

conjunction	1600 Oct 24 11:06	1°♄18'36	2°13'58	morning rise	1607 Jan 17 03:47	11°♄45'01	
minimum elong	1600 Oct 24 11:07	1°♄18'36	2°13'57	retrograde	1607 Apr 28 12:12	18°♄47'18	
max. Earth dist.	1600 Oct 24 12:14	1°♄18'56	10.83411 AU	opposition	1607 Jul 08 08:26	15°♄28'53	0°13'53
morning rise	1600 Nov 10 05:22	3°♄18'45		min. Earth dist.	1607 Jul 08 13:24	15°♄27'59	9.04687 AU
retrograde	1601 Feb 17 16:12	10°♄25'18		direct	1607 Sep 16 22:30	12°♄10'41	
opposition	1601 Apr 27 12:39	7°♄07'24	2°40'06	desc. node	1607 Dec 13 15:02	17°♄44'21	
min. Earth dist.	1601 Apr 27 12:45	7°♄07'23	8.88310 AU	evening set	1607 Dec 26 05:48	19°♄10'00	
direct	1601 Jul 07 12:15	3°♄44'50					
evening set	1601 Oct 19 14:51	11°♄04'56		conjunction	1608 Jan 11 21:05	21°♄07'15	0°-2'-9
				minimum elong	1608 Jan 11 21:06	21°♄07'15	0°02'11
conjunction	1601 Nov 05 10:13	13°♄04'22	2°05'56	behind sun begin	1608 Jan 11 14:08	21°♄05'13	
minimum elong	1601 Nov 05 10:15	13°♄04'22	2°05'55	behind sun end	1608 Jan 12 04:04	21°♄09'17	
max. Earth dist.	1601 Nov 05 09:18	13°♄04'05	10.92536 AU	max. Earth dist.	1608 Jan 11 15:24	21°♄05'35	11.02320 AU
morning rise	1601 Nov 22 02:16	15°♄02'49		morning rise	1608 Jan 28 13:23	23°♄04'52	
retrograde	1602 Mar 01 12:59	22°♄04'50			1608 Apr 24 00:03	0°≈	
opposition	1602 May 09 20:19	18°♄47'33	2°26'51	retrograde	1608 May 09 14:40	0°≈11'53	
min. Earth dist.	1602 May 09 21:19	18°♄47'21	8.96580 AU		1608 May 25 07:26	30°♄	
direct	1602 Jul 20 00:21	15°♄26'10		opposition	1608 Jul 19 12:37	26°♄52'26	0°-19'-17
evening set	1602 Oct 31 09:40	22°♄39'31		min. Earth dist.	1608 Jul 19 17:23	26°♄51'33	8.99401 AU
				direct	1608 Sep 27 17:34	23°♄34'08	
conjunction	1602 Nov 17 02:57	24°♄37'32	1°52'51		1608 Dec 31 15:10	0°≈	
minimum elong	1602 Nov 17 03:00	24°♄37'33	1°52'51	evening set	1609 Jan 05 16:43	0°≈35'06	
max. Earth dist.	1602 Nov 17 00:59	24°♄36'57	10.99885 AU				
morning rise	1602 Dec 03 17:31	26°♄34'46		conjunction	1609 Jan 22 08:42	2°≈33'19	0°-29'-11
	1603 Jan 04 12:22	0°♄		minimum elong	1609 Jan 22 08:40	2°≈33'19	0°29'12
retrograde	1603 Mar 13 06:55	3°♄33'40		max. Earth dist.	1609 Jan 22 02:34	2°≈31'30	10.96017 AU
opposition	1603 May 22 00:49	0°♄16'40	2°07'57	morning rise	1609 Feb 08 02:33	4°≈32'08	
min. Earth dist.	1603 May 22 02:18	0°♄16'24	9.02886 AU	retrograde	1609 May 21 22:43	11°≈45'16	
	1603 May 25 18:59	30°♄		opposition	1609 Jul 31 19:59	8°≈24'37	0°-52'-10
direct	1603 Aug 01 07:08	26°♄56'21		min. Earth dist.	1609 Aug 01 01:00	8°≈23'41	8.92135 AU
	1603 Oct 04 00:36	0°♄		direct	1609 Oct 09 13:47	5°≈05'59	
evening set	1603 Nov 11 22:43	4°♄04'03		evening set	1610 Jan 17 07:56	12°≈10'08	
conjunction	1603 Nov 28 14:42	6°♄01'06	1°35'26	conjunction	1610 Feb 03 00:56	14°≈09'37	0°-55'-25
minimum elong	1603 Nov 28 14:45	6°♄01'06	1°35'27	minimum elong	1610 Feb 03 00:54	14°≈09'36	0°55'26
max. Earth dist.	1603 Nov 28 12:13	6°♄00'22	11.05114 AU	max. Earth dist.	1610 Feb 02 18:15	14°≈07'37	10.87853 AU
morning rise	1603 Dec 15 04:27	7°♄57'33		morning rise	1610 Feb 19 20:47	16°≈09'58	
retrograde	1604 Mar 24 01:36	14°♄54'53		retrograde	1610 Jun 03 10:58	23°≈30'34	
opposition	1604 Jun 02 03:11	11°♄37'58	1°44'15	opposition	1610 Aug 13 07:11	20°≈08'33	-1°-23'-30
min. Earth dist.	1604 Jun 02 05:47	11°♄37'29	9.06923 AU	min. Earth dist.	1610 Aug 13 12:29	20°≈07'33	8.83164 AU
direct	1604 Aug 12 08:49	8°♄18'31		direct	1610 Oct 21 13:16	16°≈49'22	
evening set	1604 Nov 22 08:03	15°♄21'56		evening set	1611 Jan 29 05:16	23°≈58'12	
conjunction	1604 Dec 08 23:07	17°♄18'26	1°14'26	conjunction	1611 Feb 14 23:51	25°≈59'18	-1°-19'-46
minimum elong	1604 Dec 08 23:09	17°♄18'27	1°14'26	minimum elong	1611 Feb 14 23:49	25°≈59'17	1°19'46
max. Earth dist.	1604 Dec 08 19:03	17°♄17'15	11.07979 AU	max. Earth dist.	1611 Feb 14 17:56	25°≈57'31	10.78130 AU
morning rise	1604 Dec 25 12:46	19°♄14'36		morning rise	1611 Mar 03 21:54	28°≈01'28	
retrograde	1605 Apr 04 18:51	26°♄11'58			1611 Mar 21 02:11	0°♄	
opposition	1605 Jun 14 04:34	22°♄54'52	1°16'42	retrograde	1611 Jun 16 06:47	5°♄30'38	
min. Earth dist.	1605 Jun 14 08:48	22°♄54'05	9.08549 AU	opposition	1611 Aug 25 22:47	2°♄07'09	-1°-51'-56
direct	1605 Aug 24 05:36	19°♄36'05		min. Earth dist.	1611 Aug 26 03:21	2°♄06'17	8.72822 AU
evening set	1605 Dec 03 15:17	26°♄36'40			1611 Sep 25 02:36	30°≈	
				direct	1611 Nov 02 18:03	28°≈47'14	
conjunction	1605 Dec 20 05:53	28°♄33'03	0°50'36		1611 Dec 10 08:35	0°♄	
minimum elong	1605 Dec 20 05:55	28°♄33'03	0°50'37	evening set	1612 Feb 10 10:01	6°♄02'07	
max. Earth dist.	1605 Dec 20 00:06	28°♄31'21	11.08432 AU				
	1606 Jan 01 14:45	0°♄		conjunction	1612 Feb 27 06:42	8°♄05'11	-1°-41'-5
morning rise	1606 Jan 05 20:07	0°♄29'19		minimum elong	1612 Feb 27 06:40	8°♄05'10	1°41'06
retrograde	1606 Apr 16 13:42	7°♄28'23		max. Earth dist.	1612 Feb 27 02:05	8°♄03'46	10.67214 AU
opposition	1606 Jun 26 06:05	4°♄10'46	0°46'15	morning rise	1612 Mar 15 07:12	10°♄09'27	
min. Earth dist.	1606 Jun 26 11:15	4°♄09'49	9.07780 AU	retrograde	1612 Jun 28 12:09	17°♄47'57	
direct	1606 Sep 05 02:59	0°♄52'23		opposition	1612 Sep 06 19:50	14°♄23'00	-2°-16'-3
evening set	1606 Dec 14 21:52	7°♄51'36		min. Earth dist.	1612 Sep 06 23:05	14°♄22'22	8.61511 AU
				direct	1612 Nov 14 01:54	11°♄02'14	
conjunction	1606 Dec 31 12:38	9°♄48'14	0°24'49	evening set	1613 Feb 21 23:21	18°♄24'19	
minimum elong	1606 Dec 31 12:39	9°♄48'15	0°24'48				
max. Earth dist.	1606 Dec 31 06:29	9°♄46'26	11.06516 AU	conjunction	1613 Mar 10 22:35	20°♄29'36	-1°-58'-13

minimum elong	1613 Mar 10 22:33	20° Υ 29'35	1°58'14	morning rise	1619 Jun 21 00:16	14° Π 07'21	
max. Earth dist.	1613 Mar 10 18:58	20° Υ 28'28	10.55562 AU	retrograde	1619 Oct 05 03:21	22° Π 28'23	
morning rise	1613 Mar 28 02:04	22° Υ 36'15		opposition	1619 Dec 11 05:50	18° Π 58'47	-1°-27'-54
	1613 Jun 19 23:13	0° Υ		min. Earth dist.	1619 Dec 11 01:17	18° Π 59'44	8.01280 AU
retrograde	1613 Jul 12 00:00	0° Υ 24'27		direct	1620 Feb 15 16:24	15° Π 30'38	
	1613 Aug 03 02:24	30° Υ		evening set	1620 May 29 23:52	23° Π 43'45	
opposition	1613 Sep 19 22:48	26° Υ 58'06	-2°-34'-23				
min. Earth dist.	1613 Sep 20 00:54	26° Υ 57'41	8.49720 AU	conjunction	1620 Jun 17 03:13	26° Π 04'59	0°-55'-32
direct	1613 Nov 26 16:14	23° Υ 36'20		minimum elong	1620 Jun 17 03:16	26° Π 05'00	0°55'33
	1614 Feb 25 18:26	0° Υ		max. Earth dist.	1620 Jun 17 09:28	26° Π 07'02	10.01018 AU
evening set	1614 Mar 06 22:29	1° Υ 06'32		morning rise	1620 Jul 05 07:32	28° Π 26'32	
					1620 Jul 17 17:38	0° Υ	
conjunction	1614 Mar 24 00:51	3° Υ 14'19	-2°-10'-1	retrograde	1620 Oct 18 17:59	6° Υ 44'37	
minimum elong	1614 Mar 24 00:50	3° Υ 14'18	2°10'02	opposition	1620 Dec 24 12:03	3° Υ 15'41	0°-49'-39
max. Earth dist.	1614 Mar 23 21:35	3° Υ 13'17	10.43707 AU	min. Earth dist.	1620 Dec 24 07:07	3° Υ 16'42	8.01571 AU
morning rise	1614 Apr 10 07:56	5° Υ 23'35			1621 Feb 13 21:57	30° Π	
retrograde	1614 Jul 25 19:28	13° Υ 21'16		direct	1621 Mar 01 04:25	29° Π 46'51	
opposition	1614 Oct 03 07:43	9° Υ 53'39	-2°-45'-31		1621 Mar 16 12:30	0° Υ	
min. Earth dist.	1614 Oct 03 09:19	9° Υ 53'20	8.38007 AU	evening set	1621 Jun 14 04:24	8° Υ 01'49	
direct	1614 Dec 09 14:09	6° Υ 30'44					
evening set	1615 Mar 20 07:50	14° Υ 09'37		conjunction	1621 Jul 02 09:07	10° Υ 23'09	0°-23'-25
				minimum elong	1621 Jul 02 09:08	10° Υ 23'09	0°23'26
conjunction	1615 Apr 06 14:04	16° Υ 20'07	-2°-15'-27	max. Earth dist.	1621 Jul 02 15:37	10° Υ 25'15	10.02814 AU
minimum elong	1615 Apr 06 14:04	16° Υ 20'07	2°15'28	morning rise	1621 Jul 20 13:35	12° Υ 44'22	
max. Earth dist.	1615 Apr 06 11:45	16° Υ 19'23	10.32236 AU	retrograde	1621 Nov 02 03:14	20° Υ 57'05	
morning rise	1615 Apr 24 01:11	18° Υ 32'08		opposition	1622 Jan 07 16:48	17° Υ 29'04	0°-8'-31
retrograde	1615 Aug 08 22:25	26° Υ 38'28		min. Earth dist.	1622 Jan 07 11:57	17° Υ 30'04	8.04764 AU
opposition	1615 Oct 16 22:37	23° Υ 09'49	-2°-48'-14	direct	1622 Mar 15 18:52	13° Υ 59'50	
min. Earth dist.	1615 Oct 16 23:31	23° Υ 09'38	8.26971 AU	asc. node	1622 Mar 26 09:48	14° Υ 06'08	
direct	1615 Dec 22 19:16	19° Υ 45'44		evening set	1622 Jun 29 07:54	22° Υ 14'25	
evening set	1616 Apr 02 03:23	27° Υ 33'21					
				conjunction	1622 Jul 17 12:11	24° Υ 34'50	0°09'57
conjunction	1616 Apr 19 14:07	29° Υ 46'38	-2°-13'-42	minimum elong	1622 Jul 17 12:10	24° Υ 34'50	0°09'57
minimum elong	1616 Apr 19 14:08	29° Υ 46'38	2°13'44	behind sun begin	1622 Jul 17 06:16	24° Υ 32'57	
max. Earth dist.	1616 Apr 19 13:36	29° Υ 46'28	10.21763 AU	behind sun end	1622 Jul 17 18:03	24° Υ 36'44	
	1616 Apr 21 07:48	0° Υ		max. Earth dist.	1622 Jul 17 18:13	24° Υ 36'47	10.07374 AU
morning rise	1616 May 07 05:27	2° Υ 01'23		morning rise	1622 Aug 04 14:58	26° Υ 54'45	
retrograde	1616 Aug 22 06:58	10° Υ 14'57			1622 Aug 30 04:22	0° Ω	
opposition	1616 Oct 29 18:56	6° Υ 45'31	-2°-41'-42	retrograde	1622 Nov 16 05:37	5° Ω 00'18	
min. Earth dist.	1616 Oct 29 18:32	6° Υ 45'36	8.17233 AU	opposition	1623 Jan 21 18:26	1° Ω 33'26	0°32'39
direct	1617 Jan 04 09:04	3° Υ 20'16		min. Earth dist.	1623 Jan 21 13:48	1° Ω 34'23	8.10558 AU
evening set	1617 Apr 16 08:58	11° Υ 16'13			1623 Feb 10 10:46	30° Υ	
				direct	1623 Mar 30 08:29	28° Υ 04'05	
conjunction	1617 May 04 00:34	13° Υ 32'11	-2°-4'-24		1623 May 16 13:37	0° Ω	
minimum elong	1617 May 04 00:36	13° Υ 32'12	2°04'26	evening set	1623 Jul 14 07:15	6° Ω 16'13	
max. Earth dist.	1617 May 04 02:20	13° Υ 32'46	10.12911 AU				
morning rise	1617 May 21 20:10	15° Υ 49'29		conjunction	1623 Aug 01 09:26	8° Ω 34'55	0°42'16
retrograde	1617 Sep 05 19:32	24° Υ 08'11		minimum elong	1623 Aug 01 09:24	8° Ω 34'54	0°42'16
opposition	1617 Nov 12 19:42	20° Υ 38'19	-2°-25'-39	max. Earth dist.	1623 Aug 01 14:49	8° Ω 36'39	10.14290 AU
min. Earth dist.	1617 Nov 12 17:38	20° Υ 38'44	8.09392 AU	morning rise	1623 Aug 19 08:58	10° Ω 52'44	
direct	1618 Jan 18 06:12	17° Υ 11'58		retrograde	1623 Nov 30 01:29	18° Ω 50'06	
evening set	1618 Apr 30 23:31	25° Υ 15'15		opposition	1624 Feb 04 16:01	15° Ω 24'31	1°11'13
				min. Earth dist.	1624 Feb 04 11:27	15° Ω 25'26	8.18472 AU
conjunction	1618 May 18 19:54	27° Υ 33'38	-1°-47'-40	direct	1624 Apr 12 18:42	11° Ω 55'23	
minimum elong	1618 May 18 19:57	27° Υ 33'39	1°47'41	evening set	1624 Jul 27 23:57	20° Ω 03'22	
max. Earth dist.	1618 May 18 23:45	27° Υ 34'53	10.06237 AU				
morning rise	1618 Jun 05 19:25	29° Υ 53'04		conjunction	1624 Aug 14 22:43	22° Ω 19'44	1°11'40
	1618 Jun 06 17:12	0° Π		minimum elong	1624 Aug 14 22:40	22° Ω 19'43	1°11'40
retrograde	1618 Sep 20 11:08	8° Π 14'20		max. Earth dist.	1624 Aug 15 03:38	22° Ω 21'18	10.23056 AU
opposition	1618 Nov 26 23:51	4° Π 44'24	-2°00'-36	morning rise	1624 Sep 01 17:49	24° Ω 34'55	
min. Earth dist.	1618 Nov 26 20:13	4° Π 45'09	8.03950 AU		1624 Oct 21 08:18	0° Π	
direct	1619 Feb 01 09:08	1° Π 17'05		retrograde	1624 Dec 12 15:17	2° Π 23'37	
evening set	1619 May 15 21:17	9° Π 26'13			1625 Feb 04 15:29	30° Ω	
				opposition	1625 Feb 17 08:46	28° Ω 59'24	1°44'57
conjunction	1619 Jun 02 21:44	11° Π 46'26	-1°-24'-15	min. Earth dist.	1625 Feb 17 04:26	29° Ω 00'16	8.28012 AU
minimum elong	1619 Jun 02 21:47	11° Π 46'27	1°24'16	direct	1625 Apr 26 23:56	25° Ω 30'49	
max. Earth dist.	1619 Jun 03 03:03	11° Π 48'10	10.02179 AU		1625 Jul 11 17:34	0° Π	

evening set	1625 Aug 11 08:31	3°♎33'14		minimum elong	1631 Nov 12 10:53	19°♍51'40	1°59'09
				max. Earth dist.	1631 Nov 12 09:44	19°♍51'20	10.95045 AU
conjunction	1625 Aug 29 02:52	5°♎46'50	1°36'33	morning rise	1631 Nov 29 01:59	21°♍49'34	
minimum elong	1625 Aug 29 02:49	5°♎46'49	1°36'33	retrograde	1632 Mar 07 13:43	28°♍50'14	
max. Earth dist.	1625 Aug 29 07:21	5°♎48'14	10.33212 AU	opposition	1632 May 16 02:53	25°♍32'38	2°16'55
morning rise	1625 Sep 15 16:46	7°♎59'03		min. Earth dist.	1632 May 16 04:41	25°♍32'17	8.98471 AU
retrograde	1625 Dec 25 21:04	15°♎38'55		direct	1632 Jul 26 07:41	22°♍11'17	
opposition	1626 Mar 02 20:14	12°♎16'06	2°12'11	evening set	1632 Nov 06 08:14	29°♍22'00	
min. Earth dist.	1626 Mar 02 16:32	12°♎16'50	8.38722 AU		1632 Nov 11 18:47	0°♊	
direct	1626 May 11 00:28	8°♎48'16					
evening set	1626 Aug 25 07:21	16°♎43'55		conjunction	1632 Nov 23 00:45	1°♊19'36	1°43'33
				minimum elong	1632 Nov 23 00:48	1°♊19'37	1°43'33
conjunction	1626 Sep 11 20:46	18°♎54'31	1°55'49	max. Earth dist.	1632 Nov 22 21:58	1°♊18'47	11.01189 AU
minimum elong	1626 Sep 11 20:43	18°♎54'31	1°55'49	morning rise	1632 Dec 09 14:58	3°♊16'33	
max. Earth dist.	1626 Sep 12 00:36	18°♎55'43	10.44286 AU	retrograde	1633 Mar 19 07:25	10°♊14'54	
morning rise	1626 Sep 29 05:19	21°♎03'41		opposition	1633 May 28 06:19	6°♊57'28	1°55'11
retrograde	1627 Jan 07 18:54	28°♎34'57		min. Earth dist.	1633 May 28 09:02	6°♊56'58	9.03600 AU
opposition	1627 Mar 16 02:17	25°♎13'26	2°31'54	direct	1633 Aug 07 12:39	3°♊37'05	
min. Earth dist.	1627 Mar 15 23:51	25°♎13'55	8.50093 AU	evening set	1633 Nov 17 19:03	10°♊42'49	
direct	1627 May 24 18:53	21°♎46'33					
evening set	1627 Sep 07 19:28	29°♎34'31		conjunction	1633 Dec 04 10:28	12°♊39'40	1°24'00
	1627 Sep 11 07:29	0°♉		minimum elong	1633 Dec 04 10:30	12°♊39'41	1°24'00
				max. Earth dist.	1633 Dec 04 06:59	12°♊38'39	11.05307 AU
conjunction	1627 Sep 25 03:53	1°♉42'09	2°08'50	morning rise	1633 Dec 21 00:18	14°♊36'04	
minimum elong	1627 Sep 25 03:51	1°♉42'09	2°08'50	retrograde	1634 Mar 31 00:28	21°♊33'39	
max. Earth dist.	1627 Sep 25 06:15	1°♉42'53	10.55745 AU	opposition	1634 Jun 09 08:06	18°♊16'09	1°29'10
morning rise	1627 Oct 12 07:33	3°♉48'22		min. Earth dist.	1634 Jun 09 10:38	18°♊15'41	9.06610 AU
retrograde	1628 Jan 20 09:46	11°♉11'32		direct	1634 Aug 19 12:20	14°♊56'37	
opposition	1628 Mar 28 02:39	7°♉51'11	2°43'41	evening set	1634 Nov 29 02:51	21°♊58'39	
min. Earth dist.	1628 Mar 28 01:18	7°♉51'26	8.61566 AU				
direct	1628 Jun 06 06:12	4°♉25'22		conjunction	1634 Dec 15 17:48	23°♊55'10	1°01'18
evening set	1628 Sep 19 21:04	12°♉05'14		minimum elong	1634 Dec 15 17:50	23°♊55'10	1°01'19
				max. Earth dist.	1634 Dec 15 14:36	23°♊54'13	11.07246 AU
conjunction	1628 Oct 07 00:53	14°♉10'07	2°15'25	morning rise	1635 Jan 01 07:45	25°♊51'27	
minimum elong	1628 Oct 07 00:52	14°♉10'07	2°15'25		1635 Feb 10 06:32	0°♋	
max. Earth dist.	1628 Oct 07 01:37	14°♉10'21	10.67036 AU	retrograde	1635 Apr 11 20:01	2°♋49'48	
morning rise	1628 Oct 24 00:16	16°♉13'39			1635 Jun 15 00:38	30°♊	
retrograde	1629 Jan 31 16:34	23°♉29'29		opposition	1635 Jun 21 09:10	29°♊32'01	0°59'51
opposition	1629 Apr 09 21:23	20°♉10'07	2°47'33	min. Earth dist.	1635 Jun 21 11:55	29°♊31'30	9.07399 AU
min. Earth dist.	1629 Apr 09 20:39	20°♉10'15	8.72590 AU	direct	1635 Aug 31 09:27	26°♊13'08	
direct	1629 Jun 19 11:21	16°♉45'25			1635 Nov 10 11:16	0°♋	
evening set	1629 Oct 02 12:25	24°♉17'11		evening set	1635 Dec 10 09:24	3°♋12'56	
conjunction	1629 Oct 19 12:22	26°♉19'38	2°15'42	conjunction	1635 Dec 27 00:12	5°♋09'29	0°36'16
minimum elong	1629 Oct 19 12:22	26°♉19'38	2°15'42	minimum elong	1635 Dec 27 00:14	5°♋09'29	0°36'16
max. Earth dist.	1629 Oct 19 12:18	26°♉19'37	10.77639 AU	max. Earth dist.	1635 Dec 26 20:21	5°♋08'21	11.06933 AU
morning rise	1629 Nov 05 08:10	28°♉20'51		morning rise	1636 Jan 12 14:51	7°♋06'02	
	1629 Nov 19 15:45	0°♌		retrograde	1636 Apr 22 16:35	14°♋06'40	
retrograde	1630 Feb 12 19:40	5°♌30'24		opposition	1636 Jul 02 10:49	10°♋48'25	0°28'12
opposition	1630 Apr 22 11:18	2°♌11'48	2°43'56	min. Earth dist.	1636 Jul 02 14:28	10°♋47'44	9.05934 AU
min. Earth dist.	1630 Apr 22 10:46	2°♌11'55	8.82674 AU	direct	1636 Sep 11 03:19	7°♋29'58	
	1630 May 24 01:20	30°♉		evening set	1636 Dec 20 16:24	14°♋29'02	
direct	1630 Jul 02 09:49	28°♉48'18					
	1630 Aug 10 01:55	0°♌		conjunction	1637 Jan 06 07:18	16°♋25'57	0°09'47
evening set	1630 Oct 14 18:20	6°♌12'14		minimum elong	1637 Jan 06 07:18	16°♋25'57	0°09'46
				behind sun begin	1637 Jan 06 01:33	16°♋24'16	
conjunction	1630 Oct 31 15:11	8°♌12'38	2°10'06	behind sun end	1637 Jan 06 13:03	16°♋27'37	
minimum elong	1630 Oct 31 15:12	8°♌12'39	2°10'05	max. Earth dist.	1637 Jan 06 02:12	16°♋24'28	11.04376 AU
max. Earth dist.	1630 Oct 31 15:07	8°♌12'37	10.87099 AU	morning rise	1637 Jan 22 23:06	18°♋23'09	
morning rise	1630 Nov 17 08:10	10°♌11'58		retrograde	1637 May 04 15:16	25°♋27'39	
retrograde	1631 Feb 24 19:30	17°♌16'26		desc. node	1637 May 21 19:43	25°♋13'34	
opposition	1631 May 04 20:57	13°♌58'25	2°33'27	opposition	1637 Jul 14 13:59	22°♋08'40	0°-4'-43
min. Earth dist.	1631 May 04 21:20	13°♌58'21	8.91410 AU	min. Earth dist.	1637 Jul 14 18:17	22°♋07'52	9.02273 AU
direct	1631 Jul 14 23:34	10°♌36'03		direct	1637 Sep 22 22:23	18°♋50'27	
evening set	1631 Oct 26 16:28	17°♌52'51		evening set	1638 Jan 01 01:29	25°♋50'18	
conjunction	1631 Nov 12 10:50	19°♌51'40	1°59'09	conjunction	1638 Jan 17 17:00	27°♋47'57	0°-17'-21

minimum elong	1638 Jan 17 16:59	27°☾47'57	0°17'23	morning rise	1644 Apr 17 04:55	12°♃49'47	
max. Earth dist.	1638 Jan 17 12:06	27°☾46'30	10.99673 AU	retrograde	1644 Aug 01 21:31	20°♃50'45	
morning rise	1638 Feb 03 10:11	29°☾46'07		opposition	1644 Oct 10 03:43	17°♃23'12	-2°-47'-48
	1638 Feb 05 10:12	0°♁		min. Earth dist.	1644 Oct 10 04:43	17°♃23'00	8.34786 AU
retrograde	1638 May 16 20:53	6°♁55'59		direct	1644 Dec 16 05:18	14°♃00'20	
opposition	1638 Jul 26 19:34	3°♁36'03	0°-37'-49	evening set	1645 Mar 27 05:38	21°♃42'27	
min. Earth dist.	1638 Jul 26 23:25	3°♁35'20	8.96551 AU				
direct	1638 Oct 04 19:21	0°♁17'49		conjunction	1645 Apr 13 14:06	23°♃54'02	-2°-15'-16
evening set	1639 Jan 12 14:15	7°♁19'57		minimum elong	1645 Apr 13 14:07	23°♃54'02	2°15'17
				max. Earth dist.	1645 Apr 13 12:42	23°♃53'35	10.29139 AU
conjunction	1639 Jan 29 06:49	9°♁18'41	0°-44'-2	morning rise	1645 May 01 03:07	26°♃07'06	
minimum elong	1639 Jan 29 06:47	9°♁18'41	0°44'03		1645 Jun 03 12:57	0°♃	
max. Earth dist.	1639 Jan 29 02:42	9°♁17'28	10.92983 AU	retrograde	1645 Aug 16 03:25	4°♃16'04	
morning rise	1639 Feb 15 01:36	11°♁18'09		opposition	1645 Oct 23 20:41	0°♃47'31	-2°-45'-34
retrograde	1639 May 29 07:19	18°♁34'42		min. Earth dist.	1645 Oct 23 20:52	0°♃47'28	8.24062 AU
opposition	1639 Aug 08 04:28	15°♁13'39	-1°-9'-54		1645 Nov 02 19:06	30°♃	
min. Earth dist.	1639 Aug 08 07:37	15°♁13'04	8.88962 AU	direct	1645 Dec 29 13:35	27°♃23'19	
direct	1639 Oct 16 16:21	11°♁55'12			1646 Feb 22 03:53	0°♃	
evening set	1640 Jan 24 08:29	19°♁01'07		evening set	1646 Apr 10 05:48	5°♃14'04	
conjunction	1640 Feb 10 02:15	21°♁01'14	-1°-9'-17	conjunction	1646 Apr 27 18:53	7°♃28'26	-2°-9'-28
minimum elong	1640 Feb 10 02:13	21°♁01'14	1°09'18	minimum elong	1646 Apr 27 18:55	7°♃28'27	2°09'29
max. Earth dist.	1640 Feb 09 22:09	21°♁00'00	10.84541 AU	max. Earth dist.	1646 Apr 27 18:15	7°♃28'14	10.19099 AU
morning rise	1640 Feb 26 23:00	23°♁02'19		morning rise	1646 May 15 12:21	9°♃44'12	
	1640 May 17 15:32	0°♃		retrograde	1646 Aug 30 13:04	17°♃59'22	
retrograde	1640 Jun 10 00:23	0°♃26'42		opposition	1646 Nov 06 18:28	14°♃30'04	-2°-33'-57
	1640 Jul 03 13:10	30°♁		min. Earth dist.	1646 Nov 06 18:04	14°♃30'09	8.14857 AU
opposition	1640 Aug 19 17:35	27°♁04'25	-1°-39'-41	direct	1647 Jan 12 06:29	11°♃04'33	
min. Earth dist.	1640 Aug 19 20:38	27°♁03'50	8.79784 AU	evening set	1647 Apr 24 15:18	19°♃03'15	
direct	1640 Oct 27 17:25	23°♁45'29					
	1641 Jan 27 08:42	0°♃		conjunction	1647 May 12 09:10	21°♃20'13	-1°-56'-10
evening set	1641 Feb 04 09:27	0°♃56'35		minimum elong	1647 May 12 09:14	21°♃20'14	1°56'11
				max. Earth dist.	1647 May 12 09:36	21°♃20'22	10.10896 AU
conjunction	1641 Feb 21 04:50	2°♃58'25	-1°-32'-1	morning rise	1647 May 30 06:53	23°♃38'23	
minimum elong	1641 Feb 21 04:48	2°♃58'24	1°32'01		1647 Jul 28 11:13	0°♃	
max. Earth dist.	1641 Feb 21 00:16	2°♃57'02	10.74675 AU	retrograde	1647 Sep 14 02:09	1°♃57'28	
morning rise	1641 Mar 10 04:03	5°♃01'24			1647 Nov 01 10:03	30°♃	
retrograde	1641 Jun 23 00:51	12°♃34'30		opposition	1647 Nov 20 20:17	28°♃27'45	-2°-13'-5
opposition	1641 Sep 01 11:47	9°♃10'54	-2°-5'-46	min. Earth dist.	1647 Nov 20 19:12	28°♃27'58	8.07751 AU
min. Earth dist.	1641 Sep 01 15:04	9°♃10'17	8.69368 AU	direct	1648 Jan 26 06:06	25°♃00'58	
direct	1641 Nov 08 22:38	5°♃51'14			1648 Apr 12 18:09	0°♃	
evening set	1642 Feb 16 18:13	13°♃08'46		evening set	1648 May 08 08:34	3°♃06'23	
conjunction	1642 Mar 05 15:54	15°♃12'37	-1°-51'-4	conjunction	1648 May 26 06:56	5°♃25'31	-1°-35'-48
minimum elong	1642 Mar 05 15:52	15°♃12'36	1°51'05	minimum elong	1648 May 26 07:00	5°♃25'32	1°35'50
max. Earth dist.	1642 Mar 05 11:44	15°♃11'20	10.63748 AU	max. Earth dist.	1648 May 26 09:03	5°♃26'12	10.05050 AU
morning rise	1642 Mar 22 17:56	17°♃17'48		morning rise	1648 Jun 13 08:13	7°♃45'34	
retrograde	1642 Jul 06 06:54	25°♃00'12		retrograde	1648 Sep 27 16:44	16°♃05'57	
opposition	1642 Sep 14 11:20	21°♃35'12	-2°-26'-44	opposition	1648 Dec 04 00:38	12°♃36'10	-1°-43'-53
min. Earth dist.	1642 Sep 14 14:25	21°♃34'36	8.58085 AU	min. Earth dist.	1648 Dec 03 22:22	12°♃36'38	8.03200 AU
direct	1642 Nov 21 10:51	18°♃14'35		direct	1649 Feb 08 11:27	9°♃08'16	
evening set	1643 Mar 01 12:06	25°♃39'38		evening set	1649 May 23 07:58	17°♃18'46	
conjunction	1643 Mar 18 12:48	27°♃45'50	-2°-5'-19	conjunction	1649 Jun 10 10:02	19°♃39'25	-1°-9'-28
minimum elong	1643 Mar 18 12:46	27°♃45'49	2°05'20	minimum elong	1649 Jun 10 10:05	19°♃39'26	1°09'29
max. Earth dist.	1643 Mar 18 09:40	27°♃44'52	10.52150 AU	max. Earth dist.	1649 Jun 10 13:51	19°♃40'39	10.01930 AU
morning rise	1643 Apr 04 17:58	29°♃53'27		morning rise	1649 Jun 28 13:45	22°♃00'36	
	1643 Apr 05 15:30	0°♃			1649 Sep 23 12:50	0°♃	
retrograde	1643 Jul 19 21:57	7°♃45'18		retrograde	1649 Oct 12 06:44	0°♃19'33	
opposition	1643 Sep 27 16:29	4°♃18'58	-2°-41'-11		1649 Oct 31 01:32	30°♃	
min. Earth dist.	1643 Sep 27 18:42	4°♃18'32	8.46361 AU	opposition	1649 Dec 18 05:49	26°♃50'04	-1°-8'-5
direct	1643 Dec 04 05:15	0°♃57'17		min. Earth dist.	1649 Dec 18 02:21	26°♃50'47	8.01487 AU
evening set	1644 Mar 13 15:47	8°♃30'41		direct	1650 Feb 22 21:21	23°♃21'15	
					1650 May 25 19:41	0°♃	
conjunction	1644 Mar 30 20:05	10°♃39'29	-2°-13'-41	evening set	1650 Jun 07 10:55	1°♃34'54	
minimum elong	1644 Mar 30 20:05	10°♃39'29	2°13'42				
max. Earth dist.	1644 Mar 30 17:56	10°♃38'49	10.40388 AU	conjunction	1650 Jun 25 15:16	3°♃56'12	0°-38'-48

minimum elong	1650 Jun 25 15:18	3°♄56'13	0°38'49	morning rise	1656 Oct 05 13:11	28°♃03'28	
max. Earth dist.	1650 Jun 25 20:23	3°♄57'52	10.01717 AU		1656 Oct 22 00:04	0°♄	
morning rise	1650 Jul 13 19:51	6°♄17'36		retrograde	1657 Jan 13 19:47	5°♄30'27	
retrograde	1650 Oct 26 17:31	14°♄32'39		opposition	1657 Mar 22 08:28	2°♄09'16	2°39'00
opposition	1651 Jan 01 10:36	11°♄03'48	0°-28'-5	min. Earth dist.	1657 Mar 22 05:07	2°♄09'55	8.55687 AU
min. Earth dist.	1651 Jan 01 06:11	11°♄04'43	8.02709 AU		1657 Apr 21 04:59	30°♃	
direct	1651 Mar 09 09:40	7°♄34'22		direct	1657 May 31 07:40	28°♃42'45	
evening set	1651 Jun 22 14:20	15°♄49'00			1657 Jul 09 23:37	0°♄	
				evening set	1657 Sep 14 02:40	6°♄26'31	
conjunction	1651 Jul 10 19:10	18°♄09'58	0°-5'-53				
minimum elong	1651 Jul 10 19:11	18°♄09'58	0°05'54	conjunction	1657 Oct 01 08:49	8°♄32'44	2°13'00
behind sun begin	1651 Jul 10 12:10	18°♄07'43		minimum elong	1657 Oct 01 08:48	8°♄32'43	2°13'00
behind sun end	1651 Jul 11 02:12	18°♄12'14		max. Earth dist.	1657 Oct 01 12:03	8°♄33'43	10.61434 AU
max. Earth dist.	1651 Jul 11 01:14	18°♄11'54	10.04403 AU	morning rise	1657 Oct 18 10:08	10°♄37'31	
morning rise	1651 Jul 28 22:53	20°♄30'36		retrograde	1658 Jan 26 07:27	17°♄56'46	
asc. node	1651 Sep 15 09:53	25°♄57'34		opposition	1658 Apr 04 05:50	14°♄36'51	2°46'34
retrograde	1651 Nov 09 23:25	28°♄39'42		min. Earth dist.	1658 Apr 04 03:40	14°♄37'16	8.67295 AU
opposition	1652 Jan 15 13:21	25°♄11'48	0°13'20	direct	1658 Jun 13 14:16	11°♄11'37	
min. Earth dist.	1652 Jan 15 08:32	25°♄12'48	8.06769 AU	evening set	1658 Sep 26 22:54	18°♄47'15	
direct	1652 Mar 22 21:51	21°♄42'02					
evening set	1652 Jul 06 15:27	29°♄55'31		conjunction	1658 Oct 14 00:44	20°♄50'51	2°16'13
	1652 Jul 07 05:38	0°♃		minimum elong	1658 Oct 14 00:43	20°♄50'51	2°16'14
				max. Earth dist.	1658 Oct 14 02:40	20°♄51'26	10.72736 AU
conjunction	1652 Jul 24 19:00	2°♃15'14	0°27'12	morning rise	1658 Oct 30 22:04	22°♄53'08	
minimum elong	1652 Jul 24 18:59	2°♃15'13	0°27'12		1659 Jan 28 05:28	0°♃	
max. Earth dist.	1652 Jul 25 01:12	2°♃17'13	10.09798 AU	retrograde	1659 Feb 07 12:33	0°♃05'34	
morning rise	1652 Aug 11 20:12	4°♃34'12			1659 Feb 17 20:53	30°♄	
retrograde	1652 Nov 22 23:34	12°♃35'48		opposition	1659 Apr 16 22:10	26°♄46'45	2°46'24
opposition	1653 Jan 28 12:40	9°♃09'04	0°53'25	min. Earth dist.	1659 Apr 16 21:25	26°♄46'54	8.78206 AU
min. Earth dist.	1653 Jan 28 08:16	9°♃09'58	8.13396 AU	direct	1659 Jun 26 15:31	23°♄22'50	
direct	1653 Apr 06 08:21	5°♃39'17			1659 Oct 02 03:51	0°♃	
evening set	1653 Jul 21 11:30	13°♃49'38		evening set	1659 Oct 09 09:23	0°♃50'30	
conjunction	1653 Aug 08 12:08	16°♃07'18	0°58'11	conjunction	1659 Oct 26 07:35	2°♃51'50	2°13'20
minimum elong	1653 Aug 08 12:05	16°♃07'17	0°58'11	minimum elong	1659 Oct 26 07:36	2°♃51'50	2°13'20
max. Earth dist.	1653 Aug 08 17:33	16°♃09'02	10.17540 AU	max. Earth dist.	1659 Oct 26 07:44	2°♃51'53	10.83110 AU
morning rise	1653 Aug 26 09:29	18°♃23'55		morning rise	1659 Nov 12 01:56	4°♃52'01	
retrograde	1653 Dec 06 16:39	26°♃17'01		retrograde	1660 Feb 19 13:02	11°♃58'46	
opposition	1654 Feb 11 07:41	22°♃51'37	1°29'40	opposition	1660 Apr 28 09:54	8°♃40'48	2°39'03
min. Earth dist.	1654 Feb 11 03:46	22°♃52'25	8.22157 AU	min. Earth dist.	1660 Apr 28 10:00	8°♃40'47	8.87943 AU
direct	1654 Apr 20 16:05	19°♃22'12		direct	1660 Jul 08 09:39	5°♃18'12	
evening set	1654 Aug 05 00:00	27°♃27'38		evening set	1660 Oct 20 11:30	12°♃38'23	
conjunction	1654 Aug 22 20:28	29°♃42'40	1°25'21	conjunction	1660 Nov 06 06:54	14°♃37'53	2°04'50
minimum elong	1654 Aug 22 20:25	29°♃42'39	1°25'21	minimum elong	1660 Nov 06 06:56	14°♃37'54	2°04'49
max. Earth dist.	1654 Aug 23 00:59	29°♃44'06	10.27145 AU	max. Earth dist.	1660 Nov 06 05:59	14°♃37'37	10.92111 AU
	1654 Aug 25 03:05	0°♃		morning rise	1660 Nov 22 22:59	16°♃36'25	
morning rise	1654 Sep 09 13:01	1°♃56'26		retrograde	1661 Mar 02 09:39	23°♃38'44	
retrograde	1654 Dec 20 00:08	9°♃40'39		opposition	1661 May 10 17:41	20°♃21'21	2°25'15
opposition	1655 Feb 24 21:33	6°♃16'42	2°00'07	min. Earth dist.	1661 May 10 18:06	20°♃21'17	8.96097 AU
min. Earth dist.	1655 Feb 24 17:50	6°♃17'26	8.32520 AU	direct	1661 Jul 20 22:01	16°♃59'58	
direct	1655 May 04 20:37	2°♃47'59		evening set	1661 Nov 01 06:27	24°♃13'30	
evening set	1655 Aug 19 03:14	10°♃47'05					
				conjunction	1661 Nov 17 23:53	26°♃11'36	1°51'19
conjunction	1655 Sep 05 18:57	12°♃59'10	1°47'22	minimum elong	1661 Nov 17 23:55	26°♃11'37	1°51'19
minimum elong	1655 Sep 05 18:54	12°♃59'09	1°47'22	max. Earth dist.	1661 Nov 17 22:41	26°♃11'15	10.99366 AU
max. Earth dist.	1655 Sep 05 22:46	13°♃00'22	10.38063 AU	morning rise	1661 Dec 04 14:24	28°♃08'54	
morning rise	1655 Sep 23 06:18	15°♃09'52			1661 Dec 21 01:22	0°♃	
retrograde	1656 Jan 02 00:47	22°♃45'16		retrograde	1662 Mar 14 06:03	5°♃08'11	
opposition	1656 Mar 09 05:47	19°♃22'43	2°23'28	opposition	1662 May 22 22:39	1°♃51'09	2°05'51
min. Earth dist.	1656 Mar 09 02:01	19°♃23'28	8.43902 AU	min. Earth dist.	1662 May 22 23:52	1°♃50'55	9.02334 AU
direct	1656 May 17 18:03	15°♃55'00			1662 Jun 18 11:28	30°♃	
evening set	1656 Aug 31 20:11	23°♃46'44		direct	1662 Aug 02 04:27	28°♃30'50	
					1662 Sep 14 17:42	0°♃	
conjunction	1656 Sep 18 07:03	25°♃55'49	2°03'22	evening set	1662 Nov 12 19:46	5°♃38'43	
minimum elong	1656 Sep 18 07:01	25°♃55'48	2°03'23				
max. Earth dist.	1656 Sep 18 10:37	25°♃56'56	10.49694 AU	conjunction	1662 Nov 29 11:46	7°♃35'52	1°33'32

minimum elong	1662 Nov 29 11:48	7°♂35'53	1°33'32	minimum elong	1669 Feb 04 00:19	15°♁50'15	0°57'50
max. Earth dist.	1662 Nov 29 09:29	7°♂35'12	11.04559 AU	max. Earth dist.	1669 Feb 03 18:12	15°♁48'25	10.87352 AU
morning rise	1662 Dec 16 01:35	9°♂32'25		morning rise	1669 Feb 20 20:19	17°♁50'42	
retrograde	1663 Mar 25 23:12	16°♂30'08		retrograde	1669 Jun 04 11:27	25°♁11'52	
opposition	1663 Jun 04 01:31	13°♂13'10	1°41'44	opposition	1669 Aug 14 07:34	21°♁49'49	-1°-26'-17
min. Earth dist.	1663 Jun 04 04:29	13°♂12'37	9.06370 AU	min. Earth dist.	1669 Aug 14 12:23	21°♁48'54	8.82690 AU
direct	1663 Aug 14 05:16	9°♂53'43		direct	1669 Oct 22 14:16	18°♁30'40	
evening set	1663 Nov 24 05:24	16°♂57'21		evening set	1670 Jan 30 05:00	25°♁39'49	
conjunction	1663 Dec 10 20:26	18°♂53'56	1°12'13	conjunction	1670 Feb 15 23:46	27°♁41'01	-1°-21'-53
minimum elong	1663 Dec 10 20:28	18°♂53'57	1°12'13	minimum elong	1670 Feb 15 23:43	27°♁41'01	1°21'53
max. Earth dist.	1663 Dec 10 15:55	18°♂52'36	11.07441 AU	max. Earth dist.	1670 Feb 15 18:58	27°♁39'34	10.77679 AU
morning rise	1663 Dec 27 10:19	20°♂50'12		morning rise	1670 Mar 04 21:48	29°♁43'17	
retrograde	1664 Apr 05 16:47	27°♂47'59		retrograde	1670 Mar 07 06:23	0°♁	
opposition	1664 Jun 15 03:06	24°♂30'50	1°13'51	retrograde	1670 Jun 17 09:12	7°♁12'56	
min. Earth dist.	1664 Jun 15 07:23	24°♂30'02	9.08014 AU	opposition	1670 Aug 26 23:29	3°♁49'24	-1°-54'-19
direct	1664 Aug 25 04:33	21°♂12'02		min. Earth dist.	1670 Aug 27 03:03	3°♁48'43	8.72415 AU
evening set	1664 Dec 04 12:52	28°♂12'53		direct	1670 Nov 03 17:31	0°♁29'32	
	1664 Dec 19 19:49	0°♁		evening set	1671 Feb 11 10:14	7°♁44'41	
conjunction	1664 Dec 21 03:35	0°♁09'21	0°48'10	conjunction	1671 Feb 28 07:00	9°♁47'49	-1°-42'-49
minimum elong	1664 Dec 21 03:37	0°♁09'21	0°48'10	minimum elong	1671 Feb 28 06:58	9°♁47'48	1°42'49
max. Earth dist.	1664 Dec 20 22:12	0°♁07'46	11.07900 AU	max. Earth dist.	1671 Feb 28 02:45	9°♁46'30	10.66844 AU
morning rise	1665 Jan 06 17:57	2°♁05'44		morning rise	1671 Mar 17 07:37	11°♁52'10	
retrograde	1665 Apr 17 12:41	9°♁05'14		retrograde	1671 Jun 30 13:15	19°♁31'02	
opposition	1665 Jun 27 04:52	5°♁47'35	0°43'10	opposition	1671 Sep 08 20:44	16°♁06'03	-2°-17'-53
min. Earth dist.	1665 Jun 27 09:18	5°♁46'46	9.07240 AU	min. Earth dist.	1671 Sep 08 23:32	16°♁05'30	8.61197 AU
direct	1665 Sep 06 01:07	2°♁29'15		direct	1671 Nov 16 01:38	12°♁45'17	
evening set	1665 Dec 15 19:48	9°♁28'44		evening set	1672 Feb 24 00:02	20°♁07'36	
conjunction	1666 Jan 01 10:43	11°♁25'28	0°22'14	conjunction	1672 Mar 11 23:16	22°♁12'56	-1°-59'-27
minimum elong	1666 Jan 01 10:44	11°♁25'29	0°22'14	minimum elong	1672 Mar 11 23:14	22°♁12'56	1°59'28
max. Earth dist.	1666 Jan 01 05:35	11°♁23'58	11.05970 AU	max. Earth dist.	1672 Mar 11 19:12	22°♁11'41	10.55299 AU
morning rise	1666 Jan 18 01:51	13°♁22'21		morning rise	1672 Mar 29 02:58	24°♁19'40	
retrograde	1666 Apr 29 11:52	20°♁25'10		retrograde	1672 May 22 13:24	0°♁	
opposition	1666 Jul 09 07:41	17°♁06'44	0°10'42	retrograde	1672 Jul 13 01:14	2°♁08'04	
min. Earth dist.	1666 Jul 09 11:57	17°♁05'57	9.04137 AU	retrograde	1672 Sep 03 20:06	30°♁	
direct	1666 Sep 17 20:55	13°♁48'35		opposition	1672 Sep 20 23:45	28°♁41'42	-2°-35'-33
desc. node	1666 Nov 08 02:02	15°♁53'10		min. Earth dist.	1672 Sep 21 02:09	28°♁41'14	8.49520 AU
evening set	1666 Dec 27 04:14	20°♁48'13		direct	1672 Nov 27 16:52	25°♁19'53	
conjunction	1667 Jan 12 19:32	22°♁45'34	0°-4'-47	evening set	1673 Feb 11 16:45	0°♁	
minimum elong	1667 Jan 12 19:33	22°♁45'35	0°04'48	evening set	1673 Mar 07 23:22	2°♁50'14	
behind sun begin	1667 Jan 12 12:44	22°♁43'35		conjunction	1673 Mar 25 01:50	4°♁58'04	-2°-10'-40
behind sun end	1667 Jan 13 02:22	22°♁47'34		minimum elong	1673 Mar 25 01:49	4°♁58'03	2°10'41
max. Earth dist.	1667 Jan 12 13:54	22°♁43'56	11.01772 AU	max. Earth dist.	1673 Mar 24 22:29	4°♁57'00	10.43573 AU
morning rise	1667 Jan 29 11:58	24°♁43'19		morning rise	1673 Apr 11 09:07	7°♁07'23	
	1667 Mar 24 01:15	0°♁		retrograde	1673 Jul 26 20:45	15°♁05'07	
retrograde	1667 May 11 15:42	1°♁50'51		opposition	1673 Oct 04 08:42	11°♁37'28	-2°-45'-56
	1667 Jun 30 20:05	30°♁		min. Earth dist.	1673 Oct 04 10:34	11°♁37'06	8.37942 AU
opposition	1667 Jul 21 12:21	28°♁31'25	0°-22'-29	direct	1673 Dec 10 14:44	8°♁14'31	
min. Earth dist.	1667 Jul 21 17:16	28°♁30'30	8.98859 AU	evening set	1674 Mar 21 08:44	15°♁53'25	
direct	1667 Sep 29 15:58	25°♁13'10		conjunction	1674 Apr 07 15:14	18°♁03'56	-2°-15'-28
	1667 Dec 18 14:53	0°♁		minimum elong	1674 Apr 07 15:14	18°♁03'56	2°15'29
evening set	1668 Jan 07 15:35	2°♁14'29		max. Earth dist.	1674 Apr 07 13:38	18°♁03'26	10.32238 AU
conjunction	1668 Jan 24 07:34	4°♁12'47	0°-31'-45	morning rise	1674 Apr 25 02:28	20°♁15'59	
minimum elong	1668 Jan 24 07:33	4°♁12'47	0°31'46	retrograde	1674 Aug 09 22:51	28°♁22'12	
max. Earth dist.	1668 Jan 24 01:02	4°♁10'51	10.95486 AU	opposition	1674 Oct 17 23:22	24°♁53'30	-2°-47'-51
morning rise	1668 Feb 10 01:40	6°♁11'44		min. Earth dist.	1674 Oct 17 23:58	24°♁53'23	8.27042 AU
retrograde	1668 May 22 21:38	13°♁25'25		direct	1674 Dec 23 20:52	21°♁29'21	
opposition	1668 Aug 01 20:04	10°♁04'45	0°-55'-14	evening set	1675 Apr 04 04:25	29°♁16'54	
min. Earth dist.	1668 Aug 02 01:24	10°♁03'46	8.91618 AU		1675 Apr 09 21:05	0°♁	
direct	1668 Oct 10 12:32	6°♁46'09		conjunction	1675 Apr 21 15:27	1°♁30'12	-2°-13'-5
evening set	1669 Jan 18 07:15	13°♁50'41		minimum elong	1675 Apr 21 15:29	1°♁30'12	2°13'06
conjunction	1669 Feb 04 00:21	15°♁50'16	0°-57'-49	max. Earth dist.	1675 Apr 21 15:50	1°♁30'19	10.21894 AU

morning rise	1675 May 09 06:52	3°♄44'56		retrograde	1681 Nov 17 03:06	6°♄37'02	
retrograde	1675 Aug 24 06:32	11°♄58'11		opposition	1682 Jan 22 16:21	3°♄10'13	0°35'43
opposition	1675 Oct 31 19:16	8°♄28'42	-2°-40'-31	min. Earth dist.	1682 Jan 22 11:11	3°♄11'17	8.11102 AU
min. Earth dist.	1675 Oct 31 18:14	8°♄28'55	8.17425 AU		1682 Mar 12 12:34	30°♄	
direct	1676 Jan 06 10:23	5°♄03'24		direct	1682 Mar 31 06:50	29°♄40'55	
evening set	1676 Apr 17 09:55	12°♄59'08		evening set	1682 Apr 19 00:03	0°♄	
					1682 Jul 15 06:00	7°♄52'43	
conjunction	1676 May 05 01:45	15°♄15'07	-2°-3'-10	conjunction	1682 Aug 02 08:06	10°♄11'17	0°44'37
minimum elong	1676 May 05 01:47	15°♄15'08	2°03'11	minimum elong	1682 Aug 02 08:04	10°♄11'16	0°44'37
max. Earth dist.	1676 May 05 03:59	15°♄15'50	10.13155 AU	max. Earth dist.	1682 Aug 02 14:11	10°♄13'14	10.14869 AU
morning rise	1676 May 22 21:25	17°♄32'23		morning rise	1682 Aug 20 07:20	12°♄28'56	
retrograde	1676 Sep 06 19:54	25°♄50'37		retrograde	1682 Nov 30 23:36	20°♄25'46	
opposition	1676 Nov 13 19:43	22°♄20'42	-2°-23'-44	opposition	1683 Feb 05 13:37	17°♄00'14	1°13'57
min. Earth dist.	1676 Nov 13 17:11	22°♄21'13	8.09686 AU	min. Earth dist.	1683 Feb 05 08:38	17°♄01'15	8.19078 AU
direct	1677 Jan 19 05:45	18°♄54'17		direct	1683 Apr 14 16:21	13°♄31'10	
evening set	1677 May 02 00:09	26°♄57'14		evening set	1683 Jul 29 22:13	21°♄38'44	
conjunction	1677 May 19 20:39	29°♄15'36	-1°-45'-53	conjunction	1683 Aug 16 20:47	23°♄54'55	1°13'41
minimum elong	1677 May 19 20:43	29°♄15'37	1°45'54	minimum elong	1683 Aug 16 20:44	23°♄54'54	1°13'41
max. Earth dist.	1677 May 20 00:16	29°♄16'46	10.06578 AU	max. Earth dist.	1683 Aug 17 02:18	23°♄56'41	10.23674 AU
	1677 May 25 13:18	0°♄		morning rise	1683 Sep 03 15:28	26°♄09'56	
morning rise	1677 Jun 06 20:18	1°♄34'59			1683 Oct 06 16:34	0°♄	
retrograde	1677 Sep 21 11:50	9°♄55'40		retrograde	1683 Dec 14 12:29	3°♄58'07	
opposition	1677 Nov 27 23:29	6°♄25'43	-1°-58'-5	opposition	1684 Feb 19 06:04	0°♄33'59	1°47'11
min. Earth dist.	1677 Nov 27 20:03	6°♄26'25	8.04326 AU	min. Earth dist.	1684 Feb 19 02:02	0°♄34'47	8.28620 AU
direct	1678 Feb 02 08:07	2°♄58'18			1684 Feb 26 07:34	30°♄	
evening set	1678 May 16 21:40	11°♄07'06		direct	1684 Apr 27 21:48	27°♄05'26	
conjunction	1678 Jun 03 22:09	13°♄27'14	-1°-22'-3	evening set	1684 Jun 26 15:58	0°♄	
minimum elong	1678 Jun 03 22:13	13°♄27'15	1°22'03		1684 Aug 12 06:13	5°♄07'29	
max. Earth dist.	1678 Jun 04 02:35	13°♄28'41	10.02593 AU	conjunction	1684 Aug 30 00:17	7°♄20'54	1°38'08
morning rise	1678 Jun 22 00:53	15°♄48'06		minimum elong	1684 Aug 30 00:14	7°♄20'53	1°38'09
retrograde	1678 Oct 06 03:28	24°♄08'28		max. Earth dist.	1684 Aug 30 04:33	7°♄22'15	10.33778 AU
opposition	1678 Dec 12 04:59	20°♄38'52	-1°-24'-57	morning rise	1684 Sep 16 13:52	9°♄32'57	
min. Earth dist.	1678 Dec 12 01:10	20°♄39'40	8.01714 AU	retrograde	1684 Dec 26 17:52	17°♄12'27	
direct	1679 Feb 16 16:28	17°♄10'37		opposition	1685 Mar 03 17:12	13°♄49'44	2°13'51
evening set	1679 May 31 23:54	25°♄23'26		min. Earth dist.	1685 Mar 03 14:30	13°♄50'16	8.39234 AU
conjunction	1679 Jun 19 03:14	27°♄44'34	0°-53'-3	direct	1685 May 11 21:28	10°♄21'57	
minimum elong	1679 Jun 19 03:16	27°♄44'35	0°53'04	evening set	1685 Aug 26 04:39	18°♄17'20	
max. Earth dist.	1679 Jun 19 08:25	27°♄46'15	10.01476 AU	conjunction	1685 Sep 12 17:43	20°♄27'49	1°56'55
	1679 Jul 06 12:48	0°♄		minimum elong	1685 Sep 12 17:40	20°♄27'48	1°56'55
morning rise	1679 Jul 07 07:39	0°♄06'02		max. Earth dist.	1685 Sep 12 20:23	20°♄28'39	10.44713 AU
retrograde	1679 Oct 20 16:12	8°♄23'27		morning rise	1685 Sep 30 02:07	22°♄36'52	
opposition	1679 Dec 26 10:48	4°♄54'33	0°-46'-27		1685 Dec 27 13:50	0°♄	
min. Earth dist.	1679 Dec 26 06:30	4°♄55'27	8.02039 AU	retrograde	1686 Jan 08 15:33	0°♄07'55	
direct	1680 Mar 02 05:03	1°♄25'42			1686 Jan 20 17:38	30°♄	
evening set	1680 Jun 15 03:53	9°♄40'19		opposition	1686 Mar 16 23:03	26°♄46'29	2°32'57
conjunction	1680 Jul 03 08:34	12°♄01'32	0°-20'-50	min. Earth dist.	1686 Mar 16 21:26	26°♄46'48	8.50437 AU
minimum elong	1680 Jul 03 08:34	12°♄01'33	0°20'51	direct	1686 May 25 15:39	23°♄19'40	
max. Earth dist.	1680 Jul 03 14:23	12°♄03'25	10.03298 AU		1686 Aug 30 05:31	0°♄	
morning rise	1680 Jul 21 13:01	14°♄22'38		evening set	1686 Sep 08 16:28	1°♄07'32	
retrograde	1680 Nov 03 00:07	22°♄34'48		conjunction	1686 Sep 26 00:35	3°♄15'06	2°09'26
opposition	1681 Jan 08 15:08	19°♄06'51	0°-5'-17	minimum elong	1686 Sep 26 00:33	3°♄15'06	2°09'26
min. Earth dist.	1681 Jan 08 10:22	19°♄07'50	8.05261 AU	max. Earth dist.	1686 Sep 26 01:43	3°♄15'27	10.55981 AU
asc. node	1681 Feb 25 23:52	15°♄57'01		morning rise	1686 Oct 13 04:08	5°♄21'15	
direct	1681 Mar 16 18:27	15°♄37'38		retrograde	1687 Jan 21 05:12	12°♄44'24	
evening set	1681 Jun 30 06:59	23°♄51'53		opposition	1687 Mar 29 23:22	9°♄24'07	2°44'05
conjunction	1681 Jul 18 11:14	26°♄12'12	0°12'30	min. Earth dist.	1687 Mar 29 22:04	9°♄24'22	8.61702 AU
minimum elong	1681 Jul 18 11:13	26°♄12'12	0°12'30	direct	1687 Jun 08 03:55	5°♄58'22	
behind sun begin	1681 Jul 18 06:35	26°♄10'43		evening set	1687 Sep 21 17:47	13°♄38'16	
behind sun end	1681 Jul 18 15:52	26°♄13'41		conjunction	1687 Oct 08 21:30	15°♄43'07	2°15'29
max. Earth dist.	1681 Jul 18 17:18	26°♄14'09	10.07892 AU	minimum elong	1687 Oct 08 21:29	15°♄43'07	2°15'29
morning rise	1681 Aug 05 13:54	28°♄31'58		max. Earth dist.	1687 Oct 08 22:03	15°♄43'17	10.67062 AU
	1681 Aug 17 08:44	0°♄					

morning rise	1687 Oct 25 20:45	17°♄46'39		opposition	1694 Jun 22 08:59	1°♄11'15	0°56'44
retrograde	1688 Feb 02 13:56	25°♄02'38		min. Earth dist.	1694 Jun 22 12:07	1°♄10'41	9.06305 AU
opposition	1688 Apr 10 18:15	21°♄43'19	2°47'20		1694 Jul 08 20:45	30°♄	
min. Earth dist.	1688 Apr 10 17:17	21°♄43'30	8.72507 AU	direct	1694 Sep 01 07:18	27°♄52'17	
direct	1688 Jun 20 09:04	18°♄18'43			1694 Oct 23 13:26	0°♄	
evening set	1688 Oct 03 09:05	25°♄50'35		evening set	1694 Dec 11 08:13	4°♄52'33	
conjunction	1688 Oct 20 09:04	27°♄53'05	2°15'16	conjunction	1694 Dec 27 23:00	6°♄49'15	0°33'37
minimum elong	1688 Oct 20 09:04	27°♄53'05	2°15'16	minimum elong	1694 Dec 27 23:01	6°♄49'16	0°33'37
max. Earth dist.	1688 Oct 20 09:19	27°♄53'09	10.77447 AU	max. Earth dist.	1694 Dec 27 18:35	6°♄47'57	11.05810 AU
morning rise	1688 Nov 06 04:42	29°♄54'19		morning rise	1695 Jan 13 13:54	8°♄46'00	
	1688 Nov 06 23:56	0°♄		retrograde	1695 Apr 24 15:43	15°♄47'23	
retrograde	1689 Feb 13 18:03	7°♄04'08		opposition	1695 Jul 04 11:12	12°♄28'56	0°24'54
opposition	1689 Apr 23 08:27	3°♄45'36	2°43'06	min. Earth dist.	1695 Jul 04 15:07	12°♄28'13	9.04788 AU
min. Earth dist.	1689 Apr 23 08:20	3°♄45'37	8.82372 AU	direct	1695 Sep 13 03:11	9°♄10'22	
direct	1689 Jul 03 05:13	0°♄22'09		evening set	1695 Dec 22 15:47	16°♄09'58	
evening set	1689 Oct 15 15:15	7°♄46'19		conjunction	1696 Jan 08 06:49	18°♄07'03	0°07'02
conjunction	1689 Nov 01 12:03	9°♄46'48	2°09'10	minimum elong	1696 Jan 08 06:49	18°♄07'03	0°07'02
minimum elong	1689 Nov 01 12:05	9°♄46'49	2°09'09	behind sun begin	1696 Jan 08 00:21	18°♄05'10	
max. Earth dist.	1689 Nov 01 11:35	9°♄46'40	10.86690 AU	behind sun end	1696 Jan 08 13:17	18°♄08'56	
morning rise	1689 Nov 18 05:00	11°♄46'13		max. Earth dist.	1696 Jan 08 02:03	18°♄05'40	11.03218 AU
retrograde	1690 Feb 25 16:07	18°♄51'03		morning rise	1696 Jan 24 22:47	20°♄04'25	
opposition	1690 May 05 18:33	15°♄33'04	2°32'02	desc. node	1696 Apr 14 09:48	26°♄47'36	
min. Earth dist.	1690 May 05 19:53	15°♄32'49	8.90901 AU	retrograde	1696 May 05 16:50	27°♄09'42	
direct	1690 Jul 15 20:15	12°♄10'43		opposition	1696 Jul 15 14:45	23°♄50'30	0°-8'-6
evening set	1690 Oct 27 13:39	19°♄27'51		min. Earth dist.	1696 Jul 15 18:26	23°♄49'50	9.01108 AU
conjunction	1690 Nov 13 07:56	21°♄26'45	1°57'45	direct	1696 Sep 23 23:36	20°♄32'10	
minimum elong	1690 Nov 13 07:58	21°♄26'45	1°57'45	evening set	1697 Jan 02 01:27	27°♄32'33	
max. Earth dist.	1690 Nov 13 05:47	21°♄26'06	10.94442 AU	conjunction	1697 Jan 18 17:11	29°♄30'23	0°-20'-6
morning rise	1690 Nov 29 23:13	23°♄24'47		minimum elong	1697 Jan 18 17:10	29°♄30'22	0°20'08
	1691 Feb 14 20:16	0°♄		max. Earth dist.	1697 Jan 18 13:16	29°♄29'13	10.98507 AU
retrograde	1691 Mar 09 12:08	0°♄25'56			1697 Jan 22 20:53	0°♄	
	1691 Apr 01 10:54	30°♄		morning rise	1697 Feb 04 10:25	1°♄28'43	
opposition	1691 May 18 01:02	27°♄08'18	2°14'58	retrograde	1697 May 17 22:30	8°♄39'21	
min. Earth dist.	1691 May 18 03:11	27°♄07'54	8.97779 AU	opposition	1697 Jul 27 20:54	5°♄19'13	0°-41'-9
direct	1691 Jul 28 06:21	23°♄46'58		min. Earth dist.	1697 Jul 27 23:52	5°♄18'40	8.95398 AU
	1691 Oct 30 18:17	0°♄		direct	1697 Oct 05 19:09	2°♄00'53	
evening set	1691 Nov 08 05:34	0°♄58'01		evening set	1698 Jan 13 14:53	9°♄03'34	
conjunction	1691 Nov 24 22:10	2°♄55'46	1°41'44	conjunction	1698 Jan 30 07:30	11°♄02'28	0°-46'-40
minimum elong	1691 Nov 24 22:13	2°♄55'47	1°41'44	minimum elong	1698 Jan 30 07:29	11°♄02'27	0°46'41
max. Earth dist.	1691 Nov 24 19:12	2°♄54'54	11.00414 AU	max. Earth dist.	1698 Jan 30 03:42	11°♄01'20	10.91851 AU
morning rise	1691 Dec 11 12:31	4°♄52'51		morning rise	1698 Feb 16 02:25	13°♄02'06	
retrograde	1692 Mar 20 05:34	11°♄51'47		retrograde	1698 May 30 10:10	20°♄19'25	
opposition	1692 May 29 04:53	8°♄34'15	1°52'46	opposition	1698 Aug 09 06:29	16°♄58'12	-1°-13'-2
min. Earth dist.	1692 May 29 07:03	8°♄33'51	9.02742 AU	min. Earth dist.	1698 Aug 09 09:22	16°♄57'39	8.87870 AU
direct	1692 Aug 08 10:26	5°♄13'51		direct	1698 Oct 17 17:22	13°♄39'37	
evening set	1692 Nov 18 16:48	12°♄19'59		evening set	1699 Jan 25 09:48	20°♄46'06	
conjunction	1692 Dec 05 08:25	14°♄16'59	1°21'50	conjunction	1699 Feb 11 03:37	22°♄46'23	-1°-11'-41
minimum elong	1692 Dec 05 08:28	14°♄17'00	1°21'50	minimum elong	1699 Feb 11 03:34	22°♄46'22	1°11'42
max. Earth dist.	1692 Dec 05 05:40	14°♄16'10	11.04378 AU	max. Earth dist.	1699 Feb 10 23:11	22°♄45'03	10.83500 AU
morning rise	1692 Dec 21 22:17	16°♄13'32		morning rise	1699 Feb 28 00:39	24°♄47'38	
retrograde	1693 Apr 01 00:20	23°♄11'46			1699 Apr 19 23:18	0°♄	
opposition	1693 Jun 10 07:09	19°♄54'08	1°26'22	retrograde	1699 Jun 12 03:16	2°♄12'43	
min. Earth dist.	1693 Jun 10 09:24	19°♄53'43	9.05613 AU		1699 Aug 06 03:12	30°♄	
direct	1693 Aug 20 11:15	16°♄34'32		opposition	1699 Aug 21 20:03	28°♄50'18	-1°-42'-27
evening set	1693 Nov 30 01:09	23°♄37'02		min. Earth dist.	1699 Aug 21 23:20	28°♄49'40	8.78808 AU
conjunction	1693 Dec 16 16:11	25°♄33'42	0°58'51	direct	1699 Oct 29 18:24	25°♄31'14	
minimum elong	1693 Dec 16 16:13	25°♄33'43	0°58'51	evening set	1700 Jan 13 12:19	0°♄	
max. Earth dist.	1693 Dec 16 12:57	25°♄32'45	11.06196 AU		1700 Feb 06 11:21	2°♄42'54	
morning rise	1694 Jan 02 06:15	27°♄30'09		conjunction	1700 Feb 23 06:54	4°♄44'53	-1°-34'-3
	1694 Jan 24 23:14	0°♄		minimum elong	1700 Feb 23 06:51	4°♄44'52	1°34'04
retrograde	1694 Apr 12 20:09	4°♄29'10		max. Earth dist.	1700 Feb 23 02:54	4°♄43'40	10.73772 AU

morning rise	1700 Mar 12 06:18	6° X 48'02		opposition	1706 Nov 22 22:42	0° II 16'12	-2°-10'-34
retrograde	1700 Jun 25 02:36	14° X 21'48		min. Earth dist.	1706 Nov 22 21:21	0° II 16'28	8.08358 AU
opposition	1700 Sep 03 14:37	10° X 58'03	-2°-8'-2		1706 Nov 26 05:46	30° B	
min. Earth dist.	1700 Sep 03 17:31	10° X 57'30	8.68559 AU	direct	1707 Jan 28 09:10	26° B 49'29	
direct	1700 Nov 11 01:26	7° X 38'19			1707 Mar 29 18:29	0° II	
evening set	1701 Feb 18 20:38	14° X 56'21		evening set	1707 May 11 11:46	4° II 54'34	
conjunction	1701 Mar 07 18:34	17° X 00'21	-1°-52'-38	conjunction	1707 May 29 10:25	7° II 13'38	-1°-33'-34
minimum elong	1701 Mar 07 18:32	17° X 00'20	1°52'39	minimum elong	1707 May 29 10:28	7° II 13'39	1°33'35
max. Earth dist.	1701 Mar 07 15:50	16° X 59'30	10.63038 AU	max. Earth dist.	1707 May 29 13:19	7° II 14'34	10.05726 AU
morning rise	1701 Mar 24 20:40	19° X 05'39		morning rise	1707 Jun 16 11:42	9° II 33'36	
retrograde	1701 Jul 08 10:51	26° X 48'37		retrograde	1707 Sep 30 18:43	17° II 53'17	
opposition	1701 Sep 16 14:29	23° X 23'31	-2°-28'-21	opposition	1707 Dec 07 02:28	14° II 23'38	-1°-40'-48
min. Earth dist.	1701 Sep 16 16:23	23° X 23'09	8.57511 AU	min. Earth dist.	1707 Dec 06 23:38	14° II 24'13	8.03933 AU
direct	1701 Nov 23 13:54	20° X 02'53		direct	1708 Feb 11 14:26	10° II 55'50	
evening set	1702 Mar 03 15:02	27° X 28'16		evening set	1708 May 25 10:48	19° II 05'53	
conjunction	1702 Mar 20 15:56	29° X 34'35	-2°-6'-18	conjunction	1708 Jun 12 13:00	21° II 26'26	-1°-6'-50
minimum elong	1702 Mar 20 15:55	29° X 34'34	2°06'19	minimum elong	1708 Jun 12 13:03	21° II 26'27	1°06'52
max. Earth dist.	1702 Mar 20 14:03	29° X 33'59	10.51711 AU	max. Earth dist.	1708 Jun 12 17:23	21° II 27'51	10.02715 AU
	1702 Mar 24 01:38	0° Y		morning rise	1708 Jun 30 16:38	23° II 47'28	
morning rise	1702 Apr 06 21:14	1° Y 42'19			1708 Aug 26 13:29	0° E	
retrograde	1702 Jul 22 03:00	9° Y 34'29		retrograde	1708 Oct 14 07:51	2° E 05'39	
opposition	1702 Sep 29 19:49	6° Y 08'05	-2°-42'-00		1708 Dec 02 22:58	30° II	
min. Earth dist.	1702 Sep 29 20:55	6° Y 07'52	8.46083 AU	opposition	1708 Dec 20 07:11	28° II 36'19	-1°-4'-38
direct	1702 Dec 06 06:59	2° Y 46'23		min. Earth dist.	1708 Dec 20 03:26	28° II 37'05	8.02312 AU
evening set	1703 Mar 16 19:09	10° Y 19'58		direct	1709 Feb 24 23:17	25° II 07'36	
conjunction	1703 Apr 02 23:36	12° Y 28'50	-2°-14'-1	evening set	1709 May 12 21:00	0° E	
minimum elong	1703 Apr 02 23:35	12° Y 28'50	2°14'02		1709 Jun 09 13:14	3° E 20'43	
max. Earth dist.	1703 Apr 02 21:38	12° Y 28'13	10.40251 AU	conjunction	1709 Jun 27 17:35	5° E 41'52	0°-35'-58
morning rise	1703 Apr 20 08:40	14° Y 39'12		minimum elong	1709 Jun 27 17:37	5° E 41'53	0°35'59
retrograde	1703 Aug 05 01:37	22° Y 40'11		max. Earth dist.	1709 Jun 27 22:42	5° E 43'32	10.02575 AU
opposition	1703 Oct 13 07:02	19° Y 12'39	-2°-47'-46	morning rise	1709 Jul 15 22:03	8° E 03'05	
min. Earth dist.	1703 Oct 13 07:48	19° Y 12'30	8.34788 AU	retrograde	1709 Oct 28 18:31	16° E 17'20	
direct	1703 Dec 19 08:03	15° Y 49'46		opposition	1710 Jan 03 11:26	12° E 48'38	0°-24'-31
evening set	1704 Mar 29 09:10	23° Y 31'57		min. Earth dist.	1710 Jan 03 07:22	12° E 49'29	8.03583 AU
conjunction	1704 Apr 15 17:45	25° Y 43'33	-2°-14'-53	direct	1710 Mar 11 09:54	9° E 19'15	
minimum elong	1704 Apr 15 17:46	25° Y 43'33	2°14'55	evening set	1710 Jun 24 16:15	17° E 33'22	
max. Earth dist.	1704 Apr 15 16:04	25° Y 43'01	10.29263 AU	conjunction	1710 Jul 12 20:54	19° E 54'09	0°-3'-4
morning rise	1704 May 03 07:04	27° Y 56'39		minimum elong	1710 Jul 12 20:55	19° E 54'10	0°03'04
	1704 May 20 06:31	0° B		behind sun begin	1710 Jul 12 13:35	19° E 51'48	
retrograde	1704 Aug 18 06:09	6° B 05'27		behind sun end	1710 Jul 13 04:16	19° E 56'31	
opposition	1704 Oct 25 23:51	2° B 36'57	-2°-44'-39	max. Earth dist.	1710 Jul 13 02:12	19° E 55'50	10.05284 AU
min. Earth dist.	1704 Oct 26 00:19	2° B 36'52	8.24299 AU	morning rise	1710 Jul 31 00:28	22° E 14'35	
	1704 Dec 02 03:23	30° Y		asc. node	1710 Aug 16 05:24	24° E 14'51	
direct	1704 Dec 31 17:11	29° Y 12'47			1710 Oct 22 18:48	0° Q	
	1705 Jan 29 23:12	0° B		retrograde	1710 Nov 12 00:33	0° Q 22'52	
evening set	1705 Apr 12 09:17	7° B 03'27			1710 Dec 02 05:25	30° E	
conjunction	1705 Apr 29 22:34	9° B 17'49	-2°-8'-23	opposition	1711 Jan 17 13:37	26° E 55'07	0°16'48
minimum elong	1705 Apr 29 22:37	9° B 17'50	2°08'25	min. Earth dist.	1711 Jan 17 09:44	26° E 55'55	8.07645 AU
max. Earth dist.	1705 Apr 29 21:58	9° B 17'37	10.19444 AU	direct	1711 Mar 25 22:15	23° E 25'22	
morning rise	1705 May 17 16:17	11° B 33'35			1711 Jun 26 10:44	0° Q	
retrograde	1705 Sep 01 16:02	19° B 48'23		evening set	1711 Jul 09 16:46	1° Q 38'21	
opposition	1705 Nov 08 21:22	16° B 19'12	-2°-32'-11	conjunction	1711 Jul 27 20:01	3° Q 57'52	0°29'52
min. Earth dist.	1705 Nov 08 21:09	16° B 19'14	8.15297 AU	minimum elong	1711 Jul 27 19:59	3° Q 57'51	0°29'53
direct	1706 Jan 14 09:21	12° B 53'43		max. Earth dist.	1711 Jul 28 00:54	3° Q 59'26	10.10653 AU
evening set	1706 Apr 26 18:38	20° B 52'11		morning rise	1711 Aug 14 21:02	6° Q 16'38	
conjunction	1706 May 14 12:48	23° B 09'08	-1°-54'-27	retrograde	1711 Nov 25 23:14	14° Q 17'27	
minimum elong	1706 May 14 12:52	23° B 09'09	1°54'28	opposition	1712 Jan 31 12:29	10° Q 50'51	0°56'34
max. Earth dist.	1706 May 14 13:47	23° B 09'26	10.11427 AU	min. Earth dist.	1712 Jan 31 08:50	10° Q 51'36	8.14226 AU
morning rise	1706 Jun 01 10:41	25° B 27'16		direct	1712 Apr 08 09:37	7° Q 21'06	
	1706 Jul 10 13:32	0° II		evening set	1712 Jul 23 12:01	15° Q 30'57	
retrograde	1706 Sep 16 04:52	3° II 45'47		conjunction	1712 Aug 10 12:20	17° Q 48'24	1°00'33

minimum elong	1712 Aug 10 12:18	17°♏48'23	1°00'34	morning rise	1718 Nov 13 23:49	6°♍28'22	
max. Earth dist.	1712 Aug 10 16:39	17°♏49'47	10.18324 AU	retrograde	1719 Feb 21 10:50	13°♍35'20	
morning rise	1712 Aug 28 09:30	20°♏04'49		opposition	1719 May 01 08:28	10°♍17'17	2°37'52
retrograde	1712 Dec 08 14:09	27°♏57'16		min. Earth dist.	1719 May 01 08:04	10°♍17'22	8.87592 AU
opposition	1713 Feb 13 06:59	24°♏31'58	1°32'21	direct	1719 Jul 11 08:56	6°♍54'40	
min. Earth dist.	1713 Feb 13 03:14	24°♏32'43	8.22891 AU	evening set	1719 Oct 23 09:26	14°♍14'59	
direct	1713 Apr 22 17:59	21°♏02'34					
evening set	1713 Aug 06 23:55	29°♏07'32		conjunction	1719 Nov 09 04:56	16°♍14'32	2°03'36
	1713 Aug 13 23:48	0°♐		minimum elong	1719 Nov 09 04:58	16°♍14'33	2°03'36
				max. Earth dist.	1719 Nov 09 04:39	16°♍14'27	10.91682 AU
conjunction	1713 Aug 24 20:10	1°♐22'23	1°27'18	morning rise	1719 Nov 25 20:56	18°♍13'07	
minimum elong	1713 Aug 24 20:07	1°♐22'22	1°27'19	retrograde	1720 Mar 04 09:45	25°♍15'46	
max. Earth dist.	1713 Aug 25 00:12	1°♐23'39	10.27809 AU	opposition	1720 May 12 16:29	21°♍58'20	2°23'29
morning rise	1713 Sep 11 12:26	3°♐35'57		min. Earth dist.	1720 May 12 16:54	21°♍58'15	8.95587 AU
retrograde	1713 Dec 21 22:11	11°♐19'40		direct	1720 Jul 22 20:30	18°♍36'57	
opposition	1714 Feb 26 20:22	7°♐55'44	2°02'14	evening set	1720 Nov 03 04:36	25°♍50'41	
min. Earth dist.	1714 Feb 26 16:30	7°♐56'30	8.33110 AU				
direct	1714 May 06 20:22	4°♐27'02		conjunction	1720 Nov 19 22:03	27°♍48'53	1°49'39
evening set	1714 Aug 21 02:37	12°♐25'42		minimum elong	1720 Nov 19 22:06	27°♍48'54	1°49'39
				max. Earth dist.	1720 Nov 19 20:52	27°♍48'32	10.98795 AU
conjunction	1714 Sep 07 18:09	14°♐37'39	1°48'50	morning rise	1720 Dec 06 12:37	29°♍46'18	
minimum elong	1714 Sep 07 18:06	14°♐37'38	1°48'50		1720 Dec 08 11:59	0°♑	
max. Earth dist.	1714 Sep 07 22:07	14°♐38'54	10.38565 AU	retrograde	1721 Mar 16 04:30	6°♑45'58	
morning rise	1714 Sep 25 05:07	16°♐48'11		opposition	1721 May 24 21:50	3°♑28'54	2°03'34
retrograde	1715 Jan 04 00:14	24°♐23'12		min. Earth dist.	1721 May 24 23:40	3°♑28'33	9.01710 AU
opposition	1715 Mar 12 04:28	21°♐00'39	2°24'56	direct	1721 Aug 04 01:38	0°♑08'34	
min. Earth dist.	1715 Mar 12 00:47	21°♐01'23	8.44315 AU	evening set	1721 Nov 14 18:14	7°♑16'47	
direct	1715 May 20 16:13	17°♐32'56					
evening set	1715 Sep 03 19:00	25°♐24'18		conjunction	1721 Dec 01 10:10	9°♑14'01	1°31'28
				minimum elong	1721 Dec 01 10:12	9°♑14'02	1°31'28
conjunction	1715 Sep 21 05:40	27°♐33'17	2°04'18	max. Earth dist.	1721 Dec 01 07:14	9°♑13'10	11.03904 AU
minimum elong	1715 Sep 21 05:38	27°♐33'17	2°04'18	morning rise	1721 Dec 18 00:10	11°♑10'43	
max. Earth dist.	1715 Sep 21 09:23	27°♐34'26	10.50010 AU	retrograde	1722 Mar 27 22:20	18°♑08'56	
morning rise	1715 Oct 08 11:27	29°♐40'49		opposition	1722 Jun 06 01:09	14°♑51'55	1°39'01
	1715 Oct 11 02:54	0°♒		min. Earth dist.	1722 Jun 06 04:17	14°♑51'20	9.05697 AU
retrograde	1716 Jan 16 17:57	7°♒07'33		direct	1722 Aug 16 05:15	11°♑32'27	
opposition	1716 Mar 24 07:03	3°♒46'21	2°39'48	evening set	1722 Nov 26 04:05	18°♑36'25	
min. Earth dist.	1716 Mar 24 04:29	3°♒46'52	8.55911 AU				
direct	1716 Jun 02 06:09	0°♒19'47		conjunction	1722 Dec 12 19:12	20°♑33'07	1°09'49
evening set	1716 Sep 16 01:09	8°♒03'20		minimum elong	1722 Dec 12 19:14	20°♑33'08	1°09'50
				max. Earth dist.	1722 Dec 12 14:59	20°♑31'52	11.06767 AU
conjunction	1716 Oct 03 07:03	10°♒09'28	2°13'22	morning rise	1722 Dec 29 09:14	22°♑29'30	
minimum elong	1716 Oct 03 07:01	10°♒09'28	2°13'22	retrograde	1723 Apr 08 16:57	29°♑27'49	
max. Earth dist.	1716 Oct 03 09:30	10°♒10'14	10.61557 AU	opposition	1723 Jun 18 03:06	26°♑10'35	1°10'48
morning rise	1716 Oct 20 08:12	12°♒14'12		min. Earth dist.	1723 Jun 18 06:39	26°♑09'56	9.07337 AU
retrograde	1717 Jan 28 05:01	19°♒33'20		direct	1723 Aug 28 04:11	22°♑51'48	
opposition	1717 Apr 06 04:14	16°♒13'24	2°46'41	evening set	1723 Dec 07 11:49	29°♑52'57	
min. Earth dist.	1717 Apr 06 02:59	16°♒13'39	8.67327 AU		1723 Dec 08 12:17	0°♓	
direct	1717 Jun 15 13:34	12°♒48'07					
evening set	1717 Sep 28 21:08	20°♒23'40		conjunction	1723 Dec 24 02:45	1°♓49'33	0°45'33
				minimum elong	1723 Dec 24 02:46	1°♓49'33	0°45'33
conjunction	1717 Oct 15 22:44	22°♒27'13	2°16'02	max. Earth dist.	1723 Dec 23 22:22	1°♓48'15	11.07220 AU
minimum elong	1717 Oct 15 22:44	22°♒27'13	2°16'02	morning rise	1724 Jan 09 17:08	3°♓46'03	
max. Earth dist.	1717 Oct 15 23:29	22°♒27'27	10.72667 AU	retrograde	1724 Apr 19 13:44	10°♓46'08	
morning rise	1717 Nov 01 20:04	24°♒29'29		opposition	1724 Jun 29 05:13	7°♓28'25	0°39'52
	1717 Dec 26 14:44	0°♓		min. Earth dist.	1724 Jun 29 08:59	7°♓27'43	9.06551 AU
retrograde	1718 Feb 09 10:10	1°♓41'57		direct	1724 Sep 08 00:53	4°♓10'05	
	1718 Mar 27 17:23	30°♓		evening set	1724 Dec 17 19:17	11°♓09'56	
opposition	1718 Apr 18 20:35	28°♓23'05	2°45'51				
min. Earth dist.	1718 Apr 18 20:03	28°♓23'11	8.78041 AU	conjunction	1725 Jan 03 10:16	13°♓06'48	0°19'28
direct	1718 Jun 28 13:58	24°♓59'09		minimum elong	1725 Jan 03 10:16	13°♓06'49	0°19'28
	1718 Sep 19 15:29	0°♔		max. Earth dist.	1725 Jan 03 05:20	13°♓05'22	11.05271 AU
evening set	1718 Oct 11 07:23	2°♔26'48		morning rise	1725 Jan 20 01:30	15°♓03'49	
				retrograde	1725 May 01 13:49	22°♓07'12	
conjunction	1718 Oct 28 05:31	4°♔28'10	2°12'37	opposition	1725 Jul 11 08:32	18°♓48'46	0°07'17
minimum elong	1718 Oct 28 05:32	4°♔28'10	2°12'36	min. Earth dist.	1725 Jul 11 12:57	18°♓47'57	9.03430 AU
max. Earth dist.	1718 Oct 28 05:21	4°♔28'07	10.82852 AU	direct	1725 Sep 19 20:08	15°♓30'37	

desc. node	1725 Oct 02 05:04	15°☾38'11			1731 Sep 30 17:02	30°☿	
evening set	1725 Dec 29 04:14	22°☾30'40		direct	1731 Nov 30 19:22	27°☿08'55	
					1732 Jan 27 18:50	0°♃	
conjunction	1726 Jan 14 19:30	24°☾28'08	0°-7'-34	evening set	1732 Mar 10 02:34	4°♃39'34	
minimum elong	1726 Jan 14 19:30	24°☾28'08	0°07'36				
behind sun begin	1726 Jan 14 13:09	24°☾26'17		conjunction	1732 Mar 27 05:19	6°♃47'29	-2°-11'-18
behind sun end	1726 Jan 15 01:51	24°☾30'00		minimum elong	1732 Mar 27 05:18	6°♃47'29	2°11'19
max. Earth dist.	1726 Jan 14 13:20	24°☾26'20	11.01062 AU	max. Earth dist.	1732 Mar 27 02:48	6°♃46'41	10.43211 AU
morning rise	1726 Jan 31 12:09	26°☾26'02		morning rise	1732 Apr 13 12:45	8°♃56'53	
	1726 Mar 05 18:23	0°♁		retrograde	1732 Jul 28 23:28	16°♃54'50	
retrograde	1726 May 13 15:45	3°♁34'13		opposition	1732 Oct 06 12:01	13°♃27'07	-2°-46'-18
opposition	1726 Jul 23 13:48	0°♁14'44	0°-25'-53	min. Earth dist.	1732 Oct 06 13:27	13°♃26'50	8.37649 AU
min. Earth dist.	1726 Jul 23 19:01	0°♁13'46	8.98152 AU	direct	1732 Dec 12 18:47	10°♃04'06	
	1726 Jul 26 21:24	30°☾		evening set	1733 Mar 23 12:11	17°♃43'10	
direct	1726 Oct 01 15:42	26°☾56'30					
	1726 Dec 03 04:32	0°♁		conjunction	1733 Apr 09 18:59	19°♃53'47	-2°-15'-25
evening set	1727 Jan 09 16:01	3°♁58'17		minimum elong	1733 Apr 09 19:00	19°♃53'47	2°15'26
				max. Earth dist.	1733 Apr 09 18:25	19°♃53'36	10.32009 AU
conjunction	1727 Jan 26 08:07	5°♁56'42	0°-34'-29	morning rise	1733 Apr 27 06:21	22°♃05'53	
minimum elong	1727 Jan 26 08:05	5°♁56'42	0°34'30		1733 Jul 27 21:14	0°♃	
max. Earth dist.	1727 Jan 26 01:58	5°♁54'53	10.94781 AU	retrograde	1733 Aug 12 02:00	0°♃12'10	
morning rise	1727 Feb 12 02:22	7°♁55'47			1733 Aug 27 08:44	30°♃	
retrograde	1727 May 26 00:05	15°♁10'09		opposition	1733 Oct 20 02:40	26°♃43'22	-2°-47'-20
opposition	1727 Aug 04 21:54	11°♁49'26	0°-58'-29	min. Earth dist.	1733 Oct 20 02:26	26°♃43'25	8.26888 AU
min. Earth dist.	1727 Aug 05 02:47	11°♁48'31	8.90921 AU	direct	1733 Dec 26 00:28	23°♃19'10	
direct	1727 Oct 13 15:07	8°♁30'51			1734 Mar 28 08:17	0°♃	
evening set	1728 Jan 21 08:19	15°♁35'49		evening set	1734 Apr 06 08:08	1°♃06'45	
conjunction	1728 Feb 07 01:37	17°♁35'33	-1°00'-21	conjunction	1734 Apr 23 19:27	3°♃20'07	-2°-12'-19
minimum elong	1728 Feb 07 01:35	17°♁35'32	1°00'22	minimum elong	1734 Apr 23 19:28	3°♃20'08	2°12'20
max. Earth dist.	1728 Feb 06 20:29	17°♁34'00	10.86658 AU	max. Earth dist.	1734 Apr 23 20:11	3°♃20'21	10.21810 AU
morning rise	1728 Feb 23 21:36	19°♁36'07		morning rise	1734 May 11 11:04	5°♃34'55	
retrograde	1728 Jun 06 14:58	26°♁57'55		retrograde	1734 Aug 26 11:14	13°♃48'01	
opposition	1728 Aug 16 09:43	23°♁35'48	-1°-29'-15	opposition	1734 Nov 02 22:24	10°♃18'28	-2°-39'-8
min. Earth dist.	1728 Aug 16 13:37	23°♁35'04	8.82016 AU	min. Earth dist.	1734 Nov 02 20:59	10°♃18'45	8.17413 AU
direct	1728 Oct 24 14:52	20°♁16'40		direct	1735 Jan 08 12:10	6°♃53'04	
evening set	1729 Feb 01 06:43	27°♁26'16		evening set	1735 Apr 20 13:46	14°♃48'45	
conjunction	1729 Feb 18 01:33	29°♁27'35	-1°-24'-7	conjunction	1735 May 08 05:47	17°♃04'46	-2°-1'-44
minimum elong	1729 Feb 18 01:31	29°♁27'34	1°24'08	minimum elong	1735 May 08 05:50	17°♃04'47	2°01'45
max. Earth dist.	1729 Feb 17 21:04	29°♁26'13	10.77021 AU	max. Earth dist.	1735 May 08 07:34	17°♃05'21	10.13214 AU
	1729 Feb 22 12:25	0°☿		morning rise	1735 May 26 01:44	19°♃22'05	
morning rise	1729 Mar 06 23:42	1°☿29'58		retrograde	1735 Sep 10 00:16	27°♃39'56	
retrograde	1729 Jun 19 12:07	9°☿00'13		opposition	1735 Nov 16 22:39	24°♃10'00	-2°-21'-33
opposition	1729 Aug 29 02:12	5°☿36'37	-1°-56'-49	min. Earth dist.	1735 Nov 16 20:24	24°♃10'28	8.09806 AU
min. Earth dist.	1729 Aug 29 05:21	5°☿36'01	8.71793 AU	direct	1736 Jan 22 08:39	20°♃43'28	
direct	1729 Nov 05 18:53	2°☿16'45		evening set	1736 May 04 03:49	28°♃46'19	
evening set	1730 Feb 13 12:30	9°☿32'18			1736 May 13 17:15	0°♃	
conjunction	1730 Mar 02 09:17	11°☿35'32	-1°-44'-37	conjunction	1736 May 22 00:27	1°♃04'39	-1°-43'-51
minimum elong	1730 Mar 02 09:14	11°☿35'31	1°44'38	minimum elong	1736 May 22 00:31	1°♃04'40	1°43'53
max. Earth dist.	1730 Mar 02 04:41	11°☿34'07	10.66260 AU	max. Earth dist.	1736 May 22 03:13	1°♃05'33	10.06767 AU
morning rise	1730 Mar 19 10:08	13°☿40'01		morning rise	1736 Jun 09 00:23	3°♃24'03	
retrograde	1730 Jul 02 17:07	21°☿19'23		retrograde	1736 Sep 23 14:27	11°♃44'13	
opposition	1730 Sep 10 23:52	17°☿54'21	-2°-19'-48	opposition	1736 Nov 30 02:08	8°♃14'16	-1°-55'-14
min. Earth dist.	1730 Sep 11 02:55	17°☿53'45	8.60662 AU	min. Earth dist.	1736 Nov 29 23:21	8°♃14'51	8.04568 AU
direct	1730 Nov 18 04:11	14°☿33'31		direct	1737 Feb 04 12:02	4°♃46'45	
evening set	1731 Feb 26 02:51	21°☿56'11		evening set	1737 May 19 01:04	12°♃55'21	
conjunction	1731 Mar 15 02:14	24°☿01'38	-2°00'-43	conjunction	1737 Jun 06 01:43	15°♃15'27	-1°-19'-33
minimum elong	1731 Mar 15 02:12	24°☿01'37	2°00'44	minimum elong	1737 Jun 06 01:46	15°♃15'29	1°19'34
max. Earth dist.	1731 Mar 14 22:09	24°☿00'22	10.54817 AU	max. Earth dist.	1737 Jun 06 05:30	15°♃16'42	10.02896 AU
morning rise	1731 Apr 01 06:12	26°☿08'29		morning rise	1737 Jun 24 04:39	17°♃36'17	
	1731 May 05 12:46	0°♃		retrograde	1737 Oct 08 04:36	25°♃56'03	
retrograde	1731 Jul 16 04:51	3°♃57'14		opposition	1737 Dec 14 07:12	22°♃26'30	-1°-21'-36
opposition	1731 Sep 24 02:59	0°♃30'48	-2°-36'-44	min. Earth dist.	1737 Dec 14 03:47	22°♃27'12	8.02060 AU
min. Earth dist.	1731 Sep 24 05:36	0°♃30'17	8.49099 AU	direct	1738 Feb 18 20:13	18°♃58'10	

evening set	1738 Jun 03 03:00	27°II10'42		direct	1744 May 13 22:01	12°M03'12	
				evening set	1744 Aug 28 04:44	19°M58'09	
conjunction	1738 Jun 21 06:30	29°II31'47	0°-50'-15	conjunction	1744 Sep 14 17:27	22°M08'27	1°58'08
minimum elong	1738 Jun 21 06:32	29°II31'48	0°50'16	minimum elong	1744 Sep 14 17:24	22°M08'26	1°58'08
max. Earth dist.	1738 Jun 21 11:30	29°II33'25	10.01868 AU	max. Earth dist.	1744 Sep 14 19:14	22°M09'01	10.45389 AU
	1738 Jun 24 20:58	0°E		morning rise	1744 Oct 02 01:39	24°M17'21	
morning rise	1738 Jul 09 10:59	1°E53'11			1744 Nov 26 03:39	0°E	
retrograde	1738 Oct 22 16:58	10°E09'59		retrograde	1745 Jan 10 13:19	1°E47'59	
opposition	1738 Dec 28 12:32	6°E41'08	0°-42'-51		1745 Feb 26 08:04	30°M	
min. Earth dist.	1738 Dec 28 08:09	6°E42'02	8.02460 AU	opposition	1745 Mar 18 22:32	28°M26'38	2°34'04
direct	1739 Mar 05 07:25	3°E12'15		min. Earth dist.	1745 Mar 18 20:47	28°M26'59	8.51054 AU
evening set	1739 Jun 18 06:39	11°E26'35		direct	1745 May 27 17:02	24°M59'53	
					1745 Aug 17 11:16	0°E	
conjunction	1739 Jul 06 11:23	13°E47'43	0°-17'-55	evening set	1745 Sep 10 16:03	2°E47'24	
minimum elong	1739 Jul 06 11:24	13°E47'44	0°17'56				
max. Earth dist.	1739 Jul 06 17:33	13°E49'43	10.03750 AU	conjunction	1745 Sep 27 23:58	4°E54'50	2°10'03
morning rise	1739 Jul 24 15:42	16°E08'42		minimum elong	1745 Sep 27 23:56	4°E54'49	2°10'04
retrograde	1739 Nov 06 01:49	24°E20'18		max. Earth dist.	1745 Sep 28 00:58	4°E55'08	10.56513 AU
opposition	1740 Jan 11 16:27	20°E52'24	0°-1'-39	morning rise	1745 Oct 15 03:15	7°E00'51	
min. Earth dist.	1740 Jan 11 11:13	20°E53'29	8.05738 AU	retrograde	1746 Jan 23 04:22	14°E23'45	
asc. node	1740 Jan 26 23:20	19°E38'25		opposition	1746 Mar 31 22:38	11°E03'32	2°44'29
direct	1740 Mar 18 20:18	17°E23'13		min. Earth dist.	1746 Mar 31 21:06	11°E03'50	8.62140 AU
evening set	1740 Jul 02 09:19	25°E37'11		direct	1746 Jun 10 04:11	7°E37'54	
				evening set	1746 Sep 23 16:59	15°E17'32	
conjunction	1740 Jul 20 13:31	27°E57'23	0°15'21				
minimum elong	1740 Jul 20 13:30	27°E57'23	0°15'21	conjunction	1746 Oct 10 20:36	17°E22'19	2°15'32
behind sun begin	1740 Jul 20 11:47	27°E56'50		minimum elong	1746 Oct 10 20:35	17°E22'18	2°15'32
behind sun end	1740 Jul 20 15:14	27°E57'56		max. Earth dist.	1746 Oct 10 21:28	17°E22'35	10.67399 AU
max. Earth dist.	1740 Jul 20 20:19	27°E59'35	10.08402 AU	morning rise	1746 Oct 27 19:32	19°E25'44	
	1740 Aug 05 10:16	0°E		retrograde	1747 Feb 04 14:10	26°E41'38	
morning rise	1740 Aug 07 15:53	0°E17'01		opposition	1747 Apr 13 17:38	23°E22'23	2°47'02
retrograde	1740 Nov 19 04:27	8°E21'34		min. Earth dist.	1747 Apr 13 17:04	23°E22'30	8.72739 AU
opposition	1741 Jan 24 17:20	4°E54'51	0°39'09	direct	1747 Jun 23 06:41	19°E57'53	
min. Earth dist.	1741 Jan 24 11:51	4°E55'58	8.11647 AU	evening set	1747 Oct 06 08:01	27°E29'35	
direct	1741 Apr 02 08:23	1°E25'36					
evening set	1741 Jul 17 07:56	9°E37'06		conjunction	1747 Oct 23 07:50	29°E32'03	2°14'44
				minimum elong	1747 Oct 23 07:51	29°E32'03	2°14'44
conjunction	1741 Aug 04 09:53	11°E55'32	0°47'15	max. Earth dist.	1747 Oct 23 07:47	29°E32'02	10.77568 AU
minimum elong	1741 Aug 04 09:51	11°E55'31	0°47'15		1747 Oct 27 04:16	0°M	
max. Earth dist.	1741 Aug 04 16:31	11°E57'39	10.15457 AU	morning rise	1747 Nov 09 03:21	1°M33'17	
morning rise	1741 Aug 22 08:47	14°E13'01		retrograde	1748 Feb 16 16:25	8°M43'08	
retrograde	1741 Dec 03 00:07	22°E09'20		opposition	1748 Apr 25 07:56	5°M24'39	2°42'07
opposition	1742 Feb 07 14:18	18°E43'55	1°16'59	min. Earth dist.	1748 Apr 25 08:47	5°M24'30	8.82384 AU
min. Earth dist.	1742 Feb 07 09:33	18°E44'53	8.19719 AU	direct	1748 Jul 05 04:36	2°M01'15	
direct	1742 Apr 16 17:38	15°E14'53		evening set	1748 Oct 17 14:11	9°M25'25	
evening set	1742 Jul 31 23:46	23°E22'06					
				conjunction	1748 Nov 03 10:49	11°M25'54	2°08'06
conjunction	1742 Aug 18 21:59	25°E38'05	1°15'56	minimum elong	1748 Nov 03 10:51	11°M25'55	2°08'05
minimum elong	1742 Aug 18 21:56	25°E38'04	1°15'57	max. Earth dist.	1748 Nov 03 09:08	11°M25'24	10.86588 AU
max. Earth dist.	1742 Aug 19 03:21	25°E39'48	10.24362 AU	morning rise	1748 Nov 20 03:51	13°M25'20	
morning rise	1742 Sep 05 16:20	27°E52'53		retrograde	1749 Feb 27 15:24	20°M30'22	
	1742 Sep 23 05:05	0°M		opposition	1749 May 07 18:06	17°M12'24	2°30'27
retrograde	1742 Dec 16 12:39	5°M40'31		min. Earth dist.	1749 May 07 19:57	17°M12'03	8.90686 AU
opposition	1743 Feb 21 06:23	2°M16'28	1°49'41	direct	1749 Jul 17 20:25	13°M50'04	
min. Earth dist.	1743 Feb 21 03:00	2°M17'09	8.29350 AU	evening set	1749 Oct 29 12:36	21°M07'19	
	1743 Mar 24 04:22	30°E					
direct	1743 Apr 30 22:10	28°E47'58		conjunction	1749 Nov 15 06:51	23°M06'16	1°56'13
	1743 Jun 07 11:32	0°M		minimum elong	1749 Nov 15 06:54	23°M06'17	1°56'12
evening set	1743 Aug 15 07:05	6°M49'33		max. Earth dist.	1749 Nov 15 04:10	23°M05'28	10.94113 AU
				morning rise	1749 Dec 01 22:13	25°M04'22	
conjunction	1743 Sep 02 00:42	9°M02'46	1°39'54		1750 Jan 19 14:47	0°E	
minimum elong	1743 Sep 02 00:39	9°M02'45	1°39'55	retrograde	1750 Mar 11 11:13	2°E05'51	
max. Earth dist.	1743 Sep 02 04:07	9°M03'50	10.34511 AU		1750 May 03 14:25	30°M	
morning rise	1743 Sep 19 14:01	11°M14'37		opposition	1750 May 20 00:54	28°M48'10	2°12'49
retrograde	1743 Dec 29 17:24	18°M53'35		min. Earth dist.	1750 May 20 02:45	28°M47'49	8.97330 AU
opposition	1744 Mar 05 17:06	15°M30'56	2°15'41	direct	1750 Jul 30 05:47	25°M26'51	
min. Earth dist.	1744 Mar 05 14:52	15°M31'23	8.39960 AU				

	1750 Oct 17 07:22	0°♄		direct	1756 Oct 07 21:08	3°♁47'42	
evening set	1750 Nov 10 04:33	2°♄38'05		evening set	1757 Jan 15 17:10	10°♁51'06	
conjunction	1750 Nov 26 21:18	4°♄35'55	1°39'45	conjunction	1757 Feb 01 09:48	12°♁50'11	0°-49'-27
minimum elong	1750 Nov 26 21:20	4°♄35'55	1°39'45	minimum elong	1757 Feb 01 09:46	12°♁50'11	0°49'27
max. Earth dist.	1750 Nov 26 18:48	4°♄35'10	10.99858 AU	max. Earth dist.	1757 Feb 01 05:28	12°♁48'54	10.90490 AU
morning rise	1750 Dec 13 11:37	6°♄33'06		morning rise	1757 Feb 18 04:58	14°♁50'03	
retrograde	1751 Mar 23 06:49	13°♄32'29		retrograde	1757 Jun 01 14:00	22°♁08'18	
opposition	1751 Jun 01 05:10	10°♄14'52	1°50'08	opposition	1757 Aug 11 10:11	18°♁46'55	-1°-16'-19
min. Earth dist.	1751 Jun 01 07:08	10°♄14'30	9.02071 AU	min. Earth dist.	1757 Aug 11 13:27	18°♁46'18	8.86508 AU
direct	1751 Aug 11 10:56	6°♄54'27		direct	1757 Oct 19 19:03	15°♁28'12	
evening set	1751 Nov 21 16:11	14°♄00'50		evening set	1758 Jan 27 12:46	22°♁35'27	
conjunction	1751 Dec 08 07:53	15°♄57'58	1°19'30	conjunction	1758 Feb 13 06:43	24°♁35'56	-1°-14'-13
minimum elong	1751 Dec 08 07:55	15°♄57'59	1°19'30	minimum elong	1758 Feb 13 06:40	24°♁35'55	1°14'13
max. Earth dist.	1751 Dec 08 05:06	15°♄57'09	11.03610 AU	max. Earth dist.	1758 Feb 13 02:32	24°♁34'40	10.82148 AU
morning rise	1751 Dec 24 21:49	17°♄54'39		morning rise	1758 Mar 02 03:58	26°♁37'24	
retrograde	1752 Apr 03 01:31	24°♄53'23		retrograde	1758 Apr 01 17:21	0°♁	
opposition	1752 Jun 12 07:52	21°♄35'40	1°23'20	retrograde	1758 Jun 14 06:57	4°♁03'30	
min. Earth dist.	1752 Jun 12 10:45	21°♄35'08	9.04746 AU	opposition	1758 Aug 24 00:25	0°♁40'53	-1°-45'-21
direct	1752 Aug 22 10:14	18°♄16'00		min. Earth dist.	1758 Aug 24 03:31	0°♁40'18	8.77484 AU
evening set	1752 Dec 02 01:00	25°♄18'52			1758 Sep 02 01:51	30°♁	
conjunction	1752 Dec 18 16:01	27°♄15'40	0°56'14	direct	1758 Oct 31 22:37	27°♁21'42	
minimum elong	1752 Dec 18 16:02	27°♄15'41	0°56'14	evening set	1758 Dec 27 14:54	0°♁	
max. Earth dist.	1752 Dec 18 11:53	27°♄14'27	11.05244 AU	conjunction	1759 Feb 08 15:05	4°♁34'10	
morning rise	1753 Jan 04 06:18	29°♄12'17		conjunction	1759 Feb 25 10:55	6°♁36'22	-1°-36'-12
retrograde	1753 Jan 11 05:33	0°♁		minimum elong	1759 Feb 25 10:53	6°♁36'22	1°36'12
opposition	1753 Apr 14 19:48	6°♁11'56		max. Earth dist.	1759 Feb 25 08:04	6°♁35'30	10.72480 AU
min. Earth dist.	1753 Jun 24 13:57	2°♁53'12	9.05269 AU	morning rise	1759 Mar 14 10:28	8°♁39'44	
direct	1753 Aug 11 08:10	30°♄		retrograde	1759 Jun 27 08:49	16°♁14'29	
evening set	1753 Sep 03 07:49	29°♄34'48		opposition	1759 Sep 05 19:30	12°♁50'35	-2°-10'-23
conjunction	1753 Dec 29 23:20	8°♁32'24	0°30'48	min. Earth dist.	1759 Sep 05 21:28	12°♁50'12	8.67328 AU
minimum elong	1753 Dec 29 23:21	8°♁32'25	0°30'48	direct	1759 Nov 13 05:58	9°♁30'45	
max. Earth dist.	1753 Dec 29 18:48	8°♁31'05	11.04704 AU	evening set	1760 Feb 21 01:18	16°♁49'34	
morning rise	1754 Jan 15 14:24	10°♁29'19		conjunction	1760 Mar 08 23:28	18°♁53'47	-1°-54'-16
retrograde	1754 Apr 26 18:07	17°♁31'28		minimum elong	1760 Mar 08 23:26	18°♁53'46	1°54'17
opposition	1754 Jul 06 13:02	14°♁12'50	0°21'23	max. Earth dist.	1760 Mar 08 21:36	18°♁53'12	10.61870 AU
min. Earth dist.	1754 Jul 06 16:36	14°♁12'11	9.03615 AU	morning rise	1760 Mar 26 01:43	20°♁59'19	
direct	1754 Sep 15 05:14	10°♁54'10		retrograde	1760 Jul 09 18:16	28°♁43'09	
evening set	1754 Dec 24 16:34	17°♁54'17		opposition	1760 Sep 17 19:57	25°♁17'56	-2°-30'00
conjunction	1755 Jan 10 07:50	19°♁51'34	0°04'08	min. Earth dist.	1760 Sep 17 20:56	25°♁17'44	8.56446 AU
minimum elong	1755 Jan 10 07:50	19°♁51'33	0°04'08	direct	1760 Nov 24 17:07	21°♁57'15	
behind sun begin	1755 Jan 10 00:57	19°♁49'33		evening set	1761 Mar 04 20:34	29°♁23'22	
behind sun end	1755 Jan 10 14:42	19°♁53'34			1761 Mar 09 20:04	0°♁	
max. Earth dist.	1755 Jan 10 03:55	19°♁50'26	11.01989 AU	conjunction	1761 Mar 21 21:37	1°♁29'52	-2°-7'-18
morning rise	1755 Jan 26 23:52	21°♁49'07		minimum elong	1761 Mar 21 21:35	1°♁29'52	2°07'20
desc. node	1755 Mar 07 20:35	25°♁59'02		max. Earth dist.	1761 Mar 21 19:54	1°♁29'20	10.50764 AU
retrograde	1755 May 08 19:34	28°♁55'13		morning rise	1761 Apr 08 03:11	3°♁37'48	
opposition	1755 Jul 18 17:05	25°♁35'50	0°-11'-41	retrograde	1761 Jul 23 09:37	11°♁30'40	
min. Earth dist.	1755 Jul 18 20:03	25°♁35'17	8.99831 AU	opposition	1761 Oct 01 01:54	8°♁04'12	-2°-42'-49
direct	1755 Sep 27 00:37	22°♁17'23		min. Earth dist.	1761 Oct 01 02:38	8°♁04'03	8.45286 AU
evening set	1756 Jan 05 02:59	29°♁18'24		direct	1761 Dec 07 12:19	4°♁42'26	
conjunction	1756 Jan 21 18:49	1°♁16'25	0°-23'-1	evening set	1762 Mar 18 01:21	12°♁16'35	
minimum elong	1756 Jan 21 18:48	1°♁16'25	0°23'01	conjunction	1762 Apr 04 05:59	14°♁25'38	-2°-14'-17
max. Earth dist.	1756 Jan 21 15:02	1°♁15'18	10.97189 AU	minimum elong	1762 Apr 04 05:59	14°♁25'37	2°14'19
morning rise	1756 Feb 07 12:11	3°♁14'58		max. Earth dist.	1762 Apr 04 04:04	14°♁25'01	10.39612 AU
retrograde	1756 May 20 02:32	10°♁26'29		morning rise	1762 Apr 21 15:27	16°♁36'10	
opposition	1756 Jul 29 23:53	7°♁06'10	0°-44'-39	retrograde	1762 Aug 06 08:19	24°♁37'34	
min. Earth dist.	1756 Jul 30 02:54	7°♁05'37	8.94053 AU	opposition	1762 Oct 14 13:27	21°♁09'59	-2°-47'-38
				min. Earth dist.	1762 Oct 14 14:20	21°♁09'48	8.34308 AU
				direct	1762 Dec 20 14:09	17°♁47'02	
				evening set	1763 Mar 31 15:58	25°♁29'36	

conjunction	1763 Apr 18 00:52	27° Υ 41'20	-2°-14'-23	conjunction	1769 Jul 14 03:00	21° $\text{\textcircled{S}}$ 48'39	0°00'17
minimum elong	1763 Apr 18 00:53	27° Υ 41'21	2°14'24	minimum elong	1769 Jul 14 02:59	21° $\text{\textcircled{S}}$ 48'39	0°00'17
max. Earth dist.	1763 Apr 17 23:41	27° Υ 40'58	10.28931 AU	behind sun begin	1769 Jul 13 19:39	21° $\text{\textcircled{S}}$ 46'18	
morning rise	1763 May 05 14:30	29° Υ 54'35		behind sun end	1769 Jul 14 10:18	21° $\text{\textcircled{S}}$ 51'00	
	1763 May 06 07:55	0° $\text{\textcircled{S}}$		max. Earth dist.	1769 Jul 14 07:21	21° $\text{\textcircled{S}}$ 50'01	10.06234 AU
retrograde	1763 Aug 20 13:12	8° $\text{\textcircled{S}}$ 03'29		morning rise	1769 Aug 01 06:28	24° $\text{\textcircled{S}}$ 08'53	
opposition	1763 Oct 28 06:16	4° $\text{\textcircled{S}}$ 35'00	-2°-43'-32		1769 Sep 23 11:50	0° $\text{\textcircled{S}}$	
min. Earth dist.	1763 Oct 28 06:37	4° $\text{\textcircled{S}}$ 34'55	8.24109 AU	retrograde	1769 Nov 13 04:04	2° $\text{\textcircled{S}}$ 16'11	
direct	1764 Jan 02 23:15	1° $\text{\textcircled{S}}$ 10'48			1770 Jan 03 23:45	30° $\text{\textcircled{S}}$	
evening set	1764 Apr 13 16:21	9° $\text{\textcircled{S}}$ 01'41		opposition	1770 Jan 18 18:00	28° $\text{\textcircled{S}}$ 48'36	0°20'47
				min. Earth dist.	1770 Jan 18 14:33	28° $\text{\textcircled{S}}$ 49'19	8.08641 AU
conjunction	1764 May 01 06:03	11° $\text{\textcircled{S}}$ 16'09	-2°-7'-6	direct	1770 Mar 27 04:58	25° $\text{\textcircled{S}}$ 18'55	
minimum elong	1764 May 01 06:05	11° $\text{\textcircled{S}}$ 16'10	2°07'08		1770 Jun 11 08:06	0° $\text{\textcircled{S}}$	
max. Earth dist.	1764 May 01 06:24	11° $\text{\textcircled{S}}$ 16'16	10.19385 AU	evening set	1770 Jul 10 22:20	3° $\text{\textcircled{S}}$ 31'17	
morning rise	1764 May 18 23:58	13° $\text{\textcircled{S}}$ 32'00					
retrograde	1764 Sep 02 22:44	21° $\text{\textcircled{S}}$ 46'41		conjunction	1770 Jul 29 01:21	5° $\text{\textcircled{S}}$ 50'33	0°32'57
opposition	1764 Nov 10 03:45	18° $\text{\textcircled{S}}$ 17'32	-2°-30'-7	minimum elong	1770 Jul 29 01:20	5° $\text{\textcircled{S}}$ 50'32	0°32'58
min. Earth dist.	1764 Nov 10 02:54	18° $\text{\textcircled{S}}$ 17'42	8.15368 AU	max. Earth dist.	1770 Jul 29 05:37	5° $\text{\textcircled{S}}$ 51'55	10.11680 AU
direct	1765 Jan 15 16:36	14° $\text{\textcircled{S}}$ 52'04		morning rise	1770 Aug 16 02:10	8° $\text{\textcircled{S}}$ 09'04	
evening set	1765 Apr 28 01:48	22° $\text{\textcircled{S}}$ 50'34		retrograde	1770 Nov 27 01:21	16° $\text{\textcircled{S}}$ 08'57	
				opposition	1771 Feb 01 16:15	12° $\text{\textcircled{S}}$ 42'29	1°00'11
conjunction	1765 May 15 20:23	25° $\text{\textcircled{S}}$ 07'35	-1°-52'-27	min. Earth dist.	1771 Feb 01 12:30	12° $\text{\textcircled{S}}$ 43'15	8.15268 AU
minimum elong	1765 May 15 20:26	25° $\text{\textcircled{S}}$ 07'36	1°52'28	direct	1771 Apr 10 15:22	9° $\text{\textcircled{S}}$ 12'49	
max. Earth dist.	1765 May 15 22:25	25° $\text{\textcircled{S}}$ 08'14	10.11621 AU	evening set	1771 Jul 25 16:41	17° $\text{\textcircled{S}}$ 21'57	
morning rise	1765 Jun 02 18:24	27° $\text{\textcircled{S}}$ 25'44					
	1765 Jun 23 19:45	0° $\text{\textcircled{S}}$		conjunction	1771 Aug 12 16:45	19° $\text{\textcircled{S}}$ 39'09	1°03'16
retrograde	1765 Sep 17 10:57	5° $\text{\textcircled{S}}$ 43'56		minimum elong	1771 Aug 12 16:42	19° $\text{\textcircled{S}}$ 39'08	1°03'16
opposition	1765 Nov 24 04:53	2° $\text{\textcircled{S}}$ 14'24	-2°-7'-40	max. Earth dist.	1771 Aug 12 21:06	19° $\text{\textcircled{S}}$ 40'32	10.19363 AU
min. Earth dist.	1765 Nov 24 02:43	2° $\text{\textcircled{S}}$ 14'51	8.08669 AU	morning rise	1771 Aug 30 13:32	21° $\text{\textcircled{S}}$ 55'16	
	1765 Dec 23 23:33	30° $\text{\textcircled{S}}$		retrograde	1771 Dec 10 16:45	29° $\text{\textcircled{S}}$ 46'54	
direct	1766 Jan 29 15:53	28° $\text{\textcircled{S}}$ 47'44		opposition	1772 Feb 15 10:07	26° $\text{\textcircled{S}}$ 21'40	1°35'25
	1766 Mar 06 20:54	0° $\text{\textcircled{S}}$		min. Earth dist.	1772 Feb 15 06:01	26° $\text{\textcircled{S}}$ 22'30	8.23914 AU
evening set	1766 May 12 19:05	6° $\text{\textcircled{S}}$ 52'40		direct	1772 Apr 23 21:45	22° $\text{\textcircled{S}}$ 52'21	
					1772 Jul 31 11:05	0° $\text{\textcircled{S}}$	
conjunction	1766 May 30 18:01	9° $\text{\textcircled{S}}$ 11'45	-1°-30'-57	evening set	1772 Aug 08 03:42	0° $\text{\textcircled{S}}$ 56'35	
minimum elong	1766 May 30 18:04	9° $\text{\textcircled{S}}$ 11'47	1°30'58				
max. Earth dist.	1766 May 30 21:26	9° $\text{\textcircled{S}}$ 12'52	10.06152 AU	conjunction	1772 Aug 25 23:42	3° $\text{\textcircled{S}}$ 11'11	1°29'31
morning rise	1766 Jun 17 19:25	11° $\text{\textcircled{S}}$ 31'40		minimum elong	1772 Aug 25 23:39	3° $\text{\textcircled{S}}$ 11'10	1°29'32
retrograde	1766 Oct 02 01:00	19° $\text{\textcircled{S}}$ 50'48		max. Earth dist.	1772 Aug 26 04:09	3° $\text{\textcircled{S}}$ 12'36	10.28799 AU
opposition	1766 Dec 08 08:18	16° $\text{\textcircled{S}}$ 21'15	-1°-37'-14	morning rise	1772 Sep 12 15:31	5° $\text{\textcircled{S}}$ 24'29	
min. Earth dist.	1766 Dec 08 05:10	16° $\text{\textcircled{S}}$ 21'54	8.04462 AU	retrograde	1772 Dec 23 01:17	13° $\text{\textcircled{S}}$ 07'26	
direct	1767 Feb 12 19:59	12° $\text{\textcircled{S}}$ 53'29		opposition	1773 Feb 27 22:53	9° $\text{\textcircled{S}}$ 43'33	2°04'37
evening set	1767 May 27 18:00	21° $\text{\textcircled{S}}$ 03'15		min. Earth dist.	1773 Feb 27 19:10	9° $\text{\textcircled{S}}$ 44'18	8.34053 AU
				direct	1773 May 07 22:55	6° $\text{\textcircled{S}}$ 14'54	
conjunction	1767 Jun 14 20:18	23° $\text{\textcircled{S}}$ 23'44	-1°-3'-48	evening set	1773 Aug 22 05:37	14° $\text{\textcircled{S}}$ 12'55	
minimum elong	1767 Jun 14 20:21	23° $\text{\textcircled{S}}$ 23'45	1°03'49				
max. Earth dist.	1767 Jun 15 00:29	23° $\text{\textcircled{S}}$ 25'06	10.03348 AU	conjunction	1773 Sep 08 20:51	16° $\text{\textcircled{S}}$ 24'37	1°50'28
morning rise	1767 Jul 02 23:58	25° $\text{\textcircled{S}}$ 44'41		minimum elong	1773 Sep 08 20:48	16° $\text{\textcircled{S}}$ 24'36	1°50'28
	1767 Aug 08 01:15	0° $\text{\textcircled{S}}$		max. Earth dist.	1773 Sep 09 00:50	16° $\text{\textcircled{S}}$ 25'52	10.39441 AU
retrograde	1767 Oct 16 14:19	4° $\text{\textcircled{S}}$ 02'07		morning rise	1773 Sep 26 07:22	18° $\text{\textcircled{S}}$ 34'55	
opposition	1767 Dec 22 12:43	0° $\text{\textcircled{S}}$ 32'54	-1°00'-40	retrograde	1774 Jan 05 01:29	26° $\text{\textcircled{S}}$ 09'16	
min. Earth dist.	1767 Dec 22 09:14	0° $\text{\textcircled{S}}$ 33'38	8.03035 AU	opposition	1774 Mar 13 06:32	22° $\text{\textcircled{S}}$ 46'47	2°26'34
	1767 Dec 29 04:23	30° $\text{\textcircled{S}}$		min. Earth dist.	1774 Mar 13 03:43	22° $\text{\textcircled{S}}$ 47'20	8.45119 AU
direct	1768 Feb 27 04:17	27° $\text{\textcircled{S}}$ 04'13		direct	1774 May 21 19:08	19° $\text{\textcircled{S}}$ 19'04	
	1768 Apr 25 08:10	0° $\text{\textcircled{S}}$		evening set	1774 Sep 04 21:16	27° $\text{\textcircled{S}}$ 09'53	
evening set	1768 Jun 10 19:58	5° $\text{\textcircled{S}}$ 16'55					
				conjunction	1774 Sep 22 07:31	29° $\text{\textcircled{S}}$ 18'39	2°05'19
conjunction	1768 Jun 29 00:14	7° $\text{\textcircled{S}}$ 37'56	0°-32'-43	minimum elong	1774 Sep 22 07:28	29° $\text{\textcircled{S}}$ 18'38	2°05'19
minimum elong	1768 Jun 29 00:15	7° $\text{\textcircled{S}}$ 37'56	0°32'43	max. Earth dist.	1774 Sep 22 10:24	29° $\text{\textcircled{S}}$ 19'32	10.50720 AU
max. Earth dist.	1768 Jun 29 04:40	7° $\text{\textcircled{S}}$ 39'22	10.03387 AU		1774 Sep 27 20:58	0° $\text{\textcircled{S}}$	
morning rise	1768 Jul 17 04:42	9° $\text{\textcircled{S}}$ 59'00		morning rise	1774 Oct 09 12:59	1° $\text{\textcircled{S}}$ 25'58	
retrograde	1768 Oct 30 00:26	18° $\text{\textcircled{S}}$ 12'22		retrograde	1775 Jan 17 18:49	8° $\text{\textcircled{S}}$ 52'13	
opposition	1769 Jan 04 16:28	14° $\text{\textcircled{S}}$ 43'49	0°-20'-24	opposition	1775 Mar 26 08:45	5° $\text{\textcircled{S}}$ 31'03	2°40'38
min. Earth dist.	1769 Jan 04 13:00	14° $\text{\textcircled{S}}$ 44'32	8.04468 AU	min. Earth dist.	1775 Mar 26 07:07	5° $\text{\textcircled{S}}$ 31'22	8.56535 AU
direct	1769 Mar 12 16:03	11° $\text{\textcircled{S}}$ 14'29		direct	1775 Jun 04 08:33	2° $\text{\textcircled{S}}$ 04'30	
evening set	1769 Jun 25 22:28	19° $\text{\textcircled{S}}$ 28'03		evening set	1775 Sep 18 02:39	9° $\text{\textcircled{S}}$ 47'34	
asc. node	1769 Jul 11 02:24	21° $\text{\textcircled{S}}$ 25'07					

conjunction	1775 Oct 05 08:11	11°♄53'32	2°13'44	morning rise	1781 Dec 30 10:09	24°♁14'24	
minimum elong	1775 Oct 05 08:09	11°♄53'32	2°13'44		1782 Mar 01 20:45	0°♁	
max. Earth dist.	1775 Oct 05 09:23	11°♄53'54	10.62072 AU	retrograde	1782 Apr 09 19:18	1°♁13'20	
morning rise	1775 Oct 22 09:12	13°♄58'08			1782 May 19 19:44	30°♁	
retrograde	1776 Jan 30 05:12	21°♄16'55		opposition	1782 Jun 19 05:26	27°♁56'00	1°07'27
opposition	1776 Apr 07 05:30	17°♄56'59	2°46'45	min. Earth dist.	1782 Jun 19 08:17	27°♁55'29	9.06548 AU
min. Earth dist.	1776 Apr 07 04:31	17°♄57'11	8.67739 AU	direct	1782 Aug 29 05:55	24°♁37'14	
direct	1776 Jun 16 15:23	14°♄31'43			1782 Nov 23 21:01	0°♁	
evening set	1776 Sep 29 22:00	22°♄06'54		evening set	1782 Dec 08 12:56	1°♁38'44	
conjunction	1776 Oct 16 23:27	24°♄10'22	2°15'47	conjunction	1782 Dec 25 03:57	3°♁35'27	0°42'41
minimum elong	1776 Oct 16 23:26	24°♄10'22	2°15'47	minimum elong	1782 Dec 25 03:58	3°♁35'28	0°42'41
max. Earth dist.	1776 Oct 16 23:42	24°♄10'26	10.72959 AU	max. Earth dist.	1782 Dec 24 23:55	3°♁34'16	11.06396 AU
morning rise	1776 Nov 02 20:39	26°♄12'34		morning rise	1783 Jan 10 18:26	5°♁32'06	
	1776 Dec 07 11:17	0°♁		retrograde	1783 Apr 21 17:48	12°♁32'49	
retrograde	1777 Feb 10 10:12	3°♁24'53		opposition	1783 Jul 01 08:03	9°♁15'02	0°36'17
opposition	1777 Apr 19 21:37	0°♁05'59	2°45'11	min. Earth dist.	1783 Jul 01 11:58	9°♁14'19	9.05690 AU
min. Earth dist.	1777 Apr 19 20:52	0°♁06'08	8.78210 AU	direct	1783 Sep 10 02:24	5°♁56'42	
	1777 Apr 21 05:04	30°♄		evening set	1783 Dec 19 21:01	12°♁56'58	
direct	1777 Jun 29 16:35	26°♄42'04		conjunction	1784 Jan 05 11:58	14°♁53'58	0°16'29
	1777 Sep 03 13:12	0°♁		minimum elong	1784 Jan 05 11:58	14°♁53'59	0°16'28
evening set	1777 Oct 12 07:55	4°♁09'31		max. Earth dist.	1784 Jan 05 06:26	14°♁52'21	11.04375 AU
conjunction	1777 Oct 29 06:02	6°♁10'50	2°11'47	morning rise	1784 Jan 22 03:26	16°♁51'09	
minimum elong	1777 Oct 29 06:03	6°♁10'51	2°11'46	retrograde	1784 May 02 15:51	23°♁55'15	
max. Earth dist.	1777 Oct 29 06:08	6°♁10'52	10.82896 AU	opposition	1784 Jul 12 11:49	20°♁36'44	0°03'34
morning rise	1777 Nov 15 00:08	8°♁11'01		min. Earth dist.	1784 Jul 12 16:44	20°♁35'50	9.02499 AU
retrograde	1778 Feb 22 12:51	15°♁18'01		desc. node	1784 Aug 22 00:49	18°♁00'55	
opposition	1778 May 02 09:33	11°♁59'57	2°36'31	direct	1784 Sep 20 21:45	17°♁18'34	
min. Earth dist.	1778 May 02 09:20	12°♁00'00	8.87508 AU	evening set	1784 Dec 30 06:31	24°♁19'10	
direct	1778 Jul 12 09:30	8°♁37'21		conjunction	1785 Jan 15 21:52	26°♁16'47	0°-10'-36
evening set	1778 Oct 24 09:48	15°♁57'35		minimum elong	1785 Jan 15 21:52	26°♁16'47	0°10'37
conjunction	1778 Nov 10 05:15	17°♁57'10	2°02'14	behind sun begin	1785 Jan 15 16:25	26°♁15'11	
minimum elong	1778 Nov 10 05:17	17°♁57'11	2°02'14	behind sun end	1785 Jan 16 03:20	26°♁18'23	
max. Earth dist.	1778 Nov 10 04:52	17°♁57'03	10.91478 AU	max. Earth dist.	1785 Jan 15 15:45	26°♁14'59	11.00099 AU
morning rise	1778 Nov 26 21:10	19°♁55'47		morning rise	1785 Feb 01 14:41	28°♁14'50	
retrograde	1779 Mar 06 10:18	26°♁58'37			1785 Feb 17 03:23	0°♁	
opposition	1779 May 14 17:50	23°♁41'10	2°21'31	retrograde	1785 May 14 19:55	5°♁23'51	
min. Earth dist.	1779 May 14 19:03	23°♁40'56	8.95270 AU	opposition	1785 Jul 24 17:43	2°♁04'18	0°-29'-35
direct	1779 Jul 24 20:13	20°♁19'47		min. Earth dist.	1785 Jul 24 22:36	2°♁03'23	8.97159 AU
evening set	1779 Nov 05 04:57	27°♁33'37			1785 Aug 23 22:29	30°♁	
conjunction	1779 Nov 21 22:19	29°♁31'52	1°47'47	direct	1785 Oct 02 20:03	28°♁46'02	
minimum elong	1779 Nov 21 22:21	29°♁31'53	1°47'47		1785 Nov 10 14:20	0°♁	
max. Earth dist.	1779 Nov 21 20:11	29°♁31'14	10.98371 AU	evening set	1786 Jan 10 18:55	5°♁48'24	
	1779 Nov 25 21:07	0°♁		conjunction	1786 Jan 27 11:13	7°♁47'00	0°-37'-26
morning rise	1779 Dec 08 13:02	1°♁29'23		minimum elong	1786 Jan 27 11:12	7°♁47'00	0°37'27
retrograde	1780 Mar 17 05:37	8°♁29'25		max. Earth dist.	1786 Jan 27 06:01	7°♁45'27	10.93762 AU
opposition	1780 May 25 23:21	5°♁12'19	2°01'03	morning rise	1786 Feb 13 05:31	9°♁46'15	
min. Earth dist.	1780 May 26 01:44	5°♁11'53	9.01186 AU	retrograde	1786 May 27 05:59	17°♁01'31	
direct	1780 Aug 05 03:46	1°♁51'59		opposition	1786 Aug 06 02:28	13°♁40'42	-1°-2'-1
evening set	1780 Nov 15 18:44	9°♁00'26		min. Earth dist.	1786 Aug 06 06:30	13°♁39'57	8.89891 AU
conjunction	1780 Dec 02 10:41	10°♁57'46	1°29'11	direct	1786 Oct 14 18:05	10°♁22'07	
minimum elong	1780 Dec 02 10:44	10°♁57'47	1°29'11	evening set	1787 Jan 22 12:09	17°♁27'43	
max. Earth dist.	1780 Dec 02 07:25	10°♁56'48	11.03295 AU	conjunction	1787 Feb 08 05:36	19°♁27'36	-1°-3'-7
morning rise	1780 Dec 19 00:50	12°♁54'35		minimum elong	1787 Feb 08 05:34	19°♁27'36	1°03'07
retrograde	1781 Mar 28 23:54	19°♁53'18		max. Earth dist.	1787 Feb 08 00:50	19°♁26'10	10.85618 AU
opposition	1781 Jun 07 02:55	16°♁36'13	1°36'02	morning rise	1787 Feb 25 01:42	21°♁28'22	
min. Earth dist.	1781 Jun 07 05:37	16°♁35'44	9.05010 AU	retrograde	1787 Jun 08 20:49	28°♁51'02	
direct	1781 Aug 17 06:20	13°♁16'47		opposition	1787 Aug 18 14:53	25°♁28'50	-1°-32'-27
evening set	1781 Nov 27 04:51	20°♁21'03		min. Earth dist.	1787 Aug 18 18:26	25°♁28'10	8.80984 AU
conjunction	1781 Dec 13 20:07	22°♁17'53	1°07'13	direct	1787 Oct 26 18:39	22°♁09'41	
minimum elong	1781 Dec 13 20:09	22°♁17'53	1°07'13	evening set	1788 Feb 03 11:27	29°♁19'58	
max. Earth dist.	1781 Dec 13 16:44	22°♁16'53	11.06026 AU		1788 Feb 09 01:19	0°♁	

conjunction	1788 Feb 20 06:19	1°♃21'27	-1°-26'-32	minimum elong	1794 May 09 14:16	19°♄04'57	2°00'03
minimum elong	1788 Feb 20 06:17	1°♃21'26	1°26'32	max. Earth dist.	1794 May 09 15:35	19°♄05'23	10.13205 AU
max. Earth dist.	1788 Feb 20 01:21	1°♃19'57	10.76003 AU	morning rise	1794 May 27 10:34	21°♄22'19	
morning rise	1788 Mar 08 04:44	3°♃24'01		retrograde	1794 Sep 11 07:01	29°♄39'51	
retrograde	1788 Jun 20 19:03	10°♃55'05		opposition	1794 Nov 18 05:51	26°♄09'54	-2°-18'-59
opposition	1788 Aug 30 08:03	7°♃31'26	-1°-59'-32	min. Earth dist.	1794 Nov 18 04:02	26°♄10'17	8.09907 AU
min. Earth dist.	1788 Aug 30 11:32	7°♃30'47	8.70804 AU	direct	1795 Jan 23 16:44	22°♄43'17	
direct	1788 Nov 06 23:30	4°♃11'30			1795 Apr 30 09:49	0°♄	
evening set	1789 Feb 14 17:56	11°♃27'43		evening set	1795 May 06 12:00	0°♄46'03	
conjunction	1789 Mar 03 14:51	13°♃31'07	-1°-46'-33	conjunction	1795 May 24 08:55	3°♄04'26	-1°-41'-29
minimum elong	1789 Mar 03 14:49	13°♃31'06	1°46'34	minimum elong	1795 May 24 08:58	3°♄04'27	1°41'30
max. Earth dist.	1789 Mar 03 10:19	13°♃29'43	10.65313 AU	max. Earth dist.	1795 May 24 11:34	3°♄05'18	10.06979 AU
morning rise	1789 Mar 20 15:58	15°♃35'48		morning rise	1795 Jun 11 09:05	5°♄23'50	
retrograde	1789 Jul 03 23:42	23°♃15'56		retrograde	1795 Sep 25 20:50	13°♄43'27	
opposition	1789 Sep 12 06:18	19°♃50'48	-2°-21'-51	opposition	1795 Dec 02 08:54	10°♄13'31	-1°-51'-55
min. Earth dist.	1789 Sep 12 09:26	19°♃50'11	8.59771 AU	min. Earth dist.	1795 Dec 02 06:13	10°♄14'04	8.04880 AU
direct	1789 Nov 19 09:29	16°♃29'54		direct	1796 Feb 06 19:33	6°♄45'55	
evening set	1790 Feb 27 09:01	23°♃53'12		evening set	1796 May 20 08:55	14°♄54'16	
conjunction	1790 Mar 16 08:43	25°♃58'48	-2°-2'-3	conjunction	1796 Jun 07 09:49	17°♄14'21	-1°-16'-39
minimum elong	1790 Mar 16 08:41	25°♃58'48	2°02'04	minimum elong	1796 Jun 07 09:53	17°♄14'22	1°16'41
max. Earth dist.	1790 Mar 16 05:38	25°♃57'51	10.53989 AU	max. Earth dist.	1796 Jun 07 14:02	17°♄15'44	10.03307 AU
morning rise	1790 Apr 02 12:52	28°♃05'49		morning rise	1796 Jun 25 12:51	19°♄35'07	
	1790 Apr 18 15:10	0°♃		retrograde	1796 Oct 09 10:53	27°♄54'12	
retrograde	1790 Jul 17 11:14	5°♃55'14		opposition	1796 Dec 15 13:27	24°♄24'39	-1°-17'-45
opposition	1790 Sep 25 09:49	2°♃28'41	-2°-38'00	min. Earth dist.	1796 Dec 15 09:38	24°♄25'27	8.02555 AU
min. Earth dist.	1790 Sep 25 11:49	2°♃28'17	8.48352 AU	direct	1797 Feb 20 03:14	20°♄56'17	
direct	1790 Oct 31 00:20	30°♃		evening set	1797 Jun 04 10:23	29°♄08'26	
	1790 Dec 02 02:48	29°♃06'44			1797 Jun 11 02:57	0°♄	
	1791 Jan 02 14:48	0°♃		conjunction	1797 Jun 22 14:05	1°♄29'27	0°-47'-3
evening set	1791 Mar 12 09:29	6°♃37'54		minimum elong	1797 Jun 22 14:07	1°♄29'27	0°47'04
conjunction	1791 Mar 29 12:36	8°♃46'00	-2°-11'-56	max. Earth dist.	1797 Jun 22 19:46	1°♄31'18	10.02442 AU
minimum elong	1791 Mar 29 12:35	8°♃46'00	2°11'58	morning rise	1797 Jul 10 18:30	3°♄50'43	
max. Earth dist.	1791 Mar 29 11:09	8°♃45'33	10.42541 AU	retrograde	1797 Oct 23 22:57	12°♄06'44	
morning rise	1791 Apr 15 20:13	10°♃55'33		opposition	1797 Dec 29 18:08	8°♄37'55	0°-38'-45
retrograde	1791 Jul 31 07:55	18°♃53'58		min. Earth dist.	1797 Dec 29 13:16	8°♄38'55	8.03095 AU
opposition	1791 Oct 08 19:06	15°♃26'08	-2°-46'-38	direct	1798 Mar 06 14:10	5°♄09'01	
min. Earth dist.	1791 Oct 08 19:37	15°♃26'02	8.37078 AU	evening set	1798 Jun 19 13:37	13°♄22'55	
direct	1791 Dec 15 01:03	12°♃03'03		conjunction	1798 Jul 07 18:22	15°♄43'55	0°-14'-36
evening set	1792 Mar 24 19:43	19°♃42'31		minimum elong	1798 Jul 07 18:23	15°♄43'55	0°14'37
conjunction	1792 Apr 11 02:47	21°♃53'16	-2°-15'-16	behind sun begin	1798 Jul 07 15:33	15°♄43'00	
minimum elong	1792 Apr 11 02:48	21°♃53'16	2°15'17	behind sun end	1798 Jul 07 21:14	15°♄44'50	
max. Earth dist.	1792 Apr 11 02:35	21°♃53'13	10.31535 AU	max. Earth dist.	1798 Jul 08 01:00	15°♄46'03	10.04441 AU
morning rise	1792 Apr 28 14:24	24°♃05'31		morning rise	1798 Jul 25 22:27	18°♄04'43	
	1792 Jun 22 21:48	0°♃		retrograde	1798 Nov 07 06:41	26°♄15'30	
retrograde	1792 Aug 13 11:15	2°♃12'01		asc. node	1798 Dec 21 14:50	24°♄32'41	
	1792 Oct 05 01:40	30°♃		opposition	1799 Jan 12 21:26	22°♄47'41	0°02'26
opposition	1792 Oct 21 10:00	28°♃43'09	-2°-46'-41	min. Earth dist.	1799 Jan 12 16:09	22°♄48'47	8.06471 AU
min. Earth dist.	1792 Oct 21 09:18	28°♃43'18	8.26525 AU	direct	1799 Mar 21 02:08	19°♄18'31	
direct	1792 Dec 27 06:20	25°♃18'52		evening set	1799 Jul 04 15:40	27°♄32'01	
	1793 Mar 12 12:38	0°♃		conjunction	1799 Jul 22 19:40	29°♄52'02	0°18'33
evening set	1793 Apr 07 16:04	3°♄06'43		minimum elong	1799 Jul 22 19:40	29°♄52'02	0°18'34
conjunction	1793 Apr 25 03:36	5°♄20'11	-2°-11'-23	max. Earth dist.	1799 Jul 23 02:29	29°♄54'14	10.09173 AU
minimum elong	1793 Apr 25 03:38	5°♄20'11	2°11'24		1799 Jul 23 20:19	0°♄	
max. Earth dist.	1793 Apr 25 04:05	5°♄20'20	10.21564 AU	morning rise	1799 Aug 09 21:44	2°♄11'27	
morning rise	1793 May 12 19:36	7°♄35'06		retrograde	1799 Nov 21 09:04	10°♄15'14	
retrograde	1793 Aug 27 19:33	15°♄48'08		opposition	1800 Jan 26 21:52	6°♄48'37	0°43'00
opposition	1793 Nov 04 05:47	12°♄18'33	-2°-37'-29	min. Earth dist.	1800 Jan 26 16:52	6°♄49'39	8.12455 AU
min. Earth dist.	1793 Nov 04 04:33	12°♄18'48	8.17282 AU	direct	1800 Apr 04 12:49	3°♄19'24	
direct	1794 Jan 09 19:48	8°♄53'03		evening set	1800 Jul 19 13:32	11°♄30'26	
evening set	1794 Apr 21 21:55	16°♄48'51		conjunction	1800 Aug 06 15:08	13°♄48'39	0°50'10
conjunction	1794 May 09 14:13	19°♄04'57	-2°00'-1	minimum elong	1800 Aug 06 15:06	13°♄48'38	0°50'11

max. Earth dist.	1800 Aug 06 21:14	13°♏50'36	10.16298 AU	retrograde	1807 Feb 18 17:57	10°♌27'51	
morning rise	1800 Aug 24 13:45	16°♏05'54		opposition	1807 Apr 28 09:50	7°♌09'25	2°40'59
retrograde	1800 Dec 05 04:29	24°♏01'29		min. Earth dist.	1807 Apr 28 11:16	7°♌09'08	8.82599 AU
opposition	1801 Feb 09 18:19	20°♏36'12	1°20'22	direct	1807 Jul 08 06:52	3°♌46'05	
min. Earth dist.	1801 Feb 09 14:15	20°♏37'02	8.20604 AU	evening set	1807 Oct 20 15:16	11°♌10'03	
direct	1801 Apr 18 21:53	17°♏07'14					
evening set	1801 Aug 03 04:45	25°♏13'55		conjunction	1807 Nov 06 11:48	13°♌10'32	2°06'54
				minimum elong	1807 Nov 06 11:50	13°♌10'33	2°06'53
conjunction	1801 Aug 21 02:32	27°♏29'41	1°18'25	max. Earth dist.	1807 Nov 06 09:22	13°♌09'48	10.86671 AU
minimum elong	1801 Aug 21 02:29	27°♏29'40	1°18'26	morning rise	1807 Nov 23 04:51	15°♌09'58	
max. Earth dist.	1801 Aug 21 07:01	27°♏31'07	10.25285 AU	retrograde	1808 Mar 01 16:22	22°♌15'05	
morning rise	1801 Sep 07 20:37	29°♏44'15		opposition	1808 May 09 19:57	18°♌57'07	2°28'39
	1801 Sep 09 23:24	0°♐		min. Earth dist.	1808 May 09 21:36	18°♌56'49	8.90630 AU
retrograde	1801 Dec 18 15:22	7°♐31'06		direct	1808 Jul 19 22:16	15°♌34'51	
opposition	1802 Feb 23 09:49	4°♐07'10	1°52'25	evening set	1808 Oct 31 13:37	22°♌52'05	
min. Earth dist.	1802 Feb 23 06:38	4°♐07'49	8.30318 AU				
direct	1802 May 03 03:16	0°♐38'44		conjunction	1808 Nov 17 07:58	24°♌51'04	1°54'29
evening set	1802 Aug 17 11:13	8°♐39'41		minimum elong	1808 Nov 17 08:01	24°♌51'04	1°54'28
				max. Earth dist.	1808 Nov 17 05:33	24°♌50'21	10.93924 AU
conjunction	1802 Sep 04 04:26	10°♐52'37	1°41'50	morning rise	1808 Dec 03 23:16	26°♌49'12	
minimum elong	1802 Sep 04 04:23	10°♐52'36	1°41'51		1809 Jan 02 02:02	0°♑	
max. Earth dist.	1802 Sep 04 07:18	10°♐53'32	10.35497 AU	retrograde	1809 Mar 13 13:46	3°♑50'57	
morning rise	1802 Sep 21 17:26	13°♐04'15		opposition	1809 May 22 03:03	0°♑33'15	2°10'25
retrograde	1802 Dec 31 18:05	20°♐42'28		min. Earth dist.	1809 May 22 04:50	0°♑32'55	8.96996 AU
opposition	1803 Mar 08 20:02	17°♐19'54	2°17'40		1809 May 29 14:23	30°♌	
min. Earth dist.	1803 Mar 08 17:28	17°♐20'24	8.40945 AU	direct	1809 Aug 01 08:20	27°♌11'58	
direct	1803 May 17 03:30	13°♐52'15			1809 Sep 30 23:00	0°♑	
evening set	1803 Aug 31 07:48	21°♐46'30		evening set	1809 Nov 12 05:48	4°♑23'18	
conjunction	1803 Sep 17 20:14	23°♐56'33	1°59'26	conjunction	1809 Nov 28 22:35	6°♑21'13	1°37'34
minimum elong	1803 Sep 17 20:11	23°♐56'32	1°59'26	minimum elong	1809 Nov 28 22:37	6°♑21'14	1°37'34
max. Earth dist.	1803 Sep 17 22:09	23°♐57'09	10.46336 AU	max. Earth dist.	1809 Nov 28 20:05	6°♑20'29	10.99395 AU
morning rise	1803 Oct 05 04:04	26°♐05'12		morning rise	1809 Dec 15 12:53	8°♑18'29	
	1803 Nov 08 22:04	0°♑		retrograde	1810 Mar 25 09:41	15°♑18'16	
retrograde	1804 Jan 13 15:51	3°♑35'14		opposition	1810 Jun 03 07:50	12°♑00'38	1°47'13
opposition	1804 Mar 21 00:55	0°♑13'57	2°35'16	min. Earth dist.	1810 Jun 03 10:28	12°♑00'08	9.01476 AU
min. Earth dist.	1804 Mar 20 22:54	0°♑14'21	8.51940 AU	direct	1810 Aug 13 11:38	8°♑40'12	
	1804 Mar 24 00:05	30°♐		evening set	1810 Nov 23 17:44	15°♑46'49	
direct	1804 May 29 19:43	26°♐47'18					
	1804 Aug 01 21:04	0°♑		conjunction	1810 Dec 10 09:23	17°♑44'04	1°16'55
evening set	1804 Sep 12 18:22	4°♑34'11		minimum elong	1810 Dec 10 09:25	17°♑44'04	1°16'55
				max. Earth dist.	1810 Dec 10 05:44	17°♑42'59	11.02898 AU
conjunction	1804 Sep 30 02:06	6°♑41'26	2°10'42	morning rise	1810 Dec 26 23:32	19°♑40'54	
minimum elong	1804 Sep 30 02:04	6°♑41'26	2°10'42	retrograde	1811 Apr 06 03:23	26°♑40'10	
max. Earth dist.	1804 Sep 30 03:26	6°♑41'51	10.57314 AU	opposition	1811 Jun 15 10:58	23°♑22'22	1°20'00
morning rise	1804 Oct 17 05:00	8°♑47'15		min. Earth dist.	1811 Jun 15 14:37	23°♑21'42	9.03919 AU
retrograde	1805 Jan 25 06:45	16°♑09'41		direct	1811 Aug 25 12:41	20°♑02'38	
opposition	1805 Apr 03 00:37	12°♑49'33	2°44'52	evening set	1811 Dec 05 02:55	27°♑05'54	
min. Earth dist.	1805 Apr 02 23:38	12°♑49'45	8.62842 AU				
direct	1805 Jun 12 05:18	9°♑24'00		conjunction	1811 Dec 21 17:59	29°♑02'51	0°53'21
evening set	1805 Sep 25 18:47	17°♑03'09		minimum elong	1811 Dec 21 18:01	29°♑02'51	0°53'21
				max. Earth dist.	1811 Dec 21 13:25	29°♑01'30	11.04311 AU
conjunction	1805 Oct 12 22:08	19°♑07'49	2°15'32		1811 Dec 29 19:55	0°♒	
minimum elong	1805 Oct 12 22:08	19°♑07'48	2°15'31	morning rise	1812 Jan 07 08:29	0°♒59'38	
max. Earth dist.	1805 Oct 12 22:34	19°♑07'56	10.67984 AU	retrograde	1812 Apr 16 23:44	7°♒59'58	
morning rise	1805 Oct 29 20:50	21°♑11'07		opposition	1812 Jun 26 13:44	4°♒41'47	0°49'46
retrograde	1806 Feb 06 14:38	28°♑26'44		min. Earth dist.	1812 Jun 26 17:20	4°♒41'07	9.04230 AU
opposition	1806 Apr 15 19:33	25°♑07'34	2°46'38	direct	1812 Sep 05 11:43	1°♒22'37	
min. Earth dist.	1806 Apr 15 19:59	25°♑07'29	8.73207 AU	evening set	1812 Dec 15 10:50	8°♒23'52	
direct	1806 Jun 25 09:11	21°♑43'08					
evening set	1806 Oct 08 09:22	29°♑14'31		conjunction	1813 Jan 01 01:55	10°♒20'54	0°27'44
	1806 Oct 14 17:59	0°♌		minimum elong	1813 Jan 01 01:55	10°♒20'54	0°27'43
conjunction	1806 Oct 25 08:55	1°♌16'53	2°14'07	max. Earth dist.	1812 Dec 31 21:57	10°♒19'44	11.03569 AU
minimum elong	1806 Oct 25 08:55	1°♌16'53	2°14'06	morning rise	1813 Jan 17 17:02	12°♒18'00	
max. Earth dist.	1806 Oct 25 07:41	1°♌16'31	10.77908 AU	retrograde	1813 Apr 28 22:18	19°♒20'57	
morning rise	1806 Nov 11 04:22	3°♌18'03		opposition	1813 Jul 08 17:05	16°♒02'10	0°17'33
				min. Earth dist.	1813 Jul 08 20:05	16°♒01'37	9.02392 AU

direct	1813 Sep 17 08:00	12°♄43'25		retrograde	1819 Jul 13 02:59	0°♃44'45	
evening set	1813 Dec 26 19:36	19°♄44'08			1819 Aug 12 08:42	30°♃	
				opposition	1819 Sep 21 04:13	27°♃19'24	-2°-31'-44
conjunction	1814 Jan 12 10:59	21°♄41'37	0°00'56	min. Earth dist.	1819 Sep 21 05:06	27°♃19'13	8.55130 AU
minimum elong	1814 Jan 12 10:59	21°♄41'37	0°00'56	direct	1819 Nov 28 00:38	23°♃58'35	
behind sun begin	1814 Jan 12 04:00	21°♄39'34			1820 Feb 24 06:34	0°♃	
behind sun end	1814 Jan 12 17:57	21°♄43'39		evening set	1820 Mar 07 04:54	1°♃25'37	
max. Earth dist.	1814 Jan 12 07:20	21°♄40'35	11.00689 AU				
desc. node	1814 Jan 24 22:06	23°♄09'57		conjunction	1820 Mar 24 06:08	3°♃32'21	-2°-8'-19
morning rise	1814 Jan 29 03:07	23°♄39'22		minimum elong	1820 Mar 24 06:06	3°♃32'21	2°08'21
	1814 Apr 10 01:06	0°♃		max. Earth dist.	1820 Mar 24 04:21	3°♃31'48	10.49549 AU
retrograde	1814 May 11 01:36	0°♃46'25		morning rise	1820 Apr 10 12:05	5°♃40'33	
	1814 Jun 11 13:11	30°♄		retrograde	1820 Jul 25 19:48	13°♃34'17	
opposition	1814 Jul 20 21:54	27°♄26'52	0°-15'-34	opposition	1820 Oct 03 10:52	10°♃07'42	-2°-43'-38
min. Earth dist.	1814 Jul 21 00:53	27°♄26'19	8.98469 AU	min. Earth dist.	1820 Oct 03 11:38	10°♃07'33	8.44201 AU
direct	1814 Sep 29 04:14	24°♄08'18		direct	1820 Dec 09 20:03	6°♃45'50	
	1814 Dec 28 02:02	0°♃		evening set	1821 Mar 20 10:26	14°♃20'45	
evening set	1815 Jan 07 06:43	1°♃10'00					
				conjunction	1821 Apr 06 15:25	16°♃30'00	-2°-14'-30
conjunction	1815 Jan 23 22:35	3°♃08'14	0°-26'-9	minimum elong	1821 Apr 06 15:24	16°♃30'00	2°14'32
minimum elong	1815 Jan 23 22:34	3°♃08'14	0°26'10	max. Earth dist.	1821 Apr 06 14:20	16°♃29'39	10.38679 AU
max. Earth dist.	1815 Jan 23 18:10	3°♃06'56	10.95774 AU	morning rise	1821 Apr 24 01:13	18°♃40'46	
morning rise	1815 Feb 09 16:14	5°♃07'01		retrograde	1821 Aug 08 18:23	26°♃42'46	
retrograde	1815 May 23 08:08	12°♃19'33		opposition	1821 Oct 16 22:50	23°♃15'06	-2°-47'-25
opposition	1815 Aug 02 05:22	8°♃59'03	0°-48'-27	min. Earth dist.	1821 Oct 16 23:19	23°♃15'00	8.33543 AU
min. Earth dist.	1815 Aug 02 08:54	8°♃58'24	8.92598 AU	direct	1821 Dec 22 23:08	19°♃52'02	
direct	1815 Oct 11 00:31	5°♃40'27		evening set	1822 Apr 03 01:49	27°♃35'10	
evening set	1816 Jan 18 21:42	12°♃44'40					
				conjunction	1822 Apr 20 11:12	29°♃47'06	-2°-13'-45
conjunction	1816 Feb 04 14:26	14°♃43'58	0°-52'-26	minimum elong	1822 Apr 20 11:13	29°♃47'06	2°13'46
minimum elong	1816 Feb 04 14:25	14°♃43'58	0°52'27	max. Earth dist.	1822 Apr 20 11:19	29°♃47'08	10.28329 AU
max. Earth dist.	1816 Feb 04 10:02	14°♃42'39	10.89001 AU		1822 Apr 22 03:43	0°♃	
morning rise	1816 Feb 21 09:51	16°♃44'05		morning rise	1822 May 08 01:05	2°♃00'29	
retrograde	1816 Jun 03 19:22	24°♃03'26		retrograde	1822 Aug 22 22:47	10°♃09'40	
opposition	1816 Aug 13 16:17	20°♃41'50	-1°-19'-51	opposition	1822 Oct 30 15:44	6°♃41'07	-2°-42'-14
min. Earth dist.	1816 Aug 13 19:32	20°♃41'13	8.85001 AU	min. Earth dist.	1822 Oct 30 15:17	6°♃41'13	8.23666 AU
direct	1816 Oct 22 01:01	17°♃22'58		direct	1823 Jan 05 09:30	3°♃16'52	
evening set	1817 Jan 29 18:07	24°♃31'06		evening set	1823 Apr 17 02:47	11°♃08'07	
conjunction	1817 Feb 15 12:18	26°♃31'50	-1°-16'-55	conjunction	1823 May 04 16:56	13°♃22'44	-2°-5'-38
minimum elong	1817 Feb 15 12:15	26°♃31'49	1°16'55	minimum elong	1823 May 04 16:58	13°♃22'45	2°05'39
max. Earth dist.	1817 Feb 15 09:02	26°♃30'51	10.80628 AU	max. Earth dist.	1823 May 04 18:18	13°♃23'11	10.19086 AU
morning rise	1817 Mar 04 09:39	28°♃33'33		morning rise	1823 May 22 11:05	15°♃38'41	
	1817 Mar 16 19:59	0°♃		retrograde	1823 Sep 06 08:29	23°♃53'23	
retrograde	1817 Jun 16 15:28	6°♃00'47		opposition	1823 Nov 13 13:20	20°♃24'13	-2°-27'-46
opposition	1817 Aug 26 07:18	2°♃37'58	-1°-48'-28	min. Earth dist.	1823 Nov 13 11:40	20°♃24'33	8.15208 AU
min. Earth dist.	1817 Aug 26 09:31	2°♃37'33	8.75977 AU	direct	1824 Jan 19 02:04	16°♃58'44	
	1817 Oct 05 09:41	30°♃		evening set	1824 Apr 30 12:34	24°♃57'24	
direct	1817 Nov 03 04:34	29°♃18'40					
	1817 Dec 01 10:34	0°♃		conjunction	1824 May 18 07:28	27°♃14'31	-1°-50'-11
evening set	1818 Feb 10 21:21	6°♃32'00		minimum elong	1824 May 18 07:31	27°♃14'32	1°50'12
				max. Earth dist.	1824 May 18 09:53	27°♃15'18	10.11597 AU
conjunction	1818 Feb 27 17:25	8°♃34'28	-1°-38'-28	morning rise	1824 Jun 05 05:43	29°♃32'45	
minimum elong	1818 Feb 27 17:22	8°♃34'27	1°38'29		1824 Jun 08 20:16	0°♃	
max. Earth dist.	1818 Feb 27 15:18	8°♃33'49	10.70986 AU	retrograde	1824 Sep 19 22:09	7°♃50'41	
morning rise	1818 Mar 16 17:06	10°♃38'05		opposition	1824 Nov 26 14:29	4°♃21'12	-2°-4'-23
retrograde	1818 Jun 29 17:54	18°♃13'57		min. Earth dist.	1824 Nov 26 12:01	4°♃21'43	8.08775 AU
opposition	1818 Sep 08 03:08	14°♃49'52	-2°-12'-54	direct	1825 Feb 01 00:13	0°♃54'31	
min. Earth dist.	1818 Sep 08 04:18	14°♃49'38	8.65878 AU	evening set	1825 May 15 06:05	8°♃59'28	
direct	1818 Nov 15 11:22	11°♃29'54					
evening set	1819 Feb 23 08:42	18°♃49'39		conjunction	1825 Jun 02 05:14	11°♃18'36	-1°-28'-1
				minimum elong	1825 Jun 02 05:18	11°♃18'37	1°28'02
conjunction	1819 Mar 12 07:01	20°♃54'06	-1°-55'-58	max. Earth dist.	1825 Jun 02 08:19	11°♃19'36	10.06393 AU
minimum elong	1819 Mar 12 06:58	20°♃54'06	1°56'00	morning rise	1825 Jun 20 06:54	13°♃38'33	
max. Earth dist.	1819 Mar 12 05:02	20°♃53'30	10.60473 AU	retrograde	1825 Oct 04 12:11	21°♃57'08	
morning rise	1819 Mar 29 09:34	22°♃59'54		opposition	1825 Dec 10 17:44	18°♃27'42	-1°-33'-14
	1819 Jun 13 03:02	0°♃		min. Earth dist.	1825 Dec 10 14:57	18°♃28'17	8.04822 AU

direct	1826 Feb 15 05:27	14° <u>II</u> 59'54		max. Earth dist.	1831 Aug 29 11:46	5° <u>III</u> 11'04	10.29885 AU
evening set	1826 May 30 05:03	23° <u>II</u> 09'35		morning rise	1831 Sep 15 22:32	7° <u>III</u> 22'39	
				retrograde	1831 Dec 26 06:55	15° <u>III</u> 04'46	
conjunction	1826 Jun 17 07:27	25° <u>II</u> 30'01	-1°00'-24	opposition	1832 Mar 02 05:20	11° <u>III</u> 41'02	2°07'15
minimum elong	1826 Jun 17 07:30	25° <u>II</u> 30'02	1°00'25	min. Earth dist.	1832 Mar 02 02:20	11° <u>III</u> 41'38	8.35128 AU
max. Earth dist.	1826 Jun 17 10:52	25° <u>II</u> 31'08	10.03834 AU	direct	1832 May 10 06:30	8° <u>III</u> 12'27	
morning rise	1826 Jul 05 11:19	27° <u>II</u> 50'55		evening set	1832 Aug 24 12:36	16° <u>III</u> 09'45	
	1826 Jul 22 20:26	0° <u>III</u>					
retrograde	1826 Oct 18 23:58	6° <u>III</u> 07'37		conjunction	1832 Sep 11 03:21	18° <u>III</u> 21'11	1°52'16
opposition	1826 Dec 24 21:54	2° <u>III</u> 38'34	0°-56'-13	minimum elong	1832 Sep 11 03:18	18° <u>III</u> 21'10	1°52'17
min. Earth dist.	1826 Dec 24 18:59	2° <u>III</u> 39'10	8.03627 AU	max. Earth dist.	1832 Sep 11 06:33	18° <u>III</u> 22'11	10.40475 AU
	1827 Jan 30 08:15	30° <u>II</u>		morning rise	1832 Sep 28 13:30	20° <u>III</u> 31'13	
direct	1827 Mar 01 15:07	29° <u>II</u> 09'53		retrograde	1833 Jan 07 07:00	28° <u>III</u> 04'50	
	1827 Mar 31 18:57	0° <u>III</u>		opposition	1833 Mar 15 12:22	24° <u>III</u> 42'27	2°28'20
evening set	1827 Jun 14 06:43	7° <u>III</u> 22'19		min. Earth dist.	1833 Mar 15 10:22	24° <u>III</u> 42'51	8.46114 AU
				direct	1833 May 24 01:26	21° <u>III</u> 14'47	
conjunction	1827 Jul 02 10:58	9° <u>III</u> 43'12	0°-29'-3	evening set	1833 Sep 07 03:24	29° <u>III</u> 04'56	
minimum elong	1827 Jul 02 11:00	9° <u>III</u> 43'13	0°29'04		1833 Sep 14 15:35	0° <u>III</u>	
max. Earth dist.	1827 Jul 02 14:50	9° <u>III</u> 44'28	10.04087 AU				
morning rise	1827 Jul 20 15:27	12° <u>III</u> 04'08		conjunction	1833 Sep 24 13:10	1° <u>III</u> 13'27	2°06'24
retrograde	1827 Nov 02 07:59	20° <u>III</u> 16'40		minimum elong	1833 Sep 24 13:08	1° <u>III</u> 13'27	2°06'25
opposition	1828 Jan 08 01:13	16° <u>III</u> 48'17	0°-15'-48	max. Earth dist.	1833 Sep 24 14:55	1° <u>III</u> 14'00	10.51644 AU
min. Earth dist.	1828 Jan 07 21:53	16° <u>III</u> 48'59	8.05262 AU	morning rise	1833 Oct 11 18:22	3° <u>III</u> 20'33	
direct	1828 Mar 15 02:58	13° <u>III</u> 19'00		retrograde	1834 Jan 19 22:32	10° <u>III</u> 46'09	
asc. node	1828 Jun 01 09:05	18° <u>III</u> 17'09		opposition	1834 Mar 28 14:01	7° <u>III</u> 25'04	2°41'31
evening set	1828 Jun 28 08:41	21° <u>III</u> 32'08		min. Earth dist.	1834 Mar 28 12:36	7° <u>III</u> 25'21	8.57392 AU
				direct	1834 Jun 06 15:10	3° <u>III</u> 58'34	
conjunction	1828 Jul 16 13:08	23° <u>III</u> 52'32	0°04'00	evening set	1834 Sep 20 07:51	11° <u>III</u> 41'01	
minimum elong	1828 Jul 16 13:07	23° <u>III</u> 52'32	0°04'00				
behind sun begin	1828 Jul 16 05:52	23° <u>III</u> 50'13		conjunction	1834 Oct 07 13:03	13° <u>III</u> 46'47	2°14'07
behind sun end	1828 Jul 16 20:23	23° <u>III</u> 54'52		minimum elong	1834 Oct 07 13:02	13° <u>III</u> 46'47	2°14'07
max. Earth dist.	1828 Jul 16 17:27	23° <u>III</u> 53'54	10.07116 AU	max. Earth dist.	1834 Oct 07 13:47	13° <u>III</u> 47'01	10.62840 AU
morning rise	1828 Aug 03 16:27	26° <u>III</u> 12'34		morning rise	1834 Oct 24 13:47	15° <u>III</u> 51'12	
	1828 Sep 04 15:02	0° <u>III</u>		retrograde	1835 Feb 01 08:39	23° <u>III</u> 09'32	
retrograde	1828 Nov 15 11:12	4° <u>III</u> 19'00		opposition	1835 Apr 10 10:23	19° <u>III</u> 49'37	2°46'45
opposition	1829 Jan 21 02:10	0° <u>III</u> 51'33	0°25'14	min. Earth dist.	1835 Apr 10 09:03	19° <u>III</u> 49'53	8.68414 AU
min. Earth dist.	1829 Jan 20 22:23	0° <u>III</u> 52'19	8.09596 AU	direct	1835 Jun 19 22:06	16° <u>III</u> 24'24	
	1829 Jan 31 15:20	30° <u>III</u>		evening set	1835 Oct 03 02:17	23° <u>III</u> 59'01	
direct	1829 Mar 29 14:04	27° <u>III</u> 21'56					
	1829 May 24 04:01	0° <u>III</u>		conjunction	1835 Oct 20 03:37	26° <u>III</u> 02'21	2°15'28
evening set	1829 Jul 13 07:55	5° <u>III</u> 33'43		minimum elong	1835 Oct 20 03:37	26° <u>III</u> 02'21	2°15'28
				max. Earth dist.	1835 Oct 20 04:13	26° <u>III</u> 02'32	10.73532 AU
conjunction	1829 Jul 31 10:48	7° <u>III</u> 52'46	0°36'24	morning rise	1835 Nov 06 00:32	28° <u>III</u> 04'24	
minimum elong	1829 Jul 31 10:47	7° <u>III</u> 52'46	0°36'24		1835 Nov 22 17:39	0° <u>III</u>	
max. Earth dist.	1829 Jul 31 15:27	7° <u>III</u> 54'16	10.12693 AU	retrograde	1836 Feb 13 15:37	5° <u>III</u> 16'25	
morning rise	1829 Aug 18 11:16	10° <u>III</u> 11'02		opposition	1836 Apr 22 02:08	1° <u>III</u> 57'32	2°44'22
retrograde	1829 Nov 29 09:16	18° <u>III</u> 10'00		min. Earth dist.	1836 Apr 22 01:30	1° <u>III</u> 57'39	8.78670 AU
opposition	1830 Feb 03 23:48	14° <u>III</u> 43'41	1°04'14		1836 May 19 13:20	30° <u>III</u>	
min. Earth dist.	1830 Feb 03 19:38	14° <u>III</u> 44'32	8.16322 AU	direct	1836 Jul 01 20:47	28° <u>III</u> 33'39	
direct	1830 Apr 12 23:28	11° <u>III</u> 14'06			1836 Aug 13 09:22	0° <u>III</u>	
evening set	1830 Jul 28 01:33	19° <u>III</u> 22'35		evening set	1836 Oct 14 11:43	6° <u>III</u> 00'39	
conjunction	1830 Aug 15 01:20	21° <u>III</u> 39'31	1°06'18	conjunction	1836 Oct 31 09:42	8° <u>III</u> 01'54	2°10'48
minimum elong	1830 Aug 15 01:17	21° <u>III</u> 39'31	1°06'18	minimum elong	1836 Oct 31 09:43	8° <u>III</u> 01'55	2°10'48
max. Earth dist.	1830 Aug 15 06:14	21° <u>III</u> 41'05	10.20442 AU	max. Earth dist.	1836 Oct 31 09:44	8° <u>III</u> 01'55	10.83240 AU
morning rise	1830 Sep 01 21:35	23° <u>III</u> 55'22		morning rise	1836 Nov 17 03:38	10° <u>III</u> 02'01	
	1830 Oct 29 11:13	0° <u>III</u>		retrograde	1837 Feb 24 15:58	17° <u>III</u> 08'48	
retrograde	1830 Dec 12 23:55	1° <u>III</u> 46'05		opposition	1837 May 04 13:52	13° <u>III</u> 50'45	2°34'57
	1831 Jan 27 10:31	30° <u>III</u>		min. Earth dist.	1837 May 04 14:30	13° <u>III</u> 50'38	8.87733 AU
opposition	1831 Feb 17 17:07	28° <u>III</u> 21'01	1°38'50	direct	1837 Jul 14 12:51	10° <u>III</u> 28'10	
min. Earth dist.	1831 Feb 17 13:08	28° <u>III</u> 21'49	8.25006 AU	evening set	1837 Oct 26 13:14	17° <u>III</u> 48'08	
direct	1831 Apr 27 05:30	24° <u>III</u> 51'47					
	1831 Jul 17 18:24	0° <u>III</u>		conjunction	1837 Nov 12 08:29	19° <u>III</u> 47'40	2°00'40
evening set	1831 Aug 11 11:38	2° <u>III</u> 55'19		minimum elong	1837 Nov 12 08:31	19° <u>III</u> 47'41	2°00'40
				max. Earth dist.	1837 Nov 12 07:05	19° <u>III</u> 47'15	10.91584 AU
conjunction	1831 Aug 29 07:14	5° <u>III</u> 09'38	1°32'00	morning rise	1837 Nov 29 00:27	21° <u>III</u> 46'17	
minimum elong	1831 Aug 29 07:11	5° <u>III</u> 09'37	1°32'00	retrograde	1838 Mar 08 13:28	28° <u>III</u> 49'07	

opposition	1838 May 16 22:10	25° \mathbb{M} 31'39	2°19'16			1844 Feb 03 12:17	0° \approx		
min. Earth dist.	1838 May 17 00:02	25° \mathbb{M} 31'18	8.95256 AU	morning rise		1844 Feb 04 19:22	0° \approx 09'02		
direct	1838 Jul 27 01:21	22° \mathbb{M} 10'16		retrograde		1844 May 17 02:56	7° \approx 18'48		
evening set	1838 Nov 07 07:59	29° \mathbb{M} 23'57		opposition		1844 Jul 26 23:52	3° \approx 59'08	0°-33'-33	
	1838 Nov 12 11:26	0° \mathcal{A}		min. Earth dist.		1844 Jul 27 04:01	3° \approx 58'22	8.96202 AU	
				direct		1844 Oct 05 00:52	0° \approx 40'52		
conjunction	1838 Nov 24 01:17	1° \mathcal{A} 22'13	1°45'42	evening set		1845 Jan 13 00:04	7° \approx 43'45		
minimum elong	1838 Nov 24 01:20	1° \mathcal{A} 22'14	1°45'42						
max. Earth dist.	1838 Nov 23 22:34	1° \mathcal{A} 21'25	10.98242 AU	conjunction		1845 Jan 29 16:27	9° \approx 42'31	0°-40'-36	
morning rise	1838 Dec 10 16:07	3° \mathcal{A} 19'45		minimum elong		1845 Jan 29 16:26	9° \approx 42'31	0°40'37	
retrograde	1839 Mar 20 09:22	10° \mathcal{A} 19'59		max. Earth dist.		1845 Jan 29 11:36	9° \approx 41'04	10.92745 AU	
opposition	1839 May 29 03:42	7° \mathcal{A} 02'49	1°58'13	morning rise		1845 Feb 15 10:50	11° \approx 41'57		
min. Earth dist.	1839 May 29 05:49	7° \mathcal{A} 02'25	9.00939 AU	retrograde		1845 May 29 13:05	18° \approx 58'05		
direct	1839 Aug 08 07:56	3° \mathcal{A} 42'30		opposition		1845 Aug 08 09:19	15° \approx 37'10	-1°-5'-47	
evening set	1839 Nov 18 21:43	10° \mathcal{A} 50'56		min. Earth dist.		1845 Aug 08 13:06	15° \approx 36'28	8.88828 AU	
				direct		1845 Oct 16 23:21	12° \approx 18'33		
conjunction	1839 Dec 05 13:49	12° \mathcal{A} 48'20	1°26'40	evening set		1846 Jan 24 18:08	19° \approx 24'48		
minimum elong	1839 Dec 05 13:51	12° \mathcal{A} 48'21	1°26'40						
max. Earth dist.	1839 Dec 05 10:59	12° \mathcal{A} 47'30	11.02942 AU	conjunction		1846 Feb 10 11:36	21° \approx 24'52	-1°-6'-2	
morning rise	1839 Dec 22 03:59	14° \mathcal{A} 45'13		minimum elong		1846 Feb 10 11:34	21° \approx 24'52	1°06'03	
retrograde	1840 Mar 31 04:22	21° \mathcal{A} 44'16		max. Earth dist.		1846 Feb 10 06:21	21° \approx 23'18	10.84517 AU	
opposition	1840 Jun 09 07:22	18° \mathcal{A} 27'08	1°32'43	morning rise		1846 Feb 27 07:58	23° \approx 25'50		
min. Earth dist.	1840 Jun 09 09:36	18° \mathcal{A} 26'43	9.04550 AU			1846 May 10 07:11	0° \mathcal{H}		
direct	1840 Aug 19 10:47	15° \mathcal{A} 07'41		retrograde		1846 Jun 11 05:43	0° \mathcal{H} 49'26		
evening set	1840 Nov 29 08:02	22° \mathcal{A} 12'05				1846 Jul 13 13:05	30° \approx		
				opposition		1846 Aug 20 22:28	27° \approx 27'10	-1°-35'-51	
conjunction	1840 Dec 15 23:24	24° \mathcal{A} 09'01	1°04'20	min. Earth dist.		1846 Aug 21 02:25	27° \approx 26'25	8.79858 AU	
minimum elong	1840 Dec 15 23:26	24° \mathcal{A} 09'01	1°04'20	direct		1846 Oct 29 00:32	24° \approx 07'56		
max. Earth dist.	1840 Dec 15 20:23	24° \mathcal{A} 08'07	11.05484 AU			1847 Jan 25 11:31	0° \mathcal{H}		
morning rise	1841 Jan 01 13:29	26° \mathcal{A} 05'38		evening set		1847 Feb 05 18:16	1° \mathcal{H} 18'58		
	1841 Feb 07 17:35	0° \mathcal{B}							
retrograde	1841 Apr 12 01:12	3° \mathcal{B} 05'00		conjunction		1847 Feb 22 13:17	3° \mathcal{H} 20'39	-1°-29'-5	
	1841 Jun 18 15:04	30° \mathcal{A}		minimum elong		1847 Feb 22 13:14	3° \mathcal{H} 20'38	1°29'05	
opposition	1841 Jun 21 10:22	29° \mathcal{A} 47'37	1°03'46	max. Earth dist.		1847 Feb 22 08:04	3° \mathcal{H} 19'04	10.74858 AU	
min. Earth dist.	1841 Jun 21 13:23	29° \mathcal{A} 47'04	9.05929 AU	morning rise		1847 Mar 11 11:58	5° \mathcal{H} 23'27		
direct	1841 Aug 31 09:43	26° \mathcal{A} 28'51		retrograde		1847 Jun 24 03:06	12° \mathcal{H} 55'29		
	1841 Nov 07 18:41	0° \mathcal{B}		opposition		1847 Sep 02 16:15	9° \mathcal{H} 31'44	-2°-2'-24	
evening set	1841 Dec 10 16:28	3° \mathcal{B} 30'32		min. Earth dist.		1847 Sep 02 20:00	9° \mathcal{H} 31'01	8.69655 AU	
				direct		1847 Nov 10 06:31	6° \mathcal{H} 11'43		
conjunction	1841 Dec 27 07:26	5° \mathcal{B} 27'22	0°39'34	evening set		1848 Feb 18 01:39	13° \mathcal{H} 28'45		
minimum elong	1841 Dec 27 07:28	5° \mathcal{B} 27'22	0°39'33						
max. Earth dist.	1841 Dec 27 02:54	5° \mathcal{B} 26'02	11.05724 AU	conjunction		1848 Mar 05 22:51	15° \mathcal{H} 32'22	-1°-48'-35	
morning rise	1842 Jan 12 22:08	7° \mathcal{B} 24'09		minimum elong		1848 Mar 05 22:49	15° \mathcal{H} 32'21	1°48'36	
retrograde	1842 Apr 23 21:24	14° \mathcal{B} 25'24		max. Earth dist.		1848 Mar 05 19:04	15° \mathcal{H} 31'12	10.64163 AU	
opposition	1842 Jul 03 13:28	11° \mathcal{B} 07'31	0°32'22	morning rise		1848 Mar 23 00:08	17° \mathcal{H} 37'15		
min. Earth dist.	1842 Jul 03 17:51	11° \mathcal{B} 06'43	9.04964 AU	retrograde		1848 Jul 06 08:31	25° \mathcal{H} 18'23		
direct	1842 Sep 12 05:58	7° \mathcal{B} 49'09		opposition		1848 Sep 14 15:09	21° \mathcal{H} 53'07	-2°-24'00	
evening set	1842 Dec 22 00:56	14° \mathcal{B} 49'43		min. Earth dist.		1848 Sep 14 17:45	21° \mathcal{H} 52'37	8.58646 AU	
				direct		1848 Nov 21 18:30	18° \mathcal{H} 32'10		
conjunction	1843 Jan 07 15:56	16° \mathcal{B} 46'50	0°13'13	evening set		1849 Mar 01 17:42	25° \mathcal{H} 56'15		
minimum elong	1843 Jan 07 15:57	16° \mathcal{B} 46'50	0°13'13						
behind sun begin	1843 Jan 07 11:44	16° \mathcal{B} 45'36		conjunction		1849 Mar 18 17:43	28° \mathcal{H} 02'06	-2°-3'-26	
behind sun end	1843 Jan 07 20:09	16° \mathcal{B} 48'04		minimum elong		1849 Mar 18 17:41	28° \mathcal{H} 02'06	2°03'27	
max. Earth dist.	1843 Jan 07 10:15	16° \mathcal{B} 45'10	11.03600 AU	max. Earth dist.		1849 Mar 18 15:32	28° \mathcal{H} 01'26	10.52891 AU	
morning rise	1843 Jan 24 07:38	18° \mathcal{B} 44'09				1849 Apr 03 15:19	0° \mathcal{V}		
retrograde	1843 May 05 21:46	25° \mathcal{B} 48'54		morning rise		1849 Apr 04 22:01	0° \mathcal{V} 09'21		
desc. node	1843 Jul 10 14:34	22° \mathcal{B} 52'53		retrograde		1849 Jul 19 22:55	7° \mathcal{V} 59'40		
opposition	1843 Jul 15 17:30	22° \mathcal{B} 30'16	0°00'-26	opposition		1849 Sep 27 19:20	4° \mathcal{V} 33'00	-2°-39'-16	
min. Earth dist.	1843 Jul 15 22:18	22° \mathcal{B} 29'23	9.01665 AU	min. Earth dist.		1849 Sep 27 20:29	4° \mathcal{V} 32'47	8.47311 AU	
direct	1843 Sep 24 04:02	19° \mathcal{B} 12'03		direct		1849 Dec 04 10:43	1° \mathcal{V} 11'00		
evening set	1844 Jan 02 10:57	26° \mathcal{B} 13'04		evening set		1850 Mar 14 19:09	8° \mathcal{V} 42'55		
conjunction	1844 Jan 19 02:30	28° \mathcal{B} 10'50	0°-13'-52	conjunction		1850 Mar 31 22:33	10° \mathcal{V} 51'15	-2°-12'-33	
minimum elong	1844 Jan 19 02:29	28° \mathcal{B} 10'50	0°13'53	minimum elong		1850 Mar 31 22:32	10° \mathcal{V} 51'14	2°12'34	
behind sun begin	1844 Jan 18 22:44	28° \mathcal{B} 09'44		max. Earth dist.		1850 Mar 31 21:19	10° \mathcal{V} 50'51	10.41558 AU	
behind sun end	1844 Jan 19 06:15	28° \mathcal{B} 11'56		morning rise		1850 Apr 18 06:29	13° \mathcal{V} 01'03		
max. Earth dist.	1844 Jan 18 21:08	28° \mathcal{B} 09'16	10.99201 AU	retrograde		1850 Aug 02 19:55	21° \mathcal{V} 00'10		

opposition	1850 Oct 11 05:11	17° Υ 32'16	-2°-46'-53	morning rise	1856 Jul 13 06:22	5° E 59'03	
min. Earth dist.	1850 Oct 11 05:20	17° Υ 32'15	8.36175 AU	retrograde	1856 Oct 26 08:43	14° E 14'22	
direct	1850 Dec 17 09:28	14° Υ 09'06		opposition	1857 Jan 01 03:55	10° E 45'35	0°-34'-4
evening set	1851 Mar 28 06:20	21° Υ 49'18		min. Earth dist.	1856 Dec 31 22:59	10° E 46'36	8.03597 AU
				direct	1857 Mar 09 00:22	7° E 16'37	
conjunction	1851 Apr 14 13:39	24° Υ 00'15	-2°-15'-2	evening set	1857 Jun 22 01:07	15° E 30'12	
minimum elong	1851 Apr 14 13:39	24° Υ 00'15	2°15'03				
max. Earth dist.	1851 Apr 14 13:00	24° Υ 00'03	10.30720 AU	conjunction	1857 Jul 10 05:48	17° E 51'05	0°-10'-50
morning rise	1851 May 02 01:41	26° Υ 12'43		minimum elong	1857 Jul 10 05:48	17° E 51'05	0°10'51
	1851 Jun 03 16:13	0° E		behind sun begin	1857 Jul 10 00:17	17° E 49'18	
retrograde	1851 Aug 16 22:22	4° E 19'43		behind sun end	1857 Jul 10 11:20	17° E 52'51	
opposition	1851 Oct 24 20:27	0° E 50'49	-2°-45'-51	max. Earth dist.	1857 Jul 10 12:11	17° E 53'08	10.05043 AU
min. Earth dist.	1851 Oct 24 20:01	0° E 50'54	8.25812 AU	morning rise	1857 Jul 28 09:44	20° E 11'43	
	1851 Nov 04 11:58	30° Υ		retrograde	1857 Nov 09 16:22	28° E 21'39	
direct	1851 Dec 30 16:38	27° Υ 26'25		asc. node	1857 Nov 11 03:16	28° E 21'32	
	1852 Feb 22 17:39	0° E		opposition	1858 Jan 15 06:40	24° E 53'55	0°07'05
evening set	1852 Apr 10 03:18	5° E 14'52		min. Earth dist.	1858 Jan 15 01:55	24° E 54'54	8.07159 AU
				direct	1858 Mar 23 11:18	21° E 24'41	
conjunction	1852 Apr 27 15:10	7° E 28'32	-2°-10'-15	evening set	1858 Jul 07 02:37	29° E 37'46	
minimum elong	1852 Apr 27 15:12	7° E 28'32	2°10'17				
max. Earth dist.	1852 Apr 27 15:25	7° E 28'37	10.20967 AU				
morning rise	1852 May 15 07:35	9° E 43'37		conjunction	1858 Jul 25 06:21	1° E 57'37	0°22'12
retrograde	1852 Aug 30 06:18	17° E 56'55		minimum elong	1858 Jul 25 06:20	1° E 57'36	0°22'13
opposition	1852 Nov 06 16:32	14° E 27'19	-2°-35'-33	max. Earth dist.	1858 Jul 25 12:23	1° E 59'33	10.09939 AU
min. Earth dist.	1852 Nov 06 15:35	14° E 27'31	8.16806 AU	morning rise	1858 Aug 12 08:12	4° E 16'49	
direct	1853 Jan 12 06:43	11° E 01'43		retrograde	1858 Nov 23 18:23	12° E 19'42	
evening set	1853 Apr 24 09:33	18° E 57'55		opposition	1859 Jan 29 06:38	8° E 53'12	0°47'21
				min. Earth dist.	1859 Jan 29 02:13	8° E 54'07	8.13294 AU
conjunction	1853 May 12 02:17	21° E 14'10	-1°-58'-3	direct	1859 Apr 06 22:49	5° E 23'59	
minimum elong	1853 May 12 02:20	21° E 14'11	1°58'04	evening set	1859 Jul 21 23:38	13° E 34'30	
max. Earth dist.	1853 May 12 04:03	21° E 14'44	10.12859 AU				
morning rise	1853 May 29 22:59	23° E 31'41		conjunction	1859 Aug 09 00:50	15° E 52'28	0°53'29
	1853 Jul 29 20:08	0° E		minimum elong	1859 Aug 09 00:47	15° E 52'27	0°53'29
retrograde	1853 Sep 13 18:18	1° E 49'12		max. Earth dist.	1859 Aug 09 06:09	15° E 54'10	10.17198 AU
	1853 Oct 30 06:48	30° E		morning rise	1859 Aug 26 23:10	18° E 09'29	
opposition	1853 Nov 20 16:35	28° E 19'14	-2°-16'-3	retrograde	1859 Dec 07 11:21	26° E 04'12	
min. Earth dist.	1853 Nov 20 14:35	28° E 19'38	8.09687 AU	opposition	1860 Feb 12 02:29	22° E 39'02	1°24'10
direct	1854 Jan 26 03:34	24° E 52'31		min. Earth dist.	1860 Feb 11 22:29	22° E 39'51	8.21571 AU
	1854 Apr 14 22:23	0° E		direct	1860 Apr 20 08:28	19° E 10'07	
evening set	1854 May 09 00:01	2° E 55'30		evening set	1860 Aug 04 13:59	27° E 16'12	
conjunction	1854 May 26 21:23	5° E 13'59	-1°-38'-46	conjunction	1860 Aug 22 11:24	29° E 31'41	1°21'13
minimum elong	1854 May 26 21:26	5° E 14'00	1°38'47	minimum elong	1860 Aug 22 11:21	29° E 31'40	1°21'14
max. Earth dist.	1854 May 27 00:49	5° E 15'06	10.06891 AU	max. Earth dist.	1860 Aug 22 15:40	29° E 33'02	10.26312 AU
morning rise	1854 Jun 13 21:45	7° E 33'27					
retrograde	1854 Sep 28 07:56	15° E 52'45		morning rise	1860 Sep 09 05:08	1° E 45'58	
opposition	1854 Dec 04 19:21	12° E 22'49	-1°-48'-8	retrograde	1860 Dec 19 21:05	9° E 31'58	
min. Earth dist.	1854 Dec 04 16:06	12° E 23'29	8.04917 AU	opposition	1861 Feb 24 17:17	6° E 08'09	1°55'29
direct	1855 Feb 09 07:04	8° E 55'09		min. Earth dist.	1861 Feb 24 13:33	6° E 08'54	8.31411 AU
evening set	1855 May 23 20:58	17° E 03'31		direct	1861 May 04 13:01	2° E 39'47	
				evening set	1861 Aug 18 19:31	10° E 39'59	
conjunction	1855 Jun 10 22:12	19° E 23'38	-1°-13'-22				
minimum elong	1855 Jun 10 22:16	19° E 23'39	1°13'23	conjunction	1861 Sep 05 12:24	12° E 52'38	1°44'00
max. Earth dist.	1855 Jun 11 03:15	19° E 25'17	10.03471 AU	minimum elong	1861 Sep 05 12:21	12° E 52'37	1°44'00
morning rise	1855 Jun 29 01:16	21° E 44'22		max. Earth dist.	1861 Sep 05 15:51	12° E 53'43	10.36650 AU
	1855 Oct 05 15:49	0° E		morning rise	1861 Sep 23 00:55	15° E 03'56	
retrograde	1855 Oct 12 21:11	0° E 02'55		retrograde	1862 Jan 02 00:57	22° E 41'16	
	1855 Oct 20 03:04	30° E		opposition	1862 Mar 10 02:53	19° E 18'47	2°19'53
opposition	1855 Dec 18 23:38	26° E 33'23	-1°-13'-23	min. Earth dist.	1862 Mar 09 23:49	19° E 19'23	8.42139 AU
min. Earth dist.	1855 Dec 18 19:11	26° E 34'18	8.02836 AU	direct	1862 May 18 10:44	15° E 51'13	
direct	1856 Feb 23 14:25	23° E 04'57		evening set	1862 Sep 01 14:59	23° E 44'33	
	1856 May 27 17:14	0° E					
evening set	1856 Jun 06 22:10	1° E 16'55		conjunction	1862 Sep 19 03:04	25° E 54'19	2°00'53
				minimum elong	1862 Sep 19 03:02	25° E 54'18	2°00'53
conjunction	1856 Jun 25 02:00	3° E 37'53	0°-43'-23	max. Earth dist.	1862 Sep 19 05:39	25° E 55'07	10.47544 AU
minimum elong	1856 Jun 25 02:02	3° E 37'53	0°43'24	morning rise	1862 Oct 06 10:22	28° E 02'39	
max. Earth dist.	1856 Jun 25 08:10	3° E 39'53	10.02840 AU		1862 Oct 22 23:08	0° E	

retrograde	1863 Jan 14 21:48	5°♄31'48		morning rise	1868 Dec 16 16:39	10°♄09'54	
opposition	1863 Mar 23 07:10	2°♄10'36	2°36'33	retrograde	1869 Mar 26 13:19	17°♄09'58	
min. Earth dist.	1863 Mar 23 05:25	2°♄10'57	8.53135 AU	opposition	1869 Jun 04 12:53	13°♄52'20	1°44'02
	1863 Apr 22 10:50	30°♄		min. Earth dist.	1869 Jun 04 16:29	13°♄51'39	9.01131 AU
direct	1863 Jun 01 02:00	28°♄44'03		direct	1869 Aug 14 16:11	10°♄31'55	
	1863 Jul 10 08:35	0°♄		evening set	1869 Nov 24 21:31	17°♄38'41	
evening set	1863 Sep 15 00:30	6°♄30'01					
				conjunction	1869 Dec 11 13:10	19°♄36'01	1°14'07
conjunction	1863 Oct 02 07:51	8°♄37'01	2°11'24	minimum elong	1869 Dec 11 13:12	19°♄36'01	1°14'07
minimum elong	1863 Oct 02 07:49	8°♄37'00	2°11'24	max. Earth dist.	1869 Dec 11 08:38	19°♄34'40	11.02395 AU
max. Earth dist.	1863 Oct 02 09:01	8°♄37'22	10.58460 AU	morning rise	1869 Dec 28 03:30	21°♄32'57	
morning rise	1863 Oct 19 10:22	10°♄42'35		retrograde	1870 Apr 07 08:53	28°♄32'45	
retrograde	1864 Jan 27 10:55	18°♄04'14		opposition	1870 Jun 16 16:24	25°♄14'53	1°16'23
opposition	1864 Apr 04 06:14	14°♄44'13	2°45'15	min. Earth dist.	1870 Jun 16 20:12	25°♄14'11	9.03254 AU
min. Earth dist.	1864 Apr 04 06:11	14°♄44'13	8.63923 AU	direct	1870 Aug 26 18:07	21°♄55'09	
direct	1864 Jun 13 11:58	11°♄18'44		evening set	1870 Dec 06 06:51	28°♄58'42	
evening set	1864 Sep 27 00:02	18°♄57'07			1870 Dec 15 01:03	0°♄	
				conjunction	1870 Dec 22 22:07	0°♄55'47	0°50'15
conjunction	1864 Oct 14 03:00	21°♄01'33	2°15'30	minimum elong	1870 Dec 22 22:08	0°♄55'48	0°50'15
minimum elong	1864 Oct 14 03:00	21°♄01'33	2°15'29	max. Earth dist.	1870 Dec 22 17:50	0°♄54'31	11.03494 AU
max. Earth dist.	1864 Oct 14 02:16	21°♄01'20	10.68967 AU	morning rise	1871 Jan 08 12:43	2°♄52'43	
morning rise	1864 Oct 31 01:32	23°♄04'40		retrograde	1871 Apr 19 05:31	9°♄53'46	
	1865 Jan 19 10:46	0°♄		opposition	1871 Jun 28 19:34	6°♄35'27	0°45'50
retrograde	1865 Feb 07 18:49	0°♄19'42		min. Earth dist.	1871 Jun 28 22:46	6°♄34'52	9.03259 AU
	1865 Feb 27 07:12	30°♄		direct	1871 Sep 07 16:27	3°♄16'17	
opposition	1865 Apr 17 00:39	27°♄00'37	2°46'08	evening set	1871 Dec 17 15:22	10°♄18'00	
min. Earth dist.	1865 Apr 17 01:42	27°♄00'25	8.74083 AU				
direct	1865 Jun 26 15:14	23°♄36'17		conjunction	1872 Jan 03 06:35	12°♄15'13	0°24'25
	1865 Sep 29 23:29	0°♄		minimum elong	1872 Jan 03 06:36	12°♄15'13	0°24'24
evening set	1865 Oct 09 13:54	1°♄07'04		max. Earth dist.	1872 Jan 03 02:45	12°♄14'05	11.02455 AU
				morning rise	1872 Jan 19 21:48	14°♄12'29	
conjunction	1865 Oct 26 13:11	3°♄09'16	2°13'23	retrograde	1872 Apr 30 06:08	21°♄16'19	
minimum elong	1865 Oct 26 13:12	3°♄09'16	2°13'23	opposition	1872 Jul 09 23:30	17°♄57'24	0°13'26
max. Earth dist.	1865 Oct 26 11:07	3°♄08'39	10.78655 AU	min. Earth dist.	1872 Jul 10 02:44	17°♄56'48	9.01143 AU
morning rise	1865 Nov 12 08:32	5°♄10'18		direct	1872 Sep 18 13:35	14°♄38'35	
retrograde	1866 Feb 19 21:11	12°♄19'45		desc. node	1872 Dec 10 00:15	19°♄38'45	
opposition	1866 Apr 29 14:39	9°♄01'22	2°39'41	evening set	1872 Dec 28 00:51	21°♄39'56	
min. Earth dist.	1866 Apr 29 15:59	9°♄01'07	8.83209 AU				
direct	1866 Jul 09 12:18	5°♄38'09		conjunction	1873 Jan 13 16:13	23°♄37'37	0°-2'-32
evening set	1866 Oct 21 19:13	13°♄01'41		minimum elong	1873 Jan 13 16:13	23°♄37'37	0°02'34
				behind sun begin	1873 Jan 13 09:15	23°♄35'34	
conjunction	1866 Nov 07 15:42	15°♄02'04	2°05'32	behind sun end	1873 Jan 13 23:11	23°♄39'39	
minimum elong	1866 Nov 07 15:44	15°♄02'04	2°05'32	max. Earth dist.	1873 Jan 13 11:48	23°♄36'20	10.99322 AU
max. Earth dist.	1866 Nov 07 13:24	15°♄01'22	10.87136 AU	morning rise	1873 Jan 30 08:36	25°♄35'37	
morning rise	1866 Nov 24 08:37	17°♄01'26			1873 Mar 13 20:02	0°♄	
retrograde	1867 Mar 03 21:23	24°♄06'25		retrograde	1873 May 12 08:40	2°♄43'40	
opposition	1867 May 12 00:40	20°♄48'31	2°26'37		1873 Jul 14 01:53	30°♄	
min. Earth dist.	1867 May 12 02:17	20°♄48'13	8.90938 AU	opposition	1873 Jul 22 05:13	29°♄23'58	0°-19'-44
direct	1867 Jul 22 03:34	17°♄26'21		min. Earth dist.	1873 Jul 22 08:52	29°♄23'17	8.96993 AU
evening set	1867 Nov 02 17:17	24°♄43'18		direct	1873 Sep 30 08:55	26°♄05'17	
					1873 Dec 10 21:46	0°♄	
conjunction	1867 Nov 19 11:40	26°♄42'16	1°52'33	evening set	1874 Jan 08 12:41	3°♄07'47	
minimum elong	1867 Nov 19 11:42	26°♄42'17	1°52'34				
max. Earth dist.	1867 Nov 19 09:13	26°♄41'33	10.94075 AU	conjunction	1874 Jan 25 04:38	5°♄06'15	0°-29'-30
morning rise	1867 Dec 06 02:54	28°♄40'24		minimum elong	1874 Jan 25 04:37	5°♄06'14	0°29'31
	1867 Dec 17 17:29	0°♄		max. Earth dist.	1874 Jan 24 23:48	5°♄04'48	10.94204 AU
retrograde	1868 Mar 14 18:54	5°♄42'13		morning rise	1874 Feb 10 22:33	7°♄05'17	
opposition	1868 May 23 07:51	2°♄24'34	2°07'46	retrograde	1874 May 24 15:24	14°♄19'01	
min. Earth dist.	1868 May 23 10:27	2°♄24'05	8.96980 AU	opposition	1874 Aug 03 13:27	10°♄58'19	0°-52'-30
	1868 Jun 28 11:53	30°♄		min. Earth dist.	1874 Aug 03 17:09	10°♄57'37	8.90946 AU
direct	1868 Aug 02 11:40	29°♄03'21		direct	1874 Oct 12 08:10	7°♄39'33	
	1868 Sep 05 22:28	0°♄		evening set	1875 Jan 20 04:38	14°♄44'42	
evening set	1868 Nov 13 09:31	6°♄14'37					
				conjunction	1875 Feb 05 21:37	16°♄44'17	0°-55'-37
conjunction	1868 Nov 30 02:12	8°♄12'34	1°35'09	minimum elong	1875 Feb 05 21:35	16°♄44'16	0°55'38
minimum elong	1868 Nov 30 02:15	8°♄12'35	1°35'10	max. Earth dist.	1875 Feb 05 17:48	16°♄43'08	10.87274 AU
max. Earth dist.	1868 Nov 29 22:39	8°♄11'31	10.99216 AU				

morning rise	1875 Feb 22 17:10	18° 44 '39		opposition	1881 Nov 01 05:21	8° 57 '21	-2°-40'-40
retrograde	1875 Jun 06 05:58	26° 05 '18		min. Earth dist.	1881 Nov 01 03:48	8° 57 '39	8.22891 AU
opposition	1875 Aug 16 01:01	22° 43 '28	-1°-23'-37	direct	1882 Jan 06 22:07	5° 32 '58	
min. Earth dist.	1875 Aug 16 03:42	22° 42 '58	8.83221 AU	evening set	1882 Apr 18 17:29	13° 24 '47	
direct	1875 Oct 24 09:14	19° 24 '28					
evening set	1876 Feb 01 02:08	26° 33 '37		conjunction	1882 May 06 08:02	15° 39 '37	-2°-3'-54
				minimum elong	1882 May 06 08:05	15° 39 '38	2°03'55
conjunction	1876 Feb 17 20:33	28° 34 '38	-1°-19'-47	max. Earth dist.	1882 May 06 09:54	15° 40 '12	10.18512 AU
minimum elong	1876 Feb 17 20:30	28° 34 '38	1°19'47	morning rise	1882 May 24 02:36	17° 55 '46	
max. Earth dist.	1876 Feb 17 17:50	28° 33 '49	10.78798 AU	retrograde	1882 Sep 08 00:28	26° 10 '35	
	1876 Feb 29 15:09	0° 36 '39		opposition	1882 Nov 15 03:12	22° 41 '23	-2°-25'-3
morning rise	1876 Mar 05 18:02	0° 36 '39		min. Earth dist.	1882 Nov 15 01:11	22° 41 '47	8.14824 AU
retrograde	1876 Jun 18 02:16	8° 05 '14		direct	1883 Jan 20 14:35	19° 15 '48	
opposition	1876 Aug 27 17:00	4° 42 '11	-1°-51'-46	evening set	1883 May 03 03:50	27° 14 '50	
min. Earth dist.	1876 Aug 27 18:37	4° 41 '52	8.74128 AU				
direct	1876 Nov 04 11:52	1° 22 '43		conjunction	1883 May 20 23:02	29° 32 '04	-1°-47'-34
evening set	1877 Feb 12 06:30	8° 37 '11		minimum elong	1883 May 20 23:05	29° 32 '05	1°47'35
				max. Earth dist.	1883 May 21 01:18	29° 32 '48	10.11405 AU
conjunction	1877 Mar 01 02:41	10° 39 '56	-1°-40'-52		1883 May 24 13:25	0° 11 '	
minimum elong	1877 Mar 01 02:39	10° 39 '55	1°40'53	morning rise	1883 Jun 07 21:41	1° 11 '50'25	
max. Earth dist.	1877 Mar 01 00:22	10° 39 '13	10.69130 AU	retrograde	1883 Sep 22 13:32	10° 11 '08'09	
morning rise	1877 Mar 18 02:41	12° 43 '52		opposition	1883 Nov 29 04:27	6° 11 '38'43	-2°00'-39
retrograde	1877 Jul 01 05:27	20° 21 '07		min. Earth dist.	1883 Nov 29 02:09	6° 11 '39'11	8.08761 AU
opposition	1877 Sep 09 13:52	16° 56 '47	-2°-15'-32	direct	1884 Feb 03 14:49	3° 11 '57	
min. Earth dist.	1877 Sep 09 15:01	16° 56 '34	8.64044 AU	evening set	1884 May 16 21:34	11° 11 '17'03	
direct	1877 Nov 16 20:47	13° 36 '39					
evening set	1878 Feb 24 19:05	20° 57 '33		conjunction	1884 Jun 03 20:58	13° 11 '36'14	-1°-24'-41
				minimum elong	1884 Jun 03 21:01	13° 11 '36'15	1°24'42
conjunction	1878 Mar 13 17:37	23° 02 '20	-1°-57'-45	max. Earth dist.	1884 Jun 03 23:46	13° 11 '37'08	10.06566 AU
minimum elong	1878 Mar 13 17:35	23° 02 '19	1°57'46	morning rise	1884 Jun 21 22:57	15° 11 '56'13	
max. Earth dist.	1878 Mar 13 15:22	23° 01 '38	10.58681 AU	retrograde	1884 Oct 06 01:48	24° 11 '14'18	
morning rise	1878 Mar 30 20:36	25° 08 '28		opposition	1884 Dec 12 07:34	20° 11 '44'58	-1°-28'-43
	1878 May 14 20:16	0° 09 '		min. Earth dist.	1884 Dec 12 05:01	20° 11 '45'30	8.05165 AU
retrograde	1878 Jul 14 15:56	2° 54 '36		direct	1885 Feb 16 20:42	17° 11 '17'09	
	1878 Sep 15 23:53	30° 08 '		evening set	1885 May 31 20:32	25° 11 '26'44	
opposition	1878 Sep 22 15:49	29° 29 '03	-2°-33'-32				
min. Earth dist.	1878 Sep 22 16:56	29° 28 '50	8.53406 AU	conjunction	1885 Jun 18 23:08	27° 11 '47'08	0°-56'-33
direct	1878 Nov 29 10:42	26° 08 '03		minimum elong	1885 Jun 18 23:11	27° 11 '47'09	0°56'34
	1879 Feb 06 00:54	0° 09 '		max. Earth dist.	1885 Jun 19 02:32	27° 11 '48'15	10.04348 AU
evening set	1879 Mar 09 16:28	3° 03 '6'15			1885 Jul 06 02:11	0° 07 '	
				morning rise	1885 Jul 07 03:09	0° 07 '58	
conjunction	1879 Mar 26 18:06	5° 43 '18	-2°-9'-20	retrograde	1885 Oct 20 12:39	8° 02 '23'55	
minimum elong	1879 Mar 26 18:05	5° 43 '18	2°09'22	opposition	1885 Dec 26 11:18	4° 05 '55'00	0°-51'-12
max. Earth dist.	1879 Mar 26 16:59	5° 42 '57	10.47912 AU	min. Earth dist.	1885 Dec 26 08:17	4° 05 '55'38	8.04295 AU
morning rise	1879 Apr 13 00:26	7° 51 '50		direct	1886 Mar 03 05:53	1° 02 '26'22	
retrograde	1879 Jul 28 08:45	15° 46 '43		evening set	1886 Jun 15 22:02	9° 03 '38'28	
opposition	1879 Oct 05 23:16	12° 19 '59	-2°-44'-25				
min. Earth dist.	1879 Oct 05 23:38	12° 19 '54	8.42687 AU	conjunction	1886 Jul 04 02:21	11° 05 '59'14	0°-24'-57
direct	1879 Dec 12 07:42	8° 57 '57		minimum elong	1886 Jul 04 02:22	11° 05 '59'15	0°24'58
evening set	1880 Mar 21 23:08	16° 33 '56		max. Earth dist.	1886 Jul 04 06:37	12° 00 '00'37	10.04903 AU
				morning rise	1886 Jul 22 06:42	14° 01 '19'59	
conjunction	1880 Apr 08 04:37	18° 43 '30	-2°-14'-39	retrograde	1886 Nov 03 20:36	22° 03 '31'35	
minimum elong	1880 Apr 08 04:37	18° 43 '30	2°14'40	opposition	1887 Jan 09 14:03	19° 03 '03'22	0°-10'-39
max. Earth dist.	1880 Apr 08 05:02	18° 43 '38	10.37310 AU	min. Earth dist.	1887 Jan 09 10:11	19° 04 '04'10	8.06210 AU
morning rise	1880 Apr 25 14:43	20° 54 '33		direct	1887 Mar 17 16:39	15° 03 '34'10	
retrograde	1880 Aug 10 07:42	28° 57 '30		asc. node	1887 Apr 17 19:16	16° 02 '26'48	
opposition	1880 Oct 18 11:57	25° 29 '40	-2°-47'-3	evening set	1887 Jun 30 23:24	23° 04 '46'46	
min. Earth dist.	1880 Oct 18 11:17	25° 29 '48	8.32361 AU				
direct	1880 Dec 24 12:22	22° 06 '30		conjunction	1887 Jul 19 03:46	26° 06 '59	0°08'04
evening set	1881 Apr 04 15:36	29° 50 '27		minimum elong	1887 Jul 19 03:45	26° 06 '58	0°08'04
	1881 Apr 05 22:11	0° 08 '		behind sun begin	1887 Jul 18 21:14	26° 04 '53	
				behind sun end	1887 Jul 19 10:16	26° 09 '03	
conjunction	1881 Apr 22 01:29	2° 02 '39	-2°-12'-58	max. Earth dist.	1887 Jul 19 08:48	26° 08 '35	10.08186 AU
minimum elong	1881 Apr 22 01:30	2° 02 '40	2°12'59	morning rise	1887 Aug 06 06:42	28° 02 '6'44	
max. Earth dist.	1881 Apr 22 02:59	2° 03 '08	10.27345 AU		1887 Aug 18 19:07	0° 08 '	
morning rise	1881 May 09 15:43	4° 16 '18		retrograde	1887 Nov 17 23:58	6° 03 '32'07	
retrograde	1881 Aug 24 13:41	12° 26 '00		opposition	1888 Jan 23 14:23	3° 04 '51	0°30'11

min. Earth dist.	1888 Jan 23 10:05	3°♏05'44	8.10771 AU	opposition	1894 Apr 11 18:17	21°♌49'58	2°46'41
	1888 Mar 09 19:56	30°♄		min. Earth dist.	1894 Apr 11 17:07	21°♌50'11	8.69403 AU
direct	1888 Mar 31 03:16	29°♄35'22		direct	1894 Jun 21 05:53	18°♌24'50	
	1888 Apr 21 10:06	0°♏		evening set	1894 Oct 04 09:32	25°♌58'39	
evening set	1888 Jul 14 21:50	7°♏46'28					
				conjunction	1894 Oct 21 10:36	28°♌01'48	2°15'03
conjunction	1888 Aug 02 00:29	10°♏05'14	0°40'13	minimum elong	1894 Oct 21 10:37	28°♌01'48	2°15'03
minimum elong	1888 Aug 02 00:27	10°♏05'13	0°40'13	max. Earth dist.	1894 Oct 21 11:11	28°♌01'58	10.74401 AU
max. Earth dist.	1888 Aug 02 05:42	10°♏06'54	10.13958 AU		1894 Nov 06 18:52	0°♌	
morning rise	1888 Aug 20 00:26	12°♏23'10		morning rise	1894 Nov 07 07:13	0°♌03'40	
retrograde	1888 Nov 30 20:37	20°♏21'02		retrograde	1895 Feb 14 21:43	7°♌15'09	
opposition	1889 Feb 05 11:19	16°♏54'55	1°08'41	opposition	1895 Apr 24 09:37	3°♌56'18	2°43'24
min. Earth dist.	1889 Feb 05 07:14	16°♏55'45	8.17658 AU	min. Earth dist.	1895 Apr 24 09:49	3°♌56'16	8.79415 AU
direct	1889 Apr 14 12:12	13°♏25'27		direct	1895 Jul 04 03:44	0°♌32'28	
evening set	1889 Jul 29 14:39	21°♏33'10		evening set	1895 Oct 16 18:14	7°♌58'50	
conjunction	1889 Aug 16 13:59	23°♏49'46	1°09'38	conjunction	1895 Nov 02 15:57	9°♌59'56	2°09'41
minimum elong	1889 Aug 16 13:56	23°♏49'45	1°09'38	minimum elong	1895 Nov 02 15:58	9°♌59'57	2°09'40
max. Earth dist.	1889 Aug 16 18:48	23°♏51'18	10.21826 AU	max. Earth dist.	1895 Nov 02 14:58	9°♌59'39	10.83852 AU
morning rise	1889 Sep 03 09:42	26°♏05'14		morning rise	1895 Nov 19 09:48	11°♌59'57	
	1889 Oct 07 03:34	0°♎		retrograde	1896 Feb 26 21:56	19°♌06'23	
retrograde	1889 Dec 14 10:18	3°♎54'51		opposition	1896 May 05 20:52	15°♌48'21	2°33'10
opposition	1890 Feb 19 03:53	0°♎30'00	1°42'33	min. Earth dist.	1896 May 05 22:20	15°♌48'04	8.88208 AU
min. Earth dist.	1890 Feb 19 00:38	0°♎30'39	8.26425 AU	direct	1896 Jul 15 21:09	12°♌25'46	
	1890 Feb 25 08:39	30°♏		evening set	1896 Oct 27 19:08	19°♌45'16	
direct	1890 Apr 28 17:09	27°♏00'53					
	1890 Jun 28 04:54	0°♎		conjunction	1896 Nov 13 14:14	21°♌44'44	1°58'55
evening set	1890 Aug 12 23:38	5°♎03'34		minimum elong	1896 Nov 13 14:16	21°♌44'45	1°58'54
				max. Earth dist.	1896 Nov 13 11:52	21°♌44'02	10.91917 AU
conjunction	1890 Aug 30 18:39	7°♎17'32	1°34'40	morning rise	1896 Nov 30 06:14	23°♌43'17	
minimum elong	1890 Aug 30 18:35	7°♎17'31	1°34'41		1897 Feb 07 14:35	0°♎	
max. Earth dist.	1890 Aug 30 22:19	7°♎18'41	10.31309 AU	retrograde	1897 Mar 09 19:19	0°♎45'59	
morning rise	1890 Sep 17 09:28	9°♎30'11			1897 Apr 09 14:25	30°♌	
retrograde	1890 Dec 27 16:30	17°♎11'14		opposition	1897 May 18 04:58	27°♌28'28	2°16'46
opposition	1891 Mar 04 15:23	13°♎47'41	2°10'05	min. Earth dist.	1897 May 18 06:49	27°♌28'07	8.95439 AU
min. Earth dist.	1891 Mar 04 13:06	13°♎48'08	8.36554 AU	direct	1897 Jul 28 08:15	24°♌07'06	
direct	1891 May 12 17:21	10°♎19'13			1897 Oct 27 18:35	0°♎	
evening set	1891 Aug 26 23:15	18°♎15'37		evening set	1897 Nov 08 13:27	1°♎20'28	
conjunction	1891 Sep 13 13:26	20°♎26'43	1°54'12	conjunction	1897 Nov 25 06:47	3°♎18'43	1°43'24
minimum elong	1891 Sep 13 13:23	20°♎26'42	1°54'12	minimum elong	1897 Nov 25 06:50	3°♎18'44	1°43'24
max. Earth dist.	1891 Sep 13 15:35	20°♎27'23	10.41866 AU	max. Earth dist.	1897 Nov 25 04:13	3°♎17'58	10.98284 AU
morning rise	1891 Sep 30 23:12	22°♎36'25		morning rise	1897 Dec 11 21:34	5°♎16'16	
	1891 Dec 27 17:50	0°♌		retrograde	1898 Mar 21 15:14	12°♎16'34	
retrograde	1892 Jan 09 14:21	0°♌09'03		opposition	1898 May 30 10:30	8°♎59'19	1°55'06
	1892 Jan 22 12:42	30°♎		min. Earth dist.	1898 May 30 12:18	8°♎58'59	9.00831 AU
opposition	1892 Mar 16 21:34	26°♎46'49	2°30'12	direct	1898 Aug 09 14:56	5°♎39'01	
min. Earth dist.	1892 Mar 16 19:43	26°♎47'11	8.47465 AU	evening set	1898 Nov 20 03:04	12°♎47'19	
direct	1892 May 25 12:41	23°♎19'16					
	1892 Aug 29 23:09	0°♌		conjunction	1898 Dec 06 19:16	14°♎44'45	1°23'54
evening set	1892 Sep 08 12:51	1°♌08'30		minimum elong	1898 Dec 06 19:18	14°♎44'46	1°23'54
				max. Earth dist.	1898 Dec 06 16:42	14°♎44'00	11.02704 AU
conjunction	1892 Sep 25 22:13	3°♌16'43	2°07'33	morning rise	1898 Dec 23 09:26	16°♎41'40	
minimum elong	1892 Sep 25 22:11	3°♌16'43	2°07'33	retrograde	1899 Apr 02 12:15	23°♎40'58	
max. Earth dist.	1892 Sep 25 23:28	3°♌17'07	10.52923 AU	opposition	1899 Jun 11 14:18	20°♎23'46	1°29'07
morning rise	1892 Oct 13 03:01	5°♌23'32		min. Earth dist.	1899 Jun 11 16:52	20°♎23'17	9.04179 AU
retrograde	1893 Jan 21 05:42	12°♌48'18		direct	1899 Aug 21 16:55	17°♎04'19	
opposition	1893 Mar 29 22:25	9°♌27'18	2°42'24	evening set	1899 Dec 01 13:34	24°♎08'45	
min. Earth dist.	1893 Mar 29 20:46	9°♌27'38	8.58590 AU				
direct	1893 Jun 08 01:42	6°♌00'54		conjunction	1899 Dec 18 04:55	26°♎05'45	1°01'13
evening set	1893 Sep 21 16:09	13°♌42'29		minimum elong	1899 Dec 18 04:57	26°♎05'46	1°01'13
				max. Earth dist.	1899 Dec 18 01:14	26°♎04'40	11.05001 AU
conjunction	1893 Oct 08 21:06	15°♌48'01	2°14'28	morning rise	1900 Jan 03 19:11	28°♎02'29	
minimum elong	1893 Oct 08 21:05	15°♌48'00	2°14'28		1900 Jan 21 08:10	0°♎	
max. Earth dist.	1893 Oct 08 22:04	15°♌48'18	10.63939 AU	retrograde	1900 Apr 14 06:59	5°♎02'15	
morning rise	1893 Oct 25 21:24	17°♌52'10		opposition	1900 Jun 23 17:36	1°♎44'47	0°59'47
retrograde	1894 Feb 02 16:55	25°♌09'49		min. Earth dist.	1900 Jun 23 21:21	1°♎44'06	9.05342 AU

	1900 Jul 18 17:32	30°♁		opposition	1906 Sep 05 03:06	11°♁38'14	-2°-5'-24
direct	1900 Sep 02 15:16	28°♁25'58		min. Earth dist.	1906 Sep 05 06:22	11°♁37'36	8.68400 AU
	1900 Oct 17 05:03	0°♁		direct	1906 Nov 12 17:09	8°♁18'11	
evening set	1900 Dec 12 22:16	5°♁27'53		evening set	1907 Feb 20 11:56	15°♁36'07	
conjunction	1900 Dec 29 13:14	7°♁24'48	0°36'11	conjunction	1907 Mar 09 09:26	17°♁39'59	-1°-50'-42
minimum elong	1900 Dec 29 13:15	7°♁24'48	0°36'11	minimum elong	1907 Mar 09 09:24	17°♁39'58	1°50'43
max. Earth dist.	1900 Dec 29 08:16	7°♁23'20	11.05056 AU	max. Earth dist.	1907 Mar 09 06:29	17°♁39'04	10.62895 AU
morning rise	1901 Jan 15 04:09	9°♁21'43		morning rise	1907 Mar 26 10:52	19°♁45'07	
retrograde	1901 Apr 26 04:34	16°♁23'32		retrograde	1907 Jul 09 22:15	27°♁27'21	
opposition	1901 Jul 05 21:05	13°♁05'32	0°28'08	opposition	1907 Sep 18 02:39	24°♁02'00	-2°-26'-13
min. Earth dist.	1901 Jul 06 01:23	13°♁04'44	9.04222 AU	min. Earth dist.	1907 Sep 18 04:27	24°♁01'39	8.57396 AU
direct	1901 Sep 14 14:09	9°♁47'07		direct	1907 Nov 25 04:06	20°♁41'01	
evening set	1901 Dec 24 07:02	16°♁47'58		evening set	1908 Mar 04 05:06	28°♁06'01	
conjunction	1902 Jan 09 22:13	18°♁45'13	0°09'43		1908 Mar 19 14:23	0°♁	
minimum elong	1902 Jan 09 22:13	18°♁45'13	0°09'43	conjunction	1908 Mar 21 05:20	0°♁12'07	-2°-4'-50
behind sun begin	1902 Jan 09 16:27	18°♁43'32		minimum elong	1908 Mar 21 05:19	0°♁12'07	2°04'51
behind sun end	1902 Jan 10 03:59	18°♁46'54		max. Earth dist.	1908 Mar 21 03:14	0°♁11'28	10.51662 AU
max. Earth dist.	1902 Jan 09 17:15	18°♁43'46	11.02794 AU	morning rise	1908 Apr 07 09:57	2°♁19'38	
morning rise	1902 Jan 26 14:01	20°♁42'41		retrograde	1908 Jul 22 12:46	10°♁10'59	
retrograde	1902 May 08 06:18	27°♁48'06		opposition	1908 Sep 30 07:40	6°♁44'14	-2°-40'-31
desc. node	1902 May 24 18:42	27°♁34'59		min. Earth dist.	1908 Sep 30 08:31	6°♁44'04	8.46131 AU
opposition	1902 Jul 18 01:33	24°♁29'19	0°-4'-45	direct	1908 Dec 06 21:04	3°♁22'10	
min. Earth dist.	1902 Jul 18 05:39	24°♁28'34	9.00794 AU	evening set	1909 Mar 17 07:32	10°♁54'59	
direct	1902 Sep 26 10:54	21°♁11'05					
evening set	1903 Jan 04 17:36	28°♁12'30		conjunction	1909 Apr 03 11:10	13°♁03'34	-2°-13'-7
	1903 Jan 19 22:15	0°♁		minimum elong	1909 Apr 03 11:09	13°♁03'34	2°13'08
conjunction	1903 Jan 21 09:20	0°♁10'25	0°-17'-23	max. Earth dist.	1909 Apr 03 09:35	13°♁03'04	10.40440 AU
minimum elong	1903 Jan 21 09:19	0°♁10'25	0°17'24	morning rise	1909 Apr 20 19:33	15°♁13'38	
max. Earth dist.	1903 Jan 21 04:29	0°♁09'00	10.98259 AU	retrograde	1909 Aug 05 09:32	23°♁13'39	
morning rise	1903 Feb 07 02:17	2°♁08'47		opposition	1909 Oct 13 18:10	19°♁45'41	-2°-47'-3
retrograde	1903 May 20 12:08	9°♁19'22		min. Earth dist.	1909 Oct 13 18:33	19°♁45'37	8.35135 AU
opposition	1903 Jul 30 08:27	5°♁59'34	0°-37'-49	direct	1909 Dec 19 21:51	16°♁22'25	
min. Earth dist.	1903 Jul 30 12:21	5°♁58'51	8.95194 AU	evening set	1910 Mar 30 19:45	24°♁03'27	
direct	1903 Oct 08 08:06	2°♁41'16		conjunction	1910 Apr 17 03:28	26°♁14'41	-2°-14'-40
evening set	1904 Jan 16 07:32	9°♁44'44		minimum elong	1910 Apr 17 03:28	26°♁14'41	2°14'41
conjunction	1904 Feb 01 23:57	11°♁43'40	0°-43'-59	max. Earth dist.	1910 Apr 17 02:42	26°♁14'26	10.29774 AU
minimum elong	1904 Feb 01 23:55	11°♁43'40	0°44'00	morning rise	1910 May 04 15:58	28°♁27'24	
max. Earth dist.	1904 Feb 01 18:34	11°♁42'04	10.91671 AU		1910 May 17 07:30	0°♁	
morning rise	1904 Feb 18 18:33	13°♁43'17		retrograde	1910 Aug 19 12:50	6°♁35'01	
retrograde	1904 May 31 23:27	21°♁00'21		opposition	1910 Oct 27 09:48	3°♁06'04	-2°-44'-50
opposition	1904 Aug 10 18:38	17°♁39'21	-1°-9'-49	min. Earth dist.	1910 Oct 27 09:37	3°♁06'07	8.24968 AU
min. Earth dist.	1904 Aug 10 22:51	17°♁38'33	8.87700 AU	direct	1910 Dec 14 23:09	30°♁	
direct	1904 Oct 19 06:57	14°♁20'42			1911 Jan 02 05:19	29°♁41'34	
evening set	1905 Jan 27 02:24	21°♁27'40			1911 Jan 20 09:21	0°♁	
conjunction	1905 Feb 12 19:56	23°♁27'55	-1°-9'-9	evening set	1911 Apr 13 17:30	7°♁30'44	
minimum elong	1905 Feb 12 19:54	23°♁27'54	1°09'10	conjunction	1911 May 01 05:52	9°♁44'38	-2°-8'-57
max. Earth dist.	1905 Feb 12 14:19	23°♁26'13	10.83340 AU	minimum elong	1911 May 01 05:54	9°♁44'39	2°08'58
morning rise	1905 Mar 01 16:34	25°♁29'06		max. Earth dist.	1911 May 01 06:42	9°♁44'54	10.20238 AU
	1905 Apr 13 08:39	0°♁		morning rise	1911 May 18 22:41	11°♁59'57	
retrograde	1905 Jun 13 15:10	2°♁53'46		retrograde	1911 Sep 02 20:57	20°♁13'36	
	1905 Aug 17 00:42	30°♁		opposition	1911 Nov 10 06:11	16°♁43'58	-2°-33'-22
opposition	1905 Aug 23 08:37	29°♁31'23	-1°-39'-28	min. Earth dist.	1911 Nov 10 04:55	16°♁44'13	8.16200 AU
min. Earth dist.	1905 Aug 23 12:49	29°♁30'36	8.78646 AU	direct	1912 Jan 15 20:23	13°♁18'16	
direct	1905 Oct 31 09:03	26°♁12'08		evening set	1912 Apr 27 00:18	21°♁14'59	
	1906 Jan 08 12:47	0°♁		conjunction	1912 May 14 17:34	23°♁31'26	-1°-55'-50
evening set	1906 Feb 08 03:25	3°♁23'59		minimum elong	1912 May 14 17:37	23°♁31'27	1°55'51
conjunction	1906 Feb 24 22:41	5°♁25'54	-1°-31'-46	max. Earth dist.	1912 May 14 20:21	23°♁32'20	10.12385 AU
minimum elong	1906 Feb 24 22:39	5°♁25'53	1°31'47	morning rise	1912 Jun 01 14:34	25°♁49'07	
max. Earth dist.	1906 Feb 24 18:08	5°♁24'30	10.73615 AU		1912 Jul 07 06:13	0°♁	
morning rise	1906 Mar 13 21:35	7°♁28'55		retrograde	1912 Sep 16 08:36	4°♁06'42	
retrograde	1906 Jun 26 14:36	15°♁02'06		opposition	1912 Nov 23 06:19	0°♁36'41	-2°-12'-46
				min. Earth dist.	1912 Nov 23 03:37	0°♁37'15	8.09348 AU

	1912 Nov 30 18:18	30°♄		morning rise	1918 Aug 29 11:57	20°♄21'13	
direct	1913 Jan 28 18:13	27°♄09'53		retrograde	1918 Dec 09 21:31	28°♄15'03	
	1913 Mar 26 13:07	0°♄		opposition	1919 Feb 14 13:52	24°♄49'58	1°28'16
evening set	1913 May 11 15:16	5°♄13'11		min. Earth dist.	1919 Feb 14 09:21	24°♄50'53	8.22546 AU
				direct	1919 Apr 23 21:10	21°♄21'06	
conjunction	1913 May 29 13:06	7°♄31'48	-1°-35'-45	evening set	1919 Aug 08 02:34	29°♄26'31	
minimum elong	1913 May 29 13:09	7°♄31'49	1°35'46		1919 Aug 12 13:52	0°♄	
max. Earth dist.	1913 May 29 17:19	7°♄33'11	10.06694 AU				
morning rise	1913 Jun 16 13:41	9°♄51'21		conjunction	1919 Aug 25 23:38	1°♄41'44	1°24'14
retrograde	1913 Sep 30 21:49	18°♄10'25		minimum elong	1919 Aug 25 23:35	1°♄41'43	1°24'14
opposition	1913 Dec 07 08:59	14°♄40'27	-1°-43'-57	max. Earth dist.	1919 Aug 26 04:34	1°♄43'17	10.27346 AU
min. Earth dist.	1913 Dec 07 05:12	14°♄41'14	8.04855 AU	morning rise	1919 Sep 12 16:49	3°♄55'42	
direct	1914 Feb 11 20:52	11°♄12'41		retrograde	1919 Dec 23 08:07	11°♄40'50	
evening set	1914 May 26 12:29	19°♄21'08		opposition	1920 Feb 28 04:04	8°♄17'07	1°58'46
				min. Earth dist.	1920 Feb 27 23:50	8°♄17'58	8.32505 AU
conjunction	1914 Jun 13 13:59	21°♄41'20	-1°-9'-44	direct	1920 May 07 00:04	4°♄48'51	
minimum elong	1914 Jun 13 14:02	21°♄41'21	1°09'45	evening set	1920 Aug 21 07:13	12°♄48'17	
max. Earth dist.	1914 Jun 13 19:14	21°♄43'02	10.03549 AU				
morning rise	1914 Jul 01 17:10	24°♄02'04		conjunction	1920 Sep 07 23:43	15°♄00'40	1°46'18
	1914 Aug 24 17:28	0°♄		minimum elong	1920 Sep 07 23:40	15°♄00'39	1°46'18
retrograde	1914 Oct 15 11:41	2°♄20'05		max. Earth dist.	1920 Sep 08 04:00	15°♄02'00	10.37804 AU
	1914 Dec 07 06:48	30°♄		morning rise	1920 Sep 25 11:38	17°♄11'38	
opposition	1914 Dec 21 13:07	28°♄50'34	-1°-8'-35	retrograde	1921 Jan 04 10:52	24°♄48'04	
min. Earth dist.	1914 Dec 21 08:39	28°♄51'29	8.03042 AU	opposition	1921 Mar 12 13:06	21°♄25'41	2°22'13
direct	1915 Feb 26 03:25	25°♄22'00		min. Earth dist.	1921 Mar 12 10:10	21°♄26'16	8.43355 AU
	1915 May 11 21:23	0°♄		direct	1921 May 20 21:36	17°♄58'13	
evening set	1915 Jun 10 13:29	3°♄33'51		evening set	1921 Sep 04 01:46	25°♄50'41	
conjunction	1915 Jun 28 17:21	5°♄54'47	0°-39'-23	conjunction	1921 Sep 21 13:20	28°♄00'07	2°02'24
minimum elong	1915 Jun 28 17:23	5°♄54'48	0°39'24	minimum elong	1921 Sep 21 13:18	28°♄00'07	2°02'24
max. Earth dist.	1915 Jun 28 23:08	5°♄56'40	10.03178 AU	max. Earth dist.	1921 Sep 21 16:01	28°♄00'57	10.48804 AU
morning rise	1915 Jul 16 21:44	8°♄15'53			1921 Oct 07 17:22	0°♄	
retrograde	1915 Oct 29 22:58	16°♄30'27		morning rise	1921 Oct 08 20:07	0°♄08'09	
opposition	1916 Jan 04 17:04	13°♄01'43	0°-28'-58	retrograde	1922 Jan 17 05:56	7°♄36'22	
min. Earth dist.	1916 Jan 04 12:37	13°♄02'38	8.04053 AU	opposition	1922 Mar 25 16:47	4°♄15'17	2°37'54
direct	1916 Mar 11 13:51	9°♄32'38		min. Earth dist.	1922 Mar 25 15:37	4°♄15'31	8.54424 AU
evening set	1916 Jun 24 16:01	17°♄45'56		direct	1922 Jun 03 13:07	0°♄48'48	
				evening set	1922 Sep 17 10:08	8°♄33'51	
conjunction	1916 Jul 12 20:33	20°♄06'40	0°-6'-45	conjunction	1922 Oct 04 16:56	10°♄40'31	2°12'07
minimum elong	1916 Jul 12 20:34	20°♄06'40	0°06'45	minimum elong	1922 Oct 04 16:55	10°♄40'30	2°12'07
behind sun begin	1916 Jul 12 13:43	20°♄04'28		max. Earth dist.	1922 Oct 04 17:23	10°♄40'39	10.59740 AU
behind sun end	1916 Jul 13 03:25	20°♄08'52		morning rise	1922 Oct 21 19:08	12°♄45'48	
max. Earth dist.	1916 Jul 13 02:10	20°♄08'27	10.05616 AU	retrograde	1923 Jan 29 18:45	20°♄06'36	
morning rise	1916 Jul 31 00:27	22°♄27'10		opposition	1923 Apr 07 15:09	16°♄46'41	2°45'35
asc. node	1916 Sep 27 18:41	28°♄45'41		min. Earth dist.	1923 Apr 07 15:28	16°♄46'37	8.65175 AU
	1916 Oct 17 15:36	0°♄		direct	1923 Jun 16 21:41	13°♄21'18	
retrograde	1916 Nov 12 05:10	0°♄36'12		evening set	1923 Sep 30 08:30	20°♄58'48	
	1916 Dec 07 19:21	30°♄					
opposition	1917 Jan 17 19:15	27°♄08'32	0°12'09	conjunction	1923 Oct 17 11:05	23°♄02'59	2°15'24
min. Earth dist.	1917 Jan 17 15:00	27°♄09'25	8.07834 AU	minimum elong	1923 Oct 17 11:05	23°♄02'59	2°15'24
direct	1917 Mar 26 01:53	23°♄39'13		max. Earth dist.	1923 Oct 17 09:40	23°♄02'33	10.70153 AU
	1917 Jun 24 13:54	0°♄		morning rise	1923 Nov 03 09:23	25°♄05'51	
evening set	1917 Jul 09 16:56	1°♄51'54			1923 Dec 20 04:25	0°♄	
				retrograde	1924 Feb 11 01:16	2°♄20'12	
conjunction	1917 Jul 27 20:26	4°♄11'31	0°26'09		1924 Apr 06 08:35	30°♄	
minimum elong	1917 Jul 27 20:24	4°♄11'31	0°26'10	opposition	1924 Apr 19 08:52	29°♄01'13	2°45'31
max. Earth dist.	1917 Jul 28 01:46	4°♄13'14	10.10704 AU	min. Earth dist.	1924 Apr 19 09:42	29°♄01'03	8.75185 AU
morning rise	1917 Aug 14 22:04	6°♄30'31		direct	1924 Jun 29 00:43	25°♄37'01	
retrograde	1917 Nov 26 04:38	14°♄32'27		evening set	1924 Sep 13 22:00	0°♄	
opposition	1918 Jan 31 18:37	11°♄06'03	0°52'04		1924 Oct 11 21:28	3°♄07'01	
min. Earth dist.	1918 Jan 31 14:15	11°♄06'56	8.14137 AU	conjunction	1924 Oct 28 20:35	5°♄09'03	2°12'33
direct	1918 Apr 09 13:34	7°♄36'49		minimum elong	1924 Oct 28 20:35	5°♄09'03	2°12'32
evening set	1918 Jul 24 13:10	15°♄46'47		max. Earth dist.	1924 Oct 28 18:38	5°♄08'27	10.79652 AU
				morning rise	1924 Nov 14 15:39	7°♄09'54	
conjunction	1918 Aug 11 14:02	18°♄04'29	0°57'03	retrograde	1925 Feb 22 04:52	14°♄18'51	
minimum elong	1918 Aug 11 13:59	18°♄04'28	0°57'04				
max. Earth dist.	1918 Aug 11 19:14	18°♄06'09	10.18109 AU				

opposition	1925 May 01 22:26	11° \mathbb{M} 00'35	2°38'12	desc. node	1931 Oct 24 11:03	17° \mathbb{C} 30'49	
min. Earth dist.	1925 May 01 23:38	11° \mathbb{M} 00'21	8.84082 AU	evening set	1931 Dec 31 07:55	23° \mathbb{C} 40'38	
direct	1925 Jul 11 21:18	7° \mathbb{M} 37'31					
evening set	1925 Oct 24 02:06	15° \mathbb{M} 00'25		conjunction	1932 Jan 16 23:19	25° \mathbb{C} 38'27	0°-6'-8
				minimum elong	1932 Jan 16 23:20	25° \mathbb{C} 38'27	0°06'09
conjunction	1925 Nov 09 22:29	17° \mathbb{M} 00'41	2°04'01	behind sun begin	1932 Jan 16 16:42	25° \mathbb{C} 36'30	
minimum elong	1925 Nov 09 22:31	17° \mathbb{M} 00'42	2°04'01	behind sun end	1932 Jan 17 05:57	25° \mathbb{C} 40'24	
max. Earth dist.	1925 Nov 09 20:19	17° \mathbb{M} 00'02	10.87882 AU	max. Earth dist.	1932 Jan 16 18:06	25° \mathbb{C} 36'56	10.98225 AU
morning rise	1925 Nov 26 15:09	18° \mathbb{M} 59'56		morning rise	1932 Feb 02 15:58	27° \mathbb{C} 36'39	
retrograde	1926 Mar 06 04:53	26° \mathbb{M} 04'38			1932 Feb 24 02:47	0° \approx	
opposition	1926 May 14 08:20	22° \mathbb{M} 46'50	2°24'21	retrograde	1932 May 14 16:46	4° \approx 45'35	
min. Earth dist.	1926 May 14 10:33	22° \mathbb{M} 46'25	8.91544 AU	opposition	1932 Jul 24 14:12	1° \approx 25'42	0°-24'-6
direct	1926 Jul 24 09:37	19° \mathbb{M} 24'49		min. Earth dist.	1932 Jul 24 18:19	1° \approx 24'56	8.95764 AU
evening set	1926 Nov 04 23:39	26° \mathbb{M} 41'18			1932 Aug 13 11:14	30° \mathbb{C}	
				direct	1932 Oct 02 17:38	28° \mathbb{C} 06'55	
conjunction	1926 Nov 21 17:52	28° \mathbb{M} 40'13	1°50'26		1932 Nov 20 02:10	0° \approx	
minimum elong	1926 Nov 21 17:54	28° \mathbb{M} 40'13	1°50'26	evening set	1933 Jan 10 20:20	5° \approx 10'04	
max. Earth dist.	1926 Nov 21 14:38	28° \mathbb{M} 39'15	10.94537 AU				
	1926 Dec 02 22:35	0° \mathbb{A}		conjunction	1933 Jan 27 12:28	7° \approx 08'44	0°-33'-2
morning rise	1926 Dec 08 09:07	0° \mathbb{A} 38'18		minimum elong	1933 Jan 27 12:26	7° \approx 08'43	0°33'02
retrograde	1927 Mar 18 00:48	7° \mathbb{A} 40'02		max. Earth dist.	1933 Jan 27 07:56	7° \approx 07'23	10.92853 AU
opposition	1927 May 26 15:24	4° \mathbb{A} 22'28	2°04'50	morning rise	1933 Feb 13 06:30	9° \approx 07'59	
min. Earth dist.	1927 May 26 18:56	4° \mathbb{A} 21'48	8.97290 AU	retrograde	1933 May 27 02:19	16° \approx 22'46	
direct	1927 Aug 05 18:58	1° \mathbb{A} 01'21		opposition	1933 Aug 05 23:05	13° \approx 01'51	0°-56'-43
evening set	1927 Nov 16 15:39	8° \mathbb{A} 12'23		min. Earth dist.	1933 Aug 06 02:22	13° \approx 01'14	8.89484 AU
				direct	1933 Oct 14 17:14	9° \approx 42'58	
conjunction	1927 Dec 03 08:15	10° \mathbb{A} 10'19	1°32'31	evening set	1934 Jan 22 13:08	16° \approx 48'52	
minimum elong	1927 Dec 03 08:18	10° \mathbb{A} 10'20	1°32'32				
max. Earth dist.	1927 Dec 03 03:38	10° \mathbb{A} 08'57	10.99372 AU	conjunction	1934 Feb 08 06:21	18° \approx 48'41	0°-58'-56
morning rise	1927 Dec 19 22:50	12° \mathbb{A} 07'40		minimum elong	1934 Feb 08 06:19	18° \approx 48'41	0°58'56
retrograde	1928 Mar 28 20:37	19° \mathbb{A} 07'52		max. Earth dist.	1934 Feb 08 03:00	18° \approx 47'41	10.85708 AU
opposition	1928 Jun 06 20:18	15° \mathbb{A} 50'15	1°40'33	morning rise	1934 Feb 25 02:02	20° \approx 49'20	
min. Earth dist.	1928 Jun 07 00:11	15° \mathbb{A} 49'32	9.01121 AU	retrograde	1934 Jun 08 17:06	28° \approx 11'08	
direct	1928 Aug 17 00:17	12° \mathbb{A} 29'56		opposition	1934 Aug 18 11:22	24° \approx 49'03	-1°-27'-31
evening set	1928 Nov 27 03:32	19° \mathbb{A} 36'37		min. Earth dist.	1934 Aug 18 13:38	24° \approx 48'38	8.81572 AU
				direct	1934 Oct 26 17:18	21° \approx 29'53	
conjunction	1928 Dec 13 19:16	21° \mathbb{A} 34'00	1°11'04	evening set	1935 Feb 03 11:42	28° \approx 39'59	
minimum elong	1928 Dec 13 19:18	21° \mathbb{A} 34'00	1°11'04		1935 Feb 14 14:08	0° \mathbb{K}	
max. Earth dist.	1928 Dec 13 14:44	21° \mathbb{A} 32'39	11.02224 AU				
morning rise	1928 Dec 30 09:39	23° \mathbb{A} 31'00		conjunction	1935 Feb 20 06:15	0° \mathbb{K} 41'16	-1°-22'-44
	1929 Mar 15 13:49	0° \mathbb{C}		minimum elong	1935 Feb 20 06:13	0° \mathbb{K} 41'16	1°22'44
retrograde	1929 Apr 09 16:01	0° \mathbb{C} 31'08		max. Earth dist.	1935 Feb 20 03:05	0° \mathbb{K} 40'19	10.77071 AU
	1929 May 05 04:18	30° \mathbb{A}		morning rise	1935 Mar 09 04:02	2° \mathbb{K} 43'34	
opposition	1929 Jun 19 00:05	27° \mathbb{A} 13'14	1°12'28	retrograde	1935 Jun 21 14:27	10° \mathbb{K} 13'25	
min. Earth dist.	1929 Jun 19 03:34	27° \mathbb{A} 12'35	9.02911 AU	opposition	1935 Aug 31 04:14	6° \mathbb{K} 50'07	-1°-55'-9
direct	1929 Aug 29 00:57	23° \mathbb{A} 53'34		min. Earth dist.	1935 Aug 31 06:08	6° \mathbb{K} 49'45	8.72346 AU
	1929 Nov 30 04:22	0° \mathbb{C}		direct	1935 Nov 07 21:59	3° \mathbb{K} 30'27	
evening set	1929 Dec 08 12:57	0° \mathbb{C} 57'12		evening set	1936 Feb 15 17:10	10° \mathbb{K} 45'58	
conjunction	1929 Dec 25 04:21	2° \mathbb{C} 54'22	0°46'54	conjunction	1936 Mar 03 13:30	12° \mathbb{K} 49'02	-1°-43'-19
minimum elong	1929 Dec 25 04:22	2° \mathbb{C} 54'23	0°46'54	minimum elong	1936 Mar 03 13:27	12° \mathbb{K} 49'01	1°43'19
max. Earth dist.	1929 Dec 25 00:19	2° \mathbb{C} 53'11	11.02992 AU	max. Earth dist.	1936 Mar 03 10:33	12° \mathbb{K} 48'07	10.67306 AU
morning rise	1930 Jan 10 18:59	4° \mathbb{C} 51'24		morning rise	1936 Mar 20 13:52	14° \mathbb{K} 53'18	
retrograde	1930 Apr 21 14:31	11° \mathbb{C} 52'59		retrograde	1936 Jul 03 18:52	22° \mathbb{K} 31'51	
opposition	1930 Jul 01 03:38	8° \mathbb{C} 34'37	0°41'38	opposition	1936 Sep 12 02:04	19° \mathbb{K} 07'17	-2°-18'-13
min. Earth dist.	1930 Jul 01 07:01	8° \mathbb{C} 34'00	9.02595 AU	min. Earth dist.	1936 Sep 12 03:43	19° \mathbb{K} 06'58	8.62201 AU
direct	1930 Sep 09 23:54	5° \mathbb{C} 15'27		direct	1936 Nov 19 07:07	15° \mathbb{K} 46'55	
evening set	1930 Dec 19 21:56	12° \mathbb{C} 17'25		evening set	1937 Feb 27 06:51	23° \mathbb{K} 08'59	
conjunction	1931 Jan 05 13:10	14° \mathbb{C} 14'46	0°20'54	conjunction	1937 Mar 16 05:43	25° \mathbb{K} 14'05	-1°-59'-32
minimum elong	1931 Jan 05 13:11	14° \mathbb{C} 14'46	0°20'53	minimum elong	1937 Mar 16 05:41	25° \mathbb{K} 14'04	1°59'33
max. Earth dist.	1931 Jan 05 08:34	14° \mathbb{C} 13'24	11.01642 AU	max. Earth dist.	1937 Mar 16 03:49	25° \mathbb{K} 13'29	10.56836 AU
morning rise	1931 Jan 22 04:35	16° \mathbb{C} 12'12		morning rise	1937 Apr 02 09:03	27° \mathbb{K} 20'33	
retrograde	1931 May 03 14:28	23° \mathbb{C} 16'42			1937 Apr 25 06:29	0° \mathbb{Y}	
opposition	1931 Jul 13 07:57	19° \mathbb{C} 57'41	0°09'04	retrograde	1937 Jul 17 05:18	5° \mathbb{Y} 08'03	
min. Earth dist.	1931 Jul 13 12:01	19° \mathbb{C} 56'55	9.00184 AU	opposition	1937 Sep 25 04:58	1° \mathbb{Y} 42'14	-2°-35'-18
direct	1931 Sep 21 19:54	16° \mathbb{C} 38'48		min. Earth dist.	1937 Sep 25 05:56	1° \mathbb{Y} 42'03	8.51587 AU

	1937 Oct 18 03:41	30° H		evening set	1944 Jun 03 14:44	27° II 50'34	
direct	1937 Dec 01 23:03	28° H 21'01			1944 Jun 20 07:48	0° E	
	1938 Jan 14 10:31	0° Y					
evening set	1938 Mar 12 05:32	5° Y 50'25		conjunction	1944 Jun 21 17:39	0° E 11'01	0°-52'-24
				minimum elong	1944 Jun 21 17:42	0° E 11'02	0°52'24
conjunction	1938 Mar 29 07:39	7° Y 57'51	-2°-10'-18	max. Earth dist.	1944 Jun 21 21:52	0° E 12'23	10.04575 AU
minimum elong	1938 Mar 29 07:38	7° Y 57'50	2°10'20	morning rise	1944 Jul 09 21:44	2° E 31'50	
max. Earth dist.	1938 Mar 29 07:33	7° Y 57'49	10.46133 AU	retrograde	1944 Oct 23 05:37	10° E 47'17	
morning rise	1938 Apr 15 14:19	10° Y 06'43		opposition	1944 Dec 29 03:25	7° E 18'30	0°-45'-49
retrograde	1938 Jul 30 23:14	18° Y 02'54		min. Earth dist.	1944 Dec 28 23:40	7° E 19'17	8.04688 AU
opposition	1938 Oct 08 13:16	14° Y 35'55	-2°-45'-7	direct	1945 Mar 05 22:43	3° E 49'54	
min. Earth dist.	1938 Oct 08 12:51	14° Y 36'00	8.40984 AU	evening set	1945 Jun 18 16:20	12° E 01'57	
direct	1938 Dec 14 21:34	11° Y 13'43					
evening set	1939 Mar 25 13:35	18° Y 50'53		conjunction	1945 Jul 06 20:47	14° E 22'39	0°-20'-32
				minimum elong	1945 Jul 06 20:48	14° E 22'40	0°20'32
conjunction	1939 Apr 11 19:32	21° Y 00'49	-2°-14'-42	max. Earth dist.	1945 Jul 07 01:57	14° E 24'20	10.05463 AU
minimum elong	1939 Apr 11 19:32	21° Y 00'49	2°14'44	morning rise	1945 Jul 25 00:57	16° E 43'18	
max. Earth dist.	1939 Apr 11 20:52	21° Y 01'14	10.35702 AU	retrograde	1945 Nov 06 13:02	24° E 54'09	
morning rise	1939 Apr 29 06:00	23° Y 12'13		opposition	1946 Jan 12 05:49	21° E 26'07	0°-5'-7
	1939 Jul 06 05:45	0° Z		min. Earth dist.	1946 Jan 12 01:24	21° E 27'02	8.06922 AU
retrograde	1939 Aug 14 01:03	1° Z 16'15		asc. node	1946 Feb 28 12:43	18° E 18'40	
	1939 Sep 22 05:18	30° Y		direct	1946 Mar 20 09:29	17° E 56'59	
opposition	1939 Oct 22 02:50	27° Y 48'16	-2°-46'-33	evening set	1946 Jul 03 17:26	26° E 09'20	
min. Earth dist.	1939 Oct 22 01:14	27° Y 48'35	8.30893 AU				
direct	1939 Dec 28 01:11	24° Y 24'56		conjunction	1946 Jul 21 21:39	28° E 29'21	0°12'27
	1940 Mar 20 09:40	0° Z		minimum elong	1946 Jul 21 21:38	28° E 29'21	0°12'28
evening set	1940 Apr 07 07:19	2° Z 09'57		behind sun begin	1946 Jul 21 16:59	28° E 27'52	
				behind sun end	1946 Jul 22 02:18	28° E 30'51	
conjunction	1940 Apr 24 17:37	4° Z 22'29	-2°-12'-1	max. Earth dist.	1946 Jul 22 03:16	28° E 31'10	10.09046 AU
minimum elong	1940 Apr 24 17:38	4° Z 22'30	2°12'03		1946 Aug 02 14:42	0° O	
max. Earth dist.	1940 Apr 24 19:33	4° Z 23'06	10.26045 AU	morning rise	1946 Aug 09 00:13	0° O 48'53	
morning rise	1940 May 12 08:19	6° Z 36'28		retrograde	1946 Nov 20 15:21	8° O 53'24	
retrograde	1940 Aug 27 07:43	14° Z 46'56		opposition	1947 Jan 26 05:49	5° O 26'21	0°35'30
opposition	1940 Nov 03 21:01	11° Z 18'10	-2°-38'-55	min. Earth dist.	1947 Jan 26 01:30	5° O 27'14	8.11767 AU
min. Earth dist.	1940 Nov 03 18:59	11° Z 18'34	8.21789 AU	direct	1947 Apr 03 19:38	1° O 56'57	
direct	1941 Jan 09 12:20	7° Z 53'37		evening set	1947 Jul 18 15:09	10° O 07'34	
evening set	1941 Apr 21 10:12	15° Z 46'17					
				conjunction	1947 Aug 05 17:24	12° O 26'03	0°44'19
conjunction	1941 May 09 01:11	18° Z 01'23	-2°-1'-58	minimum elong	1947 Aug 05 17:22	12° O 26'03	0°44'20
minimum elong	1941 May 09 01:13	18° Z 01'24	2°01'59	max. Earth dist.	1947 Aug 05 22:37	12° O 27'44	10.15075 AU
max. Earth dist.	1941 May 09 03:00	18° Z 01'58	10.17616 AU	morning rise	1947 Aug 23 16:55	14° O 43'42	
morning rise	1941 May 26 20:17	20° Z 17'48		retrograde	1947 Dec 04 11:34	22° O 40'35	
retrograde	1941 Sep 10 17:39	28° Z 32'59		opposition	1948 Feb 09 02:13	19° O 14'41	1°13'28
opposition	1941 Nov 17 19:19	25° Z 03'44	-2°-22'-5	min. Earth dist.	1948 Feb 08 22:35	19° O 15'26	8.18887 AU
min. Earth dist.	1941 Nov 17 17:24	25° Z 04'07	8.14126 AU	direct	1948 Apr 17 03:19	15° O 45'21	
direct	1942 Jan 23 07:01	21° Z 38'01		evening set	1948 Aug 01 07:08	23° O 52'23	
evening set	1942 May 05 21:26	29° Z 37'41					
	1942 May 08 19:39	0° II		conjunction	1948 Aug 19 05:56	26° O 08'39	1°13'12
				minimum elong	1948 Aug 19 05:53	26° O 08'38	1°13'12
conjunction	1942 May 23 17:03	1° II 55'07	-1°-44'-43	max. Earth dist.	1948 Aug 19 10:05	26° O 09'58	10.23141 AU
minimum elong	1942 May 23 17:06	1° II 55'08	1°44'44	morning rise	1948 Sep 06 01:12	28° O 23'47	
max. Earth dist.	1942 May 23 19:14	1° II 55'50	10.10903 AU		1948 Sep 19 04:36	0° N	
morning rise	1942 Jun 10 16:08	4° II 13'39		retrograde	1948 Dec 17 00:20	6° N 12'19	
retrograde	1942 Sep 25 05:38	12° II 31'24		opposition	1949 Feb 21 18:01	2° N 47'41	1°46'32
opposition	1942 Dec 01 20:43	9° II 02'01	-1°-56'-36	min. Earth dist.	1949 Feb 21 15:14	2° N 48'15	8.27819 AU
min. Earth dist.	1942 Dec 01 18:32	9° II 02'27	8.08443 AU		1949 Apr 03 03:38	30° O	
direct	1943 Feb 06 07:52	5° II 35'10		direct	1949 May 01 08:34	29° O 18'42	
evening set	1943 May 20 15:36	13° II 40'41			1949 May 29 12:59	0° N	
				evening set	1949 Aug 15 15:03	7° N 20'34	
conjunction	1943 Jun 07 15:23	15° II 59'59	-1°-21'-4				
minimum elong	1943 Jun 07 15:27	16° II 00'00	1°21'06	conjunction	1949 Sep 02 09:28	9° N 34'10	1°37'32
max. Earth dist.	1943 Jun 07 18:32	16° II 01'01	10.06434 AU	minimum elong	1949 Sep 02 09:25	9° N 34'09	1°37'33
morning rise	1943 Jun 25 17:38	18° II 20'03		max. Earth dist.	1949 Sep 02 12:21	9° N 35'05	10.32749 AU
retrograde	1943 Oct 09 18:17	26° II 37'54		morning rise	1949 Sep 19 23:49	11° N 46'28	
opposition	1943 Dec 15 23:52	23° II 08'39	-1°-23'-50	retrograde	1949 Dec 30 04:04	19° N 26'26	
min. Earth dist.	1943 Dec 15 20:59	23° II 09'15	8.05211 AU	opposition	1950 Mar 07 04:49	16° N 03'05	2°13'06
direct	1944 Feb 20 13:18	19° II 40'50		min. Earth dist.	1950 Mar 07 02:25	16° N 03'34	8.38030 AU

direct	1950 May 15 09:22	12°♎34'46			1956 Oct 10 15:11	0°♏	
evening set	1950 Aug 29 13:18	20°♎30'12		evening set	1956 Nov 10 21:22	3°♏22'43	
conjunction	1950 Sep 16 02:58	22°♎40'55	1°56'15	conjunction	1956 Nov 27 14:43	5°♏20'54	1°40'54
minimum elong	1950 Sep 16 02:55	22°♎40'54	1°56'15	minimum elong	1956 Nov 27 14:45	5°♏20'55	1°40'54
max. Earth dist.	1950 Sep 16 05:01	22°♎41'33	10.43349 AU	max. Earth dist.	1956 Nov 27 12:25	5°♏20'13	10.98677 AU
morning rise	1950 Oct 03 12:12	24°♎50'15		morning rise	1956 Dec 14 05:23	7°♏18'22	
	1950 Nov 20 15:51	0°♏		retrograde	1957 Mar 24 00:45	14°♏18'30	
retrograde	1951 Jan 12 01:17	2°♏21'53		opposition	1957 Jun 01 19:40	11°♏01'12	1°51'45
	1951 Mar 07 12:13	30°♎		min. Earth dist.	1957 Jun 01 21:50	11°♏00'48	9.01064 AU
opposition	1951 Mar 20 10:10	28°♎59'47	2°32'09	direct	1957 Aug 11 23:57	7°♏40'55	
min. Earth dist.	1951 Mar 20 07:53	29°♎00'14	8.48942 AU	evening set	1957 Nov 22 10:40	14°♏48'48	
direct	1951 May 29 03:37	25°♎32'24					
	1951 Aug 13 16:44	0°♏		conjunction	1957 Dec 09 02:46	16°♏46'13	1°20'56
evening set	1951 Sep 12 01:35	3°♏20'34		minimum elong	1957 Dec 09 02:49	16°♏46'14	1°20'56
				max. Earth dist.	1957 Dec 08 23:35	16°♏45'17	11.02789 AU
conjunction	1951 Sep 29 10:33	5°♏28'27	2°08'43	morning rise	1957 Dec 25 17:02	18°♏43'09	
minimum elong	1951 Sep 29 10:31	5°♏28'27	2°08'43	retrograde	1958 Apr 04 19:38	25°♏42'29	
max. Earth dist.	1951 Sep 29 12:17	5°♏28'59	10.54372 AU	opposition	1958 Jun 13 23:27	22°♏25'12	1°25'15
morning rise	1951 Oct 16 14:48	7°♏34'55		min. Earth dist.	1958 Jun 14 02:53	22°♏24'34	9.04113 AU
retrograde	1952 Jan 24 17:55	14°♏58'43		direct	1958 Aug 24 00:31	19°♏05'45	
opposition	1952 Apr 01 10:11	11°♏37'49	2°43'17	evening set	1958 Dec 03 20:58	26°♏10'01	
min. Earth dist.	1952 Apr 01 08:32	11°♏38'09	8.59993 AU				
direct	1952 Jun 10 13:19	8°♏11'33		conjunction	1958 Dec 20 12:17	28°♏07'02	0°57'53
evening set	1952 Sep 24 03:43	15°♏52'04		minimum elong	1958 Dec 20 12:19	28°♏07'03	0°57'53
				max. Earth dist.	1958 Dec 20 07:45	28°♏05'42	11.04794 AU
conjunction	1952 Oct 11 08:17	17°♏57'18	2°14'47				
minimum elong	1952 Oct 11 08:16	17°♏57'18	2°14'46	morning rise	1959 Jan 05 13:33	0°♏	
max. Earth dist.	1952 Oct 11 09:25	17°♏57'39	10.65276 AU	retrograde	1959 Jan 06 02:47	0°♏03'50	
morning rise	1952 Oct 28 08:07	20°♏01'10		opposition	1959 Apr 16 15:32	7°♏03'52	
retrograde	1953 Feb 05 02:31	27°♏17'55		min. Earth dist.	1959 Jun 26 02:46	3°♏46'19	0°55'34
opposition	1953 Apr 14 05:25	23°♏58'08	2°46'31	direct	1959 Jun 26 06:49	3°♏45'34	9.04994 AU
min. Earth dist.	1953 Apr 14 05:00	23°♏58'13	8.70663 AU	evening set	1959 Sep 05 01:01	0°♏27'29	
direct	1953 Jun 23 17:25	20°♏33'05					
evening set	1953 Oct 06 20:00	28°♏05'55		conjunction	1959 Dec 31 20:51	9°♏26'27	0°32'37
	1953 Oct 22 15:36	0°♏		minimum elong	1959 Dec 31 20:52	9°♏26'27	0°32'37
				max. Earth dist.	1959 Dec 31 16:07	9°♏25'03	11.04583 AU
conjunction	1953 Oct 23 20:38	0°♏08'48	2°14'33	morning rise	1960 Jan 17 11:51	11°♏23'27	
minimum elong	1953 Oct 23 20:39	0°♏08'48	2°14'32	retrograde	1960 Apr 27 14:06	18°♏25'45	
max. Earth dist.	1953 Oct 23 20:27	0°♏08'44	10.75566 AU	opposition	1960 Jul 07 06:25	15°♏07'38	0°23'41
morning rise	1953 Nov 09 16:59	2°♏10'26		min. Earth dist.	1960 Jul 07 10:11	15°♏06'57	9.03631 AU
retrograde	1954 Feb 17 06:16	9°♏21'10		direct	1960 Sep 15 22:48	11°♏49'14	
opposition	1954 Apr 26 20:06	6°♏02'22	2°42'16	evening set	1960 Dec 25 14:51	18°♏50'17	
min. Earth dist.	1954 Apr 26 21:03	6°♏02'11	8.80482 AU				
direct	1954 Jul 06 15:53	2°♏38'35		conjunction	1961 Jan 11 06:10	20°♏47'39	0°06'03
evening set	1954 Oct 19 03:37	10°♏04'03		minimum elong	1961 Jan 11 06:10	20°♏47'39	0°06'03
				behind sun begin	1961 Jan 10 23:31	20°♏45'42	
				behind sun end	1961 Jan 11 12:48	20°♏49'35	
conjunction	1954 Nov 05 01:02	12°♏04'57	2°08'25	max. Earth dist.	1961 Jan 11 01:46	20°♏46'22	11.02101 AU
minimum elong	1954 Nov 05 01:03	12°♏04'57	2°08'25	morning rise	1961 Jan 27 22:00	22°♏45'14	
max. Earth dist.	1954 Nov 04 23:08	12°♏04'22	10.84805 AU	desc. node	1961 Apr 04 19:02	28°♏52'45	
morning rise	1954 Nov 21 18:49	14°♏04'46		retrograde	1961 May 09 16:21	29°♏51'18	
retrograde	1955 Mar 01 06:19	21°♏10'38		opposition	1961 Jul 19 11:24	26°♏32'24	0°-9'-16
opposition	1955 May 09 06:40	17°♏52'34	2°31'10	min. Earth dist.	1961 Jul 19 15:12	26°♏31'42	9.00006 AU
min. Earth dist.	1955 May 09 08:10	17°♏52'17	8.89035 AU	direct	1961 Sep 27 19:32	23°♏14'09	
direct	1955 Jul 19 07:29	14°♏30'03					
evening set	1955 Oct 31 03:38	21°♏48'46		evening set	1962 Jan 03 19:01	0°♏	
					1962 Jan 06 01:55	0°♏15'55	
conjunction	1955 Nov 16 22:40	23°♏48'06	1°56'59				
minimum elong	1955 Nov 16 22:42	23°♏48'07	1°56'59	conjunction	1962 Jan 22 17:39	2°♏13'59	0°-21'-2
max. Earth dist.	1955 Nov 16 20:14	23°♏47'23	10.92610 AU	minimum elong	1962 Jan 22 17:38	2°♏13'59	0°21'03
morning rise	1955 Dec 03 14:33	25°♏46'32		max. Earth dist.	1962 Jan 22 12:25	2°♏12'26	10.97378 AU
	1956 Jan 12 18:46	0°♏		morning rise	1962 Feb 08 10:49	4°♏12'31	
retrograde	1956 Mar 12 03:29	2°♏48'50		retrograde	1962 May 21 23:22	11°♏23'53	
	1956 May 14 03:45	30°♏		opposition	1962 Jul 31 18:49	8°♏04'00	0°-42'-14
opposition	1956 May 20 14:16	29°♏31'16	2°14'02	min. Earth dist.	1962 Jul 31 23:14	8°♏03'11	8.94221 AU
min. Earth dist.	1956 May 20 15:52	29°♏30'58	8.95980 AU	direct	1962 Oct 09 16:25	4°♏45'40	
direct	1956 Jul 30 18:36	26°♏09'57		evening set	1963 Jan 17 16:36	11°♏49'42	

conjunction	1963 Feb 03 09:03	13° 48 48'48	0°-47'-30		1969 Apr 29 22:23	0° 8	
minimum elong	1963 Feb 03 09:01	13° 48 48'47	0°47'30	morning rise	1969 May 06 08:46	0° 8 48'25	
max. Earth dist.	1963 Feb 03 02:59	13° 46 46'59	10.90602 AU	retrograde	1969 Aug 21 05:44	8° 8 56'54	
morning rise	1963 Feb 20 03:55	15° 48 48'37		opposition	1969 Oct 29 01:42	5° 8 27'53	-2°-43'-37
retrograde	1963 Jun 03 09:39	23° 06 06'39		min. Earth dist.	1969 Oct 29 01:09	5° 8 27'59	8.23844 AU
opposition	1963 Aug 13 05:32	19° 45 45'34	-1°-13'-58	direct	1970 Jan 03 21:06	2° 8 03'16	
min. Earth dist.	1963 Aug 13 10:17	19° 44 44'40	8.86544 AU	evening set	1970 Apr 15 10:25	9° 8 53'22	
direct	1963 Oct 21 16:22	16° 26 26'52					
evening set	1964 Jan 29 12:16	23° 34 34'38		conjunction	1970 May 02 23:25	12° 8 07'35	-2°-7'-27
				minimum elong	1970 May 02 23:27	12° 8 07'35	2°07'28
conjunction	1964 Feb 15 06:00	25° 35 35'06	-1°-12'-21	max. Earth dist.	1970 May 03 01:20	12° 8 08'11	10.19237 AU
minimum elong	1964 Feb 15 05:58	25° 35 35'06	1°12'22	morning rise	1970 May 20 16:37	14° 8 23'10	
max. Earth dist.	1964 Feb 15 00:40	25° 33 33'30	10.82097 AU	retrograde	1970 Sep 04 13:57	22° 8 37'23	
morning rise	1964 Mar 03 02:48	27° 36 36'31		opposition	1970 Nov 11 22:34	19° 8 07'40	-2°-30'-54
	1964 Mar 24 04:18	0° 8		min. Earth dist.	1970 Nov 11 20:30	19° 8 08'05	8.15334 AU
retrograde	1964 Jun 15 03:25	5° 8 02'21		direct	1971 Jan 17 13:01	15° 8 41'52	
opposition	1964 Aug 24 20:18	1° 8 39'52	-1°-43'-10	evening set	1971 Apr 29 18:05	23° 8 39'18	
min. Earth dist.	1964 Aug 25 00:13	1° 8 39'08	8.77332 AU				
	1964 Sep 16 21:04	30° 8		conjunction	1971 May 17 11:53	25° 8 56'01	-1°-53'-22
direct	1964 Nov 01 20:44	28° 8 20'35		minimum elong	1971 May 17 11:56	25° 8 56'02	1°53'23
	1964 Dec 16 05:39	0° 8		max. Earth dist.	1971 May 17 15:27	25° 8 57'10	10.11672 AU
evening set	1965 Feb 09 14:16	5° 8 33'21		morning rise	1971 Jun 04 09:14	28° 8 13'54	
					1971 Jun 18 16:09	0° 8	
conjunction	1965 Feb 26 09:49	7° 8 35'32	-1°-34'-30	retrograde	1971 Sep 19 02:17	6° 8 31'43	
minimum elong	1965 Feb 26 09:47	7° 8 35'31	1°34'31	opposition	1971 Nov 25 23:05	3° 8 01'40	-2°-9'-9
max. Earth dist.	1965 Feb 26 05:54	7° 8 34'20	10.72231 AU	min. Earth dist.	1971 Nov 25 19:44	3° 8 02'21	8.08795 AU
morning rise	1965 Mar 15 08:51	9° 8 38'49			1972 Jan 10 03:43	30° 8	
retrograde	1965 Jun 28 05:32	17° 8 13'16		direct	1972 Jan 31 10:22	29° 8 34'44	
opposition	1965 Sep 06 15:39	13° 8 49'18	-2°-8'-28		1972 Feb 21 14:53	0° 8	
min. Earth dist.	1965 Sep 06 18:18	13° 8 48'48	8.66975 AU	evening set	1972 May 13 09:42	7° 8 38'30	
direct	1965 Nov 14 03:17	10° 8 29'14					
evening set	1966 Feb 22 00:07	17° 8 48'12		conjunction	1972 May 31 07:55	9° 8 57'18	-1°-32'-26
				minimum elong	1972 May 31 07:58	9° 8 57'19	1°32'27
conjunction	1966 Mar 10 21:51	19° 8 52'21	-1°-52'-50	max. Earth dist.	1972 May 31 12:22	9° 8 58'44	10.06317 AU
minimum elong	1966 Mar 10 21:49	19° 8 52'20	1°52'51	morning rise	1972 Jun 18 08:51	12° 8 17'00	
max. Earth dist.	1966 Mar 10 18:47	19° 8 51'24	10.61433 AU	retrograde	1972 Oct 02 16:25	20° 8 35'54	
morning rise	1966 Mar 27 23:35	21° 8 57'47		opposition	1972 Dec 09 01:52	17° 8 05'55	-1°-39'-23
retrograde	1966 Jul 11 13:03	29° 8 41'17		min. Earth dist.	1972 Dec 08 22:01	17° 8 06'43	8.04649 AU
opposition	1966 Sep 19 16:02	26° 8 15'51	-2°-28'-26	direct	1973 Feb 13 12:49	13° 8 37'59	
min. Earth dist.	1966 Sep 19 17:44	26° 8 15'31	8.55924 AU	evening set	1973 May 28 07:16	21° 8 46'40	
direct	1966 Nov 26 15:33	22° 8 54'48					
	1967 Mar 03 21:32	0° 8		conjunction	1973 Jun 15 09:00	24° 8 06'55	-1°-5'-46
evening set	1967 Mar 06 18:33	0° 8 20'58		minimum elong	1973 Jun 15 09:03	24° 8 06'56	1°05'47
				max. Earth dist.	1973 Jun 15 13:55	24° 8 08'31	10.03525 AU
conjunction	1967 Mar 23 19:01	2° 8 27'22	-2°-6'-12	morning rise	1973 Jul 03 12:27	26° 8 27'43	
minimum elong	1967 Mar 23 19:00	2° 8 27'21	2°06'13		1973 Aug 01 22:20	0° 8	
max. Earth dist.	1967 Mar 23 16:17	2° 8 26'30	10.50195 AU	retrograde	1973 Oct 17 05:50	4° 8 45'13	
morning rise	1967 Apr 10 00:05	4° 8 35'11		opposition	1973 Dec 23 05:51	1° 8 15'42	-1°-3'-21
retrograde	1967 Jul 25 04:08	12° 8 27'45		min. Earth dist.	1973 Dec 23 01:47	1° 8 16'32	8.03186 AU
opposition	1967 Oct 02 22:03	9° 8 00'56	-2°-41'-44		1974 Jan 07 20:26	30° 8	
min. Earth dist.	1967 Oct 02 23:17	9° 8 00'42	8.44691 AU	direct	1974 Feb 27 21:13	27° 8 47'00	
direct	1967 Dec 09 10:27	5° 8 38'47			1974 Apr 18 22:34	0° 8	
evening set	1968 Mar 18 22:07	13° 8 12'44		evening set	1974 Jun 12 08:17	5° 8 58'49	
conjunction	1968 Apr 05 02:08	15° 8 21'38	-2°-13'-35	conjunction	1974 Jun 30 12:11	8° 8 19'41	0°-35'-3
minimum elong	1968 Apr 05 02:08	15° 8 21'38	2°13'37	minimum elong	1974 Jun 30 12:12	8° 8 19'42	0°35'04
max. Earth dist.	1968 Apr 05 00:28	15° 8 21'07	10.39050 AU	max. Earth dist.	1974 Jun 30 17:25	8° 8 21'23	10.03493 AU
morning rise	1968 Apr 22 11:00	17° 8 32'03		morning rise	1974 Jul 18 16:38	10° 8 40'43	
retrograde	1968 Aug 07 02:22	25° 8 33'09		retrograde	1974 Oct 31 14:56	18° 8 54'29	
opposition	1968 Oct 15 09:25	22° 8 05'06	-2°-47'-6	opposition	1975 Jan 06 09:25	15° 8 25'47	0°-23'-27
min. Earth dist.	1968 Oct 15 10:01	22° 8 04'59	8.33814 AU	min. Earth dist.	1975 Jan 06 05:12	15° 8 26'39	8.04528 AU
direct	1968 Dec 21 11:38	18° 8 41'44		direct	1975 Mar 14 08:32	11° 8 56'36	
evening set	1969 Apr 01 11:30	26° 8 23'50		evening set	1975 Jun 27 10:19	20° 8 09'35	
conjunction	1969 Apr 18 19:48	28° 8 35'22	-2°-14'-11	conjunction	1975 Jul 15 14:46	22° 8 30'10	0°-2'-19
minimum elong	1969 Apr 18 19:48	28° 8 35'23	2°14'12	minimum elong	1975 Jul 15 14:46	22° 8 30'10	0°02'20
max. Earth dist.	1969 Apr 18 19:46	28° 8 35'22	10.28544 AU	behind sun begin	1975 Jul 15 07:24	22° 8 27'48	

behind sun end	1975 Jul 15 22:08	22°♄32'32		conjunction	1981 Oct 06 04:29	12°♄50'04	2°12'47
max. Earth dist.	1975 Jul 15 20:10	22°♄31'53	10.06244 AU	minimum elong	1981 Oct 06 04:28	12°♄50'03	2°12'47
morning rise	1975 Aug 02 18:31	24°♄50'28		max. Earth dist.	1981 Oct 06 04:30	12°♄50'04	10.61268 AU
asc. node	1975 Aug 10 15:48	25°♄49'52		morning rise	1981 Oct 23 06:18	14°♄55'01	
	1975 Sep 17 04:57	0°♄		retrograde	1982 Jan 31 03:46	22°♄14'51	
retrograde	1975 Nov 14 19:25	2°♄58'33		opposition	1982 Apr 09 02:30	18°♄55'03	2°45'51
	1976 Jan 14 13:16	30°♄		min. Earth dist.	1982 Apr 09 02:22	18°♄55'04	8.66690 AU
opposition	1976 Jan 20 11:00	29°♄30'56	0°17'36	direct	1982 Jun 18 11:05	15°♄29'51	
min. Earth dist.	1976 Jan 20 06:31	29°♄31'51	8.08602 AU	evening set	1982 Oct 01 19:07	23°♄06'14	
direct	1976 Mar 27 19:58	26°♄01'33					
	1976 Jun 05 05:09	0°♄		conjunction	1982 Oct 18 21:24	25°♄10'06	2°15'14
evening set	1976 Jul 11 10:30	4°♄13'42		minimum elong	1982 Oct 18 21:24	25°♄10'06	2°15'14
				max. Earth dist.	1982 Oct 18 20:18	25°♄09'46	10.71620 AU
conjunction	1976 Jul 29 13:49	6°♄33'05	0°30'24	morning rise	1982 Nov 04 19:20	27°♄12'42	
minimum elong	1976 Jul 29 13:47	6°♄33'04	0°30'25		1982 Nov 29 10:29	0°♄	
max. Earth dist.	1976 Jul 29 19:25	6°♄34'53	10.11598 AU	retrograde	1983 Feb 12 11:17	4°♄26'13	
morning rise	1976 Aug 16 15:05	8°♄51'47		opposition	1983 Apr 21 19:27	1°♄07'22	2°44'47
retrograde	1976 Nov 27 18:46	16°♄52'41		min. Earth dist.	1983 Apr 21 19:56	1°♄07'16	8.76573 AU
opposition	1977 Feb 02 09:36	13°♄26'20	0°57'06		1983 May 06 19:29	30°♄	
min. Earth dist.	1977 Feb 02 04:42	13°♄27'20	8.15140 AU	direct	1983 Jul 01 12:31	27°♄43'21	
direct	1977 Apr 11 05:41	9°♄57'06			1983 Aug 24 11:54	0°♄	
evening set	1977 Jul 26 05:55	18°♄06'22		evening set	1983 Oct 14 07:01	5°♄12'21	
conjunction	1977 Aug 13 06:28	20°♄23'46	1°00'52	conjunction	1983 Oct 31 05:56	7°♄14'09	2°11'35
minimum elong	1977 Aug 13 06:25	20°♄23'46	1°00'52	minimum elong	1983 Oct 31 05:57	7°♄14'09	2°11'35
max. Earth dist.	1977 Aug 13 12:18	20°♄25'38	10.19204 AU	max. Earth dist.	1983 Oct 31 04:22	7°♄13'40	10.80941 AU
morning rise	1977 Aug 31 03:49	22°♄40'10		morning rise	1983 Nov 17 00:41	9°♄14'46	
	1977 Nov 17 02:43	0°♄		retrograde	1984 Feb 24 14:36	16°♄23'03	
retrograde	1977 Dec 11 12:11	0°♄32'55		opposition	1984 May 03 08:21	13°♄04'55	2°36'33
	1978 Jan 05 00:44	30°♄		min. Earth dist.	1984 May 03 10:06	13°♄04'35	8.85251 AU
opposition	1978 Feb 16 04:08	27°♄07'56	1°32'36	direct	1984 Jul 13 06:16	9°♄42'03	
min. Earth dist.	1978 Feb 15 23:15	27°♄08'55	8.23721 AU	evening set	1984 Oct 25 10:53	17°♄04'07	
direct	1978 Apr 25 12:16	23°♄39'07					
	1978 Jul 26 12:02	0°♄		conjunction	1984 Nov 11 07:01	19°♄04'13	2°02'21
evening set	1978 Aug 09 18:16	1°♄43'44		minimum elong	1984 Nov 11 07:03	19°♄04'14	2°02'21
				max. Earth dist.	1984 Nov 11 04:11	19°♄03'23	10.88918 AU
conjunction	1978 Aug 27 14:53	3°♄58'37	1°27'23	morning rise	1984 Nov 27 23:34	21°♄03'20	
minimum elong	1978 Aug 27 14:49	3°♄58'36	1°27'24	retrograde	1985 Mar 07 12:38	28°♄07'34	
max. Earth dist.	1978 Aug 27 20:24	4°♄00'22	10.28588 AU	opposition	1985 May 15 17:57	24°♄49'54	2°21'54
morning rise	1978 Sep 14 07:24	6°♄12'14		min. Earth dist.	1985 May 15 21:03	24°♄49'19	8.92434 AU
retrograde	1978 Dec 24 21:12	13°♄56'19		direct	1985 Jul 25 19:33	21°♄28'03	
opposition	1979 Mar 01 17:42	10°♄32'44	2°02'11	evening set	1985 Nov 06 07:45	28°♄43'55	
min. Earth dist.	1979 Mar 01 13:39	10°♄33'33	8.33813 AU		1985 Nov 17 02:10	0°♄	
direct	1979 May 09 14:53	7°♄04'33					
evening set	1979 Aug 23 21:43	15°♄03'07		conjunction	1985 Nov 23 01:45	0°♄42'42	1°48'09
				minimum elong	1985 Nov 23 01:48	0°♄42'43	1°48'09
conjunction	1979 Sep 10 13:39	17°♄15'08	1°48'41	max. Earth dist.	1985 Nov 22 21:27	0°♄41'25	10.95276 AU
minimum elong	1979 Sep 10 13:36	17°♄15'07	1°48'42	morning rise	1985 Dec 09 17:03	2°♄40'42	
max. Earth dist.	1979 Sep 10 18:01	17°♄16'30	10.39165 AU	retrograde	1986 Mar 19 09:27	9°♄42'14	
morning rise	1979 Sep 28 01:01	19°♄25'45		opposition	1986 May 28 00:42	6°♄24'45	2°01'42
retrograde	1980 Jan 06 22:42	27°♄01'10		min. Earth dist.	1986 May 28 04:35	6°♄24'02	8.97865 AU
opposition	1980 Mar 14 02:02	23°♄38'58	2°24'37	direct	1986 Aug 07 04:50	3°♄03'48	
min. Earth dist.	1980 Mar 13 23:35	23°♄39'27	8.44779 AU	evening set	1986 Nov 17 23:19	10°♄14'23	
direct	1980 May 22 11:50	20°♄11'36					
evening set	1980 Sep 05 15:10	28°♄03'07		conjunction	1986 Dec 04 15:56	12°♄12'17	1°29'44
	1980 Sep 21 10:48	0°♄		minimum elong	1986 Dec 04 15:59	12°♄12'18	1°29'44
conjunction	1980 Sep 23 02:08	0°♄12'12	2°03'56	max. Earth dist.	1986 Dec 04 11:04	12°♄10'50	10.99782 AU
minimum elong	1980 Sep 23 02:05	0°♄12'11	2°03'57	morning rise	1986 Dec 21 06:32	14°♄09'36	
max. Earth dist.	1980 Sep 23 04:15	0°♄12'51	10.50275 AU	retrograde	1987 Mar 31 04:43	21°♄09'47	
morning rise	1980 Oct 10 08:28	2°♄19'52		opposition	1987 Jun 09 05:20	17°♄52'12	1°36'51
retrograde	1981 Jan 18 16:58	9°♄47'03		min. Earth dist.	1987 Jun 09 09:00	17°♄51'32	9.01350 AU
opposition	1981 Mar 27 04:53	6°♄26'07	2°39'13	direct	1987 Aug 19 08:53	14°♄32'01	
min. Earth dist.	1981 Mar 27 03:51	6°♄26'19	8.55941 AU	evening set	1987 Nov 29 11:03	21°♄38'29	
direct	1981 Jun 05 02:12	2°♄59'46					
evening set	1981 Sep 18 22:12	10°♄43'44		conjunction	1987 Dec 16 02:53	23°♄35'52	1°07'52
				minimum elong	1987 Dec 16 02:55	23°♄35'52	1°07'52
				max. Earth dist.	1987 Dec 15 22:33	23°♄34'35	11.02278 AU

morning rise	1988 Jan 01 17:15	25° $\overline{\text{A}}$ 32'53		conjunction	1994 Feb 21 17:03	2° X 50'32	-1°-25'-44
	1988 Feb 13 23:51	0° $\overline{\text{B}}$		minimum elong	1994 Feb 21 17:00	2° X 50'31	1°25'44
retrograde	1988 Apr 11 02:08	2° $\overline{\text{B}}$ 33'13		max. Earth dist.	1994 Feb 21 13:07	2° X 49'20	10.75413 AU
	1988 Jun 10 05:22	30° $\overline{\text{A}}$		morning rise	1994 Mar 10 15:11	4° X 53'08	
opposition	1988 Jun 20 09:13	29° $\overline{\text{A}}$ 15'20	1°08'22	retrograde	1994 Jun 23 03:57	12° X 24'11	
min. Earth dist.	1988 Jun 20 12:55	29° $\overline{\text{A}}$ 14'39	9.02778 AU	opposition	1994 Sep 01 16:40	9° X 00'39	-1°-58'-33
direct	1988 Aug 30 10:06	25° $\overline{\text{A}}$ 55'45		min. Earth dist.	1994 Sep 01 19:13	9° X 00'09	8.70621 AU
	1988 Nov 12 09:26	0° $\overline{\text{B}}$		direct	1994 Nov 09 08:36	5° X 40'45	
evening set	1988 Dec 09 20:35	2° $\overline{\text{B}}$ 59'20		evening set	1995 Feb 17 04:56	12° X 57'21	
conjunction	1988 Dec 26 11:57	4° $\overline{\text{B}}$ 56'34	0°43'25	conjunction	1995 Mar 06 01:32	15° X 00'41	-1°-45'-45
minimum elong	1988 Dec 26 11:58	4° $\overline{\text{B}}$ 56'35	0°43'24	minimum elong	1995 Mar 06 01:30	15° X 00'40	1°45'47
max. Earth dist.	1988 Dec 26 07:17	4° $\overline{\text{B}}$ 55'12	11.02688 AU	max. Earth dist.	1995 Mar 05 22:36	14° X 59'47	10.65523 AU
morning rise	1989 Jan 12 02:42	6° $\overline{\text{B}}$ 53'41		morning rise	1995 Mar 23 02:12	17° X 05'15	
retrograde	1989 Apr 22 23:37	13° $\overline{\text{B}}$ 55'39		retrograde	1995 Jul 06 07:46	24° X 45'07	
opposition	1989 Jul 02 13:08	10° $\overline{\text{B}}$ 37'15	0°37'14	opposition	1995 Sep 14 15:19	21° X 20'18	-2°-20'-52
min. Earth dist.	1989 Jul 02 17:26	10° $\overline{\text{B}}$ 36'27	9.02116 AU	min. Earth dist.	1995 Sep 14 17:02	21° X 19'58	8.60387 AU
direct	1989 Sep 11 07:10	7° $\overline{\text{B}}$ 18'05		direct	1995 Nov 21 19:48	17° X 59'43	
evening set	1989 Dec 21 05:49	14° $\overline{\text{B}}$ 20'14		evening set	1996 Feb 29 19:47	25° X 22'56	
conjunction	1990 Jan 06 21:02	16° $\overline{\text{B}}$ 17'39	0°17'14	conjunction	1996 Mar 17 19:04	27° X 28'22	-2°-1'-16
minimum elong	1990 Jan 06 21:03	16° $\overline{\text{B}}$ 17'39	0°17'14	minimum elong	1996 Mar 17 19:02	27° X 28'22	2°01'18
max. Earth dist.	1990 Jan 06 15:26	16° $\overline{\text{B}}$ 16'00	11.01003 AU	max. Earth dist.	1996 Mar 17 17:59	27° X 28'02	10.54999 AU
morning rise	1990 Jan 23 12:42	18° $\overline{\text{B}}$ 15'14		morning rise	1996 Apr 03 22:38	29° X 35'10	
retrograde	1990 May 04 22:43	25° $\overline{\text{B}}$ 20'20			1996 Apr 07 08:49	0° Y	
opposition	1990 Jul 14 17:44	22° $\overline{\text{B}}$ 01'12	0°04'32	retrograde	1996 Jul 18 20:29	7° Y 24'02	
min. Earth dist.	1990 Jul 14 22:27	22° $\overline{\text{B}}$ 00'19	8.99384 AU	opposition	1996 Sep 26 19:11	3° Y 57'58	-2°-37'-1
desc. node	1990 Sep 04 05:16	18° $\overline{\text{B}}$ 59'49		min. Earth dist.	1996 Sep 26 19:27	3° Y 57'54	8.49762 AU
direct	1990 Sep 23 05:10	18° $\overline{\text{B}}$ 42'15		direct	1996 Dec 03 12:39	0° Y 36'32	
evening set	1991 Jan 01 16:10	25° $\overline{\text{B}}$ 44'28		evening set	1997 Mar 13 19:46	8° Y 07'08	
conjunction	1991 Jan 18 07:45	27° $\overline{\text{B}}$ 42'26	0°-9'-49	conjunction	1997 Mar 30 22:20	10° Y 14'56	-2°-11'-13
minimum elong	1991 Jan 18 07:44	27° $\overline{\text{B}}$ 42'26	0°09'50	minimum elong	1997 Mar 30 22:19	10° Y 14'55	2°11'14
behind sun begin	1991 Jan 18 02:00	27° $\overline{\text{B}}$ 40'45		max. Earth dist.	1997 Mar 30 22:49	10° Y 15'05	10.44331 AU
behind sun end	1991 Jan 18 13:28	27° $\overline{\text{B}}$ 44'07		morning rise	1997 Apr 17 05:21	12° Y 24'10	
max. Earth dist.	1991 Jan 18 02:31	27° $\overline{\text{B}}$ 40'54	10.97273 AU	retrograde	1997 Aug 01 16:56	20° Y 21'39	
morning rise	1991 Feb 04 00:32	29° $\overline{\text{B}}$ 40'47		opposition	1997 Oct 10 04:26	16° Y 54'27	-2°-45'-42
	1991 Feb 06 18:51	0° \approx		min. Earth dist.	1997 Oct 10 03:19	16° Y 54'40	8.39240 AU
retrograde	1991 May 17 04:05	6° \approx 50'32		direct	1997 Dec 16 10:29	13° Y 32'03	
opposition	1991 Jul 27 00:21	3° \approx 30'28	0°-28'-37	evening set	1998 Mar 27 05:20	21° Y 10'28	
min. Earth dist.	1991 Jul 27 04:19	3° \approx 29'44	8.94664 AU				
direct	1991 Oct 05 03:57	0° \approx 11'35		conjunction	1998 Apr 13 11:41	23° Y 20'46	-2°-14'-39
evening set	1992 Jan 13 05:14	7° \approx 15'16		minimum elong	1998 Apr 13 11:41	23° Y 20'46	2°14'40
conjunction	1992 Jan 29 21:33	9° \approx 14'08	0°-36'-39	max. Earth dist.	1998 Apr 13 12:56	23° Y 21'09	10.34038 AU
minimum elong	1992 Jan 29 21:31	9° \approx 14'07	0°36'39	morning rise	1998 Apr 30 22:38	25° Y 32'33	
max. Earth dist.	1992 Jan 29 17:25	9° \approx 12'54	10.91612 AU		1998 Jun 09 06:07	0° B	
morning rise	1992 Feb 15 15:39	11° \approx 13'35		retrograde	1998 Aug 15 19:09	3° B 37'42	
retrograde	1992 May 28 13:36	18° \approx 29'20		opposition	1998 Oct 23 18:49	0° B 09'34	-2°-45'-54
opposition	1992 Aug 07 09:53	15° \approx 08'12	-1°-1'-3	min. Earth dist.	1998 Oct 23 17:03	0° B 09'55	8.29344 AU
min. Earth dist.	1992 Aug 07 12:50	15° \approx 07'39	8.88120 AU		1998 Oct 25 18:41	30° Y	
direct	1992 Oct 16 02:06	11° \approx 49'12		direct	1998 Dec 29 15:45	26° Y 46'04	
evening set	1993 Jan 23 22:52	18° \approx 55'50			1999 Mar 01 01:26	0° B	
conjunction	1993 Feb 09 16:10	20° \approx 55'52	-1°-2'-19	evening set	1999 Apr 10 00:21	4° B 32'18	
minimum elong	1993 Feb 09 16:08	20° \approx 55'51	1°02'19	conjunction	1999 Apr 27 11:04	6° B 45'11	-2°-10'-57
max. Earth dist.	1993 Feb 09 12:26	20° \approx 54'44	10.84228 AU	minimum elong	1999 Apr 27 11:05	6° B 45'12	2°10'58
morning rise	1993 Feb 26 12:04	22° \approx 56'44		max. Earth dist.	1999 Apr 27 12:50	6° B 45'45	10.24647 AU
	1993 May 21 04:58	0° X		morning rise	1999 May 15 02:21	8° B 59'30	
retrograde	1993 Jun 10 05:28	0° X 19'40		retrograde	1999 Aug 30 01:23	17° B 10'51	
	1993 Jun 30 08:29	30° \approx		opposition	1999 Nov 06 13:53	13° B 42'00	-2°-36'-59
opposition	1993 Aug 19 23:01	26° \approx 57'21	-1°-31'-29	min. Earth dist.	1999 Nov 06 11:53	13° B 42'24	8.20572 AU
min. Earth dist.	1993 Aug 20 01:36	26° \approx 56'52	8.79998 AU	direct	2000 Jan 12 04:59	10° B 17'18	
direct	1993 Oct 28 03:39	23° \approx 38'00		evening set	2000 Apr 23 04:16	18° B 10'57	
evening set	1994 Jan 28 23:43	0° X		conjunction	2000 May 10 19:45	20° B 26'22	-1°-59'-53
	1994 Feb 04 22:24	0° X 49'00		minimum elong	2000 May 10 19:48	20° B 26'23	1°59'53
				max. Earth dist.	2000 May 10 21:56	20° B 27'04	10.16612 AU

morning rise	2000 May 28 15:24	22°♄43'04		retrograde	2006 Dec 06 04:07	25°♄04'16	
	2000 Aug 10 02:26	0°♄		opposition	2007 Feb 10 18:42	21°♄38'35	1°18'20
retrograde	2000 Sep 12 11:34	0°♄58'43		min. Earth dist.	2007 Feb 10 15:23	21°♄39'15	8.20036 AU
	2000 Oct 16 00:44	30°♄		direct	2007 Apr 19 21:24	18°♄09'21	
opposition	2000 Nov 19 12:41	27°♄29'26	-2°-18'-54	evening set	2007 Aug 04 01:11	26°♄15'46	
min. Earth dist.	2000 Nov 19 10:39	27°♄29'51	8.13335 AU				
direct	2001 Jan 25 00:24	24°♄03'34		conjunction	2007 Aug 21 23:28	28°♄31'43	1°16'49
	2001 Apr 20 21:59	0°♄		minimum elong	2007 Aug 21 23:25	28°♄31'42	1°16'49
evening set	2001 May 07 16:22	2°♄03'57		max. Earth dist.	2007 Aug 22 03:05	28°♄32'52	10.24381 AU
					2007 Sep 02 13:49	0°♄	
conjunction	2001 May 25 12:33	4°♄21'38	-1°-41'-42	morning rise	2007 Sep 08 18:17	0°♄46'33	
minimum elong	2001 May 25 12:37	4°♄21'39	1°41'43	retrograde	2007 Dec 19 14:10	8°♄34'04	
max. Earth dist.	2001 May 25 15:29	4°♄22'34	10.10326 AU	opposition	2008 Feb 24 09:48	5°♄09'38	1°50'33
morning rise	2001 Jun 12 12:03	6°♄40'22		min. Earth dist.	2008 Feb 24 06:49	5°♄10'14	8.29140 AU
retrograde	2001 Sep 27 00:04	14°♄58'10		direct	2008 May 03 03:07	1°♄40'48	
opposition	2001 Dec 03 14:13	11°♄28'48	-1°-52'-21	evening set	2008 Aug 17 08:04	9°♄41'53	
min. Earth dist.	2001 Dec 03 11:35	11°♄29'20	8.08060 AU				
direct	2002 Feb 08 01:32	8°♄01'53		conjunction	2008 Sep 04 02:00	11°♄55'07	1°40'25
evening set	2002 May 22 11:07	16°♄07'52		minimum elong	2008 Sep 04 01:56	11°♄55'06	1°40'25
				max. Earth dist.	2008 Sep 04 04:55	11°♄56'02	10.34125 AU
conjunction	2002 Jun 09 11:24	18°♄27'19	-1°-17'-17	morning rise	2008 Sep 21 15:47	14°♄07'03	
minimum elong	2002 Jun 09 11:27	18°♄27'20	1°17'18	retrograde	2008 Dec 31 18:08	21°♄46'01	
max. Earth dist.	2002 Jun 09 15:29	18°♄28'39	10.06242 AU	opposition	2009 Mar 08 19:53	18°♄22'50	2°16'07
morning rise	2002 Jun 27 13:50	20°♄47'30		min. Earth dist.	2009 Mar 08 16:58	18°♄23'25	8.39445 AU
retrograde	2002 Oct 11 13:01	29°♄05'07		direct	2009 May 17 02:06	14°♄54'41	
opposition	2002 Dec 17 17:28	25°♄35'57	-1°-18'-45	evening set	2009 Aug 31 05:10	22°♄49'11	
min. Earth dist.	2002 Dec 17 13:50	25°♄36'42	8.05195 AU				
direct	2003 Feb 22 07:41	22°♄08'07		conjunction	2009 Sep 17 18:22	24°♄59'33	1°58'16
	2003 Jun 04 01:28	0°♄		minimum elong	2009 Sep 17 18:19	24°♄59'32	1°58'17
evening set	2003 Jun 06 10:27	0°♄18'04		max. Earth dist.	2009 Sep 17 21:03	25°♄00'23	10.44783 AU
				morning rise	2009 Oct 05 02:56	27°♄08'30	
conjunction	2003 Jun 24 13:39	2°♄38'35	0°-48'-5		2009 Oct 29 17:09	0°♄	
minimum elong	2003 Jun 24 13:42	2°♄38'35	0°48'06	retrograde	2010 Jan 13 15:56	4°♄39'09	
max. Earth dist.	2003 Jun 24 18:45	2°♄40'14	10.04735 AU	opposition	2010 Mar 22 00:37	1°♄17'11	2°34'04
morning rise	2003 Jul 12 17:43	4°♄59'23		min. Earth dist.	2010 Mar 21 22:13	1°♄17'40	8.50380 AU
retrograde	2003 Oct 25 23:42	13°♄14'24			2010 Apr 07 18:51	30°♄	
opposition	2003 Dec 31 20:57	9°♄45'45	0°-40'-14	direct	2010 May 30 18:08	27°♄49'57	
min. Earth dist.	2003 Dec 31 16:40	9°♄46'38	8.05013 AU		2010 Jul 21 15:10	0°♄	
direct	2004 Mar 07 16:51	6°♄17'10		evening set	2010 Sep 13 16:12	5°♄37'05	
evening set	2004 Jun 20 12:07	14°♄29'14					
				conjunction	2010 Oct 01 00:42	7°♄44'38	2°09'51
conjunction	2004 Jul 08 16:38	16°♄49'53	0°-15'-59	minimum elong	2010 Oct 01 00:40	7°♄44'38	2°09'51
minimum elong	2004 Jul 08 16:39	16°♄49'53	0°15'59	max. Earth dist.	2010 Oct 01 02:50	7°♄45'18	10.55796 AU
max. Earth dist.	2004 Jul 08 22:12	16°♄51'41	10.05953 AU	morning rise	2010 Oct 18 04:22	9°♄50'46	
morning rise	2004 Jul 26 20:39	19°♄10'24		retrograde	2011 Jan 26 06:10	17°♄13'35	
retrograde	2004 Nov 08 06:54	27°♄20'36		opposition	2011 Apr 03 23:56	13°♄52'49	2°44'04
asc. node	2005 Jan 08 17:13	24°♄18'38		min. Earth dist.	2011 Apr 03 22:51	13°♄53'02	8.61393 AU
opposition	2005 Jan 13 23:06	23°♄52'45	0°00'34	direct	2011 Jun 13 03:51	10°♄26'39	
min. Earth dist.	2005 Jan 13 18:45	23°♄53'39	8.07562 AU	evening set	2011 Sep 26 17:09	18°♄06'07	
direct	2005 Mar 22 02:54	20°♄23'39					
evening set	2005 Jul 05 13:01	28°♄35'49		conjunction	2011 Oct 13 21:13	20°♄11'02	2°15'00
	2005 Jul 16 12:31	0°♄		minimum elong	2011 Oct 13 21:12	20°♄11'02	2°15'00
				max. Earth dist.	2011 Oct 13 21:48	20°♄11'13	10.66628 AU
conjunction	2005 Jul 23 17:01	0°♄55'41	0°16'57	morning rise	2011 Oct 30 20:41	22°♄14'37	
minimum elong	2005 Jul 23 17:00	0°♄55'40	0°16'58	retrograde	2012 Feb 07 14:03	29°♄30'28	
max. Earth dist.	2005 Jul 23 22:24	0°♄57'24	10.09830 AU	opposition	2012 Apr 15 18:26	26°♄10'47	2°46'14
morning rise	2005 Aug 10 19:19	3°♄15'00		min. Earth dist.	2012 Apr 15 18:42	26°♄10'44	8.71961 AU
retrograde	2005 Nov 22 09:01	11°♄18'40		direct	2012 Jun 25 08:00	22°♄45'48	
opposition	2006 Jan 27 22:48	7°♄51'50	0°40'57		2012 Oct 05 20:34	0°♄	
min. Earth dist.	2006 Jan 27 18:59	7°♄52'37	8.12684 AU	evening set	2012 Oct 08 08:20	0°♄17'37	
direct	2006 Apr 05 12:54	4°♄22'31					
evening set	2006 Jul 20 10:06	12°♄32'43		conjunction	2012 Oct 25 08:32	2°♄20'14	2°13'55
				minimum elong	2012 Oct 25 08:33	2°♄20'14	2°13'55
conjunction	2006 Aug 07 11:54	14°♄50'57	0°48'30	max. Earth dist.	2012 Oct 25 07:27	2°♄19'54	10.76787 AU
minimum elong	2006 Aug 07 11:52	14°♄50'57	0°48'30	morning rise	2012 Nov 11 04:40	4°♄21'37	
max. Earth dist.	2006 Aug 07 16:28	14°♄52'25	10.16111 AU	retrograde	2013 Feb 18 17:02	11°♄31'35	
morning rise	2006 Aug 25 11:02	17°♄08'19		opposition	2013 Apr 28 08:27	8°♄12'48	2°40'59

min. Earth dist.	2013 Apr 28 09:22	8°♌12'37	8.81619 AU	conjunction	2020 Jan 13 15:15	22°♁53'10	0°02'15
direct	2013 Jul 08 05:12	4°♌49'06		minimum elong	2020 Jan 13 15:16	22°♁53'10	0°02'15
evening set	2013 Oct 20 14:49	12°♌13'35		behind sun begin	2020 Jan 13 08:17	22°♁51'07	
				behind sun end	2020 Jan 13 22:14	22°♁55'12	
conjunction	2013 Nov 06 12:01	14°♌14'17	2°07'01	max. Earth dist.	2020 Jan 13 10:39	22°♁51'50	11.01652 AU
minimum elong	2013 Nov 06 12:02	14°♌14'17	2°07'01	morning rise	2020 Jan 30 07:14	24°♁50'50	
max. Earth dist.	2013 Nov 06 10:06	14°♌13'42	10.85846 AU	desc. node	2020 Feb 13 05:59	26°♁25'26	
morning rise	2013 Nov 23 05:35	16°♌13'55			2020 Mar 22 03:58	0°≈	
retrograde	2014 Mar 02 16:19	23°♌19'10		retrograde	2020 May 11 04:09	1°≈57'25	
opposition	2014 May 10 18:28	20°♌01'05	2°29'00		2020 Jul 01 23:37	30°♁	
min. Earth dist.	2014 May 10 19:32	20°♌00'53	8.89967 AU	opposition	2020 Jul 20 22:28	28°♁38'28	0°-13'-55
direct	2014 Jul 20 20:35	16°♌38'38		min. Earth dist.	2020 Jul 21 02:37	28°♁37'41	8.99470 AU
evening set	2014 Nov 01 13:52	23°♌56'28		direct	2020 Sep 29 05:11	25°♁20'14	
					2020 Dec 17 05:04	0°≈	
conjunction	2014 Nov 18 08:50	25°♌55'40	1°54'53	evening set	2021 Jan 07 11:19	2°≈22'13	
minimum elong	2014 Nov 18 08:52	25°♌55'40	1°54'54				
max. Earth dist.	2014 Nov 18 06:53	25°♌55'05	10.93428 AU	conjunction	2021 Jan 24 03:01	4°≈20'21	0°-24'-47
morning rise	2014 Dec 05 00:33	27°♌53'57		minimum elong	2021 Jan 24 03:00	4°≈20'21	0°24'48
	2014 Dec 23 16:34	0°♁		max. Earth dist.	2021 Jan 23 21:13	4°≈18'38	10.96766 AU
retrograde	2015 Mar 14 15:02	4°♁55'48		morning rise	2021 Feb 09 20:26	6°≈19'01	
opposition	2015 May 23 01:35	1°♁38'14	2°11'05	retrograde	2021 May 23 09:19	13°≈31'02	
min. Earth dist.	2015 May 23 03:20	1°♁37'54	8.96669 AU	opposition	2021 Aug 02 06:14	10°≈11'04	0°-46'-44
	2015 Jun 15 00:36	30°♌		min. Earth dist.	2021 Aug 02 11:06	10°≈10'10	8.93529 AU
direct	2015 Aug 02 05:53	28°♌16'57		direct	2021 Oct 11 02:17	6°≈52'43	
	2015 Sep 18 02:49	0°♁		evening set	2022 Jan 19 02:29	13°≈57'10	
evening set	2015 Nov 13 07:02	5°♁29'01					
				conjunction	2022 Feb 04 19:05	15°≈56'23	0°-51'-3
conjunction	2015 Nov 30 00:16	7°♁27'06	1°38'13	minimum elong	2022 Feb 04 19:03	15°≈56'23	0°51'03
minimum elong	2015 Nov 30 00:18	7°♁27'07	1°38'14	max. Earth dist.	2022 Feb 04 13:11	15°≈54'37	10.89826 AU
max. Earth dist.	2015 Nov 29 21:36	7°♁26'19	10.99239 AU	morning rise	2022 Feb 21 14:06	17°≈56'21	
morning rise	2015 Dec 16 14:54	9°♁24'29		retrograde	2022 Jun 04 21:47	25°≈15'11	
retrograde	2016 Mar 25 10:01	16°♁24'19		opposition	2022 Aug 14 17:10	21°≈54'01	-1°-18'-9
opposition	2016 Jun 03 06:37	13°♁07'00	1°48'10	min. Earth dist.	2022 Aug 14 21:47	21°≈53'09	8.85684 AU
min. Earth dist.	2016 Jun 03 09:38	13°♁06'27	9.01490 AU	direct	2022 Oct 23 04:07	18°≈35'19	
direct	2016 Aug 13 09:50	9°♁46'45		evening set	2023 Jan 30 22:51	25°≈43'38	
evening set	2016 Nov 23 19:53	16°♁54'09					
				conjunction	2023 Feb 16 16:48	27°≈44'17	-1°-15'-34
conjunction	2016 Dec 10 11:51	18°♁51'30	1°17'47	minimum elong	2023 Feb 16 16:46	27°≈44'17	1°15'34
minimum elong	2016 Dec 10 11:53	18°♁51'31	1°17'48	max. Earth dist.	2023 Feb 16 12:05	27°≈42'52	10.81143 AU
max. Earth dist.	2016 Dec 10 07:41	18°♁50'16	11.03082 AU	morning rise	2023 Mar 05 13:41	29°≈45'53	
morning rise	2016 Dec 27 02:15	20°♁48'25			2023 Mar 07 13:34	0°♁	
retrograde	2017 Apr 06 05:06	27°♁47'41		retrograde	2023 Jun 17 17:27	7°♁12'39	
opposition	2017 Jun 15 10:18	24°♁30'22	1°21'11	opposition	2023 Aug 27 08:28	3°♁50'05	-1°-46'-51
min. Earth dist.	2017 Jun 15 14:03	24°♁29'40	9.04267 AU	min. Earth dist.	2023 Aug 27 11:50	3°♁49'27	8.76301 AU
direct	2017 Aug 25 12:08	21°♁10'56		direct	2023 Nov 04 07:03	0°♁30'49	
evening set	2017 Dec 05 05:46	28°♁14'53		evening set	2024 Feb 12 01:44	7°♁44'19	
	2017 Dec 20 04:49	0°♁					
				conjunction	2024 Feb 28 21:25	9°♁46'41	-1°-37'-13
conjunction	2017 Dec 21 21:08	0°♁11'55	0°54'24	minimum elong	2024 Feb 28 21:23	9°♁46'40	1°37'14
minimum elong	2017 Dec 21 21:10	0°♁11'55	0°54'24	max. Earth dist.	2024 Feb 28 17:21	9°♁45'26	10.71121 AU
max. Earth dist.	2017 Dec 21 16:38	0°♁10'35	11.04818 AU	morning rise	2024 Mar 16 20:38	11°♁50'11	
morning rise	2018 Jan 07 11:44	2°♁08'43		retrograde	2024 Jun 29 19:06	19°♁25'41	
retrograde	2018 Apr 18 01:46	9°♁08'56		opposition	2024 Sep 08 04:35	16°♁01'39	-2°-11'-27
opposition	2018 Jun 27 13:28	5°♁51'19	0°51'09	min. Earth dist.	2024 Sep 08 07:12	16°♁01'09	8.65807 AU
min. Earth dist.	2018 Jun 27 17:04	5°♁50'39	9.04882 AU	direct	2024 Nov 15 14:20	12°♁41'33	
direct	2018 Sep 06 11:08	2°♁32'32		evening set	2025 Feb 23 12:35	20°♁01'24	
evening set	2018 Dec 16 14:35	9°♁34'22					
				conjunction	2025 Mar 12 10:29	22°♁05'48	-1°-54'-54
conjunction	2019 Jan 02 05:50	11°♁31'25	0°28'55	minimum elong	2025 Mar 12 10:27	22°♁05'47	1°54'55
minimum elong	2019 Jan 02 05:50	11°♁31'25	0°28'54	max. Earth dist.	2025 Mar 12 06:40	22°♁04'37	10.60217 AU
max. Earth dist.	2019 Jan 02 01:40	11°♁30'11	11.04348 AU	morning rise	2025 Mar 29 12:36	24°♁11'30	
morning rise	2019 Jan 18 20:51	13°♁28'28			2025 May 25 03:35	0°♁	
retrograde	2019 Apr 30 00:54	20°♁31'08		retrograde	2025 Jul 13 04:06	1°♁56'04	
opposition	2019 Jul 09 17:07	17°♁12'57	0°19'05		2025 Sep 01 08:06	30°♁	
min. Earth dist.	2019 Jul 09 20:34	17°♁12'19	9.03279 AU	opposition	2025 Sep 21 05:45	28°♁30'34	-2°-30'-34
direct	2019 Sep 18 08:47	13°♁54'35		min. Earth dist.	2025 Sep 21 08:01	28°♁30'08	8.54677 AU
evening set	2019 Dec 27 23:56	20°♁55'44		direct	2025 Nov 28 03:52	25°♁09'27	

	2026 Feb 14 00:11	0°♃		max. Earth dist.	2032 Jun 17 08:52	26°♃34'28	10.03345 AU
evening set	2026 Mar 08 08:07	2°♃36'35		morning rise	2032 Jul 05 08:06	28°♃53'53	
					2032 Jul 14 02:16	0°♃	
conjunction	2026 Mar 25 08:55	4°♃43'16	-2°-7'-29	retrograde	2032 Oct 18 22:26	7°♃11'00	
minimum elong	2026 Mar 25 08:53	4°♃43'16	2°07'30	opposition	2032 Dec 24 22:55	3°♃41'30	0°-58'-2
max. Earth dist.	2026 Mar 25 05:51	4°♃42'18	10.48931 AU	min. Earth dist.	2032 Dec 24 19:04	3°♃42'18	8.03160 AU
morning rise	2026 Apr 11 14:24	6°♃51'24		direct	2033 Mar 01 16:02	0°♃12'40	
retrograde	2026 Jul 26 19:56	14°♃45'00		evening set	2033 Jun 14 03:35	8°♃24'38	
opposition	2026 Oct 04 12:29	11°♃18'07	-2°-42'-48				
min. Earth dist.	2026 Oct 04 14:10	11°♃17'48	8.43426 AU	conjunction	2033 Jul 02 07:38	10°♃45'30	0°-30'-37
direct	2026 Dec 10 23:31	7°♃55'52		minimum elong	2033 Jul 02 07:40	10°♃45'30	0°30'38
evening set	2027 Mar 21 12:48	15°♃30'51		max. Earth dist.	2033 Jul 02 12:49	10°♃47'11	10.03623 AU
				morning rise	2033 Jul 20 12:07	13°♃06'28	
conjunction	2027 Apr 07 17:18	17°♃40'03	-2°-13'-58	retrograde	2033 Nov 02 07:03	21°♃19'39	
minimum elong	2027 Apr 07 17:18	17°♃40'03	2°14'00	opposition	2034 Jan 08 02:11	17°♃50'58	0°-17'-50
max. Earth dist.	2027 Apr 07 16:09	17°♃39'41	10.37798 AU	min. Earth dist.	2034 Jan 07 21:43	17°♃51'53	8.04807 AU
morning rise	2027 Apr 25 02:31	19°♃50'45		direct	2034 Mar 16 02:29	14°♃21'40	
retrograde	2027 Aug 09 18:06	27°♃52'50		asc. node	2034 Jun 21 15:44	21°♃37'34	
opposition	2027 Oct 18 00:35	24°♃24'42	-2°-47'00	evening set	2034 Jun 29 05:21	22°♃34'33	
min. Earth dist.	2027 Oct 18 00:54	24°♃24'38	8.32600 AU				
direct	2027 Dec 24 02:46	21°♃01'14		conjunction	2034 Jul 17 09:49	24°♃55'02	0°02'18
evening set	2028 Apr 03 03:19	28°♃44'19		minimum elong	2034 Jul 17 09:48	24°♃55'02	0°02'18
	2028 Apr 13 03:39	0°♃		behind sun begin	2034 Jul 17 02:27	24°♃52'41	
				behind sun end	2034 Jul 17 17:10	24°♃57'24	
conjunction	2028 Apr 20 12:10	0°♃56'11	-2°-13'-34	max. Earth dist.	2034 Jul 17 15:41	24°♃56'55	10.06667 AU
minimum elong	2028 Apr 20 12:11	0°♃56'11	2°13'35	morning rise	2034 Aug 04 13:18	27°♃15'11	
max. Earth dist.	2028 Apr 20 12:59	0°♃56'27	10.27382 AU		2034 Aug 27 02:46	0°♃	
morning rise	2028 May 08 01:29	3°♃09'31		retrograde	2034 Nov 16 12:00	5°♃22'31	
retrograde	2028 Aug 22 22:17	11°♃18'49		opposition	2035 Jan 22 03:24	1°♃54'55	0°23'07
opposition	2028 Oct 30 17:33	7°♃49'42	-2°-42'-16	min. Earth dist.	2035 Jan 21 22:15	1°♃55'58	8.09161 AU
min. Earth dist.	2028 Oct 30 16:21	7°♃49'57	8.22758 AU		2035 Feb 15 19:34	30°♃	
direct	2029 Jan 05 12:39	4°♃25'00		direct	2035 Mar 30 13:12	28°♃25'29	
evening set	2029 Apr 17 03:24	12°♃15'58			2035 May 11 20:44	0°♃	
				evening set	2035 Jul 14 04:54	6°♃37'16	
conjunction	2029 May 04 16:57	14°♃30'30	-2°-5'-50				
minimum elong	2029 May 04 16:59	14°♃30'31	2°05'51	conjunction	2035 Aug 01 08:03	8°♃56'28	0°34'42
max. Earth dist.	2029 May 04 19:16	14°♃31'15	10.18241 AU	minimum elong	2035 Aug 01 08:01	8°♃56'28	0°34'43
morning rise	2029 May 22 10:35	16°♃46'23		max. Earth dist.	2035 Aug 01 14:28	8°♃58'32	10.12283 AU
retrograde	2029 Sep 06 08:34	25°♃01'09		morning rise	2035 Aug 19 08:53	11°♃14'57	
opposition	2029 Nov 13 15:00	21°♃31'22	-2°-28'-18	retrograde	2035 Nov 30 11:07	19°♃14'59	
min. Earth dist.	2029 Nov 13 12:32	21°♃31'52	8.14441 AU	opposition	2036 Feb 05 01:31	15°♃48'41	1°02'11
direct	2030 Jan 19 03:54	18°♃05'26		min. Earth dist.	2036 Feb 04 20:14	15°♃49'46	8.15939 AU
evening set	2030 May 01 12:09	26°♃03'38		direct	2036 Apr 12 22:36	12°♃19'26	
				evening set	2036 Jul 27 23:40	20°♃28'12	
conjunction	2030 May 19 06:22	28°♃20'36	-1°-50'-47				
minimum elong	2030 May 19 06:25	28°♃20'37	1°50'48	conjunction	2036 Aug 14 23:52	22°♃45'21	1°04'42
max. Earth dist.	2030 May 19 09:43	28°♃21'41	10.10902 AU	minimum elong	2036 Aug 14 23:49	22°♃45'20	1°04'43
	2030 Jun 01 02:34	0°♃		max. Earth dist.	2036 Aug 15 06:12	22°♃47'22	10.20105 AU
morning rise	2030 Jun 06 04:09	0°♃38'44		morning rise	2036 Sep 01 20:39	25°♃01'27	
retrograde	2030 Sep 20 21:29	8°♃56'47			2036 Oct 16 07:34	0°♃	
opposition	2030 Nov 27 15:55	5°♃26'42	-2°-5'-24	retrograde	2036 Dec 13 02:58	2°♃53'16	
min. Earth dist.	2030 Nov 27 12:43	5°♃27'21	8.08153 AU		2037 Feb 11 06:46	30°♃	
direct	2031 Feb 02 02:24	1°♃59'37		opposition	2037 Feb 17 19:27	29°♃28'24	1°36'57
evening set	2031 May 16 04:26	10°♃03'59		min. Earth dist.	2037 Feb 17 14:49	29°♃29'20	8.24715 AU
				direct	2037 Apr 27 04:56	25°♃59'36	
conjunction	2031 Jun 03 02:58	12°♃22'58	-1°-29'-1		2037 Jul 07 02:30	0°♃	
minimum elong	2031 Jun 03 03:02	12°♃22'59	1°29'02	evening set	2037 Aug 11 11:08	4°♃03'37	
max. Earth dist.	2031 Jun 03 06:53	12°♃24'14	10.05826 AU				
morning rise	2031 Jun 21 04:19	14°♃42'50		conjunction	2037 Aug 29 07:11	6°♃18'11	1°30'34
retrograde	2031 Oct 05 10:50	23°♃01'40		minimum elong	2037 Aug 29 07:08	6°♃18'10	1°30'35
opposition	2031 Dec 11 18:59	19°♃31'40	-1°-34'-42	max. Earth dist.	2037 Aug 29 12:34	6°♃19'53	10.29657 AU
min. Earth dist.	2031 Dec 11 15:33	19°♃32'23	8.04307 AU	morning rise	2037 Sep 15 23:09	8°♃31'28	
direct	2032 Feb 16 06:59	16°♃03'36		retrograde	2037 Dec 26 11:35	16°♃14'39	
evening set	2032 May 30 02:22	24°♃12'40		opposition	2038 Mar 03 08:32	12°♃51'13	2°05'37
				min. Earth dist.	2038 Mar 03 04:59	12°♃51'56	8.34959 AU
conjunction	2032 Jun 17 04:22	26°♃33'00	-1°-1'-43	direct	2038 May 11 06:22	9°♃23'07	
minimum elong	2032 Jun 17 04:25	26°♃33'01	1°01'44	evening set	2038 Aug 25 13:24	17°♃20'56	

conjunction	2038 Sep 12 04:42	19° Υ 32'38	1°51'04	conjunction	2044 Nov 24 10:45	2° $\cancel{\text{A}}$ 48'05	1°45'46
minimum elong	2038 Sep 12 04:39	19° Υ 32'37	1°51'04	minimum elong	2044 Nov 24 10:47	2° $\cancel{\text{A}}$ 48'05	1°45'46
max. Earth dist.	2038 Sep 12 08:30	19° Υ 33'49	10.40370 AU	max. Earth dist.	2044 Nov 24 06:12	2° $\cancel{\text{A}}$ 46'43	10.96274 AU
morning rise	2038 Sep 29 15:37	21° Υ 42'56		morning rise	2044 Dec 11 01:59	4° $\cancel{\text{A}}$ 45'57	
retrograde	2039 Jan 08 11:55	29° Υ 17'27		retrograde	2045 Mar 20 18:12	11° $\cancel{\text{A}}$ 47'04	
opposition	2039 Mar 16 16:12	25° Υ 55'25	2°26'59	opposition	2045 May 29 10:58	8° $\cancel{\text{A}}$ 29'39	1°58'26
min. Earth dist.	2039 Mar 16 13:47	25° Υ 55'53	8.46053 AU	min. Earth dist.	2045 May 29 14:28	8° $\cancel{\text{A}}$ 29'00	8.98720 AU
direct	2039 May 25 03:05	22° Υ 28'12		direct	2045 Aug 08 15:00	5° $\cancel{\text{A}}$ 08'53	
	2039 Sep 05 15:14	0° Ω		evening set	2045 Nov 19 07:49	12° $\cancel{\text{A}}$ 18'48	
evening set	2039 Sep 08 05:42	0° Ω 18'52					
conjunction	2039 Sep 25 16:07	2° Ω 27'38	2°05'26	conjunction	2045 Dec 06 00:29	14° $\cancel{\text{A}}$ 16'36	1°26'50
minimum elong	2039 Sep 25 16:05	2° Ω 27'37	2°05'26	minimum elong	2045 Dec 06 00:31	14° $\cancel{\text{A}}$ 16'36	1°26'51
max. Earth dist.	2039 Sep 25 18:00	2° Ω 28'13	10.51606 AU	max. Earth dist.	2045 Dec 05 20:06	14° $\cancel{\text{A}}$ 15'18	11.00495 AU
morning rise	2039 Oct 12 22:03	4° Ω 34'59		morning rise	2045 Dec 22 15:00	16° $\cancel{\text{A}}$ 13'50	
retrograde	2040 Jan 21 04:12	12° Ω 01'17		retrograde	2046 Apr 01 14:45	23° $\cancel{\text{A}}$ 13'49	
opposition	2040 Mar 28 18:15	8° Ω 40'29	2°40'29	opposition	2046 Jun 10 15:21	19° $\cancel{\text{A}}$ 56'17	1°33'03
min. Earth dist.	2040 Mar 28 16:34	8° Ω 40'49	8.57333 AU	min. Earth dist.	2046 Jun 10 19:02	19° $\cancel{\text{A}}$ 55'37	9.01899 AU
direct	2040 Jun 06 17:54	5° Ω 14'19		direct	2046 Aug 20 19:11	16° $\cancel{\text{A}}$ 36'14	
evening set	2040 Sep 20 11:31	12° Ω 57'18		evening set	2046 Nov 30 19:17	23° $\cancel{\text{A}}$ 42'12	
conjunction	2040 Oct 07 17:25	15° Ω 03'19	2°13'24	conjunction	2046 Dec 17 11:06	25° $\cancel{\text{A}}$ 39'33	1°04'35
minimum elong	2040 Oct 07 17:24	15° Ω 03'18	2°13'23	minimum elong	2046 Dec 17 11:08	25° $\cancel{\text{A}}$ 39'33	1°04'35
max. Earth dist.	2040 Oct 07 18:05	15° Ω 03'31	10.62712 AU	max. Earth dist.	2046 Dec 17 06:21	25° $\cancel{\text{A}}$ 38'08	11.02668 AU
morning rise	2040 Oct 24 18:47	17° Ω 07'57		morning rise	2047 Jan 03 01:31	27° $\cancel{\text{A}}$ 36'32	
retrograde	2041 Feb 01 16:00	24° Ω 26'53			2047 Jan 24 15:40	0° $\cancel{\text{C}}$	
opposition	2041 Apr 10 15:12	21° Ω 07'12	2°46'01	retrograde	2047 Apr 13 11:46	4° $\cancel{\text{C}}$ 36'50	
min. Earth dist.	2041 Apr 10 14:24	21° Ω 07'21	8.68160 AU	opposition	2047 Jun 22 19:08	1° $\cancel{\text{C}}$ 18'58	1°04'10
direct	2041 Jun 20 01:10	17° Ω 42'11		min. Earth dist.	2047 Jun 22 23:41	1° $\cancel{\text{C}}$ 18'08	9.02995 AU
evening set	2041 Oct 03 07:08	25° Ω 17'27		direct	2047 Jul 11 02:59	30° $\cancel{\text{A}}$	
conjunction	2041 Oct 20 09:07	27° Ω 21'02	2°14'59	direct	2047 Sep 01 18:29	27° $\cancel{\text{A}}$ 59'28	
minimum elong	2041 Oct 20 09:07	27° Ω 21'02	2°14'58	evening set	2047 Dec 12 04:46	5° $\cancel{\text{C}}$ 02'46	
max. Earth dist.	2041 Oct 20 08:50	27° Ω 20'57	10.73095 AU	conjunction	2047 Dec 28 20:02	7° $\cancel{\text{C}}$ 00'00	0°39'52
morning rise	2041 Nov 06 06:35	29° Ω 23'20		minimum elong	2047 Dec 28 20:03	7° $\cancel{\text{C}}$ 00'00	0°39'51
	2041 Nov 11 10:57	0° \mathbb{M}		max. Earth dist.	2047 Dec 28 14:17	6° $\cancel{\text{C}}$ 58'18	11.02735 AU
retrograde	2042 Feb 13 22:50	6° \mathbb{M} 35'58		morning rise	2048 Jan 14 10:58	8° $\cancel{\text{C}}$ 57'09	
opposition	2042 Apr 23 07:28	3° \mathbb{M} 17'14	2°43'55	retrograde	2048 Apr 24 07:53	15° $\cancel{\text{C}}$ 59'18	
min. Earth dist.	2042 Apr 23 08:04	3° \mathbb{M} 17'07	8.78021 AU	opposition	2048 Jul 03 23:04	12° $\cancel{\text{C}}$ 40'51	0°32'47
	2042 Jun 21 10:26	30° Ω		min. Earth dist.	2048 Jul 04 04:08	12° $\cancel{\text{C}}$ 39'55	9.01986 AU
direct	2042 Jul 02 23:47	29° Ω 53'25		direct	2048 Sep 12 16:55	9° $\cancel{\text{C}}$ 21'41	
	2042 Jul 14 13:58	0° \mathbb{M}		evening set	2048 Dec 22 14:00	16° $\cancel{\text{C}}$ 23'48	
evening set	2042 Oct 15 17:55	7° \mathbb{M} 21'19		conjunction	2049 Jan 08 05:16	18° $\cancel{\text{C}}$ 21'16	0°13'33
conjunction	2042 Nov 01 16:31	9° \mathbb{M} 22'52	2°10'32	minimum elong	2049 Jan 08 05:16	18° $\cancel{\text{C}}$ 21'16	0°13'32
minimum elong	2042 Nov 01 16:32	9° \mathbb{M} 22'53	2°10'31	behind sun begin	2049 Jan 08 01:16	18° $\cancel{\text{C}}$ 20'06	
max. Earth dist.	2042 Nov 01 14:48	9° \mathbb{M} 22'21	10.82340 AU	behind sun end	2049 Jan 08 09:16	18° $\cancel{\text{C}}$ 22'26	
morning rise	2042 Nov 18 11:01	11° \mathbb{M} 23'16		max. Earth dist.	2049 Jan 07 23:22	18° $\cancel{\text{C}}$ 19'32	11.00702 AU
retrograde	2043 Feb 25 23:40	18° \mathbb{M} 30'46		morning rise	2049 Jan 24 21:03	20° $\cancel{\text{C}}$ 18'54	
opposition	2043 May 05 19:37	15° \mathbb{M} 12'46	2°34'46	retrograde	2049 May 06 09:11	27° $\cancel{\text{C}}$ 24'26	
min. Earth dist.	2043 May 05 22:06	15° \mathbb{M} 12'18	8.86577 AU	opposition	2049 Jul 16 03:51	24° $\cancel{\text{C}}$ 05'11	0°00'-1
direct	2043 Jul 15 18:06	11° \mathbb{M} 50'04		min. Earth dist.	2049 Jul 16 08:30	24° $\cancel{\text{C}}$ 04'19	8.98910 AU
evening set	2043 Oct 27 20:49	19° \mathbb{M} 11'12		desc. node	2049 Jul 15 20:34	24° $\cancel{\text{C}}$ 06'32	
conjunction	2043 Nov 13 16:39	21° \mathbb{M} 11'04	2°00'34	direct	2049 Sep 24 15:34	20° $\cancel{\text{C}}$ 46'13	
minimum elong	2043 Nov 13 16:41	21° \mathbb{M} 11'05	2°00'34	evening set	2050 Jan 03 00:33	27° $\cancel{\text{C}}$ 48'33	
max. Earth dist.	2043 Nov 13 12:54	21° \mathbb{M} 09'57	10.90151 AU	conjunction	2050 Jan 19 16:17	29° $\cancel{\text{C}}$ 46'37	0°-13'-31
morning rise	2043 Nov 30 09:10	23° \mathbb{M} 09'59		minimum elong	2050 Jan 19 16:17	29° $\cancel{\text{C}}$ 46'37	0°13'32
	2044 Feb 21 14:20	0° $\cancel{\text{A}}$		behind sun begin	2050 Jan 19 12:17	29° $\cancel{\text{C}}$ 45'26	
retrograde	2044 Mar 08 22:25	0° $\cancel{\text{A}}$ 13'38		behind sun end	2050 Jan 19 20:17	29° $\cancel{\text{C}}$ 47'47	
	2044 Mar 25 10:02	30° \mathbb{M}		max. Earth dist.	2050 Jan 19 11:26	29° $\cancel{\text{C}}$ 45'11	10.96626 AU
opposition	2044 May 17 04:37	26° \mathbb{M} 56'05	2°19'19		2050 Jan 21 13:14	0° \approx	
min. Earth dist.	2044 May 17 08:01	26° \mathbb{M} 55'26	8.93555 AU	morning rise	2050 Feb 05 09:08	1° \approx 45'05	
direct	2044 Jul 27 07:27	23° \mathbb{M} 34'24		retrograde	2050 May 18 14:28	8° \approx 55'26	
	2044 Oct 31 12:51	0° $\cancel{\text{A}}$		opposition	2050 Jul 28 10:42	5° \approx 35'13	0°-33'-7
evening set	2044 Nov 07 16:53	0° $\cancel{\text{A}}$ 49'26		min. Earth dist.	2050 Jul 28 14:26	5° \approx 34'31	8.93853 AU
				direct	2050 Oct 06 12:42	2° \approx 16'17	

evening set	2051 Jan 14 14:14	9°≈20'20		minimum elong	2057 Apr 15 03:34	25°Υ40'20	2°14'30
				max. Earth dist.	2057 Apr 15 04:14	25°Υ40'33	10.32244 AU
conjunction	2051 Jan 31 06:36	11°≈19'19	0°-40'-14	morning rise	2057 May 02 15:07	27°Υ52'32	
minimum elong	2051 Jan 31 06:35	11°≈19'19	0°40'15		2057 May 20 05:59	0°Ϟ	
max. Earth dist.	2051 Jan 31 02:02	11°≈17'57	10.90636 AU	retrograde	2057 Aug 17 11:50	5°Ϟ58'56	
morning rise	2051 Feb 17 00:51	13°≈18'55		opposition	2057 Oct 25 10:39	2°Ϟ30'40	-2°-45'-7
retrograde	2051 May 31 01:16	20°≈35'29		min. Earth dist.	2057 Oct 25 09:17	2°Ϟ30'57	8.27625 AU
opposition	2051 Aug 09 20:40	17°≈14'10	-1°-5'-20		2057 Nov 29 18:50	30°Υ	
min. Earth dist.	2051 Aug 10 00:06	17°≈13'32	8.86996 AU	direct	2057 Dec 31 06:58	29°Υ06'59	
direct	2051 Oct 18 11:51	13°≈55'03			2058 Jan 31 09:14	0°Ϟ	
evening set	2052 Jan 26 08:34	21°≈02'17		evening set	2058 Apr 11 17:11	6°Ϟ54'35	
conjunction	2052 Feb 12 01:52	23°≈02'30	-1°-5'-38	conjunction	2058 Apr 29 04:28	9°Ϟ07'53	-2°-9'-45
minimum elong	2052 Feb 12 01:50	23°≈02'29	1°05'39	minimum elong	2058 Apr 29 04:30	9°Ϟ07'53	2°09'46
max. Earth dist.	2052 Feb 11 21:03	23°≈01'03	10.82964 AU	max. Earth dist.	2058 Apr 29 06:21	9°Ϟ08'29	10.23043 AU
morning rise	2052 Feb 28 22:02	25°≈03'35		morning rise	2058 May 16 20:20	11°Ϟ22'37	
	2052 Apr 16 13:53	0°Ϟ		retrograde	2058 Aug 31 19:37	19°Ϟ35'00	
retrograde	2052 Jun 11 17:22	2°Ϟ27'30		opposition	2058 Nov 08 06:37	16°Ϟ06'04	-2°-34'-54
	2052 Aug 09 03:35	30°≈		min. Earth dist.	2058 Nov 08 04:34	16°Ϟ06'29	8.19111 AU
opposition	2052 Aug 21 10:31	29°≈05'00	-1°-35'-21	direct	2059 Jan 13 20:41	12°Ϟ41'14	
min. Earth dist.	2052 Aug 21 13:57	29°≈04'21	8.78608 AU	evening set	2059 Apr 25 22:20	20°Ϟ36'06	
direct	2052 Oct 29 13:18	25°≈45'29					
	2053 Jan 11 02:50	0°Ϟ		conjunction	2059 May 13 14:27	22°Ϟ51'52	-1°-57'-40
evening set	2053 Feb 06 08:50	2°Ϟ57'17		minimum elong	2059 May 13 14:30	22°Ϟ51'53	1°57'41
conjunction	2053 Feb 23 03:40	4°Ϟ59'03	-1°-28'-38	max. Earth dist.	2059 May 13 17:42	22°Ϟ52'55	10.15338 AU
minimum elong	2053 Feb 23 03:38	4°Ϟ59'02	1°28'39	morning rise	2059 May 31 10:33	25°Ϟ08'56	
max. Earth dist.	2053 Feb 22 23:29	4°Ϟ57'46	10.73906 AU	retrograde	2059 Jul 12 19:57	0°Ϟ	
morning rise	2053 Mar 12 02:04	7°Ϟ01'54			2059 Sep 15 06:27	3°Ϟ25'18	
retrograde	2053 Jun 24 15:27	14°Ϟ34'09		opposition	2059 Nov 21 10:19	30°Ϟ	
opposition	2053 Sep 03 04:52	11°Ϟ10'22	-2°-1'-51	min. Earth dist.	2059 Nov 22 06:09	29°Ϟ55'57	-2°-15'-35
min. Earth dist.	2053 Sep 03 07:40	11°Ϟ09'49	8.69015 AU	direct	2059 Nov 22 03:21	29°Ϟ56'32	8.12274 AU
direct	2053 Nov 10 20:12	7°Ϟ50'17			2060 Jan 27 17:50	26°Ϟ29'59	
evening set	2054 Feb 18 16:29	15°Ϟ07'53			2060 Mar 31 11:49	0°Ϟ	
conjunction	2054 Mar 07 13:26	17°Ϟ11'31	-1°-48'-6	evening set	2060 May 09 11:32	4°Ϟ31'16	
minimum elong	2054 Mar 07 13:23	17°Ϟ11'30	1°48'07	conjunction	2060 May 27 08:20	6°Ϟ49'14	-1°-38'-34
max. Earth dist.	2054 Mar 07 10:55	17°Ϟ10'45	10.63822 AU	minimum elong	2060 May 27 08:23	6°Ϟ49'15	1°38'35
morning rise	2054 Mar 24 14:17	19°Ϟ16'23		max. Earth dist.	2060 May 27 12:40	6°Ϟ50'38	10.09495 AU
retrograde	2054 Jul 07 22:03	26°Ϟ57'33		morning rise	2060 Jun 14 08:10	9°Ϟ08'13	
opposition	2054 Sep 16 04:10	23°Ϟ32'29	-2°-23'-23	retrograde	2060 Sep 28 18:54	17°Ϟ26'18	
min. Earth dist.	2054 Sep 16 05:31	23°Ϟ32'13	8.58620 AU	opposition	2060 Dec 05 08:04	13°Ϟ56'54	-1°-47'-57
direct	2054 Nov 23 08:06	20°Ϟ11'43		min. Earth dist.	2060 Dec 05 04:28	13°Ϟ57'39	8.07449 AU
evening set	2055 Mar 03 08:33	27°Ϟ36'05		direct	2061 Feb 09 19:57	10°Ϟ29'54	
conjunction	2055 Mar 20 08:10	29°Ϟ41'52	-2°-2'-54	evening set	2061 May 24 07:08	18°Ϟ36'30	
minimum elong	2055 Mar 20 08:08	29°Ϟ41'52	2°02'56	conjunction	2061 Jun 11 07:51	20°Ϟ56'09	-1°-13'-24
max. Earth dist.	2055 Mar 20 07:17	29°Ϟ41'36	10.53170 AU	minimum elong	2061 Jun 11 07:54	20°Ϟ56'10	1°13'25
	2055 Mar 22 18:29	0°Υ		max. Earth dist.	2061 Jun 11 12:53	20°Ϟ57'47	10.05847 AU
morning rise	2055 Apr 06 12:00	1°Υ49'01		morning rise	2061 Jun 29 10:29	23°Ϟ16'27	
retrograde	2055 Jul 21 12:49	9°Υ39'14			2061 Sep 01 07:38	0°Ϟ	
opposition	2055 Sep 29 09:01	6°Υ12'57	-2°-38'-34	retrograde	2061 Oct 13 07:45	1°Ϟ33'59	
min. Earth dist.	2055 Sep 29 08:53	6°Υ12'58	8.47906 AU		2061 Nov 24 19:03	30°Ϟ	
direct	2055 Dec 06 00:05	2°Υ51'20		opposition	2061 Dec 19 11:34	28°Ϟ04'52	-1°-13'-32
evening set	2056 Mar 15 09:48	10°Υ23'13		min. Earth dist.	2061 Dec 19 07:23	28°Ϟ05'43	8.04997 AU
conjunction	2056 Apr 01 12:40	12°Υ31'22	-2°-12'00	direct	2062 Feb 24 01:54	24°Ϟ36'59	
minimum elong	2056 Apr 01 12:40	12°Υ31'22	2°12'01		2062 May 16 10:49	0°Ϟ	
max. Earth dist.	2056 Apr 01 12:43	12°Υ31'23	10.42465 AU	evening set	2062 Jun 08 06:55	2°Ϟ47'18	
morning rise	2056 Apr 18 20:09	14°Υ41'00		conjunction	2062 Jun 26 10:17	5°Ϟ07'52	0°-43'-41
retrograde	2056 Aug 03 09:25	22°Υ39'50		minimum elong	2062 Jun 26 10:19	5°Ϟ07'53	0°43'42
opposition	2056 Oct 11 19:19	19°Υ12'27	-2°-46'-9	max. Earth dist.	2062 Jun 26 15:42	5°Ϟ09'38	10.04735 AU
min. Earth dist.	2056 Oct 11 18:19	19°Υ12'39	8.37395 AU	morning rise	2062 Jul 14 14:23	7°Ϟ28'42	
direct	2056 Dec 17 23:52	15°Υ49'51		retrograde	2062 Oct 27 18:56	15°Ϟ43'20	
evening set	2057 Mar 28 20:47	23°Υ29'38		opposition	2063 Jan 02 15:07	12°Ϟ14'47	0°-34'-34
conjunction	2057 Apr 15 03:33	25°Υ40'20	-2°-14'-28	min. Earth dist.	2063 Jan 02 10:51	12°Ϟ15'40	8.05199 AU
				direct	2063 Mar 10 10:19	8°Ϟ46'11	
				evening set	2063 Jun 23 08:39	16°Ϟ58'22	

conjunction	2063 Jul 11 13:05	19°☾18'58	0°-11'-22	minimum elong	2069 Oct 02 15:31	10°♁02'19	2°10'53
minimum elong	2063 Jul 11 13:06	19°☾18'58	0°11'22	max. Earth dist.	2069 Oct 02 17:18	10°♁02'52	10.57334 AU
behind sun begin	2063 Jul 11 07:50	19°☾17'17		morning rise	2069 Oct 19 18:44	12°♁08'06	
behind sun end	2063 Jul 11 18:22	19°☾20'40		retrograde	2070 Jan 27 18:59	19°♁29'54	
max. Earth dist.	2063 Jul 11 18:25	19°☾20'41	10.06324 AU	opposition	2070 Apr 05 14:26	16°♁09'16	2°44'45
morning rise	2063 Jul 29 17:02	21°☾39'24		min. Earth dist.	2070 Apr 05 13:53	16°♁09'22	8.62925 AU
retrograde	2063 Nov 11 02:16	29°☾48'58		direct	2070 Jun 14 20:00	12°♁43'13	
asc. node	2063 Nov 19 04:12	29°☾45'16		evening set	2070 Sep 28 07:10	20°♁21'34	
opposition	2064 Jan 16 17:07	26°☾21'16	0°06'20	conjunction	2070 Oct 15 10:43	22°♁26'09	2°15'08
min. Earth dist.	2064 Jan 16 13:09	26°☾22'05	8.08109 AU	minimum elong	2070 Oct 15 10:42	22°♁26'09	2°15'08
direct	2064 Mar 23 21:31	22°☾52'11		max. Earth dist.	2070 Oct 15 10:34	22°♁26'06	10.68124 AU
evening set	2064 Jun 28 19:26	0°♁		morning rise	2070 Nov 01 09:54	24°♁29'25	
	2064 Jul 07 09:21	1°♁04'13			2070 Dec 25 20:45	0°♁	
conjunction	2064 Jul 25 13:04	3°♁23'55	0°21'30	retrograde	2071 Feb 09 01:58	1°♁44'19	
minimum elong	2064 Jul 25 13:03	3°♁23'55	0°21'31		2071 Mar 27 18:15	30°♁	
max. Earth dist.	2064 Jul 25 17:52	3°♁25'28	10.10542 AU	opposition	2071 Apr 18 08:04	28°♁24'43	2°45'49
morning rise	2064 Aug 12 15:10	5°♁43'04		min. Earth dist.	2071 Apr 18 08:18	28°♁24'40	8.73413 AU
retrograde	2064 Nov 24 02:32	13°♁45'53		direct	2071 Jun 27 22:33	24°♁59'52	
opposition	2065 Jan 29 16:27	10°♁19'15	0°46'26		2071 Sep 18 17:21	0°♁	
min. Earth dist.	2065 Jan 29 12:50	10°♁19'59	8.13552 AU	evening set	2071 Oct 10 21:06	2°♁30'33	
direct	2065 Apr 07 08:45	6°♁49'59		conjunction	2071 Oct 27 21:00	4°♁32'53	2°13'12
evening set	2065 Jul 22 05:55	14°♁59'49		minimum elong	2071 Oct 27 21:00	4°♁32'53	2°13'11
conjunction	2065 Aug 09 07:19	17°♁17'47	0°52'42	max. Earth dist.	2071 Oct 27 19:46	4°♁32'31	10.78173 AU
minimum elong	2065 Aug 09 07:16	17°♁17'46	0°52'42	morning rise	2071 Nov 13 16:51	6°♁34'01	
max. Earth dist.	2065 Aug 09 11:33	17°♁19'09	10.17115 AU	retrograde	2072 Feb 21 04:06	13°♁43'08	
morning rise	2065 Aug 27 06:01	19°♁34'52		opposition	2072 Apr 29 21:14	10°♁24'23	2°39'34
retrograde	2065 Dec 07 19:32	27°♁29'52		min. Earth dist.	2072 Apr 29 21:41	10°♁24'18	8.82921 AU
opposition	2066 Feb 12 11:50	24°♁04'23	1°23'11	direct	2072 Jul 09 19:44	7°♁00'48	
min. Earth dist.	2066 Feb 12 08:10	24°♁05'08	8.21172 AU	evening set	2072 Oct 22 02:27	14°♁24'15	
direct	2066 Apr 21 17:22	20°♁35'16		conjunction	2072 Nov 07 23:29	16°♁24'43	2°05'31
evening set	2066 Aug 05 20:03	28°♁41'04		minimum elong	2072 Nov 07 23:30	16°♁24'43	2°05'31
	2066 Aug 16 07:24	0°♁		max. Earth dist.	2072 Nov 07 22:07	16°♁24'18	10.87058 AU
conjunction	2066 Aug 23 17:54	0°♁56'41	1°20'25	morning rise	2072 Nov 24 16:45	18°♁24'07	
minimum elong	2066 Aug 23 17:51	0°♁56'40	1°20'26	retrograde	2073 Mar 04 04:30	25°♁28'41	
max. Earth dist.	2066 Aug 23 21:51	0°♁57'56	10.25625 AU	opposition	2073 May 12 06:45	22°♁10'38	2°26'42
morning rise	2066 Sep 10 12:08	3°♁11'09		min. Earth dist.	2073 May 12 07:50	22°♁10'25	8.91070 AU
retrograde	2066 Dec 21 05:56	10°♁57'40		direct	2073 Jul 22 09:20	18°♁48'18	
opposition	2067 Feb 26 02:18	7°♁33'25	1°54'33	evening set	2073 Nov 03 00:28	26°♁05'10	
min. Earth dist.	2067 Feb 25 22:41	7°♁34'08	8.30484 AU	conjunction	2073 Nov 19 19:16	28°♁04'11	1°52'43
direct	2067 May 05 20:42	4°♁04'43		minimum elong	2073 Nov 19 19:19	28°♁04'11	1°52'43
evening set	2067 Aug 20 01:49	12°♁04'57		max. Earth dist.	2073 Nov 19 17:14	28°♁03'34	10.94423 AU
conjunction	2067 Sep 06 19:19	14°♁17'51	1°43'15	morning rise	2073 Dec 06 10:51	0°♁02'19	
minimum elong	2067 Sep 06 19:16	14°♁17'50	1°43'15		2073 Dec 06 02:54	0°♁	
max. Earth dist.	2067 Sep 06 22:58	14°♁19'00	10.35544 AU	retrograde	2074 Mar 16 00:56	7°♁03'37	
morning rise	2067 Sep 24 08:27	16°♁29'24		opposition	2074 May 24 13:20	3°♁46'04	2°08'02
retrograde	2068 Jan 03 10:20	24°♁07'18		min. Earth dist.	2074 May 24 15:46	3°♁45'37	8.97543 AU
opposition	2068 Mar 10 11:43	20°♁44'18	2°19'03	direct	2074 Aug 03 16:31	0°♁24'52	
min. Earth dist.	2068 Mar 10 08:36	20°♁44'55	8.40924 AU	evening set	2074 Nov 14 16:56	7°♁36'09	
direct	2068 May 18 18:16	17°♁16'17		conjunction	2074 Dec 01 09:59	9°♁34'06	1°35'29
evening set	2068 Sep 01 21:52	25°♁09'48		minimum elong	2074 Dec 01 10:01	9°♁34'07	1°35'29
conjunction	2068 Sep 19 10:33	27°♁19'49	2°00'14	max. Earth dist.	2074 Dec 01 06:23	9°♁33'02	10.99988 AU
minimum elong	2068 Sep 19 10:30	27°♁19'48	2°00'14	morning rise	2074 Dec 18 00:42	11°♁31'24	
max. Earth dist.	2068 Sep 19 13:39	27°♁20'47	10.46298 AU	retrograde	2075 Mar 27 19:44	18°♁30'53	
morning rise	2068 Oct 06 18:28	29°♁28'24		opposition	2075 Jun 05 17:46	15°♁13'34	1°44'31
	2068 Oct 11 02:54	0°♁		min. Earth dist.	2075 Jun 05 21:18	15°♁12'55	9.02102 AU
retrograde	2069 Jan 15 05:59	6°♁57'57		direct	2075 Aug 15 21:59	11°♁53'22	
opposition	2069 Mar 23 15:47	3°♁36'10	2°35'53	evening set	2075 Nov 26 05:10	19°♁00'11	
min. Earth dist.	2069 Mar 23 13:51	3°♁36'33	8.51920 AU	conjunction	2075 Dec 12 21:06	20°♁57'28	1°14'36
direct	2069 Jun 01 10:28	0°♁09'04		minimum elong	2075 Dec 12 21:09	20°♁57'28	1°14'36
evening set	2069 Sep 15 07:38	7°♁55'08		max. Earth dist.	2075 Dec 12 16:37	20°♁56'08	11.03560 AU
conjunction	2069 Oct 02 15:33	10°♁02'19	2°10'53	morning rise	2075 Dec 29 11:34	22°♁54'19	

retrograde	2076 Apr 07 15:14	29° 2 53'28		morning rise	2082 Mar 07 00:15	1° 1 54'45	
opposition	2076 Jun 16 21:08	26° 2 36'06	1°17'04	retrograde	2082 Jun 19 05:48	9° 1 22'21	
min. Earth dist.	2076 Jun 17 00:35	26° 2 35'28	9.04595 AU	opposition	2082 Aug 28 20:21	5° 1 59'43	-1°-50'-25
direct	2076 Aug 26 23:04	23° 2 16'45		min. Earth dist.	2082 Aug 28 23:43	5° 1 59'04	8.75404 AU
	2076 Dec 03 16:01	0° 3		direct	2082 Nov 05 17:16	2° 1 40'25	
evening set	2076 Dec 06 14:39	0° 3 20'17		evening set	2083 Feb 13 12:53	9° 1 54'33	
conjunction	2076 Dec 23 06:07	2° 3 17'17	0°50'53	conjunction	2083 Mar 02 08:37	11° 1 57'06	-1°-39'-50
minimum elong	2076 Dec 23 06:09	2° 3 17'18	0°50'53	minimum elong	2083 Mar 02 08:35	11° 1 57'05	1°39'51
max. Earth dist.	2076 Dec 23 02:08	2° 3 16'06	11.05006 AU	max. Earth dist.	2083 Mar 02 03:45	11° 1 55'37	10.70148 AU
morning rise	2077 Jan 08 20:41	4° 3 14'05		morning rise	2083 Mar 19 08:08	14° 1 00'48	
retrograde	2077 Apr 19 12:13	11° 3 14'24		retrograde	2083 Jul 02 08:41	21° 1 37'13	
opposition	2077 Jun 29 00:13	7° 3 56'44	0°46'42	opposition	2083 Sep 10 17:07	18° 1 13'07	-2°-14'-19
min. Earth dist.	2077 Jun 29 03:31	7° 3 56'07	9.04924 AU	min. Earth dist.	2083 Sep 10 20:19	18° 1 12'30	8.64775 AU
direct	2077 Sep 07 21:28	4° 3 38'01		direct	2083 Nov 18 01:48	14° 1 52'59	
evening set	2077 Dec 17 23:26	11° 3 39'38		evening set	2084 Feb 26 00:35	22° 1 13'36	
conjunction	2078 Jan 03 14:43	13° 3 36'43	0°25'12	conjunction	2084 Mar 13 22:40	24° 1 18'12	-1°-56'-51
minimum elong	2078 Jan 03 14:43	13° 3 36'43	0°25'11	minimum elong	2084 Mar 13 22:37	24° 1 18'11	1°56'53
max. Earth dist.	2078 Jan 03 10:28	13° 3 35'28	11.04261 AU	max. Earth dist.	2084 Mar 13 18:28	24° 1 16'54	10.59134 AU
morning rise	2078 Jan 20 05:50	15° 3 33'49		morning rise	2084 Mar 31 01:07	26° 1 24'08	
retrograde	2078 May 01 12:14	22° 3 36'44			2084 May 01 21:24	0° 1	
opposition	2078 Jul 11 03:53	19° 3 18'32	0°14'28	retrograde	2084 Jul 14 18:15	4° 1 09'42	
min. Earth dist.	2078 Jul 11 07:46	19° 3 17'49	9.03066 AU	opposition	2084 Sep 22 19:01	0° 1 44'08	-2°-32'-32
direct	2078 Sep 19 18:02	16° 3 00'12		min. Earth dist.	2084 Sep 22 21:42	0° 1 43'37	8.53559 AU
desc. node	2078 Dec 23 21:12	22° 3 23'31			2084 Oct 02 07:51	30° 1	
evening set	2078 Dec 29 08:58	23° 3 01'21		direct	2084 Nov 29 15:29	27° 1 22'57	
conjunction	2079 Jan 15 00:16	24° 3 58'50	0°-1'-37		2085 Jan 24 04:55	0° 1	
minimum elong	2079 Jan 15 00:15	24° 3 58'50	0°01'39	evening set	2085 Mar 09 21:05	4° 1 50'57	
behind sun begin	2079 Jan 14 17:16	24° 3 56'47		conjunction	2085 Mar 26 22:17	6° 1 57'53	-2°-8'-39
behind sun end	2079 Jan 15 07:14	25° 3 00'52		minimum elong	2085 Mar 26 22:16	6° 1 57'52	2°08'40
max. Earth dist.	2079 Jan 14 18:50	24° 3 57'15	11.01330 AU	max. Earth dist.	2085 Mar 26 19:43	6° 1 57'04	10.47788 AU
morning rise	2079 Jan 31 16:27	26° 3 56'36		morning rise	2085 Apr 13 04:04	9° 1 06'15	
	2079 Feb 28 17:23	0° 3		retrograde	2085 Jul 28 09:57	17° 1 00'51	
retrograde	2079 May 13 13:29	4° 3 03'36		opposition	2085 Oct 06 02:23	13° 1 33'53	-2°-43'-44
opposition	2079 Jul 23 09:23	0° 3 44'36	0°-18'-31	min. Earth dist.	2085 Oct 06 03:51	13° 1 33'36	8.42278 AU
min. Earth dist.	2079 Jul 23 14:08	0° 3 43'43	8.99050 AU	direct	2085 Dec 12 13:20	10° 1 11'33	
	2079 Aug 02 12:25	30° 3		evening set	2086 Mar 23 02:59	17° 1 47'28	
direct	2079 Oct 01 14:32	27° 3 26'23		conjunction	2086 Apr 09 07:57	19° 1 56'57	-2°-14'-14
	2079 Nov 27 14:17	0° 3		minimum elong	2086 Apr 09 07:57	19° 1 56'57	2°14'15
evening set	2080 Jan 09 20:34	4° 3 28'33		max. Earth dist.	2086 Apr 09 07:28	19° 1 56'48	10.36652 AU
conjunction	2080 Jan 26 12:20	6° 3 26'46	0°-28'-30	morning rise	2086 Apr 26 17:27	22° 1 07'55	
minimum elong	2080 Jan 26 12:19	6° 3 26'46	0°28'30		2086 Jul 27 23:31	0° 3	
max. Earth dist.	2080 Jan 26 06:38	6° 3 25'05	10.96262 AU	retrograde	2086 Aug 11 09:38	0° 3 10'54	
morning rise	2080 Feb 12 05:53	8° 3 25'32			2086 Aug 25 21:41	30° 3	
retrograde	2080 May 24 20:34	15° 3 38'09		opposition	2086 Oct 19 15:05	26° 3 42'41	-2°-46'-45
opposition	2080 Aug 03 17:23	12° 3 18'05	0°-51'-11	min. Earth dist.	2086 Oct 19 14:48	26° 3 42'45	8.31483 AU
min. Earth dist.	2080 Aug 03 22:02	12° 3 17'13	8.92949 AU	direct	2086 Dec 25 16:42	23° 3 19'08	
direct	2080 Oct 12 14:07	8° 3 59'44			2087 Mar 28 05:48	0° 3	
evening set	2081 Jan 20 12:08	16° 3 04'27		evening set	2087 Apr 05 18:38	1° 3 03'07	
conjunction	2081 Feb 06 04:54	18° 3 03'48	0°-54'-33	conjunction	2087 Apr 23 03:54	3° 3 15'17	-2°-12'-51
minimum elong	2081 Feb 06 04:52	18° 3 03'47	0°54'32	minimum elong	2087 Apr 23 03:56	3° 3 15'17	2°12'53
max. Earth dist.	2081 Feb 05 23:47	18° 3 02'16	10.89165 AU	max. Earth dist.	2087 Apr 23 04:52	3° 3 15'35	10.26309 AU
morning rise	2081 Feb 22 23:59	20° 3 03'53		morning rise	2087 May 10 17:36	5° 3 28'54	
retrograde	2081 Jun 06 10:27	27° 3 23'25		retrograde	2087 Aug 25 16:02	13° 3 38'56	
opposition	2081 Aug 16 04:38	24° 3 02'09	-1°-22'-14	opposition	2087 Nov 02 08:47	10° 3 09'45	-2°-40'-48
min. Earth dist.	2081 Aug 16 08:38	24° 3 01'24	8.84948 AU	min. Earth dist.	2087 Nov 02 07:15	10° 3 10'04	8.21750 AU
direct	2081 Oct 24 13:43	20° 3 43'27		direct	2088 Jan 08 01:45	6° 3 44'56	
evening set	2082 Feb 01 09:09	27° 3 52'14		evening set	2088 Apr 18 19:43	14° 3 36'46	
conjunction	2082 Feb 18 03:13	29° 3 53'01	-1°-18'-41	conjunction	2088 May 06 09:40	16° 3 51'34	-2°-4'-8
minimum elong	2082 Feb 18 03:11	29° 3 53'00	1°18'42	minimum elong	2088 May 06 09:43	16° 3 51'35	2°04'09
max. Earth dist.	2082 Feb 17 22:31	29° 3 51'35	10.80319 AU	max. Earth dist.	2088 May 06 11:36	16° 3 52'11	10.17320 AU
	2082 Feb 19 02:19	0° 3		morning rise	2088 May 24 03:49	19° 3 07'44	

retrograde	2088 Sep 08 02:31	27°♄22'59		opposition	2095 Feb 06 16:58	18°♄09'52	1°07'07
opposition	2088 Nov 15 06:48	23°♄53'10	-2°-25'-36	min. Earth dist.	2095 Feb 06 11:57	18°♄10'54	8.16669 AU
min. Earth dist.	2088 Nov 15 04:34	23°♄53'38	8.13615 AU	direct	2095 Apr 15 15:00	14°♄40'36	
direct	2089 Jan 20 19:08	20°♄27'06		evening set	2095 Jul 30 16:52	22°♄48'57	
evening set	2089 May 03 05:29	28°♄26'05					
	2089 May 15 10:21	0°♄		conjunction	2095 Aug 17 16:36	25°♄05'51	1°08'25
conjunction	2089 May 21 00:07	0°♄43'17	-1°-48'-8	minimum elong	2095 Aug 17 16:34	25°♄05'50	1°08'25
minimum elong	2089 May 21 00:10	0°♄43'18	1°48'09	max. Earth dist.	2095 Aug 17 22:36	25°♄07'46	10.20926 AU
max. Earth dist.	2089 May 21 02:49	0°♄44'10	10.10195 AU	morning rise	2095 Sep 04 12:57	27°♄21'41	
morning rise	2089 Jun 07 22:24	3°♄01'39			2095 Sep 26 12:43	0°♄	
retrograde	2089 Sep 22 14:17	11°♄19'53		retrograde	2095 Dec 15 17:43	5°♄12'40	
opposition	2089 Nov 29 08:02	7°♄49'49	-2°-1'-36	opposition	2096 Feb 20 10:19	1°♄47'54	1°41'09
min. Earth dist.	2089 Nov 29 05:21	7°♄50'22	8.07565 AU	min. Earth dist.	2096 Feb 20 06:16	1°♄48'43	8.25624 AU
direct	2090 Feb 03 19:22	4°♄22'36			2096 Mar 14 20:19	30°♄	
evening set	2090 May 17 22:26	12°♄27'35		direct	2096 Apr 28 20:25	28°♄19'07	
					2096 Jun 12 10:19	0°♄	
conjunction	2090 Jun 04 21:22	14°♄46'45	-1°-25'-34	evening set	2096 Aug 13 03:27	6°♄22'36	
minimum elong	2090 Jun 04 21:25	14°♄46'46	1°25'35	conjunction	2096 Aug 30 22:57	8°♄36'52	1°33'36
max. Earth dist.	2090 Jun 05 00:59	14°♄47'55	10.05378 AU	minimum elong	2096 Aug 30 22:54	8°♄36'51	1°33'37
morning rise	2090 Jun 22 23:05	17°♄06'46		max. Earth dist.	2096 Aug 31 03:34	8°♄38'20	10.30629 AU
retrograde	2090 Oct 07 02:57	25°♄25'32		morning rise	2096 Sep 17 14:28	10°♄49'52	
opposition	2090 Dec 13 11:20	21°♄55'34	-1°-30'00	retrograde	2096 Dec 28 01:14	18°♄32'11	
min. Earth dist.	2090 Dec 13 08:02	21°♄56'15	8.03995 AU	opposition	2097 Mar 04 22:51	15°♄08'54	2°08'53
direct	2091 Feb 18 00:24	18°♄27'22		min. Earth dist.	2097 Mar 04 19:29	15°♄09'34	8.35995 AU
evening set	2091 Jun 01 20:41	26°♄36'49		direct	2097 May 12 22:09	11°♄40'52	
				evening set	2097 Aug 27 04:38	19°♄38'03	
conjunction	2091 Jun 19 23:01	28°♄57'16	0°-57'-41	conjunction	2097 Sep 13 19:23	21°♄49'26	1°53'18
minimum elong	2091 Jun 19 23:04	28°♄57'17	0°57'41	minimum elong	2097 Sep 13 19:20	21°♄49'25	1°53'19
max. Earth dist.	2091 Jun 20 03:50	28°♄58'50	10.03182 AU	max. Earth dist.	2097 Sep 13 22:48	21°♄50'30	10.41451 AU
	2091 Jun 27 23:55	0°♄		morning rise	2097 Oct 01 05:49	23°♄59'27	
morning rise	2091 Jul 08 02:55	1°♄18'12			2097 Nov 29 00:34	0°♄	
retrograde	2091 Oct 21 14:47	9°♄35'02		retrograde	2098 Jan 09 23:35	1°♄33'11	
opposition	2091 Dec 27 15:13	6°♄05'33	0°-52'-44		2098 Feb 21 23:51	30°♄	
min. Earth dist.	2091 Dec 27 11:00	6°♄06'25	8.03138 AU	opposition	2098 Mar 18 05:55	28°♄11'15	2°29'12
direct	2092 Mar 03 08:53	2°♄36'37		min. Earth dist.	2098 Mar 18 02:59	28°♄11'50	8.47182 AU
evening set	2092 Jun 15 22:06	10°♄48'43		direct	2098 May 26 19:14	24°♄44'10	
					2098 Aug 18 17:52	0°♄	
conjunction	2092 Jul 04 02:23	13°♄09'37	0°-26'-15	evening set	2098 Sep 09 19:46	2°♄34'05	
minimum elong	2092 Jul 04 02:24	13°♄09'37	0°26'15	conjunction	2098 Sep 27 05:47	4°♄42'33	2°06'49
max. Earth dist.	2092 Jul 04 08:13	13°♄11'30	10.03748 AU	minimum elong	2098 Sep 27 05:45	4°♄42'33	2°06'49
morning rise	2092 Jul 22 06:47	15°♄30'33		max. Earth dist.	2098 Sep 27 08:13	4°♄43'18	10.52778 AU
retrograde	2092 Nov 04 00:01	23°♄43'12		morning rise	2098 Oct 14 11:13	6°♄49'37	
opposition	2093 Jan 09 18:15	20°♄14'32	0°-12'-19	retrograde	2099 Jan 22 16:49	14°♄15'10	
min. Earth dist.	2093 Jan 09 13:13	20°♄15'35	8.05064 AU	opposition	2099 Mar 31 07:19	10°♄54'30	2°41'36
direct	2093 Mar 17 19:29	16°♄45'10		min. Earth dist.	2099 Mar 31 04:57	10°♄54'58	8.58547 AU
asc. node	2093 May 03 09:07	18°♄39'59		direct	2099 Jun 09 08:07	7°♄28'30	
evening set	2093 Jun 30 23:48	24°♄58'01		evening set	2099 Sep 23 00:32	15°♄10'37	
conjunction	2093 Jul 19 04:15	27°♄18'24	0°06'43	conjunction	2099 Oct 10 06:07	17°♄16'21	2°13'53
minimum elong	2093 Jul 19 04:14	27°♄18'24	0°06'43	minimum elong	2099 Oct 10 06:06	17°♄16'21	2°13'53
behind sun begin	2093 Jul 18 21:23	27°♄16'12		max. Earth dist.	2099 Oct 10 07:47	17°♄16'52	10.63972 AU
behind sun end	2093 Jul 19 11:05	27°♄20'36		morning rise	2099 Oct 27 06:58	19°♄20'42	
max. Earth dist.	2093 Jul 19 10:47	27°♄20'30	10.07056 AU				
morning rise	2093 Aug 06 07:25	29°♄38'24					
	2093 Aug 09 03:50	0°♄					
retrograde	2093 Nov 18 04:12	7°♄45'02					
opposition	2094 Jan 23 19:16	4°♄17'30	0°28'31				
min. Earth dist.	2094 Jan 23 13:49	4°♄18'37	8.09671 AU				
direct	2094 Apr 01 06:12	0°♄48'02					
evening set	2094 Jul 15 22:48	8°♄59'33					
conjunction	2094 Aug 03 01:41	11°♄18'34	0°38'53				
minimum elong	2094 Aug 03 01:39	11°♄18'34	0°38'54				
max. Earth dist.	2094 Aug 03 08:26	11°♄20'45	10.12907 AU				
morning rise	2094 Aug 21 02:03	13°♄36'49					
retrograde	2094 Dec 02 02:21	21°♄36'05					