



























































































































































































































































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evening set	2000 Apr 24 13:59	14°♄38'47			2005 Oct 26 02:52	0°♄	
	2000 Apr 26 01:49	15°♄		morning rise	2005 Nov 04 06:20	1°♄59'12	
					2006 Jan 12 06:04	15°♄	
conjunction	2000 May 08 04:08	17°♄52'37 -0°51'44		retrograde	2006 Mar 04 18:02	18°♄51'42	
minimum elong	2000 May 08 04:11	17°♄52'38 0°51'44			2006 Apr 26 15:57	15°♄	
max. Earth dist.	2000 May 10 07:40	18°♄23'17 5.99610 AU		opposition	2006 May 04 14:36	13°♄59'40	1°20'12
morning rise	2000 May 21 21:05	21°♄07'40		min. Earth dist.	2006 May 05 23:44	13°♄49'06	4.41270 AU
	2000 Jun 30 07:35	0°♄		direct	2006 Jul 06 07:19	8°♄58'43	
retrograde	2000 Sep 29 12:52	11°♄14'05			2006 Sep 11 08:21	15°♄	
min. Earth dist.	2000 Nov 26 15:07	6°♄21'02 4.04935 AU		evening set	2006 Nov 09 06:39	26°♄41'27	
opposition	2000 Nov 28 02:12	6°♄09'03 -0°54'56		max. Earth dist.	2006 Nov 19 20:53	29°♄02'14	6.36473 AU
direct	2001 Jan 25 08:38	1°♄11'16					
evening set	2001 May 31 18:20	20°♄20'38		conjunction	2006 Nov 21 23:15	29°♄30'15	0°43'25
				minimum elong	2006 Nov 21 23:17	29°♄30'16	0°43'25
conjunction	2001 Jun 14 12:38	23°♄30'50 -0°19'06			2006 Nov 24 04:43	0°♄	
minimum elong	2001 Jun 14 12:39	23°♄30'51 0°19'05		morning rise	2006 Dec 04 14:10	2°♄18'26	
max. Earth dist.	2001 Jun 16 18:10	24°♄01'42 6.11521 AU		retrograde	2007 Apr 06 01:22	19°♄46'44	
morning rise	2001 Jun 28 07:42	26°♄41'12		opposition	2007 Jun 05 23:13	14°♄54'38	0°41'52
	2001 Jul 13 00:03	0°♄		min. Earth dist.	2007 Jun 07 12:16	14°♄42'50	4.30438 AU
retrograde	2001 Nov 02 15:35	15°♄41'30		direct	2007 Aug 07 02:05	9°♄55'48	
asc. node	2001 Dec 30 23:32	10°♄48'17		evening set	2007 Dec 10 13:49	28°♄06'49	
min. Earth dist.	2001 Dec 31 01:04	10°♄47'46 4.18746 AU			2007 Dec 18 20:11	0°♄	
opposition	2002 Jan 01 05:53	10°♄38'01 0°00'11		max. Earth dist.	2007 Dec 21 07:01	0°♄33'42	6.23484 AU
direct	2002 Mar 01 15:15	5°♄37'24					
evening set	2002 Jul 06 09:10	24°♄07'50		conjunction	2007 Dec 23 05:56	1°♄00'35	0°10'59
				minimum elong	2007 Dec 23 05:56	1°♄00'35	0°10'58
conjunction	2002 Jul 20 01:19	27°♄10'44 0°18'48		behind sun begin	2007 Dec 22 23:52	0°♄57'08	
minimum elong	2002 Jul 20 01:17	27°♄10'44 0°18'48		behind sun end	2007 Dec 23 12:01	1°♄04'03	
max. Earth dist.	2002 Jul 21 11:20	27°♄29'44 6.26068 AU		morning rise	2008 Jan 04 21:40	3°♄54'25	
	2002 Aug 01 17:20	0°♄		desc. node	2008 Apr 17 16:02	21°♄37'34	
morning rise	2002 Aug 02 16:39	0°♄12'54		retrograde	2008 May 09 12:11	22°♄22'06	
	2002 Oct 20 08:09	15°♄		opposition	2008 Jul 09 07:39	17°♄28'18	-0°11'40
retrograde	2002 Dec 04 12:22	18°♄06'16		min. Earth dist.	2008 Jul 10 10:59	17°♄19'30	4.16102 AU
	2003 Jan 18 18:29	15°♄		direct	2008 Sep 08 04:16	12°♄32'01	
opposition	2003 Feb 02 09:12	13°♄06'06 0°51'42			2009 Jan 05 15:41	0°♄	
min. Earth dist.	2003 Feb 01 19:11	13°♄10'46 4.32714 AU		evening set	2009 Jan 11 11:11	1°♄21'27	
direct	2003 Apr 04 03:04	8°♄03'39		max. Earth dist.	2009 Jan 23 02:42	4°♄06'15	6.09056 AU
	2003 Jun 14 19:56	15°♄					
evening set	2003 Aug 09 00:11	25°♄59'49		conjunction	2009 Jan 24 05:44	4°♄22'14	-0°26'28
				minimum elong	2009 Jan 24 05:43	4°♄22'13	0°26'27
conjunction	2003 Aug 22 10:08	28°♄54'56 0°49'13		morning rise	2009 Feb 06 01:21	7°♄23'52	
minimum elong	2003 Aug 22 10:06	28°♄54'55 0°49'13			2009 Mar 11 15:11	15°♄	
max. Earth dist.	2003 Aug 22 17:36	28°♄59'00 6.38381 AU		retrograde	2009 Jun 15 07:50	27°♄01'03	
	2003 Aug 27 09:26	0°♄		opposition	2009 Aug 14 17:53	22°♄04'09	-1°04'49
morning rise	2003 Sep 04 17:34	1°♄48'43		min. Earth dist.	2009 Aug 15 03:13	22°♄01'06	4.02783 AU
retrograde	2004 Jan 03 23:57	18°♄54'13		direct	2009 Oct 13 04:34	17°♄09'59	
opposition	2004 Mar 04 05:05	13°♄57'48 1°25'38			2010 Jan 18 02:10	0°♄	
min. Earth dist.	2004 Mar 04 09:17	13°♄56'26 4.42565 AU		evening set	2010 Feb 15 10:49	6°♄36'06	
direct	2004 May 05 03:07	8°♄54'53					
evening set	2004 Sep 08 21:37	26°♄29'46		conjunction	2010 Feb 28 10:44	9°♄44'05	-0°56'02
				minimum elong	2010 Feb 28 10:42	9°♄44'04	0°56'01
conjunction	2004 Sep 21 23:48	29°♄19'08 1°04'47		max. Earth dist.	2010 Feb 28 13:56	9°♄46'00	5.98065 AU
minimum elong	2004 Sep 21 23:47	29°♄19'08 1°04'48		morning rise	2010 Mar 13 13:11	12°♄53'34	
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	2004 Sep 25 03:23	0°♄		retrograde	2010 Jul 23 12:03	3°♄24'07	
morning rise	2004 Oct 04 23:18	2°♄07'07			2010 Sep 09 04:49	30°♄	
retrograde	2005 Feb 02 02:26	18°♄51'45		opposition	2010 Sep 21 11:36	28°♄23'19	-1°35'50
opposition	2005 Apr 03 15:30	13°♄58'15 1°35'36		min. Earth dist.	2010 Sep 20 21:19	28°♄28'05	3.95393 AU
min. Earth dist.	2005 Apr 04 13:38	13°♄51'07 4.45665 AU		direct	2010 Nov 18 16:54	23°♄29'41	
direct	2005 Jun 05 07:21	8°♄55'50			2011 Jan 22 17:11	0°♄	
evening set	2005 Oct 09 16:43	26°♄26'00		evening set	2011 Mar 24 07:07	13°♄14'25	
max. Earth dist.	2005 Oct 20 20:25	28°♄51'10 6.44285 AU					
				conjunction	2011 Apr 06 14:40	16°♄27'21	-1°04'43
conjunction	2005 Oct 22 12:54	29°♄13'12 1°02'40		minimum elong	2011 Apr 06 14:41	16°♄27'21	1°04'43

max. Earth dist.	2011 Apr 08 01:39	16°  48'30	5.94919 AU	min. Earth dist.	2017 Apr 08 21:23	18°  07'35	4.45490 AU
morning rise	2011 Apr 20 01:29	19°  41'57		direct	2017 Jun 09 14:03	13°  12'58	
	2011 Jun 04 13:56	0°  8			2017 Oct 10 13:20	0°  11	
retrograde	2011 Aug 30 09:17	10°  821'20		evening set	2017 Oct 13 22:46	0°  11'43'54	
min. Earth dist.	2011 Oct 27 18:41	5°  827'43	3.96975 AU	max. Earth dist.	2017 Oct 24 22:20	3°  11'07'11	6.43536 AU
opposition	2011 Oct 29 01:42	5°  817'10	-1°28'51				
direct	2011 Dec 25 22:08	0°  821'52		conjunction	2017 Oct 26 18:09	3°  11'31'06	1°00'56
	2012 Apr 08 13:26	15°  8		minimum elong	2017 Oct 26 18:11	3°  11'31'07	1°00'55
evening set	2012 Apr 29 22:12	19°  857'04		morning rise	2017 Nov 08 11:12	6°  11'17'14	
					2017 Dec 21 01:33	15°  11	
conjunction	2012 May 13 13:23	23°  810'41	-0°47'56	retrograde	2018 Mar 09 04:45	23°  11'13'21	
minimum elong	2012 May 13 13:25	23°  810'42	0°47'56	opposition	2018 May 09 00:39	18°  11'21'24	1°16'04
max. Earth dist.	2012 May 15 20:29	23°  843'20	6.01014 AU	min. Earth dist.	2018 May 10 11:53	18°  11'10'10	4.39983 AU
morning rise	2012 May 27 06:49	26°  825'18			2018 Jun 06 23:14	15°  11'11	
	2012 Jun 11 17:22	0°  11		direct	2018 Jul 10 17:02	13°  11'20'40	
retrograde	2012 Oct 04 13:18	16°  11'22'53			2018 Aug 13 10:38	15°  11	
min. Earth dist.	2012 Dec 01 14:50	11°  11'29'47	4.06853 AU		2018 Nov 08 12:39	0°  11'11	
opposition	2012 Dec 03 01:45	11°  11'17'52	-0°47'36	evening set	2018 Nov 13 14:03	1°  11'11'06'53	
direct	2013 Jan 30 11:37	6°  11'19'38		max. Earth dist.	2018 Nov 24 03:39	3°  11'11'27'54	6.34749 AU
evening set	2013 Jun 05 22:01	25°  11'22'51					
				conjunction	2018 Nov 26 06:33	3°  11'11'56'19	0°39'30
conjunction	2013 Jun 19 16:11	28°  11'32'01	-0°13'42	minimum elong	2018 Nov 26 06:35	3°  11'11'56'20	0°39'30
minimum elong	2013 Jun 19 16:12	28°  11'32'02	0°13'42	morning rise	2018 Dec 08 21:21	6°  11'11'45'09	
behind sun begin	2013 Jun 19 11:55	28°  11'29'35		retrograde	2019 Apr 10 17:01	24°  11'11'21'01	
behind sun end	2013 Jun 19 20:29	28°  11'34'29		opposition	2019 Jun 10 15:28	19°  11'11'28'46	0°34'59
max. Earth dist.	2013 Jun 21 19:20	29°  11'01'22	6.13746 AU	min. Earth dist.	2019 Jun 12 03:04	19°  11'11'17'25	4.28391 AU
	2013 Jun 26 01:40	0°  11		direct	2019 Aug 11 13:37	14°  11'11'11'30'18	
morning rise	2013 Jul 03 11:11	1°  11'11'41'17			2019 Dec 02 18:20	0°  11	
retrograde	2013 Nov 07 05:03	20°  11'30'39		evening set	2019 Dec 15 02:09	2°  11'11'34'6'57	
asc. node	2013 Nov 09 05:45	20°  11'30'14		max. Earth dist.	2019 Dec 25 21:56	5°  11'11'16'03	6.21293 AU
opposition	2014 Jan 05 21:11	15°  11'27'29	0°08'06				
min. Earth dist.	2014 Jan 04 17:38	15°  11'26'49	4.21043 AU	conjunction	2019 Dec 27 18:25	5°  11'11'34'41	0°05'46
direct	2014 Mar 06 10:42	10°  11'26'31		minimum elong	2019 Dec 27 18:26	5°  11'11'34'41	0°05'46
evening set	2014 Jul 11 05:13	28°  11'25'04'1		behind sun begin	2019 Dec 27 10:47	5°  11'11'33'7'18	
	2014 Jul 16 10:31	0°  11		behind sun end	2019 Dec 28 02:04	5°  11'11'34'6'04	
				morning rise	2020 Jan 09 10:31	8°  11'11'36'36	
conjunction	2014 Jul 24 20:44	1°  11'52'20	0°23'46	desc. node	2020 Feb 26 02:46	18°  11'11'34'9'05	
minimum elong	2014 Jul 24 20:42	1°  11'52'19	0°23'46	retrograde	2020 May 14 14:32	27°  11'11'34'14'25	
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morning rise	2014 Aug 07 10:57	4°  11'53'07		min. Earth dist.	2020 Jul 15 09:57	22°  11'11'30'11'55	4.13933 AU
	2014 Sep 25 18:26	15°  11		direct	2020 Sep 13 00:41	17°  11'11'30'24'24	
retrograde	2014 Dec 08 20:41	22°  11'37'37			2020 Dec 19 13:07	0°  11	
opposition	2015 Feb 06 18:20	17°  11'38'00	0°57'43	evening set	2021 Jan 16 06:30	6°  11'11'30'19'52	
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	2015 Feb 27 16:10	15°  11'11'11					
direct	2015 Apr 08 16:57	12°  11'35'26		conjunction	2021 Jan 29 01:40	9°  11'11'30'21'45	-0°31'27
	2015 May 19 04:29	15°  11		minimum elong	2021 Jan 29 01:38	9°  11'11'30'21'44	0°31'27
	2015 Aug 11 11:11	0°  11		morning rise	2021 Feb 10 22:08	12°  11'11'30'22'43'36	
evening set	2015 Aug 13 13:17	0°  11'11'27'01			2021 Feb 21 23:41	15°  11	
					2021 May 13 22:36	0°  11	
conjunction	2015 Aug 26 22:02	3°  11'11'21'04	0°52'24	retrograde	2021 Jun 20 15:05	2°  11'11'11'04	
minimum elong	2015 Aug 26 22:00	3°  11'11'21'03	0°52'23		2021 Jul 28 12:42	30°  11'11'11'11	
max. Earth dist.	2015 Aug 27 00:08	3°  11'11'22'12	6.39850 AU	opposition	2021 Aug 20 00:29	27°  11'11'11'13'41	-1°11'02
morning rise	2015 Sep 09 04:25	6°  11'11'13'48		min. Earth dist.	2021 Aug 20 05:26	27°  11'11'11'12'03	4.01320 AU
retrograde	2016 Jan 08 04:40	23°  11'11'14'17		direct	2021 Oct 18 05:30	22°  11'11'11'19'46	
opposition	2016 Mar 08 10:57	18°  11'11'18'17	1°28'30		2021 Dec 29 04:10	0°  11	
min. Earth dist.	2016 Mar 08 18:12	18°  11'11'15'55	4.43535 AU	evening set	2022 Feb 20 13:21	11°  11'11'11'11'49'40	
direct	2016 May 09 12:14	13°  11'11'15'19					
	2016 Sep 09 11:18	0°  11		conjunction	2022 Mar 05 14:06	14°  11'11'11'11'58'27	-0°58'44
evening set	2016 Sep 13 05:38	0°  11'11'11'48'16		minimum elong	2022 Mar 05 14:05	14°  11'11'11'11'58'25	0°58'44
max. Earth dist.	2016 Sep 25 07:32	3°  11'11'11'24'25	6.45387 AU	max. Earth dist.	2022 Mar 05 22:11	15°  11'11'11'11'03'20	5.97207 AU
				morning rise	2022 Mar 18 17:37	18°  11'11'11'11'08'47	
conjunction	2016 Sep 26 07:00	3°  11'11'11'37'06	1°05'33		2022 May 10 23:22	0°  11	
minimum elong	2016 Sep 26 06:59	3°  11'11'11'37'06	1°05'33	retrograde	2022 Jul 28 20:38	8°  11'11'11'11'43'04	
morning rise	2016 Oct 09 05:20	6°  11'11'11'24'32		opposition	2022 Sep 26 19:33	3°  11'11'11'11'41'39	-1°37'15
retrograde	2017 Feb 06 06:52	23°  11'11'11'08'25		min. Earth dist.	2022 Sep 26 02:14	3°  11'11'11'11'47'28	3.95256 AU
opposition	2017 Apr 07 21:39	18°  11'11'11'15'12	1°34'55		2022 Oct 28 05:10	30°  11'11'11'11'11	

direct	2022 Nov 23 23:02	28° H 47'54		conjunction	2028 Sep 30 12:51	7° Q 53'25	1°05'57
	2022 Dec 20 14:33	0° Y		minimum elong	2028 Sep 30 12:51	7° Q 53'25	1°05'57
evening set	2023 Mar 29 13:21	18° Y 32'02		morning rise	2028 Oct 13 10:28	10° Q 40'35	
				retrograde	2029 Feb 10 13:07	27° Q 25'26	
conjunction	2023 Apr 11 22:07	21° Y 45'14	-1°03'49	opposition	2029 Apr 12 04:05	22° Q 32'29	1°33'45
minimum elong	2023 Apr 11 22:08	21° Y 45'14	1°03'48	min. Earth dist.	2029 Apr 13 06:00	22° Q 24'10	4.44891 AU
max. Earth dist.	2023 Apr 13 14:33	22° Y 09'37	5.95513 AU	direct	2029 Jun 13 21:07	17° Q 30'25	
morning rise	2023 Apr 25 09:50	24° Y 59'59			2029 Sep 24 06:24	0° M	
	2023 May 16 17:20	0° X		evening set	2029 Oct 18 04:57	5° M 03'26	
	2023 Aug 16 17:05	15° X		max. Earth dist.	2029 Oct 29 03:46	7° M 26'41	6.42459 AU
retrograde	2023 Sep 04 14:11	15° X 34'55					
	2023 Sep 23 06:25	15° R X		conjunction	2029 Oct 30 23:57	7° M 50'52	0°58'51
min. Earth dist.	2023 Nov 01 21:01	10° X 41'23	3.98237 AU	minimum elong	2029 Oct 30 23:59	7° M 50'52	0°58'51
opposition	2023 Nov 03 05:02	10° X 30'30	-1°24'44	morning rise	2029 Nov 12 16:22	10° M 37'13	
direct	2023 Dec 31 02:40	5° X 34'52			2029 Dec 03 04:56	15° M	
	2024 Mar 20 16:44	15° X		retrograde	2030 Mar 13 14:33	27° M 38'00	
evening set	2024 May 05 03:04	25° X 05'20		opposition	2030 May 13 11:33	22° M 46'08	1°11'29
				min. Earth dist.	2030 May 14 22:40	22° M 34'57	4.38506 AU
conjunction	2024 May 18 18:45	28° X 18'23	-0°43'53	direct	2030 Jul 15 01:26	17° M 45'45	
minimum elong	2024 May 18 18:48	28° X 18'25	0°43'53		2030 Oct 22 23:14	0° J	
max. Earth dist.	2024 May 21 01:41	28° X 50'46	6.02787 AU	evening set	2030 Nov 17 22:32	5° J 35'57	
	2024 May 25 23:15	0° II		max. Earth dist.	2030 Nov 28 11:40	7° J 57'21	6.32987 AU
morning rise	2024 Jun 01 12:52	1° II 32'25					
retrograde	2024 Oct 09 07:05	21° II 20'16		conjunction	2030 Nov 30 14:43	8° J 25'59	0°35'19
min. Earth dist.	2024 Dec 06 10:00	16° II 27'17	4.08936 AU	minimum elong	2030 Nov 30 14:45	8° J 26'00	0°35'19
opposition	2024 Dec 07 20:58	16° II 15'22	-0°40'11	morning rise	2030 Dec 13 05:38	11° J 15'33	
direct	2025 Feb 04 09:40	11° II 16'42		retrograde	2031 Apr 15 12:04	28° J 59'10	
	2025 Jun 09 21:02	0° E		opposition	2031 Jun 15 09:20	24° J 06'44	0°27'47
evening set	2025 Jun 10 21:10	0° E 13'41		min. Earth dist.	2031 Jun 16 20:35	23° J 55'28	4.26444 AU
				direct	2031 Aug 16 04:59	19° J 08'36	
conjunction	2025 Jun 24 15:17	3° E 21'50	-0°08'25		2031 Nov 15 10:30	0° Z	
minimum elong	2025 Jun 24 15:18	3° E 21'51	0°08'25	evening set	2031 Dec 19 15:05	7° Z 30'13	
behind sun begin	2025 Jun 24 08:00	3° E 17'42		max. Earth dist.	2031 Dec 30 13:54	10° Z 01'42	6.19333 AU
behind sun end	2025 Jun 24 22:36	3° E 25'59					
max. Earth dist.	2025 Jun 26 16:02	3° E 49'40	6.15961 AU	conjunction	2032 Jan 01 07:41	10° Z 25'52	0°00'26
morning rise	2025 Jul 08 09:47	6° E 29'53		minimum elong	2032 Jan 01 07:41	10° Z 25'52	0°00'26
asc. node	2025 Sep 19 20:40	20° E 57'50		behind sun begin	2031 Dec 31 23:42	10° Z 21'17	
retrograde	2025 Nov 11 16:41	25° E 09'09		behind sun end	2032 Jan 01 15:39	10° Z 30'27	
min. Earth dist.	2026 Jan 09 08:06	20° E 14'46	4.23168 AU	desc. node	2032 Jan 05 16:24	11° Z 26'27	
opposition	2026 Jan 10 08:42	20° E 06'28	0°15'41	morning rise	2032 Jan 14 00:09	13° Z 21'46	
direct	2026 Mar 11 03:30	15° E 05'14			2032 Apr 12 00:59	0° \approx	
	2026 Jun 30 05:52	0° Ω		retrograde	2032 May 19 14:48	2° \approx 08'42	
evening set	2026 Jul 15 21:35	3° Ω 24'06			2032 Jun 26 12:56	30° R Z	
				opposition	2032 Jul 19 08:34	27° Z 14'10	-0°27'33
conjunction	2026 Jul 29 12:18	6° Ω 24'39	0°28'25	min. Earth dist.	2032 Jul 20 07:13	27° Z 06'52	4.12118 AU
minimum elong	2026 Jul 29 12:16	6° Ω 24'38	0°28'25	direct	2032 Sep 17 19:52	22° Z 18'37	
max. Earth dist.	2026 Jul 30 15:07	6° Ω 39'30	6.30122 AU		2032 Nov 30 03:32	0° \approx	
morning rise	2026 Aug 12 01:36	9° Ω 24'15		evening set	2033 Jan 21 01:53	11° \approx 18'43	
	2026 Sep 07 06:09	15° Ω					
retrograde	2026 Dec 13 00:57	27° Ω 01'29		conjunction	2033 Feb 02 21:30	14° \approx 21'28	-0°36'11
opposition	2027 Feb 11 00:29	22° Ω 02'24	1°03'15	minimum elong	2033 Feb 02 21:28	14° \approx 21'27	0°36'11
min. Earth dist.	2027 Feb 10 15:32	22° Ω 05'22	4.36112 AU	max. Earth dist.	2033 Feb 02 02:00	14° \approx 09'52	6.05600 AU
direct	2027 Apr 13 02:11	16° Ω 59'44			2033 Feb 05 14:10	15° \approx	
	2027 Jul 26 04:49	0° P		morning rise	2033 Feb 15 18:48	17° \approx 25'19	
evening set	2027 Aug 17 23:43	4° P 48'21			2033 Apr 14 22:45	0° H	
				retrograde	2033 Jun 25 21:52	7° H 19'22	
conjunction	2027 Aug 31 07:30	7° P 41'36	0°55'12	opposition	2033 Aug 25 05:40	2° H 21'22	-1°16'39
minimum elong	2027 Aug 31 07:27	7° P 41'35	0°55'12	min. Earth dist.	2033 Aug 25 07:41	2° H 20'42	4.00224 AU
max. Earth dist.	2027 Aug 31 05:51	7° P 40'42	6.40865 AU		2033 Sep 12 22:28	30° R \approx	
morning rise	2027 Sep 13 12:41	10° P 33'28		direct	2033 Oct 23 07:19	27° \approx 27'31	
retrograde	2028 Jan 12 08:54	27° P 30'44			2033 Dec 01 22:35	0° H	
opposition	2028 Mar 12 15:37	22° P 35'16	1°30'53	evening set	2034 Feb 25 14:26	16° H 59'58	
min. Earth dist.	2028 Mar 13 01:46	22° P 31'58	4.44032 AU				
direct	2028 May 13 20:00	17° P 32'25		conjunction	2034 Mar 10 16:18	20° H 09'27	-1°00'57
	2028 Aug 24 05:08	0° Q		minimum elong	2034 Mar 10 16:16	20° H 09'26	1°00'58
evening set	2028 Sep 17 12:29	5° Q 04'55		max. Earth dist.	2034 Mar 11 06:02	20° H 17'46	5.96639 AU
max. Earth dist.	2028 Sep 29 08:52	7° Q 38'17	6.45317 AU	morning rise	2034 Mar 23 20:47	23° H 20'30	

	2034 Apr 21 09:40	0°♈			2040 Feb 20 05:35	30°♏♐	
retrograde	2034 Aug 03 03:42	13°♈57'03		opposition	2040 Mar 16 21:58	26°♏55'24	1°32'49
min. Earth dist.	2034 Oct 01 05:31	9°♈01'40	3.95305 AU	min. Earth dist.	2040 Mar 17 09:43	26°♏51'36	4.44399 AU
opposition	2034 Oct 02 00:58	8°♈55'09	-1°37'52	direct	2040 May 18 03:57	21°♏52'39	
direct	2034 Nov 29 02:24	4°♈01'15			2040 Aug 05 22:03	0°♏	
evening set	2035 Apr 03 17:32	23°♈44'22		evening set	2040 Sep 21 20:51	9°♏24'52	
conjunction	2035 Apr 17 03:13	26°♈57'43	-1°02'26	conjunction	2040 Oct 04 20:24	12°♏13'03	1°06'01
minimum elong	2035 Apr 17 03:14	26°♈57'44	1°02'25	minimum elong	2040 Oct 04 20:24	12°♏13'03	1°06'01
max. Earth dist.	2035 Apr 18 21:18	27°♈23'02	5.96142 AU	max. Earth dist.	2040 Oct 03 14:50	11°♏57'03	6.45253 AU
	2035 Apr 29 18:57	0°♈		morning rise	2040 Oct 17 17:04	14°♏59'54	
morning rise	2035 Apr 30 16:09	0°♈12'39			2041 Jan 11 19:33	0°♏	
	2035 Jul 09 10:50	15°♈		retrograde	2041 Feb 14 20:22	1°♏45'34	
retrograde	2035 Sep 09 14:14	20°♈43'05			2041 Mar 21 00:01	30°♏♐	
min. Earth dist.	2035 Nov 06 20:01	15°♈49'53	3.99381 AU	opposition	2041 Apr 16 12:21	26°♏52'56	1°32'05
opposition	2035 Nov 08 05:43	15°♈38'25	-1°20'04	min. Earth dist.	2041 Apr 17 15:39	26°♏44'11	4.44426 AU
	2035 Nov 12 22:58	15°♏♐		direct	2041 Jun 18 06:14	21°♏51'11	
direct	2036 Jan 05 03:59	10°♈42'20			2041 Sep 06 00:12	0°♏	
	2036 Feb 26 06:47	15°♈		evening set	2041 Oct 22 12:14	9°♏25'27	
	2036 May 09 14:52	0°♐		max. Earth dist.	2041 Nov 02 08:11	11°♏47'32	6.41639 AU
evening set	2036 May 10 06:07	0°♐08'54					
conjunction	2036 May 23 22:33	3°♐21'33	-0°39'35	conjunction	2041 Nov 04 06:33	12°♏12'58	0°56'27
minimum elong	2036 May 23 22:36	3°♐21'34	0°39'34	minimum elong	2041 Nov 04 06:35	12°♏12'59	0°56'27
max. Earth dist.	2036 May 26 05:38	3°♐53'54	6.04347 AU	morning rise	2041 Nov 16 22:42	14°♏59'32	
morning rise	2036 Jun 06 16:59	6°♐34'59			2041 Nov 16 23:33	15°♏	
retrograde	2036 Oct 14 01:38	26°♐14'08		retrograde	2042 Feb 08 23:53	0°♐	
min. Earth dist.	2036 Dec 11 05:38	21°♐20'39	4.10717 AU		2042 Mar 18 02:47	2°♐04'13	
opposition	2036 Dec 12 14:42	21°♐09'23	-0°32'37	opposition	2042 Apr 24 12:41	30°♏♏	
direct	2037 Feb 09 07:42	16°♐10'17		min. Earth dist.	2042 May 17 23:55	27°♏12'21	1°06'30
	2037 May 24 02:13	0°♑		direct	2042 May 19 11:16	27°♏01'05	4.37386 AU
evening set	2037 Jun 15 19:41	5°♑02'18			2042 Jul 19 12:48	22°♏12'17	
conjunction	2037 Jun 29 13:43	8°♑09'35	-0°03'06	evening set	2042 Oct 04 09:59	0°♐	
minimum elong	2037 Jun 29 13:44	8°♑09'35	0°03'06	max. Earth dist.	2042 Nov 22 06:56	10°♐04'59	
behind sun begin	2037 Jun 29 05:23	8°♑04'52			2042 Dec 02 22:10	12°♐27'59	6.31674 AU
behind sun end	2037 Jun 29 22:04	8°♑14'18		conjunction	2042 Dec 04 23:05	12°♐55'30	0°30'59
max. Earth dist.	2037 Jul 01 12:36	8°♑36'13	6.17818 AU	minimum elong	2042 Dec 04 23:07	12°♐55'30	0°30'59
morning rise	2037 Jul 13 07:51	11°♑16'38		morning rise	2042 Dec 17 13:49	15°♐45'35	
asc. node	2037 Jul 31 08:05	15°♑16'06			2043 Mar 01 17:06	0°♑	
retrograde	2037 Nov 16 02:17	29°♑47'02		retrograde	2043 Apr 20 04:02	3°♑35'24	
	2037 Nov 16 02:17	29°♑47'02			2043 Jun 09 21:42	30°♏♐♐	
opposition	2038 Jan 14 19:58	24°♑44'48	0°23'07	opposition	2043 Jun 20 02:36	28°♐42'47	0°20'32
min. Earth dist.	2038 Jan 13 20:31	24°♑52'41	4.24936 AU	min. Earth dist.	2043 Jun 21 12:11	28°♐32'04	4.25019 AU
direct	2038 Mar 15 17:52	19°♑43'17		direct	2043 Aug 20 18:35	23°♐45'06	
	2038 Jun 12 15:26	0°♒			2043 Oct 26 11:31	0°♑	
evening set	2038 Jul 20 14:14	7°♒58'02		desc. node	2043 Nov 16 20:02	4°♑00'16	
conjunction	2038 Aug 03 04:07	10°♒57'35	0°32'56	evening set	2043 Dec 24 03:03	12°♑09'56	
minimum elong	2038 Aug 03 04:05	10°♒57'34	0°32'55	max. Earth dist.	2044 Jan 04 03:42	14°♑43'01	6.17914 AU
max. Earth dist.	2038 Aug 04 02:20	11°♒09'51	6.31668 AU				
morning rise	2038 Aug 16 16:29	13°♒56'08					
	2038 Aug 21 13:36	15°♒		conjunction	2044 Jan 05 19:38	15°♑06'12	-0°04'49
	2038 Nov 16 21:21	0°♓		minimum elong	2044 Jan 05 19:38	15°♑06'12	0°04'49
retrograde	2038 Dec 17 08:40	1°♓27'11		behind sun begin	2044 Jan 05 11:50	15°♑01'42	
	2039 Jan 16 14:55	30°♏♒		behind sun end	2044 Jan 06 03:26	15°♑10'42	
opposition	2039 Feb 15 08:02	26°♒28'39	1°08'28	morning rise	2044 Jan 18 12:36	18°♑02'53	
min. Earth dist.	2039 Feb 15 02:27	26°♒30'30	4.37328 AU		2044 Mar 15 04:27	0°♓	
direct	2039 Apr 17 14:51	21°♒25'54		retrograde	2044 May 24 14:03	6°♓57'12	
	2039 Jul 08 00:24	0°♓		opposition	2044 Jul 24 06:55	2°♓02'16	-0°35'01
evening set	2039 Aug 22 11:15	9°♓12'09		min. Earth dist.	2044 Jul 25 03:24	1°♓55'38	4.10799 AU
conjunction	2039 Sep 04 18:04	12°♓04'41	0°57'44		2044 Aug 09 12:42	30°♏♑	
minimum elong	2039 Sep 04 18:02	12°♓04'40	0°57'44		2044 Sep 22 14:53	27°♑06'57	
max. Earth dist.	2039 Sep 04 12:51	12°♓01'52	6.41659 AU	direct	2044 Nov 04 17:33	0°♓	
morning rise	2039 Sep 17 22:10	14°♓55'49			2045 Jan 20 19:29	15°♓	
	2039 Dec 12 22:05	0°♐		evening set	2045 Jan 25 18:23	16°♓10'09	
retrograde	2040 Jan 16 13:18	1°♐50'27					
conjunction	2045 Feb 07 14:44	19°♓13'40	-0°40'29	conjunction	2045 Feb 07 14:41	19°♓13'39	0°40'29
minimum elong	2045 Feb 07 14:41	19°♓13'39	0°40'29	minimum elong	2045 Feb 06 23:51	19°♓04'48	6.04506 AU
max. Earth dist.	2045 Feb 06 23:51	19°♓04'48	6.04506 AU	max. Earth dist.			

morning rise	2045 Feb 20 12:39	22° \approx 18'18	retrograde	2050 Dec 21 13:17	5° η 51'59	
	2045 Mar 26 05:08	0° \mathcal{H}	opposition	2051 Feb 19 14:40	0° η 53'54	1°13'10
retrograde	2045 Jul 01 00:37	12° \mathcal{H} 18'20	min. Earth dist.	2051 Feb 19 10:12	0° η 55'23	4.38393 AU
opposition	2045 Aug 30 07:02	7° \mathcal{H} 19'53 -1°21'27		2051 Feb 26 11:01	30° $\mathcal{R}\mathcal{Q}$	
min. Earth dist.	2045 Aug 30 06:43	7° \mathcal{H} 19'59 3.99480 AU	direct	2051 Apr 22 00:08	25° \mathcal{Q} 51'05	
direct	2045 Oct 28 04:36	2° \mathcal{H} 26'10		2051 Jun 15 11:27	0° η	
evening set	2046 Mar 02 11:55	22° \mathcal{H} 00'17	evening set	2051 Aug 26 22:00	13° η 35'10	
conjunction	2046 Mar 15 14:31	25° \mathcal{H} 10'17 -1°02'37	conjunction	2051 Sep 09 03:41	16° η 26'57	0°59'53
minimum elong	2046 Mar 15 14:30	25° \mathcal{H} 10'17 1°02'38	minimum elong	2051 Sep 09 03:39	16° η 26'56	0°59'53
max. Earth dist.	2046 Mar 16 06:19	25° \mathcal{H} 19'51 5.96290 AU	max. Earth dist.	2051 Sep 08 18:46	16° η 22'07	6.42412 AU
morning rise	2046 Mar 28 20:12	28° \mathcal{H} 22'00	morning rise	2051 Sep 22 06:46	19° η 17'21	
	2046 Apr 04 16:11	0° \mathcal{Y}		2051 Nov 15 14:44	0° \mathcal{L}	
retrograde	2046 Aug 08 04:13	19° \mathcal{Y} 00'07	retrograde	2052 Jan 20 18:58	6° \mathcal{L} 09'18	
min. Earth dist.	2046 Oct 06 03:22	14° \mathcal{Y} 05'15 3.95412 AU	opposition	2052 Mar 21 03:58	1° \mathcal{L} 14'36	1°34'11
opposition	2046 Oct 07 01:29	13° \mathcal{Y} 57'48 -1°37'43	min. Earth dist.	2052 Mar 21 18:29	1° \mathcal{L} 09'54	4.44793 AU
direct	2046 Dec 04 01:07	9° \mathcal{Y} 03'42		2052 Mar 30 20:30	30° $\mathcal{R}\eta$	
evening set	2047 Apr 08 17:46	28° \mathcal{Y} 46'13	direct	2052 May 22 13:37	26° η 11'52	
	2047 Apr 13 21:04	0° \mathcal{B}		2052 Jul 14 00:23	0° \mathcal{L}	
conjunction	2047 Apr 22 04:38	1° \mathcal{B} 59'50 -1°00'38	evening set	2052 Sep 26 03:52	13° \mathcal{L} 43'11	
minimum elong	2047 Apr 22 04:39	1° \mathcal{B} 59'51 1°00'39	max. Earth dist.	2052 Oct 07 18:15	16° \mathcal{L} 13'32	6.45220 AU
max. Earth dist.	2047 Apr 24 01:17	2° \mathcal{B} 26'40 5.96701 AU	conjunction	2052 Oct 09 02:34	16° \mathcal{L} 31'02	1°05'42
morning rise	2047 May 05 18:24	5° \mathcal{B} 14'56	minimum elong	2052 Oct 09 02:34	16° \mathcal{L} 31'02	1°05'42
	2047 Jun 17 23:30	15° \mathcal{B}	morning rise	2052 Oct 21 22:26	19° \mathcal{L} 17'35	
retrograde	2047 Sep 14 12:36	25° \mathcal{B} 41'30		2052 Dec 15 06:53	0° \mathcal{M}	
min. Earth dist.	2047 Nov 11 17:10	20° \mathcal{B} 47'58 4.00322 AU	retrograde	2053 Feb 19 01:56	6° \mathcal{M} 03'50	
opposition	2047 Nov 13 02:11	20° \mathcal{B} 36'42 -1°15'03	opposition	2053 Apr 20 19:41	1° \mathcal{M} 11'16	1°29'54
direct	2048 Jan 10 02:18	15° \mathcal{B} 40'16	min. Earth dist.	2053 Apr 21 23:52	1° \mathcal{M} 02'15	4.43959 AU
	2048 Apr 23 01:44	0° \mathcal{I}		2053 Apr 30 04:32	30° $\mathcal{R}\mathcal{L}$	
evening set	2048 May 15 05:47	5° \mathcal{I} 04'10	direct	2053 Jun 22 13:33	26° \mathcal{L} 09'37	
conjunction	2048 May 28 22:54	8° \mathcal{I} 16'33 -0°35'10		2053 Aug 14 07:30	0° \mathcal{M}	
minimum elong	2048 May 28 22:56	8° \mathcal{I} 16'34 0°35'10	evening set	2053 Oct 26 18:07	13° \mathcal{M} 44'56	
max. Earth dist.	2048 May 31 06:14	8° \mathcal{I} 48'57 6.05591 AU		2053 Nov 01 11:29	15° \mathcal{M}	
morning rise	2048 Jun 11 17:46	11° \mathcal{I} 29'37	max. Earth dist.	2053 Nov 06 13:46	16° \mathcal{M} 07'09	6.40749 AU
	2048 Sep 23 12:58	0° \mathcal{E}	conjunction	2053 Nov 08 12:00	16° \mathcal{M} 32'35	0°53'45
retrograde	2048 Oct 18 15:58	1° \mathcal{E} 01'31	minimum elong	2053 Nov 08 12:02	16° \mathcal{M} 32'36	0°53'45
	2048 Nov 12 14:05	30° $\mathcal{R}\mathcal{I}$	morning rise	2053 Nov 21 03:36	19° \mathcal{M} 19'19	
min. Earth dist.	2048 Dec 15 20:35	26° \mathcal{I} 08'15 4.12144 AU		2054 Jan 13 07:59	0° \mathcal{J}	
opposition	2048 Dec 17 05:33	25° \mathcal{I} 57'02 -0°25'09	retrograde	2054 Mar 22 12:50	6° \mathcal{J} 28'03	
direct	2049 Feb 14 00:24	20° \mathcal{I} 57'37	opposition	2054 May 22 11:03	1° \mathcal{J} 36'10	1°01'08
	2049 May 05 18:13	0° \mathcal{E}	min. Earth dist.	2054 May 23 23:10	1° \mathcal{J} 24'40	4.36091 AU
asc. node	2049 Jun 12 03:56	7° \mathcal{E} 51'55		2054 Jun 04 06:27	30° $\mathcal{R}\mathcal{M}$	
evening set	2049 Jun 20 16:00	9° \mathcal{E} 46'11	direct	2054 Jul 23 22:39	26° \mathcal{M} 36'21	
conjunction	2049 Jul 04 09:46	12° \mathcal{E} 52'43 0°02'11		2054 Sep 10 18:30	0° \mathcal{J}	
minimum elong	2049 Jul 04 09:45	12° \mathcal{E} 52'43 0°02'12	evening set	2054 Nov 26 14:36	14° \mathcal{J} 32'12	
behind sun begin	2049 Jul 04 01:24	12° \mathcal{E} 48'00	max. Earth dist.	2054 Dec 07 04:34	16° \mathcal{J} 55'05	6.30055 AU
behind sun end	2049 Jul 04 18:07	12° \mathcal{E} 57'26	conjunction	2054 Dec 09 06:30	17° \mathcal{J} 23'16	0°26'27
max. Earth dist.	2049 Jul 06 04:55	13° \mathcal{E} 17'10 6.19317 AU	minimum elong	2054 Dec 09 06:31	17° \mathcal{J} 23'17	0°26'28
morning rise	2049 Jul 18 03:33	15° \mathcal{E} 58'55	morning rise	2054 Dec 21 21:29	20° \mathcal{J} 14'05	
	2049 Sep 27 10:29	0° \mathcal{Q}		2055 Feb 06 08:36	0° \mathcal{Z}	
retrograde	2049 Nov 20 12:41	4° \mathcal{Q} 22'03	retrograde	2055 Apr 24 21:45	8° \mathcal{Z} 11'23	
	2050 Jan 14 07:24	30° $\mathcal{R}\mathcal{E}$	opposition	2055 Jun 24 19:51	3° \mathcal{Z} 18'29	0°13'04
min. Earth dist.	2050 Jan 18 09:16	29° \mathcal{E} 27'12 4.26380 AU	min. Earth dist.	2055 Jun 26 04:23	3° \mathcal{Z} 08'04	4.23157 AU
opposition	2050 Jan 19 05:57	29° \mathcal{E} 20'15 0°30'12		2055 Jul 23 04:36	30° $\mathcal{R}\mathcal{J}$	
direct	2050 Mar 20 09:07	24° \mathcal{E} 18'29	direct	2055 Aug 25 08:18	28° \mathcal{J} 21'02	
	2050 May 22 21:49	0° \mathcal{Q}	desc. node	2055 Sep 27 07:34	0° \mathcal{Z} 00'22	
evening set	2050 Jul 25 05:40	12° \mathcal{Q} 30'06		2055 Sep 27 06:03	0° \mathcal{Z}	
	2050 Aug 05 14:34	15° \mathcal{Q}	evening set	2055 Dec 28 15:13	16° \mathcal{Z} 50'45	
conjunction	2050 Aug 07 18:55	15° \mathcal{Q} 28'49 0°37'08	max. Earth dist.	2056 Jan 08 19:45	19° \mathcal{Z} 26'41	6.15974 AU
minimum elong	2050 Aug 07 18:52	15° \mathcal{Q} 28'48 0°37'07	conjunction	2056 Jan 10 08:18	19° \mathcal{Z} 47'59	-0°10'01
max. Earth dist.	2050 Aug 08 15:12	15° \mathcal{Q} 39'59 6.32958 AU	minimum elong	2056 Jan 10 08:17	19° \mathcal{Z} 47'58	0°10'01
morning rise	2050 Aug 21 06:11	18° \mathcal{Q} 26'24	behind sun begin	2056 Jan 10 01:47	19° \mathcal{Z} 44'12	
	2050 Oct 18 12:46	0° $\mathcal{\eta}$	behind sun end	2056 Jan 10 14:47	19° \mathcal{Z} 51'44	

morning rise	2056 Jan 23 01:36	22°  45'40	retrograde	2061 Nov 24 22:06	8°  58'40	
	2056 Feb 24 10:59	0° 	opposition	2062 Jan 23 16:51	3°  57'24	0°37'11
retrograde	2056 May 29 15:44	11°  49'21	min. Earth dist.	2062 Jan 22 21:11	4°  03'59	4.28558 AU
opposition	2056 Jul 29 06:47	6°  54'00 -0°42'28		2062 Feb 26 23:35	30°  R 	
min. Earth dist.	2056 Jul 30 01:24	6°  47'59 4.08938 AU	direct	2062 Mar 25 00:12	28°  55'28	
direct	2056 Sep 27 09:48	1°  58'59		2062 Apr 20 08:57	0° 	
	2057 Jan 04 01:25	15° 		2062 Jul 20 12:46	15° 	
evening set	2057 Jan 30 13:43	21°  07'25	evening set	2062 Jul 29 21:03	17°  01'19	
conjunction	2057 Feb 12 10:36	24°  11'55 -0°44'39	conjunction	2062 Aug 12 09:06	19°  58'46	0°41'07
minimum elong	2057 Feb 12 10:34	24°  11'54 0°44'38	minimum elong	2062 Aug 12 09:04	19°  58'45	0°41'07
max. Earth dist.	2057 Feb 11 22:06	24°  04'26 6.02881 AU	max. Earth dist.	2062 Aug 13 00:24	20°  07'09	6.34957 AU
morning rise	2057 Feb 25 09:37	27°  17'43	morning rise	2062 Aug 25 19:22	22°  55'03	
	2057 Mar 08 20:52	0° 		2062 Sep 28 16:17	0° 	
retrograde	2057 Jul 06 05:36	17°  11'25'41	retrograde	2062 Dec 25 18:29	10°  13'09	
opposition	2057 Sep 04 11:29	12°  11'26'39 -1°25'53	opposition	2063 Feb 23 20:35	5°  15'35	1°17'23
min. Earth dist.	2057 Sep 04 07:32	12°  11'27'57 3.98269 AU	min. Earth dist.	2063 Feb 23 19:24	5°  15'58	4.40071 AU
direct	2057 Nov 02 04:27	7°  11'32'59	direct	2063 Apr 26 11:21	0° 	
evening set	2058 Mar 07 13:51	27°  11'10'35	evening set	2063 Aug 31 06:17	17°  11'52'37	
	2058 Mar 19 06:18	0° 				
conjunction	2058 Mar 20 17:43	0°  11'21'27 -1°03'54	conjunction	2063 Sep 13 11:01	20°  11'43'29	1°01'41
minimum elong	2058 Mar 20 17:43	0°  11'21'27 1°03'53	minimum elong	2063 Sep 13 11:00	20°  11'43'29	1°01'40
max. Earth dist.	2058 Mar 21 14:59	0°  11'34'20 5.95615 AU	max. Earth dist.	2063 Sep 12 23:23	20°  11'37'12	6.43630 AU
morning rise	2058 Apr 03 00:26	3°  11'33'58	morning rise	2063 Sep 26 12:48	23°  11'32'56	
retrograde	2058 Aug 13 12:05	24°  11'14'31		2063 Oct 27 15:33	0° 	
min. Earth dist.	2058 Oct 11 07:11	19°  11'19'40 3.95360 AU	retrograde	2064 Jan 24 19:38	10°  11'21'09	
opposition	2058 Oct 12 06:38	19°  11'11'45 -1°36'48	opposition	2064 Mar 25 07:21	5°  11'26'50	1°34'59
direct	2058 Dec 09 05:35	14°  11'17'28	min. Earth dist.	2064 Mar 25 23:26	5°  11'21'38	4.45484 AU
	2059 Mar 27 23:46	0° 	direct	2064 May 26 18:28	0°  11'24'11	
evening set	2059 Apr 13 23:20	3°  11'59'47	evening set	2064 Sep 30 07:51	17°  11'53'59	
			max. Earth dist.	2064 Oct 11 17:58	20°  11'22'06	6.45317 AU
conjunction	2059 Apr 27 11:17	7°  11'13'39 -0°58'18	conjunction	2064 Oct 13 05:37	20°  11'21'26	1°05'02
minimum elong	2059 Apr 27 11:19	7°  11'13'41 0°58'17	minimum elong	2064 Oct 13 05:37	20°  11'21'27	1°05'03
max. Earth dist.	2059 Apr 29 11:01	7°  11'42'15 5.97277 AU	morning rise	2064 Oct 26 00:43	23°  11'27'39	
morning rise	2059 May 11 02:10	10°  11'28'57		2064 Nov 26 12:00	0° 	
	2059 May 30 10:27	15° 	retrograde	2065 Feb 23 06:14	10°  11'14'34	
	2059 Aug 27 19:03	0° 	opposition	2065 Apr 25 00:17	5°  11'22'14	1°27'17
retrograde	2059 Sep 19 13:33	0°  11'50'47	min. Earth dist.	2065 Apr 26 07:24	5°  11'12'18	4.43439 AU
	2059 Oct 12 03:33	30°  R 	direct	2065 Jun 26 19:30	0°  11'20'45	
min. Earth dist.	2059 Nov 16 16:13	25°  11'57'47 4.01486 AU		2065 Oct 17 03:38	15°  11'11'11	
opposition	2059 Nov 18 03:01	25°  11'54'56 -1°09'13	evening set	2065 Oct 30 20:53	17°  11'57'35	
direct	2060 Jan 15 03:10	20°  11'54'9'11	max. Earth dist.	2065 Nov 10 13:10	20°  11'18'24	6.39626 AU
	2060 Apr 04 01:53	0° 				
evening set	2060 May 20 10:18	10°  11'22'09'23	conjunction	2065 Nov 12 14:21	20°  11'45'31	0°50'50
conjunction	2060 Jun 03 03:47	13°  11'22'11'13 -0°30'19	minimum elong	2065 Nov 12 14:23	20°  11'45'32	0°50'49
minimum elong	2060 Jun 03 03:49	13°  11'22'11'14 0°30'19	morning rise	2065 Nov 25 05:46	23°  11'32'37	
max. Earth dist.	2060 Jun 05 09:59	13°  11'22'52'49 6.07254 AU		2065 Dec 25 16:54	0° 	
morning rise	2060 Jun 16 22:58	16°  11'22'33'36	retrograde	2066 Mar 26 21:28	10°  11'27'46'43	
	2060 Aug 20 18:13	0° 	opposition	2066 May 26 20:10	5°  11'27'54'46	0°55'34
retrograde	2060 Oct 23 09:32	5°  11'25'56'15	min. Earth dist.	2066 May 28 08:32	5°  11'27'43'11	4.34419 AU
opposition	2060 Dec 21 23:27	0°  11'25'52'00 -0°17'14	direct	2066 Jul 28 04:47	0°  11'27'55'10	
min. Earth dist.	2060 Dec 20 15:43	1°  11'25'02'48 4.14131 AU	evening set	2066 Nov 30 20:17	18°  11'27'55'44	
	2060 Dec 28 09:15	30°  R 	max. Earth dist.	2066 Dec 11 11:39	21°  11'27'20'03	6.27963 AU
direct	2061 Feb 18 23:14	25°  11'25'52'14	conjunction	2066 Dec 13 12:19	21°  11'27'47'40	0°21'52
	2061 Apr 12 05:05	0° 	minimum elong	2066 Dec 13 12:20	21°  11'27'47'40	0°21'52
asc. node	2061 Apr 22 04:56	1°  11'25'33'12	morning rise	2066 Dec 26 03:20	24°  11'27'39'23	
evening set	2061 Jun 25 14:52	14°  11'25'35'06		2067 Jan 19 09:28	0° 	
conjunction	2061 Jul 09 08:25	17°  11'25'40'33 0°07'28	retrograde	2067 Apr 29 16:00	12°  11'25'36'11	
minimum elong	2061 Jul 09 08:24	17°  11'25'40'33 0°07'29	opposition	2067 Jun 29 12:23	7°  11'25'53'07	0°05'37
behind sun begin	2061 Jul 09 00:50	17°  11'25'36'18	min. Earth dist.	2067 Jun 30 20:46	7°  11'25'42'45	4.20771 AU
behind sun end	2061 Jul 09 15:58	17°  11'25'44'47	desc. node	2067 Aug 08 17:36	3°  11'25'37'29	
max. Earth dist.	2061 Jul 11 02:57	18°  11'25'04'32 6.21497 AU	direct	2067 Aug 29 20:32	2°  11'25'55'59	
morning rise	2061 Jul 23 01:22	20°  11'25'45'28	evening set	2068 Jan 02 03:46	21°  11'25'32'45	
	2061 Sep 04 21:41	0° 	max. Earth dist.	2068 Jan 13 09:22	24°  11'25'10'13	6.13492 AU

conjunction	2068 Jan 14 21:09	24° ♁ 31'11	-0°15'07	behind sun end	2073 Jul 14 11:38	22° ♁ 31'15	
minimum elong	2068 Jan 14 21:09	24° ♁ 31'11	0°15'07	max. Earth dist.	2073 Jul 15 20:47	22° ♁ 49'51	6.23763 AU
behind sun begin	2068 Jan 14 18:05	24° ♁ 29'23		morning rise	2073 Jul 27 22:55	25° ♁ 32'01	
behind sun end	2068 Jan 15 00:13	24° ♁ 32'58			2073 Aug 17 10:19	0° Ω	
morning rise	2068 Jan 27 15:20	27° ♁ 30'16		retrograde	2073 Nov 29 07:53	13° Ω 35'27	
	2068 Feb 07 10:27	0° \approx		min. Earth dist.	2074 Jan 27 10:54	8° Ω 40'17	4.30652 AU
	2068 Apr 30 22:07	15° \approx		opposition	2074 Jan 28 03:54	8° Ω 34'36	0°43'59
retrograde	2068 Jun 03 17:40	16° \approx 45'36		direct	2074 Mar 29 16:22	3° Ω 32'23	
	2068 Jul 07 17:10	15° R \approx			2074 Jul 03 07:58	15° Ω	
opposition	2068 Aug 03 07:45	11° \approx 49'47	-0°49'39	evening set	2074 Aug 03 12:25	21° Ω 33'01	
min. Earth dist.	2068 Aug 03 23:00	11° \approx 44'49	4.06576 AU				
direct	2068 Oct 02 04:27	6° \approx 55'01		conjunction	2074 Aug 16 23:36	24° Ω 29'19	0°44'56
	2068 Dec 15 21:45	15° \approx		minimum elong	2074 Aug 16 23:34	24° Ω 29'18	0°44'56
evening set	2069 Feb 04 11:00	26° \approx 10'44		max. Earth dist.	2074 Aug 17 12:05	24° Ω 36'08	6.36724 AU
				morning rise	2074 Aug 30 08:28	27° Ω 24'21	
conjunction	2069 Feb 17 08:57	29° \approx 16'33	-0°48'30		2074 Sep 11 10:20	0° ♄	
minimum elong	2069 Feb 17 08:54	29° \approx 16'32	0°48'30	retrograde	2074 Dec 29 23:20	14° ♄ 36'00	
max. Earth dist.	2069 Feb 17 02:12	29° \approx 12'30	6.00866 AU	opposition	2075 Feb 28 03:11	9° ♄ 38'57	1°21'18
	2069 Feb 20 09:12	0° X		min. Earth dist.	2075 Feb 28 04:12	9° ♄ 38'37	4.41405 AU
morning rise	2069 Mar 02 08:53	2° X 23'41		direct	2075 Apr 30 21:01	4° ♄ 36'02	
retrograde	2069 Jul 11 16:19	22° X 41'01		evening set	2075 Sep 04 15:54	22° ♄ 13'04	
opposition	2069 Sep 09 18:52	17° X 41'27	-1°29'40				
min. Earth dist.	2069 Sep 09 12:27	17° X 43'35	3.96830 AU	conjunction	2075 Sep 17 19:24	25° ♄ 03'11	1°03'12
direct	2069 Nov 07 08:42	12° X 47'50		minimum elong	2075 Sep 17 19:23	25° ♄ 03'10	1°03'12
	2070 Mar 02 08:59	0° Υ		max. Earth dist.	2075 Sep 17 02:25	24° ♄ 54'00	6.44422 AU
evening set	2070 Mar 12 19:10	2° Υ 29'33		morning rise	2075 Sep 30 20:16	27° ♄ 51'55	
					2075 Oct 10 20:42	0° Ω	
conjunction	2070 Mar 26 00:11	5° Υ 41'19	-1°04'38	retrograde	2076 Jan 29 01:37	14° Ω 37'58	
minimum elong	2070 Mar 26 00:10	5° Υ 41'19	1°04'37	opposition	2076 Mar 29 13:21	9° Ω 44'01	1°35'24
max. Earth dist.	2070 Mar 27 02:12	5° Υ 57'05	5.94881 AU	min. Earth dist.	2076 Mar 30 08:54	9° Ω 37'43	4.45707 AU
morning rise	2070 Apr 08 08:17	8° Υ 54'46		direct	2076 May 31 03:14	4° Ω 41'26	
retrograde	2070 Aug 18 20:34	29° Υ 37'09		evening set	2076 Oct 04 14:06	22° Ω 11'04	
min. Earth dist.	2070 Oct 16 11:14	24° Υ 43'03	3.95447 AU	max. Earth dist.	2076 Oct 15 21:28	24° Ω 37'52	6.44945 AU
opposition	2070 Oct 17 14:18	24° Υ 33'54	-1°35'01				
direct	2070 Dec 14 10:40	19° Υ 39'20		conjunction	2076 Oct 17 11:15	24° Ω 58'23	1°04'03
	2071 Mar 09 02:50	0° C		minimum elong	2076 Oct 17 11:16	24° Ω 58'24	1°04'03
evening set	2071 Apr 19 08:03	9° C 20'38		morning rise	2076 Oct 30 05:34	27° Ω 44'28	
					2076 Nov 09 18:46	0° ♄	
conjunction	2071 May 02 20:58	12° C 34'34	-0°55'24	retrograde	2077 Feb 27 13:00	14° ♄ 33'37	
minimum elong	2071 May 02 21:00	12° C 34'35	0°55'23	opposition	2077 Apr 29 08:41	9° ♄ 41'26	1°24'12
max. Earth dist.	2071 May 04 22:53	13° C 04'24	5.98149 AU	min. Earth dist.	2077 Apr 30 16:25	9° ♄ 31'18	4.42508 AU
	2071 May 13 00:49	15° C		direct	2077 Jul 01 02:15	4° ♄ 40'10	
morning rise	2071 May 16 12:49	15° C 49'50			2077 Sep 30 04:05	15° ♄	
	2071 Jul 22 08:27	0° II		evening set	2077 Nov 04 03:39	22° ♄ 19'42	
retrograde	2071 Sep 24 15:23	6° II 05'06		max. Earth dist.	2077 Nov 14 18:52	24° ♄ 40'25	6.38204 AU
min. Earth dist.	2071 Nov 21 18:00	1° II 12'02	4.03002 AU				
opposition	2071 Nov 23 05:15	1° II 00'00	-1°02'44	conjunction	2077 Nov 16 20:42	25° ♄ 08'01	0°47'31
	2071 Nov 30 14:28	30° R C		minimum elong	2077 Nov 16 20:43	25° ♄ 08'02	0°47'32
direct	2072 Jan 20 08:44	26° C 02'43		morning rise	2077 Nov 29 11:52	27° ♄ 55'36	
	2072 Mar 10 11:52	0° II			2077 Dec 08 23:30	0° X	
evening set	2072 May 25 15:57	15° II 17'39		retrograde	2078 Mar 31 12:35	15° X 16'02	
				opposition	2078 May 31 10:15	10° X 24'05	0°49'25
conjunction	2072 Jun 08 09:56	18° II 28'44	-0°25'10	min. Earth dist.	2078 Jun 01 23:44	10° X 12'09	4.32575 AU
minimum elong	2072 Jun 08 09:57	18° II 28'45	0°25'10	direct	2078 Aug 01 16:51	5° X 24'49	
max. Earth dist.	2072 Jun 10 17:23	19° II 00'53	6.09260 AU	evening set	2078 Dec 05 06:44	23° X 30'29	
morning rise	2072 Jun 22 05:01	21° II 40'09		max. Earth dist.	2078 Dec 15 21:52	25° X 55'24	6.25851 AU
	2072 Jul 30 03:33	0° ♁					
retrograde	2072 Oct 28 03:34	10° ♁ 52'04		conjunction	2078 Dec 17 22:48	26° X 23'17	0°16'55
min. Earth dist.	2072 Dec 25 10:51	5° ♁ 58'33	4.16376 AU	minimum elong	2078 Dec 17 22:49	26° X 23'18	0°16'55
opposition	2072 Dec 26 17:41	5° ♁ 48'06	-0°09'09	morning rise	2078 Dec 30 14:13	29° X 16'01	
direct	2073 Feb 23 21:46	0° ♁ 47'55			2079 Jan 02 19:56	0° Z	
asc. node	2073 Mar 01 06:58	0° ♁ 50'47		retrograde	2079 May 04 14:06	17° Z 32'29	
evening set	2073 Jun 30 13:47	19° ♁ 24'15		desc. node	2079 Jun 18 04:17	14° Z 40'12	
				opposition	2079 Jul 04 10:06	12° Z 39'07	-0°02'16
conjunction	2073 Jul 14 06:35	22° ♁ 28'26	0°12'45	min. Earth dist.	2079 Jul 05 15:51	12° Z 29'34	4.18544 AU
minimum elong	2073 Jul 14 06:34	22° ♁ 28'25	0°12'44	direct	2079 Sep 03 12:26	7° Z 42'24	
behind sun begin	2073 Jul 14 01:30	22° ♁ 25'35		evening set	2080 Jan 06 20:41	26° Z 25'29	

max. Earth dist.	2080 Jan 18 07:28	29°306'41	6.11366 AU		2085 Jul 31 23:22	0°0	
				morning rise	2085 Aug 01 16:14	0°09'20	
conjunction	2080 Jan 19 14:38	29°325'02	-0°20'22		2085 Oct 19 16:51	15°0	
minimum elong	2080 Jan 19 14:37	29°325'01	0°20'21	retrograde	2085 Dec 03 15:24	18°00'09	
	2080 Jan 22 02:00	0°≈			2086 Jan 17 13:54	15°R0	
morning rise	2080 Feb 01 09:21	2°≈25'18		opposition	2086 Feb 01 11:41	13°00'53	0°50'17
	2080 Mar 31 11:23	15°≈		min. Earth dist.	2086 Jan 31 21:31	13°00'36	4.32454 AU
retrograde	2080 Jun 09 01:23	21°≈50'58		direct	2086 Apr 03 04:30	8°00'132	
opposition	2080 Aug 08 12:58	16°≈54'44	-0°56'45		2086 Jun 14 01:11	15°0	
min. Earth dist.	2080 Aug 09 01:57	16°≈50'30	4.04758 AU	evening set	2086 Aug 08 00:37	25°058'08	
	2080 Aug 23 14:25	15°R≈					
direct	2080 Oct 07 05:26	12°≈00'20		conjunction	2086 Aug 21 10:43	28°053'28	0°48'23
	2080 Nov 19 18:36	15°≈		minimum elong	2086 Aug 21 10:41	28°053'26	0°48'23
	2081 Feb 03 19:34	0°X		max. Earth dist.	2086 Aug 21 17:39	28°057'14	6.38081 AU
evening set	2081 Feb 09 11:39	1°X21'05			2086 Aug 26 12:45	0°n	
				morning rise	2086 Sep 03 18:39	1°n47'32	
conjunction	2081 Feb 22 10:23	4°X27'53	-0°52'06	retrograde	2087 Jan 03 03:33	18°n54'31	
minimum elong	2081 Feb 22 10:21	4°X27'52	0°52'06	opposition	2087 Mar 04 08:08	13°n57'56	1°24'43
max. Earth dist.	2081 Feb 22 07:55	4°X26'24	5.99543 AU	min. Earth dist.	2087 Mar 04 12:14	13°n56'36	4.42262 AU
morning rise	2081 Mar 07 11:27	7°X36'06		direct	2087 May 05 04:54	8°n54'58	
retrograde	2081 Jul 17 01:35	27°X59'33		evening set	2087 Sep 08 23:32	26°n30'39	
opposition	2081 Sep 15 03:14	22°X59'28	-1°32'47	max. Earth dist.	2087 Sep 21 06:58	29°n09'52	6.44720 AU
min. Earth dist.	2081 Sep 14 16:25	23°X03'03	3.96195 AU				
direct	2081 Nov 12 12:39	18°X05'55		conjunction	2087 Sep 22 02:15	29°n20'18	1°04'22
	2082 Feb 12 09:08	0°Y		minimum elong	2087 Sep 22 02:14	29°n20'17	1°04'22
evening set	2082 Mar 18 01:10	7°Y48'46			2087 Sep 25 03:40	0°u	
				morning rise	2087 Oct 05 01:57	2°u08'30	
conjunction	2082 Mar 31 07:13	11°Y00'59	-1°04'53	retrograde	2088 Feb 02 05:42	18°u54'05	
minimum elong	2082 Mar 31 07:13	11°Y00'59	1°04'53	opposition	2088 Apr 02 18:45	14°u00'30	1°35'20
max. Earth dist.	2082 Apr 01 13:32	11°Y19'21	5.94982 AU	min. Earth dist.	2088 Apr 03 15:52	13°u53'42	4.45458 AU
morning rise	2082 Apr 13 16:27	14°Y14'53		direct	2088 Jun 04 09:07	8°u58'05	
	2082 Jun 27 18:49	0°8		evening set	2088 Oct 08 20:21	26°u28'57	
retrograde	2082 Aug 24 02:28	4°855'35		max. Earth dist.	2088 Oct 19 23:31	28°u53'53	6.44164 AU
	2082 Oct 21 20:09	30°R Y					
opposition	2082 Oct 22 20:05	29°Y51'53	-1°32'29	conjunction	2088 Oct 21 16:41	29°u16'18	1°02'44
min. Earth dist.	2082 Oct 21 15:12	0°801'41	3.96274 AU	minimum elong	2088 Oct 21 16:42	29°u16'18	1°02'43
direct	2082 Dec 19 16:52	24°Y57'02			2088 Oct 25 00:57	0°m	
	2083 Feb 14 07:51	0°8		morning rise	2088 Nov 03 10:33	2°m02'30	
evening set	2083 Apr 24 14:08	14°834'45			2089 Jan 11 00:33	15°m	
	2083 Apr 26 08:46	15°8		retrograde	2089 Mar 03 23:19	18°m55'10	
					2089 Apr 26 06:22	15°Rm	
conjunction	2083 May 08 04:06	17°848'27	-0°52'09	opposition	2089 May 03 18:05	14°m03'06	1°20'38
minimum elong	2083 May 08 04:09	17°848'28	0°52'09	min. Earth dist.	2089 May 05 03:50	13°m52'20	4.41251 AU
max. Earth dist.	2083 May 10 09:34	18°820'16	5.99616 AU	direct	2089 Jul 05 11:27	9°m02'03	
morning rise	2083 May 21 20:33	21°803'18			2089 Sep 10 03:28	15°m	
	2083 Jun 30 15:22	0°II		evening set	2089 Nov 08 10:58	26°m45'02	
retrograde	2083 Sep 29 14:38	11°II09'59		max. Earth dist.	2089 Nov 19 01:46	29°m06'05	6.36571 AU
min. Earth dist.	2083 Nov 26 16:32	6°II16'54	4.04928 AU				
opposition	2083 Nov 28 03:43	6°II04'55	-0°55'59	conjunction	2089 Nov 21 03:53	29°m33'55	0°43'56
direct	2084 Jan 25 10:03	1°II07'15		minimum elong	2089 Nov 21 03:55	29°m33'56	0°43'56
evening set	2084 May 30 17:43	20°II15'58			2089 Nov 23 02:48	0°x	
				morning rise	2089 Dec 03 18:54	2°x22'07	
conjunction	2084 Jun 13 11:40	23°II26'05	-0°20'01	retrograde	2090 Apr 05 03:24	19°x49'33	
minimum elong	2084 Jun 13 11:41	23°II26'06	0°20'00	opposition	2090 Jun 05 01:52	14°x57'26	0°42'54
max. Earth dist.	2084 Jun 15 16:27	23°II56'32	6.11448 AU	min. Earth dist.	2090 Jun 06 13:42	14°x46'01	4.30679 AU
morning rise	2084 Jun 27 06:49	26°II36'29		direct	2090 Aug 06 03:59	9°x58'32	
	2084 Jul 12 07:28	0°e		evening set	2090 Dec 09 18:15	28°x09'05	
retrograde	2084 Nov 01 16:04	15°e37'46			2090 Dec 17 20:51	0°z	
min. Earth dist.	2084 Dec 30 02:13	10°e44'06	4.18603 AU	max. Earth dist.	2090 Dec 20 12:07	0°z36'14	6.23852 AU
opposition	2084 Dec 31 07:37	10°e34'07	-0°01'20				
asc. node	2085 Jan 09 18:29	9°e18'12		conjunction	2090 Dec 22 10:23	1°z02'44	0°11'51
direct	2085 Feb 28 15:47	5°e33'34		minimum elong	2090 Dec 22 10:23	1°z02'44	0°11'50
evening set	2085 Jul 05 08:33	24°e04'00		behind sun begin	2090 Dec 22 04:45	0°z59'31	
				behind sun end	2090 Dec 22 16:02	1°z05'57	
conjunction	2085 Jul 19 00:53	27°e07'03	0°17'45	morning rise	2091 Jan 04 02:03	3°z56'23	
minimum elong	2085 Jul 19 00:52	27°e07'02	0°17'45	desc. node	2091 Apr 27 15:30	22°z08'32	
max. Earth dist.	2085 Jul 20 11:57	27°e26'38	6.25863 AU	retrograde	2091 May 09 14:32	22°z21'57	

opposition	2091 Jul 09 09:04	17° <u>3</u> 28'15 -0°10'14		2097 Jul 15 23:44	0° <u>0</u>	
min. Earth dist.	2091 Jul 10 13:32	17° <u>3</u> 19'06 4.16576 AU				
direct	2091 Sep 08 08:02	12° <u>3</u> 31'52	conjunction	2097 Jul 23 18:36	1° <u>0</u> 43'57 0°22'39	
	2092 Jan 05 21:14	0° <u>≈</u>	minimum elong	2097 Jul 23 18:35	1° <u>0</u> 43'56 0°22'39	
evening set	2092 Jan 11 14:17	1° <u>≈</u> 19'58	max. Earth dist.	2097 Jul 25 01:58	2° <u>0</u> 01'24 6.27587 AU	
max. Earth dist.	2092 Jan 23 04:40	4° <u>≈</u> 03'54 6.09602 AU	morning rise	2097 Aug 06 09:11	4° <u>0</u> 45'10	
				2097 Sep 25 08:10	15° <u>0</u>	
conjunction	2092 Jan 24 08:42	4° <u>≈</u> 20'28 -0°25'29	retrograde	2097 Dec 07 21:48	22° <u>0</u> 32'48	
minimum elong	2092 Jan 24 08:40	4° <u>≈</u> 20'27 0°25'29	opposition	2098 Feb 05 19:51	17° <u>0</u> 33'02 0°56'19	
morning rise	2092 Feb 06 04:10	7° <u>≈</u> 21'47	min. Earth dist.	2098 Feb 05 07:42	17° <u>0</u> 37'04 4.33902 AU	
	2092 Mar 10 22:55	15° <u>≈</u>		2098 Feb 25 23:54	15° <u>0</u> 00'00	
retrograde	2092 Jun 14 05:46	26° <u>≈</u> 55'55	direct	2098 Apr 07 15:46	12° <u>0</u> 30'32	
opposition	2092 Aug 13 17:27	21° <u>≈</u> 59'09 -1°03'25		2098 May 18 20:09	15° <u>0</u>	
min. Earth dist.	2092 Aug 14 02:17	21° <u>≈</u> 56'16 4.03373 AU		2098 Aug 10 16:36	0° <u>0</u> 00'00	
direct	2092 Oct 12 04:36	17° <u>≈</u> 04'57	evening set	2098 Aug 12 13:30	0° <u>0</u> 24'14	
	2093 Jan 17 14:38	0° <u>0</u> 00'00				
evening set	2093 Feb 14 11:33	6° <u>0</u> 29'05	conjunction	2098 Aug 25 22:40	3° <u>0</u> 18'44 0°51'36	
			minimum elong	2098 Aug 25 22:38	3° <u>0</u> 18'43 0°51'35	
conjunction	2093 Feb 27 11:05	9° <u>0</u> 36'39 -0°55'17	max. Earth dist.	2098 Aug 26 02:12	3° <u>0</u> 20'40 6.39152 AU	
minimum elong	2093 Feb 27 11:03	9° <u>0</u> 36'38 0°55'17	morning rise	2098 Sep 08 05:23	6° <u>0</u> 11'55	
max. Earth dist.	2093 Feb 27 13:16	9° <u>0</u> 37'58 5.98639 AU	retrograde	2099 Jan 07 09:22	23° <u>0</u> 15'07	
morning rise	2093 Mar 12 13:08	12° <u>0</u> 45'42	opposition	2099 Mar 08 14:17	18° <u>0</u> 19'05 1°27'42	
	2093 Jun 06 10:42	0° <u>0</u> 00'00	min. Earth dist.	2099 Mar 08 21:05	18° <u>0</u> 16'52 4.42906 AU	
retrograde	2093 Jul 22 08:59	3° <u>0</u> 13'30	direct	2099 May 09 14:23	13° <u>0</u> 16'14	
	2093 Sep 06 16:50	30° <u>0</u> 00'00		2099 Sep 09 09:05	0° <u>0</u> 00'00	
opposition	2093 Sep 20 09:38	28° <u>0</u> 12'46 -1°35'07	evening set	2099 Sep 13 08:35	0° <u>0</u> 51'05	
min. Earth dist.	2093 Sep 19 20:16	28° <u>0</u> 17'14 3.95873 AU	max. Earth dist.	2099 Sep 25 10:39	3° <u>0</u> 27'31 6.44883 AU	
direct	2093 Nov 17 17:08	23° <u>0</u> 19'07				
	2094 Jan 22 16:49	0° <u>0</u> 00'00	conjunction	2099 Sep 26 10:15	3° <u>0</u> 40'17 1°05'12	
evening set	2094 Mar 23 05:04	13° <u>0</u> 02'04	minimum elong	2099 Sep 26 10:14	3° <u>0</u> 40'17 1°05'12	
			morning rise	2099 Oct 09 09:10	6° <u>0</u> 28'07	
conjunction	2094 Apr 05 12:20	16° <u>0</u> 14'40 -1°04'37	retrograde	2100 Feb 06 12:46	23° <u>0</u> 13'41	
minimum elong	2094 Apr 05 12:21	16° <u>0</u> 14'40 1°04'37				
max. Earth dist.	2094 Apr 06 23:41	16° <u>0</u> 13'01 5.95266 AU				
morning rise	2094 Apr 18 22:34	19° <u>0</u> 28'52				
	2094 Jun 04 13:21	0° <u>0</u> 00'00				
retrograde	2094 Aug 29 06:55	10° <u>0</u> 07'01				
opposition	2094 Oct 27 23:04	5° <u>0</u> 03'00 -1°29'17				
min. Earth dist.	2094 Oct 26 16:58	5° <u>0</u> 13'13 3.97152 AU				
direct	2094 Dec 24 20:03	0° <u>0</u> 07'50				
	2095 Apr 09 11:55	15° <u>0</u> 00'00				
evening set	2095 Apr 29 18:25	19° <u>0</u> 42'14				
conjunction	2095 May 13 09:02	22° <u>0</u> 55'38 -0°48'34				
minimum elong	2095 May 13 09:05	22° <u>0</u> 55'39 0°48'35				
max. Earth dist.	2095 May 15 14:18	23° <u>0</u> 27'12 6.00978 AU				
morning rise	2095 May 27 02:20	26° <u>0</u> 10'11				
	2095 Jun 12 15:12	0° <u>0</u> 00'00				
retrograde	2095 Oct 04 09:44	16° <u>0</u> 08'49				
opposition	2095 Dec 02 23:44	11° <u>0</u> 03'48 -0°48'59				
min. Earth dist.	2095 Dec 01 12:24	11° <u>0</u> 15'51 4.06622 AU				
direct	2096 Jan 30 08:35	6° <u>0</u> 05'40				
evening set	2096 Jun 04 17:58	25° <u>0</u> 09'27				
conjunction	2096 Jun 18 12:09	28° <u>0</u> 18'48 -0°14'48				
minimum elong	2096 Jun 18 12:10	28° <u>0</u> 18'48 0°14'48				
behind sun begin	2096 Jun 18 09:12	28° <u>0</u> 17'06				
behind sun end	2096 Jun 18 15:08	28° <u>0</u> 20'30				
max. Earth dist.	2096 Jun 20 15:23	28° <u>0</u> 14'14 6.13338 AU				
	2096 Jun 25 20:30	0° <u>0</u> 00'00				
morning rise	2096 Jul 02 07:02	1° <u>0</u> 28'13				
retrograde	2096 Nov 06 05:57	20° <u>0</u> 20'15				
asc. node	2096 Nov 20 06:10	20° <u>0</u> 00'32				
opposition	2097 Jan 04 20:53	15° <u>0</u> 17'01 0°06'24				
min. Earth dist.	2097 Jan 03 18:04	15° <u>0</u> 26'06 4.20489 AU				
direct	2097 Mar 05 09:48	10° <u>0</u> 16'10				
evening set	2097 Jul 10 02:55	28° <u>0</u> 41'55				