

opposition	15600 Jan 18 16:10	12°♏39'35 -2°05'54	opposition	15606 Apr 06 09:21	28°♊31'02 -0°42'36
min. Earth dist.	15600 Jan 18 16:27	12°♏39'32 8.46290 AU	min. Earth dist.	15606 Apr 05 20:29	28°♊33'31 8.63879 AU
direct	15600 Mar 28 00:45	9°♏15'29	direct	15606 Jun 14 05:26	25°♊10'13
	15600 Jun 23 03:08	15°♏		15606 Sep 01 06:57	0°♌
evening set	15600 Jul 09 20:22	16°♏59'40	evening set	15606 Sep 23 14:28	2°♌33'54
conjunction	15600 Jul 26 20:43	19°♏07'00 -1°42'12	conjunction	15606 Oct 10 16:30	4°♌38'54 -0°24'11
minimum elong	15600 Jul 26 20:44	19°♏07'00 1°42'51	minimum elong	15606 Oct 10 16:31	4°♌38'54 0°23'46
max. Earth dist.	15600 Jul 26 21:51	19°♏07'21 10.47532 AU	max. Earth dist.	15606 Oct 11 07:44	4°♌43'33 10.64875 AU
morning rise	15600 Aug 12 19:58	21°♏14'01	morning rise	15606 Oct 27 20:38	6°♌44'27
retrograde	15600 Nov 23 09:09	28°♏52'57	retrograde	15607 Feb 08 13:19	14°♌17'00
opposition	15601 Jan 31 04:07	25°♏30'46 -2°05'25	opposition	15607 Apr 19 08:16	10°♌53'52 -0°16'09
min. Earth dist.	15601 Jan 31 01:50	25°♏31'12 8.49082 AU	min. Earth dist.	15607 Apr 18 19:12	10°♌56'23 8.65772 AU
direct	15601 Apr 10 11:14	22°♏07'20	direct	15607 Jun 27 01:50	7°♌33'12
evening set	15601 Jul 22 21:27	29°♏48'15	evening set	15607 Oct 06 04:32	14°♌54'44
	15601 Jul 24 11:43	0°♐		15607 Oct 06 22:07	15°♌
conjunction	15601 Aug 08 20:48	1°♐54'54 -1°39'21	conjunction	15607 Oct 23 07:58	16°♌59'44 -0°02'24
minimum elong	15601 Aug 08 20:49	1°♐54'55 1°39'50	minimum elong	15607 Oct 23 07:57	16°♌59'44 0°01'50
max. Earth dist.	15601 Aug 09 00:55	1°♐56'12 10.50504 AU	behind sun begin	15607 Oct 23 00:51	16°♌57'35
morning rise	15601 Aug 25 19:46	4°♐01'25	behind sun end	15607 Oct 23 15:04	17°♌01'53
retrograde	15601 Dec 06 13:30	11°♐39'22	max. Earth dist.	15607 Oct 23 23:36	17°♌04'30 10.66514 AU
opposition	15602 Feb 13 14:22	8°♐17'08 -1°58'43	morning rise	15607 Nov 09 13:42	19°♌05'22
min. Earth dist.	15602 Feb 13 09:17	8°♐18'07 8.52185 AU	asc. node	15607 Dec 02 23:57	21°♌45'57
direct	15602 Apr 23 19:49	4°♐54'22	retrograde	15608 Feb 21 09:05	26°♌37'19
evening set	15602 Aug 04 19:38	12°♐31'40	opposition	15608 May 01 04:50	23°♌13'55 0°10'56
conjunction	15602 Aug 21 18:39	14°♐37'44 -1°31'38	min. Earth dist.	15608 Apr 30 15:28	23°♌16'29 8.67136 AU
minimum elong	15602 Aug 21 18:41	14°♐37'45 1°31'57	direct	15608 Jul 08 20:06	19°♌53'15
max. Earth dist.	15602 Aug 22 02:17	14°♐40'07 10.53716 AU	evening set	15608 Oct 17 18:42	27°♌13'20
morning rise	15602 Sep 07 17:52	16°♐43'50	conjunction	15608 Nov 03 23:35	29°♌18'24 0°19'33
retrograde	15602 Dec 19 15:25	24°♐20'38	minimum elong	15608 Nov 03 23:34	29°♌18'24 0°20'14
opposition	15603 Feb 26 22:45	20°♐58'17 -1°46'15	max. Earth dist.	15608 Nov 04 15:47	29°♌23'20 10.67593 AU
min. Earth dist.	15603 Feb 26 14:35	20°♐59'52 8.55429 AU		15608 Nov 09 15:57	0°♐
direct	15603 May 07 03:42	17°♐36'10	morning rise	15608 Nov 21 06:44	1°♐24'09
evening set	15603 Aug 17 15:00	25°♐09'36	retrograde	15609 Mar 05 04:30	8°♐55'45
conjunction	15603 Sep 03 14:19	27°♐15'14 -1°19'32	opposition	15609 May 13 23:32	5°♐32'04 0°37'26
minimum elong	15603 Sep 03 14:21	27°♐15'14 1°19'39	min. Earth dist.	15609 May 13 10:10	5°♐34'39 8.67931 AU
max. Earth dist.	15603 Sep 04 01:35	27°♐18'44 10.56974 AU	direct	15609 Jul 21 12:57	2°♐11'17
morning rise	15603 Sep 20 14:11	29°♐21'00	evening set	15609 Oct 30 09:27	9°♐30'37
	15603 Sep 25 23:35	0°♑	conjunction	15609 Nov 16 15:36	11°♐35'50 0°40'28
retrograde	15604 Jan 01 17:36	6°♑56'36	minimum elong	15609 Nov 16 15:35	11°♐35'49 0°41'16
opposition	15604 Mar 11 04:47	3°♑34'04 -1°28'46	max. Earth dist.	15609 Nov 17 07:09	11°♐40'33 10.68080 AU
min. Earth dist.	15604 Mar 10 17:48	3°♑36'10 8.58606 AU	morning rise	15609 Dec 04 00:04	13°♐41'44
direct	15604 May 19 07:25	0°♑12'29	retrograde	15610 Mar 18 01:15	21°♐13'14
evening set	15604 Aug 29 08:17	7°♑42'11	opposition	15610 May 26 16:47	17°♐49'19 1°02'12
conjunction	15604 Sep 15 08:18	9°♑47'29 -1°03'42	min. Earth dist.	15610 May 26 04:34	17°♐51'41 8.68133 AU
minimum elong	15604 Sep 15 08:20	9°♑47'30 1°03'38	direct	15610 Aug 03 02:53	14°♐28'16
max. Earth dist.	15604 Sep 15 22:16	9°♑51'48 10.60046 AU	evening set	15610 Nov 12 01:26	21°♐47'37
morning rise	15604 Oct 02 09:16	11°♑53'05	conjunction	15610 Nov 29 08:45	23°♐53'02 0°59'32
retrograde	15605 Jan 13 18:07	19°♑27'25	minimum elong	15610 Nov 29 08:43	23°♐53'02 1°00'24
opposition	15605 Mar 24 08:09	16°♑04'42 -1°07'12	max. Earth dist.	15610 Nov 29 22:06	23°♐57'06 10.67966 AU
min. Earth dist.	15605 Mar 23 19:44	16°♑07'05 8.61477 AU	morning rise	15610 Dec 16 18:33	25°♐59'10
direct	15605 Jun 01 07:11	12°♑43'34		15611 Jan 22 12:45	0°♑
evening set	15605 Sep 10 23:58	20°♑10'00	retrograde	15611 Mar 30 19:55	3°♑30'46
conjunction	15605 Sep 28 00:54	22°♑15'05 -0°44'57	opposition	15611 Jun 08 08:56	0°♑06'41 1°24'06
minimum elong	15605 Sep 28 00:56	22°♑15'05 0°44'42	min. Earth dist.	15611 Jun 07 23:01	0°♑08'36 8.67739 AU
max. Earth dist.	15605 Sep 28 15:47	22°♑19'40 10.62712 AU		15611 Jun 09 19:23	30°♑
morning rise	15605 Oct 15 03:21	24°♑20'37	direct	15611 Aug 15 17:00	26°♑45'14
	15605 Dec 09 09:59	0°♒		15611 Oct 18 03:33	0°♑
retrograde	15606 Jan 26 16:11	1°♒53'56	evening set	15611 Nov 24 18:51	4°♑05'22
	15606 Mar 17 08:40	30°♒♊	conjunction	15611 Dec 12 03:22	6°♑11'05 1°15'53

minimum elong	15611 Dec 12 03:20	6° $\mathfrak{Z}$ 11'04	1°16'47	morning rise	15618 Mar 16 08:05	23° $\mathfrak{H}$ 15'45	
max. Earth dist.	15611 Dec 12 13:45	6° $\mathfrak{Z}$ 14'14	10.67250 AU		15618 May 26 17:04	0° $\mathfrak{Y}$	
morning rise	15611 Dec 29 14:23	8° $\mathfrak{Z}$ 17'30		retrograde	15618 Jun 27 07:32	0° $\mathfrak{Y}$ 52'02	
retrograde	15612 Apr 11 14:16	15° $\mathfrak{Z}$ 49'27			15618 Jul 29 05:21	30° $\mathfrak{R}$ $\mathfrak{H}$	
opposition	15612 Jun 20 00:25	12° $\mathfrak{Z}$ 25'13	1°42'11	opposition	15618 Sep 03 10:28	27° $\mathfrak{H}$ 28'11	1°37'56
min. Earth dist.	15612 Jun 19 16:56	12° $\mathfrak{Z}$ 26'40	8.66744 AU	min. Earth dist.	15618 Sep 03 18:27	27° $\mathfrak{H}$ 26'36	8.51974 AU
direct	15612 Aug 27 08:24	9° $\mathfrak{Z}$ 03'17		direct	15618 Nov 10 22:47	24° $\mathfrak{H}$ 03'03	
evening set	15612 Dec 06 14:06	16° $\mathfrak{Z}$ 24'52			15619 Feb 08 01:06	0° $\mathfrak{Y}$	
				evening set	15619 Feb 22 10:08	1° $\mathfrak{Y}$ 41'44	
conjunction	15612 Dec 23 23:53	18° $\mathfrak{Z}$ 30'59	1°28'47				
minimum elong	15612 Dec 23 23:52	18° $\mathfrak{Z}$ 30'59	1°29'39	conjunction	15619 Mar 12 02:37	3° $\mathfrak{Y}$ 51'52	1°11'37
max. Earth dist.	15612 Dec 24 07:48	18° $\mathfrak{Z}$ 33'24	10.65941 AU	minimum elong	15619 Mar 12 02:39	3° $\mathfrak{Y}$ 51'53	1°11'38
morning rise	15613 Jan 10 11:51	20° $\mathfrak{Z}$ 37'44		max. Earth dist.	15619 Mar 11 15:10	3° $\mathfrak{Y}$ 48'20	10.50499 AU
retrograde	15613 Apr 24 10:45	28° $\mathfrak{Z}$ 10'14		morning rise	15619 Mar 29 18:15	6° $\mathfrak{Y}$ 01'51	
opposition	15613 Jul 02 15:39	24° $\mathfrak{Z}$ 45'54	1°55'37	retrograde	15619 Jul 10 12:16	13° $\mathfrak{Y}$ 38'50	
min. Earth dist.	15613 Jul 02 10:14	24° $\mathfrak{Z}$ 46'57	8.65174 AU	opposition	15619 Sep 16 10:03	10° $\mathfrak{Y}$ 15'14	1°17'55
direct	15613 Sep 08 22:50	21° $\mathfrak{Z}$ 23'26		min. Earth dist.	15619 Sep 16 19:39	10° $\mathfrak{Y}$ 13'20	8.49182 AU
evening set	15613 Dec 19 11:27	28° $\mathfrak{Z}$ 47'02		direct	15619 Nov 24 00:00	6° $\mathfrak{Y}$ 49'45	
	15613 Dec 29 14:01	0° $\approx$		evening set	15620 Mar 06 21:33	14° $\mathfrak{Y}$ 31'32	
conjunction	15614 Jan 05 22:33	0° $\approx$ 53'40	1°37'35	conjunction	15620 Mar 24 14:17	16° $\mathfrak{Y}$ 42'15	0°53'39
minimum elong	15614 Jan 05 22:32	0° $\approx$ 53'40	1°38'23	minimum elong	15620 Mar 24 14:19	16° $\mathfrak{Y}$ 42'15	0°53'29
max. Earth dist.	15614 Jan 06 03:53	0° $\approx$ 55'17	10.64093 AU	max. Earth dist.	15620 Mar 24 00:40	16° $\mathfrak{Y}$ 38'02	10.47849 AU
morning rise	15614 Jan 23 11:19	3° $\approx$ 00'50		morning rise	15620 Apr 11 05:34	18° $\mathfrak{Y}$ 52'39	
retrograde	15614 May 07 07:51	10° $\approx$ 34'01		retrograde	15620 Jul 22 18:30	26° $\mathfrak{Y}$ 30'14	
opposition	15614 Jul 15 07:16	7° $\approx$ 09'37	2°03'44	opposition	15620 Sep 28 12:16	23° $\mathfrak{Y}$ 06'57	0°53'53
min. Earth dist.	15614 Jul 15 04:04	7° $\approx$ 10'15	8.63100 AU	min. Earth dist.	15620 Sep 28 23:37	23° $\mathfrak{Y}$ 04'42	8.46668 AU
direct	15614 Sep 21 14:03	3° $\approx$ 46'36		direct	15620 Dec 06 03:57	19° $\mathfrak{Y}$ 41'11	
evening set	15615 Jan 01 11:06	11° $\approx$ 12'42		evening set	15621 Mar 20 10:26	27° $\mathfrak{Y}$ 25'43	
				max. Earth dist.	15621 Apr 06 11:10	29° $\mathfrak{Y}$ 31'58	10.45538 AU
conjunction	15615 Jan 18 23:28	13° $\approx$ 19'57	1°41'52				
minimum elong	15615 Jan 18 23:28	13° $\approx$ 19'57	1°42'34	conjunction	15621 Apr 07 02:47	29° $\mathfrak{Y}$ 36'49	0°32'55
max. Earth dist.	15615 Jan 19 01:24	13° $\approx$ 20'32	10.61789 AU	minimum elong	15621 Apr 07 02:48	29° $\mathfrak{Y}$ 36'50	0°32'34
	15615 Feb 01 16:54	15° $\approx$			15621 Apr 10 05:15	0° $\mathfrak{B}$	
morning rise	15615 Feb 05 13:05	15° $\approx$ 27'37		morning rise	15621 Apr 24 17:21	1° $\mathfrak{B}$ 47'30	
retrograde	15615 May 20 06:01	23° $\approx$ 01'34		retrograde	15621 Aug 05 00:10	9° $\mathfrak{B}$ 25'37	
opposition	15615 Jul 27 23:46	19° $\approx$ 37'12	2°06'06	opposition	15621 Oct 11 16:52	6° $\mathfrak{B}$ 02'37	0°27'00
min. Earth dist.	15615 Jul 27 23:36	19° $\approx$ 37'14	8.60608 AU	min. Earth dist.	15621 Oct 12 05:43	6° $\mathfrak{B}$ 00'05	8.44556 AU
direct	15615 Oct 04 06:51	16° $\approx$ 13'34		direct	15621 Dec 19 12:15	2° $\mathfrak{B}$ 36'39	
evening set	15616 Jan 14 13:20	23° $\approx$ 42'35		evening set	15622 Apr 03 00:32	10° $\mathfrak{B}$ 23'31	
conjunction	15616 Feb 01 02:50	25° $\approx$ 50'31	1°41'21	conjunction	15622 Apr 20 15:57	12° $\mathfrak{B}$ 34'48	0°10'27
minimum elong	15616 Feb 01 02:51	25° $\approx$ 50'32	1°41'54	minimum elong	15622 Apr 20 15:57	12° $\mathfrak{B}$ 34'48	0°09'57
max. Earth dist.	15616 Feb 01 00:19	25° $\approx$ 49'45	10.59138 AU	behind sun begin	15622 Apr 20 10:08	12° $\mathfrak{B}$ 33'01	
morning rise	15616 Feb 18 17:17	27° $\approx$ 58'46		behind sun end	15622 Apr 20 21:46	12° $\mathfrak{B}$ 36'36	
	15616 Mar 07 03:09	0° $\mathfrak{H}$		max. Earth dist.	15622 Apr 19 22:49	12° $\mathfrak{B}$ 29'28	10.43667 AU
retrograde	15616 Jun 01 06:03	5° $\mathfrak{H}$ 33'28		morning rise	15622 May 08 05:20	14° $\mathfrak{B}$ 45'32	
opposition	15616 Aug 08 17:30	2° $\mathfrak{H}$ 09'13	2°02'30		15622 May 10 04:44	15° $\mathfrak{B}$	
min. Earth dist.	15616 Aug 08 20:46	2° $\mathfrak{H}$ 08'34	8.57826 AU	retrograde	15622 Aug 18 07:12	22° $\mathfrak{B}$ 24'06	
	15616 Sep 07 08:23	30° $\mathfrak{R}$ $\approx$		desc. node	15622 Oct 06 22:25	20° $\mathfrak{B}$ 24'16	
direct	15616 Oct 16 00:42	28° $\approx$ 45'01		opposition	15622 Oct 24 23:30	19° $\mathfrak{B}$ 01'21	-0°01'24
	15616 Nov 23 07:51	0° $\mathfrak{H}$		min. Earth dist.	15622 Oct 25 13:07	18° $\mathfrak{B}$ 58'40	8.42925 AU
evening set	15617 Jan 26 17:57	6° $\mathfrak{H}$ 17'12		direct	15623 Jan 01 22:20	15° $\mathfrak{B}$ 35'15	
				evening set	15623 Apr 16 15:06	23° $\mathfrak{B}$ 23'57	
conjunction	15617 Feb 13 08:34	8° $\mathfrak{H}$ 25'53	1°35'59	max. Earth dist.	15623 May 03 11:46	25° $\mathfrak{B}$ 29'47	10.42282 AU
minimum elong	15617 Feb 13 08:35	8° $\mathfrak{H}$ 25'53	1°36'23				
max. Earth dist.	15617 Feb 13 02:05	8° $\mathfrak{H}$ 23'53	10.56278 AU	conjunction	15623 May 04 05:04	25° $\mathfrak{B}$ 35'11	-0°12'43
morning rise	15617 Mar 02 23:43	10° $\mathfrak{H}$ 34'44		minimum elong	15623 May 04 05:03	25° $\mathfrak{B}$ 35'11	0°13'22
retrograde	15617 Jun 14 05:57	18° $\mathfrak{H}$ 10'13		behind sun begin	15623 May 04 00:59	25° $\mathfrak{B}$ 33'55	
opposition	15617 Aug 21 13:00	14° $\mathfrak{H}$ 46'09	1°53'00	behind sun end	15623 May 04 09:07	25° $\mathfrak{B}$ 36'27	
min. Earth dist.	15617 Aug 21 19:03	14° $\mathfrak{H}$ 44'57	8.54901 AU	morning rise	15623 May 21 16:44	27° $\mathfrak{B}$ 45'47	
direct	15617 Oct 28 22:23	11° $\mathfrak{H}$ 21'25			15623 Jun 09 13:19	0° $\mathfrak{I}$	
evening set	15618 Feb 09 00:47	18° $\mathfrak{H}$ 56'53		retrograde	15623 Aug 31 15:15	5° $\mathfrak{I}$ 24'46	
				opposition	15623 Nov 07 08:15	2° $\mathfrak{I}$ 02'12	-0°29'49
conjunction	15618 Feb 26 16:29	21° $\mathfrak{H}$ 06'18	1°25'56	min. Earth dist.	15623 Nov 07 21:23	1° $\mathfrak{I}$ 59'37	8.41784 AU
minimum elong	15618 Feb 26 16:31	21° $\mathfrak{H}$ 06'19	1°26'09				
max. Earth dist.	15618 Feb 26 07:06	21° $\mathfrak{H}$ 03'25	10.53355 AU	direct	15623 Dec 05 01:20	30° $\mathfrak{R}$ $\mathfrak{B}$	
					15624 Jan 15 10:14	28° $\mathfrak{B}$ 36'06	

	15624 Feb 25 03:23	0°♊	conjunction	15630 Aug 03 13:03	26°♊33'55	-1°41'08
evening set	15624 Apr 29 05:18	6°♊26'02	minimum elong	15630 Aug 03 13:04	26°♊33'55	1°41'41
			max. Earth dist.	15630 Aug 03 15:24	26°♊34'39	10.47009 AU
conjunction	15624 May 16 17:22	8°♊37'01 -0°35'11	morning rise	15630 Aug 20 12:10	28°♊40'57	
minimum elong	15624 May 16 17:21	8°♊37'01 0°35'57		15630 Aug 31 09:53	0°♎	
max. Earth dist.	15624 May 16 01:12	8°♊31'56 10.41358 AU	retrograde	15630 Dec 01 04:19	6°♎20'36	
morning rise	15624 Jun 03 02:51	10°♊47'18	opposition	15631 Feb 08 02:01	2°♎57'57 -2°02'21	
retrograde	15624 Sep 12 23:48	18°♊26'47	min. Earth dist.	15631 Feb 07 22:06	2°♎58'42 8.48441 AU	
opposition	15624 Nov 19 18:47	15°♊04'24 -0°56'45		15631 Mar 26 22:04	30°♋♊	
min. Earth dist.	15624 Nov 20 06:51	15°♊02'02 8.41092 AU	direct	15631 Apr 18 08:29	29°♊34'25	
direct	15625 Jan 27 23:41	11°♊38'25		15631 May 10 14:13	0°♎	
evening set	15625 May 12 19:00	19°♊29'08	evening set	15631 Jul 30 13:21	7°♎14'37	
conjunction	15625 May 30 04:50	21°♊39'42 -0°55'52	conjunction	15631 Aug 16 12:45	9°♎21'19 -1°35'30	
minimum elong	15625 May 30 04:48	21°♊39'41 0°56'42	minimum elong	15631 Aug 16 12:47	9°♎21'19 1°35'53	
max. Earth dist.	15625 May 29 14:20	21°♊35'08 10.40871 AU	max. Earth dist.	15631 Aug 16 19:02	9°♎23'17 10.49756 AU	
morning rise	15625 Jun 16 11:57	23°♊49'33	morning rise	15631 Sep 02 11:49	11°♎27'55	
	15625 Aug 15 23:23	0°♎	retrograde	15631 Dec 14 08:49	19°♎06'34	
retrograde	15625 Sep 26 10:14	1°♎29'37	opposition	15632 Feb 21 12:15	15°♎43'41 -1°52'19	
	15625 Nov 07 20:45	30°♋♊	min. Earth dist.	15632 Feb 21 05:33	15°♎44'59 8.51321 AU	
opposition	15625 Dec 03 06:51	28°♊07'24 -1°20'47	direct	15632 Apr 30 17:02	12°♎20'41	
min. Earth dist.	15625 Dec 03 17:35	28°♊05'18 8.40865 AU	evening set	15632 Aug 11 10:46	19°♎57'09	
direct	15626 Feb 10 12:49	24°♊41'40				
	15626 May 04 20:27	0°♎	conjunction	15632 Aug 28 10:04	22°♎03'21 -1°25'12	
evening set	15626 May 26 07:44	2°♎32'35	minimum elong	15632 Aug 28 10:06	22°♎03'22 1°25'24	
			max. Earth dist.	15632 Aug 28 19:19	22°♎06'14 10.52754 AU	
conjunction	15626 Jun 12 15:06	4°♎42'37 -1°13'41	morning rise	15632 Sep 14 09:47	24°♎09'38	
minimum elong	15626 Jun 12 15:04	4°♎42'36 1°14'34		15632 Nov 10 04:22	0°♎	
max. Earth dist.	15626 Jun 12 02:37	4°♎38'40 10.40890 AU	retrograde	15632 Dec 26 12:04	1°♎47'05	
morning rise	15626 Jun 29 19:54	6°♎51'56		15633 Feb 12 04:45	30°♋♎	
retrograde	15626 Oct 09 20:36	14°♎32'31	opposition	15633 Mar 05 20:12	28°♎24'00 -1°36'52	
opposition	15626 Dec 16 20:21	11°♎10'24 -1°40'39	min. Earth dist.	15633 Mar 05 11:13	28°♎25'44 8.54363 AU	
min. Earth dist.	15626 Dec 17 05:33	11°♎08'36 8.41200 AU	direct	15633 May 13 22:35	25°♎01'29	
direct	15627 Feb 24 02:48	7°♎45'00		15633 Aug 02 04:15	0°♎	
evening set	15627 Jun 08 18:49	15°♎35'20	evening set	15633 Aug 24 05:46	2°♎34'13	
conjunction	15627 Jun 25 23:39	17°♎44'42 -1°27'42	conjunction	15633 Sep 10 05:29	4°♎40'01 -1°10'51	
minimum elong	15627 Jun 25 23:38	17°♎44'41 1°28'34	minimum elong	15633 Sep 10 05:31	4°♎40'02 1°10'51	
max. Earth dist.	15627 Jun 25 13:30	17°♎41'30 10.41516 AU	max. Earth dist.	15633 Sep 10 17:13	4°♎43'40 10.55837 AU	
morning rise	15627 Jul 13 02:24	19°♎53'27	morning rise	15633 Sep 27 06:14	6°♎46'05	
retrograde	15627 Oct 23 05:24	27°♎34'19	retrograde	15634 Jan 08 12:14	14°♎22'15	
opposition	15627 Dec 30 10:35	24°♎12'12 -1°55'17	opposition	15634 Mar 19 01:34	10°♎58'58 -1°16'51	
min. Earth dist.	15627 Dec 30 17:24	24°♎10'52 8.42166 AU	min. Earth dist.	15634 Mar 18 14:21	11°♎01'07 8.57407 AU	
direct	15628 Mar 08 18:02	20°♎47'11	direct	15634 May 27 01:47	7°♎36'57	
evening set	15628 Jun 21 03:42	28°♎36'06	evening set	15634 Sep 05 22:41	15°♎06'05	
	15628 Jul 02 08:28	0°♊				
			conjunction	15634 Sep 22 23:19	17°♎11'36 -0°53'12	
conjunction	15628 Jul 08 06:23	0°♊44'44 -1°37'12	minimum elong	15634 Sep 22 23:21	17°♎11'37 0°53'01	
minimum elong	15628 Jul 08 06:22	0°♊44'44 1°38'01	max. Earth dist.	15634 Sep 23 13:54	17°♎16'07 10.58847 AU	
max. Earth dist.	15628 Jul 07 23:38	0°♊42'36 10.42785 AU	morning rise	15634 Oct 10 01:20	19°♎17'31	
morning rise	15628 Jul 25 07:28	2°♊52'53	retrograde	15635 Jan 21 11:03	26°♎52'28	
retrograde	15628 Nov 04 13:25	10°♊33'42	opposition	15635 Apr 01 04:26	23°♎28'59 -0°53'20	
opposition	15629 Jan 12 00:38	7°♊11'28 -2°03'59	min. Earth dist.	15635 Mar 31 14:49	23°♎31'36 8.60304 AU	
min. Earth dist.	15629 Jan 12 04:11	7°♊10'46 8.43754 AU	direct	15635 Jun 09 02:51	20°♎07'25	
direct	15629 Mar 22 09:32	3°♊46'54	evening set	15635 Sep 18 14:01	27°♎33'18	
evening set	15629 Jul 04 09:49	11°♊33'33				
			conjunction	15635 Oct 05 15:51	29°♎38'38 -0°33'07	
conjunction	15629 Jul 21 10:55	13°♊41'29 -1°41'44	minimum elong	15635 Oct 05 15:53	29°♎38'39 0°32'46	
minimum elong	15629 Jul 21 10:55	13°♊41'29 1°42'26	max. Earth dist.	15635 Oct 06 08:56	29°♎43'53 10.61633 AU	
max. Earth dist.	15629 Jul 21 08:28	13°♊40'43 10.44649 AU		15635 Oct 08 13:13	0°♎	
	15629 Jul 31 20:47	15°♊	morning rise	15635 Oct 22 19:18	1°♎44'28	
morning rise	15629 Aug 07 10:47	15°♊49'03	retrograde	15636 Feb 03 10:45	9°♎18'17	
retrograde	15629 Nov 17 21:45	23°♊29'27	opposition	15636 Apr 13 04:44	5°♎54'39 -0°27'27	
opposition	15630 Jan 25 13:58	20°♊07'02 -2°06'21	min. Earth dist.	15636 Apr 12 13:41	5°♎57'33 8.62914 AU	
min. Earth dist.	15630 Jan 25 13:40	20°♊07'05 8.45880 AU	direct	15636 Jun 21 00:06	2°♎33'26	
direct	15630 Apr 04 22:05	16°♊42'58	evening set	15636 Sep 30 04:44	9°♎56'36	
evening set	15630 Jul 17 13:03	24°♊26'38				

conjunction	15636 Oct 17 07:46	12° $\mathbb{M}$ 01'50	-0°11'38	opposition	15642 Jun 27 15:53	19° $\mathfrak{Z}$ 48'03	1°50'19
minimum elong	15636 Oct 17 07:46	12° $\mathbb{M}$ 01'50	0°11'07	min. Earth dist.	15642 Jun 27 08:03	19° $\mathfrak{Z}$ 49'34	8.67854 AU
behind sun begin	15636 Oct 17 02:27	12° $\mathbb{M}$ 00'14		direct	15642 Sep 03 22:08	16° $\mathfrak{Z}$ 26'26	
behind sun end	15636 Oct 17 13:04	12° $\mathbb{M}$ 03'27		evening set	15642 Dec 14 08:41	23° $\mathfrak{Z}$ 48'15	
max. Earth dist.	15636 Oct 18 01:47	12° $\mathbb{M}$ 07'22	10.64061 AU				
morning rise	15636 Nov 03 12:45	14° $\mathbb{M}$ 07'38		conjunction	15642 Dec 31 18:57	25° $\mathfrak{Z}$ 54'22	1°34'13
	15636 Nov 10 21:21	15° $\mathbb{M}$		minimum elong	15642 Dec 31 18:56	25° $\mathfrak{Z}$ 54'22	1°35'02
retrograde	15637 Feb 15 07:50	21° $\mathbb{M}$ 40'28		max. Earth dist.	15643 Jan 01 02:12	25° $\mathfrak{Z}$ 56'34	10.67154 AU
min. Earth dist.	15637 Apr 25 11:23	18° $\mathbb{M}$ 19'39	8.65121 AU	morning rise	15643 Jan 18 07:18	28° $\mathfrak{Z}$ 01'05	
opposition	15637 Apr 26 02:32	18° $\mathbb{M}$ 16'44	-0°00'28		15643 Feb 04 12:03	0° $\approx$	
asc. node	15637 May 02 09:55	17° $\mathbb{M}$ 47'42		retrograde	15643 May 02 05:14	5° $\approx$ 32'57	
	15637 Jun 24 17:19	15° $\mathbb{R}\mathbb{M}$		opposition	15643 Jul 10 06:55	2° $\approx$ 09'13	2°00'41
direct	15637 Jul 03 17:51	14° $\mathbb{M}$ 55'44		min. Earth dist.	15643 Jul 10 02:39	2° $\approx$ 10'02	8.66474 AU
	15637 Jul 12 19:14	15° $\mathbb{M}$			15643 Aug 09 06:36	30° $\mathbb{R}\mathfrak{Z}$	
evening set	15637 Oct 12 19:11	22° $\mathbb{M}$ 16'55		direct	15643 Sep 16 13:06	28° $\mathfrak{Z}$ 47'03	
					15643 Oct 24 07:58	0° $\approx$	
conjunction	15637 Oct 29 23:22	24° $\mathbb{M}$ 22'05	0°10'25	evening set	15643 Dec 27 06:57	6° $\approx$ 10'58	
minimum elong	15637 Oct 29 23:22	24° $\mathbb{M}$ 22'05	0°11'04				
behind sun begin	15637 Oct 29 18:02	24° $\mathbb{M}$ 20'28		conjunction	15644 Jan 13 18:28	8° $\approx$ 17'36	1°40'25
behind sun end	15637 Oct 30 04:42	24° $\mathbb{M}$ 23'41		minimum elong	15644 Jan 13 18:28	8° $\approx$ 17'36	1°41'10
max. Earth dist.	15637 Oct 30 16:50	24° $\mathbb{M}$ 27'24	10.66037 AU	max. Earth dist.	15644 Jan 13 21:24	8° $\approx$ 18'29	10.65414 AU
morning rise	15637 Nov 16 05:59	26° $\mathbb{M}$ 27'55		morning rise	15644 Jan 31 07:42	10° $\approx$ 24'42	
	15637 Dec 17 22:50	0° $\mathfrak{Z}$			15644 Mar 14 04:56	15° $\approx$	
retrograde	15638 Feb 28 03:04	4° $\mathfrak{Z}$ 00'00		retrograde	15644 May 14 01:10	17° $\approx$ 57'07	
opposition	15638 May 08 22:28	0° $\mathfrak{Z}$ 36'12	0°26'26		15644 Jul 16 05:58	15° $\mathbb{R}\approx$	
min. Earth dist.	15638 May 08 08:09	0° $\mathfrak{Z}$ 38'58	8.66848 AU	opposition	15644 Jul 21 22:23	14° $\approx$ 33'24	2°05'29
	15638 May 16 19:21	30° $\mathbb{R}\mathbb{M}$		min. Earth dist.	15644 Jul 21 21:25	14° $\approx$ 33'35	8.64396 AU
direct	15638 Jul 16 11:41	27° $\mathbb{M}$ 15'19		direct	15644 Sep 28 06:02	11° $\approx$ 10'40	
	15638 Sep 12 10:08	0° $\mathfrak{Z}$			15644 Dec 06 15:57	15° $\approx$	
evening set	15638 Oct 25 09:44	4° $\mathfrak{Z}$ 35'11		evening set	15645 Jan 08 07:16	18° $\approx$ 37'12	
conjunction	15638 Nov 11 15:12	6° $\mathfrak{Z}$ 40'22	0°31'49	conjunction	15645 Jan 25 20:07	20° $\approx$ 44'28	1°41'57
minimum elong	15638 Nov 11 15:11	6° $\mathfrak{Z}$ 40'22	0°32'34	minimum elong	15645 Jan 25 20:07	20° $\approx$ 44'28	1°42'34
max. Earth dist.	15638 Nov 12 07:53	6° $\mathfrak{Z}$ 45'27	10.67490 AU	max. Earth dist.	15645 Jan 25 19:32	20° $\approx$ 44'17	10.63010 AU
morning rise	15638 Nov 28 23:17	8° $\mathfrak{Z}$ 46'16		morning rise	15645 Feb 12 10:03	22° $\approx$ 52'05	
retrograde	15639 Mar 12 22:31	16° $\mathfrak{Z}$ 17'54			15645 May 04 21:21	0° $\mathfrak{H}$	
opposition	15639 May 21 16:33	12° $\mathfrak{Z}$ 54'04	0°52'02	retrograde	15645 May 26 23:52	0° $\mathfrak{H}$ 25'15	
min. Earth dist.	15639 May 21 03:00	12° $\mathfrak{Z}$ 56'41	8.68029 AU		15645 Jun 18 04:27	30° $\mathbb{R}\approx$	
direct	15639 Jul 29 04:00	9° $\mathfrak{Z}$ 33'11		opposition	15645 Aug 03 14:50	27° $\approx$ 01'35	2°04'27
evening set	15639 Nov 07 01:13	16° $\mathfrak{Z}$ 52'28		min. Earth dist.	15645 Aug 03 16:26	27° $\approx$ 01'16	8.61716 AU
				direct	15645 Oct 10 22:51	23° $\approx$ 38'17	
conjunction	15639 Nov 24 08:02	18° $\mathfrak{Z}$ 57'46	0°51'45		15646 Jan 11 19:44	0° $\mathfrak{H}$	
minimum elong	15639 Nov 24 08:01	18° $\mathfrak{Z}$ 57'45	0°52'34	evening set	15646 Jan 21 10:03	1° $\mathfrak{H}$ 07'48	
max. Earth dist.	15639 Nov 24 23:58	19° $\mathfrak{Z}$ 02'37	10.68360 AU				
morning rise	15639 Dec 11 17:20	21° $\mathfrak{Z}$ 03'46		conjunction	15646 Feb 08 00:10	3° $\mathfrak{H}$ 15'48	1°38'40
retrograde	15640 Mar 24 17:44	28° $\mathfrak{Z}$ 35'10		minimum elong	15646 Feb 08 00:11	3° $\mathfrak{H}$ 15'49	1°39'08
opposition	15640 Jun 02 09:01	25° $\mathfrak{Z}$ 11'19	1°15'11	max. Earth dist.	15646 Feb 07 20:02	3° $\mathfrak{H}$ 14'33	10.60116 AU
min. Earth dist.	15640 Jun 01 20:27	25° $\mathfrak{Z}$ 13'45	8.68610 AU	morning rise	15646 Feb 25 14:45	5° $\mathfrak{H}$ 24'02	
direct	15640 Aug 09 18:33	21° $\mathfrak{Z}$ 50'19		retrograde	15646 Jun 08 23:47	12° $\mathfrak{H}$ 58'01	
evening set	15640 Nov 18 18:03	29° $\mathfrak{Z}$ 09'49		opposition	15646 Aug 16 08:43	9° $\mathfrak{H}$ 34'25	1°57'30
	15640 Nov 25 17:39	0° $\mathfrak{Z}$		min. Earth dist.	15646 Aug 16 13:16	9° $\mathfrak{H}$ 33'31	8.58646 AU
				direct	15646 Oct 23 17:27	6° $\mathfrak{H}$ 10'28	
conjunction	15640 Dec 06 02:07	1° $\mathfrak{Z}$ 15'17	1°09'17	evening set	15647 Feb 03 15:17	13° $\mathfrak{H}$ 43'16	
minimum elong	15640 Dec 06 02:05	1° $\mathfrak{Z}$ 15'17	1°10'09				
max. Earth dist.	15640 Dec 06 16:36	1° $\mathfrak{Z}$ 19'41	10.68607 AU	conjunction	15647 Feb 21 06:27	15° $\mathfrak{H}$ 52'02	1°30'39
morning rise	15640 Dec 23 12:25	3° $\mathfrak{Z}$ 21'26		minimum elong	15647 Feb 21 06:29	15° $\mathfrak{H}$ 52'03	1°30'56
retrograde	15641 Apr 06 13:17	10° $\mathfrak{Z}$ 52'50		max. Earth dist.	15647 Feb 20 22:14	15° $\mathfrak{H}$ 49'31	10.56944 AU
opposition	15641 Jun 15 00:38	7° $\mathfrak{Z}$ 29'01	1°34'55	morning rise	15647 Mar 10 21:37	18° $\mathfrak{H}$ 00'53	
min. Earth dist.	15641 Jun 14 13:47	7° $\mathfrak{Z}$ 31'07	8.68558 AU	retrograde	15647 Jun 22 00:30	25° $\mathfrak{H}$ 35'41	
direct	15641 Aug 22 08:45	4° $\mathfrak{Z}$ 07'47		opposition	15647 Aug 29 04:31	22° $\mathfrak{H}$ 12'09	1°44'51
evening set	15641 Dec 01 12:22	11° $\mathfrak{Z}$ 28'07		min. Earth dist.	15647 Aug 29 12:15	22° $\mathfrak{H}$ 10'38	8.55387 AU
				direct	15647 Nov 05 15:10	18° $\mathfrak{H}$ 47'35	
conjunction	15641 Dec 18 21:31	13° $\mathfrak{Z}$ 33'52	1°23'40	evening set	15648 Feb 16 22:46	26° $\mathfrak{H}$ 23'41	
minimum elong	15641 Dec 18 21:30	13° $\mathfrak{Z}$ 33'52	1°24'32				
max. Earth dist.	15641 Dec 19 08:59	13° $\mathfrak{Z}$ 37'21	10.68209 AU	conjunction	15648 Mar 05 14:41	28° $\mathfrak{H}$ 33'12	1°18'10
morning rise	15642 Jan 05 08:50	15° $\mathfrak{Z}$ 40'15		minimum elong	15648 Mar 05 14:43	28° $\mathfrak{H}$ 33'13	1°18'17
retrograde	15642 Apr 19 09:47	23° $\mathfrak{Z}$ 11'50		max. Earth dist.	15648 Mar 05 02:29	28° $\mathfrak{H}$ 29'27	10.53681 AU

	15648 Mar 17 09:33	0°♈	conjunction	15654 May 24 11:06	16°♊01'21	-0°46'53
morning rise	15648 Mar 23 06:12	0°♈42'39	minimum elong	15654 May 24 11:05	16°♊01'20	0°47'41
retrograde	15648 Jul 04 02:36	8°♈18'13	max. Earth dist.	15654 May 23 18:47	15°♊56'13	10.40596 AU
opposition	15648 Sep 10 02:20	4°♈54'47 1°27'00	morning rise	15654 Jun 10 19:27	18°♊11'25	
min. Earth dist.	15648 Sep 10 12:55	4°♈52'42 8.52125 AU	retrograde	15654 Sep 20 15:25	25°♊50'56	
direct	15648 Nov 17 15:17	1°♈29'38	opposition	15654 Nov 27 12:23	22°♊28'14	-1°10'25
evening set	15649 Mar 01 08:12	9°♈08'57	min. Earth dist.	15654 Nov 28 00:22	22°♊25'52	8.40509 AU
max. Earth dist.	15649 Mar 18 09:36	11°♈14'30 10.50504 AU	direct	15655 Feb 04 18:53	19°♊01'55	
			evening set	15655 May 20 12:54	26°♊52'31	
conjunction	15649 Mar 19 00:36	11°♈19'08 1°01'47				
minimum elong	15649 Mar 19 00:38	11°♈19'09 1°01'43	conjunction	15655 Jun 06 21:20	29°♊02'45	-1°06'04
morning rise	15649 Apr 05 16:07	13°♈29'07	minimum elong	15655 Jun 06 21:18	29°♊02'45	1°06'56
retrograde	15649 Jul 17 05:23	21°♈05'25	max. Earth dist.	15655 Jun 06 07:31	28°♊58'24	10.40514 AU
opposition	15649 Sep 23 02:21	17°♈42'04 1°04'43		15655 Jun 14 11:13	0°♊	
min. Earth dist.	15649 Sep 23 14:33	17°♈39'39 8.49028 AU	morning rise	15655 Jun 24 03:20	1°♊12'18	
direct	15649 Nov 30 18:50	14°♈16'24	retrograde	15655 Oct 04 00:33	8°♊52'16	
evening set	15650 Mar 14 19:15	21°♈58'44	opposition	15655 Dec 11 00:37	5°♊29'42	-1°32'15
			min. Earth dist.	15655 Dec 11 09:56	5°♊27'53	8.40813 AU
conjunction	15650 Apr 01 11:47	24°♈09'27 0°42'15	direct	15656 Feb 18 08:29	2°♊03'46	
minimum elong	15650 Apr 01 11:48	24°♈09'28 0°41'58	evening set	15656 Jun 01 23:51	9°♊53'59	
max. Earth dist.	15650 Mar 31 19:25	24°♈04'23 10.47561 AU				
morning rise	15650 Apr 19 02:47	26°♈19'50	conjunction	15656 Jun 19 05:55	12°♊03'35	-1°21'52
	15650 May 21 12:14	0°♊	minimum elong	15656 Jun 19 05:53	12°♊03'34	1°22'44
retrograde	15650 Jul 30 09:31	3°♊56'50	max. Earth dist.	15656 Jun 18 19:53	12°♊00'25	10.41159 AU
opposition	15650 Oct 06 04:43	0°♊33'35 0°39'03	morning rise	15656 Jul 06 09:36	14°♊12'32	
min. Earth dist.	15650 Oct 06 17:42	0°♊31'01 8.46233 AU	retrograde	15656 Oct 16 09:35	21°♊52'47	
	15650 Oct 13 07:16	30°♊	opposition	15656 Dec 23 13:41	18°♊30'20	-1°49'19
direct	15650 Dec 14 00:59	27°♈07'31	min. Earth dist.	15656 Dec 23 20:01	18°♊29'05	8.41828 AU
	15651 Feb 11 11:41	0°♊	direct	15657 Mar 02 22:23	15°♊04'54	
evening set	15651 Mar 28 07:48	4°♊52'32	evening set	15657 Jun 15 09:02	22°♊53'56	
conjunction	15651 Apr 14 23:49	7°♊03'37 0°20'29	conjunction	15657 Jul 02 12:51	25°♊02'49	-1°33'27
minimum elong	15651 Apr 14 23:49	7°♊03'37 0°20'02	minimum elong	15657 Jul 02 12:50	25°♊02'48	1°34'16
max. Earth dist.	15651 Apr 14 06:46	6°♊58'19 10.44977 AU	max. Earth dist.	15657 Jul 02 06:30	25°♊00'48	10.42494 AU
morning rise	15651 May 02 13:41	9°♊14'11	morning rise	15657 Jul 19 14:32	27°♊11'07	
	15651 Jun 27 01:52	15°♊		15657 Aug 12 12:13	0°♊	
retrograde	15651 Aug 12 16:49	16°♊51'53	retrograde	15657 Oct 29 18:34	4°♊51'21	
	15651 Sep 29 10:15	15°♊	opposition	15658 Jan 06 02:59	1°♊29'00	-2°00'44
opposition	15651 Oct 19 09:24	13°♊28'44 0°11'15	min. Earth dist.	15658 Jan 06 06:41	1°♊28'17	8.43500 AU
min. Earth dist.	15651 Oct 19 22:48	13°♊26'05 8.43873 AU		15658 Jan 25 20:30	30°♊	
direct	15651 Dec 27 07:31	10°♊02'23	direct	15658 Mar 16 11:40	28°♊04'09	
	15652 Mar 16 15:10	15°♊		15658 May 03 16:06	0°♊	
desc. node	15652 Mar 17 20:16	15°♊07'59	evening set	15658 Jun 28 15:55	5°♊51'16	
evening set	15652 Apr 09 21:13	17°♊49'40				
conjunction	15652 Apr 27 12:01	20°♊00'53 -0°02'30	conjunction	15658 Jul 15 17:43	7°♊59'23	-1°40'15
minimum elong	15652 Apr 27 12:00	20°♊00'53 0°03'06	minimum elong	15658 Jul 15 17:43	7°♊59'23	1°40'59
behind sun begin	15652 Apr 27 04:50	19°♊58'40	max. Earth dist.	15658 Jul 15 14:41	7°♊58'26	10.44457 AU
behind sun end	15652 Apr 27 19:11	20°♊03'06	morning rise	15658 Aug 01 17:57	10°♊07'04	
max. Earth dist.	15652 Apr 26 18:42	19°♊55'29 10.42886 AU		15658 Sep 15 05:23	15°♊	
morning rise	15652 May 15 00:20	22°♊11'28	retrograde	15658 Nov 12 02:57	17°♊46'59	
retrograde	15652 Aug 25 00:13	29°♊49'48		15659 Jan 12 01:12	15°♊	
opposition	15652 Oct 31 16:30	26°♊26'48 -0°17'15	opposition	15659 Jan 19 16:11	14°♊24'42	-2°05'58
min. Earth dist.	15652 Nov 01 06:16	26°♊24'05 8.42077 AU	min. Earth dist.	15659 Jan 19 17:11	14°♊24'30	8.45753 AU
direct	15653 Jan 08 16:57	23°♊00'18	direct	15659 Mar 29 23:35	11°♊00'30	
	15653 Apr 16 16:20	0°♊		15659 Jun 09 00:46	15°♊	
evening set	15653 Apr 23 10:48	0°♊49'19	evening set	15659 Jul 11 19:57	18°♊44'56	
conjunction	15653 May 10 23:48	3°♊00'24 -0°25'17	conjunction	15659 Jul 28 20:12	20°♊52'21	-1°41'58
minimum elong	15653 May 10 23:48	3°♊00'24 0°26'01	minimum elong	15659 Jul 28 20:13	20°♊52'21	1°42'35
max. Earth dist.	15653 May 10 06:25	2°♊54'57 10.41401 AU	max. Earth dist.	15659 Jul 28 20:34	20°♊52'27	10.46961 AU
morning rise	15653 May 28 10:19	5°♊10'50	morning rise	15659 Aug 14 19:36	22°♊59'27	
retrograde	15653 Sep 07 07:11	12°♊49'47		15659 Oct 29 02:07	0°♊	
opposition	15653 Nov 14 01:38	9°♊26'56 -0°44'58	retrograde	15659 Nov 25 08:34	0°♊38'46	
min. Earth dist.	15653 Nov 14 15:06	9°♊24'17 8.40937 AU		15659 Dec 23 00:37	30°♊	
direct	15654 Jan 22 05:25	6°♊00'26	opposition	15660 Feb 02 04:28	27°♊16'29	-2°04'50
evening set	15654 May 07 00:19	13°♊50'36	min. Earth dist.	15660 Feb 02 02:24	27°♊16'53	8.48485 AU
			direct	15660 Apr 11 11:28	23°♊52'57	

	15660 Jul 10 19:08	0° $\mathbb{M}$			15666 Sep 22 06:23	15° $\mathbb{M}$	
evening set	15660 Jul 23 21:11	1° $\mathbb{M}$ 34'10		evening set	15666 Oct 07 06:06	16° $\mathbb{M}$ 44'53	
				asc. node	15666 Oct 22 14:04	18° $\mathbb{M}$ 36'34	
conjunction	15660 Aug 09 20:38	3° $\mathbb{M}$ 40'55 -1°38'36					
minimum elong	15660 Aug 09 20:39	3° $\mathbb{M}$ 40'56 1°39'04		conjunction	15666 Oct 24 09:44	18° $\mathbb{M}$ 49'55	0°00'08
max. Earth dist.	15660 Aug 10 00:53	3° $\mathbb{M}$ 42'15 10.49892 AU		minimum elong	15666 Oct 24 09:43	18° $\mathbb{M}$ 49'55	0°00'42
morning rise	15660 Aug 26 19:45	5° $\mathbb{M}$ 47'32		behind sun begin	15666 Oct 24 02:37	18° $\mathbb{M}$ 47'46	
retrograde	15660 Dec 07 13:03	13° $\mathbb{M}$ 25'57		behind sun end	15666 Oct 24 16:49	18° $\mathbb{M}$ 52'04	
opposition	15661 Feb 14 14:59	10° $\mathbb{M}$ 03'36 -1°57'30		max. Earth dist.	15666 Oct 25 02:29	18° $\mathbb{M}$ 55'02	10.66521 AU
min. Earth dist.	15661 Feb 14 09:21	10° $\mathbb{M}$ 04'41 8.51561 AU		morning rise	15666 Nov 10 15:27	20° $\mathbb{M}$ 55'34	
direct	15661 Apr 24 21:28	6° $\mathbb{M}$ 40'46		retrograde	15667 Feb 22 11:10	28° $\mathbb{M}$ 27'38	
evening set	15661 Aug 05 19:38	14° $\mathbb{M}$ 18'21		opposition	15667 May 03 06:40	25° $\mathbb{M}$ 04'16	0°13'55
				min. Earth dist.	15667 May 02 16:23	25° $\mathbb{M}$ 07'01	8.67206 AU
conjunction	15661 Aug 22 18:55	16° $\mathbb{M}$ 24'34 -1°30'25		direct	15667 Jul 10 22:14	21° $\mathbb{M}$ 43'41	
minimum elong	15661 Aug 22 18:56	16° $\mathbb{M}$ 24'35 1°30'42		evening set	15667 Oct 19 20:26	29° $\mathbb{M}$ 03'47	
max. Earth dist.	15661 Aug 23 03:25	16° $\mathbb{M}$ 27'13 10.53093 AU			15667 Oct 27 15:10	0° $\mathbb{M}$	
morning rise	15661 Sep 08 18:12	18° $\mathbb{M}$ 30'47					
retrograde	15661 Dec 20 17:45	26° $\mathbb{M}$ 08'03		conjunction	15667 Nov 06 01:24	1° $\mathbb{M}$ 08'52	0°21'54
opposition	15662 Feb 27 23:40	22° $\mathbb{M}$ 45'36 -1°44'29		minimum elong	15667 Nov 06 01:23	1° $\mathbb{M}$ 08'52	0°22'36
min. Earth dist.	15662 Feb 27 14:43	22° $\mathbb{M}$ 47'19 8.54815 AU		max. Earth dist.	15667 Nov 06 18:12	1° $\mathbb{M}$ 14'00	10.67720 AU
direct	15662 May 08 03:49	19° $\mathbb{M}$ 23'26		morning rise	15667 Nov 23 08:36	3° $\mathbb{M}$ 14'38	
evening set	15662 Aug 18 15:28	26° $\mathbb{M}$ 57'11		retrograde	15668 Mar 06 08:05	10° $\mathbb{M}$ 46'14	
				min. Earth dist.	15668 May 14 11:52	7° $\mathbb{M}$ 25'15	8.68117 AU
conjunction	15662 Sep 04 14:58	29° $\mathbb{M}$ 02'57 -1°17'53		opposition	15668 May 15 01:25	7° $\mathbb{M}$ 22'38	0°40'14
minimum elong	15662 Sep 04 15:00	29° $\mathbb{M}$ 02'57 1°17'58		direct	15668 Jul 22 13:31	4° $\mathbb{M}$ 01'55	
max. Earth dist.	15662 Sep 05 03:03	29° $\mathbb{M}$ 06'42 10.56388 AU		evening set	15668 Oct 31 11:28	11° $\mathbb{M}$ 21'14	
	15662 Sep 12 06:45	0° $\mathbb{M}$					
morning rise	15662 Sep 21 14:56	1° $\mathbb{M}$ 08'51		conjunction	15668 Nov 17 17:34	13° $\mathbb{M}$ 26'26	0°42'38
retrograde	15663 Jan 02 19:41	8° $\mathbb{M}$ 44'51		minimum elong	15668 Nov 17 17:33	13° $\mathbb{M}$ 26'25	0°43'26
opposition	15663 Mar 13 06:05	5° $\mathbb{M}$ 22'16 -1°26'30		max. Earth dist.	15668 Nov 18 08:42	13° $\mathbb{M}$ 31'02	10.68320 AU
min. Earth dist.	15663 Mar 12 18:45	5° $\mathbb{M}$ 24'26 8.58063 AU		morning rise	15668 Dec 05 02:11	15° $\mathbb{M}$ 32'20	
direct	15663 May 21 07:03	2° $\mathbb{M}$ 00'41		retrograde	15669 Mar 19 02:52	23° $\mathbb{M}$ 03'42	
evening set	15663 Aug 31 09:10	9° $\mathbb{M}$ 30'41		opposition	15669 May 27 18:32	19° $\mathbb{M}$ 39'54	1°04'41
				min. Earth dist.	15669 May 27 06:46	19° $\mathbb{M}$ 42'10	8.68430 AU
conjunction	15663 Sep 17 09:15	11° $\mathbb{M}$ 36'05 -1°01'41		direct	15669 Aug 04 04:02	16° $\mathbb{M}$ 18'54	
minimum elong	15663 Sep 17 09:17	11° $\mathbb{M}$ 36'05 1°01'36		evening set	15669 Nov 13 03:26	23° $\mathbb{M}$ 38'13	
max. Earth dist.	15663 Sep 17 23:20	11° $\mathbb{M}$ 40'26 10.59574 AU					
morning rise	15663 Oct 04 10:26	13° $\mathbb{M}$ 41'48		conjunction	15669 Nov 30 10:43	25° $\mathbb{M}$ 43'35	1°01'24
retrograde	15664 Jan 15 19:27	21° $\mathbb{M}$ 16'29		minimum elong	15669 Nov 30 10:42	25° $\mathbb{M}$ 43'34	1°02'15
opposition	15664 Mar 25 09:52	17° $\mathbb{M}$ 53'44 -1°04'33		max. Earth dist.	15669 Nov 30 23:37	25° $\mathbb{M}$ 47'30	10.68315 AU
min. Earth dist.	15664 Mar 24 21:35	17° $\mathbb{M}$ 56'06 8.61091 AU		morning rise	15669 Dec 17 20:38	27° $\mathbb{M}$ 49'40	
direct	15664 Jun 02 08:28	14° $\mathbb{M}$ 32'35			15670 Jan 05 18:28	0° $\mathbb{M}$	
evening set	15664 Sep 12 01:05	21° $\mathbb{M}$ 59'13		retrograde	15670 Mar 31 20:39	5° $\mathbb{M}$ 21'05	
				opposition	15670 Jun 09 10:34	1° $\mathbb{M}$ 57'05	1°26'09
conjunction	15664 Sep 29 02:06	24° $\mathbb{M}$ 04'23 -0°42'41		min. Earth dist.	15670 Jun 09 00:48	1° $\mathbb{M}$ 58'59	8.68141 AU
minimum elong	15664 Sep 29 02:07	24° $\mathbb{M}$ 04'23 0°42'24			15670 Jul 06 07:51	30° $\mathbb{M}$	
max. Earth dist.	15664 Sep 29 16:51	24° $\mathbb{M}$ 08'55 10.62421 AU		direct	15670 Aug 16 19:52	28° $\mathbb{M}$ 35'42	
morning rise	15664 Oct 16 04:50	26° $\mathbb{M}$ 10'00			15670 Sep 26 12:04	0° $\mathbb{M}$	
	15664 Nov 19 15:03	0° $\mathbb{M}$		evening set	15670 Nov 25 20:39	5° $\mathbb{M}$ 55'40	
retrograde	15665 Jan 27 18:08	3° $\mathbb{M}$ 43'33					
opposition	15665 Apr 07 11:08	0° $\mathbb{M}$ 20'39 -0°39'42		conjunction	15670 Dec 13 05:15	8° $\mathbb{M}$ 01'20	1°17'22
min. Earth dist.	15665 Apr 06 22:13	0° $\mathbb{M}$ 23'07 8.63676 AU		minimum elong	15670 Dec 13 05:13	8° $\mathbb{M}$ 01'20	1°18'14
	15665 Apr 11 22:54	30° $\mathbb{R}$ $\mathbb{M}$		max. Earth dist.	15670 Dec 13 16:07	8° $\mathbb{M}$ 04'39	10.67699 AU
direct	15665 Jun 15 06:59	26° $\mathbb{M}$ 59'50		morning rise	15670 Dec 30 16:13	10° $\mathbb{M}$ 07'41	
	15665 Aug 15 03:32	0° $\mathbb{M}$		retrograde	15671 Apr 13 16:10	17° $\mathbb{M}$ 39'22	
evening set	15665 Sep 24 15:50	4° $\mathbb{M}$ 23'38		opposition	15671 Jun 22 01:45	14° $\mathbb{M}$ 15'12	1°43'43
				min. Earth dist.	15671 Jun 21 17:43	14° $\mathbb{M}$ 16'45	8.67240 AU
conjunction	15665 Oct 11 18:03	6° $\mathbb{M}$ 28'41 -0°21'46		direct	15671 Aug 29 09:55	10° $\mathbb{M}$ 53'20	
minimum elong	15665 Oct 11 18:04	6° $\mathbb{M}$ 28'41 0°21'20		evening set	15671 Dec 08 15:47	18° $\mathbb{M}$ 14'39	
max. Earth dist.	15665 Oct 12 09:46	6° $\mathbb{M}$ 33'30 10.64750 AU					
morning rise	15665 Oct 28 22:19	8° $\mathbb{M}$ 34'18		conjunction	15671 Dec 26 01:41	20° $\mathbb{M}$ 20'43	1°29'48
	15666 Jan 03 21:59	15° $\mathbb{M}$		minimum elong	15671 Dec 26 01:40	20° $\mathbb{M}$ 20'42	1°30'38
retrograde	15666 Feb 09 14:35	16° $\mathbb{M}$ 06'59		max. Earth dist.	15671 Dec 26 10:23	20° $\mathbb{M}$ 23'21	10.66476 AU
	15666 Mar 18 22:55	15° $\mathbb{R}$ $\mathbb{M}$		morning rise	15672 Jan 12 13:32	22° $\mathbb{M}$ 27'23	
opposition	15666 Apr 20 10:01	12° $\mathbb{M}$ 43'53 -0°13'08		retrograde	15672 Apr 25 12:00	29° $\mathbb{M}$ 59'29	
min. Earth dist.	15666 Apr 19 20:16	12° $\mathbb{M}$ 46'31 8.65717 AU		opposition	15672 Jul 03 16:34	26° $\mathbb{M}$ 35'12	1°56'33
direct	15666 Jun 28 03:30	9° $\mathbb{M}$ 23'16		min. Earth dist.	15672 Jul 03 10:40	26° $\mathbb{M}$ 36'21	8.65746 AU

direct	15672 Sep 09 23:49	23° $\text{Z}$ 12'48		evening set	15679 Mar 08 20:10	16° $\text{Y}$ 13'16	
	15672 Dec 15 10:47	0° $\approx$					
evening set	15672 Dec 20 12:58	0° $\approx$ 36'06		conjunction	15679 Mar 26 12:45	18° $\text{Y}$ 23'53	0°51'42
				minimum elong	15679 Mar 26 12:47	18° $\text{Y}$ 23'53	0°51'31
conjunction	15673 Jan 07 00:02	2° $\approx$ 42'38	1°38'07	max. Earth dist.	15679 Mar 25 22:04	18° $\text{Y}$ 19'20	10.48239 AU
minimum elong	15673 Jan 07 00:02	2° $\approx$ 42'38	1°38'53	morning rise	15679 Apr 13 04:03	20° $\text{Y}$ 34'12	
max. Earth dist.	15673 Jan 07 05:24	2° $\approx$ 44'16	10.64692 AU	retrograde	15679 Jul 24 15:28	28° $\text{Y}$ 11'23	
morning rise	15673 Jan 24 12:45	4° $\approx$ 49'42		opposition	15679 Sep 30 10:23	24° $\text{Y}$ 48'06	0°51'21
retrograde	15673 May 08 08:45	12° $\approx$ 22'23		min. Earth dist.	15679 Sep 30 22:40	24° $\text{Y}$ 45'40	8.46996 AU
opposition	15673 Jul 16 07:52	8° $\approx$ 58'04	2°04'03	direct	15679 Dec 08 03:13	21° $\text{Y}$ 22'17	
min. Earth dist.	15673 Jul 16 04:55	8° $\approx$ 58'39	8.63724 AU	evening set	15680 Mar 21 08:43	29° $\text{Y}$ 06'33	
direct	15673 Sep 22 14:54	5° $\approx$ 35'04			15680 Mar 28 15:00	0° $\text{B}$	
evening set	15674 Jan 02 12:11	13° $\approx$ 00'47		max. Earth dist.	15680 Apr 07 08:14	1° $\text{B}$ 12'24	10.45803 AU
	15674 Jan 18 22:24	15° $\approx$					
				conjunction	15680 Apr 08 00:55	1° $\text{B}$ 17'35	0°30'49
conjunction	15674 Jan 20 00:25	15° $\approx$ 07'56	1°41'53	minimum elong	15680 Apr 08 00:56	1° $\text{B}$ 17'36	0°30'27
minimum elong	15674 Jan 20 00:25	15° $\approx$ 07'56	1°42'33	morning rise	15680 Apr 25 15:29	3° $\text{B}$ 28'12	
max. Earth dist.	15674 Jan 20 01:30	15° $\approx$ 08'15	10.62434 AU	retrograde	15680 Aug 05 21:43	11° $\text{B}$ 06'04	
morning rise	15674 Feb 06 14:05	17° $\approx$ 15'29		opposition	15680 Oct 12 14:43	7° $\text{B}$ 43'04	0°24'20
retrograde	15674 May 21 06:36	24° $\approx$ 48'51		min. Earth dist.	15680 Oct 13 04:05	7° $\text{B}$ 40'26	8.44756 AU
opposition	15674 Jul 29 00:00	21° $\approx$ 24'33	2°05'47	direct	15680 Dec 20 10:28	4° $\text{B}$ 17'05	
min. Earth dist.	15674 Jul 29 00:36	21° $\approx$ 24'26	8.61265 AU	evening set	15681 Apr 03 22:28	12° $\text{B}$ 03'48	
direct	15674 Oct 05 06:54	18° $\approx$ 00'55					
evening set	15675 Jan 15 13:55	25° $\approx$ 29'30		conjunction	15681 Apr 21 13:48	14° $\text{B}$ 15'03	0°08'19
				minimum elong	15681 Apr 21 13:48	14° $\text{B}$ 15'03	0°07'47
conjunction	15675 Feb 02 03:23	27° $\approx$ 37'19	1°40'52	behind sun begin	15681 Apr 21 07:20	14° $\text{B}$ 13'03	
minimum elong	15675 Feb 02 03:24	27° $\approx$ 37'19	1°41'23	behind sun end	15681 Apr 21 20:17	14° $\text{B}$ 17'03	
max. Earth dist.	15675 Feb 02 00:13	27° $\approx$ 36'21	10.59803 AU	max. Earth dist.	15681 Apr 20 20:29	14° $\text{B}$ 09'39	10.43805 AU
morning rise	15675 Feb 19 17:53	29° $\approx$ 45'27			15681 Apr 27 13:48	15° $\text{B}$	
	15675 Feb 21 18:41	0° $\text{H}$		morning rise	15681 May 09 03:07	16° $\text{B}$ 25'44	
retrograde	15675 Jun 03 04:27	7° $\text{H}$ 19'32		retrograde	15681 Aug 19 04:24	24° $\text{B}$ 04'13	
opposition	15675 Aug 10 17:12	3° $\text{H}$ 55'19	2°01'35	desc. node	15681 Sep 03 10:52	23° $\text{B}$ 51'48	
min. Earth dist.	15675 Aug 10 20:49	3° $\text{H}$ 54'37	8.58485 AU	opposition	15681 Oct 25 21:16	20° $\text{B}$ 41'28	-0°04'03
direct	15675 Oct 18 01:57	0° $\text{H}$ 31'06		min. Earth dist.	15681 Oct 26 10:34	20° $\text{B}$ 38'51	8.43008 AU
evening set	15676 Jan 28 18:01	8° $\text{H}$ 02'49		direct	15682 Jan 02 20:46	17° $\text{B}$ 15'24	
				evening set	15682 Apr 17 12:50	25° $\text{B}$ 04'03	
conjunction	15676 Feb 15 08:43	10° $\text{H}$ 11'22	1°35'02	max. Earth dist.	15682 May 04 10:09	27° $\text{B}$ 10'04	10.42318 AU
minimum elong	15676 Feb 15 08:44	10° $\text{H}$ 11'23	1°35'23				
max. Earth dist.	15676 Feb 15 02:22	10° $\text{H}$ 09'26	10.56922 AU	conjunction	15682 May 05 02:48	27° $\text{B}$ 15'16	-0°14'48
morning rise	15676 Mar 03 23:49	12° $\text{H}$ 20'06		minimum elong	15682 May 05 02:47	27° $\text{B}$ 15'16	0°15'28
retrograde	15676 Jun 15 04:04	19° $\text{H}$ 54'59		behind sun begin	15682 May 05 00:58	27° $\text{B}$ 14'42	
opposition	15676 Aug 22 12:10	16° $\text{H}$ 30'54	1°51'32	behind sun end	15682 May 05 04:37	27° $\text{B}$ 15'50	
min. Earth dist.	15676 Aug 22 17:59	16° $\text{H}$ 29'45	8.55517 AU	morning rise	15682 May 22 14:17	29° $\text{B}$ 25'50	
direct	15676 Oct 29 23:14	13° $\text{H}$ 06'10			15682 May 27 06:24	0° $\text{II}$	
evening set	15677 Feb 10 00:20	20° $\text{H}$ 41'06		retrograde	15682 Sep 01 12:43	7° $\text{II}$ 04'52	
				opposition	15682 Nov 08 06:01	3° $\text{II}$ 42'20	-0°32'20
conjunction	15677 Feb 27 16:05	22° $\text{H}$ 50'26	1°24'34	min. Earth dist.	15682 Nov 08 18:39	3° $\text{II}$ 39'51	8.41789 AU
minimum elong	15677 Feb 27 16:08	22° $\text{H}$ 50'27	1°24'45	direct	15683 Jan 16 08:33	0° $\text{II}$ 16'16	
max. Earth dist.	15677 Feb 27 07:09	22° $\text{H}$ 47'41	10.53936 AU	evening set	15683 May 01 03:10	8° $\text{II}$ 06'15	
morning rise	15677 Mar 17 07:32	24° $\text{H}$ 59'45					
	15677 May 03 06:03	0° $\text{Y}$		conjunction	15683 May 18 15:10	10° $\text{II}$ 17'12	-0°37'07
retrograde	15677 Jun 28 07:11	2° $\text{Y}$ 35'28		minimum elong	15683 May 18 15:09	10° $\text{II}$ 17'12	0°37'53
	15677 Aug 25 02:07	30° $\text{R}$ $\text{H}$		max. Earth dist.	15683 May 17 23:29	10° $\text{II}$ 12'17	10.41346 AU
opposition	15677 Sep 04 09:14	29° $\text{H}$ 11'35	1°36'00	morning rise	15683 Jun 05 00:25	12° $\text{II}$ 27'27	
min. Earth dist.	15677 Sep 04 17:00	29° $\text{H}$ 10'03	8.52512 AU	retrograde	15683 Sep 14 22:50	20° $\text{II}$ 07'01	
direct	15677 Nov 11 21:08	25° $\text{H}$ 46'26		opposition	15683 Nov 21 16:41	16° $\text{II}$ 44'40	-0°59'01
	15678 Jan 24 06:44	0° $\text{Y}$		min. Earth dist.	15683 Nov 22 04:47	16° $\text{II}$ 42'17	8.41077 AU
evening set	15678 Feb 23 09:10	3° $\text{Y}$ 24'37		direct	15684 Jan 29 20:18	13° $\text{II}$ 18'42	
				evening set	15684 May 13 16:54	21° $\text{II}$ 09'26	
conjunction	15678 Mar 13 01:36	5° $\text{Y}$ 34'40	1°09'54	max. Earth dist.	15684 May 30 11:44	23° $\text{II}$ 15'19	10.40850 AU
minimum elong	15678 Mar 13 01:38	5° $\text{Y}$ 34'41	1°09'55				
max. Earth dist.	15678 Mar 12 13:57	5° $\text{Y}$ 31'04	10.50994 AU	conjunction	15684 May 31 02:31	23° $\text{II}$ 19'59	-0°57'33
morning rise	15678 Mar 30 17:08	7° $\text{Y}$ 44'32		minimum elong	15684 Jun 31 02:29	23° $\text{II}$ 19'58	0°58'24
retrograde	15678 Jul 11 10:50	15° $\text{Y}$ 21'00		morning rise	15684 Jun 17 09:29	25° $\text{II}$ 29'48	
opposition	15678 Sep 17 08:30	11° $\text{Y}$ 57'24	1°15'38		15684 Jul 27 16:45	0° $\text{B}$	
min. Earth dist.	15678 Sep 17 18:37	11° $\text{Y}$ 55'24	8.49625 AU	retrograde	15684 Sep 27 08:31	3° $\text{B}$ 09'56	
direct	15678 Nov 24 22:26	8° $\text{Y}$ 31'52			15684 Dec 01 14:22	30° $\text{R}$ $\text{II}$	

opposition	15684 Dec 04 04:56	29° $\Pi$ 47'44	-1°22'40	evening set	15691 Aug 13 10:07	21° $\Pi$ 42'38
min. Earth dist.	15684 Dec 04 16:17	29° $\Pi$ 45'31	8.40835 AU			
direct	15685 Feb 11 10:01	26° $\Pi$ 22'00		conjunction	15691 Aug 30 09:30	23° $\Pi$ 48'58 -1°23'45
	15685 Apr 19 22:52	0° $\mathfrak{C}$		minimum elong	15691 Aug 30 09:32	23° $\Pi$ 48'59 1°23'55
evening set	15685 May 27 05:30	4° $\mathfrak{C}$ 12'58		max. Earth dist.	15691 Aug 30 18:22	23° $\Pi$ 51'44 10.52138 AU
				morning rise	15691 Sep 16 09:27	25° $\Pi$ 55'25
conjunction	15685 Jun 13 12:37	6° $\mathfrak{C}$ 22'58	-1°15'02		15691 Oct 22 18:05	0° $\mathfrak{A}$
minimum elong	15685 Jun 13 12:36	6° $\mathfrak{C}$ 22'58	1°15'54	retrograde	15691 Dec 28 11:29	3° $\mathfrak{A}$ 33'22
max. Earth dist.	15685 Jun 12 23:15	6° $\mathfrak{C}$ 18'45	10.40828 AU	opposition	15692 Mar 06 20:30	0° $\mathfrak{A}$ 10'13 -1°34'49
morning rise	15685 Jun 30 17:26	8° $\mathfrak{C}$ 32'18		min. Earth dist.	15692 Mar 06 11:25	0° $\mathfrak{A}$ 11'58 8.53734 AU
retrograde	15685 Oct 10 17:21	16° $\mathfrak{C}$ 13'02			15692 Mar 09 01:32	30° $\mathfrak{R}$ $\Pi$
opposition	15685 Dec 17 18:29	12° $\mathfrak{C}$ 50'56	-1°42'03	direct	15692 May 14 22:27	26° $\Pi$ 47'41
min. Earth dist.	15685 Dec 18 04:13	12° $\mathfrak{C}$ 49'02	8.41099 AU		15692 Jul 16 21:00	0° $\mathfrak{A}$
direct	15686 Feb 25 01:45	9° $\mathfrak{C}$ 25'33		evening set	15692 Aug 25 05:31	4° $\mathfrak{A}$ 20'46
evening set	15686 Jun 09 16:37	17° $\mathfrak{C}$ 16'02				
				conjunction	15692 Sep 11 05:30	6° $\mathfrak{A}$ 26'43 -1°09'00
conjunction	15686 Jun 26 21:21	19° $\mathfrak{C}$ 25'24	-1°28'38	minimum elong	15692 Sep 11 05:32	6° $\mathfrak{A}$ 26'43 1°08'59
minimum elong	15686 Jun 26 21:19	19° $\mathfrak{C}$ 25'23	1°29'28	max. Earth dist.	15692 Sep 11 17:48	6° $\mathfrak{A}$ 30'32 10.55211 AU
max. Earth dist.	15686 Jun 26 10:42	19° $\mathfrak{C}$ 22'02	10.41359 AU	morning rise	15692 Sep 28 06:24	8° $\mathfrak{A}$ 32'55
morning rise	15686 Jul 14 00:06	21° $\mathfrak{C}$ 34'10		retrograde	15693 Jan 09 12:31	16° $\mathfrak{A}$ 09'34
retrograde	15686 Oct 24 02:53	29° $\mathfrak{C}$ 15'19		opposition	15693 Mar 20 02:08	12° $\mathfrak{A}$ 46'10 -1°14'23
opposition	15686 Dec 31 08:45	25° $\mathfrak{C}$ 53'12	-1°56'09	min. Earth dist.	15693 Mar 19 14:10	12° $\mathfrak{A}$ 48'29 8.56781 AU
min. Earth dist.	15686 Dec 31 15:28	25° $\mathfrak{C}$ 51'54	8.41951 AU	direct	15693 May 28 03:05	9° $\mathfrak{A}$ 24'07
direct	15687 Mar 10 17:13	22° $\mathfrak{C}$ 28'15		evening set	15693 Sep 06 22:56	16° $\mathfrak{A}$ 53'35
	15687 Jun 20 17:08	0° $\mathfrak{Q}$				
evening set	15687 Jun 23 01:37	0° $\mathfrak{Q}$ 17'23		conjunction	15693 Sep 23 23:50	18° $\mathfrak{A}$ 59'15 -0°51'03
				minimum elong	15693 Sep 23 23:51	18° $\mathfrak{A}$ 59'16 0°50'51
conjunction	15687 Jul 10 04:20	2° $\mathfrak{Q}$ 26'05	-1°37'40	max. Earth dist.	15693 Sep 24 15:21	19° $\mathfrak{A}$ 04'03 10.58233 AU
minimum elong	15687 Jul 10 04:19	2° $\mathfrak{Q}$ 26'04	1°38'27	morning rise	15693 Oct 11 01:56	21° $\mathfrak{A}$ 05'17
max. Earth dist.	15687 Jul 09 21:55	2° $\mathfrak{Q}$ 24'03	10.42506 AU	retrograde	15694 Jan 22 13:34	28° $\mathfrak{A}$ 40'38
morning rise	15687 Jul 27 05:21	4° $\mathfrak{Q}$ 34'16		opposition	15694 Apr 02 05:20	25° $\mathfrak{A}$ 17'03 -0°50'33
retrograde	15687 Nov 06 13:10	12° $\mathfrak{Q}$ 15'29		min. Earth dist.	15694 Apr 01 15:13	25° $\mathfrak{A}$ 19'46 8.59704 AU
opposition	15688 Jan 13 23:10	8° $\mathfrak{Q}$ 53'15	-2°04'15	direct	15694 Jun 10 03:01	21° $\mathfrak{A}$ 55'25
min. Earth dist.	15688 Jan 14 02:11	8° $\mathfrak{Q}$ 52'40	8.43413 AU	evening set	15694 Sep 19 14:46	29° $\mathfrak{A}$ 21'35
direct	15688 Mar 23 06:51	5° $\mathfrak{Q}$ 28'46			15694 Sep 24 21:20	0° $\mathfrak{M}$
evening set	15688 Jul 05 07:54	13° $\mathfrak{Q}$ 15'40				
	15688 Jul 19 05:53	15° $\mathfrak{Q}$		conjunction	15694 Oct 06 16:42	1° $\mathfrak{M}$ 27'02 -0°30'47
				minimum elong	15694 Oct 06 16:43	1° $\mathfrak{M}$ 27'02 0°30'25
conjunction	15688 Jul 22 09:05	15° $\mathfrak{Q}$ 23'42	-1°41'42	max. Earth dist.	15694 Oct 07 09:57	1° $\mathfrak{M}$ 32'21 10.61057 AU
minimum elong	15688 Jul 22 09:05	15° $\mathfrak{Q}$ 23'43	1°42'22	morning rise	15694 Oct 23 20:18	3° $\mathfrak{M}$ 32'59
max. Earth dist.	15688 Jul 22 07:16	15° $\mathfrak{Q}$ 23'08	10.44250 AU	retrograde	15695 Feb 04 12:30	11° $\mathfrak{M}$ 07'08
morning rise	15688 Aug 08 08:52	17° $\mathfrak{Q}$ 31'21		opposition	15695 Apr 15 06:00	7° $\mathfrak{M}$ 43'24 -0°24'30
retrograde	15688 Nov 18 21:05	25° $\mathfrak{Q}$ 12'14		min. Earth dist.	15695 Apr 14 15:08	7° $\mathfrak{M}$ 46'15 8.62367 AU
opposition	15689 Jan 26 12:55	21° $\mathfrak{Q}$ 49'49	-2°06'00	direct	15695 Jun 22 23:36	4° $\mathfrak{M}$ 22'05
min. Earth dist.	15689 Jan 26 12:23	21° $\mathfrak{Q}$ 49'55	8.45427 AU	evening set	15695 Oct 02 05:50	11° $\mathfrak{M}$ 45'32
direct	15689 Apr 05 19:58	18° $\mathfrak{Q}$ 25'49				
evening set	15689 Jul 18 11:34	26° $\mathfrak{Q}$ 09'50		conjunction	15695 Oct 19 08:54	13° $\mathfrak{M}$ 50'50 -0°09'12
				minimum elong	15695 Oct 19 08:54	13° $\mathfrak{M}$ 50'50 0°08'41
conjunction	15689 Aug 04 11:37	28° $\mathfrak{Q}$ 17'13	-1°40'36	behind sun begin	15695 Oct 19 02:44	13° $\mathfrak{M}$ 48'58
minimum elong	15689 Aug 04 11:38	28° $\mathfrak{Q}$ 17'13	1°41'07	behind sun end	15695 Oct 19 15:04	13° $\mathfrak{M}$ 52'43
max. Earth dist.	15689 Aug 04 13:54	28° $\mathfrak{Q}$ 17'56	10.46511 AU	max. Earth dist.	15695 Oct 20 02:28	13° $\mathfrak{M}$ 56'13 10.63553 AU
	15689 Aug 18 03:55	0° $\mathfrak{M}$			15695 Oct 28 18:43	15° $\mathfrak{M}$
morning rise	15689 Aug 21 10:48	0° $\mathfrak{M}$ 24'22		morning rise	15695 Nov 05 14:09	15° $\mathfrak{M}$ 56'45
retrograde	15689 Dec 02 03:54	8° $\mathfrak{M}$ 04'32		retrograde	15696 Feb 17 08:35	23° $\mathfrak{M}$ 29'50
opposition	15690 Feb 09 01:21	4° $\mathfrak{M}$ 41'54	-2°01'24	asc. node	15696 Mar 23 11:08	22° $\mathfrak{M}$ 30'04
min. Earth dist.	15690 Feb 08 21:56	4° $\mathfrak{M}$ 42'33	8.47900 AU	opposition	15696 Apr 27 04:03	20° $\mathfrak{M}$ 06'00 0°02'32
direct	15690 Apr 19 07:20	1° $\mathfrak{M}$ 18'22		min. Earth dist.	15696 Apr 26 13:19	20° $\mathfrak{M}$ 08'50 8.64654 AU
evening set	15690 Jul 31 12:20	8° $\mathfrak{M}$ 58'59		direct	15696 Jul 04 19:50	16° $\mathfrak{M}$ 44'53
				evening set	15696 Oct 13 20:32	24° $\mathfrak{M}$ 06'17
conjunction	15690 Aug 17 11:44	11° $\mathfrak{M}$ 05'48	-1°34'29	conjunction	15696 Oct 31 00:52	26° $\mathfrak{M}$ 11'32 0°12'49
minimum elong	15690 Aug 17 11:46	11° $\mathfrak{M}$ 05'48	1°34'50	minimum elong	15696 Oct 31 00:51	26° $\mathfrak{M}$ 11'32 0°13'28
max. Earth dist.	15690 Aug 17 17:15	11° $\mathfrak{M}$ 07'31	10.49184 AU	behind sun begin	15696 Oct 30 20:51	26° $\mathfrak{M}$ 10'19
morning rise	15690 Sep 03 11:01	13° $\mathfrak{M}$ 12'32		behind sun end	15696 Oct 31 04:52	26° $\mathfrak{M}$ 12'45
retrograde	15690 Dec 15 09:24	20° $\mathfrak{M}$ 51'41		max. Earth dist.	15696 Oct 31 18:11	26° $\mathfrak{M}$ 16'49 10.65610 AU
opposition	15691 Feb 22 12:06	17° $\mathfrak{M}$ 28'48	-1°50'47	morning rise	15696 Nov 17 07:40	28° $\mathfrak{M}$ 17'26
min. Earth dist.	15691 Feb 22 05:57	17° $\mathfrak{M}$ 29'59	8.50719 AU		15696 Dec 01 23:26	0° $\mathfrak{Z}$
direct	15691 May 02 15:56	14° $\mathfrak{M}$ 05'47				



retrograde	15697 Mar 01 04:40	5°♏49'43		retrograde	15703 May 17 03:23	19°♏46'34	
opposition	15697 May 09 23:59	2°♏25'49	0°29'20	opposition	15703 Jul 24 23:36	16°♏22'53	2°05'26
min. Earth dist.	15697 May 09 09:31	2°♏28'36	8.66463 AU	min. Earth dist.	15703 Jul 24 21:48	16°♏23'13	8.64675 AU
	15697 Jun 14 07:38	30°♏			15703 Aug 12 04:08	15°♏	
direct	15697 Jul 17 13:34	29°♏04'49		direct	15703 Oct 01 06:50	13°♏00'11	
	15697 Aug 19 07:13	0°♏			15703 Nov 19 05:41	15°♏	
evening set	15697 Oct 26 11:19	6°♏24'51		evening set	15704 Jan 11 09:02	20°♏26'33	
conjunction	15697 Nov 12 16:59	8°♏30'06	0°34'05	conjunction	15704 Jan 28 21:58	22°♏33'46	1°41'40
minimum elong	15697 Nov 12 16:58	8°♏30'05	0°34'50	minimum elong	15704 Jan 28 21:58	22°♏33'46	1°42'14
max. Earth dist.	15697 Nov 13 10:24	8°♏35'24	10.67141 AU	max. Earth dist.	15704 Jan 28 21:59	22°♏33'47	10.63354 AU
morning rise	15697 Nov 30 01:04	10°♏36'03		morning rise	15704 Feb 15 11:48	24°♏41'20	
retrograde	15698 Mar 14 00:06	18°♏07'48			15704 Apr 06 17:43	0°♏	
opposition	15698 May 22 18:04	14°♏43'51	0°54'41	retrograde	15704 May 29 01:05	2°♏14'10	
min. Earth dist.	15698 May 22 03:47	14°♏46'36	8.67724 AU		15704 Jul 21 14:27	30°♏	
direct	15698 Jul 30 05:32	11°♏22'52		opposition	15704 Aug 05 15:45	28°♏50'34	2°03'45
evening set	15698 Nov 08 03:00	18°♏42'18		min. Earth dist.	15704 Aug 05 17:12	28°♏50'16	8.62108 AU
				direct	15704 Oct 12 23:48	25°♏27'17	
conjunction	15698 Nov 25 09:56	20°♏47'38	0°53'46		15704 Dec 28 12:34	0°♏	
minimum elong	15698 Nov 25 09:55	20°♏47'38	0°54'35	evening set	15705 Jan 23 11:37	2°♏56'38	
max. Earth dist.	15698 Nov 26 02:38	20°♏52'43	10.68094 AU				
morning rise	15698 Dec 12 19:11	22°♏53'40		conjunction	15705 Feb 10 01:39	5°♏04'34	1°37'52
	15699 Mar 04 12:21	0°♏		minimum elong	15705 Feb 10 01:41	5°♏04'34	1°38'18
retrograde	15699 Mar 26 19:56	0°♏25'08		max. Earth dist.	15705 Feb 09 21:00	5°♏03'09	10.60540 AU
	15699 Apr 18 05:48	30°♏		morning rise	15705 Feb 27 16:14	7°♏12'43	
opposition	15699 Jun 04 10:36	27°♏01'12	1°17'28	retrograde	15705 Jun 11 00:26	14°♏46'21	
min. Earth dist.	15699 Jun 03 21:35	27°♏03'43	8.68392 AU	opposition	15705 Aug 18 09:28	11°♏22'50	1°56'11
direct	15699 Aug 11 20:12	23°♏40'07		min. Earth dist.	15705 Aug 18 14:36	11°♏21'49	8.59087 AU
	15699 Nov 12 08:24	0°♏		direct	15705 Oct 25 18:32	7°♏58'56	
evening set	15699 Nov 20 19:58	0°♏59'42		evening set	15706 Feb 05 16:25	15°♏31'30	
conjunction	15699 Dec 08 04:02	3°♏05'12	1°10'57	conjunction	15706 Feb 23 07:30	17°♏40'13	1°29'22
minimum elong	15699 Dec 08 04:00	3°♏05'12	1°11'49	minimum elong	15706 Feb 23 07:32	17°♏40'13	1°29'37
max. Earth dist.	15699 Dec 08 18:24	3°♏09'34	10.68433 AU	max. Earth dist.	15706 Feb 22 22:23	17°♏37'25	10.57394 AU
morning rise	15699 Dec 25 14:25	5°♏11'23		morning rise	15706 Mar 12 22:44	19°♏49'00	
retrograde	15700 Apr 08 16:02	12°♏42'45		retrograde	15706 Jun 24 01:22	27°♏23'27	
opposition	15700 Jun 17 02:14	9°♏18'54	1°36'42	opposition	15706 Aug 31 05:01	24°♏00'02	1°43'00
min. Earth dist.	15700 Jun 16 15:44	9°♏20'56	8.68436 AU	min. Earth dist.	15706 Aug 31 13:22	23°♏58'23	8.55830 AU
direct	15700 Aug 24 09:15	5°♏57'34		direct	15706 Nov 07 15:33	20°♏35'30	
evening set	15700 Dec 03 14:26	13°♏18'01		evening set	15707 Feb 18 23:38	28°♏11'24	
					15707 Mar 05 19:46	0°♏	
conjunction	15700 Dec 20 23:32	15°♏23'46	1°24'54	conjunction	15707 Mar 08 15:34	0°♏20'52	1°16'30
minimum elong	15700 Dec 20 23:31	15°♏23'45	1°25'46	minimum elong	15707 Mar 08 15:36	0°♏20'52	1°16'34
max. Earth dist.	15700 Dec 21 10:18	15°♏27'01	10.68138 AU	max. Earth dist.	15707 Mar 08 02:59	0°♏16'59	10.54115 AU
morning rise	15701 Jan 07 10:59	17°♏30'10		morning rise	15707 Mar 26 07:08	2°♏30'16	
retrograde	15701 Apr 21 10:38	25°♏01'39		retrograde	15707 Jul 07 01:42	10°♏05'30	
opposition	15701 Jun 29 17:22	21°♏37'52	1°51'32	opposition	15707 Sep 13 02:32	6°♏42'10	1°24'42
min. Earth dist.	15701 Jun 29 09:59	21°♏39'19	8.67842 AU	min. Earth dist.	15707 Sep 13 13:07	6°♏40'04	8.52533 AU
direct	15701 Sep 05 23:59	18°♏16'12		direct	15707 Nov 20 16:59	3°♏17'05	
evening set	15701 Dec 16 10:39	25°♏38'06		evening set	15708 Mar 03 08:51	10°♏56'13	
				max. Earth dist.	15708 Mar 20 10:44	13°♏01'51	10.50886 AU
conjunction	15702 Jan 02 20:58	27°♏44'13	1°34'58	conjunction	15708 Mar 21 01:19	13°♏06'22	0°59'47
minimum elong	15702 Jan 02 20:58	27°♏44'13	1°35'46	minimum elong	15708 Mar 21 01:22	13°♏06'22	0°59'41
max. Earth dist.	15702 Jan 03 04:18	27°♏46'26	10.67205 AU	morning rise	15708 Apr 07 16:44	15°♏16'16	
morning rise	15702 Jan 20 09:21	29°♏50'54		retrograde	15708 Jul 19 05:01	22°♏52'20	
	15702 Jan 21 16:02	0°♏		opposition	15708 Sep 25 02:28	19°♏29'04	1°02'05
retrograde	15702 May 04 05:52	7°♏22'41		min. Earth dist.	15708 Sep 25 14:13	19°♏26'45	8.49373 AU
opposition	15702 Jul 12 08:20	3°♏58'57	2°01'17	direct	15708 Dec 02 19:52	16°♏03'30	
min. Earth dist.	15702 Jul 12 03:43	3°♏59'51	8.66598 AU	evening set	15709 Mar 16 19:41	23°♏45'38	
direct	15702 Sep 18 15:50	0°♏36'48					
evening set	15702 Dec 29 08:45	8°♏00'40					
conjunction	15703 Jan 15 20:25	10°♏07'17	1°40'39	conjunction	15709 Apr 03 12:13	25°♏56'20	0°40'01
minimum elong	15703 Jan 15 20:25	10°♏07'17	1°41'22	minimum elong	15709 Apr 03 12:14	25°♏56'20	0°39'44
max. Earth dist.	15703 Jan 16 00:20	10°♏08'29	10.65614 AU	max. Earth dist.	15709 Apr 02 20:12	25°♏51'22	10.47872 AU
morning rise	15703 Feb 02 09:35	12°♏14'22		morning rise	15709 Apr 21 03:01	28°♏06'38	
	15703 Feb 26 17:41	15°♏			15709 May 07 02:40	0°♏	

retrograde	15709 Aug 01 11:15	5° $\mathbf{\text{843}'}28$		conjunction	15715 Jun 22 05:57	13° $\mathbf{\text{549}'}51$	-1°23'07
opposition	15709 Oct 08 04:50	2° $\mathbf{\text{820}'}18$	0°36'12	minimum elong	15715 Jun 22 05:56	13° $\mathbf{\text{549}'}50$	1°23'58
min. Earth dist.	15709 Oct 08 17:49	2° $\mathbf{\text{817}'}43$	8.46504 AU	max. Earth dist.	15715 Jun 21 20:04	13° $\mathbf{\text{546}'}44$	10.40926 AU
	15709 Nov 09 19:14	30° $\mathbf{\text{87}'}\mathbf{\text{Y}}$		morning rise	15715 Jul 09 09:27	15° $\mathbf{\text{558}'}47$	
direct	15709 Dec 15 23:32	28° $\mathbf{\text{Y54}'}19$		retrograde	15715 Oct 19 10:31	23° $\mathbf{\text{539}'}13$	
	15710 Jan 20 21:01	0° $\mathbf{\text{8}}$		opposition	15715 Dec 26 14:16	20° $\mathbf{\text{516}'}42$	-1°50'34
evening set	15710 Mar 30 08:09	6° $\mathbf{\text{839}'}10$		min. Earth dist.	15715 Dec 26 20:59	20° $\mathbf{\text{515}'}23$	8.41554 AU
max. Earth dist.	15710 Apr 16 06:36	8° $\mathbf{\text{844}'}48$	10.45212 AU	direct	15716 Mar 04 22:26	16° $\mathbf{\text{551}'}12$	
				evening set	15716 Jun 17 09:14	24° $\mathbf{\text{540}'}19$	
conjunction	15710 Apr 17 00:03	8° $\mathbf{\text{850}'}13$	0°18'09				
minimum elong	15710 Apr 17 00:04	8° $\mathbf{\text{850}'}14$	0°17'42	conjunction	15716 Jul 04 12:51	26° $\mathbf{\text{549}'}12$	-1°34'13
morning rise	15710 May 04 13:49	11° $\mathbf{\text{800}'}45$		minimum elong	15716 Jul 04 12:50	26° $\mathbf{\text{549}'}12$	1°35'01
	15710 Jun 08 23:53	15° $\mathbf{\text{8}}$		max. Earth dist.	15716 Jul 04 05:55	26° $\mathbf{\text{547}'}01$	10.42180 AU
retrograde	15710 Aug 14 16:54	18° $\mathbf{\text{838}'}17$		morning rise	15716 Jul 21 14:31	28° $\mathbf{\text{557}'}32$	
opposition	15710 Oct 21 09:30	15° $\mathbf{\text{815}'}14$	0°08'21		15716 Jul 30 03:34	0° $\mathbf{\text{8}}$	
min. Earth dist.	15710 Oct 21 23:37	15° $\mathbf{\text{812}'}27$	8.44066 AU	retrograde	15716 Oct 31 19:36	6° $\mathbf{\text{837}'}59$	
	15710 Oct 24 14:37	15° $\mathbf{\text{88}}$		opposition	15717 Jan 08 03:47	3° $\mathbf{\text{815}'}34$	-2°01'22
direct	15710 Dec 29 07:32	11° $\mathbf{\text{848}'}55$		min. Earth dist.	15717 Jan 08 08:06	3° $\mathbf{\text{814}'}43$	8.43155 AU
desc. node	15711 Feb 09 14:08	13° $\mathbf{\text{819}'}04$			15717 Mar 05 00:54	30° $\mathbf{\text{88}}$	
	15711 Mar 02 05:05	15° $\mathbf{\text{8}}$		direct	15717 Mar 18 11:27	29° $\mathbf{\text{550}'}38$	
evening set	15711 Apr 12 21:32	19° $\mathbf{\text{836}'}09$			15717 Mar 31 22:20	0° $\mathbf{\text{8}}$	
				evening set	15717 Jun 30 16:08	7° $\mathbf{\text{837}'}52$	
conjunction	15711 Apr 30 12:08	21° $\mathbf{\text{847}'}18$	-0°04'49				
minimum elong	15711 Apr 30 12:08	21° $\mathbf{\text{847}'}18$	0°05'26	conjunction	15717 Jul 17 17:49	9° $\mathbf{\text{846}'}01$	-1°40'30
behind sun begin	15711 Apr 30 05:11	21° $\mathbf{\text{845}'}09$		minimum elong	15717 Jul 17 17:49	9° $\mathbf{\text{846}'}01$	1°41'13
behind sun end	15711 Apr 30 19:05	21° $\mathbf{\text{849}'}27$		max. Earth dist.	15717 Jul 17 14:07	9° $\mathbf{\text{844}'}52$	10.44077 AU
max. Earth dist.	15711 Apr 29 17:44	21° $\mathbf{\text{841}'}34$	10.43038 AU	morning rise	15717 Aug 03 18:09	11° $\mathbf{\text{853}'}46$	
morning rise	15711 May 18 00:27	23° $\mathbf{\text{857}'}52$			15717 Aug 30 08:09	15° $\mathbf{\text{8}}$	
	15711 Jul 15 23:31	0° $\mathbf{\text{II}}$		retrograde	15717 Nov 14 02:15	19° $\mathbf{\text{833}'}57$	
retrograde	15711 Aug 27 23:05	1° $\mathbf{\text{II36}'}07$		opposition	15718 Jan 21 17:05	16° $\mathbf{\text{811}'}35$	-2°05'57
	15711 Oct 10 22:02	30° $\mathbf{\text{88}}$		min. Earth dist.	15718 Jan 21 18:16	16° $\mathbf{\text{811}'}21$	8.45343 AU
opposition	15711 Nov 03 16:39	28° $\mathbf{\text{813}'}11$	-0°20'05		15718 Feb 06 09:59	15° $\mathbf{\text{88}}$	
min. Earth dist.	15711 Nov 04 07:11	28° $\mathbf{\text{810}'}18$	8.42182 AU	direct	15718 Apr 01 01:12	12° $\mathbf{\text{847}'}17$	
direct	15712 Jan 11 18:19	24° $\mathbf{\text{846}'}41$			15718 May 22 18:12	15° $\mathbf{\text{8}}$	
	15712 Apr 03 09:41	0° $\mathbf{\text{II}}$		evening set	15718 Jul 13 20:16	20° $\mathbf{\text{831}'}55$	
evening set	15712 Apr 25 11:02	2° $\mathbf{\text{II35}'}41$					
				conjunction	15718 Jul 30 20:35	22° $\mathbf{\text{839}'}23$	-1°41'41
conjunction	15712 May 12 23:49	4° $\mathbf{\text{II46}'}43$	-0°27'30	minimum elong	15718 Jul 30 20:35	22° $\mathbf{\text{839}'}23$	1°42'17
minimum elong	15712 May 12 23:48	4° $\mathbf{\text{II46}'}43$	0°28'13	max. Earth dist.	15718 Jul 30 20:59	22° $\mathbf{\text{839}'}31$	10.46520 AU
max. Earth dist.	15712 May 12 05:48	4° $\mathbf{\text{II41}'}04$	10.41459 AU	morning rise	15718 Aug 16 20:02	24° $\mathbf{\text{846}'}34$	
morning rise	15712 May 30 10:16	6° $\mathbf{\text{II57}'}06$			15718 Oct 04 07:41	0° $\mathbf{\text{II}}$	
retrograde	15712 Sep 09 06:53	14° $\mathbf{\text{II36}'}05$		retrograde	15718 Nov 27 09:10	2° $\mathbf{\text{II26}'}13$	
opposition	15712 Nov 16 01:50	11° $\mathbf{\text{II13}'}14$	-0°47'35		15719 Jan 22 23:00	30° $\mathbf{\text{88}}$	
min. Earth dist.	15712 Nov 16 15:20	11° $\mathbf{\text{II10}'}34$	8.40949 AU	opposition	15719 Feb 04 05:28	29° $\mathbf{\text{803}'}49$	-2°04'09
direct	15713 Jan 24 06:13	7° $\mathbf{\text{II46}'}44$		min. Earth dist.	15719 Feb 04 02:52	29° $\mathbf{\text{804}'}19$	8.48015 AU
evening set	15713 May 09 00:22	15° $\mathbf{\text{II36}'}52$		direct	15719 Apr 14 13:14	25° $\mathbf{\text{840}'}15$	
					15719 Jun 27 17:58	0° $\mathbf{\text{II}}$	
conjunction	15713 May 26 11:05	17° $\mathbf{\text{II47}'}36$	-0°48'52	evening set	15719 Jul 26 21:39	3° $\mathbf{\text{II21}'}40$	
minimum elong	15713 May 26 11:03	17° $\mathbf{\text{II47}'}36$	0°49'40				
max. Earth dist.	15713 May 25 19:02	17° $\mathbf{\text{II42}'}34$	10.40558 AU	conjunction	15719 Aug 12 21:15	5° $\mathbf{\text{II28}'}31$	-1°37'48
morning rise	15713 Jun 12 19:17	19° $\mathbf{\text{II57}'}38$		minimum elong	15719 Aug 12 21:17	5° $\mathbf{\text{II28}'}31$	1°38'14
retrograde	15713 Sep 22 15:40	27° $\mathbf{\text{II37}'}14$		max. Earth dist.	15719 Aug 13 02:20	5° $\mathbf{\text{II30}'}06$	10.49399 AU
opposition	15713 Nov 29 12:36	24° $\mathbf{\text{II14}'}28$	-1°12'41	morning rise	15719 Aug 29 20:21	7° $\mathbf{\text{II35}'}12$	
min. Earth dist.	15713 Nov 30 00:07	24° $\mathbf{\text{II12}'}12$	8.40424 AU	retrograde	15719 Dec 10 15:28	15° $\mathbf{\text{II14}'}00$	
direct	15714 Feb 06 19:05	20° $\mathbf{\text{II48}'}09$		opposition	15720 Feb 17 16:19	11° $\mathbf{\text{II51}'}33$	-1°56'12
evening set	15714 May 22 12:56	28° $\mathbf{\text{II38}'}45$		min. Earth dist.	15720 Feb 17 09:58	11° $\mathbf{\text{II52}'}46$	8.51050 AU
	15714 Jun 02 09:46	0° $\mathbf{\text{5}}$		direct	15720 Apr 26 21:46	8° $\mathbf{\text{II28}'}42$	
				evening set	15720 Aug 07 20:15	16° $\mathbf{\text{II06}'}29$	
conjunction	15714 Jun 08 21:20	0° $\mathbf{\text{548}'}59$	-1°07'44				
minimum elong	15714 Jun 08 21:18	0° $\mathbf{\text{548}'}58$	1°08'34	conjunction	15720 Aug 24 19:40	18° $\mathbf{\text{II12}'}48$	-1°29'07
max. Earth dist.	15714 Jun 08 08:10	0° $\mathbf{\text{544}'}50$	10.40378 AU	minimum elong	15720 Aug 24 19:42	18° $\mathbf{\text{II12}'}48$	1°29'22
morning rise	15714 Jun 26 03:07	2° $\mathbf{\text{558}'}31$		max. Earth dist.	15720 Aug 25 04:48	18° $\mathbf{\text{II15}'}39$	10.52575 AU
retrograde	15714 Oct 06 00:41	10° $\mathbf{\text{538}'}37$		morning rise	15720 Sep 10 19:02	20° $\mathbf{\text{II19}'}08$	
opposition	15714 Dec 13 00:57	7° $\mathbf{\text{515}'}58$	-1°34'04	retrograde	15720 Dec 22 19:33	27° $\mathbf{\text{II56}'}47$	
min. Earth dist.	15714 Dec 13 10:01	7° $\mathbf{\text{514}'}12$	8.40630 AU	opposition	15721 Mar 02 01:13	24° $\mathbf{\text{II34}'}16$	-1°42'36
direct	15715 Feb 20 09:03	3° $\mathbf{\text{550}'}00$		min. Earth dist.	15721 Mar 01 16:11	24° $\mathbf{\text{II36}'}00$	8.54293 AU
evening set	15715 Jun 05 00:01	11° $\mathbf{\text{540}'}15$		direct	15721 May 10 03:54	21° $\mathbf{\text{II12}'}05$	

evening set	15721 Aug 20 16:27	28° $\overline{\text{M}}$ 46'06	max. Earth dist.	15726 Nov 08 20:00	3° $\overline{\text{X}}$ 05'37	10.67757 AU
	15721 Aug 30 16:45	0° $\underline{\text{A}}$	morning rise	15726 Nov 25 10:58	5° $\overline{\text{X}}$ 06'25	
			retrograde	15727 Mar 09 10:06	12° $\overline{\text{X}}$ 38'03	
conjunction	15721 Sep 06 16:01	0° $\underline{\text{A}}$ 51'57 -1°16'09	opposition	15727 May 18 03:45	9° $\overline{\text{X}}$ 14'30	0°43'04
minimum elong	15721 Sep 06 16:04	0° $\underline{\text{A}}$ 51'58 1°16'13	min. Earth dist.	15727 May 17 14:40	9° $\overline{\text{X}}$ 17'02	8.68198 AU
max. Earth dist.	15721 Sep 07 03:52	0° $\underline{\text{A}}$ 55'38 10.55879 AU	direct	15727 Jul 25 15:11	5° $\overline{\text{X}}$ 53'50	
morning rise	15721 Sep 23 16:13	2° $\underline{\text{A}}$ 57'59	evening set	15727 Nov 03 13:51	13° $\overline{\text{X}}$ 13'13	
retrograde	15722 Jan 04 21:31	10° $\underline{\text{A}}$ 34'22				
opposition	15722 Mar 15 07:51	7° $\underline{\text{A}}$ 11'45 -1°24'09	conjunction	15727 Nov 20 20:00	15° $\overline{\text{X}}$ 18'24	0°44'48
min. Earth dist.	15722 Mar 14 20:55	7° $\underline{\text{A}}$ 13'51 8.57576 AU	minimum elong	15727 Nov 20 19:59	15° $\overline{\text{X}}$ 18'23	0°45'36
direct	15722 May 23 08:29	3° $\underline{\text{A}}$ 50'08	max. Earth dist.	15727 Nov 21 10:41	15° $\overline{\text{X}}$ 22'52	10.68444 AU
evening set	15722 Sep 02 10:27	11° $\underline{\text{A}}$ 20'25	morning rise	15727 Dec 08 04:46	17° $\overline{\text{X}}$ 24'18	
			retrograde	15728 Mar 21 04:12	24° $\overline{\text{X}}$ 55'38	
conjunction	15722 Sep 19 10:36	13° $\underline{\text{A}}$ 25'56 -0°59'37	opposition	15728 May 29 20:45	21° $\overline{\text{X}}$ 31'53	1°07'10
minimum elong	15722 Sep 19 10:38	13° $\underline{\text{A}}$ 25'56 0°59'29	min. Earth dist.	15728 May 29 09:10	21° $\overline{\text{X}}$ 34'07	8.68595 AU
max. Earth dist.	15722 Sep 20 00:18	13° $\underline{\text{A}}$ 30'10 10.59132 AU	direct	15728 Aug 06 07:31	18° $\overline{\text{X}}$ 10'55	
morning rise	15722 Oct 06 12:04	15° $\underline{\text{A}}$ 31'46	evening set	15728 Nov 15 05:54	25° $\overline{\text{X}}$ 30'14	
retrograde	15723 Jan 17 21:40	23° $\underline{\text{A}}$ 06'47				
opposition	15723 Mar 28 11:56	19° $\underline{\text{A}}$ 44'02 -1°01'48	conjunction	15728 Dec 02 13:20	27° $\overline{\text{X}}$ 35'37	1°03'16
min. Earth dist.	15723 Mar 27 23:36	19° $\underline{\text{A}}$ 46'24 8.60705 AU	minimum elong	15728 Dec 02 13:19	27° $\overline{\text{X}}$ 35'36	1°04'06
direct	15723 Jun 05 09:52	16° $\underline{\text{A}}$ 22'53	max. Earth dist.	15728 Dec 03 02:37	27° $\overline{\text{X}}$ 39'39	10.68515 AU
evening set	15723 Sep 15 02:32	23° $\underline{\text{A}}$ 49'42	morning rise	15728 Dec 19 23:15	29° $\overline{\text{X}}$ 41'41	
				15728 Dec 22 13:09	0° $\overline{\text{Z}}$	
conjunction	15723 Oct 02 03:44	25° $\underline{\text{A}}$ 54'57 -0°40'21	retrograde	15729 Apr 02 23:33	7° $\overline{\text{Z}}$ 12'58	
minimum elong	15723 Oct 02 03:46	25° $\underline{\text{A}}$ 54'58 0°40'03	opposition	15729 Jun 11 12:37	3° $\overline{\text{Z}}$ 49'02	1°28'12
max. Earth dist.	15723 Oct 02 19:06	25° $\underline{\text{A}}$ 59'42 10.62110 AU	min. Earth dist.	15729 Jun 11 02:22	3° $\overline{\text{Z}}$ 51'01	8.68376 AU
morning rise	15723 Oct 19 06:38	28° $\underline{\text{A}}$ 00'41	direct	15729 Aug 18 21:37	0° $\overline{\text{Z}}$ 27'41	
	15723 Nov 05 06:47	0° $\overline{\text{M}}$	evening set	15729 Nov 27 23:09	7° $\overline{\text{Z}}$ 47'36	
retrograde	15724 Jan 30 19:34	5° $\overline{\text{M}}$ 34'29				
opposition	15724 Apr 09 13:18	2° $\overline{\text{M}}$ 11'32 -0°36'43	conjunction	15729 Dec 15 07:52	9° $\overline{\text{Z}}$ 53'14	1°18'50
min. Earth dist.	15724 Apr 08 23:34	2° $\overline{\text{M}}$ 14'10 8.63439 AU	minimum elong	15729 Dec 15 07:50	9° $\overline{\text{Z}}$ 53'14	1°19'41
	15724 May 10 18:13	30° $\overline{\text{R}}$ $\underline{\text{A}}$	max. Earth dist.	15729 Dec 15 19:34	9° $\overline{\text{Z}}$ 56'48	10.67965 AU
direct	15724 Jun 17 09:10	28° $\underline{\text{A}}$ 50'44	morning rise	15730 Jan 01 18:44	11° $\overline{\text{Z}}$ 59'32	
	15724 Jul 24 05:30	0° $\overline{\text{M}}$	retrograde	15730 Apr 15 18:21	19° $\overline{\text{Z}}$ 31'02	
evening set	15724 Sep 26 17:35	6° $\overline{\text{M}}$ 14'41	opposition	15730 Jun 24 03:43	16° $\overline{\text{Z}}$ 06'55	1°45'13
			min. Earth dist.	15730 Jun 23 19:08	16° $\overline{\text{Z}}$ 08'35	8.67542 AU
conjunction	15724 Oct 13 20:04	8° $\overline{\text{M}}$ 19'48 -0°19'18	direct	15730 Aug 31 11:57	12° $\overline{\text{Z}}$ 45'06	
minimum elong	15724 Oct 13 20:04	8° $\overline{\text{M}}$ 19'48 0°18'51	evening set	15730 Dec 10 18:18	20° $\overline{\text{Z}}$ 06'19	
max. Earth dist.	15724 Oct 14 12:53	8° $\overline{\text{M}}$ 24'57 10.64584 AU				
morning rise	15724 Oct 31 00:22	10° $\overline{\text{M}}$ 25'28	conjunction	15730 Dec 28 04:11	22° $\overline{\text{Z}}$ 12'19	1°30'48
	15724 Dec 12 10:49	15° $\overline{\text{M}}$	minimum elong	15730 Dec 28 04:10	22° $\overline{\text{Z}}$ 12'19	1°31'37
retrograde	15725 Feb 11 17:16	17° $\overline{\text{M}}$ 58'19	max. Earth dist.	15730 Dec 28 12:59	22° $\overline{\text{Z}}$ 14'59	10.66811 AU
	15725 Apr 17 02:32	15° $\overline{\text{R}}$ $\overline{\text{M}}$	morning rise	15731 Jan 14 16:01	24° $\overline{\text{Z}}$ 18'55	
opposition	15725 Apr 22 12:06	14° $\overline{\text{M}}$ 35'11 -0°10'04		15731 Mar 12 00:36	0° $\approx$	
min. Earth dist.	15725 Apr 21 21:32	14° $\overline{\text{M}}$ 37'59 8.65612 AU	retrograde	15731 Apr 28 14:15	1° $\approx$ 50'45	
direct	15725 Jun 30 06:05	11° $\overline{\text{M}}$ 14'37		15731 Jun 16 00:24	30° $\overline{\text{R}}$ $\overline{\text{Z}}$	
	15725 Sep 06 22:24	15° $\overline{\text{M}}$	opposition	15731 Jul 06 18:26	28° $\overline{\text{Z}}$ 26'32	1°57'27
asc. node	15725 Sep 10 23:30	15° $\overline{\text{M}}$ 24'36	min. Earth dist.	15731 Jul 06 12:46	28° $\overline{\text{Z}}$ 27'39	8.66117 AU
evening set	15725 Oct 09 08:10	18° $\overline{\text{M}}$ 36'19	direct	15731 Sep 13 01:51	25° $\overline{\text{Z}}$ 04'09	
				15731 Dec 02 03:30	0° $\approx$	
conjunction	15725 Oct 26 11:54	20° $\overline{\text{M}}$ 41'25 0°02'39	evening set	15731 Dec 23 15:25	2° $\approx$ 27'15	
minimum elong	15725 Oct 26 11:54	20° $\overline{\text{M}}$ 41'24 0°03'15				
behind sun begin	15725 Oct 26 04:49	20° $\overline{\text{M}}$ 39'16	conjunction	15732 Jan 10 02:26	4° $\approx$ 33'45	1°38'36
behind sun end	15725 Oct 26 18:58	20° $\overline{\text{M}}$ 43'33	minimum elong	15732 Jan 10 02:25	4° $\approx$ 33'45	1°39'21
max. Earth dist.	15725 Oct 27 05:13	20° $\overline{\text{M}}$ 46'42 10.66467 AU	max. Earth dist.	15732 Jan 10 07:02	4° $\approx$ 35'09	10.65097 AU
morning rise	15725 Nov 12 17:41	22° $\overline{\text{M}}$ 47'06	morning rise	15732 Jan 27 15:14	6° $\approx$ 40'45	
	15726 Feb 05 02:05	0° $\overline{\text{X}}$	retrograde	15732 May 10 11:06	14° $\approx$ 13'03	
retrograde	15726 Feb 24 15:10	0° $\overline{\text{X}}$ 19'14	opposition	15732 Jul 18 09:32	10° $\approx$ 48'48	2°04'18
	15726 Mar 16 04:43	30° $\overline{\text{R}}$ $\overline{\text{M}}$	min. Earth dist.	15732 Jul 18 07:17	10° $\approx$ 49'15	8.64156 AU
opposition	15726 May 05 08:54	26° $\overline{\text{M}}$ 55'55 0°16'56	direct	15732 Sep 24 16:08	7° $\approx$ 25'47	
min. Earth dist.	15726 May 04 18:27	26° $\overline{\text{M}}$ 58'41 8.67198 AU	evening set	15733 Jan 04 14:26	14° $\approx$ 51'18	
direct	15726 Jul 12 22:42	23° $\overline{\text{M}}$ 35'22		15733 Jan 05 19:38	15° $\approx$	
	15726 Oct 14 02:18	0° $\overline{\text{X}}$				
evening set	15726 Oct 21 22:41	0° $\overline{\text{X}}$ 55'32	conjunction	15733 Jan 22 02:38	16° $\approx$ 58'21	1°41'50
			minimum elong	15733 Jan 22 02:39	16° $\approx$ 58'21	1°42'28
conjunction	15726 Nov 08 03:37	3° $\overline{\text{X}}$ 00'38 0°24'17	max. Earth dist.	15733 Jan 22 03:11	16° $\approx$ 58'31	10.62891 AU
minimum elong	15726 Nov 08 03:36	3° $\overline{\text{X}}$ 00'38 0°25'00	morning rise	15733 Feb 08 16:21	19° $\approx$ 05'50	

retrograde	15733 May 23 06:37	26° $\approx$ 38'46		min. Earth dist.	15739 Oct 16 03:03	9° $\approx$ 24'44	8.45021 AU
opposition	15733 Jul 31 01:22	23° $\approx$ 14'31	2°05'23	direct	15739 Dec 23 11:12	6° $\approx$ 01'21	
min. Earth dist.	15733 Jul 31 02:11	23° $\approx$ 14'21	8.61742 AU	evening set	15740 Apr 05 21:55	13° $\approx$ 47'53	
direct	15733 Oct 07 09:53	19° $\approx$ 50'52			15740 Apr 15 15:50	15° $\approx$	
evening set	15734 Jan 17 15:46	27° $\approx$ 19'10					
				conjunction	15740 Apr 23 13:16	15° $\approx$ 59'05	0°06'02
conjunction	15734 Feb 04 05:19	29° $\approx$ 26'54	1°40'17	minimum elong	15740 Apr 23 13:16	15° $\approx$ 59'05	0°05'30
minimum elong	15734 Feb 04 05:20	29° $\approx$ 26'54	1°40'47	behind sun begin	15740 Apr 23 06:20	15° $\approx$ 56'56	
max. Earth dist.	15734 Feb 04 02:33	29° $\approx$ 26'03	10.60294 AU	behind sun end	15740 Apr 23 20:12	16° $\approx$ 01'13	
	15734 Feb 08 17:46	0° $\approx$		max. Earth dist.	15740 Apr 22 20:27	15° $\approx$ 53'50	10.44026 AU
morning rise	15734 Feb 21 19:46	1° $\approx$ 34'56		morning rise	15740 May 11 02:22	18° $\approx$ 09'42	
retrograde	15734 Jun 05 04:54	9° $\approx$ 08'34		desc. node	15740 Jul 30 20:33	25° $\approx$ 23'41	
opposition	15734 Aug 12 18:14	5° $\approx$ 44'22	2°00'33	retrograde	15740 Aug 21 03:47	25° $\approx$ 48'03	
min. Earth dist.	15734 Aug 12 21:24	5° $\approx$ 43'44	8.58985 AU	opposition	15740 Oct 27 20:28	22° $\approx$ 25'19	-0°06'51
direct	15734 Oct 20 04:15	2° $\approx$ 20'08		min. Earth dist.	15740 Oct 28 09:25	22° $\approx$ 22'46	8.43184 AU
evening set	15735 Jan 30 19:28	9° $\approx$ 51'28		direct	15741 Jan 04 19:58	18° $\approx$ 59'18	
				evening set	15741 Apr 19 12:01	26° $\approx$ 47'49	
conjunction	15735 Feb 17 10:17	11° $\approx$ 59'58	1°33'58	max. Earth dist.	15741 May 06 09:31	28° $\approx$ 53'53	10.42457 AU
minimum elong	15735 Feb 17 10:19	11° $\approx$ 59'58	1°34'18				
max. Earth dist.	15735 Feb 17 04:31	11° $\approx$ 58'12	10.57423 AU	conjunction	15741 May 07 01:54	28° $\approx$ 59'00	-0°17'01
morning rise	15735 Mar 07 01:17	14° $\approx$ 08'35		minimum elong	15741 May 07 01:53	28° $\approx$ 59'00	0°17'41
retrograde	15735 Jun 18 05:55	21° $\approx$ 42'59			15741 May 15 04:45	0° $\approx$	
opposition	15735 Aug 25 12:49	18° $\approx$ 18'53	1°49'56	morning rise	15741 May 24 13:11	1° $\approx$ 09'31	
min. Earth dist.	15735 Aug 25 18:24	18° $\approx$ 17'47	8.56010 AU	retrograde	15741 Sep 03 13:05	8° $\approx$ 48'31	
direct	15735 Nov 01 23:15	14° $\approx$ 54'09		opposition	15741 Nov 10 05:16	5° $\approx$ 26'01	-0°34'58
evening set	15736 Feb 13 01:31	22° $\approx$ 28'42		min. Earth dist.	15741 Nov 10 18:06	5° $\approx$ 23'30	8.41902 AU
				direct	15742 Jan 18 06:23	2° $\approx$ 00'01	
conjunction	15736 Mar 01 17:15	24° $\approx$ 37'56	1°23'04	evening set	15742 May 03 02:20	9° $\approx$ 49'57	
minimum elong	15736 Mar 01 17:17	24° $\approx$ 37'57	1°23'14				
max. Earth dist.	15736 Mar 01 08:04	24° $\approx$ 35'07	10.54416 AU	conjunction	15742 May 20 14:08	12° $\approx$ 00'52	-0°39'09
morning rise	15736 Mar 19 08:36	26° $\approx$ 47'10		minimum elong	15742 May 20 14:07	12° $\approx$ 00'52	0°39'55
	15736 Apr 16 15:49	0° $\approx$		max. Earth dist.	15742 May 19 21:59	11° $\approx$ 55'48	10.41446 AU
retrograde	15736 Jun 30 07:10	4° $\approx$ 22'21		morning rise	15742 Jun 06 23:18	14° $\approx$ 11'06	
opposition	15736 Sep 06 09:31	0° $\approx$ 58'29	1°33'55	retrograde	15742 Sep 16 21:54	21° $\approx$ 50'39	
min. Earth dist.	15736 Sep 06 17:47	0° $\approx$ 56'51	8.52973 AU	opposition	15742 Nov 23 15:54	18° $\approx$ 28'20	-1°01'22
	15736 Sep 18 21:32	30° $\approx$		min. Earth dist.	15742 Nov 24 04:33	18° $\approx$ 25'51	8.41183 AU
direct	15736 Nov 13 21:57	27° $\approx$ 33'17		direct	15743 Jan 31 19:20	15° $\approx$ 02'25	
	15737 Jan 07 10:20	0° $\approx$		evening set	15743 May 16 16:00	22° $\approx$ 53'08	
evening set	15737 Feb 25 09:53	5° $\approx$ 11'08		max. Earth dist.	15743 Jun 02 09:59	24° $\approx$ 58'45	10.40969 AU
conjunction	15737 Mar 15 02:10	7° $\approx$ 21'04	1°08'04	conjunction	15743 Jun 03 01:22	25° $\approx$ 03'36	-0°59'18
minimum elong	15737 Mar 15 02:13	7° $\approx$ 21'05	1°08'03	minimum elong	15743 Jun 03 01:21	25° $\approx$ 03'35	1°00'08
max. Earth dist.	15737 Mar 14 13:28	7° $\approx$ 17'09	10.51435 AU	morning rise	15743 Jun 20 08:19	27° $\approx$ 13'24	
morning rise	15737 Apr 01 17:42	9° $\approx$ 30'51			15743 Jul 13 22:07	0° $\approx$	
retrograde	15737 Jul 13 10:08	17° $\approx$ 06'51		retrograde	15743 Sep 30 06:05	4° $\approx$ 53'31	
opposition	15737 Sep 19 08:30	13° $\approx$ 43'16	1°13'10	opposition	15743 Dec 07 04:11	1° $\approx$ 31'20	-1°24'37
min. Earth dist.	15737 Sep 19 19:27	13° $\approx$ 41'06	8.50041 AU	min. Earth dist.	15743 Dec 07 15:44	1° $\approx$ 29'04	8.40968 AU
direct	15737 Nov 26 23:08	10° $\approx$ 17'42			15743 Dec 27 07:24	30° $\approx$	
evening set	15738 Mar 10 20:17	17° $\approx$ 58'45		direct	15744 Feb 14 10:39	28° $\approx$ 05'37	
					15744 Apr 02 06:47	0° $\approx$	
conjunction	15738 Mar 28 12:46	20° $\approx$ 09'17	0°49'36	evening set	15744 May 29 04:17	5° $\approx$ 56'28	
minimum elong	15738 Mar 28 12:48	20° $\approx$ 09'18	0°49'24				
max. Earth dist.	15738 Mar 27 21:15	20° $\approx$ 04'29	10.48627 AU	conjunction	15744 Jun 15 11:14	8° $\approx$ 06'24	-1°16'24
morning rise	15738 Apr 15 04:06	22° $\approx$ 19'32		minimum elong	15744 Jun 15 11:13	8° $\approx$ 06'23	1°17'15
retrograde	15738 Jul 26 14:37	29° $\approx$ 56'19		max. Earth dist.	15744 Jun 14 21:49	8° $\approx$ 02'10	10.40960 AU
opposition	15738 Oct 02 09:59	26° $\approx$ 33'02	0°48'39	morning rise	15744 Jul 02 15:58	10° $\approx$ 15'41	
min. Earth dist.	15738 Oct 02 22:34	26° $\approx$ 30'33	8.47347 AU	retrograde	15744 Oct 12 16:17	17° $\approx$ 56'25	
direct	15738 Dec 10 03:22	23° $\approx$ 07'13		opposition	15744 Dec 19 17:37	14° $\approx$ 34'19	-1°43'29
	15739 Mar 17 06:12	0° $\approx$		min. Earth dist.	15744 Dec 20 02:58	14° $\approx$ 32'29	8.41215 AU
evening set	15739 Mar 24 08:29	0° $\approx$ 51'13		direct	15745 Feb 27 01:08	11° $\approx$ 08'58	
max. Earth dist.	15739 Apr 10 07:58	2° $\approx$ 56'59	10.46115 AU	evening set	15745 Jun 11 15:12	18° $\approx$ 59'19	
conjunction	15739 Apr 11 00:40	3° $\approx$ 02'11	0°28'34	conjunction	15745 Jun 28 19:54	21° $\approx$ 08'39	-1°29'33
minimum elong	15739 Apr 11 00:41	3° $\approx$ 02'11	0°28'11	minimum elong	15745 Jun 28 19:53	21° $\approx$ 08'39	1°30'22
morning rise	15739 Apr 28 15:10	5° $\approx$ 12'43		max. Earth dist.	15745 Jun 28 09:52	21° $\approx$ 05'29	10.41437 AU
retrograde	15739 Aug 08 19:54	12° $\approx$ 50'18		morning rise	15745 Jul 15 22:31	23° $\approx$ 17'23	
opposition	15739 Oct 15 13:58	9° $\approx$ 27'19	0°21'31		15745 Sep 22 16:48	0° $\approx$	

retrograde	15745 Oct 26 02:29	0°♊58'36		retrograde	15752 Jan 12 15:13	17°♊57'02	
	15745 Nov 29 02:54	30°♊36'29	-1°57'00	opposition	15752 Mar 22 03:01	14°♊33'34	-1°11'51
opposition	15746 Jan 02 07:46	27°♊36'29	-1°57'00	min. Earth dist.	15752 Mar 21 14:43	14°♊35'56	8.56118 AU
min. Earth dist.	15746 Jan 02 13:56	27°♊35'16	8.41978 AU	direct	15752 May 30 02:21	11°♊11'28	
direct	15746 Mar 12 15:28	24°♊11'34		evening set	15752 Sep 08 23:27	18°♊41'17	
	15746 Jun 08 05:38	0°♊					
evening set	15746 Jun 25 00:10	2°♊00'40		conjunction	15752 Sep 26 00:29	20°♊47'06	-0°48'51
				minimum elong	15752 Sep 26 00:31	20°♊47'06	0°48'38
conjunction	15746 Jul 12 02:54	4°♊09'21	-1°38'06	max. Earth dist.	15752 Sep 26 16:02	20°♊51'54	10.57549 AU
minimum elong	15746 Jul 12 02:54	4°♊09'21	1°38'51	morning rise	15752 Oct 13 02:48	22°♊53'17	
max. Earth dist.	15746 Jul 11 21:00	4°♊07'29	10.42470 AU		15752 Dec 31 17:13	0°♊	
morning rise	15746 Jul 29 03:46	6°♊17'33		retrograde	15753 Jan 24 15:16	0°♊29'05	
retrograde	15746 Nov 08 12:02	13°♊58'56			15753 Feb 17 17:34	30°♊36'29	
opposition	15747 Jan 15 22:21	10°♊36'43	-2°04'29	opposition	15753 Apr 04 06:36	27°♊05'25	-0°47'42
min. Earth dist.	15747 Jan 16 01:23	10°♊36'07	8.43309 AU	min. Earth dist.	15753 Apr 03 16:53	27°♊08'04	8.59004 AU
direct	15747 Mar 26 05:43	7°♊12'17		direct	15753 Jun 12 02:51	23°♊43'42	
evening set	15747 Jul 08 06:37	14°♊59'16			15753 Sep 11 19:07	0°♊	
	15747 Jul 08 09:00	15°♊		evening set	15753 Sep 21 15:50	1°♊10'18	
conjunction	15747 Jul 25 07:44	17°♊07'19	-1°41'37	conjunction	15753 Oct 08 17:50	3°♊15'53	-0°28'23
minimum elong	15747 Jul 25 07:44	17°♊07'19	1°42'16	minimum elong	15753 Oct 08 17:51	3°♊15'53	0°28'00
max. Earth dist.	15747 Jul 25 05:38	17°♊06'39	10.44077 AU	max. Earth dist.	15753 Oct 09 10:23	3°♊20'58	10.60351 AU
morning rise	15747 Aug 11 07:29	19°♊15'00		morning rise	15753 Oct 25 21:42	5°♊21'58	
retrograde	15747 Nov 21 21:06	26°♊56'09		retrograde	15754 Feb 06 13:31	12°♊56'34	
opposition	15748 Jan 29 12:26	23°♊33'45	-2°05'36	opposition	15754 Apr 17 07:39	9°♊32'45	-0°21'28
min. Earth dist.	15748 Jan 29 12:32	23°♊33'44	8.45187 AU	min. Earth dist.	15754 Apr 16 17:19	9°♊35'31	8.61663 AU
direct	15748 Apr 07 18:43	20°♊09'47		direct	15754 Jun 25 01:35	6°♊11'20	
evening set	15748 Jul 20 10:30	27°♊53'58		evening set	15754 Oct 04 07:19	13°♊35'12	
					15754 Oct 15 22:11	15°♊	
conjunction	15748 Aug 06 10:28	0°♊01'25	-1°40'00	conjunction	15754 Oct 21 10:31	15°♊40'39	-0°06'44
minimum elong	15748 Aug 06 10:29	0°♊01'25	1°40'30	minimum elong	15754 Oct 21 10:31	15°♊40'39	0°06'13
max. Earth dist.	15748 Aug 06 11:51	0°♊01'50	10.46206 AU	behind sun begin	15754 Oct 21 03:47	15°♊38'36	
	15748 Aug 06 06:00	0°♊		behind sun end	15754 Oct 21 17:15	15°♊42'42	
morning rise	15748 Aug 23 09:50	2°♊08'39		max. Earth dist.	15754 Oct 22 03:50	15°♊45'58	10.62857 AU
retrograde	15748 Dec 04 03:58	9°♊49'08		morning rise	15754 Nov 07 15:59	17°♊46'42	
opposition	15749 Feb 11 01:08	6°♊26'31	-2°00'22	asc. node	15755 Feb 12 19:03	25°♊17'59	
min. Earth dist.	15749 Feb 10 22:25	6°♊27'02	8.47532 AU	retrograde	15755 Feb 19 10:55	25°♊20'14	
direct	15749 Apr 21 06:01	3°♊02'59		opposition	15755 Apr 30 06:04	21°♊56'17	0°05'36
evening set	15749 Aug 02 11:33	10°♊43'51		min. Earth dist.	15755 Apr 29 15:12	21°♊59'09	8.63974 AU
				direct	15755 Jul 07 21:25	18°♊35'05	
conjunction	15749 Aug 19 11:01	12°♊50'45	-1°33'24	evening set	15755 Oct 16 22:23	25°♊56'52	
minimum elong	15749 Aug 19 11:03	12°♊50'46	1°33'44				
max. Earth dist.	15749 Aug 19 15:58	12°♊52'18	10.48756 AU				
morning rise	15749 Sep 05 10:31	14°♊57'37		conjunction	15755 Nov 03 02:58	28°♊02'15	0°15'16
retrograde	15749 Dec 17 08:23	22°♊37'10		minimum elong	15755 Nov 03 02:57	28°♊02'14	0°15'55
opposition	15750 Feb 24 12:09	19°♊14'15	-1°49'11	behind sun begin	15755 Nov 03 02:02	28°♊01'58	
min. Earth dist.	15750 Feb 24 06:02	19°♊15'26	8.50228 AU	behind sun end	15755 Nov 03 03:52	28°♊02'31	
direct	15750 May 04 16:07	15°♊51'13		max. Earth dist.	15755 Nov 03 21:00	28°♊07'45	10.64947 AU
evening set	15750 Aug 15 09:41	23°♊28'24			15755 Nov 19 06:13	0°♊	
				morning rise	15755 Nov 20 09:50	0°♊08'16	
conjunction	15750 Sep 01 09:17	25°♊34'51	-1°22'13	retrograde	15756 Mar 03 06:54	7°♊40'58	
minimum elong	15750 Sep 01 09:19	25°♊34'51	1°22'22	min. Earth dist.	15756 May 11 10:59	4°♊19'53	8.65825 AU
max. Earth dist.	15750 Sep 01 18:30	25°♊37'44	10.51596 AU	opposition	15756 May 12 02:12	4°♊16'57	0°32'17
morning rise	15750 Sep 18 09:19	27°♊41'24		direct	15756 Jul 19 15:52	0°♊55'51	
	15750 Oct 07 23:42	0°♊		evening set	15756 Oct 28 13:44	8°♊16'18	
retrograde	15750 Dec 30 11:53	5°♊19'50					
opposition	15751 Mar 09 20:56	1°♊56'37	-1°32'42	conjunction	15756 Nov 14 19:34	10°♊21'39	0°36'24
min. Earth dist.	15751 Mar 09 11:18	1°♊58'29	8.53140 AU	minimum elong	15756 Nov 14 19:33	10°♊21'39	0°37'09
	15751 Apr 05 18:02	30°♊36'29		max. Earth dist.	15756 Nov 15 13:43	10°♊27'11	10.66524 AU
direct	15751 May 17 23:45	28°♊34'04		morning rise	15756 Dec 02 03:40	12°♊27'42	
	15751 Jun 28 02:22	0°♊		retrograde	15757 Mar 16 03:23	19°♊59'49	
evening set	15751 Aug 28 05:32	6°♊07'29		opposition	15757 May 24 20:26	16°♊35'46	0°57'23
				min. Earth dist.	15757 May 24 05:48	16°♊38'36	8.67140 AU
conjunction	15751 Sep 14 05:44	8°♊13'35	-1°07'06	direct	15757 Aug 01 07:46	13°♊14'42	
minimum elong	15751 Sep 14 05:46	8°♊13'35	1°07'04	evening set	15757 Nov 10 05:51	20°♊34'30	
max. Earth dist.	15751 Sep 14 18:46	8°♊17'38	10.54580 AU				
morning rise	15751 Oct 01 06:43	10°♊19'54		conjunction	15757 Nov 27 12:47	22°♊39'55	0°55'49

minimum elong	15757 Nov 27 12:46	22° $\text{♁}$ 39'55	0°56'38	evening set	15764 Jan 25 15:01	4° $\text{♁}$ 50'09	
max. Earth dist.	15757 Nov 28 05:18	22° $\text{♁}$ 44'57	10.67544 AU				
morning rise	15757 Dec 14 22:07	24° $\text{♁}$ 46'02		conjunction	15764 Feb 12 05:01	6° $\text{♁}$ 58'03	1°36'58
	15758 Feb 03 10:03	0° $\text{♁}$		minimum elong	15764 Feb 12 05:03	6° $\text{♁}$ 58'03	1°37'21
retrograde	15758 Mar 29 00:03	2° $\text{♁}$ 17'47		max. Earth dist.	15764 Feb 11 23:42	6° $\text{♁}$ 56'25	10.60895 AU
	15758 May 23 00:55	30° $\text{♁}$		morning rise	15764 Feb 29 19:42	9° $\text{♁}$ 06'09	
opposition	15758 Jun 06 13:18	28° $\text{♁}$ 53'47	1°19'47	retrograde	15764 Jun 12 03:01	16° $\text{♁}$ 39'22	
min. Earth dist.	15758 Jun 06 00:36	28° $\text{♁}$ 56'14	8.67889 AU	opposition	15764 Aug 19 11:57	13° $\text{♁}$ 15'55	1°54'44
direct	15758 Aug 13 21:14	25° $\text{♁}$ 32'36		min. Earth dist.	15764 Aug 19 17:30	13° $\text{♁}$ 14'50	8.59500 AU
	15758 Oct 28 11:56	0° $\text{♁}$		direct	15764 Oct 26 21:07	9° $\text{♁}$ 52'02	
evening set	15758 Nov 22 23:01	2° $\text{♁}$ 52'31		evening set	15765 Feb 06 19:26	17° $\text{♁}$ 24'22	
conjunction	15758 Dec 10 07:04	4° $\text{♁}$ 58'05	1°12'39	conjunction	15765 Feb 24 10:32	19° $\text{♁}$ 33'00	1°27'58
minimum elong	15758 Dec 10 07:03	4° $\text{♁}$ 58'05	1°13'30	minimum elong	15765 Feb 24 10:34	19° $\text{♁}$ 33'01	1°28'12
max. Earth dist.	15758 Dec 10 20:50	5° $\text{♁}$ 02'16	10.67978 AU	max. Earth dist.	15765 Feb 24 01:25	19° $\text{♁}$ 30'13	10.57853 AU
morning rise	15758 Dec 27 17:37	7° $\text{♁}$ 04'21		morning rise	15765 Mar 14 01:48	21° $\text{♁}$ 41'44	
retrograde	15759 Apr 10 18:01	14° $\text{♁}$ 35'56		retrograde	15765 Jun 25 01:54	29° $\text{♁}$ 15'45	
opposition	15759 Jun 19 05:06	11° $\text{♁}$ 12'01	1°38'32	opposition	15765 Sep 01 07:13	25° $\text{♁}$ 52'24	1°40'59
min. Earth dist.	15759 Jun 18 18:58	11° $\text{♁}$ 13'59	8.68038 AU	min. Earth dist.	15765 Sep 01 15:20	25° $\text{♁}$ 50'48	8.56317 AU
direct	15759 Aug 26 12:42	7° $\text{♁}$ 50'36		direct	15765 Nov 08 19:48	22° $\text{♁}$ 27'55	
evening set	15759 Dec 05 17:44	15° $\text{♁}$ 11'21			15766 Feb 19 14:34	0° $\text{♁}$	
conjunction	15759 Dec 23 02:57	17° $\text{♁}$ 17'10	1°26'09	evening set	15766 Feb 20 02:16	0° $\text{♁}$ 03'31	
minimum elong	15759 Dec 23 02:56	17° $\text{♁}$ 17'10	1°26'59	conjunction	15766 Mar 09 18:18	2° $\text{♁}$ 12'55	1°14'41
max. Earth dist.	15759 Dec 23 13:44	17° $\text{♁}$ 20'27	10.67798 AU	minimum elong	15766 Mar 09 18:20	2° $\text{♁}$ 12'55	1°14'44
morning rise	15760 Jan 09 14:29	19° $\text{♁}$ 23'36		max. Earth dist.	15766 Mar 09 06:22	2° $\text{♁}$ 09'15	10.54621 AU
retrograde	15760 Apr 22 13:11	26° $\text{♁}$ 55'15		morning rise	15766 Mar 27 09:46	4° $\text{♁}$ 22'13	
opposition	15760 Jun 30 20:07	23° $\text{♁}$ 31'26	1°52'46	retrograde	15766 Jul 08 03:54	11° $\text{♁}$ 57'03	
min. Earth dist.	15760 Jun 30 12:27	23° $\text{♁}$ 32'55	8.67568 AU	opposition	15766 Sep 14 04:27	8° $\text{♁}$ 33'47	1°22'13
direct	15760 Sep 07 03:47	20° $\text{♁}$ 09'41		min. Earth dist.	15766 Sep 14 14:31	8° $\text{♁}$ 31'48	8.53044 AU
evening set	15760 Dec 17 14:06	27° $\text{♁}$ 31'50		direct	15766 Nov 21 19:11	5° $\text{♁}$ 08'46	
conjunction	15761 Jan 04 00:35	29° $\text{♁}$ 38'00	1°35'42	evening set	15767 Mar 05 11:13	12° $\text{♁}$ 47'34	
minimum elong	15761 Jan 04 00:35	29° $\text{♁}$ 37'59	1°36'29	conjunction	15767 Mar 23 03:45	14° $\text{♁}$ 57'39	0°57'39
max. Earth dist.	15761 Jan 04 08:48	29° $\text{♁}$ 40'29	10.67000 AU	minimum elong	15767 Mar 23 03:47	14° $\text{♁}$ 57'39	0°57'31
	15761 Jan 07 01:01	0° $\text{♁}$		max. Earth dist.	15767 Mar 22 13:31	14° $\text{♁}$ 53'15	10.51396 AU
morning rise	15761 Jan 21 12:54	1° $\text{♁}$ 44'43		morning rise	15767 Apr 09 19:00	17° $\text{♁}$ 07'27	
retrograde	15761 May 05 09:59	9° $\text{♁}$ 16'33		retrograde	15767 Jul 21 08:00	24° $\text{♁}$ 43'06	
opposition	15761 Jul 13 11:06	5° $\text{♁}$ 52'48	2°01'51	opposition	15767 Sep 27 04:11	21° $\text{♁}$ 19'55	0°59'17
min. Earth dist.	15761 Jul 13 05:42	5° $\text{♁}$ 53'51	8.66473 AU	min. Earth dist.	15767 Sep 27 16:02	21° $\text{♁}$ 17'35	8.49869 AU
direct	15761 Sep 19 17:58	2° $\text{♁}$ 30'38		direct	15767 Dec 04 20:37	17° $\text{♁}$ 54'25	
evening set	15761 Dec 30 12:16	9° $\text{♁}$ 54'39		evening set	15768 Mar 17 21:50	25° $\text{♁}$ 36'15	
conjunction	15762 Jan 17 00:00	12° $\text{♁}$ 01'17	1°40'51	conjunction	15768 Apr 04 14:13	27° $\text{♁}$ 46'51	0°37'40
minimum elong	15762 Jan 17 00:00	12° $\text{♁}$ 01'17	1°41'31	minimum elong	15768 Apr 04 14:15	27° $\text{♁}$ 46'51	0°37'22
max. Earth dist.	15762 Jan 17 04:44	12° $\text{♁}$ 02'43	10.65579 AU	max. Earth dist.	15768 Apr 03 21:40	27° $\text{♁}$ 41'43	10.48351 AU
morning rise	15762 Feb 03 13:06	14° $\text{♁}$ 08'22		morning rise	15768 Apr 22 04:55	29° $\text{♁}$ 57'04	
	15762 Feb 10 20:47	15° $\text{♁}$			15768 Apr 22 14:36	0° $\text{♁}$	
retrograde	15762 May 18 06:22	21° $\text{♁}$ 40'30		retrograde	15768 Aug 02 12:21	7° $\text{♁}$ 33'31	
opposition	15762 Jul 26 02:25	18° $\text{♁}$ 16'49	2°05'19	opposition	15768 Oct 09 06:26	4° $\text{♁}$ 10'27	0°33'13
min. Earth dist.	15762 Jul 26 00:13	18° $\text{♁}$ 17'15	8.64743 AU	min. Earth dist.	15768 Oct 09 20:07	4° $\text{♁}$ 07'44	8.46961 AU
	15762 Sep 21 19:26	15° $\text{♁}$		direct	15768 Dec 17 01:47	0° $\text{♁}$ 44'30	
direct	15762 Oct 02 09:51	14° $\text{♁}$ 54'07		evening set	15769 Mar 31 09:58	8° $\text{♁}$ 29'07	
	15762 Oct 12 23:28	15° $\text{♁}$		max. Earth dist.	15769 Apr 17 07:15	10° $\text{♁}$ 34'20	10.45645 AU
evening set	15763 Jan 12 12:36	22° $\text{♁}$ 20'30		conjunction	15769 Apr 18 01:39	10° $\text{♁}$ 40'03	0°15'42
conjunction	15763 Jan 30 01:30	24° $\text{♁}$ 27'42	1°41'18	minimum elong	15769 Apr 18 01:39	10° $\text{♁}$ 40'03	0°15'15
minimum elong	15763 Jan 30 01:31	24° $\text{♁}$ 27'42	1°41'50	behind sun begin	15769 Apr 17 23:30	10° $\text{♁}$ 39'24	
max. Earth dist.	15763 Jan 30 01:24	24° $\text{♁}$ 27'41	10.63529 AU	behind sun end	15769 Apr 18 03:48	10° $\text{♁}$ 40'43	
morning rise	15763 Feb 16 15:24	26° $\text{♁}$ 35'14		morning rise	15769 May 05 15:23	12° $\text{♁}$ 50'30	
	15763 Mar 19 04:35	0° $\text{♁}$			15769 May 23 22:15	15° $\text{♁}$	
retrograde	15763 May 31 04:17	4° $\text{♁}$ 07'48		retrograde	15769 Aug 15 17:19	20° $\text{♁}$ 27'45	
opposition	15763 Aug 07 18:26	0° $\text{♁}$ 44'15	2°02'57	opposition	15769 Oct 22 10:58	17° $\text{♁}$ 04'46	0°05'18
min. Earth dist.	15763 Aug 07 20:17	0° $\text{♁}$ 43'53	8.62380 AU	min. Earth dist.	15769 Oct 23 01:43	17° $\text{♁}$ 01'51	8.44469 AU
	15763 Aug 17 05:40	30° $\text{♁}$			15769 Nov 19 18:27	15° $\text{♁}$	
direct	15763 Oct 15 02:24	27° $\text{♁}$ 20'57		direct	15769 Dec 30 09:57	13° $\text{♁}$ 38'30	
	15763 Dec 11 01:29	0° $\text{♁}$		desc. node	15769 Dec 31 20:34	13° $\text{♁}$ 38'36	

	15770 Feb 08 12:17	15°♄	direct	15776 Mar 19 14:03	1°♄38'54	
evening set	15770 Apr 13 23:02	21°♄25'28	evening set	15776 Jul 01 16:54	9°♄26'15	
conjunction	15770 May 01 13:28	23°♄36'33 -0°07'14	conjunction	15776 Jul 18 18:35	11°♄34'26 -1°40'42	
minimum elong	15770 May 01 13:28	23°♄36'33 0°07'51	minimum elong	15776 Jul 18 18:35	11°♄34'26 1°41'23	
behind sun begin	15770 May 01 07:00	23°♄34'33	max. Earth dist.	15776 Jul 18 15:00	11°♄33'19 10.43747 AU	
behind sun end	15770 May 01 19:56	23°♄38'33	morning rise	15776 Aug 04 18:56	13°♄42'13	
max. Earth dist.	15770 Apr 30 18:31	23°♄30'38 10.43403 AU		15776 Aug 15 11:25	15°♄	
morning rise	15770 May 19 01:45	25°♄47'01	retrograde	15776 Nov 15 03:56	21°♄22'45	
	15770 Jun 25 16:23	0°♄	opposition	15777 Jan 22 18:40	18°♄00'16 -2°05'52	
retrograde	15770 Aug 29 00:08	3°♄25'04	min. Earth dist.	15777 Jan 22 19:21	18°♄00'08 8.44959 AU	
opposition	15770 Nov 04 17:54	0°♄02'10 -0°23'01		15777 Mar 11 08:41	15°♄♄	
min. Earth dist.	15770 Nov 05 08:28	29°♄59'17 8.42503 AU	direct	15777 Apr 02 03:06	14°♄35'58	
	15770 Nov 05 04:52	30°♄♄		15777 Apr 23 15:26	15°♄	
direct	15771 Jan 12 19:55	26°♄35'43	evening set	15777 Jul 14 21:10	22°♄20'44	
	15771 Mar 19 00:27	0°♄				
evening set	15771 Apr 27 12:22	4°♄24'31	conjunction	15777 Jul 31 21:36	24°♄28'17 -1°41'20	
max. Earth dist.	15771 May 14 07:18	6°♄29'55 10.41727 AU	minimum elong	15777 Jul 31 21:37	24°♄28'17 1°41'54	
			max. Earth dist.	15777 Jul 31 22:40	24°♄28'37 10.46084 AU	
conjunction	15771 May 15 01:04	6°♄35'29 -0°29'47	morning rise	15777 Aug 17 21:01	26°♄35'32	
minimum elong	15771 May 15 01:03	6°♄35'29 0°30'31		15777 Sep 16 08:49	0°♄♄	
morning rise	15771 Jun 01 11:20	8°♄45'48	retrograde	15777 Nov 28 11:49	4°♄15'33	
retrograde	15771 Sep 11 07:43	16°♄24'38	opposition	15778 Feb 05 07:10	0°♄53'04 -2°03'24	
opposition	15771 Nov 18 02:58	13°♄01'48 -0°50'16	min. Earth dist.	15778 Feb 05 04:05	0°♄53'40 8.47528 AU	
min. Earth dist.	15771 Nov 18 16:03	12°♄59'13 8.41161 AU		15778 Feb 16 20:48	30°♄♄	
direct	15772 Jan 26 07:52	9°♄35'21	direct	15778 Apr 15 13:35	27°♄29'29	
evening set	15772 May 10 01:31	17°♄25'20		15778 Jun 09 19:36	0°♄♄	
			evening set	15778 Jul 27 22:46	5°♄11'06	
conjunction	15772 May 27 12:08	19°♄36'00 -0°50'53				
minimum elong	15772 May 27 12:06	19°♄35'59 0°51'41	conjunction	15778 Aug 13 22:28	7°♄18'03 -1°36'55	
max. Earth dist.	15772 May 26 20:37	19°♄31'07 10.40709 AU	minimum elong	15778 Aug 13 22:29	7°♄18'04 1°37'19	
morning rise	15772 Jun 13 20:04	21°♄45'57	max. Earth dist.	15778 Aug 14 03:55	7°♄19'46 10.48870 AU	
retrograde	15772 Sep 23 16:39	29°♄25'31	morning rise	15778 Aug 30 21:36	9°♄24'51	
opposition	15772 Nov 30 13:50	26°♄02'46 -1°15'00	retrograde	15778 Dec 11 17:34	17°♄04'05	
min. Earth dist.	15772 Dec 01 01:15	26°♄00'31 8.40517 AU	opposition	15779 Feb 18 18:25	13°♄41'32 -1°54'48	
direct	15773 Feb 07 20:34	22°♄36'27	min. Earth dist.	15779 Feb 18 12:11	13°♄42'45 8.50481 AU	
	15773 May 19 22:03	0°♄♄	direct	15779 Apr 28 23:00	10°♄18'39	
evening set	15773 May 23 13:55	0°♄26'57	evening set	15779 Aug 09 21:37	17°♄56'43	
conjunction	15773 Jun 09 22:09	2°♄37'08 -1°09'24	conjunction	15779 Aug 26 21:03	20°♄03'09 -1°27'44	
minimum elong	15773 Jun 09 22:07	2°♄37'07 1°10'15	minimum elong	15779 Aug 26 21:05	20°♄03'09 1°27'57	
max. Earth dist.	15773 Jun 09 08:55	2°♄32'58 10.40406 AU	max. Earth dist.	15779 Aug 27 05:47	20°♄05'52 10.51981 AU	
morning rise	15773 Jun 27 03:46	4°♄46'37	morning rise	15779 Sep 12 20:38	22°♄09'36	
retrograde	15773 Oct 07 02:50	12°♄26'45	retrograde	15779 Dec 24 22:01	29°♄47'44	
opposition	15773 Dec 14 02:14	9°♄04'06 -1°35'52	opposition	15780 Mar 03 03:42	26°♄25'08 -1°40'37	
min. Earth dist.	15773 Dec 14 11:52	9°♄02'13 8.40599 AU	min. Earth dist.	15780 Mar 02 19:09	26°♄26'47 8.53680 AU	
direct	15774 Feb 21 09:04	5°♄38'05	direct	15780 May 11 06:04	23°♄02'54	
evening set	15774 Jun 06 01:01	13°♄28'20		15780 Aug 16 14:54	0°♄♄	
			evening set	15780 Aug 21 18:09	0°♄37'14	
conjunction	15774 Jun 23 06:44	15°♄37'54 -1°24'21	conjunction	15780 Sep 07 17:48	2°♄43'14 -1°14'20	
minimum elong	15774 Jun 23 06:42	15°♄37'54 1°25'11	minimum elong	15780 Sep 07 17:50	2°♄43'14 1°14'21	
max. Earth dist.	15774 Jun 22 19:58	15°♄34'31 10.40829 AU	max. Earth dist.	15780 Sep 08 05:08	2°♄46'45 10.55263 AU	
morning rise	15774 Jul 10 10:12	17°♄46'50	morning rise	15780 Sep 24 18:18	4°♄49'25	
retrograde	15774 Oct 20 11:23	25°♄27'22	retrograde	15781 Jan 06 00:23	12°♄26'14	
opposition	15774 Dec 27 15:35	22°♄04'49 -1°51'48	opposition	15781 Mar 16 10:30	9°♄03'33 -1°21'40	
min. Earth dist.	15774 Dec 27 23:06	22°♄03'21 8.41401 AU	min. Earth dist.	15781 Mar 15 23:42	9°♄05'38 8.56960 AU	
direct	15775 Mar 06 23:26	18°♄39'15	direct	15781 May 24 10:02	5°♄41'54	
evening set	15775 Jun 19 10:11	26°♄28'28	evening set	15781 Sep 03 12:30	13°♄12'32	
conjunction	15775 Jul 06 13:37	28°♄37'20 -1°34'57	conjunction	15781 Sep 20 12:52	15°♄18'10 -0°57'26	
minimum elong	15775 Jul 06 13:36	28°♄37'20 1°35'44	minimum elong	15781 Sep 20 12:54	15°♄18'11 0°57'17	
max. Earth dist.	15775 Jul 06 05:51	28°♄34'53 10.41963 AU	max. Earth dist.	15781 Sep 21 02:54	15°♄22'31 10.58536 AU	
	15775 Jul 17 12:23	0°♄	morning rise	15781 Oct 07 14:32	17°♄24'09	
morning rise	15775 Jul 23 15:19	0°♄45'42	retrograde	15782 Jan 18 23:43	24°♄59'38	
retrograde	15775 Nov 02 19:24	8°♄26'22	opposition	15782 Mar 29 14:51	21°♄36'48 -0°58'57	
opposition	15776 Jan 10 05:17	5°♄03'52 -2°01'57	min. Earth dist.	15782 Mar 29 01:47	21°♄39'18 8.60138 AU	
min. Earth dist.	15776 Jan 10 09:43	5°♄03'01 8.42883 AU				

direct	15782 Jun 06 13:09	18° <u>♏</u> 15'39		morning rise	15787 Dec 22 03:12	1° <u>♊</u> 36'57	
evening set	15782 Sep 16 04:57	25° <u>♏</u> 42'47		retrograde	15788 Apr 04 03:12	9° <u>♊</u> 08'12	
				opposition	15788 Jun 12 16:08	5° <u>♊</u> 44'17	1°30'18
conjunction	15782 Oct 03 06:24	27° <u>♏</u> 48'10	-0°37'55	min. Earth dist.	15788 Jun 12 05:20	5° <u>♊</u> 46'22	8.68484 AU
minimum elong	15782 Oct 03 06:25	27° <u>♏</u> 48'10	0°37'36	direct	15788 Aug 20 01:23	2° <u>♊</u> 22'57	
max. Earth dist.	15782 Oct 03 23:01	27° <u>♏</u> 53'17	10.61597 AU	evening set	15788 Nov 29 03:16	9° <u>♊</u> 42'54	
morning rise	15782 Oct 20 09:22	29° <u>♏</u> 53'59					
	15782 Oct 21 05:20	0° <u>♏</u>		conjunction	15788 Dec 16 11:58	11° <u>♊</u> 48'31	1°20'19
retrograde	15783 Jan 31 23:20	7° <u>♏</u> 28'13		minimum elong	15788 Dec 16 11:57	11° <u>♊</u> 48'31	1°21'10
opposition	15783 Apr 11 16:30	4° <u>♏</u> 05'11	-0°33'36	max. Earth dist.	15788 Dec 16 23:47	11° <u>♊</u> 52'07	10.68108 AU
min. Earth dist.	15783 Apr 11 01:47	4° <u>♏</u> 08'01	8.62992 AU	morning rise	15789 Jan 02 22:49	13° <u>♊</u> 54'47	
direct	15783 Jun 19 12:34	0° <u>♏</u> 44'23		retrograde	15789 Apr 16 22:57	21° <u>♊</u> 26'09	
evening set	15783 Sep 28 20:27	8° <u>♏</u> 08'32		opposition	15789 Jun 25 07:14	18° <u>♊</u> 02'05	1°46'45
				min. Earth dist.	15789 Jun 24 22:49	18° <u>♊</u> 03'43	8.67727 AU
conjunction	15783 Oct 15 23:04	10° <u>♏</u> 13'45	-0°16'44	direct	15789 Sep 01 14:59	14° <u>♊</u> 40'16	
minimum elong	15783 Oct 15 23:05	10° <u>♏</u> 13'45	0°16'16	evening set	15789 Dec 11 22:26	22° <u>♊</u> 01'27	
max. Earth dist.	15783 Oct 16 16:42	10° <u>♏</u> 19'09	10.64215 AU				
morning rise	15783 Nov 02 03:30	12° <u>♏</u> 19'31		conjunction	15789 Dec 29 08:14	24° <u>♊</u> 07'25	1°31'48
	15783 Nov 25 11:09	15° <u>♏</u>		minimum elong	15789 Dec 29 08:13	24° <u>♊</u> 07'25	1°32'36
retrograde	15784 Feb 13 22:24	19° <u>♏</u> 52'36		max. Earth dist.	15789 Dec 29 16:17	24° <u>♊</u> 09'52	10.67036 AU
opposition	15784 Apr 23 15:28	16° <u>♏</u> 29'26	-0°06'52	morning rise	15790 Jan 15 20:09	26° <u>♊</u> 14'00	
min. Earth dist.	15784 Apr 23 00:41	16° <u>♏</u> 32'16	8.65316 AU		15790 Feb 19 01:35	0° <u>♋</u>	
	15784 May 13 18:35	15° <u>♋</u>		retrograde	15790 Apr 29 18:14	3° <u>♋</u> 45'36	
direct	15784 Jul 01 07:23	13° <u>♏</u> 08'50		opposition	15790 Jul 07 21:57	0° <u>♋</u> 21'27	1°58'20
asc. node	15784 Jul 28 11:44	13° <u>♏</u> 46'57		min. Earth dist.	15790 Jul 07 16:53	0° <u>♋</u> 22'27	8.66384 AU
	15784 Aug 17 10:04	15° <u>♏</u>			15790 Jul 12 12:01	30° <u>♋</u>	
evening set	15784 Oct 10 11:24	20° <u>♏</u> 30'43		direct	15790 Sep 14 04:51	26° <u>♊</u> 59'03	
					15790 Nov 14 04:55	0° <u>♋</u>	
conjunction	15784 Oct 27 15:10	22° <u>♏</u> 35'51	0°05'15	evening set	15790 Dec 24 19:25	4° <u>♋</u> 22'05	
minimum elong	15784 Oct 27 15:10	22° <u>♏</u> 35'51	0°05'50				
behind sun begin	15784 Oct 27 08:21	22° <u>♏</u> 33'48		conjunction	15791 Jan 11 06:26	6° <u>♋</u> 28'31	1°39'03
behind sun end	15784 Oct 27 21:58	22° <u>♏</u> 37'55		minimum elong	15791 Jan 11 06:26	6° <u>♋</u> 28'31	1°39'47
max. Earth dist.	15784 Oct 28 08:14	22° <u>♏</u> 41'04	10.66236 AU	max. Earth dist.	15791 Jan 11 10:37	6° <u>♋</u> 29'48	10.65400 AU
morning rise	15784 Nov 13 21:09	24° <u>♏</u> 41'38		morning rise	15791 Jan 28 19:20	8° <u>♋</u> 35'29	
	15785 Jan 04 01:08	0° <u>♋</u>			15791 Apr 05 21:22	15° <u>♋</u>	
retrograde	15785 Feb 25 18:00	2° <u>♋</u> 13'53		retrograde	15791 May 12 12:53	16° <u>♋</u> 07'31	
	15785 Apr 21 03:38	30° <u>♋</u>			15791 Jun 18 13:41	15° <u>♋</u>	
opposition	15785 May 06 12:22	28° <u>♏</u> 50'34	0°20'04	opposition	15791 Jul 20 12:50	12° <u>♋</u> 43'19	2°04'30
min. Earth dist.	15785 May 05 22:21	28° <u>♏</u> 53'16	8.67028 AU	min. Earth dist.	15791 Jul 20 10:44	12° <u>♋</u> 43'43	8.64492 AU
direct	15785 Jul 14 01:55	25° <u>♏</u> 30'01		direct	15791 Sep 26 21:06	9° <u>♋</u> 20'17	
	15785 Sep 28 01:34	0° <u>♋</u>			15791 Dec 22 14:07	15° <u>♋</u>	
evening set	15785 Oct 23 02:11	2° <u>♋</u> 50'21		evening set	15792 Jan 06 18:21	16° <u>♋</u> 45'40	
conjunction	15785 Nov 09 07:08	4° <u>♋</u> 55'29	0°26'46	conjunction	15792 Jan 24 06:41	18° <u>♋</u> 52'41	1°41'44
minimum elong	15785 Nov 09 07:07	4° <u>♋</u> 55'29	0°27'28	minimum elong	15792 Jan 24 06:42	18° <u>♋</u> 52'41	1°42'20
max. Earth dist.	15785 Nov 09 23:09	5° <u>♋</u> 00'21	10.67638 AU	max. Earth dist.	15792 Jan 24 07:36	18° <u>♋</u> 52'58	10.63251 AU
morning rise	15785 Nov 26 14:39	7° <u>♋</u> 01'18		morning rise	15792 Feb 10 20:21	21° <u>♋</u> 00'06	
retrograde	15786 Mar 10 13:11	14° <u>♋</u> 33'02		retrograde	15792 May 24 09:57	28° <u>♋</u> 32'42	
opposition	15786 May 19 07:18	11° <u>♋</u> 09'30	0°45'59	opposition	15792 Aug 01 04:18	25° <u>♋</u> 08'29	2°04'53
min. Earth dist.	15786 May 18 18:19	11° <u>♋</u> 12'01	8.68131 AU	min. Earth dist.	15792 Aug 01 04:42	25° <u>♋</u> 08'24	8.62121 AU
direct	15786 Jul 26 19:34	7° <u>♋</u> 48'49		direct	15792 Oct 08 13:22	21° <u>♋</u> 44'52	
evening set	15786 Nov 04 17:30	15° <u>♋</u> 08'18		evening set	15793 Jan 18 19:29	29° <u>♋</u> 12'56	
					15793 Jan 25 08:05	0° <u>♌</u>	
conjunction	15786 Nov 21 23:47	17° <u>♋</u> 13'31	0°47'04	conjunction	15793 Feb 05 09:07	1° <u>♌</u> 20'38	1°39'38
minimum elong	15786 Nov 21 23:46	17° <u>♋</u> 13'31	0°47'51	minimum elong	15793 Feb 05 09:08	1° <u>♌</u> 20'38	1°40'06
max. Earth dist.	15786 Nov 22 15:00	17° <u>♋</u> 18'09	10.68423 AU	max. Earth dist.	15793 Feb 05 06:55	1° <u>♌</u> 19'57	10.60688 AU
morning rise	15786 Dec 09 08:35	19° <u>♋</u> 19'27		morning rise	15793 Feb 22 23:26	3° <u>♌</u> 28'35	
retrograde	15787 Mar 23 08:30	26° <u>♋</u> 50'49		retrograde	15793 Jun 06 08:36	11° <u>♌</u> 01'51	
opposition	15787 Jun 01 00:19	23° <u>♋</u> 27'05	1°09'45	opposition	15793 Aug 13 20:59	7° <u>♌</u> 37'40	1°59'24
min. Earth dist.	15787 May 31 12:09	23° <u>♋</u> 29'26	8.68622 AU	min. Earth dist.	15793 Aug 13 23:53	7° <u>♌</u> 37'06	8.59387 AU
direct	15787 Aug 08 10:49	20° <u>♋</u> 06'08		direct	15793 Oct 21 06:35	4° <u>♌</u> 13'28	
evening set	15787 Nov 17 09:45	27° <u>♋</u> 25'30		evening set	15794 Jan 31 22:52	11° <u>♌</u> 44'33	
conjunction	15787 Dec 04 17:21	29° <u>♋</u> 30'53	1°05'11	conjunction	15794 Feb 18 13:39	13° <u>♌</u> 52'58	1°32'47
minimum elong	15787 Dec 04 17:19	29° <u>♋</u> 30'53	1°06'01	minimum elong	15794 Feb 18 13:41	13° <u>♌</u> 52'59	1°33'06
max. Earth dist.	15787 Dec 05 07:28	29° <u>♋</u> 35'10	10.68579 AU	max. Earth dist.	15794 Feb 18 07:38	13° <u>♌</u> 51'08	10.57832 AU
	15787 Dec 08 17:09	0° <u>♌</u>					



morning rise	15794 Mar 08 04:36	16° $\text{X}$ 01'32		max. Earth dist.	15800 May 08 09:55	0° $\text{II}$ 42'43	10.42566 AU
retrograde	15794 Jun 19 08:08	23° $\text{X}$ 35'30					
opposition	15794 Aug 26 15:21	20° $\text{X}$ 11'28	1°48'10	conjunction	15800 May 09 03:03	0° $\text{II}$ 48'05	-0°19'22
min. Earth dist.	15794 Aug 26 21:26	20° $\text{X}$ 10'16	8.56417 AU	minimum elong	15800 May 09 03:02	0° $\text{II}$ 48'05	0°20'02
direct	15794 Nov 03 02:27	16° $\text{X}$ 46'42		morning rise	15800 May 26 14:13	2° $\text{II}$ 58'34	
evening set	15795 Feb 14 04:41	24° $\text{X}$ 21'01		retrograde	15800 Sep 05 13:27	10° $\text{II}$ 37'29	
				opposition	15800 Nov 12 06:34	7° $\text{II}$ 15'02	-0°37'47
conjunction	15795 Mar 03 20:19	26° $\text{X}$ 30'11	1°21'27	min. Earth dist.	15800 Nov 12 20:07	7° $\text{II}$ 12'22	8.41986 AU
minimum elong	15795 Mar 03 20:21	26° $\text{X}$ 30'12	1°21'34	direct	15801 Jan 20 08:15	3° $\text{II}$ 49'02	
max. Earth dist.	15795 Mar 03 10:06	26° $\text{X}$ 27'03	10.54820 AU	evening set	15801 May 05 03:32	11° $\text{II}$ 38'58	
morning rise	15795 Mar 21 11:43	28° $\text{X}$ 39'20					
	15795 Apr 01 20:58	0° $\text{Y}$		conjunction	15801 May 22 15:06	13° $\text{II}$ 49'49	-0°41'18
retrograde	15795 Jul 02 09:25	6° $\text{Y}$ 14'04		minimum elong	15801 May 22 15:04	13° $\text{II}$ 49'49	0°42'04
opposition	15795 Sep 08 11:41	2° $\text{Y}$ 50'16	1°31'39	max. Earth dist.	15801 May 21 22:14	13° $\text{II}$ 44'32	10.41514 AU
min. Earth dist.	15795 Sep 08 20:46	2° $\text{Y}$ 48'28	8.53364 AU	morning rise	15801 Jun 09 00:15	16° $\text{II}$ 00'01	
	15795 Oct 20 23:39	30° $\text{R}$ $\text{X}$		retrograde	15801 Sep 18 21:42	23° $\text{II}$ 39'35	
direct	15795 Nov 16 00:21	29° $\text{X}$ 25'02		opposition	15801 Nov 25 17:08	20° $\text{II}$ 17'19	-1°03'51
	15795 Dec 11 23:32	0° $\text{Y}$		min. Earth dist.	15801 Nov 26 05:56	20° $\text{II}$ 14'48	8.41252 AU
evening set	15796 Feb 27 12:37	7° $\text{Y}$ 02'37		direct	15802 Feb 02 21:55	16° $\text{II}$ 51'25	
				evening set	15802 May 18 17:04	24° $\text{II}$ 42'06	
conjunction	15796 Mar 16 04:51	9° $\text{Y}$ 12'30	1°06'04	max. Earth dist.	15802 Jun 04 11:08	26° $\text{II}$ 47'45	10.41049 AU
minimum elong	15796 Mar 16 04:53	9° $\text{Y}$ 12'30	1°06'01				
max. Earth dist.	15796 Mar 15 15:21	9° $\text{Y}$ 08'20	10.51811 AU	conjunction	15802 Jun 05 02:19	26° $\text{II}$ 52'32	-1°01'09
morning rise	15796 Apr 02 20:25	11° $\text{Y}$ 22'12		minimum elong	15802 Jun 05 02:17	26° $\text{II}$ 52'32	1°01'58
retrograde	15796 Jul 14 11:24	18° $\text{Y}$ 57'47		morning rise	15802 Jun 22 09:10	29° $\text{II}$ 02'17	
opposition	15796 Sep 20 10:23	15° $\text{Y}$ 34'14	1°10'31		15802 Jun 30 06:34	0° $\text{S}$	
min. Earth dist.	15796 Sep 20 21:36	15° $\text{Y}$ 32'01	8.50391 AU	retrograde	15802 Oct 02 07:33	6° $\text{S}$ 42'25	
direct	15796 Nov 28 01:59	12° $\text{Y}$ 08'39		opposition	15802 Dec 09 05:23	3° $\text{S}$ 20'14	-1°26'39
evening set	15797 Mar 11 22:28	19° $\text{Y}$ 49'25		min. Earth dist.	15802 Dec 09 16:21	3° $\text{S}$ 18'05	8.41074 AU
					15803 Feb 06 06:18	30° $\text{R}$ $\text{II}$	
conjunction	15797 Mar 29 14:58	21° $\text{Y}$ 59'54	0°47'21	direct	15803 Feb 16 11:41	29° $\text{II}$ 54'34	
minimum elong	15797 Mar 29 15:00	21° $\text{Y}$ 59'54	0°47'07		15803 Feb 26 16:35	0° $\text{S}$	
max. Earth dist.	15797 Mar 28 23:35	21° $\text{Y}$ 55'08	10.48953 AU	evening set	15803 Jun 01 05:13	7° $\text{S}$ 45'16	
morning rise	15797 Apr 16 06:13	24° $\text{Y}$ 10'04					
	15797 Jun 12 01:47	0° $\text{Z}$		conjunction	15803 Jun 18 12:06	9° $\text{S}$ 55'09	-1°17'51
retrograde	15797 Jul 27 15:03	1° $\text{Z}$ 46'32		minimum elong	15803 Jun 18 12:05	9° $\text{S}$ 55'09	1°18'41
	15797 Sep 12 05:11	30° $\text{R}$ $\text{Y}$		max. Earth dist.	15803 Jun 17 23:38	9° $\text{S}$ 51'13	10.41091 AU
opposition	15797 Oct 03 11:33	28° $\text{Y}$ 23'16	0°45'44	morning rise	15803 Jul 05 16:37	12° $\text{S}$ 04'23	
min. Earth dist.	15797 Oct 03 23:45	28° $\text{Y}$ 20'51	8.47639 AU	retrograde	15803 Oct 15 17:18	19° $\text{S}$ 45'04	
direct	15797 Dec 11 06:33	24° $\text{Y}$ 57'27		opposition	15803 Dec 22 18:50	16° $\text{S}$ 22'56	-1°44'59
	15798 Mar 02 07:58	0° $\text{Z}$		min. Earth dist.	15803 Dec 23 03:25	16° $\text{S}$ 21'15	8.41365 AU
evening set	15798 Mar 25 10:19	2° $\text{Z}$ 41'12		direct	15804 Mar 01 02:16	12° $\text{S}$ 57'37	
max. Earth dist.	15798 Apr 11 10:20	4° $\text{Z}$ 47'05	10.46375 AU	evening set	15804 Jun 13 15:54	20° $\text{S}$ 47'45	
conjunction	15798 Apr 12 02:33	4° $\text{Z}$ 52'07	0°26'09	conjunction	15804 Jun 30 20:33	22° $\text{S}$ 57'02	-1°30'31
minimum elong	15798 Apr 12 02:34	4° $\text{Z}$ 52'07	0°25'45	minimum elong	15804 Jun 30 20:32	22° $\text{S}$ 57'01	1°31'19
morning rise	15798 Apr 29 16:52	7° $\text{Z}$ 02'34		max. Earth dist.	15804 Jun 30 11:17	22° $\text{S}$ 54'06	10.41586 AU
retrograde	15798 Aug 09 21:46	14° $\text{Z}$ 39'55		morning rise	15804 Jul 17 22:58	25° $\text{S}$ 05'43	
opposition	15798 Oct 16 15:17	11° $\text{Z}$ 16'57	0°18'29		15804 Aug 31 12:15	0° $\text{J}$	
min. Earth dist.	15798 Oct 17 04:10	11° $\text{Z}$ 14'24	8.45241 AU	retrograde	15804 Oct 28 03:19	2° $\text{J}$ 46'53	
direct	15798 Dec 24 12:15	7° $\text{Z}$ 50'59			15804 Dec 27 19:04	30° $\text{R}$ $\text{S}$	
	15799 Apr 02 20:17	15° $\text{Z}$		opposition	15805 Jan 04 08:56	29° $\text{S}$ 24'45	-1°57'52
evening set	15799 Apr 07 23:33	15° $\text{Z}$ 37'20		min. Earth dist.	15805 Jan 04 15:03	29° $\text{S}$ 23'33	8.42114 AU
				direct	15805 Mar 14 16:39	25° $\text{S}$ 59'51	
conjunction	15799 Apr 25 14:48	17° $\text{Z}$ 48'29	0°03'36		15805 May 24 18:46	0° $\text{J}$	
minimum elong	15799 Apr 25 14:49	17° $\text{Z}$ 48'30	0°03'03	evening set	15805 Jun 27 00:46	3° $\text{J}$ 48'47	
behind sun begin	15799 Apr 25 07:38	17° $\text{Z}$ 46'17					
behind sun end	15799 Apr 25 22:00	17° $\text{Z}$ 50'43		conjunction	15805 Jul 14 03:23	5° $\text{J}$ 57'26	-1°38'32
max. Earth dist.	15799 Apr 24 21:58	17° $\text{Z}$ 43'15	10.44207 AU	minimum elong	15805 Jul 14 03:22	5° $\text{J}$ 57'26	1°39'16
morning rise	15799 May 13 03:44	19° $\text{Z}$ 59'03		max. Earth dist.	15805 Jul 13 21:14	5° $\text{J}$ 55'30	10.42574 AU
desc. node	15799 Jun 23 03:33	24° $\text{Z}$ 31'09		morning rise	15805 Jul 31 04:12	8° $\text{J}$ 05'36	
retrograde	15799 Aug 23 06:09	27° $\text{Z}$ 37'13			15805 Oct 11 14:53	15° $\text{J}$	
opposition	15799 Oct 29 21:45	24° $\text{Z}$ 14'32	-0°09'50	retrograde	15805 Nov 10 13:33	15° $\text{J}$ 46'59	
min. Earth dist.	15799 Oct 30 11:07	24° $\text{Z}$ 11'54	8.43326 AU		15805 Dec 10 22:27	15° $\text{R}$ $\text{J}$	
direct	15800 Jan 06 20:02	20° $\text{Z}$ 48'31		opposition	15806 Jan 17 23:31	12° $\text{J}$ 24'46	-2°04'41
evening set	15800 Apr 21 13:24	28° $\text{Z}$ 36'57		min. Earth dist.	15806 Jan 18 03:11	12° $\text{J}$ 24'04	8.43376 AU
	15800 May 02 17:25	0° $\text{II}$		direct	15806 Mar 28 06:18	9° $\text{J}$ 00'21	

	15806 Jun 25 10:26	15°♈	conjunction	15812 Oct 10 20:00	5°♍07'10 -0°25'54
evening set	15806 Jul 10 07:14	16°♈47'15	minimum elong	15812 Oct 10 20:01	5°♍07'10 0°25'30
			max. Earth dist.	15812 Oct 11 12:12	5°♍12'09 10.59829 AU
conjunction	15806 Jul 27 08:11	18°♈55'17 -1°41'31	morning rise	15812 Oct 28 00:07	7°♍13'23
minimum elong	15806 Jul 27 08:12	18°♈55'17 1°42'07	retrograde	15813 Feb 08 16:18	14°♍48'22
max. Earth dist.	15806 Jul 27 05:16	18°♈54'22 10.44096 AU	opposition	15813 Apr 19 10:15	11°♍24'29 -0°18'20
morning rise	15806 Aug 13 08:02	21°♈02'59	min. Earth dist.	15813 Apr 18 19:52	11°♍27'15 8.61120 AU
retrograde	15806 Nov 23 22:03	28°♈44'13	direct	15813 Jun 27 03:53	8°♍03'01
opposition	15807 Jan 31 13:41	25°♈21'50 -2°05'07		15813 Oct 02 14:37	15°♍
min. Earth dist.	15807 Jan 31 14:20	25°♈21'42 8.45156 AU	evening set	15813 Oct 06 09:43	15°♍27'14
direct	15807 Apr 10 19:15	21°♈57'53			
evening set	15807 Jul 23 11:05	29°♈42'04	conjunction	15813 Oct 23 13:10	17°♍32'48 -0°04'11
	15807 Jul 25 21:12	0°♐	minimum elong	15813 Oct 23 13:10	17°♍32'48 0°03'38
			behind sun begin	15813 Oct 23 06:07	17°♍30'39
conjunction	15807 Aug 09 11:03	1°♐49'31 -1°39'21	behind sun end	15813 Oct 23 20:12	17°♍34'56
minimum elong	15807 Aug 09 11:04	1°♐49'32 1°39'49	max. Earth dist.	15813 Oct 24 07:01	17°♍38'16 10.62297 AU
max. Earth dist.	15807 Aug 09 12:00	1°♐49'49 10.46123 AU	morning rise	15813 Nov 09 18:41	19°♍38'57
morning rise	15807 Aug 26 10:31	3°♐56'48	asc. node	15814 Jan 02 12:31	25°♍10'51
retrograde	15807 Dec 07 04:00	11°♐37'30	retrograde	15814 Feb 21 13:30	27°♍12'54
opposition	15808 Feb 14 02:33	8°♐14'51 -1°59'14	opposition	15814 May 02 08:55	23°♍48'53 0°08'45
min. Earth dist.	15808 Feb 13 23:42	8°♐15'24 8.47395 AU	min. Earth dist.	15814 May 01 17:27	23°♍51'52 8.63401 AU
direct	15808 Apr 23 08:14	4°♐51'22	direct	15814 Jul 10 00:39	20°♍27'37
evening set	15808 Aug 04 12:09	12°♐32'17	evening set	15814 Oct 19 01:10	27°♍49'46
conjunction	15808 Aug 21 11:49	14°♐39'15 -1°32'14	conjunction	15814 Nov 05 05:54	29°♍55'16 0°17'47
minimum elong	15808 Aug 21 11:51	14°♐39'15 1°32'32	minimum elong	15814 Nov 05 05:53	29°♍55'16 0°18'27
max. Earth dist.	15808 Aug 21 17:13	14°♐40'56 10.48565 AU		15814 Nov 05 21:23	0°♐
morning rise	15808 Sep 07 11:23	16°♐46'10	max. Earth dist.	15814 Nov 06 00:35	0°♐00'59 10.64364 AU
retrograde	15808 Dec 19 10:11	24°♐26'00	morning rise	15814 Nov 22 12:48	2°♐01'24
opposition	15809 Feb 26 13:42	21°♐03'03 -1°47'27	retrograde	15815 Mar 06 11:35	9°♐34'31
min. Earth dist.	15809 Feb 26 06:59	21°♐04'21 8.49978 AU	opposition	15815 May 15 05:19	6°♐10'24 0°35'18
direct	15809 May 06 17:59	17°♐40'03	min. Earth dist.	15815 May 14 13:49	6°♐13'24 8.65240 AU
evening set	15809 Aug 17 10:38	25°♐17'21	direct	15815 Jul 22 18:15	2°♐49'15
			evening set	15815 Oct 31 17:02	10°♐10'03
conjunction	15809 Sep 03 10:26	27°♐23'53 -1°20'36			
minimum elong	15809 Sep 03 10:28	27°♐23'54 1°20'43	conjunction	15815 Nov 17 22:55	12°♐15'32 0°38'45
max. Earth dist.	15809 Sep 03 20:15	27°♐26'57 10.51293 AU	minimum elong	15815 Nov 17 22:54	12°♐15'31 0°39'30
morning rise	15809 Sep 20 10:31	29°♐30'31	max. Earth dist.	15815 Nov 18 16:47	12°♐20'59 10.65940 AU
	15809 Sep 24 11:33	0°♑	morning rise	15815 Dec 05 07:09	14°♐21'41
retrograde	15810 Jan 01 15:13	7°♑09'16	retrograde	15816 Mar 18 07:59	21°♐54'07
opposition	15810 Mar 11 22:42	3°♑46'00 -1°30'27	opposition	15816 May 26 23:44	18°♐30'01 1°00'08
min. Earth dist.	15810 Mar 11 12:53	3°♑47'54 8.52781 AU	min. Earth dist.	15816 May 26 09:36	18°♐32'45 8.66563 AU
direct	15810 May 19 23:51	0°♑23'29	direct	15816 Aug 03 09:30	15°♐08'51
evening set	15810 Aug 30 06:50	7°♑57'04	evening set	15816 Nov 12 09:31	22°♐29'05
conjunction	15810 Sep 16 07:08	10°♑03'16 -1°05'06	conjunction	15816 Nov 29 16:28	24°♐34'35 0°57'53
minimum elong	15810 Sep 16 07:10	10°♑03'16 1°05'02	minimum elong	15816 Nov 29 16:27	24°♐34'34 0°58'42
max. Earth dist.	15810 Sep 16 20:02	10°♑07'16 10.54179 AU	max. Earth dist.	15816 Nov 30 08:08	24°♐39'21 10.66975 AU
morning rise	15810 Oct 03 08:17	12°♑09'42	morning rise	15816 Dec 17 01:59	26°♐40'48
retrograde	15811 Jan 14 17:15	19°♑47'11		15817 Jan 15 18:30	0°♑
opposition	15811 Mar 25 05:15	16°♑23'41 -1°09'10	retrograde	15817 Mar 31 02:30	4°♑12'51
min. Earth dist.	15811 Mar 24 17:23	16°♑25'58 8.55676 AU	opposition	15817 Jun 08 16:49	0°♑48'47 1°22'08
direct	15811 Jun 02 03:37	13°♑01'34	min. Earth dist.	15817 Jun 08 04:39	0°♑51'09 8.67334 AU
evening set	15811 Sep 12 01:03	20°♑31'38		15817 Jun 19 07:01	30°♑♐
			direct	15817 Aug 16 01:20	27°♑27'29
conjunction	15811 Sep 29 02:09	22°♑37'32 -0°46'33		15817 Oct 10 15:24	0°♑
minimum elong	15811 Sep 29 02:10	22°♑37'33 0°46'19	evening set	15817 Nov 25 02:54	4°♑47'49
max. Earth dist.	15811 Sep 29 16:56	22°♑42'07 10.57078 AU			
morning rise	15811 Oct 16 04:45	24°♑43'51	conjunction	15817 Dec 12 11:02	6°♑53'28 1°14'21
	15811 Dec 05 03:17	0°♒	minimum elong	15817 Dec 12 11:01	6°♑53'28 1°15'11
retrograde	15812 Jan 27 17:38	2°♒20'03	max. Earth dist.	15817 Dec 13 00:40	6°♑57'37 10.67438 AU
	15812 Mar 23 08:55	30°♒♑	morning rise	15817 Dec 29 21:40	8°♑59'48
opposition	15812 Apr 06 09:07	28°♑56'20 -0°44'44	retrograde	15818 Apr 12 22:02	16°♑31'42
min. Earth dist.	15812 Apr 05 19:59	28°♑58'52 8.58504 AU	opposition	15818 Jun 21 08:45	13°♑07'42 1°40'21
direct	15812 Jun 14 05:12	25°♑34'34	min. Earth dist.	15818 Jun 20 22:27	13°♑09'42 8.67522 AU
	15812 Aug 28 06:47	0°♒	direct	15818 Aug 28 16:47	9°♑46'11
evening set	15812 Sep 23 17:51	3°♒01'28	evening set	15818 Dec 07 21:51	17°♑07'17

conjunction	15818 Dec 25 07:16	19° $\mathfrak{Z}$ 13'11	1°27'23	conjunction	15825 Mar 11 22:57	4° $\Upsilon$ 09'24	1°12'43
minimum elong	15818 Dec 25 07:15	19° $\mathfrak{Z}$ 13'11	1°28'12	minimum elong	15825 Mar 11 22:59	4° $\Upsilon$ 09'25	1°12'45
max. Earth dist.	15818 Dec 25 18:49	19° $\mathfrak{Z}$ 16'42	10.67308 AU	max. Earth dist.	15825 Mar 11 11:27	4° $\Upsilon$ 05'52	10.54875 AU
morning rise	15819 Jan 11 18:46	21° $\mathfrak{Z}$ 19'42		morning rise	15825 Mar 29 14:16	6° $\Upsilon$ 18'40	
retrograde	15819 Apr 25 17:58	28° $\mathfrak{Z}$ 51'34		retrograde	15825 Jul 10 08:55	13° $\Upsilon$ 53'12	
opposition	15819 Jul 03 23:51	25° $\mathfrak{Z}$ 27'41	1°53'58	opposition	15825 Sep 16 08:21	10° $\Upsilon$ 29'58	1°19'34
min. Earth dist.	15819 Jul 03 15:31	25° $\mathfrak{Z}$ 29'18	8.67111 AU	min. Earth dist.	15825 Sep 16 18:22	10° $\Upsilon$ 27'59	8.53322 AU
direct	15819 Sep 10 06:56	22° $\mathfrak{Z}$ 05'51		direct	15825 Nov 23 22:15	7° $\Upsilon$ 04'58	
evening set	15819 Dec 20 18:34	29° $\mathfrak{Z}$ 28'20		evening set	15826 Mar 07 15:41	14° $\Upsilon$ 43'36	
	15819 Dec 25 04:36	0° $\approx$					
conjunction	15820 Jan 07 05:10	1° $\approx$ 34'34	1°36'25	conjunction	15826 Mar 25 08:07	16° $\Upsilon$ 53'38	0°55'21
minimum elong	15820 Jan 07 05:10	1° $\approx$ 34'34	1°37'10	minimum elong	15826 Mar 25 08:09	16° $\Upsilon$ 53'38	0°55'12
max. Earth dist.	15820 Jan 07 13:53	1° $\approx$ 37'13	10.66580 AU	max. Earth dist.	15826 Mar 24 17:25	16° $\Upsilon$ 49'06	10.51694 AU
morning rise	15820 Jan 24 17:28	3° $\approx$ 41'21		morning rise	15826 Apr 11 23:21	19° $\Upsilon$ 03'24	
retrograde	15820 May 07 14:04	11° $\approx$ 13'21		retrograde	15826 Jul 23 11:16	26° $\Upsilon$ 38'44	
opposition	15820 Jul 15 15:00	7° $\approx$ 49'33	2°02'22	opposition	15826 Sep 29 08:02	23° $\Upsilon$ 15'38	0°56'16
min. Earth dist.	15820 Jul 15 09:27	7° $\approx$ 50'39	8.66103 AU	min. Earth dist.	15826 Sep 29 20:32	23° $\Upsilon$ 13'10	8.50178 AU
direct	15820 Sep 21 22:00	4° $\approx$ 27'20		direct	15826 Dec 07 01:09	19° $\Upsilon$ 50'08	
evening set	15821 Jan 01 16:59	11° $\approx$ 51'38		evening set	15827 Mar 21 02:15	27° $\Upsilon$ 31'50	
conjunction	15821 Jan 19 04:42	13° $\approx$ 58'20	1°40'59	conjunction	15827 Apr 07 18:28	29° $\Upsilon$ 42'22	0°35'08
minimum elong	15821 Jan 19 04:42	13° $\approx$ 58'20	1°41'38	minimum elong	15827 Apr 07 18:29	29° $\Upsilon$ 42'23	0°34'48
max. Earth dist.	15821 Jan 19 09:08	13° $\approx$ 59'41	10.65271 AU	max. Earth dist.	15827 Apr 07 00:57	29° $\Upsilon$ 36'57	10.48670 AU
	15821 Jan 27 15:54	15° $\approx$			15827 Apr 10 03:22	0° $\mathfrak{B}$	
morning rise	15821 Feb 05 17:51	16° $\approx$ 05'27		morning rise	15827 Apr 25 09:10	1° $\mathfrak{B}$ 52'31	
retrograde	15821 May 20 11:27	23° $\approx$ 37'40		retrograde	15827 Aug 05 15:16	9° $\mathfrak{B}$ 28'42	
opposition	15821 Jul 28 06:32	20° $\approx$ 14'00	2°05'08	opposition	15827 Oct 12 10:08	6° $\mathfrak{B}$ 05'42	0°29'59
min. Earth dist.	15821 Jul 28 04:41	20° $\approx$ 14'22	8.64511 AU	min. Earth dist.	15827 Oct 13 00:21	6° $\mathfrak{B}$ 02'54	8.47283 AU
direct	15821 Oct 04 13:18	16° $\approx$ 51'15		direct	15827 Dec 20 06:24	2° $\mathfrak{B}$ 39'48	
evening set	15822 Jan 14 17:26	24° $\approx$ 17'48		evening set	15828 Apr 02 14:09	10° $\mathfrak{B}$ 24'16	
				max. Earth dist.	15828 Apr 19 10:59	12° $\mathfrak{B}$ 29'19	10.45966 AU
conjunction	15822 Feb 01 06:18	26° $\approx$ 25'03	1°40'51	conjunction	15828 Apr 20 05:41	12° $\mathfrak{B}$ 35'08	0°13'04
minimum elong	15822 Feb 01 06:19	26° $\approx$ 25'03	1°41'22	minimum elong	15828 Apr 20 05:41	12° $\mathfrak{B}$ 35'08	0°12'36
max. Earth dist.	15822 Feb 01 05:48	26° $\approx$ 24'54	10.63391 AU	behind sun begin	15828 Apr 20 01:08	12° $\mathfrak{B}$ 33'44	
morning rise	15822 Feb 18 20:20	28° $\approx$ 32'37		behind sun end	15828 Apr 20 10:15	12° $\mathfrak{B}$ 36'33	
	15822 Mar 03 07:40	0° $\mathfrak{H}$		morning rise	15828 May 07 19:21	14° $\mathfrak{B}$ 45'30	
retrograde	15822 Jun 02 08:25	6° $\mathfrak{H}$ 05'07			15828 May 09 19:02	15° $\mathfrak{B}$	
opposition	15822 Aug 09 22:37	2° $\mathfrak{H}$ 41'33	2°02'03	retrograde	15828 Aug 17 20:46	22° $\mathfrak{B}$ 22'32	
min. Earth dist.	15822 Aug 10 00:41	2° $\mathfrak{H}$ 41'09	8.62338 AU	opposition	15828 Oct 24 14:37	18° $\mathfrak{B}$ 59'37	0°02'02
	15822 Sep 18 17:01	30° $\mathfrak{R}$ $\approx$		min. Earth dist.	15828 Oct 25 05:12	18° $\mathfrak{B}$ 56'45	8.44786 AU
direct	15822 Oct 17 06:49	29° $\approx$ 18'12		desc. node	15828 Nov 20 11:40	17° $\mathfrak{B}$ 00'22	
	15822 Nov 14 17:03	0° $\mathfrak{H}$		direct	15829 Jan 01 14:00	15° $\mathfrak{B}$ 33'26	
evening set	15823 Jan 27 19:50	6° $\mathfrak{H}$ 47'27		evening set	15829 Apr 16 02:53	23° $\mathfrak{B}$ 20'14	
conjunction	15823 Feb 14 09:56	8° $\mathfrak{H}$ 55'20	1°35'58	conjunction	15829 May 03 17:16	25° $\mathfrak{B}$ 31'14	-0°09'50
minimum elong	15823 Feb 14 09:57	8° $\mathfrak{H}$ 55'21	1°36'20	minimum elong	15829 May 03 17:16	25° $\mathfrak{B}$ 31'14	0°10'28
max. Earth dist.	15823 Feb 14 04:52	8° $\mathfrak{H}$ 53'48	10.60945 AU	behind sun begin	15829 May 03 11:39	25° $\mathfrak{B}$ 29'30	
morning rise	15823 Mar 04 00:40	11° $\mathfrak{H}$ 03'27		behind sun end	15829 May 03 22:52	25° $\mathfrak{B}$ 32'59	
retrograde	15823 Jun 15 05:47	18° $\mathfrak{H}$ 36'28		max. Earth dist.	15829 May 02 22:50	25° $\mathfrak{B}$ 25'29	10.43710 AU
opposition	15823 Aug 22 16:00	15° $\mathfrak{H}$ 13'00	1°53'10	morning rise	15829 May 21 05:21	27° $\mathfrak{B}$ 41'39	
min. Earth dist.	15823 Aug 22 21:12	15° $\mathfrak{H}$ 11'59	8.59622 AU		15829 Jun 09 17:48	0° $\mathfrak{I}$	
direct	15823 Oct 30 03:02	11° $\mathfrak{H}$ 49'05		retrograde	15829 Aug 31 03:08	5° $\mathfrak{I}$ 19'32	
evening set	15824 Feb 10 00:13	19° $\mathfrak{H}$ 21'21		opposition	15829 Nov 06 21:28	1° $\mathfrak{I}$ 56'41	-0°26'10
				min. Earth dist.	15829 Nov 07 11:29	1° $\mathfrak{I}$ 53'55	8.42795 AU
conjunction	15824 Feb 27 15:26	21° $\mathfrak{H}$ 29'59	1°26'27		15829 Dec 03 03:09	30° $\mathfrak{R}$ $\mathfrak{B}$	
minimum elong	15824 Feb 27 15:28	21° $\mathfrak{H}$ 29'59	1°26'39	direct	15830 Jan 15 00:21	28° $\mathfrak{B}$ 30'20	
max. Earth dist.	15824 Feb 27 07:04	21° $\mathfrak{H}$ 27'25	10.58032 AU		15830 Feb 26 03:28	0° $\mathfrak{I}$	
morning rise	15824 Mar 16 06:35	23° $\mathfrak{H}$ 38'39		evening set	15830 Apr 29 16:07	6° $\mathfrak{I}$ 18'59	
	15824 May 20 16:01	0° $\Upsilon$		max. Earth dist.	15830 May 16 11:34	8° $\mathfrak{I}$ 24'29	10.41999 AU
retrograde	15824 Jun 27 06:17	1° $\Upsilon$ 12'25					
	15824 Aug 04 07:07	30° $\mathfrak{R}$ $\mathfrak{H}$		conjunction	15830 May 17 04:46	8° $\mathfrak{I}$ 29'53	-0°32'14
opposition	15824 Sep 03 11:08	27° $\mathfrak{H}$ 49'04	1°38'49	minimum elong	15830 May 17 04:44	8° $\mathfrak{I}$ 29'52	0°32'58
min. Earth dist.	15824 Sep 03 18:41	27° $\mathfrak{H}$ 47'35	8.56537 AU	morning rise	15830 Jun 03 14:45	10° $\mathfrak{I}$ 40'06	
direct	15824 Nov 10 23:54	24° $\mathfrak{H}$ 24'37		retrograde	15830 Sep 13 11:40	18° $\mathfrak{I}$ 18'50	
	15825 Feb 05 03:13	0° $\Upsilon$		opposition	15830 Nov 20 06:30	14° $\mathfrak{I}$ 56'03	-0°53'08
evening set	15825 Feb 22 06:53	2° $\Upsilon$ 00'02		min. Earth dist.	15830 Nov 20 19:30	14° $\mathfrak{I}$ 53'29	8.41409 AU

direct	15831 Jan 28 11:11	11° $\Pi$ 29'40	direct	15837 Apr 17 16:48	29° $\Omega$ 23'03
evening set	15831 May 13 05:09	19° $\Pi$ 19'31		15837 May 14 11:15	0° $\Pi$
			evening set	15837 Jul 30 01:27	7° $\Pi$ 04'43
conjunction	15831 May 30 15:34	21° $\Pi$ 30'07 -0°53'03			
minimum elong	15831 May 30 15:32	21° $\Pi$ 30'07 0°53'51	conjunction	15837 Aug 16 01:08	9° $\Pi$ 11'43 -1°35'57
max. Earth dist.	15831 May 29 23:54	21° $\Pi$ 25'12 10.40929 AU	minimum elong	15837 Aug 16 01:10	9° $\Pi$ 11'43 1°36'19
morning rise	15831 Jun 16 23:17	23° $\Pi$ 40'00	max. Earth dist.	15837 Aug 16 05:59	9° $\Pi$ 13'14 10.48593 AU
	15831 Aug 18 21:39	0° $\mathfrak{C}$	morning rise	15837 Sep 02 00:27	11° $\Pi$ 18'35
retrograde	15831 Sep 26 21:04	1° $\mathfrak{C}$ 19'29	retrograde	15837 Dec 13 21:19	18° $\Pi$ 58'00
	15831 Nov 05 14:21	30° $\mathfrak{R}$ $\Pi$	opposition	15838 Feb 20 21:54	15° $\Pi$ 35'24 -1°53'17
opposition	15831 Dec 03 17:28	27° $\Pi$ 56'47 -1°17'27	min. Earth dist.	15838 Feb 20 16:24	15° $\Pi$ 36'28 8.50154 AU
min. Earth dist.	15831 Dec 04 05:24	27° $\Pi$ 54'26 8.40710 AU	direct	15838 May 01 01:51	12° $\Pi$ 12'27
direct	15832 Feb 10 23:00	24° $\Pi$ 30'31	evening set	15838 Aug 12 00:22	19° $\Pi$ 50'36
	15832 May 05 22:57	0° $\mathfrak{C}$			
evening set	15832 May 25 17:15	2° $\mathfrak{C}$ 20'53	conjunction	15838 Aug 28 23:49	21° $\Pi$ 57'06 -1°26'15
max. Earth dist.	15832 Jun 11 11:15	4° $\mathfrak{C}$ 26'36 10.40565 AU	minimum elong	15838 Aug 28 23:51	21° $\Pi$ 57'07 1°26'26
			max. Earth dist.	15838 Aug 29 07:49	21° $\Pi$ 59'36 10.51612 AU
conjunction	15832 Jun 12 01:12	4° $\mathfrak{C}$ 31'00 -1°11'10	morning rise	15838 Sep 14 23:38	24° $\Pi$ 03'39
minimum elong	15832 Jun 12 01:10	4° $\mathfrak{C}$ 30'59 1°12'00		15838 Nov 11 22:52	0° $\mathfrak{A}$
morning rise	15832 Jun 29 06:44	6° $\mathfrak{C}$ 40'26	retrograde	15838 Dec 27 01:16	1° $\mathfrak{A}$ 42'03
retrograde	15832 Oct 09 05:19	14° $\mathfrak{C}$ 20'32		15839 Feb 11 12:02	30° $\mathfrak{R}$ $\Pi$
opposition	15832 Dec 16 05:51	10° $\mathfrak{C}$ 57'55 -1°37'47	opposition	15839 Mar 06 07:20	28° $\Pi$ 19'22 -1°38'30
min. Earth dist.	15832 Dec 16 16:03	10° $\mathfrak{C}$ 55'55 8.40729 AU	min. Earth dist.	15839 Mar 05 23:00	28° $\Pi$ 20'58 8.53266 AU
direct	15833 Feb 23 13:06	7° $\mathfrak{C}$ 31'55	direct	15839 May 14 09:05	24° $\Pi$ 57'04
evening set	15833 Jun 08 04:09	15° $\mathfrak{C}$ 22'04		15839 Aug 03 06:20	0° $\mathfrak{A}$
			evening set	15839 Aug 24 20:58	2° $\mathfrak{A}$ 31'33
conjunction	15833 Jun 25 09:39	17° $\mathfrak{C}$ 31'34 -1°25'38			
minimum elong	15833 Jun 25 09:38	17° $\mathfrak{C}$ 31'34 1°26'27	conjunction	15839 Sep 10 20:50	4° $\mathfrak{A}$ 37'38 -1°12'24
max. Earth dist.	15833 Jun 24 22:18	17° $\mathfrak{C}$ 27'59 10.40920 AU	minimum elong	15839 Sep 10 20:52	4° $\mathfrak{A}$ 37'38 1°12'25
morning rise	15833 Jul 12 13:06	19° $\mathfrak{C}$ 40'28	max. Earth dist.	15839 Sep 11 08:20	4° $\mathfrak{A}$ 41'13 10.54816 AU
retrograde	15833 Oct 22 13:34	27° $\mathfrak{C}$ 21'01	morning rise	15839 Sep 27 21:31	6° $\mathfrak{A}$ 43'56
opposition	15833 Dec 29 19:00	23° $\mathfrak{C}$ 58'27 -1°53'04	retrograde	15840 Jan 09 02:51	14° $\mathfrak{A}$ 21'05
min. Earth dist.	15833 Dec 30 02:35	23° $\mathfrak{C}$ 56'58 8.41455 AU	opposition	15840 Mar 18 14:15	10° $\mathfrak{A}$ 58'17 -1°19'03
direct	15834 Mar 09 04:06	20° $\mathfrak{C}$ 32'54	min. Earth dist.	15840 Mar 18 02:57	11° $\mathfrak{A}$ 00'27 8.56479 AU
evening set	15834 Jun 21 13:05	28° $\mathfrak{C}$ 22'01	direct	15840 May 26 14:38	7° $\mathfrak{A}$ 36'35
	15834 Jul 04 14:38	0° $\Omega$	evening set	15840 Sep 05 15:33	15° $\mathfrak{A}$ 07'25
conjunction	15834 Jul 08 16:28	0° $\Omega$ 30'52 -1°35'42			
minimum elong	15834 Jul 08 16:27	0° $\Omega$ 30'52 1°36'28	conjunction	15840 Sep 22 16:14	17° $\mathfrak{A}$ 13'11 -0°55'09
max. Earth dist.	15834 Jul 08 08:54	0° $\Omega$ 28'29 10.41972 AU	minimum elong	15840 Sep 22 16:16	17° $\mathfrak{A}$ 13'12 0°54'59
morning rise	15834 Jul 25 18:05	2° $\Omega$ 39'11	max. Earth dist.	15840 Sep 23 07:04	17° $\mathfrak{A}$ 17'47 10.58035 AU
retrograde	15834 Nov 04 22:58	10° $\Omega$ 19'57	morning rise	15840 Oct 09 18:01	19° $\mathfrak{A}$ 19'16
opposition	15835 Jan 12 08:40	6° $\Omega$ 57'24 -2°02'32	retrograde	15841 Jan 21 04:56	26° $\mathfrak{A}$ 55'08
min. Earth dist.	15835 Jan 12 12:33	6° $\Omega$ 56'39 8.42846 AU	opposition	15841 Mar 31 18:46	23° $\mathfrak{A}$ 32'11 -0°55'57
direct	15835 Mar 22 17:28	3° $\Omega$ 32'27	min. Earth dist.	15841 Mar 31 05:05	23° $\mathfrak{A}$ 34'49 8.59621 AU
evening set	15835 Jul 04 19:36	11° $\Omega$ 19'42	direct	15841 Jun 08 16:44	20° $\mathfrak{A}$ 11'00
			evening set	15841 Sep 18 08:28	27° $\mathfrak{A}$ 38'22
conjunction	15835 Jul 21 21:19	13° $\Omega$ 27'54 -1°40'52			
minimum elong	15835 Jul 21 21:19	13° $\Omega$ 27'54 1°41'32	conjunction	15841 Oct 05 10:06	29° $\mathfrak{A}$ 43'52 -0°35'23
max. Earth dist.	15835 Jul 21 18:29	13° $\Omega$ 27'00 10.43662 AU	minimum elong	15841 Oct 05 10:07	29° $\mathfrak{A}$ 43'53 0°35'03
	15835 Aug 03 02:30	15° $\Omega$	max. Earth dist.	15841 Oct 06 03:13	29° $\mathfrak{A}$ 49'09 10.61086 AU
morning rise	15835 Aug 07 21:32	15° $\Omega$ 35'40		15841 Oct 07 14:22	0° $\mathfrak{M}$ .
retrograde	15835 Nov 18 07:47	23° $\Omega$ 16'20	morning rise	15841 Oct 22 13:12	1° $\mathfrak{M}$ .49'49
opposition	15836 Jan 25 22:05	19° $\Omega$ 53'47 -2°05'43	retrograde	15842 Feb 03 04:58	9° $\mathfrak{M}$ .24'22
min. Earth dist.	15836 Jan 25 22:20	19° $\Omega$ 53'44 8.44826 AU	opposition	15842 Apr 13 20:45	6° $\mathfrak{M}$ .01'17 -0°30'23
direct	15836 Apr 04 05:26	16° $\Omega$ 29'29	min. Earth dist.	15842 Apr 13 05:56	6° $\mathfrak{M}$ .04'08 8.62503 AU
evening set	15836 Jul 16 23:48	24° $\Omega$ 14'12	direct	15842 Jun 21 14:53	2° $\mathfrak{M}$ .40'27
			evening set	15842 Oct 01 00:22	10° $\mathfrak{M}$ .04'50
conjunction	15836 Aug 03 00:17	26° $\Omega$ 21'46 -1°40'56			
minimum elong	15836 Aug 03 00:17	26° $\Omega$ 21'46 1°41'27	conjunction	15842 Oct 18 03:02	12° $\mathfrak{M}$ .10'08 -0°14'04
max. Earth dist.	15836 Aug 03 01:37	26° $\Omega$ 22'11 10.45904 AU	minimum elong	15842 Oct 18 03:02	12° $\mathfrak{M}$ .10'08 0°13'35
morning rise	15836 Aug 19 23:41	28° $\Omega$ 29'03	behind sun begin	15842 Oct 17 23:06	12° $\mathfrak{M}$ .08'56
	15836 Sep 01 13:28	0° $\Pi$	behind sun end	15842 Oct 18 06:58	12° $\mathfrak{M}$ .11'20
retrograde	15836 Nov 30 14:54	6° $\Pi$ 09'15	max. Earth dist.	15842 Oct 18 20:27	12° $\mathfrak{M}$ .15'29 10.63769 AU
opposition	15837 Feb 07 10:34	2° $\Pi$ 46'41 -2°02'33	morning rise	15842 Nov 04 07:42	14° $\mathfrak{M}$ .16'00
min. Earth dist.	15837 Feb 07 07:46	2° $\Pi$ 47'14 8.47298 AU		15842 Nov 10 11:30	15° $\mathfrak{M}$ .
	15837 Mar 21 14:39	30° $\mathfrak{R}$ $\Omega$	retrograde	15843 Feb 16 02:12	21° $\mathfrak{M}$ .49'23
			opposition	15843 Apr 26 20:04	18° $\mathfrak{M}$ .26'09 -0°03'33

min. Earth dist.	15843 Apr 26 05:37	18° $\mathbb{M}$ 28'56	8.64920 AU	opposition	15849 Jul 10 03:19	2° $\approx$ 21'00	1°59'13
asc. node	15843 Jun 14 23:47	15° $\mathbb{M}$ 25'03		min. Earth dist.	15849 Jul 09 22:20	2° $\approx$ 21'59	8.66367 AU
direct	15843 Jul 04 11:37	15° $\mathbb{M}$ 05'30			15849 Aug 12 12:11	30° $\mathbb{R}$ $\mathcal{Z}$	
evening set	15843 Oct 13 15:37	22° $\mathbb{M}$ 27'36		direct	15849 Sep 16 11:26	28° $\mathcal{Z}$ 58'37	
					15849 Oct 21 00:07	0° $\approx$	
conjunction	15843 Oct 30 19:28	24° $\mathbb{M}$ 32'49	0°07'54	evening set	15849 Dec 27 01:22	6° $\approx$ 21'48	
minimum elong	15843 Oct 30 19:28	24° $\mathbb{M}$ 32'49	0°08'31				
behind sun begin	15843 Oct 30 13:15	24° $\mathbb{M}$ 30'56		conjunction	15850 Jan 13 12:32	8° $\approx$ 28'16	1°39'29
behind sun end	15843 Oct 31 01:41	24° $\mathbb{M}$ 34'42		minimum elong	15850 Jan 13 12:32	8° $\approx$ 28'16	1°40'10
max. Earth dist.	15843 Oct 31 12:15	24° $\mathbb{M}$ 37'56	10.65886 AU	max. Earth dist.	15850 Jan 13 17:15	8° $\approx$ 29'42	10.65423 AU
morning rise	15843 Nov 17 01:43	26° $\mathbb{M}$ 38'40		morning rise	15850 Jan 31 01:24	10° $\approx$ 35'13	
	15843 Dec 16 23:11	0° $\mathcal{Z}$			15850 Mar 13 00:59	15° $\approx$	
retrograde	15844 Feb 28 22:38	4° $\mathcal{Z}$ 11'11		retrograde	15850 May 14 18:55	18° $\approx$ 07'14	
opposition	15844 May 08 17:04	0° $\mathcal{Z}$ 47'48	0°23'19		15850 Jul 19 03:34	15° $\mathbb{R}$ $\approx$	
min. Earth dist.	15844 May 08 03:10	0° $\mathcal{Z}$ 50'29	8.66716 AU	opposition	15850 Jul 22 18:10	14° $\approx$ 43'04	2°04'39
	15844 May 19 03:55	30° $\mathbb{R}$ $\mathbb{M}$		min. Earth dist.	15850 Jul 22 15:31	14° $\approx$ 43'35	8.64556 AU
direct	15844 Jul 16 07:02	27° $\mathbb{M}$ 27'12		direct	15850 Sep 29 02:39	11° $\approx$ 20'05	
	15844 Sep 09 22:50	0° $\mathcal{Z}$			15850 Dec 05 22:30	15° $\approx$	
evening set	15844 Oct 25 06:46	4° $\mathcal{Z}$ 47'45		evening set	15851 Jan 09 00:28	18° $\approx$ 45'31	
conjunction	15844 Nov 11 11:54	6° $\mathcal{Z}$ 52'57	0°29'19	conjunction	15851 Jan 26 12:57	20° $\approx$ 52'33	1°41'33
minimum elong	15844 Nov 11 11:53	6° $\mathcal{Z}$ 52'57	0°30'02	minimum elong	15851 Jan 26 12:58	20° $\approx$ 52'34	1°42'07
max. Earth dist.	15844 Nov 12 04:19	6° $\mathcal{Z}$ 57'58	10.67351 AU	max. Earth dist.	15851 Jan 26 14:30	20° $\approx$ 53'02	10.63357 AU
morning rise	15844 Nov 28 19:29	8° $\mathcal{Z}$ 58'51		morning rise	15851 Feb 13 02:32	22° $\approx$ 59'58	
retrograde	15845 Mar 12 18:23	16° $\mathcal{Z}$ 30'47			15851 May 02 13:00	0° $\mathcal{H}$	
opposition	15845 May 21 12:04	13° $\mathcal{Z}$ 07'14	0°49'00	retrograde	15851 May 27 16:13	0° $\mathcal{H}$ 32'25	
min. Earth dist.	15845 May 20 22:32	13° $\mathcal{Z}$ 09'51	8.67872 AU		15851 Jun 21 21:08	30° $\mathbb{R}$ $\approx$	
direct	15845 Jul 28 23:58	9° $\mathcal{Z}$ 46'32		opposition	15851 Aug 04 09:32	27° $\approx$ 08'16	2°04'18
evening set	15845 Nov 06 22:28	17° $\mathcal{Z}$ 06'16		min. Earth dist.	15851 Aug 04 09:35	27° $\approx$ 08'15	8.62266 AU
				direct	15851 Oct 11 18:09	23° $\approx$ 44'41	
conjunction	15845 Nov 24 04:54	19° $\mathcal{Z}$ 11'32	0°49'23		15852 Jan 11 17:43	0° $\mathcal{H}$	
minimum elong	15845 Nov 24 04:53	19° $\mathcal{Z}$ 11'31	0°50'10	evening set	15852 Jan 22 01:39	1° $\mathcal{H}$ 12'46	
max. Earth dist.	15845 Nov 24 20:58	19° $\mathcal{Z}$ 16'25	10.68181 AU				
morning rise	15845 Dec 11 13:39	21° $\mathcal{Z}$ 17'30		conjunction	15852 Feb 08 15:18	3° $\mathcal{H}$ 20'27	1°38'52
retrograde	15846 Mar 25 13:46	28° $\mathcal{Z}$ 49'05		minimum elong	15852 Feb 08 15:19	3° $\mathcal{H}$ 20'28	1°39'18
opposition	15846 Jun 03 05:19	25° $\mathcal{Z}$ 25'20	1°12'24	max. Earth dist.	15852 Feb 08 12:57	3° $\mathcal{H}$ 19'44	10.60873 AU
min. Earth dist.	15846 Jun 02 16:33	25° $\mathcal{Z}$ 27'49	8.68408 AU	morning rise	15852 Feb 26 05:36	5° $\mathcal{H}$ 28'23	
direct	15846 Aug 10 15:45	22° $\mathcal{Z}$ 04'24		retrograde	15852 Jun 08 14:00	13° $\mathcal{H}$ 01'25	
evening set	15846 Nov 19 15:03	29° $\mathcal{Z}$ 24'00		opposition	15852 Aug 16 02:12	9° $\mathcal{H}$ 37'19	1°58'06
	15846 Nov 24 15:25	0° $\mathcal{Z}$		min. Earth dist.	15852 Aug 16 05:29	9° $\mathcal{H}$ 36'41	8.59607 AU
				direct	15852 Oct 23 12:06	6° $\mathcal{H}$ 13'07	
conjunction	15846 Dec 06 22:41	1° $\mathcal{Z}$ 29'25	1°07'09	evening set	15853 Feb 03 04:49	13° $\mathcal{H}$ 44'08	
minimum elong	15846 Dec 06 22:39	1° $\mathcal{Z}$ 29'25	1°07'59				
max. Earth dist.	15846 Dec 07 12:56	1° $\mathcal{Z}$ 33'45	10.68387 AU	conjunction	15853 Feb 20 19:32	15° $\mathcal{H}$ 52'32	1°31'29
morning rise	15846 Dec 24 08:35	3° $\mathcal{Z}$ 35'31		minimum elong	15853 Feb 20 19:33	15° $\mathcal{H}$ 52'33	1°31'45
retrograde	15847 Apr 07 09:50	11° $\mathcal{Z}$ 06'57		max. Earth dist.	15853 Feb 20 12:41	15° $\mathcal{H}$ 50'26	10.58091 AU
opposition	15847 Jun 15 21:20	7° $\mathcal{Z}$ 43'03	1°32'28	morning rise	15853 Mar 10 10:33	18° $\mathcal{H}$ 01'03	
min. Earth dist.	15847 Jun 15 10:41	7° $\mathcal{Z}$ 45'07	8.68324 AU	retrograde	15853 Jun 21 13:27	25° $\mathcal{H}$ 34'44	
direct	15847 Aug 23 05:38	4° $\mathcal{Z}$ 21'43		opposition	15853 Aug 28 20:27	22° $\mathcal{H}$ 10'45	1°46'14
evening set	15847 Dec 02 09:01	11° $\mathcal{Z}$ 41'54		min. Earth dist.	15853 Aug 29 03:10	22° $\mathcal{H}$ 09'26	8.56706 AU
				direct	15853 Nov 05 07:34	18° $\mathcal{H}$ 46'00	
conjunction	15847 Dec 19 17:41	13° $\mathcal{Z}$ 47'33	1°21'51	evening set	15854 Feb 16 10:20	26° $\mathcal{H}$ 20'08	
minimum elong	15847 Dec 19 17:40	13° $\mathcal{Z}$ 47'33	1°22'40				
max. Earth dist.	15847 Dec 20 04:46	13° $\mathcal{Z}$ 50'55	10.67977 AU	conjunction	15854 Mar 06 01:57	28° $\mathcal{H}$ 29'15	1°19'39
morning rise	15848 Jan 06 04:40	15° $\mathcal{Z}$ 53'52		minimum elong	15854 Mar 06 02:00	28° $\mathcal{H}$ 29'16	1°19'45
retrograde	15848 Apr 19 04:36	23° $\mathcal{Z}$ 25'17		max. Earth dist.	15854 Mar 05 15:18	28° $\mathcal{H}$ 25'59	10.55142 AU
opposition	15848 Jun 27 12:30	20° $\mathcal{Z}$ 01'17	1°48'19		15854 Mar 18 10:30	0° $\mathcal{Y}$	
min. Earth dist.	15848 Jun 27 04:42	20° $\mathcal{Z}$ 02'48	8.67633 AU	morning rise	15854 Mar 23 17:26	0° $\mathcal{Y}$ 38'23	
direct	15848 Sep 03 19:43	16° $\mathcal{Z}$ 39'27		retrograde	15854 Jul 04 13:25	8° $\mathcal{Y}$ 12'44	
evening set	15848 Dec 14 04:23	24° $\mathcal{Z}$ 00'53		opposition	15854 Sep 10 16:26	4° $\mathcal{Y}$ 48'57	1°29'09
				min. Earth dist.	15854 Sep 11 01:39	4° $\mathcal{Y}$ 47'08	8.53704 AU
conjunction	15848 Dec 31 14:12	26° $\mathcal{Z}$ 06'52	1°32'48	direct	15854 Nov 18 06:16	1° $\mathcal{Y}$ 23'43	
minimum elong	15848 Dec 31 14:11	26° $\mathcal{Z}$ 06'52	1°33'34	evening set	15855 Mar 01 17:56	9° $\mathcal{Y}$ 01'05	
max. Earth dist.	15848 Dec 31 21:49	26° $\mathcal{Z}$ 09'11	10.66978 AU				
morning rise	15849 Jan 18 02:12	28° $\mathcal{Z}$ 13'27		conjunction	15855 Mar 19 10:14	11° $\mathcal{Y}$ 10'53	1°03'52
	15849 Feb 02 10:27	0° $\approx$		minimum elong	15855 Mar 19 10:17	11° $\mathcal{Y}$ 10'54	1°03'48
retrograde	15849 May 01 22:42	5° $\approx$ 45'06		max. Earth dist.	15855 Mar 18 21:03	11° $\mathcal{Y}$ 06'50	10.52168 AU



























































































































morning rise	15855 Apr 06 01:44	13° $\Upsilon$ 20'32		conjunction	15861 Jun 06 05:21	28° $\Pi$ 46'21	-1°03'06
retrograde	15855 Jul 17 14:53	20° $\Upsilon$ 55'43		minimum elong	15861 Jun 06 05:19	28° $\Pi$ 46'20	1°03'54
opposition	15855 Sep 23 14:50	17° $\Upsilon$ 32'10	1°07'36	max. Earth dist.	15861 Jun 05 15:02	28° $\Pi$ 41'50	10.41293 AU
min. Earth dist.	15855 Sep 24 01:36	17° $\Upsilon$ 30'03	8.50753 AU		15861 Jun 15 23:41	0° $\Theta$	
direct	15855 Dec 01 08:01	14° $\Upsilon$ 06'36		morning rise	15861 Jun 23 11:57	0° $\Theta$ 56'00	
evening set	15856 Mar 14 03:23	21° $\Upsilon$ 47'04		retrograde	15861 Oct 03 10:19	8° $\Theta$ 36'01	
				opposition	15861 Dec 10 08:34	5° $\Theta$ 13'50	-1°28'48
conjunction	15856 Mar 31 19:55	23° $\Upsilon$ 57'28	0°44'52	min. Earth dist.	15861 Dec 10 18:52	5° $\Theta$ 11'49	8.41329 AU
minimum elong	15856 Mar 31 19:56	23° $\Upsilon$ 57'29	0°44'37	direct	15862 Feb 17 15:14	1° $\Theta$ 48'12	
max. Earth dist.	15856 Mar 31 05:10	23° $\Upsilon$ 52'54	10.49319 AU	evening set	15862 Jun 02 08:13	9° $\Theta$ 38'41	
morning rise	15856 Apr 18 10:57	26° $\Upsilon$ 07'32					
	15856 May 22 23:26	0° $\mathcal{B}$		conjunction	15862 Jun 19 14:58	11° $\Theta$ 48'28	-1°19'21
retrograde	15856 Jul 29 20:00	3° $\mathcal{B}$ 43'37		minimum elong	15862 Jun 19 14:56	11° $\Theta$ 48'28	1°20'10
opposition	15856 Oct 05 15:46	0° $\mathcal{B}$ 20'21	0°42'33	max. Earth dist.	15862 Jun 19 03:12	11° $\Theta$ 44'46	10.41365 AU
min. Earth dist.	15856 Oct 06 03:41	0° $\mathcal{B}$ 18'00	8.48002 AU	morning rise	15862 Jul 06 19:13	13° $\Theta$ 57'36	
	15856 Oct 09 22:51	30° $\mathcal{R}\Upsilon$		retrograde	15862 Oct 16 20:24	21° $\Theta$ 38'08	
direct	15856 Dec 13 10:22	26° $\Upsilon$ 54'32		opposition	15862 Dec 23 21:56	18° $\Theta$ 15'59	-1°46'32
	15857 Feb 13 07:45	0° $\mathcal{B}$		min. Earth dist.	15862 Dec 24 06:25	18° $\Theta$ 14'19	8.41665 AU
evening set	15857 Mar 27 14:49	4° $\mathcal{B}$ 37'56		direct	15863 Mar 03 05:20	14° $\Theta$ 50'41	
				evening set	15863 Jun 15 18:38	22° $\Theta$ 40'30	
conjunction	15857 Apr 14 06:57	6° $\mathcal{B}$ 48'46	0°23'32				
minimum elong	15857 Apr 14 06:58	6° $\mathcal{B}$ 48'47	0°23'07	conjunction	15863 Jul 02 23:03	24° $\Theta$ 49'41	-1°31'31
max. Earth dist.	15857 Apr 13 14:43	6° $\mathcal{B}$ 43'44	10.46735 AU	minimum elong	15863 Jul 02 23:02	24° $\Theta$ 49'41	1°32'17
morning rise	15857 May 01 21:06	8° $\mathcal{B}$ 59'08		max. Earth dist.	15863 Jul 02 13:38	24° $\Theta$ 46'43	10.41901 AU
	15857 Jun 29 23:00	15° $\mathcal{B}$		morning rise	15863 Jul 20 01:20	26° $\Theta$ 58'16	
retrograde	15857 Aug 12 02:17	16° $\mathcal{B}$ 36'05			15863 Aug 14 21:18	0° $\mathcal{Q}$	
	15857 Sep 25 00:31	15° $\mathcal{R}\mathcal{B}$		retrograde	15863 Oct 30 06:34	4° $\mathcal{Q}$ 39'14	
opposition	15857 Oct 18 19:15	13° $\mathcal{B}$ 13'07	0°15'12	opposition	15864 Jan 06 11:59	1° $\mathcal{Q}$ 17'05	-1°58'44
min. Earth dist.	15857 Oct 19 08:32	13° $\mathcal{B}$ 10'30	8.45593 AU	min. Earth dist.	15864 Jan 06 18:38	1° $\mathcal{Q}$ 15'48	8.42433 AU
direct	15857 Dec 26 15:36	9° $\mathcal{B}$ 47'08			15864 Jan 23 09:56	30° $\mathcal{R}\mathcal{B}$	
	15858 Mar 19 08:19	15° $\mathcal{B}$		direct	15864 Mar 15 18:48	27° $\Theta$ 52'12	
evening set	15858 Apr 10 03:43	17° $\mathcal{B}$ 33'12			15864 May 05 12:24	0° $\mathcal{Q}$	
				evening set	15864 Jun 28 03:04	5° $\mathcal{Q}$ 40'48	
conjunction	15858 Apr 27 18:44	19° $\mathcal{B}$ 44'14	0°00'54				
minimum elong	15858 Apr 27 18:45	19° $\mathcal{B}$ 44'15	0°00'21	conjunction	15864 Jul 15 05:28	7° $\mathcal{Q}$ 49'22	-1°38'58
behind sun begin	15858 Apr 27 11:34	19° $\mathcal{B}$ 42'02		minimum elong	15864 Jul 15 05:28	7° $\mathcal{Q}$ 49'22	1°39'40
behind sun end	15858 Apr 28 01:56	19° $\mathcal{B}$ 46'28		max. Earth dist.	15864 Jul 14 22:34	7° $\mathcal{Q}$ 47'12	10.42871 AU
max. Earth dist.	15858 Apr 27 01:07	19° $\mathcal{B}$ 38'45	10.44547 AU	morning rise	15864 Aug 01 06:21	9° $\mathcal{Q}$ 57'29	
desc. node	15858 May 12 13:39	21° $\mathcal{B}$ 34'30			15864 Sep 16 09:34	15° $\mathcal{Q}$	
morning rise	15858 May 15 07:35	21° $\mathcal{B}$ 54'44		retrograde	15864 Nov 11 15:20	17° $\mathcal{Q}$ 38'43	
retrograde	15858 Aug 25 08:21	29° $\mathcal{B}$ 32'33			15865 Jan 09 16:34	15° $\mathcal{R}\mathcal{Q}$	
opposition	15858 Nov 01 01:27	26° $\mathcal{B}$ 09'53	-0°13'04	opposition	15865 Jan 19 02:21	14° $\mathcal{Q}$ 16'30	-2°04'50
min. Earth dist.	15858 Nov 01 15:33	26° $\mathcal{B}$ 07'06	8.43648 AU	min. Earth dist.	15865 Jan 19 06:27	14° $\mathcal{Q}$ 15'43	8.43638 AU
direct	15859 Jan 09 01:14	22° $\mathcal{B}$ 43'50		direct	15865 Mar 29 09:09	10° $\mathcal{Q}$ 52'06	
	15859 Apr 19 07:56	0° $\Pi$			15865 Jun 09 16:43	15° $\mathcal{Q}$	
evening set	15859 Apr 23 17:15	0° $\Pi$ 32'02		evening set	15865 Jul 11 09:19	18° $\mathcal{Q}$ 38'47	
conjunction	15859 May 11 06:38	2° $\Pi$ 43'03	-0°21'54	conjunction	15865 Jul 28 10:14	20° $\mathcal{Q}$ 46'46	-1°41'21
minimum elong	15859 May 11 06:37	2° $\Pi$ 43'03	0°22'34	minimum elong	15865 Jul 28 10:14	20° $\mathcal{Q}$ 46'46	1°41'56
max. Earth dist.	15859 May 10 12:44	2° $\Pi$ 37'27	10.42865 AU	max. Earth dist.	15865 Jul 28 06:58	20° $\mathcal{Q}$ 45'45	10.44305 AU
morning rise	15859 May 28 17:43	4° $\Pi$ 53'26		morning rise	15865 Aug 14 10:08	22° $\mathcal{Q}$ 54'26	
retrograde	15859 Sep 07 16:07	12° $\Pi$ 32'07			15865 Oct 29 21:59	0° $\mathcal{M}$	
opposition	15859 Nov 14 10:01	9° $\Pi$ 09'41	-0°40'47	retrograde	15865 Nov 24 23:06	0° $\mathcal{M}$ 35'38	
min. Earth dist.	15859 Nov 14 23:49	9° $\Pi$ 06'58	8.42267 AU		15865 Dec 21 10:19	30° $\mathcal{R}\mathcal{Q}$	
direct	15860 Jan 22 12:37	5° $\Pi$ 43'41		opposition	15866 Feb 01 16:19	27° $\mathcal{Q}$ 13'16	-2°04'33
evening set	15860 May 06 06:58	13° $\Pi$ 33'22		min. Earth dist.	15866 Feb 01 16:49	27° $\mathcal{Q}$ 13'10	8.45305 AU
				direct	15866 Apr 11 23:19	23° $\mathcal{Q}$ 49'22	
conjunction	15860 May 23 18:21	15° $\Pi$ 44'09	-0°43'36		15866 Jul 11 14:55	0° $\mathcal{M}$	
minimum elong	15860 May 23 18:20	15° $\Pi$ 44'09	0°44'21	evening set	15866 Jul 24 13:03	1° $\mathcal{M}$ 33'25	
max. Earth dist.	15860 May 23 01:37	15° $\Pi$ 38'54	10.41774 AU				
morning rise	15860 Jun 10 03:20	17° $\Pi$ 54'15		conjunction	15866 Aug 10 13:07	3° $\mathcal{M}$ 40'53	-1°38'38
retrograde	15860 Sep 20 00:59	25° $\Pi$ 33'40		minimum elong	15866 Aug 10 13:09	3° $\mathcal{M}$ 40'54	1°39'04
opposition	15860 Nov 26 20:26	22° $\Pi$ 11'23	-1°06'29	max. Earth dist.	15866 Aug 10 14:27	3° $\mathcal{M}$ 41'19	10.46206 AU
min. Earth dist.	15860 Nov 27 08:42	22° $\Pi$ 08'58	8.41502 AU	morning rise	15866 Aug 27 12:34	5° $\mathcal{M}$ 48'10	
direct	15861 Feb 04 01:17	18° $\Pi$ 45'31		retrograde	15866 Dec 08 07:33	13° $\mathcal{M}$ 28'59	
evening set	15861 May 19 20:11	26° $\Pi$ 35'59		opposition	15867 Feb 15 05:18	10° $\mathcal{M}$ 06'20	-1°58'00
				min. Earth dist.	15867 Feb 15 01:54	10° $\mathcal{M}$ 07'00	8.47405 AU

direct	15867 Apr 25 10:31	6° $\mathbb{M}$ 42'56	retrograde	15873 Feb 22 19:21	29° $\mathbb{M}$ 09'04	
evening set	15867 Aug 06 14:06	14° $\mathbb{M}$ 23'47	opposition	15873 May 03 13:01	25° $\mathbb{M}$ 44'59	0°12'02
			min. Earth dist.	15873 May 02 21:23	25° $\mathbb{M}$ 48'00	8.62795 AU
conjunction	15867 Aug 23 13:55	16° $\mathbb{M}$ 30'49 -1°30'59	direct	15873 Jul 11 04:00	22° $\mathbb{M}$ 23'41	
minimum elong	15867 Aug 23 13:57	16° $\mathbb{M}$ 30'49 1°31'15	evening set	15873 Oct 20 05:21	29° $\mathbb{M}$ 46'14	
max. Earth dist.	15867 Aug 23 19:50	16° $\mathbb{M}$ 32'40 10.48506 AU		15873 Oct 22 03:09	0° $\mathbb{J}$	
morning rise	15867 Sep 09 13:30	18° $\mathbb{M}$ 37'47				
retrograde	15867 Dec 21 13:59	26° $\mathbb{M}$ 17'49	conjunction	15873 Nov 06 10:09	1° $\mathbb{J}$ 51'50	0°20'24
opposition	15868 Feb 28 16:36	22° $\mathbb{M}$ 54'53 -1°45'35	minimum elong	15873 Nov 06 10:08	1° $\mathbb{J}$ 51'50	0°21'04
min. Earth dist.	15868 Feb 28 09:47	22° $\mathbb{M}$ 56'12 8.49845 AU	max. Earth dist.	15873 Nov 07 04:33	1° $\mathbb{J}$ 57'28	10.63741 AU
direct	15868 May 07 19:19	19° $\mathbb{M}$ 31'57	morning rise	15873 Nov 23 17:12	3° $\mathbb{J}$ 58'06	
evening set	15868 Aug 18 12:51	27° $\mathbb{M}$ 09'20	retrograde	15874 Mar 07 17:02	11° $\mathbb{J}$ 31'38	
			opposition	15874 May 16 09:49	8° $\mathbb{J}$ 07'28	0°38'26
conjunction	15868 Sep 04 12:45	29° $\mathbb{M}$ 15'56 -1°18'53	min. Earth dist.	15874 May 15 18:48	8° $\mathbb{J}$ 10'22	8.64608 AU
minimum elong	15868 Sep 04 12:47	29° $\mathbb{M}$ 15'57 1°18'57	direct	15874 Jul 23 20:52	4° $\mathbb{J}$ 46'13	
max. Earth dist.	15868 Sep 04 22:15	29° $\mathbb{M}$ 18'54 10.51094 AU	evening set	15874 Nov 01 21:38	12° $\mathbb{J}$ 07'28	
	15868 Sep 10 09:47	0° $\mathbb{J}$				
morning rise	15868 Sep 21 13:01	1° $\mathbb{J}$ 22'40	conjunction	15874 Nov 19 03:32	14° $\mathbb{J}$ 13'03	0°41'11
retrograde	15869 Jan 02 18:06	9° $\mathbb{J}$ 01'40	minimum elong	15874 Nov 19 03:31	14° $\mathbb{J}$ 13'02	0°41'56
opposition	15869 Mar 13 01:45	5° $\mathbb{J}$ 38'27 -1°28'03	max. Earth dist.	15874 Nov 19 20:38	14° $\mathbb{J}$ 18'15	10.65305 AU
min. Earth dist.	15869 Mar 12 16:34	5° $\mathbb{J}$ 40'13 8.52514 AU	morning rise	15874 Dec 06 12:01	16° $\mathbb{J}$ 19'19	
direct	15869 May 21 02:16	2° $\mathbb{J}$ 15'57	retrograde	15875 Mar 20 11:55	23° $\mathbb{J}$ 52'10	
evening set	15869 Aug 31 09:22	9° $\mathbb{J}$ 49'45	opposition	15875 May 29 04:30	20° $\mathbb{J}$ 27'59	1°02'58
			min. Earth dist.	15875 May 28 14:58	20° $\mathbb{J}$ 30'36	8.65932 AU
conjunction	15869 Sep 17 09:43	11° $\mathbb{J}$ 56'02 -1°02'59	direct	15875 Aug 05 14:49	17° $\mathbb{J}$ 06'41	
minimum elong	15869 Sep 17 09:45	11° $\mathbb{J}$ 56'02 1°02'53	evening set	15875 Nov 14 14:30	24° $\mathbb{J}$ 27'21	
max. Earth dist.	15869 Sep 17 21:42	11° $\mathbb{J}$ 59'46 10.53854 AU				
morning rise	15869 Oct 04 11:09	14° $\mathbb{J}$ 02'35	conjunction	15875 Dec 01 21:36	26° $\mathbb{J}$ 32'59	1°00'02
retrograde	15870 Jan 15 20:58	21° $\mathbb{J}$ 40'24	minimum elong	15875 Dec 01 21:34	26° $\mathbb{J}$ 32'58	1°00'50
opposition	15870 Mar 26 08:36	18° $\mathbb{J}$ 16'55 -1°06'21	max. Earth dist.	15875 Dec 02 13:06	26° $\mathbb{J}$ 37'42	10.66344 AU
min. Earth dist.	15870 Mar 25 21:23	18° $\mathbb{J}$ 19'05 8.55290 AU	morning rise	15875 Dec 19 07:15	28° $\mathbb{J}$ 39'18	
direct	15870 Jun 03 06:35	14° $\mathbb{J}$ 54'49		15875 Dec 30 19:10	0° $\mathbb{Z}$	
evening set	15870 Sep 13 03:49	22° $\mathbb{J}$ 25'08	retrograde	15876 Apr 01 07:43	6° $\mathbb{Z}$ 11'43	
			opposition	15876 Jun 09 21:42	2° $\mathbb{Z}$ 47'33	1°24'33
conjunction	15870 Sep 30 05:04	24° $\mathbb{J}$ 31'10 -0°44'09	min. Earth dist.	15876 Jun 09 09:27	2° $\mathbb{Z}$ 49'55	8.66711 AU
minimum elong	15870 Sep 30 05:05	24° $\mathbb{J}$ 31'10 0°43'53		15876 Jul 22 12:49	30° $\mathbb{R}$ $\mathbb{J}$	
max. Earth dist.	15870 Sep 30 19:27	24° $\mathbb{J}$ 35'37 10.56646 AU	direct	15876 Aug 17 06:52	29° $\mathbb{J}$ 26'07	
morning rise	15870 Oct 17 07:55	26° $\mathbb{J}$ 37'36		15876 Sep 11 18:22	0° $\mathbb{Z}$	
	15870 Nov 15 23:32	0° $\mathbb{M}$	evening set	15876 Nov 26 08:14	6° $\mathbb{Z}$ 46'51	
retrograde	15871 Jan 28 21:02	4° $\mathbb{M}$ 14'12				
opposition	15871 Apr 08 12:45	0° $\mathbb{M}$ 50'28 -0°41'37	conjunction	15876 Dec 13 16:34	8° $\mathbb{Z}$ 52'37	1°16'06
min. Earth dist.	15871 Apr 07 23:36	0° $\mathbb{M}$ 53'00 8.58024 AU	minimum elong	15876 Dec 13 16:32	8° $\mathbb{Z}$ 52'37	1°16'55
	15871 Apr 19 13:19	30° $\mathbb{R}$ $\mathbb{J}$	max. Earth dist.	15876 Dec 14 06:48	8° $\mathbb{Z}$ 56'57	10.66819 AU
direct	15871 Jun 16 08:16	27° $\mathbb{J}$ 28'42	morning rise	15876 Dec 31 03:10	10° $\mathbb{Z}$ 59'03	
	15871 Aug 10 15:09	0° $\mathbb{M}$	retrograde	15877 Apr 14 04:02	18° $\mathbb{Z}$ 31'15	
evening set	15871 Sep 25 21:01	4° $\mathbb{M}$ 55'55	opposition	15877 Jun 22 13:50	15° $\mathbb{Z}$ 07'08	1°42'13
			min. Earth dist.	15877 Jun 22 02:58	15° $\mathbb{Z}$ 09'15	8.66920 AU
conjunction	15871 Oct 12 23:27	7° $\mathbb{M}$ 01'45 -0°23'18	direct	15877 Aug 29 21:18	11° $\mathbb{Z}$ 45'30	
minimum elong	15871 Oct 12 23:28	7° $\mathbb{M}$ 01'45 0°22'53	evening set	15877 Dec 09 03:33	19° $\mathbb{Z}$ 06'59	
max. Earth dist.	15871 Oct 13 16:09	7° $\mathbb{M}$ 06'54 10.59313 AU				
morning rise	15871 Oct 30 03:41	9° $\mathbb{M}$ 08'06	conjunction	15877 Dec 26 13:04	21° $\mathbb{Z}$ 12'59	1°28'39
	15871 Dec 27 00:43	15° $\mathbb{M}$	minimum elong	15877 Dec 26 13:02	21° $\mathbb{Z}$ 12'58	1°29'26
retrograde	15872 Feb 10 19:56	16° $\mathbb{M}$ 43'32	max. Earth dist.	15877 Dec 27 01:04	21° $\mathbb{Z}$ 16'38	10.66722 AU
	15872 Mar 28 21:06	15° $\mathbb{R}$ $\mathbb{M}$	morning rise	15878 Jan 13 00:32	23° $\mathbb{Z}$ 19'34	
opposition	15872 Apr 20 14:01	13° $\mathbb{M}$ 19'35 -0°15'04		15878 Mar 25 21:59	0° $\mathbb{R}$	
min. Earth dist.	15872 Apr 19 23:05	13° $\mathbb{M}$ 22'28 8.60568 AU	retrograde	15878 Apr 26 23:44	0° $\mathbb{R}$ 51'43	
direct	15872 Jun 28 08:02	9° $\mathbb{M}$ 58'06		15878 May 29 07:20	30° $\mathbb{R}$ $\mathbb{Z}$	
	15872 Sep 17 00:10	15° $\mathbb{M}$	opposition	15878 Jul 05 05:12	27° $\mathbb{Z}$ 27'42	1°55'11
evening set	15872 Oct 07 13:24	17° $\mathbb{M}$ 22'42	min. Earth dist.	15878 Jul 04 20:42	27° $\mathbb{Z}$ 29'22	8.66556 AU
			direct	15878 Sep 11 12:19	24° $\mathbb{Z}$ 05'45	
conjunction	15872 Oct 24 17:03	19° $\mathbb{M}$ 28'23 -0°01'28		15878 Dec 09 08:16	0° $\mathbb{R}$	
minimum elong	15872 Oct 24 17:04	19° $\mathbb{M}$ 28'24 0°00'55	evening set	15878 Dec 22 00:33	1° $\mathbb{R}$ 28'35	
behind sun begin	15872 Oct 24 09:57	19° $\mathbb{M}$ 26'14				
behind sun end	15872 Oct 25 00:10	19° $\mathbb{M}$ 30'33	conjunction	15879 Jan 08 11:11	3° $\mathbb{R}$ 34'55	1°37'07
max. Earth dist.	15872 Oct 25 11:28	19° $\mathbb{M}$ 34'03 10.61715 AU	minimum elong	15879 Jan 08 11:10	3° $\mathbb{R}$ 34'54	1°37'50
morning rise	15872 Nov 10 22:40	21° $\mathbb{M}$ 34'40	max. Earth dist.	15879 Jan 08 19:29	3° $\mathbb{R}$ 37'26	10.66059 AU
asc. node	15872 Nov 18 18:19	22° $\mathbb{M}$ 30'24	morning rise	15879 Jan 25 23:36	5° $\mathbb{R}$ 41'46	

retrograde	15879 May 09 20:41	13° $\approx$ 13'57		min. Earth dist.	15885 Oct 01 02:45	25° $\Upsilon$ 13'23	8.50370 AU
opposition	15879 Jul 17 20:33	9° $\approx$ 50'05	2°02'53	direct	15885 Dec 08 07:13	21° $\Upsilon$ 50'28	
min. Earth dist.	15879 Jul 17 15:31	9° $\approx$ 51'04	8.65624 AU	evening set	15886 Mar 22 08:30	29° $\Upsilon$ 32'07	
direct	15879 Sep 24 02:54	6° $\approx$ 27'44			15886 Mar 26 04:09	0° $\mathcal{B}$	
evening set	15880 Jan 03 23:19	13° $\approx$ 52'22		max. Earth dist.	15886 Apr 08 06:55	1° $\mathcal{B}$ 37'07	10.48871 AU
	15880 Jan 13 08:22	15° $\approx$					
conjunction	15880 Jan 21 11:02	15° $\approx$ 59'07	1°41'05	conjunction	15886 Apr 09 00:39	1° $\mathcal{B}$ 42'37	0°32'27
minimum elong	15880 Jan 21 11:02	15° $\approx$ 59'07	1°41'42	minimum elong	15886 Apr 09 00:40	1° $\mathcal{B}$ 42'37	0°32'06
max. Earth dist.	15880 Jan 21 14:47	16° $\approx$ 00'16	10.64843 AU	morning rise	15886 Apr 26 15:19	3° $\mathcal{B}$ 52'44	
morning rise	15880 Feb 08 00:20	18° $\approx$ 06'20		retrograde	15886 Aug 06 20:32	11° $\mathcal{B}$ 28'44	
retrograde	15880 May 21 17:06	25° $\approx$ 38'38		opposition	15886 Oct 13 15:47	8° $\mathcal{B}$ 05'49	0°26'34
opposition	15880 Jul 29 12:12	22° $\approx$ 14'56	2°04'53	min. Earth dist.	15886 Oct 14 05:49	8° $\mathcal{B}$ 03'03	8.47483 AU
min. Earth dist.	15880 Jul 29 10:42	22° $\approx$ 15'13	8.64144 AU	direct	15886 Dec 21 12:48	4° $\mathcal{B}$ 39'59	
direct	15880 Oct 05 19:06	18° $\approx$ 52'04		evening set	15887 Apr 04 20:18	12° $\mathcal{B}$ 24'25	
evening set	15881 Jan 15 23:53	26° $\approx$ 18'55					
conjunction	15881 Feb 02 12:51	28° $\approx$ 26'12	1°40'21	conjunction	15887 Apr 22 11:49	14° $\mathcal{B}$ 35'15	0°10'17
minimum elong	15881 Feb 02 12:52	28° $\approx$ 26'12	1°40'50	minimum elong	15887 Apr 22 11:49	14° $\mathcal{B}$ 35'15	0°09'47
max. Earth dist.	15881 Feb 02 12:35	28° $\approx$ 26'07	10.63099 AU	behind sun begin	15887 Apr 22 05:57	14° $\mathcal{B}$ 33'26	
	15881 Feb 15 10:01	0° $\mathcal{H}$		behind sun end	15887 Apr 22 17:42	14° $\mathcal{B}$ 37'03	
morning rise	15881 Feb 20 02:56	0° $\mathcal{H}$ 33'49		max. Earth dist.	15887 Apr 21 17:38	14° $\mathcal{B}$ 29'35	10.46163 AU
retrograde	15881 Jun 03 13:10	8° $\mathcal{H}$ 06'22			15887 Apr 25 19:18	15° $\mathcal{B}$	
opposition	15881 Aug 11 04:26	4° $\mathcal{H}$ 42'46	2°01'03	morning rise	15887 May 10 01:17	16° $\mathcal{B}$ 45'34	
min. Earth dist.	15881 Aug 11 06:01	4° $\mathcal{H}$ 42'27	8.62132 AU	retrograde	15887 Aug 20 01:56	24° $\mathcal{B}$ 22'30	
direct	15881 Oct 18 14:11	1° $\mathcal{H}$ 19'21		desc. node	15887 Oct 08 04:31	22° $\mathcal{B}$ 25'14	
evening set	15882 Jan 29 02:19	8° $\mathcal{H}$ 48'43		opposition	15887 Oct 26 20:22	20° $\mathcal{B}$ 59'41	-0°01'25
				min. Earth dist.	15887 Oct 27 10:24	20° $\mathcal{B}$ 56'55	8.44974 AU
conjunction	15882 Feb 15 16:35	10° $\mathcal{H}$ 56'39	1°34'52	direct	15888 Jan 03 20:42	17° $\mathcal{B}$ 33'35	
minimum elong	15882 Feb 15 16:37	10° $\mathcal{H}$ 56'40	1°35'12	evening set	15888 Apr 17 08:54	25° $\mathcal{B}$ 20'21	
max. Earth dist.	15882 Feb 15 12:34	10° $\mathcal{H}$ 55'25	10.60830 AU				
morning rise	15882 Mar 05 07:17	13° $\mathcal{H}$ 04'45		conjunction	15888 May 04 23:11	27° $\mathcal{B}$ 31'18	-0°12'35
retrograde	15882 Jun 16 12:30	20° $\mathcal{H}$ 37'41		minimum elong	15888 May 04 23:11	27° $\mathcal{B}$ 31'18	0°13'13
opposition	15882 Aug 23 21:49	17° $\mathcal{H}$ 14'11	1°51'28	behind sun begin	15888 May 04 19:00	27° $\mathcal{B}$ 30'01	
min. Earth dist.	15882 Aug 24 02:15	17° $\mathcal{H}$ 13'19	8.59590 AU	behind sun end	15888 May 05 03:21	27° $\mathcal{B}$ 32'35	
direct	15882 Oct 31 08:42	13° $\mathcal{H}$ 50'14		max. Earth dist.	15888 May 04 05:18	27° $\mathcal{B}$ 25'43	10.43891 AU
evening set	15883 Feb 11 06:51	21° $\mathcal{H}$ 22'28		morning rise	15888 May 22 10:59	29° $\mathcal{B}$ 41'38	
conjunction	15883 Feb 28 22:09	23° $\mathcal{H}$ 31'06	1°24'49		15888 May 24 23:13	0° $\Pi$	
minimum elong	15883 Feb 28 22:11	23° $\mathcal{H}$ 31'07	1°24'59	retrograde	15888 Sep 01 10:09	7° $\Pi$ 19'31	
max. Earth dist.	15883 Feb 28 14:16	23° $\mathcal{H}$ 28'42	10.58071 AU	opposition	15888 Nov 08 03:21	3° $\Pi$ 56'45	-0°29'29
morning rise	15883 Mar 18 13:12	25° $\mathcal{H}$ 39'46		min. Earth dist.	15888 Nov 08 17:13	3° $\Pi$ 54'01	8.42968 AU
	15883 Apr 27 07:43	0° $\Upsilon$		direct	15889 Jan 16 05:05	0° $\Pi$ 30'30	
retrograde	15883 Jun 29 12:58	3° $\Upsilon$ 13'18		evening set	15889 Apr 30 22:07	8° $\Pi$ 19'06	
	15883 Sep 03 13:55	30° $\mathcal{R}$ $\mathcal{H}$					
opposition	15883 Sep 05 16:53	29° $\mathcal{H}$ 49'57	1°36'30	conjunction	15889 May 18 10:33	10° $\Pi$ 29'58	-0°34'49
min. Earth dist.	15883 Sep 06 00:25	29° $\mathcal{H}$ 48'28	8.56627 AU	minimum elong	15889 May 18 10:32	10° $\Pi$ 29'57	0°35'32
direct	15883 Nov 13 05:04	26° $\mathcal{H}$ 25'28		max. Earth dist.	15889 May 17 17:11	10° $\Pi$ 24'31	10.42162 AU
	15884 Jan 19 06:24	0° $\Upsilon$		morning rise	15889 Jun 04 20:20	12° $\Pi$ 40'08	
evening set	15884 Feb 24 13:28	4° $\Upsilon$ 00'51		retrograde	15889 Sep 14 18:07	20° $\Pi$ 18'50	
				opposition	15889 Nov 21 12:24	16° $\Pi$ 56'10	-0°56'10
conjunction	15884 Mar 13 05:27	6° $\Upsilon$ 10'12	1°10'38	min. Earth dist.	15889 Nov 22 01:57	16° $\Pi$ 53'29	8.41563 AU
minimum elong	15884 Mar 13 05:29	6° $\Upsilon$ 10'12	1°10'37	direct	15890 Jan 29 16:10	13° $\Pi$ 29'50	
max. Earth dist.	15884 Mar 12 17:26	6° $\Upsilon$ 06'30	10.55006 AU	evening set	15890 May 14 11:07	21° $\Pi$ 19'42	
morning rise	15884 Mar 30 20:45	8° $\Upsilon$ 19'26					
retrograde	15884 Jul 11 14:06	15° $\Upsilon$ 53'44		conjunction	15890 May 31 21:15	23° $\Pi$ 30'14	-0°55'20
opposition	15884 Sep 17 14:10	12° $\Upsilon$ 30'33	1°16'44	minimum elong	15890 May 31 21:13	23° $\Pi$ 30'14	0°56'07
min. Earth dist.	15884 Sep 18 00:46	12° $\Upsilon$ 28'27	8.53479 AU	max. Earth dist.	15890 May 31 04:46	23° $\Pi$ 25'03	10.41067 AU
direct	15884 Nov 25 04:51	9° $\Upsilon$ 05'32		morning rise	15890 Jun 18 04:52	25° $\Pi$ 40'05	
evening set	15885 Mar 08 22:02	16° $\Upsilon$ 44'07			15890 Jul 26 18:37	0° $\mathcal{E}$	
conjunction	15885 Mar 26 14:20	18° $\Upsilon$ 54'06	0°52'54	retrograde	15890 Sep 28 01:45	3° $\mathcal{E}$ 19'34	
minimum elong	15885 Mar 26 14:22	18° $\Upsilon$ 54'07	0°52'43	opposition	15890 Dec 04 23:27	29° $\Pi$ 56'57	-1°20'01
max. Earth dist.	15885 Mar 25 22:50	18° $\Upsilon$ 49'19	10.51875 AU		15890 Dec 04 07:54	30° $\mathcal{R}$ $\Pi$	
morning rise	15885 Apr 13 05:36	21° $\Upsilon$ 03'50		min. Earth dist.	15890 Dec 05 11:56	29° $\Pi$ 54'29	8.40834 AU
retrograde	15885 Jul 24 16:56	28° $\Upsilon$ 38'59		direct	15891 Feb 12 05:52	26° $\Pi$ 30'44	
opposition	15885 Sep 30 13:48	25° $\Upsilon$ 15'57	0°53'03	evening set	15891 Apr 19 06:12	0° $\mathcal{E}$	
					15891 May 27 23:03	4° $\mathcal{E}$ 21'05	
conjunction	15885 Mar 26 14:20	18° $\Upsilon$ 54'06	0°52'54	conjunction	15891 Jun 14 06:44	6° $\mathcal{E}$ 31'07	-1°13'02
minimum elong	15885 Mar 26 14:22	18° $\Upsilon$ 54'07	0°52'43	minimum elong	15891 Jun 14 06:42	6° $\mathcal{E}$ 31'07	1°13'50



max. Earth dist.	15891 Jun 13 16:23	6°♊26'36	10.40668 AU	opposition	15898 Mar 07 13:06	0°♊18'58	-1°36'13
morning rise	15891 Jul 01 12:09	8°♊40'31		min. Earth dist.	15898 Mar 07 04:14	0°♊20'41	8.53020 AU
retrograde	15891 Oct 11 10:14	16°♊20'41			15898 Mar 11 15:47	30°♋♊	
opposition	15891 Dec 18 11:50	12°♊58'05	-1°39'46	direct	15898 May 15 15:56	26°♋56'37	
min. Earth dist.	15891 Dec 18 21:55	12°♊56'06	8.40815 AU		15898 Jul 15 23:18	0°♊	
direct	15892 Feb 25 20:16	9°♊32'08		evening set	15898 Aug 26 01:57	4°♊31'05	
evening set	15892 Jun 09 09:41	17°♊22'12					
conjunction	15892 Jun 26 15:05	19°♊31'40	-1°26'59	conjunction	15898 Sep 12 02:02	6°♊37'14	-1°10'20
minimum elong	15892 Jun 26 15:04	19°♊31'40	1°27'46	minimum elong	15898 Sep 12 02:04	6°♊37'15	1°10'19
max. Earth dist.	15892 Jun 26 04:11	19°♊28'14	10.40983 AU	max. Earth dist.	15898 Sep 12 14:21	6°♊41'04	10.54542 AU
morning rise	15892 Jul 13 18:23	21°♊40'31		morning rise	15898 Sep 29 02:47	8°♊43'35	
retrograde	15892 Oct 23 19:58	29°♊21'08		retrograde	15899 Jan 10 09:39	16°♊20'56	
opposition	15892 Dec 31 00:54	25°♊58'33	-1°54'22	opposition	15899 Mar 20 20:08	12°♊58'00	-1°16'15
min. Earth dist.	15892 Dec 31 07:51	25°♊57'11	8.41497 AU	min. Earth dist.	15899 Mar 20 08:13	13°♊00'17	8.56177 AU
direct	15893 Mar 10 09:24	22°♊33'02		direct	15899 May 28 20:19	9°♊36'15	
	15893 Jun 19 18:45	0°♋		evening set	15899 Sep 07 20:39	17°♊07'04	
evening set	15893 Jun 22 18:28	0°♋22'02		conjunction	15899 Sep 24 21:30	19°♊12'55	-0°52'43
conjunction	15893 Jul 09 21:50	2°♋30'52	-1°36'28	minimum elong	15899 Sep 24 21:32	19°♊12'56	0°52'32
minimum elong	15893 Jul 09 21:49	2°♋30'52	1°37'11	max. Earth dist.	15899 Sep 25 12:44	19°♊17'39	10.57715 AU
max. Earth dist.	15893 Jul 09 15:05	2°♋28'44	10.41987 AU	morning rise	15899 Oct 11 23:26	21°♊19'06	
morning rise	15893 Jul 26 23:15	4°♋39'09		retrograde	15900 Jan 23 11:42	28°♊55'08	
retrograde	15893 Nov 06 04:43	12°♋19'58		min. Earth dist.	15900 Apr 02 11:05	25°♊34'44	8.59285 AU
opposition	15894 Jan 13 14:31	8°♋57'23	-2°03'05	opposition	15900 Apr 03 00:44	25°♊32'06	-0°52'47
min. Earth dist.	15894 Jan 13 18:01	8°♋56'42	8.42834 AU	direct	15900 Jun 10 20:44	22°♊10'51	
direct	15894 Mar 23 22:57	5°♋32'25		evening set	15900 Sep 20 13:53	29°♊38'19	
evening set	15894 Jul 06 00:53	13°♋19'35			15900 Sep 23 13:25	0°♋	
	15894 Jul 19 10:27	15°♋		conjunction	15900 Oct 07 15:35	1°♋43'53	-0°32'42
conjunction	15894 Jul 23 02:32	15°♋27'45	-1°41'01	minimum elong	15900 Oct 07 15:36	1°♋43'54	0°32'21
minimum elong	15894 Jul 23 02:32	15°♋27'45	1°41'39	max. Earth dist.	15900 Oct 08 08:16	1°♋49'02	10.60749 AU
max. Earth dist.	15894 Jul 22 23:58	15°♋26'56	10.43622 AU	morning rise	15900 Oct 24 18:57	3°♋49'56	
morning rise	15894 Aug 09 02:38	17°♋35'30		retrograde	15901 Feb 05 10:18	11°♋24'40	
retrograde	15894 Nov 19 13:13	25°♋16'15		opposition	15901 Apr 16 02:47	8°♋01'31	-0°26'59
opposition	15895 Jan 27 04:01	21°♋53'38	-2°05'30	min. Earth dist.	15901 Apr 15 12:28	8°♋04'16	8.62175 AU
min. Earth dist.	15895 Jan 27 04:31	21°♋53'32	8.44759 AU	direct	15901 Jun 23 20:49	4°♋40'37	
direct	15895 Apr 06 11:29	18°♋29'18		evening set	15901 Oct 03 06:01	12°♋05'10	
evening set	15895 Jul 19 04:57	26°♋13'55		conjunction	15901 Oct 20 08:47	14°♋10'33	-0°11'16
conjunction	15895 Aug 05 05:19	28°♋21'29	-1°40'27	minimum elong	15901 Oct 20 08:47	14°♋10'33	0°10'47
minimum elong	15895 Aug 05 05:20	28°♋21'29	1°40'57	behind sun begin	15901 Oct 20 03:20	14°♋08'53	
max. Earth dist.	15895 Aug 05 06:11	28°♋21'45	10.45810 AU	behind sun end	15901 Oct 20 14:14	14°♋12'12	
	15895 Aug 18 07:45	0°♋		max. Earth dist.	15901 Oct 21 01:48	14°♋15'46	10.63469 AU
morning rise	15895 Aug 22 04:49	0°♋28'47			15901 Oct 27 01:55	15°♋	
retrograde	15895 Dec 02 21:11	8°♋09'03		morning rise	15901 Nov 06 13:41	16°♋16'29	
opposition	15896 Feb 09 16:31	4°♋46'25	-2°01'35	retrograde	15902 Feb 18 08:08	23°♋50'04	
min. Earth dist.	15896 Feb 09 14:14	4°♋46'51	8.47180 AU	min. Earth dist.	15902 Apr 28 11:49	20°♋29'33	8.64659 AU
direct	15896 Apr 18 21:56	1°♋22'43		opposition	15902 Apr 29 02:16	20°♋26'46	-0°00'05
evening set	15896 Jul 31 06:27	9°♋04'17		asc. node	15902 Apr 30 03:08	20°♋22'00	
conjunction	15896 Aug 17 06:08	11°♋11'18	-1°34'53	direct	15902 Jul 06 18:11	17°♋06'04	
minimum elong	15896 Aug 17 06:09	11°♋11'19	1°35'13	evening set	15902 Oct 15 21:26	24°♋28'17	
max. Earth dist.	15896 Aug 17 10:24	11°♋12'39	10.48447 AU	conjunction	15902 Nov 02 01:29	26°♋33'33	0°10'41
morning rise	15896 Sep 03 05:38	13°♋18'14		minimum elong	15902 Nov 02 01:29	26°♋33'33	0°11'18
retrograde	15896 Dec 15 02:03	20°♋57'43		behind sun begin	15902 Nov 01 20:15	26°♋31'58	
opposition	15897 Feb 22 03:44	17°♋35'02	-1°51'37	behind sun end	15902 Nov 02 06:42	26°♋35'08	
min. Earth dist.	15897 Feb 21 22:22	17°♋36'04	8.49976 AU	max. Earth dist.	15902 Nov 02 18:49	26°♋38'51	10.65666 AU
direct	15897 May 02 07:33	14°♋12'00		morning rise	15902 Nov 19 07:50	28°♋39'28	
evening set	15897 Aug 13 05:20	21°♋50'07			15902 Nov 30 17:58	0°♋	
conjunction	15897 Aug 30 04:56	23°♋56'39	-1°24'38	retrograde	15903 Mar 03 04:56	6°♋7'12'08	
minimum elong	15897 Aug 30 04:58	23°♋56'40	1°24'48	opposition	15903 May 11 23:18	2°♋7'48'42	0°26'41
max. Earth dist.	15897 Aug 30 13:05	23°♋59'12	10.51402 AU	min. Earth dist.	15903 May 11 08:46	2°♋7'51'29	8.66534 AU
morning rise	15897 Sep 16 04:52	26°♋03'15			15903 Jun 24 11:27	30°♋♋	
	15897 Oct 21 04:23	0°♊		direct	15903 Jul 19 12:58	29°♋28'04	
retrograde	15897 Dec 28 05:48	3°♊41'47		evening set	15903 Aug 13 07:56	0°♋	
					15903 Oct 28 12:56	6°♋7'48'45	

conjunction	15903 Nov 14 18:17	8°  54'00	0°31'58	conjunction	15910 Jan 28 20:35	22°  56'23	1°41'19
minimum elong	15903 Nov 14 18:16	8°  54'00	0°32'41	minimum elong	15910 Jan 28 20:35	22°  56'23	1°41'51
max. Earth dist.	15903 Nov 15 11:30	8°  59'15	10.67191 AU	max. Earth dist.	15910 Jan 28 21:55	22°  56'47	10.63326 AU
morning rise	15903 Dec 02 01:52	10°  59'55		morning rise	15910 Feb 15 10:12	25°  03'49	
retrograde	15904 Mar 15 01:02	18°  32'00			15910 Apr 03 04:58	0° 	
opposition	15904 May 23 18:14	15°  08'26	0°52'07	retrograde	15910 May 29 23:27	2°  36'16	
min. Earth dist.	15904 May 23 04:11	15°  11'08	8.67730 AU		15910 Jul 27 10:39	30° 	
direct	15904 Jul 31 06:19	11°  47'44		opposition	15910 Aug 06 16:25	29°  12'11	2°03'37
evening set	15904 Nov 09 05:00	19°  07'38		min. Earth dist.	15910 Aug 06 16:54	29°  12'05	8.62255 AU
				direct	15910 Oct 14 01:09	25°  48'36	
conjunction	15904 Nov 26 11:30	21°  12'57	0°51'46		15910 Dec 26 03:51	0° 	
minimum elong	15904 Nov 26 11:28	21°  12'57	0°52'32	evening set	15911 Jan 24 09:21	3°  16'50	
max. Earth dist.	15904 Nov 27 03:37	21°  17'51	10.68046 AU				
morning rise	15904 Dec 13 20:18	23°  18'57		conjunction	15911 Feb 10 23:00	5°  24'33	1°38'01
	15905 Feb 24 00:24	0° 		minimum elong	15911 Feb 10 23:01	5°  24'33	1°38'25
retrograde	15905 Mar 27 21:43	0°  35'04		max. Earth dist.	15911 Feb 10 19:45	5°  23'33	10.60886 AU
	15905 Apr 29 00:46	30° 		morning rise	15911 Feb 28 13:26	7°  32'30	
opposition	15905 Jun 05 11:43	27°  26'58	1°15'07	retrograde	15911 Jun 11 21:46	15°  05'25	
min. Earth dist.	15905 Jun 04 23:09	27°  29'23	8.68282 AU	opposition	15911 Aug 19 09:05	11°  41'25	1°56'40
direct	15905 Aug 12 20:58	24°  06'02		min. Earth dist.	15911 Aug 19 13:06	11°  40'37	8.59637 AU
	15905 Nov 09 15:13	0° 		direct	15911 Oct 26 18:33	8°  17'12	
evening set	15905 Nov 21 21:50	1°  32'50		evening set	15912 Feb 06 12:31	15°  48'18	
conjunction	15905 Dec 09 05:26	3°  31'18	1°09'09	conjunction	15912 Feb 24 03:14	17°  56'42	1°30'03
minimum elong	15905 Dec 09 05:24	3°  31'17	1°09'58	minimum elong	15912 Feb 24 03:16	17°  56'43	1°30'17
max. Earth dist.	15905 Dec 09 18:54	3°  35'23	10.68267 AU	max. Earth dist.	15912 Feb 23 19:54	17°  54'28	10.58144 AU
morning rise	15905 Dec 26 15:28	5°  37'27		morning rise	15912 Mar 12 18:20	20°  05'14	
retrograde	15906 Apr 09 16:45	13°  30'00		retrograde	15912 Jun 23 19:31	27°  38'45	
opposition	15906 Jun 18 03:56	9°  45'09	1°34'39	opposition	15912 Aug 31 03:17	24°  14'50	1°44'08
min. Earth dist.	15906 Jun 17 17:56	9°  47'06	8.68214 AU	min. Earth dist.	15912 Aug 31 10:07	24°  13'29	8.56776 AU
direct	15906 Aug 25 11:29	6°  32'50		direct	15912 Nov 07 15:38	20°  50'03	
evening set	15906 Dec 04 16:02	13°  34'16		evening set	15913 Feb 18 17:51	28°  24'12	
					15913 Mar 03 21:02	0° 	
conjunction	15906 Dec 22 00:47	15°  34'58	1°23'22	conjunction	15913 Mar 08 09:34	0°  33'19	1°17'42
minimum elong	15906 Dec 22 00:45	15°  34'57	1°24'10	minimum elong	15913 Mar 08 09:37	0°  33'20	1°17'47
max. Earth dist.	15906 Dec 22 11:18	15°  53'09	10.67876 AU	max. Earth dist.	15913 Mar 07 23:21	0°  30'11	10.55233 AU
morning rise	15907 Jan 08 11:54	17°  36'19		morning rise	15913 Mar 26 01:00	2°  42'24	
retrograde	15907 Apr 22 10:33	25°  32'52		retrograde	15913 Jul 06 19:21	10°  16'36	
opposition	15907 Jun 30 19:06	22°  03'55	1°49'51	opposition	15913 Sep 12 23:11	6°  52'49	1°26'29
min. Earth dist.	15907 Jun 30 11:34	22°  05'23	8.67542 AU	min. Earth dist.	15913 Sep 13 07:56	6°  51'06	8.53810 AU
direct	15907 Sep 07 03:26	18°  34'06		direct	15913 Nov 20 14:32	3°  27'34	
evening set	15907 Dec 17 11:38	26°  03'46		evening set	15914 Mar 04 01:19	11°  04'50	
conjunction	15908 Jan 03 21:38	28°  30'49	1°33'46	conjunction	15914 Mar 21 17:43	13°  14'38	1°01'31
minimum elong	15908 Jan 03 21:37	28°  30'49	1°34'31	minimum elong	15914 Mar 21 17:45	13°  14'39	1°01'25
max. Earth dist.	15908 Jan 04 05:33	28°  12'14	10.66893 AU	max. Earth dist.	15914 Mar 21 05:06	13°  10'45	10.52290 AU
	15908 Jan 19 02:25	0° 		morning rise	15914 Apr 08 09:05	15°  24'14	
morning rise	15908 Jan 21 09:38	0°  16'26		retrograde	15914 Jul 19 23:05	22°  29'11	
retrograde	15908 May 04 06:29	7°  48'11		opposition	15914 Sep 25 21:29	19°  35'37	1°04'29
opposition	15908 Jul 12 09:58	4°  24'08	2°00'03	min. Earth dist.	15914 Sep 26 08:00	19°  33'32	8.50884 AU
min. Earth dist.	15908 Jul 12 04:33	4°  25'12	8.66291 AU	direct	15914 Dec 03 13:42	16°  10'00	
direct	15908 Sep 18 17:48	1°  01'47		evening set	15915 Mar 17 10:42	23°  30'19	
evening set	15908 Dec 29 08:46	8°  25'11					
conjunction	15909 Jan 15 20:05	10°  31'41	1°39'52	conjunction	15915 Apr 04 03:09	26°  00'42	0°42'13
minimum elong	15909 Jan 15 20:05	10°  31'41	1°40'31	minimum elong	15915 Apr 04 03:11	26°  00'42	0°41'57
max. Earth dist.	15909 Jan 16 01:22	10°  33'18	10.65357 AU	max. Earth dist.	15915 Apr 03 12:18	25°  56'06	10.49461 AU
morning rise	15909 Feb 02 08:52	12°  38'40		morning rise	15915 Apr 21 18:03	28°  10'43	
	15909 Feb 22 22:38	15° 			15915 May 07 04:24	0° 	
retrograde	15909 May 17 02:39	20°  10'45		retrograde	15915 Aug 02 02:41	5°  46'30	
opposition	15909 Jul 25 00:57	16°  46'38	2°04'44	opposition	15915 Oct 08 22:19	2°  23'13	0°39'08
min. Earth dist.	15909 Jul 24 22:00	16°  47'13	8.64505 AU	min. Earth dist.	15915 Oct 09 10:39	2°  20'46	8.48155 AU
	15909 Aug 17 22:57	15° 			15915 Nov 11 09:41	30° 	
direct	15909 Oct 01 08:51	13°  23'42		direct	15915 Dec 16 16:56	28°  07'20	
	15909 Nov 14 00:11	15° 			15916 Jan 20 17:39	0° 	
evening set	15910 Jan 11 08:03	20°  49'19		evening set	15916 Mar 29 21:51	6°  40'35	

conjunction	15916 Apr 16 13:45	8° <b>8</b> 51'20	0°20'43	direct	15922 Mar 05 10:24	16° <b>5</b> 50'08	
minimum elong	15916 Apr 16 13:46	8° <b>8</b> 51'21	0°20'18	evening set	15922 Jun 18 00:04	24° <b>5</b> 39'41	
max. Earth dist.	15916 Apr 15 20:43	8° <b>8</b> 46'03	10.46899 AU				
morning rise	15916 May 04 03:50	11° <b>8</b> 01'39		conjunction	15922 Jul 05 04:12	26° <b>5</b> 48'44	-1°32'33
	15916 Jun 08 12:28	15° <b>8</b>		minimum elong	15922 Jul 05 04:11	26° <b>5</b> 48'44	1°33'18
retrograde	15916 Aug 14 07:17	18° <b>8</b> 38'19		max. Earth dist.	15922 Jul 04 18:31	26° <b>5</b> 45'41	10.42277 AU
opposition	15916 Oct 21 01:42	15° <b>8</b> 15'20	0°11'41	morning rise	15922 Jul 22 06:28	28° <b>5</b> 57'15	
min. Earth dist.	15916 Oct 21 15:36	15° <b>8</b> 12'35	8.45769 AU		15922 Jul 30 20:25	0° <b>8</b>	
	15916 Oct 24 07:21	15° <b>8</b> 8		retrograde	15922 Nov 01 10:34	6° <b>8</b> 37'58	
direct	15916 Dec 28 23:29	11° <b>8</b> 49'17		opposition	15923 Jan 08 17:47	3° <b>8</b> 15'50	-1°59'38
	15917 Mar 01 19:33	15° <b>8</b>		min. Earth dist.	15923 Jan 09 00:25	3° <b>8</b> 14'33	8.42859 AU
desc. node	15917 Mar 28 00:24	17° <b>8</b> 45'19			15923 Mar 05 20:40	30° <b>8</b> 5	
evening set	15917 Apr 12 10:19	19° <b>8</b> 35'10		direct	15923 Mar 19 01:34	29° <b>5</b> 50'59	
max. Earth dist.	15917 Apr 29 06:57	21° <b>8</b> 40'27	10.44731 AU		15923 Apr 01 05:00	0° <b>8</b>	
				evening set	15923 Jul 01 07:58	7° <b>8</b> 39'11	
conjunction	15917 Apr 30 01:11	21° <b>8</b> 46'07	-0°02'01	conjunction	15923 Jul 18 10:13	9° <b>8</b> 47'38	-1°39'23
minimum elong	15917 Apr 30 01:09	21° <b>8</b> 46'07	0°02'35	minimum elong	15923 Jul 18 10:13	9° <b>8</b> 47'38	1°40'04
behind sun begin	15917 Apr 29 17:57	21° <b>8</b> 43'54		max. Earth dist.	15923 Jul 18 03:31	9° <b>8</b> 45'31	10.43326 AU
behind sun end	15917 Apr 30 08:21	21° <b>8</b> 48'20		morning rise	15923 Aug 04 11:03	11° <b>8</b> 55'38	
morning rise	15917 May 17 13:57	23° <b>8</b> 56'31			15923 Aug 30 17:15	15° <b>8</b>	
	15917 Jul 16 00:30	0° <b>8</b>		retrograde	15923 Nov 14 19:28	19° <b>8</b> 36'39	
retrograde	15917 Aug 27 13:56	1° <b>8</b> 34'06		opposition	15924 Jan 22 07:47	16° <b>8</b> 14'27	-2°04'58
	15917 Oct 10 01:43	30° <b>8</b> 8		min. Earth dist.	15924 Jan 22 11:21	16° <b>8</b> 13'45	8.44102 AU
opposition	15917 Nov 03 07:41	28° <b>8</b> 11'24	-0°16'31		15924 Feb 07 16:16	15° <b>8</b> 8	
min. Earth dist.	15917 Nov 03 21:51	28° <b>8</b> 08'37	8.43837 AU	direct	15924 Mar 31 15:48	12° <b>8</b> 50'07	
direct	15918 Jan 11 08:10	24° <b>8</b> 45'19			15924 May 21 17:34	15° <b>8</b>	
	15918 Apr 04 05:46	0° <b>8</b>		evening set	15924 Jul 13 13:48	20° <b>8</b> 36'22	
evening set	15918 Apr 25 23:37	2° <b>8</b> 33'19					
conjunction	15918 May 13 12:51	4° <b>8</b> 44'15	-0°24'37	conjunction	15924 Jul 30 14:45	22° <b>8</b> 44'17	-1°41'10
minimum elong	15918 May 13 12:50	4° <b>8</b> 44'15	0°25'18	minimum elong	15924 Jul 30 14:45	22° <b>8</b> 44'17	1°41'42
max. Earth dist.	15918 May 12 19:11	4° <b>8</b> 38'43	10.43054 AU	max. Earth dist.	15924 Jul 30 12:14	22° <b>8</b> 43'29	10.44758 AU
morning rise	15918 May 30 23:47	6° <b>8</b> 54'33		morning rise	15924 Aug 16 14:33	24° <b>8</b> 51'52	
retrograde	15918 Sep 09 21:44	14° <b>8</b> 33'02			15924 Oct 02 21:46	0° <b>8</b>	
opposition	15918 Nov 16 16:03	11° <b>8</b> 10'33	-0°44'00	retrograde	15924 Nov 27 04:45	2° <b>8</b> 32'53	
min. Earth dist.	15918 Nov 17 05:18	11° <b>8</b> 07'57	8.42455 AU		15925 Jan 24 03:20	30° <b>8</b> 8	
direct	15919 Jan 24 19:11	7° <b>8</b> 44'33		opposition	15925 Feb 03 21:21	29° <b>8</b> 10'31	-2°03'55
evening set	15919 May 09 13:03	15° <b>8</b> 34'02		min. Earth dist.	15925 Feb 03 21:12	29° <b>8</b> 10'33	8.45729 AU
max. Earth dist.	15919 May 26 08:25	17° <b>8</b> 39'44	10.41962 AU	direct	15925 Apr 14 03:54	25° <b>8</b> 46'44	
					15925 Jun 26 06:44	0° <b>8</b>	
conjunction	15919 May 27 00:19	17° <b>8</b> 44'44	-0°46'03	evening set	15925 Jul 26 17:16	3° <b>8</b> 30'26	
minimum elong	15919 May 27 00:18	17° <b>8</b> 44'44	0°46'49				
morning rise	15919 Jun 13 09:00	19° <b>8</b> 54'45		conjunction	15925 Aug 12 17:24	5° <b>8</b> 37'51	-1°37'50
retrograde	15919 Sep 23 06:29	27° <b>8</b> 34'02		minimum elong	15925 Aug 12 17:26	5° <b>8</b> 37'51	1°38'14
opposition	15919 Nov 30 02:31	24° <b>8</b> 11'44	-1°09'19	max. Earth dist.	15925 Aug 12 19:18	5° <b>8</b> 38'27	10.46589 AU
min. Earth dist.	15919 Nov 30 14:10	24° <b>8</b> 09'27	8.41695 AU	morning rise	15925 Aug 29 16:47	7° <b>8</b> 45'05	
direct	15920 Feb 07 07:51	20° <b>8</b> 45'54		retrograde	15925 Dec 10 12:34	15° <b>8</b> 25'46	
evening set	15920 May 22 01:58	28° <b>8</b> 36'09		opposition	15926 Feb 17 10:10	12° <b>8</b> 03'11	-1°56'39
	15920 Jun 02 07:20	0° <b>8</b>		min. Earth dist.	15926 Feb 17 06:41	12° <b>8</b> 03'51	8.47734 AU
conjunction	15920 Jun 08 10:58	0° <b>5</b> 46'26	-1°05'10	direct	15926 Apr 27 14:18	8° <b>8</b> 39'54	
minimum elong	15920 Jun 08 10:56	0° <b>5</b> 46'25	1°05'58	evening set	15926 Aug 08 18:11	16° <b>8</b> 20'31	
max. Earth dist.	15920 Jun 07 21:16	0° <b>5</b> 42'07	10.41497 AU	conjunction	15926 Aug 25 17:58	18° <b>8</b> 27'30	-1°29'38
morning rise	15920 Jun 25 17:18	2° <b>5</b> 56'00		minimum elong	15926 Aug 25 18:00	18° <b>8</b> 27'30	1°29'52
retrograde	15920 Oct 05 16:30	10° <b>5</b> 35'56		max. Earth dist.	15926 Aug 25 23:38	18° <b>8</b> 29'16	10.48781 AU
opposition	15920 Dec 12 14:39	7° <b>5</b> 13'45	-1°31'05	morning rise	15926 Sep 11 17:37	20° <b>8</b> 34'27	
min. Earth dist.	15920 Dec 13 00:52	7° <b>5</b> 11'45	8.41559 AU	retrograde	15926 Dec 23 18:36	28° <b>8</b> 14'29	
direct	15921 Feb 19 20:55	3° <b>5</b> 48'10		opposition	15927 Mar 02 21:28	24° <b>8</b> 51'37	-1°43'36
evening set	15921 Jun 04 13:54	11° <b>5</b> 38'25		min. Earth dist.	15927 Mar 02 15:15	24° <b>8</b> 52'49	8.50056 AU
				direct	15927 May 10 23:52	21° <b>8</b> 28'47	
conjunction	15921 Jun 21 20:23	13° <b>5</b> 48'07	-1°20'57	evening set	15927 Aug 21 16:51	29° <b>8</b> 06'00	
minimum elong	15921 Jun 21 20:22	13° <b>5</b> 48'07	1°21'45		15927 Aug 28 23:57	0° <b>5</b>	
max. Earth dist.	15921 Jun 21 08:34	13° <b>5</b> 44'23	10.41632 AU	conjunction	15927 Sep 07 16:46	1° <b>5</b> 12'38	-1°17'03
morning rise	15921 Jul 09 00:31	15° <b>5</b> 57'10		minimum elong	15927 Sep 07 16:48	1° <b>5</b> 12'38	1°17'06
retrograde	15921 Oct 19 02:31	23° <b>5</b> 37'32		max. Earth dist.	15927 Sep 08 01:19	1° <b>5</b> 15'18	10.51245 AU
opposition	15921 Dec 26 03:52	20° <b>5</b> 15'25	-1°48'09	morning rise	15927 Sep 24 17:16	3° <b>5</b> 19'23	
min. Earth dist.	15921 Dec 26 12:36	20° <b>5</b> 13'42	8.41986 AU				

retrograde	15928 Jan 05 22:58	10° <u>♄</u> 58'26		conjunction	15933 Nov 21 09:11	16° <u>♄</u> 13'02	0°43'40
opposition	15928 Mar 15 06:30	7° <u>♄</u> 35'17	-1°25'31	minimum elong	15933 Nov 21 09:09	16° <u>♄</u> 13'02	0°44'24
min. Earth dist.	15928 Mar 14 22:01	7° <u>♄</u> 36'55	8.52594 AU	max. Earth dist.	15933 Nov 22 01:52	16° <u>♄</u> 18'08	10.64700 AU
direct	15928 May 23 06:30	4° <u>♄</u> 12'50		morning rise	15933 Dec 08 17:46	18° <u>♄</u> 19'24	
evening set	15928 Sep 02 13:23	11° <u>♄</u> 46'36		retrograde	15934 Mar 22 18:14	25° <u>♄</u> 52'39	
				opposition	15934 May 31 10:09	22° <u>♄</u> 28'22	1°05'51
conjunction	15928 Sep 19 13:53	13° <u>♄</u> 52'56	-1°00'45	min. Earth dist.	15934 May 30 20:39	22° <u>♄</u> 30'59	8.65292 AU
minimum elong	15928 Sep 19 13:55	13° <u>♄</u> 52'56	1°00'38	direct	15934 Aug 07 20:24	19° <u>♄</u> 06'57	
max. Earth dist.	15928 Sep 20 01:22	13° <u>♄</u> 56'30	10.53866 AU	evening set	15934 Nov 16 20:24	26° <u>♄</u> 28'02	
morning rise	15928 Oct 06 15:32	15° <u>♄</u> 59'33					
retrograde	15929 Jan 18 01:03	23° <u>♄</u> 37'29		conjunction	15934 Dec 04 03:43	28° <u>♄</u> 33'47	1°02'12
opposition	15929 Mar 28 13:18	20° <u>♄</u> 14'01	-1°03'24	minimum elong	15934 Dec 04 03:41	28° <u>♄</u> 33'46	1°03'00
min. Earth dist.	15929 Mar 28 02:09	20° <u>♄</u> 16'10	8.55224 AU	max. Earth dist.	15934 Dec 04 19:42	28° <u>♄</u> 38'39	10.65666 AU
direct	15929 Jun 05 10:59	16° <u>♄</u> 51'58			15934 Dec 15 23:22	0° <u>♄</u>	
evening set	15929 Sep 15 07:58	24° <u>♄</u> 22'22		morning rise	15934 Dec 21 13:23	0° <u>♄</u> 40'12	
				retrograde	15935 Apr 04 14:22	8° <u>♄</u> 13'02	
conjunction	15929 Oct 02 09:27	26° <u>♄</u> 28'27	-0°41'38	opposition	15935 Jun 13 03:35	4° <u>♄</u> 48'44	1°26'58
minimum elong	15929 Oct 02 09:28	26° <u>♄</u> 28'28	0°41'21	min. Earth dist.	15935 Jun 12 14:53	4° <u>♄</u> 51'11	8.66007 AU
max. Earth dist.	15929 Oct 03 00:09	26° <u>♄</u> 33'00	10.56508 AU	direct	15935 Aug 20 12:17	1° <u>♄</u> 27'10	
morning rise	15929 Oct 19 12:23	28° <u>♄</u> 34'57		evening set	15935 Nov 29 14:45	8° <u>♄</u> 48'23	
	15929 Oct 31 10:24	0° <u>♄</u>					
retrograde	15930 Jan 31 01:39	6° <u>♄</u> 11'48		conjunction	15935 Dec 16 23:12	10° <u>♄</u> 54'15	1°17'50
opposition	15930 Apr 10 17:31	2° <u>♄</u> 48'02	-0°38'23	minimum elong	15935 Dec 16 23:11	10° <u>♄</u> 54'15	1°18'39
min. Earth dist.	15930 Apr 10 03:57	2° <u>♄</u> 50'39	8.57812 AU	max. Earth dist.	15935 Dec 17 13:39	10° <u>♄</u> 58'39	10.66083 AU
	15930 May 23 18:23	30° <u>♄</u>		morning rise	15936 Jan 03 09:48	13° <u>♄</u> 00'47	
direct	15930 Jun 18 13:51	29° <u>♄</u> 26'18		retrograde	15936 Apr 16 10:33	20° <u>♄</u> 33'23	
	15930 Jul 13 23:58	0° <u>♄</u>		opposition	15936 Jun 24 19:58	17° <u>♄</u> 09'08	1°44'05
evening set	15930 Sep 28 01:25	6° <u>♄</u> 53'39		min. Earth dist.	15936 Jun 24 09:10	17° <u>♄</u> 11'14	8.66169 AU
				direct	15936 Sep 01 03:36	13° <u>♄</u> 47'20	
conjunction	15930 Oct 15 04:03	8° <u>♄</u> 59'35	-0°20'37	evening set	15936 Dec 11 10:32	21° <u>♄</u> 09'19	
minimum elong	15930 Oct 15 04:04	8° <u>♄</u> 59'35	0°20'11				
max. Earth dist.	15930 Oct 15 21:12	9° <u>♄</u> 04'52	10.59034 AU	conjunction	15936 Dec 28 20:04	23° <u>♄</u> 15'26	1°29'53
morning rise	15930 Nov 01 08:22	11° <u>♄</u> 06'00		minimum elong	15936 Dec 28 20:03	23° <u>♄</u> 15'26	1°30'39
	15930 Dec 06 08:32	15° <u>♄</u>		max. Earth dist.	15936 Dec 29 07:25	23° <u>♄</u> 18'53	10.65960 AU
retrograde	15931 Feb 13 02:42	18° <u>♄</u> 41'43		morning rise	15937 Jan 15 07:39	25° <u>♄</u> 22'08	
opposition	15931 Apr 23 19:00	15° <u>♄</u> 17'45	-0°11'42		15937 Feb 27 16:59	0° <u>♄</u>	
min. Earth dist.	15931 Apr 23 04:01	15° <u>♄</u> 20'38	8.60224 AU	retrograde	15937 Apr 29 07:49	2° <u>♄</u> 54'38	
	15931 Apr 27 15:06	15° <u>♄</u>			15937 Jul 01 04:10	30° <u>♄</u>	
direct	15931 Jul 01 11:49	11° <u>♄</u> 56'15		opposition	15937 Jul 07 11:50	29° <u>♄</u> 30'31	1°56'23
	15931 Aug 31 19:52	15° <u>♄</u>		min. Earth dist.	15937 Jul 07 03:57	29° <u>♄</u> 32'04	8.65797 AU
asc. node	15931 Oct 05 03:17	18° <u>♄</u> 40'48		direct	15937 Sep 13 17:41	26° <u>♄</u> 08'24	
evening set	15931 Oct 10 18:09	19° <u>♄</u> 21'04			15937 Nov 22 12:50	0° <u>♄</u>	
				evening set	15937 Dec 24 07:53	3° <u>♄</u> 31'43	
conjunction	15931 Oct 27 21:53	21° <u>♄</u> 26'51	0°01'21				
minimum elong	15931 Oct 27 21:55	21° <u>♄</u> 26'51	0°01'55	conjunction	15938 Jan 10 18:33	5° <u>♄</u> 38'10	1°37'47
behind sun begin	15931 Oct 27 14:47	21° <u>♄</u> 24'41		minimum elong	15938 Jan 10 18:33	5° <u>♄</u> 38'10	1°38'29
behind sun end	15931 Oct 28 05:02	21° <u>♄</u> 29'01		max. Earth dist.	15938 Jan 11 02:00	5° <u>♄</u> 40'26	10.65311 AU
max. Earth dist.	15931 Oct 28 15:51	21° <u>♄</u> 32'22	10.61310 AU	morning rise	15938 Jan 28 07:10	7° <u>♄</u> 45'09	
morning rise	15931 Nov 14 03:43	23° <u>♄</u> 33'15			15938 Apr 23 14:10	15° <u>♄</u>	
	15932 Jan 20 02:24	0° <u>♄</u>		retrograde	15938 May 12 03:26	15° <u>♄</u> 17'39	
retrograde	15932 Feb 26 01:22	1° <u>♄</u> 07'56			15938 May 30 17:48	15° <u>♄</u>	
	15932 Apr 03 12:16	30° <u>♄</u>		opposition	15938 Jul 20 03:30	11° <u>♄</u> 53'42	2°03'20
opposition	15932 May 05 18:11	27° <u>♄</u> 43'48	0°15'23	min. Earth dist.	15938 Jul 19 22:57	11° <u>♄</u> 54'36	8.64897 AU
min. Earth dist.	15932 May 05 03:15	27° <u>♄</u> 46'41	8.62334 AU	direct	15938 Sep 26 10:04	8° <u>♄</u> 31'10	
direct	15932 Jul 13 07:30	24° <u>♄</u> 22'26			15938 Dec 29 07:30	15° <u>♄</u>	
	15932 Oct 07 09:54	0° <u>♄</u>		evening set	15939 Jan 06 07:05	15° <u>♄</u> 56'20	
evening set	15932 Oct 22 10:32	1° <u>♄</u> 45'21					
				conjunction	15939 Jan 23 18:58	18° <u>♄</u> 03'13	1°41'08
conjunction	15932 Nov 08 15:21	3° <u>♄</u> 51'02	0°23'04	minimum elong	15939 Jan 23 18:59	18° <u>♄</u> 03'13	1°41'43
minimum elong	15932 Nov 08 15:21	3° <u>♄</u> 51'02	0°23'44	max. Earth dist.	15939 Jan 23 22:43	18° <u>♄</u> 04'21	10.64147 AU
max. Earth dist.	15932 Nov 09 08:46	3° <u>♄</u> 56'21	10.63226 AU	morning rise	15939 Feb 10 08:23	20° <u>♄</u> 10'31	
morning rise	15932 Nov 25 22:38	5° <u>♄</u> 57'24		retrograde	15939 May 24 23:33	27° <u>♄</u> 43'08	
retrograde	15933 Mar 09 21:25	13° <u>♄</u> 31'16		opposition	15939 Aug 01 19:20	24° <u>♄</u> 19'21	2°04'33
opposition	15933 May 18 15:12	10° <u>♄</u> 07'03	0°41'38	min. Earth dist.	15939 Aug 01 17:33	24° <u>♄</u> 19'42	8.63489 AU
min. Earth dist.	15933 May 18 00:55	10° <u>♄</u> 09'49	8.64048 AU	direct	15939 Oct 09 03:41	20° <u>♄</u> 56'23	
direct	15933 Jul 26 03:02	6° <u>♄</u> 45'42		evening set	15940 Jan 19 08:02	28° <u>♄</u> 23'42	
evening set	15933 Nov 04 03:09	14° <u>♄</u> 07'21			15940 Feb 01 15:07	0° <u>♄</u>	

conjunction	15940 Feb 05 21:13	0° $\text{H}$ 31'07	1°39'45	conjunction	15946 Apr 24 20:16	16° $\text{B}$ 41'26	0°07'20
minimum elong	15940 Feb 05 21:14	0° $\text{H}$ 31'07	1°40'13	minimum elong	15946 Apr 24 20:17	16° $\text{B}$ 41'27	0°06'49
max. Earth dist.	15940 Feb 05 21:43	0° $\text{H}$ 31'16	10.62499 AU	behind sun begin	15946 Apr 24 13:35	16° $\text{B}$ 39'23	
morning rise	15940 Feb 23 11:18	2° $\text{H}$ 38'49		behind sun end	15946 Apr 25 02:59	16° $\text{B}$ 43'30	
retrograde	15940 Jun 05 22:13	10° $\text{H}$ 11'38		max. Earth dist.	15946 Apr 24 02:42	16° $\text{B}$ 35'59	10.46358 AU
opposition	15940 Aug 13 11:55	6° $\text{H}$ 47'58	1°59'57	morning rise	15946 May 12 09:31	18° $\text{B}$ 51'42	
min. Earth dist.	15940 Aug 13 12:47	6° $\text{H}$ 47'48	8.61603 AU	retrograde	15946 Aug 22 11:12	26° $\text{B}$ 28'33	
direct	15940 Oct 20 20:54	3° $\text{H}$ 24'30		desc. node	15946 Aug 23 08:09	26° $\text{B}$ 28'31	
evening set	15941 Jan 31 10:44	10° $\text{H}$ 54'14		opposition	15946 Oct 29 04:29	23° $\text{B}$ 05'49	-0°05'05
				min. Earth dist.	15946 Oct 29 18:26	23° $\text{B}$ 03'04	8.45191 AU
conjunction	15941 Feb 18 01:08	13° $\text{H}$ 02'16	1°33'40	direct	15947 Jan 06 03:44	19° $\text{B}$ 39'49	
minimum elong	15941 Feb 18 01:09	13° $\text{H}$ 02'16	1°33'57	evening set	15947 Apr 20 17:22	27° $\text{B}$ 26'32	
max. Earth dist.	15941 Feb 17 21:48	13° $\text{H}$ 01'15	10.60393 AU				
morning rise	15941 Mar 07 15:48	15° $\text{H}$ 10'27		conjunction	15947 May 08 07:26	29° $\text{B}$ 37'26	-0°15'30
retrograde	15941 Jun 18 21:06	22° $\text{H}$ 43'31		minimum elong	15947 May 08 07:25	29° $\text{B}$ 37'26	0°16'08
opposition	15941 Aug 26 05:38	19° $\text{H}$ 20'00	1°49'38	max. Earth dist.	15947 May 07 13:22	29° $\text{B}$ 31'48	10.44128 AU
min. Earth dist.	15941 Aug 26 09:46	19° $\text{H}$ 19'11	8.59253 AU		15947 May 11 07:38	0° $\text{H}$	
direct	15941 Nov 02 16:05	15° $\text{H}$ 55'59		morning rise	15947 May 25 19:00	1° $\text{H}$ 47'42	
evening set	15942 Feb 13 15:32	23° $\text{H}$ 28'28		retrograde	15947 Sep 04 18:33	9° $\text{H}$ 25'28	
				opposition	15947 Nov 11 11:33	6° $\text{H}$ 02'50	-0°33'00
conjunction	15942 Mar 03 06:51	25° $\text{H}$ 37'09	1°23'03	min. Earth dist.	15947 Nov 12 01:52	6° $\text{H}$ 00'01	8.43227 AU
minimum elong	15942 Mar 03 06:53	25° $\text{H}$ 37'10	1°23'11	direct	15948 Jan 19 12:52	2° $\text{H}$ 36'40	
max. Earth dist.	15942 Mar 02 22:46	25° $\text{H}$ 34'41	10.57840 AU	evening set	15948 May 03 06:24	10° $\text{H}$ 25'12	
morning rise	15942 Mar 20 22:00	27° $\text{H}$ 45'52					
	15942 Apr 09 05:22	0° $\text{Y}$		conjunction	15948 May 20 18:30	12° $\text{H}$ 35'58	-0°37'32
retrograde	15942 Jul 01 20:47	5° $\text{Y}$ 19'22		minimum elong	15948 May 20 18:29	12° $\text{H}$ 35'57	0°38'15
opposition	15942 Sep 08 00:49	1° $\text{Y}$ 56'02	1°34'00	max. Earth dist.	15948 May 20 00:32	12° $\text{H}$ 30'20	10.42437 AU
min. Earth dist.	15942 Sep 08 08:47	1° $\text{Y}$ 54'28	8.56486 AU	morning rise	15948 Jun 07 04:10	14° $\text{H}$ 46'04	
	15942 Oct 04 04:00	30° $\text{R}$ $\text{H}$		retrograde	15948 Sep 17 00:52	22° $\text{H}$ 24'41	
direct	15942 Nov 15 13:28	28° $\text{H}$ 31'30		opposition	15948 Nov 23 20:35	19° $\text{H}$ 02'07	-0°59'20
	15942 Dec 27 09:42	0° $\text{Y}$		min. Earth dist.	15948 Nov 24 10:31	18° $\text{H}$ 59'22	8.41854 AU
evening set	15943 Feb 26 22:14	6° $\text{Y}$ 07'02		direct	15949 Feb 01 01:34	15° $\text{H}$ 35'52	
				evening set	15949 May 16 19:09	23° $\text{H}$ 25'37	
conjunction	15943 Mar 16 14:10	8° $\text{Y}$ 16'24	1°08'22				
minimum elong	15943 Mar 16 14:13	8° $\text{Y}$ 16'24	1°08'20	conjunction	15949 Jun 03 05:01	25° $\text{H}$ 36'03	-0°57'42
max. Earth dist.	15943 Mar 16 01:33	8° $\text{Y}$ 12'31	10.54947 AU	minimum elong	15949 Jun 03 04:59	25° $\text{H}$ 36'03	0°58'29
morning rise	15943 Apr 03 05:35	10° $\text{Y}$ 25'38		max. Earth dist.	15949 Jun 02 12:17	25° $\text{H}$ 30'48	10.41364 AU
retrograde	15943 Jul 14 22:15	17° $\text{Y}$ 59'50		morning rise	15949 Jun 20 12:32	27° $\text{H}$ 45'49	
opposition	15943 Sep 20 22:11	14° $\text{Y}$ 36'42	1°13'42		15949 Jul 09 07:26	0° $\text{B}$	
min. Earth dist.	15943 Sep 21 09:05	14° $\text{Y}$ 34'33	8.53480 AU	retrograde	15949 Sep 30 09:14	5° $\text{B}$ 25'14	
direct	15943 Nov 28 12:56	11° $\text{Y}$ 11'42		opposition	15949 Dec 07 07:30	2° $\text{B}$ 02'40	-1°22'41
evening set	15944 Mar 11 06:40	18° $\text{Y}$ 50'20		min. Earth dist.	15949 Dec 07 19:47	2° $\text{B}$ 00'15	8.41134 AU
					15950 Jan 04 05:53	30° $\text{R}$ $\text{H}$	
conjunction	15944 Mar 28 22:57	21° $\text{Y}$ 00'19	0°50'16	direct	15950 Feb 14 14:39	28° $\text{H}$ 36'32	
minimum elong	15944 Mar 28 22:59	21° $\text{Y}$ 00'19	0°50'04		15950 Mar 27 05:04	0° $\text{B}$	
max. Earth dist.	15944 Mar 28 07:31	20° $\text{Y}$ 55'33	10.51931 AU	evening set	15950 May 30 06:53	6° $\text{B}$ 26'42	
morning rise	15944 Apr 15 14:12	23° $\text{Y}$ 10'03					
	15944 Jun 27 17:27	0° $\text{B}$		conjunction	15950 Jun 16 14:23	8° $\text{B}$ 36'39	-1°14'56
retrograde	15944 Jul 27 00:09	0° $\text{B}$ 45'05		minimum elong	15950 Jun 16 14:22	8° $\text{B}$ 36'39	1°15'44
	15944 Aug 25 13:40	30° $\text{R}$ $\text{Y}$		max. Earth dist.	15950 Jun 16 00:34	8° $\text{B}$ 32'18	10.40960 AU
opposition	15944 Oct 02 21:51	27° $\text{Y}$ 22'07	0°49'38	morning rise	15950 Jul 03 19:35	10° $\text{B}$ 45'57	
min. Earth dist.	15944 Oct 03 10:26	27° $\text{Y}$ 19'38	8.50468 AU	retrograde	15950 Oct 13 18:28	18° $\text{B}$ 26'02	
direct	15944 Dec 10 16:25	23° $\text{Y}$ 56'42		opposition	15950 Dec 20 19:47	15° $\text{B}$ 03'27	-1°41'48
	15945 Mar 10 20:50	0° $\text{B}$		min. Earth dist.	15950 Dec 21 05:13	15° $\text{B}$ 01'36	8.41098 AU
evening set	15945 Mar 24 17:00	1° $\text{B}$ 38'20		direct	15951 Feb 28 03:54	11° $\text{B}$ 37'35	
				evening set	15951 Jun 12 17:12	19° $\text{B}$ 27'24	
conjunction	15945 Apr 11 09:12	3° $\text{B}$ 48'49	0°29'34				
minimum elong	15945 Apr 11 09:13	3° $\text{B}$ 48'50	0°29'13	conjunction	15951 Jun 29 22:29	21° $\text{B}$ 36'46	-1°28'20
max. Earth dist.	15945 Apr 10 16:16	3° $\text{B}$ 43'35	10.49009 AU	minimum elong	15951 Jun 29 22:27	21° $\text{B}$ 36'46	1°29'07
morning rise	15945 Apr 28 23:43	5° $\text{B}$ 58'54		max. Earth dist.	15951 Jun 29 12:25	21° $\text{B}$ 33'36	10.41251 AU
retrograde	15945 Aug 09 04:24	13° $\text{B}$ 34'50		morning rise	15951 Jul 17 01:30	23° $\text{B}$ 45'32	
opposition	15945 Oct 15 23:49	10° $\text{B}$ 12'00	0°22'56		15951 Sep 16 11:03	0° $\text{B}$	
min. Earth dist.	15945 Oct 16 13:11	10° $\text{B}$ 09'21	8.47650 AU	retrograde	15951 Oct 27 03:17	1° $\text{B}$ 26'04	
direct	15945 Dec 23 21:27	6° $\text{B}$ 46'14			15951 Dec 07 20:09	30° $\text{R}$ $\text{B}$	
evening set	15946 Apr 07 04:49	14° $\text{B}$ 30'38		opposition	15952 Jan 03 08:51	28° $\text{B}$ 03'27	-1°55'40
	15946 Apr 11 04:53	15° $\text{B}$		min. Earth dist.	15952 Jan 03 15:23	28° $\text{B}$ 02'11	8.41751 AU
				direct	15952 Mar 12 17:28	24° $\text{B}$ 37'59	

	15952 Jun 04 11:29	0°♈	conjunction	15958 Sep 27 03:52	21°♊15'12	-0°50'11
evening set	15952 Jun 25 01:41	2°♈26'42	minimum elong	15958 Sep 27 03:54	21°♊15'13	0°49'58
			max. Earth dist.	15958 Sep 27 18:33	21°♊19'45	10.57472 AU
conjunction	15952 Jul 12 04:55	4°♈35'26 -1°37'12	morning rise	15958 Oct 14 06:03	23°♊21'27	
minimum elong	15952 Jul 12 04:54	4°♈35'26 1°37'55		15958 Dec 22 22:22	0°♈	
max. Earth dist.	15952 Jul 11 22:27	4°♈33'24 10.42218 AU	retrograde	15959 Jan 25 18:02	0°♈57'39	
morning rise	15952 Jul 29 06:11	6°♈43'39		15959 Mar 01 02:36	30°♈♊	
retrograde	15952 Nov 08 12:32	14°♈24'22	opposition	15959 Apr 05 07:56	27°♊34'32	-0°49'29
opposition	15953 Jan 15 22:21	11°♈01'45 -2°03'36	min. Earth dist.	15959 Apr 04 18:52	27°♊37'03	8.59005 AU
min. Earth dist.	15953 Jan 16 02:08	11°♈01'01 8.43044 AU	direct	15959 Jun 13 04:07	24°♊13'12	
direct	15953 Mar 26 06:31	7°♈36'47		15959 Sep 08 14:25	0°♈	
	15953 Jul 05 02:55	15°♈	evening set	15959 Sep 22 20:22	1°♈40'45	
evening set	15953 Jul 08 07:57	15°♈23'39				
			conjunction	15959 Oct 09 22:12	3°♈46'24	-0°29'55
conjunction	15953 Jul 25 09:24	17°♈31'45 -1°41'07	minimum elong	15959 Oct 09 22:13	3°♈46'24	0°29'33
minimum elong	15953 Jul 25 09:24	17°♈31'45 1°41'42	max. Earth dist.	15959 Oct 10 14:16	3°♈51'21	10.60445 AU
max. Earth dist.	15953 Jul 25 06:15	17°♈30'46 10.43802 AU	morning rise	15959 Oct 27 01:51	5°♈52'32	
morning rise	15953 Aug 11 09:31	19°♈39'28	retrograde	15960 Feb 07 17:35	13°♈27'28	
retrograde	15953 Nov 21 20:45	27°♈20'04	opposition	15960 Apr 17 09:55	10°♈04'16	-0°23'27
opposition	15954 Jan 29 11:40	23°♈57'25 -2°05'12	min. Earth dist.	15960 Apr 16 19:50	10°♈06'58	8.61851 AU
min. Earth dist.	15954 Jan 29 12:44	23°♈57'12 8.44910 AU	direct	15960 Jun 25 03:42	6°♈43'19	
direct	15954 Apr 08 18:29	20°♈33'03	evening set	15960 Oct 04 12:44	14°♈08'01	
evening set	15954 Jul 21 11:43	28°♈17'23		15960 Oct 11 16:12	15°♈	
	15954 Aug 04 04:49	0°♈				
			conjunction	15960 Oct 21 15:43	16°♈13'29	-0°08'23
conjunction	15954 Aug 07 11:58	0°♈24'54 -1°39'54	minimum elong	15960 Oct 21 15:44	16°♈13'29	0°07'53
minimum elong	15954 Aug 07 11:59	0°♈24'54 1°40'22	behind sun begin	15960 Oct 21 09:21	16°♈11'33	
max. Earth dist.	15954 Aug 07 12:16	0°♈24'59 10.45927 AU	behind sun end	15960 Oct 21 22:06	16°♈15'26	
morning rise	15954 Aug 24 11:34	2°♈32'11	max. Earth dist.	15960 Oct 22 09:03	16°♈18'48	10.63140 AU
retrograde	15954 Dec 05 03:01	10°♈12'22	morning rise	15960 Nov 07 20:47	18°♈19'31	
opposition	15955 Feb 12 00:03	6°♈49'39 -2°00'30	retrograde	15961 Feb 19 15:13	25°♈53'20	
min. Earth dist.	15955 Feb 11 21:48	6°♈50'05 8.47260 AU	asc. node	15961 Mar 13 08:50	25°♈29'49	
direct	15955 Apr 22 05:47	3°♈25'55	opposition	15961 Apr 30 09:30	22°♈30'00	0°03'30
evening set	15955 Aug 03 12:49	11°♈07'13	min. Earth dist.	15961 Apr 29 18:28	22°♈32'54	8.64337 AU
			direct	15961 Jul 08 01:18	19°♈09'17	
conjunction	15955 Aug 20 12:35	13°♈14'12 -1°33'43	evening set	15961 Oct 17 04:26	26°♈31'42	
minimum elong	15955 Aug 20 12:37	13°♈14'13 1°34'01				
max. Earth dist.	15955 Aug 20 17:06	13°♈15'37 10.48487 AU	conjunction	15961 Nov 03 08:42	28°♈37'03	0°13'33
morning rise	15955 Sep 06 12:11	15°♈21'08	minimum elong	15961 Nov 03 08:41	28°♈37'03	0°14'11
retrograde	15955 Dec 18 08:16	23°♈00'37	behind sun begin	15961 Nov 03 05:14	28°♈36'00	
opposition	15956 Feb 25 11:02	19°♈37'48 -1°49'49	behind sun end	15961 Nov 03 12:09	28°♈38'06	
min. Earth dist.	15956 Feb 25 05:07	19°♈38'56 8.49969 AU	max. Earth dist.	15961 Nov 04 03:00	28°♈42'39	10.65367 AU
direct	15956 May 04 16:10	16°♈14'44		15961 Nov 14 16:18	0°♈♊	
evening set	15956 Aug 15 11:37	23°♈52'37	morning rise	15961 Nov 20 15:05	0°♈43'02	
			retrograde	15962 Mar 04 12:35	8°♈15'57	
conjunction	15956 Sep 01 11:25	25°♈59'11 -1°22'56	opposition	15962 May 13 06:40	4°♈52'28	0°30'09
minimum elong	15956 Sep 01 11:27	25°♈59'12 1°23'03	min. Earth dist.	15962 May 12 15:30	4°♈55'24	8.66264 AU
max. Earth dist.	15956 Sep 01 20:16	26°♈01'57 10.51348 AU	direct	15962 Jul 20 20:32	1°♈31'51	
morning rise	15956 Sep 18 11:23	28°♈05'48	evening set	15962 Oct 29 20:20	8°♈52'43	
	15956 Oct 04 11:35	0°♈				
retrograde	15956 Dec 30 13:50	5°♈44'21	conjunction	15962 Nov 16 01:47	10°♈58'03	0°34'42
opposition	15957 Mar 09 20:10	2°♈21'25 -1°33'48	minimum elong	15962 Nov 16 01:46	10°♈58'02	0°35'24
min. Earth dist.	15957 Mar 09 10:50	2°♈23'13 8.52913 AU	max. Earth dist.	15962 Nov 16 19:15	11°♈03'22	10.66946 AU
	15957 Apr 12 18:11	30°♈♈	morning rise	15962 Dec 03 09:27	13°♈04'02	
direct	15957 May 17 22:19	28°♈59'02	retrograde	15963 Mar 17 10:24	20°♈36'17	
	15957 Jun 21 10:25	0°♈	min. Earth dist.	15963 May 25 11:49	17°♈15'25	8.67506 AU
evening set	15957 Aug 28 08:14	6°♈33'20	opposition	15963 May 26 01:42	17°♈12'44	0°55'19
			direct	15963 Aug 02 11:59	13°♈52'02	
conjunction	15957 Sep 14 08:28	8°♈39'32 -1°08'09	evening set	15963 Nov 11 12:46	21°♈12'11	
minimum elong	15957 Sep 14 08:30	8°♈39'33 1°08'06				
max. Earth dist.	15957 Sep 14 20:59	8°♈43'26 10.54388 AU	conjunction	15963 Nov 28 19:16	23°♈17'34	0°54'12
morning rise	15957 Oct 01 09:18	10°♈45'56	minimum elong	15963 Nov 28 19:15	23°♈17'33	0°54'58
retrograde	15958 Jan 12 17:09	18°♈23'21	max. Earth dist.	15963 Nov 29 10:38	23°♈22'14	10.67829 AU
opposition	15958 Mar 23 03:16	15°♈00'19 -1°13'19	morning rise	15963 Dec 16 04:14	25°♈23'38	
min. Earth dist.	15958 Mar 22 15:32	15°♈02'35 8.55972 AU		15964 Jan 28 06:56	0°♈♊	
direct	15958 May 31 01:59	11°♈38'31	retrograde	15964 Mar 29 05:17	2°♈55'31	
evening set	15958 Sep 10 02:57	19°♈09'19		15964 May 31 17:24	30°♈♊♈	

opposition	15964 Jun 06 19:19	29° $\text{X}$ 31'52	1°17'52	min. Earth dist.	15970 Aug 20 21:48	13° $\text{X}$ 48'53	8.59566 AU
min. Earth dist.	15964 Jun 06 07:29	29° $\text{X}$ 34'09	8.68073 AU	direct	15970 Oct 28 04:27	10° $\text{X}$ 25'29	
direct	15964 Aug 14 04:05	26° $\text{X}$ 10'55		evening set	15971 Feb 07 21:59	17° $\text{X}$ 56'44	
	15964 Oct 22 12:33	0° $\text{Z}$					
evening set	15964 Nov 23 05:53	3° $\text{Z}$ 31'04		conjunction	15971 Feb 25 12:52	20° $\text{X}$ 05'10	1°28'30
				minimum elong	15971 Feb 25 12:54	20° $\text{X}$ 05'10	1°28'42
conjunction	15964 Dec 10 13:30	5° $\text{Z}$ 36'35	1°11'11	max. Earth dist.	15971 Feb 25 05:52	20° $\text{X}$ 03'01	10.58095 AU
minimum elong	15964 Dec 10 13:29	5° $\text{Z}$ 36'34	1°11'59	morning rise	15971 Mar 15 03:57	22° $\text{X}$ 13'42	
max. Earth dist.	15964 Dec 11 02:24	5° $\text{Z}$ 40'30	10.68058 AU	retrograde	15971 Jun 26 03:57	29° $\text{X}$ 47'08	
morning rise	15964 Dec 27 23:40	7° $\text{Z}$ 42'46		opposition	15971 Sep 02 11:46	26° $\text{X}$ 23'13	1°41'53
retrograde	15965 Apr 10 23:50	15° $\text{Z}$ 14'33		min. Earth dist.	15971 Sep 02 18:10	26° $\text{X}$ 21'57	8.56744 AU
opposition	15965 Jun 19 11:40	11° $\text{Z}$ 50'46	1°36'51	direct	15971 Nov 10 01:08	22° $\text{X}$ 58'25	
min. Earth dist.	15965 Jun 19 01:55	11° $\text{Z}$ 52'39	8.68010 AU		15972 Feb 16 13:59	0° $\text{Y}$	
direct	15965 Aug 26 20:18	8° $\text{Z}$ 29'26		evening set	15972 Feb 21 03:18	0° $\text{Y}$ 32'36	
evening set	15965 Dec 06 00:18	15° $\text{Z}$ 50'12					
				conjunction	15972 Mar 09 19:08	2° $\text{Y}$ 41'45	1°15'38
conjunction	15965 Dec 23 09:13	17° $\text{Z}$ 55'58	1°24'55	minimum elong	15972 Mar 09 19:10	2° $\text{Y}$ 41'45	1°15'41
minimum elong	15965 Dec 23 09:11	17° $\text{Z}$ 55'58	1°25'41	max. Earth dist.	15972 Mar 09 09:28	2° $\text{Y}$ 38'47	10.55220 AU
max. Earth dist.	15965 Dec 23 20:05	17° $\text{Z}$ 59'16	10.67672 AU	morning rise	15972 Mar 27 10:27	4° $\text{Y}$ 50'49	
morning rise	15966 Jan 09 20:20	20° $\text{Z}$ 02'22		retrograde	15972 Jul 08 05:21	12° $\text{Y}$ 24'52	
retrograde	15966 Apr 23 19:49	27° $\text{Z}$ 34'08		opposition	15972 Sep 14 07:46	9° $\text{Y}$ 01'04	1°23'38
opposition	15966 Jul 02 02:58	24° $\text{Z}$ 10'14	1°51'24	min. Earth dist.	15972 Sep 14 16:17	8° $\text{Y}$ 59'23	8.53814 AU
min. Earth dist.	15966 Jul 01 19:03	24° $\text{Z}$ 11'46	8.67345 AU	direct	15972 Nov 21 22:14	5° $\text{Y}$ 35'47	
direct	15966 Sep 08 10:43	20° $\text{Z}$ 48'26		evening set	15973 Mar 05 10:37	13° $\text{Y}$ 13'00	
evening set	15966 Dec 18 20:16	28° $\text{Z}$ 10'25					
	15967 Jan 03 00:00	0° $\approx$		conjunction	15973 Mar 23 03:00	15° $\text{Y}$ 22'48	0°59'01
				minimum elong	15973 Mar 23 03:02	15° $\text{Y}$ 22'48	0°58'53
conjunction	15967 Jan 05 06:27	0° $\approx$ 16'32	1°34'45	max. Earth dist.	15973 Mar 22 14:13	15° $\text{Y}$ 18'52	10.52312 AU
minimum elong	15967 Jan 05 06:26	0° $\approx$ 16'32	1°35'28	morning rise	15973 Apr 09 18:18	17° $\text{Y}$ 32'23	
max. Earth dist.	15967 Jan 05 14:51	0° $\approx$ 19'06	10.66698 AU	retrograde	15973 Jul 21 07:35	25° $\text{Y}$ 07'07	
morning rise	15967 Jan 22 18:24	2° $\approx$ 23'13		opposition	15973 Sep 27 06:05	21° $\text{Y}$ 43'32	1°01'11
retrograde	15967 May 06 15:19	9° $\approx$ 55'06		min. Earth dist.	15973 Sep 27 17:03	21° $\text{Y}$ 41'22	8.50921 AU
opposition	15967 Jul 14 17:59	6° $\approx$ 31'07	2°00'51	direct	15973 Dec 04 22:38	18° $\text{Y}$ 17'51	
min. Earth dist.	15967 Jul 14 12:20	6° $\approx$ 32'13	8.66105 AU	evening set	15974 Mar 18 19:59	25° $\text{Y}$ 58'07	
direct	15967 Sep 21 01:34	3° $\approx$ 08'47					
evening set	15967 Dec 31 17:49	10° $\approx$ 32'30		conjunction	15974 Apr 05 12:17	28° $\text{Y}$ 08'26	0°39'25
				minimum elong	15974 Apr 05 12:19	28° $\text{Y}$ 08'27	0°39'07
conjunction	15968 Jan 18 05:09	12° $\approx$ 39'04	1°40'12	max. Earth dist.	15974 Apr 04 20:34	28° $\text{Y}$ 03'35	10.49513 AU
minimum elong	15968 Jan 18 05:09	12° $\approx$ 39'04	1°40'50		15974 Apr 20 14:33	0° $\text{Z}$	
max. Earth dist.	15968 Jan 18 10:10	12° $\approx$ 40'35	10.65179 AU	morning rise	15974 Apr 23 03:11	0° $\text{Z}$ 18'26	
morning rise	15968 Feb 04 17:58	14° $\approx$ 46'05		retrograde	15974 Aug 03 10:16	7° $\text{Z}$ 53'58	
	15968 Feb 06 16:55	15° $\approx$		opposition	15974 Oct 10 06:48	4° $\text{Z}$ 30'40	0°35'33
retrograde	15968 May 18 11:39	22° $\approx$ 18'15		min. Earth dist.	15974 Oct 10 19:47	4° $\text{Z}$ 28'05	8.48218 AU
opposition	15968 Jul 26 09:12	18° $\approx$ 54'14	2°04'45	direct	15974 Dec 18 02:32	1° $\text{Z}$ 04'41	
min. Earth dist.	15968 Jul 26 06:41	18° $\approx$ 54'43	8.64342 AU	evening set	15975 Apr 01 06:53	8° $\text{Z}$ 47'50	
direct	15968 Oct 02 17:03	15° $\approx$ 31'17					
evening set	15969 Jan 12 17:18	22° $\approx$ 57'10		conjunction	15975 Apr 18 22:38	10° $\text{Z}$ 58'33	0°17'45
				minimum elong	15975 Apr 18 22:39	10° $\text{Z}$ 58'33	0°17'19
conjunction	15969 Jan 30 05:48	25° $\approx$ 04'17	1°41'01	max. Earth dist.	15975 Apr 18 05:00	10° $\text{Z}$ 53'05	10.46973 AU
minimum elong	15969 Jan 30 05:49	25° $\approx$ 04'17	1°41'31	morning rise	15975 May 06 12:40	13° $\text{Z}$ 08'48	
max. Earth dist.	15969 Jan 30 06:14	25° $\approx$ 04'25	10.63185 AU		15975 May 22 04:04	15° $\text{Z}$	
morning rise	15969 Feb 16 19:33	27° $\approx$ 11'46		retrograde	15975 Aug 16 15:16	20° $\text{Z}$ 45'15	
	15969 Mar 13 12:16	0° $\text{X}$		opposition	15975 Oct 23 10:07	17° $\text{Z}$ 22'13	0°07'59
retrograde	15969 May 31 08:58	4° $\text{X}$ 44'14		min. Earth dist.	15975 Oct 24 00:04	17° $\text{Z}$ 19'28	8.45850 AU
opposition	15969 Aug 08 00:55	1° $\text{X}$ 20'13	2°02'50		15975 Nov 25 15:02	15° $\text{R}$ $\text{Z}$	
min. Earth dist.	15969 Aug 08 02:04	1° $\text{X}$ 19'59	8.62136 AU	direct	15975 Dec 31 08:34	13° $\text{Z}$ 56'07	
	15969 Aug 25 12:51	30° $\text{R}$ $\approx$			15976 Feb 04 17:30	15° $\text{Z}$	
direct	15969 Oct 15 08:59	27° $\approx$ 56'37		desc. node	15976 Feb 07 20:02	15° $\text{Z}$ 11'20	
	15969 Dec 04 03:07	0° $\text{X}$		evening set	15976 Apr 13 18:58	21° $\text{Z}$ 41'49	
evening set	15970 Jan 25 18:40	5° $\text{X}$ 25'04					
				conjunction	15976 May 01 09:42	23° $\text{Z}$ 52'44	-0°05'00
conjunction	15970 Feb 12 08:24	7° $\text{X}$ 32'48	1°37'04	minimum elong	15976 May 01 09:42	23° $\text{Z}$ 52'44	0°05'35
minimum elong	15970 Feb 12 08:26	7° $\text{X}$ 32'49	1°37'26	behind sun begin	15976 May 01 02:46	23° $\text{Z}$ 50'36	
max. Earth dist.	15970 Feb 12 04:41	7° $\text{X}$ 31'40	10.60794 AU	behind sun end	15976 May 01 16:37	23° $\text{Z}$ 54'52	
morning rise	15970 Mar 01 22:59	9° $\text{X}$ 40'49		max. Earth dist.	15976 Apr 30 15:49	23° $\text{Z}$ 47'09	10.44819 AU
retrograde	15970 Jun 13 05:19	17° $\text{X}$ 13'41		morning rise	15976 May 18 22:19	26° $\text{Z}$ 03'04	
opposition	15970 Aug 20 17:38	13° $\text{X}$ 49'43	1°55'07		15976 Jun 22 21:47	0° $\text{II}$	

retrograde	15976 Aug 28 21:38	3° $\Pi$ 40'29	min. Earth dist.	15983 Jan 23 18:15	18° $\Omega$ 18'07	8.44541 AU
opposition	15976 Nov 04 16:00	0° $\Pi$ 17'44 -0°20'09		15983 Mar 23 12:49	15° $\mathbb{R}$ $\Omega$	
min. Earth dist.	15976 Nov 05 05:36	0° $\Pi$ 15'03 8.43929 AU	direct	15983 Apr 02 22:57	14° $\Omega$ 54'23	
	15976 Nov 08 10:03	30° $\mathbb{R}$ $\mathbb{S}$		15983 Apr 13 08:30	15° $\Omega$	
direct	15977 Jan 12 17:18	26° $\mathbb{S}$ 51'36	evening set	15983 Jul 15 20:39	22° $\Omega$ 40'12	
	15977 Mar 16 03:05	0° $\Pi$				
evening set	15977 Apr 27 08:02	4° $\Pi$ 39'27	conjunction	15983 Aug 01 21:34	24° $\Omega$ 48'02 -1°40'54	
			minimum elong	15983 Aug 01 21:35	24° $\Omega$ 48'02 1°41'25	
conjunction	15977 May 14 21:13	6° $\Pi$ 50'19 -0°27'27	max. Earth dist.	15983 Aug 01 20:02	24° $\Omega$ 47'33 10.45225 AU	
minimum elong	15977 May 14 21:12	6° $\Pi$ 50'19 0°28'08	morning rise	15983 Aug 18 21:15	26° $\Omega$ 55'32	
max. Earth dist.	15977 May 14 04:16	6° $\Pi$ 45'01 10.43149 AU		15983 Sep 14 05:00	0° $\mathbb{M}$	
morning rise	15977 Jun 01 07:52	9° $\Pi$ 00'33	retrograde	15983 Nov 29 11:59	4° $\mathbb{M}$ 36'21	
retrograde	15977 Sep 11 05:33	16° $\Pi$ 38'54	opposition	15984 Feb 06 04:58	1° $\mathbb{M}$ 14'02 -2°03'11	
opposition	15977 Nov 18 00:14	13° $\Pi$ 16'24 -0°47'22	min. Earth dist.	15984 Feb 06 04:34	1° $\mathbb{M}$ 14'07 8.46204 AU	
min. Earth dist.	15977 Nov 18 13:03	13° $\Pi$ 13'52 8.42551 AU		15984 Feb 22 12:33	30° $\mathbb{R}$ $\Omega$	
direct	15978 Jan 26 03:57	9° $\Pi$ 50'23	direct	15984 Apr 15 10:55	27° $\Omega$ 50'21	
evening set	15978 May 10 21:21	17° $\Pi$ 39'44		15984 Jun 05 11:55	0° $\mathbb{M}$	
			evening set	15984 Jul 27 23:51	5° $\mathbb{M}$ 33'39	
conjunction	15978 May 28 08:27	19° $\Pi$ 50'22 -0°48'37				
minimum elong	15978 May 28 08:25	19° $\Pi$ 50'22 0°49'22	conjunction	15984 Aug 13 23:56	7° $\mathbb{M}$ 40'59 -1°36'57	
max. Earth dist.	15978 May 27 16:52	19° $\Pi$ 45'29 10.42058 AU	minimum elong	15984 Aug 13 23:57	7° $\mathbb{M}$ 41'00 1°37'18	
morning rise	15978 Jun 14 16:51	22° $\Pi$ 00'18	max. Earth dist.	15984 Aug 14 01:46	7° $\mathbb{M}$ 41'34 10.47059 AU	
retrograde	15978 Sep 24 15:30	29° $\Pi$ 39'31	morning rise	15984 Aug 30 23:21	9° $\mathbb{M}$ 48'10	
opposition	15978 Dec 01 10:48	26° $\Pi$ 17'13 -1°12'14	retrograde	15984 Dec 11 19:34	17° $\mathbb{M}$ 28'40	
min. Earth dist.	15978 Dec 01 22:34	26° $\Pi$ 14'54 8.41795 AU	opposition	15985 Feb 18 17:33	14° $\mathbb{M}$ 06'10 -1°55'09	
direct	15979 Feb 08 15:07	22° $\Pi$ 51'24	min. Earth dist.	15985 Feb 18 14:30	14° $\mathbb{M}$ 06'45 8.48185 AU	
	15979 May 18 17:57	0° $\mathbb{S}$	direct	15985 Apr 28 21:42	10° $\mathbb{M}$ 42'59	
evening set	15979 May 24 10:02	0° $\mathbb{S}$ 41'32	evening set	15985 Aug 10 00:34	18° $\mathbb{M}$ 23'15	
conjunction	15979 Jun 10 18:43	2° $\mathbb{S}$ 51'44 -1°07'19	conjunction	15985 Aug 27 00:17	20° $\mathbb{M}$ 30'11 -1°28'10	
minimum elong	15979 Jun 10 18:41	2° $\mathbb{S}$ 51'43 1°08'06	minimum elong	15985 Aug 27 00:19	20° $\mathbb{M}$ 30'11 1°28'22	
max. Earth dist.	15979 Jun 10 04:44	2° $\mathbb{S}$ 47'20 10.41606 AU	max. Earth dist.	15985 Aug 27 05:17	20° $\mathbb{M}$ 31'45 10.49204 AU	
morning rise	15979 Jun 28 00:53	5° $\mathbb{S}$ 01'14	morning rise	15985 Sep 13 00:06	22° $\mathbb{M}$ 37'07	
retrograde	15979 Oct 08 00:36	12° $\mathbb{S}$ 41'08		15985 Dec 06 23:15	0° $\mathbb{A}$	
opposition	15979 Dec 14 22:59	9° $\mathbb{S}$ 18'59 -1°33'26	retrograde	15985 Dec 25 01:51	0° $\mathbb{A}$ 16'59	
min. Earth dist.	15979 Dec 15 09:36	9° $\mathbb{S}$ 16'54 8.41692 AU		15986 Jan 12 06:37	30° $\mathbb{R}$ $\mathbb{M}$	
direct	15980 Feb 22 04:41	5° $\mathbb{S}$ 53'26	opposition	15986 Mar 04 04:39	26° $\mathbb{M}$ 54'12 -1°41'26	
evening set	15980 Jun 05 21:44	13° $\mathbb{S}$ 43'35	min. Earth dist.	15986 Mar 03 22:53	26° $\mathbb{M}$ 55'19 8.50443 AU	
			direct	15986 May 12 06:12	23° $\mathbb{M}$ 31'28	
conjunction	15980 Jun 23 03:57	15° $\mathbb{S}$ 53'12 -1°22'34		15986 Aug 13 11:49	0° $\mathbb{A}$	
minimum elong	15980 Jun 23 03:55	15° $\mathbb{S}$ 53'12 1°23'21	evening set	15986 Aug 22 23:01	1° $\mathbb{A}$ 08'24	
max. Earth dist.	15980 Jun 22 15:46	15° $\mathbb{S}$ 49'22 10.41794 AU				
morning rise	15980 Jul 10 08:01	18° $\mathbb{S}$ 02'12	conjunction	15986 Sep 08 22:59	3° $\mathbb{A}$ 15'00 -1°15'04	
retrograde	15980 Oct 20 08:52	25° $\mathbb{S}$ 42'34	minimum elong	15986 Sep 08 23:02	3° $\mathbb{A}$ 15'01 1°15'06	
opposition	15980 Dec 27 12:05	22° $\mathbb{S}$ 20'28 -1°49'48	max. Earth dist.	15986 Sep 09 07:18	3° $\mathbb{A}$ 17'36 10.51594 AU	
min. Earth dist.	15980 Dec 27 20:43	22° $\mathbb{S}$ 18'47 8.42196 AU	morning rise	15986 Sep 25 23:40	5° $\mathbb{A}$ 21'46	
direct	15981 Mar 06 19:47	18° $\mathbb{S}$ 55'16	retrograde	15987 Jan 07 04:47	13° $\mathbb{A}$ 00'44	
evening set	15981 Jun 19 07:39	26° $\mathbb{S}$ 44'38	opposition	15987 Mar 17 13:31	9° $\mathbb{A}$ 37'37 -1°22'49	
			min. Earth dist.	15987 Mar 17 04:51	9° $\mathbb{A}$ 39'17 8.52894 AU	
conjunction	15981 Jul 06 11:38	28° $\mathbb{S}$ 53'37 -1°33'35	direct	15987 May 25 13:42	6° $\mathbb{A}$ 15'17	
minimum elong	15981 Jul 06 11:37	28° $\mathbb{S}$ 53'37 1°34'18	evening set	15987 Sep 04 19:22	13° $\mathbb{A}$ 48'49	
max. Earth dist.	15981 Jul 06 02:25	28° $\mathbb{S}$ 50'42 10.42545 AU				
	15981 Jul 15 06:30	0° $\Omega$	conjunction	15987 Sep 21 20:06	15° $\mathbb{A}$ 55'08 -0°58'23	
morning rise	15981 Jul 23 13:49	1° $\Omega$ 02'03	minimum elong	15987 Sep 21 20:07	15° $\mathbb{A}$ 55'09 0°58'15	
retrograde	15981 Nov 02 18:09	8° $\Omega$ 42'43	max. Earth dist.	15987 Sep 22 08:05	15° $\mathbb{A}$ 58'52 10.54115 AU	
opposition	15982 Jan 10 01:51	5° $\Omega$ 20'36 -2°00'31	morning rise	15987 Oct 08 21:50	18° $\mathbb{A}$ 01'45	
min. Earth dist.	15982 Jan 10 07:40	5° $\Omega$ 19'28 8.43192 AU	retrograde	15988 Jan 20 07:20	25° $\mathbb{A}$ 39'41	
direct	15982 Mar 20 10:14	1° $\Omega$ 55'50	opposition	15988 Mar 29 20:03	22° $\mathbb{A}$ 16'14 -1°00'17	
evening set	15982 Jul 02 15:13	9° $\Omega$ 43'41	min. Earth dist.	15988 Mar 29 08:23	22° $\mathbb{A}$ 18'29 8.55413 AU	
			direct	15988 Jun 06 18:40	18° $\mathbb{A}$ 54'15	
conjunction	15982 Jul 19 17:25	11° $\Omega$ 52'03 -1°39'47	evening set	15988 Sep 16 14:04	26° $\mathbb{A}$ 24'29	
minimum elong	15982 Jul 19 17:25	11° $\Omega$ 52'03 1°40'25				
max. Earth dist.	15982 Jul 19 11:55	11° $\Omega$ 50'19 10.43720 AU	conjunction	15988 Oct 03 15:44	28° $\mathbb{A}$ 30'37 -0°38'58	
morning rise	15982 Aug 05 18:04	13° $\Omega$ 59'59	minimum elong	15988 Oct 03 15:46	28° $\mathbb{A}$ 30'37 0°38'40	
	15982 Aug 13 23:05	15° $\Omega$	max. Earth dist.	15988 Oct 04 06:52	28° $\mathbb{A}$ 35'18 10.56639 AU	
retrograde	15982 Nov 16 03:37	21° $\Omega$ 40'49		15988 Oct 15 16:59	0° $\mathbb{M}$	
opposition	15983 Jan 23 15:40	18° $\Omega$ 18'37 -2°05'02	morning rise	15988 Oct 20 18:44	0° $\mathbb{M}$ 37'08	



retrograde	15989 Feb 01 10:10	8° $\mathbb{M}$ 13'58		minimum elong	15994 Dec 18 06:41	12° $\mathbb{Z}$ 57'46	1°20'22
min. Earth dist.	15989 Apr 11 10:32	4° $\mathbb{M}$ 52'51	8.57880 AU	max. Earth dist.	15994 Dec 18 20:21	13° $\mathbb{Z}$ 01'56	10.65579 AU
opposition	15989 Apr 12 00:09	4° $\mathbb{M}$ 50'13	-0°34'59	morning rise	15995 Jan 04 17:26	15° $\mathbb{Z}$ 04'23	
direct	15989 Jun 19 19:09	1° $\mathbb{M}$ 28'32		retrograde	15995 Apr 18 18:56	22° $\mathbb{Z}$ 37'11	
evening set	15989 Sep 29 07:38	8° $\mathbb{M}$ 55'48		opposition	15995 Jun 27 03:00	19° $\mathbb{Z}$ 12'51	1°45'54
				min. Earth dist.	15995 Jun 26 17:02	19° $\mathbb{Z}$ 14'48	8.65628 AU
conjunction	15989 Oct 16 10:20	11° $\mathbb{M}$ 01'45	-0°17'48	direct	15995 Sep 03 09:40	15° $\mathbb{Z}$ 50'54	
minimum elong	15989 Oct 16 10:20	11° $\mathbb{M}$ 01'45	0°17'22	evening set	15995 Dec 13 18:20	23° $\mathbb{Z}$ 13'17	
max. Earth dist.	15989 Oct 17 03:05	11° $\mathbb{M}$ 06'54	10.59045 AU				
morning rise	15989 Nov 02 14:48	13° $\mathbb{M}$ 08'13		conjunction	15995 Dec 31 03:53	25° $\mathbb{Z}$ 19'28	1°31'06
	15989 Nov 18 11:37	15° $\mathbb{M}$		minimum elong	15995 Dec 31 03:52	25° $\mathbb{Z}$ 19'27	1°31'50
retrograde	15990 Feb 14 09:27	20° $\mathbb{M}$ 43'57		max. Earth dist.	15995 Dec 31 14:08	25° $\mathbb{Z}$ 22'35	10.65381 AU
min. Earth dist.	15990 Apr 24 11:23	17° $\mathbb{M}$ 22'45	8.60179 AU	morning rise	15996 Jan 17 15:38	27° $\mathbb{Z}$ 26'16	
opposition	15990 Apr 25 01:44	17° $\mathbb{M}$ 19'59	-0°08'11		15996 Feb 09 02:50	0° $\approx$	
	15990 May 28 13:10	15° $\mathbb{R}\mathbb{M}$		retrograde	15996 Apr 30 14:31	4° $\approx$ 59'00	
direct	15990 Jul 02 17:18	13° $\mathbb{M}$ 58'28		opposition	15996 Jul 08 19:05	1° $\approx$ 34'48	1°57'31
	15990 Aug 06 08:13	15° $\mathbb{M}$		min. Earth dist.	15996 Jul 08 11:55	1° $\approx$ 36'12	8.65188 AU
asc. node	15990 Aug 17 11:22	15° $\mathbb{M}$ 44'01			15996 Jul 29 20:58	30° $\mathbb{R}\mathbb{Z}$	
evening set	15990 Oct 12 00:28	21° $\mathbb{M}$ 23'18		direct	15996 Sep 15 01:27	28° $\mathbb{Z}$ 12'30	
					15996 Oct 31 05:55	0° $\approx$	
conjunction	15990 Oct 29 04:16	23° $\mathbb{M}$ 29'07	0°04'13	evening set	15996 Dec 25 15:52	5° $\approx$ 36'17	
minimum elong	15990 Oct 29 04:15	23° $\mathbb{M}$ 29'07	0°04'47				
behind sun begin	15990 Oct 28 21:18	23° $\mathbb{M}$ 27'00		conjunction	15997 Jan 12 02:40	7° $\approx$ 42'49	1°38'24
behind sun end	15990 Oct 29 11:12	23° $\mathbb{M}$ 31'14		minimum elong	15997 Jan 12 02:39	7° $\approx$ 42'49	1°39'03
max. Earth dist.	15990 Oct 29 21:13	23° $\mathbb{M}$ 34'20	10.61213 AU	max. Earth dist.	15997 Jan 12 09:48	7° $\approx$ 44'59	10.64678 AU
morning rise	15990 Nov 15 10:19	25° $\mathbb{M}$ 35'33		morning rise	15997 Jan 29 15:21	9° $\approx$ 49'53	
	15990 Dec 25 21:44	0° $\mathbb{Z}$			15997 Mar 20 05:29	15° $\approx$	
retrograde	15991 Feb 27 07:03	3° $\mathbb{Z}$ 10'20		retrograde	15997 May 13 10:41	17° $\approx$ 22'42	
	15991 May 05 01:22	30° $\mathbb{R}\mathbb{M}$			15997 Jul 08 04:12	15° $\mathbb{R}\mathbb{M}$	
min. Earth dist.	15991 May 07 10:42	29° $\mathbb{M}$ 48'56	8.62184 AU	opposition	15997 Jul 21 10:58	13° $\approx$ 58'39	2°03'43
opposition	15991 May 08 00:54	29° $\mathbb{M}$ 46'11	0°18'51	min. Earth dist.	15997 Jul 21 06:22	13° $\approx$ 59'33	8.64246 AU
direct	15991 Jul 15 14:56	26° $\mathbb{M}$ 24'45		direct	15997 Sep 27 18:29	10° $\approx$ 36'00	
	15991 Sep 20 11:05	0° $\mathbb{Z}$			15997 Dec 11 19:26	15° $\approx$	
evening set	15991 Oct 24 17:05	3° $\mathbb{Z}$ 47'46		evening set	15998 Jan 07 15:23	18° $\approx$ 01'36	
conjunction	15991 Nov 10 22:03	5° $\mathbb{Z}$ 53'30	0°25'49	conjunction	15998 Jan 25 03:30	20° $\approx$ 08'37	1°41'07
minimum elong	15991 Nov 10 22:02	5° $\mathbb{Z}$ 53'30	0°26'29	minimum elong	15998 Jan 25 03:31	20° $\approx$ 08'37	1°41'40
max. Earth dist.	15991 Nov 11 15:01	5° $\mathbb{Z}$ 58'42	10.63021 AU	max. Earth dist.	15998 Jan 25 07:45	20° $\approx$ 09'55	10.63489 AU
morning rise	15991 Nov 28 05:28	7° $\mathbb{Z}$ 59'55		morning rise	15998 Feb 11 16:56	22° $\approx$ 16'02	
retrograde	15992 Mar 11 04:29	15° $\mathbb{Z}$ 33'55		retrograde	15998 May 26 08:41	29° $\approx$ 48'58	
opposition	15992 May 19 21:48	12° $\mathbb{Z}$ 09'38	0°44'53	opposition	15998 Aug 03 03:00	26° $\approx$ 25'05	2°04'09
min. Earth dist.	15992 May 19 07:38	12° $\mathbb{Z}$ 12'22	8.63791 AU	min. Earth dist.	15998 Aug 03 00:49	26° $\approx$ 25'31	8.62828 AU
direct	15992 Jul 27 09:56	8° $\mathbb{Z}$ 48'12		direct	15998 Oct 10 10:44	23° $\approx$ 02'02	
evening set	15992 Nov 05 09:56	16° $\mathbb{Z}$ 10'02			15999 Jan 16 12:10	0° $\mathbb{H}$	
				evening set	15999 Jan 20 16:48	0° $\mathbb{H}$ 29'50	
conjunction	15992 Nov 22 16:10	18° $\mathbb{Z}$ 15'46	0°46'11	conjunction	15999 Feb 07 06:09	2° $\mathbb{H}$ 37'23	1°39'06
minimum elong	15992 Nov 22 16:08	18° $\mathbb{Z}$ 15'46	0°46'56	minimum elong	15999 Feb 07 06:11	2° $\mathbb{H}$ 37'24	1°39'31
max. Earth dist.	15992 Nov 23 09:10	18° $\mathbb{Z}$ 20'58	10.64387 AU	max. Earth dist.	15999 Feb 07 06:51	2° $\mathbb{H}$ 37'36	10.61851 AU
morning rise	15992 Dec 10 00:45	20° $\mathbb{Z}$ 22'12		morning rise	15999 Feb 24 20:15	4° $\mathbb{H}$ 45'13	
retrograde	15993 Mar 24 01:11	27° $\mathbb{Z}$ 55'37		retrograde	15999 Jun 08 07:07	12° $\mathbb{H}$ 18'19	
opposition	15993 Jun 01 16:53	24° $\mathbb{Z}$ 31'14	1°08'46	opposition	15999 Aug 15 19:59	8° $\mathbb{H}$ 54'38	1°58'45
min. Earth dist.	15993 Jun 01 03:02	24° $\mathbb{Z}$ 33'55	8.64930 AU	min. Earth dist.	15999 Aug 15 20:56	8° $\mathbb{H}$ 54'27	8.60976 AU
direct	15993 Aug 09 03:06	21° $\mathbb{Z}$ 09'44		direct	15999 Oct 23 04:35	5° $\mathbb{H}$ 31'06	
evening set	15993 Nov 18 03:27	28° $\mathbb{Z}$ 31'03		evening set	16000 Feb 02 19:56	13° $\mathbb{H}$ 01'21	
	15993 Nov 30 09:57	0° $\mathbb{Z}$					
conjunction	15993 Dec 05 10:53	0° $\mathbb{Z}$ 36'52	1°04'23	conjunction	16000 Feb 20 10:20	15° $\mathbb{H}$ 09'30	1°32'22
minimum elong	15993 Dec 05 10:52	0° $\mathbb{Z}$ 36'51	1°05'10	minimum elong	16000 Feb 20 10:22	15° $\mathbb{H}$ 09'30	1°32'38
max. Earth dist.	15993 Dec 06 03:04	0° $\mathbb{Z}$ 41'48	10.65250 AU	max. Earth dist.	16000 Feb 20 06:33	15° $\mathbb{H}$ 08'20	10.59813 AU
morning rise	15993 Dec 22 20:33	2° $\mathbb{Z}$ 43'20		morning rise	16000 Mar 09 01:06	17° $\mathbb{H}$ 17'47	
retrograde	15994 Apr 05 21:58	10° $\mathbb{Z}$ 16'23		retrograde	16000 Jun 20 06:10	24° $\mathbb{H}$ 51'07	
opposition	15994 Jun 14 10:29	6° $\mathbb{Z}$ 51'59	1°29'24	opposition	16000 Aug 27 14:09	21° $\mathbb{H}$ 27'37	1°47'41
min. Earth dist.	15994 Jun 13 21:54	6° $\mathbb{Z}$ 54'26	8.65547 AU	min. Earth dist.	16000 Aug 27 18:46	21° $\mathbb{H}$ 26'42	8.58735 AU
direct	15994 Aug 21 19:07	3° $\mathbb{Z}$ 30'18		direct	16000 Nov 04 00:23	18° $\mathbb{H}$ 03'33	
evening set	15994 Nov 30 22:14	10° $\mathbb{Z}$ 51'49		evening set	16001 Feb 15 01:01	25° $\mathbb{H}$ 36'28	
conjunction	15994 Dec 18 06:43	12° $\mathbb{Z}$ 57'47	1°19'35	conjunction	16001 Mar 04 16:20	27° $\mathbb{H}$ 45'15	1°21'12

minimum elong	16001 Mar 04 16:22	27° $\text{K}$ 45'16	1°21'18	direct	16007 Jan 20 23:56	4° $\text{II}$ 47'00	
max. Earth dist.	16001 Mar 04 07:44	27° $\text{K}$ 42'37	10.57406 AU	evening set	16007 May 05 16:24	12° $\text{II}$ 35'38	
morning rise	16001 Mar 22 07:38	29° $\text{K}$ 54'03		max. Earth dist.	16007 May 22 10:09	14° $\text{II}$ 40'41	10.42479 AU
	16001 Mar 23 03:29	0° $\text{Y}$					
retrograde	16001 Jul 03 05:58	7° $\text{Y}$ 27'42		conjunction	16007 May 23 04:15	14° $\text{II}$ 46'21	-0°40'19
opposition	16001 Sep 09 09:37	4° $\text{Y}$ 04'24	1°31'24	minimum elong	16007 May 23 04:14	14° $\text{II}$ 46'21	0°41'03
min. Earth dist.	16001 Sep 09 17:50	4° $\text{Y}$ 02'46	8.56130 AU	morning rise	16007 Jun 09 13:46	16° $\text{II}$ 56'25	
direct	16001 Nov 16 22:15	0° $\text{Y}$ 39'48		retrograde	16007 Sep 19 10:52	24° $\text{II}$ 35'07	
evening set	16002 Feb 28 07:53	8° $\text{Y}$ 15'39		opposition	16007 Nov 26 06:32	21° $\text{II}$ 12'36	-1°02'35
				min. Earth dist.	16007 Nov 26 20:05	21° $\text{II}$ 09'56	8.41928 AU
conjunction	16002 Mar 17 23:55	10° $\text{Y}$ 25'04	1°06'02	direct	16008 Feb 03 11:26	17° $\text{II}$ 46'27	
minimum elong	16002 Mar 17 23:57	10° $\text{Y}$ 25'05	1°05'58	evening set	16008 May 18 04:59	25° $\text{II}$ 36'10	
max. Earth dist.	16002 Mar 17 11:25	10° $\text{Y}$ 21'14	10.54665 AU				
morning rise	16002 Apr 04 15:22	12° $\text{Y}$ 34'23		conjunction	16008 Jun 04 14:43	27° $\text{II}$ 46'34	-1°00'08
retrograde	16002 Jul 16 06:29	20° $\text{Y}$ 08'39		minimum elong	16008 Jun 04 14:41	27° $\text{II}$ 46'33	1°00'55
opposition	16002 Sep 22 07:06	16° $\text{Y}$ 45'32	1°10'34	max. Earth dist.	16008 Jun 03 22:43	27° $\text{II}$ 41'32	10.41463 AU
min. Earth dist.	16002 Sep 22 17:41	16° $\text{Y}$ 43'26	8.53251 AU	morning rise	16008 Jun 21 22:00	29° $\text{II}$ 56'16	
direct	16002 Nov 29 23:12	13° $\text{Y}$ 20'31			16008 Jun 22 10:07	0° $\text{S}$	
evening set	16003 Mar 13 16:27	20° $\text{Y}$ 59'23		retrograde	16008 Oct 01 19:16	7° $\text{S}$ 35'44	
				opposition	16008 Dec 08 17:32	4° $\text{S}$ 13'12	-1°25'25
conjunction	16003 Mar 31 08:49	23° $\text{Y}$ 09'25	0°47'33	min. Earth dist.	16008 Dec 09 04:59	4° $\text{S}$ 10'57	8.41258 AU
minimum elong	16003 Mar 31 08:51	23° $\text{Y}$ 09'26	0°47'19	direct	16009 Feb 16 00:33	0° $\text{S}$ 47'09	
max. Earth dist.	16003 Mar 30 18:03	23° $\text{Y}$ 04'52	10.51745 AU	evening set	16009 May 31 16:42	8° $\text{S}$ 37'14	
morning rise	16003 Apr 17 23:56	25° $\text{Y}$ 19'10		max. Earth dist.	16009 Jun 17 11:14	10° $\text{S}$ 43'04	10.41104 AU
	16003 May 31 02:09	0° $\text{S}$					
retrograde	16003 Jul 29 09:26	2° $\text{S}$ 54'18		conjunction	16009 Jun 18 00:06	10° $\text{S}$ 47'07	-1°16'54
	16003 Sep 29 05:11	30° $\text{K}$ $\text{Y}$		minimum elong	16009 Jun 18 00:05	10° $\text{S}$ 47'07	1°17'41
opposition	16003 Oct 05 06:57	29° $\text{Y}$ 31'21	0°46'06	morning rise	16009 Jul 05 05:00	12° $\text{S}$ 56'21	
min. Earth dist.	16003 Oct 05 18:59	29° $\text{Y}$ 28'58	8.50315 AU	retrograde	16009 Oct 15 04:03	20° $\text{S}$ 36'26	
direct	16003 Dec 13 01:52	26° $\text{Y}$ 05'58		opposition	16009 Dec 22 05:52	17° $\text{S}$ 13'51	-1°43'52
	16004 Feb 21 08:58	0° $\text{S}$		min. Earth dist.	16009 Dec 22 14:52	17° $\text{S}$ 12'06	8.41263 AU
evening set	16004 Mar 26 02:50	3° $\text{S}$ 47'47		direct	16010 Mar 01 14:14	13° $\text{S}$ 48'02	
				evening set	16010 Jun 14 02:56	21° $\text{S}$ 37'42	
conjunction	16004 Apr 12 19:01	5° $\text{S}$ 58'18	0°26'37				
minimum elong	16004 Apr 12 19:02	5° $\text{S}$ 58'19	0°26'14	conjunction	16010 Jul 01 08:00	23° $\text{S}$ 46'59	-1°29'43
max. Earth dist.	16004 Apr 12 02:36	5° $\text{S}$ 53'13	10.48886 AU	minimum elong	16010 Jul 01 07:59	23° $\text{S}$ 46'59	1°30'28
morning rise	16004 Apr 30 09:19	8° $\text{S}$ 08'23		max. Earth dist.	16010 Jun 30 22:16	23° $\text{S}$ 43'55	10.41433 AU
	16004 Jul 12 14:42	15° $\text{S}$		morning rise	16010 Jul 18 10:49	25° $\text{S}$ 55'40	
retrograde	16004 Aug 10 15:24	15° $\text{S}$ 44'23			16010 Aug 23 07:05	0° $\text{N}$	
	16004 Sep 08 20:42	15° $\text{K}$ $\text{S}$		retrograde	16010 Oct 28 13:35	3° $\text{N}$ 36'10	
opposition	16004 Oct 17 09:10	12° $\text{S}$ 21'36	0°19'11	opposition	16011 Jan 04 19:05	0° $\text{N}$ 13'33	-1°56'58
min. Earth dist.	16004 Oct 17 22:27	12° $\text{S}$ 18'59	8.47556 AU	min. Earth dist.	16011 Jan 05 01:44	0° $\text{N}$ 12'15	8.41953 AU
direct	16004 Dec 25 05:20	8° $\text{S}$ 55'54			16011 Jan 07 16:27	30° $\text{K}$ $\text{S}$	
	16005 Mar 25 12:40	15° $\text{S}$		direct	16011 Mar 15 03:17	26° $\text{S}$ 48'06	
evening set	16005 Apr 08 14:42	16° $\text{S}$ 40'27			16011 May 17 02:03	0° $\text{N}$	
				evening set	16011 Jun 27 11:06	4° $\text{N}$ 36'32	
conjunction	16005 Apr 26 06:01	18° $\text{S}$ 51'16	0°04'17				
minimum elong	16005 Apr 26 06:01	18° $\text{S}$ 51'16	0°03'46	conjunction	16011 Jul 14 14:04	6° $\text{N}$ 45'11	-1°37'55
behind sun begin	16005 Apr 25 22:52	18° $\text{S}$ 49'04		minimum elong	16011 Jul 14 14:03	6° $\text{N}$ 45'11	1°38'36
behind sun end	16005 Apr 26 13:09	18° $\text{S}$ 53'28		max. Earth dist.	16011 Jul 14 07:20	6° $\text{N}$ 43'04	10.42435 AU
max. Earth dist.	16005 Apr 25 12:10	18° $\text{S}$ 45'43	10.46291 AU	morning rise	16011 Jul 31 15:19	8° $\text{N}$ 53'21	
morning rise	16005 May 13 19:07	21° $\text{S}$ 01'32			16011 Sep 29 05:04	15° $\text{N}$	
desc. node	16005 Jul 05 14:15	26° $\text{S}$ 34'21		retrograde	16011 Nov 10 22:21	16° $\text{N}$ 33'57	
retrograde	16005 Aug 23 20:50	28° $\text{S}$ 38'26			16011 Dec 24 18:34	15° $\text{K}$ $\text{N}$	
opposition	16005 Oct 30 14:04	25° $\text{S}$ 15'47	-0°08'52	opposition	16012 Jan 18 08:29	13° $\text{N}$ 11'18	-2°04'03
min. Earth dist.	16005 Oct 31 04:30	25° $\text{S}$ 12'56	8.45152 AU	min. Earth dist.	16012 Jan 18 12:33	13° $\text{N}$ 10'31	8.43279 AU
direct	16006 Jan 07 13:12	21° $\text{S}$ 49'49		direct	16012 Mar 27 15:55	9° $\text{N}$ 46'19	
evening set	16006 Apr 22 03:26	29° $\text{S}$ 36'43			16012 Jun 18 04:16	15° $\text{N}$	
	16006 Apr 25 07:23	0° $\text{II}$		evening set	16012 Jul 09 17:04	17° $\text{N}$ 32'51	
conjunction	16006 May 09 17:12	1° $\text{II}$ 47'34	-0°18'30	conjunction	16012 Jul 26 18:22	19° $\text{N}$ 40'53	-1°41'09
minimum elong	16006 May 09 17:11	1° $\text{II}$ 47'34	0°19'08	minimum elong	16012 Jul 26 18:22	19° $\text{N}$ 40'53	1°41'42
max. Earth dist.	16006 May 08 22:26	1° $\text{II}$ 41'43	10.44114 AU	max. Earth dist.	16012 Jul 26 14:56	19° $\text{N}$ 39'48	10.44046 AU
morning rise	16006 May 27 04:41	3° $\text{II}$ 57'50		morning rise	16012 Aug 12 18:32	21° $\text{N}$ 48'33	
retrograde	16006 Sep 06 02:51	11° $\text{II}$ 35'40		retrograde	16012 Nov 23 04:42	29° $\text{N}$ 28'59	
opposition	16006 Nov 12 21:18	8° $\text{II}$ 13'07	-0°36'36	opposition	16013 Jan 30 21:27	26° $\text{N}$ 06'17	-2°04'49
min. Earth dist.	16006 Nov 13 11:57	8° $\text{II}$ 10'14	8.43243 AU	min. Earth dist.	16013 Jan 30 22:23	26° $\text{N}$ 06'06	8.45160 AU

direct	16013 Apr 10 05:13	22° $\Omega$ 41'53	direct	16019 Jun 27 12:18	8° $\mathbb{M}$ 49'01
	16013 Jul 19 07:56	0° $\mathbb{M}$		16019 Sep 26 11:20	15° $\mathbb{M}$
evening set	16013 Jul 22 20:28	0° $\mathbb{M}$ 25'52	evening set	16019 Oct 06 20:29	16° $\mathbb{M}$ 13'42
conjunction	16013 Aug 08 20:45	2° $\mathbb{M}$ 33'19 -1°39'16	conjunction	16019 Oct 23 23:43	18° $\mathbb{M}$ 19'13 -0°05'26
minimum elong	16013 Aug 08 20:46	2° $\mathbb{M}$ 33'19 1°39'41	minimum elong	16019 Oct 23 23:44	18° $\mathbb{M}$ 19'13 0°04'56
max. Earth dist.	16013 Aug 08 21:29	2° $\mathbb{M}$ 33'33 10.46178 AU	behind sun begin	16019 Oct 23 16:48	18° $\mathbb{M}$ 17'07
morning rise	16013 Aug 25 20:21	4° $\mathbb{M}$ 40'32	behind sun end	16019 Oct 24 06:39	18° $\mathbb{M}$ 21'19
retrograde	16013 Dec 06 11:29	12° $\mathbb{M}$ 20'34	max. Earth dist.	16019 Oct 24 17:47	18° $\mathbb{M}$ 24'45 10.63068 AU
opposition	16014 Feb 13 09:37	8° $\mathbb{M}$ 57'46 -1°59'18	morning rise	16019 Nov 10 04:51	20° $\mathbb{M}$ 25'17
min. Earth dist.	16014 Feb 13 06:37	8° $\mathbb{M}$ 58'21 8.47501 AU	asc. node	16020 Jan 24 15:11	27° $\mathbb{M}$ 18'41
direct	16014 Apr 23 16:35	5° $\mathbb{M}$ 34'02	retrograde	16020 Feb 22 00:03	27° $\mathbb{M}$ 59'12
evening set	16014 Aug 04 21:11	13° $\mathbb{M}$ 14'54	opposition	16020 May 01 17:41	24° $\mathbb{M}$ 35'50 0°07'08
conjunction	16014 Aug 21 21:05	15° $\mathbb{M}$ 21'52 -1°32'27	min. Earth dist.	16020 May 01 02:10	24° $\mathbb{M}$ 38'49 8.64241 AU
minimum elong	16014 Aug 21 21:06	15° $\mathbb{M}$ 21'52 1°32'42	direct	16020 Jul 09 09:34	21° $\mathbb{M}$ 15'08
max. Earth dist.	16014 Aug 22 02:32	15° $\mathbb{M}$ 23'34 10.48720 AU	evening set	16020 Oct 18 12:26	28° $\mathbb{M}$ 37'37
morning rise	16014 Sep 07 20:38	17° $\mathbb{M}$ 28'44		16020 Oct 29 20:15	0° $\mathbb{A}$
retrograde	16014 Dec 19 18:24	25° $\mathbb{M}$ 08'05	conjunction	16020 Nov 04 16:47	0° $\mathbb{A}$ 43'01 0°16'28
opposition	16015 Feb 26 20:22	21° $\mathbb{M}$ 45'10 -1°47'52	minimum elong	16020 Nov 04 16:46	0° $\mathbb{A}$ 43'00 0°17'05
min. Earth dist.	16015 Feb 26 13:48	21° $\mathbb{M}$ 46'26 8.50182 AU	max. Earth dist.	16020 Nov 05 11:18	0° $\mathbb{A}$ 48'40 10.65260 AU
direct	16015 May 07 00:34	18° $\mathbb{M}$ 22'07	morning rise	16020 Nov 21 23:14	2° $\mathbb{A}$ 49'02
evening set	16015 Aug 17 19:45	25° $\mathbb{M}$ 59'35	retrograde	16021 Mar 05 22:23	10° $\mathbb{A}$ 22'03
conjunction	16015 Sep 03 19:40	28° $\mathbb{M}$ 06'07 -1°21'06	opposition	16021 May 14 14:53	6° $\mathbb{A}$ 58'35 0°33'39
minimum elong	16015 Sep 03 19:42	28° $\mathbb{M}$ 06'08 1°21'11	min. Earth dist.	16021 May 13 23:52	7° $\mathbb{A}$ 01'29 8.66161 AU
max. Earth dist.	16015 Sep 04 04:56	28° $\mathbb{M}$ 09'01 10.51545 AU	direct	16021 Jul 22 03:13	3° $\mathbb{A}$ 37'58
	16015 Sep 19 02:10	0° $\mathbb{A}$	evening set	16021 Oct 31 04:31	10° $\mathbb{A}$ 58'57
morning rise	16015 Sep 20 19:43	0° $\mathbb{A}$ 12'44	conjunction	16021 Nov 17 09:55	13° $\mathbb{A}$ 04'17 0°37'26
retrograde	16016 Jan 01 22:32	7° $\mathbb{A}$ 51'06	minimum elong	16021 Nov 17 09:54	13° $\mathbb{A}$ 04'17 0°38'08
opposition	16016 Mar 11 05:11	4° $\mathbb{A}$ 28'07 -1°31'13	max. Earth dist.	16021 Nov 18 02:50	13° $\mathbb{A}$ 09'26 10.66849 AU
min. Earth dist.	16016 Mar 10 19:57	4° $\mathbb{A}$ 29'53 8.53080 AU	morning rise	16021 Dec 04 17:46	15° $\mathbb{A}$ 10'19
direct	16016 May 19 06:28	1° $\mathbb{A}$ 05'41	retrograde	16022 Mar 18 18:16	22° $\mathbb{A}$ 42'41
evening set	16016 Aug 29 16:15	8° $\mathbb{A}$ 39'41	opposition	16022 May 27 09:58	19° $\mathbb{A}$ 19'08 0°58'30
conjunction	16016 Sep 15 16:30	10° $\mathbb{A}$ 45'52 -1°05'51	min. Earth dist.	16022 May 26 20:43	19° $\mathbb{A}$ 21'42 8.67415 AU
minimum elong	16016 Sep 15 16:32	10° $\mathbb{A}$ 45'53 1°05'47	direct	16022 Aug 03 19:52	15° $\mathbb{A}$ 58'25
max. Earth dist.	16016 Sep 16 04:30	10° $\mathbb{A}$ 49'36 10.54528 AU	evening set	16022 Nov 12 21:05	23° $\mathbb{A}$ 18'45
morning rise	16016 Oct 02 17:35	12° $\mathbb{A}$ 52'17	conjunction	16022 Nov 30 03:39	25° $\mathbb{A}$ 24'09 0°56'37
retrograde	16017 Jan 14 01:10	20° $\mathbb{A}$ 29'34	minimum elong	16022 Nov 30 03:37	25° $\mathbb{A}$ 24'08 0°57'23
opposition	16017 Mar 24 12:04	17° $\mathbb{A}$ 06'30 -1°10'15	max. Earth dist.	16022 Nov 30 18:23	25° $\mathbb{A}$ 28'38 10.67726 AU
min. Earth dist.	16017 Mar 24 00:59	17° $\mathbb{A}$ 08'38 8.56074 AU	morning rise	16022 Dec 17 12:46	27° $\mathbb{A}$ 30'15
direct	16017 Jun 01 10:55	13° $\mathbb{A}$ 44'39		16023 Jan 08 09:01	0° $\mathbb{B}$
evening set	16017 Sep 11 10:47	21° $\mathbb{A}$ 15'13	retrograde	16023 Mar 31 13:16	5° $\mathbb{B}$ 02'17
conjunction	16017 Sep 28 11:45	23° $\mathbb{A}$ 21'07 -0°47'32	opposition	16023 Jun 09 03:32	1° $\mathbb{B}$ 38'39 1°20'37
minimum elong	16017 Sep 28 11:47	23° $\mathbb{A}$ 21'07 0°47'18	min. Earth dist.	16023 Jun 08 16:05	1° $\mathbb{B}$ 40'52 8.67953 AU
max. Earth dist.	16017 Sep 29 01:49	23° $\mathbb{A}$ 25'28 10.57541 AU		16023 Jul 01 09:07	30° $\mathbb{R}$ $\mathbb{A}$
morning rise	16017 Oct 15 14:11	25° $\mathbb{A}$ 27'23	direct	16023 Aug 16 13:08	28° $\mathbb{A}$ 17'41
	16017 Nov 26 04:50	0° $\mathbb{M}$		16023 Sep 30 13:11	0° $\mathbb{B}$
retrograde	16018 Jan 27 02:21	3° $\mathbb{M}$ 03'32	evening set	16023 Nov 25 14:28	5° $\mathbb{B}$ 38'04
	16018 Apr 02 10:12	30° $\mathbb{R}$ $\mathbb{A}$	conjunction	16023 Dec 12 22:15	7° $\mathbb{B}$ 43'38 1°13'12
opposition	16018 Apr 06 16:33	29° $\mathbb{A}$ 40'21 -0°46'03	minimum elong	16023 Dec 12 22:13	7° $\mathbb{B}$ 43'38 1°13'59
min. Earth dist.	16018 Apr 06 03:41	29° $\mathbb{A}$ 42'50 8.59033 AU	max. Earth dist.	16023 Dec 13 11:16	7° $\mathbb{B}$ 47'36 10.67905 AU
direct	16018 Jun 14 12:35	26° $\mathbb{A}$ 19'01	morning rise	16023 Dec 30 08:24	9° $\mathbb{B}$ 49'52
	16018 Aug 21 09:41	0° $\mathbb{M}$	retrograde	16024 Apr 12 09:12	17° $\mathbb{B}$ 21'48
evening set	16018 Sep 24 04:05	3° $\mathbb{M}$ 46'25	opposition	16024 Jun 20 19:55	13° $\mathbb{B}$ 58'03 1°39'01
conjunction	16018 Oct 11 06:07	5° $\mathbb{M}$ 52'06 -0°27'03	min. Earth dist.	16024 Jun 20 09:53	14° $\mathbb{B}$ 00'00 8.67829 AU
minimum elong	16018 Oct 11 06:08	5° $\mathbb{M}$ 52'06 0°26'40	direct	16024 Aug 28 04:08	10° $\mathbb{B}$ 36'45
max. Earth dist.	16018 Oct 11 22:24	5° $\mathbb{M}$ 57'07 10.60440 AU	evening set	16024 Dec 07 09:13	17° $\mathbb{B}$ 57'48
morning rise	16018 Oct 28 09:56	7° $\mathbb{M}$ 58'16	conjunction	16024 Dec 24 18:15	20° $\mathbb{B}$ 03'37 1°26'25
	16019 Jan 14 11:09	15° $\mathbb{M}$	minimum elong	16024 Dec 24 18:14	20° $\mathbb{B}$ 03'37 1°27'10
retrograde	16019 Feb 09 01:09	15° $\mathbb{M}$ 33'14	max. Earth dist.	16024 Dec 25 05:30	20° $\mathbb{B}$ 07'02 10.67453 AU
	16019 Mar 06 22:46	15° $\mathbb{R}$ $\mathbb{M}$	morning rise	16025 Jan 11 05:19	22° $\mathbb{B}$ 10'04
opposition	16019 Apr 19 18:16	12° $\mathbb{M}$ 09'58 -0°19'50	retrograde	16025 Apr 25 04:53	29° $\mathbb{B}$ 42'02
min. Earth dist.	16019 Apr 19 03:45	12° $\mathbb{M}$ 12'46 8.61809 AU	opposition	16025 Jul 03 11:28	26° $\mathbb{B}$ 18'10 1°52'53

min. Earth dist.	16025 Jul 03 03:21	26° $\text{Z}$ 19'44	8.67099 AU	direct	16031 Nov 24 08:28	7° $\text{Y}$ 47'12	
direct	16025 Sep 09 18:51	22° $\text{Z}$ 56'23		evening set	16032 Mar 06 21:35	15° $\text{Y}$ 24'37	
	16025 Dec 17 14:25	0° $\approx$					
evening set	16025 Dec 20 05:32	0° $\approx$ 18'42		conjunction	16032 Mar 24 13:52	17° $\text{Y}$ 34'26	0°56'23
				minimum elong	16032 Mar 24 13:54	17° $\text{Y}$ 34'26	0°56'14
conjunction	16026 Jan 06 15:45	2° $\approx$ 24'53	1°35'39	max. Earth dist.	16032 Mar 24 00:18	17° $\text{Y}$ 30'15	10.52104 AU
minimum elong	16026 Jan 06 15:45	2° $\approx$ 24'53	1°36'21	morning rise	16032 Apr 11 05:13	19° $\text{Y}$ 44'03	
max. Earth dist.	16026 Jan 06 23:48	2° $\approx$ 27'20	10.66424 AU	retrograde	16032 Jul 22 17:10	27° $\text{Y}$ 18'45	
morning rise	16026 Jan 24 03:46	4° $\approx$ 31'36		opposition	16032 Sep 28 16:19	23° $\text{Y}$ 55'10	0°57'43
retrograde	16026 May 08 01:14	12° $\approx$ 03'43		min. Earth dist.	16032 Sep 29 03:52	23° $\text{Y}$ 52'52	8.50742 AU
opposition	16026 Jul 16 02:46	8° $\approx$ 39'47	2°01'35	direct	16032 Dec 06 09:44	20° $\text{Y}$ 29'23	
min. Earth dist.	16026 Jul 15 21:38	8° $\approx$ 40'47	8.65810 AU	evening set	16033 Mar 20 06:57	28° $\text{Y}$ 09'46	
direct	16026 Sep 22 09:50	5° $\approx$ 17'25			16033 Apr 04 06:14	0° $\text{Z}$	
evening set	16027 Jan 02 03:34	12° $\approx$ 41'31					
				conjunction	16033 Apr 06 23:12	0° $\text{Z}$ 20'07	0°36'28
conjunction	16027 Jan 19 14:55	14° $\approx$ 48'09	1°40'29	minimum elong	16033 Apr 06 23:13	0° $\text{Z}$ 20'07	0°36'09
minimum elong	16027 Jan 19 14:55	14° $\approx$ 48'09	1°41'05	max. Earth dist.	16033 Apr 06 07:01	0° $\text{Z}$ 15'06	10.49371 AU
max. Earth dist.	16027 Jan 19 18:48	14° $\approx$ 49'20	10.64867 AU	morning rise	16033 Apr 24 14:07	2° $\text{Z}$ 30'06	
	16027 Jan 21 05:52	15° $\approx$		retrograde	16033 Aug 04 20:27	10° $\text{Z}$ 05'34	
morning rise	16027 Feb 06 03:52	16° $\approx$ 55'15		opposition	16033 Oct 11 17:02	6° $\text{Z}$ 42'13	0°31'47
retrograde	16027 May 20 21:40	24° $\approx$ 27'34		min. Earth dist.	16033 Oct 12 06:04	6° $\text{Z}$ 39'39	8.48108 AU
opposition	16027 Jul 28 18:11	21° $\approx$ 03'36	2°04'41	direct	16033 Dec 19 13:12	3° $\text{Z}$ 16'11	
min. Earth dist.	16027 Jul 28 16:32	21° $\approx$ 03'56	8.64020 AU	evening set	16034 Apr 02 17:48	10° $\text{Z}$ 59'23	
direct	16027 Oct 05 01:19	17° $\approx$ 40'36					
evening set	16028 Jan 15 03:20	25° $\approx$ 06'54		conjunction	16034 Apr 20 09:32	13° $\text{Z}$ 10'05	0°14'39
				minimum elong	16034 Apr 20 09:32	13° $\text{Z}$ 10'05	0°14'12
conjunction	16028 Feb 01 15:55	27° $\approx$ 14'05	1°40'38	behind sun begin	16034 Apr 20 06:10	13° $\text{Z}$ 09'03	
minimum elong	16028 Feb 01 15:55	27° $\approx$ 14'05	1°41'06	behind sun end	16034 Apr 20 12:55	13° $\text{Z}$ 11'07	
max. Earth dist.	16028 Feb 01 15:41	27° $\approx$ 14'01	10.62858 AU	max. Earth dist.	16034 Apr 19 16:16	13° $\text{Z}$ 04'43	10.46897 AU
morning rise	16028 Feb 19 05:46	29° $\approx$ 21'39			16034 May 05 04:53	15° $\text{Z}$	
	16028 Feb 24 15:30	0° $\text{X}$		morning rise	16034 May 07 23:26	15° $\text{Z}$ 20'19	
retrograde	16028 Jun 01 17:28	6° $\text{X}$ 54'16		retrograde	16034 Aug 18 00:49	22° $\text{Z}$ 56'40	
opposition	16028 Aug 09 10:11	3° $\text{X}$ 30'17	2°01'57	opposition	16034 Oct 24 20:24	19° $\text{Z}$ 33'35	0°04'07
min. Earth dist.	16028 Aug 09 11:32	3° $\text{X}$ 30'01	8.61808 AU	min. Earth dist.	16034 Oct 25 09:43	19° $\text{Z}$ 30'58	8.45804 AU
direct	16028 Oct 16 19:27	0° $\text{X}$ 06'39		desc. node	16034 Dec 18 19:09	16° $\text{Z}$ 17'39	
evening set	16029 Jan 27 04:53	7° $\text{X}$ 35'27		direct	16035 Jan 01 20:01	16° $\text{Z}$ 07'27	
				evening set	16035 Apr 16 05:41	23° $\text{Z}$ 53'08	
conjunction	16029 Feb 13 18:48	9° $\text{X}$ 43'16	1°36'02				
minimum elong	16029 Feb 13 18:50	9° $\text{X}$ 43'17	1°36'22	conjunction	16035 May 03 20:20	26° $\text{Z}$ 03'59	-0°08'06
max. Earth dist.	16029 Feb 13 15:23	9° $\text{X}$ 42'14	10.60472 AU	minimum elong	16035 May 03 20:20	26° $\text{Z}$ 03'59	0°08'40
morning rise	16029 Mar 03 09:24	11° $\text{X}$ 51'20		behind sun begin	16035 May 03 14:06	26° $\text{Z}$ 02'04	
retrograde	16029 Jun 14 15:02	19° $\text{X}$ 24'22		behind sun end	16035 May 04 02:34	26° $\text{Z}$ 05'55	
opposition	16029 Aug 22 03:07	16° $\text{X}$ 00'23	1°53'27	max. Earth dist.	16035 May 03 03:20	25° $\text{Z}$ 58'42	10.44805 AU
min. Earth dist.	16029 Aug 22 06:54	15° $\text{X}$ 59'39	8.59251 AU	morning rise	16035 May 21 08:41	28° $\text{Z}$ 14'16	
direct	16029 Oct 29 14:40	12° $\text{X}$ 36'08			16035 Jun 05 03:30	0° $\text{II}$	
evening set	16030 Feb 09 08:34	20° $\text{X}$ 07'40		retrograde	16035 Aug 31 07:49	5° $\text{II}$ 51'37	
				opposition	16035 Nov 07 02:19	2° $\text{II}$ 28'49	-0°23'55
conjunction	16030 Feb 26 23:38	22° $\text{X}$ 16'12	1°26'51	min. Earth dist.	16035 Nov 07 15:24	2° $\text{II}$ 26'15	8.43949 AU
minimum elong	16030 Feb 26 23:40	22° $\text{X}$ 16'12	1°27'01		16035 Dec 12 08:15	30° $\text{R}$ $\text{Z}$	
max. Earth dist.	16030 Feb 26 17:04	22° $\text{X}$ 14'11	10.57797 AU	direct	16036 Jan 15 03:59	29° $\text{Z}$ 02'41	
morning rise	16030 Mar 16 14:40	24° $\text{X}$ 24'47			16036 Feb 17 15:06	0° $\text{II}$	
	16030 May 10 00:21	0° $\text{Y}$		evening set	16036 Apr 28 18:31	6° $\text{II}$ 50'26	
retrograde	16030 Jun 27 15:26	1° $\text{Y}$ 58'16					
	16030 Aug 16 05:07	30° $\text{R}$ $\text{X}$		conjunction	16036 May 16 07:31	9° $\text{II}$ 01'15	-0°30'24
opposition	16030 Sep 03 21:27	28° $\text{X}$ 34'21	1°39'30	minimum elong	16036 May 16 07:30	9° $\text{II}$ 01'15	0°31'05
min. Earth dist.	16030 Sep 04 03:42	28° $\text{X}$ 33'07	8.56458 AU	max. Earth dist.	16036 May 15 14:58	8° $\text{II}$ 56'04	10.43202 AU
direct	16030 Nov 11 09:51	25° $\text{X}$ 09'31		morning rise	16036 Jun 02 17:55	11° $\text{II}$ 11'24	
	16031 Jan 29 18:14	0° $\text{Y}$		retrograde	16036 Sep 12 16:40	18° $\text{II}$ 49'40	
evening set	16031 Feb 22 14:11	2° $\text{Y}$ 43'58		opposition	16036 Nov 19 10:31	15° $\text{II}$ 27'09	-0°50'51
				min. Earth dist.	16036 Nov 19 23:27	15° $\text{II}$ 24'36	8.42640 AU
conjunction	16031 Mar 12 06:04	4° $\text{Y}$ 53'10	1°13'27	direct	16037 Jan 27 13:00	12° $\text{II}$ 01'07	
minimum elong	16031 Mar 12 06:06	4° $\text{Y}$ 53'11	1°13'27	evening set	16037 May 12 07:38	19° $\text{II}$ 50'23	
max. Earth dist.	16031 Mar 11 20:08	4° $\text{Y}$ 50'07	10.54959 AU				
morning rise	16031 Mar 29 21:22	7° $\text{Y}$ 02'18		conjunction	16037 May 29 18:26	22° $\text{II}$ 00'56	-0°51'15
retrograde	16031 Jul 10 15:37	14° $\text{Y}$ 36'19		minimum elong	16037 May 29 18:24	22° $\text{II}$ 00'56	0°52'00
opposition	16031 Sep 16 17:48	11° $\text{Y}$ 12'33	1°20'39	max. Earth dist.	16037 May 29 02:31	21° $\text{II}$ 55'56	10.42177 AU
min. Earth dist.	16031 Sep 17 02:46	11° $\text{Y}$ 10'46	8.53573 AU	morning rise	16037 Jun 16 02:40	24° $\text{II}$ 10'48	

	16037 Aug 10 21:40	0°☾	morning rise	16043 Sep 02 07:21	11°♊54'59	
retrograde	16037 Sep 26 00:57	1°☾49'54	retrograde	16043 Dec 14 03:53	19°♊35'05	
	16037 Nov 12 11:35	30°♊II	opposition	16044 Feb 21 02:17	16°♊12'37	-1°53'33
opposition	16037 Dec 02 21:00	28°♊27'38 -1°15'15	min. Earth dist.	16044 Feb 20 23:30	16°♊13'09	8.48885 AU
min. Earth dist.	16037 Dec 03 09:13	28°♊25'14 8.41949 AU	direct	16044 Apr 30 05:51	12°♊49'32	
direct	16038 Feb 10 01:40	25°♊01'49	evening set	16044 Aug 11 08:06	20°♊29'14	
	16038 May 01 10:15	0°☾				
evening set	16038 May 25 20:04	2°☾51'50	conjunction	16044 Aug 28 07:51	22°♊36'04 -1°26'36	
			minimum elong	16044 Aug 28 07:53	22°♊36'05 1°26'46	
conjunction	16038 Jun 12 04:25	5°☾01'56 -1°09'31	max. Earth dist.	16044 Aug 28 12:43	22°♊37'36	10.49888 AU
minimum elong	16038 Jun 12 04:23	5°☾01'56 1°10'17	morning rise	16044 Sep 14 07:48	24°♊42'56	
max. Earth dist.	16038 Jun 11 14:01	4°☾57'24 10.41789 AU		16044 Nov 02 18:03	0°♊	
morning rise	16038 Jun 29 10:28	7°☾11'22	retrograde	16044 Dec 26 08:10	2°♊22'27	
retrograde	16038 Oct 09 09:06	14°☾51'13		16045 Feb 20 07:22	30°♊II	
opposition	16038 Dec 16 09:06	11°☾29'05 -1°35'49	opposition	16045 Mar 05 12:51	28°♊59'43 -1°39'10	
min. Earth dist.	16038 Dec 16 19:39	11°☾27'01 8.41912 AU	min. Earth dist.	16045 Mar 05 06:50	29°♊00'53 8.51093 AU	
direct	16039 Feb 23 16:08	8°☾03'34	direct	16045 May 13 15:16	25°♊37'06	
evening set	16039 Jun 08 07:22	15°☾53'33		16045 Jul 27 06:04	0°♊	
			evening set	16045 Aug 24 06:09	3°♊13'32	
conjunction	16039 Jun 25 13:22	18°☾03'05 -1°24'13				
minimum elong	16039 Jun 25 13:20	18°☾03'04 1°24'58	conjunction	16045 Sep 10 06:18	5°♊20'03 -1°13'01	
max. Earth dist.	16039 Jun 25 01:38	17°☾59'23 10.42052 AU	minimum elong	16045 Sep 10 06:20	5°♊20'04 1°13'01	
morning rise	16039 Jul 12 17:17	20°☾11'59	max. Earth dist.	16045 Sep 10 15:09	5°♊22'49 10.52203 AU	
retrograde	16039 Oct 22 18:31	27°☾52'18	morning rise	16045 Sep 27 07:00	7°♊26'45	
opposition	16039 Dec 29 22:03	24°☾30'14 -1°51'27	retrograde	16046 Jan 08 12:36	15°♊05'27	
min. Earth dist.	16039 Dec 30 05:52	24°☾28'42 8.42505 AU	opposition	16046 Mar 18 21:27	11°♊42'23 -1°20'00	
direct	16040 Mar 08 06:07	21°☾05'07	min. Earth dist.	16046 Mar 18 12:09	11°♊44'10 8.53449 AU	
evening set	16040 Jun 20 16:55	28°☾54'13	direct	16046 May 26 22:17	8°♊20'09	
	16040 Jun 29 12:20	0°♊	evening set	16046 Sep 06 02:14	15°♊53'13	
conjunction	16040 Jul 07 20:51	1°♊03'07 -1°34'36	conjunction	16046 Sep 23 03:08	17°♊59'31 -0°55'56	
minimum elong	16040 Jul 07 20:50	1°♊03'06 1°35'18	minimum elong	16046 Sep 23 03:10	17°♊59'31 0°55'46	
max. Earth dist.	16040 Jul 07 12:50	1°♊00'35 10.42910 AU	max. Earth dist.	16046 Sep 23 15:40	18°♊03'25 10.54615 AU	
morning rise	16040 Jul 24 22:49	3°♊11'28	morning rise	16046 Oct 10 04:57	20°♊06'06	
retrograde	16040 Nov 04 04:15	10°♊52'00	retrograde	16047 Jan 21 16:17	27°♊43'48	
opposition	16041 Jan 11 11:37	7°♊29'54 -2°01'21	opposition	16047 Apr 01 03:45	24°♊20'24 -0°57'03	
min. Earth dist.	16041 Jan 11 16:25	7°♊28'58 8.43627 AU	min. Earth dist.	16047 Mar 31 15:59	24°♊22'40 8.55847 AU	
direct	16041 Mar 21 19:17	4°♊05'15	direct	16047 Jun 09 01:04	20°♊58'30	
evening set	16041 Jul 04 00:13	11°♊52'42	evening set	16047 Sep 18 20:56	28°♊28'22	
				16047 Oct 01 07:25	0°♊	
conjunction	16041 Jul 21 02:21	14°♊00'58 -1°40'08				
minimum elong	16041 Jul 21 02:21	14°♊00'58 1°40'45	conjunction	16047 Oct 05 22:41	0°♊34'27 -0°36'15	
max. Earth dist.	16041 Jul 20 21:58	13°♊59'35 10.44231 AU	minimum elong	16047 Oct 05 22:42	0°♊34'28 0°35'56	
	16041 Jul 28 21:54	15°♊	max. Earth dist.	16047 Oct 06 13:23	0°♊39'01 10.57008 AU	
morning rise	16041 Aug 07 02:48	16°♊08'47	morning rise	16047 Oct 23 01:51	2°♊40'59	
retrograde	16041 Nov 17 12:30	23°♊49'21	retrograde	16048 Feb 03 17:17	10°♊17'37	
opposition	16042 Jan 25 01:11	20°♊27'10 -2°05'01	opposition	16048 Apr 13 07:36	6°♊53'55 -0°31'31	
min. Earth dist.	16042 Jan 25 03:18	20°♊26'46 8.45125 AU	min. Earth dist.	16048 Apr 12 18:38	6°♊56'25 8.58178 AU	
direct	16042 Apr 04 08:33	17°♊03'02	direct	16048 Jun 21 01:37	3°♊32'15	
evening set	16042 Jul 17 05:12	24°♊48'19	evening set	16048 Sep 30 14:31	10°♊59'19	
conjunction	16042 Aug 03 05:58	26°♊56'01 -1°40'35	conjunction	16048 Oct 17 17:14	13°♊05'15 -0°14'57	
minimum elong	16042 Aug 03 05:59	26°♊56'01 1°41'04	minimum elong	16048 Oct 17 17:15	13°♊05'15 0°14'30	
max. Earth dist.	16042 Aug 03 04:41	26°♊55'36 10.45868 AU	behind sun begin	16048 Oct 17 14:03	13°♊04'16	
morning rise	16042 Aug 20 05:38	29°♊03'24	behind sun end	16048 Oct 17 20:27	13°♊06'13	
	16042 Aug 27 23:37	0°♊	max. Earth dist.	16048 Oct 18 09:00	13°♊10'06 10.59276 AU	
retrograde	16042 Nov 30 20:52	6°♊43'51		16048 Nov 02 07:14	15°♊	
opposition	16043 Feb 07 14:12	3°♊21'34 -2°02'21	morning rise	16048 Nov 03 21:57	15°♊11'43	
min. Earth dist.	16043 Feb 07 14:02	3°♊21'36 8.46888 AU	retrograde	16049 Feb 15 16:06	22°♊47'22	
	16043 Apr 11 13:17	30°♊II	opposition	16049 Apr 26 09:07	19°♊23'24 -0°04'38	
direct	16043 Apr 17 19:55	29°♊57'58	min. Earth dist.	16049 Apr 25 19:28	19°♊26'02 8.60338 AU	
	16043 Apr 24 02:04	0°♊	asc. node	16049 Jun 29 15:42	16°♊02'54	
evening set	16043 Jul 30 07:48	7°♊40'39	direct	16049 Jul 04 01:21	16°♊01'53	
			evening set	16049 Oct 13 07:18	23°♊26'36	
conjunction	16043 Aug 16 07:46	9°♊47'53 -1°35'58				
minimum elong	16043 Aug 16 07:48	9°♊47'54 1°36'18	conjunction	16049 Oct 30 11:12	25°♊32'26 0°07'04	
max. Earth dist.	16043 Aug 16 09:10	9°♊48'20 10.47760 AU	minimum elong	16049 Oct 30 11:12	25°♊32'26 0°07'39	

behind sun begin	16049 Oct 30 04:45	25° $\mathbb{M}$ 30'28		max. Earth dist.	16056 Jan 14 18:34	9° $\approx$ 50'34	10.64064 AU
behind sun end	16049 Oct 30 17:39	25° $\mathbb{M}$ 34'24		morning rise	16056 Jan 31 23:47	11° $\approx$ 55'28	
max. Earth dist.	16049 Oct 31 03:44	25° $\mathbb{M}$ 37'30	10.61304 AU		16056 Feb 28 06:37	15° $\approx$	
morning rise	16049 Nov 16 17:25	27° $\mathbb{M}$ 38'53		retrograde	16056 May 14 19:52	19° $\approx$ 28'36	
	16049 Dec 07 00:59	0° $\mathbb{A}$		opposition	16056 Jul 22 18:41	16° $\approx$ 04'28	2°04'01
retrograde	16050 Feb 28 14:27	5° $\mathbb{A}$ 13'39		min. Earth dist.	16056 Jul 22 13:46	16° $\approx$ 05'26	8.63600 AU
opposition	16050 May 09 08:10	1° $\mathbb{A}$ 49'29	0°22'20		16056 Aug 05 17:59	15° $\mathbb{R}$ $\approx$	
min. Earth dist.	16050 May 08 18:03	1° $\mathbb{A}$ 52'13	8.62205 AU	direct	16056 Sep 29 01:25	12° $\approx$ 41'43	
	16050 Jun 03 07:51	30° $\mathbb{R}$ $\mathbb{M}$			16056 Nov 20 19:40	15° $\approx$	
direct	16050 Jul 16 22:10	28° $\mathbb{M}$ 28'02		evening set	16057 Jan 09 00:00	20° $\approx$ 07'48	
	16050 Aug 28 10:49	0° $\mathbb{A}$					
evening set	16050 Oct 26 00:05	5° $\mathbb{A}$ 51'01		conjunction	16057 Jan 26 12:16	22° $\approx$ 14'56	1°41'03
				minimum elong	16057 Jan 26 12:16	22° $\approx$ 14'56	1°41'34
conjunction	16050 Nov 12 05:15	7° $\mathbb{A}$ 56'48	0°28'34	max. Earth dist.	16057 Jan 26 16:35	22° $\approx$ 16'15	10.62818 AU
minimum elong	16050 Nov 12 05:14	7° $\mathbb{A}$ 56'47	0°29'14	morning rise	16057 Feb 13 01:41	24° $\approx$ 22'28	
max. Earth dist.	16050 Nov 12 22:33	8° $\mathbb{A}$ 02'06	10.62973 AU		16057 Apr 09 07:32	0° $\mathbb{H}$	
morning rise	16050 Nov 29 12:42	10° $\mathbb{A}$ 03'14		retrograde	16057 May 27 17:26	1° $\mathbb{H}$ 55'44	
retrograde	16051 Mar 13 11:39	17° $\mathbb{A}$ 37'17			16057 Jul 16 01:38	30° $\mathbb{R}$ $\approx$	
opposition	16051 May 22 04:52	14° $\mathbb{A}$ 12'57	0°48'09	opposition	16057 Aug 04 11:05	28° $\approx$ 31'48	2°03'40
min. Earth dist.	16051 May 21 14:24	14° $\mathbb{A}$ 15'45	8.63675 AU	min. Earth dist.	16057 Aug 04 09:03	28° $\approx$ 32'12	8.62143 AU
direct	16051 Jul 29 17:03	10° $\mathbb{A}$ 51'29		direct	16057 Oct 11 18:34	25° $\approx$ 08'39	
evening set	16051 Nov 07 17:11	18° $\mathbb{A}$ 13'25			16057 Dec 30 04:14	0° $\mathbb{H}$	
				evening set	16058 Jan 22 01:50	2° $\mathbb{H}$ 36'59	
conjunction	16051 Nov 24 23:32	20° $\mathbb{A}$ 19'12	0°48'42				
minimum elong	16051 Nov 24 23:30	20° $\mathbb{A}$ 19'12	0°49'26	conjunction	16058 Feb 08 15:15	4° $\mathbb{H}$ 44'40	1°38'23
max. Earth dist.	16051 Nov 25 16:40	20° $\mathbb{A}$ 24'26	10.64199 AU	minimum elong	16058 Feb 08 15:16	4° $\mathbb{H}$ 44'41	1°38'46
morning rise	16051 Dec 12 08:07	22° $\mathbb{A}$ 25'39		max. Earth dist.	16058 Feb 08 15:13	4° $\mathbb{H}$ 44'40	10.61166 AU
retrograde	16052 Mar 25 09:14	29° $\mathbb{A}$ 59'12		morning rise	16058 Feb 26 05:29	6° $\mathbb{H}$ 52'37	
opposition	16052 Jun 02 23:59	26° $\mathbb{A}$ 34'46	1°11'39	retrograde	16058 Jun 09 16:13	14° $\mathbb{H}$ 26'04	
min. Earth dist.	16052 Jun 02 10:17	26° $\mathbb{A}$ 37'26	8.64678 AU	opposition	16058 Aug 17 04:26	11° $\mathbb{H}$ 02'22	1°57'29
direct	16052 Aug 10 10:04	23° $\mathbb{A}$ 13'12		min. Earth dist.	16058 Aug 17 06:06	11° $\mathbb{H}$ 02'02	8.60298 AU
	16052 Nov 14 13:47	0° $\mathbb{B}$		direct	16058 Oct 24 12:51	7° $\mathbb{H}$ 38'45	
evening set	16052 Nov 19 10:57	0° $\mathbb{B}$ 34'43		evening set	16059 Feb 04 05:25	15° $\mathbb{H}$ 09'33	
conjunction	16052 Dec 06 18:22	2° $\mathbb{B}$ 40'35	1°06'32	conjunction	16059 Feb 21 19:51	17° $\mathbb{H}$ 17'50	1°31'02
minimum elong	16052 Dec 06 18:20	2° $\mathbb{B}$ 40'35	1°07'18	minimum elong	16059 Feb 21 19:53	17° $\mathbb{H}$ 17'50	1°31'16
max. Earth dist.	16052 Dec 07 09:47	2° $\mathbb{B}$ 45'17	10.64934 AU	max. Earth dist.	16059 Feb 21 15:16	17° $\mathbb{H}$ 16'25	10.59162 AU
morning rise	16052 Dec 24 04:07	4° $\mathbb{B}$ 47'07		morning rise	16059 Mar 11 10:46	19° $\mathbb{H}$ 26'15	
retrograde	16053 Apr 07 06:25	12° $\mathbb{B}$ 20'19		retrograde	16059 Jun 22 15:40	26° $\mathbb{H}$ 59'54	
opposition	16053 Jun 15 17:45	8° $\mathbb{B}$ 55'53	1°31'48	opposition	16059 Aug 29 22:56	23° $\mathbb{H}$ 36'24	1°45'41
min. Earth dist.	16053 Jun 15 06:01	8° $\mathbb{B}$ 58'10	8.65176 AU	min. Earth dist.	16059 Aug 30 03:57	23° $\mathbb{H}$ 35'25	8.58123 AU
direct	16053 Aug 23 01:06	5° $\mathbb{B}$ 34'05		direct	16059 Nov 06 08:51	20° $\mathbb{H}$ 12'17	
evening set	16053 Dec 02 05:58	12° $\mathbb{B}$ 55'56		evening set	16060 Feb 17 10:47	27° $\mathbb{H}$ 45'43	
conjunction	16053 Dec 19 14:27	15° $\mathbb{B}$ 01'57	1°21'17	conjunction	16060 Mar 06 02:12	29° $\mathbb{H}$ 54'36	1°19'17
minimum elong	16053 Dec 19 14:25	15° $\mathbb{B}$ 01'56	1°22'02	minimum elong	16060 Mar 06 02:14	29° $\mathbb{H}$ 54'37	1°19'21
max. Earth dist.	16053 Dec 20 02:57	15° $\mathbb{B}$ 05'45	10.65153 AU	max. Earth dist.	16060 Mar 05 17:45	29° $\mathbb{H}$ 52'01	10.56858 AU
morning rise	16054 Jan 06 01:20	17° $\mathbb{B}$ 08'37			16060 Mar 06 19:47	0° $\mathbb{Y}$	
retrograde	16054 Apr 20 01:43	24° $\mathbb{B}$ 41'38		morning rise	16060 Mar 23 17:33	2° $\mathbb{Y}$ 03'31	
opposition	16054 Jun 28 10:22	21° $\mathbb{B}$ 17'15	1°47'41	retrograde	16060 Jul 04 14:17	9° $\mathbb{Y}$ 37'26	
min. Earth dist.	16054 Jun 28 01:13	21° $\mathbb{B}$ 19'03	8.65154 AU	opposition	16060 Sep 10 18:46	6° $\mathbb{Y}$ 14'06	1°28'44
direct	16054 Sep 04 17:30	17° $\mathbb{B}$ 55'10		min. Earth dist.	16060 Sep 11 02:31	6° $\mathbb{Y}$ 12'35	8.55656 AU
evening set	16054 Dec 15 02:20	25° $\mathbb{B}$ 17'57		direct	16060 Nov 18 08:45	2° $\mathbb{Y}$ 49'30	
				evening set	16061 Mar 01 17:52	10° $\mathbb{Y}$ 25'41	
conjunction	16055 Jan 01 12:01	27° $\mathbb{B}$ 24'14	1°32'16	conjunction	16061 Mar 19 10:02	12° $\mathbb{Y}$ 35'12	1°03'38
minimum elong	16055 Jan 01 12:00	27° $\mathbb{B}$ 24'14	1°32'58	minimum elong	16061 Mar 19 10:04	12° $\mathbb{Y}$ 35'13	1°03'33
max. Earth dist.	16055 Jan 01 21:51	27° $\mathbb{B}$ 27'14	10.64857 AU	max. Earth dist.	16061 Mar 18 22:30	12° $\mathbb{Y}$ 31'39	10.54273 AU
morning rise	16055 Jan 18 23:52	29° $\mathbb{B}$ 31'07		morning rise	16061 Apr 06 01:26	14° $\mathbb{Y}$ 44'34	
	16055 Jan 23 01:26	0° $\approx$		retrograde	16061 Jul 17 16:14	22° $\mathbb{Y}$ 19'00	
retrograde	16055 May 02 21:51	7° $\approx$ 04'07		opposition	16061 Sep 23 16:29	18° $\mathbb{Y}$ 55'51	1°07'21
opposition	16055 Jul 11 02:33	3° $\approx$ 39'51	1°58'36	min. Earth dist.	16061 Sep 24 02:22	18° $\mathbb{Y}$ 53'54	8.52928 AU
min. Earth dist.	16055 Jul 10 19:30	3° $\approx$ 41'13	8.64619 AU	direct	16061 Dec 01 08:53	15° $\mathbb{Y}$ 30'49	
direct	16055 Sep 17 09:59	0° $\approx$ 17'26		evening set	16062 Mar 15 02:44	23° $\mathbb{Y}$ 09'55	
evening set	16055 Dec 28 00:09	7° $\approx$ 41'39					
conjunction	16056 Jan 14 11:09	9° $\approx$ 48'18	1°38'58	conjunction	16062 Apr 01 19:09	25° $\mathbb{Y}$ 20'00	0°44'47
minimum elong	16056 Jan 14 11:08	9° $\approx$ 48'18	1°39'35	minimum elong	16062 Apr 01 19:10	25° $\mathbb{Y}$ 20'01	0°44'32

max. Earth dist.	16062 Apr 01 04:52	25°Υ15'36	10.51480 AU	min. Earth dist.	16067 Dec 11 15:25	6°♄23'05	8.41257 AU
morning rise	16062 Apr 19 10:06	27°Υ29'47		direct	16068 Feb 18 11:23	2°♄59'16	
	16062 May 10 23:12	0°♄		evening set	16068 Jun 02 03:20	10°♄49'21	
retrograde	16062 Jul 30 20:38	5°♄04'57					
opposition	16062 Oct 06 16:31	1°♄42'01	0°42'31	conjunction	16068 Jun 19 10:32	12°♄59'12	-1°18'48
min. Earth dist.	16062 Oct 07 04:32	1°♄39'38	8.50092 AU	minimum elong	16068 Jun 19 10:30	12°♄59'11	1°19'34
	16062 Oct 29 06:14	30°♄Υ		max. Earth dist.	16068 Jun 18 21:54	12°♄55'13	10.41123 AU
direct	16062 Dec 14 10:01	28°Υ16'37		morning rise	16068 Jul 06 15:13	15°♄08'22	
	16063 Jan 28 20:40	0°♄		retrograde	16068 Oct 16 15:37	22°♄48'33	
evening set	16063 Mar 28 13:18	5°♄58'39		opposition	16068 Dec 23 16:50	19°♄26'00	-1°45'52
				min. Earth dist.	16068 Dec 24 02:04	19°♄24'12	8.41304 AU
conjunction	16063 Apr 15 05:20	8°♄09'11	0°23'37	direct	16069 Mar 03 00:16	16°♄00'13	
minimum elong	16063 Apr 15 05:20	8°♄09'11	0°23'13	evening set	16069 Jun 15 13:32	23°♄49'50	
max. Earth dist.	16063 Apr 14 12:31	8°♄03'59	10.48698 AU				
morning rise	16063 May 02 19:32	10°♄19'17		conjunction	16069 Jul 02 18:20	25°♄59'04	-1°31'01
	16063 Jun 14 16:06	15°♄		minimum elong	16069 Jul 02 18:19	25°♄59'04	1°31'44
retrograde	16063 Aug 13 00:52	17°♄55'20		max. Earth dist.	16069 Jul 02 08:11	25°♄55'52	10.41492 AU
	16063 Oct 13 23:48	15°♄♄		morning rise	16069 Jul 19 21:05	28°♄07'43	
opposition	16063 Oct 19 19:05	14°♄32'36	0°15'24		16069 Aug 04 10:48	0°♄	
min. Earth dist.	16063 Oct 20 08:54	14°♄29'52	8.47398 AU	retrograde	16069 Oct 30 00:18	5°♄48'14	
direct	16063 Dec 27 15:47	11°♄06'52		opposition	16070 Jan 06 06:12	2°♄25'38	-1°58'11
	16064 Mar 06 20:00	15°♄		min. Earth dist.	16070 Jan 06 13:11	2°♄24'16	8.42033 AU
evening set	16064 Apr 10 01:10	18°♄51'37			16070 Feb 09 21:18	30°♄♄	
				direct	16070 Mar 16 13:53	29°♄00'12	
conjunction	16064 Apr 27 16:14	21°♄02'25	0°01'09		16070 Apr 19 19:32	0°♄	
minimum elong	16064 Apr 27 16:15	21°♄02'25	0°00'37	evening set	16070 Jun 28 21:30	6°♄48'31	
behind sun begin	16064 Apr 27 09:03	21°♄00'12					
behind sun end	16064 Apr 27 23:27	21°♄04'38		conjunction	16070 Jul 16 00:15	8°♄57'06	-1°38'34
max. Earth dist.	16064 Apr 26 21:41	20°♄56'39	10.46157 AU	minimum elong	16070 Jul 16 00:15	8°♄57'06	1°39'12
morning rise	16064 May 15 05:18	23°♄12'41		max. Earth dist.	16070 Jul 15 17:21	8°♄54'56	10.42534 AU
desc. node	16064 May 16 18:31	23°♄24'01		morning rise	16070 Aug 02 01:29	11°♄05'15	
	16064 Jul 25 14:41	0°♄♄			16070 Sep 05 08:02	15°♄	
retrograde	16064 Aug 25 06:05	0°♄♄49'41		retrograde	16070 Nov 12 07:27	18°♄45'52	
	16064 Sep 25 06:17	30°♄♄		opposition	16071 Jan 19 19:36	15°♄23'11	-2°04'25
opposition	16064 Nov 01 00:11	27°♄27'05	-0°12'39	min. Earth dist.	16071 Jan 19 23:24	15°♄22'26	8.43397 AU
min. Earth dist.	16064 Nov 01 15:00	27°♄24'10	8.45042 AU		16071 Jan 24 18:53	15°♄♄	
direct	16065 Jan 09 00:18	24°♄01'08		direct	16071 Mar 30 04:15	11°♄58'13	
	16065 Apr 08 10:42	0°♄♄			16071 May 30 06:03	15°♄	
evening set	16065 Apr 23 14:01	1°♄♄48'11		evening set	16071 Jul 12 03:11	19°♄44'32	
max. Earth dist.	16065 May 10 08:39	3°♄♄53'07	10.44022 AU				
				conjunction	16071 Jul 29 04:28	21°♄52'31	-1°41'06
conjunction	16065 May 11 03:36	3°♄♄59'02	-0°21'30	minimum elong	16071 Jul 29 04:28	21°♄52'31	1°41'37
minimum elong	16065 May 11 03:35	3°♄♄59'02	0°22'09	max. Earth dist.	16071 Jul 29 01:40	21°♄51'38	10.44183 AU
morning rise	16065 May 28 14:59	6°♄♄09'16		morning rise	16071 Aug 15 04:37	24°♄00'09	
retrograde	16065 Sep 07 13:11	13°♄♄47'12			16071 Oct 12 07:33	0°♄♄	
opposition	16065 Nov 14 07:33	10°♄♄24'41	-0°40'13	retrograde	16071 Nov 25 15:24	1°♄40'35	
min. Earth dist.	16065 Nov 14 21:56	10°♄♄21'52	8.43171 AU		16072 Jan 10 08:09	30°♄♄	
direct	16066 Jan 22 10:23	6°♄♄58'37		opposition	16072 Feb 02 08:22	28°♄17'48	-2°04'19
evening set	16066 May 07 03:03	14°♄♄47'23		min. Earth dist.	16072 Feb 02 08:27	28°♄17'47	8.45311 AU
				direct	16072 Apr 11 16:33	24°♄53'26	
conjunction	16066 May 24 14:47	16°♄♄58'05	-0°43'06		16072 Jul 02 01:04	0°♄♄	
minimum elong	16066 May 24 14:45	16°♄♄58'04	0°43'49	evening set	16072 Jul 24 06:22	2°♄♄37'07	
max. Earth dist.	16066 May 23 21:17	16°♄♄52'35	10.42421 AU				
morning rise	16066 Jun 11 00:02	19°♄♄08'06		conjunction	16072 Aug 10 06:45	4°♄♄44'33	-1°38'32
retrograde	16066 Sep 20 21:19	26°♄♄46'56		minimum elong	16072 Aug 10 06:46	4°♄♄44'33	1°38'55
opposition	16066 Nov 27 17:06	23°♄♄24'26	-1°05'49	max. Earth dist.	16072 Aug 10 08:33	4°♄♄45'07	10.46342 AU
min. Earth dist.	16066 Nov 28 05:57	23°♄♄21'55	8.41889 AU	morning rise	16072 Aug 27 06:17	6°♄♄51'45	
direct	16067 Feb 04 22:13	19°♄♄58'22		retrograde	16072 Dec 07 22:48	14°♄♄31'42	
evening set	16067 May 20 15:34	27°♄♄48'09		opposition	16073 Feb 14 20:22	11°♄♄08'50	-1°57'58
max. Earth dist.	16067 Jun 06 10:01	29°♄♄53'44	10.41440 AU	min. Earth dist.	16073 Feb 14 16:43	11°♄♄09'32	8.47669 AU
				direct	16073 Apr 25 02:23	7°♄♄45'08	
conjunction	16067 Jun 07 01:09	29°♄♄58'30	-1°02'33	evening set	16073 Aug 06 06:55	15°♄♄25'41	
minimum elong	16067 Jun 07 01:08	29°♄♄58'29	1°03'18				
	16067 Jun 07 05:56	0°♄♄		conjunction	16073 Aug 23 06:51	17°♄♄32'37	-1°31'04
morning rise	16067 Jun 24 08:07	2°♄♄08'10		minimum elong	16073 Aug 23 06:53	17°♄♄32'37	1°31'18
retrograde	16067 Oct 04 06:03	9°♄♄47'46		max. Earth dist.	16073 Aug 23 12:50	17°♄♄34'29	10.48895 AU
opposition	16067 Dec 11 04:23	6°♄♄25'16	-1°28'06	morning rise	16073 Sep 09 06:26	19°♄♄39'29	

retrograde	16073 Dec 21 04:26	27° $\overline{\text{M}}$ 18'43	evening set	16079 Oct 20 21:29	0° $\text{Z}$ 46'23	
opposition	16074 Feb 28 07:00	23° $\overline{\text{M}}$ 55'45 -1°45'48				
min. Earth dist.	16074 Feb 28 00:27	23° $\overline{\text{M}}$ 57'01 8.50359 AU	conjunction	16079 Nov 07 01:51	2° $\text{Z}$ 51'47 0°19'25	
direct	16074 May 08 10:33	20° $\overline{\text{M}}$ 32'42	minimum elong	16079 Nov 07 01:50	2° $\text{Z}$ 51'47 0°20'03	
evening set	16074 Aug 19 05:16	28° $\overline{\text{M}}$ 09'52	max. Earth dist.	16079 Nov 07 19:46	2° $\text{Z}$ 57'16 10.65307 AU	
	16074 Sep 03 00:42	0° $\underline{\text{A}}$	morning rise	16079 Nov 24 08:31	4° $\text{Z}$ 57'50	
			retrograde	16080 Mar 07 06:56	12° $\text{Z}$ 30'49	
conjunction	16074 Sep 05 05:10	0° $\underline{\text{A}}$ 16'23 -1°19'09	min. Earth dist.	16080 May 15 09:41	9° $\text{Z}$ 10'09 8.66219 AU	
minimum elong	16074 Sep 05 05:12	0° $\underline{\text{A}}$ 16'23 1°19'13	opposition	16080 May 16 00:07	9° $\text{Z}$ 07'22 0°37'11	
max. Earth dist.	16074 Sep 05 14:10	0° $\underline{\text{A}}$ 19'11 10.51726 AU	direct	16080 Jul 23 12:12	5° $\text{Z}$ 46'43	
morning rise	16074 Sep 22 05:25	2° $\underline{\text{A}}$ 22'59	evening set	16080 Nov 01 13:37	13° $\text{Z}$ 07'43	
retrograde	16075 Jan 03 08:36	10° $\underline{\text{A}}$ 01'15				
opposition	16075 Mar 13 15:35	6° $\underline{\text{A}}$ 38'13 -1°28'30	conjunction	16080 Nov 18 19:04	15° $\text{Z}$ 13'03 0°40'11	
min. Earth dist.	16075 Mar 13 06:47	6° $\underline{\text{A}}$ 39'55 8.53257 AU	minimum elong	16080 Nov 18 19:03	15° $\text{Z}$ 13'03 0°40'53	
direct	16075 May 21 16:49	3° $\underline{\text{A}}$ 15'46	max. Earth dist.	16080 Nov 19 11:32	15° $\text{Z}$ 18'05 10.66924 AU	
evening set	16075 Sep 01 01:30	10° $\underline{\text{A}}$ 49'28	morning rise	16080 Dec 06 03:04	17° $\text{Z}$ 19'05	
			retrograde	16081 Mar 20 02:35	24° $\text{Z}$ 51'25	
conjunction	16075 Sep 18 01:50	12° $\underline{\text{A}}$ 55'40 -1°03'27	opposition	16081 May 28 19:08	21° $\text{Z}$ 27'53 1°01'42	
minimum elong	16075 Sep 18 01:52	12° $\underline{\text{A}}$ 55'40 1°03'21	min. Earth dist.	16081 May 28 06:00	21° $\text{Z}$ 30'25 8.67512 AU	
max. Earth dist.	16075 Sep 18 13:22	12° $\underline{\text{A}}$ 59'15 10.54701 AU	direct	16081 Aug 05 06:12	18° $\text{Z}$ 07'08	
morning rise	16075 Oct 05 03:11	15° $\underline{\text{A}}$ 02'05	evening set	16081 Nov 14 06:08	25° $\text{Z}$ 27'25	
retrograde	16076 Jan 16 10:47	22° $\underline{\text{A}}$ 39'15				
opposition	16076 Mar 25 22:07	19° $\underline{\text{A}}$ 16'08 -1°07'02	conjunction	16081 Dec 01 12:51	27° $\text{Z}$ 32'50 0°59'02	
min. Earth dist.	16076 Mar 25 11:08	19° $\underline{\text{A}}$ 18'14 8.56232 AU	minimum elong	16081 Dec 01 12:49	27° $\text{Z}$ 32'50 0°59'48	
direct	16076 Jun 02 20:37	15° $\underline{\text{A}}$ 54'16	max. Earth dist.	16081 Dec 02 03:59	27° $\text{Z}$ 37'27 10.67831 AU	
evening set	16076 Sep 12 19:51	23° $\underline{\text{A}}$ 24'35	morning rise	16081 Dec 18 22:00	29° $\text{Z}$ 38'56	
				16081 Dec 21 21:06	0° $\text{Z}$	
conjunction	16076 Sep 29 21:01	25° $\underline{\text{A}}$ 30'29 -0°44'47	retrograde	16082 Apr 01 23:03	7° $\text{Z}$ 10'55	
minimum elong	16076 Sep 29 21:03	25° $\underline{\text{A}}$ 30'30 0°44'32	opposition	16082 Jun 10 12:31	3° $\text{Z}$ 47'16 1°23'19	
max. Earth dist.	16076 Sep 30 11:20	25° $\underline{\text{A}}$ 34'55 10.57683 AU	min. Earth dist.	16082 Jun 10 00:40	3° $\text{Z}$ 49'34 8.68058 AU	
morning rise	16076 Oct 16 23:36	27° $\underline{\text{A}}$ 36'46	direct	16082 Aug 17 21:35	0° $\text{Z}$ 26'19	
	16076 Nov 06 10:57	0° $\overline{\text{M}}$	evening set	16082 Nov 26 23:45	7° $\text{Z}$ 46'42	
retrograde	16077 Jan 28 10:59	5° $\overline{\text{M}}$ 12'50				
opposition	16077 Apr 08 02:15	1° $\overline{\text{M}}$ 49'36 -0°42'30	conjunction	16082 Dec 14 07:40	9° $\text{Z}$ 52'16 1°15'10	
min. Earth dist.	16077 Apr 07 12:51	1° $\overline{\text{M}}$ 52'10 8.59152 AU	minimum elong	16082 Dec 14 07:39	9° $\text{Z}$ 52'16 1°15'56	
	16077 May 03 05:25	30° $\overline{\text{R}}$ $\underline{\text{A}}$	max. Earth dist.	16082 Dec 14 21:10	9° $\text{Z}$ 56'22 10.67988 AU	
direct	16077 Jun 15 22:51	28° $\underline{\text{A}}$ 28'15	morning rise	16082 Dec 31 17:45	11° $\text{Z}$ 58'29	
	16077 Jul 28 11:52	0° $\overline{\text{M}}$	retrograde	16083 Apr 14 18:18	19° $\text{Z}$ 30'23	
evening set	16077 Sep 25 13:00	5° $\overline{\text{M}}$ 55'28	opposition	16083 Jun 23 04:42	16° $\text{Z}$ 06'39 1°41'07	
			min. Earth dist.	16083 Jun 22 18:27	16° $\text{Z}$ 08'38 8.67889 AU	
conjunction	16077 Oct 12 15:17	8° $\overline{\text{M}}$ 01'09 -0°24'05	direct	16083 Aug 30 13:00	12° $\text{Z}$ 45'20	
minimum elong	16077 Oct 12 15:17	8° $\overline{\text{M}}$ 01'09 0°23'42	evening set	16083 Dec 09 18:40	20° $\text{Z}$ 06'30	
max. Earth dist.	16077 Oct 13 08:20	8° $\overline{\text{M}}$ 06'25 10.60539 AU				
morning rise	16077 Oct 29 19:09	10° $\overline{\text{M}}$ 07'19	conjunction	16083 Dec 27 03:43	22° $\text{Z}$ 12'19 1°27'51	
	16077 Dec 14 08:51	15° $\overline{\text{M}}$	minimum elong	16083 Dec 27 03:42	22° $\text{Z}$ 12'19 1°28'35	
retrograde	16078 Feb 10 11:13	17° $\overline{\text{M}}$ 42'16	max. Earth dist.	16083 Dec 27 14:35	22° $\text{Z}$ 15'37 10.67479 AU	
	16078 Apr 12 04:54	15° $\overline{\text{R}}$ $\overline{\text{M}}$	morning rise	16084 Jan 13 14:47	24° $\text{Z}$ 18'45	
opposition	16078 Apr 21 03:49	14° $\overline{\text{M}}$ 18'57 -0°16'08		16084 Mar 10 00:01	0° $\approx$	
min. Earth dist.	16078 Apr 20 12:45	14° $\overline{\text{M}}$ 21'51 8.61887 AU	retrograde	16084 Apr 26 14:36	1° $\approx$ 50'43	
direct	16078 Jun 28 22:08	10° $\overline{\text{M}}$ 58'00		16084 Jun 14 02:42	30° $\overline{\text{R}}$ $\text{Z}$	
	16078 Sep 08 06:14	15° $\overline{\text{M}}$	opposition	16084 Jul 04 20:21	28° $\text{Z}$ 26'53 1°54'17	
evening set	16078 Oct 08 05:24	18° $\overline{\text{M}}$ 22'31	min. Earth dist.	16084 Jul 04 12:46	28° $\text{Z}$ 28'22 8.67094 AU	
			direct	16084 Sep 11 03:34	25° $\text{Z}$ 05'06	
conjunction	16078 Oct 25 08:47	20° $\overline{\text{M}}$ 28'04 -0°02'24		16084 Nov 30 01:55	0° $\approx$	
minimum elong	16078 Oct 25 08:47	20° $\overline{\text{M}}$ 28'04 0°01'53	evening set	16084 Dec 21 15:05	2° $\approx$ 27'33	
behind sun begin	16078 Oct 25 01:40	20° $\overline{\text{M}}$ 25'54				
behind sun end	16078 Oct 25 15:54	20° $\overline{\text{M}}$ 30'14	conjunction	16085 Jan 08 01:16	4° $\approx$ 33'45 1°36'29	
max. Earth dist.	16078 Oct 26 03:06	20° $\overline{\text{M}}$ 33'42 10.63130 AU	minimum elong	16085 Jan 08 01:16	4° $\approx$ 33'45 1°37'09	
morning rise	16078 Nov 11 14:02	22° $\overline{\text{M}}$ 34'10	max. Earth dist.	16085 Jan 08 08:15	4° $\approx$ 35'52 10.66384 AU	
asc. node	16078 Dec 05 04:09	25° $\overline{\text{M}}$ 16'30	morning rise	16085 Jan 25 13:24	6° $\approx$ 40'30	
	16079 Feb 10 20:14	0° $\text{Z}$	retrograde	16085 May 09 11:10	14° $\approx$ 12'37	
retrograde	16079 Feb 23 10:52	0° $\text{Z}$ 08'03	opposition	16085 Jul 17 11:47	10° $\approx$ 48'43 2°02'13	
	16079 Mar 08 00:24	30° $\overline{\text{R}}$ $\overline{\text{M}}$	min. Earth dist.	16085 Jul 17 07:30	10° $\approx$ 49'34 8.65739 AU	
min. Earth dist.	16079 May 03 11:40	26° $\overline{\text{M}}$ 47'38 8.64292 AU	direct	16085 Sep 23 18:06	7° $\approx$ 26'20	
opposition	16079 May 04 03:03	26° $\overline{\text{M}}$ 44'40 0°10'51	evening set	16086 Jan 03 13:19	14° $\approx$ 50'38	
direct	16079 Jul 11 17:01	23° $\overline{\text{M}}$ 23'57		16086 Jan 04 20:45	15° $\approx$	
	16079 Oct 14 09:04	0° $\text{Z}$				



conjunction	16086 Jan 21 00:44	16° $\approx$ 57'18	1°40'41	max. Earth dist.	16092 Apr 07 18:12	2° $\approx$ 26'50	10.49112 AU
minimum elong	16086 Jan 21 00:44	16° $\approx$ 57'18	1°41'14	morning rise	16092 Apr 26 00:52	4° $\approx$ 41'46	
max. Earth dist.	16086 Jan 21 03:50	16° $\approx$ 58'15	10.64767 AU	retrograde	16092 Aug 06 06:01	12° $\approx$ 17'19	
morning rise	16086 Feb 07 13:49	19° $\approx$ 04'27		opposition	16092 Oct 13 03:18	8° $\approx$ 53'57	0°28'01
retrograde	16086 May 22 05:46	26° $\approx$ 36'47		min. Earth dist.	16092 Oct 13 15:52	8° $\approx$ 51'28	8.47854 AU
opposition	16086 Jul 30 03:12	23° $\approx$ 12'51	2°04'30	direct	16092 Dec 21 00:47	5° $\approx$ 27'53	
min. Earth dist.	16086 Jul 30 01:57	23° $\approx$ 13'06	8.63888 AU	evening set	16093 Apr 04 04:42	13° $\approx$ 11'16	
direct	16086 Oct 06 11:39	19° $\approx$ 49'50			16093 Apr 18 21:41	15° $\approx$	
evening set	16087 Jan 16 13:18	27° $\approx$ 16'23					
conjunction	16087 Feb 03 02:04	29° $\approx$ 23'37	1°40'10	conjunction	16093 Apr 21 20:26	15° $\approx$ 21'59	0°11'33
minimum elong	16087 Feb 03 02:04	29° $\approx$ 23'38	1°40'36	minimum elong	16093 Apr 21 20:27	15° $\approx$ 22'00	0°11'05
max. Earth dist.	16087 Feb 03 01:55	29° $\approx$ 23'35	10.62697 AU	behind sun begin	16093 Apr 21 15:06	15° $\approx$ 20'21	
	16087 Feb 08 01:31	0° $\approx$		behind sun end	16093 Apr 22 01:48	15° $\approx$ 23'38	
morning rise	16087 Feb 20 15:56	1° $\approx$ 31'12		max. Earth dist.	16093 Apr 21 03:49	15° $\approx$ 16'50	10.46652 AU
retrograde	16087 Jun 04 03:03	9° $\approx$ 03'54		morning rise	16093 May 09 10:08	17° $\approx$ 32'13	
opposition	16087 Aug 11 19:20	5° $\approx$ 39'56	2°00'59	retrograde	16093 Aug 19 12:05	25° $\approx$ 08'41	
min. Earth dist.	16087 Aug 11 20:26	5° $\approx$ 39'43	8.61617 AU	opposition	16093 Oct 26 06:50	21° $\approx$ 45'35	0°00'15
direct	16087 Oct 19 05:11	2° $\approx$ 16'18		min. Earth dist.	16093 Oct 26 19:50	21° $\approx$ 43'01	8.45570 AU
evening set	16088 Jan 29 15:02	9° $\approx$ 45'19		desc. node	16093 Oct 29 12:47	21° $\approx$ 30'12	
				direct	16094 Jan 03 06:04	18° $\approx$ 19'24	
				evening set	16094 Apr 17 16:43	26° $\approx$ 05'14	
conjunction	16088 Feb 16 05:07	11° $\approx$ 53'13	1°34'56	conjunction	16094 May 05 07:14	28° $\approx$ 16'07	-0°11'11
minimum elong	16088 Feb 16 05:08	11° $\approx$ 53'14	1°35'13	minimum elong	16094 May 05 07:13	28° $\approx$ 16'07	0°11'46
max. Earth dist.	16088 Feb 16 02:01	11° $\approx$ 52'17	10.60260 AU	behind sun begin	16094 May 05 02:12	28° $\approx$ 14'34	
morning rise	16088 Mar 04 19:38	14° $\approx$ 01'20		behind sun end	16094 May 05 12:15	28° $\approx$ 17'40	
retrograde	16088 Jun 16 02:09	21° $\approx$ 34'26		max. Earth dist.	16094 May 04 14:22	28° $\approx$ 10'52	10.44585 AU
opposition	16088 Aug 23 12:33	18° $\approx$ 10'28	1°51'43		16094 May 19 05:20	0° $\approx$	
min. Earth dist.	16088 Aug 23 16:14	18° $\approx$ 09'45	8.59017 AU	morning rise	16094 May 22 19:19	0° $\approx$ 26'23	
direct	16088 Oct 30 23:01	14° $\approx$ 46'13		retrograde	16094 Sep 01 19:23	8° $\approx$ 03'48	
evening set	16089 Feb 10 18:58	22° $\approx$ 18'00		opposition	16094 Nov 08 12:58	4° $\approx$ 41'00	-0°27'41
conjunction	16089 Feb 28 10:07	24° $\approx$ 26'35	1°25'09	min. Earth dist.	16094 Nov 09 02:17	4° $\approx$ 38'22	8.43751 AU
minimum elong	16089 Feb 28 10:09	24° $\approx$ 26'36	1°25'17	direct	16095 Jan 16 13:37	1° $\approx$ 14'49	
max. Earth dist.	16089 Feb 28 03:09	24° $\approx$ 24'27	10.57554 AU	evening set	16095 May 01 05:32	9° $\approx$ 02'42	
morning rise	16089 Mar 18 01:11	26° $\approx$ 35'14					
	16089 Apr 17 09:33	0° $\approx$		conjunction	16095 May 18 18:13	11° $\approx$ 13'30	-0°33'21
retrograde	16089 Jun 29 01:14	4° $\approx$ 08'47		minimum elong	16095 May 18 18:12	11° $\approx$ 13'29	0°34'01
opposition	16089 Sep 05 07:08	0° $\approx$ 44'54	1°37'03	max. Earth dist.	16095 May 18 01:11	11° $\approx$ 08'10	10.43027 AU
min. Earth dist.	16089 Sep 05 13:58	0° $\approx$ 43'33	8.56202 AU	morning rise	16095 Jun 05 04:27	13° $\approx$ 23'38	
	16089 Sep 14 20:31	30° $\approx$		retrograde	16095 Sep 15 02:37	21° $\approx$ 01'59	
direct	16089 Nov 12 19:46	27° $\approx$ 20'02		opposition	16095 Nov 21 21:21	17° $\approx$ 39'28	-0°54'19
	16090 Jan 08 23:20	0° $\approx$		min. Earth dist.	16095 Nov 22 10:43	17° $\approx$ 36'50	8.42498 AU
evening set	16090 Feb 24 00:53	4° $\approx$ 54'46		direct	16096 Jan 30 00:25	14° $\approx$ 13'24	
				evening set	16096 May 13 18:28	22° $\approx$ 02'46	
conjunction	16090 Mar 13 16:44	7° $\approx$ 04'01	1°11'13	conjunction	16096 May 31 04:58	24° $\approx$ 13'16	-0°53'53
minimum elong	16090 Mar 13 16:46	7° $\approx$ 04'02	1°11'11	minimum elong	16096 May 31 04:57	24° $\approx$ 13'15	0°54'37
max. Earth dist.	16090 Mar 13 05:45	7° $\approx$ 00'39	10.54701 AU	max. Earth dist.	16096 May 30 12:39	24° $\approx$ 08'09	10.42064 AU
morning rise	16090 Mar 31 08:09	9° $\approx$ 13'12		morning rise	16096 Jun 17 13:07	26° $\approx$ 23'07	
retrograde	16090 Jul 12 01:40	16° $\approx$ 47'17			16096 Jul 19 00:09	0° $\approx$	
opposition	16090 Sep 18 03:44	13° $\approx$ 23'33	1°17'36	retrograde	16096 Sep 27 10:29	4° $\approx$ 02'20	
min. Earth dist.	16090 Sep 18 13:31	13° $\approx$ 21'37	8.53306 AU	opposition	16096 Dec 04 07:51	0° $\approx$ 40'02	-1°18'15
direct	16090 Nov 25 18:42	9° $\approx$ 58'09		min. Earth dist.	16096 Dec 04 20:01	0° $\approx$ 37'39	8.41872 AU
evening set	16091 Mar 09 08:25	17° $\approx$ 35'50			16096 Dec 12 21:06	30° $\approx$	
max. Earth dist.	16091 Mar 26 10:28	19° $\approx$ 41'20	10.51839 AU	direct	16097 Feb 11 13:43	27° $\approx$ 14'12	
					16097 Apr 10 19:20	0° $\approx$	
conjunction	16091 Mar 27 00:39	19° $\approx$ 45'42	0°53'44	evening set	16097 May 27 06:49	5° $\approx$ 04'17	
minimum elong	16091 Mar 27 00:41	19° $\approx$ 45'43	0°53'33				
morning rise	16091 Apr 13 16:02	21° $\approx$ 55'22		conjunction	16097 Jun 13 14:58	7° $\approx$ 14'20	-1°11'41
retrograde	16091 Jul 25 03:13	29° $\approx$ 30'08		minimum elong	16097 Jun 13 14:57	7° $\approx$ 14'19	1°12'27
opposition	16091 Oct 01 02:25	26° $\approx$ 06'33	0°54'14	max. Earth dist.	16097 Jun 13 00:54	7° $\approx$ 09'54	10.41742 AU
min. Earth dist.	16091 Oct 01 14:07	26° $\approx$ 04'15	8.50476 AU	morning rise	16097 Jun 30 20:50	9° $\approx$ 23'43	
direct	16091 Dec 08 20:20	22° $\approx$ 40'45		retrograde	16097 Oct 10 20:07	17° $\approx$ 03'39	
	16092 Mar 18 18:52	0° $\approx$		opposition	16097 Dec 17 19:56	13° $\approx$ 41'30	-1°38'10
evening set	16092 Mar 21 17:47	0° $\approx$ 21'22		min. Earth dist.	16097 Dec 18 05:45	13° $\approx$ 39'35	8.41904 AU
conjunction	16092 Apr 08 10:02	2° $\approx$ 31'44	0°33'31	direct	16098 Feb 25 02:46	10° $\approx$ 16'02	
minimum elong	16092 Apr 08 10:04	2° $\approx$ 31'44	0°33'11	evening set	16098 Jun 09 17:56	18° $\approx$ 05'58	

conjunction	16098 Jun 26 23:49	20°☿15'27	-1°25'50
minimum elong	16098 Jun 26 23:47	20°☿15'26	1°26'34
max. Earth dist.	16098 Jun 26 13:11	20°☿12'06	10.42084 AU
morning rise	16098 Jul 14 03:27	22°☿24'18	
	16098 Oct 14 21:09	0°♄	
retrograde	16098 Oct 24 05:27	0°♄04'41	
	16098 Nov 02 14:34	30°♄	
opposition	16098 Dec 31 09:01	26°☿42'36	-1°53'03
min. Earth dist.	16098 Dec 31 15:53	26°☿41'16	8.42589 AU
direct	16099 Mar 10 16:35	23°☿17'34	
	16099 Jun 14 00:27	0°♄	
evening set	16099 Jun 23 03:13	1°♄06'31	
conjunction	16099 Jul 10 07:02	3°♄15'21	-1°35'34
minimum elong	16099 Jul 10 07:01	3°♄15'21	1°36'14
max. Earth dist.	16099 Jul 10 00:05	3°♄13'10	10.43055 AU
morning rise	16099 Jul 27 08:48	5°♄23'39	
retrograde	16099 Nov 06 14:32	13°♄04'12	
opposition	16100 Jan 13 22:36	9°♄42'06	-2°02'06
min. Earth dist.	16100 Jan 14 02:55	9°♄41'16	8.43848 AU
direct	16100 Mar 24 06:21	6°♄17'32	
evening set	16100 Jul 06 10:24	14°♄04'44	
	16100 Jul 13 20:18	15°♄	
conjunction	16100 Jul 23 12:21	16°♄12'55	-1°40'25
minimum elong	16100 Jul 23 12:21	16°♄12'55	1°40'59
max. Earth dist.	16100 Jul 23 08:22	16°♄11'40	10.44542 AU
morning rise	16100 Aug 09 12:46	18°♄20'40	
retrograde	16100 Nov 19 23:31	26°♄01'04	
opposition	16101 Jan 27 11:58	22°♄38'55	-2°04'55
min. Earth dist.	16101 Jan 27 14:02	22°♄38'31	8.45540 AU
direct	16101 Apr 06 18:35	19°♄14'51	
evening set	16101 Jul 19 15:02	26°♄59'41	
conjunction	16101 Aug 05 15:38	29°♄07'16	-1°40'10
minimum elong	16101 Aug 05 15:39	29°♄07'17	1°40'37
max. Earth dist.	16101 Aug 05 14:21	29°♄06'52	10.46387 AU
	16101 Aug 12 15:32	0°♄	
morning rise	16101 Aug 22 15:22	1°♄14'35	
retrograde	16101 Dec 03 06:26	8°♄54'41	