊28'49	-1°58'59	conjunction	405 Apr 28 j 04:03	8°♊06'02	-1°48'01
direct	399 Jan 01 j 10:43	22°♊05'08		minimum elong	405 Apr 28 j 04:03	8°♊06'02	1°48'01
evening set	399 Mar 29 j 16:08	23°♊58'57		max. Earth dist.	405 Apr 28 j 20:14	8°♊07'33	30.81290 AU
				morning rise	405 May 14 j 08:47	8°♊42'08	
conjunction	399 Apr 14 j 15:55	24°♊34'41	-1°51'16	retrograde	405 Aug 13 j 05:23	10°♊40'20	
minimum elong	399 Apr 14 j 15:55	24°♊34'41	1°51'16	opposition	405 Oct 31 j 09:11	9°♊15'06	-1°54'55
max. Earth dist.	399 Apr 15 j 12:23	24°♊36'36	30.81358 AU	min. Earth dist.	405 Oct 30 j 19:08	9°♊16'06	28.81556 AU
morning rise	399 Apr 30 j 18:27	25°♊10'41		direct	406 Jan 16 j 19:27	7°♊51'02	

evening set	406 Apr 14 j 15:11	9°8'45"10	conjunction	412 May 14 j 08:16	23°8'52"21 -1°36'45
			minimum elong	412 May 14 j 08:16	23°8'52"21 1°36'45
conjunction	406 Apr 30 j 18:05	10°8'21"03 -1°46'54	max. Earth dist.	412 May 14 j 19:09	23°8'53"22 30.84821 AU
minimum elong	406 Apr 30 j 18:05	10°8'21"03 1°46'53	morning rise	412 May 30 j 14:52	24°8'28"32
max. Earth dist.	406 May 01 j 10:21	10°8'22"34 30.81620 AU	retrograde	412 Aug 28 j 23:47	26°8'25"54
morning rise	406 May 16 j 23:05	10°8'57"10	opposition	412 Nov 15 j 14:16	25°8'01"08 -1°42'16
retrograde	406 Aug 15 j 19:29	12°8'55"15	min. Earth dist.	412 Nov 15 j 05:40	25°8'01"45 28.85089 AU
opposition	406 Nov 02 j 20:13	11°8'30"05 -1°53'38	direct	413 Feb 01 j 08:21	23°8'36"53
min. Earth dist.	406 Nov 02 j 05:42	11°8'31"06 28.81945 AU	evening set	413 Apr 30 j 17:10	25°8'31"27
direct	407 Jan 19 j 09:21	10°8'05"59			
evening set	407 Apr 17 j 05:02	12°8'00"11	conjunction	413 May 16 j 22:44	26°8'07"30 -1°34'32
			minimum elong	413 May 16 j 22:45	26°8'07"30 1°34'32
conjunction	407 May 03 j 08:13	12°8'36"06 -1°45'36	max. Earth dist.	413 May 17 j 08:01	26°8'08"22 30.85165 AU
minimum elong	407 May 03 j 08:13	12°8'36"06 1°45'36	morning rise	413 Jun 02 j 05:38	26°8'43"42
max. Earth dist.	407 May 03 j 23:09	12°8'37"30 30.82078 AU	retrograde	413 Aug 31 j 13:03	28°8'40"53
morning rise	407 May 19 j 13:40	13°8'12"14	opposition	413 Nov 18 j 01:04	27°8'16"09 -1°39'49
	407 Jul 24 j 13:24	15°8'	min. Earth dist.	413 Nov 17 j 16:26	27°8'16"46 28.85395 AU
retrograde	407 Aug 18 j 08:46	15°8'10"13	direct	414 Feb 03 j 20:06	25°8'51"49
	407 Sep 12 j 07:49	15°8'	evening set	414 May 03 j 07:13	27°8'46"25
opposition	407 Nov 05 j 07:14	13°8'45"06 -1°52'10			
min. Earth dist.	407 Nov 04 j 18:02	13°8'46"03 28.82465 AU	conjunction	414 May 19 j 13:08	28°8'22"29 -1°32'10
direct	408 Jan 21 j 20:51	12°8'21"00	minimum elong	414 May 19 j 13:08	28°8'22"29 1°32'10
evening set	408 Apr 18 j 18:48	14°8'15"17	max. Earth dist.	414 May 19 j 21:29	28°8'23"16 30.85450 AU
			morning rise	414 Jun 04 j 20:14	28°8'58"41
conjunction	408 May 04 j 22:34	14°8'51"14 -1°44'09		414 Jul 05 j 14:02	0°8'
minimum elong	408 May 04 j 22:34	14°8'51"14 1°44'09	retrograde	414 Sep 02 j 23:34	0°8'55"42
max. Earth dist.	408 May 05 j 13:49	14°8'52"39 30.82650 AU		414 Nov 03 j 02:46	30°8'
	408 May 08 j 20:25	15°8'	opposition	414 Nov 20 j 11:57	29°8'31"00 -1°37'13
morning rise	408 May 21 j 04:09	15°8'27"22	min. Earth dist.	414 Nov 20 j 05:13	29°8'31"28 28.85670 AU
retrograde	408 Aug 19 j 21:45	17°8'25"14	direct	415 Feb 06 j 07:32	28°8'06"34
opposition	408 Nov 06 j 18:15	16°8'00"14 -1°50'31	evening set	415 May 05 j 21:18	0°8'01"12
min. Earth dist.	408 Nov 06 j 05:11	16°8'01"09 28.83058 AU		415 May 05 j 07:59	0°8'
	408 Dec 16 j 04:10	15°8'			
direct	409 Jan 23 j 09:38	14°8'36"07	conjunction	415 May 22 j 03:38	0°8'37"17 -1°29'40
	409 Mar 01 j 23:26	15°8'	minimum elong	415 May 22 j 03:38	0°8'37"17 1°29'40
evening set	409 Apr 21 j 08:41	16°8'30"29	max. Earth dist.	415 May 22 j 11:23	0°8'38"00 30.85740 AU
			morning rise	415 Jun 07 j 10:53	1°8'13"28
conjunction	409 May 07 j 12:39	17°8'06"26 -1°42'32	retrograde	415 Sep 05 j 12:05	3°8'10"19
minimum elong	409 May 07 j 12:40	17°8'06"27 1°42'32	opposition	415 Nov 22 j 22:28	1°8'45"38 -1°34'29
max. Earth dist.	409 May 08 j 02:02	17°8'07"42 30.83268 AU	min. Earth dist.	415 Nov 22 j 15:40	1°8'46"07 28.85963 AU
morning rise	409 May 23 j 18:40	17°8'42"36	direct	416 Feb 08 j 21:22	0°8'21"08
retrograde	409 Aug 22 j 12:22	19°8'40"22	evening set	416 May 07 j 11:26	2°8'15"48
opposition	409 Nov 09 j 05:19	18°8'15"26 -1°48'42			
min. Earth dist.	409 Nov 08 j 17:14	18°8'16"18 28.83680 AU	conjunction	416 May 23 j 17:56	2°8'51"54 -1°27'02
direct	410 Jan 25 j 21:03	16°8'51"19	minimum elong	416 May 23 j 17:56	2°8'51"54 1°27'03
evening set	410 Apr 23 j 22:40	18°8'45"45	max. Earth dist.	416 May 24 j 00:14	2°8'52"29 30.86064 AU
			morning rise	416 Jun 09 j 01:27	3°8'28"05
conjunction	410 May 10 j 03:11	19°8'21"45 -1°40'45	retrograde	416 Sep 07 j 00:11	5°8'24"46
minimum elong	410 May 10 j 03:11	19°8'21"45 1°40'46	opposition	416 Nov 24 j 09:12	4°8'00"07 -1°31'36
max. Earth dist.	410 May 10 j 16:42	19°8'23"01 30.83871 AU	min. Earth dist.	416 Nov 24 j 03:48	4°8'00"30 28.86334 AU
morning rise	410 May 26 j 09:17	19°8'57"55	direct	417 Feb 10 j 08:55	2°8'35"32
retrograde	410 Aug 25 j 00:10	21°8'55"34	evening set	417 May 10 j 01:11	4°8'30"15
opposition	410 Nov 11 j 16:17	20°8'30"42 -1°46'43			
min. Earth dist.	410 Nov 11 j 05:24	20°8'31"29 28.84244 AU	conjunction	417 May 26 j 08:07	5°8'06"21 -1°24'17
direct	411 Jan 28 j 09:12	19°8'06"34	minimum elong	417 May 26 j 08:08	5°8'06"21 1°24'16
evening set	411 Apr 26 j 12:55	21°8'01"03	max. Earth dist.	417 May 26 j 14:40	5°8'06"58 30.86490 AU
			morning rise	417 Jun 11 j 15:39	5°8'42"33
conjunction	411 May 12 j 17:42	21°8'37"04 -1°38'50	retrograde	417 Sep 09 j 12:28	7°8'39"04
minimum elong	411 May 12 j 17:43	21°8'37"04 1°38'49	opposition	417 Nov 26 j 19:46	6°8'14"27 -1°28'35
max. Earth dist.	411 May 13 j 05:03	21°8'38"08 30.84403 AU	min. Earth dist.	417 Nov 26 j 14:23	6°8'14"50 28.86808 AU
morning rise	411 May 29 j 00:13	22°8'13"16	direct	418 Feb 12 j 22:08	4°8'49"50
retrograde	411 Aug 27 j 13:11	24°8'10"46	evening set	418 May 12 j 15:15	6°8'44"36
opposition	411 Nov 14 j 03:17	22°8'45"58 -1°44'34			
min. Earth dist.	411 Nov 13 j 16:57	22°8'46"42 28.84723 AU	conjunction	418 May 28 j 22:18	7°8'20"43 -1°21'24
direct	412 Jan 30 j 20:51	21°8'21"47	minimum elong	418 May 28 j 22:18	7°8'20"43 1°21'24
evening set	412 Apr 28 j 03:03	23°8'16"19	max. Earth dist.	418 May 29 j 03:03	7°8'21"09 30.87038 AU
			morning rise	418 Jun 14 j 06:07	7°8'56"54

retrograde	418 Sep 12 j 02:24	9° Π 53'16	minimum elong	425 Jun 14 j 02:07	23° Π 01'58	0°58'00
opposition	418 Nov 29 j 06:15	8° Π 28'43 -1°25'26	max. Earth dist.	425 Jun 14 j 00:16	23° Π 01'47	30.92891 AU
min. Earth dist.	418 Nov 29 j 01:36	8° Π 29'03 28.87431 AU	morning rise	425 Jun 30 j 10:08	23° Π 38'07	
direct	419 Feb 15 j 10:01	7° Π 04'04	retrograde	425 Sep 27 j 11:36	25° Π 33'32	
evening set	419 May 15 j 05:11	8° Π 58'54	opposition	425 Dec 14 j 07:49	24° Π 09'37 -1°00'02	
			min. Earth dist.	425 Dec 14 j 09:42	24° Π 09'29	28.93263 AU
conjunction	419 May 31 j 12:41	9° Π 35'02 -1°18'23	direct	426 Mar 02 j 19:07	22° Π 44'49	
minimum elong	419 May 31 j 12:41	9° Π 35'02 1°18'23	evening set	426 May 31 j 07:47	24° Π 40'08	
max. Earth dist.	419 May 31 j 17:52	9° Π 35'31 30.87732 AU				
morning rise	419 Jun 16 j 20:26	10° Π 11'13	conjunction	426 Jun 16 j 16:25	25° Π 16'18	-0°54'17
retrograde	419 Sep 14 j 13:36	12° Π 07'27	minimum elong	426 Jun 16 j 16:25	25° Π 16'18	0°54'18
opposition	419 Dec 01 j 16:49	10° Π 42'59 -1°22'09	max. Earth dist.	426 Jun 16 j 14:13	25° Π 16'06	30.93556 AU
min. Earth dist.	419 Dec 01 j 12:58	10° Π 43'16 28.88182 AU	morning rise	426 Jul 03 j 00:18	25° Π 52'26	
direct	420 Feb 17 j 22:33	9° Π 18'19	retrograde	426 Sep 29 j 23:08	27° Π 47'39	
evening set	420 May 16 j 19:12	11° Π 13'14	opposition	426 Dec 16 j 18:04	26° Π 23'48	-0°56'01
			min. Earth dist.	426 Dec 16 j 20:29	26° Π 23'38	28.93890 AU
conjunction	420 Jun 02 j 02:45	11° Π 49'22 -1°15'15	direct	427 Mar 05 j 08:45	24° Π 58'55	
minimum elong	420 Jun 02 j 02:46	11° Π 49'22 1°15'16	evening set	427 Jun 02 j 21:58	26° Π 54'16	
max. Earth dist.	420 Jun 02 j 06:14	11° Π 49'42 30.88559 AU				
morning rise	420 Jun 18 j 10:45	12° Π 25'34	conjunction	427 Jun 19 j 06:30	27° Π 30'25	-0°50'29
retrograde	420 Sep 16 j 02:31	14° Π 21'40	minimum elong	427 Jun 19 j 06:30	27° Π 30'25	0°50'29
opposition	420 Dec 03 j 03:15	12° Π 57'19 -1°18'44	max. Earth dist.	427 Jun 19 j 02:09	27° Π 30'01	30.94177 AU
min. Earth dist.	420 Dec 02 j 23:34	12° Π 57'34 28.89060 AU	morning rise	427 Jul 05 j 14:26	28° Π 06'33	
direct	421 Feb 19 j 09:58	11° Π 32'38		427 Sep 22 j 21:34	0° \mathfrak{C}	
evening set	421 May 19 j 09:11	13° Π 27'38	retrograde	427 Oct 02 j 12:09	0° \mathfrak{C} 01'35	
				427 Oct 12 j 02:59	30° \mathfrak{R} Π	
conjunction	421 Jun 04 j 17:03	14° Π 03'48 -1°12'01	opposition	427 Dec 19 j 04:26	28° Π 37'45	-0°51'55
minimum elong	421 Jun 04 j 17:03	14° Π 03'48 1°12'00	min. Earth dist.	427 Dec 19 j 07:49	28° Π 37'30	28.94511 AU
max. Earth dist.	421 Jun 04 j 20:36	14° Π 04'07 30.89475 AU	direct	428 Mar 06 j 21:36	27° Π 12'47	
morning rise	421 Jun 21 j 00:58	14° Π 39'59	evening set	428 Jun 04 j 11:46	29° Π 08'10	
retrograde	421 Sep 18 j 13:26	16° Π 35'57				
opposition	421 Dec 05 j 13:46	15° Π 11'44 -1°15'12	conjunction	428 Jun 20 j 20:29	29° Π 44'19	-0°46'37
min. Earth dist.	421 Dec 05 j 11:40	15° Π 11'52 28.89997 AU	minimum elong	428 Jun 20 j 20:29	29° Π 44'19	0°46'37
direct	422 Feb 21 j 20:47	13° Π 47'04	max. Earth dist.	428 Jun 20 j 16:25	29° Π 43'56	30.94804 AU
evening set	422 May 21 j 23:16	15° Π 42'08		428 Jun 27 j 21:23	0° \mathfrak{C}	
			morning rise	428 Jul 07 j 04:07	0° \mathfrak{C} 20'25	
conjunction	422 Jun 07 j 07:17	16° Π 18'19 -1°08'39	retrograde	428 Oct 03 j 22:21	2° \mathfrak{C} 15'16	
minimum elong	422 Jun 07 j 07:17	16° Π 18'19 1°08'39	opposition	428 Dec 20 j 14:45	0° \mathfrak{C} 51'28	-0°47'44
max. Earth dist.	422 Jun 07 j 09:11	16° Π 18'29 30.90432 AU	min. Earth dist.	428 Dec 20 j 19:07	0° \mathfrak{C} 51'09	28.95152 AU
morning rise	422 Jun 23 j 15:21	16° Π 54'30		429 Jan 22 j 03:18	30° \mathfrak{R} Π	
retrograde	422 Sep 21 j 02:42	18° Π 50'21	direct	429 Mar 09 j 10:57	29° Π 26'26	
opposition	422 Dec 08 j 00:12	17° Π 26'14 -1°11'34		429 Apr 23 j 23:23	0° \mathfrak{C}	
min. Earth dist.	422 Dec 07 j 22:08	17° Π 26'23 28.90932 AU	evening set	429 Jun 07 j 01:40	1° \mathfrak{C} 21'50	
direct	423 Feb 24 j 07:47	16° Π 01'33				
evening set	423 May 24 j 13:32	17° Π 56'43	conjunction	429 Jun 23 j 10:15	1° \mathfrak{C} 57'58	-0°42'41
			minimum elong	429 Jun 23 j 10:15	1° \mathfrak{C} 57'58	0°42'40
conjunction	423 Jun 09 j 21:41	18° Π 32'54 -1°05'12	max. Earth dist.	429 Jun 23 j 04:23	1° \mathfrak{C} 57'26	30.95490 AU
minimum elong	423 Jun 09 j 21:42	18° Π 32'54 1°05'11	morning rise	429 Jul 09 j 17:56	2° \mathfrak{C} 34'03	
max. Earth dist.	423 Jun 09 j 22:34	18° Π 32'59 30.91331 AU	retrograde	429 Oct 06 j 11:03	4° \mathfrak{C} 28'43	
morning rise	423 Jun 26 j 05:42	19° Π 09'05	opposition	429 Dec 23 j 00:52	3° \mathfrak{C} 04'57	-0°43'30
retrograde	423 Sep 23 j 12:22	21° Π 04'48	min. Earth dist.	429 Dec 23 j 05:20	3° \mathfrak{C} 04'38	28.95887 AU
opposition	423 Dec 10 j 10:46	19° Π 40'46 -1°07'49	direct	430 Mar 11 j 23:04	1° \mathfrak{C} 39'51	
min. Earth dist.	423 Dec 10 j 10:47	19° Π 40'46 28.91797 AU	evening set	430 Jun 09 j 15:24	3° \mathfrak{C} 35'16	
direct	424 Feb 26 j 18:55	18° Π 16'04				
evening set	424 May 26 j 03:42	20° Π 11'18	conjunction	430 Jun 26 j 00:07	4° \mathfrak{C} 11'25	-0°38'41
			minimum elong	430 Jun 26 j 00:07	4° \mathfrak{C} 11'25	0°38'41
conjunction	424 Jun 11 j 12:03	20° Π 47'28 -1°01'39	max. Earth dist.	430 Jun 25 j 18:31	4° \mathfrak{C} 10'54	30.96271 AU
minimum elong	424 Jun 11 j 12:03	20° Π 47'28 1°01'39	morning rise	430 Jul 12 j 07:30	4° \mathfrak{C} 47'27	
max. Earth dist.	424 Jun 11 j 11:52	20° Π 47'27 30.92162 AU	retrograde	430 Oct 08 j 21:38	6° \mathfrak{C} 41'57	
morning rise	424 Jun 27 j 20:02	21° Π 23'39	opposition	430 Dec 25 j 11:11	5° \mathfrak{C} 18'15	-0°39'12
retrograde	424 Sep 25 j 00:14	23° Π 19'12	min. Earth dist.	430 Dec 25 j 16:59	5° \mathfrak{C} 17'50	28.96727 AU
opposition	424 Dec 11 j 21:15	21° Π 55'15 -1°03'58	direct	431 Mar 14 j 11:07	3° \mathfrak{C} 53'07	
min. Earth dist.	424 Dec 11 j 21:24	21° Π 55'15 28.92569 AU	evening set	431 Jun 12 j 05:14	5° \mathfrak{C} 48'34	
direct	425 Feb 28 j 08:06	20° Π 30'31				
evening set	425 May 28 j 17:44	22° Π 25'47	conjunction	431 Jun 28 j 13:48	6° \mathfrak{C} 24'41	-0°34'38
			minimum elong	431 Jun 28 j 13:48	6° \mathfrak{C} 24'41	0°34'37
conjunction	425 Jun 14 j 02:07	23° Π 01'58 -0°58'00	max. Earth dist.	431 Jun 28 j 06:50	6° \mathfrak{C} 24'03	30.97188 AU

morning rise	431 Jul 14 j 21:07	7° $\overline{00}$ '43		min. Earth dist.	438 Jan 09 j 22:05	20° $\overline{50}$ '04	29.04545 AU
retrograde	431 Oct 11 j 09:39	8° $\overline{55}$ '03		direct	438 Mar 29 j 21:51	19° $\overline{25}$ '42	
opposition	431 Dec 27 j 21:18	7° $\overline{31}$ '25	-0°34'51	evening set	438 Jun 28 j 05:28	21° $\overline{21}$ '38	
min. Earth dist.	431 Dec 28 j 02:37	7° $\overline{31}$ '02	28.97709 AU				
direct	432 Mar 15 j 22:58	6° $\overline{06}$ '15		conjunction	438 Jul 14 j 12:55	21° $\overline{57}$ '38	-0°05'14
evening set	432 Jun 13 j 18:58	8° $\overline{01}$ '46		minimum elong	438 Jul 14 j 12:55	21° $\overline{57}$ '38	0°05'15
				behind sun begin	438 Jul 14 j 06:33	21° $\overline{57}$ '04	
conjunction	432 Jun 30 j 03:30	8° $\overline{37}$ '53	-0°30'32	behind sun end	438 Jul 14 j 19:18	21° $\overline{58}$ '12	
minimum elong	432 Jun 30 j 03:30	8° $\overline{37}$ '53	0°30'33	max. Earth dist.	438 Jul 13 j 23:21	21° $\overline{56}$ '23	31.04998 AU
max. Earth dist.	432 Jun 29 j 20:14	8° $\overline{37}$ '12	30.98238 AU	morning rise	438 Jul 30 j 18:18	22° $\overline{33}$ '28	
morning rise	432 Jul 16 j 10:31	9° $\overline{13}$ '53		retrograde	438 Oct 26 j 16:07	24° $\overline{26}$ '59	
retrograde	432 Oct 12 j 19:00	11° $\overline{08}$ '05		opposition	439 Jan 11 j 21:24	23° $\overline{04}$ '02	-0°03'16
opposition	432 Dec 29 j 07:39	9° $\overline{44}$ '33	-0°30'26	min. Earth dist.	439 Jan 12 j 08:44	23° $\overline{03}$ '14	29.05442 AU
min. Earth dist.	432 Dec 29 j 14:27	9° $\overline{44}$ '04	28.98827 AU	direct	439 Apr 01 j 10:24	21° $\overline{38}$ '52	
direct	433 Mar 18 j 09:35	8° $\overline{19}$ '24		evening set	439 Jun 30 j 19:01	23° $\overline{34}$ '49	
evening set	433 Jun 16 j 08:31	10° $\overline{14}$ '58					
				conjunction	439 Jul 17 j 02:23	24° $\overline{10}$ '49	-0°00'56
conjunction	433 Jul 02 j 17:00	10° $\overline{51}$ '04	-0°26'23	minimum elong	439 Jul 17 j 02:21	24° $\overline{10}$ '49	0°00'55
minimum elong	433 Jul 02 j 17:00	10° $\overline{51}$ '04	0°26'23	behind sun begin	439 Jul 16 j 19:47	24° $\overline{10}$ '14	
max. Earth dist.	433 Jul 02 j 09:11	10° $\overline{50}$ '21	30.99420 AU	behind sun end	439 Jul 17 j 08:56	24° $\overline{11}$ '23	
morning rise	433 Jul 18 j 23:51	11° $\overline{27}$ '03		max. Earth dist.	439 Jul 16 j 12:49	24° $\overline{09}$ '34	31.05843 AU
retrograde	433 Oct 15 j 06:22	13° $\overline{21}$ '08		morning rise	439 Aug 02 j 07:10	24° $\overline{46}$ '36	
opposition	433 Dec 31 j 17:49	11° $\overline{57}$ '43	-0°25'59	asc. node	439 Oct 02 j 01:28	26° $\overline{27}$ '33	
min. Earth dist.	434 Jan 01 j 00:28	11° $\overline{57}$ '14	29.00033 AU	retrograde	439 Oct 29 j 02:43	26° $\overline{39}$ '59	
direct	434 Mar 20 j 21:40	10° $\overline{32}$ '34		opposition	440 Jan 14 j 07:46	25° $\overline{17}$ '04	0°01'18
evening set	434 Jun 18 j 22:23	12° $\overline{28}$ '13		min. Earth dist.	440 Jan 14 j 20:45	25° $\overline{16}$ '10	29.06254 AU
				direct	440 Apr 02 j 23:11	23° $\overline{51}$ '53	
conjunction	434 Jul 05 j 06:40	13° $\overline{04}$ '19	-0°22'12	evening set	440 Jul 02 j 08:34	25° $\overline{47}$ '52	
minimum elong	434 Jul 05 j 06:40	13° $\overline{04}$ '19	0°22'13				
max. Earth dist.	434 Jul 04 j 21:36	13° $\overline{03}$ '29	31.00645 AU	conjunction	440 Jul 18 j 15:30	26° $\overline{23}$ '49	0°03'27
morning rise	434 Jul 21 j 13:16	13° $\overline{40}$ '16		minimum elong	440 Jul 18 j 15:30	26° $\overline{23}$ '49	0°03'27
retrograde	434 Oct 17 j 17:18	15° $\overline{34}$ '15		behind sun begin	440 Jul 18 j 08:58	26° $\overline{23}$ '14	
opposition	435 Jan 03 j 04:02	14° $\overline{10}$ '57	-0°21'29	behind sun end	440 Jul 18 j 22:03	26° $\overline{24}$ '24	
min. Earth dist.	435 Jan 03 j 12:17	14° $\overline{10}$ '22	29.01270 AU	max. Earth dist.	440 Jul 18 j 00:24	26° $\overline{22}$ '26	31.06644 AU
direct	435 Mar 23 j 07:34	12° $\overline{45}$ '49		morning rise	440 Aug 03 j 20:05	26° $\overline{59}$ '34	
evening set	435 Jun 21 j 12:11	14° $\overline{41}$ '33		retrograde	440 Oct 30 j 14:22	28° $\overline{52}$ '50	
				opposition	441 Jan 15 j 18:00	27° $\overline{29}$ '57	0°05'51
conjunction	435 Jul 07 j 20:25	15° $\overline{17}$ '38	-0°17'59	min. Earth dist.	441 Jan 16 j 06:40	27° $\overline{29}$ '04	29.07044 AU
minimum elong	435 Jul 07 j 20:25	15° $\overline{17}$ '38	0°17'58	direct	441 Apr 05 j 11:50	26° $\overline{04}$ '43	
max. Earth dist.	435 Jul 07 j 11:06	15° $\overline{16}$ '46	31.01867 AU	evening set	441 Jul 04 j 21:48	28° $\overline{00}$ '43	
morning rise	435 Jul 24 j 02:39	15° $\overline{53}$ '34					
retrograde	435 Oct 20 j 04:22	17° $\overline{47}$ '26		conjunction	441 Jul 21 j 04:31	28° $\overline{36}$ '39	0°07'42
opposition	436 Jan 05 j 14:23	16° $\overline{24}$ '15	-0°16'57	minimum elong	441 Jul 21 j 04:31	28° $\overline{36}$ '39	0°07'42
min. Earth dist.	436 Jan 05 j 23:07	16° $\overline{23}$ '38	29.02453 AU	behind sun begin	441 Jul 20 j 22:35	28° $\overline{36}$ '07	
direct	436 Mar 24 j 20:47	14° $\overline{59}$ '08		behind sun end	441 Jul 21 j 10:27	28° $\overline{37}$ '10	
evening set	436 Jun 23 j 01:59	16° $\overline{54}$ '56		max. Earth dist.	441 Jul 20 j 13:07	28° $\overline{35}$ '14	31.07425 AU
				morning rise	441 Aug 06 j 08:36	29° $\overline{12}$ '22	
conjunction	436 Jul 09 j 09:51	17° $\overline{30}$ '59	-0°13'45		441 Aug 29 j 18:16	0° $\overline{00}$ '00	
minimum elong	436 Jul 09 j 09:51	17° $\overline{30}$ '59	0°13'45	retrograde	441 Nov 01 j 23:07	1° $\overline{05}$ '29	
behind sun begin	436 Jul 09 j 06:30	17° $\overline{30}$ '42			442 Jan 07 j 19:15	30° \overline{R} ' $\overline{00}$	
behind sun end	436 Jul 09 j 13:11	17° $\overline{31}$ '17		opposition	442 Jan 18 j 04:21	29° $\overline{42}$ '39	0°10'24
max. Earth dist.	436 Jul 08 j 22:27	17° $\overline{29}$ '57	31.03008 AU	min. Earth dist.	442 Jan 18 j 18:37	29° $\overline{41}$ '39	29.07843 AU
morning rise	436 Jul 25 j 15:52	18° $\overline{06}$ '53		direct	442 Apr 07 j 22:59	28° $\overline{17}$ '22	
retrograde	436 Oct 21 j 16:57	20° $\overline{00}$ '40			442 Jul 01 j 04:51	0° $\overline{00}$ '00	
opposition	437 Jan 07 j 00:46	18° $\overline{37}$ '33	-0°12'24	evening set	442 Jul 07 j 11:06	0° $\overline{13}$ '23	
min. Earth dist.	437 Jan 07 j 10:28	18° $\overline{36}$ '52	29.03558 AU				
direct	437 Mar 27 j 08:52	17° $\overline{12}$ '26		conjunction	442 Jul 23 j 17:28	0° $\overline{49}$ '17	0°11'55
evening set	437 Jun 25 j 15:39	19° $\overline{08}$ '19		minimum elong	442 Jul 23 j 17:28	0° $\overline{49}$ '17	0°11'55
				behind sun begin	442 Jul 23 j 13:00	0° $\overline{48}$ '53	
conjunction	437 Jul 11 j 23:29	19° $\overline{44}$ '21	-0°09'29	behind sun end	442 Jul 23 j 21:57	0° $\overline{49}$ '41	
minimum elong	437 Jul 11 j 23:29	19° $\overline{44}$ '21	0°09'29	max. Earth dist.	442 Jul 23 j 01:29	0° $\overline{47}$ '48	31.08250 AU
behind sun begin	437 Jul 11 j 18:02	19° $\overline{43}$ '52		morning rise	442 Aug 08 j 21:10	1° $\overline{24}$ '57	
behind sun end	437 Jul 12 j 04:56	19° $\overline{44}$ '50		retrograde	442 Nov 04 j 09:42	3° $\overline{17}$ '56	
max. Earth dist.	437 Jul 11 j 12:06	19° $\overline{43}$ '18	31.04055 AU	opposition	443 Jan 20 j 14:29	1° $\overline{55}$ '09	0°14'56
morning rise	437 Jul 28 j 05:02	20° $\overline{20}$ '13		min. Earth dist.	443 Jan 21 j 04:25	1° $\overline{54}$ '11	29.08695 AU
retrograde	437 Oct 24 j 03:13	22° $\overline{13}$ '52		direct	443 Apr 10 j 11:05	0° $\overline{29}$ '50	
opposition	438 Jan 09 j 11:05	20° $\overline{50}$ '50	-0°07'50	evening set	443 Jul 10 j 00:24	2° $\overline{25}$ '53	

conjunction	443 Jul 26 j 06:21	3°Ω01'45	0°16'08	retrograde	449 Nov 19 j 13:09	18°Ω43'35	
minimum elong	443 Jul 26 j 06:20	3°Ω01'45	0°16'09	opposition	450 Feb 04 j 15:21	17°Ω21'17	0°45'35
max. Earth dist.	443 Jul 25 j 13:35	3°Ω00'12	31.09142 AU	min. Earth dist.	450 Feb 05 j 08:54	17°Ω20'04	29.16212 AU
morning rise	443 Aug 11 j 09:33	3°Ω37'23		direct	450 Apr 25 j 23:22	15°Ω56'03	
retrograde	443 Nov 06 j 19:28	5°Ω30'16		evening set	450 Jul 25 j 19:32	17°Ω52'24	
opposition	444 Jan 23 j 00:54	4°Ω07'32	0°19'26				
min. Earth dist.	444 Jan 23 j 15:48	4°Ω06'29	29.09655 AU	conjunction	450 Aug 10 j 22:24	18°Ω28'00	0°44'40
direct	444 Apr 11 j 20:39	2°Ω42'12		minimum elong	450 Aug 10 j 22:24	18°Ω28'00	0°44'39
evening set	444 Jul 11 j 13:20	4°Ω38'16		max. Earth dist.	450 Aug 10 j 01:46	18°Ω26'06	31.16587 AU
				morning rise	450 Aug 26 j 21:51	19°Ω03'19	
conjunction	444 Jul 27 j 18:59	5°Ω14'06	0°20'20	retrograde	450 Nov 21 j 22:39	20°Ω55'42	
minimum elong	444 Jul 27 j 18:59	5°Ω14'06	0°20'19	opposition	451 Feb 07 j 01:58	19°Ω33'27	0°49'44
max. Earth dist.	444 Jul 27 j 02:36	5°Ω12'35	31.10155 AU	min. Earth dist.	451 Feb 07 j 21:15	19°Ω32'06	29.17015 AU
morning rise	444 Aug 12 j 21:39	5°Ω49'42		direct	451 Apr 28 j 10:52	18°Ω08'12	
retrograde	444 Nov 08 j 04:52	7°Ω42'29		evening set	451 Jul 28 j 08:25	20°Ω04'33	
opposition	445 Jan 24 j 11:13	6°Ω19'49	0°23'54				
min. Earth dist.	445 Jan 25 j 02:02	6°Ω18'47	29.10715 AU	conjunction	451 Aug 13 j 10:44	20°Ω40'07	0°48'31
direct	445 Apr 14 j 09:52	4°Ω54'30		minimum elong	451 Aug 13 j 10:44	20°Ω40'07	0°48'31
evening set	445 Jul 14 j 02:29	6°Ω50'37		max. Earth dist.	451 Aug 12 j 13:22	20°Ω38'08	31.17330 AU
				morning rise	451 Aug 29 j 09:40	21°Ω15'23	
conjunction	445 Jul 30 j 07:36	7°Ω26'25	0°24'30	retrograde	451 Nov 24 j 09:21	23°Ω07'40	
minimum elong	445 Jul 30 j 07:36	7°Ω26'25	0°24'30	opposition	452 Feb 09 j 12:33	21°Ω45'27	0°53'49
max. Earth dist.	445 Jul 29 j 13:49	7°Ω24'46	31.11269 AU	min. Earth dist.	452 Feb 10 j 07:38	21°Ω44'07	29.17698 AU
morning rise	445 Aug 15 j 09:54	8°Ω01'58		direct	452 Apr 29 j 23:45	20°Ω20'11	
retrograde	445 Nov 10 j 16:19	9°Ω54'41		evening set	452 Jul 29 j 21:01	22°Ω16'31	
opposition	446 Jan 26 j 21:25	8°Ω32'05	0°28'20				
min. Earth dist.	446 Jan 27 j 12:41	8°Ω31'01	29.11877 AU	conjunction	452 Aug 14 j 22:46	22°Ω52'02	0°52'17
direct	446 Apr 16 j 20:42	7°Ω06'47		minimum elong	452 Aug 14 j 22:46	22°Ω52'02	0°52'17
evening set	446 Jul 16 j 15:30	9°Ω02'58		max. Earth dist.	452 Aug 14 j 00:32	22°Ω49'59	31.17959 AU
				morning rise	452 Aug 30 j 21:07	23°Ω27'16	
conjunction	446 Aug 01 j 20:22	9°Ω38'44	0°28'38	retrograde	452 Nov 25 j 18:44	25°Ω19'29	
minimum elong	446 Aug 01 j 20:22	9°Ω38'44	0°28'37	opposition	453 Feb 10 j 23:11	23°Ω57'16	0°57'48
max. Earth dist.	446 Aug 01 j 03:08	9°Ω37'08	31.12449 AU	min. Earth dist.	453 Feb 11 j 19:24	23°Ω55'52	29.18302 AU
morning rise	446 Aug 17 j 22:01	10°Ω14'14		direct	453 May 02 j 10:03	22°Ω31'58	
retrograde	446 Nov 13 j 02:15	12°Ω06'53		evening set	453 Aug 01 j 09:31	24°Ω28'18	
opposition	447 Jan 29 j 07:51	10°Ω44'23	0°32'44				
min. Earth dist.	447 Jan 30 j 00:06	10°Ω43'15	29.13058 AU	conjunction	453 Aug 17 j 10:50	25°Ω03'47	0°55'59
direct	447 Apr 19 j 08:44	9°Ω19'07		minimum elong	453 Aug 17 j 10:50	25°Ω03'47	0°55'59
evening set	447 Jul 19 j 04:38	11°Ω15'21		max. Earth dist.	453 Aug 16 j 12:53	25°Ω01'44	31.18532 AU
				morning rise	453 Sep 02 j 08:34	25°Ω38'57	
conjunction	447 Aug 04 j 08:51	11°Ω51'04	0°32'43	retrograde	453 Nov 28 j 03:22	27°Ω31'05	
minimum elong	447 Aug 04 j 08:50	11°Ω51'04	0°32'44	opposition	454 Feb 13 j 09:36	26°Ω08'53	1°01'43
max. Earth dist.	447 Aug 03 j 13:56	11°Ω49'19	31.13621 AU	min. Earth dist.	454 Feb 14 j 05:57	26°Ω07'28	29.18853 AU
morning rise	447 Aug 20 j 10:06	12°Ω26'32		direct	454 May 04 j 23:12	24°Ω43'33	
retrograde	447 Nov 15 j 14:55	14°Ω19'08		evening set	454 Aug 03 j 22:03	26°Ω39'53	
opposition	448 Jan 31 j 18:15	12°Ω56'43	0°37'05				
min. Earth dist.	448 Feb 01 j 10:31	12°Ω55'35	29.14213 AU	conjunction	454 Aug 19 j 22:40	27°Ω15'19	0°59'36
direct	448 Apr 20 j 21:16	11°Ω31'28		minimum elong	454 Aug 19 j 22:40	27°Ω15'19	0°59'35
evening set	448 Jul 20 j 17:36	13°Ω27'45		max. Earth dist.	454 Aug 18 j 23:25	27°Ω13'09	31.19079 AU
				morning rise	454 Sep 04 j 19:55	27°Ω50'27	
conjunction	448 Aug 05 j 21:29	14°Ω03'26	0°36'46	retrograde	454 Nov 30 j 14:02	29°Ω42'31	
minimum elong	448 Aug 05 j 21:29	14°Ω03'26	0°36'45	opposition	455 Feb 15 j 20:11	28°Ω20'19	1°05'31
max. Earth dist.	448 Aug 05 j 02:53	14°Ω01'43	31.14725 AU	min. Earth dist.	455 Feb 16 j 16:41	28°Ω18'53	29.19428 AU
morning rise	448 Aug 21 j 22:02	14°Ω38'51		direct	455 May 07 j 09:45	26°Ω54'57	
	448 Aug 31 j 21:06	15°Ω		evening set	455 Aug 06 j 10:11	28°Ω51'18	
retrograde	448 Nov 17 j 01:30	16°Ω31'23					
opposition	449 Feb 02 j 04:51	15°Ω09'02	0°41'22	conjunction	455 Aug 22 j 10:22	29°Ω26'40	1°03'07
min. Earth dist.	449 Feb 02 j 22:41	15°Ω07'47	29.15275 AU	minimum elong	455 Aug 22 j 10:22	29°Ω26'40	1°03'07
	449 Feb 07 j 14:31	15°℞Ω		max. Earth dist.	455 Aug 21 j 12:07	29°Ω24'36	31.19668 AU
direct	449 Apr 23 j 10:14	13°Ω43'48			455 Sep 06 j 11:30	0°℞	
	449 Jul 03 j 19:57	15°Ω		morning rise	455 Sep 07 j 06:50	0°℞01'45	
evening set	449 Jul 23 j 06:34	15°Ω40'07		retrograde	455 Dec 02 j 23:01	1°℞53'47	
				opposition	456 Feb 18 j 06:54	0°℞31'35	1°09'14
conjunction	449 Aug 08 j 09:53	16°Ω15'46	0°40'45	min. Earth dist.	456 Feb 19 j 03:52	0°℞30'08	29.20056 AU
minimum elong	449 Aug 08 j 09:52	16°Ω15'46	0°40'45		456 Mar 08 j 16:48	30°℞Ω	
max. Earth dist.	449 Aug 07 j 13:42	16°Ω13'54	31.15729 AU	direct	456 May 08 j 21:34	29°Ω06'14	
morning rise	449 Aug 24 j 10:02	16°Ω51'08			456 Jul 07 j 04:13	0°℞	

evening set	456 Aug 07 j 22:25	1° \mathring{M} 02'35		opposition	463 Mar 05 j 10:31	15° \mathring{M} 50'57	1°32'06
				min. Earth dist.	463 Mar 06 j 08:31	15° \mathring{M} 49'26	29.25683 AU
conjunction	456 Aug 23 j 21:50	1° \mathring{M} 37'55	1°06'33	direct	463 May 25 j 10:39	14° \mathring{M} 25'54	
minimum elong	456 Aug 23 j 21:50	1° \mathring{M} 37'55	1°06'32	evening set	463 Aug 24 j 09:47	16° \mathring{M} 22'23	
max. Earth dist.	456 Aug 22 j 22:32	1° \mathring{M} 35'45	31.20348 AU	max. Earth dist.	463 Sep 08 j 04:29	16° \mathring{M} 55'09	31.25852 AU
morning rise	456 Sep 08 j 17:51	2° \mathring{M} 12'57					
retrograde	456 Dec 04 j 10:58	4° \mathring{M} 04'56		conjunction	463 Sep 09 j 04:58	16° \mathring{M} 57'25	1°27'33
opposition	457 Feb 19 j 17:24	2° \mathring{M} 42'47	1°12'51	minimum elong	463 Sep 09 j 04:58	16° \mathring{M} 57'25	1°27'33
min. Earth dist.	457 Feb 20 j 13:39	2° \mathring{M} 41'23	29.20801 AU	morning rise	463 Sep 24 j 20:39	17° \mathring{M} 32'09	
direct	457 May 11 j 09:46	1° \mathring{M} 17'27		retrograde	463 Dec 20 j 10:03	19° \mathring{M} 24'09	
evening set	457 Aug 10 j 10:20	3° \mathring{M} 13'49		opposition	464 Mar 06 j 21:36	18° \mathring{M} 02'19	1°34'52
max. Earth dist.	457 Aug 25 j 11:05	3° \mathring{M} 47'03	31.21136 AU	min. Earth dist.	464 Mar 07 j 19:42	18° \mathring{M} 00'48	29.26188 AU
				direct	464 May 26 j 20:35	16° \mathring{M} 37'15	
conjunction	457 Aug 26 j 09:23	3° \mathring{M} 49'07	1°09'52	evening set	464 Aug 25 j 21:21	18° \mathring{M} 33'43	
minimum elong	457 Aug 26 j 09:22	3° \mathring{M} 49'07	1°09'53				
morning rise	457 Sep 11 j 04:38	4° \mathring{M} 24'06		conjunction	464 Sep 10 j 16:06	19° \mathring{M} 08'43	1°30'04
retrograde	457 Dec 06 j 21:15	6° \mathring{M} 16'05		minimum elong	464 Sep 10 j 16:05	19° \mathring{M} 08'43	1°30'04
opposition	458 Feb 22 j 04:10	4° \mathring{M} 53'59	1°16'21	max. Earth dist.	464 Sep 09 j 16:26	19° \mathring{M} 06'30	31.26289 AU
min. Earth dist.	458 Feb 23 j 01:21	4° \mathring{M} 52'31	29.21637 AU	morning rise	464 Sep 26 j 07:02	19° \mathring{M} 43'24	
direct	458 May 13 j 22:24	3° \mathring{M} 28'42		retrograde	464 Dec 21 j 18:48	21° \mathring{M} 35'22	
evening set	458 Aug 12 j 22:26	5° \mathring{M} 25'06		opposition	465 Mar 09 j 08:39	20° \mathring{M} 13'32	1°37'29
				min. Earth dist.	465 Mar 10 j 07:30	20° \mathring{M} 11'58	29.26570 AU
conjunction	458 Aug 28 j 20:44	6° \mathring{M} 00'21	1°13'06	direct	465 May 29 j 08:26	18° \mathring{M} 48'28	
minimum elong	458 Aug 28 j 20:44	6° \mathring{M} 00'21	1°13'06	evening set	465 Aug 28 j 08:56	20° \mathring{M} 44'54	
max. Earth dist.	458 Aug 27 j 21:41	5° \mathring{M} 58'13	31.22014 AU	max. Earth dist.	465 Sep 12 j 02:06	21° \mathring{M} 17'31	31.26629 AU
morning rise	458 Sep 13 j 15:31	6° \mathring{M} 35'18					
retrograde	458 Dec 09 j 08:38	8° \mathring{M} 27'17		conjunction	465 Sep 13 j 02:56	21° \mathring{M} 19'50	1°32'28
opposition	459 Feb 24 j 14:46	7° \mathring{M} 05'15	1°19'44	minimum elong	465 Sep 13 j 02:56	21° \mathring{M} 19'50	1°32'28
min. Earth dist.	459 Feb 25 j 11:02	7° \mathring{M} 03'51	29.22538 AU	morning rise	465 Sep 28 j 17:29	21° \mathring{M} 54'29	
direct	459 May 16 j 10:59	5° \mathring{M} 40'01		retrograde	465 Dec 24 j 06:00	23° \mathring{M} 46'26	
evening set	459 Aug 15 j 10:23	7° \mathring{M} 36'28		opposition	466 Mar 11 j 19:41	22° \mathring{M} 24'34	1°39'58
max. Earth dist.	459 Aug 30 j 09:23	8° \mathring{M} 09'34	31.22918 AU	min. Earth dist.	466 Mar 12 j 17:54	22° \mathring{M} 23'02	29.26879 AU
				direct	466 May 31 j 20:41	20° \mathring{M} 59'28	
conjunction	459 Aug 31 j 08:09	8° \mathring{M} 11'40	1°16'13	evening set	466 Aug 30 j 20:13	22° \mathring{M} 55'51	
minimum elong	459 Aug 31 j 08:09	8° \mathring{M} 11'40	1°16'14				
morning rise	459 Sep 16 j 02:12	8° \mathring{M} 46'34		conjunction	466 Sep 15 j 13:46	23° \mathring{M} 30'45	1°34'43
retrograde	459 Dec 11 j 18:36	10° \mathring{M} 38'34		minimum elong	466 Sep 15 j 13:45	23° \mathring{M} 30'45	1°34'43
opposition	460 Feb 27 j 01:42	9° \mathring{M} 16'36	1°23'01	max. Earth dist.	466 Sep 14 j 13:57	23° \mathring{M} 28'32	31.26904 AU
min. Earth dist.	460 Feb 27 j 23:09	9° \mathring{M} 15'07	29.23450 AU	morning rise	466 Oct 01 j 03:33	24° \mathring{M} 05'21	
direct	460 May 17 j 22:19	7° \mathring{M} 51'26		retrograde	466 Dec 26 j 15:28	25° \mathring{M} 57'17	
evening set	460 Aug 16 j 22:11	9° \mathring{M} 47'55		opposition	467 Mar 14 j 06:53	24° \mathring{M} 35'22	1°42'19
				min. Earth dist.	467 Mar 15 j 05:58	24° \mathring{M} 33'47	29.27152 AU
conjunction	460 Sep 01 j 19:20	10° \mathring{M} 23'05	1°19'14	direct	467 Jun 03 j 08:59	23° \mathring{M} 10'17	
minimum elong	460 Sep 01 j 19:19	10° \mathring{M} 23'05	1°19'14	evening set	467 Sep 02 j 07:29	25° \mathring{M} 06'37	
max. Earth dist.	460 Aug 31 j 20:23	10° \mathring{M} 20'57	31.23809 AU	max. Earth dist.	467 Sep 17 j 00:06	25° \mathring{M} 39'12	31.27190 AU
morning rise	460 Sep 17 j 12:50	10° \mathring{M} 57'56					
retrograde	460 Dec 13 j 05:43	12° \mathring{M} 49'56		conjunction	467 Sep 18 j 00:18	25° \mathring{M} 41'27	1°36'51
opposition	461 Feb 28 j 12:33	11° \mathring{M} 28'02	1°26'10	minimum elong	467 Sep 18 j 00:17	25° \mathring{M} 41'27	1°36'51
min. Earth dist.	461 Mar 01 j 09:31	11° \mathring{M} 26'35	29.24303 AU	morning rise	467 Oct 03 j 13:39	26° \mathring{M} 16'00	
direct	461 May 20 j 11:21	10° \mathring{M} 02'55		retrograde	467 Dec 29 j 02:26	28° \mathring{M} 07'56	
evening set	461 Aug 19 j 10:09	11° \mathring{M} 59'25		opposition	468 Mar 15 j 18:00	26° \mathring{M} 46'00	1°44'31
max. Earth dist.	461 Sep 03 j 07:01	12° \mathring{M} 32'21	31.24607 AU	min. Earth dist.	468 Mar 16 j 15:43	26° \mathring{M} 44'30	29.27464 AU
				direct	468 Jun 04 j 21:31	25° \mathring{M} 20'53	
conjunction	461 Sep 04 j 06:38	12° \mathring{M} 34'33	1°22'07	evening set	468 Sep 03 j 18:24	27° \mathring{M} 17'11	
minimum elong	461 Sep 04 j 06:37	12° \mathring{M} 34'33	1°22'07	max. Earth dist.	468 Sep 18 j 11:12	27° \mathring{M} 49'47	31.27529 AU
morning rise	461 Sep 19 j 23:30	13° \mathring{M} 09'22					
retrograde	461 Dec 15 j 15:12	15° \mathring{M} 01'22		conjunction	468 Sep 19 j 10:42	27° \mathring{M} 51'59	1°38'50
opposition	462 Mar 02 j 23:26	13° \mathring{M} 39'31	1°29'12	minimum elong	468 Sep 19 j 10:42	27° \mathring{M} 51'59	1°38'49
min. Earth dist.	462 Mar 03 j 21:22	13° \mathring{M} 38'00	29.25062 AU	morning rise	468 Oct 04 j 23:25	28° \mathring{M} 26'29	
direct	462 May 22 j 21:43	12° \mathring{M} 14'26			468 Nov 27 j 14:13	0° \mathring{A}	
evening set	462 Aug 21 j 22:01	14° \mathring{M} 10'56		retrograde	468 Dec 30 j 12:24	0° \mathring{A} 18'25	
					469 Feb 02 j 03:30	30° \mathring{R} \mathring{M}	
conjunction	462 Sep 06 j 17:58	14° \mathring{M} 46'01	1°24'54	opposition	469 Mar 18 j 05:15	28° \mathring{M} 56'28	1°46'33
minimum elong	462 Sep 06 j 17:57	14° \mathring{M} 46'01	1°24'53	min. Earth dist.	469 Mar 19 j 03:34	28° \mathring{M} 54'56	29.27860 AU
max. Earth dist.	462 Sep 05 j 18:44	14° \mathring{M} 43'51	31.25298 AU	direct	469 Jun 07 j 09:34	27° \mathring{M} 31'23	
morning rise	462 Sep 22 j 10:09	15° \mathring{M} 20'47		evening set	469 Sep 06 j 05:24	29° \mathring{M} 27'39	
retrograde	462 Dec 17 j 23:36	17° \mathring{M} 12'47			469 Sep 20 j 19:20	0° \mathring{A}	

conjunction	469 Sep 21 j 21:06	0° <u>02</u> '24	1°40'40	opposition	476 Apr 02 j 13:34	14° <u>11</u> '17	1°56'26
minimum elong	469 Sep 21 j 21:06	0° <u>02</u> '24	1°40'40	min. Earth dist.	476 Apr 03 j 10:38	14° <u>09</u> '51	29.31304 AU
max. Earth dist.	469 Sep 20 j 22:05	0° <u>00</u> '15	31.27977 AU	direct	476 Jun 22 j 17:41	12° <u>46</u> '41	
morning rise	469 Oct 07 j 09:18	0° <u>36</u> '52		evening set	476 Sep 21 j 08:43	14° <u>42</u> '50	
retrograde	470 Jan 01 j 23:00	2° <u>28</u> '49					
opposition	470 Mar 20 j 16:19	1° <u>06</u> '53	1°48'27	conjunction	476 Oct 06 j 20:34	15° <u>17</u> '22	1°49'23
min. Earth dist.	470 Mar 21 j 13:30	1° <u>05</u> '26	29.28351 AU	minimum elong	476 Oct 06 j 20:34	15° <u>17</u> '22	1°49'23
	470 May 06 j 11:59	30° <u>8</u> ' <u>19</u>		max. Earth dist.	476 Oct 05 j 22:54	15° <u>15</u> '20	31.31243 AU
direct	470 Jun 09 j 23:01	29° <u>14</u> '15		morning rise	476 Oct 22 j 05:24	15° <u>51</u> '39	
	470 Jul 13 j 15:38	0° <u>0</u>		retrograde	477 Jan 16 j 22:36	17° <u>44</u> '02	
evening set	470 Sep 08 j 16:23	1° <u>38</u> '06		opposition	477 Apr 05 j 01:16	16° <u>22</u> '15	1°57'11
max. Earth dist.	470 Sep 23 j 08:28	2° <u>10</u> '41	31.28515 AU	min. Earth dist.	477 Apr 05 j 21:10	16° <u>20</u> '54	29.31404 AU
				direct	477 Jun 25 j 05:53	14° <u>57</u> '40	
conjunction	470 Sep 24 j 07:28	2° <u>12</u> '49	1°42'22	evening set	477 Sep 23 j 19:16	16° <u>53</u> '47	
minimum elong	470 Sep 24 j 07:28	2° <u>12</u> '49	1°42'22	max. Earth dist.	477 Oct 08 j 09:17	17° <u>26</u> '16	31.31266 AU
morning rise	470 Oct 09 j 19:09	2° <u>47</u> '15					
retrograde	471 Jan 04 j 08:52	4° <u>39</u> '15		conjunction	477 Oct 09 j 06:40	17° <u>28</u> '16	1°50'01
opposition	471 Mar 23 j 03:40	3° <u>17</u> '21	1°50'11	minimum elong	477 Oct 09 j 06:40	17° <u>28</u> '16	1°50'01
min. Earth dist.	471 Mar 24 j 01:01	3° <u>15</u> '53	29.28938 AU	morning rise	477 Oct 24 j 15:00	18° <u>02</u> '32	
direct	471 Jun 12 j 09:27	1° <u>52</u> '23		retrograde	478 Jan 19 j 09:16	19° <u>54</u> '58	
evening set	471 Sep 11 j 03:04	3° <u>48</u> '37		opposition	478 Apr 07 j 13:04	18° <u>33</u> '08	1°57'47
				min. Earth dist.	478 Apr 08 j 09:49	18° <u>31</u> '44	29.31371 AU
conjunction	471 Sep 26 j 17:40	4° <u>23</u> '19	1°43'55	direct	478 Jun 27 j 18:25	17° <u>08</u> '35	
minimum elong	471 Sep 26 j 17:40	4° <u>23</u> '19	1°43'55	evening set	478 Sep 26 j 05:41	19° <u>04</u> '38	
max. Earth dist.	471 Sep 25 j 19:55	4° <u>21</u> '17	31.29125 AU				
morning rise	471 Oct 12 j 04:45	4° <u>57</u> '43		conjunction	478 Oct 11 j 16:37	19° <u>39</u> '05	1°50'29
retrograde	472 Jan 06 j 17:30	6° <u>49</u> '46		minimum elong	478 Oct 11 j 16:37	19° <u>39</u> '05	1°50'29
opposition	472 Mar 24 j 15:05	5° <u>27</u> '54	1°51'45	max. Earth dist.	478 Oct 10 j 19:45	19° <u>37</u> '08	31.31189 AU
min. Earth dist.	472 Mar 25 j 11:56	5° <u>26</u> '29	29.29551 AU	morning rise	478 Oct 27 j 00:34	20° <u>13</u> '19	
direct	472 Jun 13 j 21:58	4° <u>03</u> '02		retrograde	479 Jan 21 j 20:26	22° <u>05</u> '47	
evening set	472 Sep 12 j 13:56	5° <u>59</u> '16		opposition	479 Apr 10 j 00:55	20° <u>43</u> '55	1°58'12
max. Earth dist.	472 Sep 27 j 05:23	6° <u>31</u> '49	31.29735 AU	min. Earth dist.	479 Apr 10 j 20:34	20° <u>42</u> '35	29.31246 AU
				direct	479 Jun 30 j 08:36	19° <u>19</u> '22	
conjunction	472 Sep 28 j 03:51	6° <u>33</u> '55	1°45'19	evening set	479 Sep 28 j 15:51	21° <u>15</u> '20	
minimum elong	472 Sep 28 j 03:51	6° <u>33</u> '55	1°45'19	max. Earth dist.	479 Oct 13 j 05:26	21° <u>47</u> '49	31.31041 AU
morning rise	472 Oct 13 j 14:34	7° <u>08</u> '18					
retrograde	473 Jan 08 j 04:24	9° <u>00</u> '25		conjunction	479 Oct 14 j 02:16	21° <u>49</u> '46	1°50'48
opposition	473 Mar 27 j 02:24	7° <u>38</u> '36	1°53'10	minimum elong	479 Oct 14 j 02:16	21° <u>49</u> '46	1°50'48
min. Earth dist.	473 Mar 27 j 22:56	7° <u>37</u> '12	29.30153 AU	morning rise	479 Oct 29 j 09:54	22° <u>23</u> '58	
direct	473 Jun 16 j 07:29	6° <u>13</u> '48		retrograde	480 Jan 24 j 06:08	24° <u>16</u> '29	
evening set	473 Sep 15 j 00:39	8° <u>10</u> '02		opposition	480 Apr 11 j 12:50	22° <u>54</u> '34	1°58'28
				min. Earth dist.	480 Apr 12 j 08:29	22° <u>53</u> '13	29.31104 AU
conjunction	473 Sep 30 j 14:12	8° <u>44</u> '39	1°46'34	direct	480 Jul 01 j 19:38	21° <u>30</u> '01	
minimum elong	473 Sep 30 j 14:11	8° <u>44</u> '39	1°46'34	evening set	480 Sep 30 j 01:55	23° <u>25</u> '54	
max. Earth dist.	473 Sep 29 j 16:54	8° <u>42</u> '40	31.30294 AU				
morning rise	473 Oct 16 j 00:16	9° <u>19</u> '01		conjunction	480 Oct 15 j 12:01	24° <u>00</u> '18	1°50'58
retrograde	474 Jan 10 j 13:31	11° <u>11</u> '12		minimum elong	480 Oct 15 j 12:01	24° <u>00</u> '18	1°50'57
opposition	474 Mar 29 j 14:03	9° <u>49</u> '25	1°54'25	max. Earth dist.	480 Oct 14 j 16:43	23° <u>58</u> '30	31.30906 AU
min. Earth dist.	474 Mar 30 j 11:06	9° <u>47</u> '59	29.30661 AU	morning rise	480 Oct 30 j 19:12	24° <u>34</u> '29	
direct	474 Jun 18 j 19:04	8° <u>24</u> '42		retrograde	481 Jan 25 j 14:24	26° <u>27</u> '02	
evening set	474 Sep 17 j 11:29	10° <u>20</u> '55		opposition	481 Apr 14 j 00:35	25° <u>05</u> '04	1°58'33
max. Earth dist.	474 Oct 02 j 02:06	10° <u>53</u> '25	31.30747 AU	min. Earth dist.	481 Apr 14 j 19:25	25° <u>03</u> '47	29.30985 AU
				direct	481 Jul 04 j 09:02	23° <u>40</u> '33	
conjunction	474 Oct 03 j 00:17	10° <u>55</u> '30	1°47'39	evening set	481 Oct 02 j 12:04	25° <u>36</u> '22	
minimum elong	474 Oct 03 j 00:17	10° <u>55</u> '30	1°47'39				
morning rise	474 Oct 18 j 10:01	11° <u>29</u> '50		conjunction	481 Oct 17 j 21:36	26° <u>10</u> '45	1°50'58
retrograde	475 Jan 13 j 01:07	13° <u>22</u> '06		minimum elong	481 Oct 17 j 21:36	26° <u>10</u> '45	1°50'58
opposition	475 Apr 01 j 01:42	12° <u>00</u> '20	1°55'31	max. Earth dist.	481 Oct 17 j 01:57	26° <u>08</u> '54	31.30826 AU
min. Earth dist.	475 Apr 01 j 21:53	11° <u>58</u> '57	29.31055 AU	morning rise	481 Nov 02 j 04:34	26° <u>44</u> '55	
direct	475 Jun 21 j 06:24	10° <u>35</u> '40		retrograde	482 Jan 28 j 01:14	28° <u>37</u> '31	
evening set	475 Sep 19 j 22:08	12° <u>31</u> '52		opposition	482 Apr 16 j 12:30	27° <u>15</u> '31	1°58'28
				min. Earth dist.	482 Apr 17 j 06:19	27° <u>14</u> '18	29.30952 AU
conjunction	475 Oct 05 j 10:34	13° <u>06</u> '26	1°48'36	direct	482 Jul 06 j 19:33	25° <u>51</u> '02	
minimum elong	475 Oct 05 j 10:34	13° <u>06</u> '26	1°48'36	evening set	482 Oct 04 j 21:54	27° <u>46</u> '47	
max. Earth dist.	475 Oct 04 j 13:23	13° <u>04</u> '26	31.31063 AU				
morning rise	475 Oct 20 j 19:41	13° <u>40</u> '43		conjunction	482 Oct 20 j 07:11	28° <u>21</u> '09	1°50'48
retrograde	476 Jan 15 j 11:16	15° <u>33</u> '04		minimum elong	482 Oct 20 j 07:11	28° <u>21</u> '09	1°50'48

max. Earth dist.	482 Oct 19 j 13:22	28° <u>♌</u> 19'28	31.30830 AU	min. Earth dist.	489 May 02 j 16:25	12° <u>♍</u> 29'16	29.30654 AU
morning rise	482 Nov 04 j 13:40	28° <u>♌</u> 55'18		direct	489 Jul 22 j 03:34	11° <u>♍</u> 06'11	
	482 Dec 07 j 06:39	0° <u>♍</u>		evening set	489 Oct 19 j 18:40	13° <u>♍</u> 01'32	
retrograde	483 Jan 30 j 09:53	0° <u>♍</u> 47'59		max. Earth dist.	489 Nov 03 j 11:37	13° <u>♍</u> 34'28	31.30315 AU
	483 Mar 28 j 11:28	30° <u>♋</u>					
opposition	483 Apr 19 j 00:35	29° <u>♌</u> 25'58	1°58'13	conjunction	489 Nov 04 j 01:41	13° <u>♍</u> 35'47	1°45'16
min. Earth dist.	483 Apr 19 j 18:12	29° <u>♌</u> 24'46	29.30987 AU	minimum elong	489 Nov 04 j 01:41	13° <u>♍</u> 35'47	1°45'16
direct	483 Jul 09 j 07:39	28° <u>♌</u> 01'33		morning rise	489 Nov 19 j 06:37	14° <u>♍</u> 09'54	
evening set	483 Oct 07 j 07:54	29° <u>♌</u> 57'14			489 Dec 13 j 15:05	15° <u>♍</u>	
	483 Oct 08 j 14:00	0° <u>♍</u>		retrograde	490 Feb 14 j 13:41	16° <u>♍</u> 03'14	
					490 Apr 22 j 19:30	15° <u>♋</u> <u>♍</u>	
conjunction	483 Oct 22 j 16:38	0° <u>♍</u> 31'35	1°50'29	opposition	490 May 04 j 14:21	14° <u>♍</u> 41'03	1°51'43
minimum elong	483 Oct 22 j 16:38	0° <u>♍</u> 31'35	1°50'30	min. Earth dist.	490 May 05 j 04:19	14° <u>♍</u> 40'07	29.30163 AU
max. Earth dist.	483 Oct 21 j 22:39	0° <u>♍</u> 29'53	31.30910 AU	direct	490 Jul 24 j 17:30	13° <u>♍</u> 17'01	
morning rise	483 Nov 06 j 23:00	1° <u>♍</u> 05'44			490 Oct 16 j 12:54	15° <u>♍</u>	
retrograde	484 Feb 01 j 20:47	2° <u>♍</u> 58'30		evening set	490 Oct 22 j 04:21	15° <u>♍</u> 12'16	
opposition	484 Apr 20 j 12:30	1° <u>♍</u> 36'29	1°57'47				
min. Earth dist.	484 Apr 21 j 04:39	1° <u>♍</u> 35'23	29.31088 AU	conjunction	490 Nov 06 j 10:56	15° <u>♍</u> 46'31	1°43'52
direct	484 Jul 10 j 17:56	0° <u>♍</u> 12'08		minimum elong	490 Nov 06 j 10:56	15° <u>♍</u> 46'31	1°43'52
evening set	484 Oct 08 j 17:36	2° <u>♍</u> 07'46		max. Earth dist.	490 Nov 05 j 20:21	15° <u>♍</u> 45'09	31.29770 AU
max. Earth dist.	484 Oct 23 j 09:37	2° <u>♍</u> 40'33	31.31012 AU	morning rise	490 Nov 21 j 15:54	16° <u>♍</u> 20'38	
				retrograde	491 Feb 17 j 01:10	18° <u>♍</u> 14'02	
conjunction	484 Oct 24 j 02:08	2° <u>♍</u> 42'06	1°50'00	opposition	491 May 07 j 02:52	16° <u>♍</u> 51'48	1°50'09
minimum elong	484 Oct 24 j 02:08	2° <u>♍</u> 42'06	1°50'01	min. Earth dist.	491 May 07 j 15:59	16° <u>♍</u> 50'54	29.29567 AU
morning rise	484 Nov 08 j 08:07	3° <u>♍</u> 16'14		direct	491 Jul 27 j 04:52	15° <u>♍</u> 27'46	
retrograde	485 Feb 03 j 06:45	5° <u>♍</u> 09'06		evening set	491 Oct 24 j 13:47	17° <u>♍</u> 22'55	
opposition	485 Apr 23 j 00:41	3° <u>♍</u> 47'05	1°57'12				
min. Earth dist.	485 Apr 23 j 17:17	3° <u>♍</u> 45'57	29.31181 AU	conjunction	491 Nov 08 j 20:20	17° <u>♍</u> 57'09	1°42'19
direct	485 Jul 13 j 04:07	2° <u>♍</u> 22'48		minimum elong	491 Nov 08 j 20:21	17° <u>♍</u> 57'09	1°42'19
evening set	485 Oct 11 j 03:31	4° <u>♍</u> 18'24		max. Earth dist.	491 Nov 08 j 07:27	17° <u>♍</u> 55'57	31.29134 AU
				morning rise	491 Nov 24 j 01:03	18° <u>♍</u> 31'17	
conjunction	485 Oct 26 j 11:35	4° <u>♍</u> 52'42	1°49'22	retrograde	492 Feb 19 j 09:54	20° <u>♍</u> 24'45	
minimum elong	485 Oct 26 j 11:35	4° <u>♍</u> 52'42	1°49'22	opposition	492 May 08 j 15:20	19° <u>♍</u> 02'25	1°48'25
max. Earth dist.	485 Oct 25 j 19:11	4° <u>♍</u> 51'10	31.31092 AU	min. Earth dist.	492 May 09 j 04:21	19° <u>♍</u> 01'33	29.28902 AU
morning rise	485 Nov 10 j 17:24	5° <u>♍</u> 26'50		direct	492 Jul 28 j 17:25	17° <u>♍</u> 38'24	
retrograde	486 Feb 05 j 18:18	7° <u>♍</u> 19'48		evening set	492 Oct 25 j 23:13	19° <u>♍</u> 33'27	
opposition	486 Apr 25 j 12:45	5° <u>♍</u> 57'47	1°56'26				
min. Earth dist.	486 Apr 26 j 03:48	5° <u>♍</u> 56'46	29.31221 AU	conjunction	492 Nov 10 j 05:27	20° <u>♍</u> 07'41	1°40'37
direct	486 Jul 15 j 15:43	4° <u>♍</u> 33'34		minimum elong	492 Nov 10 j 05:27	20° <u>♍</u> 07'41	1°40'37
evening set	486 Oct 13 j 13:22	6° <u>♍</u> 29'07		max. Earth dist.	492 Nov 09 j 16:32	20° <u>♍</u> 06'28	31.28476 AU
				morning rise	492 Nov 25 j 10:15	20° <u>♍</u> 41'48	
conjunction	486 Oct 28 j 21:08	7° <u>♍</u> 03'25	1°48'34	retrograde	493 Feb 20 j 20:37	22° <u>♍</u> 35'21	
minimum elong	486 Oct 28 j 21:07	7° <u>♍</u> 03'25	1°48'34	opposition	493 May 11 j 03:44	21° <u>♍</u> 12'57	1°46'32
max. Earth dist.	486 Oct 28 j 05:14	7° <u>♍</u> 01'55	31.31087 AU	min. Earth dist.	493 May 11 j 15:03	21° <u>♍</u> 12'11	29.28252 AU
morning rise	486 Nov 13 j 02:40	7° <u>♍</u> 37'32		direct	493 Jul 31 j 04:11	19° <u>♍</u> 48'56	
retrograde	487 Feb 08 j 05:52	9° <u>♍</u> 30'37		evening set	493 Oct 28 j 08:30	21° <u>♍</u> 43'54	
opposition	487 Apr 28 j 01:12	8° <u>♍</u> 08'34	1°55'30				
min. Earth dist.	487 Apr 28 j 16:45	8° <u>♍</u> 07'31	29.31170 AU	conjunction	493 Nov 12 j 14:37	22° <u>♍</u> 18'08	1°38'47
direct	487 Jul 18 j 03:23	6° <u>♍</u> 44'25		minimum elong	493 Nov 12 j 14:37	22° <u>♍</u> 18'08	1°38'47
evening set	487 Oct 15 j 23:05	8° <u>♍</u> 39'54		max. Earth dist.	493 Nov 12 j 03:22	22° <u>♍</u> 17'04	31.27844 AU
				morning rise	493 Nov 27 j 19:12	22° <u>♍</u> 52'15	
conjunction	487 Oct 31 j 06:34	9° <u>♍</u> 14'11	1°47'37	retrograde	494 Feb 23 j 06:22	24° <u>♍</u> 45'55	
minimum elong	487 Oct 31 j 06:34	9° <u>♍</u> 14'11	1°47'37	opposition	494 May 13 j 16:18	23° <u>♍</u> 23'26	1°44'30
max. Earth dist.	487 Oct 30 j 15:29	9° <u>♍</u> 12'46	31.30980 AU	min. Earth dist.	494 May 14 j 03:34	23° <u>♍</u> 22'41	29.27659 AU
morning rise	487 Nov 15 j 11:54	9° <u>♍</u> 48'18		direct	494 Aug 02 j 14:21	21° <u>♍</u> 59'28	
retrograde	488 Feb 10 j 17:23	11° <u>♍</u> 41'28		evening set	494 Oct 30 j 17:50	23° <u>♍</u> 54'20	
opposition	488 Apr 29 j 13:33	10° <u>♍</u> 19'24	1°54'24				
min. Earth dist.	488 Apr 30 j 03:57	10° <u>♍</u> 18'25	29.30983 AU	conjunction	494 Nov 14 j 23:43	24° <u>♍</u> 28'34	1°36'49
direct	488 Jul 19 j 16:43	8° <u>♍</u> 55'18		minimum elong	494 Nov 14 j 23:43	24° <u>♍</u> 28'34	1°36'48
evening set	488 Oct 17 j 08:57	10° <u>♍</u> 50'43		max. Earth dist.	494 Nov 14 j 13:13	24° <u>♍</u> 27'34	31.27312 AU
				morning rise	494 Nov 30 j 04:19	25° <u>♍</u> 02'42	
conjunction	488 Nov 01 j 16:04	11° <u>♍</u> 24'59	1°46'31	retrograde	495 Feb 25 j 17:55	26° <u>♍</u> 56'28	
minimum elong	488 Nov 01 j 16:04	11° <u>♍</u> 24'59	1°46'31	opposition	495 May 16 j 04:47	25° <u>♍</u> 33'58	1°42'19
max. Earth dist.	488 Nov 01 j 00:42	11° <u>♍</u> 23'33	31.30720 AU	min. Earth dist.	495 May 16 j 13:50	25° <u>♍</u> 33'21	29.27168 AU
morning rise	488 Nov 16 j 21:18	11° <u>♍</u> 59'06		direct	495 Aug 05 j 01:38	24° <u>♍</u> 10'01	
retrograde	489 Feb 12 j 04:15	13° <u>♍</u> 52'22		evening set	495 Nov 02 j 02:58	26° <u>♍</u> 04'51	
opposition	489 May 02 j 01:50	12° <u>♍</u> 30'15	1°53'08				

conjunction	495 Nov 17 j 08:44	26° 11 39'04	1°34'42	retrograde	502 Mar 13 j 01:33	12° 27 13'59	
minimum elong	495 Nov 17 j 08:44	26° 11 39'04	1°34'42	opposition	502 May 31 j 21:57	10° 27 51'15	1°23'02
max. Earth dist.	495 Nov 16 j 23:10	26° 11 38'10	31.26867 AU	min. Earth dist.	502 Jun 01 j 01:42	10° 27 51'00	29.23895 AU
morning rise	495 Dec 02 j 13:20	27° 11 13'13		direct	502 Aug 20 j 11:51	9° 27 27'44	
retrograde	496 Feb 28 j 05:52	29° 11 07'07		evening set	502 Nov 16 j 20:05	11° 27 22'06	
opposition	496 May 17 j 17:25	27° 11 44'34	1°39'59				
min. Earth dist.	496 May 18 j 02:25	27° 11 43'58	29.26764 AU	conjunction	502 Dec 02 j 01:24	11° 27 56'23	1°16'12
direct	496 Aug 06 j 12:28	26° 11 20'43		minimum elong	502 Dec 02 j 01:24	11° 27 56'23	1°16'12
evening set	496 Nov 03 j 12:11	28° 11 15'28		max. Earth dist.	502 Dec 01 j 21:24	11° 27 56'01	31.23428 AU
				morning rise	502 Dec 17 j 06:20	12° 27 30'40	
conjunction	496 Nov 18 j 17:54	28° 11 49'42	1°32'26	retrograde	503 Mar 15 j 11:51	14° 27 25'23	
minimum elong	496 Nov 18 j 17:54	28° 11 49'42	1°32'26	opposition	503 Jun 03 j 11:00	13° 27 02'34	1°19'46
max. Earth dist.	496 Nov 18 j 09:45	28° 11 48'56	31.26503 AU	min. Earth dist.	503 Jun 03 j 15:05	13° 27 02'17	29.23049 AU
morning rise	496 Dec 03 j 22:27	29° 11 23'52		direct	503 Aug 22 j 22:45	11° 27 39'04	
	496 Dec 21 j 00:06	0° 27		evening set	503 Nov 19 j 05:15	13° 27 33'19	
retrograde	497 Mar 01 j 17:51	1° 27 17'53					
	497 May 17 j 08:31	30° 27		conjunction	503 Dec 04 j 10:36	14° 27 07'36	1°13'05
opposition	497 May 20 j 05:50	29° 11 55'20	1°37'30	minimum elong	503 Dec 04 j 10:36	14° 27 07'36	1°13'05
min. Earth dist.	497 May 20 j 13:13	29° 11 54'50	29.26404 AU	max. Earth dist.	503 Dec 04 j 07:11	14° 27 07'16	31.22548 AU
direct	497 Aug 09 j 00:35	28° 11 31'32		morning rise	503 Dec 19 j 15:45	14° 27 41'54	
	497 Oct 24 j 15:23	0° 27		retrograde	504 Mar 16 j 23:09	16° 27 36'42	
evening set	497 Nov 05 j 21:32	0° 27 26'16		opposition	504 Jun 04 j 23:49	15° 27 13'47	1°16'23
				min. Earth dist.	504 Jun 05 j 02:02	15° 27 13'38	29.22120 AU
conjunction	497 Nov 21 j 03:00	1° 27 00'30	1°30'03	direct	504 Aug 24 j 10:38	13° 27 50'15	
minimum elong	497 Nov 21 j 03:01	1° 27 00'30	1°30'03	evening set	504 Nov 20 j 14:30	15° 27 44'24	
max. Earth dist.	497 Nov 20 j 19:02	0° 27 59'45	31.26158 AU				
morning rise	497 Dec 06 j 07:41	1° 27 34'41		conjunction	504 Dec 05 j 19:49	16° 27 18'42	1°09'53
retrograde	498 Mar 04 j 05:33	3° 27 28'50		minimum elong	504 Dec 05 j 19:49	16° 27 18'42	1°09'52
opposition	498 May 22 j 18:36	2° 27 06'15	1°34'52	max. Earth dist.	504 Dec 05 j 16:59	16° 27 18'25	31.21598 AU
min. Earth dist.	498 May 23 j 01:39	2° 27 05'47	29.26061 AU	morning rise	504 Dec 21 j 01:09	16° 27 53'01	
direct	498 Aug 11 j 10:47	0° 27 42'33		retrograde	505 Mar 19 j 10:36	18° 27 47'55	
evening set	498 Nov 08 j 06:38	2° 27 37'13		opposition	505 Jun 07 j 12:40	17° 27 24'53	1°12'54
				min. Earth dist.	505 Jun 07 j 14:58	17° 27 24'43	29.21173 AU
conjunction	498 Nov 23 j 12:10	3° 27 11'28	1°27'31	direct	505 Aug 26 j 21:02	16° 27 01'21	
minimum elong	498 Nov 23 j 12:10	3° 27 11'28	1°27'31	evening set	505 Nov 22 j 23:38	17° 27 55'23	
max. Earth dist.	498 Nov 23 j 06:03	3° 27 10'53	31.25803 AU				
morning rise	498 Dec 08 j 16:43	3° 27 45'40		conjunction	505 Dec 08 j 05:04	18° 27 29'41	1°06'34
retrograde	499 Mar 06 j 16:19	5° 27 39'57		minimum elong	505 Dec 08 j 05:05	18° 27 29'41	1°06'34
opposition	499 May 25 j 07:26	4° 27 17'21	1°32'06	max. Earth dist.	505 Dec 08 j 03:54	18° 27 29'35	31.20675 AU
min. Earth dist.	499 May 25 j 13:33	4° 27 16'56	29.25669 AU	morning rise	505 Dec 23 j 10:29	19° 27 04'01	
direct	499 Aug 14 j 00:38	2° 27 53'43		retrograde	506 Mar 21 j 22:06	20° 27 59'01	
evening set	499 Nov 10 j 16:04	4° 27 48'20		opposition	506 Jun 10 j 01:34	19° 27 35'53	1°09'18
				min. Earth dist.	506 Jun 10 j 01:57	19° 27 35'52	29.20270 AU
conjunction	499 Nov 25 j 21:21	5° 27 22'35	1°24'52	direct	506 Aug 29 j 08:49	18° 27 12'22	
minimum elong	499 Nov 25 j 21:22	5° 27 22'35	1°24'52	evening set	506 Nov 25 j 08:46	20° 27 06'19	
max. Earth dist.	499 Nov 25 j 14:52	5° 27 21'58	31.25384 AU				
morning rise	499 Dec 11 j 02:08	5° 27 56'48		conjunction	506 Dec 10 j 14:06	20° 27 40'37	1°03'09
retrograde	500 Mar 08 j 05:15	7° 27 51'12		minimum elong	506 Dec 10 j 14:07	20° 27 40'37	1°03'09
opposition	500 May 26 j 20:09	6° 27 28'35	1°29'12	max. Earth dist.	506 Dec 10 j 13:17	20° 27 40'33	31.19818 AU
min. Earth dist.	500 May 27 j 01:22	6° 27 28'13	29.25209 AU	morning rise	506 Dec 25 j 19:50	21° 27 14'59	
direct	500 Aug 15 j 11:57	5° 27 05'00		retrograde	507 Mar 24 j 10:30	23° 27 10'05	
evening set	500 Nov 12 j 01:20	6° 27 59'33		opposition	507 Jun 12 j 14:36	21° 27 46'53	1°05'37
				min. Earth dist.	507 Jun 12 j 14:19	21° 27 46'54	29.19469 AU
conjunction	500 Nov 27 j 06:45	7° 27 33'49	1°22'06	direct	507 Aug 31 j 19:09	20° 27 23'23	
minimum elong	500 Nov 27 j 06:46	7° 27 33'49	1°22'06	evening set	507 Nov 27 j 17:52	22° 27 17'16	
max. Earth dist.	500 Nov 27 j 01:48	7° 27 33'21	31.24863 AU				
morning rise	500 Dec 12 j 11:27	8° 27 08'03		conjunction	507 Dec 12 j 23:27	22° 27 51'35	0°59'39
retrograde	501 Mar 10 j 14:35	10° 27 02'34		minimum elong	507 Dec 12 j 23:28	22° 27 51'35	0°59'39
opposition	501 May 29 j 09:05	8° 27 39'54	1°26'11	max. Earth dist.	507 Dec 13 j 00:46	22° 27 51'43	31.19069 AU
min. Earth dist.	501 May 29 j 14:17	8° 27 39'33	29.24617 AU	morning rise	507 Dec 28 j 05:14	23° 27 25'58	
direct	501 Aug 18 j 00:21	7° 27 16'22		retrograde	508 Mar 25 j 21:56	25° 27 21'11	
evening set	501 Nov 14 j 10:45	9° 27 10'50		opposition	508 Jun 14 j 03:22	23° 27 57'56	1°01'49
				min. Earth dist.	508 Jun 14 j 01:50	23° 27 58'02	29.18759 AU
conjunction	501 Nov 29 j 15:59	9° 27 45'06	1°19'12	direct	508 Sep 02 j 08:12	22° 27 34'29	
minimum elong	501 Nov 29 j 15:59	9° 27 45'06	1°19'12	evening set	508 Nov 29 j 03:07	24° 27 28'19	
max. Earth dist.	501 Nov 29 j 10:50	9° 27 44'37	31.24215 AU				
morning rise	501 Dec 14 j 20:53	10° 27 19'21		conjunction	508 Dec 14 j 08:38	25° 27 02'39	0°56'03

minimum elong	508 Dec 14 j 08:39	25° \mathring{A} 02'39	0°56'03	opposition	515 Jun 30 j 23:13	9° \mathring{B} 20'35	0°32'56
max. Earth dist.	508 Dec 14 j 09:55	25° \mathring{A} 02'47	31.18412 AU	min. Earth dist.	515 Jun 30 j 15:52	9° \mathring{B} 21'05	29.13782 AU
morning rise	508 Dec 29 j 14:48	25° \mathring{A} 37'04		direct	515 Sep 18 j 13:44	7° \mathring{B} 57'30	
retrograde	509 Mar 28 j 11:29	27° \mathring{A} 32'25		evening set	515 Dec 14 j 21:13	9° \mathring{B} 51'01	
opposition	509 Jun 16 j 16:19	26° \mathring{A} 09'08	0°57'55				
min. Earth dist.	509 Jun 16 j 13:26	26° \mathring{A} 09'20	29.18138 AU	conjunction	515 Dec 30 j 03:42	10° \mathring{B} 25'30	0°28'48
direct	509 Sep 04 j 19:02	24° \mathring{A} 45'45		minimum elong	515 Dec 30 j 03:42	10° \mathring{B} 25'30	0°28'49
evening set	509 Dec 01 j 12:11	26° \mathring{A} 39'32		max. Earth dist.	515 Dec 30 j 10:10	10° \mathring{B} 26'06	31.13233 AU
				morning rise	516 Jan 14 j 11:44	11° \mathring{B} 00'08	
conjunction	509 Dec 16 j 17:56	27° \mathring{A} 13'54	0°52'22	retrograde	516 Apr 12 j 22:53	12° \mathring{B} 56'29	
minimum elong	509 Dec 16 j 17:57	27° \mathring{A} 13'54	0°52'22	opposition	516 Jul 02 j 12:19	11° \mathring{B} 32'54	0°28'33
max. Earth dist.	509 Dec 16 j 21:11	27° \mathring{A} 14'12	31.17814 AU	min. Earth dist.	516 Jul 02 j 04:58	11° \mathring{B} 33'23	29.12680 AU
morning rise	510 Jan 01 j 00:10	27° \mathring{A} 48'20		direct	516 Sep 20 j 00:13	10° \mathring{B} 09'48	
retrograde	510 Mar 30 j 21:45	29° \mathring{A} 43'50		evening set	516 Dec 16 j 06:44	12° \mathring{B} 03'14	
opposition	510 Jun 19 j 05:25	28° \mathring{A} 20'32	0°53'57				
min. Earth dist.	510 Jun 19 j 02:07	28° \mathring{A} 20'45	29.17551 AU	conjunction	516 Dec 31 j 13:36	12° \mathring{B} 37'45	0°24'42
direct	510 Sep 07 j 07:05	26° \mathring{A} 57'13		minimum elong	516 Dec 31 j 13:36	12° \mathring{B} 37'45	0°24'42
evening set	510 Dec 03 j 21:32	28° \mathring{A} 50'58		max. Earth dist.	516 Dec 31 j 21:48	12° \mathring{B} 38'31	31.12090 AU
				morning rise	517 Jan 15 j 21:46	13° \mathring{B} 12'24	
conjunction	510 Dec 19 j 03:17	29° \mathring{A} 25'21	0°48'36	retrograde	517 Apr 15 j 11:20	15° \mathring{B} 08'51	
minimum elong	510 Dec 19 j 03:17	29° \mathring{A} 25'21	0°48'37	opposition	517 Jul 05 j 01:26	13° \mathring{B} 45'09	0°24'08
max. Earth dist.	510 Dec 19 j 06:48	29° \mathring{A} 25'40	31.17249 AU	min. Earth dist.	517 Jul 04 j 17:09	13° \mathring{B} 45'43	29.11505 AU
morning rise	511 Jan 03 j 09:53	29° \mathring{A} 59'49		direct	517 Sep 22 j 13:26	12° \mathring{B} 22'03	
	511 Jan 03 j 11:51	0° \mathring{B}		evening set	517 Dec 18 j 16:18	14° \mathring{B} 15'24	
retrograde	511 Apr 02 j 10:01	1° \mathring{B} 55'28					
opposition	511 Jun 21 j 18:25	0° \mathring{B} 32'09	0°49'53	conjunction	518 Jan 02 j 23:11	14° \mathring{B} 49'55	0°20'33
min. Earth dist.	511 Jun 21 j 13:28	0° \mathring{B} 32'29	29.16979 AU	minimum elong	518 Jan 02 j 23:11	14° \mathring{B} 49'55	0°20'33
	511 Jul 12 j 02:27	30° \mathring{R} \mathring{A}		max. Earth dist.	518 Jan 03 j 07:15	14° \mathring{B} 50'41	31.10919 AU
direct	511 Sep 09 j 18:18	29° \mathring{A} 08'55		morning rise	518 Jan 18 j 07:50	15° \mathring{B} 24'37	
	511 Nov 05 j 00:59	0° \mathring{B}		retrograde	518 Apr 18 j 01:07	17° \mathring{B} 21'10	
evening set	511 Dec 06 j 06:50	1° \mathring{B} 02'37		opposition	518 Jul 07 j 14:34	15° \mathring{B} 57'21	0°19'41
				min. Earth dist.	518 Jul 07 j 05:07	15° \mathring{B} 57'59	29.10353 AU
conjunction	511 Dec 21 j 12:47	1° \mathring{B} 37'01	0°44'46	direct	518 Sep 25 j 00:22	14° \mathring{B} 34'13	
minimum elong	511 Dec 21 j 12:47	1° \mathring{B} 37'01	0°44'46	evening set	518 Dec 21 j 01:51	16° \mathring{B} 27'30	
max. Earth dist.	511 Dec 21 j 17:31	1° \mathring{B} 37'28	31.16652 AU				
morning rise	512 Jan 05 j 19:35	2° \mathring{B} 11'32		conjunction	519 Jan 05 j 09:03	17° \mathring{B} 02'03	0°16'23
retrograde	512 Apr 03 j 21:24	4° \mathring{B} 07'21		minimum elong	519 Jan 05 j 09:03	17° \mathring{B} 02'03	0°16'23
opposition	512 Jun 23 j 07:38	2° \mathring{B} 44'00	0°45'44	max. Earth dist.	519 Jan 05 j 18:58	17° \mathring{B} 02'59	31.09786 AU
min. Earth dist.	512 Jun 23 j 03:00	2° \mathring{B} 44'19	29.16350 AU	morning rise	519 Jan 20 j 17:53	17° \mathring{B} 36'47	
direct	512 Sep 11 j 05:01	1° \mathring{B} 20'50		retrograde	519 Apr 20 j 11:54	19° \mathring{B} 33'25	
evening set	512 Dec 07 j 16:20	3° \mathring{B} 14'30		opposition	519 Jul 10 j 03:37	18° \mathring{B} 09'31	0°15'13
				min. Earth dist.	519 Jul 09 j 17:42	18° \mathring{B} 10'11	29.09262 AU
conjunction	512 Dec 22 j 22:24	3° \mathring{B} 48'56	0°40'52	direct	519 Sep 27 j 12:35	16° \mathring{B} 46'23	
minimum elong	512 Dec 22 j 22:25	3° \mathring{B} 48'56	0°40'51	evening set	519 Dec 23 j 11:30	18° \mathring{B} 39'36	
max. Earth dist.	512 Dec 23 j 03:45	3° \mathring{B} 49'26	31.15987 AU				
morning rise	513 Jan 07 j 05:27	4° \mathring{B} 23'28		conjunction	520 Jan 07 j 18:52	19° \mathring{B} 14'10	0°12'11
retrograde	513 Apr 06 j 09:23	6° \mathring{B} 19'26		minimum elong	520 Jan 07 j 18:52	19° \mathring{B} 14'10	0°12'11
opposition	513 Jun 25 j 20:38	4° \mathring{B} 56'04	0°41'32	behind sun begin	520 Jan 07 j 14:30	19° \mathring{B} 13'46	
min. Earth dist.	513 Jun 25 j 14:19	4° \mathring{B} 56'29	29.15625 AU	behind sun end	520 Jan 07 j 23:15	19° \mathring{B} 14'34	
direct	513 Sep 13 j 16:33	3° \mathring{B} 32'57		max. Earth dist.	520 Jan 08 j 05:11	19° \mathring{B} 15'08	31.08750 AU
evening set	513 Dec 10 j 01:59	5° \mathring{B} 26'34		morning rise	520 Jan 23 j 04:09	19° \mathring{B} 48'56	
				retrograde	520 Apr 22 j 01:04	21° \mathring{B} 45'40	
conjunction	513 Dec 25 j 08:07	6° \mathring{B} 01'01	0°36'54	opposition	520 Jul 11 j 16:35	20° \mathring{B} 21'41	0°10'42
minimum elong	513 Dec 25 j 08:07	6° \mathring{B} 01'01	0°36'54	min. Earth dist.	520 Jul 11 j 04:52	20° \mathring{B} 22'29	29.08274 AU
max. Earth dist.	513 Dec 25 j 13:38	6° \mathring{B} 01'32	31.15199 AU	direct	520 Sep 29 j 00:53	18° \mathring{B} 58'34	
morning rise	514 Jan 09 j 15:29	6° \mathring{B} 35'36		evening set	520 Dec 24 j 21:09	20° \mathring{B} 51'44	
retrograde	514 Apr 08 j 21:38	8° \mathring{B} 31'43					
opposition	514 Jun 28 j 10:00	7° \mathring{B} 08'17	0°37'15	conjunction	521 Jan 09 j 04:46	21° \mathring{B} 26'20	0°07'59
min. Earth dist.	514 Jun 28 j 04:02	7° \mathring{B} 08'41	29.14777 AU	minimum elong	521 Jan 09 j 04:45	21° \mathring{B} 26'20	0°07'59
direct	514 Sep 16 j 02:27	5° \mathring{B} 45'12		behind sun begin	521 Jan 08 j 23:00	21° \mathring{B} 25'49	
evening set	514 Dec 12 j 11:28	7° \mathring{B} 38'46		behind sun end	521 Jan 09 j 10:30	21° \mathring{B} 26'52	
				max. Earth dist.	521 Jan 09 j 16:21	21° \mathring{B} 27'25	31.07799 AU
conjunction	514 Dec 27 j 17:54	8° \mathring{B} 13'14	0°32'52	morning rise	521 Jan 24 j 14:19	22° \mathring{B} 01'07	
minimum elong	514 Dec 27 j 17:55	8° \mathring{B} 13'14	0°32'52	retrograde	521 Apr 24 j 12:56	23° \mathring{B} 58'00	
max. Earth dist.	514 Dec 28 j 00:42	8° \mathring{B} 13'53	31.14286 AU	opposition	521 Jul 14 j 05:38	22° \mathring{B} 33'57	0°06'11
morning rise	515 Jan 12 j 01:28	8° \mathring{B} 47'50		min. Earth dist.	521 Jul 13 j 17:58	22° \mathring{B} 34'44	29.07375 AU
retrograde	515 Apr 11 j 09:46	10° \mathring{B} 44'05		direct	521 Oct 01 j 12:14	21° \mathring{B} 10'51	

evening set	521 Dec 27 j 06:52	23° $\overline{3}$ 03'59		minimum elong	527 Jan 22 j 18:23	4° \approx 42'21	0°17'33
				max. Earth dist.	527 Jan 23 j 09:31	4° \approx 43'47	31.02810 AU
conjunction	522 Jan 11 j 14:45	23° $\overline{3}$ 38'36	0°03'46	morning rise	527 Feb 07 j 06:13	5° \approx 17'21	
minimum elong	522 Jan 11 j 14:45	23° $\overline{3}$ 38'36	0°03'46	retrograde	527 May 08 j 17:42	7° \approx 15'00	
behind sun begin	522 Jan 11 j 08:25	23° $\overline{3}$ 38'01		opposition	527 Jul 28 j 12:17	5° \approx 50'41	-0°21'01
behind sun end	522 Jan 11 j 21:06	23° $\overline{3}$ 39'10		min. Earth dist.	527 Jul 27 j 20:21	5° \approx 51'46	29.02303 AU
max. Earth dist.	522 Jan 12 j 03:24	23° $\overline{3}$ 39'47	31.06956 AU	direct	527 Oct 15 j 05:09	4° \approx 27'43	
morning rise	522 Jan 27 j 00:39	24° $\overline{3}$ 13'25		evening set	528 Jan 09 j 19:39	6° \approx 20'44	
retrograde	522 Apr 27 j 00:38	26° $\overline{3}$ 10'25					
opposition	522 Jul 16 j 18:40	24° $\overline{3}$ 46'20	0°01'39	conjunction	528 Jan 25 j 05:10	6° \approx 55'30	-0°21'44
min. Earth dist.	522 Jul 16 j 04:59	24° $\overline{3}$ 47'16	29.06563 AU	minimum elong	528 Jan 25 j 05:10	6° \approx 55'30	0°21'44
direct	522 Oct 03 j 23:48	23° $\overline{3}$ 23'16		max. Earth dist.	528 Jan 25 j 21:26	6° \approx 57'02	31.01723 AU
desc. node	522 Nov 26 j 16:11	24° $\overline{3}$ 10'42		morning rise	528 Feb 09 j 17:17	7° \approx 30'31	
evening set	522 Dec 29 j 16:40	25° $\overline{3}$ 16'22		retrograde	528 May 10 j 05:51	9° \approx 28'17	
				min. Earth dist.	528 Jul 29 j 09:35	8° \approx 04'57	29.01157 AU
conjunction	523 Jan 14 j 00:44	25° $\overline{3}$ 51'00	-0°00'35	opposition	528 Jul 30 j 01:25	8° \approx 03'52	-0°25'29
minimum elong	523 Jan 14 j 00:43	25° $\overline{3}$ 51'00	0°00'35	direct	528 Oct 16 j 17:35	6° \approx 40'53	
behind sun begin	523 Jan 13 j 18:19	25° $\overline{3}$ 50'26		evening set	529 Jan 11 j 06:03	8° \approx 33'51	
behind sun end	523 Jan 14 j 07:06	25° $\overline{3}$ 51'35					
max. Earth dist.	523 Jan 14 j 13:46	25° $\overline{3}$ 52'14	31.06168 AU	conjunction	529 Jan 26 j 15:48	9° \approx 08'39	-0°25'54
morning rise	523 Jan 29 j 11:05	26° $\overline{3}$ 25'52		minimum elong	529 Jan 26 j 15:48	9° \approx 08'39	0°25'54
retrograde	523 Apr 29 j 12:33	28° $\overline{3}$ 23'00		max. Earth dist.	529 Jan 27 j 07:59	9° \approx 10'10	31.00541 AU
opposition	523 Jul 19 j 07:53	26° $\overline{3}$ 58'52	-0°02'54	morning rise	529 Feb 11 j 04:21	9° \approx 43'42	
min. Earth dist.	523 Jul 18 j 18:24	26° $\overline{3}$ 59'47	29.05800 AU	retrograde	529 May 12 j 20:14	11° \approx 41'32	
direct	523 Oct 06 j 09:36	25° $\overline{3}$ 35'51		opposition	529 Aug 01 j 14:24	10° \approx 17'02	-0°29'55
evening set	524 Jan 01 j 02:36	27° $\overline{3}$ 28'55		min. Earth dist.	529 Jul 31 j 21:22	10° \approx 18'12	28.99946 AU
				direct	529 Oct 19 j 06:09	8° \approx 54'01	
conjunction	524 Jan 16 j 11:03	28° $\overline{3}$ 03'35	-0°04'53	evening set	530 Jan 13 j 16:29	10° \approx 46'57	
minimum elong	524 Jan 16 j 11:02	28° $\overline{3}$ 03'35	0°04'53				
behind sun begin	524 Jan 16 j 04:47	28° $\overline{3}$ 03'01		conjunction	530 Jan 29 j 02:32	11° \approx 21'46	-0°30'01
behind sun end	524 Jan 16 j 17:18	28° $\overline{3}$ 04'09		minimum elong	530 Jan 29 j 02:31	11° \approx 21'46	0°30'02
max. Earth dist.	524 Jan 17 j 01:36	28° $\overline{3}$ 04'58	31.05412 AU	max. Earth dist.	530 Jan 29 j 19:34	11° \approx 23'22	30.99309 AU
morning rise	524 Jan 31 j 21:38	28° $\overline{3}$ 38'29		morning rise	530 Feb 13 j 15:28	11° \approx 56'51	
	524 Mar 14 j 17:31	0° \approx		retrograde	530 May 15 j 08:34	13° \approx 54'46	
retrograde	524 May 01 j 00:45	0° \approx 35'45		min. Earth dist.	530 Aug 03 j 10:50	12° \approx 31'18	28.98729 AU
	524 Jun 19 j 07:01	30° \overline{R} $\overline{3}$		opposition	530 Aug 04 j 03:29	12° \approx 30'10	-0°34'18
opposition	524 Jul 20 j 20:46	29° $\overline{3}$ 11'35	-0°07'27	direct	530 Oct 21 j 17:55	11° \approx 07'07	
min. Earth dist.	524 Jul 20 j 05:54	29° $\overline{3}$ 12'36	29.05031 AU	evening set	531 Jan 16 j 02:50	13° \approx 00'00	
direct	524 Oct 07 j 20:39	27° $\overline{3}$ 48'35					
evening set	525 Jan 02 j 12:48	29° $\overline{3}$ 41'40		conjunction	531 Jan 31 j 13:16	13° \approx 34'50	-0°34'06
	525 Jan 10 j 16:50	0° \approx		minimum elong	531 Jan 31 j 13:16	13° \approx 34'50	0°34'06
				max. Earth dist.	531 Feb 01 j 07:12	13° \approx 36'32	30.98120 AU
conjunction	525 Jan 17 j 21:19	0° \approx 16'21	-0°09'07	morning rise	531 Feb 16 j 02:34	14° \approx 09'58	
minimum elong	525 Jan 17 j 21:19	0° \approx 16'21	0°09'07		531 Mar 12 j 05:31	15° \approx	
behind sun begin	525 Jan 17 j 15:51	0° \approx 15'51		retrograde	531 May 17 j 20:41	16° \approx 07'58	
behind sun end	525 Jan 18 j 02:48	0° \approx 16'51			531 Jul 27 j 10:58	15° \overline{R} \approx	
max. Earth dist.	525 Jan 18 j 11:33	0° \approx 17'41	31.04625 AU	opposition	531 Aug 06 j 16:19	14° \approx 43'16	-0°38'38
morning rise	525 Feb 02 j 08:26	0° \approx 51'17		min. Earth dist.	531 Aug 05 j 21:56	14° \approx 44'32	28.97576 AU
retrograde	525 May 03 j 14:28	2° \approx 48'41		direct	531 Oct 24 j 06:04	13° \approx 20'12	
opposition	525 Jul 23 j 09:59	1° \approx 24'29	-0°11'59		532 Jan 12 j 14:03	15° \approx	
min. Earth dist.	525 Jul 22 j 19:12	1° \approx 25'29	29.04225 AU	evening set	532 Jan 18 j 13:27	15° \approx 13'04	
direct	525 Oct 10 j 06:38	0° \approx 01'31					
evening set	526 Jan 04 j 22:51	1° \approx 54'34		conjunction	532 Feb 03 j 00:04	15° \approx 47'55	-0°38'07
				minimum elong	532 Feb 03 j 00:04	15° \approx 47'55	0°38'07
conjunction	526 Jan 20 j 07:48	2° \approx 29'17	-0°13'20	max. Earth dist.	532 Feb 03 j 18:11	15° \approx 49'38	30.97003 AU
minimum elong	526 Jan 20 j 07:47	2° \approx 29'17	0°13'20	morning rise	532 Feb 18 j 13:51	16° \approx 23'05	
behind sun begin	526 Jan 20 j 04:01	2° \approx 28'56		retrograde	532 May 19 j 08:33	18° \approx 21'10	
behind sun end	526 Jan 20 j 11:34	2° \approx 29'37		min. Earth dist.	532 Aug 07 j 10:59	16° \approx 57'39	28.96529 AU
max. Earth dist.	526 Jan 20 j 23:37	2° \approx 30'46	31.03770 AU	opposition	532 Aug 08 j 05:06	16° \approx 56'24	-0°42'55
morning rise	526 Feb 04 j 19:05	3° \approx 04'15		direct	532 Oct 25 j 16:12	15° \approx 33'19	
retrograde	526 May 06 j 03:14	5° \approx 01'47		evening set	533 Jan 19 j 23:57	17° \approx 26'10	
opposition	526 Jul 25 j 23:11	3° \approx 37'32	-0°16'31				
min. Earth dist.	526 Jul 25 j 07:44	3° \approx 38'35	29.03317 AU	conjunction	533 Feb 04 j 11:01	18° \approx 01'04	-0°42'06
direct	526 Oct 12 j 18:48	2° \approx 14'35		minimum elong	533 Feb 04 j 11:01	18° \approx 01'04	0°42'05
evening set	527 Jan 07 j 09:18	4° \approx 07'37		max. Earth dist.	533 Feb 05 j 06:45	18° \approx 02'56	30.96017 AU
				morning rise	533 Feb 20 j 01:03	18° \approx 36'15	
conjunction	527 Jan 22 j 18:23	4° \approx 42'21	-0°17'33	retrograde	533 May 21 j 20:49	20° \approx 34'26	

opposition	533 Aug 10 j 17:51	19° \approx 09'37	-0°47'08	conjunction	540 Feb 20 j 18:38	3° \times 37'39	-1°07'55
min. Earth dist.	533 Aug 09 j 22:05	19° \approx 10'59	28.95606 AU	minimum elong	540 Feb 20 j 18:38	3° \times 37'39	1°07'55
direct	533 Oct 28 j 03:22	17° \approx 46'32		max. Earth dist.	540 Feb 21 j 17:01	3° \times 39'46	30.91167 AU
evening set	534 Jan 22 j 10:32	19° \approx 39'24		morning rise	540 Mar 07 j 11:31	4° \times 13'04	
				retrograde	540 Jun 06 j 20:13	6° \times 11'56	
conjunction	534 Feb 06 j 21:46	20° \approx 14'18	-0°46'00	opposition	540 Aug 26 j 11:10	4° \times 46'55	-1°14'26
minimum elong	534 Feb 06 j 21:46	20° \approx 14'18	0°46'00	min. Earth dist.	540 Aug 25 j 13:14	4° \times 48'26	28.90816 AU
max. Earth dist.	534 Feb 07 j 17:21	20° \approx 16'09	30.95158 AU	direct	540 Nov 12 j 09:59	3° \times 23'53	
morning rise	534 Feb 22 j 12:22	20° \approx 49'32		evening set	541 Feb 06 j 16:46	5° \times 16'52	
retrograde	534 May 24 j 09:53	22° \approx 47'51					
min. Earth dist.	534 Aug 12 j 10:55	21° \approx 24'20	28.94822 AU	conjunction	541 Feb 22 j 06:30	5° \times 51'58	-1°11'15
opposition	534 Aug 13 j 06:45	21° \approx 22'58	-0°51'17	minimum elong	541 Feb 22 j 06:29	5° \times 51'58	1°11'14
direct	534 Oct 30 j 13:13	19° \approx 59'55		max. Earth dist.	541 Feb 23 j 04:20	5° \times 54'02	30.90308 AU
evening set	535 Jan 24 j 21:13	21° \approx 52'47		morning rise	541 Mar 09 j 23:53	6° \times 27'24	
				retrograde	541 Jun 09 j 09:37	8° \times 26'19	
conjunction	535 Feb 09 j 08:58	22° \approx 27'43	-0°49'51	opposition	541 Aug 28 j 24:00	7° \times 01'13	-1°17'57
minimum elong	535 Feb 09 j 08:58	22° \approx 27'43	0°49'51	min. Earth dist.	541 Aug 28 j 02:58	7° \times 02'40	28.89931 AU
max. Earth dist.	535 Feb 10 j 06:20	22° \approx 29'44	30.94423 AU	direct	541 Nov 14 j 21:20	5° \times 38'08	
morning rise	535 Feb 24 j 23:48	23° \approx 02'58		evening set	542 Feb 09 j 04:07	7° \times 31'06	
retrograde	535 May 26 j 22:12	25° \approx 01'23					
opposition	535 Aug 15 j 19:22	23° \approx 36'30	-0°55'22	conjunction	542 Feb 24 j 18:24	8° \times 06'13	-1°14'28
min. Earth dist.	535 Aug 14 j 22:45	23° \approx 37'55	28.94135 AU	minimum elong	542 Feb 24 j 18:24	8° \times 06'13	1°14'28
direct	535 Nov 02 j 00:16	22° \approx 13'27		max. Earth dist.	542 Feb 25 j 17:17	8° \times 08'23	30.89401 AU
evening set	536 Jan 27 j 08:09	24° \approx 06'21		morning rise	542 Mar 12 j 12:06	8° \times 41'41	
				retrograde	542 Jun 11 j 22:06	10° \times 40'37	
conjunction	536 Feb 11 j 20:06	24° \approx 41'19	-0°53'38	opposition	542 Aug 31 j 12:34	9° \times 15'26	-1°21'20
minimum elong	536 Feb 11 j 20:06	24° \approx 41'19	0°53'38	min. Earth dist.	542 Aug 30 j 14:32	9° \times 16'58	28.89012 AU
max. Earth dist.	536 Feb 12 j 16:59	24° \approx 43'18	30.93781 AU	direct	542 Nov 17 j 09:58	7° \times 52'18	
morning rise	536 Feb 27 j 11:31	25° \approx 16'36		evening set	543 Feb 11 j 15:50	9° \times 45'15	
retrograde	536 May 28 j 12:45	27° \approx 15'08					
min. Earth dist.	536 Aug 16 j 10:58	25° \approx 51'42	28.93530 AU	conjunction	543 Feb 27 j 06:20	10° \times 20'23	-1°17'35
opposition	536 Aug 17 j 08:08	25° \approx 50'14	-0°59'22	minimum elong	543 Feb 27 j 06:20	10° \times 20'23	1°17'35
direct	536 Nov 03 j 09:34	24° \approx 27'13		max. Earth dist.	543 Feb 28 j 04:31	10° \times 22'29	30.88488 AU
evening set	537 Jan 28 j 19:04	26° \approx 20'09		morning rise	543 Mar 15 j 00:38	10° \times 55'53	
				retrograde	543 Jun 14 j 10:22	12° \times 54'50	
conjunction	537 Feb 13 j 07:26	26° \approx 55'08	-0°57'20	min. Earth dist.	543 Sep 02 j 03:30	11° \times 31'04	28.88135 AU
minimum elong	537 Feb 13 j 07:26	26° \approx 55'08	0°57'20	opposition	543 Sep 03 j 01:02	11° \times 29'34	-1°24'36
max. Earth dist.	537 Feb 14 j 05:36	26° \approx 57'14	30.93178 AU	direct	543 Nov 19 j 20:09	10° \times 06'23	
morning rise	537 Feb 28 j 23:06	27° \approx 30'27		evening set	544 Feb 14 j 03:26	11° \times 59'19	
retrograde	537 May 31 j 01:41	29° \approx 29'06					
opposition	537 Aug 19 j 20:56	28° \approx 04'11	-1°03'17	conjunction	544 Feb 29 j 18:30	12° \times 34'29	-1°20'35
min. Earth dist.	537 Aug 18 j 23:53	28° \approx 05'38	28.92935 AU	minimum elong	544 Feb 29 j 18:29	12° \times 34'29	1°20'35
direct	537 Nov 05 j 21:31	26° \approx 41'11		max. Earth dist.	544 Mar 01 j 18:06	12° \times 36'43	30.87636 AU
evening set	538 Jan 31 j 06:18	28° \approx 34'09		morning rise	544 Mar 16 j 13:01	13° \times 10'00	
				retrograde	544 Jun 15 j 21:51	15° \times 08'59	
conjunction	538 Feb 15 j 18:58	29° \approx 09'10	-1°00'57	opposition	544 Sep 04 j 13:26	13° \times 43'39	-1°27'45
minimum elong	538 Feb 15 j 18:58	29° \approx 09'10	1°00'58	min. Earth dist.	544 Sep 03 j 15:19	13° \times 45'12	28.87332 AU
max. Earth dist.	538 Feb 16 j 16:53	29° \approx 11'14	30.92582 AU	direct	544 Nov 21 j 07:42	12° \times 20'26	
morning rise	538 Mar 03 j 11:06	29° \approx 44'31		evening set	545 Feb 15 j 15:06	14° \times 13'22	
	538 Mar 10 j 13:27	0° \times					
retrograde	538 Jun 02 j 17:30	1° \times 43'15		conjunction	545 Mar 03 j 06:24	14° \times 48'33	-1°23'27
min. Earth dist.	538 Aug 21 j 11:48	0° \times 19'49	28.92323 AU	minimum elong	545 Mar 03 j 06:23	14° \times 48'33	1°23'27
opposition	538 Aug 22 j 09:41	0° \times 18'19	-1°07'06	max. Earth dist.	545 Mar 04 j 05:21	14° \times 50'44	30.86890 AU
	538 Sep 02 j 13:03	30° \times		morning rise	545 Mar 19 j 01:27	15° \times 24'06	
direct	538 Nov 08 j 09:45	28° \approx 55'19		retrograde	545 Jun 18 j 11:59	17° \times 23'07	
	539 Jan 10 j 10:25	0° \times		min. Earth dist.	545 Sep 06 j 03:20	15° \times 59'19	28.86661 AU
evening set	539 Feb 02 j 17:40	0° \times 48'18		opposition	545 Sep 07 j 01:53	15° \times 57'45	-1°30'45
				direct	545 Nov 23 j 17:23	14° \times 34'29	
conjunction	539 Feb 18 j 06:42	1° \times 23'22	-1°04'29	evening set	546 Feb 18 j 02:52	16° \times 27'27	
minimum elong	539 Feb 18 j 06:42	1° \times 23'22	1°04'29				
max. Earth dist.	539 Feb 19 j 04:58	1° \times 25'28	30.91918 AU	conjunction	546 Mar 05 j 18:39	17° \times 02'40	-1°26'12
morning rise	539 Mar 05 j 23:14	1° \times 58'44		minimum elong	546 Mar 05 j 18:39	17° \times 02'40	1°26'13
retrograde	539 Jun 05 j 06:23	3° \times 57'34		max. Earth dist.	546 Mar 06 j 18:50	17° \times 04'57	30.86274 AU
opposition	539 Aug 24 j 22:35	2° \times 32'35	-1°10'49	morning rise	546 Mar 21 j 14:01	17° \times 38'14	
min. Earth dist.	539 Aug 24 j 01:38	2° \times 34'02	28.91621 AU	retrograde	546 Jun 21 j 00:11	19° \times 37'18	
direct	539 Nov 10 j 21:15	1° \times 09'35		opposition	546 Sep 09 j 14:13	18° \times 11'54	-1°33'37
evening set	540 Feb 05 j 05:10	3° \times 02'35		min. Earth dist.	546 Sep 08 j 15:43	18° \times 13'28	28.86119 AU

direct	546 Nov 26 j 05:04	16° ✕ 48'37		minimum elong	553 Mar 21 j 11:42	2° ♀ 46'09	1°41'37
evening set	547 Feb 20 j 14:45	18° ✕ 41'38		max. Earth dist.	553 Mar 22 j 11:38	2° ♀ 48'25	30.83927 AU
				morning rise	553 Apr 06 j 09:53	3° ♀ 21'55	
conjunction	547 Mar 08 j 06:56	19° ✕ 16'52	-1°28'50	retrograde	553 Jul 07 j 00:35	5° ♀ 21'14	
minimum elong	547 Mar 08 j 06:56	19° ✕ 16'52	1°28'50	min. Earth dist.	553 Sep 24 j 06:22	3° ♀ 57'25	28.83792 AU
max. Earth dist.	547 Mar 09 j 06:51	19° ✕ 19'07	30.85805 AU	opposition	553 Sep 25 j 04:00	3° ♀ 55'54	-1°49'33
morning rise	547 Mar 24 j 02:48	19° ✕ 52'27		direct	553 Dec 11 j 14:18	2° ♀ 32'38	
retrograde	547 Jun 23 j 15:27	21° ✕ 51'34		evening set	554 Mar 08 j 05:45	4° ♀ 26'00	
min. Earth dist.	547 Sep 11 j 03:07	20° ✕ 27'48	28.85715 AU				
opposition	547 Sep 12 j 02:30	20° ✕ 26'10	-1°36'21	conjunction	554 Mar 24 j 00:52	5° ♀ 01'27	-1°43'14
direct	547 Nov 28 j 16:40	19° ✕ 02'54		minimum elong	554 Mar 24 j 00:51	5° ♀ 01'27	1°43'14
evening set	548 Feb 23 j 02:48	20° ✕ 55'58		max. Earth dist.	554 Mar 24 j 23:18	5° ♀ 03'34	30.83408 AU
				morning rise	554 Apr 08 j 23:39	5° ♀ 37'14	
conjunction	548 Mar 09 j 19:21	21° ✕ 31'14	-1°31'19	retrograde	554 Jul 09 j 14:27	7° ♀ 36'31	
minimum elong	548 Mar 09 j 19:21	21° ✕ 31'14	1°31'20	opposition	554 Sep 27 j 16:04	6° ♀ 11'09	-1°51'12
max. Earth dist.	548 Mar 10 j 19:46	21° ✕ 33'32	30.85441 AU	min. Earth dist.	554 Sep 26 j 18:52	6° ♀ 12'38	28.83252 AU
morning rise	548 Mar 25 j 15:36	22° ✕ 06'51		direct	554 Dec 14 j 00:27	4° ♀ 47'48	
retrograde	548 Jun 25 j 04:10	24° ✕ 06'01		evening set	555 Mar 10 j 18:31	6° ♀ 41'12	
opposition	548 Sep 13 j 14:47	22° ✕ 40'38	-1°38'57				
min. Earth dist.	548 Sep 12 j 16:14	22° ✕ 42'12	28.85406 AU	conjunction	555 Mar 26 j 14:12	7° ♀ 16'40	-1°44'41
direct	548 Nov 30 j 03:31	21° ✕ 17'23		minimum elong	555 Mar 26 j 14:12	7° ♀ 16'40	1°44'41
evening set	549 Feb 24 j 14:53	23° ✕ 10'30		max. Earth dist.	555 Mar 27 j 13:12	7° ♀ 18'50	30.82843 AU
				morning rise	555 Apr 11 j 13:16	7° ♀ 52'29	
conjunction	549 Mar 12 j 07:56	23° ✕ 45'48	-1°33'40	retrograde	555 Jul 12 j 01:23	9° ♀ 51'43	
minimum elong	549 Mar 12 j 07:55	23° ✕ 45'48	1°33'40	min. Earth dist.	555 Sep 29 j 07:29	8° ♀ 27'45	28.82685 AU
max. Earth dist.	549 Mar 13 j 08:37	23° ✕ 48'08	30.85180 AU	opposition	555 Sep 30 j 04:04	8° ♀ 26'18	-1°52'40
morning rise	549 Mar 28 j 04:32	24° ✕ 21'27		direct	555 Dec 16 j 12:38	7° ♀ 02'54	
retrograde	549 Jun 27 j 19:18	26° ✕ 20'40		evening set	556 Mar 12 j 07:20	8° ♀ 56'18	
min. Earth dist.	549 Sep 15 j 03:29	24° ✕ 56'57	28.85171 AU				
opposition	549 Sep 16 j 03:01	24° ✕ 55'19	-1°41'23	conjunction	556 Mar 28 j 03:23	9° ♀ 31'47	-1°45'58
direct	549 Dec 02 j 16:01	23° ✕ 32'05		minimum elong	556 Mar 28 j 03:23	9° ♀ 31'47	1°45'59
evening set	550 Feb 27 j 03:10	25° ✕ 25'17		max. Earth dist.	556 Mar 29 j 01:31	9° ♀ 33'52	30.82298 AU
				morning rise	556 Apr 13 j 02:56	10° ♀ 07'37	
conjunction	550 Mar 14 j 20:30	26° ✕ 00'37	-1°35'53	retrograde	556 Jul 13 j 15:19	12° ♀ 06'48	
minimum elong	550 Mar 14 j 20:30	26° ✕ 00'37	1°35'53	opposition	556 Oct 01 j 15:52	10° ♀ 41'21	-1°53'57
max. Earth dist.	550 Mar 15 j 20:39	26° ✕ 02'54	30.84948 AU	min. Earth dist.	556 Sep 30 j 18:51	10° ♀ 42'50	28.82172 AU
morning rise	550 Mar 30 j 17:38	26° ✕ 36'18		direct	556 Dec 18 j 00:04	9° ♀ 17'51	
retrograde	550 Jun 30 j 09:53	28° ✕ 35'34		evening set	557 Mar 14 j 20:11	11° ♀ 11'18	
opposition	550 Sep 18 j 15:23	27° ✕ 10'14	-1°43'40				
min. Earth dist.	550 Sep 17 j 17:03	27° ✕ 11'47	28.84944 AU	conjunction	557 Mar 30 j 16:40	11° ♀ 46'49	-1°47'06
direct	550 Dec 05 j 03:17	25° ✕ 47'02		minimum elong	557 Mar 30 j 16:40	11° ♀ 46'49	1°47'06
evening set	551 Mar 01 j 15:38	27° ✕ 40'17		max. Earth dist.	557 Mar 31 j 15:04	11° ♀ 48'55	30.81815 AU
				morning rise	557 Apr 15 j 16:35	12° ♀ 22'39	
conjunction	551 Mar 17 j 09:33	28° ✕ 15'39	-1°37'56	retrograde	557 Jul 16 j 03:18	14° ♀ 21'48	
minimum elong	551 Mar 17 j 09:33	28° ✕ 15'39	1°37'56	min. Earth dist.	557 Oct 03 j 07:45	12° ♀ 57'43	28.81748 AU
max. Earth dist.	551 Mar 18 j 10:12	28° ✕ 17'59	30.84698 AU	opposition	557 Oct 04 j 03:45	12° ♀ 56'18	-1°55'05
morning rise	551 Apr 02 j 06:57	28° ✕ 51'22		direct	557 Dec 20 j 10:40	11° ♀ 32'45	
	551 May 06 j 21:41	0° ♀		evening set	558 Mar 17 j 08:56	13° ♀ 26'13	
retrograde	551 Jul 02 j 23:18	0° ♀ 50'40					
	551 Aug 30 j 20:51	30° ♂		conjunction	558 Apr 02 j 05:58	14° ♀ 01'45	-1°48'04
min. Earth dist.	551 Sep 20 j 04:38	29° ✕ 26'57	28.84658 AU	minimum elong	558 Apr 02 j 05:58	14° ♀ 01'45	1°48'04
opposition	551 Sep 21 j 03:26	29° ✕ 25'21	-1°45'47	max. Earth dist.	558 Apr 03 j 04:20	14° ♀ 03'51	30.81457 AU
direct	551 Dec 07 j 15:57	28° ✕ 02'09		morning rise	558 Apr 18 j 06:17	14° ♀ 37'37	
evening set	552 Mar 03 j 04:25	29° ✕ 55'28		retrograde	558 Jul 18 j 17:57	16° ♀ 36'42	
	552 Mar 05 j 05:37	0° ♀		opposition	558 Oct 06 j 15:26	15° ♀ 11'12	-1°56'01
				min. Earth dist.	558 Oct 05 j 18:36	15° ♀ 12'40	28.81451 AU
conjunction	552 Mar 18 j 22:36	0° ♀ 30'51	-1°39'51	direct	558 Dec 23 j 00:04	13° ♀ 47'35	
minimum elong	552 Mar 18 j 22:36	0° ♀ 30'51	1°39'51	evening set	559 Mar 19 j 21:59	15° ♀ 41'05	
max. Earth dist.	552 Mar 19 j 21:49	0° ♀ 33'03	30.84363 AU				
morning rise	552 Apr 03 j 20:33	1° ♀ 06'36		conjunction	559 Apr 04 j 19:22	16° ♀ 16'39	-1°48'52
retrograde	552 Jul 04 j 12:24	3° ♀ 05'55		minimum elong	559 Apr 04 j 19:22	16° ♀ 16'39	1°48'51
opposition	552 Sep 22 j 15:47	1° ♀ 40'36	-1°47'45	max. Earth dist.	559 Apr 05 j 17:08	16° ♀ 18'42	30.81217 AU
min. Earth dist.	552 Sep 21 j 18:06	1° ♀ 42'07	28.84281 AU	morning rise	559 Apr 20 j 20:09	16° ♀ 52'33	
direct	552 Dec 09 j 02:22	0° ♀ 17'23		retrograde	559 Jul 21 j 07:29	18° ♀ 51'35	
evening set	553 Mar 05 j 16:55	2° ♀ 10'44		min. Earth dist.	559 Oct 08 j 07:24	17° ♀ 27'27	28.81287 AU
				opposition	559 Oct 09 j 03:07	17° ♀ 26'04	-1°56'47
conjunction	553 Mar 21 j 11:42	2° ♀ 46'09	-1°41'37	direct	559 Dec 25 j 11:43	16° ♀ 02'25	

evening set	560 Mar 21 j 10:56	17° Υ 55'58	conjunction	566 Apr 20 j 19:57	2° \mathcal{B} 02'52 -1°49'46
			minimum elong	566 Apr 20 j 19:58	2° \mathcal{B} 02'52 1°49'46
conjunction	560 Apr 06 j 08:55	18° Υ 31'34 -1°49'30	max. Earth dist.	566 Apr 21 j 14:26	2° \mathcal{B} 04'36 30.81467 AU
minimum elong	560 Apr 06 j 08:55	18° Υ 31'34 1°49'31	morning rise	566 May 06 j 23:21	2° \mathcal{B} 38'55
max. Earth dist.	560 Apr 07 j 07:14	18° Υ 33'40 30.81125 AU	retrograde	566 Aug 06 j 02:24	4° \mathcal{B} 37'32
morning rise	560 Apr 22 j 09:58	19° Υ 07'29	opposition	566 Oct 24 j 12:12	3° \mathcal{B} 12'16 -1°57'06
retrograde	560 Jul 22 j 20:58	21° Υ 06'27	min. Earth dist.	566 Oct 23 j 20:23	3° \mathcal{B} 13'23 28.81538 AU
opposition	560 Oct 10 j 14:43	19° Υ 40'58 -1°57'23	direct	567 Jan 09 j 19:55	1° \mathcal{B} 48'26
min. Earth dist.	560 Oct 09 j 18:16	19° Υ 42'25 28.81253 AU	evening set	567 Apr 07 j 08:57	3° \mathcal{B} 42'23
direct	560 Dec 27 j 00:41	18° Υ 17'19			
evening set	561 Mar 23 j 23:58	20° Υ 10'54	conjunction	567 Apr 23 j 10:06	4° \mathcal{B} 18'10 -1°49'13
			minimum elong	567 Apr 23 j 10:06	4° \mathcal{B} 18'10 1°49'12
conjunction	561 Apr 08 j 22:14	20° Υ 46'32 -1°49'58	max. Earth dist.	567 Apr 24 j 03:42	4° \mathcal{B} 19'49 30.81357 AU
minimum elong	561 Apr 08 j 22:14	20° Υ 46'32 1°49'58	morning rise	567 May 09 j 13:51	4° \mathcal{B} 54'14
max. Earth dist.	561 Apr 09 j 19:28	20° Υ 48'32 30.81151 AU	retrograde	567 Aug 08 j 16:05	6° \mathcal{B} 52'44
morning rise	561 Apr 24 j 23:51	21° Υ 22'28	opposition	567 Oct 26 j 23:20	5° \mathcal{B} 27'27 -1°56'26
retrograde	561 Jul 25 j 10:52	23° Υ 21'25	min. Earth dist.	567 Oct 26 j 07:18	5° \mathcal{B} 28'36 28.81411 AU
min. Earth dist.	561 Oct 12 j 07:00	21° Υ 57'20 28.81332 AU	direct	568 Jan 12 j 09:26	4° \mathcal{B} 03'33
opposition	561 Oct 13 j 02:29	21° Υ 55'57 -1°57'47	evening set	568 Apr 08 j 22:37	5° \mathcal{B} 57'32
direct	561 Dec 29 j 11:20	20° Υ 32'18			
evening set	562 Mar 26 j 13:08	22° Υ 25'57	conjunction	568 Apr 25 j 00:07	6° \mathcal{B} 33'22 -1°48'31
			minimum elong	568 Apr 25 j 00:07	6° \mathcal{B} 33'22 1°48'31
conjunction	562 Apr 11 j 12:03	23° Υ 01'37 -1°50'16	max. Earth dist.	568 Apr 25 j 16:46	6° \mathcal{B} 34'55 30.81231 AU
minimum elong	562 Apr 11 j 12:03	23° Υ 01'37 1°50'17	morning rise	568 May 11 j 04:15	7° \mathcal{B} 09'26
max. Earth dist.	562 Apr 12 j 10:04	23° Υ 03'41 30.81265 AU	retrograde	568 Aug 10 j 04:34	9° \mathcal{B} 07'49
morning rise	562 Apr 27 j 13:54	23° Υ 37'34	opposition	568 Oct 28 j 10:40	7° \mathcal{B} 42'33 -1°55'35
retrograde	562 Jul 28 j 00:04	25° Υ 36'28	min. Earth dist.	568 Oct 27 j 20:10	7° \mathcal{B} 43'34 28.81308 AU
opposition	562 Oct 15 j 13:57	24° Υ 11'04 -1°58'01	direct	569 Jan 13 j 21:13	6° \mathcal{B} 18'34
min. Earth dist.	562 Oct 14 j 18:41	24° Υ 12'25 28.81461 AU	evening set	569 Apr 11 j 12:00	8° \mathcal{B} 12'35
direct	562 Dec 31 j 23:43	22° Υ 47'24			
evening set	563 Mar 29 j 02:39	24° Υ 41'07	conjunction	569 Apr 27 j 14:06	8° \mathcal{B} 48'26 -1°47'39
			minimum elong	569 Apr 27 j 14:06	8° \mathcal{B} 48'26 1°47'38
conjunction	563 Apr 14 j 01:53	25° Υ 16'49 -1°50'24	max. Earth dist.	569 Apr 28 j 06:50	8° \mathcal{B} 50'00 30.81166 AU
minimum elong	563 Apr 14 j 01:53	25° Υ 16'49 1°50'23	morning rise	569 May 13 j 18:29	9° \mathcal{B} 24'31
max. Earth dist.	563 Apr 14 j 22:09	25° Υ 18'43 30.81405 AU	retrograde	569 Aug 12 j 17:50	11° \mathcal{B} 22'48
morning rise	563 Apr 30 j 04:16	25° Υ 52'48	opposition	569 Oct 30 j 21:46	9° \mathcal{B} 57'31 -1°54'34
retrograde	563 Jul 30 j 13:40	27° Υ 51'39	min. Earth dist.	569 Oct 30 j 06:50	9° \mathcal{B} 58'35 28.81276 AU
min. Earth dist.	563 Oct 17 j 07:01	26° Υ 27'36 28.81595 AU	direct	570 Jan 16 j 10:33	8° \mathcal{B} 33'28
opposition	563 Oct 18 j 01:35	26° Υ 26'18 -1°58'03	evening set	570 Apr 14 j 01:45	10° \mathcal{B} 27'33
direct	564 Jan 03 j 10:12	25° Υ 02'37			
evening set	564 Mar 30 j 16:06	26° Υ 56'25	conjunction	570 Apr 30 j 04:07	11° \mathcal{B} 03'25 -1°46'37
			minimum elong	570 Apr 30 j 04:07	11° \mathcal{B} 03'25 1°46'37
conjunction	564 Apr 15 j 15:52	27° Υ 32'08 -1°50'21	max. Earth dist.	570 Apr 30 j 19:28	11° \mathcal{B} 04'51 30.81188 AU
minimum elong	564 Apr 15 j 15:52	27° Υ 32'08 1°50'22	morning rise	570 May 16 j 08:59	11° \mathcal{B} 39'31
max. Earth dist.	564 Apr 16 j 12:21	27° Υ 34'03 30.81500 AU	retrograde	570 Aug 15 j 07:34	13° \mathcal{B} 37'40
morning rise	564 May 01 j 18:26	28° Υ 08'08	opposition	570 Nov 02 j 08:49	12° \mathcal{B} 12'25 -1°53'23
	564 Jul 11 j 14:15	0° \mathcal{B}	min. Earth dist.	570 Nov 01 j 19:03	12° \mathcal{B} 13'23 28.81365 AU
retrograde	564 Aug 01 j 00:52	0° \mathcal{B} 06'56	direct	571 Jan 18 j 21:51	10° \mathcal{B} 48'18
	564 Aug 21 j 16:41	30° \mathcal{R} Υ	evening set	571 Apr 16 j 15:22	12° \mathcal{B} 42'25
opposition	564 Oct 19 j 13:10	28° Υ 41'37 -1°57'55			
min. Earth dist.	564 Oct 18 j 19:36	28° Υ 42'52 28.81652 AU	conjunction	571 May 02 j 18:20	13° \mathcal{B} 18'19 -1°45'25
direct	565 Jan 04 j 22:01	27° Υ 17'55	minimum elong	571 May 02 j 18:21	13° \mathcal{B} 18'19 1°45'24
evening set	565 Apr 02 j 05:43	29° Υ 11'46	max. Earth dist.	571 May 03 j 10:17	13° \mathcal{B} 19'49 30.81344 AU
			morning rise	571 May 18 j 23:21	13° \mathcal{B} 54'26
conjunction	565 Apr 18 j 05:52	29° Υ 47'30 -1°50'09		571 Jun 21 j 01:27	15° \mathcal{B}
minimum elong	565 Apr 18 j 05:52	29° Υ 47'30 1°50'08	retrograde	571 Aug 17 j 20:44	15° \mathcal{B} 52'27
max. Earth dist.	565 Apr 19 j 00:42	29° Υ 49'17 30.81529 AU		571 Oct 16 j 01:50	15° \mathcal{R} \mathcal{B}
	565 Apr 23 j 18:55	0° \mathcal{B}	opposition	571 Nov 04 j 19:50	14° \mathcal{B} 27'15 -1°52'01
morning rise	565 May 04 j 08:55	0° \mathcal{B} 23'32	min. Earth dist.	571 Nov 04 j 06:06	14° \mathcal{B} 28'13 28.81585 AU
retrograde	565 Aug 03 j 14:54	2° \mathcal{B} 22'15	direct	572 Jan 21 j 11:06	13° \mathcal{B} 03'06
min. Earth dist.	565 Oct 21 j 07:12	0° \mathcal{B} 58'12 28.81637 AU	evening set	572 Apr 18 j 05:01	14° \mathcal{B} 57'16
opposition	565 Oct 22 j 00:39	0° \mathcal{B} 56'58 -1°57'36		572 Apr 19 j 10:56	15° \mathcal{B}
	565 Nov 27 j 21:55	30° \mathcal{R} Υ			
direct	566 Jan 07 j 09:08	29° Υ 33'12	conjunction	572 May 04 j 08:14	15° \mathcal{B} 33'11 -1°44'03
	566 Feb 16 j 04:06	0° \mathcal{B}	minimum elong	572 May 04 j 08:14	15° \mathcal{B} 33'12 1°44'04
evening set	566 Apr 04 j 19:18	1° \mathcal{B} 27'06	max. Earth dist.	572 May 04 j 22:38	15° \mathcal{B} 34'32 30.81648 AU
			morning rise	572 May 20 j 13:41	16° \mathcal{B} 09'20

retrograde	572 Aug 19 j 09:24	18° 8 07'14		evening set	579 May 05 j 06:48	0° II 42'37	
opposition	572 Nov 06 j 06:51	16° 8 42'05	-1°50'28				
min. Earth dist.	572 Nov 05 j 17:32	16° 8 43'01	28.81971 AU	conjunction	579 May 21 j 12:42	1° II 18'41	-1°30'13
direct	573 Jan 22 j 22:01	15° 8 17'55		minimum elong	579 May 21 j 12:43	1° II 18'41	1°30'13
evening set	573 Apr 20 j 18:38	17° 8 12'08		max. Earth dist.	579 May 21 j 20:50	1° II 19'26	30.85626 AU
				morning rise	579 Jun 06 j 19:55	1° II 54'53	
conjunction	573 May 06 j 22:25	17° 8 48'05	-1°42'32	retrograde	579 Sep 05 j 00:02	3° II 51'54	
minimum elong	573 May 06 j 22:25	17° 8 48'05	1°42'32	opposition	579 Nov 22 j 11:08	2° II 27'13	-1°35'07
max. Earth dist.	573 May 07 j 13:23	17° 8 49'29	30.82108 AU	min. Earth dist.	579 Nov 22 j 03:59	2° II 27'44	28.85910 AU
morning rise	573 May 23 j 04:01	18° 8 24'14		direct	580 Feb 08 j 07:42	1° II 02'49	
retrograde	573 Aug 21 j 20:42	20° 8 22'02		evening set	580 May 06 j 20:40	2° II 57'29	
opposition	573 Nov 08 j 17:46	18° 8 56'57	-1°48'46				
min. Earth dist.	573 Nov 08 j 05:13	18° 8 57'51	28.82492 AU	conjunction	580 May 23 j 03:03	3° II 33'34	-1°27'40
direct	574 Jan 25 j 09:39	17° 8 32'47		minimum elong	580 May 23 j 03:04	3° II 33'34	1°27'41
evening set	574 Apr 23 j 08:27	19° 8 27'05		max. Earth dist.	580 May 23 j 11:16	3° II 34'20	30.86032 AU
				morning rise	580 Jun 08 j 10:17	4° II 09'45	
conjunction	574 May 09 j 12:34	20° 8 03'03	-1°40'52	retrograde	580 Sep 06 j 12:18	6° II 06'36	
minimum elong	574 May 09 j 12:35	20° 8 03'03	1°40'52	opposition	580 Nov 23 j 21:50	4° II 41'57	-1°32'19
max. Earth dist.	574 May 10 j 02:00	20° 8 04'19	30.82703 AU	min. Earth dist.	580 Nov 23 j 15:11	4° II 42'25	28.86296 AU
morning rise	574 May 25 j 18:37	20° 8 39'13		direct	581 Feb 09 j 21:50	3° II 17'29	
retrograde	574 Aug 24 j 10:50	22° 8 36'55		evening set	581 May 09 j 10:47	5° II 12'09	
opposition	574 Nov 11 j 04:40	21° 8 11'55	-1°46'53				
min. Earth dist.	574 Nov 10 j 16:08	21° 8 12'49	28.83126 AU	conjunction	581 May 25 j 17:19	5° II 48'15	-1°25'00
direct	575 Jan 27 j 20:10	19° 8 47'44		minimum elong	581 May 25 j 17:19	5° II 48'15	1°25'00
evening set	575 Apr 25 j 22:24	21° 8 42'07		max. Earth dist.	581 May 25 j 23:32	5° II 48'50	30.86436 AU
				morning rise	581 Jun 11 j 00:54	6° II 24'27	
conjunction	575 May 12 j 02:56	22° 8 18'07	-1°39'02	retrograde	581 Sep 09 j 01:01	8° II 21'07	
minimum elong	575 May 12 j 02:56	22° 8 18'07	1°39'01	opposition	581 Nov 26 j 08:25	6° II 56'29	-1°29'24
max. Earth dist.	575 May 12 j 16:11	22° 8 19'21	30.83358 AU	min. Earth dist.	581 Nov 26 j 02:36	6° II 56'54	28.86721 AU
morning rise	575 May 28 j 09:07	22° 8 54'18		direct	582 Feb 12 j 09:22	5° II 31'56	
retrograde	575 Aug 26 j 21:25	24° 8 51'53		evening set	582 May 12 j 00:43	7° II 26'39	
opposition	575 Nov 13 j 15:34	23° 8 26'59	-1°44'50				
min. Earth dist.	575 Nov 13 j 04:45	23° 8 27'45	28.83790 AU	conjunction	582 May 28 j 07:43	8° II 02'45	-1°22'12
direct	576 Jan 30 j 06:21	22° 8 02'48		minimum elong	582 May 28 j 07:43	8° II 02'45	1°22'12
evening set	576 Apr 27 j 12:25	23° 8 57'16		max. Earth dist.	582 May 28 j 14:12	8° II 03'21	30.86886 AU
				morning rise	582 Jun 13 j 15:17	8° II 38'57	
conjunction	576 May 13 j 17:19	24° 8 33'16	-1°37'03	retrograde	582 Sep 11 j 12:27	10° II 35'26	
minimum elong	576 May 13 j 17:19	24° 8 33'16	1°37'03	opposition	582 Nov 28 j 19:01	9° II 10'51	-1°26'20
max. Earth dist.	576 May 14 j 05:23	24° 8 34'24	30.84032 AU	min. Earth dist.	582 Nov 28 j 14:11	9° II 11'11	28.87200 AU
morning rise	576 May 29 j 23:47	25° 8 09'28		direct	583 Feb 14 j 22:05	7° II 46'14	
retrograde	576 Aug 28 j 10:13	27° 8 06'56		evening set	583 May 14 j 14:44	9° II 40'59	
opposition	576 Nov 15 j 02:26	25° 8 42'07	-1°42'38				
min. Earth dist.	576 Nov 14 j 15:35	25° 8 42'53	28.84438 AU	conjunction	583 May 30 j 21:51	10° II 17'06	-1°19'16
direct	577 Jan 31 j 19:20	24° 8 17'54		minimum elong	583 May 30 j 21:51	10° II 17'06	1°19'16
evening set	577 Apr 30 j 02:25	26° 8 12'26		max. Earth dist.	583 May 31 j 02:35	10° II 17'32	30.87422 AU
				morning rise	583 Jun 16 j 05:40	10° II 53'17	
conjunction	577 May 16 j 07:39	26° 8 48'28	-1°34'55	retrograde	583 Sep 14 j 01:40	12° II 49'36	
minimum elong	577 May 16 j 07:39	26° 8 48'28	1°34'54	opposition	583 Dec 01 j 05:27	11° II 25'04	-1°23'08
max. Earth dist.	577 May 16 j 18:30	26° 8 49'29	30.84643 AU	min. Earth dist.	583 Dec 01 j 00:33	11° II 25'25	28.87792 AU
morning rise	577 Jun 01 j 14:23	27° 8 24'40		direct	584 Feb 17 j 09:27	10° II 00'24	
retrograde	577 Aug 30 j 22:01	29° 8 22'01		evening set	584 May 16 j 04:40	11° II 55'12	
opposition	577 Nov 17 j 13:30	27° 8 57'15	-1°40'17				
min. Earth dist.	577 Nov 17 j 04:36	27° 8 57'53	28.85009 AU	conjunction	584 Jun 01 j 12:05	12° II 31'19	-1°16'14
direct	578 Feb 03 j 06:19	26° 8 33'00		minimum elong	584 Jun 01 j 12:06	12° II 31'20	1°16'14
evening set	578 May 02 j 16:32	28° 8 27'35		max. Earth dist.	584 Jun 01 j 16:53	12° II 31'46	30.88076 AU
				morning rise	584 Jun 17 j 19:53	13° II 07'31	
conjunction	578 May 18 j 22:15	29° 8 03'38	-1°32'38	retrograde	584 Sep 15 j 11:36	15° II 03'41	
minimum elong	578 May 18 j 22:15	29° 8 03'38	1°32'38	opposition	584 Dec 02 j 16:01	13° II 39'13	-1°19'49
max. Earth dist.	578 May 19 j 08:21	29° 8 04'34	30.85179 AU	min. Earth dist.	584 Dec 02 j 12:32	13° II 39'28	28.88515 AU
morning rise	578 Jun 04 j 05:09	29° 8 39'50		direct	585 Feb 18 j 20:08	12° II 14'31	
	578 Jun 13 j 15:25	0° II		evening set	585 May 18 j 18:30	14° II 09'22	
retrograde	578 Sep 02 j 10:58	1° II 37'01					
opposition	578 Nov 20 j 00:14	0° II 12'19	-1°37'46	conjunction	585 Jun 04 j 02:09	14° II 45'30	-1°13'04
min. Earth dist.	578 Nov 19 j 15:28	0° II 12'56	28.85489 AU	minimum elong	585 Jun 04 j 02:10	14° II 45'31	1°13'04
	578 Nov 27 j 06:10	30° 8		max. Earth dist.	585 Jun 04 j 05:56	14° II 45'52	30.88885 AU
direct	579 Feb 05 j 19:38	28° 8 47'59		morning rise	585 Jun 20 j 10:08	15° II 21'42	
	579 Apr 14 j 15:35	0° II		retrograde	585 Sep 17 j 23:42	17° II 17'43	

opposition	585 Dec 05 j 02:27	15° Π 53'21	-1°16'23	conjunction	592 Jun 20 j 05:54	0° \mathfrak{D} 26'20	-0°48'08
min. Earth dist.	585 Dec 04 j 22:36	15° Π 53'38	28.89379 AU	minimum elong	592 Jun 20 j 05:54	0° \mathfrak{D} 26'20	0°48'09
direct	586 Feb 21 j 08:29	14° Π 28'39		max. Earth dist.	592 Jun 20 j 01:44	0° \mathfrak{D} 25'57	30.95280 AU
evening set	586 May 21 j 08:35	16° Π 23'35		morning rise	592 Jul 06 j 13:48	1° \mathfrak{D} 02'27	
				retrograde	592 Oct 03 j 13:40	2° \mathfrak{D} 57'30	
conjunction	586 Jun 06 j 16:26	16° Π 59'44	-1°09'48	opposition	592 Dec 20 j 03:44	1° \mathfrak{D} 33'46	-0°49'24
minimum elong	586 Jun 06 j 16:26	16° Π 59'44	1°09'48	min. Earth dist.	592 Dec 20 j 06:42	1° \mathfrak{D} 33'33	28.95628 AU
max. Earth dist.	586 Jun 06 j 19:29	17° Π 00'01	30.89809 AU	direct	593 Mar 08 j 22:04	0° \mathfrak{D} 08'54	
morning rise	586 Jun 23 j 00:27	17° Π 35'55		evening set	593 Jun 06 j 11:18	2° \mathfrak{D} 04'19	
retrograde	586 Sep 20 j 10:49	19° Π 31'49					
opposition	586 Dec 07 j 12:56	18° Π 07'33	-1°12'50	conjunction	593 Jun 22 j 20:00	2° \mathfrak{D} 40'29	-0°44'16
min. Earth dist.	586 Dec 07 j 10:46	18° Π 07'43	28.90356 AU	minimum elong	593 Jun 22 j 20:00	2° \mathfrak{D} 40'29	0°44'15
direct	587 Feb 23 j 18:25	16° Π 42'51		max. Earth dist.	593 Jun 22 j 15:34	2° \mathfrak{D} 40'04	30.95920 AU
evening set	587 May 23 j 22:37	18° Π 37'53		morning rise	593 Jul 09 j 03:41	3° \mathfrak{D} 16'35	
				retrograde	593 Oct 05 j 23:17	5° \mathfrak{D} 11'27	
conjunction	587 Jun 09 j 06:44	19° Π 14'02	-1°06'25	opposition	593 Dec 22 j 14:11	3° \mathfrak{D} 47'45	-0°45'13
minimum elong	587 Jun 09 j 06:44	19° Π 14'02	1°06'25	min. Earth dist.	593 Dec 22 j 18:57	3° \mathfrak{D} 47'25	28.96248 AU
max. Earth dist.	587 Jun 09 j 09:15	19° Π 14'16	30.90836 AU	direct	594 Mar 11 j 09:54	2° \mathfrak{D} 22'50	
morning rise	587 Jun 25 j 14:44	19° Π 50'13		evening set	594 Jun 09 j 01:20	4° \mathfrak{D} 18'15	
retrograde	587 Sep 22 j 23:08	21° Π 45'59					
opposition	587 Dec 09 j 23:22	20° Π 21'52	-1°09'10	conjunction	594 Jun 25 j 09:59	4° \mathfrak{D} 54'24	-0°40'19
min. Earth dist.	587 Dec 09 j 21:09	20° Π 22'01	28.91391 AU	minimum elong	594 Jun 25 j 09:59	4° \mathfrak{D} 54'24	0°40'19
direct	588 Feb 26 j 06:59	18° Π 57'10		max. Earth dist.	594 Jun 25 j 04:06	4° \mathfrak{D} 53'51	30.96548 AU
evening set	588 May 25 j 12:41	20° Π 52'17		morning rise	594 Jul 11 j 17:38	5° \mathfrak{D} 30'29	
				retrograde	594 Oct 08 j 10:49	7° \mathfrak{D} 25'09	
conjunction	588 Jun 10 j 20:48	21° Π 28'27	-1°02'56	opposition	594 Dec 25 j 00:20	6° \mathfrak{D} 01'30	-0°40'58
minimum elong	588 Jun 10 j 20:48	21° Π 28'27	1°02'57	min. Earth dist.	594 Dec 25 j 04:59	6° \mathfrak{D} 01'10	28.96878 AU
max. Earth dist.	588 Jun 10 j 21:38	21° Π 28'32	30.91875 AU	direct	595 Mar 13 j 22:23	4° \mathfrak{D} 36'30	
morning rise	588 Jun 27 j 04:53	22° Π 04'38		evening set	595 Jun 11 j 15:15	6° \mathfrak{D} 31'57	
retrograde	588 Sep 24 j 11:42	24° Π 00'18					
opposition	588 Dec 11 j 09:57	22° Π 36'17	-1°05'23	conjunction	595 Jun 27 j 23:52	7° \mathfrak{D} 08'05	-0°36'19
min. Earth dist.	588 Dec 11 j 09:19	22° Π 36'19	28.92423 AU	minimum elong	595 Jun 27 j 23:52	7° \mathfrak{D} 08'05	0°36'19
direct	589 Feb 27 j 18:36	21° Π 11'35		max. Earth dist.	595 Jun 27 j 17:21	7° \mathfrak{D} 07'29	30.97196 AU
evening set	589 May 28 j 02:47	23° Π 06'48		morning rise	595 Jul 14 j 07:17	7° \mathfrak{D} 44'08	
				retrograde	595 Oct 10 j 21:06	9° \mathfrak{D} 38'39	
conjunction	589 Jun 13 j 11:12	23° Π 42'58	-0°59'22	opposition	595 Dec 27 j 10:44	8° \mathfrak{D} 15'01	-0°36'41
minimum elong	589 Jun 13 j 11:12	23° Π 42'58	0°59'22	min. Earth dist.	595 Dec 27 j 16:58	8° \mathfrak{D} 14'35	28.97568 AU
max. Earth dist.	589 Jun 13 j 11:49	23° Π 43'01	30.92879 AU	direct	596 Mar 15 j 08:14	6° \mathfrak{D} 49'57	
morning rise	589 Jun 29 j 19:09	24° Π 19'08		evening set	596 Jun 13 j 04:50	8° \mathfrak{D} 45'25	
retrograde	589 Sep 26 j 23:48	26° Π 14'40					
opposition	589 Dec 13 j 20:22	24° Π 50'45	-1°01'31	conjunction	596 Jun 29 j 13:27	9° \mathfrak{D} 21'32	-0°32'17
min. Earth dist.	589 Dec 13 j 20:33	24° Π 50'44	28.93374 AU	minimum elong	596 Jun 29 j 13:27	9° \mathfrak{D} 21'32	0°32'17
direct	590 Mar 02 j 08:29	23° Π 26'03		max. Earth dist.	596 Jun 29 j 06:32	9° \mathfrak{D} 20'54	30.97936 AU
evening set	590 May 30 j 17:08	25° Π 21'20		morning rise	596 Jul 15 j 20:42	9° \mathfrak{D} 57'34	
				retrograde	596 Oct 12 j 07:16	11° \mathfrak{D} 51'55	
conjunction	590 Jun 16 j 01:30	25° Π 57'30	-0°55'42	opposition	596 Dec 28 j 20:56	10° \mathfrak{D} 28'20	-0°32'19
minimum elong	590 Jun 16 j 01:30	25° Π 57'30	0°55'42	min. Earth dist.	596 Dec 29 j 02:50	10° \mathfrak{D} 27'55	28.98353 AU
max. Earth dist.	590 Jun 15 j 23:44	25° Π 57'20	30.93784 AU	direct	597 Mar 17 j 21:20	9° \mathfrak{D} 03'13	
morning rise	590 Jul 02 j 09:34	26° Π 33'39		evening set	597 Jun 15 j 18:37	10° \mathfrak{D} 58'42	
retrograde	590 Sep 29 j 12:47	28° Π 29'03					
opposition	590 Dec 16 j 06:55	27° Π 05'12	-0°57'33	conjunction	597 Jul 02 j 03:04	11° \mathfrak{D} 34'49	-0°28'11
min. Earth dist.	590 Dec 16 j 08:12	27° Π 05'07	28.94226 AU	minimum elong	597 Jul 02 j 03:04	11° \mathfrak{D} 34'49	0°28'11
direct	591 Mar 04 j 19:58	25° Π 40'28		max. Earth dist.	597 Jul 01 j 18:53	11° \mathfrak{D} 34'04	30.98782 AU
evening set	591 Jun 02 j 07:13	27° Π 35'49		morning rise	597 Jul 18 j 10:09	12° \mathfrak{D} 10'49	
				retrograde	597 Oct 14 j 17:55	14° \mathfrak{D} 05'01	
conjunction	591 Jun 18 j 15:49	28° Π 11'59	-0°51'57	opposition	597 Dec 31 j 07:07	12° \mathfrak{D} 41'29	-0°27'56
minimum elong	591 Jun 18 j 15:49	28° Π 11'59	0°51'57	min. Earth dist.	597 Dec 31 j 14:08	12° \mathfrak{D} 41'00	28.99273 AU
max. Earth dist.	591 Jun 18 j 13:54	28° Π 11'48	30.94576 AU	direct	598 Mar 20 j 08:16	11° \mathfrak{D} 16'20	
morning rise	591 Jul 04 j 23:37	28° Π 48'07		evening set	598 Jun 18 j 08:16	13° \mathfrak{D} 11'53	
retrograde	591 Aug 11 j 06:48	0° \mathfrak{D}					
retrograde	591 Oct 02 j 00:44	0° \mathfrak{D} 43'21		conjunction	598 Jul 04 j 16:47	13° \mathfrak{D} 47'59	-0°24'03
	591 Nov 23 j 20:53	30° \mathfrak{K} Π		minimum elong	598 Jul 04 j 16:47	13° \mathfrak{D} 47'59	0°24'04
opposition	591 Dec 18 j 17:25	29° Π 19'34	-0°53'31	max. Earth dist.	598 Jul 04 j 08:50	13° \mathfrak{D} 47'15	30.99769 AU
min. Earth dist.	591 Dec 18 j 20:04	29° Π 19'23	28.94959 AU	morning rise	598 Jul 20 j 23:31	14° \mathfrak{D} 23'57	
direct	592 Mar 06 j 09:40	27° Π 54'47		retrograde	598 Oct 17 j 04:45	16° \mathfrak{D} 18'00	
evening set	592 Jun 03 j 21:23	29° Π 50'09		opposition	599 Jan 02 j 17:22	14° \mathfrak{D} 54'34	-0°23'29
	592 Jun 08 j 09:33	0° \mathfrak{D}		min. Earth dist.	599 Jan 03 j 00:41	14° \mathfrak{D} 54'03	29.00307 AU

direct	599 Mar 22 j 21:17	13° $\overline{029}$ '24	
evening set	599 Jun 20 j 21:59	15° $\overline{025}$ '01	
conjunction	599 Jul 07 j 06:10	16° $\overline{001}$ '06	-0°19'53
minimum elong	599 Jul 07 j 06:09	16° $\overline{001}$ '06	0°19'53
max. Earth dist.	599 Jul 06 j 20:34	16° $\overline{000}$ '13	31.00860 AU
morning rise	599 Jul 23 j 12:46	16° $\overline{037}$ '02	
retrograde	599 Oct 19 j 17:04	18° $\overline{030}$ '59	
opposition	600 Jan 05 j 03:35	17° $\overline{007}$ '39	-0°19'01
min. Earth dist.	600 Jan 05 j 11:28	17° $\overline{007}$ '05	29.01444 AU
direct	600 Mar 24 j 08:16	15° $\overline{042}$ '29	
evening set	600 Jun 22 j 11:33	17° $\overline{038}$ '11	
conjunction	600 Jul 08 j 19:45	18° $\overline{014}$ '14	-0°15'42
minimum elong	600 Jul 08 j 19:45	18° $\overline{014}$ '14	0°15'42
behind sun begin	600 Jul 08 j 19:08	18° $\overline{014}$ '11	
behind sun end	600 Jul 08 j 20:22	18° $\overline{014}$ '18	
max. Earth dist.	600 Jul 08 j 10:33	18° $\overline{013}$ '24	31.02017 AU
morning rise	600 Jul 25 j 01:54	18° $\overline{050}$ '09	
retrograde	600 Oct 21 j 04:27	20° $\overline{043}$ '59	
opposition	601 Jan 06 j 13:49	19° $\overline{020}$ '45	-0°14'31
min. Earth dist.	601 Jan 06 j 22:55	19° $\overline{020}$ '07	29.02602 AU
direct	601 Mar 26 j 21:40	17° $\overline{055}$ '37	
evening set	601 Jun 25 j 01:20	19° $\overline{051}$ '23	
conjunction	601 Jul 11 j 09:12	20° $\overline{027}$ '25	-0°11'29
minimum elong	601 Jul 11 j 09:12	20° $\overline{027}$ '25	0°11'29
behind sun begin	601 Jul 11 j 04:31	20° $\overline{027}$ '01	
behind sun end	601 Jul 11 j 13:53	20° $\overline{027}$ '50	
max. Earth dist.	601 Jul 10 j 21:56	20° $\overline{026}$ '24	31.03170 AU
morning rise	601 Jul 27 j 15:14	21° $\overline{003}$ '19	
retrograde	601 Oct 23 j 17:14	22° $\overline{057}$ '02	
opposition	602 Jan 09 j 00:05	21° $\overline{033}$ '54	-0°10'00
min. Earth dist.	602 Jan 09 j 09:22	21° $\overline{033}$ '15	29.03728 AU