

conjunction	1600 Aug 25 15:03	2°♃27'09	0°55'36	direct	1606 Oct 19 00:58	22°♁42'44	
minimum elong	1600 Aug 25 15:01	2°♃27'08	0°55'35		1606 Dec 27 18:04	0°♁	
max. Earth dist.	1600 Aug 25 11:00	2°♃24'58	6.41278 AU	evening set	1607 Feb 21 07:18	12°♁15'28	
morning rise	1600 Sep 07 19:48	5°♃18'42					
retrograde	1601 Jan 06 12:19	22°♃14'22		conjunction	1607 Mar 06 09:23	15°♁25'07	-1°-1'-47
opposition	1601 Mar 07 20:05	17°♃19'05	1°31'57	minimum elong	1607 Mar 06 09:22	15°♁25'06	1°01'48
min. Earth dist.	1601 Mar 08 07:12	17°♃15'28	4.44158 AU	max. Earth dist.	1607 Mar 07 00:49	15°♁34'27	5.96572 AU
direct	1601 May 09 01:08	12°♃16'08		morning rise	1607 Mar 19 14:33	18°♁36'27	
evening set	1601 Sep 12 19:08	29°♃49'01			1607 May 09 11:53	0°♃	
	1601 Sep 13 15:36	0°♁		retrograde	1607 Jul 29 21:36	9°♃13'18	
conjunction	1601 Sep 25 19:06	2°♁37'24	1°07'01	opposition	1607 Sep 27 20:09	4°♃11'03	-1°-39'-25
minimum elong	1601 Sep 25 19:06	2°♁37'24	1°07'01	min. Earth dist.	1607 Sep 26 22:11	4°♃18'26	3.95613 AU
max. Earth dist.	1601 Sep 24 13:48	2°♁21'33	6.45136 AU	direct	1607 Nov 04 10:09	30°♁	
morning rise	1601 Oct 08 16:09	5°♁24'25			1607 Nov 24 20:23	29°♁17'03	
retrograde	1602 Feb 05 18:46	22°♁09'57		evening set	1607 Dec 15 07:44	0°♃	
opposition	1602 Apr 07 09:42	17°♁17'12	1°35'40		1608 Mar 29 10:56	18°♃58'22	
min. Earth dist.	1602 Apr 08 13:06	17°♁08'25	4.44409 AU	conjunction	1608 Apr 11 21:08	22°♃11'36	-1°-3'-34
direct	1602 Jun 09 03:33	12°♁15'11		minimum elong	1608 Apr 11 21:09	22°♃11'37	1°03'35
evening set	1602 Oct 13 11:52	29°♁50'06		max. Earth dist.	1608 Apr 13 17:45	22°♃38'24	5.96785 AU
	1602 Oct 14 06:05	0°♃		morning rise	1608 Apr 25 10:16	25°♃26'20	
max. Earth dist.	1602 Oct 24 07:31	2°♃11'58	6.41688 AU		1608 May 14 21:56	0°♁	
conjunction	1602 Oct 26 06:20	2°♃37'38	1°00'17	retrograde	1608 Sep 04 06:35	15°♁53'30	
minimum elong	1602 Oct 26 06:22	2°♃37'38	1°00'16	opposition	1608 Nov 02 21:22	10°♁48'40	-1°-21'-47
morning rise	1602 Nov 07 22:32	5°♃24'10		min. Earth dist.	1608 Nov 01 12:07	11°♁00'00	4.00284 AU
retrograde	1603 Mar 09 00:06	22°♃28'00		direct	1608 Dec 30 21:18	5°♁52'24	
opposition	1603 May 08 20:30	17°♃36'09	1°13'38	evening set	1609 May 05 21:49	25°♁15'43	
min. Earth dist.	1603 May 10 08:22	17°♃24'43	4.37503 AU	conjunction	1609 May 19 14:28	28°♁27'57	0°-40'-42
direct	1603 Jul 10 09:52	12°♃35'52		minimum elong	1609 May 19 14:30	28°♁27'59	0°40'44
	1603 Nov 11 02:32	0°♁		max. Earth dist.	1609 May 21 22:10	29°♁00'34	6.05415 AU
evening set	1603 Nov 13 06:53	0°♁29'06			1609 May 26 03:46	0°♁	
max. Earth dist.	1603 Nov 23 21:22	2°♁51'36	6.31836 AU	morning rise	1609 Jun 02 09:02	1°♁40'56	
conjunction	1603 Nov 25 23:00	3°♁19'30	0°36'38	retrograde	1609 Oct 09 11:27	21°♁14'57	
minimum elong	1603 Nov 25 23:02	3°♁19'31	0°36'38	min. Earth dist.	1609 Dec 06 16:09	16°♁21'39	4.11861 AU
morning rise	1603 Dec 08 13:37	6°♁09'27		opposition	1609 Dec 08 01:35	16°♁10'16	0°-34'-7
retrograde	1604 Apr 10 00:38	23°♁57'50		direct	1610 Feb 04 19:00	11°♁11'00	
opposition	1604 Jun 09 22:33	19°♁05'21	0°29'21	evening set	1610 Jun 11 08:26	29°♁59'47	
min. Earth dist.	1604 Jun 11 08:43	18°♁54'26	4.25243 AU		1610 Jun 11 08:49	0°♁	
direct	1604 Aug 10 15:41	14°♁07'31		conjunction	1610 Jun 25 02:23	3°♁06'33	0°-3'-56
	1604 Dec 02 22:46	0°♁		minimum elong	1610 Jun 25 02:22	3°♁06'33	0°03'57
evening set	1604 Dec 14 02:27	2°♁32'21		behind sun begin	1610 Jun 24 18:06	3°♁01'53	
max. Earth dist.	1604 Dec 25 02:07	5°♁04'48	6.18181 AU	behind sun end	1610 Jun 25 10:37	3°♁11'12	
conjunction	1604 Dec 26 18:53	5°♁28'27	0°01'09	max. Earth dist.	1610 Jun 26 22:14	3°♁31'25	6.18935 AU
minimum elong	1604 Dec 26 18:54	5°♁28'28	0°01'08	morning rise	1610 Jul 08 20:27	6°♁13'03	
behind sun begin	1604 Dec 26 10:54	5°♁23'51		asc. node	1610 Aug 04 03:44	11°♁58'11	
behind sun end	1604 Dec 27 02:53	5°♁33'04		retrograde	1610 Nov 11 09:46	24°♁38'41	
morning rise	1605 Jan 08 11:37	8°♁24'56		min. Earth dist.	1611 Jan 09 05:50	19°♁43'46	4.25928 AU
desc. node	1605 Jan 07 05:09	8°♁07'21		opposition	1611 Jan 10 03:00	19°♁36'39	0°22'13
retrograde	1605 May 15 09:03	27°♁17'05		direct	1611 Mar 11 04:19	14°♁34'57	
opposition	1605 Jul 15 02:06	22°♁22'20	0°-27'-11	evening set	1611 Jul 03 02:57	0°♁	
min. Earth dist.	1605 Jul 15 23:15	22°♁15'30	4.11108 AU		1611 Jul 15 23:50	2°♁47'27	
direct	1605 Sep 13 11:45	17°♁26'58		conjunction	1611 Jul 29 13:38	5°♁46'37	0°32'39
	1605 Dec 19 09:08	0°♁		minimum elong	1611 Jul 29 13:36	5°♁46'36	0°32'40
evening set	1606 Jan 16 16:12	6°♁29'23		max. Earth dist.	1611 Jul 30 10:35	5°♁58'09	6.32467 AU
conjunction	1606 Jan 29 12:14	9°♁32'38	0°-36'-19	morning rise	1611 Aug 12 01:33	8°♁44'41	
minimum elong	1606 Jan 29 12:12	9°♁32'37	0°36'20	retrograde	1611 Dec 12 11:58	26°♁12'30	
max. Earth dist.	1606 Jan 28 20:38	9°♁23'20	6.04837 AU	opposition	1612 Feb 10 12:38	21°♁14'14	1°08'32
morning rise	1606 Feb 11 09:47	12°♁36'58		min. Earth dist.	1612 Feb 10 07:43	21°♁15'51	4.37892 AU
	1606 May 11 16:31	0°♁		direct	1612 Apr 11 20:16	16°♁11'23	
retrograde	1606 Jun 21 18:41	2°♁34'42		evening set	1612 Jul 29 02:57	0°♁	
	1606 Aug 02 01:51	30°♁			1612 Aug 16 18:40	3°♁56'50	
opposition	1606 Aug 21 01:45	27°♁36'25	-1°-17'-30	conjunction	1612 Aug 30 00:59	6°♁49'04	0°58'11
min. Earth dist.	1606 Aug 21 01:53	27°♁36'22	3.99802 AU	minimum elong	1612 Aug 30 00:57	6°♁49'03	0°58'10

max. Earth dist.	1612 Aug 29 16:30	6°♎44'28	6.41942 AU	direct	1618 Oct 24 02:00	27°♊52'08	
morning rise	1612 Sep 12 04:42	9°♎39'55			1618 Nov 29 04:09	0°♋	
retrograde	1613 Jan 10 18:38	26°♎33'27		evening set	1619 Feb 26 09:30	17°♋27'36	
opposition	1613 Mar 12 02:21	21°♎38'39	1°33'58				
min. Earth dist.	1613 Mar 12 16:39	21°♎34'00	4.44377 AU	conjunction	1619 Mar 11 12:47	20°♋38'00	-1°-3'-36
direct	1613 May 13 10:49	16°♎35'47		minimum elong	1619 Mar 11 12:46	20°♋37'59	1°03'37
	1613 Aug 28 11:07	0°♏		max. Earth dist.	1619 Mar 12 09:28	20°♋50'31	5.96044 AU
evening set	1613 Sep 17 03:14	4°♏08'47		morning rise	1619 Mar 24 18:54	23°♋50'02	
max. Earth dist.	1613 Sep 28 18:13	6°♏39'30	6.44887 AU		1619 Apr 20 03:16	0°♌	
				retrograde	1619 Aug 04 05:43	14°♌28'53	
conjunction	1613 Sep 30 02:24	6°♏56'56	1°07'07	min. Earth dist.	1619 Oct 02 02:26	9°♌33'58	3.95658 AU
minimum elong	1613 Sep 30 02:24	6°♏56'56	1°07'07	opposition	1619 Oct 03 01:31	9°♌26'11	-1°-39'-18
morning rise	1613 Oct 12 22:39	9°♏43'45		direct	1619 Nov 30 01:26	4°♌31'58	
retrograde	1614 Feb 10 01:50	26°♏30'44		evening set	1620 Apr 03 16:29	24°♌12'45	
opposition	1614 Apr 11 18:15	21°♏38'09	1°34'01				
min. Earth dist.	1614 Apr 12 22:28	21°♏29'07	4.43731 AU	conjunction	1620 Apr 17 03:45	27°♌26'14	-1°-1'-41
direct	1614 Jun 13 11:40	16°♏36'21		minimum elong	1620 Apr 17 03:46	27°♌26'15	1°01'42
	1614 Sep 28 01:06	0°♍		max. Earth dist.	1620 Apr 19 02:54	27°♌54'29	5.97384 AU
evening set	1614 Oct 17 19:19	4°♍13'10			1620 Apr 27 20:50	0°♎	
max. Earth dist.	1614 Oct 28 14:59	6°♍35'25	6.40632 AU	morning rise	1620 Apr 30 18:01	0°♎41'10	
				retrograde	1620 Sep 09 07:38	21°♎03'40	
conjunction	1614 Oct 30 13:21	7°♍00'54	0°57'51	min. Earth dist.	1620 Nov 06 11:35	16°♎10'29	4.01376 AU
minimum elong	1614 Oct 30 13:22	7°♍00'55	0°57'50	opposition	1620 Nov 07 22:10	15°♎58'43	-1°-16'-27
morning rise	1614 Nov 12 05:01	9°♍47'41		direct	1621 Jan 04 22:00	11°♎02'03	
retrograde	1615 Mar 13 12:29	26°♍56'12			1621 May 09 12:11	0°♏	
opposition	1615 May 13 09:40	22°♍04'23	1°08'31	evening set	1621 May 11 02:18	0°♏22'06	
min. Earth dist.	1615 May 14 21:53	21°♍52'52	4.36112 AU				
direct	1615 Jul 14 21:46	17°♍04'28		conjunction	1621 May 24 19:28	3°♏33'55	0°-36'-1
	1615 Oct 25 16:09	0°♎		minimum elong	1621 May 24 19:30	3°♏33'56	0°36'02
evening set	1615 Nov 17 16:28	5°♎01'04		max. Earth dist.	1621 May 27 01:26	4°♏05'24	6.06890 AU
max. Earth dist.	1615 Nov 28 06:05	7°♎23'42	6.30203 AU	morning rise	1621 Jun 07 14:29	6°♏46'23	
				retrograde	1621 Oct 14 06:05	26°♏12'04	
conjunction	1615 Nov 30 08:19	7°♎52'03	0°32'09	opposition	1621 Dec 12 20:11	21°♏07'37	0°-26'-11
minimum elong	1615 Nov 30 08:21	7°♎52'04	0°32'08	min. Earth dist.	1621 Dec 11 12:27	21°♏18'25	4.13542 AU
morning rise	1615 Dec 12 23:10	10°♎42'44		direct	1622 Feb 09 18:18	16°♏07'57	
retrograde	1616 Apr 14 19:57	28°♎38'34			1622 May 25 05:41	0°♑	
opposition	1616 Jun 14 17:41	23°♎45'50	0°21'46	asc. node	1622 Jun 13 11:22	4°♑13'39	
min. Earth dist.	1616 Jun 16 02:30	23°♎35'20	4.23443 AU	evening set	1622 Jun 16 08:27	4°♑52'22	
direct	1616 Aug 15 07:24	18°♎48'18					
	1616 Nov 15 18:01	0°♒		conjunction	1622 Jun 30 02:20	7°♑58'18	0°01'39
desc. node	1616 Nov 16 20:46	0°♒13'57		minimum elong	1622 Jun 30 02:18	7°♑58'17	0°01'39
evening set	1616 Dec 18 16:22	7°♒17'43		behind sun begin	1622 Jun 29 17:55	7°♑53'35	
max. Earth dist.	1616 Dec 29 20:11	9°♒53'08	6.16365 AU	behind sun end	1622 Jun 30 10:40	8°♑02'59	
				max. Earth dist.	1622 Jul 01 21:05	8°♑22'26	6.20712 AU
conjunction	1616 Dec 31 09:17	10°♒14'44	0°-4'-22	morning rise	1622 Jul 13 19:42	11°♑03'44	
minimum elong	1616 Dec 31 09:16	10°♒14'43	0°04'23	retrograde	1622 Nov 15 21:49	29°♑20'56	
behind sun begin	1616 Dec 31 01:25	10°♒10'10		opposition	1623 Jan 14 15:44	24°♑19'28	0°29'44
behind sun end	1616 Dec 31 17:08	10°♒19'17		min. Earth dist.	1623 Jan 13 19:47	24°♑26'09	4.27664 AU
morning rise	1617 Jan 13 02:20	13°♒12'09		direct	1623 Mar 15 20:43	19°♑17'36	
	1617 Apr 12 06:01	0°♓			1623 Jun 15 07:35	0°♒	
retrograde	1617 May 20 11:55	2°♓13'11		evening set	1623 Jul 20 18:19	7°♒26'06	
	1617 Jun 28 00:17	30°♓					
opposition	1617 Jul 20 03:32	27°♓18'03	0°-35'-6	conjunction	1623 Aug 03 07:02	10°♒24'12	0°37'08
min. Earth dist.	1617 Jul 20 22:34	27°♓11'54	4.09411 AU	minimum elong	1623 Aug 03 07:00	10°♒24'11	0°37'08
direct	1617 Sep 18 08:14	22°♓23'02		max. Earth dist.	1623 Aug 03 23:12	10°♒33'05	6.34052 AU
	1617 Nov 29 22:08	0°♔		morning rise	1623 Aug 16 18:01	13°♒21'11	
evening set	1618 Jan 21 12:25	11°♔29'58			1623 Nov 25 17:19	0°♕	
				retrograde	1623 Dec 16 20:51	0°♕42'39	
conjunction	1618 Feb 03 08:58	14°♔34'06	0°-40'-55		1624 Jan 06 20:50	30°♕	
minimum elong	1618 Feb 03 08:56	14°♔34'05	0°40'56	opposition	1624 Feb 14 21:44	25°♕44'54	1°13'34
max. Earth dist.	1618 Feb 02 19:52	14°♔26'16	6.03395 AU	min. Earth dist.	1624 Feb 14 19:47	25°♕45'33	4.39256 AU
morning rise	1618 Feb 16 07:34	17°♔39'29		direct	1624 Apr 16 10:23	20°♕41'59	
	1618 Apr 13 21:08	0°♖			1624 Jul 11 01:00	0°♗	
retrograde	1618 Jun 27 00:07	7°♖44'36		evening set	1624 Aug 21 07:08	8°♗24'17	
opposition	1618 Aug 26 07:16	2°♖45'44	-1°-22'-40				
min. Earth dist.	1618 Aug 26 03:41	2°♖46'55	3.98766 AU	conjunction	1624 Sep 03 12:31	11°♗15'41	1°00'31
	1618 Sep 17 13:30	30°♗		minimum elong	1624 Sep 03 12:29	11°♗15'40	1°00'32

max. Earth dist.	1624 Sep 03 02:21	11°♎10'11	6.43004 AU	minimum elong	1630 Feb 08 02:26	19°♏25'41	0°45'04
morning rise	1624 Sep 16 14:56	14°♎05'37		max. Earth dist.	1630 Feb 07 17:43	19°♏20'26	6.01782 AU
	1624 Dec 21 15:21	0°♌		morning rise	1630 Feb 21 01:51	22°♏32'11	
retrograde	1625 Jan 14 23:15	0°♌55'34			1630 Mar 25 12:13	0°♏	
	1625 Feb 08 07:22	30°♎		retrograde	1630 Jul 02 05:09	12°♏45'26	
opposition	1625 Mar 16 09:45	26°♎01'07	1°35'30	opposition	1630 Aug 31 09:08	7°♏46'06	-1°-27'-6
min. Earth dist.	1625 Mar 17 00:51	25°♎56'13	4.45105 AU	min. Earth dist.	1630 Aug 31 04:13	7°♏47'44	3.97450 AU
direct	1625 May 17 19:48	20°♎58'22		direct	1630 Oct 29 00:39	2°♏52'31	
	1625 Aug 10 14:58	0°♌		evening set	1631 Mar 03 09:21	22°♏32'13	
evening set	1625 Sep 21 11:19	8°♌29'24					
max. Earth dist.	1625 Oct 02 23:01	10°♌58'21	6.45226 AU	conjunction	1631 Mar 16 13:45	25°♏43'35	-1°-4'-52
				minimum elong	1631 Mar 16 13:44	25°♏43'34	1°04'54
conjunction	1625 Oct 04 09:24	11°♌17'00	1°06'53	max. Earth dist.	1631 Mar 17 13:26	25°♏57'55	5.95144 AU
minimum elong	1625 Oct 04 09:25	11°♌17'00	1°06'52	morning rise	1631 Mar 29 21:16	28°♏56'38	
morning rise	1625 Oct 17 04:47	14°♌03'20			1631 Apr 03 07:00	0°♏	
	1626 Jan 22 04:31	0°♌		retrograde	1631 Aug 09 10:25	19°♏38'52	
retrograde	1626 Feb 14 08:57	0°♌49'49		min. Earth dist.	1631 Oct 07 02:48	14°♏44'32	3.95308 AU
	1626 Mar 09 12:35	30°♌		opposition	1631 Oct 08 04:39	14°♏35'48	-1°-38'-26
opposition	1626 Apr 16 02:17	25°♌57'26	1°31'53	direct	1631 Dec 05 01:21	9°♏41'22	
min. Earth dist.	1626 Apr 17 08:36	25°♌47'45	4.43656 AU	evening set	1632 Apr 08 21:04	29°♏23'26	
direct	1626 Jun 17 21:49	20°♌55'48			1632 Apr 11 10:26	0°♏	
	1626 Sep 10 13:05	0°♌		conjunction	1632 Apr 22 09:26	2°♏37'20	0°-59'-20
evening set	1626 Oct 22 01:04	8°♌32'19		minimum elong	1632 Apr 22 09:29	2°♏37'21	0°59'21
max. Earth dist.	1626 Nov 01 18:01	10°♌53'19	6.40134 AU	max. Earth dist.	1632 Apr 24 10:08	3°♏06'29	5.97612 AU
				morning rise	1632 May 06 00:49	5°♏52'39	
conjunction	1626 Nov 03 18:31	11°♌20'01	0°55'10	retrograde	1632 Sep 14 08:43	26°♏12'00	
minimum elong	1626 Nov 03 18:32	11°♌20'02	0°55'11	min. Earth dist.	1632 Nov 11 11:38	21°♏18'48	4.02139 AU
morning rise	1626 Nov 16 09:49	14°♌06'51		opposition	1632 Nov 12 22:29	21°♏06'54	-1°-10'-36
	1627 Feb 16 16:04	0°♌		direct	1633 Jan 10 00:10	16°♏09'50	
retrograde	1627 Mar 17 21:30	1°♌18'17			1633 Apr 22 04:33	0°♏	
	1627 Apr 16 06:43	30°♌		evening set	1633 May 16 06:59	5°♏27'45	
opposition	1627 May 17 20:15	26°♌26'21	1°03'10				
min. Earth dist.	1627 May 19 08:14	26°♌14'54	4.35207 AU	conjunction	1633 May 30 00:53	8°♏39'18	0°-31'-5
direct	1627 Jul 19 06:16	21°♌26'38		minimum elong	1633 May 30 00:55	8°♏39'19	0°31'05
	1627 Oct 08 00:32	0°♌		max. Earth dist.	1633 Jun 01 08:34	9°♏11'41	6.08144 AU
evening set	1627 Nov 21 22:40	9°♌25'04		morning rise	1633 Jun 12 20:02	11°♏51'16	
max. Earth dist.	1627 Dec 02 13:46	11°♌48'55	6.28959 AU		1633 Sep 22 08:13	0°♏	
				retrograde	1633 Oct 19 01:42	1°♏09'07	
conjunction	1627 Dec 04 14:30	12°♌16'30	0°27'38		1633 Nov 14 12:08	30°♏	
minimum elong	1627 Dec 04 14:31	12°♌16'31	0°27'37	min. Earth dist.	1633 Dec 16 07:38	26°♏15'35	4.15133 AU
morning rise	1627 Dec 17 05:14	15°♌07'40		opposition	1633 Dec 17 14:55	26°♏04'58	0°-18'-5
	1628 Mar 04 05:47	0°♌		direct	1634 Feb 14 16:21	21°♏04'57	
retrograde	1628 Apr 19 11:55	3°♌09'51		asc. node	1634 Apr 22 09:49	27°♏30'01	
	1628 Jun 05 15:10	30°♌		evening set	1634 May 06 04:04	0°♏	
opposition	1628 Jun 19 09:10	28°♌16'52	0°14'20		1634 Jun 21 09:03	9°♏45'07	
min. Earth dist.	1628 Jun 20 17:55	28°♌06'24	4.21911 AU	conjunction	1634 Jul 05 02:22	12°♏50'04	0°07'09
direct	1628 Aug 19 19:53	23°♌19'37		minimum elong	1634 Jul 05 02:20	12°♏50'03	0°07'09
desc. node	1628 Sep 28 19:27	25°♌44'22		behind sun begin	1634 Jul 04 18:41	12°♏45'46	
	1628 Oct 27 15:04	0°♌		behind sun end	1634 Jul 05 10:00	12°♏54'20	
evening set	1628 Dec 23 02:26	11°♌52'53		max. Earth dist.	1634 Jul 06 17:48	13°♏12'14	6.22491 AU
max. Earth dist.	1629 Jan 03 06:37	14°♌29'08	6.14664 AU	morning rise	1634 Jul 18 19:18	15°♏54'29	
					1634 Sep 29 09:44	0°♏	
conjunction	1629 Jan 04 19:29	14°♌50'41	0°-9'-32	retrograde	1634 Nov 20 09:58	4°♏03'09	
minimum elong	1629 Jan 04 19:29	14°♌50'41	0°09'33		1635 Jan 11 22:54	30°♏	
behind sun begin	1629 Jan 04 12:48	14°♌46'47		min. Earth dist.	1635 Jan 18 10:55	29°♏08'05	4.29451 AU
behind sun end	1629 Jan 05 02:10	14°♌54'34		opposition	1635 Jan 19 04:50	29°♏02'04	0°37'03
morning rise	1629 Jan 17 13:14	17°♌49'05		direct	1635 Mar 20 14:39	23°♏59'55	
	1629 Mar 15 23:11	0°♌		evening set	1635 May 25 08:59	0°♏	
retrograde	1629 May 25 09:28	6°♌58'53			1635 Jul 25 12:08	12°♏03'55	
opposition	1629 Jul 25 00:38	2°♌03'17	0°-42'-30	conjunction	1635 Aug 08 00:01	15°♏00'57	0°41'22
min. Earth dist.	1629 Jul 25 17:02	1°♌57'57	4.07671 AU	minimum elong	1635 Aug 07 23:59	15°♏00'56	0°41'21
	1629 Aug 10 08:37	30°♌		max. Earth dist.	1635 Aug 08 14:18	15°♏08'46	6.35691 AU
direct	1629 Sep 23 00:03	27°♌08'26		morning rise	1635 Aug 21 09:39	17°♏56'43	
	1629 Nov 04 18:02	0°♌			1635 Oct 22 04:12	0°♏	
evening set	1630 Jan 26 05:02	16°♌20'29					
conjunction	1630 Feb 08 02:29	19°♌25'42	0°-45'-3				

retrograde	1635 Dec 21 04:07	5°♎11'47			1641 Feb 23 13:45	0°♊	
opposition	1636 Feb 19 06:41	0°♎14'32	1°18'09	retrograde	1641 May 30 16:35	12°♊03'45	
min. Earth dist.	1636 Feb 19 06:28	0°♎14'36	4.40599 AU	opposition	1641 Jul 30 05:23	7°♊07'43	0°-50'-7
	1636 Feb 21 02:56	30°♏		min. Earth dist.	1641 Jul 30 20:00	7°♊02'58	4.05717 AU
direct	1636 Apr 20 22:40	25°♏11'35		direct	1641 Sep 28 00:37	2°♊13'09	
	1636 Jun 19 03:27	0°♎		evening set	1642 Jan 31 05:16	21°♊30'50	
evening set	1636 Aug 25 19:10	12°♎50'46					
conjunction	1636 Sep 07 23:14	15°♎41'18	1°02'30	conjunction	1642 Feb 13 03:31	24°♊37'07	0°-49'-8
minimum elong	1636 Sep 07 23:13	15°♎41'18	1°02'31	minimum elong	1642 Feb 13 03:29	24°♊37'06	0°49'09
max. Earth dist.	1636 Sep 07 08:08	15°♎33'08	6.43911 AU	max. Earth dist.	1642 Feb 12 22:28	24°♊34'05	6.00198 AU
morning rise	1636 Sep 21 00:39	18°♎30'27		morning rise	1642 Feb 26 04:04	27°♊44'49	
	1636 Nov 19 07:51	0°♏			1642 Mar 07 15:49	0°♋	
retrograde	1637 Jan 19 06:39	5°♏17'38		retrograde	1642 Jul 07 15:22	18°♋05'34	
opposition	1637 Mar 20 17:25	0°♏23'33	1°36'32	opposition	1642 Sep 05 18:15	13°♋05'42	-1°-31'-6
min. Earth dist.	1637 Mar 21 11:45	0°♏17'38	4.45514 AU	min. Earth dist.	1642 Sep 05 09:02	13°♋08'46	3.96452 AU
	1637 Mar 23 18:21	30°♎		direct	1642 Nov 03 04:57	8°♋12'11	
direct	1637 May 22 06:39	25°♎20'52		evening set	1643 Mar 08 16:19	27°♋54'30	
	1637 Jul 19 20:18	0°♏			1643 Mar 17 08:03	0°♌	
evening set	1637 Sep 25 19:24	12°♏51'08		conjunction	1643 Mar 21 21:49	1°♌06'31	-1°-5'-42
max. Earth dist.	1637 Oct 07 04:19	15°♏18'41	6.45086 AU	minimum elong	1643 Mar 21 21:48	1°♌06'30	1°05'43
				max. Earth dist.	1643 Mar 23 01:53	1°♌23'31	5.94833 AU
conjunction	1637 Oct 08 16:48	15°♏38'29	1°06'17	morning rise	1643 Apr 04 06:29	4°♌20'13	
minimum elong	1637 Oct 08 16:48	15°♏38'29	1°06'17	retrograde	1643 Aug 14 18:55	25°♌02'40	
morning rise	1637 Oct 21 11:16	18°♏24'33		min. Earth dist.	1643 Oct 12 08:43	20°♌08'35	3.95748 AU
	1637 Dec 20 04:08	0°♎		opposition	1643 Oct 13 12:40	19°♌59'06	-1°-36'-41
retrograde	1638 Feb 18 16:23	5°♎12'26		direct	1643 Dec 10 09:19	15°♌04'23	
opposition	1638 Apr 20 11:41	0°♎20'13	1°29'14		1644 Mar 24 22:57	0°♍	
min. Earth dist.	1638 Apr 21 18:38	0°♎10'20	4.42977 AU	evening set	1644 Apr 14 05:57	4°♍44'16	
	1638 Apr 23 03:01	30°♏					
direct	1638 Jun 22 05:45	25°♏18'49		conjunction	1644 Apr 27 19:28	7°♍58'07	0°-56'-27
	1638 Aug 19 21:10	0°♎		minimum elong	1644 Apr 27 19:31	7°♍58'08	0°56'29
evening set	1638 Oct 26 08:33	12°♎57'09		max. Earth dist.	1644 Apr 30 00:20	8°♍29'38	5.98778 AU
max. Earth dist.	1638 Nov 06 00:15	15°♎17'53	6.38959 AU	morning rise	1644 May 11 11:34	11°♍13'12	
					1644 Aug 20 19:55	0°♎	
conjunction	1638 Nov 08 01:30	15°♎45'07	0°52'07	retrograde	1644 Sep 19 11:23	1°♎24'48	
minimum elong	1638 Nov 08 01:32	15°♎45'08	0°52'07		1644 Oct 18 19:18	30°♎	
morning rise	1638 Nov 20 16:31	18°♎32'18		min. Earth dist.	1644 Nov 16 12:50	26°♎31'41	4.03896 AU
	1639 Jan 17 04:36	0°♏		opposition	1644 Nov 18 00:08	26°♎19'39	-1°-4'-6
retrograde	1639 Mar 22 12:52	5°♏49'16		direct	1645 Jan 15 04:37	21°♎22'09	
opposition	1639 May 22 10:43	0°♏57'20	0°57'16		1645 Apr 02 15:12	0°♎	
min. Earth dist.	1639 May 24 00:00	0°♏45'28	4.33580 AU	evening set	1645 May 21 12:14	10°♎34'09	
	1639 May 29 23:46	30°♎					
direct	1639 Jul 23 19:10	25°♎57'55		conjunction	1645 Jun 04 06:12	13°♎44'46	0°-25'-55
	1639 Sep 15 02:59	0°♏		minimum elong	1645 Jun 04 06:14	13°♎44'47	0°25'56
evening set	1639 Nov 26 09:03	14°♏00'38		max. Earth dist.	1645 Jun 06 12:07	14°♎15'57	6.10309 AU
max. Earth dist.	1639 Dec 06 23:40	16°♏24'52	6.27011 AU	morning rise	1645 Jun 18 01:31	16°♎55'45	
					1645 Aug 20 08:37	0°♏	
conjunction	1639 Dec 09 00:52	16°♏52'50	0°22'45	retrograde	1645 Oct 23 17:02	6°♏02'29	
minimum elong	1639 Dec 09 00:53	16°♏52'51	0°22'45	min. Earth dist.	1645 Dec 21 01:52	1°♏08'50	4.17471 AU
morning rise	1639 Dec 21 15:56	19°♏44'55		opposition	1645 Dec 22 08:07	0°♏58'34	0°-9'-59
	1640 Feb 08 07:52	0°♏			1645 Dec 29 13:58	30°♎	
retrograde	1640 Apr 24 09:14	7°♏56'04		direct	1646 Feb 19 14:06	25°♎58'06	
opposition	1640 Jun 24 06:24	3°♏02'48	0°06'23	asc. node	1646 Mar 02 01:26	26°♎08'58	
min. Earth dist.	1640 Jun 25 12:56	2°♏53'01	4.19769 AU		1646 Apr 12 10:40	0°♏	
	1640 Jul 19 21:35	30°♏		evening set	1646 Jun 26 06:54	14°♏31'34	
desc. node	1640 Aug 08 02:23	28°♏31'15					
direct	1640 Aug 24 11:24	28°♏05'53		conjunction	1646 Jul 09 23:43	17°♏35'15	0°12'26
	1640 Sep 28 18:05	0°♏		minimum elong	1646 Jul 09 23:42	17°♏35'15	0°12'27
evening set	1640 Dec 27 18:55	16°♏45'08		behind sun begin	1646 Jul 09 18:26	17°♏32'19	
max. Earth dist.	1641 Jan 08 03:42	19°♏24'45	6.12525 AU	behind sun end	1646 Jul 10 04:58	17°♏38'11	
				max. Earth dist.	1646 Jul 11 12:36	17°♏55'55	6.24818 AU
conjunction	1641 Jan 09 12:31	19°♏44'02	0°-14'-58	morning rise	1646 Jul 23 15:38	20°♏38'15	
minimum elong	1641 Jan 09 12:30	19°♏44'02	0°14'59		1646 Sep 06 11:59	0°♏	
behind sun begin	1641 Jan 09 09:17	19°♏42'08		retrograde	1646 Nov 24 19:30	8°♏37'03	
behind sun end	1641 Jan 09 15:44	19°♏45'55		opposition	1647 Jan 23 14:53	3°♏36'30	0°43'53
morning rise	1641 Jan 22 06:47	22°♏43'36		min. Earth dist.	1647 Jan 22 23:40	3°♏41'35	4.31560 AU

	1647 Feb 22 22:52	30°♄		conjunction	1653 Jan 14 07:59	24°♄43'20	0°-20'-23
direct	1647 Mar 25 05:47	28°♄34'08		minimum elong	1653 Jan 14 07:57	24°♄43'19	0°20'24
	1647 Apr 24 22:08	0°♃		morning rise	1653 Jan 27 03:05	27°♄44'12	
evening set	1647 Jul 30 02:34	16°♃32'54			1653 Feb 05 20:19	0°♁	
				retrograde	1653 Jun 05 00:19	17°♁14'51	
conjunction	1647 Aug 12 13:17	19°♃28'46	0°45'13	opposition	1653 Aug 04 12:41	12°♁18'21	0°-57'-28
minimum elong	1647 Aug 12 13:14	19°♃28'45	0°45'13	min. Earth dist.	1653 Aug 04 22:52	12°♁15'01	4.03902 AU
max. Earth dist.	1647 Aug 12 22:08	19°♃33'36	6.37399 AU	direct	1653 Oct 03 01:37	7°♁24'07	
morning rise	1647 Aug 25 21:51	22°♃23'22		evening set	1654 Feb 05 08:10	26°♁46'47	
	1647 Oct 01 15:59	0°♂					
retrograde	1647 Dec 25 08:43	9°♂32'21		conjunction	1654 Feb 18 07:16	29°♁54'01	0°-52'-52
opposition	1648 Feb 23 12:35	4°♂35'32	1°22'08	minimum elong	1654 Feb 18 07:14	29°♁54'00	0°52'53
min. Earth dist.	1648 Feb 23 15:31	4°♂34'34	4.41816 AU	max. Earth dist.	1654 Feb 18 07:42	29°♁54'17	5.98947 AU
	1648 Apr 08 01:53	30°♃			1654 Feb 18 17:11	0°♂	
direct	1648 Apr 25 08:17	29°♃32'29		morning rise	1654 Mar 03 08:51	3°♂02'44	
	1648 May 12 18:49	0°♂		retrograde	1654 Jul 13 03:31	23°♂29'18	
evening set	1648 Aug 30 03:45	17°♂09'11		opposition	1654 Sep 11 04:34	18°♂28'48	-1°-34'-20
				min. Earth dist.	1654 Sep 10 16:15	18°♂32'55	3.95912 AU
conjunction	1648 Sep 12 06:56	19°♂59'05	1°04'06	direct	1654 Nov 08 12:53	13°♂35'14	
minimum elong	1648 Sep 12 06:55	19°♂59'04	1°04'06		1655 Feb 28 02:58	0°♃	
max. Earth dist.	1648 Sep 11 13:04	19°♂49'25	6.44536 AU	evening set	1655 Mar 14 00:08	3°♃18'18	
morning rise	1648 Sep 25 07:06	22°♂47'32					
	1648 Oct 30 08:00	0°♂		conjunction	1655 Mar 27 06:53	6°♃30'46	-1°-5'-59
retrograde	1649 Jan 23 10:30	9°♂33'13		minimum elong	1655 Mar 27 06:53	6°♃30'46	1°05'59
opposition	1649 Mar 24 22:58	4°♂39'30	1°37'03	max. Earth dist.	1655 Mar 28 16:53	6°♃51'20	5.95039 AU
min. Earth dist.	1649 Mar 25 19:15	4°♂32'57	4.45526 AU	morning rise	1655 Apr 09 16:37	9°♃44'51	
	1649 May 10 13:24	30°♂			1655 Aug 04 04:59	0°♂	
direct	1649 May 26 12:52	29°♂36'57		retrograde	1655 Aug 20 03:21	0°♂24'56	
	1649 Jun 11 15:54	0°♂			1655 Sep 04 22:30	30°♃	
evening set	1649 Sep 30 01:34	17°♂07'45		opposition	1655 Oct 18 19:52	25°♃21'01	-1°-34'-6
max. Earth dist.	1649 Oct 11 05:27	19°♂32'57	6.44464 AU	min. Earth dist.	1655 Oct 17 14:07	25°♃31'06	3.96682 AU
				direct	1655 Dec 15 16:09	20°♃26'01	
conjunction	1649 Oct 12 22:03	19°♂55'02	1°05'20		1656 Mar 05 17:48	0°♂	
minimum elong	1649 Oct 12 22:04	19°♂55'02	1°05'21	evening set	1656 Apr 19 13:51	10°♂02'05	
morning rise	1649 Oct 25 16:02	22°♂41'07					
	1649 Nov 30 00:11	0°♂		conjunction	1656 May 03 04:03	13°♂15'35	0°-53'-8
retrograde	1650 Feb 23 02:23	9°♂32'10		minimum elong	1656 May 03 04:06	13°♂15'36	0°53'09
opposition	1650 Apr 24 20:41	4°♂40'07	1°26'11	max. Earth dist.	1656 May 05 09:18	13°♂47'11	6.00307 AU
min. Earth dist.	1650 Apr 26 06:11	4°♂29'26	4.41760 AU	morning rise	1656 May 16 21:02	16°♂30'17	
	1650 Jun 11 07:16	30°♂			1656 Jul 19 08:31	0°♂	
direct	1650 Jun 26 14:49	29°♂38'55		retrograde	1656 Sep 24 09:43	6°♂33'03	
	1650 Jul 11 22:49	0°♂		min. Earth dist.	1656 Nov 21 11:52	1°♂40'07	4.05841 AU
evening set	1650 Oct 30 15:43	17°♂20'52		opposition	1656 Nov 22 23:40	1°♂27'55	0°-57'-12
max. Earth dist.	1650 Nov 10 06:21	19°♂41'35	6.37238 AU		1656 Dec 03 21:48	30°♂	
				direct	1657 Jan 20 06:54	26°♂29'58	
conjunction	1650 Nov 12 08:32	20°♂09'25	0°48'48		1657 Mar 08 10:45	0°♂	
minimum elong	1650 Nov 12 08:34	20°♂09'26	0°48'48	evening set	1657 May 26 15:26	15°♂35'55	
morning rise	1650 Nov 24 23:20	22°♂57'14					
	1650 Dec 28 04:04	0°♂		conjunction	1657 Jun 09 09:39	18°♂45'38	0°-20'-38
retrograde	1651 Mar 27 03:35	10°♂21'38		minimum elong	1657 Jun 09 09:40	18°♂45'39	0°20'40
opposition	1651 May 27 02:01	5°♂29'38	0°51'02	max. Earth dist.	1657 Jun 11 14:12	19°♂15'53	6.12512 AU
min. Earth dist.	1651 May 28 14:17	5°♂18'04	4.31469 AU	morning rise	1657 Jun 23 04:41	21°♂55'30	
direct	1651 Jul 28 05:38	0°♂30'35			1657 Jul 30 05:00	0°♄	
evening set	1651 Nov 30 20:53	18°♂39'15		retrograde	1657 Oct 28 08:50	10°♄51'36	
max. Earth dist.	1651 Dec 11 13:39	21°♂05'29	6.24685 AU	opposition	1657 Dec 26 23:30	5°♄48'08	0°-1'-57
				min. Earth dist.	1657 Dec 25 19:46	5°♄57'31	4.19701 AU
conjunction	1651 Dec 13 12:48	21°♂32'28	0°17'42	asc. node	1658 Jan 09 16:29	3°♄59'26	
minimum elong	1651 Dec 13 12:49	21°♂32'28	0°17'43	direct	1658 Feb 24 10:28	0°♄47'22	
morning rise	1651 Dec 26 04:11	24°♂25'39		evening set	1658 Jul 01 03:16	19°♄14'57	
	1652 Jan 20 07:21	0°♄					
retrograde	1652 Apr 29 11:43	12°♄47'19		conjunction	1658 Jul 14 19:25	22°♄17'29	0°17'37
desc. node	1652 Jun 17 05:47	9°♄24'46		minimum elong	1658 Jul 14 19:24	22°♄17'28	0°17'36
opposition	1652 Jun 29 06:24	7°♄53'48	0°-1'-42	max. Earth dist.	1658 Jul 16 04:30	22°♄35'55	6.26897 AU
min. Earth dist.	1652 Jun 30 11:56	7°♄44'19	4.17388 AU	morning rise	1658 Jul 28 10:34	25°♄19'14	
direct	1652 Aug 29 07:25	2°♄57'18			1658 Aug 19 01:38	0°♃	
evening set	1653 Jan 01 13:51	21°♄43'14		retrograde	1658 Nov 29 02:27	13°♃09'29	
max. Earth dist.	1653 Jan 13 02:20	24°♄25'51	6.10311 AU	min. Earth dist.	1659 Jan 27 10:56	8°♃13'51	4.33347 AU

opposition	1659 Jan 28 00:06	8°♃09'27	0°50'26	retrograde	1665 Jun 10 08:26	22°♁24'11	
direct	1659 Mar 29 18:39	3°♃06'55		opposition	1665 Aug 09 19:07	17°♁27'07	-1°-4'-18
evening set	1659 Aug 03 16:11	21°♃01'40		min. Earth dist.	1665 Aug 10 02:17	17°♁24'46	4.02624 AU
				direct	1665 Oct 08 04:49	12°♁33'03	
conjunction	1659 Aug 17 01:54	23°♃56'33	0°48'49		1666 Feb 02 02:38	0°♁	
minimum elong	1659 Aug 17 01:52	23°♃56'31	0°48'49	evening set	1666 Feb 10 09:38	1°♁58'36	
max. Earth dist.	1659 Aug 17 06:51	23°♃59'14	6.38770 AU				
morning rise	1659 Aug 30 09:14	26°♃50'07		conjunction	1666 Feb 23 09:43	5°♁06'34	0°-56'-7
	1659 Sep 14 04:58	0°♁		minimum elong	1666 Feb 23 09:41	5°♁06'33	0°56'09
retrograde	1659 Dec 29 14:25	13°♁54'22		max. Earth dist.	1666 Feb 23 16:05	5°♁10'25	5.98220 AU
opposition	1660 Feb 27 19:03	8°♁58'05	1°25'43	morning rise	1666 Mar 08 12:15	8°♁16'02	
min. Earth dist.	1660 Feb 28 00:58	8°♁56'08	4.42695 AU	retrograde	1666 Jul 18 11:58	28°♁45'53	
direct	1660 Apr 29 18:16	3°♁55'04		opposition	1666 Sep 16 11:58	23°♁44'50	-1°-36'-40
evening set	1660 Sep 03 12:52	21°♁30'11		min. Earth dist.	1666 Sep 15 20:44	23°♁49'56	3.95848 AU
				direct	1666 Nov 13 17:20	18°♁51'13	
conjunction	1660 Sep 16 14:57	24°♁19'33	1°05'21		1667 Feb 10 01:06	0°♁	
minimum elong	1660 Sep 16 14:56	24°♁19'33	1°05'20	evening set	1667 Mar 19 05:12	8°♁33'23	
max. Earth dist.	1660 Sep 15 16:04	24°♁07'10	6.44842 AU				
morning rise	1660 Sep 29 14:16	27°♁07'31		conjunction	1667 Apr 01 12:48	11°♁46'00	-1°-5'-42
	1660 Oct 13 03:01	0°♁		minimum elong	1667 Apr 01 12:48	11°♁46'00	1°05'42
retrograde	1661 Jan 27 17:13	13°♁52'43		max. Earth dist.	1667 Apr 03 01:01	12°♁07'52	5.95604 AU
opposition	1661 Mar 29 05:57	8°♁59'17	1°37'03	morning rise	1667 Apr 14 23:43	15°♁00'18	
min. Earth dist.	1661 Mar 30 04:49	8°♁51'55	4.45271 AU		1667 Jun 24 17:11	0°♁	
direct	1661 May 30 21:22	3°♁56'49		retrograde	1667 Aug 25 05:21	5°♁36'27	
evening set	1661 Oct 04 08:50	21°♁28'47		opposition	1667 Oct 23 22:31	0°♁32'12	-1°-30'-48
max. Earth dist.	1661 Oct 15 11:21	23°♁53'31	6.43666 AU	min. Earth dist.	1667 Oct 22 14:45	0°♁42'59	3.97822 AU
					1667 Oct 27 21:35	30°♁	
conjunction	1661 Oct 17 04:50	24°♁16'08	1°04'01	direct	1667 Dec 20 19:27	25°♁36'49	
minimum elong	1661 Oct 17 04:51	24°♁16'09	1°04'01		1668 Feb 11 09:15	0°♁	
morning rise	1661 Oct 29 22:03	27°♁02'18		evening set	1668 Apr 24 17:53	15°♁08'42	
	1661 Nov 12 17:50	0°♁					
retrograde	1662 Feb 27 11:51	13°♁56'59		conjunction	1668 May 08 08:59	18°♁21'50	0°-49'-31
opposition	1662 Apr 29 07:31	9°♁05'02	1°22'34	minimum elong	1668 May 08 09:01	18°♁21'51	0°49'31
min. Earth dist.	1662 Apr 30 17:28	8°♁54'13	4.40476 AU	max. Earth dist.	1668 May 10 15:19	18°♁53'58	6.01913 AU
direct	1662 Jun 30 23:43	4°♁04'09		morning rise	1668 May 22 02:23	21°♁35'59	
evening set	1662 Nov 04 00:26	21°♁49'35			1668 Jun 28 13:20	0°♁	
max. Earth dist.	1662 Nov 14 13:48	24°♁10'13	6.35568 AU	retrograde	1668 Sep 29 05:52	11°♁29'54	
				min. Earth dist.	1668 Nov 26 08:45	6°♁36'32	4.07714 AU
conjunction	1662 Nov 16 16:50	24°♁38'40	0°45'08	opposition	1668 Nov 27 18:56	6°♁24'52	0°-50'-8
minimum elong	1662 Nov 16 16:52	24°♁38'41	0°45'07	direct	1669 Jan 25 06:05	1°♁26'31	
morning rise	1662 Nov 29 07:41	27°♁27'09		evening set	1669 May 31 14:51	20°♁27'02	
	1662 Dec 10 22:02	0°♁					
retrograde	1663 Mar 31 22:18	14°♁58'52		conjunction	1669 Jun 14 09:07	23°♁35'54	0°-15'-24
opposition	1663 May 31 19:33	10°♁06'45	0°44'21	minimum elong	1669 Jun 14 09:08	23°♁35'55	0°15'24
min. Earth dist.	1663 Jun 02 08:02	9°♁55'07	4.29512 AU	behind sun begin	1669 Jun 14 07:19	23°♁34'53	
direct	1663 Aug 01 20:55	5°♁08'03		behind sun end	1669 Jun 14 10:56	23°♁36'57	
evening set	1663 Dec 05 09:54	23°♁21'49		max. Earth dist.	1669 Jun 16 11:42	24°♁04'52	6.14489 AU
max. Earth dist.	1663 Dec 16 05:06	25°♁50'06	6.22632 AU	morning rise	1669 Jun 28 04:00	26°♁44'48	
					1669 Jul 12 16:18	0°♁	
conjunction	1663 Dec 18 02:05	26°♁15'57	0°12'28	retrograde	1669 Nov 01 19:14	15°♁31'28	
minimum elong	1663 Dec 18 02:06	26°♁15'57	0°12'28	asc. node	1669 Nov 20 14:01	14°♁56'31	
behind sun begin	1663 Dec 17 20:49	26°♁12'56		min. Earth dist.	1669 Dec 30 08:55	10°♁37'26	4.21606 AU
behind sun end	1663 Dec 18 07:23	26°♁18'58		opposition	1669 Dec 31 11:32	10°♁28'27	0°05'49
morning rise	1663 Dec 30 17:46	29°♁10'08		direct	1670 Mar 01 01:34	5°♁27'25	
	1664 Jan 03 09:17	0°♁		evening set	1670 Jul 05 20:43	23°♁50'31	
desc. node	1664 Apr 26 07:40	17°♁34'49					
retrograde	1664 May 04 11:41	17°♁41'08		conjunction	1670 Jul 19 12:10	26°♁52'02	0°22'32
opposition	1664 Jul 04 07:05	12°♁47'16	0°-9'-54	minimum elong	1670 Jul 19 12:08	26°♁52'01	0°22'32
min. Earth dist.	1664 Jul 05 09:24	12°♁38'49	4.15416 AU	max. Earth dist.	1670 Jul 20 16:29	27°♁07'46	6.28592 AU
direct	1664 Sep 03 02:34	7°♁51'12		morning rise	1670 Aug 02 02:25	29°♁52'41	
evening set	1665 Jan 06 09:23	26°♁42'13			1670 Aug 02 15:43	0°♁	
max. Earth dist.	1665 Jan 18 02:26	29°♁28'08	6.08605 AU	retrograde	1670 Dec 03 10:15	17°♁36'06	
				opposition	1671 Feb 01 07:35	12°♁36'39	0°56'30
conjunction	1665 Jan 19 03:56	29°♁43'14	0°-25'-39	min. Earth dist.	1671 Jan 31 21:54	12°♁39'52	4.34718 AU
minimum elong	1665 Jan 19 03:54	29°♁43'13	0°25'39	direct	1671 Apr 03 07:01	7°♁34'02	
	1665 Jan 20 08:15	0°♁		evening set	1671 Aug 08 04:20	25°♁26'12	
morning rise	1665 Jan 31 23:45	2°♁45'09					

conjunction	1671 Aug 21 13:08	28°♏20'19	0°52'04		1678 Jan 15 16:53	0°♁		
minimum elong	1671 Aug 21 13:05	28°♏20'18	0°52'04	evening set	1678 Feb 15 10:17	7°♁08'05		
max. Earth dist.	1671 Aug 21 14:09	28°♏20'53	6.39714 AU					
	1671 Aug 29 04:26	0°♎		conjunction	1678 Feb 28 11:07	10°♁16'48	0°-58'-56	
morning rise	1671 Sep 03 19:21	1°♎13'05		minimum elong	1678 Feb 28 11:05	10°♁16'47	0°58'56	
retrograde	1672 Jan 02 18:40	18°♎14'04		max. Earth dist.	1678 Feb 28 20:18	10°♁22'22	5.97386 AU	
opposition	1672 Mar 03 00:47	13°♎18'15	1°28'45	morning rise	1678 Mar 13 14:51	13°♁27'08		
min. Earth dist.	1672 Mar 03 08:37	13°♎15'42	4.43199 AU		1678 Jun 02 05:44	0°♃		
direct	1672 May 04 01:55	8°♎15'18		retrograde	1678 Jul 23 17:45	4°♃00'45		
evening set	1672 Sep 07 21:28	25°♎50'03			1678 Sep 14 02:54	30°♁		
				opposition	1678 Sep 21 17:37	28°♁59'09	-1°-38'-16	
conjunction	1672 Sep 20 22:40	28°♎39'02	1°06'12	min. Earth dist.	1678 Sep 20 23:16	29°♁05'18	3.95564 AU	
minimum elong	1672 Sep 20 22:39	28°♎39'02	1°06'12	direct	1678 Nov 18 20:23	24°♁05'20		
max. Earth dist.	1672 Sep 19 21:35	28°♎25'28	6.44875 AU		1679 Jan 19 12:11	0°♃		
	1672 Sep 27 04:16	0°♌		evening set	1679 Mar 24 09:53	13°♃47'53		
morning rise	1672 Oct 03 20:57	1°♌26'38						
retrograde	1673 Jan 31 23:52	18°♌12'14		conjunction	1679 Apr 06 18:47	17°♃00'56	-1°-4'-54	
opposition	1673 Apr 02 13:22	13°♌19'09	1°36'30	minimum elong	1679 Apr 06 18:48	17°♃00'57	1°04'56	
min. Earth dist.	1673 Apr 03 14:10	13°♌11'11	4.44850 AU	max. Earth dist.	1679 Apr 08 11:16	17°♃25'20	5.95897 AU	
direct	1673 Jun 04 06:02	8°♌16'57		morning rise	1679 Apr 20 06:39	20°♃15'33		
evening set	1673 Oct 08 16:11	25°♌50'22			1679 Jun 02 06:33	0°♄		
max. Earth dist.	1673 Oct 19 15:08	28°♌13'35	6.42809 AU	retrograde	1679 Aug 30 09:59	10°♄48'52		
				min. Earth dist.	1679 Oct 27 17:13	5°♄55'09	3.98646 AU	
conjunction	1673 Oct 21 11:26	28°♌37'47	1°02'19	opposition	1679 Oct 29 01:03	5°♄44'19	-1°-26'-51	
minimum elong	1673 Oct 21 11:27	28°♌37'47	1°02'19	direct	1679 Dec 25 23:23	0°♄48'32		
	1673 Oct 27 17:55	0°♍		evening set	1680 Apr 29 22:42	20°♄17'34		
morning rise	1673 Nov 03 04:17	1°♍24'07						
retrograde	1674 Mar 03 23:08	18°♍22'40		conjunction	1680 May 13 14:35	23°♄30'29	0°-45'-30	
opposition	1674 May 03 18:58	13°♍30'46	1°18'27	minimum elong	1680 May 13 14:37	23°♄30'31	0°45'31	
min. Earth dist.	1674 May 05 05:44	13°♍19'40	4.39238 AU	max. Earth dist.	1680 May 15 21:47	24°♄03'00	6.03183 AU	
direct	1674 Jul 05 10:15	8°♍30'08		morning rise	1680 May 27 08:41	26°♄44'19		
evening set	1674 Nov 08 09:02	26°♍18'42			1680 Jun 10 11:53	0°♅		
max. Earth dist.	1674 Nov 18 23:44	28°♍40'34	6.34044 AU	retrograde	1680 Oct 04 01:26	16°♅30'28		
				min. Earth dist.	1680 Dec 01 04:39	11°♅37'19	4.09286 AU	
conjunction	1674 Nov 21 01:22	29°♍08'19	0°41'10	opposition	1680 Dec 02 15:10	11°♅25'34	0°-42'-40	
minimum elong	1674 Nov 21 01:24	29°♍08'20	0°41'11	direct	1681 Jan 30 03:54	6°♅26'48		
	1674 Nov 24 21:44	0°♄		evening set	1681 Jun 05 16:16	25°♅23'01		
morning rise	1674 Dec 03 15:59	1°♄57'22						
retrograde	1675 Apr 05 14:19	19°♄35'48		conjunction	1681 Jun 19 10:27	28°♅31'05	0°-9'-58	
opposition	1675 Jun 05 12:37	14°♄43'31	0°37'22	minimum elong	1681 Jun 19 10:27	28°♅31'05	0°09'59	
min. Earth dist.	1675 Jun 06 23:49	14°♄32'18	4.27782 AU	behind sun begin	1681 Jun 19 03:46	28°♅27'17		
direct	1675 Aug 06 10:29	9°♄45'13		behind sun end	1681 Jun 19 17:08	28°♅34'53		
evening set	1675 Dec 09 22:23	28°♄03'16		max. Earth dist.	1681 Jun 21 09:40	28°♅58'01	6.16235 AU	
	1675 Dec 18 09:40	0°♃			1681 Jun 25 22:28	0°♄		
max. Earth dist.	1675 Dec 20 18:51	0°♃32'58	6.20817 AU	morning rise	1681 Jul 03 05:07	1°♄39'03		
				asc. node	1681 Sep 30 00:52	18°♄05'51		
conjunction	1675 Dec 22 14:34	0°♃58'11	0°07'12	retrograde	1681 Nov 06 09:33	20°♄17'02		
minimum elong	1675 Dec 22 14:34	0°♃58'11	0°07'11	min. Earth dist.	1682 Jan 04 01:46	15°♄22'31	4.23356 AU	
behind sun begin	1675 Dec 22 07:13	0°♃53'58		opposition	1682 Jan 05 01:41	15°♄14'26	0°13'42	
behind sun end	1675 Dec 22 21:55	1°♃02'24		direct	1682 Mar 05 21:11	10°♄13'05		
morning rise	1676 Jan 04 06:44	3°♃53'18		evening set	1682 Jul 10 16:31	28°♄32'02		
desc. node	1676 Mar 05 22:53	16°♃37'07			1682 Jul 17 08:02	0°♌		
retrograde	1676 May 09 12:31	22°♃33'01						
opposition	1676 Jul 09 06:47	17°♃38'45	0°-17'-59	conjunction	1682 Jul 24 07:22	1°♌32'35	0°27'26	
min. Earth dist.	1676 Jul 10 07:14	17°♃30'52	4.13620 AU	minimum elong	1682 Jul 24 07:20	1°♌32'34	0°27'26	
direct	1676 Sep 07 22:43	12°♃42'56		max. Earth dist.	1682 Jul 25 09:35	1°♌47'05	6.30238 AU	
	1677 Jan 04 03:11	0°♂		morning rise	1682 Aug 06 20:34	4°♌32'07		
evening set	1677 Jan 11 03:25	1°♂38'35		retrograde	1682 Dec 07 18:03	22°♌08'35		
				opposition	1683 Feb 05 17:21	17°♌09'41	1°02'24	
conjunction	1677 Jan 23 22:39	4°♂40'33	0°-30'-42	min. Earth dist.	1683 Feb 05 08:49	17°♌12'31	4.36171 AU	
minimum elong	1677 Jan 23 22:37	4°♂40'32	0°30'42	direct	1683 Apr 07 19:53	12°♌07'01		
max. Earth dist.	1677 Jan 23 01:33	4°♂28'02	6.06986 AU	evening set	1683 Aug 12 18:29	29°♌55'56		
morning rise	1677 Feb 05 19:08	7°♂43'29			1683 Aug 13 02:02	0°♎		
retrograde	1677 Jun 15 14:55	27°♂30'40						
opposition	1677 Aug 14 23:46	22°♂33'05	-1°-10'-37	conjunction	1683 Aug 26 02:04	2°♎49'07	0°55'06	
min. Earth dist.	1677 Aug 15 04:09	22°♂31'39	4.01351 AU	minimum elong	1683 Aug 26 02:02	2°♎49'05	0°55'05	
direct	1677 Oct 13 04:27	17°♂39'13		max. Earth dist.	1683 Aug 25 23:12	2°♎47'33	6.40898 AU	

morning rise	1683 Sep 08 07:11	5°♎40'55		conjunction	1690 Mar 05 09:25	15°♋17'34	-1°-1'-12
retrograde	1684 Jan 07 02:01	22°♎37'44		minimum elong	1690 Mar 05 09:23	15°♋17'33	1°01'13
opposition	1684 Mar 07 08:44	17°♎42'23	1°31'23	max. Earth dist.	1690 Mar 05 23:22	15°♋26'01	5.96312 AU
min. Earth dist.	1684 Mar 07 19:22	17°♎38'56	4.44069 AU	morning rise	1690 Mar 18 14:09	18°♋28'53	
direct	1684 May 08 14:15	12°♎39'31			1690 May 09 01:12	0°♎	
	1684 Sep 11 08:15	0°♎		retrograde	1690 Jul 28 23:42	9°♎07'29	
evening set	1684 Sep 12 06:51	0°♎12'06		opposition	1690 Sep 26 20:16	4°♎05'29	-1°-39'-5
max. Earth dist.	1684 Sep 24 03:27	2°♎45'34	6.45373 AU	min. Earth dist.	1690 Sep 26 00:48	4°♎12'02	3.94950 AU
					1690 Nov 02 02:31	30°♋	
conjunction	1684 Sep 25 07:04	3°♎00'31	1°06'45	direct	1690 Nov 23 21:26	29°♋11'33	
minimum elong	1684 Sep 25 07:04	3°♎00'30	1°06'45		1690 Dec 15 14:09	0°♎	
morning rise	1684 Oct 08 04:21	5°♎47'31		evening set	1691 Mar 29 12:37	18°♎56'11	
retrograde	1685 Feb 05 05:12	22°♎31'55					
opposition	1685 Apr 06 21:11	17°♎39'02	1°35'27	conjunction	1691 Apr 11 22:38	22°♎09'50	-1°-3'-38
min. Earth dist.	1685 Apr 07 22:48	17°♎30'48	4.44968 AU	minimum elong	1691 Apr 11 22:40	22°♎09'51	1°03'38
direct	1685 Jun 08 14:38	12°♎36'59		max. Earth dist.	1691 Apr 13 17:41	22°♎35'45	5.95796 AU
evening set	1685 Oct 12 22:44	0°♎09'47		morning rise	1691 Apr 25 11:48	25°♎25'03	
	1685 Oct 12 04:40	0°♎			1691 May 15 00:26	0°♎	
max. Earth dist.	1685 Oct 23 21:01	2°♎32'46	6.42545 AU	retrograde	1691 Sep 04 11:26	15°♎57'03	
				min. Earth dist.	1691 Nov 01 15:53	11°♎03'50	3.99091 AU
conjunction	1685 Oct 25 17:20	2°♎57'01	1°00'20	opposition	1691 Nov 03 01:38	10°♎52'20	-1°-22'-20
minimum elong	1685 Oct 25 17:22	2°♎57'02	1°00'20	direct	1691 Dec 30 22:50	5°♎56'14	
morning rise	1685 Nov 07 09:27	5°♎43'13		evening set	1692 May 05 03:09	25°♎24'14	
retrograde	1686 Mar 08 07:38	22°♎43'42					
opposition	1686 May 08 05:01	17°♎51'51	1°13'58	conjunction	1692 May 18 19:45	28°♎37'04	0°-41'-11
min. Earth dist.	1686 May 09 16:36	17°♎40'31	4.38583 AU	minimum elong	1692 May 18 19:47	28°♎37'06	0°41'12
direct	1686 Jul 09 20:16	12°♎51'32		max. Earth dist.	1692 May 21 02:33	29°♎09'16	6.04135 AU
	1686 Nov 09 12:52	0°♎			1692 May 24 16:59	0°♎	
evening set	1686 Nov 12 15:10	0°♎41'10		morning rise	1692 Jun 01 14:28	1°♎50'43	
max. Earth dist.	1686 Nov 23 03:57	3°♎02'23	6.33038 AU	retrograde	1692 Oct 08 21:44	21°♎30'19	
				min. Earth dist.	1692 Dec 06 01:30	16°♎36'57	4.10618 AU
conjunction	1686 Nov 25 07:04	3°♎31'03	0°37'08	opposition	1692 Dec 07 10:58	16°♎25'33	0°-34'-58
minimum elong	1686 Nov 25 07:06	3°♎31'04	0°37'08	direct	1693 Feb 04 03:41	11°♎26'22	
morning rise	1686 Dec 07 21:45	6°♎20'30			1693 Jun 09 07:50	0°♎	
retrograde	1687 Apr 10 04:09	24°♎04'14		evening set	1693 Jun 10 17:36	0°♎19'04	
opposition	1687 Jun 10 02:50	19°♎11'44	0°30'23				
min. Earth dist.	1687 Jun 11 13:32	19°♎00'39	4.26455 AU	conjunction	1693 Jun 24 11:53	3°♎26'26	0°-4'-30
direct	1687 Aug 10 22:12	14°♎13'41		minimum elong	1693 Jun 24 11:53	3°♎26'26	0°04'31
	1687 Dec 02 22:23	0°♎		behind sun begin	1693 Jun 24 03:41	3°♎21'48	
evening set	1687 Dec 14 07:06	2°♎34'50		behind sun end	1693 Jun 24 20:05	3°♎31'04	
max. Earth dist.	1687 Dec 25 06:19	5°♎06'35	6.19287 AU	max. Earth dist.	1693 Jun 26 11:06	3°♎53'16	6.17849 AU
				morning rise	1693 Jul 08 06:03	6°♎33'29	
conjunction	1687 Dec 26 23:34	5°♎30'27	0°02'04	asc. node	1693 Aug 09 09:27	13°♎32'26	
minimum elong	1687 Dec 26 23:35	5°♎30'27	0°02'03	retrograde	1693 Nov 10 23:04	25°♎03'04	
behind sun begin	1687 Dec 26 15:36	5°♎25'51		opposition	1694 Jan 09 15:54	20°♎00'54	0°21'27
behind sun end	1687 Dec 27 07:34	5°♎35'03		min. Earth dist.	1694 Jan 08 16:42	20°♎08'42	4.25085 AU
morning rise	1688 Jan 08 15:55	8°♎26'20		direct	1694 Mar 10 15:02	14°♎59'18	
desc. node	1688 Jan 16 21:25	10°♎19'16			1694 Jun 30 14:13	0°♎	
retrograde	1688 May 14 08:46	27°♎13'55		evening set	1694 Jul 15 12:11	3°♎13'51	
opposition	1688 Jul 14 02:12	22°♎19'21	0°-25'-40				
min. Earth dist.	1688 Jul 15 01:20	22°♎11'53	4.11991 AU	conjunction	1694 Jul 29 01:59	6°♎13'17	0°32'09
direct	1688 Sep 12 13:40	17°♎23'51		minimum elong	1694 Jul 29 01:57	6°♎13'16	0°32'10
	1688 Dec 18 19:38	0°♎		max. Earth dist.	1694 Jul 29 23:46	6°♎25'18	6.31919 AU
evening set	1689 Jan 15 17:52	6°♎24'02		morning rise	1694 Aug 11 14:18	9°♎11'41	
				retrograde	1694 Dec 12 03:16	26°♎41'04	
conjunction	1689 Jan 28 13:31	9°♎26'54	0°-35'-20	opposition	1695 Feb 10 03:06	21°♎42'36	1°07'54
minimum elong	1689 Jan 28 13:29	9°♎26'53	0°35'21	min. Earth dist.	1695 Feb 09 21:35	21°♎44'26	4.37660 AU
max. Earth dist.	1689 Jan 27 17:41	9°♎15'05	6.05393 AU	direct	1695 Apr 12 11:04	16°♎39'45	
morning rise	1689 Feb 10 10:57	12°♎30'54			1695 Jul 27 09:10	0°♎	
	1689 May 11 18:39	0°♎		evening set	1695 Aug 17 07:49	4°♎25'05	
retrograde	1689 Jun 20 15:42	2°♎26'27					
	1689 Jul 30 19:19	30°♎		conjunction	1695 Aug 30 14:26	7°♎17'22	0°57'48
opposition	1689 Aug 20 00:01	27°♎28'21	-1°-16'-13	minimum elong	1695 Aug 30 14:24	7°♎17'21	0°57'48
min. Earth dist.	1689 Aug 20 01:28	27°♎27'52	3.99946 AU	max. Earth dist.	1695 Aug 30 09:22	7°♎14'38	6.42046 AU
direct	1689 Oct 18 00:00	22°♎34'34		morning rise	1695 Sep 12 18:11	10°♎08'12	
	1689 Dec 27 11:04	0°♎		retrograde	1696 Jan 11 06:42	27°♎01'01	
evening set	1690 Feb 20 07:22	12°♎07'51		opposition	1696 Mar 11 16:03	22°♎06'02	1°33'30

min. Earth dist.	1696 Mar 12 04:04	22°♎02'08	4.44794 AU	conjunction	1702 Mar 11 15:13	20°♋36'30	-1°-3'-9
direct	1696 May 12 23:26	17°♎03'11		minimum elong	1702 Mar 11 15:12	20°♋36'29	1°03'09
	1696 Aug 25 21:02	0°♌		max. Earth dist.	1702 Mar 12 09:13	20°♋47'25	5.95514 AU
evening set	1696 Sep 16 15:41	4°♌34'11		morning rise	1702 Mar 24 21:18	23°♋48'46	
max. Earth dist.	1696 Sep 28 07:56	7°♌05'21	6.45588 AU		1702 Apr 20 06:54	0°♍	
				retrograde	1702 Aug 04 09:12	14°♍30'14	
conjunction	1696 Sep 29 14:50	7°♌22'05	1°06'55	min. Earth dist.	1702 Oct 02 05:35	9°♍35'34	3.94890 AU
minimum elong	1696 Sep 29 14:50	7°♌22'05	1°06'56	opposition	1702 Oct 03 04:49	9°♍27'45	-1°-39'-8
morning rise	1696 Oct 12 11:15	10°♌08'40		direct	1702 Nov 30 02:56	4°♍33'39	
retrograde	1697 Feb 09 13:09	26°♌53'01		evening set	1703 Apr 04 21:17	24°♍17'50	
opposition	1697 Apr 11 05:35	22°♌00'22	1°33'54				
min. Earth dist.	1697 Apr 12 09:56	21°♌51'18	4.44648 AU	conjunction	1703 Apr 18 08:24	27°♍31'41	-1°-1'-48
direct	1697 Jun 13 01:04	16°♌58'28		minimum elong	1703 Apr 18 08:26	27°♍31'42	1°01'48
	1697 Sep 25 21:31	0°♍		max. Earth dist.	1703 Apr 20 06:23	27°♍59'19	5.96485 AU
evening set	1697 Oct 17 05:40	4°♍32'06			1703 Apr 28 15:44	0°♎	
max. Earth dist.	1697 Oct 28 00:44	6°♍53'40	6.41689 AU	morning rise	1703 May 01 22:37	0°♎47'02	
				retrograde	1703 Sep 10 15:26	21°♎13'45	
conjunction	1697 Oct 29 23:44	7°♍19'26	0°57'59	min. Earth dist.	1703 Nov 07 19:09	16°♎20'32	4.00448 AU
minimum elong	1697 Oct 29 23:45	7°♍19'27	0°57'59	opposition	1703 Nov 09 05:35	16°♎08'47	-1°-17'00
morning rise	1697 Nov 11 15:28	10°♍05'49		direct	1704 Jan 06 05:04	11°♎12'15	
retrograde	1698 Mar 12 18:43	27°♍10'27			1704 May 08 20:47	0°♏	
opposition	1698 May 12 17:12	22°♍18'33	1°08'59	evening set	1704 May 11 09:41	0°♏35'22	
min. Earth dist.	1698 May 14 04:54	22°♍07'11	4.37238 AU				
direct	1698 Jul 14 06:01	17°♍18'26		conjunction	1704 May 25 02:59	3°♏47'36	0°-36'-30
	1698 Oct 24 02:10	0°♎		minimum elong	1704 May 25 03:01	3°♏47'38	0°36'30
evening set	1698 Nov 16 23:57	5°♎11'33		max. Earth dist.	1704 May 27 11:52	4°♏20'51	6.06047 AU
max. Earth dist.	1698 Nov 27 14:04	7°♎34'02	6.31312 AU	morning rise	1704 Jun 07 21:52	7°♏00'26	
				retrograde	1704 Oct 14 17:35	26°♏29'32	
conjunction	1698 Nov 29 15:50	8°♎02'04	0°32'43	min. Earth dist.	1704 Dec 11 21:50	21°♏36'13	4.12862 AU
minimum elong	1698 Nov 29 15:52	8°♎02'05	0°32'43	opposition	1704 Dec 13 06:50	21°♏25'00	0°-27'-2
morning rise	1698 Dec 12 06:25	10°♎52'13		direct	1705 Feb 10 03:26	16°♏25'27	
retrograde	1699 Apr 14 23:32	28°♎43'47			1705 May 24 04:19	0°♐	
opposition	1699 Jun 14 21:24	23°♎51'07	0°22'55	evening set	1705 Jun 16 18:00	5°♐11'23	
min. Earth dist.	1699 Jun 16 07:54	23°♎40'05	4.24441 AU	asc. node	1705 Jun 20 03:20	5°♐57'10	
direct	1699 Aug 15 13:15	18°♎53'23					
	1699 Nov 15 16:36	0°♑		conjunction	1705 Jun 30 11:43	8°♐17'30	0°01'02
desc. node	1699 Nov 26 08:46	2°♑16'10		minimum elong	1705 Jun 30 11:43	8°♐17'30	0°01'02
evening set	1699 Dec 18 21:01	7°♑19'58		behind sun begin	1705 Jun 30 03:21	8°♐12'48	
max. Earth dist.	1699 Dec 29 21:05	9°♑52'59	6.17152 AU	behind sun end	1705 Jun 30 20:05	8°♐22'12	
				max. Earth dist.	1705 Jul 02 07:03	8°♐41'59	6.20219 AU
conjunction	1699 Dec 31 13:40	10°♑16'34	0°-3'-27	morning rise	1705 Jul 14 05:26	11°♐23'15	
minimum elong	1699 Dec 31 13:40	10°♑16'34	0°03'27	retrograde	1705 Nov 16 09:33	29°♐42'14	
behind sun begin	1699 Dec 31 05:43	10°♑11'58		min. Earth dist.	1706 Jan 14 07:05	24°♐47'27	4.27360 AU
behind sun end	1699 Dec 31 21:36	10°♑21'10		opposition	1706 Jan 15 03:48	24°♐40'29	0°28'51
morning rise	1700 Jan 13 06:44	13°♑13'37		direct	1706 Mar 16 08:24	19°♐38'35	
	1700 Apr 12 12:47	0°♒			1706 Jun 13 23:00	0°♑	
retrograde	1700 May 20 11:45	2°♒11'25		evening set	1706 Jul 21 04:33	7°♑47'14	
	1700 Jun 27 18:17	30°♑					
opposition	1700 Jul 20 04:15	27°♑16'22	0°-33'-38	conjunction	1706 Aug 03 17:35	10°♑45'28	0°36'33
min. Earth dist.	1700 Jul 21 00:18	27°♑09'52	4.09902 AU	minimum elong	1706 Aug 03 17:33	10°♑45'27	0°36'32
direct	1700 Sep 18 09:52	22°♑21'07		max. Earth dist.	1706 Aug 04 12:35	10°♑55'54	6.33929 AU
	1700 Nov 30 05:38	0°♒		morning rise	1706 Aug 17 04:33	13°♑42'31	
evening set	1701 Jan 21 15:02	11°♒27'16			1706 Nov 21 06:13	0°♓	
				retrograde	1706 Dec 17 08:20	1°♓04'23	
conjunction	1701 Feb 03 11:35	14°♒31'17	0°-40'-1		1707 Jan 12 06:51	30°♓	
minimum elong	1701 Feb 03 11:32	14°♒31'16	0°40'02	opposition	1707 Feb 15 09:43	26°♓06'30	1°12'48
max. Earth dist.	1701 Feb 02 21:14	14°♒22'42	6.03552 AU	min. Earth dist.	1707 Feb 15 06:28	26°♓07'34	4.39259 AU
morning rise	1701 Feb 16 09:47	17°♒36'28		direct	1707 Apr 17 21:17	21°♓03'36	
	1701 Apr 14 05:56	0°♔			1707 Jul 10 13:40	0°♔	
retrograde	1701 Jun 27 02:21	7°♔41'01		evening set	1707 Aug 22 17:38	8°♔45'20	
opposition	1701 Aug 26 07:55	2°♔42'24	-1°-21'-36				
min. Earth dist.	1701 Aug 26 07:03	2°♔42'41	3.98560 AU	conjunction	1707 Sep 04 23:00	11°♔36'44	1°00'06
	1701 Sep 17 01:57	30°♔		minimum elong	1707 Sep 04 22:58	11°♔36'43	1°00'06
direct	1701 Oct 24 04:04	27°♔48'45		max. Earth dist.	1707 Sep 04 12:11	11°♔30'52	6.43094 AU
	1701 Nov 29 17:20	0°♕		morning rise	1707 Sep 18 01:47	14°♔26'44	
evening set	1702 Feb 26 12:10	17°♕25'56			1707 Dec 18 18:22	0°♖	
				retrograde	1708 Jan 16 11:41	1°♖16'31	

	1708 Feb 14 03:00	30°♎		retrograde	1713 Jul 02 12:49	13°♋02'14	
opposition	1708 Mar 16 21:09	26°♎21'57	1°35'03	opposition	1713 Aug 31 17:44	8°♋03'03	-1°-26'-22
min. Earth dist.	1708 Mar 17 12:48	26°♎16'53	4.45243 AU	min. Earth dist.	1713 Aug 31 12:06	8°♋04'55	3.97499 AU
direct	1708 May 18 07:46	21°♎19'08		direct	1713 Oct 29 08:56	3°♋09'30	
	1708 Aug 09 04:48	0°♌		evening set	1714 Mar 03 18:59	22°♋49'10	
evening set	1708 Sep 21 21:39	8°♌49'36					
max. Earth dist.	1708 Oct 03 10:32	11°♌19'05	6.45391 AU	conjunction	1714 Mar 16 23:08	26°♋00'24	-1°-4'-34
				minimum elong	1714 Mar 16 23:07	26°♋00'23	1°04'35
conjunction	1708 Oct 04 20:07	11°♌37'16	1°06'44	max. Earth dist.	1714 Mar 17 22:19	26°♋14'27	5.95187 AU
minimum elong	1708 Oct 04 20:07	11°♌37'16	1°06'43	morning rise	1714 Mar 30 06:21	29°♋13'18	
morning rise	1708 Oct 17 15:36	14°♌23'37			1714 Apr 02 12:14	0°♐	
	1709 Jan 18 07:38	0°♍		retrograde	1714 Aug 09 18:42	19°♐55'18	
retrograde	1709 Feb 14 18:21	1°♍09'36		opposition	1714 Oct 08 13:47	14°♐52'14	-1°-38'-17
	1709 Mar 14 07:23	30°♌		min. Earth dist.	1714 Oct 07 12:21	15°♐00'50	3.95330 AU
opposition	1709 Apr 16 12:26	26°♌17'11	1°31'53	direct	1714 Dec 05 11:38	9°♐57'51	
min. Earth dist.	1709 Apr 17 17:49	26°♌07'47	4.43832 AU	evening set	1715 Apr 10 05:53	29°♐39'36	
direct	1709 Jun 18 06:29	21°♌15'31			1715 Apr 11 16:07	0°♄	
	1709 Sep 09 05:13	0°♍		conjunction	1715 Apr 23 18:08	2°♄53'24	0°-59'-27
evening set	1709 Oct 22 11:39	8°♍51'46		minimum elong	1715 Apr 23 18:10	2°♄53'25	0°59'28
max. Earth dist.	1709 Nov 02 04:46	11°♍12'47	6.40310 AU	max. Earth dist.	1715 Apr 25 20:21	3°♄23'28	5.97628 AU
				morning rise	1715 May 07 09:08	6°♄08'34	
conjunction	1709 Nov 04 05:13	11°♍39'28	0°55'21	retrograde	1715 Sep 15 18:35	26°♄27'56	
minimum elong	1709 Nov 04 05:15	11°♍39'29	0°55'22	min. Earth dist.	1715 Nov 12 20:57	21°♄34'49	4.02153 AU
morning rise	1709 Nov 16 20:40	14°♍26'17		opposition	1715 Nov 14 07:58	21°♄22'53	-1°-11'-5
	1710 Feb 13 16:08	0°♎		direct	1716 Jan 11 09:43	16°♄25'56	
retrograde	1710 Mar 18 08:34	1°♎37'03			1716 Apr 21 08:29	0°♁	
	1710 Apr 20 04:26	30°♍		evening set	1716 May 16 15:11	5°♁43'18	
opposition	1710 May 18 05:45	26°♍45'13	1°03'40				
min. Earth dist.	1710 May 19 19:01	26°♍33'22	4.35363 AU	conjunction	1716 May 30 08:41	8°♁54'43	0°-31'-35
direct	1710 Jul 19 16:54	21°♍45'26		minimum elong	1716 May 30 08:43	8°♁54'44	0°31'36
	1710 Oct 06 18:16	0°♎		max. Earth dist.	1716 Jun 01 15:37	9°♁26'39	6.08132 AU
evening set	1710 Nov 22 09:16	9°♎43'51		morning rise	1716 Jun 13 03:52	12°♁06'39	
max. Earth dist.	1710 Dec 02 22:47	12°♎06'46	6.29090 AU		1716 Sep 19 17:09	0°♄	
				retrograde	1716 Oct 19 09:55	1°♄24'58	
conjunction	1710 Dec 05 01:09	12°♎35'16	0°28'07		1716 Nov 17 20:48	30°♁	
minimum elong	1710 Dec 05 01:11	12°♎35'17	0°28'06	min. Earth dist.	1716 Dec 16 16:45	26°♁31'31	4.15107 AU
morning rise	1710 Dec 17 16:04	15°♎26'27		opposition	1716 Dec 18 00:38	26°♁20'40	0°-19'00
	1711 Mar 03 08:55	0°♏		direct	1717 Feb 15 01:37	21°♁20'40	
retrograde	1711 Apr 20 20:29	3°♏27'53		asc. node	1717 Apr 29 17:19	28°♁59'27	
	1711 Jun 09 12:07	30°♎			1717 May 05 03:48	0°♄	
opposition	1711 Jun 20 17:57	28°♎34'59	0°15'13	evening set	1717 Jun 21 16:40	10°♄00'21	
min. Earth dist.	1711 Jun 22 02:14	28°♎24'38	4.22025 AU				
direct	1711 Aug 21 03:48	23°♎37'39		conjunction	1717 Jul 05 10:06	13°♄05'19	0°06'27
desc. node	1711 Oct 06 18:27	26°♎51'09		minimum elong	1717 Jul 05 10:05	13°♄05'19	0°06'28
	1711 Oct 27 07:28	0°♏		behind sun begin	1717 Jul 05 02:16	13°♄00'56	
evening set	1711 Dec 24 13:01	12°♏11'08		behind sun end	1717 Jul 05 17:54	13°♄09'41	
max. Earth dist.	1712 Jan 04 17:57	14°♏47'44	6.14763 AU	max. Earth dist.	1717 Jul 07 02:57	13°♄28'18	6.22456 AU
				morning rise	1717 Jul 19 02:57	16°♄09'45	
conjunction	1712 Jan 06 06:11	15°♏08'55	0°-8'-53		1717 Sep 27 23:23	0°♁	
minimum elong	1712 Jan 06 06:10	15°♏08'55	0°08'54	retrograde	1717 Nov 20 20:21	4°♁19'01	
behind sun begin	1712 Jan 05 23:16	15°♏04'54			1718 Jan 14 08:23	30°♄	
behind sun end	1712 Jan 06 13:04	15°♏12'56		opposition	1718 Jan 19 14:43	29°♄17'50	0°36'02
morning rise	1712 Jan 18 23:44	18°♏07'13		min. Earth dist.	1718 Jan 18 20:40	29°♄23'53	4.29399 AU
	1712 Mar 14 17:40	0°♐		direct	1718 Mar 21 00:04	24°♄15'43	
retrograde	1712 May 25 19:14	7°♐16'13			1718 May 24 02:56	0°♁	
opposition	1712 Jul 25 09:11	2°♐20'47	0°-41'-31	evening set	1718 Jul 25 20:10	12°♁19'26	
min. Earth dist.	1712 Jul 26 03:07	2°♐14'57	4.07749 AU				
	1712 Aug 13 05:29	30°♏		conjunction	1718 Aug 08 08:05	15°♁16'32	0°40'43
direct	1712 Sep 23 10:12	27°♏25'55		minimum elong	1718 Aug 08 08:03	15°♁16'30	0°40'43
	1712 Nov 02 19:43	0°♐		max. Earth dist.	1718 Aug 08 21:49	15°♁24'02	6.35604 AU
evening set	1713 Jan 26 15:22	16°♐38'09		morning rise	1718 Aug 21 18:04	18°♁12'26	
					1718 Oct 20 20:50	0°♎	
conjunction	1713 Feb 08 12:37	19°♐43'17	0°-44'-27	retrograde	1718 Dec 21 13:54	5°♎28'09	
minimum elong	1713 Feb 08 12:35	19°♐43'16	0°44'28	opposition	1719 Feb 19 16:29	0°♎30'43	1°17'21
max. Earth dist.	1713 Feb 08 02:21	19°♐37'08	6.01837 AU	min. Earth dist.	1719 Feb 19 16:16	0°♎30'48	4.40490 AU
morning rise	1713 Feb 21 11:58	22°♐49'42			1719 Feb 23 14:00	30°♁	
	1713 Mar 24 14:14	0°♋					

direct	1719 Apr 22 07:48	25°♏27'42		direct	1724 Sep 28 09:10	2°♊30'27	
	1719 Jun 18 16:13	0°♎		evening set	1725 Jan 31 15:13	21°♊46'46	
evening set	1719 Aug 27 03:44	13°♎07'00		conjunction	1725 Feb 13 13:13	24°♊52'44	0°-48'-31
conjunction	1719 Sep 09 08:12	15°♎57'43	1°02'05	minimum elong	1725 Feb 13 13:11	24°♊52'42	0°48'31
minimum elong	1719 Sep 09 08:10	15°♎57'42	1°02'05	max. Earth dist.	1725 Feb 13 08:17	24°♊49'46	6.00709 AU
max. Earth dist.	1719 Sep 08 18:42	15°♎50'25	6.43791 AU	morning rise	1725 Feb 26 13:27	28°♊00'03	
morning rise	1719 Sep 22 09:42	18°♎46'59			1725 Mar 06 23:36	0°♋	
	1719 Nov 18 23:12	0°♏		retrograde	1725 Jul 07 22:28	18°♋18'10	
retrograde	1720 Jan 20 16:08	5°♏34'44		opposition	1725 Sep 06 01:33	13°♋18'23	-1°-30'-19
opposition	1720 Mar 21 03:10	0°♏40'34	1°36'09	min. Earth dist.	1725 Sep 05 17:07	13°♋21'11	3.96985 AU
min. Earth dist.	1720 Mar 21 20:45	0°♏34'53	4.45388 AU	direct	1725 Nov 03 14:33	8°♋24'50	
	1720 Mar 26 09:05	30°♎		evening set	1726 Mar 08 23:30	28°♋05'03	
direct	1720 May 22 14:52	25°♎37'52			1726 Mar 16 21:59	0°♌	
	1720 Jul 18 06:00	0°♏		conjunction	1726 Mar 22 04:46	1°♌16'42	-1°-5'-25
evening set	1720 Sep 26 05:03	13°♏08'33		minimum elong	1726 Mar 22 04:45	1°♌16'42	1°05'25
max. Earth dist.	1720 Oct 07 12:51	15°♏35'35	6.44957 AU	max. Earth dist.	1726 Mar 23 09:26	1°♌34'03	5.95330 AU
conjunction	1720 Oct 09 02:34	15°♏56'03	1°06'11	morning rise	1726 Apr 04 12:59	4°♌30'00	
minimum elong	1720 Oct 09 02:34	15°♏56'03	1°06'11	retrograde	1726 Aug 15 00:31	25°♌10'19	
morning rise	1720 Oct 21 21:29	18°♏42'18		opposition	1726 Oct 13 18:32	20°♌06'54	-1°-36'-36
	1720 Dec 18 17:24	0°♎		min. Earth dist.	1726 Oct 12 15:11	20°♌16'09	3.96135 AU
retrograde	1721 Feb 19 04:16	5°♎30'36		direct	1726 Dec 10 15:20	15°♌12'17	
opposition	1721 Apr 20 21:33	0°♎38'22	1°29'20		1727 Mar 25 16:28	0°♍	
min. Earth dist.	1721 Apr 22 05:28	0°♎28'10	4.42853 AU	evening set	1727 Apr 15 10:57	4°♍50'41	
	1721 Apr 25 21:49	30°♏		conjunction	1727 Apr 28 23:57	8°♍04'15	0°-56'-42
direct	1721 Jun 22 16:08	25°♏36'52		minimum elong	1727 Apr 28 23:59	8°♍04'16	0°56'43
	1721 Aug 18 04:58	0°♎		max. Earth dist.	1727 May 01 02:23	8°♍34'19	5.98982 AU
evening set	1721 Oct 26 19:10	13°♎15'57		morning rise	1727 May 12 15:55	11°♍19'09	
max. Earth dist.	1721 Nov 06 11:17	15°♎36'54	6.38860 AU		1727 Aug 20 23:40	0°♎	
conjunction	1721 Nov 08 12:29	16°♎04'05	0°52'21	retrograde	1727 Sep 20 15:25	1°♎30'39	
minimum elong	1721 Nov 08 12:31	16°♎04'06	0°52'21		1727 Oct 21 01:29	30°♎	
morning rise	1721 Nov 21 03:37	18°♎51'22		min. Earth dist.	1727 Nov 17 18:11	26°♎37'40	4.03896 AU
	1722 Jan 15 17:37	0°♏		opposition	1727 Nov 19 05:39	26°♎25'34	-1°-4'-50
retrograde	1722 Mar 22 22:16	6°♏08'26		direct	1728 Jan 16 09:51	21°♎28'11	
opposition	1722 May 22 20:29	1°♏16'33	0°57'49		1728 Apr 02 07:29	0°♎	
min. Earth dist.	1722 May 24 08:47	1°♏04'59	4.33543 AU	evening set	1728 May 21 16:12	10°♎40'09	
	1722 Jun 01 23:34	30°♎		conjunction	1728 Jun 04 10:08	13°♎50'49	0°-26'-36
direct	1722 Jul 24 03:29	26°♎17'08		minimum elong	1728 Jun 04 10:10	13°♎50'50	0°26'37
	1722 Sep 13 05:52	0°♏		max. Earth dist.	1728 Jun 06 16:03	14°♎22'02	6.10120 AU
evening set	1722 Nov 26 20:35	14°♏20'28		morning rise	1728 Jun 18 05:13	17°♎01'50	
max. Earth dist.	1722 Dec 07 11:59	16°♏45'08	6.27062 AU		1728 Aug 19 20:35	0°♏	
conjunction	1722 Dec 09 12:27	17°♏12'42	0°23'15	retrograde	1728 Oct 24 00:56	6°♏10'22	
minimum elong	1722 Dec 09 12:29	17°♏12'43	0°23'15	min. Earth dist.	1728 Dec 21 09:20	1°♏16'30	4.17121 AU
morning rise	1722 Dec 22 03:33	20°♏04'48		opposition	1728 Dec 22 14:50	1°♏06'29	0°-11'-8
	1723 Feb 07 01:02	0°♏			1728 Dec 30 20:32	30°♎	
retrograde	1723 Apr 25 20:45	8°♏15'21		direct	1729 Feb 19 20:16	26°♎06'12	
opposition	1723 Jun 25 16:13	3°♏22'13	0°07'16	asc. node	1729 Mar 10 13:30	26°♎40'29	
min. Earth dist.	1723 Jun 26 23:43	3°♏12'07	4.19933 AU		1729 Apr 11 16:39	0°♏	
	1723 Jul 24 15:45	30°♏		evening set	1729 Jun 26 11:53	14°♏40'44	
desc. node	1723 Aug 15 20:41	28°♏34'55		conjunction	1729 Jul 10 04:48	17°♏44'41	0°11'37
direct	1723 Aug 25 22:46	28°♏25'18		minimum elong	1729 Jul 10 04:47	17°♏44'41	0°11'38
	1723 Sep 26 23:13	0°♏		behind sun begin	1729 Jul 09 22:58	17°♏41'26	
evening set	1723 Dec 29 06:16	17°♏04'21		behind sun end	1729 Jul 10 10:35	17°♏47'55	
conjunction	1724 Jan 10 23:50	20°♏03'09	0°-14'-19	max. Earth dist.	1729 Jul 11 17:49	18°♏05'26	6.24335 AU
minimum elong	1724 Jan 10 23:50	20°♏03'09	0°14'20	morning rise	1729 Jul 23 21:01	20°♏48'00	
behind sun begin	1724 Jan 10 19:54	20°♏00'51			1729 Sep 05 19:18	0°♏	
behind sun end	1724 Jan 11 03:45	20°♏05'26		retrograde	1729 Nov 25 02:51	8°♏49'18	
max. Earth dist.	1724 Jan 09 14:24	19°♏43'32	6.12811 AU	opposition	1730 Jan 23 22:59	3°♏48'39	0°42'48
morning rise	1724 Jan 23 18:06	23°♏02'35		min. Earth dist.	1730 Jan 23 06:54	3°♏54'02	4.31014 AU
	1724 Feb 23 14:01	0°♏			1730 Feb 25 13:34	30°♏	
retrograde	1724 May 30 23:54	12°♏20'53		direct	1730 Mar 25 11:40	28°♏46'23	
opposition	1724 Jul 30 14:05	7°♏24'59	0°-49'-6		1730 Apr 22 19:58	0°♏	
min. Earth dist.	1724 Jul 31 03:46	7°♏20'32	4.06135 AU	evening set	1730 Jul 30 09:38	16°♏46'49	

conjunction	1730 Aug 12 20:41	19°♃43'01	0°44'33	min. Earth dist.	1736 Aug 05 04:58	12°♁22'43	4.04640 AU
minimum elong	1730 Aug 12 20:38	19°♃43'00	0°44'33	direct	1736 Oct 03 09:28	7°♁32'04	
max. Earth dist.	1730 Aug 13 06:31	19°♃48'24	6.36853 AU	evening set	1737 Feb 05 13:47	26°♁52'14	
morning rise	1730 Aug 26 05:29	22°♃37'59					
	1730 Sep 30 16:24	0°♄		conjunction	1737 Feb 18 12:42	29°♁59'04	0°-52'-11
retrograde	1730 Dec 25 19:30	9°♄49'10		minimum elong	1737 Feb 18 12:40	29°♁59'02	0°52'13
opposition	1731 Feb 23 22:19	4°♄52'19	1°21'22		1737 Feb 18 14:15	0°♅	
min. Earth dist.	1731 Feb 24 00:57	4°♄51'27	4.41310 AU	max. Earth dist.	1737 Feb 18 12:38	29°♁59'01	5.99593 AU
	1731 Apr 15 23:10	30°♃		morning rise	1737 Mar 03 13:51	3°♅07'18	
direct	1731 Apr 26 16:55	29°♃49'21		retrograde	1737 Jul 13 05:46	23°♅30'46	
	1731 May 07 12:19	0°♄		opposition	1737 Sep 11 07:25	18°♅30'25	-1°-33'-33
evening set	1731 Aug 31 12:54	17°♄27'27		min. Earth dist.	1737 Sep 10 20:10	18°♅34'10	3.96396 AU
				direct	1737 Nov 08 16:31	13°♅36'50	
conjunction	1731 Sep 13 16:18	20°♄17'38	1°03'41		1738 Feb 28 05:49	0°♆	
minimum elong	1731 Sep 13 16:17	20°♄17'38	1°03'41	evening set	1738 Mar 14 03:12	3°♆18'16	
max. Earth dist.	1731 Sep 12 22:05	20°♄07'47	6.44115 AU				
morning rise	1731 Sep 26 16:57	23°♄06'25		conjunction	1738 Mar 27 09:24	6°♆30'23	-1°-5'-45
	1731 Oct 30 01:59	0°♅		minimum elong	1738 Mar 27 09:24	6°♆30'23	1°05'46
retrograde	1732 Jan 24 22:25	9°♅53'30		max. Earth dist.	1738 Mar 28 16:21	6°♆49'06	5.95292 AU
opposition	1732 Mar 25 09:40	4°♅59'40	1°36'41	morning rise	1738 Apr 09 18:55	9°♆44'14	
min. Earth dist.	1732 Mar 26 05:33	4°♅53'15	4.45233 AU		1738 Aug 04 17:23	0°♇	
	1732 May 21 07:19	30°♄		retrograde	1738 Aug 20 04:09	0°♇23'37	
direct	1732 May 26 22:50	29°♄57'06			1738 Sep 04 14:29	30°♆	
	1732 Jun 01 15:06	0°♅		opposition	1738 Oct 18 22:16	25°♆19'46	-1°-34'-14
evening set	1732 Sep 30 12:12	17°♅28'43		min. Earth dist.	1738 Oct 17 16:43	25°♆29'47	3.96663 AU
max. Earth dist.	1732 Oct 11 18:50	19°♅55'21	6.44341 AU	direct	1738 Dec 15 18:51	20°♆24'47	
					1739 Mar 06 22:40	0°♇	
conjunction	1732 Oct 13 09:09	20°♅16'11	1°05'14	evening set	1739 Apr 20 15:50	10°♇01'05	
minimum elong	1732 Oct 13 09:09	20°♅16'11	1°05'14				
morning rise	1732 Oct 26 03:13	23°♅02'24		conjunction	1739 May 04 05:55	13°♇14'37	0°-53'-31
	1732 Nov 28 15:28	0°♆		minimum elong	1739 May 04 05:58	13°♇14'39	0°53'31
retrograde	1733 Feb 23 12:28	9°♆53'32		max. Earth dist.	1739 May 06 10:39	13°♇45'58	6.00026 AU
opposition	1733 Apr 25 07:12	5°♆01'26	1°26'15	morning rise	1739 May 17 22:31	16°♇29'19	
min. Earth dist.	1733 Apr 26 15:29	4°♆51'08	4.41824 AU		1739 Jul 20 10:18	0°♈	
direct	1733 Jun 27 00:25	0°♆00'15		retrograde	1739 Sep 25 14:53	6°♈34'10	
evening set	1733 Oct 31 03:07	17°♆42'01		min. Earth dist.	1739 Nov 22 17:18	1°♈40'49	4.05317 AU
max. Earth dist.	1733 Nov 10 17:42	20°♆02'40	6.37489 AU	opposition	1739 Nov 24 03:46	1°♈29'04	0°-58'-8
					1739 Dec 05 05:11	30°♇	
conjunction	1733 Nov 12 19:55	20°♆30'30	0°49'01	direct	1740 Jan 21 11:04	26°♇31'15	
minimum elong	1733 Nov 12 19:57	20°♆30'31	0°49'01		1740 Mar 08 09:27	0°♈	
morning rise	1733 Nov 25 10:58	23°♆18'18		evening set	1740 May 26 18:36	15°♈39'03	
	1733 Dec 26 22:16	0°♉					
retrograde	1734 Mar 27 14:22	10°♉41'19		conjunction	1740 Jun 09 12:45	18°♈49'04	0°-21'-23
opposition	1734 May 27 11:45	5°♉49'18	0°51'35	minimum elong	1740 Jun 09 12:46	18°♈49'05	0°21'25
min. Earth dist.	1734 May 29 00:30	5°♉37'35	4.31893 AU	max. Earth dist.	1740 Jun 11 17:29	19°♈19'28	6.11788 AU
direct	1734 Jul 28 17:07	0°♉50'10		morning rise	1740 Jun 23 07:53	21°♈59'19	
evening set	1734 Dec 01 07:22	18°♉57'30			1740 Jul 29 22:52	0°♉	
max. Earth dist.	1734 Dec 12 00:32	21°♉23'45	6.25262 AU	retrograde	1740 Oct 28 14:55	10°♉59'01	
				min. Earth dist.	1740 Dec 26 01:18	6°♉05'17	4.18875 AU
conjunction	1734 Dec 13 23:24	21°♉50'30	0°18'14	opposition	1740 Dec 27 06:12	5°♉55'29	0°-3'-7
minimum elong	1734 Dec 13 23:25	21°♉50'30	0°18'15	asc. node	1741 Jan 18 04:42	3°♉08'06	
morning rise	1734 Dec 26 14:41	24°♉43'25		direct	1741 Feb 24 14:28	0°♉54'52	
	1735 Jan 19 09:33	0°♊		evening set	1741 Jul 01 09:05	19°♉25'08	
retrograde	1735 Apr 30 17:17	13°♊02'14					
desc. node	1735 Jun 25 11:53	8°♊47'46		conjunction	1741 Jul 15 01:25	22°♉28'07	0°16'50
opposition	1735 Jun 30 13:52	8°♊08'45	0°00'42	minimum elong	1741 Jul 15 01:24	22°♉28'06	0°16'50
min. Earth dist.	1735 Jul 01 18:40	7°♊59'30	4.18095 AU	max. Earth dist.	1741 Jul 16 10:35	22°♉46'38	6.26050 AU
direct	1735 Aug 30 15:22	3°♊12'11		morning rise	1741 Jul 28 16:51	25°♉30'21	
evening set	1736 Jan 02 22:30	21°♊55'50			1741 Aug 18 09:45	0°♋	
max. Earth dist.	1736 Jan 14 10:15	24°♊37'44	6.11075 AU	retrograde	1741 Nov 29 13:45	13°♋24'11	
				opposition	1742 Jan 28 09:42	8°♋24'05	0°49'27
conjunction	1736 Jan 15 16:23	24°♊55'30	0°-19'-37	min. Earth dist.	1742 Jan 27 20:36	8°♋28'27	4.32562 AU
minimum elong	1736 Jan 15 16:22	24°♊55'29	0°19'39	direct	1742 Mar 30 03:27	3°♋21'42	
morning rise	1736 Jan 28 11:16	27°♊55'55		evening set	1742 Aug 04 01:00	21°♋18'44	
	1736 Feb 06 08:37	0°♌					
retrograde	1736 Jun 05 05:06	17°♌22'54		conjunction	1742 Aug 17 11:04	24°♋14'01	0°48'13
opposition	1736 Aug 04 17:31	12°♌26'27	0°-56'-17	minimum elong	1742 Aug 17 11:01	24°♋14'00	0°48'14

max. Earth dist.	1742 Aug 17 17:50	24°♄17'43	6.38135 AU	conjunction	1749 Feb 23 08:09	4°♃55'16	0°-55'-20
morning rise	1742 Aug 30 18:43	27°♄08'00		minimum elong	1749 Feb 23 08:07	4°♃55'15	0°55'21
	1742 Sep 13 04:03	0°♃		max. Earth dist.	1749 Feb 23 10:04	4°♃56'26	5.98410 AU
retrograde	1742 Dec 30 01:23	14°♃14'28		morning rise	1749 Mar 08 10:29	8°♃04'32	
opposition	1743 Feb 28 06:18	9°♃18'05	1°25'03	retrograde	1749 Jul 18 08:04	28°♃34'01	
min. Earth dist.	1743 Feb 28 10:21	9°♃16'46	4.42298 AU	opposition	1749 Sep 16 09:03	23°♃33'10	-1°-35'-59
direct	1743 May 01 03:28	4°♃15'12		min. Earth dist.	1749 Sep 15 19:07	23°♃37'50	3.95585 AU
evening set	1743 Sep 04 23:35	21°♃51'12		direct	1749 Nov 13 14:43	18°♃39'31	
max. Earth dist.	1743 Sep 17 05:54	24°♃29'53	6.44764 AU		1750 Feb 10 19:23	0°♃	
				evening set	1750 Mar 19 03:43	8°♃23'34	
conjunction	1743 Sep 18 01:56	24°♃40'43	1°05'01	conjunction	1750 Apr 01 11:17	11°♃36'27	-1°-5'-35
minimum elong	1743 Sep 18 01:55	24°♃40'42	1°05'00	minimum elong	1750 Apr 01 11:18	11°♃36'27	1°05'36
morning rise	1743 Oct 01 01:24	27°♃28'48		max. Earth dist.	1750 Apr 02 22:36	11°♃57'49	5.94946 AU
	1743 Oct 12 21:39	0°♃		morning rise	1750 Apr 14 21:50	14°♃50'57	
retrograde	1744 Jan 29 04:38	14°♃14'01			1750 Jun 25 09:13	0°♃	
opposition	1744 Mar 29 17:18	9°♃20'34	1°36'45	retrograde	1750 Aug 25 08:07	5°♃30'48	
min. Earth dist.	1744 Mar 30 14:59	9°♃13'35	4.45528 AU	opposition	1750 Oct 23 23:02	0°♃26'41	-1°-31'-14
direct	1744 May 31 08:53	4°♃18'14		min. Earth dist.	1750 Oct 22 17:09	0°♃36'50	3.96825 AU
evening set	1744 Oct 04 19:37	21°♃49'00			1750 Oct 27 05:41	30°♃	
max. Earth dist.	1744 Oct 15 22:30	24°♃13'47	6.44254 AU	direct	1750 Dec 20 19:53	25°♃31'24	
					1751 Feb 11 21:08	0°♃	
conjunction	1744 Oct 17 15:38	24°♃36'10	1°04'00	evening set	1751 Apr 25 19:15	15°♃07'24	
minimum elong	1744 Oct 17 15:39	24°♃36'11	1°04'00				
morning rise	1744 Oct 30 09:08	27°♃22'11		conjunction	1751 May 09 10:16	18°♃21'06	0°-50'00
	1744 Nov 11 15:38	0°♃		minimum elong	1751 May 09 10:19	18°♃21'08	0°50'01
retrograde	1745 Feb 27 21:00	14°♃14'32		max. Earth dist.	1751 May 11 16:18	18°♃53'08	6.00685 AU
opposition	1745 Apr 29 16:45	9°♃22'31	1°22'46	morning rise	1751 May 23 03:49	21°♃35'53	
min. Earth dist.	1745 May 01 02:03	9°♃11'53	4.41360 AU		1751 Jun 29 11:50	0°♃	
direct	1745 Jul 01 10:06	4°♃21'34		retrograde	1751 Sep 30 11:22	11°♃35'25	
evening set	1745 Nov 04 09:14	22°♃04'01		min. Earth dist.	1751 Nov 27 12:50	6°♃42'28	4.06401 AU
max. Earth dist.	1745 Nov 15 00:30	24°♃25'18	6.36686 AU	opposition	1751 Nov 29 00:16	6°♃30'22	0°-51'-8
				direct	1752 Jan 26 08:09	1°♃32'09	
conjunction	1745 Nov 17 01:47	24°♃52'42	0°45'31	evening set	1752 May 31 20:24	20°♃37'08	
minimum elong	1745 Nov 17 01:49	24°♃52'43	0°45'31				
morning rise	1745 Nov 29 16:24	27°♃40'41		conjunction	1752 Jun 14 14:43	23°♃46'37	0°-16'-6
	1745 Dec 10 06:36	0°♃		minimum elong	1752 Jun 14 14:44	23°♃46'38	0°16'06
retrograde	1746 Apr 01 01:39	15°♃08'00		max. Earth dist.	1752 Jun 16 17:22	24°♃15'43	6.13213 AU
opposition	1746 Jun 01 00:46	10°♃15'54	0°45'13	morning rise	1752 Jun 28 09:51	26°♃56'10	
min. Earth dist.	1746 Jun 02 12:48	10°♃04'26	4.30779 AU		1752 Jul 12 00:33	0°♃	
direct	1746 Aug 02 03:36	5°♃17'09		retrograde	1752 Nov 02 06:31	15°♃47'56	
evening set	1746 Dec 05 15:26	23°♃26'51		asc. node	1752 Nov 28 00:54	14°♃42'33	
max. Earth dist.	1746 Dec 16 08:43	25°♃53'42	6.23918 AU	opposition	1752 Dec 31 21:32	10°♃44'43	0°04'49
				min. Earth dist.	1752 Dec 30 18:41	10°♃53'48	4.20474 AU
conjunction	1746 Dec 18 07:17	26°♃20'22	0°13'19	direct	1753 Mar 01 10:57	5°♃43'43	
minimum elong	1746 Dec 18 07:18	26°♃20'22	0°13'19	evening set	1753 Jul 06 05:57	24°♃09'53	
behind sun begin	1746 Dec 18 02:34	26°♃17'41					
behind sun end	1746 Dec 18 12:02	26°♃23'04		conjunction	1753 Jul 19 21:46	27°♃11'55	0°21'54
morning rise	1746 Dec 30 22:52	29°♃13'57		minimum elong	1753 Jul 19 21:45	27°♃11'54	0°21'54
	1747 Jan 03 07:56	0°♃		max. Earth dist.	1753 Jul 21 05:32	27°♃29'34	6.27700 AU
retrograde	1747 May 05 12:00	17°♃39'49			1753 Aug 01 12:37	0°♃	
desc. node	1747 May 07 10:03	17°♃39'28		morning rise	1753 Aug 02 12:14	0°♃13'03	
opposition	1747 Jul 05 07:49	12°♃46'01	0°-8'-24	retrograde	1753 Dec 03 21:55	17°♃59'19	
min. Earth dist.	1747 Jul 06 11:45	12°♃37'01	4.16584 AU	opposition	1754 Feb 01 20:00	12°♃59'38	0°55'44
direct	1747 Sep 04 06:30	7°♃49'42		min. Earth dist.	1754 Feb 01 07:51	13°♃03'41	4.34121 AU
evening set	1748 Jan 07 10:52	26°♃37'16		direct	1754 Apr 03 17:14	7°♃57'04	
max. Earth dist.	1748 Jan 19 02:07	29°♃21'43	6.09540 AU	evening set	1754 Aug 08 15:59	25°♃50'17	
conjunction	1748 Jan 20 05:20	29°♃37'48	0°-24'-35	conjunction	1754 Aug 22 00:51	28°♃44'34	0°51'35
minimum elong	1748 Jan 20 05:18	29°♃37'47	0°24'36	minimum elong	1754 Aug 22 00:49	28°♃44'32	0°51'35
	1748 Jan 21 18:55	0°♃		max. Earth dist.	1754 Aug 22 03:22	28°♃45'56	6.39461 AU
morning rise	1748 Feb 02 00:46	2°♃39'10			1754 Aug 27 19:28	0°♃	
retrograde	1748 Jun 10 05:34	22°♃14'14		morning rise	1754 Sep 04 07:24	1°♃37'30	
opposition	1748 Aug 09 16:23	17°♃17'24	-1°-2'-47	retrograde	1755 Jan 03 08:25	18°♃38'57	
min. Earth dist.	1748 Aug 10 01:38	17°♃14'22	4.03223 AU	opposition	1755 Mar 04 13:56	13°♃42'58	1°28'12
direct	1748 Oct 08 03:10	12°♃23'14		min. Earth dist.	1755 Mar 04 21:10	13°♃40'36	4.43275 AU
	1749 Feb 02 20:01	0°♃		direct	1755 May 05 15:57	8°♃40'00	
evening set	1749 Feb 10 08:31	1°♃47'33					

evening set	1755 Sep 09 09:08	26°♃13°38			1761 Sep 13 06:31	30°♁	
max. Earth dist.	1755 Sep 21 11:15	28°♃49°58	6.45275 AU	opposition	1761 Sep 21 17:31	28°♁52°37	-1°-37'-48
				min. Earth dist.	1761 Sep 21 01:26	28°♁58°00	3.95041 AU
conjunction	1755 Sep 22 10:32	29°♃02°33	1°05'57	direct	1761 Nov 18 21:04	23°♁58°55	
minimum elong	1755 Sep 22 10:31	29°♃02°32	1°05'57		1762 Jan 20 01:48	0°♃	
	1755 Sep 26 20:50	0°♁		evening set	1762 Mar 24 11:14	13°♃44°13	
morning rise	1755 Oct 05 08:59	1°♁50°02					
retrograde	1756 Feb 02 09:45	18°♁33°58		conjunction	1762 Apr 06 19:53	16°♃57°34	-1°-4'-54
opposition	1756 Apr 03 00:46	13°♁40°41	1°36'17	minimum elong	1762 Apr 06 19:54	16°♃57°35	1°04'55
min. Earth dist.	1756 Apr 03 23:52	13°♁33°16	4.45538 AU	max. Earth dist.	1762 Apr 08 10:47	17°♃21°03	5.95110 AU
direct	1756 Jun 04 17:14	8°♁38°24		morning rise	1762 Apr 20 07:46	20°♃12°34	
evening set	1756 Oct 09 02:30	26°♁09°11			1762 Jun 02 10:46	0°♁	
max. Earth dist.	1756 Oct 20 03:45	28°♁33°17	6.43745 AU	retrograde	1762 Aug 30 13:41	10°♁49°50	
				min. Earth dist.	1762 Oct 27 19:56	5°♁56°32	3.97722 AU
conjunction	1756 Oct 21 21:53	28°♁56°16	1°02'23	opposition	1762 Oct 29 04:34	5°♁45°26	-1°-27'-21
minimum elong	1756 Oct 21 21:54	28°♁56°16	1°02'22	direct	1762 Dec 26 00:38	0°♁49°50	
	1756 Oct 26 18:42	0°♃		evening set	1763 May 01 02:53	20°♁22°29	
morning rise	1756 Nov 03 14:39	1°♃42°13					
retrograde	1757 Mar 04 06:12	18°♃37°17		conjunction	1763 May 14 18:38	23°♁35°48	0°-46'00
opposition	1757 May 04 03:03	13°♃45°21	1°18'46	minimum elong	1763 May 14 18:40	23°♁35°50	0°46'01
min. Earth dist.	1757 May 05 13:44	13°♃34°18	4.40343 AU	max. Earth dist.	1763 May 17 01:26	24°♁08°11	6.02231 AU
direct	1757 Jul 05 20:17	8°♃44°39		morning rise	1763 May 28 12:44	26°♁50°06	
evening set	1757 Nov 08 16:50	26°♃29°37			1763 Jun 11 04:58	0°♂	
max. Earth dist.	1757 Nov 19 05:38	28°♃50°06	6.35225 AU	retrograde	1763 Oct 05 09:26	16°♂40°32	
				opposition	1763 Dec 03 22:39	11°♂35°32	0°-43'-39
conjunction	1757 Nov 21 08:59	29°♃18°44	0°41'40	min. Earth dist.	1763 Dec 02 12:05	11°♂47°20	4.08406 AU
minimum elong	1757 Nov 21 09:01	29°♃18°45	0°41'41	direct	1764 Jan 31 11:06	6°♂36°54	
	1757 Nov 24 10:58	0°♁		evening set	1764 Jun 05 22:53	25°♂35°37	
morning rise	1757 Dec 03 23:41	2°♁07°18					
retrograde	1758 Apr 05 17:48	19°♁41°18		conjunction	1764 Jun 19 17:15	28°♂44°04	0°-10'-41
opposition	1758 Jun 05 16:42	14°♁49°01	0°38'23	minimum elong	1764 Jun 19 17:16	28°♂44°04	0°10'42
min. Earth dist.	1758 Jun 07 04:29	14°♁37°36	4.28946 AU	behind sun begin	1764 Jun 19 10:55	28°♂40°27	
direct	1758 Aug 06 16:37	9°♁50°29		behind sun end	1764 Jun 19 23:38	28°♂47°41	
evening set	1758 Dec 10 02:45	28°♁05°03		max. Earth dist.	1764 Jun 21 19:48	29°♂12°56	6.15512 AU
	1758 Dec 18 11:31	0°♁			1764 Jun 25 06:15	0°♁	
max. Earth dist.	1758 Dec 20 22:55	0°♁34°09	6.21872 AU	morning rise	1764 Jul 03 11:54	1°♁52°23	
				asc. node	1764 Oct 07 21:39	19°♁07°34	
conjunction	1758 Dec 22 18:58	0°♁59°29	0°08'06	retrograde	1764 Nov 06 19:14	20°♁33°07	
minimum elong	1758 Dec 22 18:59	0°♁59°30	0°08'05	min. Earth dist.	1765 Jan 04 09:44	15°♁39°03	4.22835 AU
behind sun begin	1758 Dec 22 11:52	0°♁55°25		opposition	1765 Jan 05 11:31	15°♁30°21	0°12'38
behind sun end	1758 Dec 23 02:06	1°♁03°34		direct	1765 Mar 06 05:09	10°♁29°06	
morning rise	1759 Jan 04 10:48	3°♁54°04		evening set	1765 Jul 11 00:49	28°♁48°53	
desc. node	1759 Mar 17 03:03	18°♁10°42			1765 Jul 16 09:44	0°♂	
retrograde	1759 May 10 12:12	22°♁29°32					
opposition	1759 Jul 10 07:01	17°♁35°25	0°-16'-27	conjunction	1765 Jul 24 15:38	1°♂49°35	0°26'44
min. Earth dist.	1759 Jul 11 09:11	17°♁27°00	4.14473 AU	minimum elong	1765 Jul 24 15:36	1°♂49°34	0°26'44
direct	1759 Sep 09 00:35	12°♁39°27		max. Earth dist.	1765 Jul 25 18:09	2°♂04°16	6.29919 AU
	1760 Jan 05 14:20	0°♁		morning rise	1765 Aug 07 05:12	4°♂49°21	
evening set	1760 Jan 12 05:09	1°♁32°57		retrograde	1765 Dec 08 05:06	22°♂26°53	
max. Earth dist.	1760 Jan 23 23:02	4°♁19°44	6.07542 AU	opposition	1766 Feb 06 03:52	17°♂27°46	1°01'29
				min. Earth dist.	1766 Feb 05 19:18	17°♂30°36	4.36026 AU
conjunction	1760 Jan 25 00:02	4°♁34°34	0°-29'-40	direct	1766 Apr 08 06:55	12°♂25°01	
minimum elong	1760 Jan 25 00:00	4°♁34°33	0°29'41		1766 Aug 12 01:46	0°♃	
morning rise	1760 Feb 06 20:26	7°♁37°10		evening set	1766 Aug 13 03:10	0°♃13°41	
retrograde	1760 Jun 15 12:18	27°♁22°07					
opposition	1760 Aug 14 22:03	22°♁24°43	-1°-9'-15	conjunction	1766 Aug 26 11:07	3°♃06°58	0°54'33
min. Earth dist.	1760 Aug 15 03:45	22°♁22°51	4.01536 AU	minimum elong	1766 Aug 26 11:05	3°♃06°56	0°54'33
direct	1760 Oct 13 03:45	17°♁30°44		max. Earth dist.	1766 Aug 26 10:39	3°♃06°43	6.40896 AU
	1761 Jan 16 08:04	0°♁		morning rise	1766 Sep 08 16:18	5°♃58°49	
evening set	1761 Feb 15 10:31	7°♁00°01		retrograde	1767 Jan 07 10:33	22°♃55°37	
				opposition	1767 Mar 08 18:35	18°♃00°06	1°30'47
conjunction	1761 Feb 28 11:19	10°♁08°46	0°-58'-16	min. Earth dist.	1767 Mar 09 03:44	17°♃57°08	4.44167 AU
minimum elong	1761 Feb 28 11:17	10°♁08°45	0°58'17	direct	1767 May 09 22:41	12°♃57°11	
max. Earth dist.	1761 Feb 28 19:20	10°♁13°37	5.97209 AU		1767 Sep 11 09:11	0°♁	
morning rise	1761 Mar 13 14:38	13°♁19°03		evening set	1767 Sep 13 15:42	0°♁29°10	
	1761 Jun 03 01:15	0°♃					
retrograde	1761 Jul 23 19:25	3°♃53°56		conjunction	1767 Sep 26 16:01	3°♁17°33	1°06'30

minimum elong	1767 Sep 26 16:00	3°♁17'33	1°06'30			1773 Nov 05 06:55	30°♁		
max. Earth dist.	1767 Sep 25 12:29	3°♁02'39	6.45541 AU	direct		1773 Nov 24 03:48	29°♁23'16		
morning rise	1767 Oct 09 13:35	6°♁04'35				1773 Dec 13 01:46	0°♁		
retrograde	1768 Feb 06 15:03	22°♁48'26			evening set	1774 Mar 29 20:02	19°♁07'48		
opposition	1768 Apr 07 06:07	17°♁55'30	1°35'20						
min. Earth dist.	1768 Apr 08 08:30	17°♁47'03	4.45167 AU	conjunction		1774 Apr 12 05:46	22°♁21'20	-1°-3'-38	
direct	1768 Jun 09 00:45	12°♁53'22		minimum elong		1774 Apr 12 05:48	22°♁21'21	1°03'38	
	1768 Oct 11 08:08	0°♁		max. Earth dist.		1774 Apr 14 00:14	22°♁46'55	5.95785 AU	
evening set	1768 Oct 13 07:29	0°♁25'37		morning rise		1774 Apr 25 18:39	25°♁36'26		
max. Earth dist.	1768 Oct 24 04:53	2°♁48'02	6.42746 AU			1774 May 14 11:19	0°♁		
				retrograde		1774 Sep 04 18:31	16°♁08'36		
conjunction	1768 Oct 26 02:19	3°♁12'52	1°00'28	min. Earth dist.		1774 Nov 02 00:05	11°♁15'12	3.99062 AU	
minimum elong	1768 Oct 26 02:20	3°♁12'53	1°00'27	opposition		1774 Nov 03 09:23	11°♁03'51	-1°-22'-43	
morning rise	1768 Nov 07 18:42	5°♁59'05		direct		1774 Dec 31 07:37	6°♁07'48		
retrograde	1769 Mar 08 15:14	22°♁58'46		evening set		1775 May 06 09:50	25°♁35'28		
opposition	1769 May 08 12:46	18°♁06'53	1°14'24						
min. Earth dist.	1769 May 09 23:59	17°♁55'40	4.38778 AU	conjunction		1775 May 20 02:21	28°♁48'15	0°-41'-39	
direct	1769 Jul 10 03:27	13°♁06'24		minimum elong		1775 May 20 02:24	28°♁48'16	0°41'40	
	1769 Nov 08 19:00	0°♁		max. Earth dist.		1775 May 22 11:07	29°♁21'36	6.04102 AU	
evening set	1769 Nov 13 00:00	0°♁55'52				1775 May 25 04:31	0°♁		
max. Earth dist.	1769 Nov 23 13:46	3°♁17'31	6.33219 AU	morning rise		1775 Jun 02 20:46	2°♁01'48		
				retrograde		1775 Oct 10 06:00	21°♁41'51		
conjunction	1769 Nov 25 16:08	3°♁45'45	0°37'37	min. Earth dist.		1775 Dec 07 09:04	16°♁48'40	4.10588 AU	
minimum elong	1769 Nov 25 16:10	3°♁45'46	0°37'37	opposition		1775 Dec 08 19:13	16°♁37'03	0°-35'-54	
morning rise	1769 Dec 08 06:45	6°♁35'07		direct		1776 Feb 05 11:13	11°♁38'00		
retrograde	1770 Apr 10 11:58	24°♁17'53				1776 Jun 08 18:27	0°♁		
opposition	1770 Jun 10 09:52	19°♁25'30	0°31'19	evening set		1776 Jun 10 23:57	0°♁30'11		
min. Earth dist.	1770 Jun 11 21:35	19°♁14'06	4.26615 AU						
direct	1770 Aug 11 06:04	14°♁27'22		conjunction		1776 Jun 24 17:56	3°♁37'29	0°-5'-14	
	1770 Dec 02 06:37	0°♁		minimum elong		1776 Jun 24 17:57	3°♁37'29	0°05'15	
evening set	1770 Dec 14 15:57	2°♁48'31		behind sun begin		1776 Jun 24 09:52	3°♁32'55		
max. Earth dist.	1770 Dec 25 12:58	5°♁19'00	6.19414 AU	behind sun end		1776 Jun 25 02:02	3°♁42'03		
				max. Earth dist.		1776 Jun 26 16:28	4°♁03'55	6.17806 AU	
conjunction	1770 Dec 27 08:20	5°♁44'05	0°02'48	morning rise		1776 Jul 08 12:17	6°♁44'35		
minimum elong	1770 Dec 27 08:20	5°♁44'04	0°02'48	asc. node		1776 Aug 17 11:32	15°♁18'24		
behind sun begin	1770 Dec 27 00:22	5°♁39'29		retrograde		1776 Nov 11 06:54	25°♁14'52		
behind sun end	1770 Dec 27 16:18	5°♁48'40		min. Earth dist.		1777 Jan 09 01:04	20°♁20'23	4.25034 AU	
morning rise	1771 Jan 09 00:51	8°♁39'56		opposition		1777 Jan 10 00:22	20°♁12'32	0°20'19	
desc. node	1771 Jan 24 20:12	12°♁15'17		direct		1777 Mar 10 23:23	15°♁10'57		
retrograde	1771 May 15 15:16	27°♁26'36				1777 Jun 29 23:23	0°♁		
opposition	1771 Jul 15 08:42	22°♁32'05	0°-24'-31	evening set		1777 Jul 15 18:26	3°♁25'09		
min. Earth dist.	1771 Jul 16 07:43	22°♁24'38	4.12083 AU						
direct	1771 Sep 13 20:10	17°♁36'27		conjunction		1777 Jul 29 08:33	6°♁24'41	0°31'24	
	1771 Dec 19 04:32	0°♁		minimum elong		1777 Jul 29 08:31	6°♁24'40	0°31'24	
evening set	1772 Jan 17 02:23	6°♁36'51		max. Earth dist.		1777 Jul 30 08:18	6°♁37'47	6.31869 AU	
				morning rise		1777 Aug 11 20:52	9°♁23'09		
conjunction	1772 Jan 29 22:08	9°♁39'42	0°-34'-36	retrograde		1777 Dec 12 11:19	26°♁53'08		
minimum elong	1772 Jan 29 22:06	9°♁39'41	0°34'37	opposition		1778 Feb 10 11:24	21°♁54'35	1°06'55	
max. Earth dist.	1772 Jan 29 03:01	9°♁28'19	6.05458 AU	min. Earth dist.		1778 Feb 10 05:02	21°♁56'41	4.37601 AU	
morning rise	1772 Feb 11 19:16	12°♁43'35		direct		1778 Apr 12 18:06	16°♁51'46		
	1772 May 10 09:23	0°♁				1778 Jul 26 16:47	0°♁		
retrograde	1772 Jun 20 23:26	2°♁38'20		evening set		1778 Aug 17 14:47	4°♁37'02		
	1772 Aug 01 19:55	30°♁							
opposition	1772 Aug 20 06:41	27°♁40'24	-1°-15'-16	conjunction		1778 Aug 30 21:28	7°♁29'25	0°57'15	
min. Earth dist.	1772 Aug 20 09:31	27°♁39'28	3.99981 AU	minimum elong		1778 Aug 30 21:26	7°♁29'24	0°57'15	
direct	1772 Oct 18 08:03	22°♁46'37		max. Earth dist.		1778 Aug 30 15:15	7°♁26'02	6.41970 AU	
	1772 Dec 26 17:25	0°♁		morning rise		1778 Sep 13 01:40	10°♁20'25		
evening set	1773 Feb 20 15:28	12°♁20'00		retrograde		1779 Jan 11 16:23	27°♁13'48		
				opposition		1779 Mar 13 00:26	22°♁18'43	1°32'56	
conjunction	1773 Mar 05 17:12	15°♁29'36	-1°00'-45	min. Earth dist.		1779 Mar 13 13:08	22°♁14'35	4.44702 AU	
minimum elong	1773 Mar 05 17:10	15°♁29'35	1°00'45	direct		1779 May 14 08:02	17°♁15'48		
max. Earth dist.	1773 Mar 06 05:41	15°♁37'10	5.96318 AU			1779 Aug 26 03:11	0°♁		
morning rise	1773 Mar 18 21:51	18°♁40'51		evening set		1779 Sep 17 23:12	4°♁47'05		
	1773 May 08 08:41	0°♁							
retrograde	1773 Jul 29 05:44	9°♁19'03		conjunction		1779 Sep 30 22:48	7°♁35'10	1°06'43	
min. Earth dist.	1773 Sep 26 06:58	4°♁23'58	3.94944 AU	minimum elong		1779 Sep 30 22:48	7°♁35'10	1°06'43	
opposition	1773 Sep 27 03:19	4°♁17'08	-1°-38'-44	max. Earth dist.		1779 Sep 29 16:46	7°♁18'55	6.45488 AU	

morning rise	1779 Oct 13 19:23	10°♁21'53		direct	1785 Nov 29 09:54	4°♃40'20	
retrograde	1780 Feb 10 20:45	27°♁06'41		evening set	1786 Apr 04 01:28	24°♃22'42	
opposition	1780 Apr 11 13:37	22°♁14'00	1°33'52				
min. Earth dist.	1780 Apr 12 16:57	22°♁05'14	4.44552 AU	conjunction	1786 Apr 17 12:19	27°♃36'15	-1°-1'-54
direct	1780 Jun 13 07:13	17°♁12'04		minimum elong	1786 Apr 17 12:21	27°♃36'16	1°01'54
	1780 Sep 25 02:34	0°♃		max. Earth dist.	1786 Apr 19 10:50	28°♃04'10	5.96803 AU
evening set	1780 Oct 17 14:22	4°♃46'20			1786 Apr 27 12:09	0°♃	
max. Earth dist.	1780 Oct 28 09:41	7°♃08'04	6.41607 AU	morning rise	1786 May 01 02:05	0°♃51'16	
				retrograde	1786 Sep 09 19:36	21°♃17'04	
conjunction	1780 Oct 30 08:36	7°♃33'49	0°58'10	min. Earth dist.	1786 Nov 06 23:48	16°♃23'49	4.00604 AU
minimum elong	1780 Oct 30 08:37	7°♃33'49	0°58'10	opposition	1786 Nov 08 09:53	16°♃12'13	-1°-17'-34
morning rise	1780 Nov 12 00:34	10°♃20'18		direct	1787 Jan 05 09:22	11°♃15'48	
retrograde	1781 Mar 13 04:32	27°♃25'06			1787 May 08 18:49	0°♃	
opposition	1781 May 13 01:12	22°♃33'20	1°09'30	evening set	1787 May 11 12:37	0°♃38'13	
min. Earth dist.	1781 May 14 14:00	22°♃21'37	4.37179 AU				
direct	1781 Jul 14 14:51	17°♃33'11		conjunction	1787 May 25 05:27	3°♃50'19	0°-37'-8
	1781 Oct 23 05:56	0°♃		minimum elong	1787 May 25 05:30	3°♃50'20	0°37'08
evening set	1781 Nov 17 09:29	5°♃27'04		max. Earth dist.	1787 May 27 12:21	4°♃22'24	6.05998 AU
max. Earth dist.	1781 Nov 27 22:29	7°♃48'57	6.31290 AU	morning rise	1787 Jun 08 00:19	7°♃03'08	
				retrograde	1787 Oct 14 21:18	26°♃33'21	
conjunction	1781 Nov 30 01:30	8°♃17'40	0°33'14	min. Earth dist.	1787 Dec 12 02:37	21°♃40'01	4.12630 AU
minimum elong	1781 Nov 30 01:32	8°♃17'41	0°33'13	opposition	1787 Dec 13 11:38	21°♃28'46	0°-28'-12
morning rise	1781 Dec 12 16:18	11°♃07'54		direct	1788 Feb 10 07:43	16°♃29'18	
retrograde	1782 Apr 15 07:25	28°♃59'13			1788 May 22 23:29	0°♃	
opposition	1782 Jun 15 05:17	24°♃06'39	0°23'51	evening set	1788 Jun 15 20:58	5°♃15'52	
min. Earth dist.	1782 Jun 16 14:57	23°♃55'53	4.24499 AU				
direct	1782 Aug 15 20:13	19°♃08'55		conjunction	1788 Jun 29 14:51	8°♃22'10	0°00'08
	1782 Nov 14 19:19	0°♃		minimum elong	1788 Jun 29 14:51	8°♃22'11	0°00'07
desc. node	1782 Dec 04 00:10	4°♃07'44		behind sun begin	1788 Jun 29 06:40	8°♃17'34	
evening set	1782 Dec 19 06:47	7°♃35'53		behind sun end	1788 Jun 29 23:02	8°♃26'47	
max. Earth dist.	1782 Dec 30 08:23	10°♃09'41	6.17313 AU	asc. node	1788 Jun 28 07:17	8°♃04'19	
				max. Earth dist.	1788 Jul 01 11:10	8°♃47'15	6.19843 AU
conjunction	1782 Dec 31 23:32	10°♃32'27	0°-2'-44	morning rise	1788 Jul 13 08:29	11°♃28'07	
minimum elong	1782 Dec 31 23:33	10°♃32'27	0°02'45	retrograde	1788 Nov 15 16:57	29°♃49'20	
behind sun begin	1782 Dec 31 15:34	10°♃27'50		opposition	1789 Jan 14 10:04	24°♃47'33	0°27'36
behind sun end	1783 Jan 01 07:31	10°♃37'04		min. Earth dist.	1789 Jan 13 13:22	24°♃54'30	4.26885 AU
morning rise	1783 Jan 13 16:26	13°♃29'24		direct	1789 Mar 15 13:22	19°♃45'46	
	1783 Apr 10 16:59	0°♃			1789 Jun 12 11:27	0°♃	
retrograde	1783 May 20 20:35	2°♃26'02		evening set	1789 Jul 20 09:20	7°♃55'44	
	1783 Jun 30 07:58	30°♃					
opposition	1783 Jul 20 11:48	27°♃31'10	0°-32'-31	conjunction	1789 Aug 02 22:29	10°♃54'16	0°35'45
min. Earth dist.	1783 Jul 21 08:50	27°♃24'21	4.10182 AU	minimum elong	1789 Aug 02 22:27	10°♃54'15	0°35'44
direct	1783 Sep 18 19:00	22°♃35'57		max. Earth dist.	1789 Aug 03 17:02	11°♃04'28	6.33390 AU
	1783 Nov 29 07:24	0°♃		morning rise	1789 Aug 16 09:56	13°♃51'43	
evening set	1784 Jan 22 00:08	11°♃41'23			1789 Nov 18 07:30	0°♃	
				retrograde	1789 Dec 16 16:33	1°♃15'54	
conjunction	1784 Feb 03 20:25	14°♃45'11	0°-39'-18		1790 Jan 13 21:52	30°♃	
minimum elong	1784 Feb 03 20:23	14°♃45'09	0°39'19	opposition	1790 Feb 14 17:26	26°♃17'51	1°11'52
max. Earth dist.	1784 Feb 03 04:59	14°♃35'58	6.03934 AU	min. Earth dist.	1790 Feb 14 13:57	26°♃19'00	4.38719 AU
morning rise	1784 Feb 16 18:33	17°♃50'08		direct	1790 Apr 17 03:35	21°♃14'56	
	1784 Apr 12 10:56	0°♃			1790 Jul 08 17:52	0°♃	
retrograde	1784 Jun 26 06:50	7°♃52'21		evening set	1790 Aug 22 00:31	8°♃58'12	
opposition	1784 Aug 25 14:06	2°♃53'52	-1°-20'-39				
min. Earth dist.	1784 Aug 25 12:19	2°♃54'27	3.99026 AU	conjunction	1790 Sep 04 06:21	11°♃49'57	0°59'34
	1784 Sep 18 03:17	30°♃		minimum elong	1790 Sep 04 06:20	11°♃49'56	0°59'35
direct	1784 Oct 23 10:35	28°♃00'15		max. Earth dist.	1790 Sep 03 21:41	11°♃45'15	6.42614 AU
	1784 Nov 27 08:41	0°♃		morning rise	1790 Sep 17 09:19	14°♃40'15	
evening set	1785 Feb 25 19:04	17°♃35'41			1790 Dec 15 08:53	0°♃	
				retrograde	1791 Jan 15 20:35	1°♃31'40	
conjunction	1785 Mar 10 21:47	20°♃45'52	-1°-2'-42		1791 Feb 16 07:51	30°♃	
minimum elong	1785 Mar 10 21:46	20°♃45'51	1°02'43	opposition	1791 Mar 17 05:57	26°♃37'01	1°34'33
max. Earth dist.	1785 Mar 11 15:32	20°♃56'37	5.96008 AU	min. Earth dist.	1791 Mar 17 20:22	26°♃32'20	4.44863 AU
morning rise	1785 Mar 24 03:25	23°♃57'42		direct	1791 May 18 14:38	21°♃34'15	
	1785 Apr 18 21:46	0°♃			1791 Aug 08 02:36	0°♃	
retrograde	1785 Aug 03 13:13	14°♃36'52		evening set	1791 Sep 22 06:30	9°♃05'44	
min. Earth dist.	1785 Oct 01 11:30	9°♃41'57	3.95324 AU	max. Earth dist.	1791 Oct 03 19:09	11°♃35'11	6.45151 AU
opposition	1785 Oct 02 09:49	9°♃34'26	-1°-38'-48				

conjunction	1791 Oct 05 05:05	11°♄53'35	1°06'33	max. Earth dist.	1797 Mar 16 23:38	26°♃11'05	5.95629 AU
minimum elong	1791 Oct 05 05:05	11°♄53'35	1°06'32	morning rise	1797 Mar 29 07:46	29°♃09'54	
morning rise	1791 Oct 18 01:02	14°♄40'09			1797 Apr 01 19:21	0°♃	
	1792 Jan 15 11:00	0°♃		retrograde	1797 Aug 08 19:19	19°♃50'10	
retrograde	1792 Feb 15 05:34	1°♃26'42		opposition	1797 Oct 07 14:35	14°♃47'18	-1°-38'-8
	1792 Mar 17 00:40	30°♄		min. Earth dist.	1797 Oct 06 14:02	14°♃55'34	3.95540 AU
opposition	1792 Apr 15 21:45	26°♄34'13	1°31'53	direct	1797 Dec 04 12:23	9°♃53'00	
min. Earth dist.	1792 Apr 17 03:26	26°♄24'43	4.43753 AU	evening set	1798 Apr 09 06:19	29°♃34'09	
direct	1792 Jun 17 16:15	21°♄32'27			1798 Apr 11 01:42	0°♃	
	1792 Sep 07 01:18	0°♃		conjunction	1798 Apr 22 18:03	2°♃47'47	0°-59'-42
evening set	1792 Oct 21 21:23	9°♃08'57		minimum elong	1798 Apr 22 18:05	2°♃47'48	0°59'43
max. Earth dist.	1792 Nov 01 15:54	11°♃30'39	6.40410 AU	max. Earth dist.	1798 Apr 24 17:16	3°♃16'03	5.97562 AU
				morning rise	1798 May 06 08:55	6°♃02'53	
conjunction	1792 Nov 03 15:18	11°♃56'44	0°55'31	retrograde	1798 Sep 14 18:55	26°♃23'24	
minimum elong	1792 Nov 03 15:20	11°♃56'45	0°55'32	min. Earth dist.	1798 Nov 11 22:34	21°♃30'18	4.01815 AU
morning rise	1792 Nov 16 06:51	14°♃43'33		opposition	1798 Nov 13 09:27	21°♃18'24	-1°-11'-55
	1793 Feb 10 07:02	0°♃		direct	1799 Jan 10 10:46	16°♃21'33	
retrograde	1793 Mar 17 16:12	1°♃53'28			1799 Apr 21 15:32	0°♃	
	1793 Apr 22 08:43	30°♃		evening set	1799 May 16 15:46	5°♃40'16	
opposition	1793 May 17 14:15	27°♃01'36	1°04'09	conjunction	1799 May 30 09:17	8°♃51'55	0°-32'-20
min. Earth dist.	1793 May 19 02:05	26°♃50'11	4.35658 AU	minimum elong	1799 May 30 09:19	8°♃51'56	0°32'21
direct	1793 Jul 19 00:25	22°♃01'45		max. Earth dist.	1799 Jun 01 16:16	9°♃23'56	6.07564 AU
	1793 Oct 04 16:55	0°♃		morning rise	1799 Jun 13 04:15	12°♃04'04	
evening set	1793 Nov 21 18:57	9°♃59'21			1799 Sep 19 18:40	0°♃	
max. Earth dist.	1793 Dec 02 09:30	12°♃22'41	6.29564 AU	retrograde	1799 Oct 19 15:34	1°♃25'42	
					1799 Nov 18 04:17	30°♃	
conjunction	1793 Dec 04 10:50	12°♃50'35	0°28'38	min. Earth dist.	1799 Dec 16 21:29	26°♃32'03	4.14365 AU
minimum elong	1793 Dec 04 10:52	12°♃50'36	0°28'37	opposition	1799 Dec 18 04:43	26°♃21'26	0°-20'-17
morning rise	1793 Dec 17 01:42	15°♃41'33		direct	1800 Feb 15 04:45	21°♃21'36	
	1794 Mar 01 01:52	0°♃			1800 May 05 02:00	0°♃	
retrograde	1794 Apr 20 04:24	3°♃40'38		asc. node	1800 May 09 03:26	0°♃46'44	
	1794 Jun 10 12:29	30°♃		evening set	1800 Jun 21 19:26	10°♃03'43	
opposition	1794 Jun 20 00:59	28°♃47'48	0°16'11	conjunction	1800 Jul 05 12:56	13°♃09'08	0°05'34
min. Earth dist.	1794 Jun 21 10:13	28°♃37'09	4.22647 AU	minimum elong	1800 Jul 05 12:56	13°♃09'08	0°05'35
direct	1794 Aug 20 13:12	23°♃50'23		behind sun begin	1800 Jul 05 04:55	13°♃04'38	
desc. node	1794 Oct 13 15:39	28°♃06'46		behind sun end	1800 Jul 05 20:56	13°♃13'37	
	1794 Oct 25 11:37	0°♃		max. Earth dist.	1800 Jul 07 06:07	13°♃32'20	6.21597 AU
evening set	1794 Dec 23 21:05	12°♃21'53		morning rise	1800 Jul 19 06:08	16°♃14'04	
max. Earth dist.	1795 Jan 04 00:50	14°♃57'35	6.15486 AU		1800 Sep 27 09:37	0°♃	
				retrograde	1800 Nov 21 02:46	4°♃27'15	
conjunction	1795 Jan 05 14:07	15°♃19'20	0°-8'-7	opposition	1801 Jan 15 15:51	30°♃	
minimum elong	1795 Jan 05 14:07	15°♃19'20	0°08'08		1801 Jan 19 21:30	29°♃25'58	0°34'51
behind sun begin	1795 Jan 05 06:58	15°♃15'11		min. Earth dist.	1801 Jan 19 02:16	29°♃32'25	4.28525 AU
behind sun end	1795 Jan 05 21:15	15°♃23'28		direct	1801 Mar 21 04:08	24°♃23'59	
morning rise	1795 Jan 18 07:36	18°♃17'16			1801 May 23 09:15	0°♃	
	1795 Mar 14 06:21	0°♃		evening set	1801 Jul 26 02:06	12°♃30'25	
retrograde	1795 May 25 21:29	7°♃22'40		conjunction	1801 Aug 08 14:24	15°♃28'00	0°39'59
opposition	1795 Jul 25 13:25	2°♃27'18	0°-40'-14	minimum elong	1801 Aug 08 14:22	15°♃27'58	0°39'59
min. Earth dist.	1795 Jul 26 06:51	2°♃21'39	4.08525 AU	max. Earth dist.	1801 Aug 09 05:44	15°♃36'25	6.34813 AU
	1795 Aug 14 09:26	30°♃		morning rise	1801 Aug 22 00:40	18°♃24'23	
direct	1795 Sep 23 15:01	27°♃32'21			1801 Oct 19 18:42	0°♃	
	1795 Nov 02 05:24	0°♃		retrograde	1801 Dec 22 00:25	5°♃43'06	
evening set	1796 Jan 26 20:45	16°♃42'05		opposition	1802 Feb 20 01:41	0°♃45'39	1°16'31
				min. Earth dist.	1802 Feb 20 00:38	0°♃46'00	4.39856 AU
conjunction	1796 Feb 08 17:43	19°♃46'45	0°-43'-40		1802 Feb 25 21:00	30°♃	
minimum elong	1796 Feb 08 17:41	19°♃46'44	0°43'40	direct	1802 Apr 22 15:31	25°♃42'50	
max. Earth dist.	1796 Feb 08 06:53	19°♃40'15	6.02587 AU	evening set	1802 Jun 17 04:35	0°♃	
morning rise	1796 Feb 21 16:39	22°♃52'40		conjunction	1802 Sep 09 17:06	16°♃14'52	1°01'38
	1796 Mar 23 14:49	0°♃		minimum elong	1802 Sep 09 17:05	16°♃14'51	1°01'39
retrograde	1796 Jul 01 14:39	13°♃01'41		max. Earth dist.	1802 Sep 09 04:18	16°♃07'56	6.43395 AU
opposition	1796 Aug 30 19:40	8°♃02'37	-1°-25'-20	morning rise	1802 Sep 22 19:05	19°♃04'28	
min. Earth dist.	1796 Aug 30 15:39	8°♃03'57	3.98122 AU				
direct	1796 Oct 28 13:39	3°♃09'00					
evening set	1797 Mar 02 21:11	22°♃46'33					

	1802 Nov 17 12:26	0°♅		retrograde	1808 Jul 07 17:04	18°♁01'02	
retrograde	1803 Jan 21 03:20	5°♅53'26		opposition	1808 Sep 05 20:22	13°♁01'29	-1°-29'-14
opposition	1803 Mar 22 13:26	0°♅59'11	1°35'44	min. Earth dist.	1808 Sep 05 13:54	13°♁03'38	3.97198 AU
min. Earth dist.	1803 Mar 23 05:50	0°♅53'52	4.45293 AU	direct	1808 Nov 03 09:49	8°♁07'54	
	1803 Mar 30 05:34	30°♆		evening set	1809 Mar 08 19:41	27°♁48'12	
direct	1803 May 24 00:16	25°♆56'34			1809 Mar 17 21:50	0°♃	
	1803 Jul 17 10:02	0°♅					
evening set	1803 Sep 27 14:39	13°♅27'10		conjunction	1809 Mar 22 00:29	0°♃59'46	-1°-5'-5
max. Earth dist.	1803 Oct 09 02:15	15°♅56'06	6.45216 AU	minimum elong	1809 Mar 22 00:28	0°♃59'46	1°05'05
				max. Earth dist.	1809 Mar 23 00:56	1°♃14'35	5.95093 AU
conjunction	1803 Oct 10 12:32	16°♅14'41	1°06'04	morning rise	1809 Apr 04 08:31	4°♃13'04	
minimum elong	1803 Oct 10 12:32	16°♅14'42	1°06'04	retrograde	1809 Aug 14 20:27	24°♃55'12	
morning rise	1803 Oct 23 07:29	19°♅00'54		opposition	1809 Oct 13 15:06	19°♃51'55	-1°-36'-47
	1803 Dec 18 06:59	0°♆		min. Earth dist.	1809 Oct 12 12:37	20°♃00'53	3.95466 AU
retrograde	1804 Feb 20 12:23	5°♆47'58		direct	1809 Dec 10 11:43	14°♃57'19	
opposition	1804 Apr 21 06:38	0°♆55'41	1°29'25		1810 Mar 26 11:53	0°♄	
min. Earth dist.	1804 Apr 22 12:41	0°♆46'06	4.43461 AU	evening set	1810 Apr 15 08:17	4°♄38'49	
	1804 Apr 28 13:59	30°♅					
direct	1804 Jun 23 00:46	25°♅54'16		conjunction	1810 Apr 28 21:19	7°♄52'50	0°-57'-7
	1804 Aug 16 14:25	0°♆		minimum elong	1810 Apr 28 21:21	7°♄52'51	0°57'09
evening set	1804 Oct 27 04:03	13°♆31'08		max. Earth dist.	1810 Apr 30 23:30	8°♄22'50	5.97979 AU
max. Earth dist.	1804 Nov 06 20:33	15°♆52'03	6.39780 AU	morning rise	1810 May 12 13:01	11°♄08'08	
					1810 Aug 22 03:13	0°♅	
conjunction	1804 Nov 08 21:15	16°♆18'54	0°52'39	retrograde	1810 Sep 20 18:32	1°♅24'48	
minimum elong	1804 Nov 08 21:17	16°♆18'55	0°52'38		1810 Oct 20 02:17	30°♄	
morning rise	1804 Nov 21 12:32	19°♆05'52		min. Earth dist.	1810 Nov 17 20:25	26°♄31'27	4.02662 AU
	1805 Jan 14 20:02	0°♇		opposition	1810 Nov 19 06:47	26°♄19'44	-1°-5'-56
retrograde	1805 Mar 23 04:33	6°♇19'15		direct	1811 Jan 16 09:59	21°♄22'28	
opposition	1805 May 23 02:27	1°♇27'20	0°58'33		1811 Apr 03 15:37	0°♅	
min. Earth dist.	1805 May 24 15:10	1°♇15'39	4.34704 AU	evening set	1811 May 22 17:27	10°♅38'55	
	1805 Jun 03 16:40	30°♆					
direct	1805 Jul 24 11:57	26°♆27'48		conjunction	1811 Jun 05 11:24	13°♅50'14	0°-27'-25
	1805 Sep 12 07:22	0°♇		minimum elong	1811 Jun 05 11:26	13°♅50'15	0°27'27
evening set	1805 Nov 27 02:24	14°♇27'16		max. Earth dist.	1811 Jun 07 17:59	14°♅21'54	6.08772 AU
max. Earth dist.	1805 Dec 07 17:44	16°♇51'26	6.28366 AU	morning rise	1811 Jun 19 06:44	17°♅01'57	
					1811 Aug 20 15:29	0°♆	
conjunction	1805 Dec 09 18:17	17°♇18'57	0°24'01	retrograde	1811 Oct 25 06:34	6°♆16'11	
minimum elong	1805 Dec 09 18:18	17°♇18'58	0°24'01	opposition	1811 Dec 23 20:45	1°♆12'09	0°-12'-24
morning rise	1805 Dec 22 09:09	20°♇10'26		min. Earth dist.	1811 Dec 22 13:29	1°♆22'46	4.15810 AU
	1806 Feb 06 22:45	0°♈			1812 Jan 01 19:37	30°♅	
retrograde	1806 Apr 25 19:26	8°♈15'38		direct	1812 Feb 20 23:00	26°♅11'57	
opposition	1806 Jun 25 17:27	3°♈22'31	0°08'42	asc. node	1812 Mar 19 11:25	27°♅24'41	
min. Earth dist.	1806 Jun 27 00:43	3°♈12'31	4.21276 AU		1812 Apr 11 02:24	0°♆	
	1806 Jul 24 18:47	30°♇		evening set	1812 Jun 26 17:24	14°♆50'27	
direct	1806 Aug 26 01:23	28°♇25'27					
desc. node	1806 Aug 26 12:43	28°♇25'28		conjunction	1812 Jul 10 10:31	17°♆55'00	0°10'49
	1806 Sep 27 03:22	0°♈		minimum elong	1812 Jul 10 10:30	17°♆55'00	0°10'49
evening set	1806 Dec 29 08:04	17°♈00'12		behind sun begin	1812 Jul 10 04:15	17°♆51'30	
max. Earth dist.	1807 Jan 09 14:22	19°♈37'52	6.14048 AU	behind sun end	1812 Jul 10 16:45	17°♆58'29	
				max. Earth dist.	1812 Jul 12 00:50	18°♆16'31	6.23177 AU
conjunction	1807 Jan 11 01:20	19°♈58'20	0°-13'-13	morning rise	1812 Jul 24 03:03	20°♆58'57	
minimum elong	1807 Jan 11 01:19	19°♈58'20	0°13'15		1812 Sep 04 23:29	0°♉	
behind sun begin	1807 Jan 10 20:31	19°♈55'32		retrograde	1812 Nov 25 14:06	9°♉04'26	
behind sun end	1807 Jan 11 06:07	20°♈01'08		opposition	1813 Jan 24 08:42	4°♉03'34	0°41'47
morning rise	1807 Jan 23 19:17	22°♈57'06		min. Earth dist.	1813 Jan 23 16:03	4°♉09'09	4.30086 AU
	1807 Feb 24 03:41	0°♊			1813 Feb 28 23:45	30°♆	
retrograde	1807 May 31 20:42	12°♊10'14		direct	1813 Mar 25 20:37	29°♆01'21	
opposition	1807 Jul 31 11:00	7°♊14'25	0°-47'-23		1813 Apr 20 00:07	0°♉	
min. Earth dist.	1807 Aug 01 03:10	7°♊09'10	4.07120 AU	evening set	1813 Jul 30 18:20	17°♉03'58	
direct	1807 Sep 29 09:47	2°♊19'39					
evening set	1808 Feb 01 13:07	21°♊33'08		conjunction	1813 Aug 13 05:43	20°♉00'34	0°43'56
				minimum elong	1813 Aug 13 05:41	20°♉00'33	0°43'56
conjunction	1808 Feb 14 10:54	24°♊38'40	0°-47'-32	max. Earth dist.	1813 Aug 16 18:13	20°♉07'25	6.36220 AU
minimum elong	1808 Feb 14 10:51	24°♊38'39	0°47'33	morning rise	1813 Aug 26 14:52	22°♉55'55	
max. Earth dist.	1808 Feb 14 03:28	24°♊34'13	6.01345 AU		1813 Sep 29 11:58	0°♋	
morning rise	1808 Feb 27 10:43	27°♊45'32		retrograde	1813 Dec 26 05:53	10°♋08'55	
	1808 Mar 07 21:45	0°♌		opposition	1814 Feb 24 09:29	5°♋11'49	1°20'40

min. Earth dist.	1814 Feb 24 09:56	5°♃11'40	4.41005 AU	min. Earth dist.	1820 Sep 10 17:50	18°♃20'13	3.96222 AU
direct	1814 Apr 27 02:20	0°♃08'53		direct	1820 Nov 08 13:23	13°♃23'21	
evening set	1814 Aug 31 23:03	17°♃47'09			1821 Mar 01 00:29	0°♃	
max. Earth dist.	1814 Sep 13 11:22	20°♃29'07	6.44172 AU	evening set	1821 Mar 14 01:10	3°♃06'26	
conjunction	1814 Sep 14 02:41	20°♃37'24	1°03'20	conjunction	1821 Mar 27 07:19	6°♃18'45	-1°-5'-33
minimum elong	1814 Sep 14 02:40	20°♃37'23	1°03'19	minimum elong	1821 Mar 27 07:19	6°♃18'45	1°05'33
morning rise	1814 Sep 27 03:28	23°♃26'13		max. Earth dist.	1821 Mar 28 13:43	6°♃37'10	5.94773 AU
	1814 Oct 28 20:16	0°♃		morning rise	1821 Apr 09 16:25	9°♃32'43	
retrograde	1815 Jan 25 08:50	10°♃12'44			1821 Aug 07 20:18	0°♃	
opposition	1815 Mar 26 20:20	5°♃18'47	1°36'21	retrograde	1821 Aug 20 05:47	0°♃15'09	
min. Earth dist.	1815 Mar 27 15:06	5°♃12'44	4.45622 AU		1821 Sep 01 12:24	30°♃	
direct	1815 May 28 10:02	0°♃16'15		opposition	1821 Oct 18 21:41	25°♃11'33	-1°-34'-33
evening set	1815 Oct 01 21:49	17°♃46'03		min. Earth dist.	1821 Oct 17 17:47	25°♃21'00	3.95870 AU
max. Earth dist.	1815 Oct 13 04:43	20°♃12'38	6.45031 AU	direct	1821 Dec 15 18:23	20°♃16'44	
					1822 Mar 07 10:48	0°♃	
conjunction	1815 Oct 14 18:47	20°♃33'18	1°05'12	evening set	1822 Apr 20 16:03	9°♃56'26	
minimum elong	1815 Oct 14 18:47	20°♃33'18	1°05'13				
morning rise	1815 Oct 27 13:08	23°♃19'20		conjunction	1822 May 04 05:57	13°♃10'23	0°-54'00
	1815 Nov 28 16:13	0°♃		minimum elong	1822 May 04 05:59	13°♃10'24	0°54'00
retrograde	1816 Feb 24 20:22	10°♃07'50		max. Earth dist.	1822 May 06 10:21	13°♃41'36	5.99070 AU
opposition	1816 Apr 25 15:22	5°♃15'38	1°26'27	morning rise	1822 May 17 22:36	16°♃25'34	
min. Earth dist.	1816 Apr 26 23:07	5°♃05'29	4.42762 AU		1822 Jul 20 13:50	0°♃	
direct	1816 Jun 27 09:41	0°♃14'21		retrograde	1822 Sep 25 18:03	6°♃34'54	
evening set	1816 Oct 31 10:36	17°♃52'59		min. Earth dist.	1822 Nov 22 19:14	1°♃42'04	4.04337 AU
max. Earth dist.	1816 Nov 11 02:56	20°♃14'11	6.38612 AU	opposition	1822 Nov 24 07:06	1°♃29'50	0°-59'-13
					1822 Dec 05 11:08	30°♃	
conjunction	1816 Nov 13 03:35	20°♃41'05	0°49'25	direct	1823 Jan 21 11:38	26°♃32'11	
minimum elong	1816 Nov 13 03:37	20°♃41'06	0°49'25		1823 Mar 09 07:29	0°♃	
morning rise	1816 Nov 25 18:26	23°♃28'24		evening set	1823 May 27 21:49	15°♃43'15	
	1816 Dec 26 11:47	0°♃					
retrograde	1817 Mar 27 16:48	10°♃47'10		conjunction	1823 Jun 10 15:55	18°♃53'41	0°-22'-13
opposition	1817 May 27 15:52	5°♃55'12	0°52'29	minimum elong	1823 Jun 10 15:57	18°♃53'42	0°22'14
min. Earth dist.	1817 May 29 04:15	5°♃43'37	4.33121 AU	max. Earth dist.	1823 Jun 12 20:58	19°♃24'20	6.10886 AU
direct	1817 Jul 28 22:27	0°♃56'01		morning rise	1823 Jun 24 11:10	22°♃04'22	
evening set	1817 Dec 01 11:51	18°♃59'35			1823 Jul 30 14:22	0°♃	
max. Earth dist.	1817 Dec 12 03:05	21°♃24'23	6.26485 AU	retrograde	1823 Oct 29 22:30	11°♃07'49	
				min. Earth dist.	1823 Dec 27 07:59	6°♃13'58	4.18122 AU
conjunction	1817 Dec 14 03:36	21°♃52'01	0°19'06	opposition	1823 Dec 28 13:05	6°♃04'06	0°-4'-24
minimum elong	1817 Dec 14 03:37	21°♃52'01	0°19'07	asc. node	1824 Jan 28 11:14	2°♃22'15	
morning rise	1817 Dec 26 18:49	24°♃44'23		direct	1824 Feb 25 21:10	1°♃03'32	
	1818 Jan 19 13:27	0°♃		evening set	1824 Jul 01 14:24	19°♃35'28	
retrograde	1818 Apr 30 17:09	12°♃58'27					
opposition	1818 Jun 30 13:52	8°♃05'03	0°00'50	conjunction	1824 Jul 15 06:59	22°♃38'46	0°15'59
min. Earth dist.	1818 Jul 01 20:19	7°♃55'17	4.19201 AU	minimum elong	1824 Jul 15 06:58	22°♃38'45	0°15'58
desc. node	1818 Jul 06 10:50	7°♃19'58		max. Earth dist.	1824 Jul 16 19:19	22°♃59'03	6.25497 AU
direct	1818 Aug 30 18:21	3°♃08'17		morning rise	1824 Jul 28 22:32	25°♃41'18	
evening set	1819 Jan 02 23:23	21°♃48'48			1824 Aug 17 18:21	0°♃	
max. Earth dist.	1819 Jan 14 09:23	24°♃29'19	6.11974 AU	retrograde	1824 Nov 29 20:44	13°♃37'00	
				opposition	1825 Jan 28 17:53	8°♃36'39	0°48'18
conjunction	1819 Jan 15 17:14	24°♃48'02	0°-18'-30	min. Earth dist.	1825 Jan 28 02:40	8°♃41'43	4.32221 AU
minimum elong	1819 Jan 15 17:13	24°♃48'01	0°18'32	direct	1825 Mar 30 09:46	3°♃34'15	
morning rise	1819 Jan 28 11:47	27°♃47'58		evening set	1825 Aug 04 07:39	21°♃31'29	
	1819 Feb 06 23:21	0°♃					
retrograde	1819 Jun 06 01:20	17°♃11'09		conjunction	1825 Aug 17 17:49	24°♃26'52	0°47'32
opposition	1819 Aug 05 14:11	12°♃14'58	0°-54'-38	minimum elong	1825 Aug 17 17:46	24°♃26'51	0°47'32
min. Earth dist.	1819 Aug 06 03:24	12°♃10'40	4.05240 AU	max. Earth dist.	1825 Aug 18 01:09	24°♃30'53	6.37994 AU
direct	1819 Oct 04 07:08	7°♃20'30		morning rise	1825 Aug 31 01:48	27°♃21'00	
evening set	1820 Feb 06 12:20	26°♃39'33			1825 Sep 12 10:30	0°♃	
				retrograde	1825 Dec 30 10:15	14°♃27'46	
conjunction	1820 Feb 19 10:51	29°♃46'08	0°-51'-18	opposition	1826 Feb 28 14:31	9°♃31'11	1°24'14
minimum elong	1820 Feb 19 10:48	29°♃46'07	0°51'19	min. Earth dist.	1826 Feb 28 18:46	9°♃29'48	4.42303 AU
max. Earth dist.	1820 Feb 19 06:39	29°♃43'36	5.99826 AU	direct	1826 May 01 12:42	4°♃28'11	
	1820 Feb 20 09:52	0°♃		evening set	1826 Sep 05 06:25	22°♃03'35	
morning rise	1820 Mar 03 11:49	2°♃54'10					
retrograde	1820 Jul 13 01:21	23°♃17'00		conjunction	1826 Sep 18 09:04	24°♃53'09	1°04'37
opposition	1820 Sep 11 03:46	18°♃16'55	-1°-32'-42	minimum elong	1826 Sep 18 09:03	24°♃53'08	1°04'37

max. Earth dist.	1826 Sep 17 13:40	24°♎42'39	6.44874 AU	conjunction	1833 Apr 01 16:25	11°♊42'29	-1°-5'-26
morning rise	1826 Oct 01 08:47	27°♎41'16		minimum elong	1833 Apr 01 16:25	11°♊42'29	1°05'28
	1826 Oct 12 05:27	0°♌		max. Earth dist.	1833 Apr 03 02:43	12°♊03'13	5.94878 AU
retrograde	1827 Jan 29 10:51	14°♌26'01		morning rise	1833 Apr 15 02:51	14°♊56'56	
opposition	1827 Mar 31 00:32	9°♌32'21	1°36'27		1833 Jun 24 23:08	0°♋	
min. Earth dist.	1827 Mar 31 21:20	9°♌25'39	4.45709 AU	retrograde	1833 Aug 25 12:20	5°♋36'59	
direct	1827 Jun 01 15:21	4°♌29'52		min. Earth dist.	1833 Oct 22 21:34	0°♋43'27	3.96753 AU
evening set	1827 Oct 06 02:23	21°♌59'56		opposition	1833 Oct 24 04:31	0°♋32'57	-1°-31'-27
max. Earth dist.	1827 Oct 17 06:41	24°♌25'20	6.44482 AU		1833 Oct 28 05:52	30°♊	
				direct	1833 Dec 21 00:26	25°♊37'46	
conjunction	1827 Oct 18 22:41	24°♌47'06	1°04'01		1834 Feb 11 10:22	0°♋	
minimum elong	1827 Oct 18 22:42	24°♌47'07	1°04'02	evening set	1834 Apr 26 00:15	15°♋13'47	
morning rise	1827 Oct 31 16:17	27°♌33'05					
	1827 Nov 12 02:31	0°♌		conjunction	1834 May 09 14:59	18°♋27'23	0°-50'-24
retrograde	1828 Feb 29 03:01	14°♌24'30		minimum elong	1834 May 09 15:02	18°♋27'24	0°50'25
opposition	1828 Apr 29 22:45	9°♌32'27	1°23'06	max. Earth dist.	1834 May 11 20:39	18°♋59'13	6.00615 AU
min. Earth dist.	1828 May 01 08:25	9°♌21'43	4.41603 AU	morning rise	1834 May 23 08:17	21°♋42'06	
direct	1828 Jul 01 16:59	4°♌31'23			1834 Jun 29 04:16	0°♌	
evening set	1828 Nov 04 16:06	22°♌13'21		retrograde	1834 Sep 30 17:25	11°♌42'21	
max. Earth dist.	1828 Nov 15 05:21	24°♌33'28	6.36911 AU	min. Earth dist.	1834 Nov 27 19:42	6°♌49'10	4.06327 AU
				opposition	1834 Nov 29 06:38	6°♌37'15	0°-52'-4
conjunction	1828 Nov 17 08:41	25°♌01'58	0°45'59	direct	1835 Jan 26 15:22	1°♌39'08	
minimum elong	1828 Nov 17 08:43	25°♌01'59	0°45'58	evening set	1835 Jun 02 00:53	20°♌43'49	
morning rise	1828 Nov 29 23:36	27°♌49'57					
	1828 Dec 09 20:47	0°♌		conjunction	1835 Jun 15 19:12	23°♌53'18	0°-16'-52
retrograde	1829 Apr 01 07:13	15°♌16'09		minimum elong	1835 Jun 15 19:13	23°♌53'19	0°16'52
opposition	1829 Jun 01 05:39	10°♌24'02	0°46'10	max. Earth dist.	1835 Jun 18 00:05	24°♌23'41	6.13146 AU
min. Earth dist.	1829 Jun 02 18:14	10°♌12'22	4.30974 AU	morning rise	1835 Jun 29 14:08	27°♌02'51	
direct	1829 Aug 02 09:18	5°♌25'04			1835 Jul 12 16:50	0°♍	
evening set	1829 Dec 05 22:01	23°♌34'43		retrograde	1835 Nov 03 12:29	15°♍55'22	
max. Earth dist.	1829 Dec 16 15:49	26°♌01'43	6.24078 AU	asc. node	1835 Dec 08 00:23	14°♍00'52	
				min. Earth dist.	1836 Jan 01 00:11	11°♍01'34	4.20424 AU
conjunction	1829 Dec 18 14:07	26°♌28'13	0°14'06	opposition	1836 Jan 02 04:13	10°♍52'05	0°03'34
minimum elong	1829 Dec 18 14:08	26°♌28'13	0°14'06	direct	1836 Mar 01 16:12	5°♍51'15	
behind sun begin	1829 Dec 18 10:01	26°♌25'53		evening set	1836 Jul 06 10:28	24°♍17'01	
behind sun end	1829 Dec 18 18:14	26°♌30'33					
morning rise	1829 Dec 31 05:33	29°♌21'42		conjunction	1836 Jul 20 02:10	27°♍19'03	0°21'02
	1830 Jan 03 00:57	0°♍		minimum elong	1836 Jul 20 02:08	27°♍19'02	0°21'02
retrograde	1830 May 05 16:28	17°♍46'25		max. Earth dist.	1836 Jul 21 09:13	27°♍36'19	6.27657 AU
desc. node	1830 May 16 12:42	17°♍35'23			1836 Aug 01 04:10	0°♎	
opposition	1830 Jul 05 12:01	12°♍52'45	0°-7'-6	morning rise	1836 Aug 02 16:56	0°♎20'17	
min. Earth dist.	1830 Jul 06 16:38	12°♍43'34	4.16714 AU	retrograde	1836 Dec 04 05:11	18°♎07'17	
direct	1830 Sep 04 11:04	7°♍56'22		opposition	1837 Feb 02 02:47	13°♎07'30	0°54'33
evening set	1831 Jan 07 17:21	26°♍44'05		min. Earth dist.	1837 Feb 01 15:08	13°♎11'22	4.34080 AU
max. Earth dist.	1831 Jan 19 06:22	29°♍27'15	6.09623 AU	direct	1837 Apr 04 00:29	8°♎04'56	
				evening set	1837 Aug 08 20:38	25°♎05'55	
conjunction	1831 Jan 20 11:37	29°♍44'32	0°-23'-43				
minimum elong	1831 Jan 20 11:36	29°♍44'31	0°23'43	conjunction	1837 Aug 22 05:55	28°♎52'20	0°50'53
	1831 Jan 21 13:49	0°♏		minimum elong	1837 Aug 22 05:53	28°♎52'19	0°50'53
morning rise	1831 Feb 02 07:07	2°♏45'51		max. Earth dist.	1837 Aug 22 10:17	28°♎54'43	6.39420 AU
retrograde	1831 Jun 11 09:17	22°♏20'05			1837 Aug 27 10:14	0°♏	
opposition	1831 Aug 10 20:26	17°♏23'20	-1°-1'-35	morning rise	1837 Sep 04 12:35	1°♏45'24	
min. Earth dist.	1831 Aug 11 05:50	17°♏20'15	4.03251 AU	retrograde	1838 Jan 03 13:45	18°♏47'21	
direct	1831 Oct 09 07:57	12°♏29'05		opposition	1838 Mar 04 20:18	13°♏51'17	1°27'26
	1832 Feb 03 15:34	0°♐		min. Earth dist.	1838 Mar 05 02:21	13°♏49'19	4.43232 AU
evening set	1832 Feb 11 14:29	1°♐53'47		direct	1838 May 05 20:36	8°♏48'21	
				evening set	1838 Sep 09 14:36	26°♏22'04	
conjunction	1832 Feb 24 14:07	5°♐01'28	0°-54'-42				
minimum elong	1832 Feb 24 14:05	5°♐01'27	0°54'43	conjunction	1838 Sep 22 16:09	29°♏11'04	1°05'36
max. Earth dist.	1832 Feb 24 16:47	5°♐03'05	5.98401 AU	minimum elong	1838 Sep 22 16:08	29°♏11'04	1°05'36
morning rise	1832 Mar 08 16:04	8°♐10'36		max. Earth dist.	1838 Sep 21 16:33	28°♏58'19	6.45232 AU
retrograde	1832 Jul 18 13:49	28°♐39'42			1838 Sep 26 10:39	0°♐	
opposition	1832 Sep 16 13:45	23°♐39'02	-1°-35'-23	morning rise	1838 Oct 05 14:58	1°♐58'43	
min. Earth dist.	1832 Sep 16 00:58	23°♐43'18	3.95545 AU	retrograde	1839 Feb 02 17:16	18°♐42'59	
direct	1832 Nov 13 20:37	18°♐45'27		opposition	1839 Apr 04 07:01	13°♐49'43	1°36'05
	1833 Feb 10 13:51	0°♑		min. Earth dist.	1839 Apr 05 06:56	13°♐42'02	4.45487 AU
evening set	1833 Mar 19 09:15	8°♑29'42		direct	1839 Jun 06 00:13	8°♐47'25	

evening set	1839 Oct 10 08:42	26°♁18'33			1845 Jun 02 10:41	0°♄	
max. Earth dist.	1839 Oct 21 09:17	28°♁42'17	6.43684 AU	retrograde	1845 Aug 30 15:39	10°♄50'17	
conjunction	1839 Oct 23 04:23	29°♁05'47	1°02'28	min. Earth dist.	1845 Oct 27 23:59	5°♄56'37	3.97975 AU
minimum elong	1839 Oct 23 04:24	29°♁05'47	1°02'28	opposition	1845 Oct 29 07:35	5°♄45'52	-1°-27'-42
	1839 Oct 27 07:48	0°♃		direct	1845 Dec 26 05:11	0°♄50'18	
morning rise	1839 Nov 04 21:28	1°♃51'53		evening set	1846 May 01 04:22	20°♄21'39	
retrograde	1840 Mar 04 12:13	18°♃47'07		conjunction	1846 May 14 19:55	23°♄34'49	0°-46'-32
opposition	1840 May 04 08:51	13°♃55'11	1°19'12	minimum elong	1846 May 14 19:57	23°♄34'50	0°46'33
min. Earth dist.	1840 May 05 19:01	13°♃44'17	4.40288 AU	max. Earth dist.	1846 May 17 03:35	24°♄07'41	6.02322 AU
direct	1840 Jul 06 01:03	8°♃54'23		morning rise	1846 May 28 13:39	26°♄48'55	
evening set	1840 Nov 08 23:58	26°♃40'06			1846 Jun 11 08:01	0°♂	
max. Earth dist.	1840 Nov 19 14:03	29°♃01'15	6.35191 AU	retrograde	1846 Oct 05 12:19	16°♂39'40	
conjunction	1840 Nov 21 16:24	29°♃29'20	0°42'10	min. Earth dist.	1846 Dec 02 14:56	11°♂46'32	4.08329 AU
minimum elong	1840 Nov 21 16:26	29°♃29'21	0°42'10	opposition	1846 Dec 04 01:39	11°♂34'43	0°-44'-48
	1840 Nov 23 23:21	0°♁		direct	1847 Jan 31 13:21	6°♂36'12	
morning rise	1840 Dec 04 07:06	2°♁17'58		evening set	1847 Jun 07 00:05	25°♂34'54	
retrograde	1841 Apr 06 00:25	19°♁51'47		conjunction	1847 Jun 20 18:10	28°♂43'22	0°-11'-36
opposition	1841 Jun 05 22:26	14°♁59'39	0°39'21	minimum elong	1847 Jun 20 18:11	28°♂43'22	0°11'36
min. Earth dist.	1841 Jun 07 10:54	14°♁48'02	4.28950 AU	behind sun begin	1847 Jun 20 12:20	28°♂40'03	
direct	1841 Aug 06 22:53	10°♁01'08		behind sun end	1847 Jun 21 00:02	28°♂46'42	
evening set	1841 Dec 10 10:33	28°♁16'17		max. Earth dist.	1847 Jun 22 19:05	29°♂11'20	6.15254 AU
	1841 Dec 17 23:41	0°♂			1847 Jun 26 08:19	0°♁	
max. Earth dist.	1841 Dec 21 05:05	0°♂44'29	6.21930 AU	morning rise	1847 Jul 04 12:58	1°♁51'50	
conjunction	1841 Dec 23 02:42	1°♂10'44	0°08'52	asc. node	1847 Oct 18 19:52	19°♁54'52	
minimum elong	1841 Dec 23 02:42	1°♂10'44	0°08'51	retrograde	1847 Nov 07 23:09	20°♁31'28	
behind sun begin	1841 Dec 22 19:48	1°♂06'47		opposition	1848 Jan 06 15:39	15°♁31'35	0°11'14
behind sun end	1841 Dec 23 09:36	1°♂14'40		min. Earth dist.	1848 Jan 05 14:09	15°♁40'12	4.22442 AU
morning rise	1842 Jan 04 18:42	4°♂05'20		direct	1848 Mar 06 08:49	10°♁30'23	
desc. node	1842 Mar 25 19:05	19°♂31'23		evening set	1848 Jul 11 02:56	28°♁51'09	
retrograde	1842 May 10 18:00	22°♂40'05			1848 Jul 16 07:40	0°♂	
opposition	1842 Jul 10 12:37	17°♂46'04	0°-15'-12	conjunction	1848 Jul 24 18:07	1°♂52'10	0°25'49
min. Earth dist.	1842 Jul 11 14:15	17°♂37'49	4.14613 AU	minimum elong	1848 Jul 24 18:05	1°♂52'09	0°25'49
direct	1842 Sep 09 06:08	12°♂50'05		max. Earth dist.	1848 Jul 25 22:30	2°♂07'54	6.29441 AU
	1843 Jan 05 03:38	0°♁		morning rise	1848 Aug 07 07:46	4°♂52'13	
evening set	1843 Jan 12 12:39	1°♁43'31		retrograde	1848 Dec 08 10:52	22°♂32'04	
max. Earth dist.	1843 Jan 24 08:03	4°♁31'03	6.07787 AU	opposition	1849 Feb 06 09:22	17°♂32'50	1°00'19
conjunction	1843 Jan 25 07:37	4°♁45'01	0°-28'-50	min. Earth dist.	1849 Feb 05 23:51	17°♂36'00	4.35513 AU
minimum elong	1843 Jan 25 07:35	4°♁45'00	0°28'51	direct	1849 Apr 08 10:23	12°♂30'10	
morning rise	1843 Feb 07 03:42	7°♁47'26			1849 Aug 11 18:05	0°♃	
retrograde	1843 Jun 16 17:50	27°♁30'38		evening set	1849 Aug 13 07:39	0°♃20'14	
opposition	1843 Aug 16 03:02	22°♁33'23	-1°-8'-6	conjunction	1849 Aug 26 15:44	3°♃13'49	0°53'54
min. Earth dist.	1843 Aug 16 09:39	22°♁31'13	4.01881 AU	minimum elong	1849 Aug 26 15:42	3°♃13'48	0°53'53
direct	1843 Oct 14 10:16	17°♁39'25		max. Earth dist.	1849 Aug 26 14:29	3°♃13'08	6.40389 AU
	1844 Jan 17 00:07	0°♂		morning rise	1849 Sep 08 21:28	6°♃06'04	
evening set	1844 Feb 16 16:40	7°♂07'28		retrograde	1850 Jan 07 19:03	23°♃04'47	
conjunction	1844 Feb 29 17:03	10°♂15'53	0°-57'-40	opposition	1850 Mar 09 01:25	18°♃09'09	1°30'06
minimum elong	1844 Feb 29 17:01	10°♂15'52	0°57'40	min. Earth dist.	1850 Mar 09 10:52	18°♃06'04	4.43714 AU
max. Earth dist.	1844 Feb 29 23:41	10°♂19'53	5.97614 AU	direct	1850 May 10 05:11	13°♃06'12	
morning rise	1844 Mar 13 20:11	13°♂25'52			1850 Sep 10 20:20	0°♁	
	1844 Jun 02 15:18	0°♂		evening set	1850 Sep 13 22:04	0°♁39'27	
retrograde	1844 Jul 23 21:24	3°♂58'21		conjunction	1850 Sep 26 22:53	3°♁28'09	1°06'12
	1844 Sep 14 00:01	30°♂		minimum elong	1850 Sep 26 22:52	3°♁28'09	1°06'13
opposition	1844 Sep 21 21:17	28°♂57'07	-1°-37'-12	max. Earth dist.	1850 Sep 25 21:04	3°♁14'11	6.45193 AU
min. Earth dist.	1844 Sep 21 04:19	29°♂02'48	3.95465 AU	morning rise	1850 Oct 09 20:39	6°♁15'26	
direct	1844 Nov 19 01:06	24°♂03'25		retrograde	1851 Feb 06 22:07	23°♁00'20	
	1845 Jan 19 21:23	0°♂		opposition	1851 Apr 08 13:33	18°♁07'18	1°35'12
evening set	1845 Mar 24 14:45	13°♂46'51		min. Earth dist.	1851 Apr 09 14:17	17°♁59'22	4.44965 AU
conjunction	1845 Apr 06 23:01	16°♂59'49	-1°-4'-49	direct	1851 Jun 10 06:03	13°♁05'10	
minimum elong	1845 Apr 06 23:02	16°♂59'50	1°04'50		1851 Oct 11 16:56	0°♃	
max. Earth dist.	1845 Apr 08 13:13	17°♂22'53	5.95489 AU	evening set	1851 Oct 14 15:22	0°♃38'03	
morning rise	1845 Apr 20 10:24	20°♂14'25		max. Earth dist.	1851 Oct 25 13:56	3°♃01'06	6.42719 AU

conjunction	1851 Oct 27 10:22	3°♄25'25	1°00'34	min. Earth dist.	1857 Nov 01 23:56	11°♃05'54	3.98957 AU
minimum elong	1851 Oct 27 10:24	3°♄25'26	1°00'33	opposition	1857 Nov 03 08:45	10°♃54'45	-1°-23'-21
morning rise	1851 Nov 09 03:01	6°♄11'43		direct	1857 Dec 31 06:07	5°♃58'51	
retrograde	1852 Mar 08 23:56	23°♄11'09		evening set	1858 May 06 08:14	25°♃27'01	
opposition	1852 May 08 20:03	18°♄19'18	1°14'49				
min. Earth dist.	1852 May 10 07:42	18°♄07'57	4.38932 AU	conjunction	1858 May 20 00:22	28°♃39'50	0°-42'-22
direct	1852 Jul 10 11:45	13°♄18'47		minimum elong	1858 May 20 00:24	28°♃39'52	0°42'23
	1852 Nov 08 05:17	0°♃		max. Earth dist.	1858 May 22 06:41	29°♃11'47	6.03724 AU
evening set	1852 Nov 13 08:13	1°♃07'55			1858 May 25 16:45	0°♄	
max. Earth dist.	1852 Nov 23 21:34	3°♃29'14	6.33548 AU	morning rise	1858 Jun 02 18:48	1°♄53'33	
				retrograde	1858 Oct 10 06:34	21°♄36'14	
conjunction	1852 Nov 26 00:27	3°♃57'43	0°38'05	min. Earth dist.	1858 Dec 07 10:23	16°♄43'00	4.09981 AU
minimum elong	1852 Nov 26 00:29	3°♃57'44	0°38'05	opposition	1858 Dec 08 20:21	16°♄31'25	0°-37'-16
morning rise	1852 Dec 08 15:13	6°♃47'01		direct	1859 Feb 05 11:33	11°♄32'29	
retrograde	1853 Apr 10 17:11	24°♃28'03			1859 Jun 10 00:22	0°♄	
opposition	1853 Jun 10 15:42	19°♃35'41	0°32'16	evening set	1859 Jun 11 23:39	0°♄26'44	
min. Earth dist.	1853 Jun 12 02:22	19°♃24'37	4.27120 AU				
direct	1853 Aug 11 11:47	14°♃37'29		conjunction	1859 Jun 25 17:51	3°♄34'26	0°-6'-13
	1853 Dec 01 21:45	0°♄		minimum elong	1859 Jun 25 17:52	3°♄34'26	0°06'15
evening set	1853 Dec 14 23:06	2°♄57'14		behind sun begin	1859 Jun 25 09:59	3°♄29'58	
max. Earth dist.	1853 Dec 25 21:36	5°♄28'18	6.20063 AU	behind sun end	1859 Jun 26 01:46	3°♄38'54	
				max. Earth dist.	1859 Jun 27 17:32	4°♄01'34	6.17036 AU
conjunction	1853 Dec 27 15:31	5°♄52'31	0°03'35	morning rise	1859 Jul 09 12:10	6°♄41'56	
minimum elong	1853 Dec 27 15:31	5°♄52'31	0°03'35	asc. node	1859 Aug 28 21:15	17°♄16'31	
behind sun begin	1853 Dec 27 07:36	5°♄47'58		retrograde	1859 Nov 12 12:25	25°♄16'01	
behind sun end	1853 Dec 27 23:26	5°♄57'04		min. Earth dist.	1860 Jan 10 04:50	20°♄21'34	4.24176 AU
morning rise	1854 Jan 09 07:45	8°♄48'01		opposition	1860 Jan 11 04:18	20°♄13'39	0°18'54
desc. node	1854 Feb 02 10:50	14°♄12'50		direct	1860 Mar 11 01:26	15°♄12'14	
retrograde	1854 May 15 19:44	27°♄31'34			1860 Jun 29 19:24	0°♄	
opposition	1854 Jul 15 12:28	22°♄37'11	0°-23'-11	evening set	1860 Jul 15 21:08	3°♄29'03	
min. Earth dist.	1854 Jul 16 12:41	22°♄29'22	4.12833 AU				
direct	1854 Sep 14 02:12	17°♄41'31		conjunction	1860 Jul 29 11:26	6°♄29'05	0°30'30
	1854 Dec 19 03:09	0°♄		minimum elong	1860 Jul 29 11:24	6°♄29'04	0°30'31
evening set	1855 Jan 17 07:11	6°♄39'32		max. Earth dist.	1860 Jul 30 11:09	6°♄42'11	6.30990 AU
max. Earth dist.	1855 Jan 29 05:38	9°♄29'28	6.06232 AU	morning rise	1860 Aug 12 00:17	9°♄28'07	
				retrograde	1860 Dec 12 18:42	27°♄01'39	
conjunction	1855 Jan 30 02:36	9°♄41'57	0°-33'-43	opposition	1861 Feb 10 17:54	22°♄02'58	1°05'52
minimum elong	1855 Jan 30 02:34	9°♄41'56	0°33'44	min. Earth dist.	1861 Feb 10 10:52	22°♄05'18	4.36793 AU
morning rise	1855 Feb 11 23:37	12°♄45'24		direct	1861 Apr 12 22:37	17°♄00'13	
	1855 May 11 15:22	0°♄			1861 Jul 26 02:14	0°♄	
retrograde	1855 Jun 21 22:16	2°♄36'23		evening set	1861 Aug 17 20:30	4°♄47'50	
	1855 Aug 02 14:15	30°♄					
opposition	1855 Aug 21 07:34	27°♄38'35	-1°-14'-2	conjunction	1861 Aug 31 03:44	7°♄40'39	0°56'40
min. Earth dist.	1855 Aug 21 10:09	27°♄37'45	4.00711 AU	minimum elong	1861 Aug 31 03:42	7°♄40'38	0°56'40
direct	1855 Oct 19 09:36	22°♄44'46		max. Earth dist.	1861 Aug 31 00:26	7°♄38'52	6.41335 AU
	1855 Dec 28 01:41	0°♄		morning rise	1861 Sep 13 08:09	10°♄32'04	
evening set	1856 Feb 21 17:06	12°♄15'47		retrograde	1862 Jan 12 00:48	27°♄27'32	
				opposition	1862 Mar 13 08:34	22°♄32'25	1°32'22
conjunction	1856 Mar 05 18:29	15°♄24'57	-1°00'-9	min. Earth dist.	1862 Mar 13 19:25	22°♄28'53	4.44305 AU
minimum elong	1856 Mar 05 18:27	15°♄24'56	1°00'10	direct	1862 May 14 13:53	17°♄29'39	
max. Earth dist.	1856 Mar 06 06:08	15°♄32'00	5.96928 AU		1862 Aug 25 06:03	0°♄	
morning rise	1856 Mar 18 22:36	18°♄35'41		evening set	1862 Sep 18 07:06	5°♄01'49	
	1856 May 08 21:25	0°♄		max. Earth dist.	1862 Sep 30 01:25	7°♄34'08	6.45400 AU
retrograde	1856 Jul 29 04:42	9°♄11'22					
min. Earth dist.	1856 Sep 26 07:57	4°♄15'52	3.95343 AU	conjunction	1862 Oct 01 06:48	7°♄50'02	1°06'30
opposition	1856 Sep 27 02:37	4°♄09'36	-1°-38'-16	minimum elong	1862 Oct 01 06:48	7°♄50'02	1°06'30
	1856 Nov 03 09:38	30°♄		morning rise	1862 Oct 14 03:50	10°♄36'55	
direct	1856 Nov 24 05:21	29°♄15'45		retrograde	1863 Feb 11 06:35	27°♄21'41	
	1856 Dec 14 22:58	0°♄		opposition	1863 Apr 12 21:57	22°♄28'56	1°33'50
evening set	1857 Mar 29 18:56	18°♄58'58		min. Earth dist.	1863 Apr 14 00:50	22°♄20'19	4.44802 AU
				direct	1863 Jun 14 16:06	17°♄27'00	
conjunction	1857 Apr 12 04:22	22°♄12'16	-1°-3'-42		1863 Sep 25 06:46	0°♄	
minimum elong	1857 Apr 12 04:23	22°♄12'17	1°03'42	evening set	1863 Oct 18 22:17	5°♄00'06	
max. Earth dist.	1857 Apr 13 22:27	22°♄37'36	5.95940 AU	max. Earth dist.	1863 Oct 29 19:59	7°♄22'53	6.42208 AU
morning rise	1857 Apr 25 16:49	25°♄27'07					
	1857 May 15 01:46	0°♄		conjunction	1863 Oct 31 16:48	7°♄47'26	0°58'22
retrograde	1857 Sep 04 17:49	15°♄59'20		minimum elong	1863 Oct 31 16:50	7°♄47'27	0°58'22

morning rise	1863 Nov 13 08:49	10° \mathbb{M} 33'44	direct	1870 Jan 05 05:00	10° \mathcal{U} 59'14	
retrograde	1864 Mar 13 08:57	27° \mathbb{M} 35'53		1870 May 09 13:22	0° \mathbb{I}	
opposition	1864 May 13 07:06	22° \mathbb{M} 44'01	1°10'05	evening set	1870 May 11 09:28	0° \mathbb{I} 25'42
min. Earth dist.	1864 May 14 17:59	22° \mathbb{M} 32'54	4.38108 AU			
direct	1864 Jul 14 20:26	17° \mathbb{M} 43'49		conjunction	1870 May 25 02:28	3° \mathbb{I} 38'24 0°-38'-1
	1864 Oct 22 19:58	0° \mathcal{A}		minimum elong	1870 May 25 02:31	3° \mathbb{I} 38'26 0°38'01
evening set	1864 Nov 17 15:35	5° \mathcal{A} 34'31		max. Earth dist.	1870 May 27 09:56	4° \mathbb{I} 10'57 6.04756 AU
max. Earth dist.	1864 Nov 28 05:42	7° \mathcal{A} 56'38	6.32477 AU	morning rise	1870 Jun 07 21:13	6° \mathbb{I} 51'48
				retrograde	1870 Oct 15 01:04	26° \mathbb{I} 27'51
conjunction	1864 Nov 30 07:30	8° \mathcal{A} 24'37	0°33'54	min. Earth dist.	1870 Dec 12 04:26	21° \mathbb{I} 34'26 4.11289 AU
minimum elong	1864 Nov 30 07:32	8° \mathcal{A} 24'38	0°33'53	opposition	1870 Dec 13 13:15	21° \mathbb{I} 23'15 0°-29'-42
morning rise	1864 Dec 12 22:10	11° \mathcal{A} 14'19		direct	1871 Feb 10 07:40	16° \mathbb{I} 23'57
retrograde	1865 Apr 15 09:25	29° \mathcal{A} 00'41			1871 May 24 04:18	0° \mathcal{E}
opposition	1865 Jun 15 07:17	24° \mathcal{A} 08'08	0°25'09	evening set	1871 Jun 16 22:15	5° \mathcal{E} 14'57
min. Earth dist.	1865 Jun 16 18:05	23° \mathcal{A} 57'01	4.25840 AU			
direct	1865 Aug 16 01:29	19° \mathcal{A} 10'14		conjunction	1871 Jun 30 16:15	8° \mathcal{E} 21'56 0°00'-53
	1865 Nov 15 00:54	0° \mathcal{E}		minimum elong	1871 Jun 30 16:15	8° \mathcal{E} 21'56 0°00'54
desc. node	1865 Dec 15 05:43	6° \mathcal{E} 35'51		behind sun begin	1871 Jun 30 07:53	8° \mathcal{E} 17'12
evening set	1865 Dec 19 09:00	7° \mathcal{E} 32'42		behind sun end	1871 Jul 01 00:38	8° \mathcal{E} 26'39
max. Earth dist.	1865 Dec 30 08:28	10° \mathcal{E} 04'48	6.18680 AU	max. Earth dist.	1871 Jul 02 13:32	8° \mathcal{E} 47'37 6.18513 AU
				asc. node	1871 Jul 09 17:25	10° \mathcal{E} 24'58
conjunction	1866 Jan 01 01:34	10° \mathcal{E} 28'37	0°-1'-39	morning rise	1871 Jul 14 10:18	11° \mathcal{E} 28'37
minimum elong	1866 Jan 01 01:33	10° \mathcal{E} 28'36	0°01'39	retrograde	1871 Nov 16 22:42	29° \mathcal{E} 55'03
behind sun begin	1865 Dec 31 17:33	10° \mathcal{E} 23'59		opposition	1872 Jan 15 15:59	24° \mathcal{E} 53'03 0°26'17
behind sun end	1866 Jan 01 09:33	10° \mathcal{E} 33'13		min. Earth dist.	1872 Jan 14 17:30	25° \mathcal{E} 00'37 4.25696 AU
morning rise	1866 Jan 13 18:14	13° \mathcal{E} 24'51		direct	1872 Mar 15 16:25	19° \mathcal{E} 51'21
	1866 Apr 12 00:19	0° \mathcal{A}			1872 Jun 12 00:33	0° \mathcal{O}
retrograde	1866 May 20 14:46	2° \mathcal{A} 15'36		evening set	1872 Jul 20 14:32	8° \mathcal{O} 04'39
	1866 Jun 28 14:25	30° \mathcal{E}				
opposition	1866 Jul 20 08:46	27° \mathcal{E} 20'46	0°-30'-43	conjunction	1872 Aug 03 04:04	11° \mathcal{O} 03'44 0°34'57
min. Earth dist.	1866 Jul 21 06:04	27° \mathcal{E} 13'53	4.11447 AU	minimum elong	1872 Aug 03 04:02	11° \mathcal{O} 03'43 0°34'57
direct	1866 Sep 18 17:30	22° \mathcal{E} 25'21		max. Earth dist.	1872 Aug 04 01:12	11° \mathcal{O} 15'23 6.32445 AU
	1866 Nov 30 08:32	0° \mathcal{A}		morning rise	1872 Aug 16 15:48	14° \mathcal{O} 01'42
evening set	1867 Jan 21 22:01	11° \mathcal{A} 26'47			1872 Nov 16 06:45	0° \mathbb{M}
				retrograde	1872 Dec 17 02:20	1° \mathbb{M} 29'02
conjunction	1867 Feb 03 18:00	14° \mathcal{A} 29'57	0°-38'-10		1873 Jan 16 17:06	30° \mathcal{O}
minimum elong	1867 Feb 03 17:58	14° \mathcal{A} 29'56	0°38'11	opposition	1873 Feb 15 02:05	26° \mathcal{O} 30'49 1°10'57
max. Earth dist.	1867 Feb 03 00:45	14° \mathcal{A} 19'40	6.04965 AU	min. Earth dist.	1873 Feb 14 21:19	26° \mathcal{O} 32'24 4.38064 AU
morning rise	1867 Feb 16 15:39	17° \mathcal{A} 34'15		direct	1873 Apr 17 10:55	21° \mathcal{O} 28'00
	1867 Apr 14 21:49	0° \mathcal{H}			1873 Jul 07 18:59	0° \mathbb{M}
retrograde	1867 Jun 27 00:32	7° \mathcal{H} 32'05		evening set	1873 Aug 22 08:23	9° \mathbb{M} 12'40
opposition	1867 Aug 26 07:36	2° \mathcal{H} 33'46	-1°-19'-11			
min. Earth dist.	1867 Aug 26 08:46	2° \mathcal{H} 33'23	3.99682 AU	conjunction	1873 Sep 04 14:26	12° \mathbb{M} 04'39 0°59'04
	1867 Sep 15 19:24	30° \mathcal{A}		minimum elong	1873 Sep 04 14:24	12° \mathbb{M} 04'38 0°59'05
direct	1867 Oct 24 07:22	27° \mathcal{A} 39'59		max. Earth dist.	1873 Sep 04 06:56	12° \mathbb{M} 00'35 6.42289 AU
	1867 Dec 01 03:47	0° \mathcal{H}		morning rise	1873 Sep 17 17:50	14° \mathbb{M} 55'13
evening set	1868 Feb 26 13:37	17° \mathcal{H} 13'47			1873 Dec 13 01:56	0° \mathcal{E}
				retrograde	1874 Jan 16 06:16	1° \mathcal{E} 47'22
conjunction	1868 Mar 10 16:02	20° \mathcal{H} 23'42	-1°-2'-6		1874 Feb 19 10:13	30° \mathbb{M}
minimum elong	1868 Mar 10 16:00	20° \mathcal{H} 23'41	1°02'07	opposition	1874 Mar 17 15:09	26° \mathbb{M} 52'33 1°34'04
max. Earth dist.	1868 Mar 11 07:14	20° \mathcal{H} 32'54	5.96234 AU	min. Earth dist.	1874 Mar 18 04:19	26° \mathbb{M} 48'16 4.44879 AU
morning rise	1868 Mar 23 21:15	23° \mathcal{H} 35'15		direct	1874 May 18 23:10	21° \mathbb{M} 49'46
	1868 Apr 20 07:32	0° \mathcal{Y}			1874 Aug 07 00:54	0° \mathcal{E}
retrograde	1868 Aug 03 06:45	14° \mathcal{Y} 13'56		evening set	1874 Sep 22 14:49	9° \mathcal{E} 20'40
min. Earth dist.	1868 Oct 01 06:23	9° \mathcal{Y} 18'45	3.95095 AU	max. Earth dist.	1874 Oct 04 07:10	11° \mathcal{E} 51'56 6.45520 AU
opposition	1868 Oct 02 03:11	9° \mathcal{Y} 11'45	-1°-38'-35			
direct	1868 Nov 29 02:46	4° \mathcal{Y} 17'43		conjunction	1874 Oct 05 13:45	12° \mathcal{E} 08'29 1°06'25
evening set	1869 Apr 03 19:39	24° \mathcal{Y} 01'40		minimum elong	1874 Oct 05 13:45	12° \mathcal{E} 08'29 1°06'24
				morning rise	1874 Oct 18 09:42	14° \mathcal{E} 54'57
conjunction	1869 Apr 17 06:04	27° \mathcal{Y} 15'22	-1°-2'-10		1875 Jan 13 09:58	0° \mathbb{M}
minimum elong	1869 Apr 17 06:06	27° \mathcal{Y} 15'23	1°02'10	retrograde	1875 Feb 15 12:06	1° \mathbb{M} 39'54
max. Earth dist.	1869 Apr 19 00:55	27° \mathcal{Y} 41'08	5.96144 AU		1875 Mar 20 17:05	30° \mathcal{E}
	1869 Apr 28 16:25	0° \mathcal{B}		opposition	1875 Apr 17 05:21	26° \mathcal{E} 47'21 1°31'55
morning rise	1869 Apr 30 19:44	0° \mathcal{B} 30'38		min. Earth dist.	1875 Apr 18 09:19	26° \mathcal{E} 38'24 4.44440 AU
retrograde	1869 Sep 09 15:58	21° \mathcal{B} 00'20		direct	1875 Jun 18 23:31	21° \mathcal{E} 45'39
min. Earth dist.	1869 Nov 06 20:51	16° \mathcal{B} 07'02	3.99591 AU		1875 Sep 07 06:09	0° \mathbb{M}
opposition	1869 Nov 08 06:32	15° \mathcal{B} 55'33	-1°-18'-36	evening set	1875 Oct 23 04:34	9° \mathbb{M} 19'43

max. Earth dist.	1875 Nov 02 23:07	11°♄41'10	6.41361 AU	minimum elong	1881 Apr 22 14:23	2°♃34'01	1°00'04
conjunction	1875 Nov 04 22:23	12°♄07'07	0°55'49	max. Earth dist.	1881 Apr 24 13:56	3°♃02'33	5.96758 AU
minimum elong	1875 Nov 04 22:25	12°♄07'08	0°55'50	morning rise	1881 May 06 04:52	5°♃49'24	
morning rise	1875 Nov 17 14:07	14°♄53'38		retrograde	1881 Sep 14 20:14	26°♃14'10	
retrograde	1876 Feb 10 09:34	0°♂		min. Earth dist.	1881 Nov 11 22:45	21°♃20'53	4.00854 AU
retrograde	1876 Mar 17 21:05	1°♂59'55		opposition	1881 Nov 13 08:50	21°♃09'15	-1°-12'-59
retrograde	1876 Apr 23 14:27	30°♄		direct	1882 Jan 10 09:25	16°♃12'35	
opposition	1876 May 17 18:36	27°♄08'04	1°04'54	evening set	1882 Apr 22 02:25	0°♄	
min. Earth dist.	1876 May 19 07:03	26°♄56'28	4.36797 AU	evening set	1882 May 16 15:05	5°♄34'43	
direct	1876 Jul 19 07:01	22°♄08'07		conjunction	1882 May 30 08:29	8°♄46'49	0°-33'-14
direct	1876 Oct 04 11:11	0°♂		minimum elong	1882 May 30 08:31	8°♄46'50	0°33'14
evening set	1876 Nov 21 23:16	10°♂02'10		max. Earth dist.	1882 Jun 01 16:07	9°♄19'17	6.06559 AU
max. Earth dist.	1876 Dec 02 13:33	12°♂24'56	6.30801 AU	morning rise	1882 Jun 13 03:38	11°♄59'30	
conjunction	1876 Dec 04 15:12	12°♂52'55	0°29'25	retrograde	1882 Sep 19 23:38	0°♅	
minimum elong	1876 Dec 04 15:14	12°♂52'56	0°29'25	retrograde	1882 Oct 19 17:58	1°♅25'28	
morning rise	1876 Dec 17 05:53	15°♂43'20		retrograde	1882 Nov 18 06:29	30°♄	
retrograde	1877 Mar 01 09:13	0°♃		min. Earth dist.	1882 Dec 16 22:50	26°♄32'18	4.13440 AU
retrograde	1877 Apr 20 02:11	3°♃37'30		opposition	1882 Dec 18 07:54	26°♄21'03	0°-21'-46
retrograde	1877 Jun 10 02:19	30°♂		direct	1883 Feb 15 05:12	21°♄21'21	
opposition	1877 Jun 20 00:44	28°♂44'43	0°17'41	direct	1883 May 05 02:00	0°♅	
min. Earth dist.	1877 Jun 21 09:46	28°♂34'10	4.23900 AU	asc. node	1883 May 19 19:35	2°♅55'13	
direct	1877 Aug 20 14:00	23°♂47'12		evening set	1883 Jun 21 21:33	10°♅05'55	
direct	1877 Oct 25 23:30	0°♃		conjunction	1883 Jul 05 15:09	13°♅11'42	0°04'33
desc. node	1877 Oct 25 09:02	29°♂53'50		minimum elong	1883 Jul 05 15:09	13°♅11'42	0°04'34
evening set	1877 Dec 23 21:52	12°♃15'00		behind sun begin	1883 Jul 05 06:59	13°♅07'06	
max. Earth dist.	1878 Jan 04 00:00	14°♃49'21	6.16638 AU	behind sun end	1883 Jul 05 23:19	13°♅16'17	
conjunction	1878 Jan 05 14:38	15°♃11'51	0°-6'-58	max. Earth dist.	1883 Jul 07 09:42	13°♅35'43	6.20840 AU
minimum elong	1878 Jan 05 14:38	15°♃11'51	0°06'58	morning rise	1883 Jul 19 08:30	16°♅17'02	
behind sun begin	1878 Jan 05 07:12	15°♃07'33		retrograde	1883 Sep 27 00:22	0°♄	
behind sun end	1878 Jan 05 22:03	15°♃16'09		retrograde	1883 Nov 21 09:23	4°♄33'02	
morning rise	1878 Jan 18 07:50	18°♃09'11		retrograde	1884 Jan 16 14:12	30°♅	
retrograde	1878 Mar 15 04:33	0°♂		min. Earth dist.	1884 Jan 19 07:37	29°♅38'05	4.27968 AU
retrograde	1878 May 25 17:34	7°♂09'51		opposition	1884 Jan 20 03:17	29°♅31'29	0°33'27
opposition	1878 Jul 25 09:19	2°♂14'39	0°-38'-25	direct	1884 Mar 20 09:42	24°♅29'31	
min. Earth dist.	1878 Jul 26 05:14	2°♂08'12	4.09452 AU	direct	1884 May 21 22:47	0°♄	
min. Earth dist.	1878 Aug 12 09:01	30°♃		evening set	1884 Jul 25 05:58	12°♄36'42	
direct	1878 Sep 23 14:23	27°♃19'30		conjunction	1884 Aug 07 18:31	15°♄34'31	0°39'07
direct	1878 Nov 03 22:42	0°♂		minimum elong	1884 Aug 07 18:29	15°♄34'29	0°39'06
evening set	1879 Jan 26 17:57	16°♂26'46		max. Earth dist.	1884 Aug 08 12:01	15°♄44'07	6.34473 AU
conjunction	1879 Feb 08 14:45	19°♂31'03	0°-42'-34	morning rise	1884 Aug 21 05:05	18°♄31'09	
minimum elong	1879 Feb 08 14:43	19°♂31'02	0°42'35	morning rise	1884 Oct 18 05:54	0°♄	
max. Earth dist.	1879 Feb 08 01:17	19°♂23'00	6.03204 AU	retrograde	1884 Dec 21 05:20	5°♄50'50	
morning rise	1879 Feb 21 13:21	22°♂36'33		opposition	1885 Feb 19 07:48	0°♄53'03	1°15'27
retrograde	1879 Mar 25 17:53	0°♂		min. Earth dist.	1885 Feb 19 05:08	0°♄53'56	4.39714 AU
retrograde	1879 Jul 02 08:22	12°♂42'58		min. Earth dist.	1885 Feb 26 01:47	30°♄	
opposition	1879 Aug 31 13:28	7°♂44'11	-1°-24'-4	direct	1885 Apr 21 20:16	25°♄50'06	
min. Earth dist.	1879 Aug 31 11:08	7°♂44'57	3.98364 AU	direct	1885 Jun 15 13:06	0°♄	
direct	1879 Oct 29 07:47	2°♂50'33		evening set	1885 Aug 26 17:03	13°♄30'47	
evening set	1880 Mar 02 16:46	22°♂28'13		conjunction	1885 Sep 08 22:00	16°♄21'52	1°01'05
conjunction	1880 Mar 15 20:09	25°♂38'59	-1°-3'-41	minimum elong	1885 Sep 08 21:59	16°♄21'51	1°01'05
minimum elong	1880 Mar 15 20:08	25°♂38'58	1°03'42	max. Earth dist.	1885 Sep 08 10:55	16°♄15'52	6.43432 AU
max. Earth dist.	1880 Mar 16 14:53	25°♂50'20	5.95474 AU	morning rise	1885 Sep 22 00:11	19°♄11'31	
morning rise	1880 Mar 29 02:41	28°♂51'26		morning rise	1885 Nov 16 01:08	0°♄	
retrograde	1880 Apr 02 21:05	0°♂		retrograde	1886 Jan 20 08:46	6°♄00'09	
retrograde	1880 Aug 08 14:00	19°♂33'03		opposition	1886 Mar 21 18:57	1°♄05'43	1°35'13
min. Earth dist.	1880 Oct 06 10:17	14°♂38'22	3.95003 AU	min. Earth dist.	1886 Mar 22 11:06	1°♄00'30	4.45445 AU
opposition	1880 Oct 07 09:54	14°♂30'24	-1°-38'-7	min. Earth dist.	1886 Mar 30 07:46	30°♄	
direct	1880 Dec 04 07:45	9°♂36'12		direct	1886 May 23 06:15	26°♄03'01	
evening set	1881 Apr 09 02:37	29°♂20'01		direct	1886 Jul 15 20:37	0°♄	
evening set	1881 Apr 11 21:33	0°♂		evening set	1886 Sep 26 19:18	13°♄32'45	
conjunction	1881 Apr 22 14:21	2°♂34'00	-1°00'-3	max. Earth dist.	1886 Oct 08 06:02	16°♄01'08	6.45437 AU
conjunction	1881 Apr 22 14:21	2°♂34'00	-1°00'-3	conjunction	1886 Oct 09 17:18	16°♄20'15	1°05'58

minimum elong	1886 Oct 09 17:18	16°♁20'15	1°05'58	retrograde	1892 Aug 14 00:53	24°♃56'27	
morning rise	1886 Oct 22 12:38	19°♁06'29		opposition	1892 Oct 12 18:27	19°♃53'19	-1°-36'-45
	1886 Dec 16 23:50	0°♃		min. Earth dist.	1892 Oct 11 16:47	20°♃01'59	3.95329 AU
retrograde	1887 Feb 19 17:04	5°♃52'40		direct	1892 Dec 09 15:56	14°♃58'52	
opposition	1887 Apr 21 10:54	1°♃00'15	1°29'36		1893 Mar 25 11:56	0°♃	
min. Earth dist.	1887 Apr 22 17:10	0°♃50'34	4.43717 AU	evening set	1893 Apr 14 11:25	4°♃40'41	
	1887 Apr 29 08:29	30°♁					
direct	1887 Jun 23 05:24	25°♁58'37		conjunction	1893 Apr 28 00:01	7°♃54'37	0°-57'-24
	1887 Aug 16 06:33	0°♃		minimum elong	1893 Apr 28 00:03	7°♃54'38	0°57'25
evening set	1887 Oct 27 08:29	13°♃34'50		max. Earth dist.	1893 Apr 30 02:00	8°♃24'30	5.97829 AU
max. Earth dist.	1887 Nov 07 02:06	15°♃56'11	6.40046 AU	morning rise	1893 May 11 15:37	11°♃09'56	
					1893 Aug 20 19:19	0°♃	
conjunction	1887 Nov 09 02:04	16°♃22'36	0°53'02	retrograde	1893 Sep 19 21:26	1°♃27'29	
minimum elong	1887 Nov 09 02:05	16°♃22'37	0°53'02		1893 Oct 19 17:47	30°♃	
morning rise	1887 Nov 21 17:20	19°♃09'30		min. Earth dist.	1893 Nov 16 23:19	26°♃34'37	4.02531 AU
	1888 Jan 14 17:31	0°♃		opposition	1893 Nov 18 11:03	26°♃22'26	-1°-6'-45
retrograde	1888 Mar 22 06:43	6°♃21'39		direct	1894 Jan 15 12:56	21°♃25'19	
opposition	1888 May 22 05:09	1°♃29'45	0°59'26		1894 Apr 02 13:13	0°♃	
min. Earth dist.	1888 May 23 17:44	1°♃18'06	4.34961 AU	evening set	1894 May 21 20:19	10°♃41'47	
	1888 Jun 03 03:29	30°♃					
direct	1888 Jul 23 14:38	26°♃30'06		conjunction	1894 Jun 04 14:03	13°♃53'03	0°-28'-11
	1888 Sep 11 04:23	0°♃		minimum elong	1894 Jun 04 14:05	13°♃53'04	0°28'12
evening set	1888 Nov 26 06:53	14°♃29'18		max. Earth dist.	1894 Jun 06 20:34	14°♃24'44	6.08665 AU
max. Earth dist.	1888 Dec 06 20:32	16°♃52'29	6.28583 AU	morning rise	1894 Jun 18 09:13	17°♃04'46	
					1894 Aug 19 10:48	0°♃	
conjunction	1888 Dec 08 22:41	17°♃20'54	0°24'49	retrograde	1894 Oct 24 11:39	6°♃20'00	
minimum elong	1888 Dec 08 22:43	17°♃20'55	0°24'49	min. Earth dist.	1894 Dec 21 18:55	1°♃26'21	4.15725 AU
morning rise	1888 Dec 21 13:43	20°♃12'20		opposition	1894 Dec 23 01:46	1°♃15'53	0°-13'-43
	1889 Feb 05 23:51	0°♃			1895 Jan 01 11:48	30°♃	
retrograde	1889 Apr 24 22:38	8°♃16'21		direct	1895 Feb 20 04:36	26°♃15'49	
opposition	1889 Jun 24 19:26	3°♃23'19	0°10'06	asc. node	1895 Mar 29 06:53	28°♃25'31	
min. Earth dist.	1889 Jun 26 03:58	3°♃12'54	4.21431 AU		1895 Apr 10 19:14	0°♃	
	1889 Jul 24 00:09	30°♃		evening set	1895 Jun 26 19:59	14°♃53'57	
direct	1889 Aug 25 05:00	28°♃26'06					
desc. node	1889 Sep 04 19:54	28°♃36'47		conjunction	1895 Jul 10 13:11	17°♃58'32	0°09'52
	1889 Sep 26 03:40	0°♃		minimum elong	1895 Jul 10 13:10	17°♃58'32	0°09'52
evening set	1889 Dec 28 12:06	17°♃01'00		behind sun begin	1895 Jul 10 06:28	17°♃54'47	
max. Earth dist.	1890 Jan 08 17:51	19°♃38'17	6.14142 AU	behind sun end	1895 Jul 10 19:53	18°♃02'17	
				max. Earth dist.	1895 Jul 12 05:34	18°♃21'13	6.23117 AU
conjunction	1890 Jan 10 05:29	19°♃59'08	0°-12'-14	morning rise	1895 Jul 24 05:42	21°♃02'32	
minimum elong	1890 Jan 10 05:28	19°♃59'07	0°12'15		1895 Sep 04 18:36	0°♃	
behind sun begin	1890 Jan 10 00:01	19°♃55'57		retrograde	1895 Nov 25 17:38	9°♃08'47	
behind sun end	1890 Jan 10 10:55	20°♃02'18		opposition	1896 Jan 24 13:42	4°♃07'47	0°40'25
morning rise	1890 Jan 22 23:18	22°♃57'49		min. Earth dist.	1896 Jan 23 19:34	4°♃13'52	4.30058 AU
	1890 Feb 23 06:25	0°♃			1896 Mar 01 03:19	30°♃	
retrograde	1890 May 30 22:12	12°♃10'02		direct	1896 Mar 24 23:47	29°♃05'40	
opposition	1890 Jul 30 12:37	7°♃14'25	0°-45'-56		1896 Apr 18 05:05	0°♃	
min. Earth dist.	1890 Jul 31 05:08	7°♃09'04	4.07161 AU	evening set	1896 Jul 29 21:08	17°♃07'51	
direct	1890 Sep 28 11:20	2°♃19'38					
evening set	1891 Jan 31 17:06	21°♃33'37		conjunction	1896 Aug 12 08:34	20°♃04'30	0°43'05
				minimum elong	1896 Aug 12 08:32	20°♃04'29	0°43'05
conjunction	1891 Feb 13 14:36	24°♃39'05	0°-46'-42	max. Earth dist.	1896 Aug 12 20:52	20°♃11'14	6.36218 AU
minimum elong	1891 Feb 13 14:34	24°♃39'04	0°46'43	morning rise	1896 Aug 25 18:02	22°♃59'58	
max. Earth dist.	1891 Feb 13 05:14	24°♃33'28	6.01324 AU		1896 Sep 28 07:02	0°♃	
morning rise	1891 Feb 26 14:19	27°♃45'54		retrograde	1896 Dec 25 11:31	10°♃13'26	
	1891 Mar 08 00:40	0°♃		opposition	1897 Feb 23 14:18	5°♃16'14	1°19'39
retrograde	1891 Jul 07 18:27	18°♃01'07		min. Earth dist.	1897 Feb 23 15:21	5°♃15'53	4.41012 AU
opposition	1891 Sep 05 22:25	13°♃01'43	-1°-28'-19	direct	1897 Apr 26 07:56	0°♃13'17	
min. Earth dist.	1891 Sep 05 16:10	13°♃03'47	3.97112 AU	evening set	1897 Aug 31 02:17	17°♃51'17	
direct	1891 Nov 03 12:41	8°♃08'08					
evening set	1892 Mar 07 23:07	27°♃49'06		conjunction	1897 Sep 13 06:15	20°♃41'39	1°02'49
	1892 Mar 16 23:44	0°♃		minimum elong	1897 Sep 13 06:14	20°♃41'39	1°02'49
				max. Earth dist.	1897 Sep 12 15:16	20°♃33'34	6.44175 AU
conjunction	1892 Mar 21 03:49	1°♃00'39	-1°-4'-44	morning rise	1897 Sep 26 07:20	23°♃30'36	
minimum elong	1892 Mar 21 03:49	1°♃00'39	1°04'45		1897 Oct 27 15:17	0°♃	
max. Earth dist.	1892 Mar 22 05:22	1°♃16'08	5.94975 AU	retrograde	1898 Jan 24 12:17	10°♃17'20	
morning rise	1892 Apr 03 11:24	4°♃13'51		opposition	1898 Mar 26 00:33	5°♃23'15	1°35'57

min. Earth dist.	1898 Mar 26 18:37	5°♁17'25	4.45623 AU		1904 Aug 31 13:54	30°♃	
direct	1898 May 27 13:06	0°♁20'39		opposition	1904 Oct 18 23:26	25°♃09'14	-1°-34'-37
evening set	1898 Oct 01 01:45	17°♁50'32		min. Earth dist.	1904 Oct 17 18:42	25°♃18'57	3.96165 AU
max. Earth dist.	1898 Oct 12 09:54	20°♁17'44	6.45034 AU	direct	1904 Dec 15 19:58	20°♃14'27	
					1905 Mar 07 18:28	0°♃	
conjunction	1898 Oct 13 23:02	20°♁37'54	1°05'10	evening set	1905 Apr 20 16:45	9°♃52'38	
minimum elong	1898 Oct 13 23:02	20°♁37'54	1°05'11				
morning rise	1898 Oct 26 17:32	23°♁24'00		conjunction	1905 May 04 06:17	13°♃06'18	0°-54'-23
	1898 Nov 27 11:17	0°♃		minimum elong	1905 May 04 06:19	13°♃06'20	0°54'23
retrograde	1899 Feb 24 00:31	10°♃12'29		max. Earth dist.	1905 May 06 09:53	13°♃37'03	5.99266 AU
opposition	1899 Apr 25 19:08	5°♃20'17	1°26'45	morning rise	1905 May 17 22:32	16°♃21'13	
min. Earth dist.	1899 Apr 27 03:14	5°♃10'03	4.42762 AU		1905 Jul 21 00:23	0°♃	
direct	1899 Jun 27 13:54	0°♃18'57		retrograde	1905 Sep 25 19:20	6°♃30'22	
evening set	1899 Oct 31 15:21	17°♃57'58		min. Earth dist.	1905 Nov 22 22:03	1°♃37'06	4.04381 AU
max. Earth dist.	1899 Nov 11 05:52	20°♃18'12	6.38598 AU	opposition	1905 Nov 24 08:47	1°♃25'14	-1°00'-14
					1905 Dec 04 22:31	30°♃	
conjunction	1899 Nov 13 08:26	20°♃46'09	0°49'52	direct	1906 Jan 21 14:25	26°♃27'39	
minimum elong	1899 Nov 13 08:28	20°♃46'10	0°49'52		1906 Mar 09 21:48	0°♃	
morning rise	1899 Nov 25 23:40	23°♃33'34		evening set	1906 May 27 21:25	15°♃38'10	
	1899 Dec 26 06:48	0°♃					
retrograde	1900 Mar 27 21:18	10°♃52'09		conjunction	1906 Jun 10 15:28	18°♃48'37	0°-23'-7
opposition	1900 May 27 19:17	6°♃00'12	0°53'26	minimum elong	1906 Jun 10 15:30	18°♃48'38	0°23'08
min. Earth dist.	1900 May 29 08:08	5°♃48'28	4.33103 AU	max. Earth dist.	1906 Jun 12 21:44	19°♃19'58	6.10765 AU
direct	1900 Jul 29 02:23	1°♃00'51		morning rise	1906 Jun 24 10:33	21°♃59'19	
evening set	1900 Dec 01 17:12	19°♃05'07			1906 Jul 30 23:12	0°♃	
max. Earth dist.	1900 Dec 12 09:23	21°♃30'23	6.26484 AU	retrograde	1906 Oct 30 00:16	11°♃04'05	
				min. Earth dist.	1906 Dec 27 09:31	6°♃10'27	4.17861 AU
conjunction	1900 Dec 14 09:15	21°♃57'38	0°19'55	opposition	1906 Dec 28 15:22	6°♃00'20	0°-5'-53
minimum elong	1900 Dec 14 09:16	21°♃57'38	0°19'55	asc. node	1907 Feb 08 01:37	1°♃31'36	
morning rise	1900 Dec 27 00:23	24°♃50'00		direct	1907 Feb 25 21:40	0°♃59'56	
	1901 Jan 19 08:33	0°♃		evening set	1907 Jul 02 14:38	19°♃32'24	
retrograde	1901 Apr 30 20:41	13°♃03'30					
opposition	1901 Jun 30 17:09	8°♃10'15	0°02'11	conjunction	1907 Jul 16 07:09	22°♃35'52	0°14'57
min. Earth dist.	1901 Jul 01 23:47	8°♃00'26	4.19251 AU	minimum elong	1907 Jul 16 07:07	22°♃35'52	0°14'57
desc. node	1901 Jul 16 04:04	6°♃14'28		behind sun begin	1907 Jul 16 04:25	22°♃34'21	
direct	1901 Aug 30 21:46	3°♃13'29		behind sun end	1907 Jul 16 09:50	22°♃37'22	
evening set	1902 Jan 03 05:07	21°♃54'22		max. Earth dist.	1907 Jul 17 18:17	22°♃55'31	6.25114 AU
				morning rise	1907 Jul 29 23:02	25°♃38'42	
conjunction	1902 Jan 15 22:46	24°♃53'31	0°-17'-34		1907 Aug 18 23:15	0°♃	
minimum elong	1902 Jan 15 22:45	24°♃53'31	0°17'35	retrograde	1907 Dec 01 01:20	13°♃36'37	
max. Earth dist.	1902 Jan 14 13:45	24°♃34'07	6.12085 AU	opposition	1908 Jan 29 21:33	8°♃36'09	0°46'56
morning rise	1902 Jan 28 17:23	27°♃53'24		min. Earth dist.	1908 Jan 29 06:57	8°♃41'02	4.31761 AU
	1902 Feb 06 19:31	0°♃		direct	1908 Mar 30 13:16	3°♃33'49	
retrograde	1902 Jun 06 04:31	17°♃15'28		evening set	1908 Aug 04 09:27	21°♃32'15	
opposition	1902 Aug 05 17:20	12°♃19'21	0°-53'-17				
min. Earth dist.	1902 Aug 06 06:21	12°♃15'06	4.05427 AU	conjunction	1908 Aug 17 20:07	24°♃28'02	0°46'43
direct	1902 Oct 04 11:13	7°♃24'48		minimum elong	1908 Aug 17 20:04	24°♃28'01	0°46'43
evening set	1903 Feb 06 17:08	26°♃43'23		max. Earth dist.	1908 Aug 18 05:25	24°♃33'07	6.37508 AU
				morning rise	1908 Aug 31 04:20	27°♃22'29	
conjunction	1903 Feb 19 15:38	29°♃49'48	0°-50'-32		1908 Sep 12 10:02	0°♃	
minimum elong	1903 Feb 19 15:36	29°♃49'47	0°50'33	retrograde	1908 Dec 30 14:22	14°♃31'21	
max. Earth dist.	1903 Feb 19 12:46	29°♃48'04	6.00098 AU	opposition	1909 Feb 28 19:08	9°♃34'40	1°23'20
	1903 Feb 20 08:35	0°♃		min. Earth dist.	1909 Feb 28 21:56	9°♃33'45	4.41839 AU
morning rise	1903 Mar 04 16:12	2°♃57'34		direct	1909 May 01 14:51	4°♃31'44	
retrograde	1903 Jul 14 04:20	23°♃18'28		evening set	1909 Sep 05 10:31	22°♃08'31	
opposition	1903 Sep 12 06:24	18°♃18'30	-1°-31'-50				
min. Earth dist.	1903 Sep 11 21:18	18°♃21'32	3.96555 AU	conjunction	1909 Sep 18 13:25	24°♃58'22	1°04'11
direct	1903 Nov 09 17:32	13°♃24'58		minimum elong	1909 Sep 18 13:24	24°♃58'21	1°04'11
	1904 Mar 01 03:00	0°♃		max. Earth dist.	1909 Sep 17 18:11	24°♃47'58	6.44481 AU
evening set	1904 Mar 14 04:09	3°♃06'33		morning rise	1909 Oct 01 13:35	27°♃46'50	
					1909 Oct 11 23:33	0°♃	
conjunction	1904 Mar 27 09:46	6°♃18'29	-1°-5'-16	retrograde	1910 Jan 29 18:10	14°♃32'58	
minimum elong	1904 Mar 27 09:46	6°♃18'29	1°05'16	opposition	1910 Mar 31 06:13	9°♃39'17	1°36'09
max. Earth dist.	1904 Mar 28 14:43	6°♃36'00	5.95111 AU	min. Earth dist.	1910 Apr 01 03:16	9°♃32'30	4.45416 AU
morning rise	1904 Apr 09 18:39	9°♃32'08		direct	1910 Jun 01 21:14	4°♃36'50	
	1904 Aug 08 20:11	0°♃		evening set	1910 Oct 06 08:01	22°♃07'50	
retrograde	1904 Aug 20 05:28	0°♃12'49		max. Earth dist.	1910 Oct 17 12:43	24°♃33'30	6.44323 AU

conjunction	1910 Oct 19 04:39	24°♁55'12	1°04'02	direct	1916 Dec 20 23:37	25°♃25'28	
minimum elong	1910 Oct 19 04:40	24°♁55'13	1°04'01		1917 Feb 12 15:58	0°♁	
morning rise	1910 Oct 31 22:36	27°♁41'23		evening set	1917 Apr 25 20:47	15°♁01'06	
	1910 Nov 11 17:04	0°♁					
retrograde	1911 Mar 01 08:49	14°♁33'09		conjunction	1917 May 09 11:18	18°♁14'39	0°-51'00
opposition	1911 May 01 04:24	9°♁41'04	1°23'25	minimum elong	1917 May 09 11:20	18°♁14'40	0°51'01
min. Earth dist.	1911 May 02 12:51	9°♁30'43	4.41610 AU	max. Earth dist.	1917 May 11 17:07	18°♁46'36	6.00452 AU
direct	1911 Jul 02 21:30	4°♁39'59		morning rise	1917 May 23 04:16	21°♁29'19	
evening set	1911 Nov 05 22:36	22°♁22'09			1917 Jun 29 23:51	0°♁	
max. Earth dist.	1911 Nov 16 14:03	24°♁43'23	6.37102 AU	retrograde	1917 Sep 30 16:05	11°♁31'11	
				min. Earth dist.	1917 Nov 27 18:21	6°♁38'05	4.05926 AU
conjunction	1911 Nov 18 15:27	25°♁10'48	0°46'24	opposition	1917 Nov 29 05:24	6°♁26'09	0°-53'-22
minimum elong	1911 Nov 18 15:29	25°♁10'49	0°46'23	direct	1918 Jan 26 12:48	1°♁28'11	
morning rise	1911 Dec 01 06:22	27°♁58'45		evening set	1918 Jun 01 22:17	20°♁34'12	
	1911 Dec 10 11:36	0°♁					
retrograde	1912 Apr 01 12:12	15°♁23'49		conjunction	1918 Jun 15 16:21	23°♁43'53	0°-17'-54
opposition	1912 Jun 01 10:23	10°♁31'50	0°47'03	minimum elong	1918 Jun 15 16:22	23°♁43'54	0°17'55
min. Earth dist.	1912 Jun 02 23:04	10°♁20'09	4.31349 AU	max. Earth dist.	1918 Jun 17 19:25	24°♁13'16	6.12519 AU
direct	1912 Aug 02 14:56	5°♁32'53		morning rise	1918 Jun 29 11:29	26°♁53'46	
evening set	1912 Dec 06 04:13	23°♁41'37			1918 Jul 13 05:54	0°♁	
max. Earth dist.	1912 Dec 16 20:44	26°♁07'46	6.24607 AU	retrograde	1918 Nov 03 13:52	15°♁49'42	
				asc. node	1918 Dec 19 07:34	12°♁36'40	
conjunction	1912 Dec 18 20:10	26°♁34'54	0°14'52	min. Earth dist.	1919 Jan 01 01:38	10°♁55'41	4.19642 AU
minimum elong	1912 Dec 18 20:12	26°♁34'54	0°14'52	opposition	1919 Jan 02 05:20	10°♁46'18	0°01'58
behind sun begin	1912 Dec 18 16:51	26°♁33'00		direct	1919 Mar 02 16:35	5°♁45'31	
behind sun end	1912 Dec 18 23:32	26°♁36'48		evening set	1919 Jul 07 10:01	24°♁13'39	
morning rise	1912 Dec 31 11:45	29°♁28'12					
	1913 Jan 02 19:46	0°♁		conjunction	1919 Jul 21 02:08	27°♁16'11	0°20'00
retrograde	1913 May 05 19:02	17°♁50'22		minimum elong	1919 Jul 21 02:06	27°♁16'10	0°19'59
desc. node	1913 May 25 19:58	17°♁12'57		max. Earth dist.	1919 Jul 22 11:17	27°♁34'40	6.26795 AU
opposition	1913 Jul 05 14:58	12°♁56'46	0°-5'-46		1919 Aug 02 08:39	0°♁	
min. Earth dist.	1913 Jul 06 19:09	12°♁47'42	4.17370 AU	morning rise	1919 Aug 03 17:01	0°♁17'54	
direct	1913 Sep 04 14:56	8°♁00'18		retrograde	1919 Dec 05 09:36	18°♁08'33	
evening set	1914 Jan 07 21:30	26°♁46'03		opposition	1920 Feb 03 06:30	13°♁08'39	0°53'15
max. Earth dist.	1914 Jan 19 11:37	29°♁29'34	6.10363 AU	min. Earth dist.	1920 Feb 02 17:39	13°♁12'56	4.33219 AU
				direct	1920 Apr 04 01:36	8°♁06'12	
conjunction	1914 Jan 20 15:46	29°♁46'10	0°-22'-46	evening set	1920 Aug 08 23:32	26°♁01'39	
minimum elong	1914 Jan 20 15:44	29°♁46'09	0°22'47				
	1914 Jan 21 15:13	0°♁		conjunction	1920 Aug 22 09:01	28°♁56'31	0°50'08
morning rise	1914 Feb 02 10:51	2°♁47'01		minimum elong	1920 Aug 22 08:59	28°♁56'30	0°50'08
retrograde	1914 Jun 11 09:56	22°♁17'41		max. Earth dist.	1920 Aug 22 13:09	28°♁58'47	6.38634 AU
opposition	1914 Aug 10 20:57	17°♁21'06	-1°00'-10		1920 Aug 27 05:29	0°♁	
min. Earth dist.	1914 Aug 11 07:39	17°♁17'36	4.04013 AU	morning rise	1920 Sep 04 16:18	1°♁50'06	
direct	1914 Oct 09 10:25	12°♁26'50		retrograde	1921 Jan 03 21:37	18°♁54'52	
	1915 Feb 04 00:44	0°♁		opposition	1921 Mar 05 02:15	13°♁58'40	1°26'39
evening set	1915 Feb 11 15:54	1°♁49'02		min. Earth dist.	1921 Mar 05 08:08	13°♁56'44	4.42597 AU
				direct	1921 May 06 01:47	8°♁55'45	
conjunction	1915 Feb 24 15:03	4°♁56'13	0°-53'-56	evening set	1921 Sep 09 20:08	26°♁31'11	
minimum elong	1915 Feb 24 15:01	4°♁56'12	0°53'58				
max. Earth dist.	1915 Feb 24 15:15	4°♁56'20	5.99097 AU	conjunction	1921 Sep 22 22:12	29°♁20'32	1°05'15
morning rise	1915 Mar 09 16:46	8°♁04'54		minimum elong	1921 Sep 22 22:11	29°♁20'31	1°05'15
retrograde	1915 Jul 19 09:49	28°♁30'42		max. Earth dist.	1921 Sep 22 01:17	29°♁09'13	6.44834 AU
opposition	1915 Sep 17 11:52	23°♁30'13	-1°-34'-35		1921 Sep 25 23:10	0°♁	
min. Earth dist.	1915 Sep 16 22:56	23°♁34'31	3.96101 AU	morning rise	1921 Oct 05 21:14	2°♁08'26	
direct	1915 Nov 14 19:30	18°♁36'37		retrograde	1922 Feb 02 23:30	18°♁53'44	
	1916 Feb 12 07:11	0°♁		opposition	1922 Apr 04 13:44	14°♁00'22	1°35'54
evening set	1916 Mar 19 07:32	8°♁19'01		min. Earth dist.	1922 Apr 05 11:20	13°♁53'25	4.45390 AU
				direct	1922 Jun 06 04:49	8°♁58'07	
conjunction	1916 Apr 01 14:18	11°♁31'25	-1°-5'-17	evening set	1922 Oct 10 15:37	26°♁29'15	
minimum elong	1916 Apr 01 14:18	11°♁31'25	1°05'19	max. Earth dist.	1922 Oct 21 18:15	28°♁54'02	6.43939 AU
max. Earth dist.	1916 Apr 02 23:22	11°♁51'24	5.95239 AU				
morning rise	1916 Apr 15 00:09	14°♁45'27		conjunction	1922 Oct 23 11:25	29°♁16'28	1°02'34
	1916 Jun 26 01:32	0°♁		minimum elong	1922 Oct 23 11:26	29°♁16'28	1°02'33
retrograde	1916 Aug 25 09:34	5°♁24'32			1922 Oct 26 19:16	0°♁	
min. Earth dist.	1916 Oct 22 20:52	0°♁30'32	3.96857 AU	morning rise	1922 Nov 05 04:43	2°♁02'33	
opposition	1916 Oct 24 02:13	0°♁20'35	-1°-31'-48	retrograde	1923 Mar 05 18:50	18°♁56'21	
	1916 Oct 26 14:53	30°♁		opposition	1923 May 05 14:40	14°♁04'23	1°19'38

min. Earth dist.	1923 May 07 00:37	13° \mathbb{M} 53'34	4.40892 AU	max. Earth dist.	1929 May 16 17:51	23° \mathbb{U} 44'57	6.01316 AU
direct	1923 Jul 07 08:21	9° \mathbb{M} 03'34		morning rise	1929 May 28 06:48	26° \mathbb{U} 28'16	
evening set	1923 Nov 10 05:55	26° \mathbb{M} 47'06			1929 Jun 12 12:20	0° \mathbb{U}	
max. Earth dist.	1923 Nov 20 20:14	29° \mathbb{M} 08'05	6.36109 AU	retrograde	1929 Oct 05 09:56	16° \mathbb{U} 24'20	
				opposition	1929 Dec 03 23:02	11° \mathbb{U} 19'23	0°-46'-24
conjunction	1923 Nov 22 22:24	29° \mathbb{M} 36'00	0°42'44	min. Earth dist.	1929 Dec 02 12:30	11° \mathbb{U} 31'11	4.07089 AU
minimum elong	1923 Nov 22 22:25	29° \mathbb{M} 36'01	0°42'44	direct	1930 Jan 31 09:17	6° \mathbb{U} 21'01	
	1923 Nov 24 17:31	0° \mathbb{M}		evening set	1930 Jun 06 21:09	25° \mathbb{U} 24'11	
morning rise	1923 Dec 05 13:11	2° \mathbb{M} 24'16					
retrograde	1924 Apr 06 01:27	19° \mathbb{M} 54'06		conjunction	1930 Jun 20 15:34	28° \mathbb{U} 33'22	0°-12'-44
opposition	1924 Jun 06 00:49	15° \mathbb{M} 01'54	0°40'31	minimum elong	1930 Jun 20 15:35	28° \mathbb{U} 33'23	0°12'44
min. Earth dist.	1924 Jun 07 12:08	14° \mathbb{M} 50'39	4.30132 AU	behind sun begin	1930 Jun 20 10:29	28° \mathbb{U} 30'28	
direct	1924 Aug 07 02:11	10° \mathbb{M} 03'14		behind sun end	1930 Jun 20 20:41	28° \mathbb{U} 36'17	
evening set	1924 Dec 10 13:30	28° \mathbb{M} 14'29		max. Earth dist.	1930 Jun 22 18:19	29° \mathbb{U} 02'28	6.13917 AU
	1924 Dec 18 06:25	0° \mathbb{M}			1930 Jun 26 22:42	0° \mathbb{M}	
max. Earth dist.	1924 Dec 21 09:12	0° \mathbb{M} 42'51	6.23273 AU	morning rise	1930 Jul 04 10:25	1° \mathbb{M} 42'31	
				asc. node	1930 Oct 30 14:23	20° \mathbb{M} 23'44	
conjunction	1924 Dec 23 05:35	1° \mathbb{M} 08'19	0°09'53	retrograde	1930 Nov 08 03:21	20° \mathbb{M} 30'55	
minimum elong	1924 Dec 23 05:35	1° \mathbb{M} 08'19	0°09'53	opposition	1931 Jan 06 17:54	15° \mathbb{M} 27'58	0°09'37
behind sun begin	1924 Dec 22 23:03	1° \mathbb{M} 04'35		min. Earth dist.	1931 Jan 05 15:36	15° \mathbb{M} 36'51	4.21132 AU
behind sun end	1924 Dec 23 12:06	1° \mathbb{M} 12'02		direct	1931 Mar 07 08:40	10° \mathbb{M} 26'56	
morning rise	1925 Jan 04 21:11	4° \mathbb{M} 02'13		evening set	1931 Jul 12 04:28	28° \mathbb{M} 51'40	
desc. node	1925 Apr 06 11:34	20° \mathbb{M} 44'45			1931 Jul 17 07:52	0° \mathbb{M}	
retrograde	1925 May 10 15:30	22° \mathbb{M} 31'08					
opposition	1925 Jul 10 10:24	17° \mathbb{M} 37'13	0°-13'-26	conjunction	1931 Jul 25 19:49	1° \mathbb{M} 53'18	0°24'48
min. Earth dist.	1925 Jul 11 13:43	17° \mathbb{M} 28'26	4.15995 AU	minimum elong	1931 Jul 25 19:47	1° \mathbb{M} 53'18	0°24'49
direct	1925 Sep 09 07:17	12° \mathbb{M} 41'03		max. Earth dist.	1931 Jul 27 01:01	2° \mathbb{M} 09'32	6.28256 AU
	1926 Jan 06 01:01	0° \mathbb{M}		morning rise	1931 Aug 08 10:03	4° \mathbb{M} 54'04	
evening set	1926 Jan 12 11:09	1° \mathbb{M} 29'57		retrograde	1931 Dec 09 17:29	22° \mathbb{M} 38'14	
max. Earth dist.	1926 Jan 24 03:02	4° \mathbb{M} 14'59	6.09058 AU	opposition	1932 Feb 07 15:08	17° \mathbb{M} 38'47	0°59'08
				min. Earth dist.	1932 Feb 07 04:23	17° \mathbb{M} 42'22	4.34548 AU
conjunction	1926 Jan 25 05:41	4° \mathbb{M} 30'45	0°-27'-37	direct	1932 Apr 08 14:10	12° \mathbb{M} 36'10	
minimum elong	1926 Jan 25 05:39	4° \mathbb{M} 30'44	0°27'37		1932 Aug 11 07:16	0° \mathbb{M}	
morning rise	1926 Feb 07 01:32	7° \mathbb{M} 32'27		evening set	1932 Aug 13 12:31	0° \mathbb{M} 28'43	
retrograde	1926 Jun 16 08:35	27° \mathbb{M} 10'02					
opposition	1926 Aug 15 20:07	22° \mathbb{M} 12'56	-1°-6'-21	conjunction	1932 Aug 26 21:08	3° \mathbb{M} 22'45	0°53'13
min. Earth dist.	1926 Aug 16 03:31	22° \mathbb{M} 10'31	4.02904 AU	minimum elong	1932 Aug 26 21:06	3° \mathbb{M} 22'44	0°53'12
direct	1926 Oct 14 04:48	17° \mathbb{M} 18'49		max. Earth dist.	1932 Aug 26 23:29	3° \mathbb{M} 24'02	6.39729 AU
	1927 Jan 18 11:44	0° \mathbb{M}		morning rise	1932 Sep 09 03:06	6° \mathbb{M} 15'24	
evening set	1927 Feb 16 10:49	6° \mathbb{M} 43'52		retrograde	1933 Jan 08 02:22	23° \mathbb{M} 16'02	
				opposition	1933 Mar 09 08:39	18° \mathbb{M} 20'16	1°29'25
conjunction	1927 Mar 01 10:53	9° \mathbb{M} 51'48	0°-56'-48	min. Earth dist.	1933 Mar 09 15:59	18° \mathbb{M} 17'52	4.43381 AU
minimum elong	1927 Mar 01 10:51	9° \mathbb{M} 51'46	0°56'49	direct	1933 May 10 10:21	13° \mathbb{M} 17'24	
max. Earth dist.	1927 Mar 01 15:28	9° \mathbb{M} 54'34	5.98288 AU		1933 Sep 10 05:11	0° \mathbb{M}	
morning rise	1927 Mar 14 13:26	13° \mathbb{M} 01'14		evening set	1933 Sep 14 04:49	0° \mathbb{M} 51'08	
	1927 Jun 06 10:14	0° \mathbb{M}		max. Earth dist.	1933 Sep 26 04:37	3° \mathbb{M} 26'20	6.45211 AU
retrograde	1927 Jul 24 13:10	3° \mathbb{M} 31'14					
	1927 Sep 11 03:43	30° \mathbb{M}		conjunction	1933 Sep 27 05:43	3° \mathbb{M} 39'54	1°05'56
opposition	1927 Sep 22 12:37	28° \mathbb{M} 30'14	-1°-36'-31	minimum elong	1933 Sep 27 05:43	3° \mathbb{M} 39'54	1°05'56
min. Earth dist.	1927 Sep 21 22:32	28° \mathbb{M} 34'57	3.95682 AU	morning rise	1933 Oct 10 03:56	6° \mathbb{M} 27'19	
direct	1927 Nov 19 18:48	23° \mathbb{M} 36'31		retrograde	1934 Feb 07 06:19	23° \mathbb{M} 11'44	
	1928 Jan 23 02:54	0° \mathbb{M}		opposition	1934 Apr 08 20:32	18° \mathbb{M} 18'37	1°35'05
evening set	1928 Mar 24 06:46	13° \mathbb{M} 19'56		min. Earth dist.	1934 Apr 09 20:52	18° \mathbb{M} 10'48	4.45317 AU
				direct	1934 Jun 10 13:41	13° \mathbb{M} 16'28	
conjunction	1928 Apr 06 14:41	16° \mathbb{M} 32'52	-1°-4'-50		1934 Oct 11 04:55	0° \mathbb{M}	
minimum elong	1928 Apr 06 14:42	16° \mathbb{M} 32'52	1°04'51	evening set	1934 Oct 14 21:34	0° \mathbb{M} 47'49	
max. Earth dist.	1928 Apr 08 02:52	16° \mathbb{M} 54'43	5.95250 AU	max. Earth dist.	1934 Oct 25 22:25	3° \mathbb{M} 11'51	6.43387 AU
morning rise	1928 Apr 20 01:42	19° \mathbb{M} 47'25					
	1928 Jun 04 04:51	0° \mathbb{M}		conjunction	1934 Oct 27 16:52	3° \mathbb{M} 35'01	1°00'44
retrograde	1928 Aug 30 09:18	10° \mathbb{M} 25'19		minimum elong	1934 Oct 27 16:53	3° \mathbb{M} 35'02	1°00'44
min. Earth dist.	1928 Oct 27 17:51	5° \mathbb{M} 31'38	3.97318 AU	morning rise	1934 Nov 09 09:31	6° \mathbb{M} 21'06	
opposition	1928 Oct 29 00:41	5° \mathbb{M} 21'10	-1°-28'-28	retrograde	1935 Mar 10 02:47	23° \mathbb{M} 17'49	
direct	1928 Dec 25 20:33	0° \mathbb{M} 25'46		opposition	1935 May 10 00:20	18° \mathbb{M} 25'53	1°15'24
evening set	1929 Apr 30 21:44	20° \mathbb{M} 00'07		min. Earth dist.	1935 May 11 10:14	18° \mathbb{M} 15'05	4.39876 AU
				direct	1935 Jul 11 15:39	13° \mathbb{M} 25'20	
conjunction	1929 May 14 12:59	23° \mathbb{M} 13'39	0°-47'-22		1935 Nov 09 02:56	0° \mathbb{M}	
minimum elong	1929 May 14 13:01	23° \mathbb{M} 13'41	0°47'23	evening set	1935 Nov 14 12:35	1° \mathbb{M} 11'24	

max. Earth dist.	1935 Nov 25 02:44	3°♌32'47	6.34692 AU	morning rise	1941 Jun 02 14:11	1°♐39'21	
				retrograde	1941 Oct 10 08:00	21°♐26'46	
conjunction	1935 Nov 27 04:44	4°♌00'44	0°38'47	min. Earth dist.	1941 Dec 07 10:04	16°♐33'33	4.08980 AU
minimum elong	1935 Nov 27 04:46	4°♌00'45	0°38'47	opposition	1941 Dec 08 20:12	16°♐21'55	0°-38'-51
morning rise	1935 Dec 09 19:25	6°♌49'32		direct	1942 Feb 05 10:02	11°♐23'09	
retrograde	1936 Apr 10 17:49	24°♌25'59			1942 Jun 10 10:36	0°♑	
opposition	1936 Jun 10 16:01	19°♌33'41	0°33'37	evening set	1942 Jun 11 22:33	0°♑20'23	
min. Earth dist.	1936 Jun 12 03:59	19°♌22'13	4.28374 AU				
direct	1936 Aug 11 14:59	14°♌35'20		conjunction	1942 Jun 25 16:43	3°♑28'30	0°-7'-21
	1936 Dec 02 08:39	0°♍		minimum elong	1942 Jun 25 16:44	3°♑28'31	0°07'23
evening set	1936 Dec 15 00:02	2°♍51'11		behind sun begin	1942 Jun 25 09:06	3°♑24'11	
max. Earth dist.	1936 Dec 25 20:10	5°♍20'29	6.21315 AU	behind sun end	1942 Jun 26 00:21	3°♑32'50	
				max. Earth dist.	1942 Jun 27 17:27	3°♑56'18	6.16106 AU
conjunction	1936 Dec 27 16:15	5°♍45'52	0°04'43	morning rise	1942 Jul 09 11:20	6°♑36'31	
minimum elong	1936 Dec 27 16:15	5°♍45'52	0°04'44	asc. node	1942 Sep 09 17:52	19°♑18'33	
behind sun begin	1936 Dec 27 08:27	5°♍41'24		retrograde	1942 Nov 12 14:25	25°♑14'18	
behind sun end	1936 Dec 28 00:03	5°♍50'21		min. Earth dist.	1943 Jan 10 05:56	20°♑20'13	4.23413 AU
morning rise	1937 Jan 09 08:21	8°♍40'46		opposition	1943 Jan 11 07:12	20°♑11'41	0°17'15
desc. node	1937 Feb 14 18:59	16°♍40'11		direct	1943 Mar 12 02:11	15°♑10'19	
retrograde	1937 May 15 13:02	27°♍19'01			1943 Jun 30 21:46	0°♒	
opposition	1937 Jul 15 08:15	22°♍24'42	0°-21'-17	evening set	1943 Jul 16 22:20	3°♒28'43	
min. Earth dist.	1937 Jul 16 08:42	22°♍16'50	4.13983 AU				
direct	1937 Sep 13 23:18	17°♍28'51		conjunction	1943 Jul 30 12:54	6°♒29'03	0°29'28
	1937 Dec 20 04:06	0°♎		minimum elong	1943 Jul 30 12:52	6°♒29'02	0°29'28
evening set	1938 Jan 17 04:11	6°♎23'27		max. Earth dist.	1943 Jul 31 15:11	6°♒43'35	6.30455 AU
				morning rise	1943 Aug 13 01:54	9°♒28'23	
conjunction	1938 Jan 29 23:22	9°♎25'18	0°-32'-28	retrograde	1943 Dec 13 23:25	27°♒03'43	
minimum elong	1938 Jan 29 23:20	9°♎25'17	0°32'30	opposition	1944 Feb 11 22:12	22°♒04'46	1°04'33
max. Earth dist.	1938 Jan 29 00:57	9°♎12'00	6.07172 AU	min. Earth dist.	1944 Feb 11 14:09	22°♒07'26	4.36486 AU
morning rise	1938 Feb 11 19:55	12°♎28'10		direct	1944 Apr 13 02:10	17°♒02'01	
	1938 May 14 07:46	0°♏			1944 Jul 26 01:04	0°♓	
retrograde	1938 Jun 21 15:30	2°♏15'08		evening set	1944 Aug 17 22:58	4°♓49'40	
	1938 Jul 30 03:01	30°♏					
opposition	1938 Aug 21 00:21	27°♏17'33	-1°-12'-23	conjunction	1944 Aug 31 06:22	7°♓42'36	0°55'56
min. Earth dist.	1938 Aug 21 05:50	27°♏15'45	4.01320 AU	minimum elong	1944 Aug 31 06:20	7°♓42'35	0°55'55
direct	1938 Oct 19 05:46	22°♏23'34		max. Earth dist.	1944 Aug 31 03:36	7°♓41'06	6.41236 AU
	1938 Dec 29 18:34	0°♐		morning rise	1944 Sep 13 11:16	10°♓34'11	
evening set	1939 Feb 21 11:11	11°♐53'09		retrograde	1945 Jan 12 04:51	27°♓29'49	
				opposition	1945 Mar 13 12:32	22°♓34'25	1°31'36
conjunction	1939 Mar 06 12:15	15°♐02'03	0°-59'-24	min. Earth dist.	1945 Mar 13 22:51	22°♓31'03	4.44374 AU
minimum elong	1939 Mar 06 12:14	15°♐02'02	0°59'25	direct	1945 May 14 17:27	17°♓31'30	
max. Earth dist.	1939 Mar 06 21:08	15°♐07'25	5.97153 AU		1945 Aug 25 06:06	0°♔	
morning rise	1939 Mar 19 16:01	18°♐12'32		evening set	1945 Sep 18 09:46	5°♔02'57	
	1939 May 11 14:08	0°♕		max. Earth dist.	1945 Sep 30 06:38	7°♔36'28	6.45604 AU
retrograde	1939 Jul 29 21:01	8°♕47'31					
opposition	1939 Sep 27 19:05	3°♕46'02	-1°-37'-48	conjunction	1945 Oct 01 09:53	7°♔51'12	1°06'14
min. Earth dist.	1939 Sep 27 01:39	3°♕51'53	3.95167 AU	minimum elong	1945 Oct 01 09:53	7°♔51'12	1°06'13
	1939 Oct 30 00:44	30°♕		morning rise	1945 Oct 14 06:59	10°♔38'04	
direct	1939 Nov 24 21:17	28°♕52'15		retrograde	1946 Feb 11 08:26	27°♔21'59	
	1939 Dec 20 17:03	0°♖		opposition	1946 Apr 13 00:33	22°♔29'07	1°33'47
evening set	1940 Mar 29 12:36	18°♖36'55		min. Earth dist.	1946 Apr 14 02:36	22°♔20'46	4.45085 AU
				direct	1946 Jun 14 18:05	17°♔27'07	
conjunction	1940 Apr 11 21:35	21°♖50'17	-1°-3'-50		1946 Sep 25 10:19	0°♕	
minimum elong	1940 Apr 11 21:36	21°♖50'18	1°03'50	evening set	1946 Oct 19 00:54	4°♕59'21	
max. Earth dist.	1940 Apr 13 12:25	22°♖13'44	5.95394 AU	max. Earth dist.	1946 Oct 29 21:34	7°♕21'29	6.42527 AU
morning rise	1940 Apr 25 09:50	25°♖05'19					
	1940 May 16 07:54	0°♗		conjunction	1946 Oct 31 19:28	7°♕46'36	0°58'38
retrograde	1940 Sep 04 13:00	15°♗40'47		minimum elong	1946 Oct 31 19:29	7°♕46'37	0°58'38
min. Earth dist.	1940 Nov 01 19:51	10°♗47'22	3.98125 AU	morning rise	1946 Nov 13 11:49	10°♕32'53	
opposition	1940 Nov 03 04:19	10°♗36'19	-1°-24'-14	retrograde	1947 Mar 14 11:36	27°♕33'47	
direct	1940 Dec 31 01:20	5°♗40'33		opposition	1947 May 14 08:16	22°♕41'54	1°10'51
evening set	1941 May 06 03:47	25°♗11'57		min. Earth dist.	1947 May 15 20:26	22°♕30'23	4.38419 AU
				direct	1947 Jul 15 22:53	17°♕41'32	
conjunction	1941 May 19 19:59	28°♗25'13	0°-43'-13		1947 Oct 24 03:00	0°♘	
minimum elong	1941 May 19 20:01	28°♗25'15	0°43'14	evening set	1947 Nov 18 17:47	5°♘31'44	
max. Earth dist.	1941 May 22 03:39	28°♗58'03	6.02744 AU	max. Earth dist.	1947 Nov 29 07:16	7°♘53'23	6.32749 AU
	1941 May 26 12:48	0°♙					

conjunction	1947 Dec 01 09:59	8°♌21'49	0°34'41	min. Earth dist.	1953 Dec 12 06:25	21°♊35'39	4.11143 AU
minimum elong	1947 Dec 01 10:00	8°♌21'50	0°34'40	opposition	1953 Dec 13 16:41	21°♊23'58	0°-31'00
morning rise	1947 Dec 14 00:41	11°♌11'27		direct	1954 Feb 10 09:27	16°♊24'47	
retrograde	1948 Apr 15 08:34	28°♌56'29			1954 May 24 04:43	0°♉	
opposition	1948 Jun 15 06:56	24°♌04'00	0°26'35	evening set	1954 Jun 16 23:41	5°♉15'37	
min. Earth dist.	1948 Jun 16 17:32	23°♌52'57	4.26062 AU				
direct	1948 Aug 16 00:40	19°♌06'01		conjunction	1954 Jun 30 17:38	8°♉22'36	0°-1'-54
	1948 Nov 15 10:38	0°♋		minimum elong	1954 Jun 30 17:39	8°♉22'36	0°01'55
evening set	1948 Dec 19 11:04	7°♋28'33		behind sun begin	1954 Jun 30 09:16	8°♉17'52	
desc. node	1948 Dec 26 14:49	9°♋07'31		behind sun end	1954 Jul 01 02:01	8°♉27'20	
max. Earth dist.	1948 Dec 30 09:44	10°♋00'09	6.18828 AU	max. Earth dist.	1954 Jul 02 15:36	8°♉48'42	6.18427 AU
				morning rise	1954 Jul 14 11:39	11°♉29'18	
conjunction	1949 Jan 01 03:36	10°♋24'25	0°00'-32	asc. node	1954 Jul 20 03:11	12°♉45'12	
minimum elong	1949 Jan 01 03:34	10°♋24'24	0°00'32	retrograde	1954 Nov 17 03:02	29°♉56'35	
behind sun begin	1948 Dec 31 19:36	10°♋19'48		opposition	1955 Jan 15 20:01	24°♉54'27	0°24'48
behind sun end	1949 Jan 01 11:33	10°♋29'00		min. Earth dist.	1955 Jan 14 21:41	25°♉01'58	4.25661 AU
morning rise	1949 Jan 13 20:11	13°♋20'34		direct	1955 Mar 16 20:38	19°♉52'50	
	1949 Apr 12 19:18	0°♌			1955 Jun 13 00:07	0°♏	
retrograde	1949 May 20 15:34	2°♌10'21		evening set	1955 Jul 21 15:49	8°♏05'28	
	1949 Jun 27 18:29	30°♋					
opposition	1949 Jul 20 08:07	27°♋15'42	0°-29'-4	conjunction	1955 Aug 04 05:31	11°♏04'36	0°33'59
min. Earth dist.	1949 Jul 21 07:12	27°♋08'14	4.11501 AU	minimum elong	1955 Aug 04 05:29	11°♏04'35	0°33'58
direct	1949 Sep 18 18:47	22°♋20'12		max. Earth dist.	1955 Aug 05 03:53	11°♏16'55	6.32449 AU
	1949 Nov 30 20:08	0°♌		morning rise	1955 Aug 17 17:29	14°♏02'40	
evening set	1950 Jan 21 23:43	11°♌22'12			1955 Nov 17 03:59	0°♐	
				retrograde	1955 Dec 18 04:30	1°♐30'24	
conjunction	1950 Feb 03 19:41	14°♌25'23	0°-37'-8		1956 Jan 18 02:04	30°♏	
minimum elong	1950 Feb 03 19:39	14°♌25'22	0°37'09	opposition	1956 Feb 16 05:38	26°♏31'58	1°09'42
max. Earth dist.	1950 Feb 03 01:06	14°♌14'19	6.04932 AU	min. Earth dist.	1956 Feb 15 23:44	26°♏33'55	4.38107 AU
morning rise	1950 Feb 16 17:14	17°♌29'40		direct	1956 Apr 17 12:59	21°♏29'08	
	1950 Apr 15 08:58	0°♍			1956 Jul 07 19:01	0°♐	
retrograde	1950 Jun 27 00:14	7°♍27'07		evening set	1956 Aug 22 09:58	9°♐13'11	
opposition	1950 Aug 26 07:13	2°♍29'03	-1°-17'-56				
min. Earth dist.	1950 Aug 26 08:31	2°♍28'37	3.99578 AU	conjunction	1956 Sep 04 16:18	12°♐05'14	0°58'24
	1950 Sep 15 02:23	30°♌		minimum elong	1956 Sep 04 16:16	12°♐05'13	0°58'24
direct	1950 Oct 24 06:34	27°♌35'18		max. Earth dist.	1956 Sep 04 09:52	12°♐01'45	6.42369 AU
	1950 Dec 01 19:57	0°♍		morning rise	1956 Sep 17 19:56	14°♐55'53	
evening set	1951 Feb 26 15:19	17°♍10'03			1956 Dec 13 02:17	0°♑	
				retrograde	1957 Jan 16 09:22	1°♑47'59	
conjunction	1951 Mar 11 17:24	20°♍19'57	-1°-1'-32		1957 Feb 19 15:37	30°♐	
minimum elong	1951 Mar 11 17:23	20°♍19'56	1°01'33	opposition	1957 Mar 17 18:01	26°♐53'03	1°33'25
max. Earth dist.	1951 Mar 12 06:56	20°♍28'08	5.96066 AU	min. Earth dist.	1957 Mar 18 07:15	26°♐48'45	4.44968 AU
morning rise	1951 Mar 24 22:27	23°♍31'29		direct	1957 May 19 02:20	21°♐50'14	
	1951 Apr 21 14:57	0°♎			1957 Aug 07 02:11	0°♑	
retrograde	1951 Aug 04 06:53	14°♎10'46		evening set	1957 Sep 22 16:53	9°♑20'43	
min. Earth dist.	1951 Oct 02 07:23	9°♎15'41	3.94871 AU	max. Earth dist.	1957 Oct 04 08:07	11°♑51'20	6.45598 AU
opposition	1951 Oct 03 04:07	9°♎08'42	-1°-38'-15				
direct	1951 Nov 30 04:08	4°♎14'46		conjunction	1957 Oct 05 16:00	12°♑08'36	1°06'13
evening set	1952 Apr 03 21:02	23°♎59'34		minimum elong	1957 Oct 05 16:00	12°♑08'36	1°06'12
				morning rise	1957 Oct 18 12:25	14°♑55'11	
conjunction	1952 Apr 17 07:21	27°♎13'17	-1°-2'-16		1958 Jan 13 12:52	0°♒	
minimum elong	1952 Apr 17 07:22	27°♎13'18	1°02'16	retrograde	1958 Feb 15 14:58	1°♒39'54	
max. Earth dist.	1952 Apr 19 03:53	27°♎40'06	5.95911 AU		1958 Mar 20 19:13	30°♑	
	1952 Apr 28 20:50	0°♏		opposition	1958 Apr 17 07:32	26°♑47'13	1°32'01
morning rise	1952 Apr 30 20:33	0°♏28'31		min. Earth dist.	1958 Apr 18 11:51	26°♑38'08	4.44504 AU
retrograde	1952 Sep 09 19:40	20°♏59'26		direct	1958 Jun 19 01:44	21°♑45'20	
min. Earth dist.	1952 Nov 06 23:46	16°♏06'04	3.99374 AU		1958 Sep 07 08:52	0°♒	
opposition	1952 Nov 08 09:09	15°♏54'42	-1°-19'-14	evening set	1958 Oct 23 06:58	9°♒19'25	
direct	1953 Jan 05 07:52	10°♏58'34		max. Earth dist.	1958 Nov 03 02:44	11°♒41'26	6.41407 AU
	1953 May 09 15:33	0°♑					
evening set	1953 May 11 10:58	0°♑25'19		conjunction	1958 Nov 05 01:13	12°♒06'56	0°56'10
				minimum elong	1958 Nov 05 01:14	12°♒06'57	0°56'10
conjunction	1953 May 25 03:38	3°♑38'00	0°-38'-42	morning rise	1958 Nov 17 17:01	14°♒53'29	
minimum elong	1953 May 25 03:40	3°♑38'01	0°38'42		1959 Feb 10 13:46	0°♓	
max. Earth dist.	1953 May 27 11:23	4°♑10'43	6.04561 AU	retrograde	1959 Mar 18 22:09	1°♓59'24	
morning rise	1953 Jun 07 22:22	6°♑51'28			1959 Apr 24 14:10	30°♒	
retrograde	1953 Oct 15 02:56	26°♑28'40		opposition	1959 May 18 20:00	27°♒07'32	1°05'45

min. Earth dist.	1959 May 20 08:10	26° \mathbb{M} 56'01	4.36830 AU	conjunction	1965 May 30 07:12	8° \mathbb{H} 39'29	0°-34'-2
direct	1959 Jul 20 07:59	22° \mathbb{M} 07'29		minimum elong	1965 May 30 07:14	8° \mathbb{H} 39'31	0°34'03
	1959 Oct 05 14:40	0° \mathbb{Z}		max. Earth dist.	1965 Jun 01 14:14	9° \mathbb{H} 11'39	6.06559 AU
evening set	1959 Nov 23 02:33	10° \mathbb{Z} 01'59		morning rise	1965 Jun 13 02:05	11° \mathbb{H} 52'05	
max. Earth dist.	1959 Dec 03 15:26	12° \mathbb{Z} 23'59	6.30811 AU		1965 Sep 21 04:40	0° \mathbb{E}	
				retrograde	1965 Oct 19 19:32	1° \mathbb{E} 18'59	
conjunction	1959 Dec 05 18:30	12° \mathbb{Z} 52'46	0°30'13		1965 Nov 17 03:08	30° \mathbb{H}	
minimum elong	1959 Dec 05 18:32	12° \mathbb{Z} 52'47	0°30'13	min. Earth dist.	1965 Dec 17 01:06	26° \mathbb{H} 25'25	4.13301 AU
morning rise	1959 Dec 18 09:25	15° \mathbb{Z} 43'15		opposition	1965 Dec 18 09:08	26° \mathbb{H} 14'31	0°-23'-14
	1960 Mar 01 13:10	0° \mathbb{Z}		direct	1966 Feb 15 06:57	21° \mathbb{H} 14'56	
retrograde	1960 Apr 20 04:55	3° \mathbb{Z} 36'56			1966 May 05 14:52	0° \mathbb{E}	
	1960 Jun 10 01:52	30° \mathbb{Z}		asc. node	1966 May 30 20:32	5° \mathbb{E} 08'42	
opposition	1960 Jun 20 01:57	28° \mathbb{Z} 44'15	0°19'05	evening set	1966 Jun 21 20:24	9° \mathbb{E} 59'38	
min. Earth dist.	1960 Jun 21 12:09	28° \mathbb{Z} 33'18	4.23894 AU				
direct	1960 Aug 20 16:40	23° \mathbb{Z} 46'34		conjunction	1966 Jul 05 14:05	13° \mathbb{E} 05'33	0°03'29
	1960 Oct 26 03:01	0° \mathbb{Z}		minimum elong	1966 Jul 05 14:05	13° \mathbb{E} 05'33	0°03'29
desc. node	1960 Nov 05 00:41	1° \mathbb{Z} 46'28		behind sun begin	1966 Jul 05 05:48	13° \mathbb{E} 00'53	
evening set	1960 Dec 24 01:28	12° \mathbb{Z} 15'04		behind sun end	1966 Jul 05 22:23	13° \mathbb{E} 10'13	
max. Earth dist.	1961 Jan 04 03:25	14° \mathbb{Z} 49'18	6.16640 AU	max. Earth dist.	1966 Jul 07 09:49	13° \mathbb{E} 30'15	6.20565 AU
				morning rise	1966 Jul 19 07:29	16° \mathbb{E} 11'03	
conjunction	1961 Jan 05 18:24	15° \mathbb{Z} 11'59	0°-5'-57		1966 Sep 27 13:19	0° \mathbb{O}	
minimum elong	1961 Jan 05 18:24	15° \mathbb{Z} 11'59	0°05'57	retrograde	1966 Nov 21 10:22	4° \mathbb{O} 28'57	
behind sun begin	1961 Jan 05 10:46	15° \mathbb{Z} 07'33			1967 Jan 16 03:50	30° \mathbb{E}	
behind sun end	1961 Jan 06 02:03	15° \mathbb{Z} 16'24		min. Earth dist.	1967 Jan 19 08:30	29° \mathbb{E} 34'19	4.27604 AU
morning rise	1961 Jan 18 11:31	18° \mathbb{Z} 09'18		opposition	1967 Jan 20 05:17	29° \mathbb{E} 27'20	0°31'55
	1961 Mar 15 08:01	0° \mathbb{A}		direct	1967 Mar 21 09:16	24° \mathbb{E} 25'31	
retrograde	1961 May 25 18:35	7° \mathbb{A} 09'14			1967 May 23 08:21	0° \mathbb{O}	
opposition	1961 Jul 25 10:37	2° \mathbb{A} 14'12	0°-36'-53	evening set	1967 Jul 26 06:06	12° \mathbb{O} 33'39	
min. Earth dist.	1961 Jul 26 06:15	2° \mathbb{A} 07'50	4.09506 AU				
	1961 Aug 12 08:54	30° \mathbb{Z}		conjunction	1967 Aug 08 18:49	15° \mathbb{O} 31'43	0°38'10
direct	1961 Sep 23 15:27	27° \mathbb{Z} 19'04		minimum elong	1967 Aug 08 18:47	15° \mathbb{O} 31'42	0°38'09
	1961 Nov 04 02:49	0° \mathbb{A}		max. Earth dist.	1967 Aug 09 11:58	15° \mathbb{O} 41'09	6.34053 AU
evening set	1962 Jan 26 21:34	16° \mathbb{A} 26'33		morning rise	1967 Aug 22 05:46	18° \mathbb{O} 28'41	
					1967 Oct 19 10:51	0° \mathbb{M}	
conjunction	1962 Feb 08 18:07	19° \mathbb{A} 30'44	0°-41'-39	retrograde	1967 Dec 22 10:02	5° \mathbb{M} 50'28	
minimum elong	1962 Feb 08 18:05	19° \mathbb{A} 30'42	0°41'39	opposition	1968 Feb 20 11:02	0° \mathbb{M} 52'38	1°14'20
max. Earth dist.	1962 Feb 08 03:44	19° \mathbb{A} 22'07	6.03318 AU	min. Earth dist.	1968 Feb 20 08:53	0° \mathbb{M} 53'20	4.39277 AU
morning rise	1962 Feb 21 16:38	22° \mathbb{A} 36'07			1968 Feb 27 03:33	30° \mathbb{O}	
	1962 Mar 25 22:07	0° \mathbb{K}		direct	1968 Apr 21 23:26	25° \mathbb{O} 49'46	
retrograde	1962 Jul 02 08:58	12° \mathbb{K} 41'24			1968 Jun 15 14:44	0° \mathbb{M}	
opposition	1962 Aug 31 14:48	7° \mathbb{K} 42'41	-1°-22'-56	evening set	1968 Aug 26 19:02	13° \mathbb{M} 31'43	
min. Earth dist.	1962 Aug 31 12:30	7° \mathbb{K} 43'27	3.98533 AU				
direct	1962 Oct 29 10:31	2° \mathbb{K} 49'01		conjunction	1968 Sep 09 00:26	16° \mathbb{M} 23'08	1°00'30
evening set	1963 Mar 03 19:08	22° \mathbb{K} 26'03		minimum elong	1968 Sep 09 00:25	16° \mathbb{M} 23'07	1°00'30
				max. Earth dist.	1968 Sep 08 14:05	16° \mathbb{M} 17'32	6.43014 AU
conjunction	1963 Mar 16 22:23	25° \mathbb{K} 36'36	-1°-3'-12	morning rise	1968 Sep 22 03:02	19° \mathbb{M} 13'08	
minimum elong	1963 Mar 16 22:22	25° \mathbb{K} 36'36	1°03'13		1968 Nov 15 22:44	0° \mathbb{L}	
max. Earth dist.	1963 Mar 17 18:26	25° \mathbb{K} 48'45	5.95695 AU	retrograde	1969 Jan 20 12:29	6° \mathbb{L} 03'25	
morning rise	1963 Mar 30 04:24	28° \mathbb{K} 48'46		opposition	1969 Mar 21 22:53	1° \mathbb{L} 08'54	1°34'43
	1963 Apr 04 03:19	0° \mathbb{V}		min. Earth dist.	1969 Mar 22 13:57	1° \mathbb{L} 04'01	4.45092 AU
retrograde	1963 Aug 09 15:26	19° \mathbb{V} 28'57			1969 Mar 30 21:36	30° \mathbb{M}	
opposition	1963 Oct 08 10:59	14° \mathbb{V} 26'23	-1°-37'-52	direct	1969 May 23 08:20	26° \mathbb{M} 06'12	
min. Earth dist.	1963 Oct 07 12:07	14° \mathbb{V} 34'06	3.95245 AU		1969 Jul 15 13:30	0° \mathbb{L}	
direct	1963 Dec 05 10:11	9° \mathbb{V} 32'15		evening set	1969 Sep 26 23:15	13° \mathbb{L} 37'08	
evening set	1964 Apr 09 03:10	29° \mathbb{V} 14'46		max. Earth dist.	1969 Oct 08 11:59	16° \mathbb{L} 06'39	6.45198 AU
	1964 Apr 12 06:52	0° \mathbb{X}					
				conjunction	1969 Oct 09 21:38	16° \mathbb{L} 24'53	1°05'50
conjunction	1964 Apr 22 14:20	2° \mathbb{X} 28'25	-1°00'-14	minimum elong	1969 Oct 09 21:38	16° \mathbb{L} 24'53	1°05'50
minimum elong	1964 Apr 22 14:21	2° \mathbb{X} 28'26	1°00'16	morning rise	1969 Oct 22 17:11	19° \mathbb{L} 11'20	
max. Earth dist.	1964 Apr 24 12:50	2° \mathbb{X} 56'19	5.96956 AU		1969 Dec 16 15:55	0° \mathbb{M}	
morning rise	1964 May 06 04:38	5° \mathbb{X} 43'34		retrograde	1970 Feb 19 21:58	5° \mathbb{M} 58'12	
retrograde	1964 Sep 14 19:01	26° \mathbb{X} 07'44		opposition	1970 Apr 21 15:14	1° \mathbb{M} 05'49	1°29'45
min. Earth dist.	1964 Nov 11 22:38	21° \mathbb{X} 14'43	4.00972 AU	min. Earth dist.	1970 Apr 22 21:10	0° \mathbb{M} 56'15	4.43615 AU
opposition	1964 Nov 13 09:35	21° \mathbb{X} 02'49	-1°-13'-47		1970 Apr 30 06:43	30° \mathbb{L}	
direct	1965 Jan 10 09:33	16° \mathbb{X} 06'13		direct	1970 Jun 23 09:44	26° \mathbb{L} 04'15	
	1965 Apr 22 14:32	0° \mathbb{H}			1970 Aug 15 17:58	0° \mathbb{M}	
evening set	1965 May 16 14:02	5° \mathbb{H} 27'31		evening set	1970 Oct 27 13:40	13° \mathbb{M} 40'58	

max. Earth dist.	1970 Nov 07 06:30	16°♍01'55	6.40096 AU	morning rise	1976 May 11 10:41	10°♄54'18	
					1976 Aug 23 10:24	0°♂	
conjunction	1970 Nov 09 07:21	16°♍28'49	0°53'22	retrograde	1976 Sep 19 18:39	1°♂12'29	
minimum elong	1970 Nov 09 07:23	16°♍28'50	0°53'22		1976 Oct 16 20:24	30°♄	
morning rise	1970 Nov 21 23:00	19°♍15'48		min. Earth dist.	1976 Nov 16 22:01	26°♄19'07	4.02336 AU
	1971 Jan 14 08:49	0°♄		opposition	1976 Nov 18 08:16	26°♄07'26	-1°-7'-53
retrograde	1971 Mar 23 11:33	6°♄27'25		direct	1977 Jan 15 10:56	21°♄10'24	
opposition	1971 May 23 08:59	1°♄35'32	1°00'14		1977 Apr 03 15:42	0°♂	
min. Earth dist.	1971 May 24 21:23	1°♄23'56	4.35176 AU	evening set	1977 May 21 15:56	10°♂27'22	
	1971 Jun 05 02:12	30°♍					
direct	1971 Jul 24 19:09	26°♍35'48		conjunction	1977 Jun 04 09:35	13°♂38'47	0°-29'-11
	1971 Sep 11 15:33	0°♄		minimum elong	1977 Jun 04 09:37	13°♂38'48	0°29'12
evening set	1971 Nov 27 12:05	14°♄34'40		max. Earth dist.	1977 Jun 06 16:51	14°♂10'54	6.08231 AU
max. Earth dist.	1971 Dec 08 03:24	16°♄58'37	6.28963 AU	morning rise	1977 Jun 18 04:38	16°♂50'39	
					1977 Aug 20 12:43	0°♄	
conjunction	1971 Dec 10 04:10	17°♄26'13	0°25'33	retrograde	1977 Oct 24 10:13	6°♄08'31	
minimum elong	1971 Dec 10 04:11	17°♄26'14	0°25'33	min. Earth dist.	1977 Dec 21 17:09	1°♄15'03	4.15107 AU
morning rise	1971 Dec 22 19:04	20°♄17'29		opposition	1977 Dec 23 00:40	1°♄04'21	0°-15'-23
	1972 Feb 06 19:37	0°♄			1977 Dec 30 23:50	30°♂	
retrograde	1972 Apr 25 00:18	8°♄19'24		direct	1978 Feb 20 01:24	26°♂04'23	
opposition	1972 Jun 24 21:43	3°♄26'30	0°11'24	asc. node	1978 Apr 10 05:34	29°♂44'59	
min. Earth dist.	1972 Jun 26 06:03	3°♄16'10	4.21971 AU		1978 Apr 12 00:12	0°♄	
	1972 Jul 24 16:42	30°♄		evening set	1978 Jun 26 17:27	14°♄44'23	
direct	1972 Aug 25 08:01	28°♄29'16					
desc. node	1972 Sep 14 15:54	29°♄07'48		conjunction	1978 Jul 10 10:38	17°♄49'20	0°08'43
	1972 Sep 25 18:20	0°♄		minimum elong	1978 Jul 10 10:37	17°♄49'20	0°08'43
evening set	1972 Dec 28 16:13	17°♄02'41		behind sun begin	1978 Jul 10 03:28	17°♄45'19	
max. Earth dist.	1973 Jan 08 20:38	19°♄39'02	6.14794 AU	behind sun end	1978 Jul 10 17:47	17°♄53'20	
				max. Earth dist.	1978 Jul 12 01:48	18°♄11'23	6.22353 AU
conjunction	1973 Jan 10 09:19	20°♄00'29	0°-11'-15	morning rise	1978 Jul 24 03:30	20°♄53'47	
minimum elong	1973 Jan 10 09:18	20°♄00'28	0°11'17		1978 Sep 05 08:31	0°♂	
behind sun begin	1973 Jan 10 03:21	19°♄57'00		retrograde	1978 Nov 25 20:30	9°♂03'35	
behind sun end	1973 Jan 10 15:15	20°♄03'56		opposition	1979 Jan 24 15:18	4°♂02'26	0°38'53
morning rise	1973 Jan 23 03:04	22°♄58'50		min. Earth dist.	1979 Jan 23 21:42	4°♂08'19	4.29221 AU
	1973 Feb 23 09:28	0°♄			1979 Feb 28 23:35	30°♄	
retrograde	1973 May 30 22:10	12°♄07'46		direct	1979 Mar 26 00:55	29°♄00'20	
opposition	1973 Jul 30 12:49	7°♄12'15	0°-44'-26		1979 Apr 20 08:30	0°♂	
min. Earth dist.	1973 Jul 31 05:35	7°♄06'48	4.07870 AU	evening set	1979 Jul 30 21:13	17°♂04'54	
direct	1973 Sep 28 13:26	2°♄17'22					
evening set	1974 Jan 31 18:29	21°♄29'03		conjunction	1979 Aug 13 09:12	20°♂02'05	0°42'10
				minimum elong	1979 Aug 13 09:09	20°♂02'04	0°42'11
conjunction	1974 Feb 13 15:53	24°♄34'07	0°-45'-48	max. Earth dist.	1979 Aug 13 23:49	20°♂10'06	6.35382 AU
minimum elong	1974 Feb 13 15:51	24°♄34'06	0°45'49	morning rise	1979 Aug 26 18:57	22°♂58'02	
max. Earth dist.	1974 Feb 13 07:04	24°♄28'49	6.02042 AU		1979 Sep 29 10:23	0°♄	
morning rise	1974 Feb 26 15:07	27°♄40'25		retrograde	1979 Dec 26 14:59	10°♄14'41	
	1974 Mar 08 11:11	0°♄		opposition	1980 Feb 24 18:02	5°♄17'20	1°18'39
retrograde	1974 Jul 07 16:13	17°♄52'01		min. Earth dist.	1980 Feb 24 17:18	5°♄17'34	4.40254 AU
opposition	1974 Sep 05 20:18	12°♄52'48	-1°-27'-13	direct	1980 Apr 26 08:47	0°♄14'28	
min. Earth dist.	1974 Sep 05 15:25	12°♄54'25	3.97761 AU	evening set	1980 Aug 31 05:40	17°♄54'38	
direct	1974 Nov 03 12:13	7°♄59'13					
evening set	1975 Mar 08 21:34	27°♄37'55		conjunction	1980 Sep 13 09:55	20°♄45'23	1°02'19
	1975 Mar 18 16:47	0°♄		minimum elong	1980 Sep 13 09:54	20°♄45'22	1°02'19
conjunction	1975 Mar 22 01:41	0°♄49'00	-1°-4'-21	max. Earth dist.	1980 Sep 12 19:41	20°♄37'40	6.43578 AU
minimum elong	1975 Mar 22 01:40	0°♄48'59	1°04'21	morning rise	1980 Sep 26 11:30	23°♄34'45	
max. Earth dist.	1975 Mar 23 00:25	1°♄02'45	5.95475 AU		1980 Oct 27 10:10	0°♄	
morning rise	1975 Apr 04 08:59	4°♄01'47		retrograde	1981 Jan 24 19:23	10°♄23'21	
retrograde	1975 Aug 14 19:32	24°♄42'13		opposition	1981 Mar 26 05:54	5°♄29'14	1°35'34
opposition	1975 Oct 13 14:58	19°♄39'13	-1°-36'-44	min. Earth dist.	1981 Mar 26 23:42	5°♄23'29	4.45245 AU
min. Earth dist.	1975 Oct 12 13:07	19°♄47'57	3.95623 AU	direct	1981 May 27 18:26	0°♄26'42	
direct	1975 Dec 10 12:39	14°♄44'48		evening set	1981 Oct 01 07:10	17°♄57'35	
	1976 Mar 26 10:25	0°♄		max. Earth dist.	1981 Oct 12 16:43	20°♄25'33	6.44940 AU
evening set	1976 Apr 14 07:20	4°♄25'31					
conjunction	1976 Apr 27 19:35	7°♄39'13	0°-57'-48	conjunction	1981 Oct 14 04:46	20°♄45'07	1°05'08
minimum elong	1976 Apr 27 19:37	7°♄39'15	0°57'49	minimum elong	1981 Oct 14 04:46	20°♄45'07	1°05'08
max. Earth dist.	1976 Apr 29 20:22	8°♄08'24	5.97890 AU	morning rise	1981 Oct 26 23:36	23°♄31'23	
					1981 Nov 27 02:19	0°♍	
				retrograde	1982 Feb 24 05:41	10°♍19'47	

opposition	1982 Apr 26 00:28	5°♄27'31	1°27'01	retrograde	1988 Sep 24 13:58	6°♄07'48	
min. Earth dist.	1982 Apr 27 06:41	5°♄17'51	4.42999 AU	min. Earth dist.	1988 Nov 21 16:12	1°♄14'42	4.03397 AU
direct	1982 Jun 27 18:16	0°♄26'11		opposition	1988 Nov 23 03:04	1°♄02'49	-1°-1'-46
evening set	1982 Oct 31 20:57	18°♄04'17			1988 Nov 30 20:53	30°♄	
max. Earth dist.	1982 Nov 11 14:34	20°♄25'59	6.39185 AU	direct	1989 Jan 20 06:12	26°♄05'28	
					1989 Mar 11 03:26	0°♄	
conjunction	1982 Nov 13 14:15	20°♄52'19	0°50'18	evening set	1989 May 26 15:14	15°♄19'44	
minimum elong	1982 Nov 13 14:16	20°♄52'20	0°50'18				
morning rise	1982 Nov 26 05:26	23°♄39'31		conjunction	1989 Jun 09 09:10	18°♄30'43	0°-24'-18
	1982 Dec 26 01:57	0°♄		minimum elong	1989 Jun 09 09:11	18°♄30'44	0°24'19
retrograde	1983 Mar 27 23:56	10°♄55'25		max. Earth dist.	1989 Jun 11 13:49	19°♄01'13	6.09553 AU
opposition	1983 May 27 22:29	6°♄03'31	0°54'24	morning rise	1989 Jun 23 04:30	21°♄42'04	
min. Earth dist.	1983 May 29 10:51	5°♄51'57	4.34017 AU		1989 Jul 30 23:50	0°♄	
direct	1983 Jul 29 07:04	1°♄04'09		retrograde	1989 Oct 29 00:03	10°♄52'37	
evening set	1983 Dec 01 20:59	19°♄05'24		min. Earth dist.	1989 Dec 26 08:31	5°♄58'53	4.16549 AU
max. Earth dist.	1983 Dec 12 12:07	21°♄29'45	6.27645 AU	opposition	1989 Dec 27 14:16	5°♄48'46	0°-7'-43
				asc. node	1990 Feb 19 20:25	0°♄50'56	
conjunction	1983 Dec 14 12:48	21°♄57'23	0°20'50	direct	1990 Feb 24 19:14	0°♄48'29	
minimum elong	1983 Dec 14 12:49	21°♄57'24	0°20'50	evening set	1990 Jul 01 12:33	19°♄25'09	
morning rise	1983 Dec 27 03:58	24°♄49'16					
	1984 Jan 19 15:04	0°♄		conjunction	1990 Jul 15 05:32	22°♄29'20	0°13'46
retrograde	1984 Apr 29 18:37	12°♄57'44		minimum elong	1990 Jul 15 05:31	22°♄29'19	0°13'46
opposition	1984 Jun 29 16:12	8°♄04'31	0°03'50	behind sun begin	1990 Jul 15 01:19	22°♄26'59	
min. Earth dist.	1984 Jun 30 22:41	7°♄54'45	4.20569 AU	behind sun end	1990 Jul 15 09:42	22°♄31'40	
desc. node	1984 Jul 27 01:51	4°♄51'20		max. Earth dist.	1990 Jul 16 19:36	22°♄50'41	6.23828 AU
direct	1984 Aug 29 23:02	3°♄07'34		morning rise	1990 Jul 28 21:36	25°♄32'50	
evening set	1985 Jan 02 04:47	21°♄44'08			1990 Aug 18 07:30	0°♄	
				retrograde	1990 Nov 30 05:03	13°♄35'46	
conjunction	1985 Jan 14 22:19	24°♄42'38	0°-16'-20	min. Earth dist.	1991 Jan 28 08:00	8°♄40'38	4.30609 AU
minimum elong	1985 Jan 14 22:19	24°♄42'37	0°16'21	opposition	1991 Jan 29 00:26	8°♄35'09	0°45'27
max. Earth dist.	1985 Jan 13 13:43	24°♄23'31	6.13438 AU	direct	1991 Mar 30 13:15	3°♄32'57	
morning rise	1985 Jan 27 16:24	27°♄41'44		evening set	1991 Aug 04 11:32	21°♄34'31	
	1985 Feb 06 15:35	0°♄					
retrograde	1985 Jun 04 22:24	16°♄57'50		conjunction	1991 Aug 17 22:24	24°♄30'48	0°45'51
opposition	1985 Aug 04 11:41	12°♄01'54	0°-51'-23	minimum elong	1991 Aug 17 22:22	24°♄30'46	0°45'51
min. Earth dist.	1985 Aug 05 02:39	11°♄57'02	4.06678 AU	max. Earth dist.	1991 Aug 18 08:24	24°♄36'15	6.36575 AU
direct	1985 Oct 03 08:17	7°♄07'16		morning rise	1991 Aug 31 07:15	27°♄25'50	
evening set	1986 Feb 05 12:11	26°♄21'50			1991 Sep 12 06:00	0°♄	
				retrograde	1991 Dec 30 21:33	14°♄37'45	
conjunction	1986 Feb 18 10:06	29°♄27'34	0°-49'-28	opposition	1992 Feb 29 00:37	9°♄40'51	1°22'25
minimum elong	1986 Feb 18 10:04	29°♄27'33	0°49'29	min. Earth dist.	1992 Feb 29 02:46	9°♄40'09	4.41180 AU
max. Earth dist.	1986 Feb 18 03:25	29°♄23'33	6.01102 AU	direct	1992 Apr 30 19:38	4°♄37'54	
	1986 Feb 20 16:05	0°♄		evening set	1992 Sep 04 15:06	22°♄16'07	
morning rise	1986 Mar 03 10:23	2°♄34'42					
retrograde	1986 Jul 12 17:01	22°♄51'26		conjunction	1992 Sep 17 18:31	25°♄06'16	1°03'45
opposition	1986 Sep 10 21:15	17°♄51'42	-1°-30'-41	minimum elong	1992 Sep 17 18:30	25°♄06'15	1°03'44
min. Earth dist.	1986 Sep 10 13:06	17°♄54'24	3.97190 AU	max. Earth dist.	1992 Sep 17 02:28	24°♄57'35	6.44150 AU
direct	1986 Nov 08 09:27	12°♄58'06		morning rise	1992 Sep 30 18:55	27°♄54'58	
	1987 Mar 02 18:41	0°♄			1992 Oct 10 13:26	0°♄	
evening set	1987 Mar 13 19:39	2°♄38'07		retrograde	1993 Jan 28 23:09	14°♄41'45	
				opposition	1993 Mar 30 12:01	9°♄47'54	1°35'50
conjunction	1987 Mar 27 00:55	5°♄49'46	-1°-4'-58	min. Earth dist.	1993 Mar 31 06:41	9°♄41'53	4.45423 AU
minimum elong	1987 Mar 27 00:55	5°♄49'46	1°04'59	direct	1993 Jun 01 01:09	4°♄45'27	
max. Earth dist.	1987 Mar 28 03:45	6°♄06'01	5.95325 AU	evening set	1993 Oct 05 13:32	22°♄15'55	
morning rise	1987 Apr 09 09:09	9°♄03'05		max. Earth dist.	1993 Oct 16 20:07	24°♄42'29	6.44678 AU
retrograde	1987 Aug 19 21:07	29°♄43'51					
opposition	1987 Oct 18 14:32	24°♄40'30	-1°-34'-57	conjunction	1993 Oct 18 10:16	25°♄03'13	1°04'03
min. Earth dist.	1987 Oct 17 12:16	24°♄49'23	3.95915 AU	minimum elong	1993 Oct 18 10:17	25°♄03'14	1°04'03
direct	1987 Dec 15 12:22	19°♄45'50		morning rise	1993 Oct 31 04:26	27°♄49'19	
	1988 Mar 08 15:44	0°♄			1993 Nov 10 08:15	0°♄	
evening set	1988 Apr 19 07:42	9°♄25'33		retrograde	1994 Feb 28 13:50	14°♄39'22	
				opposition	1994 Apr 30 08:55	9°♄47'14	1°23'47
conjunction	1988 May 02 20:59	12°♄39'25	0°-55'-3	min. Earth dist.	1994 May 01 17:17	9°♄36'55	4.42273 AU
minimum elong	1988 May 02 21:02	12°♄39'26	0°55'03	direct	1994 Jul 02 03:33	4°♄46'05	
max. Earth dist.	1988 May 04 23:42	13°♄09'40	5.98600 AU	evening set	1994 Nov 05 02:54	22°♄25'51	
morning rise	1988 May 16 13:00	15°♄54'34		max. Earth dist.	1994 Nov 15 18:19	24°♄46'46	6.38024 AU
	1988 Jul 22 00:00	0°♄					

conjunction	1994 Nov 17 19:48	25°♄14'11	0°46'57	opposition	2000 Nov 28 02:12	6°♃09'03	0°-54'-55
minimum elong	1994 Nov 17 19:50	25°♄14'12	0°46'57	direct	2001 Jan 25 08:38	1°♃11'16	
morning rise	1994 Nov 30 10:50	28°♄01'46		evening set	2001 May 31 18:20	20°♃20'38	
	1994 Dec 09 10:54	0°♃					
retrograde	1995 Apr 01 12:03	15°♃23'01		conjunction	2001 Jun 14 12:38	23°♃30'50	0°-19'-5
opposition	1995 Jun 01 11:22	10°♃30'57	0°48'13	minimum elong	2001 Jun 14 12:39	23°♃30'51	0°19'05
min. Earth dist.	1995 Jun 02 23:08	10°♃19'33	4.32471 AU	max. Earth dist.	2001 Jun 16 18:10	24°♃01'42	6.11521 AU
direct	1995 Aug 02 16:44	5°♃31'49		morning rise	2001 Jun 28 07:42	26°♃41'12	
evening set	1995 Dec 06 05:45	23°♃37'00			2001 Jul 13 00:03	0°♃	
max. Earth dist.	1995 Dec 16 23:15	26°♃03'14	6.25839 AU	retrograde	2001 Nov 02 15:35	15°♃41'30	
				min. Earth dist.	2001 Dec 31 01:04	10°♃47'46	4.18746 AU
conjunction	1995 Dec 18 21:43	26°♃29'44	0°15'55	asc. node	2001 Dec 30 23:36	10°♃48'16	
minimum elong	1995 Dec 18 21:44	26°♃29'45	0°15'55	opposition	2002 Jan 01 05:53	10°♃38'01	0°00'11
behind sun begin	1995 Dec 18 20:02	26°♃28'47		direct	2002 Mar 01 15:15	5°♃37'24	
behind sun end	1995 Dec 18 23:26	26°♃30'43		evening set	2002 Jul 06 09:10	24°♃07'50	
morning rise	1995 Dec 31 12:57	29°♃22'25					
	1996 Jan 03 07:22	0°♃		conjunction	2002 Jul 20 01:19	27°♃10'44	0°18'48
retrograde	1996 May 04 15:37	17°♃39'19		minimum elong	2002 Jul 20 01:17	27°♃10'44	0°18'48
desc. node	1996 Jun 06 12:22	16°♃01'31		max. Earth dist.	2002 Jul 21 11:20	27°♃29'44	6.26068 AU
opposition	1996 Jul 04 11:41	12°♃45'50	0°-3'-55		2002 Aug 01 17:20	0°♃	
min. Earth dist.	1996 Jul 05 17:33	12°♃36'15	4.18609 AU	morning rise	2002 Aug 02 16:39	0°♃12'54	
direct	1996 Sep 03 14:37	7°♃49'12		retrograde	2002 Dec 04 12:22	18°♃06'16	
evening set	1997 Jan 06 19:16	26°♃31'03		opposition	2003 Feb 02 09:12	13°♃06'06	0°51'42
max. Earth dist.	1997 Jan 18 05:49	29°♃12'06	6.11487 AU	min. Earth dist.	2003 Feb 01 19:11	13°♃10'46	4.32714 AU
				direct	2003 Apr 04 03:04	8°♃03'39	
conjunction	1997 Jan 19 13:07	29°♃30'31	0°-21'-28	evening set	2003 Aug 09 00:11	25°♃59'50	
minimum elong	1997 Jan 19 13:06	29°♃30'31	0°21'28				
	1997 Jan 21 15:13	0°♃		conjunction	2003 Aug 22 10:08	28°♃54'56	0°49'13
morning rise	1997 Feb 01 08:03	2°♃30'46		minimum elong	2003 Aug 22 10:06	28°♃54'55	0°49'13
retrograde	1997 Jun 10 00:24	21°♃56'27		max. Earth dist.	2003 Aug 22 17:36	28°♃59'00	6.38381 AU
opposition	1997 Aug 09 13:39	16°♃59'59	0°-58'-16		2003 Aug 27 09:26	0°♃	
min. Earth dist.	1997 Aug 10 01:05	16°♃56'15	4.04909 AU	morning rise	2003 Sep 04 17:34	1°♃48'43	
direct	1997 Oct 08 04:37	12°♃05'32		retrograde	2004 Jan 03 23:57	18°♃54'13	
	1998 Feb 04 10:52	0°♃		opposition	2004 Mar 04 05:05	13°♃57'48	1°25'38
evening set	1998 Feb 10 09:56	1°♃25'10		min. Earth dist.	2004 Mar 04 09:17	13°♃56'26	4.42565 AU
				direct	2004 May 05 03:07	8°♃54'53	
conjunction	1998 Feb 23 08:51	4°♃31'56	0°-52'-56	evening set	2004 Sep 08 21:37	26°♃29'46	
minimum elong	1998 Feb 23 08:49	4°♃31'55	0°52'57				
max. Earth dist.	1998 Feb 23 07:30	4°♃31'07	5.99686 AU	conjunction	2004 Sep 21 23:48	29°♃19'08	1°04'47
morning rise	1998 Mar 08 10:00	7°♃40'08		minimum elong	2004 Sep 21 23:47	29°♃19'08	1°04'48
retrograde	1998 Jul 18 01:49	28°♃03'35		max. Earth dist.	2004 Sep 21 02:34	29°♃07'39	6.44986 AU
opposition	1998 Sep 16 03:02	23°♃03'19	-1°-33'-38		2004 Sep 25 03:23	0°♃	
min. Earth dist.	1998 Sep 15 16:58	23°♃06'40	3.96289 AU	morning rise	2004 Oct 04 23:18	2°♃07'07	
direct	1998 Nov 13 13:02	18°♃09'40		retrograde	2005 Feb 02 02:26	18°♃51'45	
	1999 Feb 13 01:23	0°♃		opposition	2005 Apr 03 15:30	13°♃58'15	1°35'36
evening set	1999 Mar 18 23:45	7°♃52'08		min. Earth dist.	2005 Apr 04 13:38	13°♃51'07	4.45665 AU
				direct	2005 Jun 05 07:20	8°♃55'50	
conjunction	1999 Apr 01 06:10	11°♃04'28	-1°-5'-7	evening set	2005 Oct 09 16:43	26°♃26'00	
minimum elong	1999 Apr 01 06:10	11°♃04'28	1°05'09	max. Earth dist.	2005 Oct 20 20:25	28°♃51'10	6.44285 AU
max. Earth dist.	1999 Apr 02 13:03	11°♃23'09	5.95024 AU				
morning rise	1999 Apr 14 15:43	14°♃18'29		conjunction	2005 Oct 22 12:54	29°♃13'12	1°02'40
	1999 Jun 28 09:29	0°♃		minimum elong	2005 Oct 22 12:55	29°♃13'12	1°02'39
retrograde	1999 Aug 25 02:38	4°♃59'12			2005 Oct 26 02:52	0°♃	
opposition	1999 Oct 23 19:04	29°♃55'30	-1°-32'-20	morning rise	2005 Nov 04 06:20	1°♃59'12	
min. Earth dist.	1999 Oct 22 14:07	0°♃05'19	3.96287 AU	retrograde	2006 Mar 04 18:02	18°♃51'42	
	1999 Oct 23 05:48	30°♃		opposition	2006 May 04 14:36	13°♃59'40	1°20'12
direct	1999 Dec 20 14:48	25°♃00'35		min. Earth dist.	2006 May 05 23:45	13°♃49'06	4.41270 AU
	2000 Feb 14 21:40	0°♃		direct	2006 Jul 06 07:18	8°♃58'43	
evening set	2000 Apr 24 13:59	14°♃38'47		evening set	2006 Nov 09 06:39	26°♃41'27	
				max. Earth dist.	2006 Nov 19 20:53	29°♃02'14	6.36473 AU
conjunction	2000 May 08 04:08	17°♃52'37	0°-51'-43				
minimum elong	2000 May 08 04:11	17°♃52'38	0°51'44	conjunction	2006 Nov 21 23:15	29°♃30'15	0°43'25
max. Earth dist.	2000 May 10 07:40	18°♃23'17	5.99610 AU	minimum elong	2006 Nov 21 23:17	29°♃30'16	0°43'25
morning rise	2000 May 21 21:05	21°♃07'40			2006 Nov 24 04:43	0°♃	
	2000 Jun 30 07:35	0°♃		morning rise	2006 Dec 04 14:10	2°♃18'26	
retrograde	2000 Sep 29 12:52	11°♃14'05		retrograde	2007 Apr 06 01:22	19°♃46'44	
min. Earth dist.	2000 Nov 26 15:07	6°♃21'02	4.04935 AU	opposition	2007 Jun 05 23:13	14°♃54'38	0°41'52

min. Earth dist.	2007 Jun 07 12:16	14° 2 42'50	4.30438 AU	behind sun begin	2013 Jun 19 11:55	28° II 29'35	
direct	2007 Aug 07 02:04	9° 2 55'48		behind sun end	2013 Jun 19 20:29	28° II 34'29	
evening set	2007 Dec 10 13:49	28° 2 06'49		max. Earth dist.	2013 Jun 21 19:20	29° II 01'22	6.13746 AU
	2007 Dec 18 20:11	0° 3			2013 Jun 26 01:40	0° 3	
max. Earth dist.	2007 Dec 21 07:01	0° 3 33'42	6.23484 AU	morning rise	2013 Jul 03 11:11	1° 3 41'17	
				retrograde	2013 Nov 07 05:03	20° 3 30'39	
conjunction	2007 Dec 23 05:56	1° 3 00'35	0°10'59	asc. node	2013 Nov 09 05:50	20° 3 30'14	
minimum elong	2007 Dec 23 05:56	1° 3 00'35	0°10'58	opposition	2014 Jan 05 21:11	15° 3 27'29	0°08'06
behind sun begin	2007 Dec 22 23:52	0° 3 57'08		min. Earth dist.	2014 Jan 04 17:38	15° 3 36'49	4.21043 AU
behind sun end	2007 Dec 23 12:01	1° 3 04'03		direct	2014 Mar 06 10:42	10° 3 26'31	
morning rise	2008 Jan 04 21:40	3° 3 54'25		evening set	2014 Jul 11 05:13	28° 3 50'41	
desc. node	2008 Apr 17 16:08	21° 3 37'35			2014 Jul 16 10:30	0° 3	
retrograde	2008 May 09 12:11	22° 3 22'06					
opposition	2008 Jul 09 07:39	17° 3 28'18	0°-11'-39	conjunction	2014 Jul 24 20:44	1° 3 52'20	0°23'46
min. Earth dist.	2008 Jul 10 10:59	17° 3 19'30	4.16102 AU	minimum elong	2014 Jul 24 20:42	1° 3 52'19	0°23'46
direct	2008 Sep 08 04:16	12° 3 32'01		max. Earth dist.	2014 Jul 26 03:40	2° 3 09'32	6.28258 AU
	2009 Jan 05 15:41	0° 3		morning rise	2014 Aug 07 10:57	4° 3 53'07	
evening set	2009 Jan 11 11:11	1° 3 21'27		retrograde	2014 Dec 08 20:41	22° 3 37'37	
max. Earth dist.	2009 Jan 23 02:42	4° 3 06'15	6.09056 AU	opposition	2015 Feb 06 18:20	17° 3 38'00	0°57'43
				min. Earth dist.	2015 Feb 06 07:06	17° 3 41'44	4.34620 AU
conjunction	2009 Jan 24 05:44	4° 3 22'14	0°-26'-27	direct	2015 Apr 08 16:56	12° 3 35'26	
minimum elong	2009 Jan 24 05:43	4° 3 22'13	0°26'27		2015 Aug 11 11:11	0° 3	
morning rise	2009 Feb 06 01:21	7° 3 23'52		evening set	2015 Aug 13 13:17	0° 3 27'01	
retrograde	2009 Jun 15 07:50	27° 3 01'03					
opposition	2009 Aug 14 17:53	22° 3 04'09	-1°-4'-48	conjunction	2015 Aug 26 22:02	3° 3 21'04	0°52'24
min. Earth dist.	2009 Aug 15 03:13	22° 3 01'06	4.02783 AU	minimum elong	2015 Aug 26 22:00	3° 3 21'03	0°52'23
direct	2009 Oct 13 04:34	17° 3 09'59		max. Earth dist.	2015 Aug 27 00:08	3° 3 22'12	6.39850 AU
	2010 Jan 18 02:10	0° 3		morning rise	2015 Sep 09 04:25	6° 3 13'48	
evening set	2010 Feb 15 10:49	6° 3 36'06		retrograde	2016 Jan 08 04:40	23° 3 14'17	
				opposition	2016 Mar 08 10:57	18° 3 18'17	1°28'30
conjunction	2010 Feb 28 10:44	9° 3 44'05	0°-56'-1	min. Earth dist.	2016 Mar 08 18:12	18° 3 15'56	4.43535 AU
minimum elong	2010 Feb 28 10:42	9° 3 44'04	0°56'01	direct	2016 May 09 12:14	13° 3 15'19	
max. Earth dist.	2010 Feb 28 13:56	9° 3 46'01	5.98065 AU		2016 Sep 09 11:18	0° 3	
morning rise	2010 Mar 13 13:11	12° 3 53'34		evening set	2016 Sep 13 05:38	0° 3 48'16	
	2010 Jun 06 06:28	0° 3		max. Earth dist.	2016 Sep 25 07:32	3° 3 24'25	6.45387 AU
retrograde	2010 Jul 23 12:03	3° 3 24'07					
	2010 Sep 09 04:50	30° 3		conjunction	2016 Sep 26 07:00	3° 3 37'06	1°05'33
opposition	2010 Sep 21 11:36	28° 3 23'19	-1°-35'-49	minimum elong	2016 Sep 26 06:59	3° 3 37'06	1°05'33
min. Earth dist.	2010 Sep 20 21:19	28° 3 28'05	3.95393 AU	morning rise	2016 Oct 09 05:20	6° 3 24'32	
direct	2010 Nov 18 16:53	23° 3 29'41		retrograde	2017 Feb 06 06:52	23° 3 08'25	
	2011 Jan 22 17:11	0° 3		opposition	2017 Apr 07 21:39	18° 3 15'12	1°34'55
evening set	2011 Mar 24 07:07	13° 3 14'25		min. Earth dist.	2017 Apr 08 21:23	18° 3 07'35	4.45490 AU
				direct	2017 Jun 09 14:02	13° 3 12'58	
conjunction	2011 Apr 06 14:40	16° 3 27'21	-1°-4'-42		2017 Oct 10 13:20	0° 3	
minimum elong	2011 Apr 06 14:41	16° 3 27'21	1°04'43	evening set	2017 Oct 13 22:46	0° 3 43'54	
max. Earth dist.	2011 Apr 08 01:39	16° 3 48'30	5.94919 AU	max. Earth dist.	2017 Oct 24 22:19	3° 3 07'11	6.43536 AU
morning rise	2011 Apr 20 01:29	19° 3 41'57					
	2011 Jun 04 13:56	0° 3		conjunction	2017 Oct 26 18:09	3° 3 31'06	1°00'56
retrograde	2011 Aug 30 09:17	10° 3 21'20		minimum elong	2017 Oct 26 18:11	3° 3 31'07	1°00'55
min. Earth dist.	2011 Oct 27 18:41	5° 3 27'43	3.96975 AU	morning rise	2017 Nov 08 11:12	6° 3 17'14	
opposition	2011 Oct 29 01:42	5° 3 17'10	-1°-28'-50	retrograde	2018 Mar 09 04:45	23° 3 13'22	
direct	2011 Dec 25 22:08	0° 3 21'52		opposition	2018 May 09 00:39	18° 3 21'24	1°16'04
evening set	2012 Apr 29 22:12	19° 3 57'04		min. Earth dist.	2018 May 10 11:53	18° 3 10'10	4.39983 AU
				direct	2018 Jul 10 17:02	13° 3 20'40	
conjunction	2012 May 13 13:23	23° 3 10'41	0°-47'-55		2018 Nov 08 12:38	0° 3	
minimum elong	2012 May 13 13:25	23° 3 10'42	0°47'56	evening set	2018 Nov 13 14:03	1° 3 06'54	
max. Earth dist.	2012 May 15 20:29	23° 3 43'20	6.01014 AU	max. Earth dist.	2018 Nov 24 03:39	3° 3 27'54	6.34749 AU
morning rise	2012 May 27 06:49	26° 3 25'18					
	2012 Jun 11 17:22	0° 3		conjunction	2018 Nov 26 06:33	3° 3 56'19	0°39'30
retrograde	2012 Oct 04 13:18	16° 3 22'53		minimum elong	2018 Nov 26 06:35	3° 3 56'20	0°39'30
min. Earth dist.	2012 Dec 01 14:50	11° 3 29'47	4.06853 AU	morning rise	2018 Dec 08 21:21	6° 3 45'09	
opposition	2012 Dec 03 01:45	11° 3 17'52	0°-47'-35	retrograde	2019 Apr 10 17:01	24° 3 21'01	
direct	2013 Jan 30 11:37	6° 3 19'38		opposition	2019 Jun 10 15:28	19° 3 28'46	0°34'59
evening set	2013 Jun 05 22:01	25° 3 22'51		min. Earth dist.	2019 Jun 12 03:03	19° 3 17'25	4.28391 AU
				direct	2019 Aug 11 13:37	14° 3 30'18	
conjunction	2013 Jun 19 16:11	28° 3 32'02	0°-13'-41		2019 Dec 02 18:20	0° 3	
minimum elong	2013 Jun 19 16:12	28° 3 32'02	0°13'42	evening set	2019 Dec 15 02:09	2° 3 46'57	

max. Earth dist.	2019 Dec 25 21:56	5°♁16'03	6.21293 AU	behind sun end	2025 Jun 24 22:35	3°♁26'00	
conjunction	2019 Dec 27 18:25	5°♁41'41	0°05'46	max. Earth dist.	2025 Jun 26 16:02	3°♁49'40	6.15961 AU
minimum elong	2019 Dec 27 18:26	5°♁41'41	0°05'46	morning rise	2025 Jul 08 09:47	6°♁29'53	
behind sun begin	2019 Dec 27 10:47	5°♁37'18		asc. node	2025 Sep 19 20:45	20°♁57'52	
behind sun end	2019 Dec 28 02:04	5°♁46'04		retrograde	2025 Nov 11 16:41	25°♁09'09	
morning rise	2020 Jan 09 10:31	8°♁36'36		min. Earth dist.	2026 Jan 09 08:05	20°♁14'47	4.23168 AU
desc. node	2020 Feb 26 02:53	18°♁49'08		opposition	2026 Jan 10 08:42	20°♁06'28	0°15'41
retrograde	2020 May 14 14:32	27°♁14'25		direct	2026 Mar 11 03:30	15°♁05'14	
opposition	2020 Jul 14 07:58	22°♁20'18	0°-19'-39	evening set	2026 Jun 30 05:52	0°♁	
min. Earth dist.	2020 Jul 15 09:57	22°♁11'55	4.13933 AU	conjunction	2026 Jul 29 12:18	6°♁24'39	0°28'25
direct	2020 Sep 13 00:41	17°♁24'24		minimum elong	2026 Jul 29 12:16	6°♁24'38	0°28'25
evening set	2020 Dec 19 13:07	0°♁		max. Earth dist.	2026 Jul 30 15:07	6°♁39'30	6.30122 AU
max. Earth dist.	2021 Jan 16 06:30	6°♁19'52		morning rise	2026 Aug 12 01:36	9°♁24'16	
conjunction	2021 Jan 29 01:39	9°♁21'45	0°-31'-26	retrograde	2026 Dec 13 00:56	27°♁01'29	
minimum elong	2021 Jan 29 01:38	9°♁21'44	0°31'27	opposition	2027 Feb 11 00:29	22°♁02'24	1°03'15
morning rise	2021 Feb 10 22:08	12°♁24'36		min. Earth dist.	2027 Feb 10 15:32	22°♁05'22	4.36112 AU
retrograde	2021 May 13 22:36	0°♁		direct	2027 Apr 13 02:11	16°♁59'44	
opposition	2021 Jun 20 15:05	2°♁11'04		evening set	2027 Jul 26 04:49	0°♁	
min. Earth dist.	2021 Jul 28 12:42	30°♁		conjunction	2027 Aug 17 23:43	4°♁48'22	
direct	2021 Aug 20 00:28	27°♁13'41	-1°-11'-1	minimum elong	2027 Aug 31 07:29	7°♁41'36	0°55'12
evening set	2021 Aug 20 05:26	27°♁12'03	4.01320 AU	max. Earth dist.	2027 Aug 31 07:27	7°♁41'35	0°55'12
conjunction	2021 Oct 18 05:30	22°♁19'46		morning rise	2027 Aug 31 05:50	7°♁40'43	6.40865 AU
minimum elong	2021 Dec 29 04:09	0°♁		retrograde	2027 Sep 13 12:41	10°♁33'29	
max. Earth dist.	2022 Feb 20 13:21	11°♁49'41		opposition	2028 Jan 12 08:53	27°♁30'44	
morning rise	2022 Mar 05 14:06	14°♁58'27	0°-58'-43	min. Earth dist.	2028 Mar 12 15:37	22°♁35'16	1°30'53
retrograde	2022 Mar 05 14:05	14°♁58'26	0°58'44	direct	2028 Mar 13 01:45	22°♁31'58	4.44032 AU
opposition	2022 Mar 05 22:11	15°♁03'20	5.97207 AU	evening set	2028 May 13 20:00	17°♁32'25	
min. Earth dist.	2022 Mar 18 17:37	18°♁08'47		max. Earth dist.	2028 Aug 24 05:08	0°♁	
morning rise	2022 May 10 23:22	0°♁		evening set	2028 Sep 17 12:29	5°♁04'55	
retrograde	2022 Jul 28 20:37	8°♁43'04		max. Earth dist.	2028 Sep 29 08:51	7°♁38'17	6.45317 AU
opposition	2022 Sep 26 19:33	3°♁41'39	-1°-37'-14	conjunction	2028 Sep 30 12:51	7°♁53'25	1°05'57
min. Earth dist.	2022 Sep 26 02:14	3°♁47'28	3.95256 AU	minimum elong	2028 Sep 30 12:50	7°♁53'25	1°05'57
direct	2022 Oct 28 05:10	30°♁		morning rise	2028 Oct 13 10:28	10°♁40'35	
evening set	2022 Nov 23 23:02	28°♁47'54		retrograde	2028 Oct 13 10:28	10°♁40'35	
conjunction	2022 Dec 20 14:32	0°♁		opposition	2029 Feb 10 13:07	27°♁25'26	
minimum elong	2023 Mar 29 13:20	18°♁32'02		min. Earth dist.	2029 Apr 12 04:05	22°♁32'29	1°33'45
max. Earth dist.	2023 Apr 11 22:07	21°♁45'14	-1°-3'-48	direct	2029 Apr 13 05:59	22°♁24'10	4.44891 AU
morning rise	2023 Apr 11 22:08	21°♁45'14	1°03'48	evening set	2029 Jun 13 21:06	17°♁30'25	
retrograde	2023 Apr 13 14:33	22°♁09'37	5.95513 AU	max. Earth dist.	2029 Sep 24 06:23	0°♁	
opposition	2023 Apr 25 09:50	24°♁59'59		conjunction	2029 Oct 18 04:56	5°♁03'26	
min. Earth dist.	2023 May 16 17:20	0°♁		max. Earth dist.	2029 Oct 29 03:45	7°♁26'41	6.42459 AU
direct	2023 Sep 04 14:11	15°♁34'55		conjunction	2029 Oct 30 23:57	7°♁50'52	0°58'51
opposition	2023 Nov 01 21:00	10°♁41'23	3.98237 AU	minimum elong	2029 Oct 30 23:58	7°♁50'52	0°58'51
direct	2023 Nov 03 05:02	10°♁30'30	-1°-24'-43	morning rise	2029 Nov 12 16:21	10°♁37'14	
evening set	2023 Dec 31 02:40	5°♁34'52		retrograde	2030 Mar 13 14:33	27°♁38'00	
conjunction	2024 May 05 03:03	25°♁05'20		opposition	2030 May 13 11:33	22°♁46'08	1°11'29
minimum elong	2024 May 18 18:45	28°♁18'23	0°-43'-52	min. Earth dist.	2030 May 14 22:39	22°♁34'57	4.38506 AU
max. Earth dist.	2024 May 18 18:48	28°♁18'25	0°43'53	direct	2030 Jul 15 01:26	17°♁45'45	
morning rise	2024 May 21 01:40	28°♁50'46	6.02787 AU	evening set	2030 Oct 22 23:14	0°♁	
retrograde	2024 May 25 23:14	0°♁		max. Earth dist.	2030 Nov 17 22:32	5°♁35'57	
opposition	2024 Jun 01 12:52	1°♁32'25		conjunction	2030 Nov 28 11:39	7°♁57'21	6.32987 AU
min. Earth dist.	2024 Oct 09 07:04	21°♁20'16		minimum elong	2030 Nov 30 14:43	8°♁25'59	0°35'19
direct	2024 Dec 06 10:00	16°♁27'17	4.08936 AU	morning rise	2030 Nov 30 14:44	8°♁26'00	0°35'19
evening set	2024 Dec 07 20:58	16°♁15'22	0°-40'-10	retrograde	2030 Dec 13 05:38	11°♁15'34	
conjunction	2025 Feb 04 09:40	11°♁16'42		opposition	2031 Apr 15 12:04	28°♁59'10	
minimum elong	2025 Jun 09 21:02	0°♁		min. Earth dist.	2031 Jun 15 09:19	24°♁06'44	0°27'47
max. Earth dist.	2025 Jun 10 21:09	0°♁13'41		direct	2031 Jun 16 20:34	23°♁55'28	4.26444 AU
morning rise	2025 Jun 24 15:17	3°♁21'50	0°-8'-24	evening set	2031 Aug 16 04:58	19°♁08'36	
retrograde	2025 Jun 24 15:18	3°♁21'51	0°08'25	max. Earth dist.	2031 Nov 15 10:29	0°♁	
behind sun begin	2025 Jun 24 08:00	3°♁17'42		conjunction	2031 Dec 19 15:05	7°♁30'13	
				minimum elong	2031 Dec 30 13:54	10°♁01'42	6.19333 AU

conjunction	2032 Jan 01 07:41	10°☾25'52	0°00'26	morning rise	2037 Jul 13 07:51	11°☾16'38	
minimum elong	2032 Jan 01 07:40	10°☾25'52	0°00'26	asc. node	2037 Jul 31 08:11	15°☾16'10	
behind sun begin	2031 Dec 31 23:42	10°☾21'17		retrograde	2037 Nov 16 02:16	29°☾47'02	
behind sun end	2032 Jan 01 15:39	10°☾30'27		opposition	2038 Jan 14 19:57	24°☾44'48	0°23'07
desc. node	2032 Jan 05 16:30	11°☾26'31		min. Earth dist.	2038 Jan 13 20:31	24°☾52'41	4.24936 AU
morning rise	2032 Jan 14 00:08	13°☾21'46		direct	2038 Mar 15 17:51	19°☾43'17	
	2032 Apr 12 00:58	0°♊			2038 Jun 12 15:25	0°♊	
retrograde	2032 May 19 14:47	2°♊08'42		evening set	2038 Jul 20 14:13	7°♊58'02	
	2032 Jun 26 12:57	30°♊					
opposition	2032 Jul 19 08:33	27°♊14'10	0°-27'-32	conjunction	2038 Aug 03 04:07	10°♊57'35	0°32'56
min. Earth dist.	2032 Jul 20 07:13	27°♊06'52	4.12118 AU	minimum elong	2038 Aug 03 04:05	10°♊57'34	0°32'55
direct	2032 Sep 17 19:52	22°♊18'37		max. Earth dist.	2038 Aug 04 02:19	11°♊09'51	6.31668 AU
	2032 Nov 30 03:31	0°♋		morning rise	2038 Aug 16 16:29	13°♊56'08	
evening set	2033 Jan 21 01:53	11°♋18'43			2038 Nov 16 21:20	0°♋	
				retrograde	2038 Dec 17 08:39	1°♋27'11	
conjunction	2033 Feb 02 21:30	14°♋21'29	0°-36'-10		2039 Jan 16 14:55	30°♋	
minimum elong	2033 Feb 02 21:28	14°♋21'27	0°36'11	opposition	2039 Feb 15 08:02	26°♋28'39	1°08'28
max. Earth dist.	2033 Feb 02 02:00	14°♋09'52	6.05600 AU	min. Earth dist.	2039 Feb 15 02:27	26°♋30'30	4.37328 AU
morning rise	2033 Feb 15 18:47	17°♋25'19		direct	2039 Apr 17 14:51	21°♋25'54	
	2033 Apr 14 22:44	0°♌			2039 Jul 08 00:24	0°♌	
retrograde	2033 Jun 25 21:52	7°♌19'22		evening set	2039 Aug 22 11:14	9°♌12'10	
opposition	2033 Aug 25 05:40	2°♌21'22	-1°-16'-38				
min. Earth dist.	2033 Aug 25 07:41	2°♌20'42	4.00224 AU	conjunction	2039 Sep 04 18:03	12°♌04'42	0°57'44
	2033 Sep 12 22:28	30°♌		minimum elong	2039 Sep 04 18:01	12°♌04'41	0°57'44
direct	2033 Oct 23 07:19	27°♌27'31		max. Earth dist.	2039 Sep 04 12:50	12°♌01'52	6.41659 AU
	2033 Dec 01 22:34	0°♍		morning rise	2039 Sep 17 22:09	14°♌55'49	
evening set	2034 Feb 25 14:26	16°♍59'59			2039 Dec 12 22:04	0°♍	
				retrograde	2040 Jan 16 13:17	1°♍50'27	
conjunction	2034 Mar 10 16:17	20°♍09'27	-1°00'-56		2040 Feb 20 05:36	30°♍	
minimum elong	2034 Mar 10 16:16	20°♍09'26	1°00'58	opposition	2040 Mar 16 21:58	26°♍55'25	1°32'49
max. Earth dist.	2034 Mar 11 06:01	20°♍17'46	5.96639 AU	min. Earth dist.	2040 Mar 17 09:42	26°♍51'36	4.44399 AU
morning rise	2034 Mar 23 20:46	23°♍20'30		direct	2040 May 18 03:57	21°♍52'39	
	2034 Apr 21 09:39	0°♎			2040 Aug 05 22:02	0°♎	
retrograde	2034 Aug 03 03:41	13°♎57'03		evening set	2040 Sep 21 20:51	9°♎24'52	
min. Earth dist.	2034 Oct 01 05:30	9°♎01'41	3.95305 AU				
opposition	2034 Oct 02 00:58	8°♎55'09	-1°-37'-51	conjunction	2040 Oct 04 20:23	12°♎13'04	1°06'01
direct	2034 Nov 29 02:24	4°♎01'15		minimum elong	2040 Oct 04 20:23	12°♎13'04	1°06'01
evening set	2035 Apr 03 17:32	23°♎44'22		max. Earth dist.	2040 Oct 03 14:49	11°♎57'03	6.45253 AU
				morning rise	2040 Oct 17 17:03	14°♎59'55	
conjunction	2035 Apr 17 03:12	26°♎57'43	-1°-2'-25		2041 Jan 11 19:32	0°♏	
minimum elong	2035 Apr 17 03:14	26°♎57'44	1°02'25	retrograde	2041 Feb 14 20:21	1°♏45'34	
max. Earth dist.	2035 Apr 18 21:18	27°♎23'03	5.96142 AU		2041 Mar 21 00:01	30°♏	
	2035 Apr 29 18:56	0°♐		opposition	2041 Apr 16 12:20	26°♏52'56	1°32'05
morning rise	2035 Apr 30 16:09	0°♐12'39		min. Earth dist.	2041 Apr 17 15:39	26°♏44'11	4.44426 AU
retrograde	2035 Sep 09 14:14	20°♐43'06		direct	2041 Jun 18 06:14	21°♏51'11	
min. Earth dist.	2035 Nov 06 20:01	15°♐49'53	3.99381 AU		2041 Sep 06 00:11	0°♐	
opposition	2035 Nov 08 05:42	15°♐38'25	-1°-20'-3	evening set	2041 Oct 22 12:13	9°♐25'27	
direct	2036 Jan 05 03:58	10°♐42'21		max. Earth dist.	2041 Nov 02 08:10	11°♐47'32	6.41639 AU
	2036 May 09 14:51	0°♑					
evening set	2036 May 10 06:06	0°♑08'54		conjunction	2041 Nov 04 06:33	12°♑12'58	0°56'27
				minimum elong	2041 Nov 04 06:34	12°♑12'59	0°56'27
conjunction	2036 May 23 22:33	3°♑21'33	0°-39'-34	morning rise	2041 Nov 16 22:42	14°♑59'32	
minimum elong	2036 May 23 22:35	3°♑21'34	0°39'34		2042 Feb 08 23:52	0°♒	
max. Earth dist.	2036 May 26 05:37	3°♑53'54	6.04347 AU	retrograde	2042 Mar 18 02:46	2°♒04'13	
morning rise	2036 Jun 06 16:58	6°♑34'59			2042 Apr 24 12:41	30°♑	
retrograde	2036 Oct 14 01:37	26°♑14'08		opposition	2042 May 17 23:54	27°♑12'21	1°06'30
min. Earth dist.	2036 Dec 11 05:38	21°♑20'39	4.10717 AU	min. Earth dist.	2042 May 19 11:16	27°♑01'05	4.37386 AU
opposition	2036 Dec 12 14:42	21°♑09'23	0°-32'-36	direct	2042 Jul 19 12:48	22°♑12'17	
direct	2037 Feb 09 07:41	16°♑10'18			2042 Oct 04 09:58	0°♒	
	2037 May 24 02:12	0°♓		evening set	2042 Nov 22 06:55	10°♒05'00	
evening set	2037 Jun 15 19:40	5°♓02'18		max. Earth dist.	2042 Dec 02 22:10	12°♒27'59	6.31674 AU
conjunction	2037 Jun 29 13:43	8°♓09'35	0°-3'-5	conjunction	2042 Dec 04 23:05	12°♒55'30	0°30'59
minimum elong	2037 Jun 29 13:43	8°♓09'36	0°03'06	minimum elong	2042 Dec 04 23:06	12°♒55'31	0°30'59
behind sun begin	2037 Jun 29 05:23	8°♓04'53		morning rise	2042 Dec 17 13:48	15°♒45'35	
behind sun end	2037 Jun 29 22:03	8°♓14'18			2043 Mar 01 17:05	0°♓	
max. Earth dist.	2037 Jul 01 12:35	8°♓36'13	6.17818 AU	retrograde	2043 Apr 20 04:02	3°♓35'24	

	2043 Jun 09 21:42	30°♁			2049 May 05 18:12	0°♄	
opposition	2043 Jun 20 02:36	28°♁42'48	0°20'32	asc. node	2049 Jun 12 04:01	7°♄51'59	
min. Earth dist.	2043 Jun 21 12:10	28°♁32'05	4.25019 AU	evening set	2049 Jun 20 15:59	9°♄46'11	
direct	2043 Aug 20 18:34	23°♁45'06					
	2043 Oct 26 11:29	0°♃		conjunction	2049 Jul 04 09:45	12°♄52'43	0°02'11
desc. node	2043 Nov 16 20:07	4°♃00'19		minimum elong	2049 Jul 04 09:45	12°♄52'43	0°02'12
evening set	2043 Dec 24 03:03	12°♃09'56		behind sun begin	2049 Jul 04 01:23	12°♄48'00	
max. Earth dist.	2044 Jan 04 03:41	14°♃43'01	6.17914 AU	behind sun end	2049 Jul 04 18:07	12°♄57'26	
				max. Earth dist.	2049 Jul 06 04:54	13°♄17'10	6.19317 AU
conjunction	2044 Jan 05 19:37	15°♃06'12	0°-4'-48	morning rise	2049 Jul 18 03:33	15°♄58'56	
minimum elong	2044 Jan 05 19:38	15°♃06'12	0°04'49		2049 Sep 27 10:28	0°♂	
behind sun begin	2044 Jan 05 11:50	15°♃01'42		retrograde	2049 Nov 20 12:40	4°♂22'03	
behind sun end	2044 Jan 06 03:26	15°♃10'42			2050 Jan 14 07:24	30°♄	
morning rise	2044 Jan 18 12:35	18°♃02'54		min. Earth dist.	2050 Jan 18 09:15	29°♄27'12	4.26380 AU
	2044 Mar 15 04:26	0°♁		opposition	2050 Jan 19 05:56	29°♄20'15	0°30'12
retrograde	2044 May 24 14:02	6°♁57'12		direct	2050 Mar 20 09:06	24°♄18'29	
opposition	2044 Jul 24 06:54	2°♁02'16	0°-35'00		2050 May 22 21:47	0°♂	
min. Earth dist.	2044 Jul 25 03:24	1°♁55'38	4.10799 AU	evening set	2050 Jul 25 05:39	12°♂30'06	
	2044 Aug 09 12:42	30°♃					
direct	2044 Sep 22 14:52	27°♃06'58		conjunction	2050 Aug 07 18:54	15°♂28'49	0°37'08
	2044 Nov 04 17:32	0°♁		minimum elong	2050 Aug 07 18:52	15°♂28'48	0°37'07
evening set	2045 Jan 25 18:22	16°♁10'09		max. Earth dist.	2050 Aug 08 15:11	15°♂39'59	6.32958 AU
				morning rise	2050 Aug 21 06:10	18°♂26'24	
conjunction	2045 Feb 07 14:43	19°♁13'40	0°-40'-28		2050 Oct 18 12:45	0°♄	
minimum elong	2045 Feb 07 14:41	19°♁13'39	0°40'29	retrograde	2050 Dec 21 13:16	5°♄51'59	
max. Earth dist.	2045 Feb 06 23:50	19°♁04'48	6.04506 AU	opposition	2051 Feb 19 14:39	0°♄53'55	1°13'10
morning rise	2045 Feb 20 12:38	22°♁18'18		min. Earth dist.	2051 Feb 19 10:11	0°♄55'23	4.38393 AU
	2045 Mar 26 05:07	0°♂			2051 Feb 26 11:01	30°♂	
retrograde	2045 Jul 01 00:36	12°♂18'21		direct	2051 Apr 22 00:08	25°♂51'05	
opposition	2045 Aug 30 07:02	7°♂19'53	-1°-21'-26		2051 Jun 15 11:25	0°♄	
min. Earth dist.	2045 Aug 30 06:43	7°♂19'59	3.99480 AU	evening set	2051 Aug 26 21:59	13°♄35'10	
direct	2045 Oct 28 04:35	2°♂26'11					
evening set	2046 Mar 02 11:54	22°♂00'17		conjunction	2051 Sep 09 03:40	16°♄26'58	0°59'53
				minimum elong	2051 Sep 09 03:39	16°♄26'57	0°59'53
conjunction	2046 Mar 15 14:30	25°♂10'18	-1°-2'-36	max. Earth dist.	2051 Sep 08 18:45	16°♄22'07	6.42412 AU
minimum elong	2046 Mar 15 14:29	25°♂10'17	1°02'38	morning rise	2051 Sep 22 06:45	19°♄17'22	
max. Earth dist.	2046 Mar 16 06:18	25°♂19'52	5.96290 AU		2051 Nov 15 14:42	0°♄	
morning rise	2046 Mar 28 20:11	28°♂22'00		retrograde	2052 Jan 20 18:58	6°♄09'18	
	2046 Apr 04 16:10	0°♂		opposition	2052 Mar 21 03:58	1°♄14'36	1°34'11
retrograde	2046 Aug 08 04:13	19°♂00'08		min. Earth dist.	2052 Mar 21 18:28	1°♄09'54	4.44793 AU
min. Earth dist.	2046 Oct 06 03:21	14°♂05'15	3.95412 AU		2052 Mar 30 20:29	30°♄	
opposition	2046 Oct 07 01:28	13°♂57'48	-1°-37'-42	direct	2052 May 22 13:36	26°♄11'52	
direct	2046 Dec 04 01:07	9°♂03'43			2052 Jul 14 00:21	0°♄	
evening set	2047 Apr 08 17:45	28°♂46'14		evening set	2052 Sep 26 03:51	13°♄43'11	
	2047 Apr 13 21:03	0°♂		max. Earth dist.	2052 Oct 07 18:14	16°♄13'32	6.45220 AU
conjunction	2047 Apr 22 04:37	1°♂59'50	-1°00'-37	conjunction	2052 Oct 09 02:33	16°♄31'02	1°05'42
minimum elong	2047 Apr 22 04:39	1°♂59'52	1°00'39	minimum elong	2052 Oct 09 02:33	16°♄31'02	1°05'42
max. Earth dist.	2047 Apr 24 01:16	2°♂26'40	5.96701 AU	morning rise	2052 Oct 21 22:25	19°♄17'35	
morning rise	2047 May 05 18:23	5°♂14'56			2052 Dec 15 06:51	0°♄	
retrograde	2047 Sep 14 12:36	25°♂41'30		retrograde	2053 Feb 19 01:55	6°♄03'50	
min. Earth dist.	2047 Nov 11 17:09	20°♂47'58	4.00322 AU	opposition	2053 Apr 20 19:40	1°♄11'16	1°29'54
opposition	2047 Nov 13 02:11	20°♂36'43	-1°-15'-2	min. Earth dist.	2053 Apr 21 23:51	1°♄02'15	4.43959 AU
direct	2048 Jan 10 02:18	15°♂40'16			2053 Apr 30 04:32	30°♄	
	2048 Apr 23 01:42	0°♂		direct	2053 Jun 22 13:33	26°♄09'37	
evening set	2048 May 15 05:47	5°♂04'10			2053 Aug 14 07:28	0°♄	
				evening set	2053 Oct 26 18:06	13°♄44'56	
conjunction	2048 May 28 22:53	8°♂16'33	0°-35'-9	max. Earth dist.	2053 Nov 06 13:45	16°♄07'10	6.40749 AU
minimum elong	2048 May 28 22:55	8°♂16'35	0°35'10				
max. Earth dist.	2048 May 31 06:14	8°♂48'57	6.05591 AU	conjunction	2053 Nov 08 11:59	16°♄32'35	0°53'45
morning rise	2048 Jun 11 17:46	11°♂29'37		minimum elong	2053 Nov 08 12:01	16°♄32'36	0°53'45
	2048 Sep 23 12:56	0°♄		morning rise	2053 Nov 21 03:35	19°♄19'19	
retrograde	2048 Oct 18 15:57	1°♄01'31			2054 Jan 13 07:58	0°♁	
	2048 Nov 12 14:06	30°♂		retrograde	2054 Mar 22 12:49	6°♁28'04	
min. Earth dist.	2048 Dec 15 20:35	26°♂08'15	4.12144 AU	opposition	2054 May 22 11:02	1°♁36'10	1°01'08
opposition	2048 Dec 17 05:32	25°♂57'02	0°-25'-8	min. Earth dist.	2054 May 23 23:09	1°♁24'40	4.36091 AU
direct	2049 Feb 14 00:24	20°♂57'37			2054 Jun 04 06:27	30°♄	

direct	2054 Jul 23 22:38	26°♄36'21		conjunction	2060 Jun 03 03:46	13°♄21'13	0°-30'-18
	2054 Sep 10 18:29	0°♄		minimum elong	2060 Jun 03 03:48	13°♄21'14	0°30'19
evening set	2054 Nov 26 14:35	14°♄32'12		max. Earth dist.	2060 Jun 05 09:58	13°♄52'49	6.07254 AU
max. Earth dist.	2054 Dec 07 04:33	16°♄55'05	6.30055 AU	morning rise	2060 Jun 16 22:57	16°♄33'36	
					2060 Aug 20 18:11	0°♄	
conjunction	2054 Dec 09 06:29	17°♄23'17	0°26'27	retrograde	2060 Oct 23 09:31	5°♄56'15	
minimum elong	2054 Dec 09 06:31	17°♄23'17	0°26'28	opposition	2060 Dec 21 23:26	0°♄52'01	0°-17'-13
morning rise	2054 Dec 21 21:29	20°♄14'05		min. Earth dist.	2060 Dec 20 15:42	1°♄02'48	4.14131 AU
	2055 Feb 06 08:34	0°♄			2060 Dec 28 09:14	30°♄	
retrograde	2055 Apr 24 21:44	8°♄11'24		direct	2061 Feb 18 23:13	25°♄52'14	
opposition	2055 Jun 24 19:50	3°♄18'29	0°13'04		2061 Apr 12 05:03	0°♄	
min. Earth dist.	2055 Jun 26 04:22	3°♄08'05	4.23157 AU	asc. node	2061 Apr 22 04:59	1°♄33'14	
	2055 Jul 23 04:37	30°♄		evening set	2061 Jun 25 14:51	14°♄35'06	
direct	2055 Aug 25 08:17	28°♄21'02					
	2055 Sep 27 06:01	0°♄		conjunction	2061 Jul 09 08:24	17°♄40'33	0°07'28
desc. node	2055 Sep 27 07:37	0°♄00'24		minimum elong	2061 Jul 09 08:23	17°♄40'33	0°07'29
evening set	2055 Dec 28 15:12	16°♄50'45		behind sun begin	2061 Jul 09 00:49	17°♄36'18	
max. Earth dist.	2056 Jan 08 19:44	19°♄26'41	6.15974 AU	behind sun end	2061 Jul 09 15:57	17°♄44'47	
				max. Earth dist.	2061 Jul 11 02:56	18°♄04'32	6.21497 AU
conjunction	2056 Jan 10 08:17	19°♄47'59	0°-10'00	morning rise	2061 Jul 23 01:21	20°♄45'28	
minimum elong	2056 Jan 10 08:16	19°♄47'58	0°10'01		2061 Sep 04 21:39	0°♄	
behind sun begin	2056 Jan 10 01:46	19°♄44'12		retrograde	2061 Nov 24 22:05	8°♄58'41	
behind sun end	2056 Jan 10 14:47	19°♄51'45		opposition	2062 Jan 23 16:50	3°♄57'24	0°37'11
morning rise	2056 Jan 23 01:36	22°♄45'40		min. Earth dist.	2062 Jan 22 21:10	4°♄03'59	4.28558 AU
	2056 Feb 24 10:58	0°♄			2062 Feb 26 23:36	30°♄	
retrograde	2056 May 29 15:43	11°♄49'21		direct	2062 Mar 25 00:10	28°♄55'28	
opposition	2056 Jul 29 06:46	6°♄54'01	0°-42'-27		2062 Apr 20 08:55	0°♄	
min. Earth dist.	2056 Jul 30 01:23	6°♄47'59	4.08938 AU	evening set	2062 Jul 29 21:02	17°♄01'20	
direct	2056 Sep 27 09:47	1°♄59'00					
evening set	2057 Jan 30 13:42	21°♄07'26		conjunction	2062 Aug 12 09:05	19°♄58'46	0°41'07
				minimum elong	2062 Aug 12 09:03	19°♄58'45	0°41'07
conjunction	2057 Feb 12 10:36	24°♄11'56	0°-44'-38	max. Earth dist.	2062 Aug 13 00:23	20°♄07'10	6.34957 AU
minimum elong	2057 Feb 12 10:33	24°♄11'54	0°44'38	morning rise	2062 Aug 25 19:20	22°♄55'03	
max. Earth dist.	2057 Feb 11 22:05	24°♄04'26	6.02881 AU		2062 Sep 28 16:15	0°♄	
morning rise	2057 Feb 25 09:36	27°♄17'43		retrograde	2062 Dec 25 18:28	10°♄13'10	
	2057 Mar 08 20:50	0°♄		opposition	2063 Feb 23 20:34	5°♄15'35	1°17'23
retrograde	2057 Jul 06 05:35	17°♄25'41		min. Earth dist.	2063 Feb 23 19:23	5°♄15'58	4.40071 AU
opposition	2057 Sep 04 11:28	12°♄26'39	-1°-25'-52	direct	2063 Apr 26 11:20	0°♄12'40	
min. Earth dist.	2057 Sep 04 07:31	12°♄27'57	3.98269 AU	evening set	2063 Aug 31 06:16	17°♄52'37	
direct	2057 Nov 02 04:26	7°♄32'59					
evening set	2058 Mar 07 13:50	27°♄10'35		conjunction	2063 Sep 13 11:00	20°♄43'30	1°01'41
	2058 Mar 19 06:17	0°♄		minimum elong	2063 Sep 13 10:58	20°♄43'29	1°01'40
				max. Earth dist.	2063 Sep 12 23:22	20°♄37'12	6.43630 AU
conjunction	2058 Mar 20 17:42	0°♄21'28	-1°-3'-53	morning rise	2063 Sep 26 12:47	23°♄32'56	
minimum elong	2058 Mar 20 17:42	0°♄21'27	1°03'53		2063 Oct 27 15:32	0°♄	
max. Earth dist.	2058 Mar 21 14:58	0°♄34'20	5.95615 AU	retrograde	2064 Jan 24 19:37	10°♄21'10	
morning rise	2058 Apr 03 00:25	3°♄33'58		opposition	2064 Mar 25 07:20	5°♄26'50	1°34'59
retrograde	2058 Aug 13 12:04	24°♄14'31		min. Earth dist.	2064 Mar 25 23:25	5°♄21'38	4.45484 AU
min. Earth dist.	2058 Oct 11 07:10	19°♄19'40	3.95360 AU	direct	2064 May 26 18:26	0°♄24'12	
opposition	2058 Oct 12 06:37	19°♄11'46	-1°-36'-47	evening set	2064 Sep 30 07:50	17°♄53'59	
direct	2058 Dec 09 05:34	14°♄17'28		max. Earth dist.	2064 Oct 11 17:57	20°♄22'07	6.45317 AU
	2059 Mar 27 23:45	0°♄					
evening set	2059 Apr 13 23:19	3°♄59'47		conjunction	2064 Oct 13 05:36	20°♄41'27	1°05'02
				minimum elong	2064 Oct 13 05:36	20°♄41'27	1°05'03
conjunction	2059 Apr 27 11:16	7°♄13'40	0°-58'-17	morning rise	2064 Oct 26 00:42	23°♄27'39	
minimum elong	2059 Apr 27 11:18	7°♄13'41	0°58'17		2064 Nov 26 11:58	0°♄	
max. Earth dist.	2059 Apr 29 11:00	7°♄42'15	5.97277 AU	retrograde	2065 Feb 23 06:13	10°♄14'34	
morning rise	2059 May 11 02:09	10°♄28'57		opposition	2065 Apr 25 00:15	5°♄22'15	1°27'17
	2059 Aug 27 19:00	0°♄		min. Earth dist.	2065 Apr 26 07:23	5°♄12'18	4.43439 AU
retrograde	2059 Sep 19 13:31	0°♄50'48		direct	2065 Jun 26 19:29	0°♄20'45	
	2059 Oct 12 03:33	30°♄		evening set	2065 Oct 30 20:52	17°♄57'36	
min. Earth dist.	2059 Nov 16 16:12	25°♄57'47	4.01486 AU	max. Earth dist.	2065 Nov 10 13:08	20°♄18'24	6.39626 AU
opposition	2059 Nov 18 03:00	25°♄45'56	-1°-9'-12				
direct	2060 Jan 15 03:09	20°♄49'11		conjunction	2065 Nov 12 14:20	20°♄45'31	0°50'50
	2060 Apr 04 01:51	0°♄		minimum elong	2065 Nov 12 14:22	20°♄45'32	0°50'49
evening set	2060 May 20 10:17	10°♄09'23		morning rise	2065 Nov 25 05:45	23°♄32'37	
					2065 Dec 25 16:53	0°♄	

retrograde	2066 Mar 26 21:27	10°♌46'44		conjunction	2072 Jun 08 09:54	18°♊28'44	0°-25'-9
opposition	2066 May 26 20:09	5°♌54'46	0°55'34	minimum elong	2072 Jun 08 09:56	18°♊28'45	0°25'10
min. Earth dist.	2066 May 28 08:31	5°♌43'11	4.34418 AU	max. Earth dist.	2072 Jun 10 17:21	19°♊00'53	6.09260 AU
direct	2066 Jul 28 04:46	0°♌55'10		morning rise	2072 Jun 22 04:59	21°♊40'09	
evening set	2066 Nov 30 20:15	18°♌55'45			2072 Jul 30 03:31	0°♋	
max. Earth dist.	2066 Dec 11 11:38	21°♌20'03	6.27963 AU	retrograde	2072 Oct 28 03:33	10°♋52'05	
				min. Earth dist.	2072 Dec 25 10:49	5°♋58'34	4.16376 AU
conjunction	2066 Dec 13 12:18	21°♌47'40	0°21'52	opposition	2072 Dec 26 17:40	5°♋48'06	0°-9'-8
minimum elong	2066 Dec 13 12:19	21°♌47'41	0°21'52	direct	2073 Feb 23 21:44	0°♋47'55	
morning rise	2066 Dec 26 03:19	24°♌39'23		asc. node	2073 Mar 01 07:00	0°♋50'48	
	2067 Jan 19 09:26	0°♌		evening set	2073 Jun 30 13:46	19°♋24'15	
retrograde	2067 Apr 29 15:59	12°♌46'11					
opposition	2067 Jun 29 12:22	7°♌53'07	0°05'37	conjunction	2073 Jul 14 06:34	22°♋28'26	0°12'45
min. Earth dist.	2067 Jun 30 20:45	7°♌42'45	4.20771 AU	minimum elong	2073 Jul 14 06:33	22°♋28'25	0°12'44
desc. node	2067 Aug 08 17:37	3°♌37'29		behind sun begin	2073 Jul 14 01:29	22°♋25'36	
direct	2067 Aug 29 20:31	2°♌56'00		behind sun end	2073 Jul 14 11:37	22°♋31'15	
evening set	2068 Jan 02 03:45	21°♌32'45		max. Earth dist.	2073 Jul 15 20:46	22°♋49'51	6.23763 AU
max. Earth dist.	2068 Jan 13 09:20	24°♌10'13	6.13492 AU	morning rise	2073 Jul 27 22:54	25°♋32'01	
					2073 Aug 17 10:17	0°♌	
conjunction	2068 Jan 14 21:08	24°♌31'12	0°-15'-6	retrograde	2073 Nov 29 07:52	13°♌35'27	
minimum elong	2068 Jan 14 21:07	24°♌31'11	0°15'07	min. Earth dist.	2074 Jan 27 10:53	8°♌40'18	4.30653 AU
behind sun begin	2068 Jan 14 18:03	24°♌29'24		opposition	2074 Jan 28 03:53	8°♌34'36	0°43'59
behind sun end	2068 Jan 15 00:11	24°♌32'58		direct	2074 Mar 29 16:20	3°♌32'23	
morning rise	2068 Jan 27 15:18	27°♌30'16		evening set	2074 Aug 03 12:24	21°♌33'01	
	2068 Feb 07 10:26	0°♌					
retrograde	2068 Jun 03 17:39	16°♌45'36		conjunction	2074 Aug 16 23:35	24°♌29'19	0°44'56
opposition	2068 Aug 03 07:43	11°♌49'47	0°-49'-38	minimum elong	2074 Aug 16 23:32	24°♌29'18	0°44'56
min. Earth dist.	2068 Aug 03 22:59	11°♌44'49	4.06575 AU	max. Earth dist.	2074 Aug 17 12:03	24°♌36'09	6.36724 AU
direct	2068 Oct 02 04:26	6°♌55'01		morning rise	2074 Aug 30 08:27	27°♌24'21	
evening set	2069 Feb 04 10:59	26°♌10'44			2074 Sep 11 10:18	0°♍	
				retrograde	2074 Dec 29 23:19	14°♍36'01	
conjunction	2069 Feb 17 08:55	29°♌16'33	0°-48'-28	opposition	2075 Feb 28 03:10	9°♍38'57	1°21'18
minimum elong	2069 Feb 17 08:53	29°♌16'32	0°48'30	min. Earth dist.	2075 Feb 28 04:10	9°♍38'38	4.41405 AU
max. Earth dist.	2069 Feb 17 02:11	29°♌12'30	6.00866 AU	direct	2075 Apr 30 21:00	4°♍36'02	
	2069 Feb 20 09:10	0°♍		evening set	2075 Sep 04 15:53	22°♍13'04	
morning rise	2069 Mar 02 08:52	2°♍23'42					
retrograde	2069 Jul 11 16:18	22°♍41'02		conjunction	2075 Sep 17 19:23	25°♍03'11	1°03'12
opposition	2069 Sep 09 18:51	17°♍41'27	-1°-29'-39	minimum elong	2075 Sep 17 19:21	25°♍03'10	1°03'12
min. Earth dist.	2069 Sep 09 12:25	17°♍43'35	3.96830 AU	max. Earth dist.	2075 Sep 17 02:24	24°♍54'00	6.44422 AU
direct	2069 Nov 07 08:41	12°♍47'51		morning rise	2075 Sep 30 20:14	27°♍51'55	
	2070 Mar 02 08:57	0°♎			2075 Oct 10 20:40	0°♎	
evening set	2070 Mar 12 19:09	2°♎29'34		retrograde	2076 Jan 29 01:36	14°♎37'59	
				opposition	2076 Mar 29 13:19	9°♎44'02	1°35'24
conjunction	2070 Mar 26 00:09	5°♎41'20	-1°-4'-37	min. Earth dist.	2076 Mar 30 08:52	9°♎37'43	4.45707 AU
minimum elong	2070 Mar 26 00:09	5°♎41'19	1°04'37	direct	2076 May 31 03:13	4°♎41'27	
max. Earth dist.	2070 Mar 27 02:11	5°♎57'06	5.94881 AU	evening set	2076 Oct 04 14:05	22°♎11'04	
morning rise	2070 Apr 08 08:16	8°♎54'46		max. Earth dist.	2076 Oct 15 21:27	24°♎37'53	6.44945 AU
retrograde	2070 Aug 18 20:33	29°♎37'10					
min. Earth dist.	2070 Oct 16 11:12	24°♎43'04	3.95447 AU	conjunction	2076 Oct 17 11:14	24°♎58'24	1°04'03
opposition	2070 Oct 17 14:17	24°♎33'54	-1°-35'00	minimum elong	2076 Oct 17 11:15	24°♎58'24	1°04'03
direct	2070 Dec 14 10:38	19°♎39'21		morning rise	2076 Oct 30 05:32	27°♎44'29	
	2071 Mar 09 02:48	0°♏			2076 Nov 09 18:44	0°♏	
evening set	2071 Apr 19 08:02	9°♏20'38		retrograde	2077 Feb 27 12:58	14°♏33'38	
				opposition	2077 Apr 29 08:39	9°♏41'26	1°24'12
conjunction	2071 May 02 20:57	12°♏34'34	0°-55'-23	min. Earth dist.	2077 Apr 30 16:24	9°♏31'18	4.42508 AU
minimum elong	2071 May 02 20:59	12°♏34'35	0°55'23	direct	2077 Jul 01 02:14	4°♏40'10	
max. Earth dist.	2071 May 04 22:51	13°♏04'24	5.98149 AU	evening set	2077 Nov 04 03:37	22°♏19'42	
morning rise	2071 May 16 12:48	15°♏49'50		max. Earth dist.	2077 Nov 14 18:50	24°♏40'26	6.38204 AU
	2071 Jul 22 08:25	0°♐					
retrograde	2071 Sep 24 15:22	6°♐05'06		conjunction	2077 Nov 16 20:40	25°♐08'01	0°47'31
min. Earth dist.	2071 Nov 21 17:59	1°♐12'02	4.03002 AU	minimum elong	2077 Nov 16 20:42	25°♐08'02	0°47'32
opposition	2071 Nov 23 05:13	1°♐00'01	-1°-2'-43	morning rise	2077 Nov 29 11:50	27°♐55'36	
	2071 Nov 30 14:27	30°♐			2077 Dec 08 23:28	0°♑	
direct	2072 Jan 20 08:43	26°♐02'43		retrograde	2078 Mar 31 12:34	15°♑16'03	
	2072 Mar 10 11:49	0°♑		opposition	2078 May 31 10:13	10°♑24'06	0°49'25
evening set	2072 May 25 15:56	15°♑17'39		min. Earth dist.	2078 Jun 01 23:42	10°♑12'09	4.32575 AU
				direct	2078 Aug 01 16:49	5°♑24'50	

evening set	2078 Dec 05 06:42	23° \mathcal{A} 30'29		min. Earth dist.	2084 Dec 30 02:11	10° \mathcal{E} 44'06	4.18603 AU
max. Earth dist.	2078 Dec 15 21:50	25° \mathcal{A} 55'24	6.25851 AU	opposition	2084 Dec 31 07:35	10° \mathcal{E} 34'08	0°-1°-19
conjunction	2078 Dec 17 22:46	26° \mathcal{A} 23'18	0°16'56	asc. node	2085 Jan 09 18:30	9° \mathcal{E} 18'11	
minimum elong	2078 Dec 17 22:47	26° \mathcal{A} 23'18	0°16'55	direct	2085 Feb 28 15:45	5° \mathcal{E} 33'35	
morning rise	2078 Dec 30 14:11	29° \mathcal{A} 16'02		evening set	2085 Jul 05 08:32	24° \mathcal{E} 04'01	
retrograde	2079 Jan 02 19:53	0° \mathcal{B}		conjunction	2085 Jul 19 00:52	27° \mathcal{E} 07'03	0°17'45
desc. node	2079 May 04 14:04	17° \mathcal{B} 32'29		minimum elong	2085 Jul 19 00:51	27° \mathcal{E} 07'02	0°17'45
opposition	2079 Jun 18 04:18	14° \mathcal{B} 40'12		max. Earth dist.	2085 Jul 20 11:55	27° \mathcal{E} 26'38	6.25863 AU
min. Earth dist.	2079 Jul 04 10:05	12° \mathcal{B} 39'08	0°-2'-15		2085 Jul 31 23:20	0° \mathcal{O}	
direct	2079 Jul 05 15:49	12° \mathcal{B} 29'35	4.18544 AU	morning rise	2085 Aug 01 16:12	0° \mathcal{O} 09'21	
evening set	2079 Sep 03 12:25	7° \mathcal{B} 42'25		retrograde	2085 Dec 03 15:22	18° \mathcal{O} 04'09	
max. Earth dist.	2080 Jan 06 20:39	26° \mathcal{B} 25'29		opposition	2086 Feb 01 11:39	13° \mathcal{O} 03'53	0°50'17
conjunction	2080 Jan 18 07:26	29° \mathcal{B} 06'41	6.11366 AU	min. Earth dist.	2086 Jan 31 21:30	13° \mathcal{O} 08'37	4.32454 AU
minimum elong	2080 Jan 19 14:36	29° \mathcal{B} 25'03	0°-20'-21	direct	2086 Apr 03 04:28	8° \mathcal{O} 01'33	
morning rise	2080 Jan 19 14:35	29° \mathcal{B} 25'02	0°20'21	evening set	2086 Aug 08 00:36	25° \mathcal{O} 58'08	
retrograde	2080 Jan 22 01:58	0° \mathcal{C}		conjunction	2086 Aug 21 10:41	28° \mathcal{O} 53'28	0°48'23
opposition	2080 Feb 01 09:19	2° \mathcal{C} 25'18		minimum elong	2086 Aug 21 10:39	28° \mathcal{O} 53'27	0°48'23
min. Earth dist.	2080 Jun 09 01:21	21° \mathcal{C} 50'58		max. Earth dist.	2086 Aug 21 17:37	28° \mathcal{O} 57'15	6.38081 AU
direct	2080 Aug 08 12:57	16° \mathcal{C} 54'45	0°-56'-44		2086 Aug 26 12:43	0° \mathcal{M}	
evening set	2080 Aug 09 01:56	16° \mathcal{C} 50'31	4.04758 AU	morning rise	2086 Sep 03 18:37	1° \mathcal{M} 47'33	
conjunction	2080 Oct 07 05:24	12° \mathcal{C} 00'21		retrograde	2087 Jan 03 03:31	18° \mathcal{M} 54'32	
minimum elong	2081 Feb 03 19:32	0° \mathcal{K}		opposition	2087 Mar 04 08:06	13° \mathcal{M} 57'57	1°24'43
morning rise	2081 Feb 09 11:38	1° \mathcal{K} 21'06		min. Earth dist.	2087 Mar 04 12:12	13° \mathcal{M} 56'36	4.42262 AU
retrograde	2081 Feb 22 10:21	4° \mathcal{K} 27'53	0°-52'-5	direct	2087 May 05 04:52	8° \mathcal{M} 54'59	
opposition	2081 Feb 22 10:19	4° \mathcal{K} 27'52	0°52'06	evening set	2087 Sep 08 23:31	26° \mathcal{M} 30'39	
min. Earth dist.	2081 Feb 22 07:54	4° \mathcal{K} 26'25	5.99543 AU	max. Earth dist.	2087 Sep 21 06:56	29° \mathcal{M} 09'52	6.44720 AU
morning rise	2081 Mar 07 11:26	7° \mathcal{K} 36'06		conjunction	2087 Sep 22 02:13	29° \mathcal{M} 20'18	1°04'22
retrograde	2081 Jul 17 01:33	27° \mathcal{K} 59'33		minimum elong	2087 Sep 22 02:12	29° \mathcal{M} 20'17	1°04'22
opposition	2081 Sep 15 03:12	22° \mathcal{K} 59'28	-1°-32'-46		2087 Sep 25 03:38	0° \mathcal{L}	
min. Earth dist.	2081 Sep 14 16:24	23° \mathcal{K} 03'04	3.96195 AU	morning rise	2087 Oct 05 01:56	2° \mathcal{L} 08'31	
direct	2081 Nov 12 12:38	18° \mathcal{K} 05'55		retrograde	2088 Feb 02 05:40	18° \mathcal{L} 54'06	
evening set	2082 Feb 12 09:06	0° \mathcal{Y}		opposition	2088 Apr 02 18:43	14° \mathcal{L} 00'30	1°35'20
conjunction	2082 Mar 18 01:08	7° \mathcal{Y} 48'47		min. Earth dist.	2088 Apr 03 15:50	13° \mathcal{L} 53'42	4.45458 AU
minimum elong	2082 Mar 31 07:12	11° \mathcal{Y} 01'00	-1°-4'-52	direct	2088 Jun 04 09:05	8° \mathcal{L} 58'06	
morning rise	2082 Mar 31 07:12	11° \mathcal{Y} 01'00	1°04'53	evening set	2088 Oct 08 20:19	26° \mathcal{L} 28'58	
retrograde	2082 Apr 01 13:31	11° \mathcal{Y} 19'21	5.94982 AU	max. Earth dist.	2088 Oct 19 23:30	28° \mathcal{L} 53'54	6.44164 AU
opposition	2082 Apr 13 16:26	14° \mathcal{Y} 14'53		conjunction	2088 Oct 21 16:39	29° \mathcal{L} 16'18	1°02'44
min. Earth dist.	2082 Jun 27 18:47	0° \mathcal{X}		minimum elong	2088 Oct 21 16:40	29° \mathcal{L} 16'19	1°02'43
direct	2082 Aug 24 02:26	4° \mathcal{X} 55'35			2088 Oct 25 00:55	0° \mathcal{N}	
evening set	2082 Oct 21 20:09	30° \mathcal{Y}		morning rise	2088 Nov 03 10:31	2° \mathcal{N} 02'30	
conjunction	2082 Oct 22 20:04	29° \mathcal{Y} 51'53	-1°-32'-28	retrograde	2089 Mar 03 23:18	18° \mathcal{N} 55'10	
minimum elong	2082 Oct 21 15:11	0° \mathcal{O} 01'41	3.96274 AU	opposition	2089 May 03 18:03	14° \mathcal{N} 03'07	1°20'38
morning rise	2082 Dec 19 16:51	24° \mathcal{Y} 57'02		min. Earth dist.	2089 May 05 03:48	13° \mathcal{N} 52'20	4.41251 AU
retrograde	2083 Feb 14 07:49	0° \mathcal{X}		direct	2089 Jul 05 11:25	9° \mathcal{N} 02'04	
opposition	2083 Apr 24 14:07	14° \mathcal{X} 34'45		evening set	2089 Nov 08 10:56	26° \mathcal{N} 45'03	
min. Earth dist.	2083 May 08 04:05	17° \mathcal{X} 48'27	0°-52'-8	max. Earth dist.	2089 Nov 19 01:45	29° \mathcal{N} 06'05	6.36571 AU
direct	2083 May 08 04:07	17° \mathcal{X} 48'29	0°52'09	conjunction	2089 Nov 21 03:51	29° \mathcal{N} 33'56	0°43'56
evening set	2083 May 10 09:33	18° \mathcal{X} 20'16	5.99616 AU	minimum elong	2089 Nov 21 03:53	29° \mathcal{N} 33'57	0°43'56
conjunction	2083 May 21 20:32	21° \mathcal{X} 03'19			2089 Nov 23 02:46	0° \mathcal{A}	
minimum elong	2083 Jun 30 15:20	0° \mathcal{I}		morning rise	2089 Dec 03 18:52	2° \mathcal{A} 22'07	
morning rise	2083 Sep 29 14:37	11° \mathcal{I} 09'59		retrograde	2090 Apr 05 03:23	19° \mathcal{A} 49'33	
retrograde	2083 Nov 26 16:30	6° \mathcal{I} 16'55	4.04928 AU	opposition	2090 Jun 05 01:50	14° \mathcal{A} 57'26	0°42'54
opposition	2083 Nov 28 03:41	6° \mathcal{I} 04'55	0°-55'-58	min. Earth dist.	2090 Jun 06 13:41	14° \mathcal{A} 46'01	4.30679 AU
min. Earth dist.	2084 Jan 25 10:02	1° \mathcal{I} 07'16		direct	2090 Aug 06 03:57	9° \mathcal{A} 58'32	
direct	2084 May 30 17:41	20° \mathcal{I} 15'59		evening set	2090 Dec 09 18:13	28° \mathcal{A} 09'06	
evening set	2084 Jun 13 11:38	23° \mathcal{I} 26'06	0°-20'00		2090 Dec 17 20:49	0° \mathcal{B}	
conjunction	2084 Jun 13 11:39	23° \mathcal{I} 26'07	0°20'00	max. Earth dist.	2090 Dec 20 12:06	0° \mathcal{B} 36'14	6.23852 AU
minimum elong	2084 Jun 15 16:25	23° \mathcal{I} 56'33	6.11448 AU	conjunction	2090 Dec 22 10:21	1° \mathcal{B} 02'44	0°11'51
morning rise	2084 Jun 27 06:47	26° \mathcal{I} 36'29		minimum elong	2090 Dec 22 10:22	1° \mathcal{B} 02'44	0°11'50
retrograde	2084 Jul 12 07:26	0° \mathcal{E}		behind sun begin	2090 Dec 22 04:43	0° \mathcal{B} 59'31	
opposition	2084 Nov 01 16:02	15° \mathcal{E} 37'46		behind sun end	2090 Dec 22 16:00	1° \mathcal{B} 05'57	

morning rise	2091 Jan 04 02:01	3°♄56'24		evening set	2097 Jul 10 02:53	28°♄41'56	
desc. node	2091 Apr 27 15:32	22°♄08'33			2097 Jul 15 23:42	0°♄	
retrograde	2091 May 09 14:30	22°♄21'58					
opposition	2091 Jul 09 09:02	17°♄28'15	0°-10'-13	conjunction	2097 Jul 23 18:34	1°♄43'58	0°22'39
min. Earth dist.	2091 Jul 10 13:30	17°♄19'06	4.16576 AU	minimum elong	2097 Jul 23 18:33	1°♄43'57	0°22'39
direct	2091 Sep 08 08:01	12°♄31'52		max. Earth dist.	2097 Jul 25 01:56	2°♄01'25	6.27587 AU
	2092 Jan 05 21:12	0°♄		morning rise	2097 Aug 06 09:09	4°♄45'11	
evening set	2092 Jan 11 14:16	1°♄19'58		retrograde	2097 Dec 07 21:46	22°♄32'48	
max. Earth dist.	2092 Jan 23 04:38	4°♄03'55	6.09602 AU	opposition	2098 Feb 05 19:49	17°♄33'02	0°56'19
				min. Earth dist.	2098 Feb 05 07:40	17°♄37'05	4.33902 AU
conjunction	2092 Jan 24 08:40	4°♄20'28	0°-25'-28	direct	2098 Apr 07 15:44	12°♄30'33	
minimum elong	2092 Jan 24 08:39	4°♄20'27	0°25'29		2098 Aug 10 16:33	0°♄	
morning rise	2092 Feb 06 04:08	7°♄21'47		evening set	2098 Aug 12 13:28	0°♄24'15	
retrograde	2092 Jun 14 05:45	26°♄55'56					
opposition	2092 Aug 13 17:25	21°♄59'10	-1°-3'-23	conjunction	2098 Aug 25 22:38	3°♄18'45	0°51'36
min. Earth dist.	2092 Aug 14 02:15	21°♄56'16	4.03373 AU	minimum elong	2098 Aug 25 22:36	3°♄18'43	0°51'35
direct	2092 Oct 12 04:34	17°♄04'57		max. Earth dist.	2098 Aug 26 02:10	3°♄20'40	6.39152 AU
	2093 Jan 17 14:35	0°♄		morning rise	2098 Sep 08 05:21	6°♄11'55	
evening set	2093 Feb 14 11:31	6°♄29'06		retrograde	2099 Jan 07 09:20	23°♄15'07	
				opposition	2099 Mar 08 14:15	18°♄19'05	1°27'42
conjunction	2093 Feb 27 11:03	9°♄36'39	0°-55'-16	min. Earth dist.	2099 Mar 08 21:03	18°♄16'52	4.42906 AU
minimum elong	2093 Feb 27 11:01	9°♄36'38	0°55'17	direct	2099 May 09 14:21	13°♄16'14	
max. Earth dist.	2093 Feb 27 13:14	9°♄37'58	5.98639 AU		2099 Sep 09 09:02	0°♄	
morning rise	2093 Mar 12 13:07	12°♄45'42		evening set	2099 Sep 13 08:33	0°♄51'05	
	2093 Jun 06 10:39	0°♄		max. Earth dist.	2099 Sep 25 10:37	3°♄27'32	6.44883 AU
retrograde	2093 Jul 22 08:57	3°♄13'30					
	2093 Sep 06 16:49	30°♄		conjunction	2099 Sep 26 10:13	3°♄40'17	1°05'12
opposition	2093 Sep 20 09:36	28°♄12'47	-1°-35'-6	minimum elong	2099 Sep 26 10:12	3°♄40'17	1°05'12
min. Earth dist.	2093 Sep 19 20:15	28°♄17'15	3.95873 AU	morning rise	2099 Oct 09 09:08	6°♄28'07	
direct	2093 Nov 17 17:06	23°♄19'07					
	2094 Jan 22 16:46	0°♄					
evening set	2094 Mar 23 05:02	13°♄02'04					
conjunction	2094 Apr 05 12:18	16°♄14'40	-1°-4'-36				
minimum elong	2094 Apr 05 12:19	16°♄14'40	1°04'37				
max. Earth dist.	2094 Apr 06 23:39	16°♄36'02	5.95266 AU				
morning rise	2094 Apr 18 22:32	19°♄28'53					
	2094 Jun 04 13:18	0°♄					
retrograde	2094 Aug 29 06:53	10°♄07'01					
opposition	2094 Oct 27 23:02	5°♄03'01	-1°-29'-16				
min. Earth dist.	2094 Oct 26 16:56	5°♄13'13	3.97152 AU				
direct	2094 Dec 24 20:01	0°♄07'50					
evening set	2095 Apr 29 18:23	19°♄42'14					
conjunction	2095 May 13 09:00	22°♄55'38	0°-48'-33				
minimum elong	2095 May 13 09:03	22°♄55'40	0°48'35				
max. Earth dist.	2095 May 15 14:17	23°♄27'13	6.00978 AU				
morning rise	2095 May 27 02:18	26°♄10'11					
	2095 Jun 12 15:10	0°♄					
retrograde	2095 Oct 04 09:42	16°♄08'50					
opposition	2095 Dec 02 23:42	11°♄03'48	0°-48'-58				
min. Earth dist.	2095 Dec 01 12:22	11°♄15'51	4.06622 AU				
direct	2096 Jan 30 08:33	6°♄05'41					
evening set	2096 Jun 04 17:56	25°♄09'27					
conjunction	2096 Jun 18 12:07	28°♄18'48	0°-14'-47				
minimum elong	2096 Jun 18 12:08	28°♄18'49	0°14'48				
behind sun begin	2096 Jun 18 09:10	28°♄17'07					
behind sun end	2096 Jun 18 15:06	28°♄20'30					
max. Earth dist.	2096 Jun 20 15:21	28°♄48'14	6.13339 AU				
	2096 Jun 25 20:27	0°♄					
morning rise	2096 Jul 02 07:00	1°♄28'14					
retrograde	2096 Nov 06 05:55	20°♄20'15					
asc. node	2096 Nov 20 06:12	20°♄00'33					
opposition	2097 Jan 04 20:51	15°♄17'02	0°06'24				
min. Earth dist.	2097 Jan 03 18:02	15°♄26'06	4.20489 AU				
direct	2097 Mar 05 09:46	10°♄16'11					