

	15600 Mar 03 19:38	15°♄	evening set	15605 Oct 01 21:31	6°♄06'21	
evening set	15600 Apr 22 14:34	24°♄45'54				
conjunction	15600 May 05 16:00	27°♄32'37 0°02'45	conjunction	15605 Oct 15 03:51	9°♄20'50 -0°12'33	
minimum elong	15600 May 05 16:00	27°♄32'37 0°02'03	minimum elong	15605 Oct 15 03:51	9°♄20'50 0°12'04	
behind sun begin	15600 May 05 07:58	27°♄28'21	behind sun begin	15605 Oct 14 22:13	9°♄17'24	
behind sun end	15600 May 06 00:03	27°♄36'53	behind sun end	15605 Oct 15 09:30	9°♄24'17	
max. Earth dist.	15600 May 05 05:35	27°♄27'04 6.51557 AU	max. Earth dist.	15605 Oct 14 20:34	9°♄16'23 5.90990 AU	
	15600 May 17 04:44	0°♄	morning rise	15605 Oct 28 11:47	12°♄36'18	
morning rise	15600 May 18 15:46	0°♄18'34		15605 Nov 07 09:44	15°♄	
desc. node	15600 Jul 08 22:53	10°♄19'37		15606 Jan 21 06:23	0°♄	
retrograde	15600 Sep 16 13:40	16°♄53'27	retrograde	15606 Mar 08 19:54	3°♄24'22	
opposition	15600 Nov 16 20:22	11°♄58'15 -0°08'16		15606 Apr 25 00:51	30°♄	
min. Earth dist.	15600 Nov 17 13:00	11°♄52'55 4.51205 AU	opposition	15606 May 07 00:11	28°♄24'57 -0°03'00	
direct	15601 Jan 18 07:18	6°♄57'40	min. Earth dist.	15606 May 06 15:12	28°♄27'59 3.88952 AU	
evening set	15601 May 22 15:49	24°♄00'26	asc. node	15606 Jun 13 02:07	24°♄15'12	
max. Earth dist.	15601 Jun 03 00:51	26°♄26'56 6.48558 AU	direct	15606 Jul 04 05:41	23°♄29'31	
			evening set	15606 Sep 07 06:24	0°♄	
conjunction	15601 Jun 04 14:10	26°♄47'01 -0°13'32		15606 Nov 09 01:30	13°♄49'59	
minimum elong	15601 Jun 04 14:09	26°♄47'00 0°14'24	conjunction	15606 Nov 22 12:37	17°♄07'17 0°08'10	
behind sun begin	15601 Jun 04 10:30	26°♄45'03	minimum elong	15606 Nov 22 12:36	17°♄07'16 0°09'00	
behind sun end	15601 Jun 04 17:48	26°♄48'58	behind sun begin	15606 Nov 22 05:29	17°♄02'56	
morning rise	15601 Jun 17 11:11	29°♄33'04	behind sun end	15606 Nov 22 19:43	17°♄11'36	
	15601 Jun 19 13:37	0°♄	max. Earth dist.	15606 Nov 23 21:01	17°♄27'06 5.89928 AU	
retrograde	15601 Oct 17 01:13	16°♄23'37	morning rise	15606 Dec 06 01:12	20°♄25'20	
opposition	15601 Dec 17 03:32	11°♄29'30 -0°30'14		15607 Jan 16 13:48	0°♄	
min. Earth dist.	15601 Dec 18 12:37	11°♄18'54 4.43822 AU	retrograde	15607 Apr 16 05:22	11°♄07'40	
direct	15602 Feb 17 11:36	6°♄28'47	min. Earth dist.	15607 Jun 13 04:26	6°♄15'51 3.93815 AU	
evening set	15602 Jun 22 04:11	23°♄58'31	opposition	15607 Jun 14 10:45	6°♄05'35 0°27'12	
max. Earth dist.	15602 Jul 02 19:16	26°♄18'58 6.37227 AU	direct	15607 Aug 11 15:44	1°♄09'34	
			evening set	15607 Dec 17 03:22	21°♄01'43	
conjunction	15602 Jul 05 01:13	26°♄48'47 -0°26'29				
minimum elong	15602 Jul 05 01:13	26°♄48'47 0°27'18	conjunction	15607 Dec 30 16:09	24°♄14'54 0°25'12	
morning rise	15602 Jul 17 21:12	29°♄38'49	minimum elong	15607 Dec 30 16:08	24°♄14'54 0°26'02	
	15602 Jul 19 11:45	0°♄	max. Earth dist.	15608 Jan 02 00:33	24°♄48'29 6.00088 AU	
	15602 Oct 10 16:07	15°♄	morning rise	15608 Jan 13 06:11	27°♄28'25	
retrograde	15602 Nov 18 07:52	17°♄14'40		15608 Jan 24 01:20	0°♄	
	15602 Dec 27 05:16	15°♄		15608 Apr 13 12:10	15°♄	
opposition	15603 Jan 18 01:33	12°♄20'33 -0°45'01	retrograde	15608 May 21 03:29	17°♄14'40	
min. Earth dist.	15603 Jan 19 17:05	12°♄07'47 4.29189 AU		15608 Jun 27 18:45	15°♄	
direct	15603 Mar 20 14:54	7°♄20'24	min. Earth dist.	15608 Jul 18 05:40	12°♄24'50 4.08065 AU	
	15603 Jun 03 11:39	15°♄	opposition	15608 Jul 19 21:20	12°♄11'27 0°45'14	
evening set	15603 Jul 24 03:10	25°♄38'10	direct	15608 Sep 16 19:37	7°♄13'47	
max. Earth dist.	15603 Aug 03 17:17	28°♄03'30 6.20340 AU		15608 Nov 29 16:22	15°♄	
			evening set	15609 Jan 21 11:55	26°♄10'56	
conjunction	15603 Aug 06 00:57	28°♄35'29 -0°32'18				
minimum elong	15603 Aug 06 00:58	28°♄35'29 0°32'49	conjunction	15609 Feb 03 23:26	29°♄15'48 0°32'09	
	15603 Aug 12 04:04	0°♄	minimum elong	15609 Feb 03 23:26	29°♄15'48 0°32'40	
morning rise	15603 Aug 18 22:28	1°♄33'01	max. Earth dist.	15609 Feb 06 09:01	29°♄48'45 6.17000 AU	
retrograde	15603 Dec 23 07:44	20°♄17'50		15609 Feb 07 04:40	0°♄	
opposition	15604 Feb 21 10:01	15°♄22'52 -0°46'51	morning rise	15609 Feb 17 11:13	2°♄20'26	
min. Earth dist.	15604 Feb 22 21:39	15°♄11'12 4.11203 AU	retrograde	15609 Jun 23 09:12	20°♄51'45	
direct	15604 Apr 21 19:55	10°♄24'12	min. Earth dist.	15609 Aug 21 06:51	16°♄00'44 4.25921 AU	
evening set	15604 Aug 26 07:22	29°♄40'47	opposition	15609 Aug 22 16:12	15°♄49'38 0°46'16	
	15604 Aug 27 15:48	0°♄	direct	15609 Oct 21 19:55	10°♄50'31	
max. Earth dist.	15604 Sep 06 16:12	2°♄23'09 6.02810 AU	evening set	15610 Feb 24 10:51	28°♄50'46	
				15610 Mar 01 17:00	0°♄	
conjunction	15604 Sep 08 08:37	2°♄47'16 -0°27'45				
minimum elong	15604 Sep 08 08:37	2°♄47'16 0°27'48	conjunction	15610 Mar 09 19:17	1°♄46'59 0°28'12	
morning rise	15604 Sep 21 10:34	5°♄54'27	minimum elong	15610 Mar 09 19:18	1°♄46'59 0°28'15	
retrograde	15605 Jan 28 20:28	25°♄53'55	max. Earth dist.	15610 Mar 11 12:26	2°♄09'38 6.34329 AU	
opposition	15605 Mar 29 08:40	20°♄57'13 -0°31'50	morning rise	15610 Mar 23 03:05	4°♄42'37	
min. Earth dist.	15605 Mar 30 01:10	20°♄51'44 3.95753 AU	retrograde	15610 Jul 24 07:09	22°♄09'07	
direct	15605 May 27 10:12	16°♄00'35	min. Earth dist.	15610 Sep 22 08:26	17°♄15'47 4.41391 AU	
	15605 Sep 06 03:03	0°♄	opposition	15610 Sep 23 03:43	17°♄09'29 0°33'22	

direct	15610 Nov 23 09:57	12° $\Upsilon$ 09'33		max. Earth dist.	15616 Sep 11 21:36	7° $\underline{\Delta}$ 35'43	6.00806 AU
evening set	15611 Mar 28 07:02	29° $\Upsilon$ 28'19					
	15611 Mar 30 18:23	0° $\mathcal{B}$		conjunction	15616 Sep 13 09:44	7° $\underline{\Delta}$ 57'24	-0°26'09
				minimum elong	15616 Sep 13 09:44	7° $\underline{\Delta}$ 57'24	0°26'07
conjunction	15611 Apr 10 11:38	2° $\mathcal{B}$ 18'03	0°16'18	morning rise	15616 Sep 26 12:28	11° $\underline{\Delta}$ 05'51	
minimum elong	15611 Apr 10 11:38	2° $\mathcal{B}$ 18'04	0°15'55		15617 Jan 06 15:15	0° $\mathcal{M}$	
max. Earth dist.	15611 Apr 11 01:15	2° $\mathcal{B}$ 25'22	6.46861 AU	retrograde	15617 Feb 03 06:57	1° $\mathcal{M}$ 13'55	
morning rise	15611 Apr 23 14:56	5° $\mathcal{B}$ 07'04			15617 Mar 02 21:51	30° $\mathcal{R}$ $\underline{\Delta}$	
	15611 Jun 12 17:20	15° $\mathcal{B}$		opposition	15617 Apr 03 17:30	26° $\underline{\Delta}$ 16'49	-0°28'20
retrograde	15611 Aug 23 02:04	21° $\mathcal{B}$ 53'29		min. Earth dist.	15617 Apr 04 06:55	26° $\underline{\Delta}$ 12'21	3.94348 AU
opposition	15611 Oct 23 05:47	16° $\mathcal{B}$ 56'35	0°12'15	direct	15617 Jun 01 16:13	21° $\underline{\Delta}$ 20'26	
min. Earth dist.	15611 Oct 23 06:32	16° $\mathcal{B}$ 56'20	4.50256 AU		15617 Aug 17 09:59	0° $\mathcal{M}$	
	15611 Nov 07 17:13	15° $\mathcal{R}$ $\mathcal{B}$		evening set	15617 Oct 07 04:16	11° $\mathcal{M}$ 29'57	
direct	15611 Dec 24 09:11	11° $\mathcal{B}$ 56'14					
	15612 Feb 09 00:45	15° $\mathcal{B}$		conjunction	15617 Oct 20 11:27	14° $\mathcal{M}$ 45'08	-0°09'46
evening set	15612 Apr 26 18:39	28° $\mathcal{B}$ 56'14		minimum elong	15617 Oct 20 11:28	14° $\mathcal{M}$ 45'08	0°09'13
	15612 May 01 18:45	0° $\mathcal{I}$		behind sun begin	15617 Oct 20 04:27	14° $\mathcal{M}$ 40'52	
				behind sun end	15617 Oct 20 18:28	14° $\mathcal{M}$ 49'25	
conjunction	15612 May 09 19:30	1° $\mathcal{I}$ 42'47	0°00'22	max. Earth dist.	15617 Oct 20 10:51	14° $\mathcal{M}$ 44'46	5.90326 AU
minimum elong	15612 May 09 19:31	1° $\mathcal{I}$ 42'48	0°00'22		15617 Oct 21 11:43	15° $\mathcal{M}$	
behind sun begin	15612 May 09 11:30	1° $\mathcal{I}$ 38'33		morning rise	15617 Nov 02 20:01	18° $\mathcal{M}$ 01'15	
behind sun end	15612 May 10 03:32	1° $\mathcal{I}$ 47'03			15617 Dec 25 18:47	0° $\mathcal{J}$	
max. Earth dist.	15612 May 09 03:24	1° $\mathcal{I}$ 34'12	6.51466 AU	retrograde	15618 Mar 14 07:18	8° $\mathcal{J}$ 51'11	
desc. node	15612 May 19 01:02	3° $\mathcal{I}$ 40'53		asc. node	15618 Apr 23 11:02	6° $\mathcal{J}$ 18'04	
morning rise	15612 May 22 19:01	4° $\mathcal{I}$ 28'40		opposition	15618 May 12 10:25	3° $\mathcal{J}$ 51'26	0°01'33
retrograde	15612 Sep 20 18:14	21° $\mathcal{I}$ 04'45		min. Earth dist.	15618 May 11 22:17	3° $\mathcal{J}$ 55'31	3.89122 AU
opposition	15612 Nov 21 00:01	16° $\mathcal{I}$ 09'47	-0°11'33		15618 Jun 14 11:58	30° $\mathcal{R}$ $\mathcal{M}$	
min. Earth dist.	15612 Nov 21 19:36	16° $\mathcal{I}$ 03'31	4.50431 AU	direct	15618 Jul 09 14:48	28° $\mathcal{M}$ 56'03	
direct	15613 Jan 22 11:13	11° $\mathcal{I}$ 09'09			15618 Aug 03 16:41	0° $\mathcal{J}$	
evening set	15613 May 26 20:36	28° $\mathcal{I}$ 15'14		evening set	15618 Nov 14 10:05	19° $\mathcal{J}$ 14'18	
	15613 Jun 03 23:31	0° $\mathcal{G}$					
max. Earth dist.	15613 Jun 07 03:32	0° $\mathcal{G}$ 41'02	6.47158 AU	conjunction	15618 Nov 27 21:26	22° $\mathcal{J}$ 31'17	0°10'59
				minimum elong	15618 Nov 27 21:26	22° $\mathcal{J}$ 31'17	0°11'49
conjunction	15613 Jun 08 18:53	1° $\mathcal{G}$ 02'17	-0°15'38	behind sun begin	15618 Nov 27 15:37	22° $\mathcal{J}$ 27'45	
minimum elong	15613 Jun 08 18:53	1° $\mathcal{G}$ 02'17	0°16'30	behind sun end	15618 Nov 28 03:14	22° $\mathcal{J}$ 34'48	
morning rise	15613 Jun 21 15:35	3° $\mathcal{G}$ 48'47		max. Earth dist.	15618 Nov 29 09:04	22° $\mathcal{J}$ 53'00	5.90880 AU
retrograde	15613 Oct 21 09:57	20° $\mathcal{G}$ 44'56		morning rise	15618 Dec 11 10:34	25° $\mathcal{J}$ 49'02	
opposition	15613 Dec 21 12:01	15° $\mathcal{G}$ 50'56	-0°32'51		15618 Dec 28 23:45	0° $\mathcal{Z}$	
min. Earth dist.	15613 Dec 22 21:47	15° $\mathcal{G}$ 40'06	4.41892 AU	retrograde	15619 Apr 21 07:39	16° $\mathcal{Z}$ 25'27	
direct	15614 Feb 21 17:08	10° $\mathcal{G}$ 50'20		min. Earth dist.	15619 Jun 18 06:38	11° $\mathcal{Z}$ 34'17	3.95445 AU
evening set	15614 Jun 26 13:30	28° $\mathcal{G}$ 26'35		opposition	15619 Jun 19 15:39	11° $\mathcal{Z}$ 23'06	0°30'40
	15614 Jul 03 14:31	0° $\Omega$		direct	15619 Aug 16 21:24	6° $\mathcal{Z}$ 26'53	
max. Earth dist.	15614 Jul 07 03:37	0° $\Omega$ 47'16	6.34901 AU	evening set	15619 Dec 22 07:36	26° $\mathcal{Z}$ 12'13	
conjunction	15614 Jul 09 10:27	1° $\Omega$ 17'44	-0°27'48	conjunction	15620 Jan 04 20:23	29° $\mathcal{Z}$ 24'23	0°26'51
minimum elong	15614 Jul 09 10:26	1° $\Omega$ 17'44	0°28'35	minimum elong	15620 Jan 04 20:22	29° $\mathcal{Z}$ 24'23	0°27'39
morning rise	15614 Jul 22 06:34	4° $\Omega$ 08'44		max. Earth dist.	15620 Jan 07 05:32	29° $\mathcal{Z}$ 58'15	6.02222 AU
	15614 Sep 13 13:10	15° $\Omega$			15620 Jan 07 08:30	0° $\approx$	
retrograde	15614 Nov 23 03:22	21° $\Omega$ 53'48		morning rise	15620 Jan 18 10:13	2° $\approx$ 36'47	
opposition	15615 Jan 22 18:04	16° $\Omega$ 59'41	-0°46'09		15620 Mar 16 04:22	15° $\approx$	
min. Earth dist.	15615 Jan 24 10:20	16° $\Omega$ 46'39	4.26616 AU	retrograde	15620 May 25 23:00	22° $\approx$ 12'59	
	15615 Feb 07 14:33	15° $\mathcal{R}$ $\Omega$		min. Earth dist.	15620 Jul 23 03:22	17° $\approx$ 22'46	4.10456 AU
direct	15615 Mar 25 05:01	11° $\Omega$ 59'43		opposition	15620 Jul 24 17:49	17° $\approx$ 09'49	0°46'21
	15615 May 09 03:08	15° $\Omega$			15620 Aug 10 09:55	15° $\mathcal{R}$ $\approx$	
	15615 Jul 26 22:16	0° $\mathcal{M}$		direct	15620 Sep 21 21:08	12° $\approx$ 11'54	
evening set	15615 Jul 28 19:33	0° $\mathcal{M}$ 25'53			15620 Nov 03 06:52	15° $\approx$	
max. Earth dist.	15615 Aug 08 11:04	2° $\mathcal{M}$ 52'54	6.17734 AU	evening set	15621 Jan 21 20:33	0° $\mathcal{H}$	
					15621 Jan 26 08:29	1° $\mathcal{H}$ 00'56	
conjunction	15615 Aug 10 17:45	3° $\mathcal{M}$ 24'28	-0°32'18				
minimum elong	15615 Aug 10 17:45	3° $\mathcal{M}$ 24'28	0°32'46	conjunction	15621 Feb 08 19:44	4° $\mathcal{H}$ 04'36	0°32'10
morning rise	15615 Aug 23 15:44	6° $\mathcal{M}$ 23'20		minimum elong	15621 Feb 08 19:44	4° $\mathcal{H}$ 04'36	0°32'39
retrograde	15615 Dec 28 10:29	25° $\mathcal{M}$ 18'51		max. Earth dist.	15621 Feb 11 04:48	4° $\mathcal{H}$ 37'04	6.19434 AU
opposition	15616 Feb 26 11:28	20° $\mathcal{M}$ 23'43	-0°45'44	morning rise	15621 Feb 22 07:01	7° $\mathcal{H}$ 07'57	
min. Earth dist.	15616 Feb 27 20:06	20° $\mathcal{M}$ 13'01	4.08792 AU	retrograde	15621 Jun 27 18:44	25° $\mathcal{H}$ 29'35	
direct	15616 Apr 26 15:52	15° $\mathcal{M}$ 25'22		min. Earth dist.	15621 Aug 25 19:43	20° $\mathcal{H}$ 38'35	4.28201 AU
	15616 Aug 10 14:40	0° $\underline{\Delta}$		opposition	15621 Aug 27 04:14	20° $\mathcal{H}$ 27'47	0°45'08
evening set	15616 Aug 31 07:55	4° $\underline{\Delta}$ 49'43		direct	15621 Oct 26 10:47	15° $\mathcal{H}$ 28'32	

	15622 Feb 13 08:20	0°♃		minimum elong	15627 Aug 15 08:19	8°♎08'09	0°32'33
evening set	15622 Mar 01 00:16	3°♃22'23		morning rise	15627 Aug 28 06:45	11°♎07'58	
					15627 Dec 22 14:06	0°♎	
conjunction	15622 Mar 14 08:07	6°♃17'35	0°26'53	retrograde	15628 Jan 02 10:48	0°♎11'25	
minimum elong	15622 Mar 14 08:07	6°♃17'36	0°26'53		15628 Jan 13 06:17	30°♎	
max. Earth dist.	15622 Mar 15 20:46	6°♃37'42	6.36290 AU	opposition	15628 Mar 02 09:48	25°♎16'01	-0°44'22
morning rise	15622 Mar 27 15:21	9°♃12'12		min. Earth dist.	15628 Mar 03 17:03	25°♎05'44	4.07099 AU
retrograde	15622 Jul 28 13:46	26°♃32'03		direct	15628 May 01 11:36	20°♎17'51	
opposition	15622 Sep 27 10:16	21°♃32'51	0°30'43		15628 Jul 23 15:16	0°♎	
min. Earth dist.	15622 Sep 26 18:30	21°♃38'00	4.42910 AU	evening set	15628 Sep 05 04:06	9°♎47'14	
direct	15622 Nov 27 20:39	16°♃32'49		max. Earth dist.	15628 Sep 16 22:37	12°♎36'36	5.99419 AU
	15623 Mar 14 11:32	0°♎					
evening set	15623 Apr 01 15:10	3°♎48'09		conjunction	15628 Sep 18 06:36	12°♎55'50	-0°24'28
				minimum elong	15628 Sep 18 06:37	12°♎55'50	0°24'22
conjunction	15623 Apr 14 19:18	6°♎37'20	0°14'11	morning rise	15628 Oct 01 09:53	16°♎05'12	
minimum elong	15623 Apr 14 19:18	6°♎37'20	0°13'44		15628 Dec 04 23:46	0°♎	
behind sun begin	15623 Apr 14 15:05	6°♎35'05		retrograde	15629 Feb 08 10:56	6°♎19'14	
behind sun end	15623 Apr 14 23:32	6°♎39'36		opposition	15629 Apr 08 20:22	1°♎21'52	-0°24'50
max. Earth dist.	15623 Apr 15 05:03	6°♎42'33	6.47844 AU	min. Earth dist.	15629 Apr 09 07:12	1°♎18'15	3.93423 AU
morning rise	15623 Apr 27 22:06	9°♎25'47			15629 Apr 19 05:09	30°♎	
	15623 May 24 21:07	15°♎		direct	15629 Jun 06 15:44	26°♎25'41	
retrograde	15623 Aug 27 05:26	26°♎09'29			15629 Jul 23 22:50	0°♎	
opposition	15623 Oct 27 10:15	21°♎12'54	0°08'53		15629 Oct 05 12:34	15°♎	
min. Earth dist.	15623 Oct 27 12:52	21°♎12'03	4.50688 AU	evening set	15629 Oct 12 05:22	16°♎37'28	
direct	15623 Dec 28 14:16	16°♎12'32					
desc. node	15624 Mar 25 10:14	25°♎48'38		conjunction	15629 Oct 25 13:00	19°♎53'06	-0°07'04
	15624 Apr 15 16:15	0°♎		minimum elong	15629 Oct 25 13:01	19°♎53'06	0°06'27
evening set	15624 May 01 00:28	3°♎12'16		behind sun begin	15629 Oct 25 05:12	19°♎48'20	
max. Earth dist.	15624 May 13 06:48	5°♎49'00	6.51349 AU	behind sun end	15629 Oct 25 20:49	19°♎57'52	
				max. Earth dist.	15629 Oct 25 15:00	19°♎54'17	5.89945 AU
conjunction	15624 May 14 01:01	5°♎58'43	-0°02'03	morning rise	15629 Nov 07 22:26	23°♎09'44	
minimum elong	15624 May 14 01:00	5°♎58'43	0°02'48		15629 Dec 06 19:53	0°♎	
behind sun begin	15624 May 13 17:00	5°♎54'28		asc. node	15630 Mar 07 22:08	13°♎47'21	
behind sun end	15624 May 14 09:00	6°♎02'58		retrograde	15630 Mar 19 09:47	14°♎00'38	
morning rise	15624 May 26 23:54	8°♎44'27		opposition	15630 May 17 13:40	9°♎00'31	0°05'49
retrograde	15624 Sep 24 23:55	25°♎21'35		min. Earth dist.	15630 May 16 22:16	9°♎05'43	3.89338 AU
opposition	15624 Nov 25 05:47	20°♎26'53	-0°14'53	direct	15630 Jul 14 16:45	4°♎05'04	
min. Earth dist.	15624 Nov 26 03:19	20°♎19'59	4.49803 AU	evening set	15630 Nov 19 12:12	24°♎21'30	
direct	15625 Jan 26 17:16	15°♎26'19					
	15625 May 18 23:29	0°♎		conjunction	15630 Dec 03 00:01	27°♎38'18	0°13'34
evening set	15625 May 31 03:16	2°♎34'50		minimum elong	15630 Dec 03 00:00	27°♎38'18	0°14'26
max. Earth dist.	15625 Jun 11 06:33	4°♎59'07	6.46080 AU	behind sun begin	15630 Dec 02 20:18	27°♎36'03	
				behind sun end	15630 Dec 03 03:43	27°♎40'33	
conjunction	15625 Jun 13 01:04	5°♎22'08	-0°17'41	max. Earth dist.	15630 Dec 04 14:48	28°♎01'55	5.91675 AU
minimum elong	15625 Jun 13 01:04	5°♎22'08	0°18'34		15630 Dec 12 17:08	0°♎	
morning rise	15625 Jun 25 21:41	8°♎08'59		morning rise	15630 Dec 16 13:24	0°♎55'47	
retrograde	15625 Oct 25 21:09	25°♎09'26		retrograde	15631 Apr 26 06:49	21°♎27'33	
opposition	15625 Dec 25 21:46	20°♎15'27	-0°35'22	min. Earth dist.	15631 Jun 23 05:39	16°♎36'16	3.96710 AU
min. Earth dist.	15625 Dec 27 08:53	20°♎04'11	4.40444 AU	opposition	15631 Jun 24 14:50	16°♎25'01	0°33'45
direct	15626 Feb 26 02:09	15°♎14'53		direct	15631 Aug 21 22:54	11°♎28'37	
	15626 Jun 17 13:11	0°♎			15631 Dec 22 08:57	0°♎	
evening set	15626 Jun 30 23:01	2°♎55'40		evening set	15631 Dec 27 06:45	1°♎08'58	
max. Earth dist.	15626 Jul 11 13:34	5°♎17'06	6.33199 AU				
				conjunction	15632 Jan 09 19:39	4°♎20'26	0°28'15
conjunction	15626 Jul 13 20:03	5°♎47'29	-0°29'00	minimum elong	15632 Jan 09 19:38	4°♎20'26	0°29'00
minimum elong	15626 Jul 13 20:03	5°♎47'29	0°29'45	max. Earth dist.	15632 Jan 12 06:37	4°♎55'13	6.03833 AU
morning rise	15626 Jul 26 16:04	8°♎39'09		morning rise	15632 Jan 23 09:22	7°♎32'01	
	15626 Aug 25 04:20	15°♎			15632 Feb 25 13:31	15°♎	
retrograde	15626 Nov 27 19:09	26°♎31'00		retrograde	15632 May 30 14:08	27°♎00'29	
opposition	15627 Jan 27 09:41	21°♎36'46	-0°47'02	min. Earth dist.	15632 Jul 27 19:15	22°♎10'34	4.12255 AU
min. Earth dist.	15627 Jan 29 00:54	21°♎24'05	4.24781 AU	opposition	15632 Jul 29 10:09	21°♎57'29	0°47'11
direct	15627 Mar 29 16:51	16°♎37'00		direct	15632 Sep 26 15:23	16°♎59'25	
	15627 Jul 10 11:23	0°♎			15633 Jan 05 03:29	0°♎	
evening set	15627 Aug 02 10:00	5°♎08'44		evening set	15633 Jan 31 02:22	5°♎42'48	
max. Earth dist.	15627 Aug 13 03:08	7°♎37'19	6.15903 AU				
				conjunction	15633 Feb 13 13:13	8°♎45'32	0°32'02
conjunction	15627 Aug 15 08:18	8°♎08'09	-0°32'09	minimum elong	15633 Feb 13 13:13	8°♎45'33	0°32'26

max. Earth dist.	15633 Feb 15 19:11	9° $\text{H}$ 16'08	6.21270 AU	minimum elong	15638 Jul 18 05:45	10° $\text{Q}$ 18'59	0°30'42
morning rise	15633 Feb 27 00:14	11° $\text{H}$ 47'58		morning rise	15638 Jul 31 02:02	13° $\text{Q}$ 11'33	
	15633 Jun 27 09:39	0° $\text{Y}$			15638 Aug 08 05:37	15° $\text{Q}$	
retrograde	15633 Jul 02 04:43	0° $\text{Y}$ 02'14			15638 Nov 04 17:54	0° $\text{P}$	
	15633 Jul 06 23:18	30° $\text{R}$ $\text{H}$		retrograde	15638 Dec 02 14:31	1° $\text{P}$ 11'52	
min. Earth dist.	15633 Aug 30 08:23	25° $\text{H}$ 10'45	4.29922 AU		15638 Dec 30 10:23	30° $\text{R}$ $\text{Q}$	
opposition	15633 Aug 31 14:35	25° $\text{H}$ 00'44	0°43'50	opposition	15639 Feb 01 02:40	26° $\text{Q}$ 17'29	-0°47'36
direct	15633 Oct 31 00:58	20° $\text{H}$ 01'20		min. Earth dist.	15639 Feb 02 17:51	26° $\text{Q}$ 04'46	4.22467 AU
	15634 Jan 26 19:03	0° $\text{Y}$		direct	15639 Apr 03 06:45	21° $\text{Q}$ 17'49	
evening set	15634 Mar 05 12:15	7° $\text{Y}$ 50'36			15639 Jun 21 23:54	0° $\text{P}$	
				evening set	15639 Aug 07 02:14	9° $\text{P}$ 57'06	
conjunction	15634 Mar 18 19:50	10° $\text{Y}$ 45'05	0°25'28	max. Earth dist.	15639 Aug 17 22:05	12° $\text{P}$ 28'00	6.13526 AU
minimum elong	15634 Mar 18 19:51	10° $\text{Y}$ 45'06	0°25'24				
max. Earth dist.	15634 Mar 20 07:04	11° $\text{Y}$ 04'22	6.37784 AU	conjunction	15639 Aug 20 01:05	12° $\text{P}$ 57'44	-0°31'43
morning rise	15634 Apr 01 02:28	13° $\text{Y}$ 38'54		minimum elong	15639 Aug 20 01:06	12° $\text{P}$ 57'44	0°32'04
	15634 Jul 08 17:49	0° $\text{B}$		morning rise	15639 Sep 01 23:54	15° $\text{P}$ 58'46	
retrograde	15634 Aug 01 18:13	0° $\text{B}$ 53'33			15639 Nov 09 02:01	0° $\text{Q}$	
	15634 Aug 25 16:17	30° $\text{R}$ $\text{Y}$		retrograde	15640 Jan 07 14:07	5° $\text{Q}$ 12'21	
opposition	15634 Oct 01 16:27	25° $\text{Y}$ 54'42	0°27'59	opposition	15640 Mar 07 11:00	0° $\text{Q}$ 16'45	-0°42'35
min. Earth dist.	15634 Oct 01 01:40	25° $\text{Y}$ 59'31	4.44085 AU	min. Earth dist.	15640 Mar 08 16:27	0° $\text{Q}$ 07'03	4.04868 AU
direct	15634 Dec 02 04:16	20° $\text{Y}$ 54'40			15640 Mar 09 13:56	30° $\text{R}$ $\text{P}$	
	15635 Feb 24 17:12	0° $\text{B}$		direct	15640 May 06 07:47	25° $\text{P}$ 18'52	
evening set	15635 Apr 05 23:03	8° $\text{B}$ 07'21			15640 Jun 30 18:33	0° $\text{Q}$	
				evening set	15640 Sep 10 04:23	14° $\text{Q}$ 55'32	
conjunction	15635 Apr 19 02:36	10° $\text{B}$ 56'02	0°12'02	max. Earth dist.	15640 Sep 22 01:52	17° $\text{Q}$ 47'28	5.97535 AU
minimum elong	15635 Apr 19 02:36	10° $\text{B}$ 56'02	0°11'31				
behind sun begin	15635 Apr 18 20:50	10° $\text{B}$ 52'58		conjunction	15640 Sep 23 07:25	18° $\text{Q}$ 05'19	-0°22'30
behind sun end	15635 Apr 19 08:21	10° $\text{B}$ 59'07		minimum elong	15640 Sep 23 07:26	18° $\text{Q}$ 05'19	0°22'20
max. Earth dist.	15635 Apr 19 08:32	10° $\text{B}$ 59'12	6.48618 AU	morning rise	15640 Oct 06 11:42	21° $\text{Q}$ 15'59	
morning rise	15635 May 02 04:52	13° $\text{B}$ 43'59			15640 Nov 13 10:56	0° $\text{M}$	
	15635 May 08 04:31	15° $\text{B}$		retrograde	15641 Feb 13 19:29	11° $\text{M}$ 38'05	
retrograde	15635 Aug 14 19:40	0° $\text{I}$		opposition	15641 Apr 14 04:16	6° $\text{M}$ 40'19	-0°20'56
	15635 Aug 31 10:47	0° $\text{I}$ 25'27		min. Earth dist.	15641 Apr 14 11:14	6° $\text{M}$ 37'59	3.92097 AU
	15635 Sep 16 22:43	30° $\text{R}$ $\text{B}$		direct	15641 Jun 11 20:27	1° $\text{M}$ 44'16	
opposition	15635 Oct 31 14:55	25° $\text{B}$ 29'09	0°05'31		15641 Sep 17 22:09	15° $\text{M}$	
min. Earth dist.	15635 Oct 31 20:35	25° $\text{B}$ 27'20	4.51006 AU	evening set	15641 Oct 17 11:54	21° $\text{M}$ 59'46	
direct	15636 Jan 01 21:29	20° $\text{B}$ 28'44					
desc. node	15636 Jan 30 23:29	21° $\text{B}$ 42'56		conjunction	15641 Oct 30 20:21	25° $\text{M}$ 16'03	-0°04'10
	15636 Mar 29 06:35	0° $\text{I}$		minimum elong	15641 Oct 30 20:23	25° $\text{M}$ 16'04	0°03'30
evening set	15636 May 05 06:15	7° $\text{I}$ 28'16		behind sun begin	15641 Oct 30 12:08	25° $\text{M}$ 11'01	
max. Earth dist.	15636 May 17 08:15	10° $\text{I}$ 02'49	6.51157 AU	behind sun end	15641 Oct 31 04:37	25° $\text{M}$ 21'06	
				max. Earth dist.	15641 Oct 31 04:39	25° $\text{M}$ 21'07	5.89330 AU
conjunction	15636 May 18 06:19	10° $\text{I}$ 14'36	-0°04'24	morning rise	15641 Nov 13 06:24	28° $\text{M}$ 33'19	
minimum elong	15636 May 18 06:18	10° $\text{I}$ 14'35	0°05'10		15641 Nov 19 05:16	0° $\text{J}$	
behind sun begin	15636 May 17 22:32	10° $\text{I}$ 10'27		asc. node	15642 Jan 17 12:25	12° $\text{J}$ 52'23	
behind sun end	15636 May 18 14:04	10° $\text{I}$ 18'43		retrograde	15642 Mar 24 19:49	19° $\text{J}$ 25'47	
morning rise	15636 May 31 04:52	13° $\text{I}$ 00'15		opposition	15642 May 22 22:53	14° $\text{J}$ 25'15	0°10'16
retrograde	15636 Sep 29 05:31	29° $\text{I}$ 38'33		min. Earth dist.	15642 May 22 05:20	14° $\text{J}$ 31'11	3.89513 AU
opposition	15636 Nov 29 11:29	24° $\text{I}$ 43'56	-0°18'06	direct	15642 Jul 20 01:53	9° $\text{J}$ 29'45	
min. Earth dist.	15636 Nov 30 10:33	24° $\text{I}$ 36'32	4.49095 AU	evening set	15642 Nov 24 20:29	29° $\text{J}$ 44'09	
direct	15637 Jan 30 22:02	19° $\text{I}$ 43'18			15642 Nov 25 22:44	0° $\text{B}$	
	15637 May 01 21:40	0° $\text{Q}$					
evening set	15637 Jun 04 09:25	6° $\text{Q}$ 54'26		conjunction	15642 Dec 08 08:44	3° $\text{B}$ 00'41	0°16'10
max. Earth dist.	15637 Jun 15 11:43	9° $\text{Q}$ 18'31	6.44866 AU	minimum elong	15642 Dec 08 08:43	3° $\text{B}$ 00'40	0°17'02
				max. Earth dist.	15642 Dec 10 04:11	3° $\text{B}$ 27'03	5.92613 AU
conjunction	15637 Jun 17 07:06	9° $\text{Q}$ 42'05	-0°19'38	morning rise	15642 Dec 21 22:26	6° $\text{B}$ 17'49	
minimum elong	15637 Jun 17 07:06	9° $\text{Q}$ 42'05	0°20'31	retrograde	15643 May 01 09:48	26° $\text{B}$ 43'29	
morning rise	15637 Jun 30 03:19	12° $\text{Q}$ 29'16		min. Earth dist.	15643 Jun 28 07:16	21° $\text{B}$ 52'52	3.98320 AU
retrograde	15637 Oct 30 07:38	29° $\text{Q}$ 34'38		opposition	15643 Jun 29 18:55	21° $\text{B}$ 40'48	0°36'41
opposition	15637 Dec 30 07:45	24° $\text{Q}$ 40'41	-0°37'39	direct	15643 Aug 27 04:13	16° $\text{B}$ 44'12	
min. Earth dist.	15637 Dec 31 20:06	24° $\text{Q}$ 29'02	4.38764 AU		15643 Dec 04 19:15	0° $\text{A}$	
direct	15638 Mar 02 10:04	19° $\text{Q}$ 40'12		evening set	15644 Jan 01 10:57	6° $\text{A}$ 17'58	
	15638 May 31 07:02	0° $\text{Q}$					
evening set	15638 Jul 05 08:53	7° $\text{Q}$ 26'25		conjunction	15644 Jan 14 23:36	9° $\text{A}$ 28'21	0°29'29
max. Earth dist.	15638 Jul 15 21:19	9° $\text{Q}$ 47'22	6.31145 AU	minimum elong	15644 Jan 14 23:36	9° $\text{A}$ 28'21	0°30'12
				max. Earth dist.	15644 Jan 17 10:20	10° $\text{A}$ 02'50	6.05948 AU
conjunction	15638 Jul 18 05:45	10° $\text{Q}$ 19'00	-0°30'00	morning rise	15644 Jan 28 13:15	12° $\text{A}$ 38'51	

	15644 Feb 07 17:56	15°♊		max. Earth dist.	15649 Jun 19 11:31	13°♊30'55	6.43428 AU
	15644 Apr 30 03:20	0°♋					
retrograde	15644 Jun 04 07:57	1°♋57'21		conjunction	15649 Jun 21 11:12	13°♊56'54	-0°21'25
	15644 Jul 09 09:51	30°♋♊		minimum elong	15649 Jun 21 11:12	13°♊56'53	0°22'16
min. Earth dist.	15644 Aug 01 15:45	27°♊07'15	4.14663 AU	morning rise	15649 Jul 04 07:24	16°♊44'35	
opposition	15644 Aug 03 06:07	26°♊54'22	0°47'40		15649 Sep 12 11:56	0°♌	
direct	15644 Oct 01 15:32	21°♊56'02		retrograde	15649 Nov 03 17:51	3°♌55'54	
	15644 Dec 16 17:28	0°♋			15649 Dec 27 02:27	30°♋♊	
evening set	15645 Feb 04 22:38	10°♋31'15		opposition	15650 Jan 03 16:29	29°♊01'55	-0°39'41
				min. Earth dist.	15650 Jan 05 05:55	28°♊49'52	4.36746 AU
conjunction	15645 Feb 18 09:13	13°♋32'46	0°31'40	direct	15650 Mar 06 16:02	24°♊01'24	
minimum elong	15645 Feb 18 09:14	13°♋32'46	0°32'00		15650 May 11 12:07	0°♌	
max. Earth dist.	15645 Feb 20 15:14	14°♋03'12	6.23789 AU	evening set	15650 Jul 09 17:50	11°♌54'26	
morning rise	15645 Mar 03 19:31	16°♋33'49		max. Earth dist.	15650 Jul 20 06:45	14°♌16'22	6.28689 AU
	15645 May 11 04:49	0°♍					
retrograde	15645 Jul 06 14:11	4°♍38'10		conjunction	15650 Jul 22 14:59	14°♌48'04	-0°30'48
	15645 Sep 02 04:29	30°♋♋		minimum elong	15650 Jul 22 14:59	14°♌48'04	0°31'29
min. Earth dist.	15645 Sep 03 21:03	29°♋46'37	4.32341 AU		15650 Jul 23 12:10	15°♌	
opposition	15645 Sep 05 02:18	29°♋36'57	0°42'12	morning rise	15650 Aug 04 11:20	17°♌41'41	
direct	15645 Nov 04 16:16	24°♋37'28			15650 Oct 04 04:14	0°♎	
	15646 Jan 05 15:43	0°♍		retrograde	15650 Dec 07 10:17	5°♎52'04	
evening set	15646 Mar 10 00:51	12°♍19'39		opposition	15651 Feb 05 19:48	0°♎57'38	-0°47'52
				min. Earth dist.	15651 Feb 07 11:12	0°♎44'51	4.19729 AU
conjunction	15646 Mar 23 07:40	15°♍13'00	0°23'54		15651 Feb 13 06:15	30°♋♌	
minimum elong	15646 Mar 23 07:40	15°♍13'01	0°23'46	direct	15651 Apr 07 19:14	25°♌58'12	
max. Earth dist.	15646 Mar 24 14:12	15°♍29'38	6.39920 AU		15651 May 29 21:24	0°♎	
morning rise	15646 Apr 05 13:45	18°♍05'43		evening set	15651 Aug 11 19:15	14°♎46'44	
	15646 Jun 06 01:57	0°♏		max. Earth dist.	15651 Aug 22 15:43	17°♎19'01	6.10728 AU
retrograde	15646 Aug 05 23:05	5°♏13'11					
opposition	15646 Oct 05 22:10	0°♏14'38	0°25'06	conjunction	15651 Aug 24 18:29	17°♎48'48	-0°31'06
min. Earth dist.	15646 Oct 05 10:39	0°♏18'22	4.45797 AU	minimum elong	15651 Aug 24 18:30	17°♎48'49	0°31'22
	15646 Oct 07 19:06	30°♋♍		morning rise	15651 Sep 06 18:10	20°♎51'24	
direct	15646 Dec 06 14:09	25°♍14'27			15651 Oct 17 22:16	0°♏	
	15647 Feb 03 11:08	0°♏		retrograde	15652 Jan 12 18:49	10°♏17'05	
evening set	15647 Apr 10 05:29	12°♏22'51		opposition	15652 Mar 12 14:08	5°♏21'14	-0°40'30
	15647 Apr 22 12:14	15°♏		min. Earth dist.	15652 Mar 13 16:40	5°♏12'29	4.02250 AU
conjunction	15647 Apr 23 08:36	15°♏10'53	0°09'51	direct	15652 May 11 05:53	0°♏23'39	
minimum elong	15647 Apr 23 08:35	15°♏10'53	0°09'18	evening set	15652 Sep 15 06:58	20°♏09'15	
behind sun begin	15647 Apr 23 01:50	15°♏07'17		max. Earth dist.	15652 Sep 27 11:19	23°♏06'07	5.95379 AU
behind sun end	15647 Apr 23 15:21	15°♏14'28					
max. Earth dist.	15647 Apr 23 11:33	15°♏12'27	6.49785 AU	conjunction	15652 Sep 28 10:58	23°♏20'28	-0°20'22
morning rise	15647 May 06 10:08	17°♏58'08		minimum elong	15652 Sep 28 10:59	23°♏20'28	0°20'06
	15647 Jul 09 06:56	0°♐		morning rise	15652 Oct 11 16:02	26°♏32'33	
retrograde	15647 Sep 04 11:43	4°♐36'22			15652 Oct 26 03:54	0°♐	
	15647 Nov 02 04:34	30°♋♏		retrograde	15653 Jan 14 10:37	15°♐	
opposition	15647 Nov 04 17:51	29°♏40'19	0°02'13		15653 Feb 19 09:43	17°♐03'47	
min. Earth dist.	15647 Nov 05 01:19	29°♏37'54	4.51561 AU		15653 Mar 27 09:13	15°♋♐	
desc. node	15647 Dec 10 15:06	25°♏42'16		opposition	15653 Apr 19 15:05	12°♐05'44	-0°16'50
direct	15648 Jan 06 00:51	24°♏39'50		min. Earth dist.	15653 Apr 19 19:14	12°♐04'21	3.90652 AU
	15648 Mar 09 03:26	0°♐		direct	15653 Jun 17 04:29	7°♐09'56	
evening set	15648 May 09 09:48	11°♐38'33			15653 Aug 28 09:18	15°♐	
max. Earth dist.	15648 May 21 07:52	14°♐11'04	6.51048 AU	evening set	15653 Oct 22 21:57	27°♐29'35	
					15653 Nov 02 03:25	0°♑	
conjunction	15648 May 22 09:22	14°♐24'42	-0°06'38	conjunction	15653 Nov 05 07:11	0°♑46'33	-0°01'09
minimum elong	15648 May 22 09:21	14°♐24'42	0°07'26	minimum elong	15653 Nov 05 07:11	0°♑46'33	0°00'27
behind sun begin	15648 May 22 02:03	14°♐20'49		behind sun begin	15653 Nov 04 22:52	0°♑41'28	
behind sun end	15648 May 22 16:39	14°♐28'35		behind sun end	15653 Nov 05 15:30	0°♑51'38	
morning rise	15648 Jun 04 07:26	17°♐10'13		max. Earth dist.	15653 Nov 05 21:13	0°♑55'10	5.88756 AU
	15648 Aug 12 14:30	0°♑		morning rise	15653 Nov 18 18:04	4°♑04'27	
retrograde	15648 Oct 03 10:33	3°♑49'47		asc. node	15653 Nov 27 08:19	6°♑09'28	
	15648 Nov 25 03:36	30°♋♐		retrograde	15654 Mar 30 07:10	24°♑57'43	
opposition	15648 Dec 03 15:34	28°♐55'20	-0°21'07	opposition	15654 May 28 10:37	19°♑56'51	0°14'38
min. Earth dist.	15648 Dec 04 17:58	28°♐46'54	4.48306 AU	min. Earth dist.	15654 May 27 12:38	20°♑04'16	3.89907 AU
direct	15649 Feb 04 02:56	23°♐54'40		direct	15654 Jul 25 11:37	15°♑01'20	
	15649 Apr 12 14:26	0°♑			15654 Nov 08 06:03	0°♑	
evening set	15649 Jun 08 13:51	11°♑08'49		evening set	15654 Nov 30 07:25	5°♑12'41	

conjunction	15654 Dec 13 19:50	8° $\text{Z}$ 28'42	0°18'38			15660 Feb 06 18:24	0° $\text{II}$	
minimum elong	15654 Dec 13 19:49	8° $\text{Z}$ 28'41	0°19'29	evening set		15660 May 13 14:38	15° $\text{II}$ 53'05	
max. Earth dist.	15654 Dec 15 18:22	8° $\text{Z}$ 56'50	5.93910 AU	max. Earth dist.		15660 May 25 08:46	18° $\text{II}$ 23'42	6.50475 AU
morning rise	15654 Dec 27 09:53	11° $\text{Z}$ 45'18						
	15655 Mar 31 18:28	0° $\approx$		conjunction		15660 May 26 13:55	18° $\text{II}$ 39'19	-0°08'54
retrograde	15655 May 06 13:28	2° $\approx$ 03'17		minimum elong		15660 May 26 13:54	18° $\text{II}$ 39'19	0°09'44
	15655 Jun 11 07:10	30° $\text{R}$ $\text{Z}$		behind sun begin		15660 May 26 07:21	18° $\text{II}$ 35'49	
min. Earth dist.	15655 Jul 03 11:19	27° $\text{Z}$ 12'55	4.00339 AU	behind sun end		15660 May 26 20:28	18° $\text{II}$ 42'48	
opposition	15655 Jul 05 00:28	27° $\text{Z}$ 00'20	0°39'17	morning rise		15660 Jun 08 11:35	21° $\text{II}$ 24'54	
direct	15655 Sep 01 13:02	22° $\text{Z}$ 03'27				15660 Jul 21 06:53	0° $\text{S}$	
	15655 Nov 14 12:06	0° $\approx$		retrograde		15660 Oct 07 16:27	8° $\text{S}$ 07'11	
evening set	15656 Jan 06 15:50	11° $\approx$ 29'01		opposition		15660 Dec 07 21:38	3° $\text{S}$ 12'49	-0°24'09
				min. Earth dist.		15660 Dec 09 01:23	3° $\text{S}$ 03'55	4.47071 AU
conjunction	15656 Jan 20 04:26	14° $\approx$ 38'11	0°30'28			15661 Jan 04 05:13	30° $\text{R}$ $\text{II}$	
minimum elong	15656 Jan 20 04:26	14° $\approx$ 38'11	0°31'08	direct		15661 Feb 08 07:09	28° $\text{II}$ 12'05	
	15656 Jan 21 17:49	15° $\approx$				15661 Mar 15 12:28	0° $\text{S}$	
max. Earth dist.	15656 Jan 22 17:12	15° $\approx$ 13'39	6.08480 AU	evening set		15661 Jun 12 20:49	15° $\text{S}$ 30'39	
morning rise	15656 Feb 02 17:33	17° $\approx$ 47'18		max. Earth dist.		15661 Jun 23 16:51	17° $\text{S}$ 52'24	6.41600 AU
	15656 Mar 31 15:54	0° $\text{H}$						
retrograde	15656 Jun 09 01:56	6° $\text{H}$ 54'18		conjunction		15661 Jun 25 18:04	18° $\text{S}$ 19'21	-0°23'09
min. Earth dist.	15656 Aug 06 12:01	2° $\text{H}$ 04'08	4.17416 AU	minimum elong		15661 Jun 25 18:03	18° $\text{S}$ 19'21	0°23'59
opposition	15656 Aug 08 01:52	1° $\text{H}$ 51'27	0°47'46	morning rise		15661 Jul 08 14:06	21° $\text{S}$ 07'42	
	15656 Aug 22 07:29	30° $\text{R}$ $\approx$				15661 Aug 20 19:22	0° $\text{Q}$	
direct	15656 Oct 06 15:13	26° $\approx$ 52'57		retrograde		15661 Nov 08 08:36	8° $\text{Q}$ 26'13	
	15656 Nov 20 22:43	0° $\text{H}$		opposition		15662 Jan 08 04:57	3° $\text{Q}$ 32'13	-0°41'36
evening set	15657 Feb 09 18:41	15° $\text{H}$ 19'07		min. Earth dist.		15662 Jan 09 20:15	3° $\text{Q}$ 19'35	4.34422 AU
						15662 Feb 07 19:09	30° $\text{R}$ $\text{S}$	
conjunction	15657 Feb 23 04:37	18° $\text{H}$ 19'13	0°31'04	direct		15662 Mar 11 02:13	28° $\text{S}$ 31'47	
minimum elong	15657 Feb 23 04:38	18° $\text{H}$ 19'14	0°31'20			15662 Apr 11 08:37	0° $\text{Q}$	
max. Earth dist.	15657 Feb 25 07:16	18° $\text{H}$ 47'35	6.26504 AU			15662 Jul 07 09:03	15° $\text{Q}$	
morning rise	15657 Mar 08 14:28	21° $\text{H}$ 18'54		evening set		15662 Jul 14 06:32	16° $\text{Q}$ 32'25	
	15657 Apr 18 23:03	0° $\text{Y}$		max. Earth dist.		15662 Jul 24 17:48	18° $\text{Q}$ 54'19	6.26029 AU
retrograde	15657 Jul 10 22:24	9° $\text{Y}$ 13'03						
min. Earth dist.	15657 Sep 08 10:11	4° $\text{Y}$ 21'03	4.34802 AU	conjunction		15662 Jul 27 03:47	19° $\text{Q}$ 27'11	-0°31'27
opposition	15657 Sep 09 13:12	4° $\text{Y}$ 12'08	0°40'17	minimum elong		15662 Jul 27 03:47	19° $\text{Q}$ 27'11	0°32'05
	15657 Oct 17 19:59	30° $\text{R}$ $\text{H}$		morning rise		15662 Aug 09 00:37	22° $\text{Q}$ 22'03	
direct	15657 Nov 09 07:27	29° $\text{H}$ 12'29				15662 Sep 13 06:02	0° $\text{H}$	
	15657 Dec 02 00:37	0° $\text{Y}$		retrograde		15662 Dec 12 09:18	10° $\text{H}$ 43'14	
evening set	15658 Mar 14 12:29	16° $\text{Y}$ 47'54		opposition		15663 Feb 10 17:16	5° $\text{H}$ 48'36	-0°47'50
				min. Earth dist.		15663 Feb 12 06:59	5° $\text{H}$ 36'19	4.16926 AU
conjunction	15658 Mar 27 18:54	19° $\text{Y}$ 40'14	0°22'10	direct		15663 Apr 12 11:51	0° $\text{H}$ 49'20	
minimum elong	15658 Mar 27 18:55	19° $\text{Y}$ 40'15	0°21'57	evening set		15663 Aug 16 16:33	19° $\text{H}$ 47'14	
max. Earth dist.	15658 Mar 28 22:39	19° $\text{Y}$ 55'17	6.41954 AU	max. Earth dist.		15663 Aug 27 17:46	22° $\text{H}$ 23'10	6.08040 AU
morning rise	15658 Apr 10 00:09	22° $\text{Y}$ 31'52						
	15658 May 16 09:08	0° $\text{S}$		conjunction		15663 Aug 29 16:30	22° $\text{H}$ 50'45	-0°30'13
retrograde	15658 Aug 10 02:31	9° $\text{S}$ 32'54		minimum elong		15663 Aug 29 16:30	22° $\text{H}$ 50'46	0°30'25
opposition	15658 Oct 10 03:37	4° $\text{S}$ 34'45	0°22'03	morning rise		15663 Sep 11 16:44	25° $\text{H}$ 54'50	
min. Earth dist.	15658 Oct 09 18:30	4° $\text{S}$ 37'42	4.47278 AU			15663 Sep 29 08:25	0° $\text{S}$	
	15658 Nov 24 06:31	30° $\text{R}$ $\text{Y}$		retrograde		15664 Jan 18 05:34	15° $\text{S}$ 31'53	
direct	15658 Dec 10 22:23	29° $\text{Y}$ 34'33		opposition		15664 Mar 17 21:20	10° $\text{S}$ 35'50	-0°38'00
	15658 Dec 27 17:39	0° $\text{S}$		min. Earth dist.		15664 Mar 18 21:50	10° $\text{S}$ 27'44	3.99945 AU
	15659 Apr 06 14:49	15° $\text{S}$		direct		15664 May 16 09:12	5° $\text{S}$ 38'34	
evening set	15659 Apr 14 12:01	16° $\text{S}$ 39'36		evening set		15664 Sep 20 13:16	25° $\text{S}$ 31'33	
conjunction	15659 Apr 27 14:24	19° $\text{S}$ 27'04	0°07'34	conjunction		15664 Oct 03 18:01	28° $\text{S}$ 43'57	-0°17'58
minimum elong	15659 Apr 27 14:24	19° $\text{S}$ 27'04	0°06'59	minimum elong		15664 Oct 03 18:02	28° $\text{S}$ 43'57	0°17'38
behind sun begin	15659 Apr 27 06:57	19° $\text{S}$ 23'07		max. Earth dist.		15664 Oct 02 22:54	28° $\text{S}$ 32'19	5.93703 AU
behind sun end	15659 Apr 27 21:51	19° $\text{S}$ 31'02				15664 Oct 08 22:55	0° $\text{M}$	
max. Earth dist.	15659 Apr 27 11:39	19° $\text{S}$ 25'38	6.50609 AU	morning rise		15664 Oct 17 00:06	1° $\text{M}$ 57'17	
morning rise	15659 May 10 15:31	22° $\text{S}$ 13'50				15664 Dec 14 20:27	15° $\text{M}$	
	15659 Jun 18 05:19	0° $\text{II}$		retrograde		15665 Feb 24 22:48	22° $\text{M}$ 35'05	
retrograde	15659 Sep 08 16:18	8° $\text{II}$ 50'09		opposition		15665 Apr 25 04:03	17° $\text{M}$ 36'38	-0°12'27
desc. node	15659 Oct 20 20:45	6° $\text{II}$ 14'51		min. Earth dist.		15665 Apr 25 03:06	17° $\text{M}$ 36'58	3.89848 AU
opposition	15659 Nov 08 21:45	3° $\text{II}$ 54'22	-0°01'12			15665 May 15 17:01	15° $\text{R}$ $\text{M}$	
min. Earth dist.	15659 Nov 09 09:06	3° $\text{II}$ 50'43	4.51694 AU	direct		15665 Jun 22 13:21	12° $\text{M}$ 41'02	
	15659 Dec 14 00:30	30° $\text{R}$ $\text{S}$				15665 Jul 30 01:36	15° $\text{M}$	
direct	15660 Jan 10 07:16	28° $\text{S}$ 53'48		asc. node		15665 Oct 04 07:01	27° $\text{M}$ 16'51	

	15665 Oct 15 20:16	0°♏		minimum elong	15671 May 01 18:38	23°♏38'17	0°04'40
evening set	15665 Oct 28 09:22	3°♏01'56		behind sun begin	15671 May 01 10:46	23°♏34'06	
				behind sun end	15671 May 02 02:30	23°♏42'27	
conjunction	15665 Nov 10 19:05	6°♏19'05	0°01'57	max. Earth dist.	15671 May 01 12:51	23°♏35'14	6.51002 AU
minimum elong	15665 Nov 10 19:06	6°♏19'06	0°02'42	morning rise	15671 May 14 19:05	26°♏24'42	
behind sun begin	15665 Nov 10 10:46	6°♏14'00			15671 Jun 01 00:03	0°♐	
behind sun end	15665 Nov 11 03:25	6°♏24'11		desc. node	15671 Sep 02 06:37	12°♐50'28	
max. Earth dist.	15665 Nov 11 14:33	6°♏31'02	5.88914 AU	retrograde	15671 Sep 12 18:24	13°♐00'40	
morning rise	15665 Nov 24 06:39	9°♏37'11		opposition	15671 Nov 13 00:36	8°♐05'13	-0°04'32
	15666 Mar 19 01:21	0°♑		min. Earth dist.	15671 Nov 13 14:09	8°♐00'52	4.51388 AU
retrograde	15666 Apr 04 17:05	0°♑27'54		direct	15672 Jan 14 10:18	3°♐04'43	
	15666 Apr 21 08:19	30°♑♏		evening set	15672 May 17 18:53	20°♐06'02	
opposition	15666 Jun 02 21:43	25°♏26'35	0°18'53	max. Earth dist.	15672 May 29 08:17	22°♐34'32	6.49488 AU
min. Earth dist.	15666 Jun 01 20:45	25°♏35'02	3.91011 AU				
direct	15666 Jul 31 00:32	20°♏30'56		conjunction	15672 May 30 17:42	22°♐52'29	-0°11'06
	15666 Oct 19 18:07	0°♑		minimum elong	15672 May 30 17:42	22°♐52'29	0°11'56
evening set	15666 Dec 05 16:50	10°♑36'22		behind sun begin	15672 May 30 12:11	22°♐49'32	
				behind sun end	15672 May 30 23:13	22°♐55'26	
conjunction	15666 Dec 19 05:32	13°♑51'32	0°20'55	morning rise	15672 Jun 12 15:12	25°♐38'22	
minimum elong	15666 Dec 19 05:31	13°♑51'32	0°21'46		15672 Jul 03 11:26	0°♑	
max. Earth dist.	15666 Dec 21 09:02	14°♑22'32	5.95840 AU	retrograde	15672 Oct 12 01:21	12°♑24'56	
morning rise	15667 Jan 01 19:26	17°♑07'07		opposition	15672 Dec 12 04:21	7°♑30'44	-0°27'03
	15667 Mar 02 00:29	0°♒		min. Earth dist.	15672 Dec 13 11:01	7°♑20'54	4.45464 AU
retrograde	15667 May 11 14:34	7°♒14'55		direct	15673 Feb 12 13:28	2°♑30'04	
min. Earth dist.	15667 Jul 08 13:02	2°♒24'40	4.02855 AU	evening set	15673 Jun 17 04:19	19°♑54'14	
opposition	15667 Jul 10 02:54	2°♒11'52	0°41'29	max. Earth dist.	15673 Jun 27 21:58	22°♑15'22	6.39490 AU
	15667 Jul 27 00:06	30°♑♑					
direct	15667 Sep 06 18:48	27°♑14'45		conjunction	15673 Jun 30 01:33	22°♑43'43	-0°24'45
	15667 Oct 18 10:45	0°♒		minimum elong	15673 Jun 30 01:33	22°♑43'43	0°25'34
	15668 Jan 05 03:40	15°♒		morning rise	15673 Jul 12 21:36	25°♑32'54	
evening set	15668 Jan 11 17:33	16°♒30'42			15673 Aug 02 15:32	0°♓	
				retrograde	15673 Nov 12 23:04	12°♓59'41	
conjunction	15668 Jan 25 05:43	19°♒38'25	0°31'12	opposition	15674 Jan 12 18:27	8°♓05'39	-0°43'15
minimum elong	15668 Jan 25 05:43	19°♒38'24	0°31'49	min. Earth dist.	15674 Jan 14 09:13	7°♓53'10	4.31953 AU
max. Earth dist.	15668 Jan 27 17:41	20°♒13'10	6.11311 AU	direct	15674 Mar 15 11:23	3°♓05'24	
morning rise	15668 Feb 07 18:33	22°♒46'03			15674 Jun 20 07:29	15°♓	
	15668 Mar 11 11:33	0°♓		evening set	15674 Jul 18 20:32	21°♓14'11	
retrograde	15668 Jun 13 14:17	11°♓40'59		max. Earth dist.	15674 Jul 29 09:59	23°♓38'09	6.23399 AU
min. Earth dist.	15668 Aug 11 04:39	6°♓50'46	4.20288 AU				
opposition	15668 Aug 12 17:51	6°♓38'19	0°47'31	conjunction	15674 Jul 31 18:03	24°♓10'08	-0°31'54
direct	15668 Oct 11 11:07	1°♓39'37		minimum elong	15674 Jul 31 18:03	24°♓10'08	0°32'27
evening set	15669 Feb 14 10:46	19°♓56'46		morning rise	15674 Aug 13 15:09	27°♓06'13	
					15674 Aug 26 12:28	0°♔	
conjunction	15669 Feb 27 20:16	22°♓55'33	0°30'17	retrograde	15674 Dec 17 11:16	15°♔38'07	
minimum elong	15669 Feb 27 20:17	22°♓55'33	0°30'29	opposition	15675 Feb 15 16:10	10°♔43'23	-0°47'26
max. Earth dist.	15669 Mar 01 20:03	23°♓22'10	6.29190 AU	min. Earth dist.	15675 Feb 17 05:21	10°♔31'15	4.14330 AU
morning rise	15669 Mar 13 05:21	25°♓53'49		direct	15675 Apr 17 07:27	5°♔44'25	
	15669 Apr 01 03:41	0°♕		evening set	15675 Aug 21 14:37	24°♔50'39	
retrograde	15669 Jul 15 04:55	13°♕38'29		max. Earth dist.	15675 Sep 01 18:50	27°♔29'13	6.05708 AU
opposition	15669 Sep 13 21:01	8°♕38'01	0°38'13				
min. Earth dist.	15669 Sep 12 20:56	8°♕45'56	4.37092 AU	conjunction	15675 Sep 03 15:07	27°♔55'29	-0°29'06
direct	15669 Nov 13 19:54	3°♕38'20		minimum elong	15675 Sep 03 15:07	27°♔55'29	0°29'13
evening set	15670 Mar 18 21:13	21°♕07'48			15675 Sep 12 09:04	0°♕	
				morning rise	15675 Sep 16 16:09	1°♕00'57	
conjunction	15670 Apr 01 02:57	23°♕59'14	0°20'22	retrograde	15676 Jan 23 13:39	20°♕47'49	
minimum elong	15670 Apr 01 02:58	23°♕59'15	0°20'05	opposition	15676 Mar 23 04:28	15°♕51'26	-0°35'09
max. Earth dist.	15670 Apr 02 01:16	24°♕11'18	6.43684 AU	min. Earth dist.	15676 Mar 24 00:42	15°♕44'44	3.98113 AU
morning rise	15670 Apr 14 07:44	26°♕50'00		direct	15676 May 21 11:16	10°♕54'28	
	15670 Apr 29 06:57	0°♖			15676 Sep 22 03:21	0°♖	
retrograde	15670 Aug 14 04:44	13°♖45'55		evening set	15676 Sep 25 18:53	0°♖52'52	
opposition	15670 Oct 14 06:47	8°♖48'10	0°18'57	max. Earth dist.	15676 Oct 08 10:32	3°♖57'45	5.92545 AU
min. Earth dist.	15670 Oct 14 00:56	8°♖50'04	4.48369 AU				
direct	15670 Dec 15 04:11	3°♖47'55		conjunction	15676 Oct 09 00:17	4°♖06'08	-0°15'27
	15671 Mar 21 03:49	15°♖		minimum elong	15676 Oct 09 00:18	4°♖06'09	0°15'02
evening set	15671 Apr 18 16:32	20°♖51'06		behind sun begin	15676 Oct 08 21:15	4°♖04'17	
				behind sun end	15676 Oct 09 03:21	4°♖08'00	
conjunction	15671 May 01 18:37	23°♖38'17	0°05'18	morning rise	15676 Oct 22 07:09	7°♖20'22	

	15676 Nov 23 23:33	15°♍		min. Earth dist.	15682 Oct 18 08:42	13°♏06'01	4.49151 AU
retrograde	15677 Mar 02 09:47	28°♍02'31		direct	15682 Dec 19 11:54	8°♏04'50	
opposition	15677 Apr 30 14:50	23°♍03'36	-0°08'00		15683 Mar 02 04:07	15°♏	
min. Earth dist.	15677 Apr 30 10:39	23°♍05'01	3.89487 AU	evening set	15683 Apr 22 22:47	25°♏06'46	
direct	15677 Jun 27 23:05	18°♍08'03					
asc. node	15677 Aug 10 23:31	21°♍17'11		conjunction	15683 May 06 00:16	27°♏53'41	0°02'57
	15677 Sep 27 13:19	0°♏		minimum elong	15683 May 06 00:15	27°♏53'41	0°02'15
evening set	15677 Nov 02 18:17	8°♏28'36		behind sun begin	15683 May 05 16:13	27°♏49'25	
				behind sun end	15683 May 06 08:18	27°♏57'57	
conjunction	15677 Nov 16 04:43	11°♏45'49	0°04'54	max. Earth dist.	15683 May 05 13:28	27°♏47'56	6.51190 AU
minimum elong	15677 Nov 16 04:42	11°♏45'49	0°05'42		15683 May 15 21:13	0°♐	
behind sun begin	15677 Nov 15 20:42	11°♏40'56		morning rise	15683 May 19 00:23	0°♐39'53	
behind sun end	15677 Nov 16 12:41	11°♏50'41		desc. node	15683 Jul 14 00:19	11°♐27'55	
max. Earth dist.	15677 Nov 17 06:33	12°♏01'39	5.89385 AU	retrograde	15683 Sep 16 23:49	17°♐15'57	
morning rise	15677 Nov 29 16:37	15°♏03'51		opposition	15683 Nov 17 05:41	12°♐20'45	-0°07'57
	15678 Feb 06 17:48	0°♑		min. Earth dist.	15683 Nov 17 21:44	12°♐15'36	4.51013 AU
retrograde	15678 Apr 10 01:03	5°♑50'45		direct	15684 Jan 18 16:09	7°♐20'14	
min. Earth dist.	15678 Jun 07 02:08	0°♑58'18	3.92261 AU	evening set	15684 May 22 01:01	24°♐23'30	
opposition	15678 Jun 08 05:16	0°♑49'06	0°22'52				
	15678 Jun 14 07:00	30°♒♏		conjunction	15684 Jun 03 23:40	27°♐10'10	-0°13'19
direct	15678 Aug 05 08:58	25°♏53'18		minimum elong	15684 Jun 03 23:40	27°♐10'10	0°14'09
	15678 Sep 25 06:09	0°♑		behind sun begin	15684 Jun 03 19:47	27°♐08'05	
evening set	15678 Dec 10 23:11	15°♑52'46		behind sun end	15684 Jun 04 03:33	27°♐12'15	
				max. Earth dist.	15684 Jun 02 12:51	26°♐51'26	6.48606 AU
conjunction	15678 Dec 24 11:50	19°♑07'03	0°23'00	morning rise	15684 Jun 16 20:41	29°♐56'15	
minimum elong	15678 Dec 24 11:50	19°♑07'03	0°23'51		15684 Jun 17 03:41	0°♑	
max. Earth dist.	15678 Dec 26 16:59	19°♑38'53	5.97702 AU	retrograde	15684 Oct 16 09:13	16°♑46'26	
morning rise	15679 Jan 07 01:55	22°♑21'45		opposition	15684 Dec 16 12:42	11°♑52'22	-0°29'54
	15679 Feb 09 11:36	0°♒		min. Earth dist.	15684 Dec 17 19:49	11°♑42'24	4.44163 AU
retrograde	15679 May 16 10:44	12°♒20'04		direct	15685 Feb 16 19:51	6°♑51'50	
min. Earth dist.	15679 Jul 13 11:15	7°♒30'05	4.05125 AU	evening set	15685 Jun 21 13:11	24°♑20'18	
opposition	15679 Jul 15 02:16	7°♒16'54	0°43'22	max. Earth dist.	15685 Jul 02 05:50	26°♑41'27	6.37870 AU
direct	15679 Sep 11 20:28	2°♒19'31					
	15679 Dec 18 18:46	15°♒		conjunction	15685 Jul 04 10:09	27°♑10'20	-0°26'16
evening set	15680 Jan 16 16:50	21°♒27'12		minimum elong	15685 Jul 04 10:08	27°♑10'19	0°27'05
				morning rise	15685 Jul 17 06:11	0°♒00'08	
conjunction	15680 Jan 30 04:44	24°♒33'40	0°31'42		15685 Jul 17 05:57	0°♒	
minimum elong	15680 Jan 30 04:44	24°♒33'40	0°32'16		15685 Oct 07 04:40	15°♒	
max. Earth dist.	15680 Feb 01 15:23	25°♒07'29	6.13778 AU	retrograde	15685 Nov 17 15:30	17°♒33'24	
morning rise	15680 Feb 12 17:03	27°♒39'59			15685 Dec 29 08:29	15°♒♏	
	15680 Feb 23 00:26	0°♓		opposition	15686 Jan 17 08:51	12°♒39'21	-0°44'43
retrograde	15680 Jun 18 04:01	16°♓24'35		min. Earth dist.	15686 Jan 19 00:26	12°♒26'34	4.30118 AU
min. Earth dist.	15680 Aug 15 21:30	11°♓33'49	4.22713 AU	direct	15686 Mar 20 00:31	7°♒39'14	
opposition	15680 Aug 17 08:27	11°♓22'09	0°46'59		15686 Jun 01 04:18	15°♒	
direct	15680 Oct 16 07:00	6°♓23'14		evening set	15686 Jul 23 09:50	25°♒53'39	
evening set	15681 Feb 19 02:16	24°♓33'05		max. Earth dist.	15686 Aug 03 00:04	28°♒18'42	6.21497 AU
conjunction	15681 Mar 04 11:17	27°♓30'46	0°29'19	conjunction	15686 Aug 05 07:32	28°♒50'28	-0°32'11
minimum elong	15681 Mar 04 11:18	27°♓30'46	0°29'27	minimum elong	15686 Aug 05 07:32	28°♒50'28	0°32'42
max. Earth dist.	15681 Mar 06 08:16	27°♓55'41	6.31381 AU		15686 Aug 10 08:55	0°♓	
	15681 Mar 15 17:07	0°♓		morning rise	15686 Aug 18 04:54	1°♓47'28	
morning rise	15681 Mar 17 19:50	0°♓27'54		retrograde	15686 Dec 22 08:20	20°♓27'20	
retrograde	15681 Jul 19 10:14	18°♓04'42		opposition	15687 Feb 20 13:03	15°♓32'25	-0°46'48
min. Earth dist.	15681 Sep 17 06:26	13°♓11'54	4.38909 AU	min. Earth dist.	15687 Feb 21 23:45	15°♓21'05	4.12519 AU
opposition	15681 Sep 18 04:45	13°♓04'34	0°35'55	direct	15687 Apr 21 23:52	10°♓33'43	
direct	15681 Nov 18 06:20	8°♓04'45		evening set	15687 Aug 26 09:53	29°♓45'30	
evening set	15682 Mar 23 06:33	25°♓29'45			15687 Aug 27 10:28	0°♔	
				max. Earth dist.	15687 Sep 06 17:56	2°♔26'54	6.04146 AU
conjunction	15682 Apr 05 11:51	28°♓20'29	0°18'25				
minimum elong	15682 Apr 05 11:51	28°♓20'29	0°18'06	conjunction	15687 Sep 08 10:45	2°♔51'13	-0°27'52
max. Earth dist.	15682 Apr 06 06:36	28°♓30'36	6.45016 AU	minimum elong	15687 Sep 08 10:46	2°♔51'13	0°27'55
	15682 Apr 13 04:29	0°♔		morning rise	15687 Sep 21 12:21	5°♔57'38	
morning rise	15682 Apr 18 15:56	1°♔10'29		retrograde	15688 Jan 28 18:00	25°♔51'27	
	15682 Jul 03 17:36	15°♔		opposition	15688 Mar 28 06:55	20°♔54'46	-0°32'13
retrograde	15682 Aug 18 09:03	18°♔02'25		min. Earth dist.	15688 Mar 29 01:09	20°♔48'43	3.96943 AU
	15682 Oct 03 06:19	15°♔♔		direct	15688 May 26 11:33	15°♔57'59	
opposition	15682 Oct 18 11:34	13°♔05'05	0°15'44		15688 Sep 05 11:06	0°♍	



evening set	15688 Sep 30 19:03	5°♄59'32		15694 Mar 28 08:41	0°♄	
conjunction	15688 Oct 14 01:13	9°♄13'27 -0°12'58		conjunction	15694 Apr 09 19:52	2°♄40'45 0°16'27
minimum elong	15688 Oct 14 01:13	9°♄13'27 0°12'30		minimum elong	15694 Apr 09 19:53	2°♄40'45 0°16'04
behind sun begin	15688 Oct 13 19:51	9°♄10'11		max. Earth dist.	15694 Apr 10 11:39	2°♄49'14 6.45972 AU
behind sun end	15688 Oct 14 06:36	9°♄16'43		morning rise	15694 Apr 22 23:28	5°♄30'12
max. Earth dist.	15688 Oct 13 16:35	9°♄08'11 5.91894 AU			15694 Jun 09 18:11	15°♄
morning rise	15688 Oct 27 08:40	12°♄28'18		retrograde	15694 Aug 22 12:06	22°♄19'08
	15688 Nov 06 20:31	15°♄		opposition	15694 Oct 22 15:57	17°♄22'03 0°12'30
	15689 Jan 21 09:22	0°♄		min. Earth dist.	15694 Oct 22 14:32	17°♄22'31 4.49683 AU
retrograde	15689 Mar 07 14:50	3°♄12'50			15694 Nov 10 19:19	15°♄♄
	15689 Apr 22 07:25	30°♄♄		direct	15694 Dec 23 17:11	12°♄21'44
opposition	15689 May 05 18:54	28°♄13'39 -0°03'47			15695 Feb 04 20:06	15°♄
min. Earth dist.	15689 May 05 12:04	28°♄15'57 3.89449 AU		evening set	15695 Apr 27 04:40	29°♄22'53
asc. node	15689 Jun 22 02:11	23°♄30'36			15695 Apr 30 02:40	0°♄♄
direct	15689 Jul 03 01:11	23°♄18'12				
	15689 Sep 07 03:59	0°♄		conjunction	15695 May 10 05:48	2°♄09'36 0°00'33
evening set	15689 Nov 07 20:35	13°♄37'40		minimum elong	15695 May 10 05:47	2°♄09'35 0°00'10
				behind sun begin	15695 May 09 21:49	2°♄05'21
conjunction	15689 Nov 21 07:17	16°♄54'49 0°07'38		behind sun end	15695 May 10 13:45	2°♄13'49
minimum elong	15689 Nov 21 07:16	16°♄54'48 0°08'27		max. Earth dist.	15695 May 09 16:57	2°♄02'45 6.51259 AU
behind sun begin	15689 Nov 20 23:58	16°♄50'21		morning rise	15695 May 23 05:19	4°♄55'34
behind sun end	15689 Nov 21 14:35	16°♄59'15		desc. node	15695 May 23 21:16	5°♄04'01
max. Earth dist.	15689 Nov 22 11:17	17°♄11'56 5.89938 AU		retrograde	15695 Sep 21 04:30	21°♄31'47
morning rise	15689 Dec 04 19:50	20°♄12'48		opposition	15695 Nov 21 10:41	16°♄36'46 -0°11'16
	15690 Jan 16 07:26	0°♄		min. Earth dist.	15695 Nov 22 04:50	16°♄30'57 4.50592 AU
retrograde	15690 Apr 14 23:35	10°♄56'09		direct	15696 Jan 22 22:00	11°♄36'12
min. Earth dist.	15690 Jun 12 00:18	6°♄04'16 3.93350 AU		evening set	15696 May 26 06:42	28°♄41'09
opposition	15690 Jun 13 05:47	5°♄54'17 0°26'28			15696 Jun 01 09:38	0°♄♄
direct	15690 Aug 10 09:42	0°♄58'19		max. Earth dist.	15696 Jun 06 14:14	1°♄07'10 6.47679 AU
evening set	15690 Dec 15 23:16	20°♄53'14				
				conjunction	15696 Jun 08 04:51	1°♄28'00 -0°15'25
conjunction	15690 Dec 29 12:06	24°♄06'51 0°24'49		minimum elong	15696 Jun 08 04:50	1°♄27'59 0°16'16
minimum elong	15690 Dec 29 12:05	24°♄06'51 0°25'38		morning rise	15696 Jun 21 01:45	4°♄14'20
max. Earth dist.	15690 Dec 31 18:20	24°♄39'14 5.99219 AU		retrograde	15696 Oct 20 18:50	21°♄08'17
morning rise	15691 Jan 12 02:06	27°♄20'48		opposition	15696 Dec 20 21:06	16°♄14'11 -0°32'31
	15691 Jan 23 09:50	0°♄		min. Earth dist.	15696 Dec 22 06:07	16°♄03'35 4.42745 AU
	15691 Apr 13 23:46	15°♄		direct	15697 Feb 21 03:45	11°♄13'33
retrograde	15691 May 21 04:34	17°♄11'41		evening set	15697 Jun 25 21:22	28°♄46'33
	15691 Jun 27 07:30	15°♄			15697 Jul 01 10:44	0°♄♄
min. Earth dist.	15691 Jul 18 06:19	12°♄21'24 4.06893 AU		max. Earth dist.	15697 Jul 06 13:27	1°♄07'54 6.36036 AU
opposition	15691 Jul 19 20:16	12°♄08'35 0°44'54				
direct	15691 Sep 16 18:22	7°♄11'01		conjunction	15697 Jul 08 18:25	1°♄37'15 -0°27'36
	15691 Nov 29 16:47	15°♄		minimum elong	15697 Jul 08 18:24	1°♄37'15 0°28'22
evening set	15692 Jan 21 11:40	26°♄12'50		morning rise	15697 Jul 21 14:19	4°♄27'45
					15697 Sep 11 06:03	15°♄
conjunction	15692 Feb 03 23:28	29°♄18'25 0°32'01		retrograde	15697 Nov 22 06:06	22°♄08'17
minimum elong	15692 Feb 03 23:28	29°♄18'25 0°32'32		opposition	15698 Jan 21 23:09	17°♄14'08 -0°45'52
max. Earth dist.	15692 Feb 06 10:01	29°♄52'01 6.15644 AU		min. Earth dist.	15698 Jan 23 14:23	17°♄01'28 4.27967 AU
	15692 Feb 06 23:57	0°♄♄			15698 Feb 08 21:38	15°♄♄
morning rise	15692 Feb 17 11:29	2°♄23'46		direct	15698 Mar 24 10:56	12°♄14'08
retrograde	15692 Jun 22 13:28	21°♄00'33			15698 May 06 13:33	15°♄
min. Earth dist.	15692 Aug 20 09:11	16°♄09'56 4.24524 AU			15698 Jul 25 09:30	0°♄♄
opposition	15692 Aug 21 19:47	15°♄58'25 0°46'17		evening set	15698 Jul 27 23:48	0°♄35'27
direct	15692 Oct 20 20:27	10°♄59'25		max. Earth dist.	15698 Aug 07 14:45	3°♄01'41 6.19182 AU
evening set	15693 Feb 23 15:18	29°♄04'13				
	15693 Feb 27 20:41	0°♄♄		conjunction	15698 Aug 09 21:39	3°♄33'18 -0°32'13
				minimum elong	15698 Aug 09 21:40	3°♄33'18 0°32'41
conjunction	15693 Mar 08 23:53	2°♄01'04 0°28'16		morning rise	15698 Aug 22 19:29	6°♄31'27
minimum elong	15693 Mar 08 23:53	2°♄01'04 0°28'19		retrograde	15698 Dec 27 09:51	25°♄21'06
max. Earth dist.	15693 Mar 10 17:16	2°♄23'56 6.33011 AU		opposition	15699 Feb 25 11:38	20°♄25'56 -0°45'45
morning rise	15693 Mar 22 07:59	4°♄57'21		min. Earth dist.	15699 Feb 26 21:31	20°♄14'50 4.10199 AU
retrograde	15693 Jul 23 17:20	22°♄28'20		direct	15699 Apr 26 19:17	15°♄27'24
opposition	15693 Sep 22 11:36	17°♄28'36 0°33'34			15699 Aug 10 17:46	0°♄♄
min. Earth dist.	15693 Sep 21 16:09	17°♄34'58 4.40247 AU		evening set	15699 Aug 31 07:10	4°♄46'40
direct	15693 Nov 22 17:04	12°♄28'42		max. Earth dist.	15699 Sep 11 19:37	7°♄31'24 6.02046 AU
evening set	15694 Mar 27 15:01	29°♄50'33				

conjunction	15699 Sep 13 08:50	7°♏53'40	-0°26'21	conjunction	15705 Mar 14 14:10	6°♑33'59	0°26'59
minimum elong	15699 Sep 13 08:50	7°♏53'40	0°26'18	minimum elong	15705 Mar 14 14:11	6°♑34'00	0°26'59
morning rise	15699 Sep 26 11:07	11°♏01'22		max. Earth dist.	15705 Mar 16 06:13	6°♑56'01	6.35301 AU
	15700 Jan 08 07:00	0°♏		morning rise	15705 Mar 27 21:31	9°♑29'04	
retrograde	15700 Feb 03 01:27	1°♏04'13		retrograde	15705 Jul 28 21:47	26°♑51'58	
	15700 Feb 28 18:22	30°♏		opposition	15705 Sep 27 18:39	21°♑52'35	0°30'58
opposition	15700 Apr 03 12:57	26°♏07'14	-0°28'51	min. Earth dist.	15705 Sep 27 00:24	21°♑58'33	4.42219 AU
min. Earth dist.	15700 Apr 04 04:08	26°♏02'11	3.95290 AU	direct	15705 Nov 28 02:37	16°♑52'39	
direct	15700 Jun 01 12:55	21°♏10'43			15706 Mar 13 02:19	0°♑	
	15700 Aug 18 04:45	0°♏		evening set	15706 Apr 01 23:05	4°♑09'22	
evening set	15700 Oct 06 23:49	11°♏17'14					
conjunction	15700 Oct 20 06:33	14°♏31'59	-0°10'15	conjunction	15706 Apr 15 03:15	6°♑58'43	0°14'24
minimum elong	15700 Oct 20 06:33	14°♏31'59	0°09'42	minimum elong	15706 Apr 15 03:15	6°♑58'43	0°13'57
behind sun begin	15700 Oct 19 23:44	14°♏27'50		behind sun begin	15706 Apr 14 23:14	6°♑56'34	
behind sun end	15700 Oct 20 13:22	14°♏36'08		behind sun end	15706 Apr 15 07:17	7°♑00'53	
max. Earth dist.	15700 Oct 20 01:24	14°♏28'51	5.90848 AU	max. Earth dist.	15706 Apr 15 14:31	7°♑04'46	6.47487 AU
	15700 Oct 22 04:19	15°♏		morning rise	15706 Apr 28 06:14	9°♑47'21	
morning rise	15700 Nov 02 14:59	17°♏47'44			15706 May 23 09:26	15°♑	
	15700 Dec 26 18:28	0°♑		retrograde	15706 Aug 27 15:45	26°♑31'49	
retrograde	15701 Mar 13 23:41	8°♑36'02		opposition	15706 Oct 27 19:30	21°♑35'05	0°09'15
asc. node	15701 May 03 11:57	4°♑45'54		min. Earth dist.	15706 Oct 27 21:38	21°♑34'24	4.50643 AU
opposition	15701 May 12 03:55	3°♑36'26	0°00'42	direct	15706 Dec 29 00:05	16°♑34'42	
min. Earth dist.	15701 May 11 17:07	3°♑40'04	3.89146 AU	desc. node	15707 Apr 02 19:32	27°♑31'14	
	15701 Jun 11 08:14	30°♑			15707 Apr 15 05:54	0°♑	
direct	15701 Jul 09 08:38	28°♑40'57		evening set	15707 May 02 08:40	3°♑33'53	
	15701 Aug 06 07:58	0°♑					
evening set	15701 Nov 14 04:37	19°♑00'12		conjunction	15707 May 15 09:15	6°♑20'16	-0°01'46
conjunction	15701 Nov 27 15:57	22°♑17'22	0°10'27	minimum elong	15707 May 15 09:15	6°♑20'16	0°02'31
minimum elong	15701 Nov 27 15:56	22°♑17'22	0°11'16	behind sun begin	15707 May 15 01:13	6°♑16'00	
behind sun begin	15701 Nov 27 09:49	22°♑13'39		behind sun end	15707 May 15 17:16	6°♑24'31	
behind sun end	15701 Nov 27 22:03	22°♑21'05		max. Earth dist.	15707 May 14 15:55	6°♑11'01	6.51579 AU
max. Earth dist.	15701 Nov 29 01:06	22°♑37'38	5.90423 AU	morning rise	15707 May 28 08:20	9°♑05'57	
morning rise	15701 Dec 11 04:50	25°♑35'17		retrograde	15707 Sep 26 07:06	25°♑42'00	
	15701 Dec 29 16:56	0°♑		opposition	15707 Nov 26 13:47	20°♑47'08	-0°14'26
retrograde	15702 Apr 21 05:34	16°♑14'48		min. Earth dist.	15707 Nov 27 10:04	20°♑40'38	4.50256 AU
min. Earth dist.	15702 Jun 18 05:02	11°♑23'02	3.94557 AU	direct	15708 Jan 28 00:41	15°♑46'30	
opposition	15702 Jun 19 11:45	11°♑12'37	0°30'00		15708 May 17 18:53	0°♑	
direct	15702 Aug 16 17:30	6°♑16'29		evening set	15708 May 31 10:16	2°♑53'15	
evening set	15702 Dec 22 04:45	26°♑05'58		max. Earth dist.	15708 Jun 11 15:49	5°♑18'28	6.46692 AU
conjunction	15703 Jan 04 17:42	29°♑18'47	0°26'31	conjunction	15708 Jun 13 08:14	5°♑40'20	-0°17'22
minimum elong	15703 Jan 04 17:41	29°♑18'46	0°27'18	minimum elong	15708 Jun 13 08:14	5°♑40'20	0°18'14
max. Earth dist.	15703 Jan 07 03:02	29°♑52'50	6.01020 AU	morning rise	15708 Jun 26 04:41	8°♑26'54	
	15703 Jan 07 15:06	0°♑		retrograde	15708 Oct 26 01:52	25°♑25'09	
morning rise	15703 Jan 18 07:39	2°♑31'49		opposition	15708 Dec 26 03:36	20°♑31'09	-0°34'54
	15703 Mar 17 07:14	15°♑		min. Earth dist.	15708 Dec 27 14:36	20°♑19'57	4.41147 AU
retrograde	15703 May 27 00:57	22°♑13'35		direct	15709 Feb 26 08:36	15°♑30'34	
min. Earth dist.	15703 Jul 24 03:19	17°♑23'45	4.09108 AU		15709 Jun 16 16:48	0°♑	
opposition	15703 Jul 25 18:38	17°♑10'31	0°46'07	evening set	15709 Jul 01 04:18	3°♑09'03	
	15703 Aug 11 12:50	15°♑		max. Earth dist.	15709 Jul 11 17:15	5°♑29'25	6.33912 AU
direct	15703 Sep 22 19:01	12°♑12'46		conjunction	15709 Jul 14 01:10	6°♑00'34	-0°28'44
	15703 Nov 04 01:39	15°♑		minimum elong	15709 Jul 14 01:10	6°♑00'33	0°29'28
	15704 Jan 22 12:27	0°♑		morning rise	15709 Jul 26 21:21	8°♑51'58	
evening set	15704 Jan 27 10:26	1°♑06'45			15709 Aug 24 09:52	15°♑	
conjunction	15704 Feb 09 21:44	4°♑11'05	0°32'06	retrograde	15709 Nov 27 22:43	26°♑41'16	
minimum elong	15704 Feb 09 21:44	4°♑11'05	0°32'34	opposition	15710 Jan 27 12:59	21°♑47'02	-0°46'44
max. Earth dist.	15704 Feb 12 06:12	4°♑43'19	6.18082 AU	min. Earth dist.	15710 Jan 29 04:56	21°♑34'05	4.25429 AU
morning rise	15704 Feb 23 09:23	7°♑15'10		direct	15710 Mar 29 21:40	16°♑47'06	
retrograde	15704 Jun 28 02:06	25°♑41'56			15710 Jul 09 22:44	0°♑	
min. Earth dist.	15704 Aug 26 01:10	20°♑50'53	4.26975 AU	evening set	15710 Aug 02 13:21	5°♑16'58	
opposition	15704 Aug 27 09:48	20°♑40'01	0°45'13	max. Earth dist.	15710 Aug 13 06:09	7°♑45'07	6.16434 AU
direct	15704 Oct 26 15:23	15°♑40'50		conjunction	15710 Aug 15 11:48	8°♑16'11	-0°32'03
	15705 Feb 12 09:02	0°♑		minimum elong	15710 Aug 15 11:48	8°♑16'11	0°32'28
evening set	15705 Mar 01 06:00	3°♑38'16		morning rise	15710 Aug 28 10:01	11°♑15'43	
					15710 Dec 20 04:13	0°♑	

retrograde	15711 Jan 02 11:55	0°♎17'02		retrograde	15716 Jul 02 13:15	0°♊23'13	
	15711 Jan 15 18:12	30°♏♏			15716 Jul 18 00:22	30°♏♏	
opposition	15711 Mar 03 10:57	25°♏21'44	-0°44'25	opposition	15716 Aug 31 23:18	25°♏21'36	0°43'48
min. Earth dist.	15711 Mar 04 19:18	25°♏11'07	4.07469 AU	min. Earth dist.	15716 Aug 30 15:44	25°♏32'03	4.29618 AU
direct	15711 May 02 12:47	20°♏23'31		direct	15716 Oct 31 08:33	20°♏22'16	
	15711 Jul 24 07:06	0°♎			15717 Jan 25 07:06	0°♊	
evening set	15711 Sep 06 06:21	9°♎52'10		evening set	15717 Mar 05 20:13	8°♊11'51	
max. Earth dist.	15711 Sep 17 21:38	12°♎39'35	5.99581 AU				
				conjunction	15717 Mar 19 03:39	11°♊06'22	0°25'32
conjunction	15711 Sep 19 08:36	13°♎00'37	-0°24'38	minimum elong	15717 Mar 19 03:39	11°♊06'23	0°25'28
minimum elong	15711 Sep 19 08:36	13°♎00'37	0°24'33	max. Earth dist.	15717 Mar 20 14:38	11°♊25'31	6.37626 AU
morning rise	15711 Oct 02 11:56	16°♎09'54		morning rise	15717 Apr 01 10:29	14°♊00'16	
	15711 Dec 05 15:31	0°♏			15717 Jul 04 12:16	0°♏	
retrograde	15712 Feb 09 10:58	6°♏23'23		retrograde	15717 Aug 02 03:50	1°♏15'21	
opposition	15712 Apr 08 21:02	1°♏26'05	-0°25'16		15717 Aug 30 14:58	30°♏♊	
min. Earth dist.	15712 Apr 09 08:27	1°♏22'16	3.93353 AU	min. Earth dist.	15717 Oct 01 10:52	26°♊21'07	4.44070 AU
	15712 Apr 19 19:03	30°♏♎		opposition	15717 Oct 02 01:39	26°♊16'18	0°28'10
direct	15712 Jun 06 17:01	26°♎29'47		direct	15717 Dec 02 13:53	21°♊16'12	
	15712 Jul 23 12:14	0°♏			15718 Feb 23 03:10	0°♏	
	15712 Oct 05 06:15	15°♏		evening set	15718 Apr 06 06:53	8°♏28'21	
evening set	15712 Oct 12 07:25	16°♏42'34					
				conjunction	15718 Apr 19 10:38	11°♏17'01	0°12'13
conjunction	15712 Oct 25 15:08	19°♏58'20	-0°07'26	minimum elong	15718 Apr 19 10:38	11°♏17'01	0°11'43
minimum elong	15712 Oct 25 15:08	19°♏58'20	0°06'50	behind sun begin	15718 Apr 19 04:59	11°♏14'01	
behind sun begin	15712 Oct 25 07:26	19°♏53'37		behind sun end	15718 Apr 19 16:17	11°♏20'02	
behind sun end	15712 Oct 25 22:51	20°♏03'03		max. Earth dist.	15718 Apr 19 18:37	11°♏21'16	6.48741 AU
max. Earth dist.	15712 Oct 25 17:02	19°♏59'28	5.89668 AU	morning rise	15718 May 02 12:53	14°♏04'55	
morning rise	15712 Nov 08 00:19	23°♏15'02			15718 May 06 20:52	15°♏	
	15712 Dec 06 11:49	0°♏			15718 Aug 09 09:03	0°♏	
asc. node	15713 Mar 15 04:49	14°♏05'27		retrograde	15718 Aug 31 17:39	0°♏45'52	
retrograde	15713 Mar 19 13:21	14°♏07'23			15718 Sep 23 01:02	30°♏♏	
opposition	15713 May 17 15:49	9°♏07'22	0°05'13	opposition	15718 Oct 31 23:17	25°♏49'26	0°05'52
min. Earth dist.	15713 May 17 02:10	9°♏11'59	3.88875 AU	min. Earth dist.	15718 Nov 01 03:28	25°♏48'05	4.51244 AU
direct	15713 Jul 14 19:25	4°♏11'56		direct	15719 Jan 02 04:31	20°♏48'59	
evening set	15713 Nov 19 15:34	24°♏30'36		desc. node	15719 Feb 07 00:57	22°♏39'45	
					15719 Mar 28 20:00	0°♏	
conjunction	15713 Dec 03 03:24	27°♏47'41	0°13'11	evening set	15719 May 06 13:45	7°♏47'26	
minimum elong	15713 Dec 03 03:23	27°♏47'41	0°14'02				
behind sun begin	15713 Dec 02 23:14	27°♏45'10		conjunction	15719 May 19 13:51	10°♏33'38	-0°04'07
behind sun end	15713 Dec 03 07:31	27°♏50'12		minimum elong	15719 May 19 13:51	10°♏33'38	0°04'52
max. Earth dist.	15713 Dec 04 18:09	28°♏11'19	5.91080 AU	behind sun begin	15719 May 19 06:02	10°♏29'29	
	15713 Dec 12 04:45	0°♏		behind sun end	15719 May 19 21:39	10°♏37'47	
morning rise	15713 Dec 16 16:47	1°♏05'28		max. Earth dist.	15719 May 18 16:33	10°♏22'16	6.51488 AU
retrograde	15714 Apr 26 11:52	21°♏39'47		morning rise	15719 Jun 01 12:28	13°♏19'11	
min. Earth dist.	15714 Jun 23 09:28	16°♏48'52	3.96069 AU	retrograde	15719 Sep 30 13:18	29°♏56'20	
opposition	15714 Jun 24 19:32	16°♏37'20	0°33'16	opposition	15719 Nov 30 18:49	25°♏01'41	-0°17'38
direct	15714 Aug 22 02:04	11°♏41'00		min. Earth dist.	15719 Dec 01 18:33	24°♏54'05	4.49473 AU
	15714 Dec 21 13:18	0°♏		direct	15720 Feb 01 06:39	20°♏01'00	
evening set	15714 Dec 27 12:10	1°♏23'41			15720 Apr 30 17:23	0°♏	
				evening set	15720 Jun 04 16:03	7°♏10'49	
conjunction	15715 Jan 10 00:55	4°♏35'24	0°27'59	max. Earth dist.	15720 Jun 15 16:56	9°♏34'02	6.45256 AU
minimum elong	15715 Jan 10 00:54	4°♏35'24	0°28'44				
max. Earth dist.	15715 Jan 12 10:53	5°♏09'39	6.03203 AU	conjunction	15720 Jun 17 13:43	9°♏58'19	-0°19'19
morning rise	15715 Jan 23 14:48	7°♏47'18		minimum elong	15720 Jun 17 13:42	9°♏58'19	0°20'10
	15715 Feb 24 13:04	15°♏		morning rise	15720 Jun 30 10:08	12°♏45'24	
retrograde	15715 May 31 21:30	27°♏18'18		retrograde	15720 Oct 30 13:16	29°♏49'27	
min. Earth dist.	15715 Jul 29 02:27	22°♏28'16	4.11691 AU	opposition	15720 Dec 30 13:31	24°♏55'25	-0°37'13
opposition	15715 Jul 30 17:26	22°♏15'09	0°46'56	min. Earth dist.	15721 Jan 01 01:36	24°♏43'49	4.39134 AU
direct	15715 Sep 27 22:27	17°♏17'04		direct	15721 Mar 02 15:48	19°♏54'47	
	15716 Jan 04 22:59	0°♏			15721 May 30 08:23	0°♏	
evening set	15716 Feb 01 09:19	6°♏01'57		evening set	15721 Jul 05 14:34	7°♏39'58	
				max. Earth dist.	15721 Jul 16 03:56	10°♏01'16	6.31467 AU
conjunction	15716 Feb 14 20:23	9°♏04'56	0°31'57				
minimum elong	15716 Feb 14 20:24	9°♏04'56	0°32'19	conjunction	15721 Jul 18 11:41	10°♏32'29	-0°29'45
max. Earth dist.	15716 Feb 17 04:54	9°♏36'59	6.20827 AU	minimum elong	15721 Jul 18 11:40	10°♏32'29	0°30'27
morning rise	15716 Feb 28 07:19	12°♏07'32		morning rise	15721 Jul 31 07:51	13°♏24'54	
	15716 Jun 16 23:45	0°♊			15721 Aug 07 11:26	15°♏	

	15721 Nov 02 14:48	0°♎			15727 Jul 13 06:45	30°♊	
retrograde	15721 Dec 02 19:09	1°♎23'58	min. Earth dist.	15727 Aug 02 22:29	27°♊24'01	4.14567 AU	
	15722 Jan 01 23:05	30°♊	opposition	15727 Aug 04 13:05	27°♊11'04	0°47'24	
opposition	15722 Feb 01 07:03	26°♊29'39	-0°47'20	direct	15727 Oct 02 21:51	22°♊12'50	
min. Earth dist.	15722 Feb 02 23:10	26°♊16'39	4.22710 AU		15727 Dec 16 11:25	0°♋	
direct	15722 Apr 03 11:17	21°♊29'56		evening set	15728 Feb 06 04:43	10°♋48'06	
	15722 Jun 21 04:07	0°♎					
evening set	15722 Aug 07 07:36	10°♎08'52	conjunction	15728 Feb 19 15:07	13°♋49'37	0°31'34	
max. Earth dist.	15722 Aug 18 00:57	12°♎38'19	6.13659 AU	minimum elong	15728 Feb 19 15:07	13°♋49'37	0°31'53
				max. Earth dist.	15728 Feb 21 20:15	14°♋19'34	6.23663 AU
conjunction	15722 Aug 20 06:21	13°♎09'27	-0°31'40	morning rise	15728 Mar 04 01:35	16°♋50'46	
minimum elong	15722 Aug 20 06:21	13°♎09'27	0°31'59		15728 May 09 13:43	0°♌	
morning rise	15722 Sep 02 05:21	16°♎10'28		retrograde	15728 Jul 06 20:46	4°♌55'51	
	15722 Nov 08 02:58	0°♏		min. Earth dist.	15728 Sep 04 04:14	0°♌04'14	4.32191 AU
retrograde	15723 Jan 07 17:29	5°♏23'30			15728 Sep 04 17:03	30°♌	
opposition	15723 Mar 08 14:53	0°♏27'58	-0°42'39	opposition	15728 Sep 05 09:31	29°♌54'33	0°42'11
min. Earth dist.	15723 Mar 09 20:27	0°♏18'14	4.04877 AU	direct	15728 Nov 04 23:01	24°♌55'05	
	15723 Mar 12 03:57	30°♌			15729 Jan 04 00:41	0°♌	
direct	15723 May 07 11:56	25°♌30'02		evening set	15729 Mar 10 07:04	12°♌37'35	
	15723 Jun 30 18:14	0°♏					
evening set	15723 Sep 11 09:36	15°♏07'20	conjunction	15729 Mar 23 14:05	15°♌31'03	0°23'58	
max. Earth dist.	15723 Sep 23 07:48	17°♏59'41	5.97450 AU	minimum elong	15729 Mar 23 14:06	15°♌31'04	0°23'50
				max. Earth dist.	15729 Mar 24 22:06	15°♌48'30	6.39757 AU
conjunction	15723 Sep 24 12:46	18°♏17'11	-0°22'39	morning rise	15729 Apr 05 20:05	18°♌23'50	
minimum elong	15723 Sep 24 12:47	18°♏17'11	0°22'29		15729 Jun 04 09:38	0°♍	
morning rise	15723 Oct 07 16:50	21°♏27'51		retrograde	15729 Aug 06 06:16	5°♍32'09	
	15723 Nov 13 17:45	0°♎		opposition	15729 Oct 06 05:51	0°♍33'34	0°25'17
retrograde	15724 Feb 15 01:50	11°♎50'20		min. Earth dist.	15729 Oct 05 17:39	0°♍37'32	4.45629 AU
opposition	15724 Apr 14 08:50	6°♎52'45	-0°21'19		15729 Oct 10 13:20	30°♎	
min. Earth dist.	15724 Apr 14 17:11	6°♎49'58	3.91942 AU	direct	15729 Dec 06 20:50	25°♎33'30	
direct	15724 Jun 12 01:56	1°♎56'46			15730 Feb 01 13:35	0°♏	
	15724 Sep 17 04:27	15°♎		evening set	15730 Apr 10 12:27	12°♏42'16	
evening set	15724 Oct 17 17:46	22°♎13'19			15730 Apr 21 06:43	15°♏	
conjunction	15724 Oct 31 02:10	25°♎29'42	-0°04'28	conjunction	15730 Apr 23 15:30	15°♏30'23	0°10'02
minimum elong	15724 Oct 31 02:09	25°♎29'42	0°03'50	minimum elong	15730 Apr 23 15:31	15°♏30'23	0°09'29
behind sun begin	15724 Oct 30 17:55	25°♎24'40		behind sun begin	15730 Apr 23 08:50	15°♏26'50	
behind sun end	15724 Oct 31 10:22	25°♎34'43		behind sun end	15730 Apr 23 22:12	15°♏33'56	
max. Earth dist.	15724 Oct 31 09:40	25°♎34'17	5.89139 AU	max. Earth dist.	15730 Apr 23 17:30	15°♏31'26	6.49621 AU
morning rise	15724 Nov 13 12:10	28°♎47'02		morning rise	15730 May 06 17:22	18°♏17'48	
	15724 Nov 18 12:12	0°♐			15730 Jul 07 09:03	0°♐	
asc. node	15725 Jan 23 18:32	14°♐09'12		retrograde	15730 Sep 04 21:13	4°♐56'46	
retrograde	15725 Mar 25 00:54	19°♐40'07		opposition	15730 Nov 05 01:58	0°♐00'40	0°02'32
min. Earth dist.	15725 May 22 09:56	14°♐45'56	3.89335 AU	min. Earth dist.	15730 Nov 05 10:07	29°♐58'02	4.51415 AU
opposition	15725 May 23 04:19	14°♐39'43	0°09'44		15730 Nov 05 04:01	30°♐	
direct	15725 Jul 20 05:58	9°♐44'19		desc. node	15730 Dec 16 12:55	25°♐39'19	
evening set	15725 Nov 25 02:43	29°♐59'30		direct	15731 Jan 06 09:29	25°♐00'10	
	15725 Nov 25 03:33	0°♑			15731 Mar 08 05:07	0°♐	
				evening set	15731 May 10 17:27	11°♐59'17	
conjunction	15725 Dec 08 14:42	3°♑16'01	0°15'49				
minimum elong	15725 Dec 08 14:41	3°♑16'01	0°16'41	conjunction	15731 May 23 17:16	14°♐45'34	-0°06'23
max. Earth dist.	15725 Dec 10 08:58	3°♑41'41	5.92462 AU	minimum elong	15731 May 23 17:16	14°♐45'34	0°07'11
morning rise	15725 Dec 22 04:22	6°♑33'12		behind sun begin	15731 May 23 09:54	14°♐41'39	
retrograde	15726 May 01 15:54	26°♑59'29		behind sun end	15731 May 24 00:38	14°♐49'29	
min. Earth dist.	15726 Jun 28 13:51	22°♑08'48	3.98192 AU	max. Earth dist.	15731 May 22 16:25	14°♐32'17	6.50938 AU
opposition	15726 Jun 30 01:21	21°♑56'46	0°36'13	morning rise	15731 Jun 05 15:28	17°♐31'11	
direct	15726 Aug 27 11:27	17°♑00'10			15731 Aug 11 10:18	0°♑	
	15726 Dec 03 19:49	0°♒		retrograde	15731 Oct 04 18:09	4°♑11'06	
evening set	15727 Jan 01 16:51	6°♒34'07			15731 Nov 29 07:38	30°♒	
				opposition	15731 Dec 04 23:39	29°♒16'36	-0°20'44
conjunction	15727 Jan 15 05:34	9°♒44'33	0°29'13	min. Earth dist.	15731 Dec 06 00:46	29°♒08'33	4.48259 AU
minimum elong	15727 Jan 15 05:34	9°♒44'33	0°29'56	direct	15732 Feb 05 09:34	24°♒15'57	
max. Earth dist.	15727 Jan 17 17:51	10°♒19'58	6.05849 AU		15732 Apr 10 17:26	0°♓	
morning rise	15727 Jan 28 18:57	12°♒55'02		evening set	15732 Jun 08 22:08	11°♓30'16	
	15727 Feb 06 19:23	15°♒		max. Earth dist.	15732 Jun 19 21:16	13°♓53'06	6.43460 AU
	15727 Apr 28 21:03	0°♋					
retrograde	15727 Jun 05 15:19	2°♋14'04	conjunction	15732 Jun 21 19:38	14°♓18'23	-0°21'10	

minimum elong	15732 Jun 21 19:38	14°☾18'23	0°21'59	max. Earth dist.	15737 Dec 15 22:06	9°☾04'58	5.93986 AU
morning rise	15732 Jul 04 15:51	17°☾06'06		morning rise	15737 Dec 27 12:34	11°☾52'51	
	15732 Sep 10 08:35	0°♈			15738 Mar 30 18:18	0°♈	
retrograde	15732 Nov 04 02:42	4°♈17'09		retrograde	15738 May 06 17:29	2°♈10'50	
	15732 Dec 30 05:32	30°♈☾			15738 Jun 12 14:19	30°♈☾	
opposition	15733 Jan 04 00:30	29°☾23'11	-0°39'20	min. Earth dist.	15738 Jul 03 15:23	27°☾20'17	4.00269 AU
min. Earth dist.	15733 Jan 05 14:27	29°☾10'59	4.36866 AU	opposition	15738 Jul 05 03:51	27°☾07'57	0°38'48
direct	15733 Mar 07 00:38	24°☾22'41		direct	15738 Sep 01 16:23	22°☾11'09	
	15733 May 09 16:29	0°♈			15738 Nov 13 22:53	0°♈	
evening set	15733 Jul 10 02:14	12°♈15'21		evening set	15739 Jan 06 18:46	11°♈36'58	
max. Earth dist.	15733 Jul 20 13:59	14°♈36'36	6.28893 AU				
				conjunction	15739 Jan 20 07:09	14°♈46'10	0°30'13
conjunction	15733 Jul 22 23:22	15°♈08'56	-0°30'36	minimum elong	15739 Jan 20 07:09	14°♈46'09	0°30'53
minimum elong	15733 Jul 22 23:22	15°♈08'56	0°31'16		15739 Jan 21 06:51	15°♈	
	15733 Jul 22 07:31	15°♈		max. Earth dist.	15739 Jan 22 18:43	15°♈20'56	6.08252 AU
morning rise	15733 Aug 04 19:58	18°♈02'32		morning rise	15739 Feb 02 20:23	17°♈55'24	
	15733 Oct 02 12:13	0°♈			15739 Mar 31 23:29	0°♈	
retrograde	15733 Dec 07 16:39	6°♈11'51		retrograde	15739 Jun 10 05:13	7°♈03'44	
opposition	15734 Feb 06 02:55	1°♈17'23	-0°47'39	min. Earth dist.	15739 Aug 07 16:01	2°♈13'39	4.17063 AU
min. Earth dist.	15734 Feb 07 17:23	1°♈04'52	4.20019 AU	opposition	15739 Aug 09 06:09	2°♈00'51	0°47'32
	15734 Feb 16 03:42	30°♈♈			15739 Aug 24 18:38	30°♈♈	
direct	15734 Apr 08 02:28	26°♈17'51		direct	15739 Oct 07 18:24	27°♈02'23	
	15734 May 27 22:26	0°♈			15739 Nov 20 20:20	0°♈	
evening set	15734 Aug 12 03:04	15°♈05'31		evening set	15740 Feb 10 22:29	15°♈29'44	
max. Earth dist.	15734 Aug 23 01:07	17°♈38'32	6.11092 AU				
				conjunction	15740 Feb 24 08:33	18°♈30'04	0°31'00
conjunction	15734 Aug 25 02:25	18°♈07'27	-0°31'02	minimum elong	15740 Feb 24 08:34	18°♈30'04	0°31'16
minimum elong	15734 Aug 25 02:25	18°♈07'27	0°31'17	max. Earth dist.	15740 Feb 26 11:22	18°♈58'34	6.26061 AU
morning rise	15734 Sep 07 01:52	21°♈09'49		morning rise	15740 Mar 08 18:20	21°♈29'56	
	15734 Oct 16 19:07	0°♈			15740 Apr 18 02:53	0°♈	
retrograde	15735 Jan 13 01:34	10°♈33'34		retrograde	15740 Jul 11 05:23	9°♈26'05	
opposition	15735 Mar 13 20:03	5°♈37'47	-0°40'32	opposition	15740 Sep 09 19:09	4°♈25'11	0°40'20
min. Earth dist.	15735 Mar 14 23:38	5°♈28'41	4.02668 AU	min. Earth dist.	15740 Sep 08 16:26	4°♈34'00	4.34295 AU
direct	15735 May 12 13:25	0°♈40'09			15740 Oct 21 10:31	30°♈♈	
evening set	15735 Sep 16 13:26	20°♈24'14		direct	15740 Nov 09 13:03	29°♈25'38	
					15740 Nov 28 18:27	0°♈	
conjunction	15735 Sep 29 17:13	23°♈35'09	-0°20'30	evening set	15741 Mar 14 17:54	17°♈02'33	
minimum elong	15735 Sep 29 17:14	23°♈35'10	0°20'14				
max. Earth dist.	15735 Sep 28 16:07	23°♈19'57	5.95806 AU	conjunction	15741 Mar 28 00:19	19°♈55'09	0°22'16
morning rise	15735 Oct 12 22:13	26°♈46'59		minimum elong	15741 Mar 28 00:19	19°♈55'10	0°22'03
	15735 Oct 26 09:48	0°♈		max. Earth dist.	15741 Mar 29 03:33	20°♈09'56	6.41413 AU
	15736 Jan 13 18:45	15°♈		morning rise	15741 Apr 10 05:53	22°♈47'06	
retrograde	15736 Feb 20 12:24	17°♈15'57			15741 May 15 05:52	0°♈	
	15736 Mar 29 09:54	15°♈♈		retrograde	15741 Aug 10 10:28	9°♈50'15	
opposition	15736 Apr 19 19:20	12°♈17'56	-0°17'11	opposition	15741 Oct 10 11:09	4°♈52'01	0°22'16
min. Earth dist.	15736 Apr 19 22:55	12°♈16'44	3.91061 AU	min. Earth dist.	15741 Oct 10 01:44	4°♈55'04	4.46758 AU
direct	15736 Jun 17 08:27	7°♈22'04			15741 Dec 01 20:00	30°♈♈	
	15736 Aug 27 14:23	15°♈		direct	15741 Dec 11 04:45	29°♈51'53	
evening set	15736 Oct 23 02:39	27°♈40'16			15741 Dec 20 14:44	0°♈	
	15736 Nov 01 14:54	0°♈		evening set	15742 Apr 05 10:02	15°♈	
conjunction	15736 Nov 05 11:35	0°♈56'56	-0°01'28		15742 Apr 14 19:06	16°♈58'28	
minimum elong	15736 Nov 05 11:35	0°♈56'56	0°00'47	conjunction	15742 Apr 27 21:50	19°♈46'13	0°07'45
behind sun begin	15736 Nov 05 03:16	0°♈51'51		minimum elong	15742 Apr 27 21:51	19°♈46'14	0°07'10
behind sun end	15736 Nov 05 19:54	1°♈02'01		behind sun begin	15742 Apr 27 14:27	19°♈42'18	
max. Earth dist.	15736 Nov 06 00:12	1°♈04'40	5.89095 AU	behind sun end	15742 Apr 28 05:15	19°♈50'10	
morning rise	15736 Nov 18 22:16	4°♈14'34		max. Earth dist.	15742 Apr 27 21:21	19°♈45'58	6.50166 AU
asc. node	15736 Dec 03 14:18	7°♈46'36		morning rise	15742 May 10 23:00	22°♈33'13	
retrograde	15737 Mar 30 09:46	25°♈06'20			15742 Jun 16 18:20	0°♈	
opposition	15737 May 28 13:53	20°♈05'29	0°14'05	retrograde	15742 Sep 09 00:40	9°♈11'07	
min. Earth dist.	15737 May 27 16:58	20°♈12'34	3.90119 AU	desc. node	15742 Oct 26 02:17	6°♈02'03	
direct	15737 Jul 25 16:46	15°♈09'56		opposition	15742 Nov 09 06:23	4°♈15'22	-0°00'53
	15737 Nov 07 19:29	0°♈		min. Earth dist.	15742 Nov 09 16:22	4°♈12'10	4.51373 AU
evening set	15737 Nov 30 10:30	5°♈20'30			15742 Dec 19 05:20	30°♈♈	
				direct	15743 Jan 10 14:32	29°♈14'59	
conjunction	15737 Dec 13 22:53	8°♈36'25	0°18'17		15743 Feb 02 04:02	0°♈	
minimum elong	15737 Dec 13 22:53	8°♈36'25	0°19'07	evening set	15743 May 14 23:25	16°♈15'16	

conjunction	15743 May 27 22:42	19° $\Pi$ 01'36	-0°08'41	conjunction	15748 Nov 10 14:31	6° $\text{J}$ 08'06	0°01'24
minimum elong	15743 May 27 22:42	19° $\Pi$ 01'36	0°09'30	minimum elong	15748 Nov 10 14:31	6° $\text{J}$ 08'06	0°02'09
behind sun begin	15743 May 27 16:03	18° $\Pi$ 58'04		behind sun begin	15748 Nov 10 06:11	6° $\text{J}$ 03'00	
behind sun end	15743 May 28 05:21	19° $\Pi$ 05'09		behind sun end	15748 Nov 10 22:51	6° $\text{J}$ 13'11	
max. Earth dist.	15743 May 26 17:55	18° $\Pi$ 46'11	6.50329 AU	max. Earth dist.	15748 Nov 11 08:24	6° $\text{J}$ 19'03	5.89369 AU
morning rise	15743 Jun 09 20:39	21° $\Pi$ 47'21		morning rise	15748 Nov 24 01:37	9° $\text{J}$ 25'48	
	15743 Jul 20 14:18	0° $\text{E}$			15749 Mar 23 03:36	0° $\text{Z}$	
retrograde	15743 Oct 09 03:08	8° $\text{E}$ 30'08		retrograde	15749 Apr 04 12:49	0° $\text{Z}$ 15'20	
opposition	15743 Dec 09 06:57	3° $\text{E}$ 35'50	-0°23'49		15749 Apr 16 19:27	30° $\text{R}$ $\text{J}$	
min. Earth dist.	15743 Dec 10 10:36	3° $\text{E}$ 26'59	4.47145 AU	opposition	15749 Jun 02 16:13	25° $\text{J}$ 14'15	0°18'04
	15744 Jan 09 18:11	30° $\text{R}$ $\Pi$		min. Earth dist.	15749 Jun 01 17:18	25° $\text{J}$ 22'00	3.91004 AU
direct	15744 Feb 09 17:02	28° $\Pi$ 35'16		direct	15749 Jul 30 19:15	20° $\text{J}$ 18'37	
	15744 Mar 11 18:09	0° $\text{E}$			15749 Oct 20 12:31	0° $\text{Z}$	
evening set	15744 Jun 13 05:51	15° $\text{E}$ 53'32		evening set	15749 Dec 05 11:45	10° $\text{Z}$ 24'58	
max. Earth dist.	15744 Jun 24 03:04	18° $\text{E}$ 15'50	6.41942 AU				
conjunction	15744 Jun 26 03:14	18° $\text{E}$ 42'10	-0°22'56	conjunction	15749 Dec 19 00:11	13° $\text{Z}$ 40'17	0°20'28
minimum elong	15744 Jun 26 03:13	18° $\text{E}$ 42'10	0°23'45	minimum elong	15749 Dec 19 00:10	13° $\text{Z}$ 40'16	0°21'18
morning rise	15744 Jul 08 23:21	21° $\text{E}$ 30'26		max. Earth dist.	15749 Dec 21 00:19	14° $\text{Z}$ 09'17	5.95359 AU
	15744 Aug 19 04:51	0° $\Omega$		morning rise	15750 Jan 01 14:11	16° $\text{Z}$ 56'07	
retrograde	15744 Nov 08 15:27	8° $\Omega$ 47'35			15750 Mar 02 16:24	0° $\approx$	
opposition	15745 Jan 08 13:06	3° $\Omega$ 53'37	-0°41'18	retrograde	15750 May 11 10:52	7° $\approx$ 07'00	
min. Earth dist.	15745 Jan 10 02:18	3° $\Omega$ 41'39	4.35065 AU	min. Earth dist.	15750 Jul 08 10:13	2° $\approx$ 16'42	4.01987 AU
	15745 Feb 12 08:44	30° $\text{R}$ $\text{E}$		opposition	15750 Jul 09 23:39	2° $\approx$ 04'02	0°41'01
direct	15745 Mar 11 09:39	28° $\text{E}$ 53'20			15750 Jul 25 19:11	30° $\text{R}$ $\text{Z}$	
	15745 Apr 07 13:12	0° $\Omega$		direct	15750 Sep 06 13:39	27° $\text{Z}$ 06'59	
	15745 Jul 06 05:39	15° $\Omega$			15750 Oct 19 05:43	0° $\approx$	
evening set	15745 Jul 14 14:22	16° $\Omega$ 51'41		evening set	15751 Jan 05 08:26	15° $\approx$	
max. Earth dist.	15745 Jul 25 04:06	19° $\Omega$ 14'40	6.26955 AU		15751 Jan 11 14:57	16° $\approx$ 26'42	
conjunction	15745 Jul 27 11:35	19° $\Omega$ 46'05	-0°31'19	conjunction	15751 Jan 25 03:17	19° $\approx$ 35'00	0°31'00
minimum elong	15745 Jul 27 11:35	19° $\Omega$ 46'05	0°31'55	minimum elong	15751 Jan 25 03:17	19° $\approx$ 34'59	0°31'37
morning rise	15745 Aug 09 08:14	22° $\Omega$ 40'31		max. Earth dist.	15751 Jan 27 14:07	20° $\approx$ 09'12	6.10161 AU
	15745 Sep 12 03:23	0° $\text{M}$		morning rise	15751 Feb 07 16:12	22° $\approx$ 43'13	
retrograde	15745 Dec 12 14:12	10° $\text{M}$ 57'52			15751 Mar 12 12:18	0° $\text{H}$	
opposition	15746 Feb 10 22:23	6° $\text{M}$ 03'19	-0°47'42	retrograde	15751 Jun 14 17:57	11° $\text{H}$ 43'19	
min. Earth dist.	15746 Feb 12 12:37	5° $\text{M}$ 50'53	4.18085 AU	min. Earth dist.	15751 Aug 12 06:55	6° $\text{H}$ 52'46	4.18976 AU
direct	15746 Apr 12 19:35	1° $\text{M}$ 04'05		opposition	15751 Aug 13 19:08	6° $\text{H}$ 40'39	0°47'28
evening set	15746 Aug 16 21:00	19° $\text{M}$ 57'41		direct	15751 Oct 12 11:45	1° $\text{H}$ 42'01	
max. Earth dist.	15746 Aug 27 20:56	22° $\text{M}$ 32'27	6.09329 AU	evening set	15752 Feb 15 12:36	20° $\text{H}$ 03'40	
conjunction	15746 Aug 29 20:40	23° $\text{M}$ 00'32	-0°30'16	conjunction	15752 Feb 28 22:19	23° $\text{H}$ 03'07	0°30'20
minimum elong	15746 Aug 29 20:41	23° $\text{M}$ 00'33	0°30'28	minimum elong	15752 Feb 28 22:20	23° $\text{H}$ 03'07	0°30'31
morning rise	15746 Sep 11 20:44	26° $\text{M}$ 03'57		max. Earth dist.	15752 Mar 01 23:03	23° $\text{H}$ 30'19	6.27826 AU
	15746 Sep 28 21:34	0° $\Omega$		morning rise	15752 Mar 13 07:44	26° $\text{H}$ 02'05	
retrograde	15747 Jan 18 03:20	15° $\Omega$ 35'21			15752 Mar 31 13:08	0° $\text{Y}$	
opposition	15747 Mar 18 21:38	10° $\Omega$ 39'19	-0°38'15	retrograde	15752 Jul 15 10:33	13° $\text{Y}$ 51'37	
min. Earth dist.	15747 Mar 19 21:38	10° $\Omega$ 31'24	4.01250 AU	min. Earth dist.	15752 Sep 13 00:57	8° $\text{Y}$ 59'24	4.35805 AU
direct	15747 May 17 10:46	5° $\Omega$ 41'58		opposition	15752 Sep 14 02:26	8° $\text{Y}$ 51'01	0°38'25
evening set	15747 Sep 21 12:51	25° $\Omega$ 30'05		direct	15752 Nov 13 22:37	3° $\text{Y}$ 51'20	
				evening set	15753 Mar 19 03:05	21° $\text{Y}$ 24'33	
conjunction	15747 Oct 04 17:13	28° $\Omega$ 41'44	-0°18'19	conjunction	15753 Apr 01 09:07	24° $\text{Y}$ 16'31	0°20'31
minimum elong	15747 Oct 04 17:14	28° $\Omega$ 41'45	0°17'59	minimum elong	15753 Apr 01 09:07	24° $\text{Y}$ 16'31	0°20'16
max. Earth dist.	15747 Oct 03 20:45	28° $\Omega$ 29'18	5.94873 AU	max. Earth dist.	15753 Apr 02 09:29	24° $\text{Y}$ 29'43	6.42582 AU
	15747 Oct 10 02:02	0° $\text{M}$		morning rise	15753 Apr 14 14:03	27° $\text{Y}$ 07'47	
morning rise	15747 Oct 17 22:52	1° $\text{M}$ 54'19			15753 Apr 28 02:27	0° $\text{B}$	
	15747 Dec 16 06:13	15° $\text{M}$		retrograde	15753 Aug 14 14:32	14° $\text{B}$ 07'03	
retrograde	15748 Feb 25 17:39	22° $\text{M}$ 27'18		opposition	15753 Oct 14 15:33	9° $\text{B}$ 09'11	0°19'14
opposition	15748 Apr 25 00:04	17° $\text{M}$ 28'55	-0°13'09	min. Earth dist.	15753 Oct 14 08:42	9° $\text{B}$ 11'24	4.47519 AU
min. Earth dist.	15748 Apr 25 01:18	17° $\text{M}$ 28'30	3.90710 AU	direct	15753 Dec 15 12:15	4° $\text{B}$ 08'59	
	15748 May 14 10:29	15° $\text{R}$ $\text{M}$			15754 Mar 19 14:09	15° $\text{B}$	
direct	15748 Jun 22 12:04	12° $\text{M}$ 33'10		evening set	15754 Apr 19 01:15	21° $\text{B}$ 14'09	
	15748 Jul 31 02:23	15° $\text{M}$					
asc. node	15748 Oct 14 19:37	29° $\text{M}$ 37'25		conjunction	15754 May 02 03:26	24° $\text{B}$ 01'36	0°05'30
	15748 Oct 16 09:28	0° $\text{J}$		minimum elong	15754 May 02 03:25	24° $\text{B}$ 01'36	0°04'53
evening set	15748 Oct 28 04:56	2° $\text{J}$ 51'16		behind sun begin	15754 May 01 19:34	23° $\text{B}$ 57'26	
				behind sun end	15754 May 02 11:15	24° $\text{B}$ 05'46	

max. Earth dist.	15754 May 01 22:28	23°♄58'59	6.50460 AU	min. Earth dist.	15760 Apr 30 06:02	22°♄49'08	3.89974 AU
morning rise	15754 May 15 04:15	26°♄48'20		direct	15760 Jun 27 16:49	17°♄52'48	
	15754 May 30 10:38	0°♄		asc. node	15760 Aug 22 07:21	22°♄45'08	
desc. node	15754 Sep 07 09:50	13°♄22'25			15760 Sep 28 12:25	0°♄	
retrograde	15754 Sep 13 04:55	13°♄25'34		evening set	15760 Nov 02 12:11	8°♄12'26	
opposition	15754 Nov 13 10:43	8°♄29'57	-0°04'13				
min. Earth dist.	15754 Nov 13 23:01	8°♄26'00	4.51189 AU	conjunction	15760 Nov 15 22:13	11°♄29'30	0°04'20
direct	15755 Jan 14 20:01	3°♄29'26		minimum elong	15760 Nov 15 22:13	11°♄29'31	0°05'06
evening set	15755 May 19 04:31	20°♄30'46		behind sun begin	15760 Nov 15 14:08	11°♄24'35	
max. Earth dist.	15755 May 30 21:25	23°♄01'01	6.49657 AU	behind sun end	15760 Nov 16 06:19	11°♄34'27	
				max. Earth dist.	15760 Nov 16 19:23	11°♄42'29	5.89380 AU
conjunction	15755 Jun 01 03:37	23°♄17'13	-0°10'53	morning rise	15760 Nov 29 10:08	14°♄47'31	
minimum elong	15755 Jun 01 03:36	23°♄17'13	0°11'42		15761 Feb 08 00:27	0°♄	
behind sun begin	15755 May 31 21:58	23°♄14'12		retrograde	15761 Apr 09 18:10	5°♄35'29	
behind sun end	15755 Jun 01 09:15	23°♄20'14		opposition	15761 Jun 07 23:03	0°♄34'03	0°22'03
morning rise	15755 Jun 14 01:02	26°♄03'03		min. Earth dist.	15761 Jun 06 20:55	0°♄42'55	3.91768 AU
	15755 Jul 02 21:18	0°♄			15761 Jun 12 03:52	30°♄♄	
retrograde	15755 Oct 13 08:58	12°♄48'30		direct	15761 Aug 05 02:00	25°♄38'17	
opposition	15755 Dec 13 13:40	7°♄54'13	-0°26'43		15761 Sep 26 14:11	0°♄	
min. Earth dist.	15755 Dec 14 18:12	7°♄45'06	4.46001 AU	evening set	15761 Dec 10 18:03	15°♄40'45	
direct	15756 Feb 13 22:26	2°♄53'38					
evening set	15756 Jun 17 13:04	20°♄15'35		conjunction	15761 Dec 24 06:47	18°♄55'30	0°22'34
max. Earth dist.	15756 Jun 28 08:14	22°♄37'18	6.40362 AU	minimum elong	15761 Dec 24 06:46	18°♄55'29	0°23'24
				max. Earth dist.	15761 Dec 26 10:03	19°♄26'17	5.96803 AU
conjunction	15756 Jun 30 10:08	23°♄04'42	-0°24'33	morning rise	15762 Jan 06 20:46	22°♄10'39	
minimum elong	15756 Jun 30 10:08	23°♄04'42	0°25'21		15762 Feb 10 00:55	0°♄	
morning rise	15756 Jul 13 06:12	25°♄53'32		retrograde	15762 May 16 10:56	12°♄13'48	
	15756 Aug 01 09:39	0°♄		min. Earth dist.	15762 Jul 13 10:47	7°♄23'26	4.03933 AU
retrograde	15756 Nov 13 05:40	13°♄16'50		opposition	15762 Jul 15 00:12	7°♄10'47	0°42'58
opposition	15757 Jan 13 01:12	8°♄22'48	-0°42'57	direct	15762 Sep 11 17:51	2°♄13'34	
min. Earth dist.	15757 Jan 14 16:05	8°♄10'16	4.33104 AU		15762 Dec 18 22:01	15°♄	
direct	15757 Mar 15 20:48	3°♄22'30		evening set	15763 Jan 16 15:39	21°♄26'05	
	15757 Jun 19 09:53	15°♄					
evening set	15757 Jul 19 02:06	21°♄27'05		conjunction	15763 Jan 30 03:48	24°♄33'17	0°31'34
max. Earth dist.	15757 Jul 29 15:24	23°♄50'32	6.24743 AU	minimum elong	15763 Jan 30 03:48	24°♄33'17	0°32'07
				max. Earth dist.	15763 Feb 01 15:35	25°♄07'50	6.12437 AU
conjunction	15757 Jul 31 23:33	24°♄22'27	-0°31'47	morning rise	15763 Feb 12 16:22	27°♄40'20	
minimum elong	15757 Jul 31 23:33	24°♄22'27	0°32'20		15763 Feb 22 22:17	0°♄	
morning rise	15757 Aug 13 20:29	27°♄17'54		retrograde	15763 Jun 19 07:13	16°♄30'27	
	15757 Aug 25 21:39	0°♄		min. Earth dist.	15763 Aug 16 22:37	11°♄40'12	4.21385 AU
retrograde	15757 Dec 17 10:27	15°♄44'19		opposition	15763 Aug 18 11:05	11°♄28'02	0°47'01
opposition	15758 Feb 15 18:00	10°♄49'34	-0°47'22	direct	15763 Oct 17 06:36	6°♄29'16	
min. Earth dist.	15758 Feb 17 06:26	10°♄37'42	4.15776 AU	evening set	15764 Feb 20 05:41	24°♄43'29	
direct	15758 Apr 17 10:18	5°♄50'31					
evening set	15758 Aug 21 15:46	24°♄51'37		conjunction	15764 Mar 04 14:51	27°♄41'44	0°29'25
max. Earth dist.	15758 Sep 01 19:07	27°♄29'10	6.07119 AU	minimum elong	15764 Mar 04 14:52	27°♄41'44	0°29'31
				max. Earth dist.	15764 Mar 06 12:26	28°♄07'04	6.30197 AU
conjunction	15758 Sep 03 15:55	27°♄55'40	-0°29'13		15764 Mar 15 00:06	0°♄	
minimum elong	15758 Sep 03 15:55	27°♄55'40	0°29'21	morning rise	15764 Mar 17 23:41	0°♄39'29	
	15758 Sep 12 10:10	0°♄		retrograde	15764 Jul 19 18:51	18°♄20'18	
morning rise	15758 Sep 16 16:36	1°♄00'20		opposition	15764 Sep 18 11:22	13°♄20'05	0°36'11
retrograde	15759 Jan 23 10:04	20°♄41'23		min. Earth dist.	15764 Sep 17 12:39	13°♄27'33	4.37957 AU
opposition	15759 Mar 24 01:19	15°♄45'05	-0°35'33	direct	15764 Nov 18 12:30	8°♄20'20	
min. Earth dist.	15759 Mar 24 23:37	15°♄37'42	3.99332 AU	evening set	15765 Mar 23 12:50	25°♄47'42	
direct	15759 May 22 11:26	10°♄47'56					
	15759 Sep 23 17:22	0°♄		conjunction	15765 Apr 05 18:19	28°♄38'46	0°18'39
evening set	15759 Sep 26 15:10	0°♄42'07		minimum elong	15765 Apr 05 18:20	28°♄38'47	0°18'19
				max. Earth dist.	15765 Apr 06 15:34	28°♄50'14	6.44361 AU
conjunction	15759 Oct 09 20:23	3°♄54'50	-0°15'52		15765 Apr 12 00:50	0°♄	
minimum elong	15759 Oct 09 20:24	3°♄54'50	0°15'29	morning rise	15765 Apr 18 22:39	1°♄29'07	
behind sun begin	15759 Oct 09 18:03	3°♄53'25			15765 Jul 01 11:02	15°♄	
behind sun end	15759 Oct 09 22:45	3°♄56'16		retrograde	15765 Aug 18 16:32	18°♄22'49	
max. Earth dist.	15759 Oct 09 04:54	3°♄45'24	5.93452 AU		15765 Oct 06 09:45	15°♄	
morning rise	15759 Oct 23 02:48	7°♄08'27		opposition	15765 Oct 18 19:43	13°♄25'16	0°16'07
	15759 Nov 25 18:16	15°♄		min. Earth dist.	15765 Oct 18 14:37	13°♄26'55	4.48823 AU
retrograde	15760 Mar 02 03:09	27°♄47'05		direct	15765 Dec 19 18:14	8°♄25'01	
opposition	15760 Apr 30 08:14	22°♄48'24	-0°08'50		15766 Feb 28 10:53	15°♄	

evening set	15766 Apr 23 06:11	25°♄27'13		minimum elong	15771 Oct 15 01:40	9°♄14'17	0°12'52
				behind sun begin	15771 Oct 14 20:32	9°♄11'10	
conjunction	15766 May 06 07:53	28°♄14'11	0°03'15	behind sun end	15771 Oct 15 06:48	9°♄17'25	
minimum elong	15766 May 06 07:53	28°♄14'10	0°02'34	max. Earth dist.	15771 Oct 14 13:58	9°♄07'09	5.91764 AU
behind sun begin	15766 May 05 23:51	28°♄09'55		morning rise	15771 Oct 28 09:11	12°♄29'11	
behind sun end	15766 May 06 15:55	28°♄18'26			15771 Nov 07 19:21	15°♄	
max. Earth dist.	15766 May 05 23:59	28°♄09'59	6.51198 AU		15772 Jan 22 05:34	0°♄	
	15766 May 14 14:16	0°♄		retrograde	15772 Mar 07 14:31	3°♄14'29	
morning rise	15766 May 19 08:00	1°♄00'23			15772 Apr 22 13:07	30°♄	
desc. node	15766 Jul 21 13:16	12°♄55'22		opposition	15772 May 05 18:58	28°♄15'22	-0°04'26
retrograde	15766 Sep 17 06:58	17°♄35'57		min. Earth dist.	15772 May 05 12:30	28°♄17'32	3.89081 AU
opposition	15766 Nov 17 13:26	12°♄40'38	-0°07'28	asc. node	15772 Jun 30 14:08	23°♄20'27	
min. Earth dist.	15766 Nov 18 04:31	12°♄35'48	4.51308 AU	direct	15772 Jul 03 01:27	23°♄19'49	
direct	15767 Jan 19 00:25	7°♄40'06			15772 Sep 06 23:50	0°♄	
evening set	15767 May 23 07:56	24°♄41'53		evening set	15772 Nov 07 22:08	13°♄41'21	
max. Earth dist.	15767 Jun 03 19:24	27°♄09'29	6.49124 AU				
				conjunction	15772 Nov 21 08:56	16°♄58'46	0°07'12
conjunction	15767 Jun 05 06:28	27°♄28'20	-0°12'59	minimum elong	15772 Nov 21 08:55	16°♄58'45	0°08'00
minimum elong	15767 Jun 05 06:28	27°♄28'20	0°13'48	behind sun begin	15772 Nov 21 01:29	16°♄54'13	
behind sun begin	15767 Jun 05 02:15	27°♄26'05		behind sun end	15772 Nov 21 16:22	17°♄03'18	
behind sun end	15767 Jun 05 10:40	27°♄30'35		max. Earth dist.	15772 Nov 22 12:46	17°♄15'49	5.89395 AU
	15767 Jun 17 01:02	0°♄		morning rise	15772 Dec 04 21:17	20°♄16'58	
morning rise	15767 Jun 18 03:43	0°♄14'16			15773 Jan 15 23:27	0°♄	
retrograde	15767 Oct 17 15:05	17°♄02'26		retrograde	15773 Apr 15 03:47	11°♄02'53	
opposition	15767 Dec 17 18:37	12°♄08'13	-0°29'23	min. Earth dist.	15773 Jun 12 04:14	6°♄10'37	3.92685 AU
min. Earth dist.	15767 Dec 19 01:46	11°♄58'15	4.44828 AU	opposition	15773 Jun 13 08:29	6°♄01'03	0°25'52
direct	15768 Feb 18 03:14	7°♄07'32		direct	15773 Aug 10 12:37	1°♄05'07	
evening set	15768 Jun 21 18:05	24°♄33'37		evening set	15773 Dec 16 02:52	21°♄02'41	
max. Earth dist.	15768 Jul 02 11:41	26°♄55'00	6.38613 AU				
				conjunction	15773 Dec 29 15:44	24°♄16'39	0°24'30
conjunction	15768 Jul 04 15:13	27°♄23'24	-0°25'58	minimum elong	15773 Dec 29 15:43	24°♄16'39	0°25'18
minimum elong	15768 Jul 04 15:13	27°♄23'23	0°26'45	max. Earth dist.	15773 Dec 31 23:01	24°♄49'42	5.98507 AU
	15768 Jul 16 11:40	0°♄		morning rise	15774 Jan 12 05:46	27°♄30'57	
morning rise	15768 Jul 17 11:09	0°♄12'52			15774 Jan 22 19:32	0°♄	
	15768 Oct 05 21:09	15°♄			15774 Apr 12 08:53	15°♄	
retrograde	15768 Nov 17 16:46	17°♄43'20		retrograde	15774 May 21 10:09	17°♄24'42	
	15768 Dec 30 22:35	15°♄			15774 Jun 29 11:36	15°♄	
opposition	15769 Jan 17 11:56	12°♄49'15	-0°44'20	min. Earth dist.	15774 Jul 18 10:29	12°♄34'50	4.06221 AU
min. Earth dist.	15769 Jan 19 03:09	12°♄36'36	4.30872 AU	opposition	15774 Jul 20 01:50	12°♄21'34	0°44'33
direct	15769 Mar 20 03:46	7°♄49'02		direct	15774 Sep 16 22:03	7°♄24'03	
	15769 May 31 12:11	15°♄			15774 Nov 28 16:07	15°♄	
evening set	15769 Jul 23 12:53	26°♄01'03		evening set	15775 Jan 21 17:24	26°♄27'55	
max. Earth dist.	15769 Aug 03 01:58	28°♄25'14	6.22181 AU				
				conjunction	15775 Feb 04 05:06	29°♄33'45	0°31'52
conjunction	15769 Aug 05 10:27	28°♄57'32	-0°32'02	minimum elong	15775 Feb 04 05:06	29°♄33'45	0°32'23
minimum elong	15769 Aug 05 10:27	28°♄57'32	0°32'32		15775 Feb 06 02:47	0°♄	
	15769 Aug 09 23:38	0°♄		max. Earth dist.	15775 Feb 06 15:17	0°♄07'11	6.15065 AU
morning rise	15769 Aug 18 07:49	1°♄54'14		morning rise	15775 Feb 17 17:17	2°♄39'24	
retrograde	15769 Dec 22 09:37	20°♄31'25		retrograde	15775 Jun 23 21:54	21°♄18'17	
opposition	15770 Feb 20 13:38	15°♄36'30	-0°46'43	min. Earth dist.	15775 Aug 21 16:59	16°♄27'30	4.24073 AU
min. Earth dist.	15770 Feb 22 01:59	15°♄24'37	4.13051 AU	opposition	15775 Aug 23 03:31	16°♄15'59	0°46'12
direct	15770 Apr 22 02:39	10°♄37'36		direct	15775 Oct 22 04:23	11°♄16'57	
evening set	15770 Aug 26 11:03	29°♄47'57		evening set	15776 Feb 24 22:16	29°♄22'42	
	15770 Aug 27 07:30	0°♄			15776 Feb 27 18:04	0°♄	
max. Earth dist.	15770 Sep 06 17:49	2°♄28'25	6.04484 AU				
				conjunction	15776 Mar 09 07:02	2°♄19'42	0°28'17
conjunction	15770 Sep 08 12:00	2°♄53'30	-0°27'59	minimum elong	15776 Mar 09 07:02	2°♄19'42	0°28'19
minimum elong	15770 Sep 08 12:01	2°♄53'31	0°28'01	max. Earth dist.	15776 Mar 11 03:08	2°♄44'05	6.32718 AU
morning rise	15770 Sep 21 13:25	5°♄59'42		morning rise	15776 Mar 22 15:05	5°♄16'07	
retrograde	15771 Jan 28 17:00	25°♄52'03		retrograde	15776 Jul 24 00:36	22°♄47'56	
opposition	15771 Mar 29 06:13	20°♄55'28	-0°32'35	opposition	15776 Sep 22 19:58	17°♄48'03	0°33'42
min. Earth dist.	15771 Mar 30 01:30	20°♄49'04	3.97058 AU	min. Earth dist.	15776 Sep 21 22:40	17°♄55'02	4.40121 AU
direct	15771 May 27 10:38	15°♄58'37		direct	15776 Nov 22 23:53	12°♄48'13	
	15771 Sep 06 10:26	0°♄		evening set	15777 Mar 27 22:26	0°♄09'52	
evening set	15771 Oct 01 19:45	6°♄00'24			15777 Mar 27 03:57	0°♄	
conjunction	15771 Oct 15 01:39	9°♄14'17	-0°13'19	conjunction	15777 Apr 10 03:13	3°♄00'02	0°16'37



minimum elong	15777 Apr 10 03:13	3° <b>8</b> 00'02	0°16'15	minimum elong	15782 Sep 13 12:40	8° <b>♎</b> 02'29	0°26'25
max. Earth dist.	15777 Apr 10 19:25	3° <b>8</b> 08'45	6.46014 AU	morning rise	15782 Sep 26 15:02	11° <b>♎</b> 10'12	
morning rise	15777 Apr 23 06:55	5° <b>8</b> 49'29			15783 Jan 06 15:34	0° <b>♎</b>	
	15777 Jun 08 06:10	15° <b>8</b>		retrograde	15783 Feb 03 03:50	1° <b>♎</b> 13'13	
retrograde	15777 Aug 22 21:10	22° <b>8</b> 38'14			15783 Mar 02 16:46	30° <b>♎</b> <b>♎</b>	
opposition	15777 Oct 23 00:10	17° <b>8</b> 41'03	0°12'50	opposition	15783 Apr 03 15:43	26° <b>♎</b> 16'22	-0°29'12
min. Earth dist.	15777 Oct 22 22:57	17° <b>8</b> 41'27	4.49869 AU	min. Earth dist.	15783 Apr 04 07:12	26° <b>♎</b> 11'12	3.95131 AU
	15777 Nov 14 00:02	15° <b>8</b> <b>8</b>		direct	15783 Jun 01 16:03	21° <b>♎</b> 19'49	
direct	15777 Dec 24 02:17	12° <b>8</b> 40'43			15783 Aug 17 13:14	0° <b>♎</b>	
	15778 Feb 02 08:51	15° <b>8</b>		evening set	15783 Oct 07 04:08	11° <b>♎</b> 27'38	
evening set	15778 Apr 27 11:35	29° <b>8</b> 40'53					
	15778 Apr 28 23:41	0° <b>♎</b>		conjunction	15783 Oct 20 11:00	14° <b>♎</b> 42'31	-0°10'33
conjunction	15778 May 10 12:46	2° <b>♎</b> 27'30	0°00'51	minimum elong	15783 Oct 20 11:00	14° <b>♎</b> 42'31	0°10'01
minimum elong	15778 May 10 12:46	2° <b>♎</b> 27'30	0°00'09	behind sun begin	15783 Oct 20 04:19	14° <b>♎</b> 38'27	
behind sun begin	15778 May 10 04:49	2° <b>♎</b> 23'17		behind sun end	15783 Oct 20 17:41	14° <b>♎</b> 46'36	
behind sun end	15778 May 10 20:43	2° <b>♎</b> 31'43		max. Earth dist.	15783 Oct 20 06:40	14° <b>♎</b> 39'53	5.90610 AU
max. Earth dist.	15778 May 10 00:09	2° <b>♎</b> 20'47	6.51560 AU		15783 Oct 21 15:31	15° <b>♎</b>	
morning rise	15778 May 23 12:28	5° <b>♎</b> 13'25		morning rise	15783 Nov 02 19:11	17° <b>♎</b> 58'20	
desc. node	15778 May 31 04:47	6° <b>♎</b> 50'29			15783 Dec 26 00:01	0° <b>♎</b> <b>♎</b>	
retrograde	15778 Sep 21 10:41	21° <b>♎</b> 48'39		retrograde	15784 Mar 13 05:33	8° <b>♎</b> 47'41	
opposition	15778 Nov 21 17:34	16° <b>♎</b> 53'31	-0°10'48	asc. node	15784 May 09 08:33	4° <b>♎</b> 04'13	
min. Earth dist.	15778 Nov 22 10:55	16° <b>♎</b> 47'58	4.50981 AU	opposition	15784 May 11 08:02	3° <b>♎</b> 48'13	0°00'10
direct	15779 Jan 23 04:10	11° <b>♎</b> 52'55		min. Earth dist.	15784 May 10 22:25	3° <b>♎</b> 51'27	3.88867 AU
evening set	15779 May 27 12:47	28° <b>♎</b> 56'32			15784 Jun 12 18:23	30° <b>♎</b> <b>♎</b>	
	15779 Jun 01 11:18	0° <b>♎</b>		direct	15784 Jul 08 13:19	28° <b>♎</b> 52'48	
max. Earth dist.	15779 Jun 07 22:07	1° <b>♎</b> 23'18	6.48124 AU	evening set	15784 Aug 03 06:14	0° <b>♎</b> <b>♎</b>	
					15784 Nov 13 09:47	19° <b>♎</b> 13'23	
conjunction	15779 Jun 09 11:08	1° <b>♎</b> 43'15	-0°15'05	conjunction	15784 Nov 26 21:00	22° <b>♎</b> 30'40	0°10'05
minimum elong	15779 Jun 09 11:07	1° <b>♎</b> 43'15	0°15'55	minimum elong	15784 Nov 26 21:00	22° <b>♎</b> 30'39	0°10'53
behind sun begin	15779 Jun 09 10:04	1° <b>♎</b> 42'41		behind sun begin	15784 Nov 26 14:41	22° <b>♎</b> 26'49	
behind sun end	15779 Jun 09 12:10	1° <b>♎</b> 43'49		behind sun end	15784 Nov 27 03:19	22° <b>♎</b> 34'30	
morning rise	15779 Jun 22 07:55	4° <b>♎</b> 29'25		max. Earth dist.	15784 Nov 28 06:20	22° <b>♎</b> 51'02	5.90139 AU
retrograde	15779 Oct 21 23:21	21° <b>♎</b> 21'53		morning rise	15784 Dec 10 09:52	25° <b>♎</b> 48'42	
opposition	15779 Dec 22 02:23	16° <b>♎</b> 27'48	-0°32'01		15784 Dec 27 22:42	0° <b>♎</b> <b>♎</b>	
min. Earth dist.	15779 Dec 23 11:32	16° <b>♎</b> 17'11	4.43207 AU	retrograde	15785 Apr 20 10:25	16° <b>♎</b> 29'10	
direct	15780 Feb 22 09:28	11° <b>♎</b> 27'10		min. Earth dist.	15785 Jun 17 09:14	11° <b>♎</b> 37'51	3.94315 AU
evening set	15780 Jun 26 02:30	28° <b>♎</b> 58'48		opposition	15785 Jun 18 17:06	11° <b>♎</b> 27'04	0°29'28
	15780 Jun 30 17:44	0° <b>♎</b>		direct	15785 Aug 15 21:36	6° <b>♎</b> 31'00	
max. Earth dist.	15780 Jul 06 16:51	1° <b>♎</b> 19'07	6.36467 AU	evening set	15785 Dec 21 10:20	26° <b>♎</b> 21'09	
conjunction	15780 Jul 08 23:25	1° <b>♎</b> 49'20	-0°27'19	conjunction	15786 Jan 03 23:01	29° <b>♎</b> 33'58	0°26'13
minimum elong	15780 Jul 08 23:25	1° <b>♎</b> 49'20	0°28'03	minimum elong	15786 Jan 03 23:01	29° <b>♎</b> 33'57	0°26'58
morning rise	15780 Jul 21 19:32	4° <b>♎</b> 39'42			15786 Jan 05 18:49	0° <b>♎</b> <b>♎</b>	
	15780 Sep 10 09:43	15° <b>♎</b>		max. Earth dist.	15786 Jan 06 07:15	0° <b>♎</b> 07'23	6.00824 AU
retrograde	15780 Nov 22 10:28	22° <b>♎</b> 18'47		morning rise	15786 Jan 17 12:58	2° <b>♎</b> 47'04	
opposition	15781 Jan 22 02:51	17° <b>♎</b> 24'38	-0°45'31		15786 Mar 15 02:34	15° <b>♎</b> <b>♎</b>	
min. Earth dist.	15781 Jan 23 18:52	17° <b>♎</b> 11'41	4.28320 AU	retrograde	15786 May 26 07:07	22° <b>♎</b> 29'37	
	15781 Feb 10 14:07	15° <b>♎</b> <b>♎</b>		min. Earth dist.	15786 Jul 23 09:57	17° <b>♎</b> 39'36	4.08946 AU
direct	15781 Mar 24 15:49	12° <b>♎</b> 24'30		opposition	15786 Jul 25 01:01	17° <b>♎</b> 26'26	0°45'46
	15781 May 05 07:26	15° <b>♎</b>			15786 Aug 13 01:05	15° <b>♎</b> <b>♎</b> <b>♎</b>	
	15781 Jul 24 20:39	0° <b>♎</b> <b>♎</b>		direct	15786 Sep 22 02:01	12° <b>♎</b> 28'39	
evening set	15781 Jul 28 03:55	0° <b>♎</b> 45'04			15786 Nov 01 03:26	15° <b>♎</b> <b>♎</b>	
max. Earth dist.	15781 Aug 07 18:40	3° <b>♎</b> 11'02	6.19429 AU		15787 Jan 20 13:40	0° <b>♎</b> <b>♎</b>	
				evening set	15787 Jan 26 15:55	1° <b>♎</b> 22'46	
conjunction	15781 Aug 10 02:00	3° <b>♎</b> 42'52	-0°32'06				
minimum elong	15781 Aug 10 02:00	3° <b>♎</b> 42'52	0°32'33	conjunction	15787 Feb 09 03:21	4° <b>♎</b> 27'09	0°31'58
morning rise	15781 Aug 22 23:42	6° <b>♎</b> 40'54		minimum elong	15787 Feb 09 03:22	4° <b>♎</b> 27'09	0°32'24
retrograde	15781 Dec 27 12:38	25° <b>♎</b> 29'32		max. Earth dist.	15787 Feb 11 13:40	5° <b>♎</b> 00'27	6.17950 AU
opposition	15782 Feb 25 14:08	20° <b>♎</b> 34'31	-0°45'43	morning rise	15787 Feb 22 14:49	7° <b>♎</b> 31'15	
min. Earth dist.	15782 Feb 27 00:48	20° <b>♎</b> 23'10	4.10322 AU	retrograde	15787 Jun 28 08:35	25° <b>♎</b> 58'34	
direct	15782 Apr 26 21:17	15° <b>♎</b> 35'58		min. Earth dist.	15787 Aug 26 07:02	21° <b>♎</b> 07'43	4.26854 AU
	15782 Aug 10 06:08	0° <b>♎</b> <b>♎</b>		opposition	15787 Aug 27 16:31	20° <b>♎</b> 56'36	0°45'07
evening set	15782 Aug 31 11:12	4° <b>♎</b> 55'30		direct	15787 Oct 26 20:55	15° <b>♎</b> 57'27	
max. Earth dist.	15782 Sep 11 21:02	7° <b>♎</b> 38'47	6.02025 AU		15788 Feb 11 07:21	0° <b>♎</b> <b>♎</b>	
				evening set	15788 Feb 29 11:53	3° <b>♎</b> 54'57	
conjunction	15782 Sep 13 12:39	8° <b>♎</b> 02'29	-0°26'27				

conjunction	15788 Mar 13 19:54	6° $\Upsilon$ 50'41	0°27'01	retrograde	15794 Jan 01 16:35	0° $\Omega$ 32'11	
minimum elong	15788 Mar 13 19:54	6° $\Upsilon$ 50'41	0°27'00		15794 Jan 19 23:30	30° $\Re$ $\mathfrak{M}$	
max. Earth dist.	15788 Mar 15 10:45	7° $\Upsilon$ 12'03	6.35170 AU	opposition	15794 Mar 02 16:27	25° $\mathfrak{M}$ 36'53	-0°44'22
morning rise	15788 Mar 27 03:27	9° $\Upsilon$ 45'51		min. Earth dist.	15794 Mar 04 00:25	25° $\mathfrak{M}$ 26'23	4.07817 AU
retrograde	15788 Jul 28 05:42	27° $\Upsilon$ 09'25		direct	15794 May 01 19:13	20° $\mathfrak{M}$ 38'34	
min. Earth dist.	15788 Sep 26 08:09	22° $\Upsilon$ 15'43	4.42082 AU		15794 Jul 22 08:43	0° $\Omega$	
opposition	15788 Sep 27 01:52	22° $\Upsilon$ 09'55	0°31'06	evening set	15794 Sep 05 12:34	10° $\Omega$ 06'09	
direct	15788 Nov 27 10:00	17° $\Upsilon$ 09'56		max. Earth dist.	15794 Sep 17 05:03	12° $\Omega$ 54'05	5.99963 AU
	15789 Mar 10 22:14	0° $\mathcal{B}$					
evening set	15789 Apr 01 05:09	4° $\mathcal{B}$ 26'48		conjunction	15794 Sep 18 14:52	13° $\Omega$ 14'24	-0°24'43
				minimum elong	15794 Sep 18 14:53	13° $\Omega$ 14'24	0°24'37
conjunction	15789 Apr 14 09:33	7° $\mathcal{B}$ 16'16	0°14'33	morning rise	15794 Oct 01 17:53	16° $\Omega$ 23'24	
minimum elong	15789 Apr 14 09:34	7° $\mathcal{B}$ 16'16	0°14'07		15794 Dec 03 16:49	0° $\mathfrak{M}$	
behind sun begin	15789 Apr 14 05:41	7° $\mathcal{B}$ 14'12		retrograde	15795 Feb 08 16:06	6° $\mathfrak{M}$ 34'55	
behind sun end	15789 Apr 14 13:26	7° $\mathcal{B}$ 18'20		opposition	15795 Apr 09 01:23	1° $\mathfrak{M}$ 37'43	-0°25'33
max. Earth dist.	15789 Apr 14 22:20	7° $\mathcal{B}$ 23'07	6.47355 AU	min. Earth dist.	15795 Apr 09 13:58	1° $\mathfrak{M}$ 33'32	3.93737 AU
morning rise	15789 Apr 27 12:33	10° $\mathcal{B}$ 04'59			15795 Apr 21 12:06	30° $\Re$ $\Omega$	
	15789 May 21 04:27	15° $\mathcal{B}$		direct	15795 Jun 06 22:51	26° $\Omega$ 41'25	
retrograde	15789 Aug 26 22:04	26° $\mathcal{B}$ 50'02			15795 Jul 22 08:50	0° $\mathfrak{M}$	
opposition	15789 Oct 27 02:49	21° $\mathcal{B}$ 53'12	0°09'34		15795 Oct 04 17:49	15° $\mathfrak{M}$	
min. Earth dist.	15789 Oct 27 03:44	21° $\mathcal{B}$ 52'54	4.50531 AU	evening set	15795 Oct 12 12:04	16° $\mathfrak{M}$ 52'48	
direct	15789 Dec 28 05:29	16° $\mathcal{B}$ 52'50					
desc. node	15790 Apr 08 06:12	29° $\mathcal{B}$ 02'20		conjunction	15795 Oct 25 19:31	20° $\mathfrak{M}$ 08'18	-0°07'42
	15790 Apr 13 00:47	0° $\mathfrak{I}$		minimum elong	15795 Oct 25 19:32	20° $\mathfrak{M}$ 08'18	0°07'07
evening set	15790 May 01 15:31	3° $\mathfrak{I}$ 52'12		behind sun begin	15795 Oct 25 11:53	20° $\mathfrak{M}$ 03'38	
				behind sun end	15795 Oct 26 03:11	20° $\mathfrak{M}$ 12'58	
conjunction	15790 May 14 16:11	6° $\mathfrak{I}$ 38'39	-0°01'31	max. Earth dist.	15795 Oct 25 19:57	20° $\mathfrak{M}$ 08'33	5.90004 AU
minimum elong	15790 May 14 16:11	6° $\mathfrak{I}$ 38'39	0°02'15	morning rise	15795 Nov 08 04:37	23° $\mathfrak{M}$ 24'47	
behind sun begin	15790 May 14 08:10	6° $\mathfrak{I}$ 34'23			15795 Dec 05 23:30	0° $\mathcal{A}$	
behind sun end	15790 May 15 00:13	6° $\mathfrak{I}$ 42'54		retrograde	15796 Mar 18 15:14	14° $\mathcal{A}$ 15'29	
max. Earth dist.	15790 May 13 23:17	6° $\mathfrak{I}$ 29'37	6.51501 AU	asc. node	15796 Mar 20 07:14	14° $\mathcal{A}$ 15'12	
morning rise	15790 May 27 15:25	9° $\mathfrak{I}$ 24'25		opposition	15796 May 16 18:54	9° $\mathcal{A}$ 15'34	0°04'41
retrograde	15790 Sep 25 15:43	26° $\mathfrak{I}$ 00'44		min. Earth dist.	15796 May 16 04:47	9° $\mathcal{A}$ 20'20	3.89137 AU
opposition	15790 Nov 25 21:16	21° $\mathfrak{I}$ 05'51	-0°14'02	direct	15796 Jul 13 22:02	4° $\mathcal{A}$ 20'08	
min. Earth dist.	15790 Nov 26 18:10	20° $\mathfrak{I}$ 59'09	4.50216 AU	evening set	15796 Nov 18 18:51	24° $\mathcal{A}$ 37'59	
direct	15791 Jan 27 08:49	16° $\mathfrak{I}$ 05'12					
	15791 May 16 14:03	0° $\mathfrak{B}$		conjunction	15796 Dec 02 06:21	27° $\mathcal{A}$ 54'52	0°12'49
evening set	15791 May 31 17:40	3° $\mathfrak{B}$ 12'01		minimum elong	15796 Dec 02 06:20	27° $\mathcal{A}$ 54'52	0°13'39
max. Earth dist.	15791 Jun 11 22:17	5° $\mathfrak{B}$ 36'45	6.46700 AU	behind sun begin	15796 Dec 02 01:50	27° $\mathcal{A}$ 52'08	
				behind sun end	15796 Dec 02 10:49	27° $\mathcal{A}$ 57'35	
conjunction	15791 Jun 13 15:43	5° $\mathfrak{B}$ 59'09	-0°17'06	max. Earth dist.	15796 Dec 03 19:13	28° $\mathcal{A}$ 17'21	5.91229 AU
minimum elong	15791 Jun 13 15:42	5° $\mathfrak{B}$ 59'09	0°17'57		15796 Dec 10 19:54	0° $\mathfrak{B}$	
morning rise	15791 Jun 26 12:26	8° $\mathfrak{B}$ 45'48		morning rise	15796 Dec 15 19:34	1° $\mathfrak{B}$ 12'29	
retrograde	15791 Oct 26 09:30	25° $\mathfrak{B}$ 43'55		retrograde	15797 Apr 25 14:25	21° $\mathfrak{B}$ 46'29	
opposition	15791 Dec 26 10:55	20° $\mathfrak{B}$ 49'51	-0°34'31	opposition	15797 Jun 23 22:26	16° $\mathfrak{B}$ 44'05	0°32'44
min. Earth dist.	15791 Dec 27 21:11	20° $\mathfrak{B}$ 38'51	4.41218 AU	min. Earth dist.	15797 Jun 22 13:21	16° $\mathfrak{B}$ 55'18	3.96076 AU
direct	15792 Feb 26 15:18	15° $\mathfrak{B}$ 49'12		direct	15797 Aug 21 06:12	11° $\mathfrak{B}$ 47'46	
	15792 Jun 14 13:41	0° $\Omega$			15797 Dec 20 04:08	0° $\approx$	
evening set	15792 Jun 30 11:45	3° $\Omega$ 27'29		evening set	15797 Dec 26 14:33	1° $\approx$ 30'29	
max. Earth dist.	15792 Jul 11 02:34	5° $\Omega$ 48'45	6.34061 AU				
				conjunction	15798 Jan 09 03:20	4° $\approx$ 42'14	0°27'42
conjunction	15792 Jul 13 08:53	6° $\Omega$ 19'00	-0°28'31	minimum elong	15798 Jan 09 03:20	4° $\approx$ 42'14	0°28'26
minimum elong	15792 Jul 13 08:53	6° $\Omega$ 19'00	0°29'13	max. Earth dist.	15798 Jan 11 14:09	5° $\approx$ 17'00	6.03080 AU
morning rise	15792 Jul 26 04:59	9° $\Omega$ 10'20		morning rise	15798 Jan 22 16:57	7° $\approx$ 54'08	
	15792 Aug 22 06:07	15° $\Omega$			15798 Feb 23 02:04	15° $\approx$	
retrograde	15792 Nov 27 05:28	26° $\Omega$ 58'51		retrograde	15798 May 31 01:51	27° $\approx$ 26'08	
opposition	15793 Jan 26 19:39	22° $\Omega$ 04'38	-0°46'27	min. Earth dist.	15798 Jul 28 06:15	22° $\approx$ 36'08	4.11450 AU
min. Earth dist.	15793 Jan 28 11:43	21° $\Omega$ 51'41	4.25664 AU	opposition	15798 Jul 29 21:09	22° $\approx$ 23'04	0°46'38
direct	15793 Mar 29 04:18	17° $\Omega$ 04'43		direct	15798 Sep 27 01:17	17° $\approx$ 25'06	
	15793 Jul 07 22:12	0° $\mathfrak{M}$			15799 Jan 03 09:51	0° $\mathfrak{H}$	
evening set	15793 Aug 01 20:44	5° $\mathfrak{M}$ 33'54		evening set	15799 Jan 31 12:19	6° $\mathfrak{H}$ 10'49	
max. Earth dist.	15793 Aug 12 12:08	8° $\mathfrak{M}$ 01'12	6.16734 AU				
				conjunction	15799 Feb 13 23:13	9° $\mathfrak{H}$ 13'55	0°31'50
conjunction	15793 Aug 14 19:01	8° $\mathfrak{M}$ 32'58	-0°31'57	minimum elong	15799 Feb 13 23:13	9° $\mathfrak{H}$ 13'55	0°32'12
minimum elong	15793 Aug 14 19:02	8° $\mathfrak{M}$ 32'58	0°32'20	max. Earth dist.	15799 Feb 16 06:27	9° $\mathfrak{H}$ 45'16	6.20467 AU
morning rise	15793 Aug 27 17:25	11° $\mathfrak{M}$ 32'24		morning rise	15799 Feb 27 10:22	12° $\mathfrak{H}$ 16'44	
	15793 Dec 14 09:29	0° $\Omega$			15799 Jun 13 20:20	0° $\Upsilon$	

retrograde	15799 Jul 02 18:01	0°♈34'17		conjunction	15804 Jul 18 19:40	10°♌52'50	-0°29'36
	15799 Jul 21 13:39	30°♋♋		minimum elong	15804 Jul 18 19:40	10°♌52'50	0°30'16
min. Earth dist.	15799 Aug 30 20:46	25°♋43'02	4.29178 AU	morning rise	15804 Jul 31 16:00	13°♌45'03	
opposition	15799 Sep 01 04:12	25°♋32'36	0°43'47		15804 Aug 06 07:13	15°♌	
direct	15799 Oct 31 12:30	20°♋33'19			15804 Oct 30 17:47	0°♍	
	15800 Jan 24 10:31	0°♈		retrograde	15804 Dec 03 00:05	1°♍41'25	
evening set	15800 Mar 06 00:22	8°♈24'19			15805 Jan 05 07:55	30°♋♌	
				opposition	15805 Feb 01 13:09	26°♌47'06	-0°47'09
conjunction	15800 Mar 19 08:04	11°♈19'06	0°25'36	min. Earth dist.	15805 Feb 03 03:41	26°♌34'36	4.23625 AU
minimum elong	15800 Mar 19 08:05	11°♈19'06	0°25'31	direct	15805 Apr 03 17:56	21°♌47'24	
max. Earth dist.	15800 Mar 20 20:30	11°♈39'03	6.37143 AU		15805 Jun 20 00:48	0°♍	
morning rise	15800 Apr 01 14:51	14°♈13'14		evening set	15805 Aug 07 13:16	10°♍22'58	
	15800 Jul 02 00:01	0°♋		max. Earth dist.	15805 Aug 18 08:48	12°♍53'15	6.14795 AU
retrograde	15800 Aug 02 10:13	1°♋30'19					
	15800 Sep 02 16:57	30°♋♈		conjunction	15805 Aug 20 12:00	13°♍23'01	-0°31'39
opposition	15800 Oct 02 07:59	26°♈31'16	0°28'22	minimum elong	15805 Aug 20 12:00	13°♍23'02	0°31'58
min. Earth dist.	15800 Oct 01 16:30	26°♈36'19	4.43579 AU	morning rise	15805 Sep 02 10:38	16°♍23'26	
direct	15800 Dec 02 18:43	21°♈31'20			15805 Nov 07 06:49	0°♎	
	15801 Feb 21 21:54	0°♋		retrograde	15806 Jan 07 19:08	5°♎31'26	
evening set	15801 Apr 06 12:48	8°♋44'54		opposition	15806 Mar 08 17:04	0°♎35'58	-0°42'47
				min. Earth dist.	15806 Mar 09 23:30	0°♎25'58	4.06146 AU
conjunction	15801 Apr 19 16:32	11°♋33'48	0°12'24		15806 Mar 13 06:43	30°♋♍	
minimum elong	15801 Apr 19 16:32	11°♋33'48	0°11'55	direct	15806 May 07 16:43	25°♍37'58	
behind sun begin	15801 Apr 19 11:00	11°♋30'51			15806 Jun 30 03:40	0°♎	
behind sun end	15801 Apr 19 22:05	11°♋36'46		evening set	15806 Sep 11 11:03	15°♎10'21	
max. Earth dist.	15801 Apr 19 23:47	11°♋37'41	6.48275 AU	max. Earth dist.	15806 Sep 23 06:44	18°♎00'44	5.98714 AU
morning rise	15801 May 02 19:09	14°♋22'00					
	15801 May 05 18:44	15°♋		conjunction	15806 Sep 24 13:47	18°♎19'26	-0°22'55
	15801 Aug 05 10:08	0°♎		minimum elong	15806 Sep 24 13:48	18°♎19'26	0°22'45
retrograde	15801 Sep 01 03:07	1°♎04'44		morning rise	15806 Oct 07 17:36	21°♎29'21	
	15801 Sep 27 15:54	30°♋♋			15806 Nov 13 18:27	0°♎	
opposition	15801 Nov 01 07:02	26°♋08'16	0°06'12	retrograde	15807 Feb 14 20:41	11°♎46'10	
min. Earth dist.	15801 Nov 01 11:36	26°♋06'48	4.50845 AU	opposition	15807 Apr 15 06:08	6°♎48'37	-0°21'55
direct	15802 Jan 02 12:05	21°♋07'55		min. Earth dist.	15807 Apr 15 14:34	6°♎45'48	3.93058 AU
desc. node	15802 Feb 13 04:22	23°♋36'07		direct	15807 Jun 13 00:10	1°♎52'28	
	15802 Mar 27 08:31	0°♎			15807 Sep 18 14:28	15°♎	
evening set	15802 May 06 21:05	8°♎07'32		evening set	15807 Oct 18 14:32	22°♎04'56	
conjunction	15802 May 19 21:28	10°♎53'59	-0°03'53	conjunction	15807 Oct 31 22:30	25°♎20'42	-0°04'59
minimum elong	15802 May 19 21:29	10°♎53'59	0°04'37	minimum elong	15807 Oct 31 22:31	25°♎20'42	0°04'22
behind sun begin	15802 May 19 13:38	10°♎49'49		behind sun begin	15807 Oct 31 14:22	25°♎15'44	
behind sun end	15802 May 20 05:20	10°♎58'09		behind sun end	15807 Nov 01 06:41	25°♎25'41	
max. Earth dist.	15802 May 19 01:37	10°♎43'23	6.51202 AU	max. Earth dist.	15807 Nov 01 03:27	25°♎23'42	5.89968 AU
morning rise	15802 Jun 01 20:15	13°♎39'44		morning rise	15807 Nov 14 08:09	28°♎37'27	
	15802 Sep 16 23:42	0°♏			15807 Nov 20 00:19	0°♏	
retrograde	15802 Sep 30 21:23	0°♏17'53		asc. node	15808 Feb 03 18:22	15°♏33'31	
	15802 Oct 14 18:43	30°♋♎		retrograde	15808 Mar 24 18:40	19°♏27'27	
opposition	15802 Dec 01 03:08	25°♎23'14	-0°17'17	opposition	15808 May 22 22:42	14°♏27'09	0°08'52
min. Earth dist.	15802 Dec 02 01:04	25°♎16'12	4.49357 AU	min. Earth dist.	15808 May 22 06:47	14°♏32'32	3.89745 AU
direct	15803 Feb 01 13:03	20°♎22'43		direct	15808 Jul 20 02:39	9°♏31'38	
	15803 Apr 30 03:21	0°♏		evening set	15808 Nov 24 20:58	29°♏45'54	
evening set	15803 Jun 06 00:30	7°♏32'54			15808 Nov 25 20:17	0°♏	
max. Earth dist.	15803 Jun 17 03:42	9°♏57'20	6.45361 AU				
				conjunction	15808 Dec 08 08:55	3°♏02'23	0°15'17
conjunction	15803 Jun 18 22:18	10°♏20'27	-0°19'05	minimum elong	15808 Dec 08 08:55	3°♏02'23	0°16'07
minimum elong	15803 Jun 18 22:17	10°♏20'27	0°19'55	max. Earth dist.	15808 Dec 10 02:03	3°♏27'22	5.92420 AU
morning rise	15803 Jul 01 18:45	13°♏07'32		morning rise	15808 Dec 21 22:15	6°♏19'28	
	15803 Oct 20 23:25	0°♌		retrograde	15809 May 01 12:12	26°♏46'57	
retrograde	15803 Oct 31 22:17	0°♌11'06		min. Earth dist.	15809 Jun 28 10:26	21°♏55'54	3.97716 AU
	15803 Nov 11 19:24	30°♋♏		opposition	15809 Jun 29 20:26	21°♏44'24	0°35'35
opposition	15803 Dec 31 21:46	25°♏17'10	-0°36'53	direct	15809 Aug 27 05:44	16°♏47'53	
min. Earth dist.	15804 Jan 02 09:36	25°♏05'40	4.39501 AU		15809 Dec 04 10:44	0°♏	
direct	15804 Mar 03 00:36	20°♏16'43		evening set	15810 Jan 01 12:17	6°♏24'15	
	15804 May 28 20:59	0°♌					
evening set	15804 Jul 05 22:39	8°♌00'34		conjunction	15810 Jan 15 00:53	9°♏35'03	0°28'56
max. Earth dist.	15804 Jul 16 11:58	10°♌21'41	6.32108 AU	minimum elong	15810 Jan 15 00:52	9°♏35'03	0°29'38
				max. Earth dist.	15810 Jan 17 10:40	10°♏09'03	6.04986 AU

morning rise	15810 Jan 28 14:31	12° $\approx$ 46'01		evening set	15815 Jun 10 06:40	11° $\approx$ 51'23	
	15810 Feb 07 06:06	15° $\approx$		max. Earth dist.	15815 Jun 21 07:24	14° $\approx$ 14'54	6.44004 AU
	15810 Apr 29 14:11	0° $\approx$					
retrograde	15810 Jun 05 13:47	2° $\approx$ 09'20		conjunction	15815 Jun 23 04:18	14° $\approx$ 39'20	-0°20'55
	15810 Jul 12 12:21	30° $\approx$		minimum elong	15815 Jun 23 04:17	14° $\approx$ 39'20	0°21'44
min. Earth dist.	15810 Aug 02 21:07	27° $\approx$ 19'16	4.13440 AU	morning rise	15815 Jul 06 00:34	17° $\approx$ 26'51	
opposition	15810 Aug 04 11:34	27° $\approx$ 06'20	0°47'14		15815 Sep 09 12:11	0° $\approx$	
direct	15810 Oct 02 18:21	22° $\approx$ 08'08		retrograde	15815 Nov 05 08:12	4° $\approx$ 35'37	
	15810 Dec 16 15:52	0° $\approx$			15816 Jan 02 22:26	30° $\approx$	
evening set	15811 Feb 06 03:45	10° $\approx$ 47'35		opposition	15816 Jan 05 07:43	29° $\approx$ 41'36	-0°38'59
				min. Earth dist.	15816 Jan 06 19:31	29° $\approx$ 30'06	4.37747 AU
conjunction	15811 Feb 19 14:29	13° $\approx$ 49'45	0°31'34	direct	15816 Mar 07 07:28	24° $\approx$ 41'10	
minimum elong	15811 Feb 19 14:29	13° $\approx$ 49'46	0°31'52		15816 May 08 03:40	0° $\approx$	
max. Earth dist.	15811 Feb 21 19:57	14° $\approx$ 19'59	6.22394 AU	evening set	15816 Jul 10 08:37	12° $\approx$ 30'38	
morning rise	15811 Mar 05 01:04	16° $\approx$ 51'32		max. Earth dist.	15816 Jul 20 22:44	14° $\approx$ 52'49	6.30051 AU
	15811 May 10 04:43	0° $\approx$			15816 Jul 21 11:30	15° $\approx$	
retrograde	15811 Jul 08 01:36	5° $\approx$ 01'34					
min. Earth dist.	15811 Sep 05 07:08	0° $\approx$ 09'54	4.30891 AU	conjunction	15816 Jul 23 05:43	15° $\approx$ 23'44	-0°30'26
opposition	15811 Sep 06 12:23	0° $\approx$ 00'13	0°42'22	minimum elong	15816 Jul 23 05:43	15° $\approx$ 23'44	0°31'05
	15811 Sep 06 13:03	30° $\approx$		morning rise	15816 Aug 05 02:06	18° $\approx$ 16'47	
direct	15811 Nov 06 00:34	25° $\approx$ 00'49			15816 Oct 01 13:47	0° $\approx$	
	15812 Jan 04 08:37	0° $\approx$		retrograde	15816 Dec 07 19:39	6° $\approx$ 21'32	
evening set	15812 Mar 10 10:28	12° $\approx$ 47'22		opposition	15817 Feb 06 06:20	1° $\approx$ 27'06	-0°47'29
				min. Earth dist.	15817 Feb 07 21:28	1° $\approx$ 14'24	4.21373 AU
conjunction	15812 Mar 23 17:38	15° $\approx$ 41'25	0°24'08		15817 Feb 17 14:21	30° $\approx$	
minimum elong	15812 Mar 23 17:39	15° $\approx$ 41'25	0°24'00	direct	15817 Apr 08 08:37	26° $\approx$ 27'35	
max. Earth dist.	15812 Mar 25 01:56	15° $\approx$ 59'03	6.38522 AU		15817 May 27 01:10	0° $\approx$	
morning rise	15812 Apr 06 00:05	18° $\approx$ 34'50		evening set	15817 Aug 12 05:32	15° $\approx$ 10'24	
	15812 Jun 03 05:28	0° $\approx$		max. Earth dist.	15817 Aug 23 01:49	17° $\approx$ 41'56	6.12521 AU
retrograde	15812 Aug 06 13:39	5° $\approx$ 47'13					
opposition	15812 Oct 06 12:24	0° $\approx$ 48'27	0°25'37	conjunction	15817 Aug 25 04:36	18° $\approx$ 11'36	-0°31'05
min. Earth dist.	15812 Oct 05 23:14	0° $\approx$ 52'45	4.44563 AU	minimum elong	15817 Aug 25 04:36	18° $\approx$ 11'36	0°31'19
	15812 Oct 12 17:49	30° $\approx$		morning rise	15817 Sep 07 03:53	21° $\approx$ 13'16	
direct	15812 Dec 07 01:38	25° $\approx$ 48'23			15817 Oct 16 17:48	0° $\approx$	
	15813 Jan 30 23:10	0° $\approx$		retrograde	15818 Jan 12 20:55	10° $\approx$ 31'01	
evening set	15813 Apr 10 19:03	13° $\approx$ 00'00		opposition	15818 Mar 13 18:03	5° $\approx$ 35'19	-0°40'47
	15813 Apr 20 03:53	15° $\approx$		min. Earth dist.	15818 Mar 14 21:26	5° $\approx$ 26'18	4.04052 AU
conjunction	15813 Apr 23 22:31	15° $\approx$ 48'33	0°10'16	direct	15818 May 12 12:51	0° $\approx$ 37'35	
minimum elong	15813 Apr 23 22:32	15° $\approx$ 48'33	0°09'44	evening set	15818 Sep 16 10:59	20° $\approx$ 16'49	
behind sun begin	15813 Apr 23 15:56	15° $\approx$ 45'02		conjunction	15818 Sep 29 14:25	23° $\approx$ 27'01	-0°20'51
behind sun end	15813 Apr 24 05:07	15° $\approx$ 52'04		minimum elong	15818 Sep 29 14:26	23° $\approx$ 27'02	0°20'36
max. Earth dist.	15813 Apr 24 03:53	15° $\approx$ 51'24	6.48812 AU	max. Earth dist.	15818 Sep 28 12:03	23° $\approx$ 11'04	5.97006 AU
morning rise	15813 May 07 00:28	18° $\approx$ 36'20		morning rise	15818 Oct 12 18:58	26° $\approx$ 38'06	
	15813 Jul 05 13:01	0° $\approx$			15818 Oct 26 22:35	0° $\approx$	
retrograde	15813 Sep 05 05:34	5° $\approx$ 17'35			15819 Jan 15 11:35	15° $\approx$	
opposition	15813 Nov 05 10:39	0° $\approx$ 21'22	0°02'54	retrograde	15819 Feb 20 05:38	17° $\approx$ 02'16	
min. Earth dist.	15813 Nov 05 16:43	0° $\approx$ 19'25	4.50913 AU		15819 Mar 28 01:11	15° $\approx$	
	15813 Nov 08 05:09	30° $\approx$		opposition	15819 Apr 20 13:07	12° $\approx$ 04'23	-0°17'56
desc. node	15813 Dec 22 23:49	25° $\approx$ 40'35		min. Earth dist.	15819 Apr 20 19:11	12° $\approx$ 02'21	3.91921 AU
direct	15814 Jan 06 16:46	25° $\approx$ 20'59		direct	15819 Jun 18 05:00	7° $\approx$ 08'25	
	15814 Mar 06 04:00	0° $\approx$			15819 Aug 29 15:37	15° $\approx$	
evening set	15814 May 11 02:10	12° $\approx$ 21'07		evening set	15819 Oct 23 20:10	27° $\approx$ 23'59	
max. Earth dist.	15814 May 23 02:16	14° $\approx$ 54'49	6.50780 AU		15819 Nov 03 11:12	0° $\approx$	
conjunction	15814 May 24 02:00	15° $\approx$ 07'31	-0°06'08	conjunction	15819 Nov 06 04:59	0° $\approx$ 40'21	-0°02'04
minimum elong	15814 May 24 01:59	15° $\approx$ 07'31	0°06'55	minimum elong	15819 Nov 06 04:58	0° $\approx$ 40'21	0°01'25
behind sun begin	15814 May 23 18:34	15° $\approx$ 03'33		behind sun begin	15819 Nov 05 20:38	0° $\approx$ 35'16	
behind sun end	15814 May 24 09:25	15° $\approx$ 11'28		behind sun end	15819 Nov 06 13:18	0° $\approx$ 45'26	
morning rise	15814 Jun 06 00:29	17° $\approx$ 53'16		max. Earth dist.	15819 Nov 06 15:38	0° $\approx$ 46'52	5.89528 AU
	15814 Aug 09 06:16	0° $\approx$		morning rise	15819 Nov 19 15:15	3° $\approx$ 57'38	
retrograde	15814 Oct 05 04:09	4° $\approx$ 33'16		asc. node	15819 Dec 15 21:46	10° $\approx$ 11'58	
	15814 Dec 02 14:09	30° $\approx$		retrograde	15820 Mar 30 03:09	24° $\approx$ 48'22	
opposition	15814 Dec 05 08:42	29° $\approx$ 38'42	-0°20'22	min. Earth dist.	15820 May 27 11:14	19° $\approx$ 54'13	3.90077 AU
min. Earth dist.	15814 Dec 06 09:19	29° $\approx$ 30'49	4.48453 AU	opposition	15820 May 28 06:16	19° $\approx$ 47'48	0°13'10
direct	15815 Feb 05 19:31	24° $\approx$ 38'05		direct	15820 Jul 25 09:05	14° $\approx$ 52'17	
	15815 Apr 09 18:37	0° $\approx$			15820 Nov 08 17:43	0° $\approx$	

evening set	15820 Nov 30 03:39	5° $\text{Z}$ 04'06		15826 Jan 28 11:01	0° $\text{II}$	
conjunction	15820 Dec 13 15:45	8° $\text{Z}$ 20'12 0°17'45	evening set	15826 May 15 05:24	16° $\text{II}$ 31'49	
minimum elong	15820 Dec 13 15:44	8° $\text{Z}$ 20'12 0°18'34	max. Earth dist.	15826 May 27 02:57	19° $\text{II}$ 04'10	6.50677 AU
max. Earth dist.	15820 Dec 15 11:09	8° $\text{Z}$ 46'29 5.93460 AU	conjunction	15826 May 28 04:58	19° $\text{II}$ 18'06	-0°08'18
morning rise	15820 Dec 27 05:32	11° $\text{Z}$ 36'55	minimum elong	15826 May 28 04:57	19° $\text{II}$ 18'05	0°09'06
	15821 Apr 01 12:07	0° $\approx$	behind sun begin	15826 May 27 22:10	19° $\text{II}$ 14'28	
retrograde	15821 May 06 12:07	1° $\approx$ 58'16	behind sun end	15826 May 28 11:45	19° $\text{II}$ 21'42	
	15821 Jun 10 11:22	30° $\text{R}$ $\text{Z}$	morning rise	15826 Jun 10 02:50	22° $\text{II}$ 03'42	
min. Earth dist.	15821 Jul 03 10:49	27° $\text{Z}$ 07'42 3.99349 AU		15826 Jul 19 10:24	0° $\text{S}$	
opposition	15821 Jul 04 22:41	26° $\text{Z}$ 55'33 0°38'14	retrograde	15826 Oct 09 06:35	8° $\text{S}$ 44'48	
direct	15821 Sep 01 09:28	21° $\text{Z}$ 58'50	opposition	15826 Dec 09 12:21	3° $\text{S}$ 50'20	-0°23'15
	15821 Nov 14 16:16	0° $\approx$	min. Earth dist.	15826 Dec 10 14:31	3° $\text{S}$ 41'57	4.47729 AU
evening set	15822 Jan 06 14:35	11° $\approx$ 28'51		15827 Jan 12 20:23	30° $\text{R}$ $\text{II}$	
conjunction	15822 Jan 20 03:10	14° $\approx$ 38'40 0°29'59	direct	15827 Feb 09 22:28	28° $\text{II}$ 49'42	
minimum elong	15822 Jan 20 03:09	14° $\approx$ 38'40 0°30'37		15827 Mar 10 04:26	0° $\text{S}$	
	15822 Jan 21 15:34	15° $\approx$	evening set	15827 Jun 14 10:34	16° $\text{S}$ 05'39	
max. Earth dist.	15822 Jan 22 14:02	15° $\approx$ 13'09 6.07066 AU	max. Earth dist.	15827 Jun 25 08:06	18° $\text{S}$ 27'54	6.42682 AU
morning rise	15822 Feb 02 16:26	17° $\approx$ 48'31	conjunction	15827 Jun 27 07:51	18° $\text{S}$ 53'58	-0°22'35
	15822 Apr 01 05:35	0° $\text{H}$	minimum elong	15827 Jun 27 07:50	18° $\text{S}$ 53'57	0°23'23
retrograde	15822 Jun 10 07:17	7° $\text{H}$ 02'18	morning rise	15827 Jul 10 04:01	21° $\text{S}$ 41'56	
min. Earth dist.	15822 Aug 07 16:29	2° $\text{H}$ 12'01 4.15751 AU		15827 Aug 19 11:08	0° $\text{O}$	
opposition	15822 Aug 09 05:51	1° $\text{H}$ 59'30 0°47'27	retrograde	15827 Nov 09 18:33	8° $\text{O}$ 56'13	
	15822 Aug 24 13:15	30° $\text{R}$ $\approx$	opposition	15828 Jan 09 16:03	4° $\text{O}$ 02'10	-0°40'48
direct	15822 Oct 07 17:17	27° $\approx$ 01'10	min. Earth dist.	15828 Jan 11 06:17	3° $\text{O}$ 49'52	4.35868 AU
	15822 Nov 20 20:16	0° $\text{H}$		15828 Feb 15 07:37	30° $\text{R}$ $\text{S}$	
evening set	15823 Feb 10 22:46	15° $\text{H}$ 33'07	direct	15828 Mar 11 15:13	29° $\text{S}$ 01'42	
conjunction	15823 Feb 24 09:04	18° $\text{H}$ 34'07 0°31'03		15828 Apr 05 22:32	0° $\text{O}$	
minimum elong	15823 Feb 24 09:04	18° $\text{H}$ 34'07 0°31'18	evening set	15828 Jul 05 21:30	15° $\text{O}$	
max. Earth dist.	15823 Feb 26 13:13	19° $\text{H}$ 03'26 6.24758 AU	max. Earth dist.	15828 Jul 14 16:45	16° $\text{O}$ 57'18	
morning rise	15823 Mar 09 19:12	21° $\text{H}$ 34'41		15828 Jul 25 05:13	19° $\text{O}$ 19'18	6.27744 AU
	15823 Apr 18 14:45	0° $\text{Y}$	conjunction	15828 Jul 27 14:00	19° $\text{O}$ 51'22	-0°31'05
retrograde	15823 Jul 12 09:14	9° $\text{Y}$ 35'34	minimum elong	15828 Jul 27 14:00	19° $\text{O}$ 51'22	0°31'40
opposition	15823 Sep 10 23:00	4° $\text{Y}$ 34'32 0°40'35	morning rise	15828 Aug 09 10:38	22° $\text{O}$ 45'27	
min. Earth dist.	15823 Sep 09 18:36	4° $\text{Y}$ 43'55 4.33138 AU		15828 Sep 11 21:41	0° $\text{H}$	
	15823 Oct 25 09:56	30° $\text{R}$ $\text{H}$	retrograde	15828 Dec 12 12:14	10° $\text{H}$ 59'37	
direct	15823 Nov 10 14:21	29° $\text{H}$ 35'03	opposition	15829 Feb 10 22:09	6° $\text{H}$ 05'02	-0°47'30
	15823 Nov 26 22:46	0° $\text{Y}$	min. Earth dist.	15829 Feb 12 12:14	5° $\text{H}$ 52'39	4.18787 AU
evening set	15824 Mar 14 21:59	17° $\text{Y}$ 15'14	direct	15829 Apr 12 19:35	1° $\text{H}$ 05'37	
conjunction	15824 Mar 28 04:39	20° $\text{Y}$ 08'17 0°22'29	evening set	15829 Aug 16 21:21	19° $\text{H}$ 57'08	
minimum elong	15824 Mar 28 04:40	20° $\text{Y}$ 08'17 0°22'16	max. Earth dist.	15829 Aug 27 20:16	22° $\text{H}$ 31'06	6.09871 AU
max. Earth dist.	15824 Mar 29 10:14	20° $\text{Y}$ 24'22 6.40511 AU	conjunction	15829 Aug 29 20:55	22° $\text{H}$ 59'42	-0°30'18
morning rise	15824 Apr 10 10:20	23° $\text{Y}$ 00'38	minimum elong	15829 Aug 29 20:55	22° $\text{H}$ 59'43	0°30'29
	15824 May 14 04:45	0° $\text{B}$	morning rise	15829 Sep 11 20:49	26° $\text{H}$ 02'48	
retrograde	15824 Aug 10 17:45	10° $\text{B}$ 06'26		15829 Sep 29 00:10	0° $\text{A}$	
opposition	15824 Oct 10 17:43	5° $\text{B}$ 08'04 0°22'41	retrograde	15830 Jan 18 02:14	15° $\text{A}$ 31'59	
min. Earth dist.	15824 Oct 10 07:12	5° $\text{B}$ 11'29 4.46157 AU	opposition	15830 Mar 18 19:32	10° $\text{A}$ 36'01	-0°38'31
direct	15824 Dec 11 11:08	0° $\text{B}$ 07'58	min. Earth dist.	15830 Mar 19 21:44	10° $\text{A}$ 27'22	4.01554 AU
	15825 Apr 04 07:16	15° $\text{B}$	direct	15830 May 17 10:47	5° $\text{A}$ 38'29	
evening set	15825 Apr 15 01:10	17° $\text{B}$ 15'37	evening set	15830 Sep 21 11:50	25° $\text{A}$ 26'07	
conjunction	15825 Apr 28 03:56	20° $\text{B}$ 03'30 0°08'04	conjunction	15830 Oct 04 16:11	28° $\text{A}$ 37'43	-0°18'38
minimum elong	15825 Apr 28 03:55	20° $\text{B}$ 03'30 0°07'31	minimum elong	15830 Oct 04 16:12	28° $\text{A}$ 37'43	0°18'18
behind sun begin	15825 Apr 27 20:36	19° $\text{B}$ 59'37	max. Earth dist.	15830 Oct 03 18:09	28° $\text{A}$ 24'20	5.94917 AU
behind sun end	15825 Apr 28 11:15	20° $\text{B}$ 07'24		15830 Oct 10 07:41	0° $\text{M}$	
max. Earth dist.	15825 Apr 28 04:24	20° $\text{B}$ 03'45 6.49894 AU	morning rise	15830 Oct 17 21:39	1° $\text{M}$ 50'11	
morning rise	15825 May 11 05:25	22° $\text{B}$ 50'40		15830 Dec 16 13:38	15° $\text{M}$	
	15825 Jun 15 11:20	0° $\text{II}$	retrograde	15831 Feb 25 16:03	22° $\text{M}$ 23'03	
retrograde	15825 Sep 09 07:30	9° $\text{II}$ 28'56	opposition	15831 Apr 25 21:54	17° $\text{M}$ 24'50	-0°13'49
desc. node	15825 Nov 03 13:01	5° $\text{II}$ 19'10	min. Earth dist.	15831 Apr 26 00:05	17° $\text{M}$ 24'06	3.90497 AU
opposition	15825 Nov 09 13:22	4° $\text{II}$ 32'57 -0°00'22		15831 May 14 18:05	15° $\text{R}$ $\text{M}$	
min. Earth dist.	15825 Nov 09 22:14	4° $\text{II}$ 30'06 4.51425 AU	direct	15831 Jun 23 09:07	12° $\text{R}$ 29'03	
	15825 Dec 24 10:43	30° $\text{R}$ $\text{B}$		15831 Aug 01 13:58	15° $\text{M}$	
direct	15826 Jan 10 21:33	29° $\text{B}$ 32'27		15831 Oct 17 13:24	0° $\text{J}$	


























































































































asc. node	15831 Oct 25 05:58	1°♊51'16		minimum elong	15837 May 02 09:42	24°♊18'25	0°05'10
evening set	15831 Oct 29 04:27	2°♊48'45		behind sun begin	15837 May 02 01:55	24°♊14'17	
				behind sun end	15837 May 02 17:30	24°♊22'34	
conjunction	15831 Nov 11 13:48	6°♊05'44	0°00'55	max. Earth dist.	15837 May 02 06:41	24°♊16'51	6.50716 AU
minimum elong	15831 Nov 11 13:48	6°♊05'44	0°01'38	morning rise	15837 May 15 10:30	27°♊05'04	
behind sun begin	15831 Nov 11 05:28	6°♊00'38			15837 May 29 08:41	0°♊	
behind sun end	15831 Nov 11 22:09	6°♊10'50		retrograde	15837 Sep 13 10:51	13°♊41'29	
max. Earth dist.	15831 Nov 12 04:37	6°♊14'49	5.88913 AU	desc. node	15837 Sep 14 21:20	13°♊41'18	
morning rise	15831 Nov 25 01:01	9°♊23'40		opposition	15837 Nov 13 17:10	8°♊45'51	-0°03'45
	15832 Mar 23 03:31	0°♊		min. Earth dist.	15837 Nov 14 05:04	8°♊42'02	4.51577 AU
retrograde	15832 Apr 04 12:12	0°♊15'27		direct	15838 Jan 15 03:04	3°♊45'22	
	15832 Apr 16 20:41	30°♋♊		evening set	15838 May 19 10:01	20°♊45'16	
opposition	15832 Jun 02 16:05	25°♊14'26	0°17'21	max. Earth dist.	15838 May 31 01:53	23°♊14'52	6.50134 AU
min. Earth dist.	15832 Jun 01 17:13	25°♊22'11	3.90356 AU				
direct	15832 Jul 30 18:29	20°♊18'48		conjunction	15838 Jun 01 09:01	23°♊31'33	-0°10'32
	15832 Oct 20 10:06	0°♊		minimum elong	15838 Jun 01 09:01	23°♊31'33	0°11'20
evening set	15832 Dec 05 13:06	10°♋28'09		behind sun begin	15838 Jun 01 03:10	23°♊28'26	
				behind sun end	15838 Jun 01 14:51	23°♊34'40	
conjunction	15832 Dec 19 01:38	13°♋43'50	0°20'03	morning rise	15838 Jun 14 06:42	26°♊17'15	
minimum elong	15832 Dec 19 01:37	13°♋43'50	0°20'52		15838 Jul 01 23:38	0°♋	
max. Earth dist.	15832 Dec 21 01:52	14°♋12'58	5.94613 AU	retrograde	15838 Oct 13 13:58	13°♋01'11	
morning rise	15833 Jan 01 15:29	17°♋00'01		opposition	15838 Dec 13 18:26	8°♋06'51	-0°26'10
	15833 Mar 02 05:45	0°♋		min. Earth dist.	15838 Dec 14 23:20	7°♋57'36	4.46522 AU
retrograde	15833 May 11 15:54	7°♋14'14		direct	15839 Feb 14 04:23	3°♋06'10	
min. Earth dist.	15833 Jul 08 14:16	2°♋23'43	4.01212 AU	evening set	15839 Jun 18 17:11	20°♋26'31	
opposition	15833 Jul 10 03:00	2°♋11'18	0°40'33	max. Earth dist.	15839 Jun 29 13:03	22°♋48'24	6.40888 AU
	15833 Jul 26 22:06	30°♋♋					
direct	15833 Sep 06 16:58	27°♋14'20		conjunction	15839 Jul 01 14:29	23°♋15'29	-0°24'12
	15833 Oct 18 08:08	0°♋		minimum elong	15839 Jul 01 14:28	23°♋15'29	0°25'00
	15834 Jan 04 19:00	15°♋		morning rise	15839 Jul 14 10:27	26°♋04'06	
evening set	15834 Jan 11 18:38	16°♋36'43			15839 Aug 01 18:23	0°♌	
				retrograde	15839 Nov 14 06:52	13°♌25'35	
conjunction	15834 Jan 25 07:02	19°♋45'23	0°30'47	opposition	15840 Jan 14 03:57	8°♌31'33	-0°42'30
minimum elong	15834 Jan 25 07:02	19°♋45'23	0°31'22	min. Earth dist.	15840 Jan 15 18:32	8°♌19'08	4.33598 AU
max. Earth dist.	15834 Jan 27 19:35	20°♋20'38	6.09433 AU	direct	15840 Mar 15 23:23	3°♌31'12	
morning rise	15834 Feb 07 20:02	22°♋53'59			15840 Jun 18 21:45	15°♌	
	15834 Mar 11 18:10	0°♌		evening set	15840 Jul 19 05:05	21°♌34'26	
retrograde	15834 Jun 14 23:13	11°♌56'50		max. Earth dist.	15840 Jul 29 17:23	23°♌57'12	6.25150 AU
min. Earth dist.	15834 Aug 12 11:03	7°♌06'48	4.18366 AU				
opposition	15834 Aug 14 01:00	6°♌54'06	0°47'18	conjunction	15840 Aug 01 02:27	24°♌29'37	-0°31'35
direct	15834 Oct 12 15:38	1°♌55'32		minimum elong	15840 Aug 01 02:27	24°♌29'37	0°32'07
evening set	15835 Feb 15 18:17	20°♌18'50		morning rise	15840 Aug 13 23:27	27°♌24'55	
					15840 Aug 25 12:12	0°♍	
conjunction	15835 Mar 01 04:00	23°♌18'28	0°30'18	retrograde	15840 Dec 17 12:53	15°♍49'52	
minimum elong	15835 Mar 01 04:00	23°♌18'29	0°30'29	opposition	15841 Feb 15 19:17	10°♍55'10	-0°47'13
max. Earth dist.	15835 Mar 03 05:09	23°♌45'57	6.27380 AU	min. Earth dist.	15841 Feb 17 09:20	10°♍42'46	4.16040 AU
morning rise	15835 Mar 14 13:30	26°♌17'40		direct	15841 Apr 17 13:31	5°♍55'58	
	15835 Mar 31 13:13	0°♎		evening set	15841 Apr 21 17:56	24°♍56'42	
retrograde	15835 Jul 16 19:03	14°♎08'41		max. Earth dist.	15841 Sep 01 20:04	27°♍33'28	6.07218 AU
min. Earth dist.	15835 Sep 14 08:20	9°♎16'23	4.35532 AU				
opposition	15835 Sep 15 09:50	9°♎07'59	0°38'30	conjunction	15841 Sep 03 18:12	28°♎00'44	-0°29'16
direct	15835 Nov 15 06:36	4°♎08'22		minimum elong	15841 Sep 03 18:12	28°♎00'44	0°29'23
evening set	15836 Mar 19 09:31	21°♎41'53			15841 Sep 12 03:55	0°♏	
				morning rise	15841 Sep 16 18:47	1°♏05'20	
conjunction	15836 Apr 01 15:37	24°♎33'56	0°20'40	retrograde	15842 Jan 23 10:43	20°♏45'54	
minimum elong	15836 Apr 01 15:37	24°♎33'56	0°20'24	opposition	15842 Mar 24 02:00	15°♏49'44	-0°35'49
max. Earth dist.	15836 Apr 02 17:44	24°♎48'04	6.42489 AU	min. Earth dist.	15842 Mar 25 00:55	15°♏42'09	3.99269 AU
morning rise	15836 Apr 14 20:39	27°♎25'16		direct	15842 May 22 11:19	10°♏52'34	
	15836 Apr 26 23:37	0°♐			15842 Sep 23 10:31	0°♐	
retrograde	15836 Aug 14 20:44	14°♐24'46		evening set	15842 Sep 26 17:39	0°♐47'45	
opposition	15836 Oct 14 22:56	9°♐26'46	0°19'33				
min. Earth dist.	15836 Oct 14 14:28	9°♐29'31	4.47605 AU	conjunction	15842 Oct 09 22:39	4°♐00'30	-0°16'10
direct	15836 Dec 15 18:21	4°♐26'36		minimum elong	15842 Oct 09 22:40	4°♐00'30	0°15'47
	15837 Mar 18 08:54	15°♐		behind sun begin	15842 Oct 09 20:57	3°♐59'28	
evening set	15837 Apr 19 07:24	21°♐31'02		behind sun end	15842 Oct 10 00:22	4°♐01'33	
				max. Earth dist.	15842 Oct 09 04:53	3°♐49'41	5.93234 AU
conjunction	15837 May 02 09:43	24°♐18'25	0°05'47	morning rise	15842 Oct 23 05:08	7°♐14'14	

	15842 Nov 25 09:34	15° $\mathbb{M}$		min. Earth dist.	15848 Oct 18 21:54	13° $\mathbb{B}$ 41'57	4.48744 AU
retrograde	15843 Mar 03 04:52	27° $\mathbb{M}$ 53'52		direct	15848 Dec 20 01:25	8° $\mathbb{B}$ 40'14	
opposition	15843 May 01 10:10	22° $\mathbb{M}$ 55'16	-0°09'24		15849 Feb 27 03:43	15° $\mathbb{B}$	
min. Earth dist.	15843 May 01 08:05	22° $\mathbb{M}$ 55'58	3.89636 AU	evening set	15849 Apr 23 11:45	25° $\mathbb{B}$ 42'24	
direct	15843 Jun 28 19:19	17° $\mathbb{M}$ 59'39					
asc. node	15843 Aug 31 08:49	24° $\mathbb{M}$ 13'46		conjunction	15849 May 06 13:34	28° $\mathbb{B}$ 29'26	0°03'30
	15843 Sep 29 01:01	0° $\mathbb{X}$		minimum elong	15849 May 06 13:34	28° $\mathbb{B}$ 29'26	0°02'50
evening set	15843 Nov 03 15:27	8° $\mathbb{X}$ 21'01		behind sun begin	15849 May 06 05:32	28° $\mathbb{B}$ 25'10	
				behind sun end	15849 May 06 21:36	28° $\mathbb{B}$ 33'41	
conjunction	15843 Nov 17 01:36	11° $\mathbb{X}$ 38'19	0°03'56	max. Earth dist.	15849 May 06 05:41	28° $\mathbb{B}$ 25'14	6.51138 AU
minimum elong	15843 Nov 17 01:35	11° $\mathbb{X}$ 38'18	0°04'41		15849 May 13 15:23	0° $\mathbb{II}$	
behind sun begin	15843 Nov 16 17:26	11° $\mathbb{X}$ 33'19		morning rise	15849 May 19 13:56	1° $\mathbb{II}$ 15'44	
behind sun end	15843 Nov 17 09:44	11° $\mathbb{X}$ 43'17		desc. node	15849 Jul 27 22:31	14° $\mathbb{II}$ 03'28	
max. Earth dist.	15843 Nov 17 23:44	11° $\mathbb{X}$ 51'53	5.89000 AU	retrograde	15849 Sep 17 13:12	17° $\mathbb{II}$ 51'37	
morning rise	15843 Nov 30 13:15	14° $\mathbb{X}$ 56'26		opposition	15849 Nov 17 19:53	12° $\mathbb{II}$ 56'11	-0°07'03
	15844 Feb 08 04:22	0° $\mathbb{B}$		min. Earth dist.	15849 Nov 18 10:12	12° $\mathbb{II}$ 51'36	4.51281 AU
retrograde	15844 Apr 09 23:12	5° $\mathbb{B}$ 46'00		direct	15850 Jan 19 05:29	7° $\mathbb{II}$ 55'37	
min. Earth dist.	15844 Jun 07 01:38	0° $\mathbb{B}$ 53'10	3.91389 AU	evening set	15850 May 23 13:58	24° $\mathbb{II}$ 57'25	
opposition	15844 Jun 08 02:57	0° $\mathbb{B}$ 44'35	0°21'28	max. Earth dist.	15850 Jun 04 03:27	27° $\mathbb{II}$ 26'02	6.49145 AU
	15844 Jun 13 15:08	30° $\mathbb{R}$ $\mathbb{X}$					
direct	15844 Aug 05 06:13	25° $\mathbb{X}$ 48'52		conjunction	15850 Jun 05 12:48	27° $\mathbb{II}$ 43'57	-0°12'41
	15844 Sep 25 13:45	0° $\mathbb{B}$		minimum elong	15850 Jun 05 12:48	27° $\mathbb{II}$ 43'57	0°13'29
evening set	15844 Dec 10 22:23	15° $\mathbb{B}$ 52'36		behind sun begin	15850 Jun 05 08:19	27° $\mathbb{II}$ 41'33	
				behind sun end	15850 Jun 05 17:16	27° $\mathbb{II}$ 46'21	
conjunction	15844 Dec 24 11:01	19° $\mathbb{B}$ 07'27	0°22'13		15850 Jun 16 02:06	0° $\mathbb{B}$	
minimum elong	15844 Dec 24 11:00	19° $\mathbb{B}$ 07'27	0°23'02	morning rise	15850 Jun 18 10:02	0° $\mathbb{B}$ 29'54	
max. Earth dist.	15844 Dec 26 15:17	19° $\mathbb{B}$ 38'52	5.96460 AU	retrograde	15850 Oct 17 21:05	17° $\mathbb{B}$ 17'58	
morning rise	15845 Jan 07 00:58	22° $\mathbb{B}$ 22'44		opposition	15850 Dec 18 00:52	12° $\mathbb{B}$ 23'48	-0°28'57
	15845 Feb 09 06:01	0° $\mathbb{B}$		min. Earth dist.	15850 Dec 19 07:52	12° $\mathbb{B}$ 13'53	4.44902 AU
retrograde	15845 May 16 15:25	12° $\mathbb{B}$ 27'02		direct	15851 Feb 18 09:20	7° $\mathbb{B}$ 23'09	
min. Earth dist.	15845 Jul 13 14:37	7° $\mathbb{B}$ 37'05	4.03661 AU	evening set	15851 Jun 23 00:32	24° $\mathbb{B}$ 49'04	
opposition	15845 Jul 15 05:28	7° $\mathbb{B}$ 23'58	0°42'33	max. Earth dist.	15851 Jul 03 17:04	27° $\mathbb{B}$ 09'51	6.38741 AU
direct	15845 Sep 11 22:01	2° $\mathbb{B}$ 26'46					
	15845 Dec 18 01:47	15° $\mathbb{B}$		conjunction	15851 Jul 05 21:37	27° $\mathbb{B}$ 38'48	-0°25'42
evening set	15846 Jan 16 20:27	21° $\mathbb{B}$ 39'43		minimum elong	15851 Jul 05 21:36	27° $\mathbb{B}$ 38'48	0°26'28
					15851 Jul 16 14:10	0° $\mathbb{B}$	
conjunction	15846 Jan 30 08:25	24° $\mathbb{B}$ 46'55	0°31'22	morning rise	15851 Jul 18 17:48	0° $\mathbb{B}$ 28'18	
minimum elong	15846 Jan 30 08:25	24° $\mathbb{B}$ 46'55	0°31'54		15851 Oct 05 02:47	15° $\mathbb{B}$	
max. Earth dist.	15846 Feb 01 19:32	25° $\mathbb{B}$ 21'07	6.12230 AU	retrograde	15851 Nov 18 23:27	17° $\mathbb{B}$ 58'15	
morning rise	15846 Feb 12 21:01	27° $\mathbb{B}$ 54'01			15852 Jan 03 07:27	15° $\mathbb{R}$ $\mathbb{B}$	
	15846 Feb 22 02:30	0° $\mathbb{X}$		opposition	15852 Jan 18 17:45	13° $\mathbb{B}$ 04'09	-0°43'59
retrograde	15846 Jun 19 13:42	16° $\mathbb{X}$ 44'56		min. Earth dist.	15852 Jan 20 09:07	12° $\mathbb{B}$ 51'27	4.31055 AU
min. Earth dist.	15846 Aug 17 05:15	11° $\mathbb{X}$ 54'22	4.21223 AU	direct	15852 Mar 20 10:22	8° $\mathbb{B}$ 03'53	
opposition	15846 Aug 18 17:14	11° $\mathbb{X}$ 42'21	0°46'51		15852 May 30 08:51	15° $\mathbb{B}$	
direct	15846 Oct 17 13:27	6° $\mathbb{X}$ 43'31		evening set	15852 Jul 23 19:01	26° $\mathbb{B}$ 15'29	
evening set	15847 Feb 20 10:32	24° $\mathbb{X}$ 57'43		max. Earth dist.	15852 Aug 03 08:57	28° $\mathbb{B}$ 40'00	6.22424 AU
conjunction	15847 Mar 05 19:51	27° $\mathbb{X}$ 56'02	0°29'23	conjunction	15852 Aug 05 16:50	29° $\mathbb{B}$ 11'55	-0°31'53
minimum elong	15847 Mar 05 19:52	27° $\mathbb{X}$ 56'03	0°29'30	minimum elong	15852 Aug 05 16:50	29° $\mathbb{B}$ 11'56	0°32'21
max. Earth dist.	15847 Mar 07 19:22	28° $\mathbb{X}$ 22'27	6.30065 AU		15852 Aug 09 04:54	0° $\mathbb{B}$	
	15847 Mar 15 03:09	0° $\mathbb{Y}$		morning rise	15852 Aug 18 14:07	2° $\mathbb{B}$ 08'31	
morning rise	15847 Mar 19 04:37	0° $\mathbb{Y}$ 53'50		retrograde	15852 Dec 22 14:01	20° $\mathbb{B}$ 44'29	
retrograde	15847 Jul 21 00:05	18° $\mathbb{Y}$ 35'11		opposition	15853 Feb 20 18:20	15° $\mathbb{B}$ 49'40	-0°46'36
opposition	15847 Sep 19 17:40	13° $\mathbb{Y}$ 34'51	0°36'17	min. Earth dist.	15853 Feb 22 06:31	15° $\mathbb{B}$ 37'52	4.13358 AU
min. Earth dist.	15847 Sep 18 17:40	13° $\mathbb{Y}$ 42'44	4.37845 AU	direct	15853 Apr 22 06:53	10° $\mathbb{B}$ 50'47	
direct	15847 Nov 19 17:13	8° $\mathbb{Y}$ 35'07		evening set	15853 Aug 26 16:44	0° $\mathbb{B}$ 00'20	
evening set	15848 Mar 23 18:07	26° $\mathbb{Y}$ 02'27			15853 Aug 26 16:10	0° $\mathbb{B}$	
				max. Earth dist.	15853 Sep 06 22:02	2° $\mathbb{B}$ 39'53	6.04821 AU
conjunction	15848 Apr 05 23:33	28° $\mathbb{Y}$ 53'32	0°18'47				
minimum elong	15848 Apr 05 23:34	28° $\mathbb{Y}$ 53'32	0°18'28	conjunction	15853 Sep 08 17:27	3° $\mathbb{B}$ 05'42	-0°28'01
max. Earth dist.	15848 Apr 06 20:21	29° $\mathbb{Y}$ 04'46	6.44267 AU	minimum elong	15853 Sep 08 17:28	3° $\mathbb{B}$ 05'42	0°28'02
	15848 Apr 11 02:39	0° $\mathbb{B}$		morning rise	15853 Sep 21 18:55	6° $\mathbb{B}$ 11'44	
morning rise	15848 Apr 19 04:01	1° $\mathbb{B}$ 43'56		retrograde	15854 Jan 28 19:48	26° $\mathbb{B}$ 02'26	
	15848 Jun 29 19:18	15° $\mathbb{B}$		opposition	15854 Mar 29 09:50	21° $\mathbb{B}$ 05'56	-0°32'47
retrograde	15848 Aug 19 00:22	18° $\mathbb{B}$ 38'08		min. Earth dist.	15854 Mar 30 05:10	20° $\mathbb{B}$ 59'30	3.97393 AU
	15848 Oct 08 17:32	15° $\mathbb{R}$ $\mathbb{B}$		direct	15854 May 27 15:23	16° $\mathbb{B}$ 09'02	
opposition	15848 Oct 19 02:22	13° $\mathbb{B}$ 40'30	0°16'25		15854 Sep 05 21:41	0° $\mathbb{M}$	

evening set	15854 Oct 01 23:55	6°♍09'47		evening set	15860 Mar 28 02:51	0°♏23'28	
conjunction	15854 Oct 15 05:50	9°♍23'30 -0°13'33		conjunction	15860 Apr 10 07:56	3°♏13'53 0°16'47	
minimum elong	15854 Oct 15 05:50	9°♍23'30 0°13'07		minimum elong	15860 Apr 10 07:56	3°♏13'54 0°16'25	
behind sun begin	15854 Oct 15 00:53	9°♍20'29		max. Earth dist.	15860 Apr 11 01:45	3°♏23'29	6.45558 AU
behind sun end	15854 Oct 15 10:47	9°♍26'31		morning rise	15860 Apr 23 11:41	6°♏03'35	
max. Earth dist.	15854 Oct 14 19:07	9°♍16'58 5.92084 AU			15860 Jun 07 02:17	15°♏	
morning rise	15854 Oct 28 12:57	12°♍38'07		retrograde	15860 Aug 23 02:54	22°♏54'01	
	15854 Nov 07 08:26	15°♍		opposition	15860 Oct 23 06:24	17°♏56'46 0°13'10	
	15855 Jan 21 09:36	0°♏		min. Earth dist.	15860 Oct 23 03:50	17°♏57'36 4.49452 AU	
retrograde	15855 Mar 08 18:24	3°♏21'55			15860 Nov 16 17:34	15°♏♏	
	15855 Apr 24 15:18	30°♏♍		direct	15860 Dec 24 06:01	12°♏56'31	
opposition	15855 May 06 21:41	28°♍22'56 -0°04'56			15861 Jan 31 02:33	15°♏	
min. Earth dist.	15855 May 06 16:33	28°♍24'40 3.89349 AU		evening set	15861 Apr 27 17:34	29°♏57'51	
direct	15855 Jul 04 05:26	23°♍27'25			15861 Apr 27 21:38	0°♐	
asc. node	15855 Jul 08 11:43	23°♍29'18					
	15855 Sep 07 11:11	0°♏		conjunction	15861 May 10 18:52	2°♐44'40 0°01'07	
evening set	15855 Nov 09 01:02	13°♏48'05		minimum elong	15861 May 10 18:53	2°♐44'40 0°00'26	
				behind sun begin	15861 May 10 10:52	2°♐40'25	
conjunction	15855 Nov 22 11:34	17°♏05'19 0°06'50		behind sun end	15861 May 11 02:54	2°♐48'55	
minimum elong	15855 Nov 22 11:34	17°♏05'18 0°07'36		max. Earth dist.	15861 May 10 06:56	2°♐38'18 6.51220 AU	
behind sun begin	15855 Nov 22 04:00	17°♏00'42		morning rise	15861 May 23 18:47	5°♐30'48	
behind sun end	15855 Nov 22 19:07	17°♏09'55		desc. node	15861 Jun 06 13:40	8°♐24'05	
max. Earth dist.	15855 Nov 23 14:23	17°♏21'44 5.89570 AU		retrograde	15861 Sep 21 19:26	22°♐07'11	
morning rise	15855 Dec 05 23:49	20°♏23'22		opposition	15861 Nov 22 00:49	17°♐12'05 -0°10'24	
	15856 Jan 16 14:09	0°♑		min. Earth dist.	15861 Nov 22 18:25	17°♐06'27 4.50750 AU	
retrograde	15856 Apr 15 04:50	11°♑08'36		direct	15862 Jan 23 11:30	12°♐11'33	
min. Earth dist.	15856 Jun 12 05:46	6°♑16'38 3.92757 AU		evening set	15862 May 27 20:02	29°♐15'52	
opposition	15856 Jun 13 10:33	6°♑06'53 0°25'17			15862 May 31 06:29	0°♑	
direct	15856 Aug 10 13:36	1°♑11'02		max. Earth dist.	15862 Jun 08 05:15	1°♑42'37 6.48043 AU	
evening set	15856 Dec 16 04:56	21°♑08'30					
				conjunction	15862 Jun 09 18:29	2°♑02'41 -0°14'49	
conjunction	15856 Dec 29 17:31	24°♑22'23 0°24'10		minimum elong	15862 Jun 09 18:29	2°♑02'41 0°15'38	
minimum elong	15856 Dec 29 17:31	24°♑22'23 0°24'56		behind sun begin	15862 Jun 09 16:38	2°♑01'42	
max. Earth dist.	15856 Dec 31 22:47	24°♑54'14 5.98459 AU		behind sun end	15862 Jun 09 20:20	2°♑03'40	
morning rise	15857 Jan 12 07:28	27°♑36'40		morning rise	15862 Jun 22 15:35	4°♑48'59	
	15857 Jan 22 11:20	0°♒		retrograde	15862 Oct 22 07:11	21°♑41'35	
	15857 Apr 11 14:07	15°♒		opposition	15862 Dec 22 09:45	16°♑47'30 -0°31'40	
retrograde	15857 May 21 13:02	17°♒31'07		min. Earth dist.	15862 Dec 23 17:34	16°♑37'18 4.43329 AU	
	15857 Jun 30 12:19	15°♒♒		direct	15863 Feb 22 15:57	11°♑46'56	
min. Earth dist.	15857 Jul 18 14:08	12°♒40'59 4.06049 AU		evening set	15863 Jun 27 10:01	29°♑18'09	
opposition	15857 Jul 20 04:35	12°♒28'00 0°44'10			15863 Jun 30 14:15	0°♓	
direct	15857 Sep 17 01:32	7°♒30'32		max. Earth dist.	15863 Jul 08 03:15	1°♓39'52 6.36835 AU	
	15857 Nov 28 03:39	15°♒					
evening set	15858 Jan 21 19:19	26°♒34'59		conjunction	15863 Jul 10 07:10	2°♓08'36 -0°27'06	
				minimum elong	15863 Jul 10 07:10	2°♓08'36 0°27'50	
conjunction	15858 Feb 04 07:09	29°♒40'57 0°31'42		morning rise	15863 Jul 23 03:10	4°♓58'50	
minimum elong	15858 Feb 04 07:09	29°♒40'57 0°32'12			15863 Sep 10 00:05	15°♓	
	15858 Feb 05 16:16	0°♓		retrograde	15863 Nov 23 16:28	22°♓36'13	
max. Earth dist.	15858 Feb 06 18:38	0°♓15'10 6.14790 AU		opposition	15864 Jan 23 09:10	17°♓42'08 -0°45'17	
morning rise	15858 Feb 17 19:10	2°♓46'42		min. Earth dist.	15864 Jan 25 00:28	17°♓29'27 4.28968 AU	
retrograde	15858 Jun 24 01:54	21°♓27'07			15864 Feb 14 11:55	15°♓♓	
min. Earth dist.	15858 Aug 21 20:06	16°♓36'34 4.23721 AU		direct	15864 Mar 24 22:17	12°♓42'07	
opposition	15858 Aug 23 07:17	16°♓24'51 0°46'07			15864 May 03 02:33	15°♓	
direct	15858 Oct 22 06:26	11°♓25'56			15864 Jul 23 23:51	0°♓♓	
evening set	15859 Feb 25 01:26	29°♓32'45		evening set	15864 Jul 28 10:10	1°♓00'16	
	15859 Feb 27 02:55	0°♓♓		max. Earth dist.	15864 Aug 08 00:36	3°♓25'49 6.20327 AU	
conjunction	15859 Mar 10 10:05	2°♓29'56 0°28'19		conjunction	15864 Aug 10 08:01	3°♓57'39 -0°32'02	
minimum elong	15859 Mar 10 10:06	2°♓29'56 0°28'21		minimum elong	15864 Aug 10 08:01	3°♓57'39 0°32'28	
max. Earth dist.	15859 Mar 12 04:46	2°♓53'33 6.32297 AU		morning rise	15864 Aug 23 05:49	6°♓55'18	
morning rise	15859 Mar 23 18:25	5°♓26'35		retrograde	15864 Dec 27 14:26	25°♓39'57	
retrograde	15859 Jul 25 06:59	23°♓00'15		opposition	15865 Feb 25 17:25	20°♓44'53 -0°45'45	
min. Earth dist.	15859 Sep 23 04:22	18°♓07'05 4.39666 AU		min. Earth dist.	15865 Feb 27 03:19	20°♓33'47 4.11424 AU	
opposition	15859 Sep 24 01:03	18°♓00'18 0°33'52		direct	15865 Apr 27 02:27	15°♓46'14	
direct	15859 Nov 24 04:36	13°♓00'28			15865 Aug 09 20:44	0°♓	
	15860 Mar 26 06:57	0°♓		evening set	15865 Aug 31 13:59	5°♓01'34	



max. Earth dist.	15865 Sep 12 01:05	7°♌45'04	6.03244 AU		15871 Feb 11 04:04	0°♑	
				evening set	15871 Mar 01 12:16	3°♑57'37	
conjunction	15865 Sep 13 15:21	8°♌07'53	-0°26'38				
minimum elong	15865 Sep 13 15:22	8°♌07'54	0°26'36	conjunction	15871 Mar 14 20:44	6°♑54'00	0°27'10
morning rise	15865 Sep 26 17:15	11°♌14'53		minimum elong	15871 Mar 14 20:45	6°♑54'01	0°27'10
	15866 Jan 06 16:36	0°♌		max. Earth dist.	15871 Mar 16 13:25	7°♑16'27	6.33929 AU
retrograde	15866 Feb 03 02:12	1°♌12'14		morning rise	15871 Mar 28 04:24	9°♑49'47	
	15866 Mar 02 10:07	30°♌		retrograde	15871 Jul 29 10:28	27°♑17'46	
opposition	15866 Apr 03 14:31	26°♌15'26	-0°29'40	min. Earth dist.	15871 Sep 27 10:55	22°♑24'24	4.40919 AU
min. Earth dist.	15866 Apr 04 07:23	26°♌09'50	3.96347 AU	opposition	15871 Sep 28 05:47	22°♑18'14	0°31'28
direct	15866 Jun 01 17:28	21°♌18'47		direct	15871 Nov 28 11:35	17°♑18'24	
	15866 Aug 17 19:04	0°♌			15872 Mar 10 04:23	0°♑	
evening set	15866 Oct 07 02:17	11°♌21'51		evening set	15872 Apr 01 09:28	4°♑38'39	
conjunction	15866 Oct 20 08:38	14°♌36'01	-0°11'00	conjunction	15872 Apr 14 13:57	7°♑28'35	0°14'50
minimum elong	15866 Oct 20 08:39	14°♌36'01	0°10'30	minimum elong	15872 Apr 14 13:57	7°♑28'35	0°14'23
behind sun begin	15866 Oct 20 02:10	14°♌32'05		behind sun begin	15872 Apr 14 10:23	7°♑26'40	
behind sun end	15866 Oct 20 15:07	14°♌39'57		behind sun end	15872 Apr 14 17:31	7°♑30'30	
max. Earth dist.	15866 Oct 20 01:25	14°♌31'37	5.91663 AU	max. Earth dist.	15872 Apr 15 02:51	7°♑35'31	6.46356 AU
	15866 Oct 21 23:53	15°♌		morning rise	15872 Apr 27 17:23	10°♑17'49	
morning rise	15866 Nov 02 16:34	17°♌51'09			15872 May 20 06:31	15°♑	
	15866 Dec 26 15:40	0°♑		retrograde	15872 Aug 27 06:51	27°♑06'00	
retrograde	15867 Mar 13 22:04	8°♑35'57		opposition	15872 Oct 27 09:41	22°♑09'05	0°09'59
opposition	15867 May 12 02:48	3°♑36'33	-0°00'42	min. Earth dist.	15872 Oct 27 10:16	22°♑08'53	4.49766 AU
min. Earth dist.	15867 May 11 17:43	3°♑39'37	3.89628 AU	direct	15872 Dec 28 11:44	17°♑08'47	
asc. node	15867 May 20 19:22	2°♑27'04			15873 Apr 11 20:43	0°♑	
	15867 Jun 11 08:22	30°♑		desc. node	15873 Apr 15 22:36	0°♑49'48	
direct	15867 Jul 09 08:38	28°♑41'02		evening set	15873 May 01 22:14	4°♑10'05	
	15867 Aug 06 08:30	0°♑					
evening set	15867 Nov 14 04:15	18°♑59'09		conjunction	15873 May 14 23:15	6°♑56'50	-0°01'13
conjunction	15867 Nov 27 15:08	22°♑16'05	0°09'30	minimum elong	15873 May 14 23:16	6°♑56'50	0°01'55
minimum elong	15867 Nov 27 15:08	22°♑16'05	0°10'17	behind sun begin	15873 May 14 15:13	6°♑52'34	
behind sun begin	15867 Nov 27 08:32	22°♑12'04		behind sun end	15873 May 15 07:18	7°♑01'07	
behind sun end	15867 Nov 27 21:43	22°♑20'05		max. Earth dist.	15873 May 14 08:58	6°♑49'13	6.51034 AU
max. Earth dist.	15867 Nov 28 21:10	22°♑34'26	5.90512 AU	morning rise	15873 May 27 22:40	9°♑42'52	
morning rise	15867 Dec 11 03:43	25°♑33'49		retrograde	15873 Sep 25 23:05	26°♑20'21	
	15867 Dec 29 18:14	0°♑		opposition	15873 Nov 26 05:04	21°♑25'24	-0°13'36
retrograde	15868 Apr 20 04:20	16°♑13'36		min. Earth dist.	15873 Nov 26 23:33	21°♑19'28	4.50086 AU
min. Earth dist.	15868 Jun 17 05:29	11°♑21'37	3.94240 AU	direct	15874 Jan 27 14:45	16°♑24'52	
opposition	15868 Jun 18 10:58	11°♑11'37	0°28'41		15874 May 15 07:33	0°♑	
direct	15868 Aug 15 16:58	6°♑15'32		evening set	15874 Jun 01 01:26	3°♑31'45	
evening set	15868 Dec 21 04:09	26°♑06'40		max. Earth dist.	15874 Jun 12 08:51	5°♑57'55	6.46925 AU
conjunction	15869 Jan 03 16:56	29°♑19'43	0°25'50	conjunction	15874 Jun 13 23:35	6°♑18'51	-0°16'49
minimum elong	15869 Jan 03 16:55	29°♑19'43	0°26'33	minimum elong	15874 Jun 13 23:35	6°♑18'51	0°17'39
max. Earth dist.	15869 Jan 06 00:36	29°♑52'51	6.00333 AU	morning rise	15874 Jun 26 20:21	9°♑05'27	
	15869 Jan 06 12:36	0°♑		retrograde	15874 Oct 26 17:07	26°♑02'25	
morning rise	15869 Jan 17 06:41	2°♑33'01		opposition	15874 Dec 26 18:05	21°♑08'23	-0°34'07
	15869 Mar 16 00:09	15°♑		min. Earth dist.	15874 Dec 28 03:52	20°♑57'34	4.41789 AU
retrograde	15869 May 26 04:35	22°♑18'36		direct	15875 Feb 26 23:23	16°♑07'52	
min. Earth dist.	15869 Jul 23 06:48	17°♑28'30	4.08117 AU		15875 Jun 14 12:22	0°♑	
opposition	15869 Jul 24 21:11	17°♑15'33	0°45'26	evening set	15875 Jul 01 18:23	3°♑43'59	
	15869 Aug 11 07:58	15°♑		max. Earth dist.	15875 Jul 12 09:11	6°♑05'01	6.34943 AU
direct	15869 Sep 21 20:31	12°♑17'55		conjunction	15875 Jul 14 15:23	6°♑35'09	-0°28'18
	15869 Nov 02 09:00	15°♑		minimum elong	15875 Jul 14 15:23	6°♑35'08	0°28'59
	15870 Jan 20 23:31	0°♑		morning rise	15875 Jul 27 11:35	9°♑26'09	
evening set	15870 Jan 26 12:27	1°♑15'25			15875 Aug 22 07:33	15°♑	
conjunction	15870 Feb 08 23:51	4°♑20'19	0°31'53	retrograde	15875 Nov 28 08:24	27°♑11'08	
minimum elong	15870 Feb 08 23:51	4°♑20'19	0°32'18	opposition	15876 Jan 27 23:51	22°♑16'55	-0°46'12
max. Earth dist.	15870 Feb 11 08:15	4°♑52'36	6.16861 AU	min. Earth dist.	15876 Jan 29 14:29	22°♑04'25	4.26812 AU
morning rise	15870 Feb 22 11:41	7°♑25'02		direct	15876 Mar 29 09:12	17°♑17'00	
retrograde	15870 Jun 28 09:30	25°♑57'06			15876 Jul 07 08:25	0°♑	
min. Earth dist.	15870 Aug 26 07:19	21°♑06'09	4.25630 AU	evening set	15876 Aug 02 00:07	5°♑42'05	
opposition	15870 Aug 27 16:34	20°♑55'04	0°45'14	max. Earth dist.	15876 Aug 12 17:24	8°♑09'58	6.18067 AU
direct	15870 Oct 26 19:10	15°♑55'59		conjunction	15876 Aug 14 22:23	8°♑40'33	-0°31'55

minimum elong	15876 Aug 14 22:23	8°  40'34	0°32'17	max. Earth dist.	15882 Feb 16 04:37	9°  41'54	6.19185 AU
morning rise	15876 Aug 27 20:23	11°  39'17		morning rise	15882 Feb 27 07:46	12°  13'25	
	15876 Dec 13 21:23	0°  ♁			15882 Jun 13 10:50	0°  ♁	
retrograde	15877 Jan 01 15:15	0°  ♁33'31		retrograde	15882 Jul 02 20:47	0°  ♁36'02	
	15877 Jan 20 07:10	30°  ♁			15882 Jul 22 02:59	30°  ♁	
opposition	15877 Mar 02 15:55	25°  ♁38'19	-0°44'28	min. Earth dist.	15882 Aug 30 21:28	25°  ♁44'52	4.27929 AU
min. Earth dist.	15877 Mar 04 00:58	25°  ♁27'29	4.09227 AU	opposition	15882 Sep 01 05:15	25°  ♁34'19	0°43'58
direct	15877 May 01 21:08	20°  ♁39'59		direct	15882 Oct 31 12:15	20°  ♁35'08	
	15877 Jul 22 10:49	0°  ♁			15883 Jan 24 02:52	0°  ♁	
evening set	15877 Sep 05 11:25	10°  ♁02'27		evening set	15883 Mar 06 01:47	8°  ♁29'55	
max. Earth dist.	15877 Sep 17 00:51	12°  ♁48'06	6.01304 AU				
				conjunction	15883 Mar 19 09:34	11°  ♁25'13	0°25'48
conjunction	15877 Sep 18 13:17	13°  ♁09'56	-0°24'59	minimum elong	15883 Mar 19 09:35	11°  ♁25'13	0°25'44
minimum elong	15877 Sep 18 13:17	13°  ♁09'56	0°24'53	max. Earth dist.	15883 Mar 20 22:48	11°  ♁45'39	6.36039 AU
morning rise	15877 Oct 01 16:04	16°  ♁18'11		morning rise	15883 Apr 01 16:47	14°  ♁19'55	
	15877 Dec 04 08:50	0°  ♁			15883 Jun 30 10:41	0°  ♁	
retrograde	15878 Feb 08 08:11	6°  ♁23'57		retrograde	15883 Aug 02 14:51	1°  ♁40'31	
opposition	15878 Apr 08 19:44	1°  ♁26'52	-0°26'11		15883 Sep 04 16:24	30°  ♁	
min. Earth dist.	15878 Apr 09 08:39	1°  ♁22'34	3.94872 AU	opposition	15883 Oct 02 12:15	26°  ♁41'16	0°28'47
	15878 Apr 19 20:44	30°  ♁		min. Earth dist.	15883 Oct 01 19:32	26°  ♁46'44	4.42720 AU
direct	15878 Jun 06 18:31	26°  ♁30'26		direct	15883 Dec 02 21:39	21°  ♁41'19	
	15878 Jul 23 14:13	0°  ♁			15884 Feb 21 01:07	0°  ♁	
	15878 Oct 05 12:11	15°  ♁		evening set	15884 Apr 05 16:50	8°  ♁56'52	
evening set	15878 Oct 12 06:09	16°  ♁37'57					
				conjunction	15884 Apr 18 20:53	11°  ♁46'04	0°12'44
conjunction	15878 Oct 25 13:15	19°  ♁52'53	-0°08'16	minimum elong	15884 Apr 18 20:54	11°  ♁46'04	0°12'16
minimum elong	15878 Oct 25 13:15	19°  ♁52'53	0°07'42	behind sun begin	15884 Apr 18 15:34	11°  ♁43'13	
behind sun begin	15878 Oct 25 05:46	19°  ♁48'19		behind sun end	15884 Apr 19 02:14	11°  ♁48'55	
behind sun end	15878 Oct 25 20:44	19°  ♁57'27		max. Earth dist.	15884 Apr 19 07:47	11°  ♁51'54	6.47735 AU
max. Earth dist.	15878 Oct 25 11:21	19°  ♁51'44	5.90815 AU	morning rise	15884 May 01 23:30	14°  ♁34'30	
morning rise	15878 Nov 07 21:53	23°  ♁08'46			15884 May 03 23:30	15°  ♁	
	15878 Dec 06 22:06	0°  ♁			15884 Aug 01 21:25	0°  ♁	
retrograde	15879 Mar 19 06:35	13°  ♁56'37		retrograde	15884 Aug 31 07:48	1°  ♁18'28	
asc. node	15879 Apr 01 16:37	13°  ♁38'25			15884 Sep 29 15:54	30°  ♁	
opposition	15879 May 17 10:34	8°  ♁56'51	0°03'42	opposition	15884 Oct 31 12:39	26°  ♁21'49	0°06'45
min. Earth dist.	15879 May 16 23:09	9°  ♁00'42	3.89505 AU	min. Earth dist.	15884 Oct 31 15:05	26°  ♁21'02	4.50645 AU
direct	15879 Jul 14 15:45	4°  ♁01'22		direct	15885 Jan 01 16:57	21°  ♁21'28	
evening set	15879 Nov 19 10:39	24°  ♁18'37		desc. node	15885 Feb 22 09:11	25°  ♁03'36	
					15885 Mar 25 07:45	0°  ♁	
conjunction	15879 Dec 02 22:06	27°  ♁35'29	0°12'12	evening set	15885 May 06 02:03	8°  ♁20'54	
minimum elong	15879 Dec 02 22:06	27°  ♁35'29	0°13'01	max. Earth dist.	15885 May 18 07:26	10°  ♁57'10	6.51336 AU
behind sun begin	15879 Dec 02 17:05	27°  ♁32'26					
behind sun end	15879 Dec 03 03:07	27°  ♁38'31		conjunction	15885 May 19 02:25	11°  ♁07'18	-0°03'28
max. Earth dist.	15879 Dec 04 09:34	27°  ♁57'06	5.91127 AU	minimum elong	15885 May 19 02:24	11°  ♁07'17	0°04'12
	15879 Dec 12 19:27	0°  ♁		behind sun begin	15885 May 18 18:30	11°  ♁03'05	
morning rise	15879 Dec 16 11:00	0°  ♁53'03		behind sun end	15885 May 19 10:18	11°  ♁11'29	
retrograde	15880 Apr 25 08:24	21°  ♁28'30		morning rise	15885 Jun 01 01:25	13°  ♁53'01	
min. Earth dist.	15880 Jun 22 07:15	16°  ♁37'02	3.95532 AU		15885 Sep 11 22:26	0°  ♁	
opposition	15880 Jun 23 14:55	16°  ♁26'19	0°31'58	retrograde	15885 Sep 30 02:43	0°  ♁30'13	
direct	15880 Aug 20 21:43	11°  ♁30'06			15885 Oct 18 03:50	30°  ♁	
	15880 Dec 20 23:03	0°  ♁		opposition	15885 Nov 30 08:06	25°  ♁35'23	-0°16'40
evening set	15880 Dec 26 07:53	1°  ♁15'42		min. Earth dist.	15885 Dec 01 05:52	25°  ♁28'25	4.49780 AU
				direct	15886 Jan 31 19:30	20°  ♁34'44	
conjunction	15881 Jan 08 20:30	4°  ♁27'52	0°27'20		15886 Apr 28 08:27	0°  ♁	
minimum elong	15881 Jan 08 20:30	4°  ♁27'52	0°28'03	evening set	15886 Jun 05 04:28	7°  ♁43'01	
max. Earth dist.	15881 Jan 11 04:33	5°  ♁01'05	6.02148 AU	max. Earth dist.	15886 Jun 16 08:29	10°  ♁07'39	6.46011 AU
morning rise	15881 Jan 22 10:21	7°  ♁40'17					
	15881 Feb 23 19:14	15°  ♁		conjunction	15886 Jun 18 02:22	10°  ♁30'19	-0°18'41
retrograde	15881 May 30 22:19	27°  ♁16'56		minimum elong	15886 Jun 18 02:22	10°  ♁30'19	0°19'30
min. Earth dist.	15881 Jul 28 02:46	22°  ♁26'57	4.10269 AU	morning rise	15886 Jun 30 22:51	13°  ♁17'09	
opposition	15881 Jul 29 17:30	22°  ♁13'54	0°46'23		15886 Oct 17 00:27	0°  ♁	
direct	15881 Sep 26 19:31	17°  ♁16'02		retrograde	15886 Oct 30 22:48	0°  ♁18'04	
	15882 Jan 03 17:42	0°  ♁			15886 Nov 13 21:13	30°  ♁	
evening set	15882 Jan 31 09:19	6°  ♁06'11		opposition	15886 Dec 31 00:09	25°  ♁23'58	-0°36'19
				min. Earth dist.	15887 Jan 01 10:41	25°  ♁12'53	4.40306 AU
conjunction	15882 Feb 13 20:32	9°  ♁09'58	0°31'48	direct	15887 Mar 03 02:57	20°  ♁23'24	
minimum elong	15882 Feb 13 20:32	9°  ♁09'58	0°32'09		15887 May 28 12:42	0°  ♁	

evening set	15887 Jul 06 00:31	8°♌04'26		evening set	15892 Dec 31 13:37	6°♏28'50	
max. Earth dist.	15887 Jul 16 14:56	10°♌25'50	6.32979 AU				
conjunction	15887 Jul 18 21:32	10°♌56'19	-0°29'17	conjunction	15893 Jan 14 02:21	9°♏40'04	0°28'38
minimum elong	15887 Jul 18 21:31	10°♌56'19	0°29'57	minimum elong	15893 Jan 14 02:21	9°♏40'04	0°29'18
morning rise	15887 Jul 31 17:42	13°♌48'07		max. Earth dist.	15893 Jan 16 13:06	10°♏14'44	6.04142 AU
	15887 Aug 06 03:42	15°♌		morning rise	15893 Jan 27 15:54	12°♏51'26	
	15887 Oct 30 17:12	0°♍			15893 Feb 05 21:41	15°♏	
retrograde	15887 Dec 02 23:36	1°♍41'07		retrograde	15893 Apr 27 11:44	0°♎	
	15888 Jan 05 05:52	30°♋♌			15893 Jun 04 19:16	2°♎18'16	
opposition	15888 Feb 01 12:35	26°♌46'47	-0°46'49		15893 Jul 13 00:46	30°♋	
min. Earth dist.	15888 Feb 03 04:39	26°♌33'49	4.24465 AU	min. Earth dist.	15893 Aug 02 01:11	27°♏28'09	4.12672 AU
direct	15888 Apr 02 19:41	21°♌46'57		opposition	15893 Aug 03 15:32	27°♏15'15	0°46'58
	15888 Jun 19 04:12	0°♍		direct	15893 Oct 01 22:06	22°♏17'11	
evening set	15888 Aug 06 12:37	10°♍19'49			15893 Dec 14 21:18	0°♎	
max. Earth dist.	15888 Aug 17 05:24	12°♍48'18	6.15513 AU	evening set	15894 Feb 05 07:28	10°♎58'54	
conjunction	15888 Aug 19 11:12	13°♍19'31	-0°31'35	conjunction	15894 Feb 18 18:14	14°♎01'22	0°31'29
minimum elong	15888 Aug 19 11:12	13°♍19'31	0°31'54	minimum elong	15894 Feb 18 18:14	14°♎01'22	0°31'46
morning rise	15888 Sep 01 09:52	16°♍19'36		max. Earth dist.	15894 Feb 21 01:20	14°♎32'33	6.21759 AU
	15888 Nov 06 18:51	0°♎		morning rise	15894 Mar 04 05:01	17°♎03'30	
retrograde	15889 Jan 06 14:09	5°♎24'41			15894 May 07 23:20	0°♏	
opposition	15889 Mar 07 13:32	0°♎29'15	-0°42'55	retrograde	15894 Jul 07 06:26	5°♏15'45	
min. Earth dist.	15889 Mar 08 20:15	0°♎19'09	4.06667 AU	min. Earth dist.	15894 Sep 04 11:19	0°♏24'31	4.30437 AU
	15889 Mar 11 06:40	30°♋♍		opposition	15894 Sep 05 18:14	0°♏14'16	0°42'23
direct	15889 May 06 13:34	25°♍31'05			15894 Sep 07 13:21	30°♋♎	
	15889 Jun 29 20:12	0°♎		direct	15894 Nov 05 04:49	25°♎14'56	
evening set	15889 Sep 10 08:33	15°♎02'17			15895 Jan 01 23:39	0°♏	
max. Earth dist.	15889 Sep 22 03:06	17°♎51'50	5.98984 AU	evening set	15895 Mar 10 15:35	13°♏02'24	
conjunction	15889 Sep 23 11:12	18°♎11'10	-0°23'11	conjunction	15895 Mar 23 22:53	15°♏56'35	0°24'15
minimum elong	15889 Sep 23 11:13	18°♎11'11	0°23'01	minimum elong	15895 Mar 23 22:53	15°♏56'35	0°24'06
morning rise	15889 Oct 06 14:46	21°♎20'52		max. Earth dist.	15895 Mar 25 09:01	16°♏15'14	6.38283 AU
	15889 Nov 13 07:55	0°♍		morning rise	15895 Apr 06 05:19	18°♏50'06	
retrograde	15890 Feb 13 17:29	11°♍36'47			15895 Jun 01 20:44	0°♎	
opposition	15890 Apr 14 01:51	6°♍39'22	-0°22'32	retrograde	15895 Aug 06 20:23	6°♎03'10	
min. Earth dist.	15890 Apr 14 12:37	6°♍35'47	3.93026 AU	opposition	15895 Oct 06 19:00	1°♎04'21	0°25'54
direct	15890 Jun 11 21:33	1°♍43'08		min. Earth dist.	15895 Oct 06 05:11	1°♎08'51	4.44525 AU
	15890 Sep 18 02:55	15°♍			15895 Oct 15 02:11	30°♋♏	
evening set	15890 Oct 17 11:36	21°♍56'35		direct	15895 Dec 07 08:47	26°♏04'22	
					15896 Jan 29 07:11	0°♎	
conjunction	15890 Oct 30 19:35	25°♍12'29	-0°05'29	evening set	15896 Apr 10 00:21	13°♎15'29	
minimum elong	15890 Oct 30 19:36	25°♍12'30	0°04'53		15896 Apr 18 04:13	15°♎	
behind sun begin	15890 Oct 30 11:31	25°♍07'33					
behind sun end	15890 Oct 31 03:42	25°♍17'26		conjunction	15896 Apr 23 03:45	16°♎03'59	0°10'32
max. Earth dist.	15890 Oct 30 23:21	25°♍14'45	5.89649 AU	minimum elong	15896 Apr 23 03:45	16°♎03'59	0°10'01
morning rise	15890 Nov 13 05:05	28°♍29'21		behind sun begin	15896 Apr 22 21:16	16°♎00'32	
	15890 Nov 19 10:29	0°♎		behind sun end	15896 Apr 23 10:14	16°♎07'26	
asc. node	15891 Feb 12 08:10	16°♎45'05		max. Earth dist.	15896 Apr 23 09:18	16°♎06'56	6.48964 AU
retrograde	15891 Mar 24 17:03	19°♎21'06		morning rise	15896 May 06 05:56	18°♎51'46	
opposition	15891 May 22 19:57	14°♎21'01	0°08'04		15896 Jul 03 04:13	0°♍	
min. Earth dist.	15891 May 22 04:39	14°♎26'10	3.89185 AU	retrograde	15896 Sep 04 11:01	5°♍32'29	
direct	15891 Jul 19 22:37	9°♎25'34		opposition	15896 Nov 04 16:33	0°♍36'07	0°03'23
evening set	15891 Nov 24 19:48	29°♎42'43		min. Earth dist.	15896 Nov 04 22:01	0°♍34'22	4.51234 AU
	15891 Nov 26 00:21	0°♎			15896 Nov 09 09:01	30°♋♎	
				desc. node	15896 Dec 30 14:36	25°♎39'23	
conjunction	15891 Dec 08 07:34	2°♎59'32	0°14'48	direct	15897 Jan 05 22:52	25°♎35'43	
minimum elong	15891 Dec 08 07:34	2°♎59'31	0°15'36		15897 Mar 03 17:27	0°♍	
behind sun begin	15891 Dec 08 05:42	2°♎58'24		evening set	15897 May 10 06:37	12°♍34'26	
behind sun end	15891 Dec 08 09:25	3°♎00'39		max. Earth dist.	15897 May 22 09:05	15°♍09'09	6.51248 AU
max. Earth dist.	15891 Dec 09 22:23	3°♎23'09	5.91670 AU				
morning rise	15891 Dec 21 21:05	6°♎17'02		conjunction	15897 May 23 06:43	15°♍20'43	-0°05'45
retrograde	15892 Apr 30 12:26	26°♎48'03		minimum elong	15897 May 23 06:42	15°♍20'42	0°06'31
min. Earth dist.	15892 Jun 27 10:37	21°♎57'12	3.96867 AU	behind sun begin	15897 May 22 23:11	15°♍16'42	
opposition	15892 Jun 28 20:55	21°♎45'34	0°34'58	behind sun end	15897 May 23 14:14	15°♍24'42	
direct	15892 Aug 26 05:02	16°♎49'08		morning rise	15897 Jun 05 05:07	18°♍06'17	
	15892 Dec 03 05:14	0°♏			15897 Aug 07 02:25	0°♎	
				retrograde	15897 Oct 04 06:28	4°♎44'42	

	15897 Dec 03 05:43	30° $\mathbb{R}\mathbb{I}$	retrograde	15903 Mar 31 04:13	24° $\mathbb{X}$ 52'54	
opposition	15897 Dec 04 12:46	29° $\mathbb{I}$ 50'04 -0°19'46	opposition	15903 May 29 07:46	19° $\mathbb{X}$ 52'21 0°12'30	
min. Earth dist.	15897 Dec 05 12:20	29° $\mathbb{I}$ 42'31 4.49025 AU	min. Earth dist.	15903 May 28 12:29	19° $\mathbb{X}$ 58'52 3.89571 AU	
direct	15898 Feb 04 23:27	24° $\mathbb{I}$ 49'27	direct	15903 Jul 26 10:27	14° $\mathbb{X}$ 56'49	
	15898 Apr 07 18:37	0° $\mathbb{E}$		15903 Nov 09 09:35	0° $\mathbb{Z}$	
evening set	15898 Jun 09 10:03	12° $\mathbb{E}$ 00'47	evening set	15903 Dec 01 06:13	5° $\mathbb{Z}$ 10'43	
max. Earth dist.	15898 Jun 20 10:31	14° $\mathbb{E}$ 24'00 6.44628 AU				
			conjunction	15903 Dec 14 18:25	8° $\mathbb{Z}$ 27'03 0°17'20	
conjunction	15898 Jun 22 07:36	14° $\mathbb{E}$ 48'30 -0°20'32	minimum elong	15903 Dec 14 18:25	8° $\mathbb{Z}$ 27'03 0°18'08	
minimum elong	15898 Jun 22 07:36	14° $\mathbb{E}$ 48'30 0°21'19	max. Earth dist.	15903 Dec 16 14:51	8° $\mathbb{Z}$ 54'00 5.92971 AU	
morning rise	15898 Jul 05 03:59	17° $\mathbb{E}$ 35'49	morning rise	15903 Dec 28 07:59	11° $\mathbb{Z}$ 43'57	
	15898 Sep 07 18:58	0° $\mathbb{Q}$		15904 Mar 31 07:56	0° $\mathbb{W}$	
retrograde	15898 Nov 04 10:46	4° $\mathbb{Q}$ 42'25	retrograde	15904 May 06 17:05	2° $\mathbb{W}$ 07'11	
	15899 Jan 02 21:35	30° $\mathbb{R}\mathbb{E}$		15904 Jun 12 00:16	30° $\mathbb{R}\mathbb{Z}$	
opposition	15899 Jan 04 09:48	29° $\mathbb{E}$ 48'22 -0°38'27	min. Earth dist.	15904 Jul 03 15:02	27° $\mathbb{Z}$ 16'26 3.98916 AU	
min. Earth dist.	15899 Jan 05 22:50	29° $\mathbb{E}$ 36'28 4.38358 AU	opposition	15904 Jul 05 02:29	27° $\mathbb{Z}$ 04'26 0°37'43	
direct	15899 Mar 07 11:52	24° $\mathbb{E}$ 47'49	direct	15904 Sep 01 13:37	22° $\mathbb{Z}$ 07'46	
	15899 May 07 14:31	0° $\mathbb{Q}$		15904 Nov 14 00:04	0° $\mathbb{W}$	
evening set	15899 Jul 10 10:18	12° $\mathbb{Q}$ 35'21	evening set	15905 Jan 06 18:18	11° $\mathbb{W}$ 38'53	
max. Earth dist.	15899 Jul 20 23:01	14° $\mathbb{Q}$ 56'35 6.30599 AU				
	15899 Jul 21 05:07	15° $\mathbb{Q}$	conjunction	15905 Jan 20 06:48	14° $\mathbb{W}$ 48'50 0°29'43	
			minimum elong	15905 Jan 20 06:48	14° $\mathbb{W}$ 48'50 0°30'21	
conjunction	15899 Jul 23 07:28	15° $\mathbb{Q}$ 28'15 -0°30'10		15905 Jan 21 01:51	15° $\mathbb{W}$	
minimum elong	15899 Jul 23 07:28	15° $\mathbb{Q}$ 28'15 0°30'47	max. Earth dist.	15905 Jan 22 19:06	15° $\mathbb{W}$ 24'10 6.06709 AU	
morning rise	15899 Aug 05 03:53	18° $\mathbb{Q}$ 21'05	morning rise	15905 Feb 02 20:05	17° $\mathbb{W}$ 58'50	
	15899 Oct 01 07:47	0° $\mathbb{P}$		15905 Mar 31 09:07	0° $\mathbb{H}$	
retrograde	15899 Dec 07 17:51	6° $\mathbb{P}$ 23'43	retrograde	15905 Jun 10 11:06	7° $\mathbb{H}$ 13'47	
opposition	15900 Feb 06 06:09	1° $\mathbb{P}$ 29'16 -0°47'12	min. Earth dist.	15905 Aug 07 19:58	2° $\mathbb{H}$ 23'53 4.15490 AU	
min. Earth dist.	15900 Feb 07 21:05	1° $\mathbb{P}$ 16'38 4.21814 AU	opposition	15905 Aug 09 10:53	2° $\mathbb{H}$ 10'50 0°47'12	
	15900 Feb 17 21:25	30° $\mathbb{R}\mathbb{Q}$		15905 Aug 26 07:58	30° $\mathbb{R}\mathbb{W}$	
direct	15900 Apr 08 08:20	26° $\mathbb{Q}$ 29'36	direct	15905 Oct 07 20:55	27° $\mathbb{W}$ 12'30	
	15900 May 26 20:42	0° $\mathbb{P}$		15905 Nov 19 12:33	0° $\mathbb{H}$	
evening set	15900 Aug 12 06:06	15° $\mathbb{P}$ 11'18	evening set	15906 Feb 11 02:56	15° $\mathbb{H}$ 44'44	
max. Earth dist.	15900 Aug 23 01:43	17° $\mathbb{P}$ 42'20 6.12807 AU				
			conjunction	15906 Feb 24 13:09	18° $\mathbb{H}$ 45'46 0°30'59	
conjunction	15900 Aug 25 05:09	18° $\mathbb{P}$ 12'22 -0°31'03	minimum elong	15906 Feb 24 13:09	18° $\mathbb{H}$ 45'46 0°31'13	
minimum elong	15900 Aug 25 05:09	18° $\mathbb{P}$ 12'22 0°31'16	max. Earth dist.	15906 Feb 26 17:14	19° $\mathbb{H}$ 15'04 6.24580 AU	
morning rise	15900 Sep 07 04:21	21° $\mathbb{P}$ 13'52	morning rise	15906 Mar 09 23:19	21° $\mathbb{H}$ 46'24	
	15900 Oct 16 17:48	0° $\mathbb{Q}$		15906 Apr 17 18:33	0° $\mathbb{Y}$	
retrograde	15901 Jan 12 21:13	10° $\mathbb{Q}$ 30'27	retrograde	15906 Jul 12 15:46	9° $\mathbb{Y}$ 47'59	
opposition	15901 Mar 13 16:49	5° $\mathbb{Q}$ 34'49 -0°40'57	min. Earth dist.	15906 Sep 10 00:44	4° $\mathbb{Y}$ 56'03 4.33014 AU	
min. Earth dist.	15901 Mar 14 22:19	5° $\mathbb{Q}$ 25'06 4.04132 AU	opposition	15906 Sep 11 04:41	4° $\mathbb{Y}$ 46'49 0°40'37	
direct	15901 May 12 13:25	0° $\mathbb{Q}$ 36'55		15906 Oct 30 07:06	30° $\mathbb{R}\mathbb{H}$	
evening set	15901 Sep 16 11:10	20° $\mathbb{Q}$ 16'32	direct	15906 Nov 10 20:52	29° $\mathbb{H}$ 47'19	
max. Earth dist.	15901 Sep 28 10:39	23° $\mathbb{Q}$ 09'52 5.96878 AU		15906 Nov 22 10:35	0° $\mathbb{Y}$	
			evening set	15907 Mar 16 02:24	17° $\mathbb{Y}$ 27'27	
conjunction	15901 Sep 29 14:39	23° $\mathbb{Q}$ 26'48 -0°21'06				
minimum elong	15901 Sep 29 14:39	23° $\mathbb{Q}$ 26'48 0°20'51	conjunction	15907 Mar 29 09:08	20° $\mathbb{Y}$ 20'32 0°22'36	
morning rise	15901 Oct 12 19:06	26° $\mathbb{Q}$ 37'54	minimum elong	15907 Mar 29 09:08	20° $\mathbb{Y}$ 20'33 0°22'23	
	15901 Oct 26 22:56	0° $\mathbb{M}$	max. Earth dist.	15907 Mar 30 15:41	20° $\mathbb{Y}$ 37'10 6.40420 AU	
	15902 Jan 15 10:30	15° $\mathbb{M}$	morning rise	15907 Apr 11 14:55	23° $\mathbb{Y}$ 12'58	
retrograde	15902 Feb 20 05:16	17° $\mathbb{M}$ 02'33		15907 May 14 07:51	0° $\mathbb{B}$	
	15902 Mar 28 02:14	15° $\mathbb{R}\mathbb{M}$	retrograde	15907 Aug 11 22:17	10° $\mathbb{B}$ 19'12	
opposition	15902 Apr 20 12:28	12° $\mathbb{M}$ 04'49 -0°18'30	opposition	15907 Oct 11 23:17	5° $\mathbb{B}$ 20'43 0°22'57	
min. Earth dist.	15902 Apr 20 18:57	12° $\mathbb{M}$ 02'39 3.91617 AU	min. Earth dist.	15907 Oct 11 11:40	5° $\mathbb{B}$ 24'30 4.46102 AU	
direct	15902 Jun 18 03:13	7° $\mathbb{M}$ 08'50	direct	15907 Dec 12 15:14	0° $\mathbb{B}$ 20'38	
	15902 Aug 29 13:53	15° $\mathbb{M}$		15908 Apr 03 11:39	15° $\mathbb{B}$	
evening set	15902 Oct 23 21:19	27° $\mathbb{M}$ 26'13	evening set	15908 Apr 15 05:46	17° $\mathbb{B}$ 28'12	
	15902 Nov 03 08:21	0° $\mathbb{X}$				
conjunction	15902 Nov 06 05:55	0° $\mathbb{X}$ 42'44 -0°02'30	conjunction	15908 Apr 28 08:42	20° $\mathbb{B}$ 16'09 0°08'19	
minimum elong	15902 Nov 06 05:54	0° $\mathbb{X}$ 42'43 0°01'51	minimum elong	15908 Apr 28 08:41	20° $\mathbb{B}$ 16'08 0°07'46	
behind sun begin	15902 Nov 05 21:34	0° $\mathbb{X}$ 37'38	behind sun begin	15908 Apr 28 01:27	20° $\mathbb{B}$ 12'17	
behind sun end	15902 Nov 06 14:13	0° $\mathbb{X}$ 47'49	behind sun end	15908 Apr 28 15:56	20° $\mathbb{B}$ 20'00	
max. Earth dist.	15902 Nov 06 14:25	0° $\mathbb{X}$ 47'56 5.89091 AU	max. Earth dist.	15908 Apr 28 10:21	20° $\mathbb{B}$ 17'01 6.49879 AU	
morning rise	15902 Nov 19 16:17	4° $\mathbb{X}$ 00'13	morning rise	15908 May 11 10:10	23° $\mathbb{B}$ 03'20	
asc. node	15902 Dec 24 05:20	12° $\mathbb{X}$ 06'59	retrograde	15908 Jun 14 13:30	0° $\mathbb{I}$	
				15908 Sep 09 13:06	9° $\mathbb{I}$ 41'50	

opposition	15908 Nov 09 18:54	4° $\Pi$ 45'51	0°00'03	min. Earth dist.	15914 Apr 26 02:07	17° $\mathbb{M}$ 30'29	3.90738 AU
min. Earth dist.	15908 Nov 10 03:41	4° $\Pi$ 43'01	4.51445 AU		15914 May 15 18:46	15° $\mathbb{R}$ $\mathbb{M}$	
desc. node	15908 Nov 10 15:11	4° $\Pi$ 39'20		direct	15914 Jun 23 12:14	12° $\mathbb{M}$ 35'31	
	15908 Dec 29 09:50	30° $\mathbb{R}$ $\mathbb{B}$			15914 Jul 31 19:23	15° $\mathbb{M}$	
direct	15909 Jan 11 03:08	29° $\mathbb{B}$ 45'24			15914 Oct 17 06:00	0° $\mathbb{A}$	
	15909 Jan 23 20:48	0° $\Pi$		evening set	15914 Oct 29 06:41	2° $\mathbb{A}$ 54'31	
evening set	15909 May 15 10:19	16° $\Pi$ 44'39		asc. node	15914 Nov 01 14:06	3° $\mathbb{A}$ 43'00	
max. Earth dist.	15909 May 27 06:47	19° $\Pi$ 16'26	6.50729 AU				
				conjunction	15914 Nov 11 16:01	6° $\mathbb{A}$ 11'21	0°00'33
conjunction	15909 May 28 09:52	19° $\Pi$ 30'56	-0°08'00	minimum elong	15914 Nov 11 16:01	6° $\mathbb{A}$ 11'21	0°01'14
minimum elong	15909 May 28 09:52	19° $\Pi$ 30'56	0°08'46	behind sun begin	15914 Nov 11 07:41	6° $\mathbb{A}$ 06'16	
behind sun begin	15909 May 28 02:57	19° $\Pi$ 27'15		behind sun end	15914 Nov 12 00:21	6° $\mathbb{A}$ 16'27	
behind sun end	15909 May 28 16:47	19° $\Pi$ 34'36		max. Earth dist.	15914 Nov 12 07:43	6° $\mathbb{A}$ 20'59	5.89099 AU
morning rise	15909 Jun 10 08:05	22° $\Pi$ 16'37		morning rise	15914 Nov 25 02:51	9° $\mathbb{A}$ 29'05	
	15909 Jul 18 11:55	0° $\mathbb{B}$			15915 Mar 22 10:21	0° $\mathbb{B}$	
retrograde	15909 Oct 09 12:40	8° $\mathbb{B}$ 57'42		retrograde	15915 Apr 05 14:29	0° $\mathbb{B}$ 20'07	
opposition	15909 Dec 09 17:33	4° $\mathbb{B}$ 03'13	-0°22'47		15915 Apr 19 16:00	30° $\mathbb{R}$ $\mathbb{A}$	
min. Earth dist.	15909 Dec 10 19:59	3° $\mathbb{B}$ 54'45	4.47815 AU	opposition	15915 Jun 03 17:33	25° $\mathbb{A}$ 19'13	0°16'44
	15910 Jan 15 19:42	30° $\mathbb{R}$ $\Pi$		min. Earth dist.	15915 Jun 02 19:55	25° $\mathbb{A}$ 26'32	3.90455 AU
direct	15910 Feb 10 04:01	29° $\Pi$ 02'33		direct	15915 Jul 31 20:46	20° $\mathbb{A}$ 23'38	
	15910 Mar 07 14:44	0° $\mathbb{B}$			15915 Oct 21 02:40	0° $\mathbb{B}$	
evening set	15910 Jun 14 15:36	16° $\mathbb{B}$ 18'23		evening set	15915 Dec 06 14:30	10° $\mathbb{B}$ 32'40	
max. Earth dist.	15910 Jun 25 14:20	18° $\mathbb{B}$ 41'12	6.42808 AU				
				conjunction	15915 Dec 20 02:50	13° $\mathbb{B}$ 48'17	0°19'41
conjunction	15910 Jun 27 13:10	19° $\mathbb{B}$ 06'45	-0°22'17	minimum elong	15915 Dec 20 02:49	13° $\mathbb{B}$ 48'17	0°20'28
minimum elong	15910 Jun 27 13:10	19° $\mathbb{B}$ 06'45	0°23'03	max. Earth dist.	15915 Dec 22 02:35	14° $\mathbb{B}$ 17'08	5.94601 AU
morning rise	15910 Jul 10 09:21	21° $\mathbb{B}$ 54'43		morning rise	15916 Jan 02 16:37	17° $\mathbb{B}$ 04'26	
	15910 Aug 18 13:51	0° $\mathbb{O}$			15916 Mar 01 20:58	0° $\approx$	
retrograde	15910 Nov 09 21:56	9° $\mathbb{O}$ 08'31		retrograde	15916 May 11 16:24	7° $\approx$ 18'52	
opposition	15911 Jan 09 20:30	4° $\mathbb{O}$ 14'31	-0°40'24	min. Earth dist.	15916 Jul 08 15:07	2° $\approx$ 28'41	4.01102 AU
min. Earth dist.	15911 Jan 11 09:57	4° $\mathbb{O}$ 02'29	4.36050 AU	opposition	15916 Jul 10 04:37	2° $\approx$ 16'00	0°40'04
	15911 Feb 18 10:03	30° $\mathbb{R}$ $\mathbb{B}$			15916 Jul 27 15:46	30° $\mathbb{R}$ $\mathbb{B}$	
direct	15911 Mar 12 18:54	29° $\mathbb{B}$ 14'06		direct	15916 Sep 06 17:39	27° $\mathbb{B}$ 19'08	
	15911 Apr 04 05:36	0° $\mathbb{O}$			15916 Oct 17 18:17	0° $\approx$	
	15911 Jul 06 04:22	15° $\mathbb{O}$			15917 Jan 04 11:19	15° $\approx$	
evening set	15911 Jul 15 21:49	17° $\mathbb{O}$ 09'23		evening set	15917 Jan 11 19:53	16° $\approx$ 41'51	
max. Earth dist.	15911 Jul 26 10:19	19° $\mathbb{O}$ 31'22	6.27971 AU				
				conjunction	15917 Jan 25 08:05	19° $\approx$ 50'32	0°30'33
conjunction	15911 Jul 28 19:03	20° $\mathbb{O}$ 03'23	-0°30'53	minimum elong	15917 Jan 25 08:05	19° $\approx$ 50'32	0°31'07
minimum elong	15911 Jul 28 19:02	20° $\mathbb{O}$ 03'23	0°31'27	max. Earth dist.	15917 Jan 27 19:08	20° $\approx$ 24'56	6.09227 AU
morning rise	15911 Aug 10 15:47	22° $\mathbb{O}$ 57'26		morning rise	15917 Feb 07 21:04	22° $\approx$ 59'12	
	15911 Sep 12 03:53	0° $\mathbb{M}$			15917 Mar 11 08:52	0° $\mathbb{H}$	
retrograde	15911 Dec 13 17:13	11° $\mathbb{M}$ 10'40		retrograde	15917 Jun 15 02:44	12° $\mathbb{H}$ 03'19	
opposition	15912 Feb 12 01:59	6° $\mathbb{M}$ 16'10	-0°47'18	min. Earth dist.	15917 Aug 12 14:43	7° $\mathbb{H}$ 12'56	4.18075 AU
min. Earth dist.	15912 Feb 13 16:57	6° $\mathbb{M}$ 03'29	4.19049 AU	opposition	15917 Aug 14 03:46	7° $\mathbb{H}$ 00'32	0°47'07
direct	15912 Apr 13 01:07	1° $\mathbb{M}$ 16'43		direct	15917 Oct 12 19:02	2° $\mathbb{H}$ 01'59	
evening set	15912 Aug 17 01:48	20° $\mathbb{M}$ 07'39		evening set	15918 Feb 15 20:03	20° $\mathbb{H}$ 26'02	
max. Earth dist.	15912 Aug 28 00:25	22° $\mathbb{M}$ 41'19	6.10157 AU				
				conjunction	15918 Mar 01 05:56	23° $\mathbb{H}$ 25'52	0°30'17
conjunction	15912 Aug 30 01:29	23° $\mathbb{M}$ 10'08	-0°30'17	minimum elong	15918 Mar 01 05:57	23° $\mathbb{H}$ 25'52	0°30'27
minimum elong	15912 Aug 30 01:30	23° $\mathbb{M}$ 10'08	0°30'28	max. Earth dist.	15918 Mar 03 08:35	23° $\mathbb{H}$ 54'12	6.27026 AU
morning rise	15912 Sep 12 01:20	26° $\mathbb{M}$ 13'06		morning rise	15918 Mar 14 15:26	26° $\mathbb{H}$ 25'13	
	15912 Sep 28 10:48	0° $\mathbb{B}$			15918 Mar 31 00:47	0° $\mathbb{Y}$	
retrograde	15913 Jan 18 04:25	15° $\mathbb{B}$ 40'49		retrograde	15918 Jul 16 22:13	14° $\mathbb{Y}$ 17'47	
opposition	15913 Mar 18 22:06	10° $\mathbb{B}$ 44'59	-0°38'39	min. Earth dist.	15918 Sep 14 10:54	9° $\mathbb{Y}$ 25'48	4.35143 AU
min. Earth dist.	15913 Mar 20 00:06	10° $\mathbb{B}$ 36'24	4.01862 AU	opposition	15918 Sep 15 13:32	9° $\mathbb{Y}$ 17'01	0°38'37
direct	15913 May 17 12:49	5° $\mathbb{B}$ 47'28		direct	15918 Nov 15 08:13	4° $\mathbb{Y}$ 17'26	
evening set	15913 Sep 21 15:29	25° $\mathbb{B}$ 34'21		evening set	15919 Mar 20 12:41	21° $\mathbb{Y}$ 52'00	
conjunction	15913 Oct 04 19:34	28° $\mathbb{B}$ 45'43	-0°18'50	conjunction	15919 Apr 02 18:48	24° $\mathbb{Y}$ 44'13	0°20'49
minimum elong	15913 Oct 04 19:34	28° $\mathbb{B}$ 45'43	0°18'31	minimum elong	15919 Apr 02 18:48	24° $\mathbb{Y}$ 44'13	0°20'34
max. Earth dist.	15913 Oct 03 20:07	28° $\mathbb{B}$ 31'29	5.95209 AU	max. Earth dist.	15919 Apr 03 20:15	24° $\mathbb{Y}$ 58'01	6.42086 AU
	15913 Oct 09 21:56	0° $\mathbb{M}$		morning rise	15919 Apr 16 00:02	27° $\mathbb{Y}$ 35'46	
morning rise	15913 Oct 18 00:58	1° $\mathbb{M}$ 58'01			15919 Aug 27 06:49	0° $\mathbb{B}$	
	15913 Dec 16 01:17	15° $\mathbb{M}$		retrograde	15919 Aug 16 03:31	14° $\mathbb{B}$ 36'48	
retrograde	15914 Feb 25 16:51	22° $\mathbb{M}$ 29'27		opposition	15919 Oct 16 03:59	9° $\mathbb{B}$ 38'44	0°19'53
opposition	15914 Apr 25 23:38	17° $\mathbb{M}$ 31'19	-0°14'17	min. Earth dist.	15919 Oct 15 20:08	9° $\mathbb{B}$ 41'17	4.47208 AU

direct	15919 Dec 16 23:28	4°♄38'34		minimum elong	15925 Oct 09 22:00	3°♄57'12	0°16'11
	15920 Mar 17 11:01	15°♄		max. Earth dist.	15925 Oct 09 04:42	3°♄46'41	5.94362 AU
evening set	15920 Apr 19 11:47	21°♄43'59		morning rise	15925 Oct 23 03:54	7°♄10'09	
					15925 Nov 25 17:56	15°♄	
conjunction	15920 May 02 14:16	24°♄31'34	0°06'03	retrograde	15926 Mar 03 00:46	27°♄44'42	
minimum elong	15920 May 02 14:16	24°♄31'34	0°05'26	opposition	15926 May 01 06:05	22°♄46'13	-0°10'11
behind sun begin	15920 May 02 06:30	24°♄27'27		min. Earth dist.	15926 May 01 05:52	22°♄46'17	3.90610 AU
behind sun end	15920 May 02 22:02	24°♄35'42		direct	15926 Jun 28 17:26	17°♄50'32	
max. Earth dist.	15920 May 02 11:32	24°♄30'09	6.50351 AU	asc. node	15926 Sep 11 19:17	26°♄14'00	
morning rise	15920 May 15 15:19	27°♄18'26			15926 Sep 29 17:47	0°♄	
	15920 May 28 11:21	0°♄		evening set	15926 Nov 03 10:43	8°♄08'18	
retrograde	15920 Sep 13 16:43	13°♄56'06					
desc. node	15920 Sep 21 15:16	13°♄50'13		conjunction	15926 Nov 16 20:22	11°♄25'03	0°03'21
opposition	15920 Nov 13 23:00	9°♄00'21	-0°03'19	minimum elong	15926 Nov 16 20:23	11°♄25'04	0°04'05
min. Earth dist.	15920 Nov 14 09:53	8°♄56'51	4.51283 AU	behind sun begin	15926 Nov 16 12:10	11°♄20'03	
direct	15921 Jan 15 07:01	3°♄59'52		behind sun end	15926 Nov 17 04:36	11°♄30'04	
evening set	15921 May 19 15:42	21°♄00'34		max. Earth dist.	15926 Nov 17 15:35	11°♄36'49	5.89677 AU
max. Earth dist.	15921 May 31 10:01	23°♄31'28	6.49954 AU	morning rise	15926 Nov 30 07:49	14°♄42'43	
					15927 Feb 09 10:25	0°♄	
conjunction	15921 Jun 01 15:01	23°♄47'01	-0°10'14	retrograde	15927 Apr 10 15:14	5°♄29'54	
minimum elong	15921 Jun 01 15:01	23°♄47'00	0°11'01	opposition	15927 Jun 08 20:23	0°♄28'40	0°20'34
behind sun begin	15921 Jun 01 09:00	23°♄43'48		min. Earth dist.	15927 Jun 07 19:38	0°♄37'03	3.91694 AU
behind sun end	15921 Jun 01 21:01	23°♄50'13			15927 Jun 12 09:20	30°♄	
morning rise	15921 Jun 14 12:43	26°♄32'50		direct	15927 Aug 05 23:15	25°♄32'57	
	15921 Jun 30 23:19	0°♄			15927 Sep 28 01:46	0°♄	
retrograde	15921 Oct 13 20:12	13°♄17'14		evening set	15927 Dec 11 15:43	15°♄36'14	
opposition	15921 Dec 14 00:39	8°♄22'57	-0°25'45				
min. Earth dist.	15921 Dec 15 04:58	8°♄13'53	4.46491 AU	conjunction	15927 Dec 25 04:06	18°♄51'03	0°21'43
direct	15922 Feb 14 10:09	3°♄22'22		minimum elong	15927 Dec 25 04:05	18°♄51'02	0°22'31
evening set	15922 Jun 18 23:49	20°♄42'48		max. Earth dist.	15927 Dec 27 04:53	19°♄20'23	5.96355 AU
max. Earth dist.	15922 Jun 29 19:23	23°♄04'32	6.41039 AU	morning rise	15928 Jan 07 17:54	22°♄06'19	
					15928 Feb 11 04:46	0°♄	
conjunction	15922 Jul 01 21:04	23°♄31'45	-0°23'57	retrograde	15928 May 16 10:36	12°♄12'13	
minimum elong	15922 Jul 01 21:04	23°♄31'45	0°24'43	min. Earth dist.	15928 Jul 13 11:00	7°♄21'45	4.03166 AU
morning rise	15922 Jul 14 17:20	26°♄20'24		opposition	15928 Jul 14 23:52	7°♄09'17	0°42'02
	15922 Jul 31 18:19	0°♄		direct	15928 Sep 11 16:54	2°♄12'10	
retrograde	15922 Nov 14 13:38	13°♄41'07			15928 Dec 18 20:20	15°♄	
opposition	15923 Jan 14 09:54	8°♄47'07	-0°42'11	evening set	15929 Jan 16 14:51	21°♄27'31	
min. Earth dist.	15923 Jan 15 23:58	8°♄34'51	4.33966 AU				
direct	15923 Mar 17 06:07	3°♄46'48		conjunction	15929 Jan 30 03:00	24°♄35'09	0°31'10
	15923 Jun 18 22:48	15°♄		minimum elong	15929 Jan 30 03:00	24°♄35'09	0°31'42
evening set	15923 Jul 20 11:01	21°♄48'43		max. Earth dist.	15929 Feb 01 14:24	25°♄09'35	6.11415 AU
max. Earth dist.	15923 Jul 31 01:11	24°♄12'18	6.25760 AU	morning rise	15929 Feb 12 15:32	27°♄42'40	
					15929 Feb 22 16:43	0°♄	
conjunction	15923 Aug 02 08:33	24°♄43'42	-0°31'27	retrograde	15929 Jun 19 12:19	16°♄37'37	
minimum elong	15923 Aug 02 08:33	24°♄43'41	0°31'58	min. Earth dist.	15929 Aug 17 02:28	11°♄47'16	4.20196 AU
morning rise	15923 Aug 15 05:24	27°♄38'43		opposition	15929 Aug 18 14:50	11°♄35'08	0°46'50
	15923 Aug 25 17:43	0°♄		direct	15929 Oct 17 08:26	6°♄36'29	
retrograde	15923 Dec 18 15:27	16°♄00'51		evening set	15930 Feb 20 08:24	24°♄54'24	
opposition	15924 Feb 16 23:08	11°♄06'12	-0°47'08				
min. Earth dist.	15924 Feb 18 12:07	10°♄54'10	4.16905 AU	conjunction	15930 Mar 05 17:45	27°♄53'17	0°29'30
direct	15924 Apr 17 17:24	6°♄07'04		minimum elong	15930 Mar 05 17:46	27°♄53'17	0°29'36
evening set	15924 Aug 21 21:48	25°♄04'34		max. Earth dist.	15930 Mar 07 15:51	28°♄18'58	6.28912 AU
max. Earth dist.	15924 Sep 01 23:18	27°♄40'38	6.08269 AU		15930 Mar 15 05:32	0°♄	
				morning rise	15930 Mar 19 02:56	0°♄51'41	
conjunction	15924 Sep 03 21:43	28°♄08'02	-0°29'22	retrograde	15930 Jul 21 03:42	18°♄37'36	
minimum elong	15924 Sep 03 21:44	28°♄08'02	0°29'28	opposition	15930 Sep 19 19:05	13°♄37'13	0°36'37
	15924 Sep 11 19:34	0°♄		min. Earth dist.	15930 Sep 18 19:31	13°♄44'59	4.36675 AU
morning rise	15924 Sep 16 22:13	1°♄12'05		direct	15930 Nov 19 17:19	8°♄37'32	
retrograde	15925 Jan 23 09:07	20°♄47'49		evening set	15931 Mar 24 19:42	26°♄08'33	
opposition	15925 Mar 24 02:03	15°♄51'38	-0°36'09				
min. Earth dist.	15925 Mar 25 01:04	15°♄44'02	4.00413 AU	conjunction	15931 Apr 07 01:32	29°♄00'13	0°19'04
direct	15925 May 22 13:56	10°♄54'22		minimum elong	15931 Apr 07 01:33	29°♄00'13	0°18'46
	15925 Sep 23 14:15	0°♄		max. Earth dist.	15931 Apr 08 00:40	29°♄12'44	6.43176 AU
evening set	15925 Sep 26 17:11	0°♄45'06			15931 Apr 11 16:00	0°♄	
				morning rise	15931 Apr 20 06:10	1°♄51'09	
conjunction	15925 Oct 09 22:00	3°♄57'11	-0°16'33		15931 Jun 29 18:18	15°♄	

retrograde	15931 Aug 20 04:52	18° $\text{8}$ 48'57		min. Earth dist.	15937 Mar 30 02:20	20° $\text{5}$ 51'06	3.98673 AU
	15931 Oct 11 08:41	15° $\text{8}$		direct	15937 May 27 13:23	16° $\text{5}$ 01'02	
opposition	15931 Oct 20 06:46	13° $\text{8}$ 51'15	0°16'53		15937 Sep 06 13:32	0° $\text{8}$	
min. Earth dist.	15931 Oct 20 00:23	13° $\text{8}$ 53'19	4.47818 AU	evening set	15937 Oct 01 19:06	5° $\text{8}$ 57'05	
direct	15931 Dec 21 02:42	8° $\text{8}$ 51'07		max. Earth dist.	15937 Oct 14 10:16	9° $\text{8}$ 01'25	5.93142 AU
	15932 Feb 27 02:21	15° $\text{8}$					
evening set	15932 Apr 23 16:28	25° $\text{8}$ 55'52		conjunction	15937 Oct 15 00:29	9° $\text{8}$ 10'04	-0°14'04
				minimum elong	15937 Oct 15 00:29	9° $\text{8}$ 10'04	0°13'38
conjunction	15932 May 06 18:26	28° $\text{8}$ 43'14	0°03'50	behind sun begin	15937 Oct 14 19:57	9° $\text{8}$ 07'19	
minimum elong	15932 May 06 18:27	28° $\text{8}$ 43'14	0°03'12	behind sun end	15937 Oct 15 05:02	9° $\text{8}$ 12'50	
behind sun begin	15932 May 06 10:27	28° $\text{8}$ 38'59		morning rise	15937 Oct 28 07:22	12° $\text{8}$ 24'01	
behind sun end	15932 May 07 02:27	28° $\text{8}$ 47'30			15937 Nov 08 02:55	15° $\text{8}$	
max. Earth dist.	15932 May 06 12:06	28° $\text{8}$ 39'53	6.50451 AU		15938 Jan 23 06:31	0° $\text{8}$	
	15932 May 12 18:06	0° $\text{8}$		retrograde	15938 Mar 08 07:44	3° $\text{8}$ 03'24	
morning rise	15932 May 19 19:03	1° $\text{8}$ 29'55			15938 Apr 21 20:07	30° $\text{8}$	
desc. node	15932 Aug 04 23:35	15° $\text{8}$ 19'34		opposition	15938 May 06 13:19	28° $\text{8}$ 04'31	-0°05'53
retrograde	15932 Sep 17 21:13	18° $\text{8}$ 07'46		min. Earth dist.	15938 May 06 08:53	28° $\text{8}$ 06'01	3.90066 AU
opposition	15932 Nov 18 02:19	13° $\text{8}$ 12'20	-0°06'34	direct	15938 Jul 03 21:45	23° $\text{8}$ 08'54	
min. Earth dist.	15932 Nov 18 16:11	13° $\text{8}$ 07'53	4.50877 AU	asc. node	15938 Jul 21 02:51	23° $\text{8}$ 39'12	
direct	15933 Jan 19 11:43	8° $\text{8}$ 11'51			15938 Sep 08 22:04	0° $\text{8}$	
evening set	15933 May 23 20:17	25° $\text{8}$ 14'32		evening set	15938 Nov 08 16:39	13° $\text{8}$ 27'24	
max. Earth dist.	15933 Jun 04 10:38	27° $\text{8}$ 43'40	6.49055 AU				
				conjunction	15938 Nov 22 02:55	16° $\text{8}$ 44'20	0°06'11
conjunction	15933 Jun 05 19:13	28° $\text{8}$ 01'11	-0°12'21	minimum elong	15938 Nov 22 02:54	16° $\text{8}$ 44'19	0°06'55
minimum elong	15933 Jun 05 19:13	28° $\text{8}$ 01'11	0°13'08	behind sun begin	15938 Nov 21 19:10	16° $\text{8}$ 39'36	
behind sun begin	15933 Jun 05 14:29	27° $\text{8}$ 58'38		behind sun end	15938 Nov 22 10:37	16° $\text{8}$ 49'02	
behind sun end	15933 Jun 05 23:58	28° $\text{8}$ 03'43		max. Earth dist.	15938 Nov 23 02:44	16° $\text{8}$ 58'55	5.89875 AU
	15933 Jun 15 00:27	0° $\text{8}$		morning rise	15938 Dec 05 14:49	20° $\text{8}$ 02'05	
morning rise	15933 Jun 18 16:46	0° $\text{8}$ 47'15			15939 Jan 17 21:44	0° $\text{8}$	
retrograde	15933 Oct 18 03:37	17° $\text{8}$ 35'15		retrograde	15939 Apr 15 20:19	10° $\text{8}$ 46'56	
opposition	15933 Dec 18 07:15	12° $\text{8}$ 41'00	-0°28'30	min. Earth dist.	15939 Jun 12 23:26	5° $\text{8}$ 54'15	3.92598 AU
min. Earth dist.	15933 Dec 19 12:28	12° $\text{8}$ 31'38	4.45148 AU	opposition	15939 Jun 14 01:39	5° $\text{8}$ 45'22	0°24'21
direct	15934 Feb 18 14:57	7° $\text{8}$ 40'24		direct	15939 Aug 11 06:20	0° $\text{8}$ 49'29	
evening set	15934 Jun 23 06:41	25° $\text{8}$ 05'14		evening set	15939 Dec 16 20:16	20° $\text{8}$ 48'18	
max. Earth dist.	15934 Jul 04 02:27	27° $\text{8}$ 27'34	6.39320 AU				
				conjunction	15939 Dec 30 08:57	24° $\text{8}$ 02'29	0°23'40
conjunction	15934 Jul 06 03:57	27° $\text{8}$ 54'48	-0°25'26	minimum elong	15939 Dec 30 08:56	24° $\text{8}$ 02'28	0°24'25
minimum elong	15934 Jul 06 03:57	27° $\text{8}$ 54'48	0°26'11	max. Earth dist.	15940 Jan 01 13:36	24° $\text{8}$ 34'01	5.97873 AU
	15934 Jul 15 15:34	0° $\text{8}$		morning rise	15940 Jan 12 22:44	27° $\text{8}$ 17'00	
morning rise	15934 Jul 18 23:59	0° $\text{8}$ 44'03			15940 Jan 24 11:59	0° $\text{8}$	
	15934 Oct 03 12:15	15° $\text{8}$			15940 Apr 13 16:35	15° $\text{8}$	
retrograde	15934 Nov 19 03:12	18° $\text{8}$ 11'28		retrograde	15940 May 21 08:04	17° $\text{8}$ 14'50	
	15935 Jan 05 08:29	15° $\text{8}$			15940 Jun 27 21:43	15° $\text{8}$	
opposition	15935 Jan 18 22:14	13° $\text{8}$ 17'26	-0°43'39	min. Earth dist.	15940 Jul 18 08:23	12° $\text{8}$ 24'40	4.05130 AU
min. Earth dist.	15935 Jan 20 12:47	13° $\text{8}$ 05'01	4.31948 AU	opposition	15940 Jul 19 22:20	12° $\text{8}$ 11'51	0°43'43
direct	15935 Mar 21 15:22	8° $\text{8}$ 17'15		direct	15940 Sep 16 17:21	7° $\text{8}$ 14'32	
	15935 May 30 09:52	15° $\text{8}$			15940 Nov 29 04:43	15° $\text{8}$	
evening set	15935 Jul 24 23:06	26° $\text{8}$ 25'34		evening set	15941 Jan 21 13:37	26° $\text{8}$ 22'43	
max. Earth dist.	15935 Aug 04 12:35	28° $\text{8}$ 49'32	6.23561 AU				
				conjunction	15941 Feb 04 01:23	29° $\text{8}$ 29'13	0°31'34
conjunction	15935 Aug 06 20:37	29° $\text{8}$ 21'29	-0°31'46	minimum elong	15941 Feb 04 01:23	29° $\text{8}$ 29'13	0°32'02
minimum elong	15935 Aug 06 20:37	29° $\text{8}$ 21'29	0°32'14	max. Earth dist.	15941 Feb 06 11:01	0° $\text{8}$ 02'27	6.13633 AU
	15935 Aug 09 16:09	0° $\text{8}$			15941 Feb 06 06:46	0° $\text{8}$	
morning rise	15935 Aug 19 17:55	2° $\text{8}$ 17'34		morning rise	15941 Feb 17 13:46	2° $\text{8}$ 35'37	
retrograde	15935 Dec 23 13:30	20° $\text{8}$ 48'48		retrograde	15941 Jun 24 00:45	21° $\text{8}$ 21'03	
opposition	15936 Feb 21 18:58	15° $\text{8}$ 53'57	-0°46'34	min. Earth dist.	15941 Aug 21 18:14	16° $\text{8}$ 30'27	4.22474 AU
min. Earth dist.	15936 Feb 23 06:44	15° $\text{8}$ 42'16	4.14656 AU	opposition	15941 Aug 23 05:23	16° $\text{8}$ 18'42	0°46'11
direct	15936 Apr 22 09:36	10° $\text{8}$ 54'58		direct	15941 Oct 22 02:49	11° $\text{8}$ 19'52	
evening set	15936 Aug 26 16:36	29° $\text{8}$ 59'45		evening set	15942 Feb 24 23:44	29° $\text{8}$ 30'46	
	15936 Aug 26 17:02	0° $\text{8}$			15942 Feb 27 04:41	0° $\text{8}$	
max. Earth dist.	15936 Sep 06 22:41	2° $\text{8}$ 39'12	6.06175 AU				
				conjunction	15942 Mar 10 08:48	2° $\text{8}$ 28'35	0°28'28
conjunction	15936 Sep 08 17:14	3° $\text{8}$ 04'25	-0°28'11	minimum elong	15942 Mar 10 08:49	2° $\text{8}$ 28'35	0°28'30
minimum elong	15936 Sep 08 17:15	3° $\text{8}$ 04'25	0°28'13	max. Earth dist.	15942 Mar 12 05:53	2° $\text{8}$ 53'35	6.31107 AU
morning rise	15936 Sep 21 18:13	6° $\text{8}$ 09'40		morning rise	15942 Mar 23 17:14	5° $\text{8}$ 25'49	
retrograde	15937 Jan 28 14:43	25° $\text{8}$ 54'25		retrograde	15942 Jul 25 09:22	23° $\text{8}$ 03'38	
opposition	15937 Mar 29 05:27	20° $\text{8}$ 58'01	-0°33'17	min. Earth dist.	15942 Sep 23 04:42	18° $\text{8}$ 10'54	4.38642 AU

opposition	15942 Sep 24 02:55	18° $\Upsilon$ 03'36	0°34'16	direct	15948 Apr 26 23:40	15° $\mathfrak{M}$ 37'31	
direct	15942 Nov 24 04:22	13° $\Upsilon$ 03'54			15948 Aug 10 11:28	0° $\mathfrak{A}$	
	15943 Mar 26 21:27	0° $\mathfrak{B}$		evening set	15948 Aug 31 10:14	4° $\mathfrak{A}$ 50'46	
evening set	15943 Mar 29 04:47	0° $\mathfrak{B}$ 29'36		max. Earth dist.	15948 Sep 11 17:37	7° $\mathfrak{A}$ 31'55	6.03745 AU
conjunction	15943 Apr 11 09:54	3° $\mathfrak{B}$ 20'23	0°17'08	conjunction	15948 Sep 13 11:21	7° $\mathfrak{A}$ 56'47	-0°26'49
minimum elong	15943 Apr 11 09:54	3° $\mathfrak{B}$ 20'23	0°16'46	minimum elong	15948 Sep 13 11:22	7° $\mathfrak{A}$ 56'47	0°26'46
max. Earth dist.	15943 Apr 12 04:19	3° $\mathfrak{B}$ 30'19	6.44788 AU	morning rise	15948 Sep 26 13:16	11° $\mathfrak{A}$ 03'31	
morning rise	15943 Apr 24 14:03	6° $\mathfrak{B}$ 10'29			15949 Jan 09 03:17	0° $\mathfrak{M}$	
	15943 Jun 07 11:25	15° $\mathfrak{B}$		retrograde	15949 Feb 02 18:44	0° $\mathfrak{M}$ 58'56	
retrograde	15943 Aug 24 08:19	23° $\mathfrak{B}$ 03'08			15949 Feb 27 10:53	30° $\mathfrak{R}$ $\mathfrak{A}$	
opposition	15943 Oct 24 10:35	18° $\mathfrak{B}$ 05'43	0°13'44	opposition	15949 Apr 03 08:09	26° $\mathfrak{A}$ 02'16	-0°30'12
min. Earth dist.	15943 Oct 24 07:23	18° $\mathfrak{B}$ 06'45	4.48988 AU	min. Earth dist.	15949 Apr 04 01:35	25° $\mathfrak{A}$ 56'28	3.96547 AU
	15943 Nov 19 08:35	15° $\mathfrak{R}$ $\mathfrak{B}$		direct	15949 Jun 01 11:26	21° $\mathfrak{A}$ 05'30	
direct	15943 Dec 25 10:05	13° $\mathfrak{B}$ 05'28			15949 Aug 18 16:36	0° $\mathfrak{M}$	
	15944 Jan 30 18:12	15° $\mathfrak{B}$		evening set	15949 Oct 06 21:23	11° $\mathfrak{M}$ 08'47	
evening set	15944 Apr 27 20:54	0° $\mathfrak{I}$ 07'29			15949 Oct 20 03:40	14° $\mathfrak{M}$ 22'58	-0°11'30
	15944 Apr 27 06:47	0° $\mathfrak{I}$		conjunction	15949 Oct 20 03:40	14° $\mathfrak{M}$ 22'58	0°11'00
conjunction	15944 May 10 22:28	2° $\mathfrak{I}$ 54'25	0°01'33	minimum elong	15949 Oct 19 21:26	14° $\mathfrak{M}$ 19'10	
minimum elong	15944 May 10 22:30	2° $\mathfrak{I}$ 54'25	0°00'53	behind sun begin	15949 Oct 20 09:54	14° $\mathfrak{M}$ 26'45	
behind sun begin	15944 May 10 14:27	2° $\mathfrak{I}$ 50'09		behind sun end	15949 Oct 19 18:56	14° $\mathfrak{M}$ 17'38	5.91551 AU
behind sun end	15944 May 11 06:32	2° $\mathfrak{I}$ 58'42		max. Earth dist.	15949 Oct 22 16:12	15° $\mathfrak{M}$	
max. Earth dist.	15944 May 10 13:31	2° $\mathfrak{I}$ 49'39	6.51098 AU	morning rise	15949 Nov 02 11:20	17° $\mathfrak{M}$ 38'04	
morning rise	15944 May 23 22:29	5° $\mathfrak{I}$ 40'38			15949 Dec 27 12:10	0° $\mathfrak{J}$	
desc. node	15944 Jun 17 02:12	10° $\mathfrak{I}$ 40'10		retrograde	15950 Mar 13 17:53	8° $\mathfrak{J}$ 23'54	
retrograde	15944 Sep 21 22:17	22° $\mathfrak{I}$ 16'59		opposition	15950 May 11 21:26	3° $\mathfrak{J}$ 24'40	-0°01'33
opposition	15944 Nov 22 04:53	17° $\mathfrak{I}$ 21'41	-0°09'45	min. Earth dist.	15950 May 11 14:31	3° $\mathfrak{J}$ 27'00	3.89196 AU
min. Earth dist.	15944 Nov 22 20:05	17° $\mathfrak{I}$ 16'49	4.50966 AU	asc. node	15950 Jun 31 12:38	0° $\mathfrak{J}$ 53'52	
direct	15945 Jan 23 14:21	12° $\mathfrak{I}$ 21'09			15950 Jun 08 23:58	30° $\mathfrak{R}$ $\mathfrak{M}$	
evening set	15945 May 27 23:15	29° $\mathfrak{I}$ 24'10		direct	15950 Jul 09 04:05	28° $\mathfrak{M}$ 29'09	
	15945 May 30 18:20	0° $\mathfrak{E}$			15950 Aug 08 04:47	0° $\mathfrak{J}$	
max. Earth dist.	15945 Jun 08 10:43	1° $\mathfrak{E}$ 51'56	6.48563 AU	evening set	15950 Nov 14 00:16	18° $\mathfrak{J}$ 49'47	
conjunction	15945 Jun 09 21:47	2° $\mathfrak{E}$ 10'48	-0°14'22	conjunction	15950 Nov 27 11:14	22° $\mathfrak{J}$ 07'05	0°08'57
minimum elong	15945 Jun 09 21:46	2° $\mathfrak{E}$ 10'48	0°15'10	minimum elong	15950 Nov 27 11:14	22° $\mathfrak{J}$ 07'05	0°09'42
behind sun begin	15945 Jun 09 19:05	2° $\mathfrak{E}$ 09'22		behind sun begin	15950 Nov 27 04:23	22° $\mathfrak{J}$ 02'54	
behind sun end	15945 Jun 10 00:27	2° $\mathfrak{E}$ 12'15		behind sun end	15950 Nov 27 18:05	22° $\mathfrak{J}$ 11'15	
morning rise	15945 Jun 22 18:53	4° $\mathfrak{E}$ 56'54		max. Earth dist.	15950 Nov 28 17:03	22° $\mathfrak{J}$ 25'19	5.89821 AU
retrograde	15945 Oct 22 09:21	21° $\mathfrak{E}$ 47'21		morning rise	15950 Dec 10 23:44	25° $\mathfrak{J}$ 25'09	
opposition	15945 Dec 22 11:56	16° $\mathfrak{E}$ 53'12	-0°31'00		15950 Dec 30 04:19	0° $\mathfrak{Z}$	
min. Earth dist.	15945 Dec 23 19:50	16° $\mathfrak{E}$ 42'58	4.44079 AU	retrograde	15951 Apr 21 03:47	16° $\mathfrak{Z}$ 08'22	
direct	15946 Feb 22 19:39	11° $\mathfrak{E}$ 52'34		min. Earth dist.	15951 Jun 18 03:15	11° $\mathfrak{Z}$ 16'30	3.93383 AU
evening set	15946 Jun 27 11:24	29° $\mathfrak{E}$ 21'03		opposition	15951 Jun 19 08:39	11° $\mathfrak{Z}$ 06'33	0°27'56
	15946 Jun 30 10:28	0° $\mathfrak{O}$		direct	15951 Aug 16 13:05	6° $\mathfrak{Z}$ 10'35	
max. Earth dist.	15946 Jul 08 03:29	1° $\mathfrak{O}$ 41'54	6.37723 AU	evening set	15951 Dec 22 03:08	26° $\mathfrak{Z}$ 05'22	
conjunction	15946 Jul 10 08:27	2° $\mathfrak{O}$ 11'09	-0°26'44	conjunction	15952 Jan 04 15:46	29° $\mathfrak{Z}$ 18'51	0°25'25
minimum elong	15946 Jul 10 08:27	2° $\mathfrak{O}$ 11'09	0°27'26	minimum elong	15952 Jan 04 15:46	29° $\mathfrak{Z}$ 18'51	0°26'08
morning rise	15946 Jul 23 04:35	5° $\mathfrak{O}$ 01'02		max. Earth dist.	15952 Jan 06 22:08	29° $\mathfrak{Z}$ 51'17	5.99387 AU
	15946 Sep 09 23:37	15° $\mathfrak{O}$			15952 Jan 07 12:46	0° $\mathfrak{A}$	
retrograde	15946 Nov 23 14:27	22° $\mathfrak{O}$ 35'03		morning rise	15952 Jan 18 05:46	2° $\mathfrak{A}$ 32'41	
opposition	15947 Jan 23 08:12	17° $\mathfrak{O}$ 40'53	-0°44'48		15952 Mar 15 19:57	15° $\mathfrak{A}$	
min. Earth dist.	15947 Jan 24 23:03	17° $\mathfrak{O}$ 28'20	4.29898 AU	retrograde	15952 May 26 05:56	22° $\mathfrak{A}$ 22'18	
	15947 Feb 14 06:42	15° $\mathfrak{R}$ $\mathfrak{O}$		min. Earth dist.	15952 Jul 23 07:38	17° $\mathfrak{A}$ 32'22	4.07188 AU
direct	15947 Mar 25 22:00	12° $\mathfrak{O}$ 40'43		opposition	15952 Jul 24 22:37	17° $\mathfrak{A}$ 19'13	0°45'02
	15947 May 04 08:27	15° $\mathfrak{O}$			15952 Aug 11 21:46	15° $\mathfrak{R}$ $\mathfrak{A}$	
	15947 Jul 25 06:02	0° $\mathfrak{M}$		direct	15952 Sep 21 20:19	12° $\mathfrak{A}$ 21'38	
evening set	15947 Jul 29 08:42	0° $\mathfrak{M}$ 55'50			15952 Nov 01 19:51	15° $\mathfrak{A}$	
max. Earth dist.	15947 Aug 08 23:46	3° $\mathfrak{M}$ 21'24	6.21208 AU	evening set	15953 Jan 20 13:31	0° $\mathfrak{H}$	
					15953 Jan 26 14:09	1° $\mathfrak{H}$ 22'12	
conjunction	15947 Aug 11 06:38	3° $\mathfrak{M}$ 52'50	-0°31'52	conjunction	15953 Feb 09 01:46	4° $\mathfrak{H}$ 27'32	0°31'43
minimum elong	15947 Aug 11 06:38	3° $\mathfrak{M}$ 52'50	0°32'18	minimum elong	15953 Feb 09 01:47	4° $\mathfrak{H}$ 27'32	0°32'08
morning rise	15947 Aug 24 04:08	6° $\mathfrak{M}$ 50'01		max. Earth dist.	15953 Feb 11 12:11	5° $\mathfrak{H}$ 01'02	6.16048 AU
retrograde	15947 Dec 28 10:11	25° $\mathfrak{M}$ 31'15		morning rise	15953 Feb 22 13:33	7° $\mathfrak{H}$ 32'37	
opposition	15948 Feb 26 13:10	20° $\mathfrak{M}$ 36'16	-0°45'43	retrograde	15953 Jun 28 14:44	26° $\mathfrak{H}$ 07'39	
min. Earth dist.	15948 Feb 28 00:49	20° $\mathfrak{M}$ 24'37	4.12160 AU				



min. Earth dist.	15953 Aug 26 11:00	21° $\text{H}$ 16'51	4.24986 AU	max. Earth dist.	15959 Aug 13 13:45	8° $\text{H}$ 05'12	6.18547 AU
opposition	15953 Aug 27 21:00	21° $\text{H}$ 05'32	0°45'11				
direct	15953 Oct 26 23:00	16° $\text{H}$ 06'32		conjunction	15959 Aug 15 21:26	8° $\text{H}$ 37'18	-0°31'47
	15954 Feb 10 09:27	0° $\text{Y}$		minimum elong	15959 Aug 15 21:26	8° $\text{H}$ 37'18	0°32'09
evening set	15954 Mar 01 16:06	4° $\text{Y}$ 09'39		morning rise	15959 Aug 28 19:33	11° $\text{H}$ 35'50	
					15959 Dec 16 09:09	0° $\text{A}$	
conjunction	15954 Mar 15 00:30	7° $\text{Y}$ 06'14	0°27'13	retrograde	15960 Jan 02 11:00	0° $\text{A}$ 28'04	
minimum elong	15954 Mar 15 00:31	7° $\text{Y}$ 06'14	0°27'13		15960 Jan 19 13:42	30° $\text{R}$ $\text{H}$	
max. Earth dist.	15954 Mar 16 18:06	7° $\text{Y}$ 29'11	6.33487 AU	opposition	15960 Mar 02 12:45	25° $\text{H}$ 32'51	-0°44'30
morning rise	15954 Mar 28 08:28	10° $\text{Y}$ 02'16		min. Earth dist.	15960 Mar 03 22:03	25° $\text{H}$ 21'56	4.09508 AU
retrograde	15954 Jul 29 15:30	27° $\text{Y}$ 31'34		direct	15960 May 01 18:12	20° $\text{H}$ 34'18	
opposition	15954 Sep 28 11:21	22° $\text{Y}$ 31'49	0°31'41		15960 Jul 22 20:38	0° $\text{A}$	
min. Earth dist.	15954 Sep 27 15:28	22° $\text{Y}$ 38'20	4.40701 AU	evening set	15960 Sep 05 09:36	9° $\text{A}$ 56'27	
direct	15954 Nov 28 16:38	17° $\text{Y}$ 31'58		max. Earth dist.	15960 Sep 16 22:24	12° $\text{A}$ 41'40	6.01359 AU
	15955 Mar 10 06:01	0° $\text{B}$					
evening set	15955 Apr 02 13:54	4° $\text{B}$ 52'14		conjunction	15960 Sep 18 11:30	13° $\text{A}$ 03'53	-0°25'11
				minimum elong	15960 Sep 18 11:30	13° $\text{A}$ 03'54	0°25'05
conjunction	15955 Apr 15 18:36	7° $\text{B}$ 42'12	0°15'04	morning rise	15960 Oct 01 14:06	16° $\text{A}$ 12'04	
minimum elong	15955 Apr 15 18:36	7° $\text{B}$ 42'12	0°14'38		15960 Dec 04 20:54	0° $\text{M}$	
behind sun begin	15955 Apr 15 15:20	7° $\text{B}$ 40'27		retrograde	15961 Feb 08 06:41	6° $\text{M}$ 17'40	
behind sun end	15955 Apr 15 21:53	7° $\text{B}$ 43'57		opposition	15961 Apr 08 16:36	1° $\text{M}$ 20'42	-0°26'42
max. Earth dist.	15955 Apr 16 10:33	7° $\text{B}$ 50'46	6.46375 AU	min. Earth dist.	15961 Apr 09 07:44	1° $\text{M}$ 15'40	3.94672 AU
morning rise	15955 Apr 28 21:56	10° $\text{B}$ 31'25			15961 Apr 18 21:57	30° $\text{R}$ $\text{A}$	
	15955 May 20 08:23	15° $\text{B}$		direct	15961 Jun 06 16:42	26° $\text{A}$ 24'10	
retrograde	15955 Aug 28 10:45	27° $\text{B}$ 19'18			15961 Jul 24 04:49	0° $\text{M}$	
opposition	15955 Oct 28 14:55	22° $\text{B}$ 22'14	0°10'26		15961 Oct 05 18:52	15° $\text{M}$	
min. Earth dist.	15955 Oct 28 13:54	22° $\text{B}$ 22'34	4.50002 AU	evening set	15961 Oct 12 04:47	16° $\text{M}$ 33'15	
direct	15955 Dec 29 16:52	17° $\text{B}$ 21'59					
	15956 Apr 11 00:39	0° $\text{H}$		conjunction	15961 Oct 25 11:54	19° $\text{M}$ 48'23	-0°08'42
desc. node	15956 Apr 25 05:41	2° $\text{H}$ 55'20		minimum elong	15961 Oct 25 11:55	19° $\text{M}$ 48'23	0°08'09
evening set	15956 May 02 02:16	4° $\text{H}$ 21'58		behind sun begin	15961 Oct 25 04:33	19° $\text{M}$ 43'53	
				behind sun end	15961 Oct 25 19:16	19° $\text{M}$ 52'52	
conjunction	15956 May 15 03:13	7° $\text{H}$ 08'33	-0°00'51	max. Earth dist.	15961 Oct 25 08:49	19° $\text{M}$ 46'31	5.90398 AU
minimum elong	15956 May 15 03:11	7° $\text{H}$ 08'32	0°01'31	morning rise	15961 Nov 07 20:28	23° $\text{M}$ 04'27	
behind sun begin	15956 May 14 19:08	7° $\text{H}$ 04'16			15961 Dec 07 03:25	0° $\text{X}$	
behind sun end	15956 May 15 11:13	7° $\text{H}$ 12'48		retrograde	15962 Mar 19 06:11	13° $\text{X}$ 54'10	
max. Earth dist.	15956 May 14 12:54	7° $\text{H}$ 00'55	6.51459 AU	asc. node	15962 Apr 10 12:55	13° $\text{X}$ 04'39	
morning rise	15956 May 28 02:47	9° $\text{H}$ 54'26		opposition	15962 May 17 09:23	8° $\text{X}$ 54'34	0°02'58
retrograde	15956 Sep 26 03:13	26° $\text{H}$ 30'24		min. Earth dist.	15962 May 16 21:58	8° $\text{X}$ 58'25	3.88946 AU
opposition	15956 Nov 26 08:55	21° $\text{H}$ 35'19	-0°13'00	direct	15962 Jul 14 13:02	3° $\text{X}$ 59'09	
min. Earth dist.	15956 Nov 27 03:44	21° $\text{H}$ 29'17	4.50656 AU	evening set	15962 Nov 19 11:10	24° $\text{X}$ 19'03	
direct	15957 Jan 27 20:08	16° $\text{H}$ 34'42					
	15957 May 14 18:27	0° $\text{E}$		conjunction	15962 Dec 02 22:26	27° $\text{X}$ 36'12	0°11'44
evening set	15957 Jun 01 03:59	3° $\text{E}$ 39'27		minimum elong	15962 Dec 02 22:26	27° $\text{X}$ 36'11	0°12'31
max. Earth dist.	15957 Jun 12 11:46	6° $\text{E}$ 05'33	6.47594 AU	behind sun begin	15962 Dec 02 17:04	27° $\text{X}$ 32'56	
				behind sun end	15962 Dec 03 03:48	27° $\text{X}$ 39'27	
conjunction	15957 Jun 14 02:17	6° $\text{E}$ 26'20	-0°16'24	max. Earth dist.	15962 Dec 04 08:07	27° $\text{X}$ 56'45	5.90498 AU
minimum elong	15957 Jun 14 02:17	6° $\text{E}$ 26'20	0°17'12		15962 Dec 12 18:18	0° $\text{Z}$	
morning rise	15957 Jun 26 23:06	9° $\text{E}$ 12'42		morning rise	15962 Dec 16 11:29	0° $\text{Z}$ 54'06	
retrograde	15957 Oct 26 16:42	26° $\text{E}$ 07'16		retrograde	15963 Apr 26 09:27	21° $\text{Z}$ 32'14	
opposition	15957 Dec 26 19:21	21° $\text{E}$ 13'06	-0°33'30	min. Earth dist.	15963 Jun 23 08:22	16° $\text{Z}$ 40'57	3.94910 AU
min. Earth dist.	15957 Dec 28 04:12	21° $\text{E}$ 02'34	4.42507 AU	opposition	15963 Jun 24 16:31	16° $\text{Z}$ 30'03	0°31'21
direct	15958 Feb 27 00:25	16° $\text{E}$ 12'28		direct	15963 Aug 21 22:50	11° $\text{Z}$ 33'51	
	15958 Jun 14 08:15	0° $\text{O}$			15963 Dec 21 15:19	0° $\text{A}$	
evening set	15958 Jul 01 19:15	3° $\text{O}$ 46'15		evening set	15963 Dec 27 10:08	1° $\text{A}$ 21'40	
max. Earth dist.	15958 Jul 12 10:50	6° $\text{O}$ 07'27	6.35649 AU				
				conjunction	15964 Jan 09 22:53	4° $\text{A}$ 34'06	0°27'00
conjunction	15958 Jul 14 16:18	6° $\text{O}$ 37'08	-0°27'57	minimum elong	15964 Jan 09 22:53	4° $\text{A}$ 34'05	0°27'41
minimum elong	15958 Jul 14 16:18	6° $\text{O}$ 37'08	0°28'37	max. Earth dist.	15964 Jan 12 08:26	5° $\text{A}$ 08'15	6.01613 AU
morning rise	15958 Jul 27 12:23	9° $\text{O}$ 27'49		morning rise	15964 Jan 23 12:33	7° $\text{A}$ 46'43	
	15958 Aug 22 06:14	15° $\text{O}$			15964 Feb 24 08:28	15° $\text{A}$	
retrograde	15958 Nov 28 07:34	27° $\text{O}$ 10'09		retrograde	15964 May 31 03:21	27° $\text{A}$ 25'23	
opposition	15959 Jan 27 22:45	22° $\text{O}$ 15'55	-0°45'47	min. Earth dist.	15964 Jul 28 06:42	22° $\text{A}$ 35'19	4.09842 AU
min. Earth dist.	15959 Jan 29 15:01	22° $\text{O}$ 02'54	4.27437 AU	opposition	15964 Jul 29 21:26	22° $\text{A}$ 22'16	0°46'02
direct	15959 Mar 30 10:15	17° $\text{O}$ 15'51		direct	15964 Sep 26 23:41	17° $\text{A}$ 24'28	
	15959 Jul 08 12:22	0° $\text{H}$			15965 Jan 03 03:56	0° $\text{H}$	
evening set	15959 Aug 02 23:15	5° $\text{H}$ 39'03		evening set	15965 Jan 31 12:36	6° $\text{H}$ 15'31	

conjunction	15965 Feb 13 23:44	9° $\text{H}$ 19'24	0°31'40	direct	15970 Mar 03 08:04	20° $\text{S}$ 33'40	
minimum elong	15965 Feb 13 23:44	9° $\text{H}$ 19'24	0°32'00		15970 May 27 19:32	0° $\text{Q}$	
max. Earth dist.	15965 Feb 16 08:58	9° $\text{H}$ 52'00	6.18869 AU	evening set	15970 Jul 06 04:22	8° $\text{Q}$ 14'19	
morning rise	15965 Feb 27 11:05	12° $\text{H}$ 23'01		max. Earth dist.	15970 Jul 16 18:02	10° $\text{Q}$ 35'15	6.33200 AU
	15965 Jun 10 22:06	0° $\text{Y}$					
retrograde	15965 Jul 03 00:07	0° $\text{Y}$ 46'43		conjunction	15970 Jul 19 01:32	11° $\text{Q}$ 06'12	-0°29'02
	15965 Jul 25 00:55	30° $\text{R}$ $\text{H}$		minimum elong	15970 Jul 19 01:32	11° $\text{Q}$ 06'11	0°29'41
min. Earth dist.	15965 Aug 31 00:56	25° $\text{H}$ 55'49	4.27722 AU	morning rise	15970 Jul 31 21:49	13° $\text{Q}$ 57'57	
opposition	15965 Sep 01 09:59	25° $\text{H}$ 44'50	0°43'56		15970 Aug 05 13:59	15° $\text{Q}$	
direct	15965 Oct 31 15:45	20° $\text{H}$ 45'40			15970 Oct 29 08:21	0° $\text{M}$	
	15966 Jan 23 08:23	0° $\text{Y}$		retrograde	15970 Dec 03 00:52	1° $\text{M}$ 50'01	
evening set	15966 Mar 06 05:27	8° $\text{Y}$ 40'37			15971 Jan 06 20:53	30° $\text{R}$ $\text{Q}$	
				opposition	15971 Feb 01 15:13	26° $\text{Q}$ 55'43	-0°46'32
conjunction	15966 Mar 19 13:21	11° $\text{Y}$ 35'58	0°25'52	min. Earth dist.	15971 Feb 03 06:23	26° $\text{Q}$ 43'02	4.24719 AU
minimum elong	15966 Mar 19 13:21	11° $\text{Y}$ 35'59	0°25'47	direct	15971 Apr 03 21:42	21° $\text{Q}$ 55'52	
max. Earth dist.	15966 Mar 21 03:39	11° $\text{Y}$ 57'01	6.35931 AU		15971 Jun 19 13:00	0° $\text{M}$	
morning rise	15966 Apr 01 20:30	14° $\text{Y}$ 30'43		evening set	15971 Aug 07 16:03	10° $\text{M}$ 28'12	
	15966 Jun 28 18:12	0° $\text{S}$		max. Earth dist.	15971 Aug 18 09:30	12° $\text{M}$ 56'58	6.15785 AU
retrograde	15966 Aug 02 20:07	1° $\text{S}$ 51'47					
	15966 Sep 06 19:03	30° $\text{R}$ $\text{Y}$		conjunction	15971 Aug 20 14:40	13° $\text{M}$ 27'49	-0°31'31
opposition	15966 Oct 02 17:14	26° $\text{Y}$ 52'29	0°29'01	minimum elong	15971 Aug 20 14:41	13° $\text{M}$ 27'49	0°31'48
min. Earth dist.	15966 Oct 02 00:25	26° $\text{Y}$ 57'59	4.42676 AU	morning rise	15971 Sep 02 13:16	16° $\text{M}$ 27'46	
direct	15966 Dec 03 03:10	21° $\text{Y}$ 52'35			15971 Nov 07 03:45	0° $\text{S}$	
	15967 Feb 20 04:11	0° $\text{S}$		retrograde	15972 Jan 07 17:12	5° $\text{S}$ 31'34	
evening set	15967 Apr 06 20:45	9° $\text{S}$ 07'59		opposition	15972 Mar 07 15:18	0° $\text{S}$ 36'14	-0°42'57
				min. Earth dist.	15972 Mar 08 23:21	0° $\text{S}$ 25'42	4.06937 AU
conjunction	15967 Apr 20 00:46	11° $\text{S}$ 57'11	0°12'58		15972 Mar 12 05:46	30° $\text{R}$ $\text{M}$	
minimum elong	15967 Apr 20 00:46	11° $\text{S}$ 57'12	0°12'30	direct	15972 May 06 17:20	25° $\text{M}$ 38'01	
behind sun begin	15967 Apr 19 19:35	11° $\text{S}$ 54'26			15972 Jun 29 05:00	0° $\text{S}$	
behind sun end	15967 Apr 20 05:57	11° $\text{S}$ 59'57		evening set	15972 Sep 10 11:14	15° $\text{S}$ 08'33	
max. Earth dist.	15967 Apr 20 11:03	12° $\text{S}$ 02'42	6.47736 AU	max. Earth dist.	15972 Sep 22 04:43	17° $\text{S}$ 57'23	5.99231 AU
morning rise	15967 May 03 03:39	14° $\text{S}$ 45'42					
	15967 May 04 06:33	15° $\text{S}$		conjunction	15972 Sep 23 13:50	18° $\text{S}$ 17'19	-0°23'20
	15967 Jul 31 23:00	0° $\text{I}$		minimum elong	15972 Sep 23 13:51	18° $\text{S}$ 17'19	0°23'10
retrograde	15967 Sep 01 12:39	1° $\text{I}$ 29'52		morning rise	15972 Oct 06 17:18	21° $\text{S}$ 26'51	
	15967 Oct 03 00:02	30° $\text{R}$ $\text{S}$			15972 Nov 12 23:44	0° $\text{M}$	
opposition	15967 Nov 01 17:27	26° $\text{S}$ 33'08	0°07'09	retrograde	15973 Feb 13 17:24	11° $\text{M}$ 41'18	
min. Earth dist.	15967 Nov 01 19:42	26° $\text{S}$ 32'24	4.50688 AU	opposition	15973 Apr 14 02:32	6° $\text{M}$ 44'01	-0°22'57
direct	15968 Jan 02 21:27	21° $\text{S}$ 32'48		min. Earth dist.	15973 Apr 14 13:08	6° $\text{M}$ 40'28	3.93246 AU
desc. node	15968 Mar 02 13:17	26° $\text{S}$ 22'37		direct	15973 Jun 11 21:38	1° $\text{M}$ 47'46	
	15968 Mar 24 10:57	0° $\text{I}$			15973 Sep 17 21:09	15° $\text{M}$	
evening set	15968 May 06 05:49	8° $\text{I}$ 31'58		evening set	15973 Oct 17 13:23	22° $\text{M}$ 00'41	
conjunction	15968 May 19 06:30	11° $\text{I}$ 18'25	-0°03'09	conjunction	15973 Oct 30 21:02	25° $\text{M}$ 16'24	-0°05'50
minimum elong	15968 May 19 06:29	11° $\text{I}$ 18'25	0°03'52	minimum elong	15973 Oct 30 21:03	25° $\text{M}$ 16'24	0°05'15
behind sun begin	15968 May 18 22:33	11° $\text{I}$ 14'12		behind sun begin	15973 Oct 30 13:01	25° $\text{M}$ 11'30	
behind sun end	15968 May 19 14:25	11° $\text{I}$ 22'38		behind sun end	15973 Oct 31 05:05	25° $\text{M}$ 21'18	
max. Earth dist.	15968 May 18 13:13	11° $\text{I}$ 09'13	6.51425 AU	max. Earth dist.	15973 Oct 30 23:01	25° $\text{M}$ 17'35	5.89811 AU
morning rise	15968 Jun 01 05:28	14° $\text{I}$ 04'10		morning rise	15973 Nov 13 06:26	28° $\text{M}$ 33'06	
	15968 Sep 09 00:31	0° $\text{S}$			15973 Nov 19 05:40	0° $\text{S}$	
retrograde	15968 Sep 30 05:53	0° $\text{S}$ 41'14		asc. node	15974 Feb 19 13:52	17° $\text{S}$ 37'15	
	15968 Oct 21 10:40	30° $\text{R}$ $\text{I}$		retrograde	15974 Mar 24 16:44	19° $\text{S}$ 24'02	
opposition	15968 Nov 30 12:19	25° $\text{I}$ 46'24	-0°16'10	opposition	15974 May 22 20:26	14° $\text{S}$ 23'59	0°07'26
min. Earth dist.	15968 Dec 01 09:09	25° $\text{I}$ 39'44	4.49913 AU	min. Earth dist.	15974 May 22 05:23	14° $\text{S}$ 29'04	3.89264 AU
direct	15969 Jan 31 22:47	20° $\text{I}$ 45'50		direct	15974 Jul 20 00:23	9° $\text{S}$ 28'30	
	15969 Apr 27 13:02	0° $\text{S}$		evening set	15974 Nov 24 20:30	29° $\text{S}$ 45'24	
evening set	15969 Jun 05 08:32	7° $\text{S}$ 53'47			15974 Nov 25 20:36	0° $\text{S}$	
max. Earth dist.	15969 Jun 16 12:23	10° $\text{S}$ 18'18	6.46182 AU				
				conjunction	15974 Dec 08 08:16	3° $\text{S}$ 02'10	0°14'23
conjunction	15969 Jun 18 06:27	10° $\text{S}$ 41'04	-0°18'21	minimum elong	15974 Dec 08 08:15	3° $\text{S}$ 02'09	0°15'11
minimum elong	15969 Jun 18 06:27	10° $\text{S}$ 41'04	0°19'08	behind sun begin	15974 Dec 08 05:33	3° $\text{S}$ 00'31	
morning rise	15969 Jul 01 03:09	13° $\text{S}$ 27'55		behind sun end	15974 Dec 08 10:57	3° $\text{S}$ 03'48	
	15969 Oct 13 14:51	0° $\text{Q}$		max. Earth dist.	15974 Dec 09 23:40	3° $\text{S}$ 26'09	5.91675 AU
retrograde	15969 Oct 31 03:40	0° $\text{Q}$ 28'17		morning rise	15974 Dec 21 21:25	6° $\text{S}$ 19'33	
	15969 Nov 17 13:41	30° $\text{R}$ $\text{S}$		retrograde	15975 May 01 14:07	26° $\text{S}$ 50'41	
opposition	15969 Dec 31 03:45	25° $\text{S}$ 34'15	-0°35'51	opposition	15975 Jun 29 21:49	21° $\text{S}$ 48'14	0°34'25
min. Earth dist.	15970 Jan 01 15:17	25° $\text{S}$ 22'51	4.40503 AU	min. Earth dist.	15975 Jun 28 12:29	21° $\text{S}$ 59'31	3.96785 AU

direct	15975 Aug 27 06:24	16° $\text{♁}$ 51'50			15980 Aug 05 23:18	0° $\text{♁}$	
	15975 Dec 04 00:54	0° $\text{♁}$		retrograde	15980 Oct 04 12:40	4° $\text{♁}$ 57'08	
evening set	15976 Jan 01 14:12	6° $\text{♁}$ 31'43		opposition	15980 Dec 04 17:56	0° $\text{♁}$ 02'28	-0°19'18
					15980 Dec 05 01:37	30° $\text{♁}$ II	
conjunction	15976 Jan 15 02:46	9° $\text{♁}$ 42'58	0°28'20	min. Earth dist.	15980 Dec 05 17:26	29° $\text{♁}$ 54'56	4.48897 AU
minimum elong	15976 Jan 15 02:45	9° $\text{♁}$ 42'58	0°29'00	direct	15981 Feb 05 04:32	25° $\text{♁}$ 01'50	
max. Earth dist.	15976 Jan 17 13:33	10° $\text{♁}$ 17'38	6.03963 AU		15981 Apr 06 14:19	0° $\text{♁}$	
morning rise	15976 Jan 28 16:18	12° $\text{♁}$ 54'23		evening set	15981 Jun 09 15:09	12° $\text{♁}$ 13'37	
	15976 Feb 06 16:46	15° $\text{♁}$		max. Earth dist.	15981 Jun 20 17:35	14° $\text{♁}$ 37'50	6.44630 AU
	15976 Apr 26 23:47	0° $\text{♁}$					
retrograde	15976 Jun 04 19:41	2° $\text{♁}$ 22'07		conjunction	15981 Jun 22 13:03	15° $\text{♁}$ 01'27	-0°20'14
	15976 Jul 13 16:02	30° $\text{♁}$		minimum elong	15981 Jun 22 13:03	15° $\text{♁}$ 01'26	0°21'00
min. Earth dist.	15976 Aug 02 01:52	27° $\text{♁}$ 32'16	4.12427 AU	morning rise	15981 Jul 05 09:28	17° $\text{♁}$ 48'48	
opposition	15976 Aug 03 17:10	27° $\text{♁}$ 19'03	0°46'41		15981 Sep 06 14:22	0° $\text{♁}$	
direct	15976 Oct 01 22:33	22° $\text{♁}$ 21'01		retrograde	15981 Nov 04 14:42	4° $\text{♁}$ 55'16	
	15976 Dec 14 13:40	0° $\text{♁}$		opposition	15982 Jan 04 14:43	0° $\text{♁}$ 01'18	-0°38'04
evening set	15977 Feb 05 08:28	11° $\text{♁}$ 03'19			15982 Jan 04 18:45	30° $\text{♁}$	
				min. Earth dist.	15982 Jan 06 02:24	29° $\text{♁}$ 49'50	4.38534 AU
conjunction	15977 Feb 18 19:09	14° $\text{♁}$ 05'53	0°31'24	direct	15982 Mar 07 15:49	25° $\text{♁}$ 00'52	
minimum elong	15977 Feb 18 19:10	14° $\text{♁}$ 05'53	0°31'41		15982 May 06 10:09	0° $\text{♁}$	
max. Earth dist.	15977 Feb 21 01:40	14° $\text{♁}$ 36'46	6.21464 AU	evening set	15982 Jul 10 15:46	12° $\text{♁}$ 47'57	
morning rise	15977 Mar 04 05:56	17° $\text{♁}$ 08'07			15982 Jul 20 12:16	15° $\text{♁}$	
	15977 May 07 11:15	0° $\text{♁}$		max. Earth dist.	15982 Jul 21 05:28	15° $\text{♁}$ 09'38	6.30974 AU
retrograde	15977 Jul 07 10:32	5° $\text{♁}$ 21'46					
opposition	15977 Sep 05 21:09	0° $\text{♁}$ 20'12	0°42'26	conjunction	15982 Jul 23 12:53	15° $\text{♁}$ 40'43	-0°29'58
min. Earth dist.	15977 Sep 04 14:56	0° $\text{♁}$ 30'13	4.30105 AU	minimum elong	15982 Jul 23 12:53	15° $\text{♁}$ 40'43	0°30'35
	15977 Sep 08 10:11	30° $\text{♁}$		morning rise	15982 Aug 05 09:22	18° $\text{♁}$ 33'26	
direct	15977 Nov 05 08:19	25° $\text{♁}$ 20'52			15982 Sep 30 10:05	0° $\text{♁}$	
	15978 Jan 01 09:21	0° $\text{♁}$		retrograde	15982 Dec 07 22:41	6° $\text{♁}$ 34'27	
evening set	15978 Mar 10 17:29	13° $\text{♁}$ 09'04		opposition	15983 Feb 06 10:11	1° $\text{♁}$ 40'06	-0°47'02
				min. Earth dist.	15983 Feb 08 01:17	1° $\text{♁}$ 27'25	4.22405 AU
conjunction	15978 Mar 24 00:53	16° $\text{♁}$ 03'26	0°24'22		15983 Feb 19 12:34	30° $\text{♁}$	
minimum elong	15978 Mar 24 00:53	16° $\text{♁}$ 03'26	0°24'13	direct	15983 Apr 08 14:17	26° $\text{♁}$ 40'30	
max. Earth dist.	15978 Mar 25 11:50	16° $\text{♁}$ 22'32	6.37924 AU		15983 May 25 17:41	0° $\text{♁}$	
morning rise	15978 Apr 06 07:29	18° $\text{♁}$ 57'09		evening set	15983 Aug 12 10:07	15° $\text{♁}$ 20'07	
	15978 Jun 01 04:39	0° $\text{♁}$		max. Earth dist.	15983 Aug 23 06:14	17° $\text{♁}$ 51'09	6.13605 AU
retrograde	15978 Aug 06 23:25	6° $\text{♁}$ 11'38					
opposition	15978 Oct 06 22:43	1° $\text{♁}$ 12'40	0°26'12	conjunction	15983 Aug 25 09:10	18° $\text{♁}$ 20'51	-0°31'04
min. Earth dist.	15978 Oct 06 07:53	1° $\text{♁}$ 17'30	4.44167 AU	minimum elong	15983 Aug 25 09:11	18° $\text{♁}$ 20'51	0°31'17
	15978 Oct 16 08:07	30° $\text{♁}$		morning rise	15983 Sep 07 08:14	21° $\text{♁}$ 21'57	
direct	15978 Dec 07 10:39	26° $\text{♁}$ 12'39			15983 Oct 16 07:50	0° $\text{♁}$	
	15979 Jan 28 09:22	0° $\text{♁}$		retrograde	15984 Jan 12 20:43	10° $\text{♁}$ 34'49	
evening set	15979 Apr 11 03:29	13° $\text{♁}$ 24'39		opposition	15984 Mar 12 17:51	5° $\text{♁}$ 39'17	-0°41'08
	15979 Apr 18 14:12	15° $\text{♁}$		min. Earth dist.	15984 Mar 13 22:26	5° $\text{♁}$ 29'53	4.05113 AU
				direct	15984 May 11 14:46	0° $\text{♁}$ 41'25	
conjunction	15979 Apr 24 07:05	16° $\text{♁}$ 13'19	0°10'47	evening set	15984 Sep 15 12:11	20° $\text{♁}$ 17'22	
minimum elong	15979 Apr 24 07:05	16° $\text{♁}$ 13'19	0°10'17	max. Earth dist.	15984 Sep 27 10:28	23° $\text{♁}$ 09'36	5.97943 AU
behind sun begin	15979 Apr 24 00:43	16° $\text{♁}$ 09'56					
behind sun end	15979 Apr 24 13:26	16° $\text{♁}$ 16'43		conjunction	15984 Sep 28 15:15	23° $\text{♁}$ 26'59	-0°21'24
max. Earth dist.	15979 Apr 24 13:46	16° $\text{♁}$ 16'53	6.48634 AU	minimum elong	15984 Sep 28 15:16	23° $\text{♁}$ 26'59	0°21'10
morning rise	15979 May 07 09:18	19° $\text{♁}$ 01'16		morning rise	15984 Oct 11 19:28	26° $\text{♁}$ 37'27	
	15979 Jul 03 06:37	0° $\text{♁}$			15984 Oct 26 00:49	0° $\text{♁}$	
retrograde	15979 Sep 05 16:06	5° $\text{♁}$ 43'08			15985 Jan 15 01:14	15° $\text{♁}$	
opposition	15979 Nov 05 21:12	0° $\text{♁}$ 46'45	0°03'49	retrograde	15985 Feb 19 00:49	16° $\text{♁}$ 57'15	
min. Earth dist.	15979 Nov 06 02:31	0° $\text{♁}$ 45'02	4.50949 AU		15985 Mar 26 02:49	15° $\text{♁}$	
	15979 Nov 11 23:01	30° $\text{♁}$		opposition	15985 Apr 19 09:42	11° $\text{♁}$ 59'34	-0°19'10
direct	15980 Jan 07 03:13	25° $\text{♁}$ 46'22		min. Earth dist.	15985 Apr 19 16:55	11° $\text{♁}$ 57'10	3.92638 AU
desc. node	15980 Jan 08 12:44	25° $\text{♁}$ 46'33		direct	15985 Jun 17 02:59	7° $\text{♁}$ 03'31	
	15980 Mar 02 14:47	0° $\text{♁}$			15985 Aug 29 01:57	15° $\text{♁}$	
evening set	15980 May 10 10:57	12° $\text{♁}$ 45'48		evening set	15985 Oct 22 17:51	27° $\text{♁}$ 17'00	
					15985 Nov 02 20:29	0° $\text{♁}$	
conjunction	15980 May 23 11:03	15° $\text{♁}$ 32'13	-0°05'27				
minimum elong	15980 May 23 11:03	15° $\text{♁}$ 32'12	0°06'11	conjunction	15985 Nov 05 02:14	0° $\text{♁}$ 32'58	-0°03'04
behind sun begin	15980 May 23 03:27	15° $\text{♁}$ 28'10		minimum elong	15985 Nov 05 02:13	0° $\text{♁}$ 32'57	0°02'26
behind sun end	15980 May 23 18:39	15° $\text{♁}$ 36'15		behind sun begin	15985 Nov 04 17:55	0° $\text{♁}$ 27'53	
max. Earth dist.	15980 May 22 12:40	15° $\text{♁}$ 20'15	6.51027 AU	behind sun end	15985 Nov 05 10:31	0° $\text{♁}$ 38'01	
morning rise	15980 Jun 05 09:50	18° $\text{♁}$ 17'59		max. Earth dist.	15985 Nov 05 10:46	0° $\text{♁}$ 38'10	5.89960 AU

morning rise	15985 Nov 18 12:00	3°♌49'47			15991 Jun 13 19:10	0°♊	
asc. node	15986 Jan 03 01:31	14°♌17'52		retrograde	15991 Sep 09 18:01	9°♊53'53	
retrograde	15986 Mar 29 22:49	24°♌39'01		opposition	15991 Nov 09 23:33	4°♊57'45	0°00'36
min. Earth dist.	15986 May 27 08:43	19°♌44'28	3.90165 AU	min. Earth dist.	15991 Nov 10 06:38	4°♊55'28	4.50826 AU
opposition	15986 May 28 01:59	19°♌38'38	0°11'34	desc. node	15991 Nov 19 19:27	3°♊42'43	
direct	15986 Jul 25 06:09	14°♌43'09			15992 Jan 05 20:22	30°♋	
	15986 Nov 09 05:43	0°♋		direct	15992 Jan 11 05:25	29°♋57'21	
evening set	15986 Nov 29 23:48	4°♋55'11			15992 Jan 16 14:58	0°♊	
				evening set	15992 May 14 14:53	16°♊58'06	
conjunction	15986 Dec 13 11:39	8°♋11'16	0°16'46				
minimum elong	15986 Dec 13 11:38	8°♋11'15	0°17'32	conjunction	15992 May 27 14:46	19°♊44'37	-0°07'37
max. Earth dist.	15986 Dec 15 05:29	8°♋36'38	5.93202 AU	minimum elong	15992 May 27 14:46	19°♊44'37	0°08'23
morning rise	15986 Dec 27 01:05	11°♋27'59		behind sun begin	15992 May 27 07:44	19°♊40'52	
	15987 Apr 02 12:10	0°♌		behind sun end	15992 May 27 21:48	19°♊48'22	
retrograde	15987 May 06 09:26	1°♌51'10		max. Earth dist.	15992 May 26 14:50	19°♊31'48	6.50391 AU
	15987 Jun 09 06:02	30°♋		morning rise	15992 Jun 09 13:03	22°♊30'29	
min. Earth dist.	15987 Jul 03 08:48	27°♋00'30	3.98775 AU		15992 Jul 16 10:52	0°♋	
opposition	15987 Jul 04 19:59	26°♋48'36	0°37'01	retrograde	15992 Oct 08 17:55	9°♋12'17	
direct	15987 Sep 01 05:53	21°♋52'01		opposition	15992 Dec 08 23:00	4°♋17'47	-0°22'16
	15987 Nov 15 01:53	0°♌		min. Earth dist.	15992 Dec 10 00:12	4°♋09'43	4.47786 AU
evening set	15988 Jan 06 11:42	11°♌24'19			15993 Jan 18 13:22	30°♋	
				direct	15993 Feb 09 09:04	29°♋17'11	
conjunction	15988 Jan 20 00:05	14°♌34'28	0°29'24		15993 Mar 03 06:45	0°♋	
minimum elong	15988 Jan 20 00:05	14°♌34'28	0°30'01	evening set	15993 Jun 13 21:05	16°♋32'44	
	15988 Jan 21 19:36	15°♌		max. Earth dist.	15993 Jun 24 20:10	18°♋55'41	6.43094 AU
max. Earth dist.	15988 Jan 22 09:39	15°♌08'15	6.06218 AU				
morning rise	15988 Feb 02 13:22	17°♌44'42		conjunction	15993 Jun 26 18:36	19°♋21'01	-0°21'57
	15988 Mar 31 07:07	0°♎		minimum elong	15993 Jun 26 18:35	19°♋21'00	0°22'43
retrograde	15988 Jun 09 08:33	7°♎02'43		morning rise	15993 Jul 09 15:02	22°♋08'56	
min. Earth dist.	15988 Aug 06 17:25	2°♎12'23	4.14713 AU		15993 Aug 16 14:29	0°♏	
opposition	15988 Aug 08 06:47	1°♎59'51	0°47'02	retrograde	15993 Nov 09 02:53	9°♏21'16	
	15988 Aug 23 15:14	30°♋		opposition	15994 Jan 09 01:01	4°♏27'13	-0°39'59
direct	15988 Oct 06 16:50	27°♌01'37		min. Earth dist.	15994 Jan 10 13:44	4°♏15'25	4.36643 AU
	15988 Nov 19 16:33	0°♎			15994 Feb 21 00:14	30°♋	
evening set	15989 Feb 09 22:29	15°♎36'50		direct	15994 Mar 12 00:34	29°♋26'46	
					15994 Mar 31 01:14	0°♏	
conjunction	15989 Feb 23 08:57	18°♎38'23	0°31'00		15994 Jul 04 13:09	15°♏	
minimum elong	15989 Feb 23 08:58	18°♎38'23	0°31'14	evening set	15994 Jul 15 01:57	17°♏19'48	
max. Earth dist.	15989 Feb 25 14:02	19°♎08'18	6.23601 AU	max. Earth dist.	15994 Jul 25 16:17	19°♏42'28	6.28844 AU
morning rise	15989 Mar 08 19:14	21°♎39'32					
	15989 Apr 17 02:04	0°♐		conjunction	15994 Jul 27 23:18	20°♏13'27	-0°30'41
retrograde	15989 Jul 11 15:08	9°♐45'17		minimum elong	15994 Jul 27 23:18	20°♏13'27	0°31'15
min. Earth dist.	15989 Sep 08 22:40	4°♐53'44	4.31944 AU	morning rise	15994 Aug 09 19:50	23°♏07'04	
opposition	15989 Sep 10 03:46	4°♐44'08	0°40'52		15994 Sep 10 14:50	0°♑	
	15989 Oct 28 01:38	30°♋		retrograde	15994 Dec 12 17:00	11°♑16'30	
direct	15989 Nov 09 16:51	29°♎44'45		opposition	15995 Feb 11 03:28	6°♑21'59	-0°47'08
	15989 Nov 22 10:46	0°♐		min. Earth dist.	15995 Feb 12 17:23	6°♑09'41	4.20166 AU
evening set	15990 Mar 15 01:38	17°♐28'20		direct	15995 Apr 13 02:58	1°♑22'33	
				evening set	15995 Aug 17 02:51	20°♑09'18	
conjunction	15990 Mar 28 08:30	20°♐21'57	0°22'51	max. Earth dist.	15995 Aug 28 00:44	22°♑42'09	6.11415 AU
minimum elong	15990 Mar 28 08:31	20°♐21'57	0°22'39				
max. Earth dist.	15990 Mar 29 14:43	20°♐38'26	6.39348 AU	conjunction	15995 Aug 30 02:10	23°♑11'07	-0°30'20
morning rise	15990 Apr 10 14:38	23°♐14'56		minimum elong	15995 Aug 30 02:10	23°♑11'07	0°30'31
	15990 May 13 01:37	0°♑		morning rise	15995 Sep 12 01:52	26°♑13'26	
retrograde	15990 Aug 11 03:14	10°♑24'57			15995 Sep 28 11:51	0°♒	
opposition	15990 Oct 11 01:41	5°♑26'26	0°23'26	retrograde	15996 Jan 17 23:50	15°♒35'40	
min. Earth dist.	15990 Oct 10 14:19	5°♑30'08	4.45108 AU	opposition	15996 Mar 17 19:07	10°♒39'48	-0°38'57
direct	15990 Dec 11 16:53	0°♑26'23		min. Earth dist.	15996 Mar 18 21:41	10°♒31'02	4.03144 AU
	15991 Apr 02 22:07	15°♑		direct	15996 May 16 12:44	5°♒42'07	
evening set	15991 Apr 15 08:13	17°♑36'48		evening set	15996 Sep 20 11:52	25°♒24'13	
conjunction	15991 Apr 28 11:24	20°♑25'10	0°08'41	conjunction	15996 Oct 03 15:46	28°♒34'53	-0°19'15
minimum elong	15991 Apr 28 11:24	20°♑25'10	0°08'08	minimum elong	15996 Oct 03 15:47	28°♒34'54	0°18'56
behind sun begin	15991 Apr 28 04:15	20°♑21'22		max. Earth dist.	15996 Oct 02 16:09	28°♒20'36	5.96396 AU
behind sun end	15991 Apr 28 18:33	20°♑28'58			15996 Oct 09 12:21	0°♓	
max. Earth dist.	15991 Apr 28 14:15	20°♑26'40	6.49037 AU	morning rise	15996 Oct 16 20:37	1°♓46'24	
morning rise	15991 May 11 13:13	23°♑12'49			15996 Dec 16 02:53	15°♓	

retrograde	15997 Feb 24 09:16	22° $\mathbb{M}$ 12'36		direct	16002 Dec 15 23:05	4° $\mathcal{B}$ 43'26	
opposition	15997 Apr 24 16:11	17° $\mathbb{M}$ 14'36	-0°15'08		16003 Mar 17 00:23	15° $\mathcal{B}$	
min. Earth dist.	15997 Apr 24 20:38	17° $\mathbb{M}$ 13'07	3.91702 AU	evening set	16003 Apr 19 13:54	21° $\mathcal{B}$ 50'27	
	15997 May 12 02:08	15° $\mathcal{R}\mathbb{M}$					
direct	15997 Jun 22 06:52	12° $\mathbb{M}$ 18'42		conjunction	16003 May 02 16:28	24° $\mathcal{B}$ 38'13	0°06'29
	15997 Aug 01 21:37	15° $\mathbb{M}$		minimum elong	16003 May 02 16:28	24° $\mathcal{B}$ 38'14	0°05'53
	15997 Oct 17 07:33	0° $\mathcal{Z}$		behind sun begin	16003 May 02 08:48	24° $\mathcal{B}$ 34'08	
evening set	15997 Oct 27 22:58	2° $\mathcal{Z}$ 34'20		behind sun end	16003 May 03 00:09	24° $\mathcal{B}$ 42'19	
				max. Earth dist.	16003 May 02 15:38	24° $\mathcal{B}$ 37'47	6.49992 AU
conjunction	15997 Nov 10 07:49	5° $\mathcal{Z}$ 50'40	-0°00'08	morning rise	16003 May 15 17:44	27° $\mathcal{B}$ 25'18	
minimum elong	15997 Nov 10 07:48	5° $\mathcal{Z}$ 50'40	0°00'32		16003 May 28 00:21	0° $\mathbb{I}$	
behind sun begin	15997 Nov 09 23:29	5° $\mathcal{Z}$ 45'35		retrograde	16003 Sep 13 21:01	14° $\mathbb{I}$ 03'48	
behind sun end	15997 Nov 10 16:07	5° $\mathcal{Z}$ 55'44		desc. node	16003 Oct 02 06:17	13° $\mathbb{I}$ 32'24	
max. Earth dist.	15997 Nov 10 19:51	5° $\mathcal{Z}$ 58'02	5.89716 AU	opposition	16003 Nov 14 02:22	9° $\mathbb{I}$ 07'59	-0°02'39
asc. node	15997 Nov 13 09:17	6° $\mathcal{Z}$ 35'42		min. Earth dist.	16003 Nov 14 12:37	9° $\mathbb{I}$ 04'41	4.51263 AU
morning rise	15997 Nov 23 18:25	9° $\mathcal{Z}$ 07'57		direct	16004 Jan 15 10:47	4° $\mathbb{I}$ 07'33	
retrograde	15998 Apr 04 03:25	29° $\mathcal{Z}$ 56'52		evening set	16004 May 18 18:08	21° $\mathbb{I}$ 07'41	
min. Earth dist.	15998 Jun 01 11:05	25° $\mathcal{Z}$ 03'10	3.90664 AU				
opposition	15998 Jun 02 07:59	24° $\mathcal{Z}$ 56'06	0°15'43	conjunction	16004 May 31 17:31	23° $\mathbb{I}$ 54'04	-0°09'46
direct	15998 Jul 30 11:02	20° $\mathcal{Z}$ 00'29		minimum elong	16004 May 31 17:31	23° $\mathbb{I}$ 54'04	0°10'31
	15998 Oct 21 14:48	0° $\mathcal{Z}$		behind sun begin	16004 May 31 11:16	23° $\mathbb{I}$ 50'44	
evening set	15998 Dec 05 05:04	10° $\mathcal{Z}$ 09'27		behind sun end	16004 May 31 23:45	23° $\mathbb{I}$ 57'23	
				max. Earth dist.	16004 May 30 13:23	23° $\mathbb{I}$ 39'00	6.50265 AU
conjunction	15998 Dec 18 17:13	13° $\mathcal{Z}$ 25'05	0°19'05	morning rise	16004 Jun 13 15:28	26° $\mathbb{I}$ 39'50	
minimum elong	15998 Dec 18 17:12	13° $\mathcal{Z}$ 25'05	0°19'51		16004 Jun 29 12:46	0° $\mathcal{E}$	
max. Earth dist.	15998 Dec 20 13:53	13° $\mathcal{Z}$ 52'05	5.94386 AU	retrograde	16004 Oct 12 21:35	13° $\mathcal{E}$ 22'49	
morning rise	15999 Jan 01 06:50	16° $\mathcal{Z}$ 41'17		opposition	16004 Dec 13 02:34	8° $\mathcal{E}$ 28'24	-0°25'03
	15999 Mar 03 12:11	0° $\approx$		min. Earth dist.	16004 Dec 14 05:20	8° $\mathcal{E}$ 19'50	4.47099 AU
retrograde	15999 May 11 09:27	6° $\approx$ 57'45		direct	16005 Feb 13 11:53	3° $\mathcal{E}$ 27'45	
min. Earth dist.	15999 Jul 08 09:11	2° $\approx$ 06'58	4.00488 AU	evening set	16005 Jun 18 00:47	20° $\mathcal{E}$ 45'53	
opposition	15999 Jul 09 20:34	1° $\approx$ 55'00	0°39'25	max. Earth dist.	16005 Jun 28 22:50	23° $\mathcal{E}$ 08'38	6.41879 AU
	15999 Jul 24 10:26	30° $\mathcal{R}\mathcal{Z}$					
direct	15999 Sep 06 10:02	26° $\mathcal{Z}$ 58'09		conjunction	16005 Jun 30 22:14	23° $\mathcal{E}$ 34'33	-0°23'31
	15999 Oct 20 02:17	0° $\approx$		minimum elong	16005 Jun 30 22:13	23° $\mathcal{E}$ 34'33	0°24'15
	16000 Jan 05 11:23	15° $\approx$		morning rise	16005 Jul 13 18:20	26° $\mathcal{E}$ 22'50	
evening set	16000 Jan 11 12:01	16° $\approx$ 23'44			16005 Jul 30 15:39	0° $\mathcal{Q}$	
				retrograde	16005 Nov 13 11:30	13° $\mathcal{Q}$ 40'17	
conjunction	16000 Jan 25 00:25	19° $\approx$ 32'54	0°30'17	opposition	16006 Jan 13 08:48	8° $\mathcal{Q}$ 46'16	-0°41'36
minimum elong	16000 Jan 25 00:25	19° $\approx$ 32'54	0°30'50	min. Earth dist.	16006 Jan 14 22:47	8° $\mathcal{Q}$ 34'03	4.34947 AU
max. Earth dist.	16000 Jan 27 11:48	20° $\approx$ 07'34	6.08297 AU	direct	16006 Mar 16 05:57	3° $\mathcal{Q}$ 45'54	
morning rise	16000 Feb 07 13:23	22° $\approx$ 42'03			16006 Jun 18 03:33	15° $\mathcal{Q}$	
	16000 Mar 11 07:42	0° $\mathcal{H}$		evening set	16006 Jul 19 09:28	21° $\mathcal{Q}$ 44'31	
retrograde	16000 Jun 13 23:12	11° $\mathcal{H}$ 50'36		max. Earth dist.	16006 Jul 29 21:52	24° $\mathcal{Q}$ 06'49	6.26768 AU
min. Earth dist.	16000 Aug 11 09:43	7° $\mathcal{H}$ 00'29	4.16960 AU				
opposition	16000 Aug 12 23:19	6° $\mathcal{H}$ 47'54	0°47'02	conjunction	16006 Aug 01 06:45	24° $\mathcal{Q}$ 39'01	-0°31'11
direct	16000 Oct 11 11:52	1° $\mathcal{H}$ 49'32		minimum elong	16006 Aug 01 06:44	24° $\mathcal{Q}$ 39'01	0°31'41
evening set	16001 Feb 14 16:01	20° $\mathcal{H}$ 17'35		morning rise	16006 Aug 14 03:40	27° $\mathcal{Q}$ 33'37	
					16006 Aug 25 01:43	0° $\mathbb{N}$	
conjunction	16001 Feb 28 01:55	23° $\mathcal{H}$ 17'59	0°30'21	retrograde	16006 Dec 17 10:35	15° $\mathbb{N}$ 51'53	
minimum elong	16001 Feb 28 01:56	23° $\mathcal{H}$ 17'59	0°30'31	opposition	16007 Feb 15 18:26	10° $\mathbb{N}$ 57'13	-0°46'56
max. Earth dist.	16001 Mar 02 03:35	23° $\mathcal{H}$ 45'51	6.25839 AU	min. Earth dist.	16007 Feb 17 08:11	10° $\mathbb{N}$ 44'55	4.17820 AU
morning rise	16001 Mar 13 11:50	26° $\mathcal{H}$ 17'59		direct	16007 Apr 17 14:30	5° $\mathbb{N}$ 57'53	
	16001 Mar 30 09:26	0° $\mathcal{Y}$		evening set	16007 Aug 21 17:05	24° $\mathbb{N}$ 52'33	
retrograde	16001 Jul 15 23:56	14° $\mathcal{Y}$ 15'13		max. Earth dist.	16007 Sep 01 18:06	27° $\mathbb{N}$ 28'00	6.09006 AU
min. Earth dist.	16001 Sep 13 10:40	9° $\mathcal{Y}$ 23'09	4.34017 AU				
opposition	16001 Sep 14 13:14	9° $\mathcal{Y}$ 14'22	0°38'57	conjunction	16007 Sep 03 17:06	27° $\mathbb{N}$ 55'40	-0°29'26
direct	16001 Nov 14 06:42	4° $\mathcal{Y}$ 14'52		minimum elong	16007 Sep 03 17:06	27° $\mathbb{N}$ 55'41	0°29'32
evening set	16002 Mar 19 12:16	21° $\mathcal{Y}$ 52'48			16007 Sep 12 12:14	0° $\mathcal{U}$	
				morning rise	16007 Sep 16 17:16	0° $\mathcal{U}$ 59'18	
conjunction	16002 Apr 01 18:47	24° $\mathcal{Y}$ 45'32	0°21'08	retrograde	16008 Jan 23 01:42	20° $\mathcal{U}$ 32'03	
minimum elong	16002 Apr 01 18:48	24° $\mathcal{Y}$ 45'32	0°20'53	opposition	16008 Mar 22 18:27	15° $\mathcal{U}$ 36'01	-0°36'32
max. Earth dist.	16002 Apr 02 23:15	25° $\mathcal{Y}$ 01'00	6.41139 AU	min. Earth dist.	16008 Mar 23 19:27	15° $\mathcal{U}$ 27'46	4.00883 AU
morning rise	16002 Apr 15 00:12	27° $\mathcal{Y}$ 37'34		direct	16008 May 21 07:08	10° $\mathcal{U}$ 38'38	
	16002 Apr 26 03:04	0° $\mathcal{B}$			16008 Sep 23 11:32	0° $\mathbb{M}$	
retrograde	16002 Aug 15 05:30	14° $\mathcal{B}$ 41'39		evening set	16008 Sep 25 10:49	0° $\mathbb{M}$ 28'28	
opposition	16002 Oct 15 06:19	9° $\mathcal{B}$ 43'28	0°20'26				
min. Earth dist.	16002 Oct 14 20:11	9° $\mathcal{B}$ 46'46	4.46523 AU	conjunction	16008 Oct 08 15:21	3° $\mathbb{M}$ 40'24	-0°16'59





























































































































minimum elong	16008 Oct 08 15:21	3° <b>ℓ</b> 40'24	0°16'37	retrograde	16014 Aug 19 10:14	19° <b>♄</b> 00'34	
max. Earth dist.	16008 Oct 07 18:00	3° <b>ℓ</b> 27'26	5.94497 AU		16014 Oct 12 01:41	15° <b>♄</b>	
morning rise	16008 Oct 21 21:16	6° <b>ℓ</b> 53'16		opposition	16014 Oct 19 11:40	14° <b>♄</b> 02'41	0°17'17
	16008 Nov 25 18:00	15° <b>ℓ</b>		min. Earth dist.	16014 Oct 19 05:01	14° <b>♄</b> 04'50	4.47896 AU
retrograde	16009 Mar 01 16:11	27° <b>ℓ</b> 27'33		direct	16014 Dec 20 08:19	9° <b>♄</b> 02'29	
opposition	16009 Apr 29 22:07	22° <b>ℓ</b> 29'13	-0°11'03		16015 Feb 25 02:54	15° <b>♄</b>	
min. Earth dist.	16009 Apr 29 22:31	22° <b>ℓ</b> 29'05	3.90382 AU	evening set	16015 Apr 23 20:03	26° <b>♄</b> 06'18	
direct	16009 Jun 27 09:11	17° <b>ℓ</b> 33'27					
asc. node	16009 Sep 22 17:54	28° <b>ℓ</b> 29'10		conjunction	16015 May 06 22:11	28° <b>♄</b> 53'35	0°04'11
	16009 Sep 29 16:01	0° <b>♄</b>		minimum elong	16015 May 06 22:13	28° <b>♄</b> 53'35	0°03'33
evening set	16009 Nov 02 04:28	7° <b>♄</b> 53'07		behind sun begin	16015 May 06 14:14	28° <b>♄</b> 49'21	
				behind sun end	16015 May 07 06:12	28° <b>♄</b> 57'50	
conjunction	16009 Nov 15 14:07	11° <b>♄</b> 10'07	0°02'44	max. Earth dist.	16015 May 06 18:12	28° <b>♄</b> 51'29	6.50764 AU
minimum elong	16009 Nov 15 14:06	11° <b>♄</b> 10'07	0°03'27		16015 May 12 02:36	0° <b>♄</b>	
behind sun begin	16009 Nov 15 05:50	11° <b>♄</b> 05'04		morning rise	16015 May 19 22:48	1° <b>♄</b> 40'08	
behind sun end	16009 Nov 15 22:23	11° <b>♄</b> 15'10		desc. node	16015 Aug 13 18:05	16° <b>♄</b> 26'12	
max. Earth dist.	16009 Nov 16 07:40	11° <b>♄</b> 20'53	5.89131 AU	retrograde	16015 Sep 17 23:11	18° <b>♄</b> 16'44	
morning rise	16009 Nov 29 01:22	14° <b>♄</b> 28'00		opposition	16015 Nov 18 05:55	13° <b>♄</b> 21'07	-0°05'59
	16010 Feb 09 11:24	0° <b>♄</b>		min. Earth dist.	16015 Nov 18 17:56	13° <b>♄</b> 17'15	4.51398 AU
retrograde	16010 Apr 09 11:30	5° <b>♄</b> 18'10		direct	16016 Jan 19 14:36	8° <b>♄</b> 20'37	
opposition	16010 Jun 07 15:17	0° <b>♄</b> 17'03	0°19'42	evening set	16016 May 22 22:41	25° <b>♄</b> 21'12	
min. Earth dist.	16010 Jun 06 16:20	0° <b>♄</b> 24'49	3.90875 AU				
	16010 Jun 09 17:39	30° <b>♄</b>		conjunction	16016 Jun 04 21:39	28° <b>♄</b> 07'35	-0°11'55
direct	16010 Aug 04 18:32	25° <b>♄</b> 21'22		minimum elong	16016 Jun 04 21:39	28° <b>♄</b> 07'35	0°12'41
	16010 Sep 28 00:12	0° <b>♄</b>		behind sun begin	16016 Jun 04 16:36	28° <b>♄</b> 04'53	
evening set	16010 Dec 10 11:59	15° <b>♄</b> 28'19		behind sun end	16016 Jun 05 02:42	28° <b>♄</b> 10'17	
				max. Earth dist.	16016 Jun 03 14:27	27° <b>♄</b> 50'50	6.49743 AU
conjunction	16010 Dec 24 00:33	18° <b>♄</b> 43'40	0°21'13		16016 Jun 13 15:13	0° <b>♄</b>	
minimum elong	16010 Dec 24 00:32	18° <b>♄</b> 43'39	0°21'59	morning rise	16016 Jun 17 19:11	0° <b>♄</b> 53'24	
max. Earth dist.	16010 Dec 26 02:14	19° <b>♄</b> 13'36	5.95370 AU	retrograde	16016 Oct 17 04:57	17° <b>♄</b> 38'58	
morning rise	16011 Jan 06 14:20	21° <b>♄</b> 59'26		opposition	16016 Dec 17 08:38	12° <b>♄</b> 44'39	-0°27'50
	16011 Feb 10 11:41	0° <b>♄</b>		min. Earth dist.	16016 Dec 18 14:21	12° <b>♄</b> 35'08	4.45939 AU
retrograde	16011 May 16 10:49	12° <b>♄</b> 09'38		direct	16017 Feb 17 17:58	7° <b>♄</b> 43'58	
min. Earth dist.	16011 Jul 13 09:12	7° <b>♄</b> 19'25	4.02130 AU	evening set	16017 Jun 22 07:15	25° <b>♄</b> 06'09	
opposition	16011 Jul 14 22:43	7° <b>♄</b> 06'45	0°41'29	max. Earth dist.	16017 Jul 03 01:23	27° <b>♄</b> 27'21	6.40145 AU
direct	16011 Sep 11 13:41	2° <b>♄</b> 09'43					
	16011 Dec 18 19:33	15° <b>♄</b>		conjunction	16017 Jul 05 04:26	27° <b>♄</b> 55'23	-0°25'02
evening set	16012 Jan 16 14:40	21° <b>♄</b> 28'47		minimum elong	16017 Jul 05 04:26	27° <b>♄</b> 55'23	0°25'45
					16017 Jul 14 15:33	0° <b>♄</b>	
conjunction	16012 Jan 30 02:43	24° <b>♄</b> 36'52	0°30'55	morning rise	16017 Jul 18 00:37	0° <b>♄</b> 44'20	
minimum elong	16012 Jan 30 02:43	24° <b>♄</b> 36'52	0°31'26		16017 Oct 02 18:01	15° <b>♄</b>	
max. Earth dist.	16012 Feb 01 13:31	25° <b>♄</b> 11'01	6.10417 AU	retrograde	16017 Nov 18 00:47	18° <b>♄</b> 08'45	
morning rise	16012 Feb 12 15:33	27° <b>♄</b> 44'55			16018 Jan 03 21:27	15° <b>♄</b>	
	16012 Feb 22 12:08	0° <b>♄</b>		opposition	16018 Jan 17 20:36	13° <b>♄</b> 14'38	-0°43'08
retrograde	16012 Jun 18 15:09	16° <b>♄</b> 43'37		min. Earth dist.	16018 Jan 19 11:05	13° <b>♄</b> 02'13	4.32738 AU
min. Earth dist.	16012 Aug 16 04:29	11° <b>♄</b> 53'17	4.19328 AU	direct	16018 Mar 20 14:24	8° <b>♄</b> 14'16	
opposition	16012 Aug 17 17:23	11° <b>♄</b> 40'56	0°46'40		16018 May 29 17:39	15° <b>♄</b>	
direct	16012 Oct 16 09:54	6° <b>♄</b> 42'18		evening set	16018 Jul 23 21:24	26° <b>♄</b> 20'11	
evening set	16013 Feb 19 10:38	25° <b>♄</b> 02'32		max. Earth dist.	16018 Aug 03 11:18	28° <b>♄</b> 44'04	6.24251 AU
conjunction	16013 Mar 04 20:16	28° <b>♄</b> 01'45	0°29'29	conjunction	16018 Aug 05 19:03	29° <b>♄</b> 15'48	-0°31'33
minimum elong	16013 Mar 04 20:17	28° <b>♄</b> 01'46	0°29'35	minimum elong	16018 Aug 05 19:03	29° <b>♄</b> 15'48	0°32'00
max. Earth dist.	16013 Mar 06 21:24	28° <b>♄</b> 29'11	6.28253 AU		16018 Aug 09 00:39	0° <b>♄</b>	
	16013 Mar 13 16:24	0° <b>♄</b>		morning rise	16018 Aug 18 16:07	2° <b>♄</b> 11'32	
morning rise	16013 Mar 18 05:24	1° <b>♄</b> 00'27		retrograde	16018 Dec 22 09:26	20° <b>♄</b> 40'04	
retrograde	16013 Jul 20 07:51	18° <b>♄</b> 48'24		opposition	16019 Feb 20 14:49	15° <b>♄</b> 45'17	-0°46'27
opposition	16013 Sep 18 23:40	13° <b>♄</b> 47'50	0°36'45	min. Earth dist.	16019 Feb 22 04:19	15° <b>♄</b> 33'03	4.15178 AU
min. Earth dist.	16013 Sep 17 22:23	13° <b>♄</b> 56'09	4.36254 AU	direct	16019 Apr 22 06:38	10° <b>♄</b> 46'10	
direct	16013 Nov 18 20:41	8° <b>♄</b> 48'13		evening set	16019 Aug 26 13:19	29° <b>♄</b> 49'41	
evening set	16014 Mar 23 23:31	26° <b>♄</b> 19'47			16019 Aug 27 06:53	0° <b>♄</b>	
				max. Earth dist.	16019 Sep 06 15:49	2° <b>♄</b> 26'57	6.06458 AU
conjunction	16014 Apr 06 05:17	29° <b>♄</b> 11'29	0°19'15				
minimum elong	16014 Apr 06 05:17	29° <b>♄</b> 11'30	0°18'57	conjunction	16019 Sep 08 13:45	2° <b>♄</b> 54'10	-0°28'16
max. Earth dist.	16014 Apr 07 04:46	29° <b>♄</b> 24'12	6.43008 AU	minimum elong	16019 Sep 08 13:46	2° <b>♄</b> 54'10	0°28'19
	16014 Apr 09 22:53	0° <b>♄</b>		morning rise	16019 Sep 21 14:50	5° <b>♄</b> 59'17	
morning rise	16014 Apr 19 10:10	2° <b>♄</b> 02'33		retrograde	16020 Jan 28 08:33	25° <b>♄</b> 42'57	
	16014 Jun 27 13:16	15° <b>♄</b>		opposition	16020 Mar 28 00:01	20° <b>♄</b> 46'38	-0°33'41

min. Earth dist.	16020 Mar 28 21:29	20°♄39'31	3.98673 AU	opposition	16025 Sep 23 07:28	18°♎14'19	0°34'26
direct	16020 May 26 08:10	15°♄49'30		direct	16025 Nov 23 08:25	13°♎14'36	
	16020 Sep 06 04:50	0°♍			16026 Mar 25 04:54	0°♎	
evening set	16020 Sep 30 15:32	5°♍46'35		evening set	16026 Mar 28 08:02	0°♎40'10	
conjunction	16020 Oct 13 20:57	8°♍59'41	-0°14'28	conjunction	16026 Apr 10 13:23	3°♎31'00	0°17'19
minimum elong	16020 Oct 13 20:58	8°♍59'41	0°14'03	minimum elong	16026 Apr 10 13:23	3°♎31'00	0°16'58
behind sun begin	16020 Oct 13 16:48	8°♍57'09		max. Earth dist.	16026 Apr 11 10:02	3°♎42'08	6.44785 AU
behind sun end	16020 Oct 14 01:08	9°♍02'13		morning rise	16026 Apr 23 17:27	6°♎21'06	
max. Earth dist.	16020 Oct 13 05:53	8°♍50'30	5.92868 AU		16026 Jun 05 15:41	15°♎	
morning rise	16020 Oct 27 03:36	12°♍13'42		retrograde	16026 Aug 23 11:44	23°♎13'50	
	16020 Nov 07 16:22	15°♍		opposition	16026 Oct 23 14:52	18°♎16'22	0°14'07
	16021 Jan 23 07:01	0°♎		min. Earth dist.	16026 Oct 23 10:38	18°♎17'44	4.49057 AU
retrograde	16021 Mar 07 05:30	2°♎54'35			16026 Nov 20 08:03	15°♎♎	
	16021 Apr 19 11:40	30°♎♍		direct	16026 Dec 24 13:59	13°♎16'11	
opposition	16021 May 05 09:23	27°♎55'54	-0°06'39		16027 Jan 28 02:48	15°♎	
min. Earth dist.	16021 May 05 06:57	27°♎56'43	3.89537 AU		16027 Apr 26 14:46	0°♎♎	
direct	16021 Jul 02 18:34	23°♎00'19		evening set	16027 Apr 28 00:15	0°♎♎17'42	
asc. node	16021 Jul 30 07:35	24°♎17'01					
	16021 Sep 08 11:36	0°♎♎		conjunction	16027 May 11 01:47	3°♎♎04'37	0°01'53
evening set	16021 Nov 07 14:34	13°♎♎21'41		minimum elong	16027 May 11 01:45	3°♎♎04'36	0°01'14
conjunction	16021 Nov 21 00:51	16°♎♎38'58	0°05'40	behind sun begin	16027 May 10 17:42	3°♎♎00'20	
minimum elong	16021 Nov 21 00:51	16°♎♎38'58	0°06'23	behind sun end	16027 May 11 09:48	3°♎♎08'53	
behind sun begin	16021 Nov 20 16:59	16°♎♎34'10		max. Earth dist.	16027 May 10 16:02	2°♎♎59'26	6.51223 AU
behind sun end	16021 Nov 21 08:42	16°♎♎43'46		morning rise	16027 May 24 01:59	5°♎♎50'50	
max. Earth dist.	16021 Nov 22 00:34	16°♎♎53'30	5.89173 AU	desc. node	16027 Jun 25 01:35	12°♎♎22'15	
morning rise	16021 Dec 04 12:43	19°♎♎57'05		retrograde	16027 Sep 22 03:06	22°♎♎26'56	
	16022 Jan 17 02:57	0°♎♎♎		opposition	16027 Nov 22 08:45	17°♎♎31'35	-0°09'14
retrograde	16022 Apr 14 20:41	10°♎♎♎45'08		min. Earth dist.	16027 Nov 23 00:34	17°♎♎26'30	4.51133 AU
min. Earth dist.	16022 Jun 11 22:08	5°♎♎♎52'46	3.91838 AU	direct	16028 Jan 23 19:04	12°♎♎31'02	
opposition	16022 Jun 13 00:50	5°♎♎♎43'43	0°23'38	evening set	16028 May 27 02:17	29°♎♎33'25	
direct	16022 Aug 10 03:49	0°♎♎♎47'59			16028 May 29 04:04	0°♎♎♎	
evening set	16022 Dec 15 20:46	20°♎♎♎49'54		max. Earth dist.	16028 Jun 07 14:05	2°♎♎♎01'17	6.48767 AU
conjunction	16022 Dec 29 09:17	24°♎♎♎04'25	0°23'16	conjunction	16028 Jun 09 01:01	2°♎♎♎20'04	-0°14'01
minimum elong	16022 Dec 29 09:16	24°♎♎♎04'24	0°24'00	minimum elong	16028 Jun 09 01:01	2°♎♎♎20'04	0°14'47
max. Earth dist.	16022 Dec 31 13:01	24°♎♎♎35'27	5.97131 AU	behind sun begin	16028 Jun 08 21:48	2°♎♎♎18'21	
morning rise	16023 Jan 11 23:16	27°♎♎♎19'21		behind sun end	16028 Jun 09 04:13	2°♎♎♎21'47	
	16023 Jan 23 07:53	0°♎♎♎♎		morning rise	16028 Jun 21 22:15	5°♎♎♎06'09	
	16023 Apr 13 01:19	15°♎♎♎♎		retrograde	16028 Oct 21 11:13	21°♎♎♎55'57	
retrograde	16023 May 21 10:04	17°♎♎♎20'12		opposition	16028 Dec 21 14:42	17°♎♎♎01'44	-0°30'29
	16023 Jun 28 18:52	15°♎♎♎♎		min. Earth dist.	16028 Dec 22 21:36	16°♎♎♎51'49	4.44316 AU
min. Earth dist.	16023 Jul 18 10:04	12°♎♎♎30'10	4.04477 AU	direct	16029 Feb 21 21:14	12°♎♎♎01'04	
opposition	16023 Jul 20 00:36	12°♎♎♎17'09	0°43'16	evening set	16029 Jun 26 14:18	29°♎♎♎28'57	
direct	16023 Sep 16 18:50	7°♎♎♎19'52			16029 Jun 28 23:03	0°♎♎♎	
	16023 Nov 28 17:19	15°♎♎♎♎		max. Earth dist.	16029 Jul 07 07:37	1°♎♎♎50'22	6.37986 AU
evening set	16024 Jan 21 15:51	26°♎♎♎29'59		conjunction	16029 Jul 09 11:30	2°♎♎♎19'00	-0°26'25
conjunction	16024 Feb 04 03:46	29°♎♎♎36'44	0°31'22	minimum elong	16029 Jul 09 11:29	2°♎♎♎19'00	0°27'06
minimum elong	16024 Feb 04 03:46	29°♎♎♎36'44	0°31'49	morning rise	16029 Jul 22 07:37	5°♎♎♎08'48	
	16024 Feb 05 20:02	0°♎♎♎♎♎			16029 Sep 08 10:20	15°♎♎♎	
max. Earth dist.	16024 Feb 06 15:37	0°♎♎♎11'18	6.13130 AU	retrograde	16029 Nov 22 17:11	22°♎♎♎41'46	
morning rise	16024 Feb 17 15:58	2°♎♎♎43'19		opposition	16030 Jan 22 10:07	17°♎♎♎47'39	-0°44'26
retrograde	16024 Jun 23 05:21	21°♎♎♎30'31		min. Earth dist.	16030 Jan 24 02:03	17°♎♎♎34'46	4.30171 AU
min. Earth dist.	16024 Aug 20 21:42	16°♎♎♎40'01	4.22123 AU		16030 Feb 14 09:39	15°♎♎♎♎	
opposition	16024 Aug 22 09:30	16°♎♎♎28'05	0°46'03	direct	16030 Mar 25 01:19	12°♎♎♎47'27	
direct	16024 Oct 21 06:37	11°♎♎♎29'19			16030 May 02 11:08	15°♎♎♎	
evening set	16025 Feb 24 02:53	29°♎♎♎40'44		evening set	16030 Jul 23 21:45	0°♎♎♎♎	
	16025 Feb 25 13:47	0°♎♎♎♎		max. Earth dist.	16030 Jul 28 11:11	1°♎♎♎01'52	
conjunction	16025 Mar 09 11:49	2°♎♎♎38'36	0°28'29		16030 Aug 08 00:25	3°♎♎♎26'20	6.21476 AU
minimum elong	16025 Mar 09 11:50	2°♎♎♎38'36	0°28'31	conjunction	16030 Aug 10 09:03	3°♎♎♎58'46	-0°31'44
max. Earth dist.	16025 Mar 11 09:15	3°♎♎♎03'49	6.30889 AU	minimum elong	16030 Aug 10 09:03	3°♎♎♎58'46	0°32'08
morning rise	16025 Mar 22 20:28	5°♎♎♎35'58		morning rise	16030 Aug 23 06:43	6°♎♎♎55'53	
retrograde	16025 Jul 24 13:14	23°♎♎♎14'33		retrograde	16030 Dec 27 09:50	25°♎♎♎35'49	
min. Earth dist.	16025 Sep 22 08:41	18°♎♎♎21'48	4.38537 AU	opposition	16031 Feb 25 13:59	20°♎♎♎40'50	-0°45'39
				min. Earth dist.	16031 Feb 27 01:04	20°♎♎♎29'22	4.12418 AU

direct	16031 Apr 27 00:35	15° $\mathbb{M}$ 42'00		opposition	16036 Aug 26 23:04	21° $\mathbb{H}$ 09'12	0°45'08
	16031 Aug 10 06:09	0° $\mathbb{L}$		min. Earth dist.	16036 Aug 25 12:14	21° $\mathbb{H}$ 20'48	4.24687 AU
evening set	16031 Aug 31 12:04	4° $\mathbb{L}$ 54'38		direct	16036 Oct 25 23:46	16° $\mathbb{H}$ 10'13	
max. Earth dist.	16031 Sep 11 20:14	7° $\mathbb{L}$ 36'08	6.03982 AU		16037 Feb 09 02:40	0° $\mathbb{Y}$	
				evening set	16037 Feb 28 17:07	4° $\mathbb{Y}$ 13'59	
conjunction	16031 Sep 13 13:14	8° $\mathbb{L}$ 00'33	-0°26'54				
minimum elong	16031 Sep 13 13:14	8° $\mathbb{L}$ 00'33	0°26'52	conjunction	16037 Mar 14 01:39	7° $\mathbb{Y}$ 10'43	0°27'17
morning rise	16031 Sep 26 14:55	11° $\mathbb{L}$ 07'06		minimum elong	16037 Mar 14 01:39	7° $\mathbb{Y}$ 10'43	0°27'17
	16032 Jan 08 15:23	0° $\mathbb{M}$		max. Earth dist.	16037 Mar 15 19:58	7° $\mathbb{Y}$ 34'06	6.33184 AU
retrograde	16032 Feb 02 20:14	1° $\mathbb{M}$ 01'13		morning rise	16037 Mar 27 09:34	10° $\mathbb{Y}$ 06'53	
	16032 Feb 27 22:23	30° $\mathbb{R}$ $\mathbb{L}$		retrograde	16037 Jul 28 19:12	27° $\mathbb{Y}$ 37'31	
opposition	16032 Apr 02 08:12	26° $\mathbb{L}$ 04'38	-0°30'32	opposition	16037 Sep 27 14:25	22° $\mathbb{Y}$ 37'43	0°31'56
min. Earth dist.	16032 Apr 03 03:12	25° $\mathbb{L}$ 58'19	3.96738 AU	min. Earth dist.	16037 Sep 26 18:33	22° $\mathbb{Y}$ 44'13	4.40401 AU
direct	16032 May 31 13:11	21° $\mathbb{L}$ 07'47		direct	16037 Nov 27 19:51	17° $\mathbb{Y}$ 37'54	
	16032 Aug 17 13:28	0° $\mathbb{M}$			16038 Mar 08 19:24	0° $\mathbb{B}$	
evening set	16032 Oct 05 22:27	11° $\mathbb{M}$ 10'38		evening set	16038 Apr 01 16:04	4° $\mathbb{B}$ 58'50	
conjunction	16032 Oct 19 04:38	14° $\mathbb{M}$ 24'41	-0°11'49	conjunction	16038 Apr 14 20:46	7° $\mathbb{B}$ 48'57	0°15'18
minimum elong	16032 Oct 19 04:38	14° $\mathbb{M}$ 24'41	0°11'20	minimum elong	16038 Apr 14 20:47	7° $\mathbb{B}$ 48'57	0°14'53
behind sun begin	16032 Oct 18 22:34	14° $\mathbb{M}$ 20'59		behind sun begin	16038 Apr 14 17:49	7° $\mathbb{B}$ 47'22	
behind sun end	16032 Oct 19 10:42	14° $\mathbb{M}$ 28'22		behind sun end	16038 Apr 14 23:45	7° $\mathbb{B}$ 50'32	
max. Earth dist.	16032 Oct 18 18:57	14° $\mathbb{M}$ 18'47	5.91677 AU	max. Earth dist.	16038 Apr 15 12:05	7° $\mathbb{B}$ 57'10	6.46080 AU
	16032 Oct 21 14:24	15° $\mathbb{M}$		morning rise	16038 Apr 28 00:26	10° $\mathbb{B}$ 38'22	
morning rise	16032 Nov 01 12:10	17° $\mathbb{M}$ 39'39			16038 May 18 20:51	15° $\mathbb{B}$	
	16032 Dec 26 10:10	0° $\mathbb{Z}$		retrograde	16038 Aug 27 14:45	27° $\mathbb{B}$ 27'25	
retrograde	16033 Mar 12 17:05	8° $\mathbb{Z}$ 24'35		opposition	16038 Oct 27 18:35	22° $\mathbb{B}$ 30'15	0°10'52
opposition	16033 May 10 21:10	3° $\mathbb{Z}$ 25'28	-0°02'10	min. Earth dist.	16038 Oct 27 17:25	22° $\mathbb{B}$ 30'37	4.49734 AU
min. Earth dist.	16033 May 10 13:57	3° $\mathbb{Z}$ 27'53	3.89259 AU	direct	16038 Dec 28 19:47	17° $\mathbb{B}$ 29'58	
asc. node	16033 Jun 07 09:40	0° $\mathbb{Z}$ 04'15			16039 Apr 10 10:40	0° $\mathbb{I}$	
	16033 Jun 08 03:16	30° $\mathbb{R}$ $\mathbb{M}$		evening set	16039 May 02 05:18	4° $\mathbb{I}$ 30'39	
direct	16033 Jul 08 03:01	28° $\mathbb{M}$ 29'57		desc. node	16039 May 03 13:51	4° $\mathbb{I}$ 47'54	
	16033 Aug 07 01:57	0° $\mathbb{Z}$					
evening set	16033 Nov 13 00:41	18° $\mathbb{Z}$ 50'28		conjunction	16039 May 15 06:34	7° $\mathbb{I}$ 17'25	-0°00'31
				minimum elong	16039 May 15 06:33	7° $\mathbb{I}$ 17'24	0°01'10
conjunction	16033 Nov 26 11:19	22° $\mathbb{Z}$ 07'38	0°08'31	behind sun begin	16039 May 14 22:30	7° $\mathbb{I}$ 13'08	
minimum elong	16033 Nov 26 11:19	22° $\mathbb{Z}$ 07'38	0°09'16	behind sun end	16039 May 15 14:35	7° $\mathbb{I}$ 21'40	
behind sun begin	16033 Nov 26 04:18	22° $\mathbb{Z}$ 03'21		max. Earth dist.	16039 May 14 18:08	7° $\mathbb{I}$ 10'48	6.51242 AU
behind sun end	16033 Nov 26 18:20	22° $\mathbb{Z}$ 11'55		morning rise	16039 May 28 06:09	10° $\mathbb{I}$ 03'26	
max. Earth dist.	16033 Nov 27 15:05	22° $\mathbb{Z}$ 24'38	5.89806 AU	retrograde	16039 Sep 26 06:34	26° $\mathbb{I}$ 40'14	
morning rise	16033 Dec 09 23:45	25° $\mathbb{Z}$ 25'38		opposition	16039 Nov 26 12:59	21° $\mathbb{I}$ 45'08	-0°12'30
	16033 Dec 29 03:19	0° $\mathbb{B}$		min. Earth dist.	16039 Nov 27 06:42	21° $\mathbb{I}$ 39'27	4.50510 AU
retrograde	16034 Apr 20 02:50	16° $\mathbb{B}$ 08'59		direct	16040 Jan 27 22:48	16° $\mathbb{I}$ 44'37	
min. Earth dist.	16034 Jun 17 03:37	11° $\mathbb{B}$ 17'04	3.93283 AU		16040 May 13 02:15	0° $\mathbb{E}$	
opposition	16034 Jun 18 08:52	11° $\mathbb{B}$ 07'09	0°27'18	evening set	16040 May 31 08:01	3° $\mathbb{E}$ 49'50	
direct	16034 Aug 15 13:50	6° $\mathbb{B}$ 11'09		max. Earth dist.	16040 Jun 11 16:02	6° $\mathbb{E}$ 16'07	6.47537 AU
evening set	16034 Dec 21 03:13	26° $\mathbb{B}$ 06'13					
				conjunction	16040 Jun 13 06:22	6° $\mathbb{E}$ 36'49	-0°16'04
conjunction	16035 Jan 03 15:54	29° $\mathbb{B}$ 19'45	0°25'04	minimum elong	16040 Jun 13 06:22	6° $\mathbb{E}$ 36'48	0°16'51
minimum elong	16035 Jan 03 15:53	29° $\mathbb{B}$ 19'45	0°25'46	morning rise	16040 Jun 26 03:27	9° $\mathbb{E}$ 23'18	
max. Earth dist.	16035 Jan 05 23:04	29° $\mathbb{B}$ 52'41	5.99226 AU	retrograde	16040 Oct 25 22:31	26° $\mathbb{E}$ 18'07	
	16035 Jan 06 11:19	0° $\mathbb{A}$		opposition	16040 Dec 25 23:38	21° $\mathbb{E}$ 24'02	-0°33'03
morning rise	16035 Jan 17 05:35	2° $\mathbb{A}$ 33'34		min. Earth dist.	16040 Dec 27 09:03	21° $\mathbb{E}$ 13'19	4.42556 AU
	16035 Mar 15 17:03	15° $\mathbb{A}$		direct	16041 Feb 26 05:43	16° $\mathbb{E}$ 23'28	
retrograde	16035 May 26 07:55	22° $\mathbb{A}$ 24'02			16041 Jun 12 15:37	0° $\mathbb{Q}$	
min. Earth dist.	16035 Jul 23 09:20	17° $\mathbb{A}$ 33'54	4.06970 AU	evening set	16041 Jun 30 23:46	3° $\mathbb{Q}$ 57'18	
opposition	16035 Jul 24 23:45	17° $\mathbb{A}$ 20'57	0°44'39	max. Earth dist.	16041 Jul 11 15:25	6° $\mathbb{Q}$ 18'30	6.35832 AU
	16035 Aug 12 04:31	15° $\mathbb{R}$ $\mathbb{A}$					
direct	16035 Sep 21 21:50	12° $\mathbb{A}$ 23'25		conjunction	16041 Jul 13 21:00	6° $\mathbb{Q}$ 48'12	-0°27'42
	16035 Nov 01 14:48	15° $\mathbb{A}$		minimum elong	16041 Jul 13 20:59	6° $\mathbb{Q}$ 48'12	0°28'21
	16036 Jan 20 10:04	0° $\mathbb{H}$		morning rise	16041 Jul 26 17:13	9° $\mathbb{Q}$ 38'54	
evening set	16036 Jan 26 14:38	1° $\mathbb{H}$ 24'30			16041 Aug 20 13:59	15° $\mathbb{Q}$	
				retrograde	16041 Nov 27 09:46	27° $\mathbb{Q}$ 20'25	
conjunction	16036 Feb 09 02:06	4° $\mathbb{H}$ 29'54	0°31'34	opposition	16042 Jan 27 02:15	22° $\mathbb{Q}$ 26'17	-0°45'31
minimum elong	16036 Feb 09 02:06	4° $\mathbb{H}$ 29'54	0°31'58	min. Earth dist.	16042 Jan 28 16:58	22° $\mathbb{Q}$ 13'46	4.27799 AU
max. Earth dist.	16036 Feb 11 12:34	5° $\mathbb{H}$ 03'26	6.15772 AU	direct	16042 Mar 29 12:56	17° $\mathbb{Q}$ 26'20	
morning rise	16036 Feb 22 13:58	7° $\mathbb{H}$ 35'06			16042 Jul 06 22:00	0° $\mathbb{M}$	
retrograde	16036 Jun 27 15:34	26° $\mathbb{H}$ 11'26		evening set	16042 Aug 02 03:21	5° $\mathbb{M}$ 48'32	



max. Earth dist.	16042 Aug 12 19:38	8° $\mathbb{M}$ 15'31	6.19100 AU	conjunction	16048 Feb 13 18:16	9° $\mathbb{H}$ 08'54	0°31'35
				minimum elong	16048 Feb 13 18:16	9° $\mathbb{H}$ 08'54	0°31'55
conjunction	16042 Aug 15 01:31	8° $\mathbb{M}$ 46'33	-0°31'43	max. Earth dist.	16048 Feb 16 02:09	9° $\mathbb{H}$ 40'48	6.18139 AU
minimum elong	16042 Aug 15 01:32	8° $\mathbb{M}$ 46'33	0°32'05	morning rise	16048 Feb 27 05:40	12° $\mathbb{H}$ 12'53	
morning rise	16042 Aug 27 23:30	11° $\mathbb{M}$ 44'50			16048 Jun 11 12:20	0° $\mathbb{Y}$	
	16042 Dec 13 12:06	0° $\mathbb{L}$		retrograde	16048 Jul 01 23:46	0° $\mathbb{Y}$ 40'04	
retrograde	16043 Jan 01 13:32	0° $\mathbb{L}$ 34'36			16048 Jul 22 07:11	30° $\mathbb{R}$ $\mathbb{H}$	
	16043 Jan 20 12:56	30° $\mathbb{R}$ $\mathbb{M}$		min. Earth dist.	16048 Aug 29 23:36	25° $\mathbb{H}$ 48'51	4.26827 AU
opposition	16043 Mar 02 14:42	25° $\mathbb{M}$ 39'32	-0°44'33	opposition	16048 Aug 31 07:40	25° $\mathbb{H}$ 38'12	0°44'03
min. Earth dist.	16043 Mar 04 00:37	25° $\mathbb{M}$ 28'26	4.10249 AU	direct	16048 Oct 30 13:15	20° $\mathbb{H}$ 39'06	
direct	16043 May 01 22:29	20° $\mathbb{M}$ 41'03			16049 Jan 22 15:46	0° $\mathbb{Y}$	
	16043 Jul 22 12:06	0° $\mathbb{L}$		evening set	16049 Mar 05 02:46	8° $\mathbb{Y}$ 36'59	
evening set	16043 Sep 05 11:31	10° $\mathbb{L}$ 00'29					
max. Earth dist.	16043 Sep 16 23:39	12° $\mathbb{L}$ 45'00	6.02235 AU	conjunction	16049 Mar 18 10:53	11° $\mathbb{Y}$ 32'50	0°26'04
				minimum elong	16049 Mar 18 10:54	11° $\mathbb{Y}$ 32'50	0°25'59
conjunction	16043 Sep 18 13:14	13° $\mathbb{L}$ 07'28	-0°25'23	max. Earth dist.	16049 Mar 20 01:55	11° $\mathbb{Y}$ 54'18	6.34948 AU
minimum elong	16043 Sep 18 13:15	13° $\mathbb{L}$ 07'28	0°25'17	morning rise	16049 Mar 31 18:21	14° $\mathbb{Y}$ 28'06	
morning rise	16043 Oct 01 15:40	16° $\mathbb{L}$ 15'09			16049 Jun 27 16:12	0° $\mathbb{B}$	
	16043 Dec 04 19:36	0° $\mathbb{M}$		retrograde	16049 Aug 01 20:42	1° $\mathbb{B}$ 52'51	
retrograde	16044 Feb 08 03:26	6° $\mathbb{M}$ 16'34			16049 Sep 05 23:52	30° $\mathbb{R}$ $\mathbb{Y}$	
opposition	16044 Apr 07 15:07	1° $\mathbb{M}$ 19'42	-0°27'13	opposition	16049 Oct 01 17:44	26° $\mathbb{Y}$ 53'25	0°29'27
min. Earth dist.	16044 Apr 08 05:44	1° $\mathbb{M}$ 14'51	3.95627 AU	min. Earth dist.	16049 Sep 30 23:44	26° $\mathbb{Y}$ 59'19	4.41702 AU
	16044 Apr 17 17:56	30° $\mathbb{R}$ $\mathbb{L}$		direct	16049 Dec 02 00:56	21° $\mathbb{Y}$ 53'32	
direct	16044 Jun 05 15:38	26° $\mathbb{L}$ 23'10			16050 Feb 18 22:51	0° $\mathbb{B}$	
	16044 Jul 23 09:22	0° $\mathbb{M}$		evening set	16050 Apr 05 21:20	9° $\mathbb{B}$ 11'47	
	16044 Oct 05 00:34	15° $\mathbb{M}$					
evening set	16044 Oct 11 03:10	16° $\mathbb{M}$ 28'38		conjunction	16050 Apr 19 01:41	12° $\mathbb{B}$ 01'27	0°13'19
				minimum elong	16050 Apr 19 01:41	12° $\mathbb{B}$ 01'27	0°12'52
conjunction	16044 Oct 24 09:49	19° $\mathbb{M}$ 43'07	-0°09'11	behind sun begin	16050 Apr 18 20:46	11° $\mathbb{B}$ 58'49	
minimum elong	16044 Oct 24 09:49	19° $\mathbb{M}$ 43'07	0°08'39	behind sun end	16050 Apr 19 06:37	12° $\mathbb{B}$ 04'05	
behind sun begin	16044 Oct 24 02:38	19° $\mathbb{M}$ 38'44		max. Earth dist.	16050 Apr 19 13:35	12° $\mathbb{B}$ 07'50	6.46856 AU
behind sun end	16044 Oct 24 17:00	19° $\mathbb{M}$ 47'30		morning rise	16050 May 02 04:44	14° $\mathbb{B}$ 50'23	
max. Earth dist.	16044 Oct 24 05:07	19° $\mathbb{M}$ 40'16	5.91313 AU		16050 May 02 22:48	15° $\mathbb{B}$	
morning rise	16044 Nov 06 18:03	22° $\mathbb{M}$ 58'34			16050 Jul 29 19:21	0° $\mathbb{I}$	
	16044 Dec 06 12:54	0° $\mathbb{X}$		retrograde	16050 Aug 31 16:44	1° $\mathbb{I}$ 37'21	
retrograde	16045 Mar 17 23:51	13° $\mathbb{X}$ 44'17			16050 Oct 03 11:45	30° $\mathbb{R}$ $\mathbb{B}$	
asc. node	16045 Apr 20 01:23	11° $\mathbb{X}$ 58'16		opposition	16050 Oct 31 20:34	26° $\mathbb{B}$ 40'33	0°07'44
opposition	16045 May 16 04:39	8° $\mathbb{X}$ 44'46	0°02'05	min. Earth dist.	16050 Oct 31 22:10	26° $\mathbb{B}$ 40'02	4.49958 AU
min. Earth dist.	16045 May 15 18:20	8° $\mathbb{X}$ 48'14	3.89692 AU	direct	16051 Jan 01 23:43	21° $\mathbb{B}$ 40'16	
direct	16045 Jul 13 10:52	3° $\mathbb{X}$ 49'16		desc. node	16051 Mar 12 21:37	28° $\mathbb{B}$ 07'16	
evening set	16045 Nov 18 05:43	24° $\mathbb{X}$ 06'28			16051 Mar 23 18:40	0° $\mathbb{I}$	
				evening set	16051 May 06 08:58	8° $\mathbb{I}$ 41'18	
conjunction	16045 Dec 01 16:50	27° $\mathbb{X}$ 23'15	0°11'08				
minimum elong	16045 Dec 01 16:50	27° $\mathbb{X}$ 23'14	0°11'54	conjunction	16051 May 19 09:43	11° $\mathbb{I}$ 28'01	-0°02'45
behind sun begin	16045 Dec 01 11:04	27° $\mathbb{X}$ 19'44		minimum elong	16051 May 19 09:42	11° $\mathbb{I}$ 28'00	0°03'26
behind sun end	16045 Dec 01 22:35	27° $\mathbb{X}$ 26'44		behind sun begin	16051 May 19 01:44	11° $\mathbb{I}$ 23'46	
max. Earth dist.	16045 Dec 03 02:08	27° $\mathbb{X}$ 43'33	5.90994 AU	behind sun end	16051 May 19 17:41	11° $\mathbb{I}$ 32'15	
	16045 Dec 12 10:09	0° $\mathbb{B}$		max. Earth dist.	16051 May 18 16:35	11° $\mathbb{I}$ 18'52	6.50901 AU
morning rise	16045 Dec 15 05:23	0° $\mathbb{B}$ 40'44		morning rise	16051 Jun 01 09:08	14° $\mathbb{I}$ 14'04	
retrograde	16046 Apr 25 03:56	21° $\mathbb{B}$ 17'26			16051 Sep 06 10:32	0° $\mathbb{B}$	
min. Earth dist.	16046 Jun 22 03:59	16° $\mathbb{B}$ 25'41	3.95086 AU	retrograde	16051 Sep 30 11:21	0° $\mathbb{B}$ 52'33	
opposition	16046 Jun 23 10:22	16° $\mathbb{B}$ 15'24	0°30'31		16051 Oct 24 09:54	30° $\mathbb{R}$ $\mathbb{I}$	
direct	16046 Aug 20 17:12	11° $\mathbb{B}$ 19'16		opposition	16051 Nov 30 16:49	25° $\mathbb{I}$ 57'35	-0°15'35
	16046 Dec 21 09:56	0° $\mathbb{Z}$		min. Earth dist.	16051 Dec 01 12:54	25° $\mathbb{I}$ 51'09	4.49641 AU
evening set	16046 Dec 26 03:24	1° $\mathbb{Z}$ 06'51		direct	16052 Feb 01 03:02	20° $\mathbb{I}$ 57'00	
					16052 Apr 25 16:29	0° $\mathbb{B}$	
conjunction	16047 Jan 08 15:55	4° $\mathbb{Z}$ 19'18	0°26'35	evening set	16052 Jun 04 12:49	8° $\mathbb{B}$ 05'24	
minimum elong	16047 Jan 08 15:55	4° $\mathbb{Z}$ 19'17	0°27'15	max. Earth dist.	16052 Jun 15 19:35	10° $\mathbb{B}$ 31'25	6.46198 AU
max. Earth dist.	16047 Jan 10 23:35	4° $\mathbb{Z}$ 52'20	6.01434 AU				
morning rise	16047 Jan 22 05:37	7° $\mathbb{Z}$ 32'00		conjunction	16052 Jun 17 11:06	10° $\mathbb{B}$ 52'48	-0°17'59
	16047 Feb 24 04:19	15° $\mathbb{Z}$		minimum elong	16052 Jun 17 11:05	10° $\mathbb{B}$ 52'47	0°18'44
retrograde	16047 May 30 21:06	27° $\mathbb{Z}$ 12'18		morning rise	16052 Jun 30 07:50	13° $\mathbb{B}$ 39'41	
min. Earth dist.	16047 Jul 28 01:20	22° $\mathbb{Z}$ 22'22	4.09359 AU		16052 Oct 09 13:37	0° $\mathbb{L}$	
opposition	16047 Jul 29 16:09	22° $\mathbb{Z}$ 09'17	0°45'40	retrograde	16052 Oct 30 06:20	0° $\mathbb{L}$ 39'31	
direct	16047 Sep 26 16:53	17° $\mathbb{Z}$ 11'34			16052 Nov 19 23:17	30° $\mathbb{R}$ $\mathbb{B}$	
	16048 Jan 03 20:03	0° $\mathbb{H}$		opposition	16052 Dec 30 07:49	25° $\mathbb{B}$ 45'25	-0°35'21
evening set	16048 Jan 31 07:06	6° $\mathbb{H}$ 04'40		min. Earth dist.	16052 Dec 31 17:27	25° $\mathbb{B}$ 34'38	4.40827 AU

direct	16053 Mar 02 11:25	20°  44'53		direct	16058 Aug 25 20:06	16°  29'13	
	16053 May 26 01:34	0°  0			16058 Dec 04 07:01	0°  0	
evening set	16053 Jul 05 08:33	8°  24'11		evening set	16058 Dec 31 05:27	6°  10'53	
max. Earth dist.	16053 Jul 15 23:33	10°  45'41	6.33812 AU				
conjunction	16053 Jul 18 05:39	11°  15'49	-0°28'46	conjunction	16059 Jan 13 17:57	9°  22'26	0°27'56
minimum elong	16053 Jul 18 05:38	11°  15'49	0°29'23	minimum elong	16059 Jan 13 17:57	9°  22'26	0°28'35
morning rise	16053 Jul 31 01:59	14°  07'20		max. Earth dist.	16059 Jan 16 02:16	9°  55'43	6.03327 AU
	16053 Aug 04 01:19	15°  0		morning rise	16059 Jan 27 07:27	12°  34'09	
	16053 Oct 27 07:38	0°  0			16059 Feb 06 18:43	15°  0	
retrograde	16053 Dec 02 03:31	1°  05'41		retrograde	16059 Apr 29 05:50	0°  0	
	16054 Jan 07 01:19	30°  0			16059 Jun 04 15:20	2°  05'31	
opposition	16054 Jan 31 17:27	27°  02'24	-0°46'15		16059 Jul 10 22:22	30°  0	
min. Earth dist.	16054 Feb 02 08:47	26°  04'40	4.25584 AU	min. Earth dist.	16059 Aug 01 21:18	27°  15'16	4.11517 AU
direct	16054 Apr 03 02:17	22°  02'31		opposition	16059 Aug 03 11:04	27°  02'34	0°46'23
	16054 Jun 18 04:03	0°  0		direct	16059 Oct 01 16:14	22°  04'39	
evening set	16054 Aug 06 17:48	10°  00'03	6.16845 AU	evening set	16059 Dec 15 15:12	0°  0	
max. Earth dist.	16054 Aug 17 11:20	13°  00'03	6.16845 AU		16060 Feb 05 02:29	10°  00'03	
conjunction	16054 Aug 19 16:22	13°  00'03		conjunction	16060 Feb 18 13:24	13°  00'03	
minimum elong	16054 Aug 19 16:22	13°  00'03		minimum elong	16060 Feb 18 13:24	13°  00'03	
morning rise	16054 Sep 01 14:47	16°  00'09		max. Earth dist.	16060 Feb 20 21:00	14°  00'09	6.20383 AU
	16054 Nov 06 05:01	0°  0		morning rise	16060 Mar 03 00:19	16°  00'09	
retrograde	16055 Jan 06 13:22	5°  29'16			16060 May 07 05:01	0°  0	
opposition	16055 Mar 07 13:38	0°  33'56	-0°43'04	retrograde	16060 Jul 06 08:25	5°  29'16	
min. Earth dist.	16055 Mar 08 20:52	0°  33'56	4.08128 AU	min. Earth dist.	16060 Sep 03 11:09	0°  33'56	4.28989 AU
	16055 Mar 11 21:18	30°  0		opposition	16060 Sep 04 18:47	0°  33'56	0°42'38
direct	16055 May 06 16:15	25°  00'09			16060 Sep 06 10:35	30°  0	
	16055 Jun 29 13:16	0°  0		direct	16060 Nov 04 02:47	25°  00'09	
evening set	16055 Sep 10 09:17	15°  01'48			16060 Dec 31 21:21	0°  0	
max. Earth dist.	16055 Sep 22 01:24	17°  01'48	6.00433 AU	evening set	16061 Mar 09 15:15	13°  01'48	
conjunction	16055 Sep 23 11:30	18°  09'51	-0°23'37	conjunction	16061 Mar 22 22:48	16°  09'51	0°24'36
minimum elong	16055 Sep 23 11:30	18°  09'52	0°23'27	minimum elong	16061 Mar 22 22:48	16°  09'51	0°24'28
morning rise	16055 Oct 06 14:41	21°  09'52		max. Earth dist.	16061 Mar 24 10:00	16°  09'52	6.36891 AU
	16055 Nov 13 15:07	0°  0		morning rise	16061 Apr 05 05:42	18°  09'52	
retrograde	16056 Feb 13 10:03	11°  09'52			16061 May 31 04:09	0°  0	
opposition	16056 Apr 12 20:28	6°  09'52	-0°23'38	retrograde	16061 Aug 06 02:44	6°  09'52	
min. Earth dist.	16056 Apr 13 08:25	6°  09'52	3.94320 AU	opposition	16061 Oct 05 23:43	1°  09'52	0°26'42
direct	16056 Jun 10 18:30	1°  09'52		min. Earth dist.	16061 Oct 05 08:41	1°  09'52	4.43316 AU
	16056 Sep 17 19:56	15°  09'52			16061 Oct 15 13:32	30°  0	
evening set	16056 Oct 16 06:55	21°  09'52		direct	16061 Dec 06 11:02	26°  09'52	
conjunction	16056 Oct 29 14:23	24°  09'52	-0°06'26		16062 Jan 27 02:34	0°  09'52	
minimum elong	16056 Oct 29 14:24	24°  09'52	0°05'52	evening set	16062 Apr 10 04:13	13°  09'52	
behind sun begin	16056 Oct 29 06:28	24°  09'52			16062 Apr 17 07:21	15°  09'52	
behind sun end	16056 Oct 29 22:19	25°  09'52		conjunction	16062 Apr 23 08:01	16°  09'52	0°11'12
max. Earth dist.	16056 Oct 29 15:45	24°  09'52	5.90653 AU	minimum elong	16062 Apr 23 08:01	16°  09'52	0°10'42
morning rise	16056 Nov 11 23:13	28°  09'52		behind sun begin	16062 Apr 23 01:50	16°  09'52	
	16056 Nov 19 05:31	0°  0		behind sun end	16062 Apr 23 14:12	16°  09'52	
asc. node	16057 Mar 02 12:32	18°  09'52		max. Earth dist.	16062 Apr 23 16:37	16°  09'52	6.48045 AU
retrograde	16057 Mar 23 08:17	19°  09'52		morning rise	16062 May 06 10:32	19°  09'52	
opposition	16057 May 21 11:30	14°  09'52	0°06'24		16062 Jul 01 18:34	0°  0	
min. Earth dist.	16057 May 20 22:31	14°  09'52	3.89775 AU	retrograde	16062 Sep 04 18:14	5°  09'52	
direct	16057 Jul 18 16:35	9°  09'52		opposition	16062 Nov 04 23:35	0°  09'52	0°04'28
evening set	16057 Nov 23 11:21	29°  09'52		min. Earth dist.	16062 Nov 05 02:54	0°  09'52	4.50680 AU
	16057 Nov 26 01:27	0°  0			16062 Nov 11 20:35	30°  0	
conjunction	16057 Dec 06 22:44	2°  09'52	0°13'44	direct	16063 Jan 06 03:47	25°  09'52	
minimum elong	16057 Dec 06 22:43	2°  09'52	0°14'30	desc. node	16063 Jan 19 06:06	26°  09'52	
behind sun begin	16057 Dec 06 19:05	2°  09'52			16063 Mar 01 22:23	0°  0	
behind sun end	16057 Dec 07 02:21	2°  09'52		evening set	16063 May 10 12:49	12°  09'52	
max. Earth dist.	16057 Dec 08 10:57	3°  09'52	5.91785 AU	conjunction	16063 May 23 13:10	15°  09'52	-0°04'58
morning rise	16057 Dec 20 11:49	5°  09'52		minimum elong	16063 May 23 13:09	15°  09'52	0°05'41
retrograde	16058 Apr 30 04:10	26°  09'52		behind sun begin	16063 May 23 05:28	15°  09'52	
min. Earth dist.	16058 Jun 27 03:53	21°  09'52	3.96501 AU	behind sun end	16063 May 23 20:50	15°  09'52	
opposition	16058 Jun 28 12:50	21°  09'52	0°33'34	max. Earth dist.	16063 May 22 18:11	15°  09'52	6.51111 AU
				morning rise	16063 Jun 05 11:54	18°  09'52	

	16063 Aug 05 09:16	0°♄	morning rise	16068 Nov 17 03:51	3°♄29'46	
retrograde	16063 Oct 04 13:48	5°♄02'58	asc. node	16069 Jan 13 13:19	16°♄21'04	
opposition	16063 Dec 04 19:53	0°♄08'15 -0°18'35	retrograde	16069 Mar 28 14:20	24°♄20'54	
	16063 Dec 05 21:38	30°♄II	opposition	16069 May 26 18:01	19°♄20'39	0°10'36
min. Earth dist.	16063 Dec 05 18:06	0°♄01'08 4.49321 AU	min. Earth dist.	16069 May 26 01:10	19°♄26'21	3.89475 AU
direct	16064 Feb 05 06:46	25°♄07'40	direct	16069 Jul 23 21:07	14°♄25'07	
	16064 Apr 05 01:42	0°♄		16069 Nov 09 01:53	0°♄	
evening set	16064 Jun 08 16:20	12°♄17'36	evening set	16069 Nov 28 17:42	4°♄40'38	
max. Earth dist.	16064 Jun 19 18:43	14°♄41'37 6.45344 AU				
			conjunction	16069 Dec 12 05:36	7°♄57'11	0°16'11
conjunction	16064 Jun 21 14:06	15°♄05'09 -0°19'46	minimum elong	16069 Dec 12 05:35	7°♄57'11	0°16'56
minimum elong	16064 Jun 21 14:06	15°♄05'08 0°20'30	max. Earth dist.	16069 Dec 13 22:07	8°♄21'50	5.92259 AU
morning rise	16064 Jul 04 10:44	17°♄52'16	morning rise	16069 Dec 25 19:00	11°♄14'22	
	16064 Sep 05 10:24	0°♄		16070 Apr 02 21:51	0°♄	
retrograde	16064 Nov 03 14:03	4°♄55'55	retrograde	16070 May 05 07:38	1°♄42'00	
opposition	16065 Jan 03 14:11	0°♄01'50 -0°37'24		16070 Jun 06 14:56	30°♄♄	
	16065 Jan 03 19:53	30°♄♄	min. Earth dist.	16070 Jul 02 06:23	26°♄50'57	3.97673 AU
min. Earth dist.	16065 Jan 05 01:41	29°♄50'25 4.39464 AU	opposition	16070 Jul 03 16:19	26°♄39'27	0°36'19
direct	16065 Mar 06 17:06	25°♄01'15	direct	16070 Aug 31 02:21	21°♄42'54	
	16065 May 05 11:12	0°♄		16070 Nov 14 13:34	0°♄	
evening set	16065 Jul 09 14:25	12°♄45'04	evening set	16071 Jan 05 09:10	11°♄19'25	
	16065 Jul 19 16:44	15°♄				
max. Earth dist.	16065 Jul 20 04:45	15°♄06'43 6.32023 AU	conjunction	16071 Jan 18 21:47	14°♄30'10	0°29'03
			minimum elong	16071 Jan 18 21:47	14°♄30'10	0°29'39
conjunction	16065 Jul 22 11:38	15°♄37'24 -0°29'38	max. Earth dist.	16071 Jan 21 09:07	15°♄05'04	6.05079 AU
minimum elong	16065 Jul 22 11:38	15°♄37'24 0°30'14		16071 Jan 21 00:30	15°♄	
morning rise	16065 Aug 04 07:55	18°♄29'38	morning rise	16071 Feb 01 11:08	17°♄40'58	
	16065 Sep 29 21:47	0°♄		16071 Mar 31 08:31	0°♄	
retrograde	16065 Dec 06 16:23	6°♄26'26	retrograde	16071 Jun 09 09:41	7°♄03'24	
opposition	16066 Feb 05 05:40	1°♄32'03 -0°46'40	min. Earth dist.	16071 Aug 06 16:27	2°♄13'31	4.13654 AU
min. Earth dist.	16066 Feb 06 20:39	1°♄19'26 4.23472 AU	opposition	16071 Aug 08 07:20	2°♄00'28	0°46'44
	16066 Feb 17 06:17	30°♄♄		16071 Aug 23 17:38	30°♄♄	
direct	16066 Apr 07 10:25	26°♄32'19	direct	16071 Oct 06 14:53	27°♄02'19	
	16066 May 25 16:52	0°♄		16071 Nov 19 12:35	0°♄	
evening set	16066 Aug 11 05:38	15°♄08'24	evening set	16072 Feb 09 23:28	15°♄40'44	
max. Earth dist.	16066 Aug 21 23:47	17°♄37'59 6.14563 AU				
			conjunction	16072 Feb 23 09:53	18°♄42'40	0°30'55
conjunction	16066 Aug 24 04:24	18°♄08'36 -0°31'00	minimum elong	16072 Feb 23 09:53	18°♄42'41	0°31'08
minimum elong	16066 Aug 24 04:24	18°♄08'36 0°31'14	max. Earth dist.	16072 Feb 25 15:02	19°♄12'42	6.22704 AU
morning rise	16066 Sep 06 03:22	21°♄09'13	morning rise	16072 Mar 07 20:26	21°♄44'16	
	16066 Oct 16 06:10	0°♄		16072 Apr 15 15:36	0°♄	
retrograde	16067 Jan 11 12:32	10°♄18'15	retrograde	16072 Jul 10 19:57	9°♄53'03	
opposition	16067 Mar 12 09:53	5°♄22'42 -0°41'20	min. Earth dist.	16072 Sep 08 01:59	5°♄01'25	4.31269 AU
min. Earth dist.	16067 Mar 13 16:14	5°♄12'42 4.05836 AU	opposition	16072 Sep 09 07:26	4°♄51'40	0°40'55
direct	16067 May 11 09:08	0°♄24'35		16072 Oct 30 20:51	30°♄♄	
evening set	16067 Sep 15 04:49	19°♄58'30	direct	16072 Nov 08 20:12	29°♄52'17	
max. Earth dist.	16067 Sep 27 01:33	22°♄49'34 5.98357 AU		16072 Nov 17 20:14	0°♄	
			evening set	16073 Mar 14 04:32	17°♄37'16	
conjunction	16067 Sep 28 07:54	23°♄07'52 -0°21'44				
minimum elong	16067 Sep 28 07:55	23°♄07'52 0°21'31	conjunction	16073 Mar 27 11:41	20°♄31'07	0°22'59
morning rise	16067 Oct 11 11:47	26°♄18'01	minimum elong	16073 Mar 27 11:42	20°♄31'07	0°22'46
	16067 Oct 27 02:49	0°♄	max. Earth dist.	16073 Mar 28 21:12	20°♄49'24	6.38946 AU
	16068 Jan 18 01:27	15°♄	morning rise	16073 Apr 09 17:50	23°♄24'17	
retrograde	16068 Feb 18 15:59	16°♄36'10		16073 May 11 09:15	0°♄	
	16068 Mar 21 06:10	15°♄♄	retrograde	16073 Aug 10 06:28	10°♄35'17	
opposition	16068 Apr 18 00:05	11°♄38'39 -0°19'56	opposition	16073 Oct 10 06:12	5°♄36'34	0°23'45
min. Earth dist.	16068 Apr 18 09:27	11°♄35'32 3.92686 AU	min. Earth dist.	16073 Oct 09 16:35	5°♄41'00	4.44986 AU
direct	16068 Jun 15 17:58	6°♄42'30	direct	16073 Dec 10 19:39	0°♄36'34	
	16068 Aug 29 12:26	15°♄		16074 Apr 01 06:33	15°♄	
evening set	16068 Oct 21 09:56	26°♄56'46	evening set	16074 Apr 14 11:50	17°♄46'38	
	16068 Nov 02 21:11	0°♄				
conjunction	16068 Nov 03 18:00	0°♄12'46 -0°03'41	conjunction	16074 Apr 27 15:00	20°♄34'57	0°08'58
minimum elong	16068 Nov 03 18:01	0°♄12'46 0°03'04	minimum elong	16074 Apr 27 15:00	20°♄34'57	0°08'26
behind sun begin	16068 Nov 03 09:44	0°♄07'43	behind sun begin	16074 Apr 27 07:57	20°♄31'12	
behind sun end	16068 Nov 04 02:18	0°♄17'50	behind sun end	16074 Apr 27 22:03	20°♄38'42	
max. Earth dist.	16068 Nov 03 22:34	0°♄15'31 5.89618 AU	max. Earth dist.	16074 Apr 27 19:13	20°♄37'11	6.49200 AU
			morning rise	16074 May 10 16:55	23°♄22'33	

	16074 Jun 12 03:09	0°♐	min. Earth dist.	16080 Apr 23 14:49	16°♍59'25	3.91321 AU
retrograde	16074 Sep 08 22:24	10°♐02'49		16080 May 08 23:07	15°♍	
opposition	16074 Nov 09 03:35	5°♐06'36 0°01'08	direct	16080 Jun 21 00:16	12°♍05'09	
min. Earth dist.	16074 Nov 09 10:27	5°♐04'23 4.51236 AU		16080 Aug 02 08:53	15°♍	
desc. node	16074 Nov 27 18:14	2°♐48'32		16080 Oct 16 21:57	0°♌	
direct	16075 Jan 10 10:35	0°♐06'12	evening set	16080 Oct 26 18:40	2°♌23'22	
evening set	16075 May 14 17:27	17°♐05'07				
			conjunction	16080 Nov 09 03:36	5°♌40'02 -0°00'41	
conjunction	16075 May 27 17:19	19°♐51'25 -0°07'13	minimum elong	16080 Nov 09 03:34	5°♌40'02 0°00'02	
minimum elong	16075 May 27 17:19	19°♐51'25 0°07'57	behind sun begin	16080 Nov 08 20:43	5°♌35'51	
behind sun begin	16075 May 27 10:09	19°♐47'36	behind sun end	16080 Nov 09 10:25	5°♌44'13	
behind sun end	16075 May 28 00:29	19°♐55'13	max. Earth dist.	16080 Nov 09 14:44	5°♌46'52 5.89072 AU	
max. Earth dist.	16075 May 26 17:37	19°♐38'45 6.51013 AU	morning rise	16080 Nov 22 14:00	8°♌57'35	
morning rise	16075 Jun 09 15:45	22°♐37'04	asc. node	16080 Nov 22 17:41	8°♌59'50	
	16075 Jul 16 01:00	0°♍	retrograde	16081 Apr 03 02:02	29°♌49'49	
retrograde	16075 Oct 08 18:53	9°♍16'44	min. Earth dist.	16081 May 31 09:27	24°♌55'46 3.89831 AU	
opposition	16075 Dec 09 00:49	4°♍22'06 -0°21'36	opposition	16081 Jun 01 04:50	24°♌49'13 0°14'54	
min. Earth dist.	16075 Dec 10 00:56	4°♍14'22 4.48575 AU	direct	16081 Jul 29 07:50	19°♌53'42	
	16076 Jan 19 19:03	30°♍		16081 Oct 20 21:47	0°♎	
direct	16076 Feb 09 10:56	29°♐21'26	evening set	16081 Dec 04 03:20	10°♎06'21	
	16076 Mar 01 06:15	0°♍				
evening set	16076 Jun 12 21:40	16°♍34'16	conjunction	16081 Dec 17 15:36	13°♎22'29 0°18'36	
max. Earth dist.	16076 Jun 23 22:36	18°♍57'53 6.43995 AU	minimum elong	16081 Dec 17 15:36	13°♎22'29 0°19'21	
			max. Earth dist.	16081 Dec 19 13:31	13°♎50'17 5.93481 AU	
conjunction	16076 Jun 25 19:21	19°♍22'14 -0°21'31	morning rise	16081 Dec 31 05:14	16°♎39'09	
minimum elong	16076 Jun 25 19:21	19°♍22'14 0°22'15		16082 Mar 02 10:58	0°♏	
morning rise	16076 Jul 08 15:38	22°♍09'47	retrograde	16082 May 10 11:04	6°♏59'29	
	16076 Aug 15 15:34	0°♏	min. Earth dist.	16082 Jul 07 08:39	2°♏09'08 3.99630 AU	
retrograde	16076 Nov 08 00:27	9°♏18'57	opposition	16082 Jul 08 21:10	1°♏56'47 0°38'51	
opposition	16077 Jan 07 23:38	4°♏24'55 -0°39'22		16082 Jul 23 16:46	30°♎	
min. Earth dist.	16077 Jan 09 12:34	4°♏13'03 4.37583 AU	direct	16082 Sep 05 08:45	27°♎00'04	
	16077 Feb 19 07:19	30°♎		16082 Oct 18 19:18	0°♏	
direct	16077 Mar 11 00:06	29°♍24'25		16083 Jan 04 04:29	15°♏	
	16077 Mar 30 17:59	0°♏	evening set	16083 Jan 10 13:17	16°♏28'34	
	16077 Jul 03 20:29	15°♏				
evening set	16077 Jul 14 00:15	17°♏14'30	conjunction	16083 Jan 24 01:32	19°♏38'02 0°30'00	
max. Earth dist.	16077 Jul 24 12:32	19°♏35'47 6.29734 AU	minimum elong	16083 Jan 24 01:31	19°♏38'02 0°30'32	
			max. Earth dist.	16083 Jan 26 12:34	20°♏12'34 6.07554 AU	
conjunction	16077 Jul 26 21:23	20°♏07'45 -0°30'23	morning rise	16083 Feb 06 14:42	22°♏47'34	
minimum elong	16077 Jul 26 21:23	20°♏07'45 0°30'56		16083 Mar 10 21:08	0°♐	
morning rise	16077 Aug 08 18:02	23°♏01'01	retrograde	16083 Jun 14 02:40	11°♐58'49	
	16077 Sep 10 02:32	0°♑	min. Earth dist.	16083 Aug 11 12:33	7°♐08'43 4.16379 AU	
retrograde	16077 Dec 11 12:41	11°♑07'12	opposition	16083 Aug 13 02:37	6°♐55'56 0°46'48	
opposition	16078 Feb 09 23:02	6°♑12'43 -0°46'51	direct	16083 Oct 11 14:34	1°♐57'34	
min. Earth dist.	16078 Feb 11 13:59	6°♑00'03 4.20912 AU	evening set	16084 Feb 14 18:35	20°♐26'52	
direct	16078 Apr 12 00:14	1°♑13'05				
evening set	16078 Aug 15 22:34	19°♑57'44	conjunction	16084 Feb 28 04:41	23°♐27'28 0°30'18	
max. Earth dist.	16078 Aug 26 19:49	22°♑29'57 6.11955 AU	minimum elong	16084 Feb 28 04:41	23°♐27'28 0°30'28	
			max. Earth dist.	16084 Mar 01 09:12	23°♐56'57 6.25452 AU	
conjunction	16078 Aug 28 22:00	22°♑59'19 -0°30'20	morning rise	16084 Mar 12 14:26	26°♐27'35	
minimum elong	16078 Aug 28 22:01	22°♑59'19 0°30'30		16084 Mar 28 18:00	0°♑	
morning rise	16078 Sep 10 21:27	26°♑01'19	retrograde	16084 Jul 15 03:39	14°♑25'58	
	16078 Sep 28 05:29	0°♒	opposition	16084 Sep 13 17:38	9°♑24'57 0°39'01	
retrograde	16079 Jan 16 17:30	15°♒21'29	min. Earth dist.	16084 Sep 12 13:38	9°♑34'11 4.33806 AU	
opposition	16079 Mar 17 12:31	10°♒25'46 -0°39'12	direct	16084 Nov 13 10:03	4°♑25'29	
min. Earth dist.	16079 Mar 18 16:50	10°♒16'26 4.03413 AU	evening set	16085 Mar 18 15:25	22°♑03'20	
direct	16079 May 16 06:19	5°♒28'00				
evening set	16079 Sep 20 06:43	25°♒10'01	conjunction	16085 Mar 31 21:48	24°♑56'03 0°21'16	
max. Earth dist.	16079 Oct 02 06:57	28°♒04'03 5.96345 AU	minimum elong	16085 Mar 31 21:49	24°♑56'04 0°21'02	
			max. Earth dist.	16085 Apr 02 02:01	25°♑11'23 6.41071 AU	
conjunction	16079 Oct 03 10:24	28°♒20'39 -0°19'35	morning rise	16085 Apr 14 03:28	27°♑48'09	
minimum elong	16079 Oct 03 10:24	28°♒20'40 0°19'17		16085 Apr 24 10:14	0°♒	
	16079 Oct 10 06:32	0°♓	retrograde	16085 Aug 14 10:23	14°♒52'25	
morning rise	16079 Oct 16 15:19	1°♓32'12	opposition	16085 Oct 14 10:42	9°♒54'03 0°20'46	
	16079 Dec 17 03:48	15°♓	min. Earth dist.	16085 Oct 14 00:48	9°♒57'16 4.46568 AU	
retrograde	16080 Feb 24 02:35	21°♓58'55	direct	16085 Dec 15 03:59	4°♒53'56	
opposition	16080 Apr 23 09:46	17°♓01'06 -0°15'51		16086 Mar 15 06:24	15°♒	

evening set	16086 Apr 18 16:52	22°♄00'20		morning rise	16091 Oct 21 21:34	6°♄53'00	
					16091 Nov 25 19:01	15°♄	
conjunction	16086 May 01 19:38	24°♄48'06	0°06'46	retrograde	16092 Feb 29 16:26	27°♄26'36	
minimum elong	16086 May 01 19:39	24°♄48'06	0°06'11	opposition	16092 Apr 28 21:21	22°♄28'21	-0°11'37
behind sun begin	16086 May 01 12:01	24°♄44'03		min. Earth dist.	16092 Apr 28 23:18	22°♄27'42	3.90414 AU
behind sun end	16086 May 02 03:16	24°♄52'10		direct	16092 Jun 26 09:46	17°♄32'34	
max. Earth dist.	16086 May 01 20:27	24°♄48'31	6.50125 AU		16092 Sep 28 17:41	0°♄	
morning rise	16086 May 14 20:54	27°♄35'08		asc. node	16092 Sep 30 02:30	0°♄18'19	
	16086 May 26 08:44	0°♄		evening set	16092 Nov 01 04:33	7°♄52'22	
retrograde	16086 Sep 12 23:23	14°♄13'12					
desc. node	16086 Oct 09 03:17	13°♄10'41		conjunction	16092 Nov 14 14:04	11°♄09'19	0°02'19
opposition	16086 Nov 13 05:53	9°♄17'14	-0°02'09	minimum elong	16092 Nov 14 14:03	11°♄09'19	0°03'00
min. Earth dist.	16086 Nov 13 14:45	9°♄14'23	4.51466 AU	behind sun begin	16092 Nov 14 05:45	11°♄04'15	
direct	16087 Jan 14 13:09	4°♄16'48		behind sun end	16092 Nov 14 22:22	11°♄14'23	
evening set	16087 May 18 20:52	21°♄16'04		max. Earth dist.	16092 Nov 15 07:10	11°♄19'48	5.89076 AU
				morning rise	16092 Nov 28 01:10	14°♄27'09	
conjunction	16087 May 31 20:18	24°♄02'22	-0°09'24		16093 Feb 08 12:46	0°♄	
minimum elong	16087 May 31 20:19	24°♄02'22	0°10'07	retrograde	16093 Apr 08 10:58	5°♄17'27	
behind sun begin	16087 May 31 13:54	23°♄58'58		opposition	16093 Jun 06 14:58	0°♄16'26	0°19'02
behind sun end	16087 Jun 01 02:43	24°♄05'47		min. Earth dist.	16093 Jun 05 15:31	0°♄24'22	3.90757 AU
max. Earth dist.	16087 May 30 17:02	23°♄47'46	6.50526 AU		16093 Jun 08 15:38	30°♄	
morning rise	16087 Jun 13 18:19	26°♄48'04		direct	16093 Aug 03 17:21	25°♄20'50	
	16087 Jun 28 23:57	0°♄			16093 Sep 27 01:22	0°♄	
retrograde	16087 Oct 13 00:57	13°♄30'13		evening set	16093 Dec 09 12:03	15°♄28'18	
opposition	16087 Dec 13 05:17	8°♄35'46	-0°24'30				
min. Earth dist.	16087 Dec 14 08:40	8°♄26'59	4.47395 AU	conjunction	16093 Dec 23 00:19	18°♄43'37	0°20'50
direct	16088 Feb 13 15:26	3°♄35'05		minimum elong	16093 Dec 23 00:18	18°♄43'37	0°21'34
evening set	16088 Jun 17 03:05	20°♄52'14		max. Earth dist.	16093 Dec 25 00:15	19°♄12'32	5.95187 AU
max. Earth dist.	16088 Jun 27 23:46	23°♄14'09	6.42189 AU	morning rise	16094 Jan 05 14:08	21°♄59'28	
					16094 Feb 09 10:56	0°♄	
conjunction	16088 Jun 30 00:33	23°♄40'48	-0°23'10	retrograde	16094 May 15 10:52	12°♄10'38	
minimum elong	16088 Jun 30 00:33	23°♄40'48	0°23'54	min. Earth dist.	16094 Jul 12 10:06	7°♄20'21	4.01894 AU
morning rise	16088 Jul 12 20:55	26°♄29'03		opposition	16094 Jul 13 23:25	7°♄07'43	0°41'00
	16088 Jul 29 06:41	0°♄		direct	16094 Sep 10 14:36	2°♄10'43	
retrograde	16088 Nov 12 12:52	13°♄45'21			16094 Dec 17 17:08	15°♄	
opposition	16089 Jan 12 10:13	8°♄51'16	-0°41'10	evening set	16095 Jan 15 14:55	21°♄30'29	
min. Earth dist.	16089 Jan 13 23:54	8°♄39'08	4.35258 AU				
direct	16089 Mar 15 07:10	3°♄50'47		conjunction	16095 Jan 29 03:05	24°♄38'42	0°30'42
	16089 Jun 16 20:41	15°♄		minimum elong	16095 Jan 29 03:05	24°♄38'42	0°31'11
evening set	16089 Jul 18 11:13	21°♄48'35		max. Earth dist.	16095 Jan 31 15:14	25°♄13'40	6.10159 AU
max. Earth dist.	16089 Jul 29 00:50	24°♄11'23	6.27069 AU	morning rise	16095 Feb 11 15:42	27°♄46'49	
					16095 Feb 21 08:52	0°♄	
conjunction	16089 Jul 31 08:44	24°♄43'00	-0°30'59	retrograde	16095 Jun 18 17:38	16°♄46'47	
minimum elong	16089 Jul 31 08:44	24°♄43'00	0°31'28	min. Earth dist.	16095 Aug 16 06:13	11°♄56'30	4.19056 AU
morning rise	16089 Aug 13 05:30	27°♄37'27		opposition	16095 Aug 17 19:16	11°♄44'07	0°46'31
	16089 Aug 23 20:55	0°♄		direct	16095 Oct 16 11:24	6°♄45'35	
retrograde	16089 Dec 16 11:00	15°♄54'21		evening set	16096 Feb 19 11:34	25°♄06'26	
opposition	16090 Feb 14 18:45	10°♄59'45	-0°46'46				
min. Earth dist.	16090 Feb 16 09:21	10°♄47'11	4.18104 AU	conjunction	16096 Mar 03 21:03	28°♄05'44	0°29'29
direct	16090 Apr 16 15:26	6°♄00'22		minimum elong	16096 Mar 03 21:03	28°♄05'44	0°29'34
evening set	16090 Aug 20 18:23	24°♄54'21		max. Earth dist.	16096 Mar 05 21:48	28°♄32'57	6.27970 AU
max. Earth dist.	16090 Aug 31 17:11	27°♄28'28	6.09245 AU		16096 Mar 12 09:59	0°♄	
				morning rise	16096 Mar 17 06:25	1°♄04'37	
conjunction	16090 Sep 02 18:12	27°♄57'19	-0°29'27	retrograde	16096 Jul 19 10:11	18°♄53'53	
minimum elong	16090 Sep 02 18:13	27°♄57'19	0°29'33	min. Earth dist.	16096 Sep 17 00:51	14°♄01'37	4.35983 AU
	16090 Sep 11 10:45	0°♄		opposition	16096 Sep 18 02:23	13°♄53'12	0°36'55
morning rise	16090 Sep 15 18:30	1°♄00'51		direct	16096 Nov 17 22:31	8°♄53'37	
retrograde	16091 Jan 22 00:15	20°♄32'22		evening set	16097 Mar 23 01:06	26°♄25'46	
opposition	16091 Mar 22 17:50	15°♄36'21	-0°36'45				
min. Earth dist.	16091 Mar 23 18:38	15°♄28'09	4.01061 AU	conjunction	16097 Apr 05 07:08	29°♄17'40	0°19'26
direct	16091 May 21 07:07	10°♄38'51		minimum elong	16097 Apr 05 07:09	29°♄17'40	0°19'09
	16091 Sep 23 12:07	0°♄		max. Earth dist.	16097 Apr 06 08:35	29°♄31'26	6.42767 AU
evening set	16091 Sep 25 11:22	0°♄28'26			16097 Apr 08 13:18	0°♄	
				morning rise	16097 Apr 18 12:00	2°♄08'50	
conjunction	16091 Oct 08 15:56	3°♄40'17	-0°17'15		16097 Jun 25 20:09	15°♄	
minimum elong	16091 Oct 08 15:56	3°♄40'17	0°16'54	retrograde	16097 Aug 18 13:05	19°♄07'54	
max. Earth dist.	16091 Oct 07 19:11	3°♄27'41	5.94612 AU		16097 Oct 12 03:47	15°♄	

opposition	16097 Oct 18 14:51	14°♄09'58	0°17'40
min. Earth dist.	16097 Oct 18 07:16	14°♄12'26	4.47687 AU
direct	16097 Dec 19 10:35	9°♄09'52	
	16098 Feb 23 10:30	15°♄	
evening set	16098 Apr 22 22:39	26°♄14'11	
conjunction	16098 May 06 00:48	29°♄01'35	0°04'30
minimum elong	16098 May 06 00:48	29°♄01'35	0°03'53
behind sun begin	16098 May 05 16:51	28°♄57'21	
behind sun end	16098 May 06 08:45	29°♄05'48	
max. Earth dist.	16098 May 05 19:55	28°♄59'00	6.50590 AU
	16098 May 10 14:12	0°♄	
morning rise	16098 May 19 01:42	1°♄48'17	
desc. node	16098 Aug 20 16:32	17°♄17'24	
retrograde	16098 Sep 17 04:21	18°♄25'39	
opposition	16098 Nov 17 09:36	13°♄29'59	-0°05'29
min. Earth dist.	16098 Nov 17 22:10	13°♄25'57	4.51263 AU
direct	16099 Jan 18 18:33	8°♄29'30	
evening set	16099 May 23 01:46	25°♄30'29	
max. Earth dist.	16099 Jun 03 18:16	28°♄00'31	6.49663 AU
conjunction	16099 Jun 05 01:00	28°♄17'00	-0°11'34
minimum elong	16099 Jun 05 01:00	28°♄17'00	0°12'18
behind sun begin	16099 Jun 04 19:42	28°♄14'11	
behind sun end	16099 Jun 05 06:18	28°♄19'50	
	16099 Jun 13 01:00	0°♄	
morning rise	16099 Jun 17 22:42	1°♄02'56	
retrograde	16099 Oct 17 07:59	17°♄48'52	
opposition	16099 Dec 17 12:11	12°♄54'32	-0°27'20
min. Earth dist.	16099 Dec 18 16:37	12°♄45'25	4.45937 AU
direct	16100 Feb 17 19:39	7°♄53'55	
evening set	16100 Jun 22 11:00	25°♄16'17	
max. Earth dist.	16100 Jul 03 06:56	27°♄38'24	6.40238 AU
conjunction	16100 Jul 05 08:24	28°♄05'34	-0°24'44
minimum elong	16100 Jul 05 08:23	28°♄05'34	0°25'26
	16100 Jul 14 00:53	0°♄	
morning rise	16100 Jul 18 04:37	0°♄54'32	
	16100 Oct 01 15:08	15°♄	
retrograde	16100 Nov 18 05:11	18°♄18'34	
	16101 Jan 05 09:26	15°♄	
opposition	16101 Jan 17 23:48	13°♄24'34	-0°42'46
min. Earth dist.	16101 Jan 19 14:50	13°♄12'00	4.32947 AU
direct	16101 Mar 20 18:28	8°♄24'19	
	16101 May 28 22:17	15°♄	
evening set	16101 Jul 24 01:14	26°♄29'48	
max. Earth dist.	16101 Aug 03 14:09	28°♄53'05	6.24591 AU
conjunction	16101 Aug 05 22:50	29°♄25'19	-0°31'24
minimum elong	16101 Aug 05 22:51	29°♄25'19	0°31'51
	16101 Aug 08 11:49	0°♄	
morning rise	16101 Aug 18 20:06	2°♄20'58	
retrograde	16101 Dec 22 10:16	20°♄47'58	