opposition	1600 Feb 15 22:35	26°♌37'05	0°36'55
min. Earth dist.	1600 Feb 16 13:27	26°♌36'02	29.14816 AU
direct	1600 May 05 21:24	25°♌11'58	
evening set	1600 Aug 04 13:09	27°♌08'01	
conjunction	1600 Aug 20 17:43	27°♌43'44	0°36'29
minimum elong	1600 Aug 20 17:43	27°♌43'44	0°36'29
max. Earth dist.	1600 Aug 19 23:40	27°♌42'04	31.15225 AU
morning rise	1600 Sep 05 19:31	28°♌19'13	
	1600 Nov 05 18:02	0°♍	
retrograde	1600 Dec 02 04:06	0°♍11'56	
	1600 Dec 28 21:54	30°℞♌	
opposition	1601 Feb 17 09:01	28°♌49'29	0°40'57
min. Earth dist.	1601 Feb 18 01:01	28°♌48'22	29.15661 AU
direct	1601 May 08 08:15	27°♌24'21	
evening set	1601 Aug 07 02:11	29°♌20'25	
conjunction	1601 Aug 23 06:29	29°♌56'06	0°40'13
minimum elong	1601 Aug 23 06:29	29°♌56'06	0°40'13
max. Earth dist.	1601 Aug 22 12:32	29°♌54'26	31.16000 AU
	1601 Aug 25 00:30	0°♍	
morning rise	1601 Sep 08 07:38	0°♍31'32	
retrograde	1601 Dec 04 12:58	2°♍24'09	
opposition	1602 Feb 19 19:21	1°♍01'44	0°44'54
min. Earth dist.	1602 Feb 20 12:12	1°♍00'33	29.16372 AU
	1602 Apr 02 01:06	30°℞♌	
direct	1602 May 10 20:54	29°♌36'34	
	1602 Jun 18 04:15	0°♍	
evening set	1602 Aug 09 15:18	1°♍32'38	
conjunction	1602 Aug 25 18:58	2°♍08'17	0°43'53
minimum elong	1602 Aug 25 18:58	2°♍08'17	0°43'53
max. Earth dist.	1602 Aug 24 23:08	2°♍06'27	31.16662 AU
morning rise	1602 Sep 10 19:45	2°♍43'40	
retrograde	1602 Dec 07 00:16	4°♍36'11	
opposition	1603 Feb 22 05:44	3°♍13'46	0°48'47
min. Earth dist.	1603 Feb 22 22:47	3°♍12'35	29.17001 AU
direct	1603 May 13 07:58	1°♍48'34	
evening set	1603 Aug 12 03:55	3°♍44'39	
max. Earth dist.	1603 Aug 27 11:56	4°♍18'27	31.17249 AU
conjunction	1603 Aug 28 07:17	4°♍20'14	0°47'29
minimum elong	1603 Aug 28 07:17	4°♍20'14	0°47'29
morning rise	1603 Sep 13 07:21	4°♍55'35	
retrograde	1603 Dec 09 09:33	6°♍48'00	
opposition	1604 Feb 24 16:12	5°♍25'36	0°52'36
min. Earth dist.	1604 Feb 25 10:28	5°♍24'19	29.17568 AU
direct	1604 May 14 20:30	4°♍00'20	
evening set	1604 Aug 13 16:40	5°♍56'25	
conjunction	1604 Aug 29 19:25	6°♍31'58	0°51'01
minimum elong	1604 Aug 29 19:24	6°♍31'58	0°51'01
max. Earth dist.	1604 Aug 28 22:39	6°♍30'02	31.17812 AU
morning rise	1604 Sep 14 19:07	7°♍07'15	
retrograde	1604 Dec 10 21:28	8°♍59'34	
opposition	1605 Feb 26 02:20	7°♍37'10	0°56'19
min. Earth dist.	1605 Feb 26 20:12	7°♍35'55	29.18139 AU
direct	1605 May 17 09:53	6°♍11'52	
evening set	1605 Aug 16 05:13	8°♍07'57	
max. Earth dist.	1605 Aug 31 11:13	8°♍41'34	31.18389 AU
conjunction	1605 Sep 01 07:35	8°♍43'27	0°54'28
minimum elong	1605 Sep 01 07:35	8°♍43'27	0°54'28
morning rise	1605 Sep 17 06:35	9°♍18'42	
retrograde	1605 Dec 13 07:05	11°♍10'57	

opposition	1606 Feb 28 12:49	9°♍48'32	0°59'58
min. Earth dist.	1606 Mar 01 07:57	9°♍47'12	29.18756 AU
direct	1606 May 19 21:59	8°♍23'13	
evening set	1606 Aug 18 17:40	10°♍19'19	
conjunction	1606 Sep 03 19:26	10°♍54'46	0°57'50
minimum elong	1606 Sep 03 19:25	10°♍54'46	0°57'50
max. Earth dist.	1606 Sep 02 22:35	10°♍52'50	31.19047 AU
morning rise	1606 Sep 19 17:57	11°♍29'58	
retrograde	1606 Dec 15 17:47	13°♍22'08	
opposition	1607 Mar 02 23:10	11°♍59'46	1°03'31
min. Earth dist.	1607 Mar 03 17:23	11°♍58'30	29.19465 AU
direct	1607 May 22 11:00	10°♍34'27	
evening set	1607 Aug 21 06:01	12°♍30'33	
max. Earth dist.	1607 Sep 05 10:15	13°♍04'02	31.19807 AU
conjunction	1607 Sep 06 07:15	13°♍05'59	1°01'07
minimum elong	1607 Sep 06 07:15	13°♍05'59	1°01'07
morning rise	1607 Sep 22 05:09	13°♍41'07	
retrograde	1607 Dec 18 04:03	15°♍33'16	
opposition	1608 Mar 04 09:38	14°♍10'56	1°06'59
min. Earth dist.	1608 Mar 05 04:43	14°♍09'37	29.20298 AU
direct	1608 May 23 21:41	12°♍45'39	
evening set	1608 Aug 22 18:09	14°♍41'47	
conjunction	1608 Sep 07 18:57	15°♍17'11	1°04'19
minimum elong	1608 Sep 07 18:57	15°♍17'11	1°04'19
max. Earth dist.	1608 Sep 06 22:14	15°♍15'15	31.20691 AU
morning rise	1608 Sep 23 16:17	15°♍52'17	
retrograde	1608 Dec 19 13:55	17°♍44'23	
opposition	1609 Mar 06 20:04	16°♍22'09	1°10'21
min. Earth dist.	1609 Mar 07 14:48	16°♍20'50	29.21210 AU
direct	1609 May 26 09:47	14°♍56'54	
evening set	1609 Aug 25 06:29	16°♍53'05	
max. Earth dist.	1609 Sep 09 08:57	17°♍26'26	31.21626 AU
conjunction	1609 Sep 10 06:37	17°♍28'26	1°07'25
minimum elong	1609 Sep 10 06:37	17°♍28'26	1°07'25
morning rise	1609 Sep 26 03:26	18°♍03'30	
retrograde	1609 Dec 21 23:43	19°♍55'36	
opposition	1610 Mar 09 06:31	18°♍33'26	1°13'37
min. Earth dist.	1610 Mar 10 01:51	18°♍32'06	29.22168 AU
direct	1610 May 28 19:57	17°♍08'15	
evening set	1610 Aug 27 18:39	19°♍04'29	
conjunction	1610 Sep 12 18:22	19°♍39'48	1°10'25
minimum elong	1610 Sep 12 18:21	19°♍39'48	1°10'25
max. Earth dist.	1610 Sep 11 21:25	19°♍37'52	31.22572 AU
morning rise	1610 Sep 28 14:27	20°♍14'50	
retrograde	1610 Dec 24 08:34	22°♍06'56	
opposition	1611 Mar 11 17:13	20°♍44'51	1°16'46
min. Earth dist.	1611 Mar 12 13:03	20°♍43'28	29.23090 AU
direct	1611 May 31 07:36	19°♍19'43	
evening set	1611 Aug 30 06:48	21°♍15'59	
max. Earth dist.	1611 Sep 14 07:22	21°♍49'11	31.23458 AU
conjunction	1611 Sep 15 05:46	21°♍51'16	1°13'19
minimum elong	1611 Sep 15 05:45	21°♍51'16	1°13'19
morning rise	1611 Oct 01 01:25	22°♍26'15	
retrograde	1611 Dec 26 19:58	24°♍18'21	
opposition	1612 Mar 13 03:52	22°♍56'19	1°19'48
min. Earth dist.	1612 Mar 13 23:37	22°♍54'57	29.23942 AU
direct	1612 Jun 01 17:33	21°♍31'13	
evening set	1612 Aug 31 18:52	23°♍27'32	

conjunction	1612 Sep 16 17:27	24°♑02'46	1°16'07	
minimum elong	1612 Sep 16 17:26	24°♑02'46	1°16'06	
max. Earth dist.	1612 Sep 15 19:36	24°♑00'44	31.24243 AU	
morning rise	1612 Oct 02 12:20	24°♑37'43		
retrograde	1612 Dec 28 05:19	26°♑29'49		
opposition	1613 Mar 15 14:35	25°♑07'50	1°22'44	
min. Earth dist.	1613 Mar 16 11:37	25°♑06'22	29.24670 AU	
direct	1613 Jun 04 05:35	23°♑42'46		
evening set	1613 Sep 03 07:06	25°♑39'05		
max. Earth dist.	1613 Sep 18 05:39	26°♑12'07	31.24910 AU	
conjunction	1613 Sep 19 04:57	26°♑14'17	1°18'48	
minimum elong	1613 Sep 19 04:57	26°♑14'17	1°18'48	
morning rise	1613 Oct 04 23:24	26°♑49'11		
retrograde	1613 Dec 30 17:27	28°♑41'16		
opposition	1614 Mar 18 01:20	27°♑19'18	1°25'32	
min. Earth dist.	1614 Mar 18 21:54	27°♑17'53	29.25276 AU	
direct	1614 Jun 06 18:50	25°♑54'15		
evening set	1614 Sep 05 19:01	27°♑50'35		
conjunction	1614 Sep 21 16:22	28°♑25'44	1°21'22	
minimum elong	1614 Sep 21 16:22	28°♑25'44	1°21'21	
max. Earth dist.	1614 Sep 20 17:23	28°♑23'36	31.25442 AU	
morning rise	1614 Oct 07 10:04	29°♑00'36		
	1614 Nov 06 07:30	0°♎		
retrograde	1615 Jan 02 03:11	0°♎52'39		
	1615 Mar 02 10:15	30°℞♑		
opposition	1615 Mar 20 12:17	29°♑30'42	1°28'13	
min. Earth dist.	1615 Mar 21 10:14	29°♑29'11	29.25760 AU	
direct	1615 Jun 09 06:42	28°♑05'39		
	1615 Sep 07 09:03	0°♎		
evening set	1615 Sep 08 06:54	0°♎01'58		
max. Earth dist.	1615 Sep 23 04:04	0°♎34'53	31.25880 AU	
conjunction	1615 Sep 24 03:38	0°♎37'04	1°23'49	
minimum elong	1615 Sep 24 03:38	0°♎37'04	1°23'49	
morning rise	1615 Oct 09 20:51	1°♎11'53		
retrograde	1616 Jan 04 13:57	3°♎03'54		
opposition	1616 Mar 21 22:58	1°♎41'57	1°30'46	
min. Earth dist.	1616 Mar 22 20:13	1°♎40'29	29.26156 AU	
direct	1616 Jun 10 20:08	0°♎16'53		
evening set	1616 Sep 09 18:35	2°♎13'11		
conjunction	1616 Sep 25 14:46	2°♎48'15	1°26'08	
minimum elong	1616 Sep 25 14:46	2°♎48'15	1°26'08	
max. Earth dist.	1616 Sep 24 14:55	2°♎46'02	31.26238 AU	
morning rise	1616 Oct 11 07:25	3°♎23'01		
retrograde	1617 Jan 06 00:42	5°♎15'00		
opposition	1617 Mar 24 09:51	3°♎53'02	1°33'11	
min. Earth dist.	1617 Mar 25 08:02	3°♎51'30	29.26506 AU	
direct	1617 Jun 13 08:14	2°♎27'57		
evening set	1617 Sep 12 06:08	4°♎24'13		
max. Earth dist.	1617 Sep 27 02:23	4°♎57'03	31.26579 AU	
conjunction	1617 Sep 28 01:47	4°♎59'14	1°28'20	
minimum elong	1617 Sep 28 01:47	4°♎59'14	1°28'20	
morning rise	1617 Oct 13 17:49	5°♎33'57		
retrograde	1618 Jan 08 09:52	7°♎25'54		
opposition	1618 Mar 26 20:40	6°♎03'55	1°35'28	
min. Earth dist.	1618 Mar 27 18:20	6°♎02'25	29.26850 AU	
direct	1618 Jun 15 21:43	4°♎38'49		
evening set	1618 Sep 14 17:39	6°♎35'03		
conjunction	1618 Sep 30 12:37	7°♎10'02	1°30'25	
minimum elong	1618 Sep 30 12:36	7°♎10'02	1°30'24	
max. Earth dist.	1618 Sep 29 12:39	7°♎07'48	31.26948 AU	
morning rise	1618 Oct 16 04:08	7°♎44'43		
retrograde	1619 Jan 10 19:08	9°♎36'38		
opposition	1619 Mar 29 07:38	8°♎14'38	1°37'37	
min. Earth dist.	1619 Mar 30 05:15	8°♎13'09	29.27274 AU	
direct	1619 Jun 18 08:18	6°♎49'33		
evening set	1619 Sep 17 04:47	8°♎45'45		
conjunction	1619 Oct 02 23:18	9°♎20'41	1°32'21	
minimum elong	1619 Oct 02 23:18	9°♎20'41	1°32'21	
max. Earth dist.	1619 Oct 02 00:42	9°♎18'35	31.27412 AU	
morning rise	1619 Oct 18 14:09	9°♎55'19		
retrograde	1620 Jan 13 03:03	11°♎47'14		
opposition	1620 Mar 30 18:37	10°♎25'16	1°39'37	
min. Earth dist.	1620 Mar 31 16:09	10°♎23'47	29.27785 AU	
direct	1620 Jun 19 20:13	9°♎00'12		
evening set	1620 Sep 18 16:08	10°♎56'23		
max. Earth dist.	1620 Oct 03 10:31	11°♎29'06	31.27977 AU	
conjunction	1620 Oct 04 09:56	11°♎31'17	1°34'10	
minimum elong	1620 Oct 04 09:56	11°♎31'17	1°34'09	
morning rise	1620 Oct 20 00:24	12°♎05'53		
retrograde	1621 Jan 14 14:05	13°♎57'48		
opposition	1621 Apr 02 05:25	12°♎35'51	1°41'29	
min. Earth dist.	1621 Apr 03 02:10	12°♎34'26	29.28401 AU	
direct	1621 Jun 22 06:03	11°♎10'50		
evening set	1621 Sep 21 03:18	13°♎07'02		
conjunction	1621 Oct 06 20:43	13°♎41'53	1°35'51	
minimum elong	1621 Oct 06 20:43	13°♎41'53	1°35'51	
max. Earth dist.	1621 Oct 05 22:32	13°♎39'49	31.28622 AU	
morning rise	1621 Oct 22 10:27	14°♎16'28		
retrograde	1622 Jan 16 22:48	16°♎08'25		
opposition	1622 Apr 04 16:35	14°♎46'30	1°43'12	
min. Earth dist.	1622 Apr 05 14:02	14°♎45'02	29.29065 AU	
direct	1622 Jun 24 17:38	13°♎21'33		
evening set	1622 Sep 23 14:27	15°♎17'44		
max. Earth dist.	1622 Oct 08 08:17	15°♎50'26	31.29298 AU	
conjunction	1622 Oct 09 07:08	15°♎52'34	1°37'23	
minimum elong	1622 Oct 09 07:08	15°♎52'34	1°37'23	
morning rise	1622 Oct 24 20:29	16°♎27'06		
retrograde	1623 Jan 19 10:23	18°♎19'06		
opposition	1623 Apr 07 03:42	16°♎57'14	1°44'46	
min. Earth dist.	1623 Apr 08 00:09	16°♎55'50	29.29733 AU	
direct	1623 Jun 27 05:19	15°♎32'21		
evening set	1623 Sep 26 01:32	17°♎28'32		
conjunction	1623 Oct 11 17:47	18°♎03'19	1°38'47	
minimum elong	1623 Oct 11 17:46	18°♎03'19	1°38'47	
max. Earth dist.	1623 Oct 10 19:38	18°♎01'16	31.29932 AU	
morning rise	1623 Oct 27 06:29	18°♎37'50		
retrograde	1624 Jan 21 20:28	20°♎29'53		
opposition	1624 Apr 08 14:57	19°♎08'03	1°46'11	
min. Earth dist.	1624 Apr 09 12:32	19°♎06'34	29.30341 AU	
direct	1624 Jun 28 15:57	17°♎43'13		
evening set	1624 Sep 27 12:38	19°♎39'25		
max. Earth dist.	1624 Oct 12 05:53	20°♎12'04	31.30491 AU	
conjunction	1624 Oct 13 04:17	20°♎14'10	1°40'02	
minimum elong	1624 Oct 13 04:17	20°♎14'10	1°40'02	
morning rise	1624 Oct 28 16:35	20°♎48'39		
retrograde	1625 Jan 23 07:41	22°♎40'44		
opposition	1625 Apr 11 02:15	21°♎18'56	1°47'27	
min. Earth dist.	1625 Apr 11 22:57	21°♎17'31	29.30832 AU	
direct	1625 Jul 01 05:19	19°♎54'10		
evening set	1625 Sep 29 23:42	21°♎50'21		
conjunction	1625 Oct 15 14:48	22°♎25'04	1°41'08	

minimum elong	1625 Oct 15 14:47	22°♎25'04	1°41'08
max. Earth dist.	1625 Oct 14 16:06	22°♎22'57	31.30905 AU
morning rise	1625 Oct 31 02:33	22°♎59'31	
retrograde	1626 Jan 25 19:03	24°♎51'38	
opposition	1626 Apr 13 13:46	23°♎29'51	1°48'33
min. Earth dist.	1626 Apr 14 11:17	23°♎28'22	29.31186 AU
direct	1626 Jul 03 17:15	22°♎05'07	
evening set	1626 Oct 02 10:41	24°♎01'17	
max. Earth dist.	1626 Oct 17 03:04	24°♎33'54	31.31186 AU
conjunction	1626 Oct 18 01:18	24°♎35'58	1°42'06
minimum elong	1626 Oct 18 01:18	24°♎35'58	1°42'06
morning rise	1626 Nov 02 12:31	25°♎10'23	
retrograde	1627 Jan 28 04:46	27°♎02'33	
opposition	1627 Apr 16 01:17	25°♎40'46	1°49'31
min. Earth dist.	1627 Apr 16 22:23	25°♎39'19	29.31386 AU
direct	1627 Jul 06 06:51	24°♎16'04	
evening set	1627 Oct 04 21:31	26°♎12'12	
conjunction	1627 Oct 20 11:31	26°♎46'51	1°42'55
minimum elong	1627 Oct 20 11:31	26°♎46'51	1°42'55
max. Earth dist.	1627 Oct 19 12:29	26°♎44'42	31.31314 AU
morning rise	1627 Nov 04 22:24	27°♎21'14	
retrograde	1628 Jan 30 14:48	29°♎13'26	
opposition	1628 Apr 17 12:48	27°♎51'37	1°50'18
min. Earth dist.	1628 Apr 18 10:04	27°♎50'10	29.31454 AU
direct	1628 Jul 07 17:50	26°♎26'57	
evening set	1628 Oct 06 08:14	28°♎23'01	
conjunction	1628 Oct 21 21:54	28°♎57'39	1°43'36
minimum elong	1628 Oct 21 21:54	28°♎57'39	1°43'35
max. Earth dist.	1628 Oct 20 23:59	28°♎55'36	31.31318 AU
morning rise	1628 Nov 06 08:12	29°♎32'01	
	1628 Nov 19 12:53	0°♏	
retrograde	1629 Jan 31 22:52	1°♏24'13	
opposition	1629 Apr 20 00:15	0°♏02'23	1°50'57
min. Earth dist.	1629 Apr 20 21:43	0°♏00'55	29.31399 AU
	1629 Apr 21 11:15	30°℞♎	
direct	1629 Jul 10 06:28	28°♎37'43	
	1629 Sep 22 17:11	0°♏	
evening set	1629 Oct 08 18:59	0°♏33'44	
max. Earth dist.	1629 Oct 23 09:16	1°♏06'13	31.31234 AU
conjunction	1629 Oct 24 08:00	1°♏08'20	1°44'07
minimum elong	1629 Oct 24 07:59	1°♏08'20	1°44'07
morning rise	1629 Nov 08 18:02	1°♏42'41	
retrograde	1630 Feb 03 09:54	3°♏34'55	
opposition	1630 Apr 22 11:49	2°♏13'02	1°51'26
min. Earth dist.	1630 Apr 23 08:22	2°♏11'38	29.31301 AU
direct	1630 Jul 12 17:03	0°♏48'22	
evening set	1630 Oct 11 05:17	2°♏44'20	
conjunction	1630 Oct 26 17:58	3°♏18'54	1°44'30
minimum elong	1630 Oct 26 17:58	3°♏18'54	1°44'29
max. Earth dist.	1630 Oct 25 20:44	3°♏16'54	31.31123 AU
morning rise	1630 Nov 11 03:25	3°♏53'13	
retrograde	1631 Feb 05 18:08	5°♏45'29	
opposition	1631 Apr 24 23:33	4°♏23'34	1°51'46
min. Earth dist.	1631 Apr 25 20:26	4°♏22'09	29.31203 AU
direct	1631 Jul 15 04:56	2°♏58'55	
evening set	1631 Oct 13 15:44	4°♏54'49	
max. Earth dist.	1631 Oct 28 06:22	5°♏27'21	31.31059 AU
conjunction	1631 Oct 29 03:48	5°♏29'21	1°44'44
minimum elong	1631 Oct 29 03:48	5°♏29'21	1°44'44
morning rise	1631 Nov 13 13:01	6°♏03'39	
retrograde	1632 Feb 08 05:10	7°♏55'58	
opposition	1632 Apr 26 10:58	6°♏34'02	1°51'56
min. Earth dist.	1632 Apr 27 06:20	6°♏32'42	29.31177 AU
direct	1632 Jul 16 15:58	5°♏09'24	
evening set	1632 Oct 15 02:00	7°♏05'16	
conjunction	1632 Oct 30 13:44	7°♏39'46	1°44'48
minimum elong	1632 Oct 30 13:44	7°♏39'46	1°44'48
max. Earth dist.	1632 Oct 29 17:25	7°♏37'52	31.31068 AU
morning rise	1632 Nov 14 22:27	8°♏14'03	
retrograde	1633 Feb 09 15:10	10°♏06'26	
opposition	1633 Apr 28 22:44	8°♏44'29	1°51'56
min. Earth dist.	1633 Apr 29 18:32	8°♏43'08	29.31231 AU
direct	1633 Jul 19 01:47	7°♏19'54	
evening set	1633 Oct 17 12:13	9°♏15'44	
conjunction	1633 Nov 01 23:28	9°♏50'13	1°44'44
minimum elong	1633 Nov 01 23:28	9°♏50'13	1°44'44
max. Earth dist.	1633 Nov 01 03:43	9°♏48'22	31.31168 AU
morning rise	1633 Nov 17 07:52	10°♏24'29	
retrograde	1634 Feb 12 02:23	12°♏16'57	
opposition	1634 May 01 10:25	10°♏55'00	1°51'46
min. Earth dist.	1634 May 02 04:39	10°♏53'46	29.31350 AU
direct	1634 Jul 21 15:07	9°♏30'30	
evening set	1634 Oct 19 22:24	11°♏26'18	
conjunction	1634 Nov 04 09:13	12°♏00'46	1°44'31
minimum elong	1634 Nov 04 09:13	12°♏00'46	1°44'31
max. Earth dist.	1634 Nov 03 13:47	11°♏58'57	31.31308 AU
morning rise	1634 Nov 19 17:18	12°♏35'01	
retrograde	1635 Feb 14 14:42	14°♏27'34	
opposition	1635 May 03 22:17	13°♏05'38	1°51'27
min. Earth dist.	1635 May 04 16:43	13°♏04'23	29.31506 AU
direct	1635 Jul 24 02:29	11°♏41'12	
evening set	1635 Oct 22 08:23	13°♏36'59	
conjunction	1635 Nov 06 18:55	14°♏11'26	1°44'08
minimum elong	1635 Nov 06 18:54	14°♏11'26	1°44'08
max. Earth dist.	1635 Nov 06 00:36	14°♏09'43	31.31459 AU
morning rise	1635 Nov 22 02:38	14°♏45'40	
	1635 Nov 28 17:29	15°♏	
retrograde	1636 Feb 17 00:36	16°♏38'18	
opposition	1636 May 05 10:10	15°♏16'22	1°50'58
min. Earth dist.	1636 May 06 03:48	15°♏15'11	29.31621 AU
	1636 May 15 12:53	15°℞♏	
direct	1636 Jul 25 15:40	13°♏52'00	
	1636 Sep 30 12:52	15°♏	
evening set	1636 Oct 23 18:37	15°♏47'46	
max. Earth dist.	1636 Nov 07 09:47	16°♏20'26	31.31540 AU
conjunction	1636 Nov 08 04:36	16°♏22'12	1°43'36
minimum elong	1636 Nov 08 04:36	16°♏22'12	1°43'36
morning rise	1636 Nov 23 12:07	16°♏56'25	
retrograde	1637 Feb 18 11:30	18°♏49'08	
opposition	1637 May 07 22:04	17°♏27'13	1°50'20
min. Earth dist.	1637 May 08 15:32	17°♏26'02	29.31664 AU
direct	1637 Jul 28 02:39	16°♏02'54	
evening set	1637 Oct 26 04:41	17°♏58'37	
conjunction	1637 Nov 10 14:27	18°♏33'02	1°42'56
minimum elong	1637 Nov 10 14:27	18°♏33'02	1°42'56
max. Earth dist.	1637 Nov 09 21:03	18°♏31'24	31.31527 AU
morning rise	1637 Nov 25 21:31	19°♏07'15	
retrograde	1638 Feb 20 20:37	21°♏00'02	
opposition	1638 May 10 10:16	19°♏38'06	1°49'32
min. Earth dist.	1638 May 11 03:42	19°♏36'55	29.31581 AU
direct	1638 Jul 30 16:04	18°♏13'51	
evening set	1638 Oct 28 14:46	20°♏09'30	

max. Earth dist.	1638 Nov 12 05:54	20°♑42'12	31.31383 AU
conjunction	1638 Nov 13 00:01	20°♑43'54	1°42'07
minimum elong	1638 Nov 13 00:01	20°♑43'54	1°42'06
morning rise	1638 Nov 28 06:59	21°♑18'07	
retrograde	1639 Feb 23 08:13	23°♑10'58	
opposition	1639 May 12 22:23	21°♑49'01	1°48'35
min. Earth dist.	1639 May 13 14:52	21°♑47'54	29.31368 AU
direct	1639 Aug 02 03:16	20°♑24'47	
evening set	1639 Oct 31 00:44	22°♑20'22	
conjunction	1639 Nov 15 09:49	22°♑54'45	1°41'09
minimum elong	1639 Nov 15 09:49	22°♑54'45	1°41'09
max. Earth dist.	1639 Nov 14 16:52	22°♑53'09	31.31090 AU
morning rise	1639 Nov 30 16:24	23°♑28'57	
retrograde	1640 Feb 25 16:20	25°♑21'52	
opposition	1640 May 14 10:30	23°♑59'52	1°47'29
min. Earth dist.	1640 May 15 03:36	23°♑58'42	29.30999 AU
direct	1640 Aug 03 15:08	22°♑35'39	
evening set	1640 Nov 01 10:47	24°♑31'09	
conjunction	1640 Nov 16 19:27	25°♑05'31	1°40'02
minimum elong	1640 Nov 16 19:27	25°♑05'31	1°40'02
max. Earth dist.	1640 Nov 16 02:06	25°♑03'53	31.30664 AU
morning rise	1640 Dec 02 01:57	25°♑39'43	
retrograde	1641 Feb 27 03:09	27°♑32'41	
opposition	1641 May 16 22:39	26°♑10'37	1°46'13
min. Earth dist.	1641 May 17 14:24	26°♑09'33	29.30502 AU
direct	1641 Aug 06 02:23	24°♑46'24	
evening set	1641 Nov 03 20:32	26°♑41'48	
conjunction	1641 Nov 19 04:57	27°♑16'09	1°38'47
minimum elong	1641 Nov 19 04:57	27°♑16'09	1°38'48
max. Earth dist.	1641 Nov 18 12:32	27°♑14'37	31.30113 AU
morning rise	1641 Dec 04 11:11	27°♑50'21	
retrograde	1642 Mar 01 13:06	29°♑43'23	
opposition	1642 May 19 11:00	28°♑21'14	1°44'49
min. Earth dist.	1642 May 20 03:16	28°♑20'07	29.29918 AU
direct	1642 Aug 08 12:42	26°♑57'00	
evening set	1642 Nov 06 06:13	28°♑52'19	
conjunction	1642 Nov 21 14:21	29°♑26'39	1°37'24
minimum elong	1642 Nov 21 14:22	29°♑26'39	1°37'24
max. Earth dist.	1642 Nov 20 22:43	29°♑25'10	31.29521 AU
morning rise	1642 Dec 06 20:27	0°♐00'50	
	1642 Dec 06 11:26	0°♐	
retrograde	1643 Mar 03 23:59	1°♐53'55	
opposition	1643 May 21 23:09	0°♐31'41	1°43'16
min. Earth dist.	1643 May 22 13:43	0°♐30'42	29.29317 AU
	1643 Jun 10 22:41	30°℞♑	
direct	1643 Aug 11 01:52	29°♑07'27	
	1643 Oct 08 04:09	0°♐	
evening set	1643 Nov 08 15:45	1°♐02'40	
conjunction	1643 Nov 23 23:37	1°♐37'00	1°35'53
minimum elong	1643 Nov 23 23:37	1°♐37'00	1°35'53
max. Earth dist.	1643 Nov 23 08:23	1°♐35'34	31.28935 AU
morning rise	1643 Dec 09 05:36	2°♐11'11	
retrograde	1644 Mar 05 11:58	4°♐04'20	
opposition	1644 May 23 11:27	2°♐42'02	1°41'34
min. Earth dist.	1644 May 24 01:49	2°♐41'03	29.28768 AU
direct	1644 Aug 12 12:44	1°♐17'49	
evening set	1644 Nov 10 01:14	3°♐12'58	
conjunction	1644 Nov 25 08:56	3°♐47'17	1°34'13
minimum elong	1644 Nov 25 08:56	3°♐47'17	1°34'12
max. Earth dist.	1644 Nov 24 19:20	3°♐46'00	31.28428 AU
morning rise	1644 Dec 10 14:39	4°♐21'27	
retrograde	1645 Mar 07 21:49	6°♐14'42	
opposition	1645 May 25 23:40	4°♐52'21	1°39'43
min. Earth dist.	1645 May 26 12:38	4°♐51'28	29.28295 AU
direct	1645 Aug 15 01:35	3°♐28'10	
evening set	1645 Nov 12 10:48	5°♐23'16	
conjunction	1645 Nov 27 18:08	5°♐57'35	1°32'26
minimum elong	1645 Nov 27 18:08	5°♐57'35	1°32'26
max. Earth dist.	1645 Nov 27 04:35	5°♐56'18	31.28015 AU
morning rise	1645 Dec 12 23:53	6°♐31'46	
retrograde	1646 Mar 10 09:32	8°♐25'07	
opposition	1646 May 28 12:03	7°♐02'44	1°37'44
min. Earth dist.	1646 May 29 00:06	7°♐01'55	29.27934 AU
direct	1646 Aug 17 12:28	5°♐38'37	
evening set	1646 Nov 14 20:03	7°♐33'40	
conjunction	1646 Nov 30 03:21	8°♐07'59	1°30'30
minimum elong	1646 Nov 30 03:21	8°♐07'59	1°30'29
max. Earth dist.	1646 Nov 29 15:53	8°♐06'54	31.27695 AU
morning rise	1646 Dec 15 08:52	8°♐42'10	
retrograde	1647 Mar 12 19:16	10°♐35'38	
opposition	1647 May 31 00:30	9°♐13'15	1°35'36
min. Earth dist.	1647 May 31 11:59	9°♐12'29	29.27632 AU
direct	1647 Aug 20 01:37	7°♐49'13	
evening set	1647 Nov 17 05:35	9°♐44'14	
conjunction	1647 Dec 02 12:32	10°♐18'32	1°28'26
minimum elong	1647 Dec 02 12:32	10°♐18'32	1°28'26
max. Earth dist.	1647 Dec 02 00:53	10°♐17'27	31.27424 AU
morning rise	1647 Dec 17 18:09	10°♐52'45	
retrograde	1648 Mar 14 07:27	12°♐46'20	
opposition	1648 Jun 01 12:44	11°♐23'57	1°33'19
min. Earth dist.	1648 Jun 01 22:49	11°♐23'16	29.27364 AU
direct	1648 Aug 21 12:24	10°♐00'00	
evening set	1648 Nov 18 15:00	11°♐54'58	
conjunction	1648 Dec 03 21:55	12°♐29'17	1°26'14
minimum elong	1648 Dec 03 21:55	12°♐29'17	1°26'14
max. Earth dist.	1648 Dec 03 11:50	12°♐28'20	31.27146 AU
morning rise	1648 Dec 19 03:19	13°♐03'31	
retrograde	1649 Mar 16 16:19	14°♐57'14	
opposition	1649 Jun 04 01:24	13°♐34'51	1°30'55
min. Earth dist.	1649 Jun 04 11:40	13°♐34'09	29.27064 AU
direct	1649 Aug 23 23:56	12°♐10'59	
evening set	1649 Nov 21 00:28	14°♐05'54	
conjunction	1649 Dec 06 07:06	14°♐40'14	1°23'55
minimum elong	1649 Dec 06 07:06	14°♐40'14	1°23'56
max. Earth dist.	1649 Dec 05 21:10	14°♐39'17	31.26828 AU
morning rise	1649 Dec 21 12:34	15°♐14'27	
retrograde	1650 Mar 19 03:43	17°♐08'19	
opposition	1650 Jun 06 14:01	15°♐45'55	1°28'22
min. Earth dist.	1650 Jun 06 22:39	15°♐45'21	29.26700 AU
direct	1650 Aug 26 10:41	14°♐22'07	
evening set	1650 Nov 23 09:59	16°♐17'00	
conjunction	1650 Dec 08 16:32	16°♐51'20	1°21'29
minimum elong	1650 Dec 08 16:32	16°♐51'20	1°21'29
max. Earth dist.	1650 Dec 08 07:25	16°♐50'28	31.26412 AU
morning rise	1650 Dec 23 21:54	17°♐25'35	
retrograde	1651 Mar 21 14:34	19°♐19'34	
opposition	1651 Jun 09 02:46	17°♐57'09	1°25'42
min. Earth dist.	1651 Jun 09 11:55	17°♐56'32	29.26233 AU
direct	1651 Aug 28 20:18	16°♐33'24	
evening set	1651 Nov 25 19:28	18°♐28'13	

conjunction	1651 Dec 11 01:56	19°♐02'33	1°18'55
minimum elong	1651 Dec 11 01:56	19°♐02'33	1°18'56
max. Earth dist.	1651 Dec 10 17:32	19°♐01'45	31.25889 AU
morning rise	1651 Dec 26 07:20	19°♐36'48	
retrograde	1652 Mar 23 02:07	21°♐30'55	
opposition	1652 Jun 10 15:26	20°♐08'27	1°22'54
min. Earth dist.	1652 Jun 10 23:05	20°♐07'56	29.25626 AU
direct	1652 Aug 30 09:05	18°♐44'44	
evening set	1652 Nov 27 05:02	20°♐39'30	
conjunction	1652 Dec 12 11:18	21°♐13'49	1°16'15
minimum elong	1652 Dec 12 11:18	21°♐13'49	1°16'14
max. Earth dist.	1652 Dec 12 02:49	21°♐13'01	31.25212 AU
morning rise	1652 Dec 27 16:45	21°♐48'06	
retrograde	1653 Mar 25 14:56	23°♐42'19	
opposition	1653 Jun 13 04:16	22°♐19'47	1°20'00
min. Earth dist.	1653 Jun 13 12:03	22°♐19'15	29.24886 AU
direct	1653 Sep 01 19:09	20°♐56'05	
evening set	1653 Nov 29 14:27	22°♐50'45	
conjunction	1653 Dec 14 20:46	23°♐25'05	1°13'28
minimum elong	1653 Dec 14 20:46	23°♐25'05	1°13'29
max. Earth dist.	1653 Dec 14 13:43	23°♐24'25	31.24421 AU
morning rise	1653 Dec 30 02:09	23°♐59'22	
retrograde	1654 Mar 28 01:20	25°♐53'40	
opposition	1654 Jun 15 17:05	24°♐31'04	1°16'58
min. Earth dist.	1654 Jun 15 23:44	24°♐30'37	29.24033 AU
direct	1654 Sep 04 07:46	23°♐07'22	
evening set	1654 Dec 01 23:47	25°♐01'56	
conjunction	1654 Dec 17 05:54	25°♐36'16	1°10'35
minimum elong	1654 Dec 17 05:54	25°♐36'16	1°10'35
max. Earth dist.	1654 Dec 16 22:41	25°♐35'35	31.23543 AU
morning rise	1655 Jan 01 11:32	26°♐10'34	
retrograde	1655 Mar 30 13:58	28°♐04'57	
opposition	1655 Jun 18 05:53	26°♐42'14	1°13'50
min. Earth dist.	1655 Jun 18 11:50	26°♐41'50	29.23138 AU
direct	1655 Sep 06 19:23	25°♐18'32	
evening set	1655 Dec 04 09:02	27°♐13'01	
conjunction	1655 Dec 19 15:17	27°♐47'21	1°07'37
minimum elong	1655 Dec 19 15:17	27°♐47'21	1°07'37
max. Earth dist.	1655 Dec 19 10:02	27°♐46'51	31.22643 AU
morning rise	1656 Jan 03 20:49	28°♐21'39	
	1656 Feb 29 19:13	0°♑	
retrograde	1656 Apr 01 00:31	0°♑16'07	
	1656 May 03 00:16	30°℞♐	
opposition	1656 Jun 19 18:33	28°♐53'19	1°10'36
min. Earth dist.	1656 Jun 19 23:53	28°♐52'57	29.22246 AU
direct	1656 Sep 08 09:04	27°♐29'37	
evening set	1656 Dec 05 18:24	29°♐24'00	
conjunction	1656 Dec 21 00:26	29°♐58'20	1°04'32
minimum elong	1656 Dec 21 00:27	29°♐58'21	1°04'31
max. Earth dist.	1656 Dec 20 19:17	29°♐57'51	31.21793 AU
	1656 Dec 21 18:00	0°♑	
morning rise	1657 Jan 05 06:13	0°♑32'40	
retrograde	1657 Apr 03 12:42	2°♑27'14	
opposition	1657 Jun 22 07:20	1°♑04'20	1°07'16
min. Earth dist.	1657 Jun 22 10:52	1°♑04'06	29.21438 AU
	1657 Aug 06 11:20	30°℞♐	
direct	1657 Sep 10 20:09	29°♐40'39	
	1657 Oct 15 03:58	0°♑	
evening set	1657 Dec 08 03:31	1°♑34'57	
conjunction	1657 Dec 23 09:38	2°♑09'18	1°01'21
minimum elong	1657 Dec 23 09:38	2°♑09'18	1°01'22
max. Earth dist.	1657 Dec 23 06:19	2°♑09'00	31.21028 AU
morning rise	1658 Jan 07 15:23	2°♑43'39	
retrograde	1658 Apr 05 21:52	4°♑38'19	
opposition	1658 Jun 24 20:19	3°♑15'22	1°03'49
min. Earth dist.	1658 Jun 24 23:33	3°♑15'09	29.20720 AU
direct	1658 Sep 13 08:28	1°♑51'44	
evening set	1658 Dec 10 12:48	3°♑45'57	
conjunction	1658 Dec 25 18:52	4°♑20'19	0°58'05
minimum elong	1658 Dec 25 18:53	4°♑20'19	0°58'05
max. Earth dist.	1658 Dec 25 16:13	4°♑20'04	31.20371 AU
morning rise	1659 Jan 10 00:50	4°♑54'41	
retrograde	1659 Apr 08 09:34	6°♑49'28	
opposition	1659 Jun 27 09:00	5°♑26'29	1°00'17
min. Earth dist.	1659 Jun 27 10:10	5°♑26'24	29.20097 AU
direct	1659 Sep 15 19:48	4°♑02'53	
evening set	1659 Dec 12 22:04	5°♑57'03	
conjunction	1659 Dec 28 04:10	6°♑31'26	0°54'44
minimum elong	1659 Dec 28 04:10	6°♑31'26	0°54'45
max. Earth dist.	1659 Dec 28 02:35	6°♑31'17	31.19777 AU
morning rise	1660 Jan 12 10:16	7°♑05'50	
retrograde	1660 Apr 09 20:33	9°♑00'45	
opposition	1660 Jun 28 22:00	7°♑37'44	0°56'39
min. Earth dist.	1660 Jun 28 23:18	7°♑37'39	29.19526 AU
direct	1660 Sep 17 05:55	6°♑14'12	
evening set	1660 Dec 14 07:19	8°♑08'19	
conjunction	1660 Dec 29 13:28	8°♑42'42	0°51'18
minimum elong	1660 Dec 29 13:29	8°♑42'42	0°51'17
max. Earth dist.	1660 Dec 29 13:12	8°♑42'41	31.19225 AU
morning rise	1661 Jan 13 19:40	9°♑17'08	
retrograde	1661 Apr 12 07:59	11°♑12'12	
opposition	1661 Jul 01 10:56	9°♑49'09	0°52'56
min. Earth dist.	1661 Jul 01 10:23	9°♑49'11	29.18962 AU
direct	1661 Sep 19 17:44	8°♑25'41	
evening set	1661 Dec 16 16:46	10°♑19'46	
conjunction	1661 Dec 31 22:51	10°♑54'10	0°47'47
minimum elong	1661 Dec 31 22:51	10°♑54'10	0°47'47
max. Earth dist.	1661 Dec 31 22:44	10°♑54'09	31.18654 AU
morning rise	1662 Jan 16 05:19	11°♑28'37	
retrograde	1662 Apr 14 21:02	13°♑23'51	
opposition	1662 Jul 04 00:05	12°♑00'46	0°49'08
min. Earth dist.	1662 Jul 03 23:28	12°♑00'49	29.18377 AU
direct	1662 Sep 22 02:54	10°♑37'22	
evening set	1662 Dec 19 02:07	12°♑31'24	
conjunction	1663 Jan 03 08:24	13°♑05'49	0°44'11
minimum elong	1663 Jan 03 08:24	13°♑05'49	0°44'10
max. Earth dist.	1663 Jan 03 09:54	13°♑05'58	31.18035 AU
morning rise	1663 Jan 18 14:55	13°♑40'17	
retrograde	1663 Apr 17 08:30	15°♑35'40	
opposition	1663 Jul 06 13:11	14°♑12'34	0°45'15
min. Earth dist.	1663 Jul 06 11:28	14°♑12'41	29.17699 AU
direct	1663 Sep 24 14:59	12°♑49'13	
evening set	1663 Dec 21 11:48	14°♑43'14	
conjunction	1664 Jan 05 17:59	15°♑17'39	0°40'32
minimum elong	1664 Jan 05 17:59	15°♑17'39	0°40'32
max. Earth dist.	1664 Jan 05 19:01	15°♑17'45	31.17305 AU
morning rise	1664 Jan 21 00:49	15°♑52'09	
retrograde	1664 Apr 18 22:24	17°♑47'40	
opposition	1664 Jul 08 02:16	16°♑24'31	0°41'19
min. Earth dist.	1664 Jul 08 00:07	16°♑24'40	29.16910 AU
direct	1664 Sep 26 01:50	15°♑01'13	
evening set	1664 Dec 22 21:24	16°♑55'11	

conjunction	1665 Jan 07	03:48	17°♓29'38	0°36'49	
minimum elong	1665 Jan 07	03:48	17°♓29'38	0°36'48	
max. Earth dist.	1665 Jan 07	06:27	17°♓29'53	31.16442 AU	
morning rise	1665 Jan 22	10:40	18°♓04'09		
retrograde	1665 Apr 21	10:23	19°♓59'48		
opposition	1665 Jul 10	15:34	18°♓36'35	0°37'18	
min. Earth dist.	1665 Jul 10	13:06	18°♓36'45	29.15968 AU	
direct	1665 Sep 28	15:02	17°♓13'19		
evening set	1665 Dec 25	07:00	19°♓07'13		
conjunction	1666 Jan 09	13:23	19°♓41'41	0°33'03	
minimum elong	1666 Jan 09	13:23	19°♓41'41	0°33'03	
max. Earth dist.	1666 Jan 09	15:43	19°♓41'54	31.15444 AU	
morning rise	1666 Jan 24	20:38	20°♓16'14		
retrograde	1666 Apr 23	23:36	22°♓12'00		
opposition	1666 Jul 13	04:48	20°♓48'42	0°33'15	
min. Earth dist.	1666 Jul 13	01:04	20°♓48'57	29.14905 AU	
direct	1666 Oct 01	02:14	19°♓25'26		
evening set	1666 Dec 27	16:35	21°♓19'16		
conjunction	1667 Jan 11	23:11	21°♓53'44	0°29'14	
minimum elong	1667 Jan 11	23:11	21°♓53'44	0°29'14	
max. Earth dist.	1667 Jan 12	02:48	21°♓54'05	31.14322 AU	
morning rise	1667 Jan 27	06:35	22°♓28'19		
retrograde	1667 Apr 26	09:49	24°♓24'12		
opposition	1667 Jul 15	17:54	23°♓00'48	0°29'09	
min. Earth dist.	1667 Jul 15	14:20	23°♓01'03	29.13744 AU	
direct	1667 Oct 03	15:04	21°♓37'31		
evening set	1667 Dec 30	02:10	23°♓31'16		
conjunction	1668 Jan 14	08:51	24°♓05'46	0°25'22	
minimum elong	1668 Jan 14	08:51	24°♓05'46	0°25'23	
max. Earth dist.	1668 Jan 14	12:58	24°♓06'09	31.13152 AU	
morning rise	1668 Jan 29	16:33	24°♓40'22		
retrograde	1668 Apr 27	22:20	26°♓36'21		
opposition	1668 Jul 17	06:57	25°♓12'52	0°25'00	
min. Earth dist.	1668 Jul 17	01:31	25°♓13'14	29.12565 AU	
direct	1668 Oct 05	03:20	23°♓49'34		
evening set	1668 Dec 31	11:40	25°♓43'15		
conjunction	1669 Jan 15	18:25	26°♓17'45	0°21'29	
minimum elong	1669 Jan 15	18:25	26°♓17'45	0°21'28	
max. Earth dist.	1669 Jan 15	23:31	26°♓18'14	31.11979 AU	
morning rise	1669 Jan 31	02:21	26°♓52'23		
retrograde	1669 Apr 30	09:06	28°♓48'30		
opposition	1669 Jul 19	20:11	27°♓24'54	0°20'50	
min. Earth dist.	1669 Jul 19	14:47	27°♓25'16	29.11430 AU	
direct	1669 Oct 07	14:10	26°♓01'37		
evening set	1670 Jan 02	21:11	27°♓55'13		
conjunction	1670 Jan 18	04:10	28°♓29'45	0°17'34	
minimum elong	1670 Jan 18	04:10	28°♓29'45	0°17'34	
max. Earth dist.	1670 Jan 18	10:46	28°♓30'22	31.10892 AU	
morning rise	1670 Feb 02	12:18	29°♓04'24		
	1670 Mar 01	15:32	0°♒		
retrograde	1670 May 02	20:06	1°♒00'38		
	1670 Jul 08	01:15	30°℞♓		
opposition	1670 Jul 22	09:12	29°♓36'58	0°16'37	
min. Earth dist.	1670 Jul 22	01:44	29°♓37'28	29.10388 AU	
direct	1670 Oct 10	01:59	28°♓13'41		
	1671 Jan 01	23:48	0°♒		
evening set	1671 Jan 05	06:48	0°♒07'15		
conjunction	1671 Jan 20	13:50	0°♒41'47	0°13'37	
minimum elong	1671 Jan 20	13:50	0°♒41'47	0°13'36	
behind sun begin	1671 Jan 20	10:12	0°♒41'28		
behind sun end	1671 Jan 20	17:27	0°♒42'07		
max. Earth dist.	1671 Jan 20	20:41	0°♒42'25	31.09899 AU	
morning rise	1671 Feb 04	22:22	1°♒16'29		
retrograde	1671 May 05	08:38	3°♒12'51		
opposition	1671 Jul 24	22:20	1°♒49'07	0°12'22	
min. Earth dist.	1671 Jul 24	14:33	1°♒49'38	29.09452 AU	
direct	1671 Oct 12	10:42	0°♒25'51		
evening set	1672 Jan 07	16:21	2°♒19'23		
conjunction	1672 Jan 22	23:41	2°♒53'57	0°09'39	
minimum elong	1672 Jan 22	23:41	2°♒53'57	0°09'39	
behind sun begin	1672 Jan 22	18:22	2°♒53'28		
behind sun end	1672 Jan 23	05:00	2°♒54'25		
max. Earth dist.	1672 Jan 23	08:28	2°♒54'46	31.09007 AU	
morning rise	1672 Feb 07	08:20	3°♒28'40		
retrograde	1672 May 06	20:12	5°♒25'10		
opposition	1672 Jul 26	11:17	4°♒01'23	0°08'06	
min. Earth dist.	1672 Jul 26	02:02	4°♒02'01	29.08592 AU	
direct	1672 Oct 13	22:31	2°♒38'10		
evening set	1673 Jan 09	02:09	4°♒31'40		
conjunction	1673 Jan 24	09:30	5°♒06'15	0°05'40	
minimum elong	1673 Jan 24	09:29	5°♒06'15	0°05'40	
behind sun begin	1673 Jan 24	03:20	5°♒05'41		
behind sun end	1673 Jan 24	15:39	5°♒06'48		
max. Earth dist.	1673 Jan 24	18:13	5°♒07'03	31.08192 AU	
morning rise	1673 Feb 08	18:36	5°♒41'00		
retrograde	1673 May 09	10:35	7°♒37'39		
opposition	1673 Jul 29	00:30	6°♒13'49	0°03'49	
min. Earth dist.	1673 Jul 28	14:30	6°♒14'30	29.07809 AU	
direct	1673 Oct 16	08:37	4°♒50'39		
evening set	1674 Jan 11	11:46	6°♒44'07		
conjunction	1674 Jan 26	19:26	7°♒18'43	0°01'39	
minimum elong	1674 Jan 26	19:27	7°♒18'43	0°01'39	
behind sun begin	1674 Jan 26	13:02	7°♒18'08		
behind sun end	1674 Jan 27	01:51	7°♒19'18		
max. Earth dist.	1674 Jan 27	06:08	7°♒19'43	31.07419 AU	
morning rise	1674 Feb 11	04:42	7°♒53'30		
retrograde	1674 May 11	23:05	9°♒50'18		
desc. node	1674 Jun 21	15:07	9°♒25'12		
opposition	1674 Jul 31	13:44	8°♒26'26	-0°00'28	
min. Earth dist.	1674 Jul 31	03:13	8°♒27'09	29.07037 AU	
direct	1674 Oct 18	20:36	7°♒03'18		
evening set	1675 Jan 13	21:46	8°♒56'45		
conjunction	1675 Jan 29	05:32	9°♒31'22	-0°02'29	
minimum elong	1675 Jan 29	05:31	9°♒31'22	0°02'30	
behind sun begin	1675 Jan 28	23:07	9°♒30'48		
behind sun end	1675 Jan 29	11:55	9°♒31'57		
max. Earth dist.	1675 Jan 29	16:04	9°♒32'22	31.06648 AU	
morning rise	1675 Feb 13	15:13	10°♒06'11		
retrograde	1675 May 14	13:04	12°♒03'07		
opposition	1675 Aug 03	02:46	10°♒39'13	-0°04'46	
min. Earth dist.	1675 Aug 02	15:06	10°♒40'00	29.06251 AU	
direct	1675 Oct 21	07:00	9°♒16'07		
evening set	1676 Jan 16	07:48	11°♒09'33		
conjunction	1676 Jan 31	15:49	11°♒44'12	-0°06'30	
minimum elong	1676 Jan 31	15:49	11°♒44'12	0°06'29	
behind sun begin	1676 Jan 31	09:46	11°♒43'39		
behind sun end	1676 Jan 31	21:51	11°♒44'45		
max. Earth dist.	1676 Feb 01	03:28	11°♒45'17	31.05818 AU	
morning rise	1676 Feb 16	01:43	12°♒19'02		
retrograde	1676 May 16	01:21	14°♒16'07		
opposition	1676 Aug 04	16:04	12°♒52'09	-0°09'03	
min. Earth dist.	1676 Aug 04	04:41	12°♒52'55	29.05383 AU	
direct	1676 Oct 22	19:57	11°♒29'05		

evening set	1677 Jan 17 17:52	13°♒22'28	
conjunction	1677 Feb 02 02:04	13°♒57'09	-0°10'29
minimum elong	1677 Feb 02 02:04	13°♒57'09	0°10'30
behind sun begin	1677 Feb 01 21:01	13°♒56'41	
behind sun end	1677 Feb 02 07:07	13°♒57'36	
max. Earth dist.	1677 Feb 02 14:01	13°♒58'16	31.04907 AU
morning rise	1677 Feb 17 12:18	14°♒32'01	
	1677 Mar 02 12:06	15°♒	
retrograde	1677 May 18 15:37	16°♒29'13	
opposition	1677 Aug 07 05:20	15°♒05'10	-0°13'20
min. Earth dist.	1677 Aug 06 16:26	15°♒06'03	29.04413 AU
	1677 Aug 10 09:27	15°℞♒	
direct	1677 Oct 25 08:37	13°♒42'07	
	1678 Jan 03 11:45	15°♒	
evening set	1678 Jan 20 04:09	15°♒35'28	
conjunction	1678 Feb 04 12:32	16°♒10'09	-0°14'28
minimum elong	1678 Feb 04 12:32	16°♒10'09	0°14'27
behind sun begin	1678 Feb 04 09:31	16°♒09'53	
behind sun end	1678 Feb 04 15:32	16°♒10'26	
max. Earth dist.	1678 Feb 05 00:48	16°♒11'19	31.03869 AU
morning rise	1678 Feb 19 23:08	16°♒45'04	
retrograde	1678 May 21 02:59	18°♒42'22	
opposition	1678 Aug 09 18:39	17°♒18'14	-0°17'35
min. Earth dist.	1678 Aug 09 06:24	17°♒19'05	29.03326 AU
direct	1678 Oct 27 19:49	15°♒55'10	
evening set	1679 Jan 22 14:19	17°♒48'27	
conjunction	1679 Feb 06 23:04	18°♒23'10	-0°18'26
minimum elong	1679 Feb 06 23:04	18°♒23'10	0°18'26
max. Earth dist.	1679 Feb 07 12:20	18°♒24'25	31.02734 AU
morning rise	1679 Feb 22 09:57	18°♒58'06	
retrograde	1679 May 23 14:34	20°♒55'29	
opposition	1679 Aug 12 07:46	19°♒31'16	-0°21'49
min. Earth dist.	1679 Aug 11 18:03	19°♒32'12	29.02140 AU
direct	1679 Oct 30 08:26	18°♒08'09	
evening set	1680 Jan 25 00:37	20°♒01'23	
conjunction	1680 Feb 09 09:26	20°♒36'07	-0°22'22
minimum elong	1680 Feb 09 09:26	20°♒36'07	0°22'22
max. Earth dist.	1680 Feb 09 22:28	20°♒37'21	31.01518 AU
morning rise	1680 Feb 24 20:47	21°♒11'04	
retrograde	1680 May 25 02:53	23°♒08'33	
opposition	1680 Aug 13 20:55	21°♒44'13	-0°26'01
min. Earth dist.	1680 Aug 13 07:22	21°♒45'09	29.00925 AU
direct	1680 Oct 31 18:19	20°♒21'04	
evening set	1681 Jan 26 10:47	22°♒14'14	
conjunction	1681 Feb 10 20:00	22°♒48'59	-0°26'17
minimum elong	1681 Feb 10 20:00	22°♒48'59	0°26'17
max. Earth dist.	1681 Feb 11 10:49	22°♒50'23	31.00311 AU
morning rise	1681 Feb 26 07:32	23°♒23'59	
retrograde	1681 May 27 14:23	25°♒21'33	
opposition	1681 Aug 16 09:59	23°♒57'06	-0°30'11
min. Earth dist.	1681 Aug 15 19:04	23°♒58'08	28.99744 AU
direct	1681 Nov 03 06:40	22°♒33'56	
evening set	1682 Jan 28 21:03	24°♒27'03	
conjunction	1682 Feb 13 06:23	25°♒01'49	-0°30'09
minimum elong	1682 Feb 13 06:22	25°♒01'49	0°30'08
max. Earth dist.	1682 Feb 13 21:03	25°♒03'12	30.99174 AU
morning rise	1682 Feb 28 18:26	25°♒36'50	
retrograde	1682 May 30 04:03	27°♒34'31	
opposition	1682 Aug 18 23:04	26°♒09'59	-0°34'18
min. Earth dist.	1682 Aug 18 07:30	26°♒11'03	28.98670 AU
direct	1682 Nov 05 16:33	24°♒46'47	
evening set	1683 Jan 31 07:21	26°♒39'53	
conjunction	1683 Feb 15 17:05	27°♒14'40	-0°33'58
minimum elong	1683 Feb 15 17:05	27°♒14'40	0°33'58
max. Earth dist.	1683 Feb 16 09:39	27°♒16'14	30.98145 AU
morning rise	1683 Mar 03 05:20	27°♒49'43	
retrograde	1683 Jun 01 16:02	29°♒47'30	
opposition	1683 Aug 21 11:54	28°♒22'54	-0°38'22
min. Earth dist.	1683 Aug 20 19:43	28°♒24'01	28.97707 AU
direct	1683 Nov 08 03:56	26°♒59'43	
evening set	1684 Feb 02 17:47	28°♒52'49	
conjunction	1684 Feb 18 03:41	29°♒27'37	-0°37'45
minimum elong	1684 Feb 18 03:41	29°♒27'37	0°37'44
max. Earth dist.	1684 Feb 18 20:17	29°♒29'11	30.97254 AU
	1684 Mar 03 11:17	0°♓	
morning rise	1684 Mar 04 16:25	0°♓02'42	
retrograde	1684 Jun 03 06:26	2°♓00'36	
min. Earth dist.	1684 Aug 22 07:18	0°♓37'09	28.96885 AU
opposition	1684 Aug 23 00:51	0°♓35'57	-0°42'22
	1684 Sep 14 13:51	30°℞♒	
direct	1684 Nov 09 14:04	29°♒12'47	
	1685 Jan 02 01:25	0°♓	
evening set	1685 Feb 04 04:06	1°♓05'53	
conjunction	1685 Feb 19 14:20	1°♓40'43	-0°41'28
minimum elong	1685 Feb 19 14:19	1°♓40'43	0°41'29
max. Earth dist.	1685 Feb 20 08:19	1°♓42'25	30.96480 AU
morning rise	1685 Mar 07 03:21	2°♓15'50	
retrograde	1685 Jun 05 19:31	4°♓13'52	
opposition	1685 Aug 25 13:57	2°♓49'11	-0°46'20
min. Earth dist.	1685 Aug 24 20:21	2°♓50'23	28.96171 AU
direct	1685 Nov 12 02:33	1°♓26'04	
evening set	1686 Feb 06 14:40	3°♓19'09	
conjunction	1686 Feb 22 01:12	3°♓54'01	-0°45'09
minimum elong	1686 Feb 22 01:12	3°♓54'01	0°45'08
max. Earth dist.	1686 Feb 22 19:46	3°♓55'47	30.95821 AU
morning rise	1686 Mar 09 14:37	4°♓29'10	
retrograde	1686 Jun 08 10:43	6°♓27'19	
min. Earth dist.	1686 Aug 27 07:35	5°♓03'57	28.95550 AU
opposition	1686 Aug 28 02:45	5°♓02'38	-0°50'13
direct	1686 Nov 14 14:37	3°♓39'33	
evening set	1687 Feb 09 01:24	5°♓32'40	
conjunction	1687 Feb 24 12:11	6°♓07'34	-0°48'45
minimum elong	1687 Feb 24 12:11	6°♓07'34	0°48'46
max. Earth dist.	1687 Feb 25 07:11	6°♓09'22	30.95215 AU
morning rise	1687 Mar 12 02:02	6°♓42'45	
retrograde	1687 Jun 10 22:54	8°♓41'02	
opposition	1687 Aug 30 15:48	7°♓16'20	-0°54'02
min. Earth dist.	1687 Aug 29 21:16	7°♓17'36	28.94965 AU
direct	1687 Nov 17 01:25	5°♓53'18	
evening set	1688 Feb 11 12:11	7°♓46'26	
conjunction	1688 Feb 26 23:21	8°♓21'21	-0°52'17
minimum elong	1688 Feb 26 23:21	8°♓21'21	0°52'17
max. Earth dist.	1688 Feb 27 19:24	8°♓23'15	30.94628 AU
morning rise	1688 Mar 13 13:26	8°♓56'34	
retrograde	1688 Jun 12 11:54	10°♓54'58	
min. Earth dist.	1688 Aug 31 08:52	9°♓31'37	28.94365 AU
opposition	1688 Sep 01 04:40	9°♓30'15	-0°57'47
direct	1688 Nov 18 13:57	8°♓07'16	
evening set	1689 Feb 12 23:18	10°♓00'25	
conjunction	1689 Feb 28 10:37	10°♓35'22	-0°55'45
minimum elong	1689 Feb 28 10:37	10°♓35'22	0°55'45

max. Earth dist.	1689 Mar 01 06:06	10°♓37'13	30.93997 AU
morning rise	1689 Mar 16 01:13	11°♓10'37	
retrograde	1689 Jun 15 01:38	13°♓09'08	
opposition	1689 Sep 03 17:47	11°♓44'23	-1°01'26
min. Earth dist.	1689 Sep 02 22:34	11°♓45'43	28.93711 AU
direct	1689 Nov 20 23:55	10°♓21'25	
evening set	1690 Feb 15 10:21	12°♓14'34	
conjunction	1690 Mar 02 22:10	12°♓49'33	-0°59'07
minimum elong	1690 Mar 02 22:10	12°♓49'33	0°59'06
max. Earth dist.	1690 Mar 03 18:49	12°♓51'30	30.93290 AU
morning rise	1690 Mar 18 13:01	13°♓24'49	
retrograde	1690 Jun 17 13:23	15°♓23'26	
min. Earth dist.	1690 Sep 05 10:49	14°♓00'02	28.92946 AU
opposition	1690 Sep 06 06:46	13°♓58'39	-1°05'00
direct	1690 Nov 23 12:34	12°♓35'40	
evening set	1691 Feb 17 21:43	14°♓28'49	
conjunction	1691 Mar 05 09:44	15°♓03'48	-1°02'25
minimum elong	1691 Mar 05 09:44	15°♓03'48	1°02'25
max. Earth dist.	1691 Mar 06 05:24	15°♓05'40	30.92473 AU
morning rise	1691 Mar 21 01:07	15°♓39'07	
retrograde	1691 Jun 20 02:26	17°♓37'48	
opposition	1691 Sep 08 19:38	16°♓12'57	-1°08'28
min. Earth dist.	1691 Sep 07 23:51	16°♓14'18	28.92088 AU
direct	1691 Nov 25 22:25	14°♓49'56	
evening set	1692 Feb 20 08:55	16°♓43'03	
conjunction	1692 Mar 06 21:25	17°♓18'04	-1°05'36
minimum elong	1692 Mar 06 21:24	17°♓18'04	1°05'36
max. Earth dist.	1692 Mar 07 18:21	17°♓20'03	30.91569 AU
morning rise	1692 Mar 22 13:03	17°♓53'24	
retrograde	1692 Jun 21 14:10	19°♓52'08	
opposition	1692 Sep 10 08:33	18°♓27'11	-1°11'50
min. Earth dist.	1692 Sep 09 12:40	18°♓28'34	28.91161 AU
direct	1692 Nov 27 09:44	17°♓04'08	
evening set	1693 Feb 21 20:06	18°♓57'13	
conjunction	1693 Mar 09 08:52	19°♓32'15	-1°08'42
minimum elong	1693 Mar 09 08:51	19°♓32'15	1°08'43
max. Earth dist.	1693 Mar 10 05:24	19°♓34'12	30.90642 AU
morning rise	1693 Mar 25 01:02	20°♓07'36	
retrograde	1693 Jun 24 04:26	22°♓06'23	
opposition	1693 Sep 12 21:22	20°♓41'21	-1°15'06
min. Earth dist.	1693 Sep 12 00:43	20°♓42'47	28.90250 AU
direct	1693 Nov 29 20:31	19°♓18'15	
evening set	1694 Feb 24 07:26	21°♓11'18	
conjunction	1694 Mar 11 20:35	21°♓46'21	-1°11'42
minimum elong	1694 Mar 11 20:35	21°♓46'21	1°11'41
max. Earth dist.	1694 Mar 12 18:06	21°♓48'23	30.89741 AU
morning rise	1694 Mar 27 13:06	22°♓21'44	
retrograde	1694 Jun 26 17:06	24°♓20'33	
opposition	1694 Sep 15 10:02	22°♓55'26	-1°18'15
min. Earth dist.	1694 Sep 14 13:43	22°♓56'51	28.89397 AU
direct	1694 Dec 02 08:53	21°♓32'17	
evening set	1695 Feb 26 18:49	23°♓25'19	
conjunction	1695 Mar 14 08:22	24°♓00'24	-1°14'35
minimum elong	1695 Mar 14 08:21	24°♓00'24	1°14'36
max. Earth dist.	1695 Mar 15 06:09	24°♓02'28	30.88940 AU
morning rise	1695 Mar 30 01:17	24°♓35'48	
retrograde	1695 Jun 29 07:37	26°♓34'40	
opposition	1695 Sep 17 22:37	25°♓09'28	-1°21'16
min. Earth dist.	1695 Sep 17 00:53	25°♓10'59	28.88655 AU
direct	1695 Dec 04 20:53	23°♓46'17	
evening set	1696 Feb 29 06:14	25°♓39'19	
conjunction	1696 Mar 15 20:02	26°♓14'25	-1°17'22
minimum elong	1696 Mar 15 20:01	26°♓14'25	1°17'21
max. Earth dist.	1696 Mar 16 18:12	26°♓16'31	30.88244 AU
morning rise	1696 Mar 31 13:23	26°♓49'51	
retrograde	1696 Jun 30 20:21	28°♓48'46	
opposition	1696 Sep 19 11:20	27°♓23'31	-1°24'11
min. Earth dist.	1696 Sep 18 14:09	27°♓24'59	28.88036 AU
direct	1696 Dec 06 08:01	26°♓00'19	
evening set	1697 Mar 02 17:41	27°♓53'22	
conjunction	1697 Mar 18 07:59	28°♓28'29	-1°20'01
minimum elong	1697 Mar 18 07:59	28°♓28'29	1°20'02
max. Earth dist.	1697 Mar 19 07:15	28°♓30'41	30.87697 AU
morning rise	1697 Apr 03 01:39	29°♓03'57	
	1697 Apr 30 10:37	0°♈	
retrograde	1697 Jul 03 10:36	1°♈02'54	
	1697 Sep 08 09:58	30°℞♓	
opposition	1697 Sep 21 23:50	29°♓37'38	-1°26'58
min. Earth dist.	1697 Sep 21 01:16	29°♓39'12	28.87553 AU
direct	1697 Dec 08 21:04	28°♓14'26	
	1698 Mar 01 19:29	0°♈	
evening set	1698 Mar 05 05:20	0°♈07'29	
conjunction	1698 Mar 20 19:55	0°♈42'39	-1°22'34
minimum elong	1698 Mar 20 19:54	0°♈42'38	1°22'34
max. Earth dist.	1698 Mar 21 18:44	0°♈44'48	30.87268 AU
morning rise	1698 Apr 05 14:10	1°♈18'08	
retrograde	1698 Jul 06 00:35	3°♈17'09	
opposition	1698 Sep 24 12:29	1°♈51'52	-1°29'37
min. Earth dist.	1698 Sep 23 14:29	1°♈53'24	28.87186 AU
direct	1698 Dec 11 07:40	0°♈28'41	
evening set	1699 Mar 07 17:02	2°♈21'46	
conjunction	1699 Mar 23 08:10	2°♈56'57	-1°24'59
minimum elong	1699 Mar 23 08:09	2°♈56'57	1°25'00
max. Earth dist.	1699 Mar 24 08:16	2°♈59'14	30.86938 AU
morning rise	1699 Apr 08 02:38	3°♈32'28	
retrograde	1699 Jul 08 12:35	5°♈31'32	
min. Earth dist.	1699 Sep 26 02:04	4°♈07'52	28.86885 AU
opposition	1699 Sep 27 00:51	4°♈06'16	-1°32'08
direct	1699 Dec 13 20:00	2°♈43'07	
evening set	1700 Mar 10 05:01	4°♈36'15	
conjunction	1700 Mar 25 20:22	5°♈11'27	-1°27'16
minimum elong	1700 Mar 25 20:21	5°♈11'27	1°27'16
max. Earth dist.	1700 Mar 26 19:34	5°♈13'39	30.86662 AU
morning rise	1700 Apr 10 15:25	5°♈47'00	
retrograde	1700 Jul 11 02:16	7°♈46'08	
opposition	1700 Sep 29 13:28	6°♈20'53	-1°34'30
min. Earth dist.	1700 Sep 28 14:56	6°♈22'27	28.86627 AU
direct	1700 Dec 16 05:45	4°♈57'45	
evening set	1701 Mar 12 16:54	6°♈50'55	
conjunction	1701 Mar 28 08:47	7°♈26'10	-1°29'26
minimum elong	1701 Mar 28 08:47	7°♈26'10	1°29'26
max. Earth dist.	1701 Mar 29 09:07	7°♈28'28	30.86385 AU
morning rise	1701 Apr 13 04:07	8°♈01'45	
retrograde	1701 Jul 13 14:38	10°♈00'57	
min. Earth dist.	1701 Oct 01 03:46	8°♈37'15	28.86327 AU
opposition	1701 Oct 02 02:01	8°♈35'42	-1°36'44
direct	1701 Dec 18 16:52	7°♈12'35	
evening set	1702 Mar 15 05:14	9°♈05'48	
conjunction	1702 Mar 30 21:26	9°♈41'04	-1°31'27
minimum elong	1702 Mar 30 21:26	9°♈41'04	1°31'26
max. Earth dist.	1702 Mar 31 20:41	9°♈43'16	30.86052 AU
morning rise	1702 Apr 15 17:18	10°♈16'41	

retrograde	1702 Jul 16	04:59	12°♈15'55		
opposition	1702 Oct 04	14:26	10°♈50'41	-1°38'50	
min. Earth dist.	1702 Oct 03	16:06	10°♈52'14	28.85953	AU
direct	1702 Dec 21	03:28	9°♈27'33		
evening set	1703 Mar 17	17:36	11°♈20'48		
conjunction	1703 Apr 02	10:16	11°♈56'06	-1°33'20	
minimum elong	1703 Apr 02	10:16	11°♈56'06	1°33'20	
max. Earth dist.	1703 Apr 03	09:43	11°♈58'19	30.85608	AU
morning rise	1703 Apr 18	06:28	12°♈31'44		
retrograde	1703 Jul 18	17:28	14°♈31'00		
min. Earth dist.	1703 Oct 06	05:36	13°♈07'14	28.85457	AU
opposition	1703 Oct 07	02:58	13°♈05'45	-1°40'46	
direct	1703 Dec 23	15:28	11°♈42'35		
evening set	1704 Mar 19	05:50	13°♈35'51		
conjunction	1704 Apr 03	22:57	14°♈11'10	-1°35'04	
minimum elong	1704 Apr 03	22:57	14°♈11'10	1°35'04	
max. Earth dist.	1704 Apr 04	21:54	14°♈13'20	30.85072	AU
morning rise	1704 Apr 19	19:35	14°♈46'50		
retrograde	1704 Jul 20	07:53	16°♈46'06		
opposition	1704 Oct 08	15:19	15°♈20'48	-1°42'33	
min. Earth dist.	1704 Oct 07	17:16	15°♈22'21	28.84880	AU
direct	1704 Dec 25	03:25	13°♈57'35		
evening set	1705 Mar 21	18:18	15°♈50'53		
conjunction	1705 Apr 06	11:47	16°♈26'13	-1°36'40	
minimum elong	1705 Apr 06	11:47	16°♈26'13	1°36'41	
max. Earth dist.	1705 Apr 07	10:27	16°♈28'22	30.84462	AU
morning rise	1705 Apr 22	08:54	17°♈01'55		
retrograde	1705 Jul 22	20:56	19°♈01'10		
min. Earth dist.	1705 Oct 10	06:50	17°♈37'16	28.84267	AU
opposition	1705 Oct 11	03:39	17°♈35'49	-1°44'11	
direct	1705 Dec 27	14:52	16°♈12'33		
evening set	1706 Mar 24	06:39	18°♈05'50		
conjunction	1706 Apr 09	00:43	18°♈41'12	-1°38'07	
minimum elong	1706 Apr 09	00:43	18°♈41'12	1°38'07	
max. Earth dist.	1706 Apr 09	23:51	18°♈43'23	30.83859	AU
morning rise	1706 Apr 24	22:11	19°♈16'55		
retrograde	1706 Jul 25	11:44	21°♈16'08		
opposition	1706 Oct 13	15:45	19°♈50'44	-1°45'39	
min. Earth dist.	1706 Oct 12	18:05	19°♈52'15	28.83677	AU
direct	1706 Dec 30	04:46	18°♈27'25		
evening set	1707 Mar 26	19:12	20°♈20'43		
conjunction	1707 Apr 11	13:33	20°♈56'07	-1°39'25	
minimum elong	1707 Apr 11	13:33	20°♈56'07	1°39'26	
max. Earth dist.	1707 Apr 12	11:51	20°♈58'13	30.83292	AU
morning rise	1707 Apr 27	11:33	21°♈31'51		
retrograde	1707 Jul 28	01:16	23°♈31'03		
min. Earth dist.	1707 Oct 15	07:04	22°♈07'03	28.83166	AU
opposition	1707 Oct 16	03:50	22°♈05'36	-1°46'57	
direct	1708 Jan 01	16:12	20°♈42'13		
evening set	1708 Mar 28	07:36	22°♈35'32		
conjunction	1708 Apr 13	02:33	23°♈10'58	-1°40'34	
minimum elong	1708 Apr 13	02:33	23°♈10'58	1°40'34	
max. Earth dist.	1708 Apr 14	01:54	23°♈13'10	30.82834	AU
morning rise	1708 Apr 29	00:48	23°♈46'44		
retrograde	1708 Jul 29	13:31	25°♈45'53		
opposition	1708 Oct 17	15:48	24°♈20'25	-1°48'06	
min. Earth dist.	1708 Oct 16	18:17	24°♈21'55	28.82767	AU
direct	1709 Jan 03	04:57	22°♈57'00		
evening set	1709 Mar 30	20:06	24°♈50'20		
conjunction	1709 Apr 15	15:22	25°♈25'47	-1°41'34	
minimum elong	1709 Apr 15	15:22	25°♈25'47	1°41'34	
max. Earth dist.	1709 Apr 16	13:42	25°♈27'53	30.82505	AU
morning rise	1709 May 01	14:15	26°♈01'35		
retrograde	1709 Aug 01	03:31	28°♈00'42		
min. Earth dist.	1709 Oct 19	06:36	26°♈36'43	28.82515	AU
opposition	1709 Oct 20	03:50	26°♈35'13	-1°49'05	
direct	1710 Jan 05	15:37	25°♈11'46		
evening set	1710 Apr 02	08:41	27°♈05'08		
conjunction	1710 Apr 18	04:34	27°♈40'37	-1°42'25	
minimum elong	1710 Apr 18	04:34	27°♈40'37	1°42'24	
max. Earth dist.	1710 Apr 19	04:01	27°♈42'50	30.82313	AU
morning rise	1710 May 04	03:43	28°♈16'26		
	1710 Jul 03	17:33	0°♉		
retrograde	1710 Aug 03	15:30	0°♉15'32		
	1710 Sep 03	21:54	30°♓℞		
opposition	1710 Oct 22	15:37	28°♈50'04	-1°49'54	
min. Earth dist.	1710 Oct 21	18:30	28°♈51'33	28.82387	AU
direct	1711 Jan 08	03:07	27°♈26'36		
evening set	1711 Apr 04	21:26	29°♈20'00		
conjunction	1711 Apr 20	17:41	29°♈55'30	-1°43'06	
minimum elong	1711 Apr 20	17:41	29°♈55'30	1°43'06	
max. Earth dist.	1711 Apr 21	16:12	29°♈57'38	30.82259	AU
	1711 Apr 22	17:20	0°♉		
morning rise	1711 May 06	17:23	0°♉31'21		
retrograde	1711 Aug 06	04:41	2°♉30'25		
min. Earth dist.	1711 Oct 24	06:09	1°♉06'29	28.82393	AU
opposition	1711 Oct 25	03:30	1°♉04'59	-1°50'33	
	1711 Dec 08	05:15	30°♓℞		
direct	1712 Jan 10	13:45	29°♈41'30		
	1712 Feb 12	08:19	0°♉		
evening set	1712 Apr 06	10:05	1°♉34'57		
conjunction	1712 Apr 22	06:50	2°♉10'29	-1°43'37	
minimum elong	1712 Apr 22	06:49	2°♉10'29	1°43'37	
max. Earth dist.	1712 Apr 23	05:56	2°♉12'40	30.82302	AU
morning rise	1712 May 08	06:51	2°♉46'22		
retrograde	1712 Aug 07	16:04	4°♉45'25		
opposition	1712 Oct 26	15:26	3°♉20'01	-1°51'01	
min. Earth dist.	1712 Oct 25	18:58	3°♉21'27	28.82471	AU
direct	1713 Jan 12	00:40	1°♉56'32		
evening set	1713 Apr 08	23:02	3°♉50'02		
conjunction	1713 Apr 24	20:15	4°♉25'36	-1°43'59	
minimum elong	1713 Apr 24	20:15	4°♉25'36	1°44'00	
max. Earth dist.	1713 Apr 25	18:42	4°♉27'43	30.82413	AU
morning rise	1713 May 10	20:44	5°♉01'29		
retrograde	1713 Aug 10	06:36	7°♉00'31		
min. Earth dist.	1713 Oct 28	06:14	5°♉36'37	28.82586	AU
opposition	1713 Oct 29	03:08	5°♉35'09	-1°51'20	
direct	1714 Jan 14	11:30	4°♉11'39		
evening set	1714 Apr 11	12:13	6°♉05'13		
conjunction	1714 Apr 27	09:51	6°♉40'49	-1°44'12	
minimum elong	1714 Apr 27	09:51	6°♉40'49	1°44'11	
max. Earth dist.	1714 Apr 28	07:43	6°♉42'52	30.82505	AU
morning rise	1714 May 13	10:46	7°♉16'44		
retrograde	1714 Aug 12	19:05	9°♉15'43		
opposition	1714 Oct 31	15:02	7°♉50'23	-1°51'28	
min. Earth dist.	1714 Oct 30	19:44	7°♉51'44	28.82656	AU
direct	1715 Jan 16	22:51	6°♉26'52		
evening set	1715 Apr 14	01:23	8°♉20'28		
conjunction	1715 Apr 29	23:35	8°♉56'06	-1°44'14	
minimum elong	1715 Apr 29	23:35	8°♉56'06	1°44'15	
max. Earth dist.	1715 Apr 30	21:12	8°♉58'07	30.82542	AU

morning rise	1715 May 16 00:47	9°♉32'02	
retrograde	1715 Aug 15 09:22	11°♉30'57	
min. Earth dist.	1715 Nov 02 07:05	10°♉07'00	28.82644 AU
opposition	1715 Nov 03 02:42	10°♉05'37	-1°51'26
direct	1716 Jan 19 12:28	8°♉42'04	
evening set	1716 Apr 15 14:42	10°♉35'42	
conjunction	1716 May 01 13:14	11°♉11'21	-1°44'08
minimum elong	1716 May 01 13:14	11°♉11'21	1°44'07
max. Earth dist.	1716 May 02 09:24	11°♉13'15	30.82487 AU
morning rise	1716 May 17 14:58	11°♉47'19	
retrograde	1716 Aug 16 22:41	13°♉46'09	
opposition	1716 Nov 04 14:30	12°♉20'49	-1°51'13
min. Earth dist.	1716 Nov 03 20:23	12°♉22'06	28.82557 AU
direct	1717 Jan 20 23:57	10°♉57'12	
evening set	1717 Apr 18 03:48	12°♉50'51	
conjunction	1717 May 04 03:01	13°♉26'32	-1°43'52
minimum elong	1717 May 04 03:01	13°♉26'32	1°43'52
max. Earth dist.	1717 May 04 23:30	13°♉28'27	30.82373 AU
morning rise	1717 May 20 05:02	14°♉02'30	
	1717 Jun 17 13:26	15°♉	
retrograde	1717 Aug 19 11:53	16°♉01'15	
	1717 Oct 23 15:38	15°℞♉	
min. Earth dist.	1717 Nov 06 07:52	14°♉37'11	28.82411 AU
opposition	1717 Nov 07 02:04	14°♉35'54	-1°50'51
direct	1718 Jan 23 13:20	13°♉12'12	
	1718 Apr 18 00:32	15°♉	
evening set	1718 Apr 20 17:13	15°♉05'53	
conjunction	1718 May 06 16:44	15°♉41'35	-1°43'26
minimum elong	1718 May 06 16:44	15°♉41'35	1°43'26
max. Earth dist.	1718 May 07 11:29	15°♉43'21	30.82226 AU
morning rise	1718 May 22 19:19	16°♉17'35	
retrograde	1718 Aug 22 02:07	18°♉16'12	
opposition	1718 Nov 09 13:28	16°♉50'50	-1°50'19
min. Earth dist.	1718 Nov 08 20:09	16°♉52'04	28.82276 AU
direct	1719 Jan 26 00:55	15°♉27'04	
evening set	1719 Apr 23 06:25	17°♉20'46	
conjunction	1719 May 09 06:33	17°♉56'30	-1°42'52
minimum elong	1719 May 09 06:33	17°♉56'30	1°42'52
max. Earth dist.	1719 May 10 02:01	17°♉58'20	30.82108 AU
morning rise	1719 May 25 09:21	18°♉32'31	
retrograde	1719 Aug 24 13:42	20°♉31'01	
min. Earth dist.	1719 Nov 11 07:56	19°♉06'51	28.82185 AU
opposition	1719 Nov 12 00:51	19°♉05'39	-1°49'37
direct	1720 Jan 28 13:23	17°♉41'50	
evening set	1720 Apr 24 19:36	19°♉35'32	
conjunction	1720 May 10 20:04	20°♉11'17	-1°42'08
minimum elong	1720 May 10 20:04	20°♉11'17	1°42'07
max. Earth dist.	1720 May 11 14:16	20°♉13'00	30.82073 AU
morning rise	1720 May 26 23:24	20°♉47'20	
retrograde	1720 Aug 26 02:41	22°♉45'44	
opposition	1720 Nov 13 12:11	21°♉20'23	-1°48'45
min. Earth dist.	1720 Nov 12 19:16	21°♉21'34	28.82208 AU
direct	1721 Jan 30 00:31	19°♉56'29	
evening set	1721 Apr 27 08:53	21°♉50'14	
conjunction	1721 May 13 09:54	22°♉26'01	-1°41'14
minimum elong	1721 May 13 09:54	22°♉26'01	1°41'15
max. Earth dist.	1721 May 14 04:32	22°♉27'46	30.82152 AU
morning rise	1721 May 29 13:29	23°♉02'04	
retrograde	1721 Aug 28 13:38	25°♉00'22	
opposition	1721 Nov 15 23:23	23°♉35'02	-1°47'43
min. Earth dist.	1721 Nov 15 07:25	23°♉36'10	28.82356 AU
direct	1722 Feb 01 11:24	22°♉11'07	
evening set	1722 Apr 29 22:16	24°♉04'54	
conjunction	1722 May 15 23:44	24°♉40'43	-1°40'12
minimum elong	1722 May 15 23:44	24°♉40'43	1°40'12
max. Earth dist.	1722 May 16 17:29	24°♉42'22	30.82385 AU
morning rise	1722 Jun 01 03:45	25°♉16'46	
retrograde	1722 Aug 31 03:26	27°♉14'59	
opposition	1722 Nov 18 10:31	25°♉49'42	-1°46'31
min. Earth dist.	1722 Nov 17 17:58	25°♉50'53	28.82659 AU
direct	1723 Feb 03 22:00	24°♉25'44	
evening set	1723 May 02 11:38	26°♉19'36	
conjunction	1723 May 18 13:29	26°♉55'26	-1°39'00
minimum elong	1723 May 18 13:29	26°♉55'26	1°39'00
max. Earth dist.	1723 May 19 06:59	26°♉57'04	30.82756 AU
morning rise	1723 Jun 03 17:49	27°♉31'31	
retrograde	1723 Sep 02 14:31	29°♉29'38	
opposition	1723 Nov 20 21:44	28°♉04'25	-1°45'09
min. Earth dist.	1723 Nov 20 06:29	28°♉05'30	28.83105 AU
direct	1724 Feb 06 08:58	26°♉40'28	
evening set	1724 May 04 01:00	28°♉34'23	
conjunction	1724 May 20 03:24	29°♉10'14	-1°37'39
minimum elong	1724 May 20 03:24	29°♉10'14	1°37'39
max. Earth dist.	1724 May 20 20:49	29°♉11'52	30.83282 AU
morning rise	1724 Jun 05 08:03	29°♉46'20	
	1724 Jun 11 15:44	0°♊	
retrograde	1724 Sep 04 04:05	1°♊44'23	
opposition	1724 Nov 22 08:45	0°♊19'15	-1°43'37
min. Earth dist.	1724 Nov 21 17:02	0°♊20'22	28.83677 AU
	1724 Dec 03 19:08	30°℞♉	
direct	1725 Feb 07 21:41	28°♉55'17	
	1725 Apr 12 12:19	0°♊	
evening set	1725 May 06 14:36	0°♊49'17	
conjunction	1725 May 22 17:19	1°♊25'11	-1°36'09
minimum elong	1725 May 22 17:20	1°♊25'11	1°36'09
max. Earth dist.	1725 May 23 09:34	1°♊26'42	30.83898 AU
morning rise	1725 Jun 07 22:25	2°♊01'18	
retrograde	1725 Sep 06 17:04	3°♊59'16	
opposition	1725 Nov 24 19:56	2°♊34'13	-1°41'56
min. Earth dist.	1725 Nov 24 05:46	2°♊35'13	28.84321 AU
direct	1726 Feb 10 08:21	1°♊10'15	
evening set	1726 May 09 04:17	3°♊04'21	
conjunction	1726 May 25 07:34	3°♊40'16	-1°34'30
minimum elong	1726 May 25 07:34	3°♊40'16	1°34'29
max. Earth dist.	1726 May 25 23:51	3°♊41'47	30.84552 AU
morning rise	1726 Jun 10 12:49	4°♊16'23	
retrograde	1726 Sep 09 06:41	6°♊14'15	
opposition	1726 Nov 27 06:51	4°♊49'18	-1°40'05
min. Earth dist.	1726 Nov 26 16:53	4°♊50'18	28.84954 AU
direct	1727 Feb 12 21:25	3°♊25'20	
evening set	1727 May 11 18:11	5°♊19'30	
conjunction	1727 May 27 21:43	5°♊55'27	-1°32'42
minimum elong	1727 May 27 21:43	5°♊55'27	1°32'42
max. Earth dist.	1727 May 28 11:56	5°♊56'47	30.85166 AU
morning rise	1727 Jun 13 03:25	6°♊31'36	
retrograde	1727 Sep 11 21:37	8°♊29'21	
opposition	1727 Nov 29 18:02	7°♊04'28	-1°38'05
min. Earth dist.	1727 Nov 29 05:13	7°♊05'22	28.85539 AU
direct	1728 Feb 15 09:35	5°♊40'28	
evening set	1728 May 13 07:50	7°♊34'42	
conjunction	1728 May 29 11:57	8°♊10'40	-1°30'46

minimum elong	1728 May 29	11:57	8°♊10'40	1°30'46
max. Earth dist.	1728 May 30	02:16	8°♊12'00	30.85706 AU
morning rise	1728 Jun 14	17:47	8°♊46'49	
retrograde	1728 Sep 13	09:15	10°♊44'27	
opposition	1728 Dec 01	05:08	9°♊19'37	-1°35'57
min. Earth dist.	1728 Nov 30	17:16	9°♊20'28	28.86021 AU
direct	1729 Feb 16	22:40	7°♊55'35	
evening set	1729 May 15	21:48	9°♊49'50	
conjunction	1729 Jun 01	02:12	10°♊25'49	-1°28'42
minimum elong	1729 Jun 01	02:13	10°♊25'49	1°28'42
max. Earth dist.	1729 Jun 01	14:27	10°♊26'58	30.86160 AU
morning rise	1729 Jun 17	08:30	11°♊02'00	
retrograde	1729 Sep 15	22:57	12°♊59'28	
opposition	1729 Dec 03	16:02	11°♊34'40	-1°33'40
min. Earth dist.	1729 Dec 03	04:48	11°♊35'28	28.86434 AU
direct	1730 Feb 19	10:26	10°♊10'34	
evening set	1730 May 18	11:41	12°♊04'51	
conjunction	1730 Jun 03	16:35	12°♊40'51	-1°26'30
minimum elong	1730 Jun 03	16:35	12°♊40'51	1°26'30
max. Earth dist.	1730 Jun 04	04:41	12°♊41'59	30.86540 AU
morning rise	1730 Jun 19	23:00	13°♊17'01	
retrograde	1730 Sep 18	10:24	15°♊14'20	
opposition	1730 Dec 06	03:00	13°♊49'33	-1°31'14
min. Earth dist.	1730 Dec 05	17:15	13°♊50'15	28.86791 AU
direct	1731 Feb 21	22:12	12°♊25'23	
evening set	1731 May 21	01:26	14°♊19'40	
conjunction	1731 Jun 06	06:38	14°♊55'42	-1°24'10
minimum elong	1731 Jun 06	06:38	14°♊55'42	1°24'10
max. Earth dist.	1731 Jun 06	17:17	14°♊56'41	30.86904 AU
morning rise	1731 Jun 22	13:22	15°♊31'52	
retrograde	1731 Sep 20	23:12	17°♊29'00	
opposition	1731 Dec 08	13:44	16°♊04'15	-1°28'41
min. Earth dist.	1731 Dec 08	03:48	16°♊04'57	28.87156 AU
direct	1732 Feb 24	09:46	14°♊39'59	
evening set	1732 May 22	15:14	16°♊34'18	
conjunction	1732 Jun 07	20:47	17°♊10'20	-1°21'42
minimum elong	1732 Jun 07	20:47	17°♊10'20	1°21'43
max. Earth dist.	1732 Jun 08	06:53	17°♊11'16	30.87285 AU
morning rise	1732 Jun 24	03:42	17°♊46'31	
retrograde	1732 Sep 22	08:56	19°♊43'29	
opposition	1732 Dec 10	00:29	18°♊18'45	-1°25'59
min. Earth dist.	1732 Dec 09	16:12	18°♊19'20	28.87570 AU
direct	1733 Feb 25	20:56	16°♊54'25	
evening set	1733 May 25	04:56	18°♊48'45	
conjunction	1733 Jun 10	10:55	19°♊24'47	-1°19'08
minimum elong	1733 Jun 10	10:55	19°♊24'47	1°19'08
max. Earth dist.	1733 Jun 10	20:29	19°♊25'40	30.87750 AU
morning rise	1733 Jun 26	18:04	20°♊00'57	
retrograde	1733 Sep 24	21:13	21°♊57'45	
opposition	1733 Dec 12	11:03	20°♊33'03	-1°23'10
min. Earth dist.	1733 Dec 12	02:26	20°♊33'40	28.88071 AU
direct	1734 Feb 28	09:18	19°♊08'39	
evening set	1734 May 27	18:48	21°♊03'01	
conjunction	1734 Jun 13	00:58	21°♊39'04	-1°16'26
minimum elong	1734 Jun 13	00:58	21°♊39'04	1°16'26
max. Earth dist.	1734 Jun 13	09:23	21°♊39'51	30.88303 AU
morning rise	1734 Jun 29	08:20	22°♊15'15	
retrograde	1734 Sep 27	08:36	24°♊11'53	
opposition	1734 Dec 14	21:42	22°♊47'14	-1°20'14
min. Earth dist.	1734 Dec 14	14:29	22°♊47'45	28.88692 AU
direct	1735 Mar 02	19:35	21°♊22'46	
evening set	1735 May 30	08:28	23°♊17'12	
conjunction	1735 Jun 15	15:05	23°♊53'15	-1°13'38
minimum elong	1735 Jun 15	15:05	23°♊53'15	1°13'38
max. Earth dist.	1735 Jun 15	23:41	23°♊54'03	30.88999 AU
morning rise	1735 Jul 01	22:30	24°♊29'25	
retrograde	1735 Sep 29	20:46	26°♊25'55	
opposition	1735 Dec 17	08:14	25°♊01'20	-1°17'10
min. Earth dist.	1735 Dec 17	00:50	25°♊01'51	28.89445 AU
direct	1736 Mar 04	08:49	23°♊36'50	
evening set	1736 May 31	22:11	25°♊31'19	
conjunction	1736 Jun 17	04:57	26°♊07'23	-1°10'42
minimum elong	1736 Jun 17	04:57	26°♊07'23	1°10'42
max. Earth dist.	1736 Jun 17	11:53	26°♊08'02	30.89825 AU
morning rise	1736 Jul 03	12:41	26°♊43'34	
retrograde	1736 Oct 01	10:14	28°♊39'56	
opposition	1736 Dec 18	18:51	27°♊15'25	-1°13'59
min. Earth dist.	1736 Dec 18	12:20	27°♊15'53	28.90330 AU
direct	1737 Mar 06	20:32	25°♊50'55	
evening set	1737 Jun 03	12:01	27°♊45'29	
conjunction	1737 Jun 19	19:13	28°♊21'34	-1°07'40
minimum elong	1737 Jun 19	19:13	28°♊21'34	1°07'40
max. Earth dist.	1737 Jun 20	02:30	28°♊22'15	30.90761 AU
morning rise	1737 Jul 06	02:55	28°♊57'44	
	1737 Aug 06	12:31	0°♋	
retrograde	1737 Oct 03	21:50	0°♋53'58	
	1737 Dec 02	21:54	30°℞♊	
opposition	1737 Dec 21	05:17	29°♊29'35	-1°10'41
min. Earth dist.	1737 Dec 20	23:38	29°♊29'59	28.91287 AU
direct	1738 Mar 09	09:09	28°♊05'05	
evening set	1738 Jun 06	02:05	29°♊59'44	
	1738 Jun 06	05:00	0°♋	
conjunction	1738 Jun 22	09:21	0°♋35'50	-1°04'32
minimum elong	1738 Jun 22	09:21	0°♋35'50	1°04'32
max. Earth dist.	1738 Jun 22	14:40	0°♋36'20	30.91748 AU
morning rise	1738 Jul 08	17:19	1°♋12'00	
retrograde	1738 Oct 06	11:56	3°♋08'07	
opposition	1738 Dec 23	15:50	1°♋43'50	-1°07'16
min. Earth dist.	1738 Dec 23	10:44	1°♋44'12	28.92275 AU
direct	1739 Mar 11	20:48	0°♋19'21	
evening set	1739 Jun 08	15:56	2°♋14'05	
conjunction	1739 Jun 24	23:32	2°♋50'12	-1°01'18
minimum elong	1739 Jun 24	23:32	2°♋50'12	1°01'18
max. Earth dist.	1739 Jun 25	04:46	2°♋50'41	30.92710 AU
morning rise	1739 Jul 11	07:23	3°♋26'22	
retrograde	1739 Oct 08	23:45	5°♋22'21	
opposition	1739 Dec 26	02:29	3°♋58'11	-1°03'46
min. Earth dist.	1739 Dec 25	23:02	3°♋58'25	28.93202 AU
direct	1740 Mar 13	08:40	2°♋33'42	
evening set	1740 Jun 10	06:02	4°♋28'29	
conjunction	1740 Jun 26	13:45	5°♋04'37	-0°57'59
minimum elong	1740 Jun 26	13:45	5°♋04'37	0°57'59
max. Earth dist.	1740 Jun 26	17:01	5°♋04'55	30.93605 AU
morning rise	1740 Jul 12	21:47	5°♋40'47	
retrograde	1740 Oct 10	12:44	7°♋36'38	
opposition	1740 Dec 27	12:54	6°♋12'33	-1°00'10
min. Earth dist.	1740 Dec 27	09:38	6°♋12'47	28.94041 AU
direct	1741 Mar 15	20:25	4°♋48'02	
evening set	1741 Jun 12	20:08	6°♋42'54	
conjunction	1741 Jun 29	04:04	7°♋19'02	-0°54'34
minimum elong	1741 Jun 29	04:04	7°♋19'02	0°54'34

max. Earth dist.	1741 Jun	29	06:22	7°♓19'14	30.94383 AU
morning rise	1741 Jul	15	12:05	7°♓55'11	
retrograde	1741 Oct	12	22:44	9°♓50'53	
opposition	1741 Dec	29	23:32	8°♓26'53	-0°56'29
min. Earth dist.	1741 Dec	29	22:19	8°♓26'58	28.94763 AU
direct	1742 Mar	18	07:37	7°♓02'19	
evening set	1742 Jun	15	10:09	8°♓57'13	
conjunction	1742 Jul	01	18:15	9°♓33'21	-0°51'05
minimum elong	1742 Jul	01	18:16	9°♓33'21	0°51'05
max. Earth dist.	1742 Jul	01	19:21	9°♓33'27	30.95065 AU
morning rise	1742 Jul	18	02:17	10°♓09'30	
retrograde	1742 Oct	15	10:51	12°♓05'02	
opposition	1743 Jan	01	09:52	10°♓41'05	-0°52'43
min. Earth dist.	1743 Jan	01	08:44	10°♓41'10	28.95392 AU
direct	1743 Mar	20	19:40	9°♓16'28	
evening set	1743 Jun	18	00:09	11°♓11'25	
conjunction	1743 Jul	04	08:19	11°♓47'32	-0°47'32
minimum elong	1743 Jul	04	08:19	11°♓47'32	0°47'31
max. Earth dist.	1743 Jul	04	07:58	11°♓47'31	30.95666 AU
morning rise	1743 Jul	20	16:22	12°♓23'41	
retrograde	1743 Oct	17	21:17	14°♓19'03	
opposition	1744 Jan	03	20:19	12°♓55'08	-0°48'52
min. Earth dist.	1744 Jan	03	20:56	12°♓55'05	28.95980 AU
direct	1744 Mar	22	05:37	11°♓30'26	
evening set	1744 Jun	19	13:52	13°♓25'25	
conjunction	1744 Jul	05	22:18	14°♓01'33	-0°43'54
minimum elong	1744 Jul	05	22:18	14°♓01'33	0°43'54
max. Earth dist.	1744 Jul	05	21:43	14°♓01'29	30.96252 AU
morning rise	1744 Jul	22	06:15	14°♓37'40	
retrograde	1744 Oct	19	08:06	16°♓32'52	
opposition	1745 Jan	05	06:35	15°♓08'59	-0°44'58
min. Earth dist.	1745 Jan	05	07:25	15°♓08'55	28.96554 AU
direct	1745 Mar	24	19:23	13°♓44'13	
evening set	1745 Jun	22	03:50	15°♓39'14	
conjunction	1745 Jul	08	12:11	16°♓15'21	-0°40'13
minimum elong	1745 Jul	08	12:12	16°♓15'21	0°40'13
max. Earth dist.	1745 Jul	08	09:42	16°♓15'07	30.96843 AU
morning rise	1745 Jul	24	20:13	16°♓51'27	
retrograde	1745 Oct	21	20:06	18°♓46'29	
opposition	1746 Jan	07	16:46	17°♓22'38	-0°41'00
min. Earth dist.	1746 Jan	07	18:37	17°♓22'30	28.97178 AU
direct	1746 Mar	27	07:09	15°♓57'47	
evening set	1746 Jun	24	17:32	17°♓52'51	
conjunction	1746 Jul	11	02:07	18°♓28'58	-0°36'29
minimum elong	1746 Jul	11	02:07	18°♓28'58	0°36'29
max. Earth dist.	1746 Jul	10	23:58	18°♓28'46	30.97503 AU
morning rise	1746 Jul	27	09:53	19°♓05'02	
retrograde	1746 Oct	24	06:43	20°♓59'54	
opposition	1747 Jan	10	03:02	19°♓36'06	-0°36'59
min. Earth dist.	1747 Jan	10	05:33	19°♓35'55	28.97879 AU
direct	1747 Mar	29	19:40	18°♓11'12	
evening set	1747 Jun	27	07:10	20°♓06'17	
conjunction	1747 Jul	13	15:35	20°♓42'23	-0°32'42
minimum elong	1747 Jul	13	15:35	20°♓42'23	0°32'42
max. Earth dist.	1747 Jul	13	11:46	20°♓42'02	30.98268 AU
morning rise	1747 Jul	29	23:24	21°♓18'26	
retrograde	1747 Oct	26	20:01	23°♓13'09	
opposition	1748 Jan	12	13:14	21°♓49'24	-0°32'54
min. Earth dist.	1748 Jan	12	15:51	21°♓49'13	28.98712 AU
direct	1748 Mar	31	08:04	20°♓24'28	
evening set	1748 Jun	28	20:45	22°♓19'36	
conjunction	1748 Jul	15	05:20	22°♓55'42	-0°28'52
minimum elong	1748 Jul	15	05:20	22°♓55'42	0°28'52
max. Earth dist.	1748 Jul	15	01:55	22°♓55'23	30.99164 AU
morning rise	1748 Jul	31	12:51	23°♓31'43	
retrograde	1748 Oct	28	07:03	25°♓26'18	
opposition	1749 Jan	13	23:23	24°♓02'36	-0°28'47
min. Earth dist.	1749 Jan	14	03:15	24°♓02'20	28.99671 AU
direct	1749 Apr	02	20:42	22°♓37'39	
evening set	1749 Jul	01	10:29	24°♓32'51	
conjunction	1749 Jul	17	18:57	25°♓08'56	-0°24'59
minimum elong	1749 Jul	17	18:57	25°♓08'56	0°24'59
max. Earth dist.	1749 Jul	17	14:02	25°♓08'29	31.00196 AU
morning rise	1749 Aug	03	02:28	25°♓44'57	
retrograde	1749 Oct	30	19:26	27°♓39'23	
opposition	1750 Jan	16	09:30	26°♓15'47	-0°24'36
min. Earth dist.	1750 Jan	16	13:04	26°♓15'32	29.00748 AU
direct	1750 Apr	05	08:58	24°♓50'50	
evening set	1750 Jul	04	00:06	26°♓46'06	
conjunction	1750 Jul	20	08:32	27°♓22'11	-0°21'04
minimum elong	1750 Jul	20	08:32	27°♓22'11	0°21'04
max. Earth dist.	1750 Jul	20	03:20	27°♓21'42	31.01303 AU
morning rise	1750 Aug	05	15:44	27°♓58'10	
retrograde	1750 Nov	02	05:44	29°♓52'28	
opposition	1751 Jan	18	19:44	28°♓28'59	-0°20'24
min. Earth dist.	1751 Jan	19	01:01	28°♓28'37	29.01881 AU
direct	1751 Apr	07	19:43	27°♓04'03	
evening set	1751 Jul	06	13:46	28°♓59'22	
conjunction	1751 Jul	22	22:07	29°♓35'26	-0°17'07
minimum elong	1751 Jul	22	22:07	29°♓35'27	0°17'07
max. Earth dist.	1751 Jul	22	15:55	29°♓34'53	31.02450 AU
	1751 Aug	02	23:50	0°♌	
morning rise	1751 Aug	08	05:09	0°♌11'24	
retrograde	1751 Nov	04	18:07	2°♌05'35	
opposition	1752 Jan	21	05:50	0°♌42'13	-0°16'10
min. Earth dist.	1752 Jan	21	11:07	0°♌41'50	29.03010 AU
	1752 Feb	16	07:51	30°℞♓	
direct	1752 Apr	09	07:31	29°♓17'16	
	1752 May	31	03:17	0°♌	
evening set	1752 Jul	08	03:29	1°♌12'39	
conjunction	1752 Jul	24	11:42	1°♌48'43	-0°13'09
minimum elong	1752 Jul	24	11:42	1°♌48'43	0°13'09
behind sun begin	1752 Jul	24	07:56	1°♌48'23	
behind sun end	1752 Jul	24	15:28	1°♌49'03	
max. Earth dist.	1752 Jul	24	04:10	1°♌48'02	31.03546 AU
morning rise	1752 Aug	09	18:30	2°♌24'39	
retrograde	1752 Nov	06	04:02	4°♌18'43	
opposition	1753 Jan	22	16:10	2°♌55'25	-0°11'55
min. Earth dist.	1753 Jan	22	23:15	2°♌54'55	29.04072 AU
direct	1753 Apr	11	17:28	1°♌30'27	
evening set	1753 Jul	10	17:14	3°♌25'54	
conjunction	1753 Jul	27	01:25	4°♌01'56	-0°09'11
minimum elong	1753 Jul	27	01:24	4°♌01'56	0°09'10
behind sun begin	1753 Jul	26	19:51	4°♌01'27	
behind sun end	1753 Jul	27	06:57	4°♌02'26	
max. Earth dist.	1753 Jul	26	17:21	4°♌01'13	31.04557 AU
morning rise	1753 Aug	12	07:52	4°♌37'51	
retrograde	1753 Nov	08	14:08	6°♌31'47	
opposition	1754 Jan	25	02:20	5°♌08'34	-0°07'38
min. Earth dist.	1754 Jan	25	09:52	5°♌08'02	29.05020 AU
direct	1754 Apr	14	06:40	3°♌43'34	
evening set	1754 Jul	13	07:04	5°♌39'04	

conjunction	1754 Jul 29	14:55	6°♌15'05	-0°05'12
minimum elong	1754 Jul 29	14:55	6°♌15'05	0°05'13
behind sun begin	1754 Jul 29	08:32	6°♌14'31	
behind sun end	1754 Jul 29	21:19	6°♌15'39	
max. Earth dist.	1754 Jul 29	04:47	6°♌14'09	31.05454 AU
morning rise	1754 Aug 14	21:12	6°♌50'57	
retrograde	1754 Nov 11	01:30	8°♌44'46	
opposition	1755 Jan 27	12:40	7°♌21'35	-0°03'22
min. Earth dist.	1755 Jan 27	21:17	7°♌20'59	29.05878 AU
direct	1755 Apr 16	17:32	5°♌56'33	
evening set	1755 Jul 15	20:27	7°♌52'05	
conjunction	1755 Aug 01	04:19	8°♌28'04	-0°01'10
minimum elong	1755 Aug 01	04:18	8°♌28'04	0°01'10
behind sun begin	1755 Jul 31	21:42	8°♌27'29	
behind sun end	1755 Aug 01	10:53	8°♌28'39	
max. Earth dist.	1755 Jul 31	18:13	8°♌27'09	31.06263 AU
morning rise	1755 Aug 17	10:08	9°♌03'55	
asc. node	1755 Nov 12	20:50	10°♌57'34	
retrograde	1755 Nov 13	11:33	10°♌57'35	
opposition	1756 Jan 29	22:54	9°♌34'27	0°00'54
min. Earth dist.	1756 Jan 30	08:33	9°♌33'46	29.06642 AU
direct	1756 Apr 18	05:59	8°♌09'22	
evening set	1756 Jul 17	10:05	10°♌04'56	
conjunction	1756 Aug 02	17:33	10°♌40'53	0°02'56
minimum elong	1756 Aug 02	17:34	10°♌40'53	0°02'56
behind sun begin	1756 Aug 02	11:00	10°♌40'18	
behind sun end	1756 Aug 03	00:08	10°♌41'28	
max. Earth dist.	1756 Aug 02	05:26	10°♌39'47	31.07006 AU
morning rise	1756 Aug 18	23:15	11°♌16'42	
retrograde	1756 Nov 14	23:57	13°♌10'13	
opposition	1757 Jan 31	08:54	11°♌47'08	0°05'10
min. Earth dist.	1757 Jan 31	18:58	11°♌46'25	29.07370 AU
direct	1757 Apr 20	18:32	10°♌21'59	
evening set	1757 Jul 19	23:30	12°♌17'35	
conjunction	1757 Aug 05	06:55	12°♌53'31	0°06'55
minimum elong	1757 Aug 05	06:54	12°♌53'31	0°06'55
behind sun begin	1757 Aug 05	00:48	12°♌52'59	
behind sun end	1757 Aug 05	13:00	12°♌54'04	
max. Earth dist.	1757 Aug 04	19:01	12°♌52'26	31.07718 AU
morning rise	1757 Aug 21	12:04	13°♌29'17	
	1757 Oct 11	15:57	15°♌	
retrograde	1757 Nov 17	10:12	15°♌22'41	
	1757 Dec 24	17:16	15°℞♌	
opposition	1758 Feb 02	19:07	13°♌59'37	0°09'26
min. Earth dist.	1758 Feb 03	06:38	13°♌58'48	29.08085 AU
direct	1758 Apr 23	07:33	12°♌34'26	
evening set	1758 Jul 22	12:48	14°♌30'04	
	1758 Aug 05	03:25	15°♌	
conjunction	1758 Aug 07	19:48	15°♌05'58	0°10'52
minimum elong	1758 Aug 07	19:48	15°♌05'58	0°10'52
behind sun begin	1758 Aug 07	14:51	15°♌05'32	
behind sun end	1758 Aug 08	00:45	15°♌06'24	
max. Earth dist.	1758 Aug 07	06:28	15°♌04'44	31.08453 AU
morning rise	1758 Aug 24	00:44	15°♌41'42	
retrograde	1758 Nov 19	21:58	17°♌34'57	
opposition	1759 Feb 05	05:10	16°♌11'56	0°13'40
min. Earth dist.	1759 Feb 05	16:13	16°♌11'09	29.08852 AU
	1759 Mar 28	00:50	15°℞♌	
direct	1759 Apr 25	20:18	14°♌46'43	
	1759 May 24	07:19	15°♌	
evening set	1759 Jul 25	01:58	16°♌42'22	
conjunction	1759 Aug 10	08:46	17°♌18'15	0°14'49
minimum elong	1759 Aug 10	08:46	17°♌18'15	0°14'49
behind sun begin	1759 Aug 10	06:24	17°♌18'02	
behind sun end	1759 Aug 10	11:07	17°♌18'27	
max. Earth dist.	1759 Aug 09	19:24	17°♌17'01	31.09252 AU
morning rise	1759 Aug 26	13:10	17°♌53'56	
retrograde	1759 Nov 22	07:54	19°♌47'05	
opposition	1760 Feb 07	15:18	18°♌24'07	0°17'53
min. Earth dist.	1760 Feb 08	03:45	18°♌23'14	29.09713 AU
direct	1760 Apr 27	07:29	16°♌58'53	
evening set	1760 Jul 26	15:05	18°♌54'34	
conjunction	1760 Aug 11	21:34	19°♌30'25	0°18'44
minimum elong	1760 Aug 11	21:34	19°♌30'25	0°18'44
max. Earth dist.	1760 Aug 11	07:35	19°♌29'08	31.10176 AU
morning rise	1760 Aug 28	01:39	20°♌06'04	
retrograde	1760 Nov 23	19:45	21°♌59'07	
opposition	1761 Feb 09	01:22	20°♌36'13	0°22'04
min. Earth dist.	1761 Feb 09	13:16	20°♌35'22	29.10690 AU
direct	1761 Apr 29	19:38	19°♌10'58	
evening set	1761 Jul 29	04:16	21°♌06'43	
conjunction	1761 Aug 14	10:22	21°♌42'33	0°22'38
minimum elong	1761 Aug 14	10:22	21°♌42'33	0°22'39
max. Earth dist.	1761 Aug 13	19:44	21°♌41'12	31.11210 AU
morning rise	1761 Aug 30	13:59	22°♌18'10	
retrograde	1761 Nov 26	04:57	24°♌11'07	
opposition	1762 Feb 11	11:32	22°♌48'19	0°26'13
min. Earth dist.	1762 Feb 12	00:37	22°♌47'24	29.11793 AU
direct	1762 May 02	05:24	21°♌23'06	
evening set	1762 Jul 31	17:19	23°♌18'55	
conjunction	1762 Aug 16	23:09	23°♌54'43	0°26'30
minimum elong	1762 Aug 16	23:09	23°♌54'43	0°26'30
max. Earth dist.	1762 Aug 16	08:41	23°♌53'22	31.12364 AU
morning rise	1762 Sep 02	02:16	24°♌30'17	
retrograde	1762 Nov 28	14:26	26°♌23'10	
opposition	1763 Feb 13	21:43	25°♌00'28	0°30'20
min. Earth dist.	1763 Feb 14	10:46	24°♌59'33	29.12974 AU
direct	1763 May 04	17:43	23°♌35'18	
evening set	1763 Aug 03	06:18	25°♌31'10	
conjunction	1763 Aug 19	11:38	26°♌06'57	0°30'20
minimum elong	1763 Aug 19	11:38	26°♌06'57	0°30'21
max. Earth dist.	1763 Aug 18	19:44	26°♌05'29	31.13564 AU
morning rise	1763 Sep 04	14:25	26°♌42'30	
retrograde	1763 Dec 01	01:28	28°♌35'20	
opposition	1764 Feb 16	07:56	27°♌12'43	0°34'24
min. Earth dist.	1764 Feb 16	21:45	27°♌11'45	29.14185 AU
direct	1764 May 06	03:13	25°♌47'35	
evening set	1764 Aug 04	19:19	27°♌43'32	
max. Earth dist.	1764 Aug 20	08:48	28°♌17'50	31.14748 AU
conjunction	1764 Aug 21	00:26	28°♌19'16	0°34'07
minimum elong	1764 Aug 21	00:26	28°♌19'16	0°34'07
morning rise	1764 Sep 06	02:35	28°♌54'47	
	1764 Oct 09	12:57	0°♍	
retrograde	1764 Dec 02	11:11	0°♍47'33	
	1765 Jan 27	05:34	30°℞♌	
opposition	1765 Feb 17	18:10	29°♌25'02	0°38'25
min. Earth dist.	1765 Feb 18	09:00	29°♌24'00	29.15333 AU
direct	1765 May 08	14:46	27°♌59'56	
evening set	1765 Aug 07	08:32	29°♌55'56	
	1765 Aug 09	05:31	0°♍	
conjunction	1765 Aug 23	13:03	0°♍31'38	0°37'51
minimum elong	1765 Aug 23	13:02	0°♍31'38	0°37'52
max. Earth dist.	1765 Aug 22	19:26	0°♍30'00	31.15850 AU

morning rise	1765 Sep 08 14:50	1°♑07'06	
retrograde	1765 Dec 04 23:18	2°♑59'49	
opposition	1766 Feb 20 04:30	1°♑37'22	0°42'23
min. Earth dist.	1766 Feb 20 19:37	1°♑36'19	29.16389 AU
direct	1766 May 11 03:10	0°♑12'16	
evening set	1766 Aug 09 21:24	2°♑08'19	
max. Earth dist.	1766 Aug 25 08:15	2°♑42'23	31.16833 AU
conjunction	1766 Aug 26 01:36	2°♑43'59	0°41'32
minimum elong	1766 Aug 26 01:36	2°♑43'59	0°41'31
morning rise	1766 Sep 11 02:41	3°♑19'24	
retrograde	1766 Dec 07 09:09	5°♑12'02	
opposition	1767 Feb 22 15:02	3°♑49'38	0°46'16
min. Earth dist.	1767 Feb 23 07:41	3°♑48'29	29.17314 AU
direct	1767 May 13 15:55	2°♑24'33	
evening set	1767 Aug 12 10:23	4°♑20'37	
conjunction	1767 Aug 28 14:01	4°♑56'14	0°45'09
minimum elong	1767 Aug 28 14:01	4°♑56'14	0°45'09
max. Earth dist.	1767 Aug 27 19:01	4°♑54'29	31.17700 AU
morning rise	1767 Sep 13 14:44	5°♑31'37	
retrograde	1767 Dec 09 20:58	7°♑24'10	
opposition	1768 Feb 25 01:15	6°♑01'48	0°50'06
min. Earth dist.	1768 Feb 25 17:40	6°♑00'39	29.18124 AU
direct	1768 May 15 04:36	4°♑36'40	
evening set	1768 Aug 13 23:13	6°♑32'46	
max. Earth dist.	1768 Aug 29 07:12	7°♑06'34	31.18443 AU
conjunction	1768 Aug 30 02:30	7°♑08'21	0°48'41
minimum elong	1768 Aug 30 02:29	7°♑08'21	0°48'41
morning rise	1768 Sep 15 02:34	7°♑43'40	
retrograde	1768 Dec 11 07:21	9°♑36'08	
opposition	1769 Feb 26 11:45	8°♑13'47	0°53'50
min. Earth dist.	1769 Feb 27 05:50	8°♑12'32	29.18824 AU
direct	1769 May 17 17:01	6°♑48'38	
evening set	1769 Aug 16 12:00	8°♑44'43	
conjunction	1769 Sep 01 14:44	9°♑20'16	0°52'09
minimum elong	1769 Sep 01 14:44	9°♑20'16	0°52'10
max. Earth dist.	1769 Aug 31 18:37	9°♑18'24	31.19104 AU
morning rise	1769 Sep 17 14:20	9°♑55'32	
retrograde	1769 Dec 13 18:43	11°♑47'54	
opposition	1770 Feb 28 22:04	10°♑25'34	0°57'30
min. Earth dist.	1770 Mar 01 15:50	10°♑24'20	29.19450 AU
direct	1770 May 20 06:41	9°♑00'23	
evening set	1770 Aug 19 00:38	10°♑56'28	
max. Earth dist.	1770 Sep 03 06:05	11°♑30'02	31.19708 AU
conjunction	1770 Sep 04 02:52	11°♑31'57	0°55'33
minimum elong	1770 Sep 04 02:51	11°♑31'57	0°55'32
morning rise	1770 Sep 20 01:52	12°♑07'11	
retrograde	1770 Dec 16 03:39	13°♑59'27	
opposition	1771 Mar 03 08:32	12°♑37'08	1°01'05
min. Earth dist.	1771 Mar 04 03:25	12°♑35'49	29.20067 AU
direct	1771 May 22 17:28	11°♑11'54	
evening set	1771 Aug 21 12:56	13°♑07'58	
conjunction	1771 Sep 06 14:44	13°♑43'25	0°58'51
minimum elong	1771 Sep 06 14:44	13°♑43'25	0°58'52
max. Earth dist.	1771 Sep 05 18:20	13°♑41'32	31.20328 AU
morning rise	1771 Sep 22 13:10	14°♑18'36	
retrograde	1771 Dec 18 12:29	16°♑10'47	
opposition	1772 Mar 04 18:56	14°♑48'28	1°04'34
min. Earth dist.	1772 Mar 05 13:38	14°♑47'10	29.20702 AU
direct	1772 May 24 06:17	13°♑23'13	
evening set	1772 Aug 23 01:24	15°♑19'17	
max. Earth dist.	1772 Sep 07 05:02	15°♑52'42	31.20992 AU
conjunction	1772 Sep 08 02:33	15°♑54'42	1°02'04
minimum elong	1772 Sep 08 02:33	15°♑54'42	1°02'03
morning rise	1772 Sep 24 00:30	16°♑29'50	
retrograde	1772 Dec 19 22:44	18°♑21'57	
opposition	1773 Mar 07 05:16	16°♑59'39	1°07'58
min. Earth dist.	1773 Mar 08 00:10	16°♑58'20	29.21422 AU
direct	1773 May 26 16:02	15°♑34'24	
evening set	1773 Aug 25 13:40	17°♑30'29	
conjunction	1773 Sep 10 14:26	18°♑05'51	1°05'12
minimum elong	1773 Sep 10 14:25	18°♑05'51	1°05'12
max. Earth dist.	1773 Sep 09 17:48	18°♑03'56	31.21753 AU
morning rise	1773 Sep 26 11:38	18°♑40'56	
retrograde	1773 Dec 22 07:28	20°♑33'00	
opposition	1774 Mar 09 15:50	19°♑10'46	1°11'15
min. Earth dist.	1774 Mar 10 11:07	19°♑09'26	29.22229 AU
direct	1774 May 29 03:51	17°♑45'32	
evening set	1774 Aug 28 01:51	19°♑41'38	
max. Earth dist.	1774 Sep 12 04:06	20°♑14'57	31.22610 AU
conjunction	1774 Sep 13 01:53	20°♑16'58	1°08'14
minimum elong	1774 Sep 13 01:53	20°♑16'58	1°08'13
morning rise	1774 Sep 28 22:41	20°♑52'01	
retrograde	1774 Dec 24 18:45	22°♑44'04	
opposition	1775 Mar 12 02:18	21°♑21'53	1°14'26
min. Earth dist.	1775 Mar 12 21:08	21°♑20'35	29.23129 AU
direct	1775 May 31 15:04	19°♑56'42	
evening set	1775 Aug 30 13:55	21°♑52'51	
conjunction	1775 Sep 15 13:35	22°♑28'09	1°11'10
minimum elong	1775 Sep 15 13:35	22°♑28'09	1°11'10
max. Earth dist.	1775 Sep 14 16:42	22°♑26'13	31.23524 AU
morning rise	1775 Oct 01 09:38	23°♑03'09	
retrograde	1775 Dec 27 04:18	24°♑55'12	
opposition	1776 Mar 13 12:49	23°♑33'06	1°17'31
min. Earth dist.	1776 Mar 14 08:51	23°♑31'42	29.24054 AU
direct	1776 Jun 02 02:33	22°♑07'58	
evening set	1776 Sep 01 02:10	24°♑04'10	
max. Earth dist.	1776 Sep 16 03:07	24°♑37'23	31.24442 AU
conjunction	1776 Sep 17 01:08	24°♑39'25	1°13'59
minimum elong	1776 Sep 17 01:08	24°♑39'25	1°13'59
morning rise	1776 Oct 02 20:46	25°♑14'24	
retrograde	1776 Dec 28 16:13	27°♑06'26	
opposition	1777 Mar 15 23:24	25°♑44'24	1°20'29
min. Earth dist.	1777 Mar 16 18:50	25°♑43'04	29.24946 AU
direct	1777 Jun 04 14:41	24°♑19'20	
evening set	1777 Sep 03 14:15	26°♑15'35	
conjunction	1777 Sep 19 12:43	26°♑50'48	1°16'43
minimum elong	1777 Sep 19 12:43	26°♑50'48	1°16'43
max. Earth dist.	1777 Sep 18 14:48	26°♑48'46	31.25279 AU
morning rise	1777 Oct 05 07:36	27°♑25'43	
retrograde	1777 Dec 31 02:56	29°♑17'47	
opposition	1778 Mar 18 10:15	27°♑55'48	1°23'20
min. Earth dist.	1778 Mar 19 07:06	27°♑54'22	29.25746 AU
direct	1778 Jun 07 02:52	26°♑30'47	
evening set	1778 Sep 06 02:21	28°♑27'03	
max. Earth dist.	1778 Sep 21 01:40	29°♑00'08	31.26021 AU
conjunction	1778 Sep 22 00:12	29°♑02'14	1°19'19
minimum elong	1778 Sep 22 00:12	29°♑02'14	1°19'19
morning rise	1778 Oct 07 18:34	29°♑37'07	
	1778 Oct 18 13:18	0°♒	
retrograde	1779 Jan 02 14:39	1°♒29'10	
opposition	1779 Mar 20 21:01	0°♒07'14	1°26'03
min. Earth dist.	1779 Mar 21 17:25	0°♒05'50	29.26422 AU

	1779 Mar	25	05:57	30°♑	
direct	1779 Jun	09	16:30	28°♑42'15	
	1779 Aug	20	23:38	0°♎	
evening set	1779 Sep	08	14:17	0°♎38'33	
conjunction	1779 Sep	24	11:34	1°♎13'41	1°21'49
minimum elong	1779 Sep	24	11:34	1°♎13'41	1°21'49
max. Earth dist.	1779 Sep	23	12:20	1°♎11'31	31.26619 AU
morning rise	1779 Oct	10	05:21	1°♎48'32	
retrograde	1780 Jan	05	00:01	3°♎40'34	
opposition	1780 Mar	22	07:54	2°♎18'40	1°28'39
min. Earth dist.	1780 Mar	23	05:28	2°♎17'11	29.26962 AU
direct	1780 Jun	11	03:25	0°♎53'41	
evening set	1780 Sep	10	02:11	2°♎49'59	
conjunction	1780 Sep	25	22:58	3°♎25'05	1°24'11
minimum elong	1780 Sep	25	22:58	3°♎25'05	1°24'10
max. Earth dist.	1780 Sep	24	23:57	3°♎22'57	31.27085 AU
morning rise	1780 Oct	11	16:07	3°♎59'53	
retrograde	1781 Jan	06	08:53	5°♎51'54	
opposition	1781 Mar	24	18:41	4°♎30'02	1°31'07
min. Earth dist.	1781 Mar	25	16:17	4°♎28'32	29.27355 AU
direct	1781 Jun	13	16:35	3°♎05'03	
evening set	1781 Sep	12	14:05	5°♎01'20	
max. Earth dist.	1781 Sep	27	09:55	5°♎34'08	31.27419 AU
conjunction	1781 Sep	28	10:11	5°♎36'24	1°26'26
minimum elong	1781 Sep	28	10:10	5°♎36'24	1°26'26
morning rise	1781 Oct	14	02:51	6°♎11'09	
retrograde	1782 Jan	08	19:22	8°♎03'09	
opposition	1782 Mar	27	05:37	6°♎41'16	1°33'27
min. Earth dist.	1782 Mar	28	03:26	6°♎39'45	29.27651 AU
direct	1782 Jun	16	02:41	5°♎16'16	
evening set	1782 Sep	15	01:29	7°♎12'31	
conjunction	1782 Sep	30	21:10	7°♎47'33	1°28'33
minimum elong	1782 Sep	30	21:10	7°♎47'32	1°28'33
max. Earth dist.	1782 Sep	29	21:50	7°♎45'22	31.27669 AU
morning rise	1782 Oct	16	13:09	8°♎22'16	
retrograde	1783 Jan	11	03:18	10°♎14'14	
opposition	1783 Mar	29	16:33	8°♎52'20	1°35'39
min. Earth dist.	1783 Mar	30	14:53	8°♎50'47	29.27870 AU
direct	1783 Jun	18	15:12	7°♎27'19	
evening set	1783 Sep	17	13:02	9°♎23'32	
max. Earth dist.	1783 Oct	02	07:34	9°♎56'14	31.27879 AU
conjunction	1783 Oct	03	07:59	9°♎58'30	1°30'33
minimum elong	1783 Oct	03	07:59	9°♎58'30	1°30'34
morning rise	1783 Oct	18	23:34	10°♎33'12	
retrograde	1784 Jan	13	13:27	12°♎25'08	
opposition	1784 Mar	31	03:16	11°♎03'12	1°37'43
min. Earth dist.	1784 Apr	01	00:59	11°♎01'42	29.28090 AU
direct	1784 Jun	20	02:09	9°♎38'10	
evening set	1784 Sep	19	00:20	11°♎34'21	
conjunction	1784 Oct	04	18:53	12°♎09'17	1°32'25
minimum elong	1784 Oct	04	18:52	12°♎09'17	1°32'24
max. Earth dist.	1784 Oct	03	19:39	12°♎07'07	31.28103 AU
morning rise	1784 Oct	20	09:44	12°♎43'56	
retrograde	1785 Jan	14	22:12	14°♎35'51	
opposition	1785 Apr	02	14:20	13°♎13'54	1°39'39
min. Earth dist.	1785 Apr	03	12:46	13°♎12'21	29.28349 AU
direct	1785 Jun	22	13:05	11°♎48'52	
evening set	1785 Sep	21	11:35	13°♎45'01	
max. Earth dist.	1785 Oct	06	05:46	14°♎17'42	31.28406 AU
conjunction	1785 Oct	07	05:24	14°♎19'54	1°34'09
minimum elong	1785 Oct	07	05:24	14°♎19'54	1°34'10
morning rise	1785 Oct	22	19:50	14°♎54'31	
retrograde	1786 Jan	17	09:18	16°♎46'27	
opposition	1786 Apr	05	01:17	15°♎24'29	1°41'26
min. Earth dist.	1786 Apr	05	22:20	15°♎23'02	29.28702 AU
direct	1786 Jun	25	01:05	13°♎59'28	
evening set	1786 Sep	23	22:42	15°♎55'36	
conjunction	1786 Oct	09	16:03	16°♎30'27	1°35'45
minimum elong	1786 Oct	09	16:03	16°♎30'27	1°35'45
max. Earth dist.	1786 Oct	08	17:10	16°♎28'20	31.28806 AU
morning rise	1786 Oct	25	05:50	17°♎05'01	
retrograde	1787 Jan	19	19:53	18°♎56'59	
opposition	1787 Apr	07	12:21	17°♎35'01	1°43'04
min. Earth dist.	1787 Apr	08	10:04	17°♎33'32	29.29160 AU
direct	1787 Jun	27	13:08	16°♎10'03	
evening set	1787 Sep	26	09:42	18°♎06'11	
max. Earth dist.	1787 Oct	11	03:51	18°♎38'53	31.29307 AU
conjunction	1787 Oct	12	02:30	18°♎41'00	1°37'12
minimum elong	1787 Oct	12	02:29	18°♎41'00	1°37'13
morning rise	1787 Oct	27	15:51	19°♎15'32	
retrograde	1788 Jan	22	07:08	21°♎07'30	
opposition	1788 Apr	08	23:22	19°♎45'35	1°44'33
min. Earth dist.	1788 Apr	09	20:04	19°♎44'10	29.29676 AU
direct	1788 Jun	29	02:29	18°♎20'40	
evening set	1788 Sep	27	20:46	20°♎16'48	
conjunction	1788 Oct	13	12:58	20°♎51'35	1°38'32
minimum elong	1788 Oct	13	12:58	20°♎51'35	1°38'31
max. Earth dist.	1788 Oct	12	14:13	20°♎49'28	31.29830 AU
morning rise	1788 Oct	29	01:48	21°♎26'05	
retrograde	1789 Jan	23	17:04	23°♎18'06	
opposition	1789 Apr	11	10:31	21°♎56'13	1°45'53
min. Earth dist.	1789 Apr	12	07:49	21°♎54'45	29.30207 AU
direct	1789 Jul	01	13:07	20°♎31'21	
evening set	1789 Sep	30	07:45	22°♎27'30	
conjunction	1789 Oct	15	23:29	23°♎02'14	1°39'42
minimum elong	1789 Oct	15	23:29	23°♎02'14	1°39'43
max. Earth dist.	1789 Oct	15	01:36	23°♎00'12	31.30344 AU
morning rise	1789 Oct	31	11:44	23°♎36'43	
retrograde	1790 Jan	26	02:42	25°♎28'46	
opposition	1790 Apr	13	21:51	24°♎06'55	1°47'04
min. Earth dist.	1790 Apr	14	18:46	24°♎05'29	29.30685 AU
direct	1790 Jul	04	02:33	22°♎42'07	
evening set	1790 Oct	02	18:39	24°♎38'14	
max. Earth dist.	1790 Oct	17	10:59	25°♎10'50	31.30780 AU
conjunction	1790 Oct	18	09:43	25°♎12'57	1°40'44
minimum elong	1790 Oct	18	09:43	25°♎12'57	1°40'43
morning rise	1790 Nov	02	21:36	25°♎47'24	
retrograde	1791 Jan	28	13:44	27°♎39'30	
opposition	1791 Apr	16	09:12	26°♎17'39	1°48'05
min. Earth dist.	1791 Apr	17	06:02	26°♎16'14	29.31083 AU
direct	1791 Jul	06	13:13	24°♎52'54	
evening set	1791 Oct	05	05:31	26°♎49'01	
conjunction	1791 Oct	20	20:13	27°♎23'42	1°41'38
minimum elong	1791 Oct	20	20:13	27°♎23'42	1°41'38
max. Earth dist.	1791 Oct	19	22:29	27°♎21'40	31.31111 AU
morning rise	1791 Nov	05	07:28	27°♎58'07	
retrograde	1792 Jan	30	21:57	29°♎50'15	
opposition	1792 Apr	17	20:33	28°♎28'25	1°48'58
min. Earth dist.	1792 Apr	18	17:55	28°♎26'58	29.31344 AU
direct	1792 Jul	08	01:39	27°♎03'43	
evening set	1792 Oct	06	16:32	28°♎59'47	

max. Earth dist.	1792 Oct 21	07:42	29°♎32'18	31.31309 AU
conjunction	1792 Oct 22	06:33	29°♎34'26	1°42'22
minimum elong	1792 Oct 22	06:33	29°♎34'26	1°42'22
	1792 Nov 02	17:11	0°♏	
morning rise	1792 Nov 06	17:30	0°♏08'50	
retrograde	1793 Feb 01	08:28	2°♏01'00	
opposition	1793 Apr 20	08:01	0°♏39'10	1°49'41
min. Earth dist.	1793 Apr 21	04:43	0°♏37'45	29.31478 AU
	1793 May 15	04:25	30°℞♎	
direct	1793 Jul 10	12:24	29°♎14'29	
	1793 Sep 02	17:31	0°♏	
evening set	1793 Oct 09	03:11	1°♏10'31	
conjunction	1793 Oct 24	16:51	1°♏45'09	1°42'58
minimum elong	1793 Oct 24	16:51	1°♏45'09	1°42'59
max. Earth dist.	1793 Oct 23	19:02	1°♏43'06	31.31369 AU
morning rise	1793 Nov 09	03:10	2°♏19'30	
retrograde	1794 Feb 03	17:28	4°♏11'43	
opposition	1794 Apr 22	19:42	2°♏49'52	1°50'15
min. Earth dist.	1794 Apr 23	17:15	2°♏48'23	29.31478 AU
direct	1794 Jul 12	23:14	1°♏25'11	
evening set	1794 Oct 11	13:54	3°♏21'10	
max. Earth dist.	1794 Oct 26	04:40	3°♏53'40	31.31325 AU
conjunction	1794 Oct 27	02:59	3°♏55'46	1°43'25
minimum elong	1794 Oct 27	02:59	3°♏55'46	1°43'25
morning rise	1794 Nov 11	13:02	4°♏30'07	
retrograde	1795 Feb 06	04:30	6°♏22'20	
opposition	1795 Apr 25	07:04	5°♏00'27	1°50'39
min. Earth dist.	1795 Apr 26	03:26	4°♏59'04	29.31388 AU
direct	1795 Jul 15	11:12	3°♏35'47	
evening set	1795 Oct 14	00:19	5°♏31'43	
conjunction	1795 Oct 29	13:02	6°♏06'17	1°43'44
minimum elong	1795 Oct 29	13:02	6°♏06'17	1°43'45
max. Earth dist.	1795 Oct 28	15:19	6°♏04'15	31.31197 AU
morning rise	1795 Nov 13	22:38	6°♏40'36	
retrograde	1796 Feb 08	15:04	8°♏32'52	
opposition	1796 Apr 26	18:42	7°♏10'56	1°50'54
min. Earth dist.	1796 Apr 27	15:45	7°♏09'30	29.31247 AU
direct	1796 Jul 16	23:09	5°♏46'16	
evening set	1796 Oct 15	10:41	7°♏42'09	
conjunction	1796 Oct 30	22:55	8°♏16'41	1°43'54
minimum elong	1796 Oct 30	22:55	8°♏16'41	1°43'53
max. Earth dist.	1796 Oct 30	01:44	8°♏14'42	31.31057 AU
morning rise	1796 Nov 15	08:08	8°♏50'58	
retrograde	1797 Feb 10	01:58	10°♏43'17	
opposition	1797 Apr 29	06:14	9°♏21'18	1°51'00
min. Earth dist.	1797 Apr 30	01:56	9°♏19'58	29.31113 AU
direct	1797 Jul 19	12:23	7°♏56'39	
evening set	1797 Oct 17	20:58	9°♏52'29	
max. Earth dist.	1797 Nov 01	11:45	10°♏25'02	31.30954 AU
conjunction	1797 Nov 02	08:42	10°♏26'59	1°43'54
minimum elong	1797 Nov 02	08:42	10°♏26'59	1°43'55
morning rise	1797 Nov 17	17:33	11°♏01'16	
retrograde	1798 Feb 12	12:08	12°♏53'37	
opposition	1798 May 01	17:57	11°♏31'37	1°50'56
min. Earth dist.	1798 May 02	13:35	11°♏30'17	29.31065 AU
direct	1798 Jul 21	23:03	10°♏07'00	
evening set	1798 Oct 20	06:57	12°♏02'47	
conjunction	1798 Nov 04	18:22	12°♏37'17	1°43'46
minimum elong	1798 Nov 04	18:22	12°♏37'17	1°43'46
max. Earth dist.	1798 Nov 03	22:58	12°♏35'28	31.30954 AU
morning rise	1798 Nov 20	02:49	13°♏11'32	
	1799 Jan 30	16:01	15°♏	
retrograde	1799 Feb 14	21:50	15°♏03'57	
	1799 Mar 02	06:56	15°℞♏	
opposition	1799 May 04	05:38	13°♏41'57	1°50'43
min. Earth dist.	1799 May 05	00:18	13°♏40'41	29.31102 AU
direct	1799 Jul 24	12:50	12°♏17'24	
evening set	1799 Oct 22	17:09	14°♏13'09	
max. Earth dist.	1799 Nov 06	08:17	14°♏45'46	31.31042 AU
conjunction	1799 Nov 07	04:01	14°♏47'37	1°43'29
minimum elong	1799 Nov 07	04:01	14°♏47'37	1°43'30
	1799 Nov 12	16:14	15°♏	
morning rise	1799 Nov 22	12:15	15°♏21'52	
retrograde	1800 Feb 17	09:19	17°♏14'21	
opposition	1800 May 06	17:13	15°♏52'22	1°50'20
min. Earth dist.	1800 May 07	11:08	15°♏51'09	29.31231 AU
	1800 Jun 10	08:27	15°℞♏	
direct	1800 Jul 26	23:39	14°♏27'53	
	1800 Sep 10	01:03	15°♏	
evening set	1800 Oct 25	03:10	16°♏23'37	
conjunction	1800 Nov 09	13:48	16°♏58'04	1°43'03
minimum elong	1800 Nov 09	13:48	16°♏58'04	1°43'03
max. Earth dist.	1800 Nov 08	19:45	16°♏56'23	31.31196 AU
morning rise	1800 Nov 24	21:34	17°♏32'19	
retrograde	1801 Feb 19	17:42	19°♏24'53	
opposition	1801 May 09	05:10	18°♏02'56	1°49'48
min. Earth dist.	1801 May 09	23:01	18°♏01'43	29.31389 AU
direct	1801 Jul 29	11:56	16°♏38'32	
evening set	1801 Oct 27	13:13	18°♏34'14	
conjunction	1801 Nov 11	23:17	19°♏08'40	1°42'28
minimum elong	1801 Nov 11	23:17	19°♏08'40	1°42'29
max. Earth dist.	1801 Nov 11	04:49	19°♏06'56	31.31363 AU
morning rise	1801 Nov 27	06:55	19°♏42'54	
retrograde	1802 Feb 22	04:14	21°♏35'35	
opposition	1802 May 11	17:06	20°♏13'38	1°49'06
min. Earth dist.	1802 May 12	09:45	20°♏12'30	29.31541 AU
direct	1802 Jul 31	22:23	18°♏49'19	
evening set	1802 Oct 29	23:12	20°♏44'59	
conjunction	1802 Nov 14	09:03	21°♏19'25	1°41'44
minimum elong	1802 Nov 14	09:03	21°♏19'25	1°41'44
max. Earth dist.	1802 Nov 13	15:56	21°♏17'48	31.31481 AU
morning rise	1802 Nov 29	16:15	21°♏53'38	
retrograde	1803 Feb 24	13:46	23°♏46'25	
opposition	1803 May 14	05:07	22°♏24'29	1°48'14
min. Earth dist.	1803 May 14	22:26	22°♏23'18	29.31621 AU
direct	1803 Aug 03	08:35	21°♏00'13	
evening set	1803 Nov 01	09:17	22°♏55'51	
conjunction	1803 Nov 16	18:42	23°♏30'16	1°40'52
minimum elong	1803 Nov 16	18:43	23°♏30'16	1°40'52
max. Earth dist.	1803 Nov 16	01:22	23°♏28'38	31.31516 AU
morning rise	1803 Dec 02	01:46	24°♏04'29	
retrograde	1804 Feb 27	01:00	25°♏57'21	
opposition	1804 May 15	17:10	24°♏35'25	1°47'13
min. Earth dist.	1804 May 16	09:07	24°♏34'20	29.31587 AU
direct	1804 Aug 04	20:21	23°♏11'12	
evening set	1804 Nov 02	19:18	25°♏06'47	
max. Earth dist.	1804 Nov 17	11:32	25°♏39'36	31.31406 AU
conjunction	1804 Nov 18	04:24	25°♏41'11	1°39'50
minimum elong	1804 Nov 18	04:24	25°♏41'11	1°39'50
morning rise	1804 Dec 03	11:08	26°♏15'24	
retrograde	1805 Feb 28	12:00	28°♏08'21	

opposition	1805 May 18 05:30	26°♏46'23	1°46'03
min. Earth dist.	1805 May 18 22:06	26°♏45'15	29.31410 AU
direct	1805 Aug 07 07:20	25°♏22'13	
evening set	1805 Nov 05 05:18	27°♏17'45	
conjunction	1805 Nov 20 14:06	27°♏52'07	1°38'40
minimum elong	1805 Nov 20 14:06	27°♏52'07	1°38'41
max. Earth dist.	1805 Nov 19 21:44	27°♏50'35	31.31163 AU
morning rise	1805 Dec 05 20:37	28°♏26'19	
	1806 Jan 28 00:47	0°♐	
retrograde	1806 Mar 02 23:10	0°♐19'21	
	1806 Apr 06 21:42	30°℞♏	
opposition	1806 May 20 17:44	28°♏57'20	1°44'44
min. Earth dist.	1806 May 21 09:09	28°♏56'18	29.31081 AU
direct	1806 Aug 09 19:40	27°♏33'12	
evening set	1806 Nov 07 15:10	29°♏28'38	
	1806 Nov 21 15:40	0°♐	
conjunction	1806 Nov 22 23:38	0°♐03'00	1°37'22
minimum elong	1806 Nov 22 23:38	0°♐03'00	1°37'22
max. Earth dist.	1806 Nov 22 07:05	0°♐01'27	31.30763 AU
morning rise	1806 Dec 08 06:02	0°♐37'12	
retrograde	1807 Mar 05 10:19	2°♐30'18	
opposition	1807 May 23 06:03	1°♐08'13	1°43'16
min. Earth dist.	1807 May 23 21:43	1°♐07'09	29.30616 AU
	1807 Jul 11 04:39	30°℞♏	
direct	1807 Aug 12 06:55	29°♏44'05	
	1807 Sep 12 18:40	0°♐	
evening set	1807 Nov 10 00:56	1°♐39'26	
conjunction	1807 Nov 25 09:15	2°♐13'47	1°35'56
minimum elong	1807 Nov 25 09:15	2°♐13'47	1°35'56
max. Earth dist.	1807 Nov 24 18:02	2°♐12'21	31.30243 AU
morning rise	1807 Dec 10 15:23	2°♐47'59	
retrograde	1808 Mar 06 20:40	4°♐41'06	
opposition	1808 May 24 18:13	3°♐18'58	1°41'39
min. Earth dist.	1808 May 25 09:12	3°♐17'57	29.30036 AU
direct	1808 Aug 13 21:12	1°♐54'49	
evening set	1808 Nov 11 10:44	3°♐50'05	
conjunction	1808 Nov 26 18:39	4°♐24'25	1°34'21
minimum elong	1808 Nov 26 18:39	4°♐24'25	1°34'21
max. Earth dist.	1808 Nov 26 03:04	4°♐22'57	31.29643 AU
morning rise	1808 Dec 12 00:46	4°♐58'37	
retrograde	1809 Mar 09 08:25	6°♐51'48	
opposition	1809 May 27 06:35	5°♐29'34	1°39'54
min. Earth dist.	1809 May 27 20:40	5°♐28'37	29.29430 AU
direct	1809 Aug 16 08:48	4°♐05'25	
evening set	1809 Nov 13 20:09	6°♐00'35	
conjunction	1809 Nov 29 03:58	6°♐34'55	1°32'39
minimum elong	1809 Nov 29 03:59	6°♐34'55	1°32'39
max. Earth dist.	1809 Nov 28 14:18	6°♐33'38	31.29041 AU
morning rise	1809 Dec 14 09:48	7°♐09'06	
retrograde	1810 Mar 11 16:56	9°♐02'21	
opposition	1810 May 29 19:01	7°♐40'03	1°38'01
min. Earth dist.	1810 May 30 08:41	7°♐39'08	29.28843 AU
direct	1810 Aug 18 21:39	6°♐15'55	
evening set	1810 Nov 16 05:47	8°♐11'00	
conjunction	1810 Dec 01 13:14	8°♐45'19	1°30'48
minimum elong	1810 Dec 01 13:14	8°♐45'19	1°30'48
max. Earth dist.	1810 Nov 30 23:31	8°♐44'02	31.28498 AU
morning rise	1810 Dec 16 19:06	9°♐19'31	
retrograde	1811 Mar 14 03:38	11°♐12'50	
opposition	1811 Jun 01 07:11	9°♐50'29	1°35'58
min. Earth dist.	1811 Jun 01 19:11	9°♐49'41	29.28341 AU
direct	1811 Aug 21 08:51	8°♐26'23	
evening set	1811 Nov 18 15:15	10°♐21'24	
conjunction	1811 Dec 03 22:37	10°♐55'44	1°28'50
minimum elong	1811 Dec 03 22:37	10°♐55'44	1°28'51
max. Earth dist.	1811 Dec 03 10:35	10°♐54'36	31.28034 AU
morning rise	1811 Dec 19 04:16	11°♐29'55	
retrograde	1812 Mar 15 13:20	13°♐23'21	
opposition	1812 Jun 02 19:39	12°♐00'59	1°33'48
min. Earth dist.	1812 Jun 03 07:43	12°♐00'10	29.27914 AU
direct	1812 Aug 22 19:41	10°♐36'56	
evening set	1812 Nov 20 00:40	12°♐31'54	
conjunction	1812 Dec 05 07:46	13°♐06'13	1°26'44
minimum elong	1812 Dec 05 07:46	13°♐06'13	1°26'43
max. Earth dist.	1812 Dec 04 20:16	13°♐05'08	31.27655 AU
morning rise	1812 Dec 20 13:25	13°♐40'25	
retrograde	1813 Mar 18 00:28	15°♐33'58	
opposition	1813 Jun 05 08:04	14°♐11'35	1°31'29
min. Earth dist.	1813 Jun 05 18:07	14°♐10'54	29.27550 AU
direct	1813 Aug 25 07:02	12°♐47'37	
evening set	1813 Nov 22 10:06	14°♐42'32	
conjunction	1813 Dec 07 17:04	15°♐16'51	1°24'30
minimum elong	1813 Dec 07 17:04	15°♐16'51	1°24'31
max. Earth dist.	1813 Dec 07 06:27	15°♐15'51	31.27308 AU
morning rise	1813 Dec 22 22:38	15°♐51'05	
retrograde	1814 Mar 20 11:50	17°♐44'46	
opposition	1814 Jun 07 20:39	16°♐22'22	1°29'02
min. Earth dist.	1814 Jun 08 06:54	16°♐21'40	29.27212 AU
direct	1814 Aug 27 16:52	14°♐58'28	
evening set	1814 Nov 24 19:26	16°♐53'21	
conjunction	1814 Dec 10 02:18	17°♐27'41	1°22'09
minimum elong	1814 Dec 10 02:18	17°♐27'41	1°22'08
max. Earth dist.	1814 Dec 09 16:48	17°♐26'47	31.26969 AU
morning rise	1814 Dec 25 07:50	18°♐01'55	
retrograde	1815 Mar 22 23:22	19°♐55'44	
opposition	1815 Jun 10 09:11	18°♐33'20	1°26'27
min. Earth dist.	1815 Jun 10 17:55	18°♐32'45	29.26836 AU
direct	1815 Aug 30 04:10	17°♐09'31	
evening set	1815 Nov 27 04:59	19°♐04'22	
conjunction	1815 Dec 12 11:35	19°♐38'42	1°19'40
minimum elong	1815 Dec 12 11:35	19°♐38'42	1°19'40
max. Earth dist.	1815 Dec 12 02:05	19°♐37'48	31.26561 AU
morning rise	1815 Dec 27 17:10	20°♐12'57	
retrograde	1816 Mar 24 11:34	22°♐06'55	
opposition	1816 Jun 11 21:52	20°♐44'29	1°23'45
min. Earth dist.	1816 Jun 12 06:38	20°♐43'54	29.26390 AU
direct	1816 Aug 31 14:44	19°♐20'44	
evening set	1816 Nov 28 14:28	21°♐15'33	
conjunction	1816 Dec 13 21:05	21°♐49'53	1°17'05
minimum elong	1816 Dec 13 21:05	21°♐49'53	1°17'04
max. Earth dist.	1816 Dec 13 13:07	21°♐49'08	31.26065 AU
morning rise	1816 Dec 29 02:31	22°♐24'09	
retrograde	1817 Mar 26 23:23	24°♐18'15	
opposition	1817 Jun 14 10:42	22°♐55'48	1°20'55
min. Earth dist.	1817 Jun 14 18:38	22°♐55'16	29.25822 AU
direct	1817 Sep 03 04:19	21°♐32'06	
evening set	1817 Dec 01 00:00	23°♐26'52	
conjunction	1817 Dec 16 06:21	24°♐01'12	1°14'22
minimum elong	1817 Dec 16 06:21	24°♐01'12	1°14'23
max. Earth dist.	1817 Dec 15 21:54	24°♐00'24	31.25439 AU
morning rise	1817 Dec 31 11:59	24°♐35'29	

retrograde	1818 Mar 29 12:21	26°♐29'42	
opposition	1818 Jun 16 23:34	25°♐07'12	1°17'58
min. Earth dist.	1818 Jun 17 06:47	25°♐06'43	29.25128 AU
direct	1818 Sep 05 15:30	23°♐43'32	
evening set	1818 Dec 03 09:30	25°♐38'15	
conjunction	1818 Dec 18 15:57	26°♐12'35	1°11'34
minimum elong	1818 Dec 18 15:57	26°♐12'36	1°11'34
max. Earth dist.	1818 Dec 18 08:58	26°♐11'56	31.24669 AU
morning rise	1819 Jan 02 21:27	26°♐46'53	
retrograde	1819 Mar 31 21:50	28°♐41'12	
opposition	1819 Jun 19 12:19	27°♐18'39	1°14'55
min. Earth dist.	1819 Jun 19 19:30	27°♐18'10	29.24277 AU
direct	1819 Sep 08 04:24	25°♐55'00	
evening set	1819 Dec 05 19:05	27°♐49'37	
conjunction	1819 Dec 21 01:20	28°♐23'58	1°08'39
minimum elong	1819 Dec 21 01:20	28°♐23'58	1°08'40
max. Earth dist.	1819 Dec 20 18:01	28°♐23'17	31.23766 AU
morning rise	1820 Jan 05 07:03	28°♐58'17	
	1820 Feb 04 23:57	0°♑	
retrograde	1820 Apr 02 09:23	0°♑52'41	
	1820 Jun 02 03:06	30°℞♐	
opposition	1820 Jun 21 01:08	29°♐30'03	1°11'46
min. Earth dist.	1820 Jun 21 06:57	29°♐29'39	29.23313 AU
direct	1820 Sep 09 16:50	28°♐06'24	
	1820 Dec 06 18:22	0°♑	
evening set	1820 Dec 07 04:22	0°♑00'55	
conjunction	1820 Dec 22 10:39	0°♑35'17	1°05'39
minimum elong	1820 Dec 22 10:39	0°♑35'17	1°05'39
max. Earth dist.	1820 Dec 22 04:47	0°♑34'44	31.22757 AU
morning rise	1821 Jan 06 16:20	1°♑09'36	
retrograde	1821 Apr 04 19:36	3°♑04'06	
opposition	1821 Jun 23 14:08	1°♑41'21	1°08'30
min. Earth dist.	1821 Jun 23 20:06	1°♑40'57	29.22278 AU
direct	1821 Sep 12 04:50	0°♑17'42	
evening set	1821 Dec 09 13:42	2°♑12'07	
conjunction	1821 Dec 24 19:55	2°♑46'28	1°02'33
minimum elong	1821 Dec 24 19:55	2°♑46'28	1°02'34
max. Earth dist.	1821 Dec 24 14:44	2°♑45'59	31.21731 AU
morning rise	1822 Jan 09 01:45	3°♑20'49	
retrograde	1822 Apr 07 05:56	5°♑15'24	
opposition	1822 Jun 26 02:50	3°♑52'33	1°05'09
min. Earth dist.	1822 Jun 26 06:46	3°♑52'17	29.21260 AU
direct	1822 Sep 14 16:38	2°♑28'53	
evening set	1822 Dec 11 22:56	4°♑23'12	
conjunction	1822 Dec 27 05:08	4°♑57'34	0°59'22
minimum elong	1822 Dec 27 05:08	4°♑57'34	0°59'22
max. Earth dist.	1822 Dec 27 00:50	4°♑57'10	31.20736 AU
morning rise	1823 Jan 11 11:05	5°♑31'56	
retrograde	1823 Apr 09 16:30	7°♑26'38	
opposition	1823 Jun 28 15:44	6°♑03'41	1°01'42
min. Earth dist.	1823 Jun 28 19:32	6°♑03'25	29.20310 AU
direct	1823 Sep 17 02:39	4°♑40'01	
evening set	1823 Dec 14 08:09	6°♑34'15	
conjunction	1823 Dec 29 14:23	7°♑08'38	0°56'06
minimum elong	1823 Dec 29 14:23	7°♑08'38	0°56'06
max. Earth dist.	1823 Dec 29 11:39	7°♑08'22	31.19839 AU
morning rise	1824 Jan 13 20:22	7°♑43'00	
retrograde	1824 Apr 11 03:30	9°♑37'48	
opposition	1824 Jun 30 04:28	8°♑14'47	0°58'09
min. Earth dist.	1824 Jun 30 06:16	8°♑14'40	29.19453 AU
direct	1824 Sep 18 13:47	6°♑51'09	
evening set	1824 Dec 15 17:30	8°♑45'19	
conjunction	1824 Dec 30 23:36	9°♑19'42	0°52'45
minimum elong	1824 Dec 30 23:36	9°♑19'42	0°52'44
max. Earth dist.	1824 Dec 30 21:14	9°♑19'29	31.19042 AU
morning rise	1825 Jan 15 05:50	9°♑54'06	
retrograde	1825 Apr 13 16:07	11°♑49'02	
opposition	1825 Jul 02 17:27	10°♑25'58	0°54'31
min. Earth dist.	1825 Jul 02 18:43	10°♑25'53	29.18711 AU
direct	1825 Sep 21 00:06	9°♑02'22	
evening set	1825 Dec 18 02:36	10°♑56'29	
conjunction	1826 Jan 02 08:54	11°♑30'52	0°49'18
minimum elong	1826 Jan 02 08:55	11°♑30'52	0°49'19
max. Earth dist.	1826 Jan 02 08:38	11°♑30'51	31.18344 AU
morning rise	1826 Jan 17 15:10	12°♑05'18	
retrograde	1826 Apr 16 04:07	14°♑00'22	
opposition	1826 Jul 05 06:23	12°♑37'15	0°50'48
min. Earth dist.	1826 Jul 05 06:23	12°♑37'15	29.18032 AU
direct	1826 Sep 23 12:23	11°♑13'42	
evening set	1826 Dec 20 12:02	13°♑07'46	
conjunction	1827 Jan 04 18:13	13°♑42'10	0°45'48
minimum elong	1827 Jan 04 18:13	13°♑42'11	0°45'47
max. Earth dist.	1827 Jan 04 17:49	13°♑42'08	31.17695 AU
morning rise	1827 Jan 20 00:48	14°♑16'37	
retrograde	1827 Apr 18 17:23	16°♑11'50	
opposition	1827 Jul 07 19:10	14°♑48'40	0°47'01
min. Earth dist.	1827 Jul 07 18:11	14°♑48'44	29.17397 AU
direct	1827 Sep 25 22:27	13°♑25'11	
evening set	1827 Dec 22 21:23	15°♑19'13	
conjunction	1828 Jan 07 03:45	15°♑53'39	0°42'13
minimum elong	1828 Jan 07 03:46	15°♑53'39	0°42'13
max. Earth dist.	1828 Jan 07 05:11	15°♑53'47	31.17056 AU
morning rise	1828 Jan 22 10:21	16°♑28'07	
retrograde	1828 Apr 20 04:25	18°♑23'28	
opposition	1828 Jul 09 08:17	17°♑00'17	0°43'09
min. Earth dist.	1828 Jul 09 06:56	17°♑00'22	29.16740 AU
direct	1828 Sep 27 11:02	15°♑36'51	
evening set	1828 Dec 24 06:51	17°♑30'51	
conjunction	1829 Jan 08 13:09	18°♑05'17	0°38'34
minimum elong	1829 Jan 08 13:09	18°♑05'17	0°38'33
max. Earth dist.	1829 Jan 08 14:34	18°♑05'25	31.16387 AU
morning rise	1829 Jan 23 20:02	18°♑39'47	
retrograde	1829 Apr 22 17:42	20°♑35'17	
opposition	1829 Jul 11 21:22	19°♑12'03	0°39'13
min. Earth dist.	1829 Jul 11 18:33	19°♑12'15	29.16037 AU
direct	1829 Sep 29 23:05	17°♑48'41	
evening set	1829 Dec 26 16:24	19°♑42'38	
conjunction	1830 Jan 10 22:50	20°♑17'06	0°34'51
minimum elong	1830 Jan 10 22:50	20°♑17'06	0°34'52
max. Earth dist.	1830 Jan 11 01:28	20°♑17'21	31.15633 AU
morning rise	1830 Jan 26 05:51	20°♑51'38	
retrograde	1830 Apr 25 05:06	22°♑47'16	
opposition	1830 Jul 14 10:31	21°♑24'00	0°35'13
min. Earth dist.	1830 Jul 14 08:06	21°♑24'09	29.15234 AU
direct	1830 Oct 02 10:46	20°♑00'40	
evening set	1830 Dec 29 02:02	21°♑54'34	
conjunction	1831 Jan 13 08:34	22°♑29'02	0°31'06
minimum elong	1831 Jan 13 08:34	22°♑29'02	0°31'05
max. Earth dist.	1831 Jan 13 11:35	22°♑29'19	31.14779 AU
morning rise	1831 Jan 28 15:50	23°♑03'36	
retrograde	1831 Apr 27 16:34	24°♑59'22	

opposition	1831 Jul	16	23:37	23°♑36'02	0°31'11
min. Earth dist.	1831 Jul	16	19:32	23°♑36'19	29.14306 AU
direct	1831 Oct	04	22:45	22°♑12'44	
evening set	1831 Dec	31	11:41	24°♑06'35	
conjunction	1832 Jan	15	18:15	24°♑41'04	0°27'18
minimum elong	1832 Jan	15	18:15	24°♑41'04	0°27'18
max. Earth dist.	1832 Jan	15	21:34	24°♑41'23	31.13781 AU
morning rise	1832 Jan	31	01:46	25°♑15'39	
retrograde	1832 Apr	29	03:46	27°♑11'33	
opposition	1832 Jul	18	12:53	25°♑48'09	0°27'05
min. Earth dist.	1832 Jul	18	09:10	25°♑48'24	29.13253 AU
direct	1832 Oct	06	09:12	24°♑24'51	
evening set	1833 Jan	01	21:15	26°♑18'37	
conjunction	1833 Jan	17	04:04	26°♑53'07	0°23'27
minimum elong	1833 Jan	17	04:04	26°♑53'07	0°23'27
max. Earth dist.	1833 Jan	17	08:38	26°♑53'33	31.12691 AU
morning rise	1833 Feb	01	11:44	27°♑27'44	
retrograde	1833 May	01	15:17	29°♑23'44	
opposition	1833 Jul	21	02:02	28°♑00'15	0°22'58
min. Earth dist.	1833 Jul	20	20:40	28°♑00'37	29.12119 AU
direct	1833 Oct	08	20:48	26°♑36'56	
evening set	1834 Jan	04	06:51	28°♑30'38	
conjunction	1834 Jan	19	13:40	29°♑05'09	0°19'35
minimum elong	1834 Jan	19	13:40	29°♑05'09	0°19'35
max. Earth dist.	1834 Jan	19	18:17	29°♑05'35	31.11540 AU
morning rise	1834 Feb	03	21:45	29°♑39'48	
	1834 Feb	13	04:46	0°♒	
retrograde	1834 May	04	03:59	1°♒35'55	
opposition	1834 Jul	23	15:15	0°♒12'19	0°18'48
min. Earth dist.	1834 Jul	23	09:42	0°♒12'42	29.10974 AU
	1834 Jul	31	05:27	30°℞♑	
direct	1834 Oct	11	07:16	28°♑49'01	
	1834 Dec	17	08:32	0°♒	
evening set	1835 Jan	06	16:24	0°♒42'38	
conjunction	1835 Jan	21	23:30	1°♒17'10	0°15'41
minimum elong	1835 Jan	21	23:30	1°♒17'10	0°15'40
behind sun begin	1835 Jan	21	21:44	1°♒17'01	
behind sun end	1835 Jan	22	01:15	1°♒17'20	
max. Earth dist.	1835 Jan	22	06:06	1°♒17'47	31.10407 AU
morning rise	1835 Feb	06	07:40	1°♒51'50	
retrograde	1835 May	06	15:58	3°♒48'04	
opposition	1835 Jul	26	04:11	2°♒24'23	0°14'37
min. Earth dist.	1835 Jul	25	21:23	2°♒24'51	29.09865 AU
direct	1835 Oct	13	19:10	1°♒01'04	
evening set	1836 Jan	09	02:07	2°♒54'39	
conjunction	1836 Jan	24	09:11	3°♒29'12	0°11'45
minimum elong	1836 Jan	24	09:11	3°♒29'12	0°11'46
behind sun begin	1836 Jan	24	04:37	3°♒28'47	
behind sun end	1836 Jan	24	13:45	3°♒29'37	
max. Earth dist.	1836 Jan	24	15:46	3°♒29'48	31.09348 AU
morning rise	1836 Feb	08	17:46	4°♒03'54	
retrograde	1836 May	08	05:27	6°♒00'16	
opposition	1836 Jul	27	17:20	4°♒36'30	0°10'24
min. Earth dist.	1836 Jul	27	09:20	4°♒37'02	29.08866 AU
direct	1836 Oct	15	04:51	3°♒13'11	
evening set	1837 Jan	10	11:36	5°♒06'44	
conjunction	1837 Jan	25	18:57	5°♒41'18	0°07'49
minimum elong	1837 Jan	25	18:57	5°♒41'18	0°07'49
behind sun begin	1837 Jan	25	13:10	5°♒40'47	
behind sun end	1837 Jan	26	00:44	5°♒41'50	
max. Earth dist.	1837 Jan	26	03:34	5°♒42'06	31.08396 AU
morning rise	1837 Feb	10	03:40	6°♒16'01	
retrograde	1837 May	10	17:19	8°♒12'32	
opposition	1837 Jul	30	06:31	6°♒48'42	0°06'10
min. Earth dist.	1837 Jul	29	21:49	6°♒49'17	29.07968 AU
direct	1837 Oct	17	17:25	5°♒25'26	
evening set	1838 Jan	12	21:21	7°♒18'57	
conjunction	1838 Jan	28	04:48	7°♒53'32	0°03'52
minimum elong	1838 Jan	28	04:48	7°♒53'32	0°03'53
behind sun begin	1838 Jan	27	22:28	7°♒52'58	
behind sun end	1838 Jan	28	11:07	7°♒54'06	
max. Earth dist.	1838 Jan	28	13:42	7°♒54'21	31.07562 AU
morning rise	1838 Feb	12	13:55	8°♒28'17	
retrograde	1838 May	13	07:50	10°♒24'55	
opposition	1838 Aug	01	19:28	9°♒01'03	0°01'55
min. Earth dist.	1838 Aug	01	09:05	9°♒01'45	29.07182 AU
direct	1838 Oct	20	05:24	7°♒37'50	
desc. node	1839 Jan	14	11:10	9°♒29'29	
evening set	1839 Jan	15	07:06	9°♒31'19	
conjunction	1839 Jan	30	14:47	10°♒05'56	-0°00'11
minimum elong	1839 Jan	30	14:47	10°♒05'56	0°00'11
behind sun begin	1839 Jan	30	08:27	10°♒05'22	
behind sun end	1839 Jan	30	21:07	10°♒06'31	
max. Earth dist.	1839 Jan	31	01:04	10°♒06'54	31.06805 AU
morning rise	1839 Feb	15	00:09	10°♒40'43	
retrograde	1839 May	15	19:54	12°♒37'30	
opposition	1839 Aug	04	08:40	11°♒13'36	-0°02'20
min. Earth dist.	1839 Aug	03	22:24	11°♒14'18	29.06458 AU
direct	1839 Oct	22	16:48	9°♒50'26	
evening set	1840 Jan	17	16:52	11°♒43'54	
conjunction	1840 Feb	02	00:45	12°♒18'32	-0°04'14
minimum elong	1840 Feb	02	00:44	12°♒18'32	0°04'14
behind sun begin	1840 Feb	01	18:26	12°♒17'58	
behind sun end	1840 Feb	02	07:02	12°♒19'06	
max. Earth dist.	1840 Feb	02	11:53	12°♒19'35	31.06109 AU
morning rise	1840 Feb	17	10:23	12°♒53'21	
retrograde	1840 May	17	08:00	14°♒50'17	
opposition	1840 Aug	05	21:48	13°♒26'21	-0°06'36
min. Earth dist.	1840 Aug	05	09:41	13°♒27'11	29.05767 AU
direct	1840 Oct	24	04:56	12°♒03'15	
evening set	1841 Jan	19	02:55	13°♒56'41	
conjunction	1841 Feb	03	10:53	14°♒31'21	-0°08'11
minimum elong	1841 Feb	03	10:53	14°♒31'21	0°08'12
behind sun begin	1841 Feb	03	05:11	14°♒30'50	
behind sun end	1841 Feb	03	16:36	14°♒31'52	
max. Earth dist.	1841 Feb	03	22:26	14°♒32'26	31.05411 AU
	1841 Feb	16	02:14	15°♒	
morning rise	1841 Feb	18	20:54	15°♒06'12	
retrograde	1841 May	19	20:20	17°♒03'17	
opposition	1841 Aug	08	11:08	15°♒39'19	-0°10'51
min. Earth dist.	1841 Aug	07	23:22	15°♒40'07	29.05066 AU
	1841 Sep	02	11:57	15°℞♒	
direct	1841 Oct	26	15:39	14°♒16'15	
	1841 Dec	17	03:21	15°♒	
evening set	1842 Jan	21	12:56	16°♒09'40	
conjunction	1842 Feb	05	21:15	16°♒44'21	-0°12'09
minimum elong	1842 Feb	05	21:15	16°♒44'21	0°12'09
behind sun begin	1842 Feb	05	16:51	16°♒43'57	
behind sun end	1842 Feb	06	01:39	16°♒44'45	
max. Earth dist.	1842 Feb	06	10:03	16°♒45'33	31.04683 AU
morning rise	1842 Feb	21	07:29	17°♒19'14	
retrograde	1842 May	22	08:36	19°♒16'27	
min. Earth dist.	1842 Aug	10	11:09	17°♒53'21	29.04292 AU

opposition	1842 Aug 11 00:19	17°♒52'27	-0°15'05
direct	1842 Oct 29 03:40	16°♒29'25	
evening set	1843 Jan 23 23:20	18°♒22'49	
conjunction	1843 Feb 08 07:41	18°♒57'31	-0°16'06
minimum elong	1843 Feb 08 07:41	18°♒57'31	0°16'06
behind sun begin	1843 Feb 08 06:54	18°♒57'27	
behind sun end	1843 Feb 08 08:27	18°♒57'35	
max. Earth dist.	1843 Feb 08 20:00	18°♒58'40	31.03854 AU
morning rise	1843 Feb 23 18:21	19°♒32'26	
retrograde	1843 May 24 21:07	21°♒29'47	
opposition	1843 Aug 13 13:34	20°♒05'43	-0°19'18
min. Earth dist.	1843 Aug 13 00:42	20°♒06'36	29.03414 AU
direct	1843 Oct 31 13:49	18°♒42'42	
evening set	1844 Jan 26 09:37	20°♒36'03	
conjunction	1844 Feb 10 18:22	21°♒10'47	-0°20'01
minimum elong	1844 Feb 10 18:22	21°♒10'47	0°20'01
max. Earth dist.	1844 Feb 11 08:09	21°♒12'05	31.02909 AU
morning rise	1844 Feb 26 05:11	21°♒45'43	
retrograde	1844 May 26 08:51	23°♒43'11	
opposition	1844 Aug 15 02:52	22°♒19'02	-0°23'30
min. Earth dist.	1844 Aug 14 13:14	22°♒19'58	29.02400 AU
direct	1844 Nov 02 01:30	20°♒56'01	
evening set	1845 Jan 27 19:58	22°♒49'19	
conjunction	1845 Feb 12 04:49	23°♒24'03	-0°23'55
minimum elong	1845 Feb 12 04:48	23°♒24'03	0°23'55
max. Earth dist.	1845 Feb 12 18:00	23°♒25'18	31.01843 AU
morning rise	1845 Feb 27 16:09	23°♒59'01	
retrograde	1845 May 28 22:48	25°♒56'35	
opposition	1845 Aug 17 16:09	24°♒32'20	-0°27'39
min. Earth dist.	1845 Aug 17 02:03	24°♒33'18	29.01290 AU
direct	1845 Nov 04 11:34	23°♒09'16	
evening set	1846 Jan 30 06:20	25°♒02'31	
conjunction	1846 Feb 14 15:34	25°♒37'17	-0°27'47
minimum elong	1846 Feb 14 15:34	25°♒37'17	0°27'47
max. Earth dist.	1846 Feb 15 06:10	25°♒38'39	31.00688 AU
morning rise	1846 Mar 02 03:08	26°♒12'16	
retrograde	1846 May 31 10:53	28°♒09'55	
opposition	1846 Aug 20 05:12	26°♒45'33	-0°31'46
min. Earth dist.	1846 Aug 19 14:56	26°♒46'32	29.00115 AU
direct	1846 Nov 07 00:12	25°♒22'27	
evening set	1847 Feb 01 16:45	27°♒15'39	
conjunction	1847 Feb 17 02:10	27°♒50'25	-0°31'37
minimum elong	1847 Feb 17 02:10	27°♒50'25	0°31'37
max. Earth dist.	1847 Feb 17 16:44	27°♒51'48	30.99517 AU
morning rise	1847 Mar 04 14:11	28°♒25'27	
	1847 Apr 26 02:54	0°♓	
retrograde	1847 Jun 03 01:32	0°♓23'10	
	1847 Jul 11 23:06	30°♑℞	
opposition	1847 Aug 22 18:14	28°♒58'42	-0°35'50
min. Earth dist.	1847 Aug 22 02:38	28°♒59'46	28.98962 AU
direct	1847 Nov 09 12:02	27°♒35'34	
evening set	1848 Feb 04 03:04	29°♒28'43	
	1848 Feb 17 23:44	0°♓	
conjunction	1848 Feb 19 12:44	0°♓03'31	-0°35'23
minimum elong	1848 Feb 19 12:44	0°♓03'31	0°35'23
max. Earth dist.	1848 Feb 20 04:33	0°♓05'00	30.98379 AU
morning rise	1848 Mar 06 01:03	0°♓38'33	
retrograde	1848 Jun 04 13:31	2°♓36'22	
opposition	1848 Aug 24 07:25	1°♓11'49	-0°39'51
min. Earth dist.	1848 Aug 23 15:56	1°♓12'52	28.97875 AU
	1848 Oct 15 18:16	30°♑℞	

direct	1848 Nov 10 23:34	29°♒48'39	
	1848 Dec 06 17:15	0°♓	
evening set	1849 Feb 05 13:31	1°♓41'47	
conjunction	1849 Feb 20 23:30	2°♓16'35	-0°39'07
minimum elong	1849 Feb 20 23:30	2°♓16'35	0°39'07
max. Earth dist.	1849 Feb 21 16:11	2°♓18'10	30.97349 AU
morning rise	1849 Mar 08 12:09	2°♓51'40	
retrograde	1849 Jun 07 02:55	4°♓49'35	
opposition	1849 Aug 26 20:20	3°♓24'57	-0°43'48
min. Earth dist.	1849 Aug 26 03:01	3°♓26'08	28.96904 AU
direct	1849 Nov 13 12:04	2°♓01'47	
evening set	1850 Feb 08 00:04	3°♓54'54	
conjunction	1850 Feb 23 10:16	4°♓29'44	-0°42'47
minimum elong	1850 Feb 23 10:16	4°♓29'44	0°42'47
max. Earth dist.	1850 Feb 24 03:20	4°♓31'21	30.96425 AU
morning rise	1850 Mar 10 23:22	5°♓04'51	
retrograde	1850 Jun 09 16:00	7°♓02'52	
opposition	1850 Aug 29 09:26	5°♓38'11	-0°47'42
min. Earth dist.	1850 Aug 28 16:21	5°♓39'21	28.96047 AU
direct	1850 Nov 15 23:09	4°♓15'03	
evening set	1851 Feb 10 10:36	6°♓08'08	
conjunction	1851 Feb 25 21:13	6°♓43'01	-0°46'24
minimum elong	1851 Feb 25 21:12	6°♓43'01	0°46'24
max. Earth dist.	1851 Feb 26 15:43	6°♓44'46	30.95620 AU
morning rise	1851 Mar 13 10:32	7°♓18'09	
retrograde	1851 Jun 12 04:24	9°♓16'17	
opposition	1851 Aug 31 22:15	7°♓51'34	-0°51'31
min. Earth dist.	1851 Aug 31 03:32	7°♓52'52	28.95287 AU
direct	1851 Nov 18 11:18	6°♓28'28	
evening set	1852 Feb 12 21:23	8°♓21'35	
conjunction	1852 Feb 28 08:07	8°♓56'28	-0°49'56
minimum elong	1852 Feb 28 08:07	8°♓56'28	0°49'56
max. Earth dist.	1852 Feb 29 02:27	8°♓58'12	30.94905 AU
morning rise	1852 Mar 14 21:59	9°♓31'39	
retrograde	1852 Jun 13 17:05	11°♓29'55	
opposition	1852 Sep 02 11:22	10°♓05'11	-0°55'17
min. Earth dist.	1852 Sep 01 16:45	10°♓06'27	28.94620 AU
direct	1852 Nov 19 21:04	8°♓42'07	
evening set	1853 Feb 14 08:03	10°♓35'14	
conjunction	1853 Mar 01 19:16	11°♓10'09	-0°53'24
minimum elong	1853 Mar 01 19:15	11°♓10'09	0°53'25
max. Earth dist.	1853 Mar 02 15:19	11°♓12'03	30.94257 AU
morning rise	1853 Mar 17 09:21	11°♓45'22	
retrograde	1853 Jun 16 05:01	13°♓43'46	
min. Earth dist.	1853 Sep 04 04:57	12°♓20'21	28.93982 AU
opposition	1853 Sep 05 00:21	12°♓19'01	-0°58'57
direct	1853 Nov 22 08:12	10°♓55'59	
evening set	1854 Feb 16 19:09	12°♓49'08	
conjunction	1854 Mar 04 06:31	13°♓24'04	-0°56'48
minimum elong	1854 Mar 04 06:31	13°♓24'04	0°56'48
max. Earth dist.	1854 Mar 05 01:56	13°♓25'54	30.93621 AU
morning rise	1854 Mar 19 21:09	13°♓59'19	
retrograde	1854 Jun 18 19:31	15°♓57'50	
opposition	1854 Sep 07 13:14	14°♓33'04	-1°02'32
min. Earth dist.	1854 Sep 06 17:38	14°♓34'25	28.93345 AU
direct	1854 Nov 24 17:33	13°♓10'04	
evening set	1855 Feb 19 06:16	15°♓03'15	
conjunction	1855 Mar 06 18:04	15°♓38'13	-1°00'07
minimum elong	1855 Mar 06 18:04	15°♓38'13	1°00'07
max. Earth dist.	1855 Mar 07 14:37	15°♓40'10	30.92944 AU

morning rise	1855 Mar 22 08:55	16°♓13'30	
retrograde	1855 Jun 21 08:03	18°♓12'08	
min. Earth dist.	1855 Sep 09 06:46	16°♓48'41	28.92633 AU
opposition	1855 Sep 10 02:16	16°♓47'20	-1°06'01
direct	1855 Nov 27 05:40	15°♓24'21	
evening set	1856 Feb 21 17:28	17°♓17'32	
conjunction	1856 Mar 08 05:31	17°♓52'32	-1°03'20
minimum elong	1856 Mar 08 05:31	17°♓52'32	1°03'19
max. Earth dist.	1856 Mar 09 01:34	17°♓54'25	30.92191 AU
morning rise	1856 Mar 23 20:50	18°♓27'50	
retrograde	1856 Jun 22 23:15	20°♓26'34	
opposition	1856 Sep 11 15:18	19°♓01'43	-1°09'25
min. Earth dist.	1856 Sep 10 19:01	19°♓03'07	28.91834 AU
direct	1856 Nov 28 17:04	17°♓38'43	
evening set	1857 Feb 23 04:51	19°♓31'54	
conjunction	1857 Mar 10 17:16	20°♓06'56	-1°06'27
minimum elong	1857 Mar 10 17:15	20°♓06'56	1°06'27
max. Earth dist.	1857 Mar 11 13:49	20°♓08'53	30.91327 AU
morning rise	1857 Mar 26 08:57	20°♓42'16	
retrograde	1857 Jun 25 11:43	22°♓41'04	
min. Earth dist.	1857 Sep 13 08:49	21°♓17'30	28.90928 AU
opposition	1857 Sep 14 04:16	21°♓16'09	-1°12'42
direct	1857 Dec 01 04:10	19°♓53'07	
evening set	1858 Feb 25 16:12	21°♓46'17	
conjunction	1858 Mar 13 05:03	22°♓21'20	-1°09'29
minimum elong	1858 Mar 13 05:02	22°♓21'20	1°09'29
max. Earth dist.	1858 Mar 14 01:46	22°♓23'18	30.90390 AU
morning rise	1858 Mar 28 21:08	22°♓56'42	
retrograde	1858 Jun 28 02:26	24°♓55'32	
opposition	1858 Sep 16 17:04	23°♓30'32	-1°15'53
min. Earth dist.	1858 Sep 15 20:29	23°♓31'57	28.89962 AU
direct	1858 Dec 03 17:43	22°♓07'27	
evening set	1859 Feb 28 03:37	24°♓00'35	
conjunction	1859 Mar 15 16:41	24°♓35'39	-1°12'24
minimum elong	1859 Mar 15 16:41	24°♓35'39	1°12'25
max. Earth dist.	1859 Mar 16 13:19	24°♓37'37	30.89402 AU
morning rise	1859 Mar 31 09:14	25°♓11'03	
retrograde	1859 Jun 30 16:14	27°♓09'55	
min. Earth dist.	1859 Sep 18 10:00	25°♓46'12	28.88993 AU
opposition	1859 Sep 19 05:52	25°♓44'50	-1°18'57
direct	1859 Dec 06 05:46	24°♓21'42	
evening set	1860 Mar 01 14:57	26°♓14'48	
conjunction	1860 Mar 17 04:31	26°♓49'54	-1°15'13
minimum elong	1860 Mar 17 04:31	26°♓49'54	1°15'13
max. Earth dist.	1860 Mar 18 02:17	26°♓51'57	30.88461 AU
morning rise	1860 Apr 01 21:20	27°♓25'19	
retrograde	1860 Jul 02 04:38	29°♓24'12	
opposition	1860 Sep 20 18:29	27°♓59'02	-1°21'54
min. Earth dist.	1860 Sep 19 21:14	28°♓00'30	28.88093 AU
direct	1860 Dec 07 18:45	26°♓35'51	
evening set	1861 Mar 04 02:26	28°♓28'56	
conjunction	1861 Mar 19 16:13	29°♓04'03	-1°17'55
minimum elong	1861 Mar 19 16:13	29°♓04'02	1°17'55
max. Earth dist.	1861 Mar 20 13:35	29°♓06'04	30.87606 AU
morning rise	1861 Apr 04 09:37	29°♓39'30	
	1861 Apr 13 20:29	0°♈	
retrograde	1861 Jul 04 17:19	1°♈38'26	
min. Earth dist.	1861 Sep 22 10:13	0°♈14'38	28.87311 AU
opposition	1861 Sep 23 07:09	0°♈13'10	-1°24'44
	1861 Oct 01 05:45	30°♑℞♓	
direct	1861 Dec 10 05:19	28°♓49'57	
	1862 Feb 14 00:24	0°♈	
evening set	1862 Mar 06 13:54	0°♈43'02	
conjunction	1862 Mar 22 04:14	1°♈18'10	-1°20'30
minimum elong	1862 Mar 22 04:14	1°♈18'10	1°20'29
max. Earth dist.	1862 Mar 23 03:10	1°♈20'20	30.86881 AU
morning rise	1862 Apr 06 21:52	1°♈53'38	
retrograde	1862 Jul 07 05:12	3°♈52'36	
opposition	1862 Sep 25 19:29	2°♈27'18	-1°27'26
min. Earth dist.	1862 Sep 24 21:45	2°♈28'49	28.86656 AU
direct	1862 Dec 12 17:18	1°♈04'04	
evening set	1863 Mar 09 01:35	2°♈57'08	
conjunction	1863 Mar 24 16:09	3°♈32'18	-1°22'58
minimum elong	1863 Mar 24 16:09	3°♈32'18	1°22'57
max. Earth dist.	1863 Mar 25 14:28	3°♈34'24	30.86301 AU
morning rise	1863 Apr 09 10:21	4°♈07'48	
retrograde	1863 Jul 09 18:53	6°♈06'48	
min. Earth dist.	1863 Sep 27 09:59	4°♈43'00	28.86157 AU
opposition	1863 Sep 28 08:03	4°♈41'28	-1°30'00
direct	1863 Dec 15 03:15	3°♈18'13	
evening set	1864 Mar 10 13:04	5°♈11'18	
conjunction	1864 Mar 26 04:09	5°♈46'29	-1°25'18
minimum elong	1864 Mar 26 04:08	5°♈46'29	1°25'18
max. Earth dist.	1864 Mar 27 03:52	5°♈48'44	30.85859 AU
morning rise	1864 Apr 10 22:38	6°♈22'01	
retrograde	1864 Jul 11 06:12	8°♈21'05	
opposition	1864 Sep 29 20:35	6°♈55'44	-1°32'26
min. Earth dist.	1864 Sep 28 22:24	6°♈57'17	28.85780 AU
direct	1864 Dec 16 14:43	5°♈32'30	
evening set	1865 Mar 13 00:55	7°♈25'36	
conjunction	1865 Mar 28 16:21	8°♈00'49	-1°27'31
minimum elong	1865 Mar 28 16:21	8°♈00'49	1°27'31
max. Earth dist.	1865 Mar 29 15:41	8°♈03'01	30.85546 AU
morning rise	1865 Apr 13 11:21	8°♈36'22	
retrograde	1865 Jul 13 20:49	10°♈35'29	
min. Earth dist.	1865 Oct 01 10:00	9°♈11'44	28.85515 AU
opposition	1865 Oct 02 08:57	9°♈10'08	-1°34'43
direct	1865 Dec 19 01:01	7°♈46'54	
evening set	1866 Mar 15 12:55	9°♈40'04	
conjunction	1866 Mar 31 04:46	10°♈15'18	-1°29'35
minimum elong	1866 Mar 31 04:45	10°♈15'18	1°29'35
max. Earth dist.	1866 Apr 01 04:41	10°♈17'34	30.85299 AU
morning rise	1866 Apr 16 00:09	10°♈50'53	
retrograde	1866 Jul 16 09:29	12°♈50'03	
opposition	1866 Oct 04 21:27	11°♈24'44	-1°36'52
min. Earth dist.	1866 Oct 03 23:24	11°♈26'16	28.85292 AU
direct	1866 Dec 21 11:32	10°♈01'31	
evening set	1867 Mar 18 00:57	11°♈54'43	
conjunction	1867 Apr 02 17:14	12°♈29'59	-1°31'32
minimum elong	1867 Apr 02 17:13	12°♈29'59	1°31'32
max. Earth dist.	1867 Apr 03 17:11	12°♈32'15	30.85083 AU
morning rise	1867 Apr 18 12:59	13°♈05'36	
retrograde	1867 Jul 19 00:40	15°♈04'49	
min. Earth dist.	1867 Oct 06 10:57	13°♈41'05	28.85065 AU
opposition	1867 Oct 07 09:50	13°♈39'30	-1°38'52
direct	1867 Dec 24 00:25	12°♈16'18	
evening set	1868 Mar 19 13:19	14°♈09'33	
conjunction	1868 Apr 04 05:54	14°♈44'51	-1°33'20
minimum elong	1868 Apr 04 05:53	14°♈44'51	1°33'20
max. Earth dist.	1868 Apr 05 05:18	14°♈47'03	30.84822 AU
morning rise	1868 Apr 20 02:09	15°♈20'29	

retrograde	1868 Jul 20 14:48	17°♈19'44	
opposition	1868 Oct 08 22:23	15°♈54'25	-1°40'43
min. Earth dist.	1868 Oct 08 00:46	15°♈55'56	28.84780 AU
direct	1868 Dec 25 11:57	14°♈31'13	
evening set	1869 Mar 22 01:36	16°♈24'30	
conjunction	1869 Apr 06 18:47	16°♈59'50	-1°35'00
minimum elong	1869 Apr 06 18:47	16°♈59'50	1°35'00
max. Earth dist.	1869 Apr 07 18:32	17°♈02'04	30.84494 AU
morning rise	1869 Apr 22 15:22	17°♈35'30	
retrograde	1869 Jul 23 04:33	19°♈34'46	
opposition	1869 Oct 11 10:45	18°♈09'26	-1°42'25
min. Earth dist.	1869 Oct 10 12:28	18°♈11'00	28.84397 AU
direct	1869 Dec 28 01:07	16°♈46'12	
evening set	1870 Mar 24 14:11	18°♈39'31	
conjunction	1870 Apr 09 07:39	19°♈14'52	-1°36'31
minimum elong	1870 Apr 09 07:39	19°♈14'52	1°36'31
max. Earth dist.	1870 Apr 10 06:08	19°♈16'59	30.84064 AU
morning rise	1870 Apr 25 04:48	19°♈50'34	
retrograde	1870 Jul 25 18:21	21°♈49'49	
opposition	1870 Oct 13 23:03	20°♈24'28	-1°43'58
min. Earth dist.	1870 Oct 13 01:51	20°♈25'56	28.83938 AU
direct	1870 Dec 30 12:14	19°♈01'12	
evening set	1871 Mar 27 02:34	20°♈54'30	
conjunction	1871 Apr 11 20:38	21°♈29'53	-1°37'53
minimum elong	1871 Apr 11 20:38	21°♈29'53	1°37'53
max. Earth dist.	1871 Apr 12 20:02	21°♈32'06	30.83580 AU
morning rise	1871 Apr 27 18:03	22°♈05'37	
retrograde	1871 Jul 28 07:17	24°♈04'50	
opposition	1871 Oct 16 11:16	22°♈39'27	-1°45'21
min. Earth dist.	1871 Oct 15 13:47	22°♈40'57	28.83440 AU
direct	1872 Jan 02 01:01	21°♈16'08	
evening set	1872 Mar 28 14:59	23°♈09'26	
conjunction	1872 Apr 13 09:22	23°♈44'51	-1°39'07
minimum elong	1872 Apr 13 09:21	23°♈44'51	1°39'07
max. Earth dist.	1872 Apr 14 07:39	23°♈46'57	30.83094 AU
morning rise	1872 Apr 29 07:23	24°♈20'36	
retrograde	1872 Jul 29 20:25	26°♈19'48	
opposition	1872 Oct 17 23:28	24°♈54'22	-1°46'35
min. Earth dist.	1872 Oct 17 02:16	24°♈55'51	28.82982 AU
direct	1873 Jan 03 11:47	23°♈31'00	
evening set	1873 Mar 31 03:29	25°♈24'19	
conjunction	1873 Apr 15 22:27	25°♈59'45	-1°40'11
minimum elong	1873 Apr 15 22:27	25°♈59'45	1°40'11
max. Earth dist.	1873 Apr 16 21:41	26°♈01'57	30.82659 AU
morning rise	1873 May 01 20:45	26°♈35'32	
retrograde	1873 Aug 01 07:13	28°♈34'41	
opposition	1873 Oct 20 11:24	27°♈09'14	-1°47'39
min. Earth dist.	1873 Oct 19 14:28	27°♈10'43	28.82593 AU
direct	1874 Jan 05 23:28	25°♈45'50	
evening set	1874 Apr 02 16:06	27°♈39'10	
conjunction	1874 Apr 18 11:27	28°♈14'37	-1°41'07
minimum elong	1874 Apr 18 11:27	28°♈14'37	1°41'07
max. Earth dist.	1874 Apr 19 09:52	28°♈16'44	30.82330 AU
morning rise	1874 May 04 10:17	28°♈50'25	
	1874 Jun 08 15:14	0°♉	
retrograde	1874 Aug 03 21:19	0°♉49'33	
	1874 Sep 30 22:49	30°℞♈	
opposition	1874 Oct 22 23:20	29°♈24'05	-1°48'33
min. Earth dist.	1874 Oct 22 01:51	29°♈25'36	28.82330 AU
direct	1875 Jan 08 09:40	28°♈00'37	
evening set	1875 Apr 05 04:37	29°♈54'00	
	1875 Apr 07 21:48	0°♉	
conjunction	1875 Apr 21 00:25	0°♉29'29	-1°41'53
minimum elong	1875 Apr 21 00:25	0°♉29'29	1°41'53
max. Earth dist.	1875 Apr 21 23:26	0°♉31'39	30.82120 AU
morning rise	1875 May 06 23:36	1°♉05'18	
retrograde	1875 Aug 06 08:48	3°♉04'25	
opposition	1875 Oct 25 11:20	1°♉38'56	-1°49'18
min. Earth dist.	1875 Oct 24 14:36	1°♉40'24	28.82194 AU
direct	1876 Jan 10 20:02	0°♉15'28	
evening set	1876 Apr 06 17:16	2°♉08'52	
conjunction	1876 Apr 22 13:34	2°♉44'22	-1°42'29
minimum elong	1876 Apr 22 13:34	2°♉44'22	1°42'30
max. Earth dist.	1876 Apr 23 12:31	2°♉46'32	30.82067 AU
morning rise	1876 May 08 13:11	3°♉20'13	
retrograde	1876 Aug 07 23:00	5°♉19'17	
opposition	1876 Oct 26 23:06	3°♉53'51	-1°49'52
min. Earth dist.	1876 Oct 26 01:29	3°♉55'22	28.82211 AU
direct	1877 Jan 12 08:49	2°♉30'21	
evening set	1877 Apr 09 06:03	4°♉23'48	
conjunction	1877 Apr 25 02:46	4°♉59'21	-1°42'57
minimum elong	1877 Apr 25 02:46	4°♉59'21	1°42'57
max. Earth dist.	1877 Apr 26 01:23	5°♉01'28	30.82142 AU
morning rise	1877 May 11 02:53	5°♉35'13	
retrograde	1877 Aug 10 12:03	7°♉34'16	
opposition	1877 Oct 29 11:01	6°♉08'50	-1°50'16
min. Earth dist.	1877 Oct 28 14:34	6°♉10'17	28.82346 AU
direct	1878 Jan 14 19:42	4°♉45'20	
evening set	1878 Apr 11 18:54	6°♉38'51	
conjunction	1878 Apr 27 16:13	7°♉14'26	-1°43'14
minimum elong	1878 Apr 27 16:12	7°♉14'26	1°43'15
max. Earth dist.	1878 Apr 28 15:11	7°♉16'35	30.82329 AU
morning rise	1878 May 13 16:36	7°♉50'19	
retrograde	1878 Aug 13 02:10	9°♉49'19	
opposition	1878 Oct 31 22:38	8°♉23'58	-1°50'30
min. Earth dist.	1878 Oct 31 01:32	8°♉25'27	28.82561 AU
direct	1879 Jan 17 08:23	7°♉00'28	
evening set	1879 Apr 14 08:00	8°♉54'02	
conjunction	1879 Apr 30 05:36	9°♉29'38	-1°43'23
minimum elong	1879 Apr 30 05:36	9°♉29'38	1°43'22
max. Earth dist.	1879 May 01 03:22	9°♉31'41	30.82567 AU
morning rise	1879 May 16 06:33	10°♉05'33	
retrograde	1879 Aug 15 16:56	12°♉04'32	
opposition	1879 Nov 03 10:30	10°♉39'13	-1°50'33
min. Earth dist.	1879 Nov 02 14:36	10°♉40'37	28.82813 AU
direct	1880 Jan 19 19:47	9°♉15'43	
evening set	1880 Apr 15 21:00	11°♉09'20	
conjunction	1880 May 01 19:15	11°♉44'59	-1°43'21
minimum elong	1880 May 01 19:15	11°♉44'59	1°43'21
max. Earth dist.	1880 May 02 17:36	11°♉47'05	30.82806 AU
morning rise	1880 May 17 20:27	12°♉20'55	
retrograde	1880 Aug 17 06:39	14°♉19'51	
opposition	1880 Nov 04 22:16	12°♉54'34	-1°50'26
min. Earth dist.	1880 Nov 04 02:32	12°♉55'57	28.83017 AU
direct	1881 Jan 21 09:19	11°♉31'04	
evening set	1881 Apr 18 10:28	13°♉24'44	
conjunction	1881 May 04 09:02	14°♉00'24	-1°43'10
minimum elong	1881 May 04 09:02	14°♉00'24	1°43'09
max. Earth dist.	1881 May 05 05:32	14°♉02'19	30.82974 AU
morning rise	1881 May 20 10:49	14°♉36'22	
	1881 May 31 11:03	15°♉	

retrograde	1881 Aug 19 20:08	16°♉35'13	
opposition	1881 Nov 07 09:58	15°♉09'58	-1°50'09
min. Earth dist.	1881 Nov 06 15:10	15°♉11'17	28.83141 AU
	1881 Nov 13 07:48	15°℞♉	
direct	1882 Jan 23 20:22	13°♉46'25	
	1882 Apr 01 18:48	15°♉	
evening set	1882 Apr 20 23:50	15°♉40'07	
conjunction	1882 May 06 23:01	16°♉15'49	-1°42'50
minimum elong	1882 May 06 23:01	16°♉15'49	1°42'50
max. Earth dist.	1882 May 07 19:42	16°♉17'45	30.83039 AU
morning rise	1882 May 23 01:02	16°♉51'48	
retrograde	1882 Aug 22 08:05	18°♉50'33	
opposition	1882 Nov 09 21:42	17°♉25'18	-1°49'42
min. Earth dist.	1882 Nov 09 03:45	17°♉26'34	28.83150 AU
direct	1883 Jan 26 08:50	16°♉01'43	
evening set	1883 Apr 23 13:07	17°♉55'25	
conjunction	1883 May 09 12:41	18°♉31'08	-1°42'20
minimum elong	1883 May 09 12:41	18°♉31'08	1°42'20
max. Earth dist.	1883 May 10 07:47	18°♉32'56	30.83019 AU
morning rise	1883 May 25 15:13	19°♉07'08	
retrograde	1883 Aug 24 22:09	21°♉05'48	
opposition	1883 Nov 12 09:19	19°♉40'32	-1°49'06
min. Earth dist.	1883 Nov 11 15:27	19°♉41'48	28.83097 AU
direct	1884 Jan 28 19:59	18°♉16'51	
evening set	1884 Apr 25 02:30	20°♉10'35	
conjunction	1884 May 11 02:35	20°♉46'19	-1°41'41
minimum elong	1884 May 11 02:35	20°♉46'19	1°41'42
max. Earth dist.	1884 May 11 21:40	20°♉48'07	30.82943 AU
morning rise	1884 May 27 05:27	21°♉22'20	
retrograde	1884 Aug 26 08:42	23°♉20'53	
opposition	1884 Nov 13 20:48	21°♉55'36	-1°48'19
min. Earth dist.	1884 Nov 13 04:20	21°♉56'46	28.83016 AU
direct	1885 Jan 30 07:08	20°♉31'51	
evening set	1885 Apr 27 15:53	22°♉25'35	
conjunction	1885 May 13 16:29	23°♉01'21	-1°40'53
minimum elong	1885 May 13 16:29	23°♉01'21	1°40'53
max. Earth dist.	1885 May 14 10:47	23°♉03'04	30.82883 AU
morning rise	1885 May 29 19:46	23°♉37'23	
retrograde	1885 Aug 28 21:42	25°♉35'48	
opposition	1885 Nov 16 08:06	24°♉10'31	-1°47'23
min. Earth dist.	1885 Nov 15 15:15	24°♉11'43	28.82969 AU
direct	1886 Feb 01 19:41	22°♉46'41	
evening set	1886 Apr 30 05:18	24°♉40'27	
conjunction	1886 May 16 06:16	25°♉16'14	-1°39'56
minimum elong	1886 May 16 06:16	25°♉16'14	1°39'56
max. Earth dist.	1886 May 16 23:59	25°♉17'53	30.82861 AU
morning rise	1886 Jun 01 09:56	25°♉52'17	
retrograde	1886 Aug 31 09:22	27°♉50'35	
opposition	1886 Nov 18 19:25	26°♉25'18	-1°46'17
min. Earth dist.	1886 Nov 18 03:58	26°♉26'24	28.82997 AU
direct	1887 Feb 04 06:18	25°♉01'24	
evening set	1887 May 02 18:36	26°♉55'12	
conjunction	1887 May 18 20:08	27°♉31'00	-1°38'50
minimum elong	1887 May 18 20:08	27°♉31'00	1°38'49
max. Earth dist.	1887 May 19 13:56	27°♉32'40	30.82952 AU
morning rise	1887 Jun 04 00:04	28°♉07'04	
	1887 Aug 16 04:43	0°♊	
retrograde	1887 Sep 02 22:41	0°♊05'15	
	1887 Sep 20 20:11	30°℞♉	
opposition	1887 Nov 21 06:33	28°♉40'00	-1°45'01
min. Earth dist.	1887 Nov 20 14:27	28°♉41'08	28.83144 AU
direct	1888 Feb 06 19:08	27°♉16'02	
evening set	1888 May 04 07:58	29°♉09'53	
conjunction	1888 May 20 09:50	29°♉45'42	-1°37'34
minimum elong	1888 May 20 09:50	29°♉45'42	1°37'34
max. Earth dist.	1888 May 21 02:27	29°♉47'16	30.83167 AU
	1888 May 26 18:37	0°♊	
morning rise	1888 Jun 05 14:17	0°♊21'47	
retrograde	1888 Sep 04 12:21	2°♊19'52	
opposition	1888 Nov 22 17:50	0°♊54'39	-1°43'35
min. Earth dist.	1888 Nov 22 02:48	0°♊55'42	28.83433 AU
	1888 Dec 27 17:45	30°℞♉	
direct	1889 Feb 08 06:39	29°♉30'39	
	1889 Mar 22 01:44	0°♊	
evening set	1889 May 06 21:22	1°♊24'33	
conjunction	1889 May 22 23:52	2°♊00'25	-1°36'10
minimum elong	1889 May 22 23:52	2°♊00'25	1°36'09
max. Earth dist.	1889 May 23 17:05	2°♊02'01	30.83529 AU
morning rise	1889 Jun 08 04:30	2°♊36'30	
retrograde	1889 Sep 07 01:20	4°♊34'29	
opposition	1889 Nov 25 04:48	3°♊09'19	-1°42'00
min. Earth dist.	1889 Nov 24 13:43	3°♊10'23	28.83851 AU
direct	1890 Feb 10 20:03	1°♊45'19	
evening set	1890 May 09 10:59	3°♊39'17	
conjunction	1890 May 25 13:44	4°♊15'10	-1°34'37
minimum elong	1890 May 25 13:44	4°♊15'10	1°34'37
max. Earth dist.	1890 May 26 05:25	4°♊16'38	30.84022 AU
morning rise	1890 Jun 10 18:52	4°♊51'17	
retrograde	1890 Sep 09 14:59	6°♊49'10	
opposition	1890 Nov 27 15:57	5°♊24'05	-1°40'16
min. Earth dist.	1890 Nov 27 01:31	5°♊25'06	28.84403 AU
direct	1891 Feb 13 06:48	4°♊00'05	
evening set	1891 May 12 00:20	5°♊54'07	
conjunction	1891 May 28 03:39	6°♊30'02	-1°32'55
minimum elong	1891 May 28 03:39	6°♊30'02	1°32'54
max. Earth dist.	1891 May 28 19:56	6°♊31'33	30.84616 AU
morning rise	1891 Jun 13 08:56	7°♊06'09	
retrograde	1891 Sep 12 03:40	9°♊03'57	
opposition	1891 Nov 30 03:01	7°♊38'58	-1°38'22
min. Earth dist.	1891 Nov 29 13:23	7°♊39'56	28.85017 AU
direct	1892 Feb 15 19:15	6°♊14'58	
evening set	1892 May 13 14:06	8°♊09'04	
conjunction	1892 May 29 17:44	8°♊45'01	-1°31'04
minimum elong	1892 May 29 17:44	8°♊45'01	1°31'05
max. Earth dist.	1892 May 30 08:14	8°♊46'23	30.85256 AU
morning rise	1892 Jun 14 23:28	9°♊21'10	
retrograde	1892 Sep 13 18:01	11°♊18'52	
opposition	1892 Dec 01 13:57	9°♊53'58	-1°36'19
min. Earth dist.	1892 Dec 01 00:37	9°♊54'54	28.85652 AU
direct	1893 Feb 17 06:12	8°♊29'58	
evening set	1893 May 16 03:58	10°♊24'09	
conjunction	1893 Jun 01 08:03	11°♊00'07	-1°29'05
minimum elong	1893 Jun 01 08:04	11°♊00'07	1°29'05
max. Earth dist.	1893 Jun 01 22:15	11°♊01'27	30.85862 AU
morning rise	1893 Jun 17 13:58	11°♊36'17	
retrograde	1893 Sep 16 04:37	13°♊33'52	
opposition	1893 Dec 04 01:03	12°♊09'03	-1°34'08
min. Earth dist.	1893 Dec 03 13:25	12°♊09'52	28.86220 AU
direct	1894 Feb 19 17:20	10°♊45'01	
evening set	1894 May 18 17:48	12°♊39'16	
conjunction	1894 Jun 03 22:15	13°♊15'15	-1°26'58

minimum elong	1894 Jun 03 22:15	13°♊15'15	1°26'58
max. Earth dist.	1894 Jun 04 11:01	13°♊16'26	30.86398 AU
morning rise	1894 Jun 20 04:28	13°♊51'25	
retrograde	1894 Sep 18 17:21	15°♊48'52	
opposition	1894 Dec 06 11:57	14°♊24'07	-1°31'48
min. Earth dist.	1894 Dec 06 00:20	14°♊24'56	28.86705 AU
direct	1895 Feb 22 05:24	13°♊00'02	
evening set	1895 May 21 07:42	14°♊54'19	
conjunction	1895 Jun 06 12:30	15°♊30'19	-1°24'43
minimum elong	1895 Jun 06 12:31	15°♊30'20	1°24'43
max. Earth dist.	1895 Jun 07 00:13	15°♊31'25	30.86839 AU
morning rise	1895 Jun 22 18:58	16°♊06'30	
retrograde	1895 Sep 21 04:45	18°♊03'49	
opposition	1895 Dec 08 22:56	16°♊39'05	-1°29'19
min. Earth dist.	1895 Dec 08 13:14	16°♊39'47	28.87111 AU
direct	1896 Feb 24 15:12	15°♊14'56	
evening set	1896 May 22 21:26	17°♊09'15	
conjunction	1896 Jun 08 02:44	17°♊45'16	-1°22'21
minimum elong	1896 Jun 08 02:45	17°♊45'16	1°22'22
max. Earth dist.	1896 Jun 08 13:48	17°♊46'18	30.87229 AU
morning rise	1896 Jun 24 09:26	18°♊21'27	
retrograde	1896 Sep 22 16:43	20°♊18'36	
opposition	1896 Dec 10 09:41	18°♊53'54	-1°26'43
min. Earth dist.	1896 Dec 09 23:54	18°♊54'35	28.87466 AU
direct	1897 Feb 26 04:31	17°♊29'40	
evening set	1897 May 25 11:24	19°♊24'00	
conjunction	1897 Jun 10 16:55	20°♊00'02	-1°19'52
minimum elong	1897 Jun 10 16:56	20°♊00'02	1°19'51
max. Earth dist.	1897 Jun 11 02:18	20°♊00'54	30.87579 AU
morning rise	1897 Jun 26 23:56	20°♊36'13	
retrograde	1897 Sep 25 04:41	22°♊33'12	
opposition	1897 Dec 12 20:23	21°♊08'30	-1°24'00
min. Earth dist.	1897 Dec 12 12:09	21°♊09'05	28.87825 AU
direct	1898 Feb 28 16:10	19°♊44'11	
evening set	1898 May 28 01:07	21°♊38'33	
conjunction	1898 Jun 13 07:08	22°♊14'35	-1°17'15
minimum elong	1898 Jun 13 07:08	22°♊14'35	1°17'16
max. Earth dist.	1898 Jun 13 16:43	22°♊15'29	30.87960 AU
morning rise	1898 Jun 29 14:12	22°♊50'46	
retrograde	1898 Sep 27 16:34	24°♊47'34	
opposition	1898 Dec 15 07:01	23°♊22'54	-1°21'09
min. Earth dist.	1898 Dec 14 22:56	23°♊23'28	28.88224 AU
direct	1899 Mar 03 05:43	21°♊58'30	
evening set	1899 May 30 14:48	23°♊52'53	
conjunction	1899 Jun 15 20:57	24°♊28'56	-1°14'32
minimum elong	1899 Jun 15 20:58	24°♊28'56	1°14'31
max. Earth dist.	1899 Jun 16 04:51	24°♊29'40	30.88409 AU
morning rise	1899 Jul 02 04:24	25°♊05'06	
retrograde	1899 Sep 30 05:37	27°♊01'44	
opposition	1899 Dec 17 17:39	25°♊37'05	-1°18'11
min. Earth dist.	1899 Dec 17 10:19	25°♊37'36	28.88728 AU
direct	1900 Mar 05 16:54	24°♊12'37	
evening set	1900 Jun 02 04:28	26°♊07'02	
conjunction	1900 Jun 18 11:06	26°♊43'05	-1°11'42
minimum elong	1900 Jun 18 11:07	26°♊43'05	1°11'43
max. Earth dist.	1900 Jun 18 19:30	26°♊43'52	30.88969 AU
morning rise	1900 Jul 04 18:33	27°♊19'15	
retrograde	1900 Oct 02 17:48	29°♊15'43	
opposition	1900 Dec 20 04:06	27°♊51'06	-1°15'06
min. Earth dist.	1900 Dec 19 21:30	27°♊51'34	28.89346 AU
direct	1901 Mar 08 06:24	26°♊26'35	
evening set	1901 Jun 04 18:18	28°♊21'02	
conjunction	1901 Jun 21 01:06	28°♊57'07	-1°08'46
minimum elong	1901 Jun 21 01:06	28°♊57'07	1°08'46
max. Earth dist.	1901 Jun 21 07:46	28°♊57'44	30.89670 AU
morning rise	1901 Jul 07 08:50	29°♊33'16	
	1901 Jul 19 23:57	0°♋	
retrograde	1901 Oct 05 06:56	1°♋29'34	
opposition	1901 Dec 22 14:35	0°♋05'01	-1°11'54
min. Earth dist.	1901 Dec 22 07:55	0°♋05'30	28.90119 AU
	1901 Dec 25 13:30	30°℞♊	
direct	1902 Mar 10 18:14	28°♊40'28	
	1902 May 21 13:35	0°♋	
evening set	1902 Jun 07 07:56	0°♋34'58	
conjunction	1902 Jun 23 15:03	1°♋11'03	-1°05'43
minimum elong	1902 Jun 23 15:04	1°♋11'03	1°05'44
max. Earth dist.	1902 Jun 23 21:56	1°♋11'41	30.90509 AU
morning rise	1902 Jul 09 22:45	1°♋47'13	
retrograde	1902 Oct 07 17:36	3°♋43'22	
opposition	1902 Dec 25 01:07	2°♋18'55	-1°08'35
min. Earth dist.	1902 Dec 24 19:45	2°♋19'17	28.91023 AU
direct	1903 Mar 13 05:32	0°♋54'21	
evening set	1903 Jun 09 21:41	2°♋48'54	
conjunction	1903 Jun 26 05:01	3°♋25'00	-1°02'35
minimum elong	1903 Jun 26 05:01	3°♋25'00	1°02'35
max. Earth dist.	1903 Jun 26 10:44	3°♋25'32	30.91491 AU
morning rise	1903 Jul 12 12:55	4°♋01'10	
retrograde	1903 Oct 10 06:37	5°♋57'11	
opposition	1903 Dec 27 11:26	4°♋32'50	-1°05'11
min. Earth dist.	1903 Dec 27 05:52	4°♋33'13	28.92045 AU
direct	1904 Mar 14 17:03	3°♋08'16	
evening set	1904 Jun 11 11:32	5°♋02'54	
conjunction	1904 Jun 27 19:06	5°♋39'01	-0°59'20
minimum elong	1904 Jun 27 19:06	5°♋39'01	0°59'21
max. Earth dist.	1904 Jun 28 00:09	5°♋39'29	30.92542 AU
morning rise	1904 Jul 14 03:04	6°♋15'10	
retrograde	1904 Oct 11 17:47	8°♋11'04	
opposition	1904 Dec 28 21:58	6°♋46'50	-1°01'40
min. Earth dist.	1904 Dec 28 18:17	6°♋47'05	28.93107 AU
direct	1905 Mar 17 02:33	5°♋22'16	
evening set	1905 Jun 14 01:29	7°♋16'59	
conjunction	1905 Jun 30 09:17	7°♋53'06	-0°56'01
minimum elong	1905 Jun 30 09:17	7°♋53'06	0°56'00
max. Earth dist.	1905 Jun 30 13:29	7°♋53'30	30.93604 AU
morning rise	1905 Jul 16 17:16	8°♋29'16	
retrograde	1905 Oct 14 05:22	10°♋25'02	
opposition	1905 Dec 31 08:18	9°♋00'55	-0°58'03
min. Earth dist.	1905 Dec 31 04:41	9°♋01'10	28.94137 AU
direct	1906 Mar 19 15:17	7°♋36'20	
evening set	1906 Jun 16 15:33	9°♋31'09	
conjunction	1906 Jul 02 23:23	10°♋07'16	-0°52'36
minimum elong	1906 Jul 02 23:24	10°♋07'16	0°52'36
max. Earth dist.	1906 Jul 03 01:47	10°♋07'29	30.94599 AU
morning rise	1906 Jul 19 07:27	10°♋43'25	
retrograde	1906 Oct 16 16:57	12°♋39'04	
opposition	1907 Jan 02 18:53	11°♋15'01	-0°54'22
min. Earth dist.	1907 Jan 02 16:57	11°♋15'10	28.95097 AU
direct	1907 Mar 22 01:58	9°♋50'26	
evening set	1907 Jun 19 05:18	11°♋45'18	
conjunction	1907 Jul 05 13:28	12°♋21'25	-0°49'06
minimum elong	1907 Jul 05 13:28	12°♋21'25	0°49'06

max. Earth dist.	1907 Jul	05	15:34	12°♓21'37	30.95513 AU
morning rise	1907 Jul	21	21:27	12°♓57'33	
retrograde	1907 Oct	19	04:32	14°♓53'04	
opposition	1908 Jan	05	05:22	13°♓29'06	-0°50'36
min. Earth dist.	1908 Jan	05	04:01	13°♓29'12	28.95947 AU
direct	1908 Mar	23	15:01	12°♓04'29	
evening set	1908 Jun	20	19:23	13°♓59'24	
conjunction	1908 Jul	07	03:32	14°♓35'31	-0°45'33
minimum elong	1908 Jul	07	03:32	14°♓35'31	0°45'34
max. Earth dist.	1908 Jul	07	03:22	14°♓35'30	30.96324 AU
morning rise	1908 Jul	23	11:39	15°♓11'39	
retrograde	1908 Oct	20	17:12	17°♓07'00	
opposition	1909 Jan	06	15:40	15°♓43'06	-0°46'45
min. Earth dist.	1909 Jan	06	15:32	15°♓43'06	28.96721 AU
direct	1909 Mar	26	02:12	14°♓18'25	
evening set	1909 Jun	23	09:16	16°♓13'24	
conjunction	1909 Jul	09	17:41	16°♓49'31	-0°41'55
minimum elong	1909 Jul	09	17:41	16°♓49'31	0°41'55
max. Earth dist.	1909 Jul	09	17:33	16°♓49'30	30.97064 AU
morning rise	1909 Jul	26	01:35	17°♓25'37	
retrograde	1909 Oct	23	05:03	19°♓20'48	
opposition	1910 Jan	09	02:04	17°♓56'57	-0°42'51
min. Earth dist.	1910 Jan	09	03:04	17°♓56'53	28.97428 AU
direct	1910 Mar	28	16:14	16°♓32'14	
evening set	1910 Jun	25	23:05	18°♓27'14	
conjunction	1910 Jul	12	07:24	19°♓03'20	-0°38'15
minimum elong	1910 Jul	12	07:24	19°♓03'20	0°38'15
max. Earth dist.	1910 Jul	12	05:14	19°♓03'08	30.97769 AU
morning rise	1910 Jul	28	15:23	19°♓39'25	
retrograde	1910 Oct	25	17:30	21°♓34'27	
opposition	1911 Jan	11	12:17	20°♓10'38	-0°38'53
min. Earth dist.	1911 Jan	11	13:30	20°♓10'33	28.98135 AU
direct	1911 Mar	31	04:41	18°♓45'51	
evening set	1911 Jun	28	12:47	20°♓40'54	
conjunction	1911 Jul	14	21:17	21°♓17'00	-0°34'31
minimum elong	1911 Jul	14	21:17	21°♓17'00	0°34'30
max. Earth dist.	1911 Jul	14	19:07	21°♓16'48	30.98482 AU
morning rise	1911 Jul	31	05:02	21°♓53'04	
retrograde	1911 Oct	28	04:02	23°♓47'55	
opposition	1912 Jan	13	22:29	22°♓24'09	-0°34'52
min. Earth dist.	1912 Jan	14	01:15	22°♓23'58	28.98871 AU
direct	1912 Apr	01	16:36	20°♓59'19	
evening set	1912 Jun	30	02:32	22°♓54'23	
conjunction	1912 Jul	16	11:00	23°♓30'29	-0°30'44
minimum elong	1912 Jul	16	11:00	23°♓30'29	0°30'44
max. Earth dist.	1912 Jul	16	07:27	23°♓30'10	30.99260 AU
morning rise	1912 Aug	01	18:47	24°♓06'32	
retrograde	1912 Oct	29	16:52	26°♓01'13	
opposition	1913 Jan	15	08:36	24°♓37'30	-0°30'48
min. Earth dist.	1913 Jan	15	11:05	24°♓37'20	28.99683 AU
direct	1913 Apr	04	04:57	23°♓12'37	
evening set	1913 Jul	02	16:14	25°♓07'44	
conjunction	1913 Jul	19	00:41	25°♓43'49	-0°26'55
minimum elong	1913 Jul	19	00:42	25°♓43'49	0°26'54
max. Earth dist.	1913 Jul	18	20:44	25°♓43'27	31.00114 AU
morning rise	1913 Aug	04	08:13	26°♓19'50	
retrograde	1913 Nov	01	03:02	28°♓14'23	
opposition	1914 Jan	17	18:49	26°♓50'44	-0°26'42
min. Earth dist.	1914 Jan	17	22:52	26°♓50'27	29.00602 AU
direct	1914 Apr	06	14:48	25°♓25'49	
evening set	1914 Jul	05	05:50	27°♓20'58	
conjunction	1914 Jul	21	14:18	27°♓57'03	-0°23'03
minimum elong	1914 Jul	21	14:18	27°♓57'03	0°23'03
max. Earth dist.	1914 Jul	21	09:50	27°♓56'38	31.01103 AU
morning rise	1914 Aug	06	21:40	28°♓33'03	
	1914 Sep	23	20:23	0°♌	
retrograde	1914 Nov	03	13:17	0°♌27'26	
	1914 Dec	14	20:40	30°℞♓	
opposition	1915 Jan	20	04:56	29°♓03'53	-0°22'33
min. Earth dist.	1915 Jan	20	08:33	29°♓03'37	29.01645 AU
direct	1915 Apr	09	03:32	27°♓38'57	
evening set	1915 Jul	07	19:22	29°♓34'09	
	1915 Jul	19	13:32	0°♌	
conjunction	1915 Jul	24	03:43	0°♌10'13	-0°19'09
minimum elong	1915 Jul	24	03:43	0°♌10'13	0°19'09
max. Earth dist.	1915 Jul	23	22:06	0°♌09'42	31.02205 AU
morning rise	1915 Aug	09	10:59	0°♌46'12	
retrograde	1915 Nov	05	23:53	2°♌40'28	
opposition	1916 Jan	22	15:10	1°♌17'00	-0°18'22
min. Earth dist.	1916 Jan	22	20:04	1°♌16'40	29.02799 AU
	1916 Mar	19	15:27	30°℞♓	
direct	1916 Apr	10	13:12	29°♓52'04	
	1916 May	02	10:44	0°♌	
evening set	1916 Jul	09	08:59	1°♌47'21	
conjunction	1916 Jul	25	17:24	2°♌23'24	-0°15'14
minimum elong	1916 Jul	25	17:24	2°♌23'24	0°15'14
behind sun begin	1916 Jul	25	15:40	2°♌23'15	
behind sun end	1916 Jul	25	19:07	2°♌23'34	
max. Earth dist.	1916 Jul	25	11:46	2°♌22'54	31.03396 AU
morning rise	1916 Aug	11	00:21	2°♌59'21	
retrograde	1916 Nov	07	10:37	4°♌53'30	
opposition	1917 Jan	24	01:14	3°♌30'10	-0°14'09
min. Earth dist.	1917 Jan	24	06:33	3°♌29'47	29.03996 AU
direct	1917 Apr	13	01:02	2°♌05'14	
evening set	1917 Jul	11	22:49	4°♌00'36	
conjunction	1917 Jul	28	06:56	4°♌36'38	-0°11'18
minimum elong	1917 Jul	28	06:56	4°♌36'37	0°11'17
behind sun begin	1917 Jul	28	02:10	4°♌36'12	
behind sun end	1917 Jul	28	11:42	4°♌37'03	
max. Earth dist.	1917 Jul	27	23:24	4°♌35'57	31.04598 AU
morning rise	1917 Aug	13	13:45	5°♌12'33	
retrograde	1917 Nov	09	22:27	7°♌06'36	
opposition	1918 Jan	26	11:29	5°♌43'21	-0°09'56
min. Earth dist.	1918 Jan	26	17:48	5°♌42'54	29.05190 AU
direct	1918 Apr	15	11:59	4°♌18'26	
evening set	1918 Jul	14	12:19	6°♌13'51	
conjunction	1918 Jul	30	20:26	6°♌49'52	-0°07'21
minimum elong	1918 Jul	30	20:27	6°♌49'52	0°07'21
behind sun begin	1918 Jul	30	14:25	6°♌49'20	
behind sun end	1918 Jul	31	02:28	6°♌50'24	
max. Earth dist.	1918 Jul	30	13:03	6°♌49'12	31.05751 AU
morning rise	1918 Aug	16	02:49	7°♌25'46	
retrograde	1918 Nov	12	09:19	9°♌19'42	
opposition	1919 Jan	28	21:48	7°♌56'32	-0°05'41
min. Earth dist.	1919 Jan	29	05:21	7°♌56'00	29.06294 AU
direct	1919 Apr	18	01:28	6°♌31'36	
evening set	1919 Jul	17	02:05	8°♌27'05	
conjunction	1919 Aug	02	09:54	9°♌03'05	-0°03'23
minimum elong	1919 Aug	02	09:54	9°♌03'05	0°03'23
behind sun begin	1919 Aug	02	03:21	9°♌02'30	
behind sun end	1919 Aug	02	16:27	9°♌03'39	
max. Earth dist.	1919 Aug	02	00:15	9°♌02'12	31.06805 AU
morning rise	1919 Aug	18	16:10	9°♌38'56	

retrograde	1919 Nov 14 21:39	11°♌32'45	
opposition	1920 Jan 31 07:56	10°♌09'38	-0°01'26
min. Earth dist.	1920 Jan 31 15:52	10°♌09'05	29.07294 AU
direct	1920 Apr 19 13:37	8°♌44'41	
asc. node	1920 Jun 03 18:56	9°♌17'28	
evening set	1920 Jul 18 15:45	10°♌40'13	
conjunction	1920 Aug 03 23:30	11°♌16'11	0°00'41
minimum elong	1920 Aug 03 23:31	11°♌16'11	0°00'41
behind sun begin	1920 Aug 03 16:57	11°♌15'37	
behind sun end	1920 Aug 04 06:06	11°♌16'46	
max. Earth dist.	1920 Aug 03 13:33	11°♌15'17	31.07733 AU
morning rise	1920 Aug 20 05:19	11°♌52'01	
retrograde	1920 Nov 16 08:24	13°♌45'41	
opposition	1921 Feb 01 18:17	12°♌22'38	0°02'48
min. Earth dist.	1921 Feb 02 04:03	12°♌21'57	29.08161 AU
direct	1921 Apr 22 02:07	10°♌57'39	
evening set	1921 Jul 21 05:22	12°♌53'12	
conjunction	1921 Aug 06 12:49	13°♌29'09	0°04'42
minimum elong	1921 Aug 06 12:49	13°♌29'09	0°04'42
behind sun begin	1921 Aug 06 06:23	13°♌28'35	
behind sun end	1921 Aug 06 19:16	13°♌29'43	
max. Earth dist.	1921 Aug 06 01:06	13°♌28'05	31.08551 AU
morning rise	1921 Aug 22 18:24	14°♌04'56	
	1921 Sep 19 06:36	15°♌	
retrograde	1921 Nov 18 20:57	15°♌58'28	
	1922 Jan 20 10:09	15°℞♌	
opposition	1922 Feb 04 04:25	14°♌35'27	0°07'02
min. Earth dist.	1922 Feb 04 14:10	14°♌34'46	29.08926 AU
direct	1922 Apr 24 15:22	13°♌10'25	
	1922 Jul 20 23:59	15°♌	
evening set	1922 Jul 23 18:51	15°♌06'00	
conjunction	1922 Aug 09 02:07	15°♌41'55	0°08'38
minimum elong	1922 Aug 09 02:07	15°♌41'55	0°08'38
behind sun begin	1922 Aug 08 20:25	15°♌41'25	
behind sun end	1922 Aug 09 07:49	15°♌42'26	
max. Earth dist.	1922 Aug 08 13:48	15°♌40'48	31.09273 AU
morning rise	1922 Aug 25 07:15	16°♌17'40	
retrograde	1922 Nov 21 06:47	18°♌11'04	
opposition	1923 Feb 06 14:40	16°♌48'05	0°11'15
min. Earth dist.	1923 Feb 07 02:13	16°♌47'16	29.09630 AU
direct	1923 Apr 27 02:19	15°♌22'59	
evening set	1923 Jul 26 08:06	17°♌18'35	
conjunction	1923 Aug 11 15:09	17°♌54'29	0°12'33
minimum elong	1923 Aug 11 15:09	17°♌54'29	0°12'34
behind sun begin	1923 Aug 11 11:01	17°♌54'07	
behind sun end	1923 Aug 11 19:17	17°♌54'51	
max. Earth dist.	1923 Aug 11 02:07	17°♌53'17	31.09962 AU
morning rise	1923 Aug 27 19:59	18°♌30'12	
retrograde	1923 Nov 23 16:52	20°♌23'26	
opposition	1924 Feb 09 00:44	19°♌00'29	0°15'27
min. Earth dist.	1924 Feb 09 12:07	18°♌59'41	29.10302 AU
direct	1924 Apr 28 15:25	17°♌35'21	
evening set	1924 Jul 27 21:27	19°♌30'57	
conjunction	1924 Aug 13 04:09	20°♌06'50	0°16'28
minimum elong	1924 Aug 13 04:09	20°♌06'50	0°16'27
max. Earth dist.	1924 Aug 12 13:55	20°♌05'31	31.10634 AU
morning rise	1924 Aug 29 08:36	20°♌42'30	
retrograde	1924 Nov 25 02:48	22°♌35'37	
opposition	1925 Feb 10 10:51	21°♌12'42	0°19'37
min. Earth dist.	1925 Feb 10 23:27	21°♌11'49	29.11005 AU
direct	1925 May 01 01:21	19°♌47'30	
evening set	1925 Jul 30 10:34	21°♌43'09	
conjunction	1925 Aug 15 17:03	22°♌18'59	0°20'20
minimum elong	1925 Aug 15 17:03	22°♌18'59	0°20'21
max. Earth dist.	1925 Aug 15 03:03	22°♌17'42	31.11365 AU
morning rise	1925 Aug 31 21:00	22°♌54'37	
retrograde	1925 Nov 27 12:22	24°♌47'37	
opposition	1926 Feb 12 21:01	23°♌24'45	0°23'45
min. Earth dist.	1926 Feb 13 09:40	23°♌23'52	29.11773 AU
direct	1926 May 03 13:12	21°♌59'32	
evening set	1926 Aug 01 23:33	23°♌55'12	
conjunction	1926 Aug 18 05:33	24°♌31'00	0°24'11
minimum elong	1926 Aug 18 05:33	24°♌31'00	0°24'11
max. Earth dist.	1926 Aug 17 14:12	24°♌29'35	31.12185 AU
morning rise	1926 Sep 03 09:11	25°♌06'36	
retrograde	1926 Nov 29 23:02	26°♌59'31	
opposition	1927 Feb 15 07:10	25°♌36'41	0°27'51
min. Earth dist.	1927 Feb 15 20:09	25°♌35'47	29.12662 AU
direct	1927 May 05 23:55	24°♌11'28	
evening set	1927 Aug 04 12:29	26°♌07'11	
conjunction	1927 Aug 20 18:18	26°♌42'58	0°28'00
minimum elong	1927 Aug 20 18:18	26°♌42'58	0°28'00
max. Earth dist.	1927 Aug 20 03:42	26°♌41'37	31.13128 AU
morning rise	1927 Sep 05 21:21	27°♌18'31	
retrograde	1927 Dec 02 08:53	29°♌11'21	
opposition	1928 Feb 17 17:14	27°♌48'36	0°31'54
min. Earth dist.	1928 Feb 18 06:59	27°♌47'38	29.13657 AU
direct	1928 May 07 12:31	26°♌23'24	
evening set	1928 Aug 06 01:36	28°♌19'11	
conjunction	1928 Aug 22 06:53	28°♌54'56	0°31'46
minimum elong	1928 Aug 22 06:53	28°♌54'56	0°31'46
max. Earth dist.	1928 Aug 21 14:42	28°♌53'26	31.14177 AU
morning rise	1928 Sep 07 09:38	29°♌30'27	
	1928 Sep 21 12:02	0°♍	
retrograde	1928 Dec 03 20:48	1°♍23'14	
opposition	1929 Feb 19 03:20	0°♍00'34	0°35'54
	1929 Feb 19 11:27	30°℞♌	
min. Earth dist.	1929 Feb 19 16:52	29°♌59'37	29.14745 AU
direct	1929 May 09 23:43	28°♌35'23	
	1929 Jul 24 15:01	0°♍	
evening set	1929 Aug 08 14:28	0°♍31'16	
conjunction	1929 Aug 24 19:28	1°♍06'58	0°35'30
minimum elong	1929 Aug 24 19:28	1°♍06'58	0°35'30
max. Earth dist.	1929 Aug 24 03:42	1°♍05'31	31.15274 AU
morning rise	1929 Sep 09 21:33	1°♍42'27	
retrograde	1929 Dec 06 07:28	3°♍35'11	
opposition	1930 Feb 21 13:39	2°♍12'37	0°39'51
min. Earth dist.	1930 Feb 22 04:39	2°♍11'34	29.15850 AU
direct	1930 May 12 11:55	0°♍47'29	
evening set	1930 Aug 11 03:28	2°♍43'25	
conjunction	1930 Aug 27 07:56	3°♍19'06	0°39'10
minimum elong	1930 Aug 27 07:56	3°♍19'06	0°39'10
max. Earth dist.	1930 Aug 26 14:47	3°♍17'31	31.16371 AU
morning rise	1930 Sep 12 09:39	3°♍54'32	
retrograde	1930 Dec 08 20:18	5°♍47'12	
opposition	1931 Feb 23 23:47	4°♍24'44	0°43'45
min. Earth dist.	1931 Feb 24 14:32	4°♍23'42	29.16922 AU
direct	1931 May 15 01:11	2°♍59'37	
evening set	1931 Aug 13 16:22	4°♍55'37	
conjunction	1931 Aug 29 20:28	5°♍31'16	0°42'47
minimum elong	1931 Aug 29 20:28	5°♍31'16	0°42'47
max. Earth dist.	1931 Aug 29 02:54	5°♍29'39	31.17390 AU
morning rise	1931 Sep 14 21:35	6°♍06'40	

retrograde	1931 Dec 11 06:19	7°♑59'17		
opposition	1932 Feb 26 10:13	6°♑36'52	0°47'35	
min. Earth dist.	1932 Feb 27 02:44	6°♑35'43	29.17899	AU
direct	1932 May 16 12:32	5°♑11'47		
evening set	1932 Aug 15 05:19	7°♑07'49		
conjunction	1932 Aug 31 08:58	7°♑43'25	0°46'20	
minimum elong	1932 Aug 31 08:58	7°♑43'25	0°46'20	
max. Earth dist.	1932 Aug 30 14:36	7°♑41'43	31.18306	AU
morning rise	1932 Sep 16 09:34	8°♑18'47		
retrograde	1932 Dec 12 16:30	10°♑11'18		
opposition	1933 Feb 27 20:30	8°♑48'58	0°51'20	
min. Earth dist.	1933 Feb 28 12:55	8°♑47'49	29.18749	AU
direct	1933 May 19 01:36	7°♑23'52		
evening set	1933 Aug 17 18:14	9°♑19'56		
conjunction	1933 Sep 02 21:21	9°♑55'30	0°49'49	
minimum elong	1933 Sep 02 21:21	9°♑55'30	0°49'49	
max. Earth dist.	1933 Sep 02 01:45	9°♑53'41	31.19090	AU
morning rise	1933 Sep 18 21:25	10°♑30'49		
retrograde	1933 Dec 15 02:58	12°♑23'16		
opposition	1934 Mar 02 06:59	11°♑00'57	0°55'01	
min. Earth dist.	1934 Mar 03 00:36	10°♑59'43	29.19491	AU
direct	1934 May 21 11:52	9°♑35'50		
evening set	1934 Aug 20 06:45	11°♑31'54		
conjunction	1934 Sep 05 09:30	12°♑07'26	0°53'13	
minimum elong	1934 Sep 05 09:30	12°♑07'26	0°53'13	
max. Earth dist.	1934 Sep 04 13:58	12°♑05'38	31.19776	AU
morning rise	1934 Sep 21 08:59	12°♑42'42		
retrograde	1934 Dec 17 11:48	14°♑35'04		
opposition	1935 Mar 04 17:21	13°♑12'46	0°58'36	
min. Earth dist.	1935 Mar 05 11:21	13°♑11'31	29.20124	AU
direct	1935 May 24 00:15	11°♑47'38		
evening set	1935 Aug 22 19:27	13°♑43'41		
conjunction	1935 Sep 07 21:35	14°♑19'11	0°56'32	
minimum elong	1935 Sep 07 21:35	14°♑19'11	0°56'32	
max. Earth dist.	1935 Sep 07 00:27	14°♑17'13	31.20370	AU
morning rise	1935 Sep 23 20:38	14°♑54'24		
retrograde	1935 Dec 19 21:24	16°♑46'40		
opposition	1936 Mar 06 03:34	15°♑24'23	1°02'06	
min. Earth dist.	1936 Mar 06 22:05	15°♑23'06	29.20701	AU
direct	1936 May 25 11:08	13°♑59'12		
evening set	1936 Aug 24 07:54	15°♑55'15		
conjunction	1936 Sep 09 09:41	16°♑30'42	0°59'46	
minimum elong	1936 Sep 09 09:41	16°♑30'42	0°59'46	
max. Earth dist.	1936 Sep 08 13:14	16°♑28'48	31.20923	AU
morning rise	1936 Sep 25 08:01	17°♑05'52		
retrograde	1936 Dec 21 05:56	18°♑58'04		
opposition	1937 Mar 08 14:01	17°♑35'46	1°05'31	
min. Earth dist.	1937 Mar 09 09:22	17°♑34'25	29.21248	AU
direct	1937 May 27 23:14	16°♑10'33		
evening set	1937 Aug 26 20:14	18°♑06'35		
conjunction	1937 Sep 11 21:18	18°♑41'59	1°02'55	
minimum elong	1937 Sep 11 21:18	18°♑41'59	1°02'55	
max. Earth dist.	1937 Sep 10 23:35	18°♑39'58	31.21481	AU
morning rise	1937 Sep 27 19:14	19°♑17'07		
retrograde	1937 Dec 23 16:58	21°♑09'13		
opposition	1938 Mar 11 00:21	19°♑46'56	1°08'50	
min. Earth dist.	1938 Mar 11 19:06	19°♑45'38	29.21841	AU
direct	1938 May 30 10:14	18°♑21'40		
evening set	1938 Aug 29 08:20	20°♑17'42		
conjunction	1938 Sep 14 09:02	20°♑53'04	1°05'59	
minimum elong	1938 Sep 14 09:02	20°♑53'04	1°05'59	
max. Earth dist.	1938 Sep 13 12:07	20°♑51'07	31.22100	AU
morning rise	1938 Sep 30 06:14	21°♑28'09		
retrograde	1938 Dec 26 02:28	23°♑20'12		
opposition	1939 Mar 13 10:45	21°♑57'55	1°12'03	
min. Earth dist.	1939 Mar 14 06:31	21°♑56'32	29.22517	AU
direct	1939 Jun 01 22:38	20°♑32'39		
evening set	1939 Aug 31 20:29	22°♑28'41		
conjunction	1939 Sep 16 20:34	23°♑04'00	1°08'56	
minimum elong	1939 Sep 16 20:33	23°♑04'00	1°08'56	
max. Earth dist.	1939 Sep 15 22:52	23°♑01'59	31.22834	AU
morning rise	1939 Oct 02 17:20	23°♑39'02		
retrograde	1939 Dec 28 14:16	25°♑31'02		
opposition	1940 Mar 14 21:08	24°♑08'48	1°15'09	
min. Earth dist.	1940 Mar 15 15:57	24°♑07'29	29.23304	AU
direct	1940 Jun 03 11:48	22°♑43'33		
evening set	1940 Sep 02 08:32	24°♑39'37		
max. Earth dist.	1940 Sep 17 10:44	25°♑12'55	31.23665	AU
conjunction	1940 Sep 18 08:07	25°♑14'54	1°11'48	
minimum elong	1940 Sep 18 08:06	25°♑14'54	1°11'48	
morning rise	1940 Oct 04 04:11	25°♑49'53		
retrograde	1940 Dec 30 00:05	27°♑41'52		
opposition	1941 Mar 17 07:40	26°♑19'41	1°18'09	
min. Earth dist.	1941 Mar 18 03:33	26°♑18'18	29.24191	AU
direct	1941 Jun 05 22:55	24°♑54'29		
evening set	1941 Sep 04 20:32	26°♑50'35		
conjunction	1941 Sep 20 19:33	27°♑25'49	1°14'33	
minimum elong	1941 Sep 20 19:32	27°♑25'49	1°14'33	
max. Earth dist.	1941 Sep 19 22:12	27°♑23'51	31.24590	AU
morning rise	1941 Oct 06 15:05	28°♑00'46		
retrograde	1942 Jan 01 10:32	29°♑52'45		
opposition	1942 Mar 19 18:12	28°♑30'38	1°21'03	
min. Earth dist.	1942 Mar 20 13:26	28°♑29'18	29.25129	AU
direct	1942 Jun 08 11:44	27°♑05'30		
evening set	1942 Sep 07 08:24	29°♑01'39		
max. Earth dist.	1942 Sep 22 08:51	29°♑34'48	31.25525	AU
conjunction	1942 Sep 23 06:49	29°♑36'51	1°17'12	
minimum elong	1942 Sep 23 06:48	29°♑36'51	1°17'12	
	1942 Oct 03 16:57	0°♎		
morning rise	1942 Oct 09 01:48	0°♎11'45		
retrograde	1943 Jan 03 21:20	2°♎03'44		
opposition	1943 Mar 22 04:51	0°♎41'42	1°23'49	
min. Earth dist.	1943 Mar 23 00:54	0°♎40'19	29.26063	AU
	1943 Apr 17 11:01	30°℞♑		
direct	1943 Jun 10 22:05	29°♑16'38		
	1943 Aug 02 19:05	0°♎		
evening set	1943 Sep 09 20:19	1°♎12'48		
conjunction	1943 Sep 25 18:16	1°♎47'58	1°19'44	
minimum elong	1943 Sep 25 18:16	1°♎47'58	1°19'44	
max. Earth dist.	1943 Sep 24 20:40	1°♎45'58	31.26420	AU
morning rise	1943 Oct 11 12:35	2°♎22'51		
retrograde	1944 Jan 06 06:22	4°♎14'50		
opposition	1944 Mar 23 15:29	2°♎52'52	1°26'28	
min. Earth dist.	1944 Mar 24 11:49	2°♎51'27	29.26908	AU
direct	1944 Jun 12 10:24	1°♎27'51		
evening set	1944 Sep 11 08:24	3°♎24'03		
max. Earth dist.	1944 Sep 26 06:37	3°♎57'03	31.27210	AU
conjunction	1944 Sep 27 05:37	3°♎59'11	1°22'09	
minimum elong	1944 Sep 27 05:36	3°♎59'11	1°22'09	
morning rise	1944 Oct 12 23:27	4°♎34'01		
retrograde	1945 Jan 07 16:34	6°♎26'00		

opposition	1945 Mar 26	02:20	5°♎04'06	1°28'59	
min. Earth dist.	1945 Mar 26	22:55	5°♎02'40	29.27650 AU	
direct	1945 Jun 14	20:49	3°♎39'07		
evening set	1945 Sep 13	20:06	5°♎35'20		
conjunction	1945 Sep 29	16:54	6°♎10'26	1°24'27	
minimum elong	1945 Sep 29	16:53	6°♎10'26	1°24'27	
max. Earth dist.	1945 Sep 28	18:40	6°♎08'22	31.27874 AU	
morning rise	1945 Oct 15	09:59	6°♎45'13		
retrograde	1946 Jan 10	01:15	8°♎37'13		
opposition	1946 Mar 28	13:18	7°♎15'20	1°31'22	
min. Earth dist.	1946 Mar 29	10:47	7°♎13'52	29.28245 AU	
direct	1946 Jun 17	08:18	5°♎50'24		
evening set	1946 Sep 16	07:59	7°♎46'37		
max. Earth dist.	1946 Oct 01	04:23	8°♎19'28	31.28402 AU	
conjunction	1946 Oct 02	04:03	8°♎21'40	1°26'38	
minimum elong	1946 Oct 02	04:02	8°♎21'40	1°26'38	
morning rise	1946 Oct 17	20:45	8°♎56'26		
retrograde	1947 Jan 12	12:25	10°♎48'25		
opposition	1947 Mar 31	00:01	9°♎26'33	1°33'38	
min. Earth dist.	1947 Mar 31	21:03	9°♎25'06	29.28713 AU	
direct	1947 Jun 19	18:46	8°♎01'37		
evening set	1947 Sep 18	19:38	9°♎57'50		
conjunction	1947 Oct 04	15:18	10°♎32'51	1°28'41	
minimum elong	1947 Oct 04	15:18	10°♎32'51	1°28'41	
max. Earth dist.	1947 Oct 03	16:08	10°♎30'42	31.28797 AU	
morning rise	1947 Oct 20	07:17	11°♎07'34		
retrograde	1948 Jan 14	22:03	12°♎59'33		
opposition	1948 Apr 01	11:02	11°♎37'41	1°35'46	
min. Earth dist.	1948 Apr 02	09:20	11°♎36'09	29.29053 AU	
direct	1948 Jun 21	07:28	10°♎12'45		
evening set	1948 Sep 20	07:14	12°♎08'57		
max. Earth dist.	1948 Oct 05	02:15	12°♎41'41	31.29092 AU	
conjunction	1948 Oct 06	02:12	12°♎43'55	1°30'37	
minimum elong	1948 Oct 06	02:12	12°♎43'55	1°30'37	
morning rise	1948 Oct 21	17:45	13°♎18'36		
retrograde	1949 Jan 16	09:37	15°♎10'33		
opposition	1949 Apr 03	21:54	13°♎48'40	1°37'45	
min. Earth dist.	1949 Apr 04	19:22	13°♎47'12	29.29310 AU	
direct	1949 Jun 23	20:47	12°♎23'44		
evening set	1949 Sep 22	18:37	14°♎19'55		
conjunction	1949 Oct 08	13:05	14°♎54'50	1°32'24	
minimum elong	1949 Oct 08	13:05	14°♎54'50	1°32'25	
max. Earth dist.	1949 Oct 07	13:27	14°♎52'38	31.29322 AU	
morning rise	1949 Oct 24	04:00	15°♎29'28		
retrograde	1950 Jan 18	19:20	17°♎21'25		
opposition	1950 Apr 06	08:56	15°♎59'31	1°39'36	
min. Earth dist.	1950 Apr 07	07:22	15°♎57'59	29.29548 AU	
direct	1950 Jun 26	08:05	14°♎34'34		
evening set	1950 Sep 25	05:45	16°♎30'43		
conjunction	1950 Oct 10	23:41	17°♎05'35	1°34'04	
minimum elong	1950 Oct 10	23:40	17°♎05'35	1°34'04	
max. Earth dist.	1950 Oct 10	00:25	17°♎03'26	31.29567 AU	
morning rise	1950 Oct 26	14:06	17°♎40'11		
retrograde	1951 Jan 21	05:29	19°♎32'07		
opposition	1951 Apr 08	19:52	18°♎10'13	1°41'18	
min. Earth dist.	1951 Apr 09	17:19	18°♎08'44	29.29808 AU	
direct	1951 Jun 28	21:52	16°♎45'16		
evening set	1951 Sep 27	16:58	18°♎41'23		
max. Earth dist.	1951 Oct 12	10:44	19°♎14'02	31.29854 AU	
conjunction	1951 Oct 13	10:16	19°♎16'13	1°35'36	
minimum elong	1951 Oct 13	10:16	19°♎16'13	1°35'35	
morning rise	1951 Oct 29	00:10	19°♎50'47		
retrograde	1952 Jan 23	16:29	21°♎42'43		
opposition	1952 Apr 10	06:51	20°♎20'48	1°42'51	
min. Earth dist.	1952 Apr 11	04:28	20°♎19'19	29.30149 AU	
direct	1952 Jun 30	09:24	18°♎55'52		
evening set	1952 Sep 29	04:01	20°♎51'59		
conjunction	1952 Oct 14	20:53	21°♎26'47	1°36'59	
minimum elong	1952 Oct 14	20:52	21°♎26'47	1°36'59	
max. Earth dist.	1952 Oct 13	22:27	21°♎24'42	31.30239 AU	
morning rise	1952 Oct 30	10:10	22°♎01'19		
retrograde	1953 Jan 25	00:57	23°♎53'16		
opposition	1953 Apr 12	18:00	22°♎31'22	1°44'16	
min. Earth dist.	1953 Apr 13	15:10	22°♎29'55	29.30568 AU	
direct	1953 Jul 02	22:13	21°♎06'29		
evening set	1953 Oct 01	14:58	23°♎02'35		
max. Earth dist.	1953 Oct 16	08:06	23°♎35'12	31.30697 AU	
conjunction	1953 Oct 17	07:08	23°♎37'21	1°38'14	
minimum elong	1953 Oct 17	07:08	23°♎37'21	1°38'14	
morning rise	1953 Nov 01	20:03	24°♎11'51		
retrograde	1954 Jan 27	10:49	26°♎03'50		
opposition	1954 Apr 15	05:07	24°♎41'58	1°45'31	
min. Earth dist.	1954 Apr 16	01:50	24°♎40'33	29.31058 AU	
direct	1954 Jul 05	08:33	23°♎17'09		
evening set	1954 Oct 04	01:49	25°♎13'13		
conjunction	1954 Oct 19	17:38	25°♎47'59	1°39'20	
minimum elong	1954 Oct 19	17:38	25°♎47'59	1°39'21	
max. Earth dist.	1954 Oct 18	19:58	25°♎45'57	31.31192 AU	
morning rise	1954 Nov 04	05:55	26°♎22'27		
retrograde	1955 Jan 29	19:18	28°♎14'28		
opposition	1955 Apr 17	16:16	26°♎52'38	1°46'38	
min. Earth dist.	1955 Apr 18	13:31	26°♎51'11	29.31545 AU	
direct	1955 Jul 07	19:38	25°♎27'53		
evening set	1955 Oct 06	12:51	27°♎23'57		
max. Earth dist.	1955 Oct 21	05:24	27°♎56'34	31.31662 AU	
conjunction	1955 Oct 22	03:58	27°♎58'40	1°40'18	
minimum elong	1955 Oct 22	03:58	27°♎58'40	1°40'18	
morning rise	1955 Nov 06	15:56	28°♎33'07		
	1955 Dec 24	15:17	0°♏		
retrograde	1956 Feb 01	06:31	0°♏25'11		
	1956 Mar 12	01:59	30°℞♎		
opposition	1956 Apr 19	03:31	29°♎03'23	1°47'35	
min. Earth dist.	1956 Apr 19	23:53	29°♎02'00	29.31983 AU	
direct	1956 Jul 09	06:08	27°♎38'41		
evening set	1956 Oct 07	23:38	29°♎34'45		
	1956 Oct 19	09:25	0°♏		
conjunction	1956 Oct 23	14:21	0°♏09'26	1°41'07	
minimum elong	1956 Oct 23	14:21	0°♏09'26	1°41'07	
max. Earth dist.	1956 Oct 22	16:40	0°♏07'24	31.32044 AU	
morning rise	1956 Nov 08	01:40	0°♏43'51		
retrograde	1957 Feb 02	15:52	2°♏35'58		
opposition	1957 Apr 21	15:06	1°♏14'11	1°48'23	
min. Earth dist.	1957 Apr 22	12:26	1°♏12'44	29.32314 AU	
	1957 Jun 15	20:16	30°℞♎		
direct	1957 Jul 11	17:50	29°♎49'32		
	1957 Aug 06	08:17	0°♏		
evening set	1957 Oct 10	10:32	1°♏45'34		
max. Earth dist.	1957 Oct 25	02:25	2°♏18'08	31.32317 AU	
conjunction	1957 Oct 26	00:39	2°♏20'13	1°41'48	
minimum elong	1957 Oct 26	00:39	2°♏20'13	1°41'47	
morning rise	1957 Nov 10	11:37	2°♏54'37		

retrograde	1958 Feb 05 03:16	4°♏46'47	
opposition	1958 Apr 24 02:31	3°♏24'59	1°49'01
min. Earth dist.	1958 Apr 24 22:52	3°♏23'36	29.32518 AU
direct	1958 Jul 14 05:52	2°♏00'22	
evening set	1958 Oct 12 21:13	3°♏56'23	
conjunction	1958 Oct 28 10:55	4°♏31'00	1°42'19
minimum elong	1958 Oct 28 10:55	4°♏31'00	1°42'19
max. Earth dist.	1958 Oct 27 12:51	4°♏28'56	31.32440 AU
morning rise	1958 Nov 12 21:24	5°♏05'22	
retrograde	1959 Feb 07 13:37	6°♏57'35	
opposition	1959 Apr 26 14:09	5°♏35'47	1°49'31
min. Earth dist.	1959 Apr 27 11:30	5°♏34'19	29.32572 AU
direct	1959 Jul 16 16:52	4°♏11'10	
evening set	1959 Oct 15 07:57	6°♏07'09	
conjunction	1959 Oct 30 21:10	6°♏41'44	1°42'42
minimum elong	1959 Oct 30 21:10	6°♏41'44	1°42'42
max. Earth dist.	1959 Oct 29 23:23	6°♏39'42	31.32422 AU
morning rise	1959 Nov 15 07:13	7°♏16'05	
retrograde	1960 Feb 10 00:08	9°♏08'19	
opposition	1960 Apr 28 01:38	7°♏46'30	1°49'51
min. Earth dist.	1960 Apr 28 22:13	7°♏45'05	29.32472 AU
direct	1960 Jul 18 06:55	6°♏21'54	
evening set	1960 Oct 16 18:37	8°♏17'49	
max. Earth dist.	1960 Oct 31 09:02	8°♏50'18	31.32260 AU
conjunction	1960 Nov 01 07:18	8°♏52'23	1°42'56
minimum elong	1960 Nov 01 07:18	8°♏52'23	1°42'57
morning rise	1960 Nov 16 17:00	9°♏26'42	
retrograde	1961 Feb 11 11:33	11°♏18'59	
opposition	1961 Apr 30 13:21	9°♏57'06	1°50'01
min. Earth dist.	1961 May 01 10:09	9°♏55'41	29.32267 AU
direct	1961 Jul 20 18:49	8°♏32'31	
evening set	1961 Oct 19 04:52	10°♏28'22	
conjunction	1961 Nov 03 17:14	11°♏02'55	1°43'02
minimum elong	1961 Nov 03 17:14	11°♏02'55	1°43'02
max. Earth dist.	1961 Nov 02 20:10	11°♏00'56	31.32015 AU
morning rise	1961 Nov 19 02:29	11°♏37'12	
retrograde	1962 Feb 13 20:07	13°♏29'30	
opposition	1962 May 03 01:01	12°♏07'35	1°50'03
min. Earth dist.	1962 May 03 21:27	12°♏06'11	29.31984 AU
direct	1962 Jul 23 08:12	10°♏42'59	
evening set	1962 Oct 21 15:15	12°♏38'47	
max. Earth dist.	1962 Nov 05 05:25	13°♏11'16	31.31726 AU
conjunction	1962 Nov 06 03:02	13°♏13'18	1°42'59
minimum elong	1962 Nov 06 03:02	13°♏13'18	1°42'59
morning rise	1962 Nov 21 12:04	13°♏47'34	
	1962 Dec 29 02:20	15°♏	
retrograde	1963 Feb 16 06:05	15°♏39'54	
	1963 Apr 08 11:56	15°℞♏	
opposition	1963 May 05 12:29	14°♏17'56	1°49'55
min. Earth dist.	1963 May 06 08:14	14°♏16'35	29.31708 AU
direct	1963 Jul 25 19:13	12°♏53'20	
evening set	1963 Oct 24 01:25	14°♏49'05	
	1963 Oct 29 00:20	15°♏	
conjunction	1963 Nov 08 12:56	15°♏23'34	1°42'47
minimum elong	1963 Nov 08 12:56	15°♏23'34	1°42'46
max. Earth dist.	1963 Nov 07 17:01	15°♏21'42	31.31466 AU
morning rise	1963 Nov 23 21:26	15°♏57'50	
retrograde	1964 Feb 18 14:29	17°♏50'12	
opposition	1964 May 07 00:18	16°♏28'12	1°49'37
min. Earth dist.	1964 May 07 20:00	16°♏26'52	29.31479 AU
direct	1964 Jul 27 07:00	15°♏03'38	
evening set	1964 Oct 25 11:33	16°♏59'19	
conjunction	1964 Nov 09 22:28	17°♏33'47	1°42'26
minimum elong	1964 Nov 09 22:28	17°♏33'47	1°42'26
max. Earth dist.	1964 Nov 09 02:22	17°♏31'54	31.31288 AU
morning rise	1964 Nov 25 06:47	18°♏08'03	
retrograde	1965 Feb 20 01:23	20°♏00'29	
opposition	1965 May 09 12:01	18°♏38'28	1°49'11
min. Earth dist.	1965 May 10 06:03	18°♏37'15	29.31350 AU
direct	1965 Jul 29 17:39	17°♏13'57	
evening set	1965 Oct 27 21:31	19°♏09'36	
conjunction	1965 Nov 12 08:12	19°♏44'03	1°41'57
minimum elong	1965 Nov 12 08:12	19°♏44'03	1°41'57
max. Earth dist.	1965 Nov 11 13:32	19°♏42'18	31.31203 AU
morning rise	1965 Nov 27 16:03	20°♏18'17	
retrograde	1966 Feb 22 10:42	22°♏10'49	
opposition	1966 May 11 23:49	20°♏48'48	1°48'34
min. Earth dist.	1966 May 12 18:11	20°♏47'33	29.31308 AU
direct	1966 Aug 01 04:29	19°♏24'21	
evening set	1966 Oct 30 07:28	21°♏19'58	
conjunction	1966 Nov 14 17:43	21°♏54'24	1°41'18
minimum elong	1966 Nov 14 17:43	21°♏54'24	1°41'19
max. Earth dist.	1966 Nov 13 23:19	21°♏52'41	31.31203 AU
morning rise	1966 Nov 30 01:25	22°♏28'38	
retrograde	1967 Feb 24 22:07	24°♏21'16	
opposition	1967 May 14 11:34	22°♏59'16	1°47'49
min. Earth dist.	1967 May 15 04:21	22°♏58'07	29.31313 AU
direct	1967 Aug 03 15:19	21°♏34'52	
evening set	1967 Nov 01 17:26	23°♏30'29	
max. Earth dist.	1967 Nov 16 09:33	24°♏03'14	31.31209 AU
conjunction	1967 Nov 17 03:19	24°♏04'54	1°40'31
minimum elong	1967 Nov 17 03:19	24°♏04'54	1°40'31
morning rise	1967 Dec 02 10:41	24°♏39'08	
retrograde	1968 Feb 27 08:56	26°♏31'52	
opposition	1968 May 15 23:33	25°♏09'52	1°46'54
min. Earth dist.	1968 May 16 16:49	25°♏08'42	29.31318 AU
direct	1968 Aug 05 01:16	23°♏45'34	
evening set	1968 Nov 03 03:22	25°♏41'09	
conjunction	1968 Nov 18 12:57	26°♏15'33	1°39'35
minimum elong	1968 Nov 18 12:57	26°♏15'33	1°39'35
max. Earth dist.	1968 Nov 17 20:07	26°♏13'58	31.31201 AU
morning rise	1968 Dec 03 20:02	26°♏49'47	
retrograde	1969 Feb 28 20:20	28°♏42'36	
opposition	1969 May 18 11:36	27°♏20'37	1°45'50
min. Earth dist.	1969 May 19 03:41	27°♏19'32	29.31269 AU
direct	1969 Aug 07 14:55	25°♏56'23	
evening set	1969 Nov 05 13:16	27°♏51'56	
conjunction	1969 Nov 20 22:25	28°♏26'19	1°38'31
minimum elong	1969 Nov 20 22:25	28°♏26'19	1°38'30
max. Earth dist.	1969 Nov 20 05:20	28°♏24'43	31.31112 AU
morning rise	1969 Dec 06 05:21	29°♏00'32	
	1970 Jan 04 19:53	0°♐	
retrograde	1970 Mar 03 09:02	0°♐53'28	
	1970 May 03 01:33	30°℞♏	
opposition	1970 May 20 23:45	29°♏31'28	1°44'36
min. Earth dist.	1970 May 21 15:50	29°♏30'23	29.31136 AU
direct	1970 Aug 10 02:22	28°♏07'17	
	1970 Nov 06 16:30	0°♐	
evening set	1970 Nov 07 23:08	0°♐02'48	
conjunction	1970 Nov 23 08:07	0°♐37'11	1°37'18
minimum elong	1970 Nov 23 08:07	0°♐37'11	1°37'18

max. Earth dist.	1970 Nov 22 16:16	0°♐35'41	31.30918 AU
morning rise	1970 Dec 08 14:43	1°♐11'23	
retrograde	1971 Mar 05 18:08	3°♐04'24	
opposition	1971 May 23 11:49	1°♐42'23	1°43'14
min. Earth dist.	1971 May 24 03:34	1°♐41'19	29.30865 AU
direct	1971 Aug 12 15:14	0°♐18'14	
evening set	1971 Nov 10 09:11	2°♐13'42	
conjunction	1971 Nov 25 17:43	2°♐48'04	1°35'57
minimum elong	1971 Nov 25 17:43	2°♐48'04	1°35'56
max. Earth dist.	1971 Nov 25 01:09	2°♐46'30	31.30588 AU
morning rise	1971 Dec 11 00:15	3°♐22'17	
retrograde	1972 Mar 07 05:19	5°♐15'21	
opposition	1972 May 25 00:06	3°♐53'18	1°41'43
min. Earth dist.	1972 May 25 15:11	3°♐52'16	29.30469 AU
direct	1972 Aug 14 03:09	2°♐29'10	
evening set	1972 Nov 11 18:52	4°♐24'33	
conjunction	1972 Nov 27 03:16	4°♐58'55	1°34'27
minimum elong	1972 Nov 27 03:17	4°♐58'55	1°34'28
max. Earth dist.	1972 Nov 26 12:13	4°♐57'30	31.30122 AU
morning rise	1972 Dec 12 09:29	5°♐33'07	
retrograde	1973 Mar 09 14:32	7°♐26'16	
opposition	1973 May 27 12:31	6°♐04'09	1°40'03
min. Earth dist.	1973 May 28 03:48	6°♐03'07	29.29935 AU
direct	1973 Aug 16 16:06	4°♐40'02	
evening set	1973 Nov 14 04:40	6°♐35'19	
conjunction	1973 Nov 29 12:42	7°♐09'40	1°32'50
minimum elong	1973 Nov 29 12:42	7°♐09'40	1°32'50
max. Earth dist.	1973 Nov 28 21:18	7°♐08'13	31.29550 AU
morning rise	1973 Dec 14 18:56	7°♐43'53	
retrograde	1974 Mar 12 01:19	9°♐37'05	
opposition	1974 May 30 00:40	8°♐14'53	1°38'15
min. Earth dist.	1974 May 30 14:30	8°♐13'57	29.29320 AU
direct	1974 Aug 19 03:37	6°♐50'46	
evening set	1974 Nov 16 14:12	8°♐45'57	
conjunction	1974 Dec 01 22:08	9°♐20'17	1°31'05
minimum elong	1974 Dec 01 22:08	9°♐20'17	1°31'05
max. Earth dist.	1974 Dec 01 07:57	9°♐18'57	31.28905 AU
morning rise	1974 Dec 17 04:08	9°♐54'30	
retrograde	1975 Mar 14 10:02	11°♐47'46	
opposition	1975 Jun 01 13:03	10°♐25'29	1°36'19
min. Earth dist.	1975 Jun 02 03:12	10°♐24'31	29.28665 AU
direct	1975 Aug 21 14:53	9°♐01'21	
evening set	1975 Nov 18 23:43	10°♐56'26	
conjunction	1975 Dec 04 07:20	11°♐30'46	1°29'12
minimum elong	1975 Dec 04 07:21	11°♐30'46	1°29'12
max. Earth dist.	1975 Dec 03 17:46	11°♐29'29	31.28267 AU
morning rise	1975 Dec 19 13:17	12°♐04'58	
retrograde	1976 Mar 15 20:39	13°♐58'18	
opposition	1976 Jun 03 01:20	12°♐35'57	1°34'15
min. Earth dist.	1976 Jun 03 13:32	12°♐35'07	29.28042 AU
direct	1976 Aug 23 02:03	11°♐11'49	
evening set	1976 Nov 20 09:12	13°♐06'49	
conjunction	1976 Dec 05 16:36	13°♐41'09	1°27'12
minimum elong	1976 Dec 05 16:37	13°♐41'09	1°27'12
max. Earth dist.	1976 Dec 05 03:55	13°♐39'57	31.27682 AU
morning rise	1976 Dec 20 22:26	14°♐15'21	
retrograde	1977 Mar 18 07:36	16°♐08'47	
opposition	1977 Jun 05 13:50	14°♐46'22	1°32'02
min. Earth dist.	1977 Jun 06 01:57	14°♐45'32	29.27513 AU
direct	1977 Aug 25 12:07	13°♐22'16	
evening set	1977 Nov 22 18:29	15°♐17'12	
conjunction	1977 Dec 08 01:48	15°♐51'31	1°25'04
minimum elong	1977 Dec 08 01:48	15°♐51'31	1°25'04
max. Earth dist.	1977 Dec 07 14:40	15°♐50'28	31.27211 AU
morning rise	1977 Dec 23 07:31	16°♐25'44	
retrograde	1978 Mar 20 18:47	18°♐19'15	
opposition	1978 Jun 08 02:11	16°♐56'48	1°29'42
min. Earth dist.	1978 Jun 08 12:35	16°♐56'06	29.27074 AU
direct	1978 Aug 28 00:54	15°♐32'45	
evening set	1978 Nov 25 03:58	17°♐27'38	
conjunction	1978 Dec 10 11:00	18°♐01'57	1°22'49
minimum elong	1978 Dec 10 11:00	18°♐01'57	1°22'49
max. Earth dist.	1978 Dec 09 23:58	18°♐00'55	31.26819 AU
morning rise	1978 Dec 25 16:46	18°♐36'11	
retrograde	1979 Mar 23 07:35	20°♐29'49	
opposition	1979 Jun 10 14:33	19°♐07'21	1°27'13
min. Earth dist.	1979 Jun 11 00:25	19°♐06'41	29.26719 AU
direct	1979 Aug 30 11:15	17°♐43'22	
evening set	1979 Nov 27 13:19	19°♐38'13	
conjunction	1979 Dec 12 20:21	20°♐12'33	1°20'26
minimum elong	1979 Dec 12 20:21	20°♐12'33	1°20'26
max. Earth dist.	1979 Dec 12 11:11	20°♐11'41	31.26491 AU
morning rise	1979 Dec 28 01:56	20°♐46'47	
retrograde	1980 Mar 24 17:42	22°♐40'33	
opposition	1980 Jun 12 03:11	21°♐18'05	1°24'37
min. Earth dist.	1980 Jun 12 12:09	21°♐17'28	29.26389 AU
direct	1980 Aug 31 23:38	19°♐54'11	
evening set	1980 Nov 28 22:44	21°♐49'00	
conjunction	1980 Dec 14 05:26	22°♐23'20	1°17'56
minimum elong	1980 Dec 14 05:26	22°♐23'20	1°17'56
max. Earth dist.	1980 Dec 13 20:06	22°♐22'27	31.26173 AU
morning rise	1980 Dec 29 11:11	22°♐57'35	
retrograde	1981 Mar 27 06:08	24°♐51'29	
opposition	1981 Jun 14 15:51	23°♐29'00	1°21'53
min. Earth dist.	1981 Jun 14 23:46	23°♐28'28	29.26059 AU
direct	1981 Sep 03 11:07	22°♐05'12	
evening set	1981 Dec 01 08:09	23°♐59'58	
conjunction	1981 Dec 16 14:53	24°♐34'19	1°15'19
minimum elong	1981 Dec 16 14:53	24°♐34'19	1°15'19
max. Earth dist.	1981 Dec 16 07:18	24°♐33'36	31.25813 AU
morning rise	1981 Dec 31 20:28	25°♐08'35	
retrograde	1982 Mar 29 16:38	27°♐02'37	
opposition	1982 Jun 17 04:31	25°♐40'08	1°19'01
min. Earth dist.	1982 Jun 17 12:32	25°♐39'36	29.25658 AU
direct	1982 Sep 05 23:36	24°♐16'24	
evening set	1982 Dec 03 17:44	26°♐11'09	
conjunction	1982 Dec 19 00:14	26°♐45'29	1°12'35
minimum elong	1982 Dec 19 00:15	26°♐45'29	1°12'36
max. Earth dist.	1982 Dec 18 16:25	26°♐44'45	31.25374 AU
morning rise	1983 Jan 03 05:58	27°♐19'47	
retrograde	1983 Apr 01 04:27	29°♐13'57	
opposition	1983 Jun 19 17:15	27°♐51'27	1°16'03
min. Earth dist.	1983 Jun 19 23:46	27°♐51'00	29.25156 AU
direct	1983 Sep 08 11:00	26°♐27'47	
evening set	1983 Dec 06 03:12	28°♐22'28	
conjunction	1983 Dec 21 09:41	28°♐56'49	1°09'45
minimum elong	1983 Dec 21 09:41	28°♐56'49	1°09'45
max. Earth dist.	1983 Dec 21 02:52	28°♐56'11	31.24799 AU
morning rise	1984 Jan 05 15:19	29°♐31'08	
	1984 Jan 19 02:55	0°♑	
retrograde	1984 Apr 02 14:04	1°♑25'26	
opposition	1984 Jun 21 06:15	0°♑02'54	1°12'58

min. Earth dist.	1984 Jun	21	13:12	0°♓02'26	29.24510 AU
	1984 Jun	23	01:10	30°℞♐	
direct	1984 Sep	09	22:13	28°♐39'17	
	1984 Nov	21	13:21	0°♓	
evening set	1984 Dec	07	12:47	0°♓33'54	
conjunction	1984 Dec	22	19:10	1°♓08'16	1°06'49
minimum elong	1984 Dec	22	19:11	1°♓08'16	1°06'50
max. Earth dist.	1984 Dec	22	12:45	1°♓07'39	31.24093 AU
morning rise	1985 Jan	07	00:54	1°♓42'35	
retrograde	1985 Apr	05	01:26	3°♓37'01	
opposition	1985 Jun	23	19:05	2°♓14'25	1°09'47
min. Earth dist.	1985 Jun	24	00:25	2°♓14'04	29.23723 AU
direct	1985 Sep	12	09:16	0°♓50'49	
evening set	1985 Dec	09	22:15	2°♓45'22	
conjunction	1985 Dec	25	04:35	3°♓19'44	1°03'48
minimum elong	1985 Dec	25	04:35	3°♓19'44	1°03'48
max. Earth dist.	1985 Dec	24	22:28	3°♓19'10	31.23237 AU
morning rise	1986 Jan	09	10:26	3°♓54'05	
retrograde	1986 Apr	07	12:51	5°♓48'37	
opposition	1986 Jun	26	08:03	4°♓25'57	1°06'30
min. Earth dist.	1986 Jun	26	13:47	4°♓25'34	29.22806 AU
direct	1986 Sep	14	19:39	3°♓02'21	
evening set	1986 Dec	12	07:40	4°♓56'49	
conjunction	1986 Dec	27	14:04	5°♓31'11	1°00'41
minimum elong	1986 Dec	27	14:04	5°♓31'11	1°00'41
max. Earth dist.	1986 Dec	27	09:16	5°♓30'44	31.22277 AU
morning rise	1987 Jan	11	19:55	6°♓05'32	
retrograde	1987 Apr	10	00:12	8°♓00'10	
opposition	1987 Jun	28	20:47	6°♓37'24	1°03'08
min. Earth dist.	1987 Jun	29	01:04	6°♓37'07	29.21798 AU
direct	1987 Sep	17	08:22	5°♓13'48	
evening set	1987 Dec	14	17:07	7°♓08'11	
conjunction	1987 Dec	29	23:20	7°♓42'33	0°57'29
minimum elong	1987 Dec	29	23:21	7°♓42'33	0°57'28
max. Earth dist.	1987 Dec	29	18:31	7°♓42'06	31.21262 AU
morning rise	1988 Jan	14	05:26	8°♓16'55	
retrograde	1988 Apr	11	13:17	10°♓11'39	
opposition	1988 Jun	30	09:46	8°♓48'47	0°59'40
min. Earth dist.	1988 Jun	30	13:28	8°♓48'32	29.20793 AU
direct	1988 Sep	18	18:19	7°♓25'11	
evening set	1988 Dec	16	02:16	9°♓19'28	
conjunction	1988 Dec	31	08:39	9°♓53'51	0°54'12
minimum elong	1988 Dec	31	08:39	9°♓53'51	0°54'12
max. Earth dist.	1988 Dec	31	05:54	9°♓53'35	31.20275 AU
morning rise	1989 Jan	15	14:42	10°♓28'14	
retrograde	1989 Apr	13	23:35	12°♓23'04	
opposition	1989 Jul	02	22:43	11°♓00'07	0°56'07
min. Earth dist.	1989 Jul	03	01:16	10°♓59'56	29.19830 AU
direct	1989 Sep	21	06:52	9°♓36'31	
evening set	1989 Dec	18	11:43	11°♓30'44	
conjunction	1990 Jan	02	17:55	12°♓05'07	0°50'50
minimum elong	1990 Jan	02	17:56	12°♓05'07	0°50'50
max. Earth dist.	1990 Jan	02	15:12	12°♓04'52	31.19362 AU
morning rise	1990 Jan	18	00:17	12°♓39'32	
retrograde	1990 Apr	16	12:55	14°♓34'28	
opposition	1990 Jul	05	11:27	13°♓11'26	0°52'29
min. Earth dist.	1990 Jul	05	12:38	13°♓11'21	29.18966 AU
direct	1990 Sep	23	18:36	11°♓47'51	
evening set	1990 Dec	20	20:58	13°♓42'01	
conjunction	1991 Jan	05	03:22	14°♓16'25	0°47'24
minimum elong	1991 Jan	05	03:22	14°♓16'25	0°47'24
max. Earth dist.	1991 Jan	05	02:38	14°♓16'21	31.18538 AU
morning rise	1991 Jan	20	09:43	14°♓50'51	
retrograde	1991 Apr	19	00:11	16°♓45'55	
opposition	1991 Jul	08	00:27	15°♓22'49	0°48'46
min. Earth dist.	1991 Jul	08	01:14	15°♓22'46	29.18178 AU
direct	1991 Sep	26	07:13	13°♓59'18	
evening set	1991 Dec	23	06:17	15°♓53'24	
conjunction	1992 Jan	07	12:35	16°♓27'48	0°43'53
minimum elong	1992 Jan	07	12:36	16°♓27'48	0°43'53
max. Earth dist.	1992 Jan	07	12:15	16°♓27'46	31.17800 AU
morning rise	1992 Jan	22	19:13	17°♓02'16	
retrograde	1992 Apr	20	12:14	18°♓57'27	
opposition	1992 Jul	09	13:25	17°♓34'20	0°44'58
min. Earth dist.	1992 Jul	09	12:14	17°♓34'24	29.17464 AU
direct	1992 Sep	27	18:35	16°♓10'51	
evening set	1992 Dec	24	15:39	18°♓04'54	
conjunction	1993 Jan	08	22:03	18°♓39'20	0°40'18
minimum elong	1993 Jan	08	22:03	18°♓39'20	0°40'19
max. Earth dist.	1993 Jan	08	23:01	18°♓39'25	31.17101 AU
morning rise	1993 Jan	24	04:47	19°♓13'49	
retrograde	1993 Apr	22	22:32	21°♓09'09	
opposition	1993 Jul	12	02:31	19°♓45'59	0°41'06
min. Earth dist.	1993 Jul	12	01:26	19°♓46'03	29.16776 AU
direct	1993 Sep	30	06:08	18°♓22'34	
evening set	1993 Dec	27	01:03	20°♓16'33	
conjunction	1994 Jan	11	07:32	20°♓51'01	0°36'39
minimum elong	1994 Jan	11	07:33	20°♓51'01	0°36'39
max. Earth dist.	1994 Jan	11	09:22	20°♓51'11	31.16420 AU
morning rise	1994 Jan	26	14:29	21°♓25'31	
retrograde	1994 Apr	25	10:37	23°♓21'00	
opposition	1994 Jul	14	15:31	21°♓57'48	0°37'11
min. Earth dist.	1994 Jul	14	12:38	21°♓58'00	29.16069 AU
direct	1994 Oct	02	17:47	20°♓34'26	
evening set	1994 Dec	29	10:38	22°♓28'23	
conjunction	1995 Jan	13	17:06	23°♓02'51	0°32'57
minimum elong	1995 Jan	13	17:06	23°♓02'51	0°32'57
max. Earth dist.	1995 Jan	13	19:17	23°♓03'03	31.15680 AU
morning rise	1995 Jan	29	00:16	23°♓37'23	
retrograde	1995 Apr	27	22:14	25°♓33'01	
opposition	1995 Jul	17	04:42	24°♓09'46	0°33'12
min. Earth dist.	1995 Jul	17	02:08	24°♓09'57	29.15298 AU
direct	1995 Oct	05	03:56	22°♓46'27	
evening set	1995 Dec	31	20:15	24°♓40'22	
conjunction	1996 Jan	16	02:54	25°♓14'50	0°29'12
minimum elong	1996 Jan	16	02:54	25°♓14'50	0°29'12
max. Earth dist.	1996 Jan	16	06:28	25°♓15'10	31.14868 AU
morning rise	1996 Jan	31	10:09	25°♓49'24	
retrograde	1996 Apr	29	09:52	27°♓45'11	
opposition	1996 Jul	18	17:55	26°♓21'53	0°29'10
min. Earth dist.	1996 Jul	18	13:59	26°♓22'09	29.14422 AU
direct	1996 Oct	06	15:55	24°♓58'36	
evening set	1997 Jan	02	05:58	26°♓52'28	
conjunction	1997 Jan	17	12:34	27°♓26'57	0°25'25
minimum elong	1997 Jan	17	12:34	27°♓26'57	0°25'25
max. Earth dist.	1997 Jan	17	15:45	27°♓27'15	31.13931 AU
morning rise	1997 Feb	01	20:12	28°♓01'33	
retrograde	1997 May	01	23:20	29°♓57'28	
opposition	1997 Jul	21	07:15	28°♓34'05	0°25'05
min. Earth dist.	1997 Jul	21	03:09	28°♓34'22	29.13424 AU
direct	1997 Oct	09	01:28	27°♓10'49	

evening set	1998 Jan	04	15:40	29°♑04'37	
conjunction	1998 Jan	19	22:34	29°♑39'08	0°21'35
minimum elong	1998 Jan	19	22:34	29°♑39'08	0°21'35
max. Earth dist.	1998 Jan	20	03:15	29°♑39'34	31.12862 AU
	1998 Jan	29	02:52	0°♒	
morning rise	1998 Feb	04	06:16	0°♒13'45	
retrograde	1998 May	04	10:39	2°♒09'47	
opposition	1998 Jul	23	20:19	0°♒46'20	0°20'58
min. Earth dist.	1998 Jul	23	15:35	0°♒46'39	29.12280 AU
	1998 Aug	23	00:13	30°℞♑	
direct	1998 Oct	11	14:03	29°♑23'03	
	1998 Nov	28	01:19	0°♒	
evening set	1999 Jan	07	01:30	1°♒16'48	
conjunction	1999 Jan	22	08:22	1°♒51'19	0°17'44
minimum elong	1999 Jan	22	08:22	1°♒51'19	0°17'44
max. Earth dist.	1999 Jan	22	12:39	1°♒51'43	31.11674 AU
morning rise	1999 Feb	06	16:29	2°♒25'58	
retrograde	1999 May	07	00:51	4°♒22'06	
opposition	1999 Jul	26	09:32	2°♒58'33	0°16'50
min. Earth dist.	1999 Jul	26	03:52	2°♒58'56	29.11052 AU
direct	1999 Oct	14	01:35	1°♒35'15	
evening set	2000 Jan	09	11:01	3°♒28'56	
conjunction	2000 Jan	24	18:08	4°♒03'28	0°13'51
minimum elong	2000 Jan	24	18:08	4°♒03'28	0°13'50
behind sun begin	2000 Jan	24	14:40	4°♒03'09	
behind sun end	2000 Jan	24	21:37	4°♒03'47	
max. Earth dist.	2000 Jan	25	00:11	4°♒04'02	31.10413 AU
morning rise	2000 Feb	09	02:23	4°♒38'08	
retrograde	2000 May	08	12:30	6°♒34'24	
opposition	2000 Jul	27	22:49	5°♒10'43	0°12'40
min. Earth dist.	2000 Jul	27	16:54	5°♒11'07	29.09783 AU
direct	2000 Oct	15	14:12	3°♒47'25	
evening set	2001 Jan	10	20:44	5°♒41'01	
conjunction	2001 Jan	26	03:55	6°♒15'34	0°09'57
minimum elong	2001 Jan	26	03:55	6°♒15'34	0°09'58
behind sun begin	2001 Jan	25	22:41	6°♒15'06	
behind sun end	2001 Jan	26	09:08	6°♒16'03	
max. Earth dist.	2001 Jan	26	10:19	6°♒16'10	31.09167 AU
morning rise	2001 Feb	10	12:31	6°♒50'16	
retrograde	2001 May	11	01:13	8°♒46'38	
opposition	2001 Jul	30	11:48	7°♒22'51	0°08'29
min. Earth dist.	2001 Jul	30	04:04	7°♒23'23	29.08568 AU
direct	2001 Oct	18	01:49	5°♒59'32	
evening set	2002 Jan	13	06:23	7°♒53'05	
conjunction	2002 Jan	28	13:45	8°♒27'40	0°06'03
minimum elong	2002 Jan	28	13:45	8°♒27'40	0°06'03
behind sun begin	2002 Jan	28	07:39	8°♒27'07	
behind sun end	2002 Jan	28	19:51	8°♒28'13	
max. Earth dist.	2002 Jan	28	21:22	8°♒28'22	31.07982 AU
morning rise	2002 Feb	12	22:36	9°♒02'23	
retrograde	2002 May	13	12:10	10°♒58'52	
opposition	2002 Aug	02	00:57	9°♒35'01	0°04'17
min. Earth dist.	2002 Aug	01	17:08	9°♒35'33	29.07440 AU
direct	2002 Oct	20	13:52	8°♒11'42	
evening set	2003 Jan	15	16:02	10°♒05'12	
conjunction	2003 Jan	30	23:34	10°♒39'48	0°02'07
minimum elong	2003 Jan	30	23:34	10°♒39'48	0°02'07
behind sun begin	2003 Jan	30	17:11	10°♒39'14	
behind sun end	2003 Jan	31	05:58	10°♒40'23	
max. Earth dist.	2003 Jan	31	08:22	10°♒40'37	31.06915 AU
morning rise	2003 Feb	15	08:38	11°♒14'34	
retrograde	2003 May	16	00:46	13°♒11'10	
opposition	2003 Aug	04	13:54	11°♒47'15	0°00'05
min. Earth dist.	2003 Aug	04	03:57	11°♒47'56	29.06427 AU
desc. node	2003 Aug	11	04:10	11°♒36'31	
direct	2003 Oct	23	01:54	10°♒23'58	
evening set	2004 Jan	18	01:52	12°♒17'26	
conjunction	2004 Feb	02	09:29	12°♒52'04	-0°01'56
minimum elong	2004 Feb	02	09:29	12°♒52'04	0°01'57
behind sun begin	2004 Feb	02	03:05	12°♒51'29	
behind sun end	2004 Feb	02	15:53	12°♒52'38	
max. Earth dist.	2004 Feb	02	18:51	12°♒52'56	31.05960 AU
morning rise	2004 Feb	17	18:55	13°♒26'51	
	2004 Apr	09	08:43	15°♒	
retrograde	2004 May	17	12:13	15°♒23'37	
	2004 Jun	25	20:39	15°℞♒	
opposition	2004 Aug	06	03:07	13°♒59'38	-0°04'08
min. Earth dist.	2004 Aug	05	17:08	14°♒00'19	29.05537 AU
direct	2004 Oct	24	11:56	12°♒36'24	
evening set	2005 Jan	19	11:31	14°♒29'50	
	2005 Feb	01	20:20	15°♒	
conjunction	2005 Feb	03	19:28	15°♒04'29	-0°05'53
minimum elong	2005 Feb	03	19:29	15°♒04'29	0°05'53
behind sun begin	2005 Feb	03	13:21	15°♒03'55	
behind sun end	2005 Feb	04	01:37	15°♒05'02	
max. Earth dist.	2005 Feb	04	06:42	15°♒05'32	31.05121 AU
morning rise	2005 Feb	19	05:07	15°♒39'18	
retrograde	2005 May	19	23:35	17°♒36'13	
opposition	2005 Aug	08	16:11	16°♒12'12	-0°08'21
min. Earth dist.	2005 Aug	08	04:32	16°♒13'00	29.04730 AU
	2005 Sep	30	22:39	15°℞♒	
direct	2005 Oct	26	23:24	14°♒49'01	
	2005 Nov	21	08:51	15°♒	
evening set	2006 Jan	21	21:33	16°♒42'26	
conjunction	2006 Feb	06	05:33	17°♒17'06	-0°09'48
minimum elong	2006 Feb	06	05:33	17°♒17'06	0°09'48
behind sun begin	2006 Feb	06	00:16	17°♒16'38	
behind sun end	2006 Feb	06	10:49	17°♒17'35	
max. Earth dist.	2006 Feb	06	16:36	17°♒18'08	31.04345 AU
morning rise	2006 Feb	21	15:39	17°♒51'57	
retrograde	2006 May	22	13:05	19°♒49'01	
opposition	2006 Aug	11	05:14	18°♒24'59	-0°12'33
min. Earth dist.	2006 Aug	10	17:18	18°♒25'48	29.03983 AU
direct	2006 Oct	29	07:56	17°♒01'50	
evening set	2007 Jan	24	07:31	18°♒55'16	
conjunction	2007 Feb	08	15:52	19°♒29'57	-0°13'43
minimum elong	2007 Feb	08	15:52	19°♒29'57	0°13'42
behind sun begin	2007 Feb	08	12:19	19°♒29'37	
behind sun end	2007 Feb	08	19:25	19°♒30'16	
max. Earth dist.	2007 Feb	09	04:43	19°♒31'09	31.03602 AU
morning rise	2007 Feb	24	02:06	20°♒04'50	
retrograde	2007 May	25	01:08	22°♒02'03	
opposition	2007 Aug	13	18:25	20°♒37'59	-0°16'44
min. Earth dist.	2007 Aug	13	05:39	20°♒38'51	29.03234 AU
direct	2007 Oct	31	20:07	19°♒14'53	
evening set	2008 Jan	26	17:39	21°♒08'17	
conjunction	2008 Feb	11	02:04	21°♒43'00	-0°17'37
minimum elong	2008 Feb	11	02:03	21°♒43'00	0°17'37
max. Earth dist.	2008 Feb	11	14:36	21°♒44'10	31.02844 AU
morning rise	2008 Feb	26	12:45	22°♒17'55	
retrograde	2008 May	26	16:15	24°♒15'17	
opposition	2008 Aug	15	07:43	22°♒51'10	-0°20'55
min. Earth dist.	2008 Aug	14	18:10	22°♒52'05	29.02456 AU

direct	2008 Nov 02 06:38	21°♒28'06	
evening set	2009 Jan 28 03:56	23°♒21'30	
conjunction	2009 Feb 12 12:41	23°♒56'13	-0°21'30
minimum elong	2009 Feb 12 12:41	23°♒56'13	0°21'29
max. Earth dist.	2009 Feb 13 02:35	23°♒57'32	31.02016 AU
morning rise	2009 Feb 27 23:34	24°♒31'10	
retrograde	2009 May 29 04:30	26°♒28'40	
opposition	2009 Aug 17 20:55	25°♒04'30	-0°25'03
min. Earth dist.	2009 Aug 17 07:34	25°♒05'25	29.01584 AU
direct	2009 Nov 04 18:10	23°♒41'27	
evening set	2010 Jan 30 14:23	25°♒34'49	
conjunction	2010 Feb 14 23:19	26°♒09'34	-0°25'21
minimum elong	2010 Feb 14 23:19	26°♒09'34	0°25'21
max. Earth dist.	2010 Feb 15 13:02	26°♒10'52	31.01095 AU
morning rise	2010 Mar 02 10:37	26°♒44'33	
retrograde	2010 May 31 18:48	28°♒42'09	
opposition	2010 Aug 20 10:07	27°♒17'54	-0°29'09
min. Earth dist.	2010 Aug 19 19:32	27°♒18'54	29.00605 AU
direct	2010 Nov 07 06:04	25°♒54'50	
evening set	2011 Feb 02 00:47	27°♒48'10	
conjunction	2011 Feb 17 09:56	28°♒22'57	-0°29'10
minimum elong	2011 Feb 17 09:56	28°♒22'57	0°29'10
max. Earth dist.	2011 Feb 18 00:13	28°♒24'18	31.00049 AU
morning rise	2011 Mar 04 21:33	28°♒57'57	
	2011 Apr 04 13:50	0°♓	
retrograde	2011 Jun 03 07:28	0°♓55'39	
	2011 Aug 05 02:54	30°℞♒	
opposition	2011 Aug 22 23:26	29°♒31'18	-0°33'13
min. Earth dist.	2011 Aug 22 09:20	29°♒32'16	28.99518 AU
direct	2011 Nov 09 18:54	28°♒08'13	
	2012 Feb 03 19:03	0°♓	
evening set	2012 Feb 04 11:12	0°♓01'29	
conjunction	2012 Feb 19 20:41	0°♓36'17	-0°32'56
minimum elong	2012 Feb 19 20:41	0°♓36'17	0°32'57
max. Earth dist.	2012 Feb 20 11:43	0°♓37'42	30.98940 AU
morning rise	2012 Mar 06 08:37	1°♓11'19	
retrograde	2012 Jun 04 21:04	3°♓09'05	
opposition	2012 Aug 24 12:32	1°♓44'38	-0°37'14
min. Earth dist.	2012 Aug 23 20:49	1°♓45'43	28.98391 AU
direct	2012 Nov 11 07:53	0°♓21'31	
evening set	2013 Feb 05 21:40	2°♓14'44	
conjunction	2013 Feb 21 07:19	2°♓49'32	-0°36'40
minimum elong	2013 Feb 21 07:18	2°♓49'32	0°36'40
max. Earth dist.	2013 Feb 21 22:31	2°♓50'59	30.97806 AU
morning rise	2013 Mar 08 19:43	3°♓24'36	
retrograde	2013 Jun 07 08:25	5°♓22'27	
min. Earth dist.	2013 Aug 26 10:22	3°♓58'57	28.97282 AU
opposition	2013 Aug 27 01:43	3°♓57'54	-0°41'11
direct	2013 Nov 13 18:42	2°♓34'45	
evening set	2014 Feb 08 08:08	4°♓27'54	
conjunction	2014 Feb 23 18:11	5°♓02'43	-0°40'20
minimum elong	2014 Feb 23 18:11	5°♓02'43	0°40'20
max. Earth dist.	2014 Feb 24 11:00	5°♓04'19	30.96724 AU
morning rise	2014 Mar 11 06:47	5°♓37'49	
retrograde	2014 Jun 09 19:50	7°♓35'44	
opposition	2014 Aug 29 14:33	6°♓11'06	-0°45'05
min. Earth dist.	2014 Aug 28 21:42	6°♓12'15	28.96244 AU
direct	2014 Nov 16 07:05	4°♓47'55	
evening set	2015 Feb 10 18:46	6°♓41'03	
conjunction	2015 Feb 26 04:55	7°♓15'54	-0°43'57
minimum elong	2015 Feb 26 04:54	7°♓15'54	0°43'56
max. Earth dist.	2015 Feb 26 21:31	7°♓17'28	30.95738 AU
morning rise	2015 Mar 13 18:01	7°♓51'01	
retrograde	2015 Jun 12 09:08	9°♓49'03	
min. Earth dist.	2015 Aug 31 10:28	8°♓25'30	28.95332 AU
opposition	2015 Sep 01 03:38	8°♓24'19	-0°48'55
direct	2015 Nov 18 16:31	7°♓01'09	
evening set	2016 Feb 13 05:11	8°♓54'15	
conjunction	2016 Feb 28 15:47	9°♓29'07	-0°47'30
minimum elong	2016 Feb 28 15:47	9°♓29'07	0°47'30
max. Earth dist.	2016 Feb 29 10:18	9°♓30'52	30.94881 AU
morning rise	2016 Mar 15 05:06	10°♓04'16	
retrograde	2016 Jun 13 20:42	12°♓02'24	
opposition	2016 Sep 02 16:38	10°♓37'38	-0°52'40
min. Earth dist.	2016 Sep 01 22:27	10°♓38'53	28.94538 AU
direct	2016 Nov 20 04:38	9°♓14'28	
evening set	2017 Feb 14 15:58	11°♓07'34	
conjunction	2017 Mar 02 02:44	11°♓42'27	-0°50'59
minimum elong	2017 Mar 02 02:44	11°♓42'27	0°50'58
max. Earth dist.	2017 Mar 02 21:01	11°♓44'11	30.94153 AU
morning rise	2017 Mar 17 16:35	12°♓17'38	
retrograde	2017 Jun 16 11:10	14°♓15'53	
min. Earth dist.	2017 Sep 04 10:28	12°♓52'23	28.93874 AU
opposition	2017 Sep 05 05:28	12°♓51'05	-0°56'22
direct	2017 Nov 22 14:20	11°♓27'56	
evening set	2018 Feb 17 02:43	13°♓21'03	
conjunction	2018 Mar 04 13:54	13°♓55'58	-0°54'23
minimum elong	2018 Mar 04 13:54	13°♓55'58	0°54'24
max. Earth dist.	2018 Mar 05 09:42	13°♓57'51	30.93525 AU
morning rise	2018 Mar 20 04:01	14°♓31'11	
retrograde	2018 Jun 18 23:27	16°♓29'33	
opposition	2018 Sep 07 18:27	15°♓04'44	-0°59'58
min. Earth dist.	2018 Sep 06 23:26	15°♓06'03	28.93289 AU
direct	2018 Nov 25 01:08	13°♓41'38	
evening set	2019 Feb 19 13:35	15°♓34'46	
conjunction	2019 Mar 07 01:00	16°♓09'43	-0°57'43
minimum elong	2019 Mar 07 01:00	16°♓09'43	0°57'43
max. Earth dist.	2019 Mar 07 20:55	16°♓11'36	30.92976 AU
morning rise	2019 Mar 22 15:32	16°♓44'57	
retrograde	2019 Jun 21 14:36	18°♓43'27	
min. Earth dist.	2019 Sep 09 11:08	17°♓20'01	28.92763 AU
opposition	2019 Sep 10 07:24	17°♓18'38	-1°03'29
direct	2019 Nov 27 12:32	15°♓55'34	
evening set	2020 Feb 22 00:40	17°♓48'44	
conjunction	2020 Mar 08 12:23	18°♓23'43	-1°00'58
minimum elong	2020 Mar 08 12:23	18°♓23'42	1°00'59
max. Earth dist.	2020 Mar 09 08:54	18°♓25'39	30.92446 AU
morning rise	2020 Mar 24 03:18	18°♓58'59	
retrograde	2020 Jun 23 04:32	20°♓57'36	
opposition	2020 Sep 11 20:26	19°♓32'46	-1°06'55
min. Earth dist.	2020 Sep 11 00:50	19°♓34'07	28.92238 AU
direct	2020 Nov 29 00:37	18°♓09'45	
evening set	2021 Feb 23 11:53	20°♓02'57	
conjunction	2021 Mar 11 00:01	20°♓37'57	-1°04'08
minimum elong	2021 Mar 11 00:01	20°♓37'57	1°04'07
max. Earth dist.	2021 Mar 11 20:58	20°♓39'56	30.91902 AU
morning rise	2021 Mar 26 15:16	21°♓13'16	
retrograde	2021 Jun 25 19:22	23°♓11'59	
opposition	2021 Sep 14 09:21	21°♓47'08	-1°10'14
min. Earth dist.	2021 Sep 13 12:35	21°♓48'34	28.91657 AU
direct	2021 Dec 01 13:23	20°♓24'09	

evening set	2022 Feb 25 23:24	22°♓17'22	
conjunction	2022 Mar 13 11:43	22°♓52'24	-1°07'11
minimum elong	2022 Mar 13 11:43	22°♓52'24	1°07'12
max. Earth dist.	2022 Mar 14 08:12	22°♓54'20	30.91261 AU
morning rise	2022 Mar 29 03:26	23°♓27'45	
retrograde	2022 Jun 28 07:55	25°♓26'34	
opposition	2022 Sep 16 22:21	24°♓01'41	-1°13'27
min. Earth dist.	2022 Sep 16 02:33	24°♓03'03	28.90974 AU
direct	2022 Dec 04 00:15	22°♓38'42	
evening set	2023 Feb 28 10:49	24°♓31'55	
conjunction	2023 Mar 15 23:39	25°♓06'58	-1°10'09
minimum elong	2023 Mar 15 23:39	25°♓06'58	1°10'08
max. Earth dist.	2023 Mar 16 21:04	25°♓09'00	30.90523 AU
morning rise	2023 Mar 31 15:37	25°♓42'21	
retrograde	2023 Jun 30 21:07	27°♓41'13	
opposition	2023 Sep 19 11:18	26°♓16'18	-1°16'34
min. Earth dist.	2023 Sep 18 14:37	26°♓17'43	28.90178 AU
direct	2023 Dec 06 13:22	24°♓53'18	
evening set	2024 Mar 01 22:20	26°♓46'29	
conjunction	2024 Mar 17 11:22	27°♓21'34	-1°13'00
minimum elong	2024 Mar 17 11:22	27°♓21'34	1°13'01
max. Earth dist.	2024 Mar 18 07:53	27°♓23'31	30.89683 AU
morning rise	2024 Apr 02 03:56	27°♓56'59	
retrograde	2024 Jul 02 10:41	29°♓55'55	
min. Earth dist.	2024 Sep 20 04:07	28°♓32'18	28.89311 AU
opposition	2024 Sep 21 00:17	28°♓30'54	-1°19'34
direct	2024 Dec 07 23:43	27°♓07'52	
evening set	2025 Mar 04 09:50	29°♓01'02	
conjunction	2025 Mar 19 23:25	29°♓36'08	-1°15'45
minimum elong	2025 Mar 19 23:25	29°♓36'08	1°15'44
max. Earth dist.	2025 Mar 20 21:11	29°♓38'12	30.88788 AU
	2025 Mar 30 11:58	0°♈	
morning rise	2025 Apr 04 16:14	0°♈11'34	
retrograde	2025 Jul 04 21:33	2°♈10'32	
opposition	2025 Sep 23 12:54	0°♈45'27	-1°22'26
min. Earth dist.	2025 Sep 22 16:17	0°♈46'53	28.88412 AU
	2025 Oct 22 09:51	30°♑♓	
direct	2025 Dec 10 12:23	29°♓22'22	
	2026 Jan 26 17:34	0°♈	
evening set	2026 Mar 06 21:30	1°♈15'31	
conjunction	2026 Mar 22 11:19	1°♈50'38	-1°18'23
minimum elong	2026 Mar 22 11:18	1°♈50'38	1°18'23
max. Earth dist.	2026 Mar 23 08:22	1°♈52'38	30.87904 AU
morning rise	2026 Apr 07 04:41	2°♈26'05	
retrograde	2026 Jul 07 10:55	4°♈25'05	
min. Earth dist.	2026 Sep 25 04:36	3°♈01'23	28.87564 AU
opposition	2026 Sep 26 01:36	2°♈59'55	-1°25'11
direct	2026 Dec 12 22:17	1°♈36'47	
evening set	2027 Mar 09 08:57	3°♈29'55	
conjunction	2027 Mar 24 23:13	4°♈05'04	-1°20'54
minimum elong	2027 Mar 24 23:13	4°♈05'04	1°20'53
max. Earth dist.	2027 Mar 25 21:37	4°♈07'11	30.87080 AU
morning rise	2027 Apr 09 16:52	4°♈40'32	
retrograde	2027 Jul 09 22:41	6°♈39'34	
opposition	2027 Sep 28 14:19	5°♈14'21	-1°27'49
min. Earth dist.	2027 Sep 27 17:22	5°♈15'48	28.86796 AU
direct	2027 Dec 15 09:06	3°♈51'09	
evening set	2028 Mar 10 20:38	5°♈44'18	
conjunction	2028 Mar 26 11:16	6°♈19'27	-1°23'17
minimum elong	2028 Mar 26 11:16	6°♈19'27	1°23'17
max. Earth dist.	2028 Mar 27 09:35	6°♈21'34	30.86377 AU
morning rise	2028 Apr 11 05:24	6°♈54'57	
retrograde	2028 Jul 11 13:04	8°♈54'01	
min. Earth dist.	2028 Sep 29 04:47	7°♈30'16	28.86162 AU
opposition	2028 Sep 30 02:48	7°♈28'44	-1°30'18
direct	2028 Dec 16 20:43	6°♈05'31	
evening set	2029 Mar 13 08:24	7°♈58'40	
conjunction	2029 Mar 28 23:25	8°♈33'51	-1°25'33
minimum elong	2029 Mar 28 23:25	8°♈33'51	1°25'32
max. Earth dist.	2029 Mar 29 22:17	8°♈36'01	30.85793 AU
morning rise	2029 Apr 13 17:58	9°♈09'23	
retrograde	2029 Jul 14 02:11	11°♈08'29	
opposition	2029 Oct 02 15:24	9°♈43'09	-1°32'39
min. Earth dist.	2029 Oct 01 17:57	9°♈44'39	28.85648 AU
direct	2029 Dec 19 08:24	8°♈19'55	
evening set	2030 Mar 15 20:10	10°♈13'05	
conjunction	2030 Mar 31 11:39	10°♈48'18	-1°27'41
minimum elong	2030 Mar 31 11:38	10°♈48'18	1°27'41
max. Earth dist.	2030 Apr 01 11:02	10°♈50'30	30.85344 AU
morning rise	2030 Apr 16 06:33	11°♈23'51	
retrograde	2030 Jul 16 16:29	13°♈22'59	
min. Earth dist.	2030 Oct 04 04:59	11°♈59'14	28.85256 AU
opposition	2030 Oct 05 03:46	11°♈57'39	-1°34'52
direct	2030 Dec 21 20:40	10°♈34'24	
evening set	2031 Mar 18 08:09	12°♈27'36	
conjunction	2031 Apr 02 23:55	13°♈02'50	-1°29'41
minimum elong	2031 Apr 02 23:55	13°♈02'50	1°29'41
max. Earth dist.	2031 Apr 03 23:05	13°♈05'02	30.84999 AU
morning rise	2031 Apr 18 19:20	13°♈38'25	
retrograde	2031 Jul 19 06:12	15°♈37'36	
opposition	2031 Oct 07 16:21	14°♈12'15	-1°36'56
min. Earth dist.	2031 Oct 06 18:24	14°♈13'47	28.84965 AU
direct	2031 Dec 24 07:41	12°♈49'01	
evening set	2032 Mar 19 20:03	14°♈42'14	
conjunction	2032 Apr 04 12:24	15°♈17'31	-1°31'33
minimum elong	2032 Apr 04 12:24	15°♈17'31	1°31'34
max. Earth dist.	2032 Apr 05 12:39	15°♈19'48	30.84741 AU
morning rise	2032 Apr 20 08:08	15°♈53'08	
retrograde	2032 Jul 20 20:43	17°♈52'20	
min. Earth dist.	2032 Oct 08 06:01	16°♈28'35	28.84721 AU
opposition	2032 Oct 09 04:45	16°♈27'00	-1°38'51
direct	2032 Dec 25 21:02	15°♈03'47	
evening set	2033 Mar 22 08:26	16°♈57'02	
conjunction	2033 Apr 07 01:02	17°♈32'20	-1°33'17
minimum elong	2033 Apr 07 01:01	17°♈32'20	1°33'16
max. Earth dist.	2033 Apr 08 00:11	17°♈34'32	30.84499 AU
morning rise	2033 Apr 22 21:20	18°♈07'59	
retrograde	2033 Jul 23 10:26	20°♈07'14	
opposition	2033 Oct 11 17:07	18°♈41'54	-1°40'37
min. Earth dist.	2033 Oct 10 19:15	18°♈43'26	28.84480 AU
direct	2033 Dec 28 07:35	17°♈18'41	
evening set	2034 Mar 24 20:47	19°♈11'59	
conjunction	2034 Apr 09 13:57	19°♈47'19	-1°34'52
minimum elong	2034 Apr 09 13:57	19°♈47'19	1°34'52
max. Earth dist.	2034 Apr 10 13:56	19°♈49'35	30.84224 AU
morning rise	2034 Apr 25 10:29	20°♈23'00	
retrograde	2034 Jul 25 22:31	22°♈22'15	
min. Earth dist.	2034 Oct 13 07:34	20°♈58'28	28.84168 AU
opposition	2034 Oct 14 05:30	20°♈56'56	-1°42'14
direct	2034 Dec 30 20:08	19°♈33'43	
evening set	2035 Mar 27 09:12	21°♈27'02	

conjunction	2035 Apr 12 02:40	22°♈02'23	-1°36'18
minimum elong	2035 Apr 12 02:40	22°♈02'23	1°36'17
max. Earth dist.	2035 Apr 13 01:18	22°♈04'32	30.83874 AU
morning rise	2035 Apr 27 23:47	22°♈38'06	
retrograde	2035 Jul 28 12:27	24°♈37'22	
opposition	2035 Oct 16 17:58	23°♈12'01	-1°43'42
min. Earth dist.	2035 Oct 15 20:16	23°♈13'32	28.83776 AU
direct	2036 Jan 02 06:32	21°♈48'46	
evening set	2036 Mar 28 21:46	23°♈42'06	
conjunction	2036 Apr 13 15:47	24°♈17'29	-1°37'36
minimum elong	2036 Apr 13 15:47	24°♈17'29	1°37'36
max. Earth dist.	2036 Apr 14 14:59	24°♈19'41	30.83429 AU
morning rise	2036 Apr 29 13:13	24°♈53'13	
retrograde	2036 Jul 30 00:18	26°♈52'28	
min. Earth dist.	2036 Oct 17 09:19	25°♈28'34	28.83293 AU
opposition	2036 Oct 18 06:13	25°♈27'06	-1°45'00
direct	2037 Jan 03 17:44	24°♈03'48	
evening set	2037 Mar 31 10:22	25°♈57'09	
conjunction	2037 Apr 16 04:50	26°♈32'33	-1°38'45
minimum elong	2037 Apr 16 04:50	26°♈32'33	1°38'44
max. Earth dist.	2037 Apr 17 03:09	26°♈34'40	30.82930 AU
morning rise	2037 May 02 02:47	27°♈08'19	
retrograde	2037 Aug 01 13:57	29°♈07'32	
opposition	2037 Oct 20 18:22	27°♈42'07	-1°46'09
min. Earth dist.	2037 Oct 19 21:05	27°♈43'37	28.82779 AU
direct	2038 Jan 06 05:32	26°♈18'45	
evening set	2038 Apr 02 22:56	28°♈12'07	
conjunction	2038 Apr 18 17:48	28°♈47'33	-1°39'44
minimum elong	2038 Apr 18 17:48	28°♈47'33	1°39'45
max. Earth dist.	2038 Apr 19 16:14	28°♈49'40	30.82405 AU
morning rise	2038 May 04 16:09	29°♈23'19	
	2038 May 22 00:12	0°♉	
retrograde	2038 Aug 04 01:58	1°♉22'30	
	2038 Oct 21 12:26	30°℞♈	
min. Earth dist.	2038 Oct 22 10:14	29°♈58'28	28.82278 AU
opposition	2038 Oct 23 06:30	29°♈57'03	-1°47'08
direct	2039 Jan 08 17:00	28°♈33'37	
	2039 Mar 23 20:36	0°♉	
evening set	2039 Apr 05 11:28	0°♉27'00	
conjunction	2039 Apr 21 06:52	1°♉02'27	-1°40'35
minimum elong	2039 Apr 21 06:52	1°♉02'27	1°40'35
max. Earth dist.	2039 Apr 22 05:22	1°♉04'35	30.81947 AU
morning rise	2039 May 07 05:37	1°♉38'15	
retrograde	2039 Aug 06 15:59	3°♉37'24	
opposition	2039 Oct 25 18:24	2°♉11'55	-1°47'58
min. Earth dist.	2039 Oct 24 21:09	2°♉13'24	28.81866 AU
direct	2040 Jan 11 05:09	0°♉48'25	
evening set	2040 Apr 07 00:06	2°♉41'49	
conjunction	2040 Apr 22 19:53	3°♉17'18	-1°41'17
minimum elong	2040 Apr 22 19:53	3°♉17'18	1°41'17
max. Earth dist.	2040 Apr 23 17:55	3°♉19'23	30.81583 AU
morning rise	2040 May 08 19:09	3°♉53'08	
retrograde	2040 Aug 08 05:26	5°♉52'14	
min. Earth dist.	2040 Oct 26 10:11	4°♉28'09	28.81572 AU
opposition	2040 Oct 27 06:24	4°♉26'43	-1°48'37
direct	2041 Jan 12 16:37	3°♉03'12	
evening set	2041 Apr 09 12:46	4°♉56'37	
conjunction	2041 Apr 25 09:09	5°♉32'08	-1°41'49
minimum elong	2041 Apr 25 09:09	5°♉32'08	1°41'48
max. Earth dist.	2041 Apr 26 07:59	5°♉34'17	30.81359 AU
morning rise	2041 May 11 08:42	6°♉07'59	
retrograde	2041 Aug 10 19:57	8°♉07'02	
opposition	2041 Oct 29 18:02	6°♉41'32	-1°49'07
min. Earth dist.	2041 Oct 28 21:02	6°♉43'00	28.81417 AU
direct	2042 Jan 15 06:19	5°♉17'58	
evening set	2042 Apr 12 01:34	7°♉11'25	
conjunction	2042 Apr 27 22:15	7°♉46'59	-1°42'12
minimum elong	2042 Apr 27 22:15	7°♉46'59	1°42'13
max. Earth dist.	2042 Apr 28 20:06	7°♉49'02	30.81281 AU
morning rise	2042 May 13 22:23	8°♉22'51	
retrograde	2042 Aug 13 09:11	10°♉21'52	
min. Earth dist.	2042 Oct 31 09:34	8°♉57'49	28.81424 AU
opposition	2042 Nov 01 05:56	8°♉56'23	-1°49'26
direct	2043 Jan 17 17:05	7°♉32'48	
evening set	2043 Apr 14 14:08	9°♉26'18	
conjunction	2043 Apr 30 11:28	10°♉01'53	-1°42'26
minimum elong	2043 Apr 30 11:28	10°♉01'53	1°42'26
max. Earth dist.	2043 May 01 10:24	10°♉04'03	30.81360 AU
morning rise	2043 May 16 11:52	10°♉37'47	
retrograde	2043 Aug 15 21:57	12°♉36'45	
opposition	2043 Nov 03 17:41	11°♉11'19	-1°49'36
min. Earth dist.	2043 Nov 02 21:04	11°♉12'46	28.81563 AU
direct	2044 Jan 20 05:45	9°♉47'45	
evening set	2044 Apr 16 03:09	11°♉41'17	
conjunction	2044 May 02 00:49	12°♉16'54	-1°42'30
minimum elong	2044 May 02 00:49	12°♉16'54	1°42'31
max. Earth dist.	2044 May 02 22:30	12°♉18'57	30.81567 AU
morning rise	2044 May 18 01:49	12°♉52'50	
retrograde	2044 Aug 17 12:37	14°♉51'46	
min. Earth dist.	2044 Nov 04 08:59	13°♉27'48	28.81821 AU
opposition	2044 Nov 05 05:20	13°♉26'22	-1°49'35
direct	2045 Jan 21 16:16	12°♉02'48	
evening set	2045 Apr 18 16:12	13°♉56'24	
conjunction	2045 May 04 14:27	14°♉32'03	-1°42'25
minimum elong	2045 May 04 14:27	14°♉32'03	1°42'25
max. Earth dist.	2045 May 05 12:46	14°♉34'09	30.81850 AU
	2045 May 17 00:54	15°♉	
morning rise	2045 May 20 15:43	15°♉08'01	
retrograde	2045 Aug 20 00:17	17°♉06'54	
opposition	2045 Nov 07 17:04	15°♉41'34	-1°49'24
min. Earth dist.	2045 Nov 06 21:34	15°♉42'56	28.82116 AU
	2045 Dec 03 10:17	15°℞♉	
direct	2046 Jan 24 03:35	14°♉18'00	
	2046 Mar 15 07:38	15°♉	
evening set	2046 Apr 21 05:21	16°♉11'40	
conjunction	2046 May 07 03:59	16°♉47'20	-1°42'10
minimum elong	2046 May 07 03:59	16°♉47'20	1°42'11
max. Earth dist.	2046 May 08 01:08	16°♉49'19	30.82153 AU
morning rise	2046 May 23 05:43	17°♉23'19	
retrograde	2046 Aug 22 13:25	19°♉22'09	
min. Earth dist.	2046 Nov 09 09:10	17°♉58'15	28.82406 AU
opposition	2046 Nov 10 04:44	17°♉56'52	-1°49'03
direct	2047 Jan 26 14:52	16°♉33'18	
evening set	2047 Apr 23 18:41	18°♉27'01	
conjunction	2047 May 09 17:47	19°♉02'43	-1°41'46
minimum elong	2047 May 09 17:47	19°♉02'43	1°41'46
max. Earth dist.	2047 May 10 14:37	19°♉04'40	30.82406 AU
morning rise	2047 May 25 19:53	19°♉38'42	
retrograde	2047 Aug 25 01:15	21°♉37'29	
opposition	2047 Nov 12 16:28	20°♉12'14	-1°48'32
min. Earth dist.	2047 Nov 11 22:27	20°♉13'30	28.82624 AU
direct	2048 Jan 29 01:25	18°♉48'38	

evening set	2048 Apr 25 08:01	20°♉42'22	
conjunction	2048 May 11 07:41	21°♉18'06	-1°41'13
minimum elong	2048 May 11 07:42	21°♉18'06	1°41'13
max. Earth dist.	2048 May 12 03:40	21°♉19'58	30.82592 AU
morning rise	2048 May 27 10:11	21°♉54'06	
retrograde	2048 Aug 26 15:00	23°♉52'48	
min. Earth dist.	2048 Nov 13 09:43	22°♉28'51	28.82757 AU
opposition	2048 Nov 14 04:02	22°♉27'33	-1°47'52
direct	2049 Jan 30 13:23	21°♉03'53	
evening set	2049 Apr 27 21:32	22°♉57'40	
conjunction	2049 May 13 21:34	23°♉33'24	-1°40'30
minimum elong	2049 May 13 21:34	23°♉33'24	1°40'29
max. Earth dist.	2049 May 14 16:22	23°♉35'10	30.82682 AU
morning rise	2049 May 30 00:30	24°♉09'26	
retrograde	2049 Aug 29 03:12	26°♉08'00	
opposition	2049 Nov 16 15:33	24°♉42'46	-1°47'01
min. Earth dist.	2049 Nov 15 22:54	24°♉43'56	28.82820 AU
direct	2050 Feb 02 01:13	23°♉19'02	
evening set	2050 Apr 30 10:50	25°♉12'49	
conjunction	2050 May 16 11:29	25°♉48'35	-1°39'38
minimum elong	2050 May 16 11:29	25°♉48'35	1°39'39
max. Earth dist.	2050 May 17 06:23	25°♉50'21	30.82739 AU
morning rise	2050 Jun 01 14:42	26°♉24'37	
retrograde	2050 Aug 31 16:36	28°♉23'03	
min. Earth dist.	2050 Nov 18 09:59	26°♉59'00	28.82865 AU
opposition	2050 Nov 19 02:55	26°♉57'49	-1°46'01
direct	2051 Feb 04 14:59	25°♉34'00	
evening set	2051 May 03 00:12	27°♉27'47	
conjunction	2051 May 19 01:09	28°♉03'35	-1°38'38
minimum elong	2051 May 19 01:09	28°♉03'35	1°38'37
max. Earth dist.	2051 May 19 18:38	28°♉05'13	30.82798 AU
morning rise	2051 Jun 04 04:54	28°♉39'38	
	2051 Jul 16 11:52	0°♊	
retrograde	2051 Sep 03 05:40	0°♊37'57	
	2051 Oct 22 23:53	30°℞♉	
opposition	2051 Nov 21 14:18	29°♉12'42	-1°44'51
min. Earth dist.	2051 Nov 20 22:34	29°♉13'49	28.82952 AU
direct	2052 Feb 07 02:11	27°♉48'48	
evening set	2052 May 04 13:33	29°♉42'37	
	2052 May 12 10:07	0°♊	
conjunction	2052 May 20 15:09	0°♊18'26	-1°37'28
minimum elong	2052 May 20 15:09	0°♊18'26	1°37'28
max. Earth dist.	2052 May 21 09:12	0°♊20'07	30.82919 AU
morning rise	2052 Jun 05 19:06	0°♊54'30	
retrograde	2052 Sep 04 18:32	2°♊52'40	
min. Earth dist.	2052 Nov 22 09:44	1°♊28'32	28.83109 AU
opposition	2052 Nov 23 01:22	1°♊27'26	-1°43'32
direct	2053 Feb 08 15:36	0°♊03'29	
evening set	2053 May 07 03:07	1°♊57'19	
conjunction	2053 May 23 05:00	2°♊33'09	-1°36'10
minimum elong	2053 May 23 05:00	2°♊33'09	1°36'09
max. Earth dist.	2053 May 23 21:26	2°♊34'42	30.83137 AU
morning rise	2053 Jun 08 09:28	3°♊09'14	
retrograde	2053 Sep 07 08:47	5°♊07'17	
opposition	2053 Nov 25 12:34	3°♊42'04	-1°42'03
min. Earth dist.	2053 Nov 24 21:16	3°♊43'09	28.83392 AU
direct	2054 Feb 11 03:06	2°♊18'04	
evening set	2054 May 09 16:23	4°♊11'56	
conjunction	2054 May 25 18:48	4°♊47'48	-1°34'42
minimum elong	2054 May 25 18:49	4°♊47'48	1°34'43
max. Earth dist.	2054 May 26 11:56	4°♊49'24	30.83481 AU
morning rise	2054 Jun 10 23:27	5°♊23'53	
retrograde	2054 Sep 09 19:52	7°♊21'50	
opposition	2054 Nov 27 23:43	5°♊56'39	-1°40'25
min. Earth dist.	2054 Nov 27 09:05	5°♊57'41	28.83803 AU
direct	2055 Feb 13 15:03	4°♊32'37	
evening set	2055 May 12 05:53	6°♊26'32	
conjunction	2055 May 28 08:41	7°♊02'25	-1°33'07
minimum elong	2055 May 28 08:41	7°♊02'25	1°33'07
max. Earth dist.	2055 May 29 00:37	7°♊03'55	30.83980 AU
morning rise	2055 Jun 13 13:47	7°♊38'32	
retrograde	2055 Sep 12 09:06	9°♊36'21	
opposition	2055 Nov 30 10:42	8°♊11'15	-1°38'38
min. Earth dist.	2055 Nov 29 19:51	8°♊12'18	28.84370 AU
direct	2056 Feb 16 02:09	6°♊47'12	
evening set	2056 May 13 19:25	8°♊41'11	
conjunction	2056 May 29 22:42	9°♊17'06	-1°31'22
minimum elong	2056 May 29 22:43	9°♊17'06	1°31'23
max. Earth dist.	2056 May 30 14:41	9°♊18'36	30.84608 AU
morning rise	2056 Jun 15 04:04	9°♊53'14	
retrograde	2056 Sep 13 20:47	11°♊50'57	
opposition	2056 Dec 01 21:49	10°♊25'56	-1°36'42
min. Earth dist.	2056 Dec 01 08:21	10°♊26'54	28.85050 AU
direct	2057 Feb 17 12:15	9°♊01'54	
evening set	2057 May 16 09:02	10°♊55'57	
conjunction	2057 Jun 01 12:45	11°♊31'54	-1°29'29
minimum elong	2057 Jun 01 12:45	11°♊31'54	1°29'28
max. Earth dist.	2057 Jun 02 03:55	11°♊33'19	30.85345 AU
morning rise	2057 Jun 17 18:25	12°♊08'02	
retrograde	2057 Sep 16 09:53	14°♊05'40	
opposition	2057 Dec 04 08:41	12°♊40'45	-1°34'36
min. Earth dist.	2057 Dec 03 18:51	12°♊41'44	28.85808 AU
direct	2058 Feb 19 23:29	11°♊16'43	
evening set	2058 May 18 22:49	13°♊10'52	
conjunction	2058 Jun 04 02:51	13°♊46'49	-1°27'27
minimum elong	2058 Jun 04 02:51	13°♊46'50	1°27'28
max. Earth dist.	2058 Jun 04 16:59	13°♊48'09	30.86115 AU
morning rise	2058 Jun 20 08:49	14°♊22'59	
retrograde	2058 Sep 18 21:37	16°♊20'32	
opposition	2058 Dec 06 19:46	14°♊55'43	-1°32'22
min. Earth dist.	2058 Dec 06 07:43	14°♊56'34	28.86580 AU
direct	2059 Feb 22 10:33	13°♊31'41	
evening set	2059 May 21 12:30	15°♊25'55	
conjunction	2059 Jun 06 17:04	16°♊01'53	-1°25'18
minimum elong	2059 Jun 06 17:04	16°♊01'53	1°25'17
max. Earth dist.	2059 Jun 07 06:51	16°♊03'11	30.86873 AU
morning rise	2059 Jun 22 23:15	16°♊38'03	
retrograde	2059 Sep 21 10:44	18°♊35'30	
opposition	2059 Dec 09 06:44	17°♊10'46	-1°29'59
min. Earth dist.	2059 Dec 08 18:48	17°♊11'37	28.87288 AU
direct	2060 Feb 24 23:39	15°♊46'43	
evening set	2060 May 23 02:35	17°♊41'01	
conjunction	2060 Jun 08 07:23	18°♊17'01	-1°23'01
minimum elong	2060 Jun 08 07:23	18°♊17'01	1°23'01
max. Earth dist.	2060 Jun 08 19:10	18°♊18'07	30.87536 AU
morning rise	2060 Jun 24 13:57	18°♊53'12	
retrograde	2060 Sep 22 23:45	20°♊50'31	
opposition	2060 Dec 10 17:42	19°♊25'51	-1°27'28
min. Earth dist.	2060 Dec 10 07:27	19°♊26'35	28.87902 AU
direct	2061 Feb 26 10:25	18°♊01'45	
evening set	2061 May 25 16:30	19°♊56'07	

conjunction	2061 Jun 10	21:50	20°♊32'08	-1°20'36	
minimum elong	2061 Jun 10	21:50	20°♊32'08	1°20'36	
max. Earth dist.	2061 Jun 11	09:30	20°♊33'13	30.88100 AU	
morning rise	2061 Jun 27	04:28	21°♊08'18		
retrograde	2061 Sep 25	12:53	23°♊05'28		
opposition	2061 Dec 13	04:38	21°♊40'51	-1°24'50	
min. Earth dist.	2061 Dec 12	18:59	21°♊41'32	28.88405 AU	
direct	2062 Mar 01	00:26	20°♊16'43		
evening set	2062 May 28	06:21	22°♊11'06		
conjunction	2062 Jun 13	11:51	22°♊47'08	-1°18'04	
minimum elong	2062 Jun 13	11:52	22°♊47'08	1°18'05	
max. Earth dist.	2062 Jun 13	21:21	22°♊48'01	30.88573 AU	
morning rise	2062 Jun 29	18:54	23°♊23'18		
retrograde	2062 Sep 28	02:47	25°♊20'19		
opposition	2062 Dec 15	15:30	23°♊55'43	-1°22'04	
min. Earth dist.	2062 Dec 15	06:41	23°♊56'21	28.88849 AU	
direct	2063 Mar 03	13:00	22°♊31'30		
evening set	2063 May 30	20:10	24°♊25'55		
conjunction	2063 Jun 16	02:10	25°♊01'58	-1°15'26	
minimum elong	2063 Jun 16	02:11	25°♊01'58	1°15'26	
max. Earth dist.	2063 Jun 16	11:46	25°♊02'51	30.88997 AU	
morning rise	2063 Jul 02	09:16	25°♊38'08		
retrograde	2063 Sep 30	13:41	27°♊34'58		
opposition	2063 Dec 18	02:11	26°♊10'24	-1°19'11	
min. Earth dist.	2063 Dec 17	18:35	26°♊10'56	28.89257 AU	
direct	2064 Mar 05	01:40	24°♊46'07		
evening set	2064 Jun 01	10:04	26°♊40'32		
conjunction	2064 Jun 17	16:19	27°♊16'36	-1°12'41	
minimum elong	2064 Jun 17	16:19	27°♊16'36	1°12'41	
max. Earth dist.	2064 Jun 18	00:09	27°♊17'19	30.89425 AU	
morning rise	2064 Jul 03	23:45	27°♊52'46		
retrograde	2064 Oct 02	03:07	29°♊49'25		
opposition	2064 Dec 19	12:46	28°♊24'52	-1°16'11	
min. Earth dist.	2064 Dec 19	05:18	28°♊25'24	28.89697 AU	
direct	2065 Mar 07	13:49	27°♊00'30		
evening set	2065 Jun 03	23:50	28°♊54'56		
conjunction	2065 Jun 20	06:24	29°♊31'01	-1°09'49	
minimum elong	2065 Jun 20	06:24	29°♊31'01	1°09'49	
max. Earth dist.	2065 Jun 20	14:08	29°♊31'44	30.89884 AU	
	2065 Jul 03	07:08	0°♋		
morning rise	2065 Jul 06	13:51	0°♋07'11		
retrograde	2065 Oct 04	14:12	2°♋03'39		
opposition	2065 Dec 21	23:23	0°♋39'08	-1°13'04	
min. Earth dist.	2065 Dec 21	17:25	0°♋39'33	28.90196 AU	
	2066 Jan 14	21:12	30°℞♊		
direct	2066 Mar 10	00:48	29°♊14'41		
	2066 May 01	21:40	0°♋		
evening set	2066 Jun 06	13:32	1°♋09'09		
conjunction	2066 Jun 22	20:22	1°♋45'13	-1°06'51	
minimum elong	2066 Jun 22	20:22	1°♋45'13	1°06'52	
max. Earth dist.	2066 Jun 23	03:09	1°♋45'51	30.90446 AU	
morning rise	2066 Jul 09	04:02	2°♋21'24		
retrograde	2066 Oct 07	01:52	4°♋17'41		
opposition	2066 Dec 24	09:47	2°♋53'13	-1°09'51	
min. Earth dist.	2066 Dec 24	03:20	2°♋53'40	28.90811 AU	
direct	2067 Mar 12	12:42	1°♋28'42		
evening set	2067 Jun 09	03:12	3°♋23'11		
conjunction	2067 Jun 25	10:17	3°♋59'16	-1°03'48	
minimum elong	2067 Jun 25	10:17	3°♋59'16	1°03'48	
max. Earth dist.	2067 Jun 25	16:18	3°♋59'50	30.91123 AU	
morning rise	2067 Jul 11	18:05	4°♋35'26		
retrograde	2067 Oct 09	12:02	6°♋31'35		
opposition	2067 Dec 26	20:22	5°♋07'09	-1°06'31	
min. Earth dist.	2067 Dec 26	15:23	5°♋07'30	28.91556 AU	
direct	2068 Mar 13	23:23	3°♋42'36		
evening set	2068 Jun 10	16:57	5°♋37'08		
conjunction	2068 Jun 27	00:23	6°♋13'13	-1°00'39	
minimum elong	2068 Jun 27	00:23	6°♋13'13	1°00'38	
max. Earth dist.	2068 Jun 27	06:11	6°♋13'46	30.91944 AU	
morning rise	2068 Jul 13	08:13	6°♋49'23		
retrograde	2068 Oct 10	23:54	8°♋45'22		
opposition	2068 Dec 28	06:40	7°♋21'01	-1°03'06	
min. Earth dist.	2068 Dec 28	01:28	7°♋21'23	28.92429 AU	
direct	2069 Mar 16	11:24	5°♋56'26		
evening set	2069 Jun 13	06:50	7°♋51'02		
conjunction	2069 Jun 29	14:19	8°♋27'08	-0°57'24	
minimum elong	2069 Jun 29	14:20	8°♋27'08	0°57'24	
max. Earth dist.	2069 Jun 29	18:42	8°♋27'32	30.92881 AU	
morning rise	2069 Jul 15	22:20	9°♋03'17		
retrograde	2069 Oct 13	11:44	10°♋59'08		
opposition	2069 Dec 30	17:11	9°♋34'53	-0°59'35	
min. Earth dist.	2069 Dec 30	13:15	9°♋35'10	28.93417 AU	
direct	2070 Mar 18	21:34	8°♋10'17		
evening set	2070 Jun 15	20:26	10°♋04'58		
conjunction	2070 Jul 02	04:17	10°♋41'04	-0°54'03	
minimum elong	2070 Jul 02	04:17	10°♋41'04	0°54'03	
max. Earth dist.	2070 Jul 02	08:55	10°♋41'30	30.93906 AU	
morning rise	2070 Jul 18	12:12	11°♋17'13		
retrograde	2070 Oct 15	23:38	13°♋12'56		
opposition	2071 Jan 02	03:35	11°♋48'47	-0°55'58	
min. Earth dist.	2071 Jan 02	00:11	11°♋49'02	28.94446 AU	
direct	2071 Mar 21	10:58	10°♋24'12		
evening set	2071 Jun 18	10:28	12°♋18'57		
conjunction	2071 Jul 04	18:18	12°♋55'03	-0°50'38	
minimum elong	2071 Jul 04	18:18	12°♋55'03	0°50'39	
max. Earth dist.	2071 Jul 04	20:46	12°♋55'17	30.94940 AU	
morning rise	2071 Jul 21	02:25	13°♋31'11		
retrograde	2071 Oct 18	12:59	15°♋26'47		
opposition	2072 Jan 04	13:55	14°♋02'44	-0°52'16	
min. Earth dist.	2072 Jan 04	11:26	14°♋02'54	28.95466 AU	
direct	2072 Mar 22	22:48	12°♋38'07		
evening set	2072 Jun 20	00:25	14°♋32'58		
conjunction	2072 Jul 06	08:34	15°♋09'04	-0°47'09	
minimum elong	2072 Jul 06	08:35	15°♋09'04	0°47'09	
max. Earth dist.	2072 Jul 06	10:54	15°♋09'17	30.95920 AU	
morning rise	2072 Jul 22	16:31	15°♋45'12		
retrograde	2072 Oct 20	00:18	17°♋40'39		
opposition	2073 Jan 06	00:25	16°♋16'42	-0°48'30	
min. Earth dist.	2073 Jan 05	23:23	16°♋16'46	28.96395 AU	
direct	2073 Mar 25	11:18	14°♋52'04		
evening set	2073 Jun 22	14:25	16°♋46'58		
conjunction	2073 Jul 08	22:31	17°♋23'04	-0°43'35	
minimum elong	2073 Jul 08	22:31	17°♋23'04	0°43'35	
max. Earth dist.	2073 Jul 08	22:40	17°♋23'05	30.96808 AU	
morning rise	2073 Jul 25	06:34	17°♋59'11		
retrograde	2073 Oct 22	13:56	19°♋54'29		
opposition	2074 Jan 08	10:47	18°♋30'36	-0°44'40	
min. Earth dist.	2074 Jan 08	10:06	18°♋30'39	28.97233 AU	
direct	2074 Mar 27	23:47	17°♋05'56		
evening set	2074 Jun 25	04:17	19°♋00'52		
conjunction	2074 Jul 11	12:36	19°♋36'59	-0°39'58	

minimum elong	2074 Jul 11	12:36	19°♓36'59	0°39'58	
max. Earth dist.	2074 Jul 11	12:20	19°♓36'58	30.97596 AU	
morning rise	2074 Jul 27	20:28	20°♓13'05		
retrograde	2074 Oct 25	00:57	22°♓08'14		
opposition	2075 Jan 10	21:10	20°♓44'24	-0°40'46	
min. Earth dist.	2075 Jan 10	22:24	20°♓44'19	28.97979 AU	
direct	2075 Mar 30	11:13	19°♓19'42		
evening set	2075 Jun 27	18:07	21°♓14'40		
conjunction	2075 Jul 14	02:30	21°♓50'46	-0°36'18	
minimum elong	2075 Jul 14	02:30	21°♓50'46	0°36'18	
max. Earth dist.	2075 Jul 14	00:42	21°♓50'36	30.98321 AU	
morning rise	2075 Jul 30	10:26	22°♓26'51		
retrograde	2075 Oct 27	12:35	24°♓21'50		
opposition	2076 Jan 13	07:23	22°♓58'03	-0°36'48	
min. Earth dist.	2076 Jan 13	08:32	22°♓57'58	28.98669 AU	
direct	2076 Mar 31	23:44	21°♓33'17		
evening set	2076 Jun 29	08:00	23°♓28'17		
conjunction	2076 Jul 15	16:24	24°♓04'23	-0°32'34	
minimum elong	2076 Jul 15	16:24	24°♓04'23	0°32'34	
max. Earth dist.	2076 Jul 15	13:33	24°♓04'08	30.98991 AU	
morning rise	2076 Aug 01	00:12	24°♓40'27		
retrograde	2076 Oct 28	22:22	26°♓35'16		
opposition	2077 Jan 14	17:37	25°♓11'32	-0°32'48	
min. Earth dist.	2077 Jan 14	20:34	25°♓11'19	28.99340 AU	
direct	2077 Apr 03	10:22	23°♓46'42		
evening set	2077 Jul 01	21:40	25°♓41'44		
conjunction	2077 Jul 18	06:10	26°♓17'50	-0°28'48	
minimum elong	2077 Jul 18	06:10	26°♓17'50	0°28'48	
max. Earth dist.	2077 Jul 18	02:50	26°♓17'31	30.99680 AU	
morning rise	2077 Aug 03	13:49	26°♓53'52		
retrograde	2077 Oct 31	09:31	28°♓48'31		
opposition	2078 Jan 17	03:45	27°♓24'50	-0°28'46	
min. Earth dist.	2078 Jan 17	06:35	27°♓24'38	29.00042 AU	
direct	2078 Apr 05	22:04	25°♓59'56		
evening set	2078 Jul 04	11:13	27°♓55'00		
conjunction	2078 Jul 20	19:35	28°♓31'05	-0°25'00	
minimum elong	2078 Jul 20	19:36	28°♓31'05	0°25'00	
max. Earth dist.	2078 Jul 20	14:55	28°♓30'39	31.00414 AU	
morning rise	2078 Aug 06	03:12	29°♓07'06		
	2078 Sep 01	09:27	0°♌		
retrograde	2078 Nov 02	19:50	1°♌01'36		
	2079 Jan 06	10:10	30°℞♓		
opposition	2079 Jan 19	13:57	29°♓37'57	-0°24'40	
min. Earth dist.	2079 Jan 19	17:58	29°♓37'40	29.00829 AU	
direct	2079 Apr 08	08:17	28°♓13'00		
	2079 Jul 03	05:58	0°♌		
evening set	2079 Jul 07	00:43	0°♌08'07		
conjunction	2079 Jul 23	09:14	0°♌44'11	-0°21'10	
minimum elong	2079 Jul 23	09:14	0°♌44'11	0°21'11	
max. Earth dist.	2079 Jul 23	04:53	0°♌43'47	31.01253 AU	
morning rise	2079 Aug 08	16:33	1°♌20'10		
retrograde	2079 Nov 05	06:10	3°♌14'31		
opposition	2080 Jan 21	23:56	1°♌50'56	-0°20'33	
min. Earth dist.	2080 Jan 22	04:16	1°♌50'38	29.01718 AU	
direct	2080 Apr 09	21:32	0°♌25'57		
evening set	2080 Jul 08	14:24	2°♌21'07		
conjunction	2080 Jul 24	22:40	2°♌57'10	-0°17'18	
minimum elong	2080 Jul 24	22:41	2°♌57'10	0°17'18	
max. Earth dist.	2080 Jul 24	16:34	2°♌56'37	31.02213 AU	
morning rise	2080 Aug 10	05:57	3°♌33'08		
retrograde	2080 Nov 06	18:21	5°♌27'21		
opposition	2081 Jan 23	10:04	4°♌03'50	-0°16'24	
min. Earth dist.	2081 Jan 23	14:43	4°♌03'30	29.02754 AU	
direct	2081 Apr 12	08:55	2°♌38'50		
evening set	2081 Jul 11	03:43	4°♌34'04		
conjunction	2081 Jul 27	12:04	5°♌10'06	-0°13'25	
minimum elong	2081 Jul 27	12:03	5°♌10'06	0°13'26	
behind sun begin	2081 Jul 27	08:29	5°♌09'47		
behind sun end	2081 Jul 27	15:38	5°♌10'25		
max. Earth dist.	2081 Jul 27	06:28	5°♌09'36	31.03309 AU	
morning rise	2081 Aug 12	18:55	5°♌46'02		
retrograde	2081 Nov 09	04:56	7°♌40'08		
opposition	2082 Jan 25	20:12	6°♌16'43	-0°12'14	
min. Earth dist.	2082 Jan 26	01:50	6°♌16'19	29.03902 AU	
direct	2082 Apr 14	20:44	4°♌51'44		
evening set	2082 Jul 13	17:15	6°♌47'01		
conjunction	2082 Jul 30	01:21	7°♌23'02	-0°09'31	
minimum elong	2082 Jul 30	01:21	7°♌23'02	0°09'31	
behind sun begin	2082 Jul 29	19:54	7°♌22'33		
behind sun end	2082 Jul 30	06:47	7°♌23'31		
max. Earth dist.	2082 Jul 29	18:05	7°♌22'23	31.04517 AU	
morning rise	2082 Aug 15	08:09	7°♌58'57		
retrograde	2082 Nov 11	18:31	9°♌52'57		
opposition	2083 Jan 28	06:10	8°♌29'37	-0°08'03	
min. Earth dist.	2083 Jan 28	11:48	8°♌29'13	29.05143 AU	
direct	2083 Apr 17	09:32	7°♌04'39		
evening set	2083 Jul 16	06:45	9°♌00'01		
conjunction	2083 Aug 01	14:50	9°♌36'02	-0°05'37	
minimum elong	2083 Aug 01	14:50	9°♌36'02	0°05'37	
behind sun begin	2083 Aug 01	08:30	9°♌35'28		
behind sun end	2083 Aug 01	21:10	9°♌36'35		
max. Earth dist.	2083 Aug 01	07:34	9°♌35'23	31.05765 AU	
morning rise	2083 Aug 17	21:14	10°♌11'54		
retrograde	2083 Nov 14	05:16	12°♌05'48		
opposition	2084 Jan 30	16:23	10°♌42'35	-0°03'50	
min. Earth dist.	2084 Jan 30	23:49	10°♌42'03	29.06386 AU	
direct	2084 Apr 18	21:26	9°♌17'38		
evening set	2084 Jul 17	20:23	11°♌13'04		
conjunction	2084 Aug 03	04:14	11°♌49'03	-0°01'40	
minimum elong	2084 Aug 03	04:13	11°♌49'03	0°01'39	
behind sun begin	2084 Aug 02	21:37	11°♌48'28		
behind sun end	2084 Aug 03	10:48	11°♌49'38		
max. Earth dist.	2084 Aug 02	19:27	11°♌48'16	31.06989 AU	
morning rise	2084 Aug 19	10:24	12°♌24'54		
retrograde	2084 Nov 15	17:09	14°♌18'40		
asc. node	2084 Dec 31	00:24	13°♌45'58		
opposition	2085 Feb 01	02:28	12°♌55'33	0°00'22	
min. Earth dist.	2085 Feb 01	09:49	12°♌55'02	29.07572 AU	
direct	2085 Apr 21	10:03	11°♌30'36		
evening set	2085 Jul 20	10:01	13°♌26'06		
conjunction	2085 Aug 05	17:38	14°♌02'04	0°02'24	
minimum elong	2085 Aug 05	17:38	14°♌02'04	0°02'24	
behind sun begin	2085 Aug 05	11:03	14°♌01'29		
behind sun end	2085 Aug 06	00:14	14°♌02'39		
max. Earth dist.	2085 Aug 05	07:52	14°♌01'11	31.08122 AU	
morning rise	2085 Aug 21	23:26	14°♌37'53		
	2085 Sep 01	10:17	15°♌		
retrograde	2085 Nov 18	03:42	16°♌31'32		
opposition	2086 Feb 03	12:48	15°♌08'29	0°04'34	
min. Earth dist.	2086 Feb 03	21:58	15°♌07'50	29.08665 AU	
	2086 Feb 08	13:36	15°℞♌		
direct	2086 Apr 23	20:39	13°♌43'31		
	2086 Jul 04	01:00	15°♌		

evening set	2086 Jul 22 23:23	15°♌39'03	
conjunction	2086 Aug 08 06:53	16°♌14'59	0°06'19
minimum elong	2086 Aug 08 06:52	16°♌14'59	0°06'20
behind sun begin	2086 Aug 08 00:40	16°♌14'26	
behind sun end	2086 Aug 08 13:05	16°♌15'32	
max. Earth dist.	2086 Aug 07 20:18	16°♌14'02	31.09162 AU
morning rise	2086 Aug 24 12:22	16°♌50'46	
retrograde	2086 Nov 20 14:44	18°♌44'18	
opposition	2087 Feb 05 22:59	17°♌21'19	0°08'46
min. Earth dist.	2087 Feb 06 08:21	17°♌20'39	29.09638 AU
direct	2087 Apr 26 08:47	15°♌56'19	
evening set	2087 Jul 25 13:00	17°♌51'52	
conjunction	2087 Aug 10 20:09	18°♌27'47	0°10'13
minimum elong	2087 Aug 10 20:09	18°♌27'47	0°10'13
behind sun begin	2087 Aug 10 14:57	18°♌27'19	
behind sun end	2087 Aug 11 01:21	18°♌28'15	
max. Earth dist.	2087 Aug 10 07:53	18°♌26'39	31.10080 AU
morning rise	2087 Aug 27 01:20	19°♌03'32	
retrograde	2087 Nov 23 00:19	20°♌56'55	
opposition	2088 Feb 08 09:07	19°♌33'59	0°12'56
min. Earth dist.	2088 Feb 08 19:58	19°♌33'13	29.10518 AU
direct	2088 Apr 27 19:23	18°♌08'56	
evening set	2088 Jul 27 02:24	20°♌04'31	
conjunction	2088 Aug 12 09:26	20°♌40'24	0°14'06
minimum elong	2088 Aug 12 09:25	20°♌40'24	0°14'07
behind sun begin	2088 Aug 12 06:22	20°♌40'07	
behind sun end	2088 Aug 12 12:29	20°♌40'40	
max. Earth dist.	2088 Aug 11 21:08	20°♌39'16	31.10917 AU
morning rise	2088 Aug 28 14:07	21°♌16'06	
retrograde	2088 Nov 24 09:38	23°♌09'21	
opposition	2089 Feb 09 19:19	21°♌46'27	0°17'05
min. Earth dist.	2089 Feb 10 06:47	21°♌45'38	29.11316 AU
direct	2089 Apr 30 08:11	20°♌21'22	
evening set	2089 Jul 29 15:40	22°♌16'57	
conjunction	2089 Aug 14 22:14	22°♌52'48	0°17'58
minimum elong	2089 Aug 14 22:14	22°♌52'48	0°17'58
max. Earth dist.	2089 Aug 14 08:05	22°♌51'30	31.11695 AU
morning rise	2089 Aug 31 02:41	23°♌28'28	
retrograde	2089 Nov 26 20:53	25°♌21'35	
opposition	2090 Feb 12 05:26	23°♌58'42	0°21'12
min. Earth dist.	2090 Feb 12 17:21	23°♌57'52	29.12094 AU
direct	2090 May 02 19:11	22°♌33'34	
evening set	2090 Aug 01 04:45	24°♌29'11	
conjunction	2090 Aug 17 11:11	25°♌05'00	0°21'48
minimum elong	2090 Aug 17 11:11	25°♌05'00	0°21'49
max. Earth dist.	2090 Aug 16 21:28	25°♌03'44	31.12468 AU
morning rise	2090 Sep 02 15:04	25°♌40'37	
retrograde	2090 Nov 29 06:26	27°♌33'37	
opposition	2091 Feb 14 15:29	26°♌10'46	0°25'18
min. Earth dist.	2091 Feb 15 04:33	26°♌09'51	29.12880 AU
direct	2091 May 05 07:19	24°♌45'35	
evening set	2091 Aug 03 17:56	26°♌41'13	
conjunction	2091 Aug 19 23:54	27°♌17'00	0°25'37
minimum elong	2091 Aug 19 23:54	27°♌17'00	0°25'36
max. Earth dist.	2091 Aug 19 08:33	27°♌15'36	31.13282 AU
morning rise	2091 Sep 05 03:31	27°♌52'35	
retrograde	2091 Dec 01 18:51	29°♌45'28	
opposition	2092 Feb 17 01:33	28°♌22'39	0°29'20
min. Earth dist.	2092 Feb 17 14:18	28°♌21'46	29.13732 AU
direct	2092 May 06 20:22	26°♌57'27	
evening set	2092 Aug 05 06:54	28°♌53'07	
conjunction	2092 Aug 21 12:36	29°♌28'52	0°29'22
minimum elong	2092 Aug 21 12:36	29°♌28'52	0°29'23
max. Earth dist.	2092 Aug 20 21:41	29°♌27'30	31.14166 AU
	2092 Sep 04 14:49	0°♍	
morning rise	2092 Sep 06 15:35	0°♍04'25	
retrograde	2092 Dec 03 04:44	1°♍57'12	
opposition	2093 Feb 18 11:47	0°♍34'26	0°33'20
min. Earth dist.	2093 Feb 19 01:50	0°♍33'27	29.14675 AU
	2093 Mar 11 13:35	30°℞♌	
direct	2093 May 09 08:24	29°♌09'14	
	2093 Jul 05 12:46	0°♍	
evening set	2093 Aug 07 19:52	1°♍04'58	
max. Earth dist.	2093 Aug 23 09:19	1°♍39'13	31.15170 AU
conjunction	2093 Aug 24 01:07	1°♍40'40	0°33'06
minimum elong	2093 Aug 24 01:07	1°♍40'40	0°33'05
morning rise	2093 Sep 09 03:45	2°♍16'10	
retrograde	2093 Dec 05 16:17	4°♍08'53	
opposition	2094 Feb 20 21:51	2°♍46'12	0°37'17
min. Earth dist.	2094 Feb 21 11:11	2°♍45'16	29.15731 AU
direct	2094 May 11 20:54	1°♍21'01	
evening set	2094 Aug 10 08:38	3°♍16'48	
conjunction	2094 Aug 26 13:33	3°♍52'29	0°36'46
minimum elong	2094 Aug 26 13:33	3°♍52'29	0°36'46
max. Earth dist.	2094 Aug 25 21:28	3°♍51'00	31.16266 AU
morning rise	2094 Sep 11 15:40	4°♍27'57	
retrograde	2094 Dec 08 02:51	6°♍20'36	
opposition	2095 Feb 23 08:06	4°♍58'01	0°41'11
min. Earth dist.	2095 Feb 23 22:48	4°♍56'59	29.16867 AU
direct	2095 May 14 07:31	3°♍32'53	
evening set	2095 Aug 12 21:32	5°♍28'43	
max. Earth dist.	2095 Aug 28 09:39	6°♍02'52	31.17421 AU
conjunction	2095 Aug 29 02:04	6°♍04'23	0°40'23
minimum elong	2095 Aug 29 02:04	6°♍04'23	0°40'22
morning rise	2095 Sep 14 03:42	6°♍39'48	
retrograde	2095 Dec 10 13:42	8°♍32'24	
opposition	2096 Feb 25 18:11	7°♍09'56	0°45'01
min. Earth dist.	2096 Feb 26 08:50	7°♍08'54	29.18015 AU
direct	2096 May 15 19:20	5°♍44'50	
evening set	2096 Aug 14 10:31	7°♍40'45	
conjunction	2096 Aug 30 14:30	8°♍16'23	0°43'56
minimum elong	2096 Aug 30 14:30	8°♍16'23	0°43'57
max. Earth dist.	2096 Aug 29 20:51	8°♍14'45	31.18547 AU
morning rise	2096 Sep 15 15:39	8°♍51'46	
retrograde	2096 Dec 11 23:20	10°♍44'19	
opposition	2097 Feb 27 04:34	9°♍21'56	0°48'47
min. Earth dist.	2097 Feb 27 20:20	9°♍20'50	29.19124 AU
direct	2097 May 18 05:34	7°♍56'53	
evening set	2097 Aug 16 23:10	9°♍52'51	
max. Earth dist.	2097 Sep 01 09:24	10°♍26'50	31.19604 AU
conjunction	2097 Sep 02 02:50	10°♍28'27	0°47'26
minimum elong	2097 Sep 02 02:49	10°♍28'27	0°47'25
morning rise	2097 Sep 18 03:20	11°♍03'47	
retrograde	2097 Dec 14 08:17	12°♍56'17	
opposition	2098 Mar 01 14:59	11°♍33'59	0°52'28
min. Earth dist.	2098 Mar 02 07:22	11°♍32'51	29.20122 AU
direct	2098 May 20 17:32	10°♍08'58	
evening set	2098 Aug 19 12:04	12°♍04'58	
conjunction	2098 Sep 04 15:06	12°♍40'31	0°50'51
minimum elong	2098 Sep 04 15:06	12°♍40'31	0°50'51
max. Earth dist.	2098 Sep 03 19:46	12°♍38'44	31.20535 AU
morning rise	2098 Sep 20 15:14	13°♍15'50	

retrograde	2098 Dec 16 19:32	15°♑08'17	
opposition	2099 Mar 04 01:13	13°♑46'01	0°56'05
min. Earth dist.	2099 Mar 04 18:05	13°♑44'51	29.20999 AU
direct	2099 May 23 03:32	12°♑20'59	
evening set	2099 Aug 22 00:47	14°♑17'02	
max. Earth dist.	2099 Sep 06 08:24	14°♑50'47	31.21332 AU
conjunction	2099 Sep 07 03:31	14°♑52'33	0°54'12
minimum elong	2099 Sep 07 03:31	14°♑52'33	0°54'11
morning rise	2099 Sep 23 02:56	15°♑27'49	
retrograde	2099 Dec 19 04:41	17°♑20'12	
opposition	2100 Mar 06 11:44	15°♑57'59	0°59'37
min. Earth dist.	2100 Mar 07 05:55	15°♑56'43	29.21725 AU
direct	2100 May 25 15:41	14°♑32'57	
evening set	2100 Aug 24 13:31	16°♑29'00	
conjunction	2100 Sep 09 15:34	17°♑04'28	0°57'27
minimum elong	2100 Sep 09 15:34	17°♑04'28	0°57'28
max. Earth dist.	2100 Sep 08 18:42	17°♑02'32	31.21997 AU
morning rise	2100 Sep 25 14:35	17°♑39'41	
retrograde	2100 Dec 21 16:33	19°♑32'00	
opposition	2101 Mar 08 22:06	18°♑09'47	1°03'03
min. Earth dist.	2101 Mar 09 16:06	18°♑08'32	29.22339 AU
direct	2101 May 28 04:58	16°♑44'43	
evening set	2101 Aug 27 02:00	18°♑40'47	
max. Earth dist.	2101 Sep 11 07:05	19°♑14'18	31.22554 AU
conjunction	2101 Sep 12 03:41	19°♑16'13	1°00'38
minimum elong	2101 Sep 12 03:41	19°♑16'13	1°00'37
morning rise	2101 Sep 28 01:59	19°♑51'23	
retrograde	2101 Dec 24 01:54	21°♑43'37	