	4600 Jan 21	22:33	30°℞♌		
opposition	4600 Feb 15	20:46	26°♌52'58	0°28'59	
min. Earth dist.	4600 Feb 14	14:46	27°♌03'07	4.20368 AU	
direct	4600 Apr 16	10:18	21°♌52'29		
	4600 Jul 02	07:49	0°♍		
evening set	4600 Aug 20	23:29	10°♍16'26		
conjunction	4600 Sep 03	14:03	13°♍17'44	0°34'29	
minimum elong	4600 Sep 03	14:01	13°♍17'43	0°34'29	
max. Earth dist.	4600 Sep 05	03:08	13°♍38'21	6.28105 AU	
morning rise	4600 Sep 17	03:29	16°♍18'13		
	4600 Nov 27	08:18	0°♎		
retrograde	4601 Jan 18	17:36	4°♎04'22		
	4601 Mar 12	18:48	30°℞♍		
opposition	4601 Mar 19	19:18	29°♍04'22	1°07'22	
min. Earth dist.	4601 Mar 19	03:45	29°♍09'31	4.35001 AU	
direct	4601 May 19	16:02	24°♍02'23		
	4601 Jul 24	16:28	0°♎		
evening set	4601 Sep 23	05:06	11°♎49'49		
conjunction	4601 Oct 06	13:21	14°♎43'19	0°54'22	
minimum elong	4601 Oct 06	13:20	14°♎43'19	0°54'22	
max. Earth dist.	4601 Oct 06	20:56	14°♎47'26	6.40747 AU	
morning rise	4601 Oct 19	19:35	17°♎35'38		
	4601 Dec 23	17:13	0°♏		
retrograde	4602 Feb 18	00:26	4°♏34'50		
	4602 Apr 16	15:35	30°℞♎		
opposition	4602 Apr 19	09:50	29°♎38'26	1°24'42	
min. Earth dist.	4602 Apr 19	14:01	29°♎37'04	4.44891 AU	
direct	4602 Jun 20	10:57	24°♎36'03		
	4602 Aug 22	19:12	0°♏		
evening set	4602 Oct 24	17:02	12°♏01'45		
conjunction	4602 Nov 06	18:53	14°♏50'09	0°58'32	
minimum elong	4602 Nov 06	18:53	14°♏50'09	0°58'33	
max. Earth dist.	4602 Nov 05	23:30	14°♏39'44	6.47163 AU	
	4602 Nov 07	13:11	15°♏		
morning rise	4602 Nov 19	18:02	17°♏37'17		
	4603 Jan 24	08:31	0°♐		
retrograde	4603 Mar 19	20:25	4°♐16'56		
	4603 May 14	19:59	30°℞♏		
opposition	4603 May 19	14:35	29°♏23'17	1°19'14	
min. Earth dist.	4603 May 20	11:35	29°♏16'32	4.47577 AU	
direct	4603 Jul 21	06:24	24°♏21'19		
	4603 Sep 24	11:04	0°♐		
evening set	4603 Nov 24	05:40	11°♐43'33		
max. Earth dist.	4603 Dec 05	09:44	14°♐08'25	6.45875 AU	
conjunction	4603 Dec 07	02:19	14°♐30'26	0°47'06	
minimum elong	4603 Dec 07	02:20	14°♐30'26	0°47'06	
morning rise	4603 Dec 19	20:31	17°♐16'15		
	4604 Feb 25	04:07	0°♑		
retrograde	4604 Apr 18	10:30	4°♑05'29		
	4604 Jun 12	05:23	30°℞♐		
opposition	4604 Jun 18	08:47	29°♐13'17	0°52'58	
min. Earth dist.	4604 Jun 19	19:16	29°♐02'18	4.42394 AU	
direct	4604 Aug 20	02:16	24°♐12'24		
	4604 Oct 24	16:19	0°♑		
evening set	4604 Dec 23	16:51	11°♑50'24		
max. Earth dist.	4605 Jan 03	05:35	14°♑10'06	6.37110 AU	
conjunction	4605 Jan 05	10:25	14°♑39'25	0°22'47	
minimum elong	4605 Jan 05	10:26	14°♑39'25	0°22'49	
morning rise	4605 Jan 18	02:29	17°♑27'53		
	4605 Mar 22	22:05	0°♒		
retrograde	4605 May 20	16:04	4°♒55'46		
opposition	4605 Jul 20	14:14	0°♒03'22	0°10'59	
	4605 Jul 21	00:46	30°℞♑		
min. Earth dist.	4605 Jul 22	04:05	29°♑51'16	4.30498 AU	
direct	4605 Sep 20	15:21	25°♑04'14		
desc. node	4605 Oct 20	04:34	26°♑23'05		
	4605 Nov 18	16:33	0°♒		
evening set	4606 Jan 24	01:34	13°♒15'27		
	4606 Jan 31	16:53	15°♒		
max. Earth dist.	4606 Feb 03	18:09	15°♒41'58	6.22988 AU	
conjunction	4606 Feb 05	18:41	16°♒09'47	-0°09'02	
minimum elong	4606 Feb 05	18:41	16°♒09'47	0°09'02	
behind sun begin	4606 Feb 05	11:51	16°♒05'53		
behind sun end	4606 Feb 06	01:31	16°♒13'41		
morning rise	4606 Feb 18	11:14	19°♒04'12		
	4606 Apr 11	06:16	0°♓		
retrograde	4606 Jun 24	06:43	7°♓35'13		
opposition	4606 Aug 23	22:46	2°♓41'14	-0°37'10	
min. Earth dist.	4606 Aug 25	04:54	2°♓31'31	4.15046 AU	
	4606 Sep 14	23:20	30°℞♒		
direct	4606 Oct 23	17:39	27°♒44'30		
	4606 Nov 30	23:29	0°♓		
evening set	4607 Feb 26	04:59	16°♓39'41		
max. Earth dist.	4607 Mar 09	16:52	19°♓22'49	6.07503 AU	
conjunction	4607 Mar 11	00:16	19°♓41'26	-0°39'24	
minimum elong	4607 Mar 11	00:14	19°♓41'25	0°39'24	
morning rise	4607 Mar 23	20:47	22°♓44'03		
	4607 Apr 24	18:13	0°♈		
retrograde	4607 Jul 31	06:20	12°♈28'04		
opposition	4607 Sep 29	12:45	7°♈31'06	-1°15'51	
min. Earth dist.	4607 Sep 29	23:12	7°♈27'40	4.00863 AU	
direct	4607 Nov 27	19:50	2°♈36'30		
evening set	4608 Apr 01	13:20	22°♈12'26		
conjunction	4608 Apr 14	14:23	25°♈21'53	-0°56'57	
minimum elong	4608 Apr 14	14:22	25°♈21'52	0°56'56	
max. Earth dist.	4608 Apr 14	16:15	25°♈23'00	5.95954 AU	
morning rise	4608 Apr 27	17:41	28°♈32'46		
	4608 May 03	19:10	0°♉		
	4608 Jul 16	05:04	15°♉		
retrograde	4608 Sep 06	19:24	19°♉11'05		
	4608 Oct 30	08:51	15°℞♉		
opposition	4608 Nov 05	13:38	14°♉10'25	-1°27'02	
min. Earth dist.	4608 Nov 05	00:56	14°♉14'41	3.93285 AU	
direct	4609 Jan 02	18:05	9°♉16'32		
	4609 Mar 04	05:43	15°♉		
evening set	4609 May 08	18:32	29°♉11'03		
	4609 May 12	03:28	0°♊		
conjunction	4609 May 22	03:29	2°♊25'38	-0°52'36	
minimum elong	4609 May 22	03:31	2°♊25'39	0°52'36	
max. Earth dist.	4609 May 23	14:53	2°♊47'07	5.93055 AU	
morning rise	4609 Jun 04	15:29	5°♊41'45		
retrograde	4609 Oct 14	21:32	26°♊25'39		
min. Earth dist.	4609 Dec 12	02:33	21°♊32'39	3.95517 AU	
opposition	4609 Dec 13	10:24	21°♊21'50	-1°02'54	
direct	4610 Feb 09	05:50	16°♊26'24		
	4610 May 20	02:22	0°♋		
evening set	4610 Jun 15	15:33	6°♋07'40		
conjunction	4610 Jun 29	07:13	9°♋22'04	-0°27'19	
minimum elong	4610 Jun 29	07:14	9°♋22'05	0°27'19	
max. Earth dist.	4610 Jul 01	14:23	9°♋54'50	6.00135 AU	

morning rise	4610 Jul 13 01:10	12°♋37'22	
	4610 Oct 10 13:48	0°♌	
retrograde	4610 Nov 20 01:32	2°♌34'48	
	4610 Dec 30 09:31	30℞♋	
min. Earth dist.	4611 Jan 17 01:51	27°♋42'28	4.06577 AU
opposition	4611 Jan 18 14:16	27°♋30'03	-0°14'57
direct	4611 Mar 18 02:09	22°♋31'48	
asc. node	4611 May 12 05:54	27°♋11'09	
	4611 May 28 19:43	0°♌	
evening set	4611 Jul 22 15:27	11°♌35'40	
conjunction	4611 Aug 05 09:00	14°♌44'24	0°07'29
minimum elong	4611 Aug 05 08:59	14°♌44'23	0°07'28
behind sun begin	4611 Aug 05 01:23	14°♌40'03	
behind sun end	4611 Aug 05 16:34	14°♌48'43	
	4611 Aug 06 12:13	15°♌	
max. Earth dist.	4611 Aug 07 15:39	15°♌15'44	6.14137 AU
morning rise	4611 Aug 19 02:50	17°♌53'00	
	4611 Oct 16 14:41	0°♍	
retrograde	4611 Dec 23 16:13	6°♍38'48	
min. Earth dist.	4612 Feb 20 04:33	1°♍45'46	4.22020 AU
opposition	4612 Feb 21 09:53	1°♍35'53	0°35'15
	4612 Mar 04 11:47	30℞♌	
direct	4612 Apr 21 02:12	26°♌35'10	
	4612 Jun 07 20:54	0°♍	
evening set	4612 Aug 25 17:49	14°♍55'04	
conjunction	4612 Sep 08 07:34	17°♍55'22	0°38'03
minimum elong	4612 Sep 08 07:32	17°♍55'21	0°38'04
max. Earth dist.	4612 Sep 09 16:21	18°♍13'33	6.29723 AU
morning rise	4612 Sep 21 20:19	20°♍54'50	
	4612 Nov 04 17:23	0°♎	
retrograde	4613 Jan 23 02:12	8°♎34'11	
opposition	4613 Mar 24 04:04	3°♎34'36	1°11'05
min. Earth dist.	4613 Mar 23 15:11	3°♎38'52	4.36464 AU
	4613 Apr 23 09:42	30℞♍	
direct	4613 May 24 05:19	28°♍32'29	
	4613 Jun 24 10:05	0°♎	
evening set	4613 Sep 27 17:30	16°♎16'30	
conjunction	4613 Oct 11 01:00	19°♎09'10	0°55'53
minimum elong	4613 Oct 11 00:59	19°♎09'10	0°55'52
max. Earth dist.	4613 Oct 11 06:41	19°♎12'15	6.41937 AU
morning rise	4613 Oct 24 06:03	22°♎00'35	
	4613 Dec 02 08:25	0°♏	
retrograde	4614 Feb 22 04:17	8°♏55'28	
opposition	4614 Apr 23 15:52	3°♏59'28	1°25'13
min. Earth dist.	4614 Apr 23 21:19	3°♏57'42	4.45724 AU
	4614 May 29 09:03	30℞♎	
direct	4614 Jun 24 18:35	28°♎57'05	
	4614 Jul 21 12:39	0°♏	
	4614 Oct 22 16:37	15°♏	
evening set	4614 Oct 29 01:09	16°♏20'58	
max. Earth dist.	4614 Nov 10 02:55	18°♏56'26	6.47547 AU
conjunction	4614 Nov 11 02:01	19°♏08'52	0°57'47
minimum elong	4614 Nov 11 02:01	19°♏08'52	0°57'48
morning rise	4614 Nov 24 00:23	21°♏55'32	
	4615 Jan 02 20:13	0°♐	
retrograde	4615 Mar 24 02:48	8°♐34'18	
opposition	4615 May 23 20:51	3°♐40'56	1°16'39
min. Earth dist.	4615 May 24 20:50	3°♐33'15	4.47459 AU
	4615 Jun 25 05:59	30℞♏	
direct	4615 Jul 25 14:52	28°♏39'02	
	4615 Aug 25 03:54	0°♐	
evening set	4615 Nov 28 11:30	16°♐01'47	
max. Earth dist.	4615 Dec 09 12:07	18°♐25'04	6.45226 AU
conjunction	4615 Dec 11 07:37	18°♐48'42	0°44'20
minimum elong	4615 Dec 11 07:38	18°♐48'43	0°44'21
morning rise	4615 Dec 24 01:23	21°♐34'37	
	4616 Feb 03 06:43	0°♑	
retrograde	4616 Apr 22 19:12	8°♑27'02	
opposition	4616 Jun 22 18:08	3°♑34'50	0°47'50
min. Earth dist.	4616 Jun 24 05:08	3°♑23'41	4.41237 AU
	4616 Jul 24 03:50	30℞♐	
direct	4616 Aug 24 09:34	28°♐34'07	
	4616 Sep 24 17:18	0°♑	
evening set	4616 Dec 27 23:48	16°♑15'20	
max. Earth dist.	4617 Jan 07 13:01	18°♑35'48	6.35519 AU
conjunction	4617 Jan 09 17:11	19°♑04'52	0°18'37
minimum elong	4617 Jan 09 17:12	19°♑04'52	0°18'38
morning rise	4617 Jan 22 09:00	21°♑53'54	
	4617 Mar 01 18:35	0°♒	
retrograde	4617 May 25 08:05	9°♒28'54	
opposition	4617 Jul 25 05:28	4°♒36'24	0°04'20
min. Earth dist.	4617 Jul 26 19:39	4°♒24'13	4.28553 AU
desc. node	4617 Aug 30 03:21	0°♒39'01	
	4617 Sep 09 13:13	30℞♑	
direct	4617 Sep 25 03:18	29°♑37'36	
	4617 Oct 10 17:07	0°♒	
	4618 Jan 15 16:11	15°♒	
evening set	4618 Jan 28 13:14	17°♒54'18	
max. Earth dist.	4618 Feb 08 05:38	20°♒21'30	6.20834 AU
conjunction	4618 Feb 10 06:21	20°♒49'33	-0°13'35
minimum elong	4618 Feb 10 06:20	20°♒49'33	0°13'35
behind sun begin	4618 Feb 10 01:48	20°♒46'57	
behind sun end	4618 Feb 10 10:52	20°♒52'09	
morning rise	4618 Feb 22 23:24	23°♒45'01	
	4618 Mar 23 01:20	0°♓	
retrograde	4618 Jun 29 06:13	12°♓26'04	
opposition	4618 Aug 28 21:28	7°♓31'41	-0°43'32
min. Earth dist.	4618 Aug 30 01:12	7°♓22'42	4.12839 AU
direct	4618 Oct 28 11:12	2°♓35'13	
evening set	4619 Mar 02 23:36	21°♓36'57	
conjunction	4619 Mar 15 19:39	24°♓39'53	-0°42'52
minimum elong	4619 Mar 15 19:37	24°♓39'52	0°42'53
max. Earth dist.	4619 Mar 14 17:04	24°♓24'03	6.05449 AU
morning rise	4619 Mar 28 16:49	27°♓43'44	
	4619 Apr 07 08:41	0°♈	
retrograde	4619 Aug 05 14:55	17°♈37'37	
opposition	4619 Oct 04 18:32	12°♈40'12	-1°19'24
min. Earth dist.	4619 Oct 05 02:48	12°♈37'28	3.99170 AU
direct	4619 Dec 02 21:44	7°♈45'49	
evening set	4620 Apr 06 15:44	27°♈26'38	
	4620 Apr 17 04:41	0°♉	
conjunction	4620 Apr 19 17:44	0°♉37'06	-0°57'45
minimum elong	4620 Apr 19 17:43	0°♉37'06	0°57'45
max. Earth dist.	4620 Apr 19 23:16	0°♉40'28	5.94774 AU
morning rise	4620 May 02 22:24	3°♉49'07	
	4620 Jun 21 10:36	15°♉	
retrograde	4620 Sep 12 04:13	24°♉32'23	
opposition	4620 Nov 10 22:00	19°♉31'13	-1°25'42
min. Earth dist.	4620 Nov 10 05:15	19°♉36'51	3.92791 AU
	4620 Dec 24 03:31	15℞♉	
direct	4621 Jan 07 22:35	14°♉37'15	
	4621 Jan 22 18:56	15°♉	
	4621 Apr 24 22:42	0°♊	
evening set	4621 May 14 02:07	4°♊32'42	
conjunction	4621 May 27 12:12	7°♊47'41	-0°50'06

minimum elong	4621 May 27 12:14	7°♊47'42	0°50'06
max. Earth dist.	4621 May 29 03:28	8°♊11'30	5.93304 AU
morning rise	4621 Jun 10 01:17	11°♊04'12	
	4621 Sep 17 02:53	0°♋	
retrograde	4621 Oct 20 03:23	1°♋45'02	
	4621 Nov 21 23:39	30°℞♊	
min. Earth dist.	4621 Dec 17 06:40	26°♊52'09	3.96487 AU
opposition	4621 Dec 18 15:44	26°♊40'53	-0°57'05
direct	4622 Feb 14 13:10	21°♊45'06	
	4622 Apr 30 04:19	0°♋	
evening set	4622 Jun 20 22:44	11°♋22'32	
conjunction	4622 Jul 04 15:10	14°♋36'28	-0°22'38
minimum elong	4622 Jul 04 15:11	14°♋36'29	0°22'39
max. Earth dist.	4622 Jul 07 01:33	15°♋11'00	6.01762 AU
morning rise	4622 Jul 18 09:24	17°♋51'08	
	4622 Sep 12 19:21	0°♌	
retrograde	4622 Nov 24 23:34	7°♌39'07	
min. Earth dist.	4623 Jan 21 23:38	2°♌46'56	4.08682 AU
opposition	4623 Jan 23 12:18	2°♌34'28	-0°07'32
	4623 Feb 12 10:59	30°℞♋	
asc. node	4623 Mar 21 20:17	27°♋36'00	
direct	4623 Mar 23 03:13	27°♋35'50	
	4623 Apr 30 23:57	0°♌	
	4623 Jul 20 20:36	15°♌	
evening set	4623 Jul 27 17:05	16°♌32'54	
conjunction	4623 Aug 10 10:11	19°♌40'23	0°12'16
minimum elong	4623 Aug 10 10:10	19°♌40'22	0°12'15
behind sun begin	4623 Aug 10 04:43	19°♌37'17	
behind sun end	4623 Aug 10 15:36	19°♌43'27	
max. Earth dist.	4623 Aug 12 14:08	20°♌10'01	6.16525 AU
morning rise	4623 Aug 24 03:42	22°♌47'41	
	4623 Sep 26 06:21	0°♍	
retrograde	4623 Dec 28 03:54	11°♍22'30	
opposition	4624 Feb 25 23:34	6°♍19'52	0°41'21
min. Earth dist.	4624 Feb 24 19:59	6°♍29'09	4.24464 AU
direct	4624 Apr 25 20:53	1°♍18'50	
evening set	4624 Aug 30 11:14	19°♍31'49	
conjunction	4624 Sep 13 00:17	22°♍30'48	0°41'23
minimum elong	4624 Sep 13 00:15	22°♍30'47	0°41'23
max. Earth dist.	4624 Sep 14 06:45	22°♍47'37	6.32037 AU
morning rise	4624 Sep 26 11:48	25°♍28'49	
	4624 Oct 17 13:48	0°♎	
retrograde	4625 Jan 27 07:12	12°♎59'14	
opposition	4625 Mar 28 11:02	8°♎00'08	1°14'20
min. Earth dist.	4625 Mar 28 00:22	8°♎03'40	4.38467 AU
direct	4625 May 28 16:26	2°♎57'55	
evening set	4625 Oct 02 03:29	20°♎36'51	
conjunction	4625 Oct 15 09:50	23°♎28'30	0°57'03
minimum elong	4625 Oct 15 09:49	23°♎28'29	0°57'03
max. Earth dist.	4625 Oct 15 09:45	23°♎28'27	6.43462 AU
morning rise	4625 Oct 28 14:00	26°♎18'55	
	4625 Nov 15 00:49	0°♏	
retrograde	4626 Feb 26 07:30	13°♏08'53	
opposition	4626 Apr 27 19:39	8°♏13'16	1°25'16
min. Earth dist.	4626 Apr 28 04:49	8°♏10'17	4.46685 AU
direct	4626 Jun 29 02:14	3°♏10'50	
	4626 Oct 06 11:40	15°♏	
evening set	4626 Nov 02 05:51	20°♏32'36	
max. Earth dist.	4626 Nov 14 04:16	23°♏06'12	6.47860 AU
conjunction	4626 Nov 15 06:06	23°♏20'06	0°56'46
minimum elong	4626 Nov 15 06:07	23°♏20'07	0°56'45
morning rise	4626 Nov 28 03:34	26°♏06'21	
	4626 Dec 16 16:17	0°♐	
retrograde	4627 Mar 28 04:58	12°♐44'53	
opposition	4627 May 28 00:50	7°♐51'44	1°13'44
min. Earth dist.	4627 May 29 02:19	7°♐43'34	4.47109 AU
direct	4627 Jul 29 18:33	2°♐49'57	
evening set	4627 Dec 02 15:07	20°♐14'05	
max. Earth dist.	4627 Dec 13 12:34	22°♐36'02	6.44226 AU
conjunction	4627 Dec 15 10:40	23°♐01'09	0°41'24
minimum elong	4627 Dec 15 10:41	23°♐01'10	0°41'25
morning rise	4627 Dec 28 04:03	25°♐47'19	
	4628 Jan 16 23:08	0°♑	
retrograde	4628 Apr 27 04:25	12°♑44'19	
opposition	4628 Jun 27 02:20	7°♑52'13	0°42'32
min. Earth dist.	4628 Jun 28 15:42	7°♑40'18	4.39622 AU
direct	4628 Aug 28 16:53	2°♑51'41	
evening set	4629 Jan 01 06:03	20°♑37'45	
max. Earth dist.	4629 Jan 11 17:06	22°♑57'43	6.33405 AU
conjunction	4629 Jan 13 23:19	23°♑28'04	0°14'24
minimum elong	4629 Jan 13 23:20	23°♑28'04	0°14'24
behind sun begin	4629 Jan 13 19:33	23°♑25'58	
behind sun end	4629 Jan 14 03:07	23°♑30'11	
morning rise	4629 Jan 26 15:17	26°♑17'59	
	4629 Feb 12 11:56	0°♒	
retrograde	4629 May 30 00:30	14°♒02'09	
desc. node	4629 Jul 10 15:44	11°♒30'30	
opposition	4629 Jul 29 21:10	9°♒09'28	-0°02'20
min. Earth dist.	4629 Jul 31 10:09	8°♒57'38	4.26066 AU
direct	4629 Sep 29 13:52	4°♒10'57	
	4629 Dec 29 12:50	15°♒	
evening set	4630 Feb 02 01:47	22°♒35'12	
max. Earth dist.	4630 Feb 12 21:38	25°♒05'13	6.18187 AU
conjunction	4630 Feb 14 19:17	25°♒31'40	-0°18'04
minimum elong	4630 Feb 14 19:16	25°♒31'40	0°18'03
morning rise	4630 Feb 27 12:42	28°♒28'26	
	4630 Mar 06 04:22	0°♓	
retrograde	4630 Jul 04 10:09	17°♓21'31	
opposition	4630 Sep 02 22:41	12°♓26'51	-0°49'41
min. Earth dist.	4630 Sep 04 01:00	12°♓18'20	4.10238 AU
direct	4630 Nov 02 07:29	7°♓30'48	
evening set	4631 Mar 07 21:11	26°♓40'32	
conjunction	4631 Mar 20 17:52	29°♓44'48	-0°46'03
minimum elong	4631 Mar 20 17:50	29°♓44'47	0°46'04
max. Earth dist.	4631 Mar 19 18:22	29°♓30'44	6.03134 AU
	4631 Mar 21 19:16	0°♈	
morning rise	4631 Apr 02 16:08	2°♈50'09	
retrograde	4631 Aug 11 00:53	22°♈54'44	
opposition	4631 Oct 10 03:13	17°♈56'50	-1°22'21
min. Earth dist.	4631 Oct 10 06:42	17°♈55'41	3.97406 AU
direct	4631 Dec 08 00:27	13°♈02'42	
	4632 Mar 31 04:20	0°♉	
evening set	4632 Apr 11 21:47	2°♉48'41	
conjunction	4632 Apr 25 00:56	6°♉00'10	-0°58'03
minimum elong	4632 Apr 25 00:56	6°♉00'10	0°58'03
max. Earth dist.	4632 Apr 25 12:34	6°♉07'15	5.93741 AU
morning rise	4632 May 08 06:46	9°♉13'14	
	4632 Jun 01 18:01	15°♉	
	4632 Sep 15 20:07	0°♊	
retrograde	4632 Sep 17 16:24	0°♊00'21	
	4632 Sep 19 12:40	30°℞♉	
opposition	4632 Nov 16 08:52	24°♉58'37	-1°23'32
min. Earth dist.	4632 Nov 15 13:14	25°♉05'14	3.92616 AU
direct	4633 Jan 13 08:03	20°♉04'32	

	4633 Apr 05	17:02	0°♊		
evening set	4633 May 19	11:59	9°♊59'22		
conjunction	4633 Jun 01	23:18	13°♊14'36	-0°47'08	
minimum elong	4633 Jun 01	23:20	13°♊14'37	0°47'08	
max. Earth dist.	4633 Jun 03	20:19	13°♊41'50	5.93993 AU	
morning rise	4633 Jun 15	13:20	16°♊31'13		
	4633 Aug 16	11:13	0°♋		
retrograde	4633 Oct 25	10:20	7°♋06'35		
min. Earth dist.	4633 Dec 22	10:53	2°♋14'02	3.97946 AU	
opposition	4633 Dec 23	21:41	2°♋02'12	-0°50'44	
	4634 Jan 08	08:20	30℞♊		
direct	4634 Feb 19	20:22	27°♊06'03		
	4634 Apr 03	02:21	0°♋		
evening set	4634 Jun 26	06:27	16°♋37'52		
conjunction	4634 Jul 09	23:06	19°♋51'00	-0°17'46	
minimum elong	4634 Jul 09	23:07	19°♋51'01	0°17'46	
max. Earth dist.	4634 Jul 12	09:05	20°♋25'06	6.03800 AU	
morning rise	4634 Jul 23	17:42	23°♋04'47		
	4634 Aug 23	10:22	0°♌		
retrograde	4634 Nov 29	18:37	12°♌41'56		
min. Earth dist.	4635 Jan 26	20:55	7°♌49'46	4.11057 AU	
opposition	4635 Jan 28	09:18	7°♌37'23	-0°00'04	
asc. node	4635 Jan 28	21:08	7°♌33'22		
direct	4635 Mar 28	03:51	2°♌38'21		
	4635 Jul 03	05:54	15°♌		
evening set	4635 Aug 01	17:51	21°♌28'10		
conjunction	4635 Aug 15	10:41	24°♌34'23	0°16'59	
minimum elong	4635 Aug 15	10:39	24°♌34'22	0°16'59	
max. Earth dist.	4635 Aug 17	12:48	25°♌02'49	6.19033 AU	
morning rise	4635 Aug 29	03:22	27°♌40'14		
	4635 Sep 08	14:15	0°♍		
retrograde	4636 Jan 01	15:45	16°♍04'09		
min. Earth dist.	4636 Feb 29	11:06	11°♍10'25	4.26870 AU	
opposition	4636 Mar 01	12:11	11°♍02'00	0°47'11	
direct	4636 Apr 30	14:43	6°♍00'46		
evening set	4636 Sep 04	03:58	24°♍07'28		
conjunction	4636 Sep 17	16:02	27°♍05'11	0°44'30	
minimum elong	4636 Sep 17	16:00	27°♍05'10	0°44'30	
max. Earth dist.	4636 Sep 18	17:34	27°♍19'12	6.34143 AU	
	4636 Sep 30	23:06	0°♎		
morning rise	4636 Oct 01	02:39	0°♎01'56		
retrograde	4637 Jan 31	12:20	17°♎24'37		
opposition	4637 Apr 01	18:03	12°♎26'01	1°17'14	
min. Earth dist.	4637 Apr 01	10:15	12°♎28'35	4.40153 AU	
direct	4637 Jun 02	03:35	7°♎23'41		
evening set	4637 Oct 06	13:29	24°♎58'48		
conjunction	4637 Oct 19	19:01	27°♎49'38	0°57'57	
minimum elong	4637 Oct 19	19:00	27°♎49'38	0°57'58	
max. Earth dist.	4637 Oct 19	15:54	27°♎47'57	6.44613 AU	
	4637 Oct 29	20:55	0°♏		
morning rise	4637 Nov 01	21:59	0°♏39'11		
	4638 Jan 21	05:31	15°♏		
retrograde	4638 Mar 02	10:33	17°♏25'39		
	4638 Apr 11	19:04	15℞♏		
opposition	4638 May 02	00:27	12°♏30'28	1°24'56	
min. Earth dist.	4638 May 02	11:57	12°♏26'45	4.47250 AU	
direct	4638 Jul 03	09:32	7°♏28'07		
	4638 Sep 17	22:29	15°♏		
evening set	4638 Nov 06	12:22	24°♏49'04		
max. Earth dist.	4638 Nov 18	04:50	27°♏19'39	6.47788 AU	
conjunction	4638 Nov 19	11:41	27°♏36'16	0°55'26	
minimum elong	4638 Nov 19	11:42	27°♏36'16	0°55'26	
	4638 Nov 30	14:57	0°♐		
morning rise	4638 Dec 02	08:36	0°♐22'18		
retrograde	4639 Apr 01	11:48	17°♐01'48		
opposition	4639 Jun 01	07:17	12°♐08'53	1°10'25	
min. Earth dist.	4639 Jun 02	11:50	11°♐59'44	4.46417 AU	
direct	4639 Aug 03	02:19	7°♐07'09		
evening set	4639 Dec 06	21:05	24°♐33'37		
max. Earth dist.	4639 Dec 17	16:27	26°♐54'51	6.42955 AU	
conjunction	4639 Dec 19	16:21	27°♐21'02	0°38'10	
minimum elong	4639 Dec 19	16:22	27°♐21'03	0°38'11	
	4639 Dec 31	19:25	0°♑		
morning rise	4640 Jan 01	09:19	0°♑07'34		
retrograde	4640 May 01	14:56	17°♑09'58		
opposition	4640 Jul 01	13:44	12°♑17'51	0°36'49	
min. Earth dist.	4640 Jul 03	02:59	12°♑05'59	4.37853 AU	
direct	4640 Sep 02	01:02	7°♑17'33		
evening set	4641 Jan 05	15:19	25°♑08'45		
max. Earth dist.	4641 Jan 16	02:59	27°♑29'46	6.31270 AU	
conjunction	4641 Jan 18	08:27	27°♑59'51	0°09'57	
minimum elong	4641 Jan 18	08:27	27°♑59'51	0°09'57	
behind sun begin	4641 Jan 18	01:58	27°♑56'13		
behind sun end	4641 Jan 18	14:56	28°♑03'28		
	4641 Jan 27	06:05	0°♒		
morning rise	4641 Jan 31	00:27	0°♒50'38		
	4641 Apr 14	09:17	15°♒		
desc. node	4641 May 19	20:52	18°♒22'59		
retrograde	4641 Jun 03	21:35	18°♒44'03		
	4641 Jul 25	15:21	15℞♒		
opposition	4641 Aug 03	16:28	13°♒51'12	-0°09'15	
min. Earth dist.	4641 Aug 05	05:32	13°♒39'19	4.23703 AU	
direct	4641 Oct 04	06:11	8°♒53'01		
	4641 Dec 08	23:54	15°♒		
evening set	4642 Feb 06	17:28	27°♒24'07		
	4642 Feb 17	21:59	0°♓		
max. Earth dist.	4642 Feb 17	15:17	29°♒56'06	6.15807 AU	
conjunction	4642 Feb 19	11:15	0°♓21'42	-0°22'35	
minimum elong	4642 Feb 19	11:14	0°♓21'42	0°22'34	
morning rise	4642 Mar 04	05:14	3°♓19'42		
retrograde	4642 Jul 09	13:59	22°♓23'36		
opposition	4642 Sep 08	02:09	17°♓28'33	-0°55'40	
min. Earth dist.	4642 Sep 09	00:33	17°♓21'16	4.08076 AU	
direct	4642 Nov 07	04:56	12°♓32'51		
	4643 Mar 05	04:59	0°♈		
evening set	4643 Mar 12	20:43	1°♈48'48		
conjunction	4643 Mar 25	18:07	4°♈54'09	-0°48'59	
minimum elong	4643 Mar 25	18:06	4°♈54'08	0°48'58	
max. Earth dist.	4643 Mar 25	00:17	4°♈43'26	6.01405 AU	
morning rise	4643 Apr 07	17:14	8°♈00'39		
retrograde	4643 Aug 16	12:09	28°♈13'22		
opposition	4643 Oct 15	12:28	23°♈14'53	-1°24'40	
min. Earth dist.	4643 Oct 15	12:47	23°♈14'47	3.96310 AU	
direct	4643 Dec 13	06:37	18°♈20'52		
	4644 Mar 13	02:00	0°♉		
evening set	4644 Apr 17	03:24	8°♉09'10		
conjunction	4644 Apr 30	07:41	11°♉21'20	-0°57'54	
minimum elong	4644 Apr 30	07:41	11°♉21'20	0°57'55	
max. Earth dist.	4644 May 01	01:32	11°♉32'13	5.93391 AU	
morning rise	4644 May 13	14:38	14°♉35'04		
	4644 May 15	07:57	15°♉		
	4644 Jul 25	00:36	0°♊		
retrograde	4644 Sep 23	01:46	5°♊22'40		

opposition	4644 Nov 21 17:20	0°♊20'28	-1°20'43
min. Earth dist.	4644 Nov 20 18:34	0°♊28'08	3.93083 AU
	4644 Nov 24 06:05	30℞♉	
direct	4645 Jan 18 15:02	25°♉26'13	
	4645 Mar 13 02:39	0°♊	
evening set	4645 May 24 19:27	15°♊18'08	
conjunction	4645 Jun 07 07:29	18°♊33'11	-0°43'51
minimum elong	4645 Jun 07 07:31	18°♊33'12	0°43'53
max. Earth dist.	4645 Jun 09 06:26	19°♊01'27	5.95195 AU
morning rise	4645 Jun 20 22:31	21°♊49'36	
	4645 Jul 26 13:27	0°♋	
retrograde	4645 Oct 30 10:20	12°♋17'30	
min. Earth dist.	4645 Dec 27 11:07	7°♋25'12	3.99735 AU
opposition	4645 Dec 28 23:15	7°♋12'53	-0°44'12
direct	4646 Feb 25 00:03	2°♋16'18	
evening set	4646 Jul 01 09:56	21°♋41'45	
conjunction	4646 Jul 15 03:00	24°♋54'00	-0°12'57
minimum elong	4646 Jul 15 03:01	24°♋54'00	0°12'57
behind sun begin	4646 Jul 14 22:03	24°♋51'07	
behind sun end	4646 Jul 15 07:59	24°♋56'54	
max. Earth dist.	4646 Jul 17 13:20	25°♋28'08	6.06008 AU
morning rise	4646 Jul 28 21:30	28°♋06'43	
	4646 Aug 06 02:16	0°♌	
	4646 Oct 25 02:28	15°♌	
retrograde	4646 Dec 04 11:25	17°♌32'55	
asc. node	4646 Dec 09 08:53	17°♌30'29	
	4647 Jan 13 14:52	15℞♌	
min. Earth dist.	4647 Jan 31 15:44	12°♌40'18	4.13427 AU
opposition	4647 Feb 02 02:08	12°♌28'37	0°07'05
direct	4647 Apr 02 01:38	7°♌29'15	
	4647 Jun 13 19:34	15°♌	
evening set	4647 Aug 06 14:16	26°♌12'08	
conjunction	4647 Aug 20 06:35	29°♌17'07	0°21'25
minimum elong	4647 Aug 20 06:34	29°♌17'06	0°21'25
max. Earth dist.	4647 Aug 22 05:40	29°♌43'40	6.21356 AU
	4647 Aug 23 10:37	0°♍	
morning rise	4647 Sep 02 22:42	2°♍21'40	
retrograde	4648 Jan 05 22:37	20°♍35'54	
opposition	4648 Mar 05 21:20	15°♍34'14	0°52'32
min. Earth dist.	4648 Mar 04 22:05	15°♍42'01	4.28964 AU
direct	4648 May 05 03:35	10°♍32'49	
evening set	4648 Sep 08 17:17	28°♍34'28	
	4648 Sep 15 06:06	0°♎	
conjunction	4648 Sep 22 04:32	1°♎31'08	0°47'16
minimum elong	4648 Sep 22 04:30	1°♎31'07	0°47'15
max. Earth dist.	4648 Sep 23 01:43	1°♎42'45	6.35863 AU
morning rise	4648 Oct 05 14:03	4°♎26'45	
retrograde	4649 Feb 04 16:50	21°♎43'22	
opposition	4649 Apr 05 22:55	16°♎45'22	1°19'38
min. Earth dist.	4649 Apr 05 18:29	16°♎46'49	4.41397 AU
direct	4649 Jun 06 12:59	11°♎43'03	
evening set	4649 Oct 10 21:37	29°♎15'50	
	4649 Oct 14 08:03	0°♏	
conjunction	4649 Oct 24 02:14	2°♏06'04	0°58'33
minimum elong	4649 Oct 24 02:14	2°♏06'04	0°58'32
max. Earth dist.	4649 Oct 23 17:58	2°♏01'37	6.45290 AU
morning rise	4649 Nov 06 04:25	4°♏55'03	
	4649 Dec 27 04:17	15°♏	
retrograde	4650 Mar 06 14:03	21°♏39'43	
opposition	4650 May 06 04:42	16°♏44'56	1°24'11
min. Earth dist.	4650 May 06 18:51	16°♏40'22	4.47358 AU
	4650 May 20 00:40	15℞♏	
direct	4650 Jul 07 15:33	11°♏42'39	
	4650 Aug 25 06:53	15°♏	
evening set	4650 Nov 10 17:53	29°♏04'09	
	4650 Nov 15 02:06	0°♐	
max. Earth dist.	4650 Nov 22 08:18	1°♐33'49	6.47330 AU
conjunction	4650 Nov 23 16:44	1°♐51'19	0°53'50
minimum elong	4650 Nov 23 16:45	1°♐51'20	0°53'50
morning rise	4650 Dec 06 12:51	4°♐37'18	
retrograde	4651 Apr 05 17:34	21°♐19'08	
opposition	4651 Jun 05 14:15	16°♐26'28	1°06'44
min. Earth dist.	4651 Jun 06 19:51	16°♐17'00	4.45434 AU
direct	4651 Aug 07 08:30	11°♐25'01	
evening set	4651 Dec 11 03:32	28°♐54'33	
	4651 Dec 16 03:34	0°♑	
max. Earth dist.	4651 Dec 21 20:17	1°♑14'56	6.41520 AU
conjunction	4651 Dec 23 22:15	1°♑42'21	0°34'44
minimum elong	4651 Dec 23 22:16	1°♑42'22	0°34'44
morning rise	4652 Jan 05 15:05	4°♑29'22	
retrograde	4652 May 06 04:50	21°♑37'50	
opposition	4652 Jul 06 02:23	16°♑45'44	0°30'52
min. Earth dist.	4652 Jul 07 16:44	16°♑33'31	4.36046 AU
direct	4652 Sep 06 12:31	11°♑45'43	
evening set	4653 Jan 10 01:12	29°♑41'58	
	4653 Jan 11 09:23	0°♒	
max. Earth dist.	4653 Jan 20 13:48	2°♒04'10	6.29240 AU
conjunction	4653 Jan 22 18:22	2°♒33'52	0°05'27
minimum elong	4653 Jan 22 18:23	2°♒33'53	0°05'27
behind sun begin	4653 Jan 22 10:42	2°♒29'33	
behind sun end	4653 Jan 23 02:04	2°♒38'12	
morning rise	4653 Feb 04 10:26	5°♒25'31	
	4653 Mar 21 19:06	15°♒	
desc. node	4653 Mar 29 09:18	16°♒23'38	
retrograde	4653 Jun 08 16:47	23°♒27'46	
opposition	4653 Aug 08 12:19	18°♒34'41	-0°16'07
min. Earth dist.	4653 Aug 09 22:59	18°♒23'34	4.21590 AU
	4653 Sep 08 17:21	15℞♒	
direct	4653 Oct 08 20:52	13°♒36'54	
	4653 Nov 07 21:29	15°♒	
	4654 Feb 01 16:29	0°♓	
evening set	4654 Feb 11 09:11	2°♓13'50	
max. Earth dist.	4654 Feb 22 10:36	4°♓48'36	6.13777 AU
conjunction	4654 Feb 24 03:11	5°♓12'21	-0°26'55
minimum elong	4654 Feb 24 03:09	5°♓12'20	0°26'55
morning rise	4654 Mar 08 21:39	8°♓11'25	
retrograde	4654 Jul 14 19:30	27°♓24'58	
opposition	4654 Sep 13 05:18	22°♓29'29	-1°01'12
min. Earth dist.	4654 Sep 14 01:35	22°♓22'52	4.06280 AU
direct	4654 Nov 12 04:28	17°♓34'03	
	4655 Feb 15 21:12	0°♈	
evening set	4655 Mar 17 19:04	6°♈54'49	
conjunction	4655 Mar 30 17:16	10°♈01'08	-0°51'29
minimum elong	4655 Mar 30 17:15	10°♈01'07	0°51'29
max. Earth dist.	4655 Mar 30 04:14	9°♈53'17	6.00001 AU
morning rise	4655 Apr 12 17:15	13°♈08'39	
	4655 Jul 05 02:58	0°♉	
retrograde	4655 Aug 21 20:02	3°♉28'00	
	4655 Oct 09 04:45	30℞♈	
opposition	4655 Oct 20 19:24	28°♈29'01	-1°26'16
min. Earth dist.	4655 Oct 20 16:12	28°♈30'05	3.95470 AU
direct	4655 Dec 18 08:54	23°♈35'08	
	4656 Feb 21 01:06	0°♉	
evening set	4656 Apr 22 07:25	13°♉25'10	

	4656 Apr 28 19:45	15°♉	
conjunction	4656 May 05 12:35	16°♉37'54	-0°57'18
minimum elong	4656 May 05 12:36	16°♉37'55	0°57'18
max. Earth dist.	4656 May 06 09:39	16°♉50'43	5.93172 AU
morning rise	4656 May 18 20:48	19°♉52'16	
	4656 Jul 02 04:46	0°♊	
retrograde	4656 Sep 28 07:20	10°♊39'55	
opposition	4656 Nov 26 22:55	5°♊37'14	-1°17'17
min. Earth dist.	4656 Nov 25 21:20	5°♊45'53	3.93520 AU
direct	4657 Jan 23 20:05	0°♊42'42	
evening set	4657 May 30 00:47	20°♊32'18	
conjunction	4657 Jun 12 13:55	23°♊47'18	-0°40'17
minimum elong	4657 Jun 12 13:57	23°♊47'20	0°40'18
max. Earth dist.	4657 Jun 14 16:18	24°♊17'34	5.96249 AU
morning rise	4657 Jun 26 05:36	27°♊03'32	
	4657 Jul 08 17:06	0°♋	
retrograde	4657 Nov 04 11:05	17°♋24'50	
min. Earth dist.	4658 Jan 01 11:22	12°♋32'17	4.01267 AU
opposition	4658 Jan 02 23:07	12°♋20'06	-0°37'26
direct	4658 Mar 02 02:26	7°♋23'07	
evening set	4658 Jul 06 12:24	26°♋43'25	
conjunction	4658 Jul 20 05:40	29°♋54'54	-0°08'04
minimum elong	4658 Jul 20 05:40	29°♋54'54	0°08'05
behind sun begin	4658 Jul 19 22:14	29°♋50'36	
behind sun end	4658 Jul 20 13:06	29°♋59'13	
	4658 Jul 20 14:27	0°♌	
max. Earth dist.	4658 Jul 22 15:38	0°♌28'39	6.07862 AU
morning rise	4658 Aug 03 00:14	3°♌06'45	
	4658 Sep 28 02:37	15°♌	
asc. node	4658 Oct 19 14:51	18°♌30'48	
retrograde	4658 Dec 09 01:51	22°♌23'24	
min. Earth dist.	4659 Feb 05 08:08	17°♌30'55	4.15418 AU
opposition	4659 Feb 06 18:14	17°♌19'21	0°14'09
	4659 Feb 24 15:15	15°℞♌	
direct	4659 Apr 06 20:47	12°♌19'36	
	4659 May 18 09:41	15°♌	
	4659 Aug 07 04:36	0°♍	
evening set	4659 Aug 11 11:03	0°♍57'03	
conjunction	4659 Aug 25 02:51	4°♍00'57	0°25'43
minimum elong	4659 Aug 25 02:49	4°♍00'57	0°25'43
max. Earth dist.	4659 Aug 26 22:02	4°♍25'13	6.23320 AU
morning rise	4659 Sep 07 18:15	7°♍04'20	
retrograde	4660 Jan 10 08:55	25°♍10'07	
min. Earth dist.	4660 Mar 09 11:19	20°♍15'38	4.30738 AU
opposition	4660 Mar 10 07:23	20°♍08'56	0°57'35
direct	4660 May 09 19:16	15°♍07'17	
	4660 Aug 29 23:08	0°♎	
evening set	4660 Sep 13 07:44	3°♎04'48	
conjunction	4660 Sep 26 18:13	6°♎00'33	0°49'47
minimum elong	4660 Sep 26 18:11	6°♎00'32	0°49'48
max. Earth dist.	4660 Sep 27 12:07	6°♎10'20	6.37313 AU
morning rise	4660 Oct 10 02:45	8°♎55'11	
retrograde	4661 Feb 08 21:26	26°♎06'27	
opposition	4661 Apr 10 05:32	21°♎08'55	1°21'39
min. Earth dist.	4661 Apr 10 02:46	21°♎09'49	4.42465 AU
direct	4661 Jun 10 21:57	16°♎06'34	
	4661 Sep 28 02:18	0°♏	
evening set	4661 Oct 15 07:19	3°♏37'16	
conjunction	4661 Oct 28 11:03	6°♏26'55	0°58'49
minimum elong	4661 Oct 28 11:03	6°♏26'55	0°58'49
max. Earth dist.	4661 Oct 27 23:50	6°♏20'53	6.45921 AU
morning rise	4661 Nov 10 12:15	9°♏15'17	
	4661 Dec 08 04:31	15°♏	
retrograde	4662 Mar 10 19:39	25°♏58'06	
opposition	4662 May 10 10:59	21°♏03'46	1°23'00
min. Earth dist.	4662 May 11 03:27	20°♏58'27	4.47553 AU
direct	4662 Jul 12 00:21	16°♏01'38	
	4662 Oct 30 00:06	0°♐	
evening set	4662 Nov 15 01:08	3°♐23'00	
max. Earth dist.	4662 Nov 26 11:18	5°♐50'37	6.47089 AU
conjunction	4662 Nov 27 23:10	6°♐09'59	0°51'56
minimum elong	4662 Nov 27 23:12	6°♐10'00	0°51'58
morning rise	4662 Dec 10 18:47	8°♐55'51	
retrograde	4663 Apr 10 01:35	25°♐39'06	
opposition	4663 Jun 09 22:40	20°♐46'35	1°02'41
min. Earth dist.	4663 Jun 11 05:32	20°♐36'43	4.44800 AU
direct	4663 Aug 11 17:11	15°♐45'18	
	4663 Nov 30 04:33	0°♑	
evening set	4663 Dec 15 10:18	3°♑16'27	
max. Earth dist.	4663 Dec 26 03:35	5°♑37'26	6.40557 AU
conjunction	4663 Dec 28 04:45	6°♑04'29	0°31'09
minimum elong	4663 Dec 28 04:46	6°♑04'29	0°31'09
morning rise	4664 Jan 09 21:05	8°♑51'44	
retrograde	4664 May 10 15:43	26°♑04'36	
opposition	4664 Jul 10 14:56	21°♑12'27	0°24'49
min. Earth dist.	4664 Jul 12 04:40	21°♑00'26	4.34809 AU
direct	4664 Sep 10 22:34	16°♑12'46	
	4664 Dec 26 08:35	0°♒	
evening set	4665 Jan 14 10:03	4°♒11'57	
max. Earth dist.	4665 Jan 24 22:52	6°♒34'48	6.27818 AU
conjunction	4665 Jan 27 02:56	7°♒04'20	0°00'59
minimum elong	4665 Jan 27 02:55	7°♒04'19	0°01'00
behind sun begin	4665 Jan 26 18:56	6°♒59'49	
behind sun end	4665 Jan 27 10:53	7°♒08'49	
desc. node	4665 Feb 07 17:12	9°♒41'58	
morning rise	4665 Feb 08 19:06	9°♒56'34	
	4665 Mar 03 17:05	15°♒	
retrograde	4665 Jun 13 11:44	28°♒05'42	
opposition	4665 Aug 13 06:18	23°♒12'21	-0°22'39
min. Earth dist.	4665 Aug 14 16:11	23°♒01'28	4.20058 AU
direct	4665 Oct 13 12:26	18°♒14'50	
	4666 Jan 16 00:42	0°♓	
evening set	4666 Feb 15 22:04	6°♓55'37	
max. Earth dist.	4666 Feb 27 02:49	9°♓32'50	6.12272 AU
conjunction	4666 Feb 28 16:26	9°♓54'54	-0°30'54
minimum elong	4666 Feb 28 16:25	9°♓54'54	0°30'54
morning rise	4666 Mar 13 11:17	12°♓54'47	
	4666 Jun 11 07:00	0°♈	
retrograde	4666 Jul 19 19:00	2°♈15'59	
	4666 Aug 27 12:42	30°℞♓	
opposition	4666 Sep 18 04:09	27°♓20'07	-1°06'01
min. Earth dist.	4666 Sep 18 21:52	27°♓14'20	4.04940 AU
direct	4666 Nov 16 22:19	22°♓24'59	
	4667 Jan 27 21:40	0°♈	
evening set	4667 Mar 22 13:31	11°♈49'18	
conjunction	4667 Apr 04 12:18	14°♈56'23	-0°53'29
minimum elong	4667 Apr 04 12:16	14°♈56'23	0°53'30
max. Earth dist.	4667 Apr 04 01:50	14°♈50'05	5.98935 AU
morning rise	4667 Apr 17 13:17	18°♈04'50	
	4667 Jun 10 05:51	0°♉	
retrograde	4667 Aug 26 22:08	8°♉29'43	
opposition	4667 Oct 25 21:06	3°♉30'15	-1°27'07
min. Earth dist.	4667 Oct 25 15:04	3°♉32'15	3.94793 AU

	4667 Nov 24 07:35	30°℞♈	
direct	4667 Dec 23 07:48	28°♈36'22	
	4668 Jan 21 04:14	0°♉	
	4668 Apr 12 18:35	15°♉	
evening set	4668 Apr 27 06:24	18°♉28'01	
conjunction	4668 May 10 12:51	21°♉41'24	-0°56'17
minimum elong	4668 May 10 12:52	21°♉41'25	0°56'17
max. Earth dist.	4668 May 11 14:47	21°♉57'11	5.92964 AU
morning rise	4668 May 23 22:02	24°♉56'21	
	4668 Jun 14 06:55	0°♊	
retrograde	4668 Oct 03 10:14	15°♊44'20	
opposition	4668 Dec 01 23:34	10°♊41'21	-1°13'28
min. Earth dist.	4668 Nov 30 21:15	10°♊50'15	3.93810 AU
direct	4669 Jan 28 20:25	5°♊46'37	
evening set	4669 Jun 04 02:08	25°♊35'03	
conjunction	4669 Jun 17 16:06	28°♊50'07	-0°36'36
minimum elong	4669 Jun 17 16:08	28°♊50'09	0°36'36
max. Earth dist.	4669 Jun 19 19:52	29°♊21'08	5.97004 AU
	4669 Jun 22 12:47	0°♋	
morning rise	4669 Jul 01 08:43	2°♋06'23	
retrograde	4669 Nov 09 06:25	22°♋22'30	
min. Earth dist.	4670 Jan 06 06:00	17°♋30'21	4.02412 AU
opposition	4670 Jan 07 18:52	17°♋17'47	-0°30'45
direct	4670 Mar 06 22:47	12°♋20'29	
	4670 Jul 04 10:17	0°♌	
evening set	4670 Jul 11 12:09	1°♌37'36	
conjunction	4670 Jul 25 05:38	4°♌48'33	-0°03'21
minimum elong	4670 Jul 25 05:38	4°♌48'33	0°03'21
behind sun begin	4670 Jul 24 21:18	4°♌43'44	
behind sun end	4670 Jul 25 13:58	4°♌53'21	
max. Earth dist.	4670 Jul 27 13:41	5°♌21'04	6.09306 AU
morning rise	4670 Aug 08 00:16	7°♌59'43	
asc. node	4670 Aug 31 15:04	13°♌18'00	
	4670 Sep 08 13:34	15°♌	
retrograde	4670 Dec 13 16:45	27°♌08'47	
min. Earth dist.	4671 Feb 10 00:21	22°♌15'55	4.17002 AU
opposition	4671 Feb 11 08:29	22°♌05'02	0°20'50
direct	4671 Apr 11 15:40	17°♌04'59	
	4671 Jul 21 07:17	0°♍	
evening set	4671 Aug 16 06:05	5°♍38'27	
conjunction	4671 Aug 29 21:35	8°♍41'30	0°29'43
minimum elong	4671 Aug 29 21:33	8°♍41'29	0°29'43
max. Earth dist.	4671 Aug 31 15:38	9°♍05'03	6.24933 AU
morning rise	4671 Sep 12 12:13	11°♍43'52	
retrograde	4672 Jan 14 16:44	29°♍42'30	
opposition	4672 Mar 14 16:38	24°♍41'47	1°02'08
min. Earth dist.	4672 Mar 13 21:24	24°♍48'11	4.32257 AU
direct	4672 May 14 07:13	19°♍40'01	
	4672 Aug 12 10:03	0°♎	
evening set	4672 Sep 17 21:29	7°♎34'00	
conjunction	4672 Oct 01 06:58	10°♎28'51	0°51'56
minimum elong	4672 Oct 01 06:56	10°♎28'50	0°51'56
max. Earth dist.	4672 Oct 01 20:32	10°♎36'15	6.38623 AU
morning rise	4672 Oct 14 14:35	13°♎22'33	
	4673 Jan 26 17:27	0°♏	
retrograde	4673 Feb 13 03:59	0°♏28'49	
	4673 Mar 02 11:03	30°℞♎	
opposition	4673 Apr 14 11:50	25°♎31'43	1°23'08
min. Earth dist.	4673 Apr 14 12:09	25°♎31'37	4.43474 AU
direct	4673 Jun 15 08:40	20°♎29'18	
	4673 Sep 10 11:09	0°♏	
evening set	4673 Oct 19 16:06	7°♏57'44	

conjunction	4673 Nov 01 19:03	10°♏46'49	0°58'45
minimum elong	4673 Nov 01 19:03	10°♏46'49	0°58'45
max. Earth dist.	4673 Nov 01 04:52	10°♏39'11	6.46532 AU
morning rise	4673 Nov 14 19:21	13°♏34'36	
	4673 Nov 21 11:51	15°♏	
	4674 Mar 02 04:18	0°♐	
retrograde	4674 Mar 14 23:25	0°♐15'31	
	4674 Mar 27 18:57	30°℞♏	
opposition	4674 May 14 16:35	25°♏21'24	1°21'19
min. Earth dist.	4674 May 15 10:25	25°♏15'39	4.47717 AU
direct	4674 Jul 16 06:38	20°♏19'17	
	4674 Oct 12 16:11	0°♐	
evening set	4674 Nov 19 06:59	7°♐40'22	
max. Earth dist.	4674 Nov 30 15:14	10°♐07'05	6.46766 AU
conjunction	4674 Dec 02 04:25	10°♐27'13	0°49'45
minimum elong	4674 Dec 02 04:26	10°♐27'13	0°49'45
morning rise	4674 Dec 14 23:19	13°♐12'57	
retrograde	4675 Apr 14 08:31	29°♐58'01	
opposition	4675 Jun 14 06:31	25°♐05'37	0°58'16
min. Earth dist.	4675 Jun 15 15:09	24°♐55'13	4.43970 AU
direct	4675 Aug 16 01:07	20°♐04'29	
	4675 Nov 13 00:37	0°♑	
evening set	4675 Dec 19 16:21	7°♑37'50	
max. Earth dist.	4675 Dec 30 06:31	9°♑57'36	6.39253 AU
conjunction	4676 Jan 01 10:18	10°♑26'11	0°27'20
minimum elong	4676 Jan 01 10:19	10°♑26'11	0°27'20
morning rise	4676 Jan 14 02:35	13°♑13'52	
	4676 Apr 26 11:46	0°♒	
retrograde	4676 May 15 05:04	0°♒32'32	
	4676 Jun 02 22:21	30°℞♑	
opposition	4676 Jul 15 03:44	25°♑40'15	0°18'31
min. Earth dist.	4676 Jul 16 17:48	25°♑28'06	4.33084 AU
direct	4676 Sep 15 08:58	20°♑40'44	
	4676 Dec 08 17:32	0°♒	
desc. node	4676 Dec 18 19:00	2°♒00'27	
evening set	4677 Jan 18 19:27	8°♒44'40	
max. Earth dist.	4677 Jan 29 10:05	11°♒09'08	6.25811 AU
conjunction	4677 Jan 31 12:30	11°♒37'51	-0°03'40
minimum elong	4677 Jan 31 12:30	11°♒37'51	0°03'40
behind sun begin	4677 Jan 31 04:36	11°♒33'23	
behind sun end	4677 Jan 31 20:24	11°♒42'20	
morning rise	4677 Feb 13 04:44	14°♒30'58	
	4677 Feb 15 08:02	15°♒	
	4677 May 05 21:55	0°♓	
retrograde	4677 Jun 18 08:26	2°♓49'10	
	4677 Aug 01 09:51	30°℞♒	
opposition	4677 Aug 18 02:10	27°♒55'34	-0°29'19
min. Earth dist.	4677 Aug 19 10:41	27°♒45'06	4.17903 AU
direct	4677 Oct 18 03:10	22°♒58'21	
	4677 Dec 27 11:40	0°♓	
evening set	4678 Feb 20 13:55	11°♓45'21	
max. Earth dist.	4678 Mar 03 20:35	14°♓24'28	6.10143 AU
conjunction	4678 Mar 05 08:34	14°♓45'41	-0°34'51
minimum elong	4678 Mar 05 08:32	14°♓45'40	0°34'50
morning rise	4678 Mar 18 04:12	17°♓46'46	
	4678 May 14 01:34	0°♈	
retrograde	4678 Jul 24 23:13	7°♈18'13	
opposition	4678 Sep 23 07:25	2°♈21'49	-1°10'40
min. Earth dist.	4678 Sep 23 22:06	2°♈17'00	4.03022 AU
	4678 Oct 12 03:57	30°℞♓	
direct	4678 Nov 21 20:47	27°♓26'52	
	4678 Dec 31 20:48	0°♈	
evening set	4679 Mar 27 12:57	16°♈56'49	

conjunction	4679 Apr 09 12:49	20°♈05'02	-0°55'13	
minimum elong	4679 Apr 09 12:48	20°♈05'01	0°55'14	
max. Earth dist.	4679 Apr 09 08:10	20°♈02'13	5.97423 AU	
morning rise	4679 Apr 22 14:43	23°♈14'37		
	4679 May 21 13:23	0°♉		
retrograde	4679 Sep 01 08:45	13°♉46'24		
opposition	4679 Oct 31 04:39	8°♉46'26	-1°27'22	
min. Earth dist.	4679 Oct 30 20:15	8°♉49'14	3.93874 AU	
direct	4679 Dec 28 12:37	3°♉52'34		
	4680 Mar 25 14:45	15°♉		
evening set	4680 May 02 12:17	23°♉46'32		
conjunction	4680 May 15 19:46	27°♉00'34	-0°54'46	
minimum elong	4680 May 15 19:48	27°♉00'35	0°54'47	
max. Earth dist.	4680 May 17 01:20	27°♉18'33	5.92720 AU	
	4680 May 28 03:27	0°♊		
morning rise	4680 May 29 06:20	0°♊16'13		
retrograde	4680 Oct 08 16:17	21°♊03'41		
min. Earth dist.	4680 Dec 06 00:06	16°♊10'21	3.94303 AU	
opposition	4680 Dec 07 05:40	16°♊00'20	-1°08'50	
direct	4681 Feb 03 00:46	11°♊05'20		
	4681 Jun 05 18:35	0°♋		
evening set	4681 Jun 09 09:32	0°♋51'32		
conjunction	4681 Jun 23 00:20	4°♋06'27	-0°32'25	
minimum elong	4681 Jun 23 00:22	4°♋06'28	0°32'25	
max. Earth dist.	4681 Jun 25 05:53	4°♋38'25	5.98196 AU	
morning rise	4681 Jul 06 17:37	7°♋22'25		
retrograde	4681 Nov 14 06:45	27°♋30'59		
min. Earth dist.	4682 Jan 11 06:20	22°♋38'43	4.04164 AU	
opposition	4682 Jan 12 19:03	22°♋26'12	-0°23'30	
direct	4682 Mar 12 02:54	17°♋28'28		
	4682 Jun 16 19:18	0°♌		
asc. node	4682 Jul 11 07:28	5°♌26'27		
evening set	4682 Jul 16 15:30	6°♌39'44		
conjunction	4682 Jul 30 09:07	9°♌49'42	0°01'43	
minimum elong	4682 Jul 30 09:07	9°♌49'42	0°01'43	
behind sun begin	4682 Jul 30 00:43	9°♌44'53		
behind sun end	4682 Jul 30 17:31	9°♌54'31		
max. Earth dist.	4682 Aug 01 18:13	10°♌22'39	6.11481 AU	
morning rise	4682 Aug 13 03:23	12°♌59'43		
	4682 Aug 21 23:13	15°♌		
	4682 Nov 12 23:49	0°♍		
retrograde	4682 Dec 18 07:27	1°♍57'59		
	4683 Jan 22 08:47	30°℞♌		
min. Earth dist.	4683 Feb 14 16:36	27°♌05'17	4.19387 AU	
opposition	4683 Feb 16 00:20	26°♌54'34	0°27'34	
direct	4683 Apr 16 11:17	21°♌54'14		
	4683 Jul 02 03:42	0°♍		
evening set	4683 Aug 21 02:14	10°♍20'48		
conjunction	4683 Sep 03 16:48	13°♍22'29	0°33'36	
minimum elong	4683 Sep 03 16:46	13°♍22'28	0°33'36	
max. Earth dist.	4683 Sep 05 06:24	13°♍43'26	6.27322 AU	
morning rise	4683 Sep 17 06:39	16°♍23'25		
	4683 Nov 26 16:57	0°♎		
retrograde	4684 Jan 19 00:31	4°♎12'20		
	4684 Mar 13 00:28	30°℞♍		
min. Earth dist.	4684 Mar 18 09:07	29°♍17'26	4.34459 AU	
opposition	4684 Mar 19 01:17	29°♍12'03	1°06'19	
direct	4684 May 18 21:27	24°♍10'04		
	4684 Jul 23 00:52	0°♎		
evening set	4684 Sep 22 09:24	11°♎58'22		
conjunction	4684 Oct 05 18:04	14°♎52'06	0°53'48	
minimum elong	4684 Oct 05 18:03	14°♎52'05	0°53'47	
max. Earth dist.	4684 Oct 06 04:57	14°♎58'00	6.40465 AU	
morning rise	4684 Oct 19 00:26	17°♎44'36		
	4684 Dec 21 21:37	0°♏		
retrograde	4685 Feb 17 05:32	4°♏44'32		
	4685 Apr 17 02:51	30°℞♎		
opposition	4685 Apr 18 15:57	29°♎47'54	1°24'09	
min. Earth dist.	4685 Apr 18 18:08	29°♎47'11	4.44841 AU	
direct	4685 Jun 19 15:06	24°♎45'29		
	4685 Aug 20 23:58	0°♏		
evening set	4685 Oct 23 22:05	12°♏10'45		
conjunction	4685 Nov 05 24:00	14°♏59'09	0°58'21	
minimum elong	4685 Nov 05 24:00	14°♏59'09	0°58'22	
max. Earth dist.	4685 Nov 05 05:05	14°♏48'58	6.47309 AU	
	4685 Nov 06 01:35	15°♏		
morning rise	4685 Nov 18 23:27	17°♏46'18		
	4686 Jan 22 14:33	0°♐		
retrograde	4686 Mar 19 02:38	4°♐25'18		
	4686 May 15 03:02	30°℞♏		
opposition	4686 May 18 19:49	29°♏31'33	1°19'15	
min. Earth dist.	4686 May 19 17:18	29°♏24'39	4.47855 AU	
direct	4686 Jul 20 12:35	24°♏29'29		
	4686 Sep 22 19:47	0°♐		
evening set	4686 Nov 23 10:14	11°♐50'41		
max. Earth dist.	4686 Dec 04 14:05	14°♐15'18	6.46231 AU	
conjunction	4686 Dec 06 07:05	14°♐37'31	0°47'21	
minimum elong	4686 Dec 06 07:06	14°♐37'31	0°47'22	
morning rise	4686 Dec 19 01:30	17°♐23'16		
	4687 Feb 23 15:40	0°♑		
retrograde	4687 Apr 18 13:49	4°♑11'12		
	4687 Jun 13 02:57	30°℞♐		
opposition	4687 Jun 18 12:15	29°♐18'54	0°53'38	
min. Earth dist.	4687 Jun 19 22:09	29°♐08'06	4.42794 AU	
direct	4687 Aug 20 05:09	24°♐17'53		
	4687 Oct 24 06:59	0°♑		
evening set	4687 Dec 23 20:44	11°♑54'56		
max. Earth dist.	4688 Jan 03 10:28	14°♑15'00	6.37511 AU	
conjunction	4688 Jan 05 14:32	14°♑43'52	0°23'26	
minimum elong	4688 Jan 05 14:33	14°♑43'53	0°23'28	
morning rise	4688 Jan 18 06:34	17°♑32'12		
	4688 Mar 21 17:10	0°♒		
retrograde	4688 May 19 18:24	4°♒58'27		
opposition	4688 Jul 19 16:00	0°♒06'09	0°12'10	
	4688 Jul 20 11:16	30°℞♑		
min. Earth dist.	4688 Jul 21 06:55	29°♑53'44	4.30865 AU	
direct	4688 Sep 19 17:49	25°♑06'56		
desc. node	4688 Oct 29 14:44	27°♑27'36		
	4688 Nov 17 12:50	0°♒		
evening set	4689 Jan 23 04:58	13°♒17'34		
	4689 Jan 30 16:38	15°♒		
max. Earth dist.	4689 Feb 02 18:53	15°♒42'30	6.23278 AU	
conjunction	4689 Feb 04 22:00	16°♒11'48	-0°08'09	
minimum elong	4689 Feb 04 22:00	16°♒11'48	0°08'09	
behind sun begin	4689 Feb 04 14:53	16°♒07'44		
behind sun end	4689 Feb 05 05:06	16°♒15'51		
morning rise	4689 Feb 17 14:44	19°♒06'08		
	4689 Apr 10 06:30	0°♓		
retrograde	4689 Jun 23 07:24	7°♓35'44		
opposition	4689 Aug 22 23:19	2°♓41'49	-0°35'49	
min. Earth dist.	4689 Aug 24 05:49	2°♓31'58	4.15235 AU	
	4689 Sep 14 02:19	30°℞♒		
direct	4689 Oct 22 18:45	27°♒44'56		
	4689 Nov 29 23:34	0°♓		
evening set	4690 Feb 25 07:41	16°♓40'14		

max. Earth dist.	4690 Mar 08 19:50	19°♓23'25	6.07590 AU	
conjunction	4690 Mar 10 03:05	19°♓41'57	-0°38'35	
minimum elong	4690 Mar 10 03:03	19°♓41'56	0°38'34	
morning rise	4690 Mar 22 23:21	22°♓44'29		
	4690 Apr 23 20:04	0°♈		
retrograde	4690 Jul 30 08:08	12°♈27'44		
opposition	4690 Sep 28 13:19	7°♈30'58	-1°14'51	
min. Earth dist.	4690 Sep 29 01:29	7°♈26'59	4.00841 AU	
direct	4690 Nov 26 21:46	2°♈36'21		
evening set	4691 Apr 01 15:58	22°♈12'59		
conjunction	4691 Apr 14 16:46	25°♈22'25	-0°56'31	
minimum elong	4691 Apr 14 16:45	25°♈22'24	0°56'31	
max. Earth dist.	4691 Apr 14 16:13	25°♈22'05	5.95819 AU	
morning rise	4691 Apr 27 20:03	28°♈33'19		
	4691 May 03 20:27	0°♉		
	4691 Jul 16 04:47	15°♉		
retrograde	4691 Sep 06 19:54	19°♉11'54		
	4691 Oct 30 13:14	15°℞♉		
opposition	4691 Nov 05 15:01	14°♉11'24	-1°26'50	
min. Earth dist.	4691 Nov 05 01:51	14°♉15'48	3.93062 AU	
direct	4692 Jan 02 18:40	9°♉17'32		
	4692 Mar 03 04:59	15°♉		
evening set	4692 May 07 21:14	29°♉13'12		
	4692 May 11 02:36	0°♊		
conjunction	4692 May 21 05:57	2°♊27'48	-0°52'44	
minimum elong	4692 May 21 05:59	2°♊27'49	0°52'44	
max. Earth dist.	4692 May 22 16:50	2°♊49'00	5.92776 AU	
morning rise	4692 Jun 03 17:38	5°♊43'56		
retrograde	4692 Oct 14 00:44	26°♊29'09		
min. Earth dist.	4692 Dec 11 06:28	21°♊35'58	3.95202 AU	
opposition	4692 Dec 12 13:42	21°♊25'21	-1°03'30	
direct	4693 Feb 08 10:19	16°♊29'59		
	4693 May 18 21:54	0°♋		
evening set	4693 Jun 14 18:29	6°♋12'07		
conjunction	4693 Jun 28 10:06	9°♋26'35	-0°27'54	
minimum elong	4693 Jun 28 10:08	9°♋26'36	0°27'55	
max. Earth dist.	4693 Jun 30 19:20	10°♋00'36	5.99832 AU	
morning rise	4693 Jul 12 03:48	12°♋41'57		
	4693 Oct 08 22:18	0°♌		
retrograde	4693 Nov 19 06:38	2°♌40'48		
	4693 Dec 30 10:35	30°℞♋		
min. Earth dist.	4694 Jan 16 05:53	27°♋48'41	4.06319 AU	
opposition	4694 Jan 17 19:05	27°♋36'01	-0°16'03	
direct	4694 Mar 17 05:55	22°♋37'53		
asc. node	4694 May 20 06:21	28°♋43'57		
	4694 May 27 10:12	0°♌		
evening set	4694 Jul 21 18:58	11°♌42'02		
conjunction	4694 Aug 04 12:15	14°♌50'46	0°06'41	
minimum elong	4694 Aug 04 12:14	14°♌50'46	0°06'40	
behind sun begin	4694 Aug 04 04:26	14°♌46'19		
behind sun end	4694 Aug 04 20:02	14°♌55'13		
	4694 Aug 05 04:21	15°♌		
max. Earth dist.	4694 Aug 06 18:26	15°♌21'52	6.13925 AU	
morning rise	4694 Aug 18 06:17	17°♌59'30		
	4694 Oct 15 02:32	0°♍		
retrograde	4694 Dec 22 20:57	6°♍46'23		
min. Earth dist.	4695 Feb 19 09:45	1°♍53'19	4.21871 AU	
opposition	4695 Feb 20 15:33	1°♍43'15	0°34'05	
	4695 Mar 05 16:42	30°℞♌		
direct	4695 Apr 21 07:24	26°♌42'34		
	4695 Jun 07 03:03	0°♍		
evening set	4695 Aug 25 21:18	15°♍02'12		
conjunction	4695 Sep 08 11:18	18°♍02'34	0°37'18	
minimum elong	4695 Sep 08 11:16	18°♍02'33	0°37'18	
max. Earth dist.	4695 Sep 09 22:23	18°♍22'02	6.29655 AU	
morning rise	4695 Sep 21 23:59	21°♍02'05		
	4695 Nov 04 05:45	0°♎		
retrograde	4696 Jan 23 07:17	8°♎41'55		
opposition	4696 Mar 23 09:47	3°♎42'11	1°10'10	
min. Earth dist.	4696 Mar 22 19:54	3°♎46'47	4.36464 AU	
	4696 Apr 24 01:08	30°℞♍		
direct	4696 May 23 09:59	28°♍40'07		
	4696 Jun 22 04:30	0°♎		
evening set	4696 Sep 26 21:20	16°♎23'30		
conjunction	4696 Oct 10 04:52	19°♎16'11	0°55'23	
minimum elong	4696 Oct 10 04:51	19°♎16'11	0°55'23	
max. Earth dist.	4696 Oct 10 09:49	19°♎18'52	6.41990 AU	
morning rise	4696 Oct 23 10:20	22°♎07'41		
	4696 Nov 30 21:50	0°♏		
retrograde	4697 Feb 21 10:15	9°♏02'36		
opposition	4697 Apr 22 21:06	4°♏06'24	1°24'46	
min. Earth dist.	4697 Apr 23 03:02	4°♏04'29	4.45815 AU	
	4697 May 30 02:12	30°℞♎		
direct	4697 Jun 24 00:13	29°♎03'56		
	4697 Jul 19 04:27	0°♏		
	4697 Oct 21 08:36	15°♏		
evening set	4697 Oct 28 05:03	16°♏27'15		
max. Earth dist.	4697 Nov 09 08:38	19°♏03'34	6.47665 AU	
conjunction	4697 Nov 10 06:20	19°♏15'14	0°57'42	
minimum elong	4697 Nov 10 06:20	19°♏15'14	0°57'42	
morning rise	4697 Nov 23 04:49	22°♏01'55		
	4698 Jan 01 11:29	0°♐		
retrograde	4698 Mar 23 06:15	8°♐40'21		
opposition	4698 May 23 01:09	3°♐46'51	1°16'48	
min. Earth dist.	4698 May 24 00:05	3°♐39'30	4.47591 AU	
	4698 Jun 25 13:57	30°℞♏		
direct	4698 Jul 24 17:53	28°♏44'54		
	4698 Aug 23 04:10	0°♐		
evening set	4698 Nov 27 15:45	16°♐07'18		
max. Earth dist.	4698 Dec 08 16:23	18°♐30'32	6.45362 AU	
conjunction	4698 Dec 10 11:59	18°♐54'13	0°44'40	
minimum elong	4698 Dec 10 12:00	18°♐54'13	0°44'40	
morning rise	4698 Dec 23 05:58	21°♐40'09		
	4699 Feb 01 23:54	0°♑		
retrograde	4699 Apr 23 00:07	8°♑32'03		
opposition	4699 Jun 22 21:45	3°♑39'51	0°48'35	
min. Earth dist.	4699 Jun 24 09:54	3°♑28'20	4.41356 AU	
	4699 Jul 25 06:13	30°℞♐		
direct	4699 Aug 24 14:09	28°♐39'02		
	4699 Sep 23 22:39	0°♑		
evening set	4699 Dec 28 04:17	16°♑20'15		
max. Earth dist.	4700 Jan 07 15:53	18°♑39'47	6.35608 AU	
conjunction	4700 Jan 09 21:51	19°♑09'50	0°19'17	
minimum elong	4700 Jan 09 21:52	19°♑09'51	0°19'18	
morning rise	4700 Jan 22 13:55	21°♑58'55		
	4700 Mar 01 13:23	0°♒		
retrograde	4700 May 25 11:00	9°♒33'20		
opposition	4700 Jul 25 08:15	4°♒40'52	0°05'29	
min. Earth dist.	4700 Jul 26 22:02	4°♒28'47	4.28618 AU	
desc. node	4700 Sep 08 22:42	0°♒06'33		
	4700 Sep 11 07:20	30°℞♑		
direct	4700 Sep 25 05:30	29°♑41'56		
	4700 Oct 09 05:27	0°♒		
	4701 Jan 15 12:19	15°♒		
evening set	4701 Jan 28 18:03	17°♒59'08		

max. Earth dist.	4701 Feb 08 11:19	20°♒26'45	6.20884 AU
conjunction	4701 Feb 10 11:22	20°♒54'26	-0°12'46
minimum elong	4701 Feb 10 11:21	20°♒54'25	0°12'45
behind sun begin	4701 Feb 10 06:14	20°♒51'29	
behind sun end	4701 Feb 10 16:28	20°♒57'21	
morning rise	4701 Feb 23 04:18	23°♒49'52	
	4701 Mar 22 21:10	0°♓	
retrograde	4701 Jun 29 10:21	12°♓30'17	
opposition	4701 Aug 29 00:15	7°♓36'06	-0°42'19
min. Earth dist.	4701 Aug 30 05:18	7°♓26'42	4.12890 AU
direct	4701 Oct 28 15:06	2°♓39'39	
evening set	4702 Mar 03 04:28	21°♓41'48	
max. Earth dist.	4702 Mar 14 20:04	24°♓27'50	6.05515 AU
conjunction	4702 Mar 16 00:21	24°♓44'40	-0°42'09
minimum elong	4702 Mar 16 00:20	24°♓44'39	0°42'10
morning rise	4702 Mar 28 21:35	27°♓48'30	
	4702 Apr 07 05:11	0°♈	
retrograde	4702 Aug 05 16:31	17°♈41'33	
opposition	4702 Oct 04 21:13	12°♈44'17	-1°18'33
min. Earth dist.	4702 Oct 05 04:35	12°♈41'52	3.99279 AU
direct	4702 Dec 03 00:09	7°♈49'56	
evening set	4703 Apr 07 20:02	27°♈30'40	
	4703 Apr 18 02:26	0°♉	
conjunction	4703 Apr 20 21:50	0°♉40'59	-0°57'24
minimum elong	4703 Apr 20 21:50	0°♉40'58	0°57'24
max. Earth dist.	4703 Apr 21 03:40	0°♉44'31	5.94933 AU
morning rise	4703 May 04 02:07	3°♉52'46	
	4703 Jun 22 07:21	15°♉	
retrograde	4703 Sep 13 06:43	24°♉34'59	
min. Earth dist.	4703 Nov 11 08:43	19°♉39'15	3.92970 AU
opposition	4703 Nov 12 00:38	19°♉33'54	-1°25'35
	4703 Dec 26 04:57	15°℞♉	
direct	4704 Jan 09 02:58	14°♉39'59	
	4704 Jan 23 00:04	15°♉	
	4704 Apr 24 22:03	0°♊	
evening set	4704 May 14 04:49	4°♊34'35	
conjunction	4704 May 27 14:38	7°♊49'22	-0°50'19
minimum elong	4704 May 27 14:40	7°♊49'23	0°50'19
max. Earth dist.	4704 May 29 06:55	8°♊13'47	5.93479 AU
morning rise	4704 Jun 10 03:17	11°♊05'36	
	4704 Sep 17 01:33	0°♋	
retrograde	4704 Oct 20 05:55	1°♋45'41	
	4704 Nov 22 04:34	30°℞♊	
min. Earth dist.	4704 Dec 17 09:01	26°♊52'54	3.96629 AU
opposition	4704 Dec 18 18:11	26°♊41'38	-0°57'49
direct	4705 Feb 14 15:32	21°♊45'57	
	4705 Apr 30 05:31	0°♋	
evening set	4705 Jun 20 23:59	11°♋22'30	
conjunction	4705 Jul 04 15:55	14°♋36'15	-0°23'21
minimum elong	4705 Jul 04 15:57	14°♋36'16	0°23'21
max. Earth dist.	4705 Jul 07 00:45	15°♋09'51	6.01805 AU
morning rise	4705 Jul 18 10:06	17°♋50'49	
	4705 Sep 12 20:36	0°♌	
retrograde	4705 Nov 25 00:45	7°♌39'18	
min. Earth dist.	4706 Jan 22 02:02	2°♌47'09	4.08610 AU
opposition	4706 Jan 23 14:52	2°♌34'36	-0°08'46
	4706 Feb 12 14:25	30°℞♋	
direct	4706 Mar 23 05:13	27°♋36'03	
asc. node	4706 Mar 31 16:55	27°♋43'22	
	4706 May 01 00:56	0°♌	
	4706 Jul 20 21:04	15°♌	
evening set	4706 Jul 27 17:47	16°♌33'06	
conjunction	4706 Aug 10 10:57	19°♌40'40	0°11'23
minimum elong	4706 Aug 10 10:56	19°♌40'39	0°11'23
behind sun begin	4706 Aug 10 04:57	19°♌37'16	
behind sun end	4706 Aug 10 16:54	19°♌44'03	
max. Earth dist.	4706 Aug 12 15:41	20°♌10'46	6.16338 AU
morning rise	4706 Aug 24 04:17	22°♌48'02	
	4706 Sep 26 05:51	0°♍	
retrograde	4706 Dec 28 07:52	11°♍24'23	
min. Earth dist.	4707 Feb 24 23:36	6°♍30'56	4.24175 AU
opposition	4707 Feb 26 02:58	6°♍21'44	0°40'08
direct	4707 Apr 26 23:35	1°♍20'51	
evening set	4707 Aug 31 12:49	19°♍34'32	
conjunction	4707 Sep 14 01:54	22°♍33'43	0°40'39
minimum elong	4707 Sep 14 01:52	22°♍33'42	0°40'39
max. Earth dist.	4707 Sep 15 07:59	22°♍50'20	6.31659 AU
morning rise	4707 Sep 27 13:47	25°♍32'02	
	4707 Oct 18 09:13	0°♎	
retrograde	4708 Jan 28 11:28	13°♎04'25	
opposition	4708 Mar 28 15:29	8°♎05'11	1°13'31
min. Earth dist.	4708 Mar 28 04:32	8°♎08'49	4.38053 AU
direct	4708 May 28 19:29	3°♎03'01	
evening set	4708 Oct 02 06:35	20°♎43'06	
conjunction	4708 Oct 15 13:22	23°♎35'03	0°56'39
minimum elong	4708 Oct 15 13:21	23°♎35'02	0°56'40
max. Earth dist.	4708 Oct 15 15:14	23°♎36'03	6.43060 AU
morning rise	4708 Oct 28 17:42	26°♎25'44	
	4708 Nov 14 15:07	0°♏	
retrograde	4709 Feb 26 12:50	13°♏17'21	
opposition	4709 Apr 28 00:57	8°♏21'40	1°24'59
min. Earth dist.	4709 Apr 28 09:10	8°♏19'00	4.46325 AU
direct	4709 Jun 29 06:18	3°♏19'19	
	4709 Oct 05 21:52	15°♏	
evening set	4709 Nov 02 10:58	20°♏42'09	
max. Earth dist.	4709 Nov 14 08:44	23°♏15'33	6.47573 AU
conjunction	4709 Nov 15 11:19	23°♏29'52	0°56'44
minimum elong	4709 Nov 15 11:20	23°♏29'52	0°56'44
morning rise	4709 Nov 28 09:15	26°♏16'22	
	4709 Dec 16 02:11	0°♐	
retrograde	4710 Mar 28 12:29	12°♐55'49	
opposition	4710 May 28 06:48	8°♐02'37	1°13'59
min. Earth dist.	4710 May 29 08:39	7°♐54'20	4.46927 AU
direct	4710 Jul 30 00:48	3°♐00'47	
evening set	4710 Dec 02 21:19	20°♐25'32	
max. Earth dist.	4710 Dec 13 20:10	22°♐48'12	6.44178 AU
conjunction	4710 Dec 15 17:14	23°♐12'46	0°41'44
minimum elong	4710 Dec 15 17:16	23°♐12'46	0°41'46
morning rise	4710 Dec 28 10:45	25°♐59'01	
	4711 Jan 16 07:28	0°♑	
retrograde	4711 Apr 28 09:26	12°♑55'51	
opposition	4711 Jun 28 07:57	8°♑03'42	0°43'14
min. Earth dist.	4711 Jun 29 19:51	7°♑52'15	4.39740 AU
direct	4711 Aug 29 21:19	3°♑03'09	
evening set	4712 Jan 02 12:46	20°♑49'01	
max. Earth dist.	4712 Jan 13 01:02	23°♑09'34	6.33686 AU
conjunction	4712 Jan 15 06:08	23°♑39'16	0°15'01
minimum elong	4712 Jan 15 06:08	23°♑39'17	0°15'01
behind sun begin	4712 Jan 15 03:03	23°♑37'33	
behind sun end	4712 Jan 15 09:14	23°♑41'00	
morning rise	4712 Jan 27 22:09	26°♑29'06	
	4712 Feb 12 22:28	0°♒	
retrograde	4712 May 30 06:03	14°♒11'42	
desc. node	4712 Jul 19 13:03	10°♒38'46	

opposition	4712 Jul 30 01:48	9°♒19'05	-0°01'16
min. Earth dist.	4712 Jul 31 15:40	9°♒06'58	4.26501 AU
direct	4712 Sep 29 20:35	4°♒20'30	
	4712 Dec 29 01:27	15°♒	
evening set	4713 Feb 02 07:41	22°♒43'28	
max. Earth dist.	4713 Feb 13 02:33	25°♒12'45	6.18746 AU
conjunction	4713 Feb 15 01:08	25°♒39'42	-0°17'18
minimum elong	4713 Feb 15 01:07	25°♒39'42	0°17'17
morning rise	4713 Feb 27 18:32	28°♒36'13	
	4713 Mar 05 20:42	0°♓	
retrograde	4713 Jul 04 11:01	17°♓26'21	
opposition	4713 Sep 03 01:12	12°♓31'44	-0°48'31
min. Earth dist.	4713 Sep 04 02:40	12°♓23'30	4.10901 AU
direct	4713 Nov 02 10:34	7°♓35'36	
evening set	4714 Mar 08 00:57	26°♓43'09	
conjunction	4714 Mar 20 21:27	29°♓47'00	-0°45'23
minimum elong	4714 Mar 20 21:25	29°♓46'59	0°45'23
max. Earth dist.	4714 Mar 19 22:19	29°♓33'11	6.03846 AU
	4714 Mar 21 19:11	0°♈	
morning rise	4714 Apr 02 19:21	2°♈51'53	
retrograde	4714 Aug 11 01:13	22°♈52'56	
opposition	4714 Oct 10 03:32	17°♈55'07	-1°21'34
min. Earth dist.	4714 Oct 10 08:25	17°♈53'30	3.98085 AU
direct	4714 Dec 08 03:27	13°♈00'53	
	4715 Apr 01 12:00	0°♉	
evening set	4715 Apr 12 22:34	2°♉44'26	
conjunction	4715 Apr 26 01:26	5°♉55'29	-0°57'49
minimum elong	4715 Apr 26 01:26	5°♉55'29	0°57'50
max. Earth dist.	4715 Apr 26 12:21	6°♉02'08	5.94323 AU
morning rise	4715 May 09 06:51	9°♉08'04	
	4715 Jun 03 03:53	15°♉	
retrograde	4715 Sep 18 14:16	29°♉52'25	
opposition	4715 Nov 17 07:20	24°♉50'52	-1°23'39
min. Earth dist.	4715 Nov 16 12:17	24°♉57'16	3.93039 AU
direct	4716 Jan 14 06:59	19°♉56'49	
	4716 Apr 06 08:26	0°♊	
evening set	4716 May 19 10:16	9°♊50'06	
conjunction	4716 Jun 01 20:58	13°♊04'59	-0°47'33
minimum elong	4716 Jun 01 21:00	13°♊05'00	0°47'33
max. Earth dist.	4716 Jun 03 15:06	13°♊30'28	5.94195 AU
morning rise	4716 Jun 15 10:45	16°♊21'20	
	4716 Aug 17 06:50	0°♋	
retrograde	4716 Oct 25 06:53	6°♋56'26	
min. Earth dist.	4716 Dec 22 09:28	2°♋03'51	3.97902 AU
opposition	4716 Dec 23 20:01	1°♋52'05	-0°51'47
	4717 Jan 06 22:36	30°℞♊	
direct	4717 Feb 19 18:51	26°♊55'59	
	4717 Apr 04 07:06	0°♋	
evening set	4717 Jun 26 03:36	16°♋27'55	
conjunction	4717 Jul 09 20:12	19°♋41'06	-0°18'40
minimum elong	4717 Jul 09 20:13	19°♋41'07	0°18'40
max. Earth dist.	4717 Jul 12 06:14	20°♋15'16	6.03526 AU
morning rise	4717 Jul 23 14:29	22°♋54'55	
	4717 Aug 24 00:53	0°♌	
retrograde	4717 Nov 29 19:34	12°♌34'09	
min. Earth dist.	4718 Jan 26 21:51	7°♌41'38	4.10571 AU
opposition	4718 Jan 28 09:13	7°♌29'36	-0°01'31
asc. node	4718 Feb 09 02:08	5°♌55'49	
direct	4718 Mar 28 03:36	2°♌30'41	
	4718 Jul 03 17:08	15°♌	
evening set	4718 Aug 01 16:16	21°♌22'01	
conjunction	4718 Aug 15 09:06	24°♌28'34	0°16'00
minimum elong	4718 Aug 15 09:05	24°♌28'33	0°16'00
max. Earth dist.	4718 Aug 17 11:13	24°♌57'01	6.18364 AU
morning rise	4718 Aug 29 02:03	27°♌34'48	
	4718 Sep 08 22:16	0°♍	
retrograde	4719 Jan 01 17:10	16°♍01'59	
opposition	4719 Mar 02 14:16	10°♍59'44	0°45'56
min. Earth dist.	4719 Mar 01 12:20	11°♍08'26	4.26096 AU
direct	4719 May 01 14:25	5°♍58'35	
evening set	4719 Sep 05 04:46	24°♍07'35	
conjunction	4719 Sep 18 17:08	27°♍05'47	0°43'47
minimum elong	4719 Sep 18 17:06	27°♍05'46	0°43'46
max. Earth dist.	4719 Sep 19 19:31	27°♍20'18	6.33336 AU
	4719 Oct 01 22:32	0°♎	
morning rise	4719 Oct 02 04:00	0°♎02'59	
retrograde	4720 Feb 01 18:19	17°♎28'59	
opposition	4720 Apr 01 22:38	12°♎30'19	1°16'29
min. Earth dist.	4720 Apr 01 14:38	12°♎32'57	4.39374 AU
direct	4720 Jun 02 07:16	7°♎28'07	
evening set	4720 Oct 06 17:17	25°♎05'28	
conjunction	4720 Oct 19 23:06	27°♎56'44	0°57'37
minimum elong	4720 Oct 19 23:05	27°♎56'44	0°57'37
max. Earth dist.	4720 Oct 19 20:18	27°♎55'13	6.43929 AU
	4720 Oct 29 11:36	0°♏	
morning rise	4720 Nov 02 02:36	0°♏46'44	
	4721 Jan 20 03:18	15°♏	
retrograde	4721 Mar 02 17:34	17°♏35'37	
	4721 Apr 13 12:44	15°℞♏	
opposition	4721 May 02 06:43	12°♏40'21	1°24'45
min. Earth dist.	4721 May 02 17:17	12°♏36'56	4.46737 AU
direct	4721 Jul 03 14:19	7°♏38'04	
	4721 Sep 17 03:13	15°♏	
evening set	4721 Nov 06 18:27	25°♏00'31	
conjunction	4721 Nov 19 18:14	27°♏48'00	0°55'29
minimum elong	4721 Nov 19 18:15	27°♏48'00	0°55'29
max. Earth dist.	4721 Nov 18 14:24	27°♏32'59	6.47528 AU
	4721 Nov 29 23:24	0°♐	
morning rise	4721 Dec 02 15:16	0°♐34'14	
retrograde	4722 Apr 01 18:13	17°♐14'24	
opposition	4722 Jun 01 14:07	12°♐21'30	1°10'44
min. Earth dist.	4722 Jun 02 16:47	12°♐12'58	4.46460 AU
direct	4722 Aug 03 08:03	7°♐19'57	
evening set	4722 Dec 07 04:06	24°♐46'07	
max. Earth dist.	4722 Dec 18 00:20	27°♐07'46	6.43337 AU
conjunction	4722 Dec 19 23:21	27°♐33'27	0°38'36
minimum elong	4722 Dec 19 23:23	27°♐33'28	0°38'36
	4722 Dec 31 03:56	0°♑	
morning rise	4723 Jan 01 16:37	0°♑19'56	
retrograde	4723 May 02 21:30	17°♑20'40	
opposition	4723 Jul 02 19:25	12°♑28'34	0°37'41
min. Earth dist.	4723 Jul 04 08:26	12°♑16'46	4.38572 AU
direct	4723 Sep 03 08:33	7°♑28'18	
evening set	4724 Jan 06 20:55	25°♑17'03	
max. Earth dist.	4724 Jan 17 09:45	27°♑38'22	6.32291 AU
conjunction	4724 Jan 19 14:10	28°♑07'47	0°10'43
minimum elong	4724 Jan 19 14:10	28°♑07'47	0°10'43
behind sun begin	4724 Jan 19 08:01	28°♑04'21	
behind sun end	4724 Jan 19 20:20	28°♑11'13	
	4724 Jan 27 22:09	0°♒	
morning rise	4724 Feb 01 06:04	0°♒58'08	
	4724 Apr 14 00:27	15°♒	
desc. node	4724 May 30 15:09	18°♒45'30	

retrograde	4724 Jun 03 21:04	18°♒47'12	
	4724 Jul 26 03:32	15°℞♒	
opposition	4724 Aug 03 18:18	13°♒54'24	-0°07'53
min. Earth dist.	4724 Aug 05 06:08	13°♒42'56	4.24974 AU
direct	4724 Oct 04 08:51	8°♒56'11	
	4724 Dec 08 22:48	15°♒	
evening set	4725 Feb 06 19:43	27°♒23'02	
max. Earth dist.	4725 Feb 17 17:23	29°♒54'28	6.17208 AU
	4725 Feb 18 02:56	0°♓	
conjunction	4725 Feb 19 13:14	0°♓19'56	-0°21'35
minimum elong	4725 Feb 19 13:13	0°♓19'55	0°21'35
morning rise	4725 Mar 04 06:55	3°♓17'12	
retrograde	4725 Jul 09 10:52	22°♓15'06	
opposition	4725 Sep 07 23:17	17°♓20'09	-0°54'08
min. Earth dist.	4725 Sep 08 23:25	17°♓12'19	4.09460 AU
direct	4725 Nov 07 05:54	12°♓24'17	
	4726 Mar 06 00:22	0°♈	
evening set	4726 Mar 12 17:56	1°♈35'32	
conjunction	4726 Mar 25 15:04	4°♈40'11	-0°48'09
minimum elong	4726 Mar 25 15:02	4°♈40'11	0°48'09
max. Earth dist.	4726 Mar 24 19:22	4°♈28'24	6.02630 AU
morning rise	4726 Apr 07 13:44	7°♈45'57	
retrograde	4726 Aug 16 03:25	27°♈53'19	
opposition	4726 Oct 15 05:06	22°♈55'04	-1°23'47
min. Earth dist.	4726 Oct 15 06:53	22°♈54'28	3.97241 AU
direct	4726 Dec 13 00:13	18°♈01'00	
	4727 Mar 15 11:24	0°♉	
evening set	4727 Apr 17 20:38	7°♉46'32	
conjunction	4727 May 01 00:19	10°♉58'12	-0°57'45
minimum elong	4727 May 01 00:19	10°♉58'12	0°57'46
max. Earth dist.	4727 May 01 13:56	11°♉06'29	5.93914 AU
morning rise	4727 May 14 06:54	14°♉11'29	
	4727 May 17 15:26	15°♉	
	4727 Jul 28 05:03	0°♊	
retrograde	4727 Sep 23 15:50	4°♊57'32	
min. Earth dist.	4727 Nov 21 11:16	0°♊02'43	3.93121 AU
	4727 Nov 21 19:20	30°℞♉	
opposition	4727 Nov 22 08:33	29°♉55'33	-1°21'10
direct	4728 Jan 19 07:23	25°♉01'17	
	4728 Mar 15 08:35	0°♊	
evening set	4728 May 24 11:00	14°♊53'52	
conjunction	4728 Jun 06 22:54	18°♊09'00	-0°44'33
minimum elong	4728 Jun 06 22:56	18°♊09'01	0°44'34
max. Earth dist.	4728 Jun 08 20:33	18°♊36'33	5.94775 AU
morning rise	4728 Jun 20 13:26	21°♊25'27	
	4728 Jul 27 23:54	0°♋	
retrograde	4728 Oct 30 05:47	11°♋56'28	
min. Earth dist.	4728 Dec 27 06:49	7°♋03'41	3.98909 AU
opposition	4728 Dec 28 17:08	6°♋52'00	-0°45'42
direct	4729 Feb 24 17:19	1°♋55'34	
evening set	4729 Jul 01 03:35	21°♋24'25	
conjunction	4729 Jul 14 20:34	24°♋37'12	-0°14'04
minimum elong	4729 Jul 14 20:36	24°♋37'12	0°14'05
behind sun begin	4729 Jul 14 16:39	24°♋34'54	
behind sun end	4729 Jul 15 00:32	24°♋39'30	
max. Earth dist.	4729 Jul 17 06:18	25°♋11'03	6.04863 AU
morning rise	4729 Jul 28 15:16	27°♋50'31	
	4729 Aug 06 23:40	0°♌	
	4729 Oct 26 14:31	15°♌	
retrograde	4729 Dec 04 09:34	17°♌22'16	
asc. node	4729 Dec 22 09:24	16°♌50'00	
	4730 Jan 12 00:48	15°℞♌	
min. Earth dist.	4730 Jan 31 12:58	12°♌29'58	4.12109 AU
opposition	4730 Feb 02 00:23	12°♌17'56	0°05'24
direct	4730 Apr 01 20:55	7°♌18'41	
	4730 Jun 14 11:53	15°♌	
evening set	4730 Aug 06 12:16	26°♌06'02	
conjunction	4730 Aug 20 04:49	29°♌11'44	0°20'21
minimum elong	4730 Aug 20 04:47	29°♌11'43	0°20'21
max. Earth dist.	4730 Aug 22 04:03	29°♌38'28	6.19988 AU
	4730 Aug 23 18:06	0°♍	
morning rise	4730 Sep 02 21:14	2°♍17'01	
retrograde	4731 Jan 06 03:44	20°♍36'41	
min. Earth dist.	4731 Mar 06 01:01	15°♍42'40	4.27663 AU
opposition	4731 Mar 07 00:18	15°♍34'52	0°51'15
direct	4731 May 06 05:43	10°♍33'30	
evening set	4731 Sep 09 19:33	28°♍38'50	
	4731 Sep 15 23:59	0°♎	
conjunction	4731 Sep 23 07:13	1°♎36'08	0°46'32
minimum elong	4731 Sep 23 07:11	1°♎36'07	0°46'32
max. Earth dist.	4731 Sep 24 06:59	1°♎49'11	6.34731 AU
morning rise	4731 Oct 06 17:09	4°♎32'22	
retrograde	4732 Feb 05 22:33	21°♎52'42	
opposition	4732 Apr 06 04:55	16°♎54'27	1°18'55
min. Earth dist.	4732 Apr 05 22:15	16°♎56'38	4.40520 AU
direct	4732 Jun 06 16:14	11°♎52'07	
evening set	4732 Oct 11 03:07	29°♎26'59	
	4732 Oct 13 16:43	0°♏	
conjunction	4732 Oct 24 08:04	2°♏17'34	0°58'13
minimum elong	4732 Oct 24 08:03	2°♏17'33	0°58'13
max. Earth dist.	4732 Oct 24 02:24	2°♏14'30	6.44741 AU
morning rise	4732 Nov 06 10:33	5°♏06'51	
	4732 Dec 26 05:38	15°♏	
retrograde	4733 Mar 06 21:58	21°♏52'53	
opposition	4733 May 06 12:01	16°♏57'57	1°24'00
min. Earth dist.	4733 May 07 00:59	16°♏53'46	4.47151 AU
	4733 May 22 03:10	15°℞♏	
direct	4733 Jul 07 22:41	11°♏55'41	
	4733 Aug 23 19:33	15°♏	
evening set	4733 Nov 11 00:46	29°♏17'12	
	4733 Nov 14 08:40	0°♐	
conjunction	4733 Nov 23 23:43	2°♐04'23	0°53'54
minimum elong	4733 Nov 23 23:44	2°♐04'23	0°53'54
max. Earth dist.	4733 Nov 22 15:58	1°♐47'16	6.47475 AU
morning rise	4733 Dec 06 20:11	4°♐50'24	
retrograde	4734 Apr 06 00:13	21°♐31'12	
opposition	4734 Jun 05 20:46	16°♐38'23	1°07'06
min. Earth dist.	4734 Jun 07 01:19	16°♐29'16	4.45921 AU
direct	4734 Aug 07 15:30	11°♐36'51	
evening set	4734 Dec 11 09:32	29°♐04'27	
	4734 Dec 15 15:40	0°♑	
max. Earth dist.	4734 Dec 22 05:16	1°♑26'08	6.42327 AU
conjunction	4734 Dec 24 04:30	1°♑52'00	0°35'13
minimum elong	4734 Dec 24 04:32	1°♑52'01	0°35'13
morning rise	4735 Jan 05 21:14	4°♑38'42	
retrograde	4735 May 07 06:31	21°♑43'50	
opposition	4735 Jul 07 05:56	16°♑51'42	0°31'51
min. Earth dist.	4735 Jul 08 19:08	16°♑39'51	4.37125 AU
direct	4735 Sep 07 16:47	11°♑51'38	
evening set	4736 Jan 11 04:52	29°♑44'17	
	4736 Jan 12 08:59	0°♒	
max. Earth dist.	4736 Jan 21 16:52	2°♒05'47	6.30498 AU
conjunction	4736 Jan 23 21:49	2°♒35'38	0°06'19

minimum elong	4736 Jan 23 21:50	2°♒35'38	0°06'20
behind sun begin	4736 Jan 23 14:19	2°♒31'25	
behind sun end	4736 Jan 24 05:21	2°♒39'51	
morning rise	4736 Feb 05 13:53	5°♒26'45	
	4736 Mar 21 23:38	15°♒	
desc. node	4736 Apr 09 20:40	18°♒16'49	
retrograde	4736 Jun 08 15:55	23°♒23'52	
opposition	4736 Aug 08 11:33	18°♒30'49	-0°14'36
min. Earth dist.	4736 Aug 09 23:18	18°♒19'21	4.22921 AU
	4736 Sep 07 23:39	15°℞♒	
direct	4736 Oct 08 23:26	13°♒32'50	
	4736 Nov 08 17:56	15°♒	
	4737 Feb 02 06:10	0°♓	
evening set	4737 Feb 11 08:47	2°♓05'28	
max. Earth dist.	4737 Feb 22 09:09	4°♓39'09	6.15073 AU
conjunction	4737 Feb 24 02:42	5°♓03'23	-0°25'51
minimum elong	4737 Feb 24 02:41	5°♓03'22	0°25'51
morning rise	4737 Mar 08 20:49	8°♓01'45	
retrograde	4737 Jul 14 12:30	27°♓09'42	
opposition	4737 Sep 12 23:49	22°♓14'22	-0°59'39
min. Earth dist.	4737 Sep 13 21:13	22°♓07'24	4.07427 AU
direct	4737 Nov 12 00:30	17°♓18'48	
	4738 Feb 17 01:18	0°♈	
evening set	4738 Mar 17 14:39	6°♈36'03	
conjunction	4738 Mar 30 12:24	9°♈41'48	-0°50'42
minimum elong	4738 Mar 30 12:22	9°♈41'47	0°50'41
max. Earth dist.	4738 Mar 29 19:55	9°♈31'53	6.00877 AU
morning rise	4738 Apr 12 12:05	12°♈48'46	
	4738 Jul 07 15:52	0°♉	
retrograde	4738 Aug 21 10:31	3°♉04'31	
	4738 Oct 05 17:02	30°℞♈	
opposition	4738 Oct 20 11:01	28°♈05'43	-1°25'33
min. Earth dist.	4738 Oct 20 09:36	28°♈06'11	3.95952 AU
direct	4738 Dec 18 02:27	23°♈11'43	
	4739 Feb 22 22:34	0°♉	
evening set	4739 Apr 23 00:08	13°♉00'54	
	4739 May 01 04:26	15°♉	
conjunction	4739 May 06 05:09	16°♉13'29	-0°57'16
minimum elong	4739 May 06 05:10	16°♉13'30	0°57'15
max. Earth dist.	4739 May 07 00:51	16°♉25'29	5.93233 AU
morning rise	4739 May 19 12:49	19°♉27'37	
	4739 Jul 04 19:58	0°♊	
retrograde	4739 Sep 29 01:08	10°♊15'49	
opposition	4739 Nov 27 15:14	5°♊13'26	-1°17'55
min. Earth dist.	4739 Nov 26 16:03	5°♊21'16	3.93145 AU
direct	4740 Jan 24 12:54	0°♊19'02	
evening set	4740 May 29 17:52	20°♊10'53	
conjunction	4740 Jun 12 06:40	23°♊26'08	-0°41'02
minimum elong	4740 Jun 12 06:42	23°♊26'10	0°41'02
max. Earth dist.	4740 Jun 14 06:56	23°♊55'11	5.95494 AU
morning rise	4740 Jun 25 22:18	26°♊42'43	
	4740 Jul 09 20:47	0°♋	
retrograde	4740 Nov 04 06:44	17°♋08'18	
min. Earth dist.	4741 Jan 01 06:35	12°♋16'08	4.00262 AU
opposition	4741 Jan 02 19:01	12°♋03'43	-0°38'56
direct	4741 Mar 01 19:42	7°♋06'59	
evening set	4741 Jul 06 08:26	26°♋31'13	
conjunction	4741 Jul 20 01:42	29°♋43'15	-0°09'10
minimum elong	4741 Jul 20 01:42	29°♋43'15	0°09'10
behind sun begin	4741 Jul 19 18:39	29°♋39'09	
behind sun end	4741 Jul 20 08:45	29°♋47'21	
	4741 Jul 21 06:24	0°♌	

max. Earth dist.	4741 Jul 22 11:04	0°♌16'44	6.06743 AU
morning rise	4741 Aug 02 20:24	2°♌55'41	
	4741 Sep 28 18:26	15°♌	
asc. node	4741 Nov 01 03:21	20°♌01'00	
retrograde	4741 Dec 09 03:46	22°♌17'31	
min. Earth dist.	4742 Feb 05 08:43	17°♌24'56	4.14314 AU
opposition	4742 Feb 06 18:41	17°♌13'25	0°12'32
	4742 Feb 23 19:29	15°℞♌	
direct	4742 Apr 06 20:33	12°♌13'50	
	4742 May 19 01:33	15°♌	
	4742 Aug 07 08:50	0°♍	
evening set	4742 Aug 11 10:38	0°♍54'37	
conjunction	4742 Aug 25 02:46	3°♍59'05	0°24'42
minimum elong	4742 Aug 25 02:45	3°♍59'04	0°24'42
max. Earth dist.	4742 Aug 27 01:05	4°♍25'09	6.22348 AU
morning rise	4742 Sep 07 18:21	7°♍02'59	
retrograde	4743 Jan 10 12:00	25°♍12'25	
opposition	4743 Mar 11 10:52	20°♍11'04	0°56'19
min. Earth dist.	4743 Mar 10 12:27	20°♍18'33	4.29978 AU
direct	4743 May 10 20:02	15°♍09'32	
	4743 Aug 30 18:16	0°♎	
evening set	4743 Sep 14 09:55	3°♎08'41	
conjunction	4743 Sep 27 20:30	6°♎04'42	0°49'03
minimum elong	4743 Sep 27 20:28	6°♎04'42	0°49'04
max. Earth dist.	4743 Sep 28 15:27	6°♎15'04	6.36816 AU
morning rise	4743 Oct 11 05:25	8°♎59'40	
retrograde	4744 Feb 10 03:32	26°♎12'29	
opposition	4744 Apr 10 10:17	21°♎14'44	1°20'54
min. Earth dist.	4744 Apr 10 07:09	21°♎15'46	4.42225 AU
direct	4744 Jun 11 02:54	16°♎12'21	
	4744 Sep 27 18:12	0°♏	
evening set	4744 Oct 15 10:27	3°♏43'01	
conjunction	4744 Oct 28 14:31	6°♏32'46	0°58'30
minimum elong	4744 Oct 28 14:30	6°♏32'46	0°58'30
max. Earth dist.	4744 Oct 28 05:02	6°♏27'40	6.45923 AU
morning rise	4744 Nov 10 15:58	9°♏21'14	
	4744 Dec 07 20:33	15°♏	
retrograde	4745 Mar 10 22:42	26°♏03'47	
opposition	4745 May 10 14:53	21°♏09'13	1°22'50
min. Earth dist.	4745 May 11 05:55	21°♏04'21	4.47750 AU
direct	4745 Jul 12 02:59	16°♏06'58	
	4745 Oct 29 18:27	0°♐	
evening set	4745 Nov 15 04:14	3°♐27'20	
max. Earth dist.	4745 Nov 26 16:18	5°♐55'48	6.47439 AU
conjunction	4745 Nov 28 02:30	6°♐14'15	0°52'05
minimum elong	4745 Nov 28 02:32	6°♐14'16	0°52'06
morning rise	4745 Dec 10 22:12	9°♐00'01	
retrograde	4746 Apr 10 03:38	25°♐41'54	
opposition	4746 Jun 10 01:00	20°♐49'19	1°03'12
min. Earth dist.	4746 Jun 11 08:01	20°♐39'25	4.45237 AU
direct	4746 Aug 11 20:15	15°♐47'55	
	4746 Nov 30 03:54	0°♑	
evening set	4746 Dec 15 12:40	3°♑17'44	
max. Earth dist.	4746 Dec 26 04:13	5°♑37'39	6.41019 AU
conjunction	4746 Dec 28 07:07	6°♑05'37	0°31'44
minimum elong	4746 Dec 28 07:08	6°♑05'37	0°31'44
morning rise	4747 Jan 09 23:46	8°♑52'45	
retrograde	4747 May 11 16:45	26°♑03'49	
opposition	4747 Jul 11 15:20	21°♑11'37	0°25'57
min. Earth dist.	4747 Jul 13 05:38	20°♑59'24	4.35250 AU
direct	4747 Sep 11 23:55	16°♑11'42	
	4747 Dec 27 13:23	0°♒	

evening set	4748 Jan	15	11:30	4°♒09'56	
max. Earth dist.	4748 Jan	26	00:29	6°♒32'40	6.28198 AU
conjunction	4748 Jan	28	04:39	7°♒02'13	0°01'55
minimum elong	4748 Jan	28	04:38	7°♒02'13	0°01'55
behind sun begin	4748 Jan	27	20:40	6°♒57'43	
behind sun end	4748 Jan	28	12:37	7°♒06'42	
morning rise	4748 Feb	09	20:42	9°♒54'18	
desc. node	4748 Feb	19	22:48	12°♒09'40	
	4748 Mar	03	23:32	15°♒	
retrograde	4748 Jun	13	10:19	28°♒01'33	
opposition	4748 Aug	13	04:54	23°♒08'19	-0°21'12
min. Earth dist.	4748 Aug	14	15:38	22°♒57'10	4.20352 AU
direct	4748 Oct	13	11:16	18°♒10'40	
	4749 Jan	16	09:39	0°♓	
evening set	4749 Feb	15	23:00	6°♓51'10	
max. Earth dist.	4749 Feb	27	01:01	9°♓26'46	6.12441 AU
conjunction	4749 Feb	28	17:11	9°♓50'20	-0°29'57
minimum elong	4749 Feb	28	17:10	9°♓50'19	0°29'57
morning rise	4749 Mar	13	12:05	12°♓50'07	
	4749 Jun	12	02:24	0°♈	
retrograde	4749 Jul	19	17:00	2°♈10'15	
	4749 Aug	26	13:32	30°℞♓	
opposition	4749 Sep	18	02:20	27°♓14'27	-1°04'47
min. Earth dist.	4749 Sep	18	20:54	27°♓08'23	4.04960 AU
direct	4749 Nov	16	21:37	22°♓19'09	
	4750 Jan	28	09:23	0°♈	
evening set	4750 Mar	22	13:54	11°♈44'05	
conjunction	4750 Apr	04	12:45	14°♈51'12	-0°52'52
minimum elong	4750 Apr	04	12:43	14°♈51'11	0°52'53
max. Earth dist.	4750 Apr	04	02:17	14°♈44'54	5.98823 AU
morning rise	4750 Apr	17	13:24	17°♈59'35	
	4750 Jun	10	16:11	0°♉	
retrograde	4750 Aug	26	22:47	8°♉24'35	
opposition	4750 Oct	25	20:11	3°♉25'17	-1°26'38
min. Earth dist.	4750 Oct	25	15:41	3°♉26'47	3.94558 AU
	4750 Nov	23	09:36	30°℞♈	
direct	4750 Dec	23	07:54	28°♈31'24	
	4751 Jan	22	00:37	0°♉	
	4751 Apr	14	01:52	15°♉	
evening set	4751 Apr	28	07:13	18°♉24'20	
conjunction	4751 May	11	13:17	21°♉37'45	-0°56'15
minimum elong	4751 May	11	13:17	21°♉37'45	0°56'15
max. Earth dist.	4751 May	12	13:25	21°♉52'27	5.92622 AU
morning rise	4751 May	24	22:23	24°♉52'47	
	4751 Jun	15	12:52	0°♊	
retrograde	4751 Oct	04	10:01	15°♊42'04	
min. Earth dist.	4751 Dec	01	21:09	10°♊48'22	3.93413 AU
opposition	4751 Dec	03	00:21	10°♊39'10	-1°13'54
direct	4752 Jan	29	20:00	5°♊44'30	
evening set	4752 Jun	04	03:26	25°♊34'20	
conjunction	4752 Jun	17	17:11	28°♊49'30	-0°37'06
minimum elong	4752 Jun	17	17:13	28°♊49'31	0°37'07
max. Earth dist.	4752 Jun	19	20:39	29°♊20'23	5.96598 AU
	4752 Jun	22	14:43	0°♋	
morning rise	4752 Jul	01	09:32	2°♋05'50	
retrograde	4752 Nov	09	09:40	22°♋23'53	
min. Earth dist.	4753 Jan	06	09:24	17°♋31'33	4.02029 AU
opposition	4753 Jan	07	21:57	17°♋19'05	-0°31'47
direct	4753 Mar	07	02:36	12°♋21'51	
	4753 Jul	04	08:39	0°♌	
evening set	4753 Jul	11	13:59	1°♌39'43	
conjunction	4753 Jul	25	07:30	4°♌50'47	-0°04'09
minimum elong	4753 Jul	25	07:30	4°♌50'47	0°04'10
behind sun begin	4753 Jul	24	23:14	4°♌46'00	
behind sun end	4753 Jul	25	15:46	4°♌55'33	
max. Earth dist.	4753 Jul	27	18:04	5°♌24'47	6.08985 AU
morning rise	4753 Aug	08	01:59	8°♌02'04	
	4753 Sep	08	10:14	15°♌	
asc. node	4753 Sep	10	00:53	15°♌20'20	
retrograde	4753 Dec	13	20:35	27°♌12'33	
min. Earth dist.	4754 Feb	10	03:10	22°♌20'04	4.16773 AU
opposition	4754 Feb	11	12:46	22°♌08'42	0°19'36
direct	4754 Apr	11	18:23	17°♌08'45	
	4754 Jul	21	02:49	0°♍	
evening set	4754 Aug	16	08:37	5°♍42'14	
conjunction	4754 Aug	29	23:56	8°♍45'19	0°28'54
minimum elong	4754 Aug	29	23:54	8°♍45'18	0°28'53
max. Earth dist.	4754 Aug	31	17:39	9°♍08'41	6.24793 AU
morning rise	4754 Sep	12	14:48	11°♍47'47	
retrograde	4755 Jan	14	21:46	29°♍47'12	
opposition	4755 Mar	15	21:24	24°♍46'17	1°01'04
min. Earth dist.	4755 Mar	15	02:12	24°♍52'41	4.32207 AU
direct	4755 May	15	12:09	19°♍44'31	
	4755 Aug	13	04:18	0°♎	
evening set	4755 Sep	18	23:55	7°♎37'57	
conjunction	4755 Oct	02	09:43	10°♎32'52	0°51'20
minimum elong	4755 Oct	02	09:42	10°♎32'51	0°51'20
max. Earth dist.	4755 Oct	03	01:45	10°♎41'36	6.38666 AU
morning rise	4755 Oct	15	17:24	13°♎26'36	
	4756 Jan	26	16:04	0°♏	
retrograde	4756 Feb	14	06:53	0°♏32'56	
	4756 Mar	03	20:36	30°℞♎	
opposition	4756 Apr	14	15:58	25°♎35'42	1°22'30
min. Earth dist.	4756 Apr	14	14:49	25°♎36'04	4.43593 AU
direct	4756 Jun	15	11:03	20°♎33'18	
	4756 Sep	10	06:13	0°♏	
evening set	4756 Oct	19	18:47	8°♏00'59	
conjunction	4756 Nov	01	21:49	10°♏50'03	0°58'31
minimum elong	4756 Nov	01	21:49	10°♏50'03	0°58'31
max. Earth dist.	4756 Nov	01	07:25	10°♏42'18	6.46711 AU
morning rise	4756 Nov	14	22:26	13°♏37'52	
	4756 Nov	21	08:54	15°♏	
	4757 Mar	01	04:07	0°♐	
retrograde	4757 Mar	15	03:48	0°♐18'20	
	4757 Mar	29	01:34	30°℞♏	
opposition	4757 May	14	19:53	25°♏24'10	1°21'17
min. Earth dist.	4757 May	15	14:31	25°♏18'10	4.47923 AU
direct	4757 Jul	16	10:47	20°♏21'59	
	4757 Oct	12	13:52	0°♐	
evening set	4757 Nov	19	09:37	7°♐42'26	
max. Earth dist.	4757 Nov	30	17:27	10°♐08'51	6.46974 AU
conjunction	4757 Dec	02	07:17	10°♐29'17	0°49'58
minimum elong	4757 Dec	02	07:18	10°♐29'18	0°49'58
morning rise	4757 Dec	15	02:27	13°♐15'02	
retrograde	4758 Apr	14	10:36	29°♐59'27	
opposition	4758 Jun	14	08:36	25°♐07'00	0°58'53
min. Earth dist.	4758 Jun	15	16:45	24°♐56'44	4.44170 AU
direct	4758 Aug	16	02:25	20°♐05'44	
	4758 Nov	13	00:38	0°♑	
evening set	4758 Dec	19	19:01	7°♑38'51	
max. Earth dist.	4758 Dec	30	10:11	9°♑59'03	6.39430 AU
conjunction	4759 Jan	01	13:15	10°♑27'13	0°27'58
minimum elong	4759 Jan	01	13:16	10°♑27'14	0°27'58

morning rise	4759 Jan	14	05:33	13°♑14'53	
	4759 Apr	27	11:32	0°♒	
retrograde	4759 May	16	06:53	0°♒32'47	
	4759 Jun	04	02:04	30°℞♑	
opposition	4759 Jul	16	04:50	25°♑40'36	0°19'39
min. Earth dist.	4759 Jul	17	19:50	25°♑28'10	4.33225 AU
direct	4759 Sep	16	10:28	20°♑41'01	
	4759 Dec	09	18:59	0°♒	
desc. node	4759 Dec	30	08:27	4°♒12'33	
evening set	4760 Jan	19	22:23	8°♒45'12	
max. Earth dist.	4760 Jan	30	10:40	11°♒08'21	6.25894 AU
conjunction	4760 Feb	01	15:25	11°♒38'24	-0°02'47
minimum elong	4760 Feb	01	15:25	11°♒38'24	0°02'47
behind sun begin	4760 Feb	01	07:27	11°♒33'53	
behind sun end	4760 Feb	01	23:22	11°♒42'54	
morning rise	4760 Feb	14	07:54	14°♒31'33	
	4760 Feb	16	10:11	15°♒	
	4760 May	05	23:59	0°♓	
retrograde	4760 Jun	18	09:54	2°♓49'08	
	4760 Aug	01	10:36	30°℞♒	
opposition	4760 Aug	18	02:47	27°♒55'39	-0°27'59
min. Earth dist.	4760 Aug	19	11:33	27°♒45'06	4.17931 AU
direct	4760 Oct	18	04:03	22°♒58'21	
	4760 Dec	27	13:09	0°♓	
evening set	4761 Feb	20	16:53	11°♓46'05	
max. Earth dist.	4761 Mar	04	00:19	14°♓25'36	6.10141 AU
conjunction	4761 Mar	05	11:42	14°♓46'28	-0°34'01
minimum elong	4761 Mar	05	11:40	14°♓46'27	0°34'00
morning rise	4761 Mar	18	07:06	17°♓47'31	
	4761 May	14	02:37	0°♈	
retrograde	4761 Jul	25	01:17	7°♈18'29	
opposition	4761 Sep	23	08:22	2°♈22'20	-1°09'37
min. Earth dist.	4761 Sep	24	00:10	2°♈17'10	4.03019 AU
	4761 Oct	12	06:42	30°℞♓	
direct	4761 Nov	21	22:31	27°♓27'28	
	4761 Dec	31	20:57	0°♈	
evening set	4762 Mar	27	15:58	16°♈57'56	
conjunction	4762 Apr	09	15:32	20°♈06'04	-0°54'43
minimum elong	4762 Apr	09	15:31	20°♈06'04	0°54'43
max. Earth dist.	4762 Apr	09	09:05	20°♈02'10	5.97432 AU
morning rise	4762 Apr	22	17:26	23°♈15'36	
	4762 May	21	14:12	0°♉	
retrograde	4762 Sep	01	08:50	13°♉46'50	
opposition	4762 Oct	31	05:51	8°♉47'01	-1°27'00
min. Earth dist.	4762 Oct	30	20:34	8°♉50'07	3.93914 AU
direct	4762 Dec	28	13:37	3°♉53'12	
	4763 Mar	26	15:55	15°♉	
evening set	4763 May	03	14:28	23°♉47'05	
conjunction	4763 May	16	21:42	27°♉00'58	-0°54'49
minimum elong	4763 May	16	21:43	27°♉00'59	0°54'50
max. Earth dist.	4763 May	18	03:26	27°♉19'03	5.92791 AU
	4763 May	29	04:38	0°♊	
morning rise	4763 May	30	07:49	0°♊16'24	
retrograde	4763 Oct	09	17:32	21°♊03'27	
min. Earth dist.	4763 Dec	07	02:34	16°♊09'52	3.94371 AU
opposition	4763 Dec	08	07:20	16°♊00'07	-1°09'21
direct	4764 Feb	04	03:57	11°♊05'11	
	4764 Jun	05	20:49	0°♋	
evening set	4764 Jun	09	10:17	0°♋50'41	
conjunction	4764 Jun	23	00:51	4°♋05'26	-0°33'00
minimum elong	4764 Jun	23	00:53	4°♋05'27	0°33'01
max. Earth dist.	4764 Jun	25	07:53	4°♋38'18	5.98236 AU
morning rise	4764 Jul	06	17:46	7°♋21'14	
retrograde	4764 Nov	14	08:27	27°♋29'57	
min. Earth dist.	4765 Jan	11	07:43	22°♋37'50	4.04152 AU
opposition	4765 Jan	12	20:57	22°♋25'10	-0°24'40
direct	4765 Mar	12	04:04	17°♋27'34	
	4765 Jun	16	22:12	0°♌	
evening set	4765 Jul	16	15:37	6°♌38'22	
asc. node	4765 Jul	21	09:53	7°♌44'08	
conjunction	4765 Jul	30	08:54	9°♌48'16	0°00'48
minimum elong	4765 Jul	30	08:54	9°♌48'16	0°00'49
behind sun begin	4765 Jul	30	00:30	9°♌43'27	
behind sun end	4765 Jul	30	17:17	9°♌53'05	
max. Earth dist.	4765 Aug	01	16:33	10°♌20'24	6.11373 AU
morning rise	4765 Aug	13	03:16	12°♌58'21	
	4765 Aug	22	01:25	15°♌	
	4765 Nov	13	02:44	0°♍	
retrograde	4765 Dec	18	09:14	1°♍57'44	
	4766 Jan	22	09:39	30°℞♌	
min. Earth dist.	4766 Feb	14	19:08	27°♌04'51	4.19185 AU
opposition	4766 Feb	16	02:41	26°♌54'11	0°26'15
direct	4766 Apr	16	13:05	21°♌53'53	
	4766 Jul	02	04:56	0°♍	
evening set	4766 Aug	21	02:28	10°♍20'45	
conjunction	4766 Sep	03	17:19	13°♍22'37	0°32'47
minimum elong	4766 Sep	03	17:17	13°♍22'36	0°32'47
max. Earth dist.	4766 Sep	05	08:30	13°♍44'27	6.27045 AU
morning rise	4766 Sep	17	07:08	16°♍23'43	
	4766 Nov	26	15:01	0°♎	
retrograde	4767 Jan	19	03:37	4°♎14'14	
	4767 Mar	14	09:15	30°℞♍	
min. Earth dist.	4767 Mar	19	11:38	29°♍19'29	4.34130 AU
opposition	4767 Mar	20	04:31	29°♍13'53	1°05'19
direct	4767 May	19	22:57	24°♍12'00	
	4767 Jul	23	21:14	0°♎	
evening set	4767 Sep	23	10:58	12°♎01'00	
conjunction	4767 Oct	06	19:43	14°♎54'56	0°53'16
minimum elong	4767 Oct	06	19:42	14°♎54'56	0°53'16
max. Earth dist.	4767 Oct	07	05:42	15°♎00'22	6.40108 AU
morning rise	4767 Oct	20	02:35	17°♎47'45	
	4767 Dec	22	13:52	0°♏	
retrograde	4768 Feb	18	10:55	4°♏49'17	
	4768 Apr	17	21:11	30°℞♎	
opposition	4768 Apr	18	20:05	29°♎52'31	1°23'41
min. Earth dist.	4768 Apr	18	22:42	29°♎51'40	4.44492 AU
direct	4768 Jun	19	18:49	24°♎50'04	
	4768 Aug	20	14:01	0°♏	
evening set	4768 Oct	24	01:12	12°♏16'14	
max. Earth dist.	4768 Nov	05	10:28	14°♏55'41	6.47006 AU
	4768 Nov	05	18:29	15°♏	
conjunction	4768 Nov	06	03:36	15°♏04'55	0°58'13
minimum elong	4768 Nov	06	03:37	15°♏04'55	0°58'14
morning rise	4768 Nov	19	03:16	17°♏52'18	
	4769 Jan	22	01:01	0°♐	
retrograde	4769 Mar	19	06:45	4°♐32'19	
	4769 May	16	05:13	30°℞♏	
opposition	4769 May	19	00:16	29°♏38'28	1°19'22
min. Earth dist.	4769 May	19	20:18	29°♏32'01	4.47632 AU
direct	4769 Jul	20	15:08	24°♏36'23	
	4769 Sep	22	05:20	0°♐	
evening set	4769 Nov	23	14:59	11°♐58'18	
max. Earth dist.	4769 Dec	04	19:34	14°♐23'20	6.46120 AU
conjunction	4769 Dec	06	12:01	14°♐45'15	0°47'37

minimum elong	4769 Dec 06 12:02	14°♐45'16	0°47'37
morning rise	4769 Dec 19 06:43	17°♐31'10	
	4770 Feb 22 22:59	0°♑	
retrograde	4770 Apr 18 20:00	4°♑19'15	
	4770 Jun 14 09:02	30°℞♐	
opposition	4770 Jun 18 17:00	29°♐26'56	0°54'15
min. Earth dist.	4770 Jun 20 03:20	29°♐15'59	4.42809 AU
direct	4770 Aug 20 10:33	24°♐25'53	
	4770 Oct 23 15:41	0°♑	
evening set	4770 Dec 24 02:06	12°♑02'58	
max. Earth dist.	4771 Jan 03 15:20	14°♑22'42	6.37662 AU
conjunction	4771 Jan 05 20:05	14°♑51'55	0°24'01
minimum elong	4771 Jan 05 20:06	14°♑51'56	0°24'02
morning rise	4771 Jan 18 12:22	17°♑40'16	
	4771 Mar 22 03:16	0°♒	
retrograde	4771 May 20 22:04	5°♒05'32	
opposition	4771 Jul 20 19:50	0°♒13'12	0°13'12
min. Earth dist.	4771 Jul 22 09:40	0°♒01'07	4.31167 AU
	4771 Jul 22 13:08	30°℞♑	
direct	4771 Sep 20 21:16	25°♑13'53	
desc. node	4771 Nov 08 23:28	28°♑42'29	
	4771 Nov 17 23:48	0°♒	
evening set	4772 Jan 24 10:06	13°♒23'46	
	4772 Jan 31 11:11	15°♒	
max. Earth dist.	4772 Feb 04 01:44	15°♒49'29	6.23720 AU
conjunction	4772 Feb 06 03:19	16°♒17'53	-0°07'23
minimum elong	4772 Feb 06 03:18	16°♒17'52	0°07'23
behind sun begin	4772 Feb 05 19:59	16°♒13'42	
behind sun end	4772 Feb 06 10:36	16°♒22'02	
morning rise	4772 Feb 18 19:52	19°♒11'58	
	4772 Apr 10 00:31	0°♓	
retrograde	4772 Jun 23 10:07	7°♓39'12	
opposition	4772 Aug 23 01:38	2°♓45'24	-0°34'36
min. Earth dist.	4772 Aug 24 09:02	2°♓35'17	4.15798 AU
	4772 Sep 14 18:06	30°℞♒	
direct	4772 Oct 22 22:52	27°♒48'28	
	4772 Nov 29 15:34	0°♓	
evening set	4773 Feb 25 11:22	16°♓42'02	
max. Earth dist.	4773 Mar 08 21:35	19°♓23'54	6.08223 AU
conjunction	4773 Mar 10 06:31	19°♓43'24	-0°37'49
minimum elong	4773 Mar 10 06:29	19°♓43'23	0°37'49
morning rise	4773 Mar 23 02:44	22°♓45'36	
	4773 Apr 23 22:31	0°♈	
retrograde	4773 Jul 30 06:22	12°♈25'34	
opposition	4773 Sep 28 13:25	7°♈28'53	-1°13'52
min. Earth dist.	4773 Sep 29 00:58	7°♈25'06	4.01502 AU
direct	4773 Nov 26 22:37	2°♈34'12	
evening set	4774 Apr 01 16:57	22°♈08'34	
conjunction	4774 Apr 14 17:29	25°♈17'35	-0°56'06
minimum elong	4774 Apr 14 17:29	25°♈17'34	0°56'06
max. Earth dist.	4774 Apr 14 16:57	25°♈17'16	5.96449 AU
morning rise	4774 Apr 27 20:17	28°♈28'00	
	4774 May 04 05:51	0°♉	
	4774 Jul 16 23:41	15°♉	
retrograde	4774 Sep 06 17:57	19°♉03'40	
	4774 Oct 29 10:39	15°℞♉	
opposition	4774 Nov 05 13:19	14°♉03'16	-1°26'38
min. Earth dist.	4774 Nov 05 01:46	14°♉07'08	3.93575 AU
direct	4775 Jan 02 19:26	9°♉09'23	
	4775 Mar 05 00:27	15°♉	
evening set	4775 May 08 19:27	29°♉03'13	
	4775 May 12 17:19	0°♊	

conjunction	4775 May 22 03:48	2°♊17'27	-0°52'57
minimum elong	4775 May 22 03:49	2°♊17'28	0°52'58
max. Earth dist.	4775 May 23 14:13	2°♊38'22	5.93118 AU
morning rise	4775 Jun 04 15:01	5°♊33'14	
retrograde	4775 Oct 14 22:01	26°♊17'17	
min. Earth dist.	4775 Dec 12 04:19	21°♊24'07	3.95345 AU
opposition	4775 Dec 13 11:13	21°♊13'38	-1°04'20
direct	4776 Feb 09 07:36	16°♊18'25	
	4776 May 19 16:29	0°♋	
evening set	4776 Jun 14 15:06	6°♋00'00	
conjunction	4776 Jun 28 06:13	9°♋14'20	-0°28'43
minimum elong	4776 Jun 28 06:14	9°♋14'21	0°28'44
max. Earth dist.	4776 Jun 30 13:04	9°♋46'57	5.99740 AU
morning rise	4776 Jul 11 23:47	12°♋29'39	
	4776 Oct 10 08:31	0°♌	
retrograde	4776 Nov 19 04:01	2°♌29'52	
	4776 Dec 28 19:46	30°℞♋	
min. Earth dist.	4777 Jan 16 04:32	27°♋37'40	4.06007 AU
opposition	4777 Jan 17 17:29	27°♋25'05	-0°17'29
direct	4777 Mar 17 03:51	22°♋27'02	
	4777 May 28 06:12	0°♌	
asc. node	4777 May 31 20:13	0°♌40'11	
evening set	4777 Jul 21 15:42	11°♌32'10	
conjunction	4777 Aug 04 09:08	14°♌41'10	0°05'39
minimum elong	4777 Aug 04 09:07	14°♌41'10	0°05'39
behind sun begin	4777 Aug 04 01:06	14°♌36'35	
behind sun end	4777 Aug 04 17:08	14°♌45'45	
	4777 Aug 05 17:54	15°♌	
max. Earth dist.	4777 Aug 06 16:07	15°♌12'46	6.13428 AU
morning rise	4777 Aug 18 03:02	17°♌50'07	
	4777 Oct 15 18:17	0°♍	
retrograde	4777 Dec 22 22:24	6°♍39'53	
min. Earth dist.	4778 Feb 19 10:21	1°♍46'43	4.21230 AU
opposition	4778 Feb 20 15:55	1°♍36'45	0°32'40
	4778 Mar 04 20:15	30°℞♌	
direct	4778 Apr 21 06:31	26°♌36'13	
	4778 Jun 07 20:03	0°♍	
evening set	4778 Aug 25 20:11	14°♍57'48	
conjunction	4778 Sep 08 10:14	17°♍58'34	0°36'27
minimum elong	4778 Sep 08 10:12	17°♍58'33	0°36'27
max. Earth dist.	4778 Sep 09 20:55	18°♍17'50	6.28906 AU
morning rise	4778 Sep 21 23:23	20°♍58'34	
	4778 Nov 04 10:31	0°♎	
retrograde	4779 Jan 23 10:04	8°♎41'43	
opposition	4779 Mar 24 12:21	3°♎41'51	1°09'12
min. Earth dist.	4779 Mar 23 22:05	3°♎46'35	4.35684 AU
	4779 Apr 25 01:28	30°℞♍	
direct	4779 May 24 10:32	28°♍39'51	
	4779 Jun 23 05:39	0°♎	
evening set	4779 Sep 27 22:47	16°♎25'33	
conjunction	4779 Oct 11 06:49	19°♎18'43	0°54'54
minimum elong	4779 Oct 11 06:47	19°♎18'42	0°54'54
max. Earth dist.	4779 Oct 11 14:05	19°♎22'40	6.41256 AU
morning rise	4779 Oct 24 12:30	22°♎10'39	
	4779 Dec 01 16:19	0°♏	
retrograde	4780 Feb 22 15:12	9°♏08'19	
opposition	4780 Apr 23 01:32	4°♏12'05	1°24'24
min. Earth dist.	4780 Apr 23 06:11	4°♏10'34	4.45184 AU
	4780 May 31 14:01	30°℞♎	
direct	4780 Jun 24 02:46	29°♎09'46	
	4780 Jul 17 21:52	0°♏	
	4780 Oct 20 22:22	15°♏	
evening set	4780 Oct 28 09:20	16°♏34'58	

conjunction	4780 Nov 10 10:47	19°♏23'15	0°57'37
minimum elong	4780 Nov 10 10:48	19°♏23'15	0°57'38
max. Earth dist.	4780 Nov 09 13:00	19°♏11'31	6.47200 AU
morning rise	4780 Nov 23 09:49	22°♏10'19	
	4780 Dec 31 21:30	0°♐	
retrograde	4781 Mar 23 13:43	8°♐50'14	
opposition	4781 May 23 06:49	3°♐56'44	1°17'00
min. Earth dist.	4781 May 24 05:31	3°♐49'26	4.47350 AU
	4781 Jun 27 20:12	30°℞♏	
direct	4781 Jul 24 23:22	28°♏54'51	
	4781 Aug 21 06:57	0°♐	
evening set	4781 Nov 27 21:30	16°♐17'57	
max. Earth dist.	4781 Dec 09 00:35	18°♐42'27	6.45407 AU
conjunction	4781 Dec 10 18:08	19°♐05'00	0°44'59
minimum elong	4781 Dec 10 18:09	19°♐05'01	0°44'59
morning rise	4781 Dec 23 12:14	21°♐51'01	
	4782 Feb 01 07:18	0°♑	
retrograde	4782 Apr 23 04:32	8°♑42'23	
opposition	4782 Jun 23 02:57	3°♑50'12	0°49'18
min. Earth dist.	4782 Jun 24 12:54	3°♑39'22	4.41733 AU
	4782 Jul 27 13:22	30°℞♐	
direct	4782 Aug 24 18:04	28°♐49'28	
	4782 Sep 22 02:27	0°♑	
evening set	4782 Dec 28 09:59	16°♑29'24	
max. Earth dist.	4783 Jan 07 23:41	18°♑49'53	6.36320 AU
conjunction	4783 Jan 10 03:35	19°♑18'45	0°19'58
minimum elong	4783 Jan 10 03:36	19°♑18'46	0°19'59
morning rise	4783 Jan 22 19:40	22°♑07'33	
	4783 Mar 01 03:16	0°♒	
retrograde	4783 May 25 14:17	9°♒38'50	
opposition	4783 Jul 25 11:05	4°♒46'25	0°06'43
min. Earth dist.	4783 Jul 27 01:13	4°♒34'15	4.29631 AU
	4783 Sep 13 19:18	30°℞♑	
desc. node	4783 Sep 19 18:25	29°♑50'28	
direct	4783 Sep 25 10:57	29°♑47'28	
	4783 Oct 07 02:01	0°♒	
	4784 Jan 15 10:51	15°♒	
evening set	4784 Jan 28 21:17	18°♒01'14	
max. Earth dist.	4784 Feb 08 13:44	20°♒28'00	6.22118 AU
conjunction	4784 Feb 10 14:26	20°♒55'59	-0°11'49
minimum elong	4784 Feb 10 14:26	20°♒55'58	0°11'48
behind sun begin	4784 Feb 10 08:46	20°♒52'44	
behind sun end	4784 Feb 10 20:06	20°♒59'13	
morning rise	4784 Feb 23 07:18	23°♒50'51	
	4784 Mar 22 00:22	0°♓	
retrograde	4784 Jun 28 06:07	12°♓25'44	
opposition	4784 Aug 27 22:35	7°♓31'35	-0°40'47
min. Earth dist.	4784 Aug 29 02:56	7°♓22'26	4.14251 AU
direct	4784 Oct 27 15:01	2°♓35'00	
evening set	4785 Mar 02 03:18	21°♓32'27	
conjunction	4785 Mar 14 22:54	24°♓34'35	-0°41'13
minimum elong	4785 Mar 14 22:53	24°♓34'34	0°41'13
max. Earth dist.	4785 Mar 13 18:30	24°♓17'43	6.06868 AU
morning rise	4785 Mar 27 19:37	27°♓37'36	
	4785 Apr 06 22:44	0°♈	
retrograde	4785 Aug 04 10:10	17°♈24'38	
opposition	4785 Oct 03 14:57	12°♈27'29	-1°17'22
min. Earth dist.	4785 Oct 04 00:40	12°♈24'17	4.00458 AU
direct	4785 Dec 01 21:31	7°♈32'58	
evening set	4786 Apr 06 14:01	27°♈09'43	
	4786 Apr 18 07:25	0°♉	
conjunction	4786 Apr 19 15:25	0°♉19'24	-0°57'00
minimum elong	4786 Apr 19 15:24	0°♉19'24	0°56'59
max. Earth dist.	4786 Apr 19 18:40	0°♉21'23	5.95813 AU
morning rise	4786 May 02 19:14	3°♉30'34	
	4786 Jun 22 23:22	15°♉	
retrograde	4786 Sep 11 20:26	24°♉09'07	
opposition	4786 Nov 10 15:19	19°♉08'17	-1°25'34
min. Earth dist.	4786 Nov 10 00:49	19°♉13'09	3.93448 AU
	4786 Dec 17 15:31	15°℞♉	
direct	4787 Jan 07 17:58	14°♉14'21	
	4787 Jan 28 21:33	15°♉	
	4787 Apr 26 11:06	0°♊	
evening set	4787 May 13 19:59	4°♊07'51	
conjunction	4787 May 27 05:13	7°♊22'22	-0°50'46
minimum elong	4787 May 27 05:15	7°♊22'23	0°50'46
max. Earth dist.	4787 May 28 17:09	7°♊44'10	5.93497 AU
morning rise	4787 Jun 09 17:33	10°♊38'26	
	4787 Sep 21 05:46	0°♋	
retrograde	4787 Oct 19 20:30	1°♋19'32	
	4787 Nov 17 07:22	30°℞♊	
min. Earth dist.	4787 Dec 17 01:43	26°♊26'29	3.96186 AU
opposition	4787 Dec 18 09:43	26°♊15'36	-0°59'05
direct	4788 Feb 14 07:09	21°♊19'59	
	4788 May 01 00:24	0°♋	
evening set	4788 Jun 19 15:16	10°♋58'40	
conjunction	4788 Jul 03 07:14	14°♋12'45	-0°24'26
minimum elong	4788 Jul 03 07:15	14°♋12'46	0°24'26
max. Earth dist.	4788 Jul 05 15:46	14°♋46'16	6.00980 AU
morning rise	4788 Jul 17 01:07	17°♋27'39	
	4788 Sep 13 10:02	0°♌	
retrograde	4788 Nov 23 21:53	7°♌20'45	
min. Earth dist.	4789 Jan 20 22:24	2°♌28'17	4.07502 AU
opposition	4789 Jan 22 10:15	2°♌16'04	-0°10'33
	4789 Feb 08 18:22	30°℞♋	
direct	4789 Mar 21 23:23	27°♋17'40	
asc. node	4789 Apr 13 06:10	28°♋07'05	
	4789 May 02 06:19	0°♌	
	4789 Jul 20 18:02	15°♌	
evening set	4789 Jul 26 12:39	16°♌18'39	
conjunction	4789 Aug 09 05:54	19°♌26'52	0°10'13
minimum elong	4789 Aug 09 05:53	19°♌26'51	0°10'12
behind sun begin	4789 Aug 08 23:17	19°♌23'06	
behind sun end	4789 Aug 09 12:28	19°♌30'36	
max. Earth dist.	4789 Aug 11 10:37	19°♌57'02	6.15047 AU
morning rise	4789 Aug 22 23:38	22°♌34'57	
	4789 Sep 25 23:59	0°♍	
retrograde	4789 Dec 27 07:26	11°♍16'48	
min. Earth dist.	4790 Feb 23 22:09	6°♍23'36	4.22844 AU
opposition	4790 Feb 25 02:40	6°♍13'59	0°38'37
direct	4790 Apr 25 20:28	1°♍13'10	
evening set	4790 Aug 30 12:06	19°♍30'57	
conjunction	4790 Sep 13 01:34	22°♍30'48	0°39'45
minimum elong	4790 Sep 13 01:33	22°♍30'47	0°39'46
max. Earth dist.	4790 Sep 14 09:20	22°♍48'24	6.30410 AU
morning rise	4790 Sep 26 13:46	25°♍29'47	
	4790 Oct 17 12:07	0°♎	
retrograde	4791 Jan 27 16:42	13°♎06'37	
opposition	4791 Mar 28 19:08	8°♎07'13	1°12'34
min. Earth dist.	4791 Mar 28 07:21	8°♎11'07	4.36973 AU
direct	4791 May 28 21:58	3°♎05'07	
evening set	4791 Oct 02 09:36	20°♎47'59	
conjunction	4791 Oct 15 16:41	23°♎40'25	0°56'10
minimum elong	4791 Oct 15 16:40	23°♎40'24	0°56'11

max. Earth dist.	4791 Oct 15 19:47	23°♎42'06	6.42223 AU
morning rise	4791 Oct 28 21:33	26°♎31'37	
	4791 Nov 14 06:59	0°♏	
retrograde	4792 Feb 26 18:56	13°♏25'44	
opposition	4792 Apr 27 06:39	8°♏29'49	1°24'37
min. Earth dist.	4792 Apr 27 13:27	8°♏27'36	4.45788 AU
direct	4792 Jun 28 10:38	3°♏27'26	
	4792 Oct 04 08:40	15°♏	
evening set	4792 Nov 01 16:13	20°♏51'24	
conjunction	4792 Nov 14 17:01	23°♏39'19	0°56'41
minimum elong	4792 Nov 14 17:02	23°♏39'19	0°56'41
max. Earth dist.	4792 Nov 13 17:52	23°♏26'51	6.47385 AU
morning rise	4792 Nov 27 15:04	26°♏25'58	
	4792 Dec 14 13:27	0°♐	
retrograde	4793 Mar 27 17:27	13°♐05'32	
opposition	4793 May 27 12:30	8°♐12'14	1°14'11
min. Earth dist.	4793 May 28 12:24	8°♐04'35	4.47089 AU
direct	4793 Jul 29 05:43	3°♐10'27	
evening set	4793 Dec 02 03:03	20°♐34'19	
max. Earth dist.	4793 Dec 13 02:32	22°♐57'13	6.44681 AU
conjunction	4793 Dec 14 22:56	23°♐21'23	0°42'06
minimum elong	4793 Dec 14 22:57	23°♐21'24	0°42'07
morning rise	4793 Dec 27 16:42	26°♐07'31	
	4794 Jan 14 21:35	0°♑	
retrograde	4794 Apr 27 14:13	13°♑02'09	
opposition	4794 Jun 27 12:01	8°♑09'59	0°44'03
min. Earth dist.	4794 Jun 28 23:56	7°♑58'32	4.40547 AU
direct	4794 Aug 29 03:25	3°♑09'22	
evening set	4795 Jan 01 16:36	20°♑52'29	
max. Earth dist.	4795 Jan 12 05:45	23°♑13'10	6.34741 AU
conjunction	4795 Jan 14 10:05	23°♑42'22	0°15'47
minimum elong	4795 Jan 14 10:06	23°♑42'23	0°15'47
behind sun begin	4795 Jan 14 08:14	23°♑41'21	
behind sun end	4795 Jan 14 11:58	23°♑43'25	
morning rise	4795 Jan 27 02:02	26°♑31'46	
	4795 Feb 11 22:26	0°♒	
retrograde	4795 May 30 03:55	14°♒10'02	
opposition	4795 Jul 30 01:54	9°♒17'26	0°00'07
desc. node	4795 Jul 31 01:59	9°♒09'44	
min. Earth dist.	4795 Jul 31 14:44	9°♒05'40	4.27743 AU
direct	4795 Sep 29 21:21	4°♒18'46	
	4795 Dec 29 10:23	15°♒	
evening set	4796 Feb 02 08:20	22°♒37'48	
max. Earth dist.	4796 Feb 13 02:54	25°♒06'29	6.20062 AU
conjunction	4796 Feb 15 01:35	25°♒33'25	-0°16'15
minimum elong	4796 Feb 15 01:34	25°♒33'25	0°16'15
behind sun begin	4796 Feb 15 01:15	25°♒33'14	
behind sun end	4796 Feb 15 01:52	25°♒33'35	
morning rise	4796 Feb 27 18:44	28°♒29'16	
	4796 Mar 05 09:35	0°♓	
retrograde	4796 Jul 03 06:35	17°♓13'51	
opposition	4796 Sep 01 20:46	12°♓19'23	-0°46'53
min. Earth dist.	4796 Sep 03 00:14	12°♓10'30	4.12167 AU
direct	4796 Nov 01 09:56	7°♓23'05	
evening set	4797 Mar 06 21:14	26°♓26'39	
conjunction	4797 Mar 19 17:28	29°♓29'53	-0°44'27
minimum elong	4797 Mar 19 17:26	29°♓29'52	0°44'27
max. Earth dist.	4797 Mar 18 16:03	29°♓14'45	6.04943 AU
	4797 Mar 21 19:58	0°♈	
morning rise	4797 Apr 01 15:00	2°♈34'07	
retrograde	4797 Aug 09 15:31	22°♈30'22	
opposition	4797 Oct 08 19:08	17°♈32'47	-1°20'29
min. Earth dist.	4797 Oct 09 01:18	17°♈30'45	3.98905 AU
direct	4797 Dec 06 19:55	12°♈38'30	
	4798 Apr 01 21:49	0°♉	
evening set	4798 Apr 11 15:15	2°♉19'50	
conjunction	4798 Apr 24 17:35	5°♉30'28	-0°57'30
minimum elong	4798 Apr 24 17:35	5°♉30'28	0°57'31
max. Earth dist.	4798 Apr 25 00:46	5°♉34'50	5.94768 AU
morning rise	4798 May 07 22:39	8°♉42'40	
	4798 Jun 03 16:45	15°♉	
retrograde	4798 Sep 17 03:52	29°♉25'42	
opposition	4798 Nov 15 21:53	24°♉24'23	-1°23'51
min. Earth dist.	4798 Nov 15 04:31	24°♉30'13	3.93037 AU
direct	4799 Jan 12 22:53	19°♉30'21	
	4799 Apr 08 01:41	0°♊	
evening set	4799 May 19 01:36	9°♊24'34	
conjunction	4799 Jun 01 12:09	12°♊39'33	-0°48'05
minimum elong	4799 Jun 01 12:11	12°♊39'34	0°48'06
max. Earth dist.	4799 Jun 03 05:24	13°♊04'31	5.93777 AU
morning rise	4799 Jun 15 01:25	15°♊55'57	
	4799 Aug 19 03:19	0°♋	
retrograde	4799 Oct 25 01:51	6°♋34'01	
min. Earth dist.	4799 Dec 22 04:13	1°♋41'08	3.97129 AU
opposition	4799 Dec 23 13:14	1°♋29'54	-0°53'08
	4800 Jan 03 17:58	30°℞♊	
direct	4800 Feb 19 11:28	26°♊34'02	
	4800 Apr 05 14:50	0°♋	
evening set	4800 Jun 24 20:53	16°♋09'17	
conjunction	4800 Jul 08 13:17	19°♋22'55	-0°19'45
minimum elong	4800 Jul 08 13:19	19°♋22'55	0°19'45
max. Earth dist.	4800 Jul 10 22:39	19°♋56'46	6.02499 AU
morning rise	4800 Jul 22 07:43	22°♋37'17	
	4800 Aug 24 00:49	0°♌	
retrograde	4800 Nov 28 16:28	12°♌21'37	
min. Earth dist.	4801 Jan 25 17:57	7°♌29'35	4.09452 AU
opposition	4801 Jan 27 06:37	7°♌17'06	-0°03'14
asc. node	4801 Feb 21 01:58	4°♌10'38	
direct	4801 Mar 26 22:13	2°♌18'23	
	4801 Jul 03 08:08	15°♌	
evening set	4801 Jul 31 13:10	21°♌13'27	
conjunction	4801 Aug 14 06:09	24°♌20'33	0°14'53
minimum elong	4801 Aug 14 06:08	24°♌20'32	0°14'53
behind sun begin	4801 Aug 14 03:17	24°♌18'55	
behind sun end	4801 Aug 14 08:59	24°♌22'09	
max. Earth dist.	4801 Aug 16 09:06	24°♌49'34	6.17287 AU
morning rise	4801 Aug 27 23:18	27°♌27'23	
	4801 Sep 08 08:21	0°♍	
retrograde	4801 Dec 31 20:09	15°♍58'59	
opposition	4802 Mar 01 15:39	10°♍56'35	0°44'29
min. Earth dist.	4802 Feb 28 13:25	11°♍05'25	4.25159 AU
direct	4802 Apr 30 15:20	5°♍55'34	
evening set	4802 Sep 04 04:47	24°♍06'52	
conjunction	4802 Sep 17 17:26	27°♍05'28	0°42'55
minimum elong	4802 Sep 17 17:24	27°♍05'27	0°42'54
max. Earth dist.	4802 Sep 18 22:34	27°♍21'32	6.32618 AU
	4802 Sep 30 22:57	0°♎	
morning rise	4802 Oct 01 04:37	0°♎03'06	
retrograde	4803 Jan 31 20:28	17°♎31'28	
opposition	4803 Apr 02 01:48	12°♎32'32	1°15'31
min. Earth dist.	4803 Apr 01 15:34	12°♎35'55	4.38919 AU
direct	4803 Jun 02 08:22	7°♎30'20	
evening set	4803 Oct 06 18:58	25°♎08'13	

conjunction	4803 Oct 20 01:03	27°♎59'38	0°57'09
minimum elong	4803 Oct 20 01:03	27°♎59'37	0°57'09
max. Earth dist.	4803 Oct 20 00:34	27°♎59'22	6.43765 AU
	4803 Oct 29 08:05	0°♏	
morning rise	4803 Nov 02 04:47	0°♏49'47	
	4804 Jan 19 18:59	15°♏	
retrograde	4804 Mar 01 20:50	17°♏38'54	
	4804 Apr 13 03:08	15°℞♏	
opposition	4804 May 01 09:54	12°♏43'25	1°24'23
min. Earth dist.	4804 May 01 19:42	12°♏40'15	4.46821 AU
direct	4804 Jul 02 17:49	7°♏41'04	
	4804 Sep 15 23:13	15°♏	
evening set	4804 Nov 05 20:27	25°♏02'34	
conjunction	4804 Nov 18 20:21	27°♏49'59	0°55'29
minimum elong	4804 Nov 18 20:22	27°♏49'59	0°55'29
max. Earth dist.	4804 Nov 17 16:17	27°♏34'52	6.47812 AU
	4804 Nov 28 22:09	0°♐	
morning rise	4804 Dec 01 17:46	0°♐36'12	
retrograde	4805 Mar 31 19:58	17°♐15'07	
opposition	4805 May 31 15:49	12°♐22'00	1°11'04
min. Earth dist.	4805 Jun 01 18:18	12°♐13'31	4.46883 AU
direct	4805 Aug 02 10:23	7°♐20'14	
evening set	4805 Dec 06 05:16	24°♐44'53	
max. Earth dist.	4805 Dec 17 03:12	27°♐07'12	6.43843 AU
conjunction	4805 Dec 19 00:51	27°♐32'06	0°39'05
minimum elong	4805 Dec 19 00:52	27°♐32'07	0°39'05
	4805 Dec 30 08:12	0°♑	
morning rise	4805 Dec 31 18:04	0°♑18'22	
retrograde	4806 May 01 19:33	17°♑17'04	
opposition	4806 Jul 01 18:51	12°♑24'54	0°38'42
min. Earth dist.	4806 Jul 03 07:36	12°♑13'12	4.39106 AU
direct	4806 Sep 02 08:12	7°♑24'28	
evening set	4807 Jan 05 21:15	25°♑11'45	
max. Earth dist.	4807 Jan 16 08:32	27°♑32'05	6.32789 AU
conjunction	4807 Jan 18 14:26	28°♑02'18	0°11'36
minimum elong	4807 Jan 18 14:27	28°♑02'18	0°11'37
behind sun begin	4807 Jan 18 08:43	27°♑59'06	
behind sun end	4807 Jan 18 20:11	28°♑05'30	
	4807 Jan 27 08:30	0°♒	
morning rise	4807 Jan 31 06:31	0°♒52'29	
	4807 Apr 14 20:27	15°♒	
retrograde	4807 Jun 03 19:44	18°♒39'23	
desc. node	4807 Jun 11 11:14	18°♒33'52	
	4807 Jul 24 23:42	15°℞♒	
opposition	4807 Aug 03 15:47	13°♒46'36	-0°06'24
min. Earth dist.	4807 Aug 05 05:17	13°♒34'35	4.25376 AU
direct	4807 Oct 04 08:35	8°♒48'07	
	4807 Dec 09 17:18	15°♒	
evening set	4808 Feb 06 18:58	27°♒14'15	
max. Earth dist.	4808 Feb 17 15:18	29°♒44'46	6.17480 AU
	4808 Feb 18 17:33	0°♓	
conjunction	4808 Feb 19 12:38	0°♓11'04	-0°20'34
minimum elong	4808 Feb 19 12:36	0°♓11'03	0°20'33
morning rise	4808 Mar 03 06:13	3°♓08'12	
retrograde	4808 Jul 08 06:48	22°♓04'28	
opposition	4808 Sep 06 19:33	17°♓09'39	-0°52'42
min. Earth dist.	4808 Sep 07 20:22	17°♓01'37	4.09582 AU
direct	4808 Nov 06 02:06	12°♓13'40	
	4809 Mar 05 16:37	0°♈	
evening set	4809 Mar 11 16:46	1°♈25'16	
conjunction	4809 Mar 24 13:40	4°♈29'52	-0°47'22
minimum elong	4809 Mar 24 13:39	4°♈29'51	0°47'21
max. Earth dist.	4809 Mar 23 15:44	4°♈16'43	6.02586 AU
morning rise	4809 Apr 06 12:15	7°♈35'35	
retrograde	4809 Aug 15 00:20	27°♈42'51	
opposition	4809 Oct 14 02:00	22°♈44'42	-1°23'01
min. Earth dist.	4809 Oct 14 04:47	22°♈43'47	3.97015 AU
direct	4809 Dec 11 22:15	17°♈50'33	
	4810 Mar 15 03:31	0°♉	
evening set	4810 Apr 16 19:32	7°♉37'31	
conjunction	4810 Apr 29 23:14	10°♉49'19	-0°57'32
minimum elong	4810 Apr 29 23:14	10°♉49'19	0°57'32
max. Earth dist.	4810 Apr 30 13:14	10°♉57'51	5.93552 AU
morning rise	4810 May 13 05:26	14°♉02'39	
	4810 May 17 04:36	15°♉	
	4810 Jul 27 23:23	0°♊	
retrograde	4810 Sep 22 16:18	4°♊50'07	
	4810 Nov 19 20:40	30°℞♉	
min. Earth dist.	4810 Nov 20 11:12	29°♉55'06	3.92660 AU
opposition	4810 Nov 21 07:26	29°♉48'17	-1°21'21
direct	4811 Jan 18 06:25	24°♉54'08	
	4811 Mar 16 00:19	0°♊	
evening set	4811 May 24 10:56	14°♊48'35	
conjunction	4811 Jun 06 22:27	18°♊03'50	-0°44'55
minimum elong	4811 Jun 06 22:29	18°♊03'51	0°44'57
max. Earth dist.	4811 Jun 08 19:12	18°♊30'52	5.94253 AU
morning rise	4811 Jun 20 12:57	21°♊20'30	
	4811 Jul 28 07:11	0°♋	
retrograde	4811 Oct 30 06:02	11°♋53'48	
min. Earth dist.	4811 Dec 27 06:47	7°♋01'32	3.98397 AU
opposition	4811 Dec 28 18:30	6°♋49'21	-0°46'38
direct	4812 Feb 24 17:01	1°♋53'04	
evening set	4812 Jun 30 04:24	21°♋23'22	
conjunction	4812 Jul 13 21:14	24°♋36'17	-0°14'50
minimum elong	4812 Jul 13 21:15	24°♋36'17	0°14'51
behind sun begin	4812 Jul 13 18:16	24°♋34'32	
behind sun end	4812 Jul 14 00:15	24°♋38'02	
max. Earth dist.	4812 Jul 16 07:16	25°♋10'22	6.04411 AU
morning rise	4812 Jul 27 15:47	27°♋49'46	
	4812 Aug 06 01:19	0°♌	
	4812 Oct 25 13:07	15°♌	
retrograde	4812 Dec 03 13:29	17°♌23'40	
asc. node	4812 Dec 30 22:40	16°♌09'44	
	4813 Jan 11 08:39	15°℞♌	
min. Earth dist.	4813 Jan 30 16:31	12°♌31'14	4.11747 AU
opposition	4813 Feb 01 03:52	12°♌19'13	0°04'10
direct	4813 Apr 01 00:45	7°♌20'04	
	4813 Jun 13 10:20	15°♌	
evening set	4813 Aug 05 13:51	26°♌07'55	
conjunction	4813 Aug 19 06:30	29°♌13'44	0°19'30
minimum elong	4813 Aug 19 06:28	29°♌13'43	0°19'30
max. Earth dist.	4813 Aug 21 08:22	29°♌41'58	6.19739 AU
	4813 Aug 22 16:14	0°♍	
morning rise	4813 Sep 01 22:55	2°♍19'09	
retrograde	4814 Jan 05 06:30	20°♍39'57	
min. Earth dist.	4814 Mar 05 03:10	15°♍46'26	4.27542 AU
opposition	4814 Mar 06 04:21	15°♍38'00	0°50'05
direct	4814 May 05 07:58	10°♍36'45	
evening set	4814 Sep 08 21:35	28°♍41'44	
	4814 Sep 14 20:43	0°♎	
conjunction	4814 Sep 22 09:13	1°♎39'03	0°45'50
minimum elong	4814 Sep 22 09:11	1°♎39'02	0°45'51
max. Earth dist.	4814 Sep 23 09:10	1°♎52'12	6.34738 AU
morning rise	4814 Oct 05 19:23	4°♎35'22	

retrograde	4815 Feb 05 03:27	21°♎55'58	
opposition	4815 Apr 06 08:54	16°♎57'35	1°18'07
min. Earth dist.	4815 Apr 06 02:26	16°♎59'43	4.40634 AU
direct	4815 Jun 06 20:48	11°♎55'17	
evening set	4815 Oct 11 04:51	29°♎29'14	
	4815 Oct 13 14:16	0°♏	
conjunction	4815 Oct 24 10:05	2°♏19'50	0°57'51
minimum elong	4815 Oct 24 10:04	2°♏19'50	0°57'51
max. Earth dist.	4815 Oct 24 05:32	2°♏17'23	6.44940 AU
morning rise	4815 Nov 06 12:47	5°♏09'09	
	4815 Dec 26 03:33	15°♏	
retrograde	4816 Mar 05 23:48	21°♏54'46	
opposition	4816 May 05 14:46	16°♏59'42	1°23'46
min. Earth dist.	4816 May 06 02:42	16°♏55'50	4.47414 AU
	4816 May 21 11:55	15°℞♏	
direct	4816 Jul 07 00:12	11°♏57'23	
	4816 Aug 22 16:34	15°♏	
evening set	4816 Nov 10 02:28	29°♏17'59	
	4816 Nov 13 09:02	0°♐	
max. Earth dist.	4816 Nov 21 19:05	1°♐48'39	6.47783 AU
conjunction	4816 Nov 23 01:40	2°♐05'08	0°53'59
minimum elong	4816 Nov 23 01:41	2°♐05'08	0°54'00
morning rise	4816 Dec 05 22:16	4°♐51'05	
retrograde	4817 Apr 05 01:32	21°♐30'59	
opposition	4817 Jun 04 22:08	16°♐38'11	1°07'32
min. Earth dist.	4817 Jun 06 03:03	16°♐28'56	4.46236 AU
direct	4817 Aug 06 17:25	11°♐36'36	
evening set	4817 Dec 10 11:05	29°♐03'28	
	4817 Dec 14 19:02	0°♑	
max. Earth dist.	4817 Dec 21 04:53	1°♑24'03	6.42612 AU
conjunction	4817 Dec 23 06:06	1°♑50'58	0°35'46
minimum elong	4817 Dec 23 06:07	1°♑50'59	0°35'46
morning rise	4818 Jan 04 23:09	4°♑37'38	
retrograde	4818 May 06 07:32	21°♑41'47	
opposition	4818 Jul 06 06:03	16°♑49'39	0°32'55
min. Earth dist.	4818 Jul 07 19:54	16°♑37'34	4.37359 AU
direct	4818 Sep 06 17:31	11°♑49'24	
evening set	4819 Jan 10 06:05	29°♑41'55	
	4819 Jan 11 14:29	0°♒	
max. Earth dist.	4819 Jan 20 18:24	2°♒03'27	6.30662 AU
conjunction	4819 Jan 22 23:23	2°♒33'17	0°07'11
minimum elong	4819 Jan 22 23:23	2°♒33'17	0°07'12
behind sun begin	4819 Jan 22 16:03	2°♒29'11	
behind sun end	4819 Jan 23 06:43	2°♒37'24	
morning rise	4819 Feb 04 15:23	5°♒24'21	
	4819 Mar 22 06:50	15°♒	
desc. node	4819 Apr 20 23:13	19°♒51'17	
retrograde	4819 Jun 08 15:05	23°♒20'35	
opposition	4819 Aug 08 10:38	18°♒27'40	-0°13'12
min. Earth dist.	4819 Aug 09 22:56	18°♒16'03	4.23015 AU
	4819 Sep 07 08:46	15°℞♒	
direct	4819 Oct 08 22:15	13°♒29'36	
	4819 Nov 09 07:41	15°♒	
	4820 Feb 02 12:21	0°♓	
evening set	4820 Feb 11 10:20	2°♓02'46	
max. Earth dist.	4820 Feb 22 08:32	4°♓35'14	6.15079 AU
conjunction	4820 Feb 24 04:09	5°♓00'41	-0°24'56
minimum elong	4820 Feb 24 04:07	5°♓00'41	0°24'56
morning rise	4820 Mar 07 22:23	7°♓59'05	
retrograde	4820 Jul 13 12:20	27°♓06'37	
opposition	4820 Sep 11 23:00	22°♓11'26	-0°58'24
min. Earth dist.	4820 Sep 12 21:05	22°♓04'14	4.07354 AU
direct	4820 Nov 11 00:33	17°♓15'48	
	4821 Feb 16 06:46	0°♈	
evening set	4821 Mar 16 16:13	6°♈34'02	
conjunction	4821 Mar 29 14:02	9°♈39'50	-0°50'03
minimum elong	4821 Mar 29 14:01	9°♈39'49	0°50'02
max. Earth dist.	4821 Mar 28 22:03	9°♈30'13	6.00768 AU
morning rise	4821 Apr 11 13:27	12°♈46'47	
	4821 Jul 06 22:26	0°♉	
retrograde	4821 Aug 20 11:41	3°♉02'28	
	4821 Oct 04 10:45	30°℞♈	
opposition	4821 Oct 19 11:08	28°♈03'53	-1°24'57
min. Earth dist.	4821 Oct 19 10:37	28°♈04'03	3.95845 AU
direct	4821 Dec 17 03:26	23°♈09'56	
	4822 Feb 22 03:26	0°♉	
evening set	4822 Apr 22 01:48	12°♉59'44	
	4822 Apr 30 07:51	15°♉	
conjunction	4822 May 05 06:26	16°♉12'13	-0°57'08
minimum elong	4822 May 05 06:26	16°♉12'13	0°57'08
max. Earth dist.	4822 May 06 00:38	16°♉23'18	5.93137 AU
morning rise	4822 May 18 14:00	19°♉26'19	
	4822 Jul 03 23:11	0°♊	
retrograde	4822 Sep 28 00:29	10°♊14'30	
opposition	4822 Nov 26 16:05	5°♊12'09	-1°18'11
min. Earth dist.	4822 Nov 25 15:53	5°♊20'20	3.93078 AU
direct	4823 Jan 23 13:17	0°♊17'48	
evening set	4823 May 29 18:47	20°♊09'35	
conjunction	4823 Jun 12 07:18	23°♊24'42	-0°41'29
minimum elong	4823 Jun 12 07:20	23°♊24'43	0°41'29
max. Earth dist.	4823 Jun 14 07:43	23°♊53'52	5.95454 AU
morning rise	4823 Jun 25 22:31	26°♊41'07	
	4823 Jul 09 23:44	0°♋	
retrograde	4823 Nov 04 08:08	17°♋06'58	
min. Earth dist.	4824 Jan 01 08:56	12°♋14'29	4.00213 AU
opposition	4824 Jan 02 20:42	12°♋02'18	-0°39'57
direct	4824 Feb 29 22:48	7°♋05'34	
evening set	4824 Jul 05 08:25	26°♋29'17	
conjunction	4824 Jul 19 01:34	29°♋41'16	-0°09'59
minimum elong	4824 Jul 19 01:35	29°♋41'16	0°10'01
behind sun begin	4824 Jul 18 18:52	29°♋37'22	
behind sun end	4824 Jul 19 08:17	29°♋45'10	
	4824 Jul 20 09:40	0°♌	
max. Earth dist.	4824 Jul 21 12:37	0°♌15'44	6.06663 AU
morning rise	4824 Aug 01 20:03	2°♌53'39	
	4824 Sep 27 22:13	15°♌	
asc. node	4824 Nov 10 05:43	21°♌00'38	
retrograde	4824 Dec 08 05:10	22°♌16'13	
min. Earth dist.	4825 Feb 04 09:46	17°♌23'52	4.14190 AU
opposition	4825 Feb 05 20:44	17°♌12'00	0°11'13
	4825 Feb 22 16:51	15°℞♌	
direct	4825 Apr 05 21:13	12°♌12'29	
	4825 May 18 07:15	15°♌	
	4825 Aug 06 11:34	0°♍	
evening set	4825 Aug 10 10:42	0°♍53'08	
conjunction	4825 Aug 24 02:40	3°♍57'38	0°23'49
minimum elong	4825 Aug 24 02:39	3°♍57'37	0°23'48
max. Earth dist.	4825 Aug 25 23:47	4°♍23'02	6.22156 AU
morning rise	4825 Sep 06 18:30	7°♍01'41	
retrograde	4826 Jan 09 15:23	25°♍12'25	
opposition	4826 Mar 10 13:37	20°♍10'54	0°55'11
min. Earth dist.	4826 Mar 09 15:47	20°♍18'12	4.29727 AU
direct	4826 May 09 22:40	15°♍09'22	
	4826 Aug 29 18:49	0°♎	

evening set	4826 Sep	13	10:34	3°♎08'53	
conjunction	4826 Sep	26	21:31	6°♎05'08	0°48'25
minimum elong	4826 Sep	26	21:30	6°♎05'07	0°48'25
max. Earth dist.	4826 Sep	27	18:22	6°♎16'32	6.36530 AU
morning rise	4826 Oct	10	06:33	9°♎00'17	
retrograde	4827 Feb	09	06:04	26°♎14'31	
opposition	4827 Apr	10	13:33	21°♎16'37	1°20'14
min. Earth dist.	4827 Apr	10	09:07	21°♎18'05	4.41932 AU
direct	4827 Jun	11	03:48	16°♎14'17	
	4827 Sep	27	15:28	0°♏	
evening set	4827 Oct	15	12:37	3°♏45'36	
conjunction	4827 Oct	28	16:51	6°♏35'33	0°58'15
minimum elong	4827 Oct	28	16:51	6°♏35'33	0°58'14
max. Earth dist.	4827 Oct	28	07:09	6°♏30'20	6.45654 AU
morning rise	4827 Nov	10	18:44	9°♏24'16	
	4827 Dec	07	16:57	15°♏	
retrograde	4828 Mar	10	04:08	26°♏07'53	
opposition	4828 May	09	18:41	21°♏13'14	1°22'46
min. Earth dist.	4828 May	10	10:17	21°♏08'12	4.47524 AU
direct	4828 Jul	11	06:57	16°♏10'57	
	4828 Oct	28	12:57	0°♐	
evening set	4828 Nov	14	07:45	3°♐32'01	
max. Earth dist.	4828 Nov	25	20:07	6°♐00'39	6.47279 AU
conjunction	4828 Nov	27	06:22	6°♐19'08	0°52'14
minimum elong	4828 Nov	27	06:23	6°♐19'08	0°52'15
morning rise	4828 Dec	10	02:24	9°♐05'05	
retrograde	4829 Apr	09	07:46	25°♐47'23	
opposition	4829 Jun	09	04:50	20°♐54'44	1°03'42
min. Earth dist.	4829 Jun	10	10:51	20°♐45'08	4.45172 AU
direct	4829 Aug	10	22:47	15°♐53'16	
	4829 Nov	28	21:27	0°♑	
evening set	4829 Dec	14	17:08	3°♑23'28	
max. Earth dist.	4829 Dec	25	10:39	5°♑44'23	6.41075 AU
conjunction	4829 Dec	27	11:54	6°♑11'26	0°32'15
minimum elong	4829 Dec	27	11:55	6°♑11'27	0°32'15
morning rise	4830 Jan	09	04:35	8°♑58'36	
retrograde	4830 May	10	20:38	26°♑09'07	
opposition	4830 Jul	10	18:44	21°♑17'00	0°26'54
min. Earth dist.	4830 Jul	12	09:05	21°♑04'47	4.35440 AU
direct	4830 Sep	11	03:36	16°♑17'05	
	4830 Dec	26	08:14	0°♒	
evening set	4831 Jan	14	16:15	4°♒15'00	
max. Earth dist.	4831 Jan	25	03:58	6°♒36'57	6.28512 AU
conjunction	4831 Jan	27	09:21	7°♒07'11	0°02'41
minimum elong	4831 Jan	27	09:21	7°♒07'11	0°02'41
behind sun begin	4831 Jan	27	01:24	7°♒02'42	
behind sun end	4831 Jan	27	17:18	7°♒11'40	
morning rise	4831 Feb	09	01:40	9°♒59'12	
desc. node	4831 Feb	28	14:17	14°♒18'27	
	4831 Mar	03	19:42	15°♒	
retrograde	4831 Jun	13	12:54	28°♒04'46	
opposition	4831 Aug	13	07:03	23°♒11'35	-0°19'59
min. Earth dist.	4831 Aug	14	17:29	23°♒00'31	4.20781 AU
direct	4831 Oct	13	14:14	18°♒13'50	
	4832 Jan	16	08:28	0°♓	
evening set	4832 Feb	16	02:43	6°♓53'17	
max. Earth dist.	4832 Feb	27	05:57	9°♓29'21	6.12966 AU
conjunction	4832 Feb	28	21:01	9°♓52'15	-0°29'09
minimum elong	4832 Feb	28	21:00	9°♓52'15	0°29'09
morning rise	4832 Mar	12	15:37	12°♓51'44	
	4832 Jun	11	06:19	0°♈	
retrograde	4832 Jul	18	17:40	2°♈09'04	
	4832 Aug	25	09:56	30°℞♓	
opposition	4832 Sep	17	02:47	27°♓13'28	-1°03'40
min. Earth dist.	4832 Sep	17	22:14	27°♓07'08	4.05551 AU
direct	4832 Nov	15	23:22	22°♓18'11	
	4833 Jan	27	15:03	0°♈	
evening set	4833 Mar	21	15:37	11°♈41'15	
conjunction	4833 Apr	03	14:02	14°♈47'58	-0°52'19
minimum elong	4833 Apr	03	14:00	14°♈47'57	0°52'20
max. Earth dist.	4833 Apr	03	01:26	14°♈40'23	5.99416 AU
morning rise	4833 Apr	16	14:33	17°♈55'59	
	4833 Jun	10	02:51	0°♉	
retrograde	4833 Aug	25	19:27	8°♉18'01	
opposition	4833 Oct	24	18:43	3°♉18'52	-1°26'08
min. Earth dist.	4833 Oct	24	13:49	3°♉20'30	3.95099 AU
	4833 Nov	21	06:00	30°℞♈	
direct	4833 Dec	22	07:11	28°♈24'59	
	4834 Jan	22	03:15	0°♉	
	4834 Apr	13	14:37	15°♉	
evening set	4834 Apr	27	06:15	18°♉16'07	
conjunction	4834 May	10	12:01	21°♉29'10	-0°56'16
minimum elong	4834 May	10	12:02	21°♉29'10	0°56'16
max. Earth dist.	4834 May	11	11:42	21°♉43'35	5.93062 AU
morning rise	4834 May	23	20:33	24°♉43'46	
	4834 Jun	15	03:04	0°♊	
retrograde	4834 Oct	03	07:29	15°♊31'22	
opposition	4834 Dec	01	21:54	10°♊28'35	-1°14'25
min. Earth dist.	4834 Nov	30	20:21	10°♊37'14	3.93682 AU
direct	4835 Jan	28	19:19	5°♊34'00	
evening set	4835 Jun	04	00:19	25°♊22'53	
conjunction	4835 Jun	17	13:44	28°♊37'51	-0°37'46
minimum elong	4835 Jun	17	13:46	28°♊37'52	0°37'46
max. Earth dist.	4835 Jun	19	17:24	29°♊08'50	5.96669 AU
	4835 Jun	23	06:46	0°♋	
morning rise	4835 Jul	01	05:42	1°♋54'00	
retrograde	4835 Nov	09	07:22	22°♋12'28	
min. Earth dist.	4836 Jan	06	07:07	17°♋20'17	4.01908 AU
opposition	4836 Jan	07	19:49	17°♋07'47	-0°33'07
direct	4836 Mar	05	23:26	12°♋10'43	
	4836 Jul	03	23:59	0°♌	
evening set	4836 Jul	10	10:24	1°♌28'54	
conjunction	4836 Jul	24	03:35	4°♌40'01	-0°05'10
minimum elong	4836 Jul	24	03:34	4°♌40'01	0°05'10
behind sun begin	4836 Jul	23	19:27	4°♌35'19	
behind sun end	4836 Jul	24	11:42	4°♌44'43	
max. Earth dist.	4836 Jul	26	12:11	5°♌12'55	6.08661 AU
morning rise	4836 Aug	06	22:09	7°♌51'28	
	4836 Sep	08	01:43	15°♌	
asc. node	4836 Sep	20	16:22	17°♌34'25	
retrograde	4836 Dec	12	19:54	27°♌04'16	
min. Earth dist.	4837 Feb	09	02:58	22°♌11'34	4.16282 AU
opposition	4837 Feb	10	12:06	22°♌00'20	0°18'06
direct	4837 Apr	10	17:02	17°♌00'28	
	4837 Jul	20	14:15	0°♍	
evening set	4837 Aug	15	06:10	5°♍35'26	
conjunction	4837 Aug	28	21:49	8°♍38'52	0°27'57
minimum elong	4837 Aug	28	21:47	8°♍38'51	0°27'56
max. Earth dist.	4837 Aug	30	17:04	9°♍03'08	6.24181 AU
morning rise	4837 Sep	11	12:43	11°♍41'41	
retrograde	4838 Jan	13	23:24	29°♍44'01	
opposition	4838 Mar	14	22:35	24°♍43'03	0°59'55
min. Earth dist.	4838 Mar	14	02:42	24°♍49'41	4.31524 AU

direct	4838 May 14	11:06	19°♍41'25	
	4838 Aug 12	08:04	0°♎	
evening set	4838 Sep 18	00:00	7°♎36'51	
conjunction	4838 Oct 01	09:55	10°♎32'08	0°50'43
minimum elong	4838 Oct 01	09:54	10°♎32'08	0°50'43
max. Earth dist.	4838 Oct 02	01:09	10°♎40'27	6.37954 AU
morning rise	4838 Oct 14	18:08	13°♎26'22	
	4839 Jan 25	03:00	0°♏	
retrograde	4839 Feb 13	11:48	0°♏35'31	
	4839 Mar 04	17:04	30°℞♎	
opposition	4839 Apr 14	19:14	25°♎38'09	1°21'57
min. Earth dist.	4839 Apr 14	18:20	25°♎38'26	4.42916 AU
direct	4839 Jun 15	13:13	20°♎35'46	
	4839 Sep 10	00:38	0°♏	
evening set	4839 Oct 19	21:15	8°♏05'24	
conjunction	4839 Nov 02	00:51	10°♏54'54	0°58'19
minimum elong	4839 Nov 02	00:50	10°♏54'54	0°58'19
max. Earth dist.	4839 Nov 01	12:43	10°♏48'22	6.46132 AU
morning rise	4839 Nov 15	01:43	13°♏43'05	
	4839 Nov 21	02:12	15°♏	
	4840 Feb 26	21:18	0°♐	
retrograde	4840 Mar 14	08:17	0°♐25'30	
	4840 Mar 30	19:10	30°℞♏	
opposition	4840 May 14	00:19	25°♏31'14	1°21'19
min. Earth dist.	4840 May 14	17:07	25°♏25'50	4.47503 AU
direct	4840 Jul 15	12:48	20°♏29'08	
	4840 Oct 11	01:09	0°♐	
evening set	4840 Nov 18	14:29	7°♐50'53	
max. Earth dist.	4840 Nov 29	23:43	10°♐18'07	6.46775 AU
conjunction	4840 Dec 01	12:21	10°♐37'55	0°50'11
minimum elong	4840 Dec 01	12:22	10°♐37'56	0°50'11
morning rise	4840 Dec 14	07:49	13°♐23'52	
	4841 Apr 04	02:06	0°♑	
retrograde	4841 Apr 13	17:10	0°♑08'38	
	4841 Apr 23	06:56	30°℞♐	
opposition	4841 Jun 13	13:35	25°♐16'13	0°59'27
min. Earth dist.	4841 Jun 14	21:35	25°♐06'00	4.44236 AU
direct	4841 Aug 15	07:51	20°♐15'01	
	4841 Nov 11	10:45	0°♑	
evening set	4841 Dec 19	00:34	7°♑47'52	
max. Earth dist.	4841 Dec 29	16:12	10°♑08'13	6.39792 AU
conjunction	4841 Dec 31	18:55	10°♑36'10	0°28'32
minimum elong	4841 Dec 31	18:57	10°♑36'11	0°28'33
morning rise	4842 Jan 13	11:26	13°♑23'46	
	4842 Apr 24	16:45	0°♒	
retrograde	4842 May 15	10:03	0°♒39'48	
	4842 Jun 05	04:07	30°℞♑	
opposition	4842 Jul 15	08:27	25°♑47'36	0°20'43
min. Earth dist.	4842 Jul 16	21:46	25°♑35'41	4.33905 AU
direct	4842 Sep 15	13:54	20°♑47'58	
	4842 Dec 08	11:16	0°♒	
desc. node	4843 Jan 09	00:25	6°♒34'43	
evening set	4843 Jan 19	02:35	8°♒49'50	
max. Earth dist.	4843 Jan 29	17:16	11°♒13'59	6.26860 AU
conjunction	4843 Jan 31	19:41	11°♒42'39	-0°01'55
minimum elong	4843 Jan 31	19:42	11°♒42'39	0°01'54
behind sun begin	4843 Jan 31	11:43	11°♒38'09	
behind sun end	4843 Feb 01	03:41	11°♒47'10	
morning rise	4843 Feb 13	11:56	14°♒35'21	
	4843 Feb 15	07:37	15°♒	
	4843 May 06	00:26	0°♓	
retrograde	4843 Jun 18	09:38	2°♓48'29	
	4843 Aug 01	08:26	30°℞♒	
opposition	4843 Aug 18	03:02	27°♒55'03	-0°26'31
min. Earth dist.	4843 Aug 19	12:24	27°♒44'19	4.19123 AU
direct	4843 Oct 18	06:51	22°♒57'40	
	4843 Dec 27	19:54	0°♓	
evening set	4844 Feb 20	17:45	11°♓41'13	
max. Earth dist.	4844 Mar 02	22:58	14°♓19'01	6.11437 AU
conjunction	4844 Mar 04	12:11	14°♓40'54	-0°33'03
minimum elong	4844 Mar 04	12:09	14°♓40'53	0°33'02
morning rise	4844 Mar 17	07:25	17°♓41'16	
	4844 May 13	22:02	0°♈	
retrograde	4844 Jul 23	18:10	7°♈06'12	
opposition	4844 Sep 22	03:50	2°♈10'06	-1°08'15
min. Earth dist.	4844 Sep 22	19:34	2°♈04'57	4.04291 AU
	4844 Oct 09	08:38	30°℞♓	
direct	4844 Nov 20	20:06	27°♓15'02	
	4845 Jan 01	12:34	0°♈	
evening set	4845 Mar 26	11:52	16°♈41'03	
conjunction	4845 Apr 08	11:06	19°♈48'29	-0°54'06
minimum elong	4845 Apr 08	11:05	19°♈48'28	0°54'06
max. Earth dist.	4845 Apr 08	03:57	19°♈44'09	5.98548 AU
morning rise	4845 Apr 21	12:20	22°♈57'14	
	4845 May 21	19:54	0°♉	
retrograde	4845 Aug 31	00:17	13°♉23'36	
opposition	4845 Oct 29	21:41	8°♉23'55	-1°26'33
min. Earth dist.	4845 Oct 29	15:01	8°♉26'08	3.94722 AU
direct	4845 Dec 27	08:28	3°♉30'00	
	4846 Mar 27	06:27	15°♉	
evening set	4846 May 02	06:22	23°♉21'20	
conjunction	4846 May 15	13:09	26°♉34'47	-0°54'58
minimum elong	4846 May 15	13:10	26°♉34'48	0°54'59
max. Earth dist.	4846 May 16	16:24	26°♉51'21	5.93204 AU
morning rise	4846 May 28	22:49	29°♉49'49	
	4846 May 29	15:42	0°♊	
retrograde	4846 Oct 08	08:01	20°♊35'45	
opposition	4846 Dec 06	22:12	15°♊32'39	-1°10'15
min. Earth dist.	4846 Dec 05	18:28	15°♊42'03	3.94350 AU
direct	4847 Feb 02	18:27	10°♊37'49	
	4847 Jun 07	08:45	0°♋	
evening set	4847 Jun 09	01:02	0°♋23'56	
conjunction	4847 Jun 22	15:08	3°♋38'43	-0°33'56
minimum elong	4847 Jun 22	15:10	3°♋38'44	0°33'57
max. Earth dist.	4847 Jun 24	18:39	4°♋09'31	5.97783 AU
morning rise	4847 Jul 06	07:55	6°♋54'39	
retrograde	4847 Nov 14	01:29	27°♋06'35	
min. Earth dist.	4848 Jan 11	01:56	22°♋14'15	4.03335 AU
opposition	4848 Jan 12	14:19	22°♋01'51	-0°26'23
direct	4848 Mar 10	20:46	17°♋04'21	
	4848 Jun 17	06:04	0°♌	
evening set	4848 Jul 15	08:14	6°♌18'17	
conjunction	4848 Jul 29	01:48	9°♌28'46	-0°00'27
minimum elong	4848 Jul 29	01:46	9°♌28'45	0°00'27
behind sun begin	4848 Jul 28	17:23	9°♌23'56	
behind sun end	4848 Jul 29	10:08	9°♌33'35	
max. Earth dist.	4848 Jul 31	10:20	10°♌01'30	6.10300 AU
asc. node	4848 Aug 03	02:04	10°♌38'23	
morning rise	4848 Aug 11	20:05	12°♌39'21	
	4848 Aug 22	03:26	15°♌	
	4848 Nov 14	06:59	0°♍	
retrograde	4848 Dec 17	08:28	1°♍43'56	
	4849 Jan 19	02:23	30°℞♌	
min. Earth dist.	4849 Feb 13	16:40	26°♌51'02	4.17969 AU

opposition	4849 Feb 15	00:15	26°♌40'21	0°24'34
direct	4849 Apr 15	08:36	21°♌40'14	
	4849 Jul 02	02:44	0°♍	
evening set	4849 Aug 19	23:21	10°♍11'02	
conjunction	4849 Sep 02	14:21	13°♍13'32	0°31'45
minimum elong	4849 Sep 02	14:19	13°♍13'31	0°31'45
max. Earth dist.	4849 Sep 04	05:34	13°♍35'27	6.25785 AU
morning rise	4849 Sep 16	04:44	16°♍15'23	
	4849 Nov 26	04:10	0°♎	
retrograde	4850 Jan 18	05:43	4°♎10'50	
	4850 Mar 13	00:08	30°℞♍	
opposition	4850 Mar 19	06:02	29°♍10'17	1°04'09
min. Earth dist.	4850 Mar 18	12:19	29°♍16'11	4.32940 AU
direct	4850 May 18	22:07	24°♍08'28	
	4850 Jul 23	02:49	0°♎	
evening set	4850 Sep 22	11:44	12°♎00'51	
conjunction	4850 Oct 05	21:00	14°♎55'23	0°52'38
minimum elong	4850 Oct 05	20:59	14°♎55'22	0°52'38
max. Earth dist.	4850 Oct 06	10:09	15°♎02'33	6.39097 AU
morning rise	4850 Oct 19	04:06	17°♎48'44	
	4850 Dec 21	08:36	0°♏	
retrograde	4851 Feb 17	15:37	4°♏53'38	
	4851 Apr 18	14:17	30°℞♎	
opposition	4851 Apr 19	00:19	29°♎56'43	1°23'07
min. Earth dist.	4851 Apr 19	01:02	29°♎56'29	4.43721 AU
direct	4851 Jun 19	21:00	24°♎54'24	
	4851 Aug 20	03:55	0°♏	
evening set	4851 Oct 24	05:03	12°♏22'27	
	4851 Nov 05	10:24	15°♏	
conjunction	4851 Nov 06	07:38	15°♏11'26	0°58'02
minimum elong	4851 Nov 06	07:38	15°♏11'26	0°58'02
max. Earth dist.	4851 Nov 05	15:05	15°♏02'31	6.46530 AU
morning rise	4851 Nov 19	07:49	17°♏59'10	
	4852 Jan 21	09:31	0°♐	
retrograde	4852 Mar 18	13:33	4°♐40'27	
	4852 May 16	11:28	30°℞♏	
opposition	4852 May 18	05:32	29°♏46'28	1°19'23
min. Earth dist.	4852 May 19	01:02	29°♏40'11	4.47472 AU
direct	4852 Jul 19	20:23	24°♏44'24	
	4852 Sep 20	12:46	0°♐	
evening set	4852 Nov 22	19:56	12°♐06'28	
max. Earth dist.	4852 Dec 04	03:11	14°♐32'49	6.46295 AU
conjunction	4852 Dec 05	17:21	14°♐53'28	0°47'51
minimum elong	4852 Dec 05	17:22	14°♐53'29	0°47'50
morning rise	4852 Dec 18	12:09	17°♐39'23	
	4853 Feb 21	07:34	0°♑	
retrograde	4853 Apr 17	23:10	4°♑26'25	
	4853 Jun 14	11:46	30°℞♐	
opposition	4853 Jun 17	21:13	29°♐34'03	0°54'52
min. Earth dist.	4853 Jun 19	05:25	29°♐23'46	4.43312 AU
direct	4853 Aug 19	13:34	24°♐33'02	
	4853 Oct 22	03:08	0°♑	
evening set	4853 Dec 23	06:26	12°♑08'21	
max. Earth dist.	4854 Jan 02	21:29	14°♑28'51	6.38464 AU
conjunction	4854 Jan 05	00:25	14°♑57'02	0°24'40
minimum elong	4854 Jan 05	00:26	14°♑57'02	0°24'41
morning rise	4854 Jan 17	16:42	17°♑45'04	
	4854 Mar 20	23:35	0°♒	
retrograde	4854 May 20	00:08	5°♒07'02	
opposition	4854 Jul 19	21:23	0°♒14'45	0°14'24
min. Earth dist.	4854 Jul 21	11:47	0°♒02'30	4.32209 AU
	4854 Jul 21	19:37	30°℞♑	

direct	4854 Sep 20	01:18	25°♑15'24	
	4854 Nov 17	00:31	0°♒	
desc. node	4854 Nov 19	07:33	0°♒21'11	
evening set	4855 Jan 23	11:53	13°♒21'54	
	4855 Jan 30	16:37	15°♒	
max. Earth dist.	4855 Feb 03	02:15	15°♒46'33	6.24914 AU
conjunction	4855 Feb 05	04:58	16°♒15'30	-0°06'24
minimum elong	4855 Feb 05	04:57	16°♒15'29	0°06'25
behind sun begin	4855 Feb 04	21:25	16°♒11'13	
behind sun end	4855 Feb 05	12:29	16°♒19'46	
morning rise	4855 Feb 17	21:29	19°♒09'04	
	4855 Apr 10	12:44	0°♓	
retrograde	4855 Jun 23	04:55	7°♓31'13	
opposition	4855 Aug 22	22:39	2°♓37'28	-0°33'00
min. Earth dist.	4855 Aug 24	05:38	2°♓27'29	4.17057 AU
	4855 Sep 13	10:23	30°℞♒	
direct	4855 Oct 22	21:10	27°♒40'25	
	4855 Nov 30	20:30	0°♓	
evening set	4856 Feb 25	09:14	16°♓29'58	
max. Earth dist.	4856 Mar 07	19:02	19°♓11'08	6.09432 AU
conjunction	4856 Mar 09	04:11	19°♓30'43	-0°36'48
minimum elong	4856 Mar 09	04:09	19°♓30'42	0°36'48
morning rise	4856 Mar 21	23:55	22°♓32'12	
	4856 Apr 23	22:53	0°♈	
retrograde	4856 Jul 28	23:43	12°♈06'54	
opposition	4856 Sep 27	06:25	7°♈10'24	-1°12'32
min. Earth dist.	4856 Sep 27	20:27	7°♈05'49	4.02524 AU
direct	4856 Nov 25	19:07	2°♈15'35	
evening set	4857 Mar 31	10:37	21°♈46'45	
conjunction	4857 Apr 13	10:45	24°♈55'15	-0°55'33
minimum elong	4857 Apr 13	10:44	24°♈55'14	0°55'33
max. Earth dist.	4857 Apr 13	07:22	24°♈53'12	5.97182 AU
morning rise	4857 Apr 26	13:10	28°♈05'08	
	4857 May 04	13:17	0°♉	
	4857 Jul 18	13:06	15°♉	
retrograde	4857 Sep 05	07:28	18°♉37'48	
	4857 Oct 24	18:06	15°℞♉	
opposition	4857 Nov 04	03:53	13°♉37'39	-1°26'23
min. Earth dist.	4857 Nov 03	17:25	13°♉41'09	3.93934 AU
direct	4858 Jan 01	09:50	8°♉43'47	
	4858 Mar 06	03:01	15°♉	
evening set	4858 May 07	10:51	28°♉37'03	
	4858 May 13	03:51	0°♊	
conjunction	4858 May 20	18:41	1°♊51'06	-0°53'14
minimum elong	4858 May 20	18:42	1°♊51'07	0°53'14
max. Earth dist.	4858 May 22	01:12	2°♊09'40	5.93060 AU
morning rise	4858 Jun 03	05:34	5°♊06'45	
retrograde	4858 Oct 13	13:10	25°♊52'01	
min. Earth dist.	4858 Dec 10	21:11	20°♊58'37	3.94870 AU
opposition	4858 Dec 12	02:49	20°♊48'34	-1°05'23
direct	4859 Feb 07	23:37	15°♊53'25	
	4859 May 21	01:54	0°♋	
evening set	4859 Jun 14	06:52	5°♋37'22	
conjunction	4859 Jun 27	21:57	8°♋52'01	-0°29'41
minimum elong	4859 Jun 27	21:59	8°♋52'02	0°29'42
max. Earth dist.	4859 Jun 30	04:59	9°♋24'49	5.98936 AU
morning rise	4859 Jul 11	15:12	12°♋07'39	
	4859 Oct 12	17:25	0°♌	
retrograde	4859 Nov 19	01:15	2°♌12'20	
	4859 Dec 26	02:18	30°℞♋	
min. Earth dist.	4860 Jan 16	00:36	27°♋20'02	4.04994 AU
opposition	4860 Jan 17	12:59	27°♋07'39	-0°19'11

direct	4860 Mar 15 21:48	22°♋09'50	
	4860 May 28 10:38	0°♌	
asc. node	4860 Jun 12 21:58	3°♌02'53	
evening set	4860 Jul 20 10:34	11°♌18'31	
conjunction	4860 Aug 03 03:58	14°♌28'03	0°04'30
minimum elong	4860 Aug 03 03:57	14°♌28'02	0°04'29
behind sun begin	4860 Aug 02 19:44	14°♌23'20	
behind sun end	4860 Aug 03 12:10	14°♌32'45	
max. Earth dist.	4860 Aug 05 11:17	14°♌59'55	6.12323 AU
	4860 Aug 05 11:27	15°♌	
morning rise	4860 Aug 16 22:12	17°♌37'37	
	4860 Oct 15 13:23	0°♍	
retrograde	4860 Dec 21 21:11	6°♍32'13	
min. Earth dist.	4861 Feb 18 08:19	1°♍39'25	4.20182 AU
opposition	4861 Feb 19 15:23	1°♍28'55	0°31'05
	4861 Mar 02 19:12	30°℞♌	
direct	4861 Apr 20 03:33	26°♌28'30	
	4861 Jun 07 15:05	0°♍	
evening set	4861 Aug 24 18:35	14°♍53'00	
conjunction	4861 Sep 07 08:57	17°♍54'15	0°35'28
minimum elong	4861 Sep 07 08:55	17°♍54'14	0°35'29
max. Earth dist.	4861 Sep 08 21:57	18°♍14'50	6.28032 AU
morning rise	4861 Sep 20 22:17	20°♍54'42	
	4861 Nov 03 15:34	0°♎	
retrograde	4862 Jan 22 13:10	8°♎40'57	
opposition	4862 Mar 23 14:34	3°♎40'53	1°08'05
min. Earth dist.	4862 Mar 22 23:13	3°♎45'59	4.35044 AU
	4862 Apr 23 22:52	30°℞♍	
direct	4862 May 23 12:14	28°♍38'57	
	4862 Jun 22 09:59	0°♎	
evening set	4862 Sep 26 23:31	16°♎25'44	
conjunction	4862 Oct 10 07:42	19°♎19'08	0°54'18
minimum elong	4862 Oct 10 07:41	19°♎19'07	0°54'18
max. Earth dist.	4862 Oct 10 16:20	19°♎23'49	6.40886 AU
morning rise	4862 Oct 23 13:50	22°♎11'21	
	4862 Nov 30 15:38	0°♏	
retrograde	4863 Feb 21 17:36	9°♏09'59	
opposition	4863 Apr 23 04:23	4°♏13'26	1°23'51
min. Earth dist.	4863 Apr 23 07:45	4°♏12'20	4.45092 AU
	4863 May 31 23:37	30°℞♎	
direct	4863 Jun 24 04:59	29°♎11'00	
	4863 Jul 17 16:34	0°♏	
	4863 Oct 20 22:17	15°♏	
evening set	4863 Oct 28 10:39	16°♏35'39	
conjunction	4863 Nov 10 12:30	19°♏23'58	0°57'28
minimum elong	4863 Nov 10 12:30	19°♏23'58	0°57'29
max. Earth dist.	4863 Nov 09 17:40	19°♏13'50	6.47379 AU
morning rise	4863 Nov 23 11:36	22°♏11'00	
	4863 Dec 31 22:48	0°♐	
retrograde	4864 Mar 22 14:03	8°♐49'57	
opposition	4864 May 22 08:24	3°♐56'14	1°17'07
min. Earth dist.	4864 May 23 05:47	3°♐49'22	4.47740 AU
	4864 Jun 26 18:59	30°℞♏	
direct	4864 Jul 24 00:39	28°♏54'14	
	4864 Aug 20 12:03	0°♐	
evening set	4864 Nov 26 22:31	16°♐15'43	
max. Earth dist.	4864 Dec 08 01:02	18°♐39'45	6.45939 AU
conjunction	4864 Dec 09 19:08	19°♐02'35	0°45'20
minimum elong	4864 Dec 09 19:09	19°♐02'36	0°45'21
morning rise	4864 Dec 22 13:32	21°♐48'27	
	4865 Jan 31 15:36	0°♑	
retrograde	4865 Apr 22 04:50	8°♑37'42	
opposition	4865 Jun 22 02:27	3°♑45'24	0°50'08
min. Earth dist.	4865 Jun 23 13:26	3°♑34'14	4.42329 AU
	4865 Jul 25 12:54	30°℞♐	
direct	4865 Aug 23 19:40	28°♐44'26	
	4865 Sep 22 03:30	0°♑	
evening set	4865 Dec 27 09:37	16°♑22'35	
max. Earth dist.	4866 Jan 06 22:54	18°♑42'36	6.36913 AU
conjunction	4866 Jan 09 03:27	19°♑11'46	0°20'46
minimum elong	4866 Jan 09 03:28	19°♑11'46	0°20'47
morning rise	4866 Jan 21 19:33	22°♑00'20	
	4866 Feb 28 19:27	0°♒	
retrograde	4866 May 24 09:48	9°♒29'10	
opposition	4866 Jul 24 08:00	4°♒36'43	0°08'08
min. Earth dist.	4866 Jul 25 21:57	4°♒24'36	4.30171 AU
	4866 Sep 08 18:01	30°℞♑	
direct	4866 Sep 24 07:47	29°♑37'33	
desc. node	4866 Sep 30 22:21	29°♑41'35	
	4866 Oct 09 23:23	0°♒	
	4867 Jan 15 05:00	15°♒	
evening set	4867 Jan 27 19:46	17°♒50'08	
max. Earth dist.	4867 Feb 07 11:19	20°♒16'13	6.22542 AU
conjunction	4867 Feb 09 12:57	20°♒44'42	-0°10'46
minimum elong	4867 Feb 09 12:57	20°♒44'42	0°10'45
behind sun begin	4867 Feb 09 06:46	20°♒41'10	
behind sun end	4867 Feb 09 19:07	20°♒48'13	
morning rise	4867 Feb 22 05:46	23°♒39'23	
	4867 Mar 22 21:09	0°♓	
retrograde	4867 Jun 28 02:54	12°♓12'17	
opposition	4867 Aug 27 17:53	7°♓18'15	-0°39'13
min. Earth dist.	4867 Aug 29 00:38	7°♓08'20	4.14501 AU
direct	4867 Oct 27 12:48	2°♓21'28	
evening set	4868 Mar 01 00:56	21°♓18'54	
conjunction	4868 Mar 13 20:30	24°♓21'00	-0°40'18
minimum elong	4868 Mar 13 20:29	24°♓20'59	0°40'18
max. Earth dist.	4868 Mar 12 13:35	24°♓02'39	6.06918 AU
morning rise	4868 Mar 26 17:09	27°♓23'58	
	4868 Apr 06 19:41	0°♈	
retrograde	4868 Aug 03 05:01	17°♈10'22	
opposition	4868 Oct 02 10:04	12°♈13'26	-1°16'18
min. Earth dist.	4868 Oct 02 20:23	12°♈10'03	4.00308 AU
direct	4868 Nov 30 16:10	7°♈18'52	
evening set	4869 Apr 05 11:45	26°♈57'02	
conjunction	4869 Apr 18 12:54	0°♉06'48	-0°56'34
minimum elong	4869 Apr 18 12:54	0°♉06'48	0°56'34
	4869 Apr 18 01:43	0°♉	
max. Earth dist.	4869 Apr 18 14:13	0°♉07'36	5.95477 AU
morning rise	4869 May 01 16:35	3°♉18'03	
	4869 Jun 22 20:22	15°♉	
retrograde	4869 Sep 10 17:35	23°♉58'04	
opposition	4869 Nov 09 12:25	18°♉57'22	-1°25'29
min. Earth dist.	4869 Nov 08 22:43	19°♉01'57	3.92940 AU
	4869 Dec 14 01:46	15°℞♉	
direct	4870 Jan 06 15:49	14°♉03'27	
	4870 Jan 30 04:29	15°♉	
	4870 Apr 26 01:03	0°♊	
evening set	4870 May 12 18:37	3°♊59'21	
conjunction	4870 May 26 03:52	7°♊14'08	-0°50'59
minimum elong	4870 May 26 03:53	7°♊14'09	0°50'59
max. Earth dist.	4870 May 27 16:53	7°♊36'37	5.92893 AU
morning rise	4870 Jun 08 15:51	10°♊30'23	
	4870 Sep 21 06:22	0°♋	
retrograde	4870 Oct 18 22:11	1°♋14'14	

	4870 Nov 15	07:53	30°℞♊		
min. Earth dist.	4870 Dec 16	02:13	26°♊21'11	3.95548 AU	
opposition	4870 Dec 17	09:52	26°♊10'26	-0°59'51	
direct	4871 Feb 13	06:49	21°♊15'00		
	4871 May 01	08:33	0°♋		
evening set	4871 Jun 19	15:32	10°♋55'52		
conjunction	4871 Jul 03	07:11	14°♋10'09	-0°25'06	
minimum elong	4871 Jul 03	07:13	14°♋10'10	0°25'07	
max. Earth dist.	4871 Jul 05	15:47	14°♋43'44	6.00361 AU	
morning rise	4871 Jul 17	01:09	17°♋25'21		
	4871 Sep 13	12:24	0°♌		
retrograde	4871 Nov 23	23:10	7°♌21'11		
min. Earth dist.	4872 Jan 20	23:23	2°♌29'15	4.06975 AU	
opposition	4872 Jan 22	12:57	2°♌16'27	-0°11'43	
	4872 Feb 08	22:37	30°℞♋		
direct	4872 Mar 21	00:16	27°♋18'12		
asc. node	4872 Apr 21	16:31	28°♋55'59		
	4872 May 01	05:36	0°♌		
	4872 Jul 19	16:30	15°♌		
evening set	4872 Jul 25	14:07	16°♌20'24		
conjunction	4872 Aug 08	07:23	19°♌28'47	0°09'23	
minimum elong	4872 Aug 08	07:22	19°♌28'47	0°09'22	
behind sun begin	4872 Aug 08	00:25	19°♌24'49		
behind sun end	4872 Aug 08	14:18	19°♌32'44		
max. Earth dist.	4872 Aug 10	13:19	19°♌59'42	6.14661 AU	
morning rise	4872 Aug 22	01:05	22°♌37'04		
	4872 Sep 24	20:41	0°♍		
retrograde	4872 Dec 26	12:24	11°♍20'38		
min. Earth dist.	4873 Feb 23	02:12	6°♍27'23	4.22606 AU	
opposition	4873 Feb 24	06:55	6°♍17'42	0°37'26	
direct	4873 Apr 25	00:56	1°♍17'00		
evening set	4873 Aug 29	14:13	19°♍34'45		
conjunction	4873 Sep 12	03:49	22°♍34'42	0°39'01	
minimum elong	4873 Sep 12	03:47	22°♍34'41	0°39'01	
max. Earth dist.	4873 Sep 13	13:38	22°♍53'25	6.30325 AU	
morning rise	4873 Sep 25	16:11	25°♍33'47		
	4873 Oct 16	06:56	0°♎		
retrograde	4874 Jan 26	19:17	13°♎11'06		
opposition	4874 Mar 27	23:19	8°♎11'32	1°11'39	
min. Earth dist.	4874 Mar 27	09:50	8°♎16'00	4.37036 AU	
direct	4874 May 28	00:47	3°♎09'29		
evening set	4874 Oct 01	11:37	20°♎51'28		
conjunction	4874 Oct 14	18:52	23°♎43'53	0°55'42	
minimum elong	4874 Oct 14	18:51	23°♎43'52	0°55'43	
max. Earth dist.	4874 Oct 14	23:26	23°♎46'21	6.42432 AU	
morning rise	4874 Oct 27	23:52	26°♎35'03		
	4874 Nov 13	02:57	0°♏		
retrograde	4875 Feb 25	22:07	13°♏28'42		
opposition	4875 Apr 27	09:54	8°♏32'41	1°24'12	
min. Earth dist.	4875 Apr 27	16:25	8°♏30'33	4.46101 AU	
direct	4875 Jun 28	14:20	3°♏30'19		
	4875 Oct 04	06:28	15°♏		
evening set	4875 Nov 01	17:50	20°♏52'55		
conjunction	4875 Nov 14	18:46	23°♏40'46	0°56'38	
minimum elong	4875 Nov 14	18:46	23°♏40'46	0°56'37	
max. Earth dist.	4875 Nov 13	18:49	23°♏27'53	6.47765 AU	
morning rise	4875 Nov 27	17:11	26°♏27'23		
	4875 Dec 14	13:13	0°♐		
retrograde	4876 Mar 26	19:09	13°♐05'49		
opposition	4876 May 26	14:02	8°♐12'24	1°14'25	
min. Earth dist.	4876 May 27	14:06	8°♐04'40	4.47502 AU	
direct	4876 Jul 28	07:45	3°♐10'28		
evening set	4876 Dec 01	04:02	20°♐33'08		
max. Earth dist.	4876 Dec 12	04:54	22°♐56'33	6.45095 AU	
conjunction	4876 Dec 14	00:17	23°♐20'09	0°42'31	
minimum elong	4876 Dec 14	00:19	23°♐20'09	0°42'32	
morning rise	4876 Dec 26	18:04	26°♐06'09		
	4877 Jan 14	02:10	0°♑		
retrograde	4877 Apr 26	12:47	12°♑59'20		
opposition	4877 Jun 26	11:41	8°♑07'08	0°44'57	
min. Earth dist.	4877 Jun 27	23:25	7°♑55'46	4.40928 AU	
direct	4877 Aug 28	03:01	3°♑06'25		
evening set	4877 Dec 31	17:10	20°♑48'44		
max. Earth dist.	4878 Jan 11	04:45	23°♑08'28	6.35048 AU	
conjunction	4878 Jan 13	10:40	23°♑38'32	0°16'36	
minimum elong	4878 Jan 13	10:40	23°♑38'32	0°16'35	
morning rise	4878 Jan 26	02:50	26°♑27'51		
	4878 Feb 11	06:43	0°♒		
retrograde	4878 May 29	03:48	14°♒04'51		
opposition	4878 Jul 29	00:22	9°♒12'18	0°01'29	
min. Earth dist.	4878 Jul 30	14:52	8°♒59'59	4.27941 AU	
desc. node	4878 Aug 10	11:14	7°♒38'16		
direct	4878 Sep 28	21:45	4°♒13'25		
	4878 Dec 28	20:51	15°♒		
evening set	4879 Feb 01	08:38	22°♒32'30		
max. Earth dist.	4879 Feb 12	01:57	25°♒00'23	6.20136 AU	
conjunction	4879 Feb 14	02:06	25°♒28'09	-0°15'17	
minimum elong	4879 Feb 14	02:05	25°♒28'08	0°15'17	
behind sun begin	4879 Feb 13	23:16	25°♒26'31		
behind sun end	4879 Feb 14	04:54	25°♒29'46		
morning rise	4879 Feb 26	19:14	28°♒23'59		
	4879 Mar 05	19:23	0°♓		
retrograde	4879 Jul 03	04:14	17°♓07'47		
opposition	4879 Sep 01	18:33	12°♓13'28	-0°45'31	
min. Earth dist.	4879 Sep 02	22:21	12°♓04'29	4.12127 AU	
direct	4879 Nov 01	07:12	7°♓17'04		
evening set	4880 Mar 05	21:55	26°♓21'37		
conjunction	4880 Mar 18	18:00	29°♓24'54	-0°43'40	
minimum elong	4880 Mar 18	17:59	29°♓24'53	0°43'40	
max. Earth dist.	4880 Mar 17	15:02	29°♓08'49	6.04797 AU	
	4880 Mar 21	04:50	0°♈		
morning rise	4880 Mar 31	15:30	2°♈29'10		
retrograde	4880 Aug 08	14:48	22°♈25'38		
opposition	4880 Oct 07	18:02	17°♈28'10	-1°19'38	
min. Earth dist.	4880 Oct 08	01:01	17°♈25'51	3.98672 AU	
direct	4880 Dec 05	19:55	12°♈33'49		
	4881 Apr 01	04:43	0°♉		
evening set	4881 Apr 10	16:12	2°♉16'28		
conjunction	4881 Apr 23	18:32	5°♉27'11	-0°57'12	
minimum elong	4881 Apr 23	18:32	5°♉27'11	0°57'13	
max. Earth dist.	4881 Apr 24	02:35	5°♉32'05	5.94511 AU	
morning rise	4881 May 06	23:16	8°♉39'24		
	4881 Jun 02	22:39	15°♉		
retrograde	4881 Sep 16	05:43	29°♉23'06		
opposition	4881 Nov 14	22:26	24°♉21'53	-1°23'52	
min. Earth dist.	4881 Nov 14	05:34	24°♉27'33	3.92799 AU	
direct	4882 Jan 11	23:44	19°♉27'55		
	4882 Apr 07	06:48	0°♊		
evening set	4882 May 18	02:57	9°♊22'53		
conjunction	4882 May 31	13:04	12°♊37'48	-0°48'22	
minimum elong	4882 May 31	13:06	12°♊37'49	0°48'22	
max. Earth dist.	4882 Jun 02	05:24	13°♊02'13	5.93564 AU	
morning rise	4882 Jun 14	02:15	15°♊54'12		

	4882 Aug	18	06:56	0°♋	
retrograde	4882 Oct	24	01:45	6°♋32'54	
min. Earth dist.	4882 Dec	21	04:36	1°♋40'23	3.96961 AU
opposition	4882 Dec	22	14:52	1°♋28'44	-0°53'57
	4883 Jan	02	16:19	30°℞♊	
direct	4883 Feb	18	12:12	26°♊32'53	
	4883 Apr	05	19:45	0°♋	
evening set	4883 Jun	24	21:44	16°♋08'08	
conjunction	4883 Jul	08	13:55	19°♋21'42	-0°20'28
minimum elong	4883 Jul	08	13:56	19°♋21'43	0°20'28
max. Earth dist.	4883 Jul	10	23:31	19°♋55'43	6.02368 AU
morning rise	4883 Jul	22	08:02	22°♋35'59	
	4883 Aug	24	03:20	0°♌	
retrograde	4883 Nov	28	19:15	12°♌21'07	
min. Earth dist.	4884 Jan	25	21:06	7°♌28'44	4.09326 AU
opposition	4884 Jan	27	09:14	7°♌16'27	-0°04'28
asc. node	4884 Mar	01	21:12	3°♌16'17	
direct	4884 Mar	26	01:42	2°♌17'45	
	4884 Jul	02	10:35	15°♌	
evening set	4884 Jul	30	13:34	21°♌12'29	
conjunction	4884 Aug	13	06:34	24°♌19'38	0°14'01
minimum elong	4884 Aug	13	06:33	24°♌19'37	0°14'01
behind sun begin	4884 Aug	13	02:35	24°♌17'22	
behind sun end	4884 Aug	13	10:31	24°♌21'52	
max. Earth dist.	4884 Aug	15	11:10	24°♌49'34	6.17139 AU
morning rise	4884 Aug	26	23:43	27°♌26'31	
	4884 Sep	07	10:14	0°♍	
retrograde	4884 Dec	30	21:45	15°♍59'07	
opposition	4885 Feb	28	18:32	10°♍56'35	0°43'16
min. Earth dist.	4885 Feb	27	14:58	11°♍05'51	4.24989 AU
direct	4885 Apr	29	16:26	5°♍55'37	
evening set	4885 Sep	03	05:45	24°♍07'00	
conjunction	4885 Sep	16	18:25	27°♍05'42	0°42'11
minimum elong	4885 Sep	16	18:23	27°♍05'41	0°42'11
max. Earth dist.	4885 Sep	17	22:57	27°♍21'26	6.32420 AU
	4885 Sep	29	23:28	0°♎	
morning rise	4885 Sep	30	05:51	0°♎03'29	
retrograde	4886 Jan	31	01:14	17°♎33'03	
opposition	4886 Apr	01	05:17	12°♎34'01	1°14'43
min. Earth dist.	4886 Mar	31	19:40	12°♎37'11	4.38702 AU
direct	4886 Jun	01	12:01	7°♎31'50	
evening set	4886 Oct	05	20:45	25°♎10'06	
conjunction	4886 Oct	19	03:10	28°♎01'43	0°56'46
minimum elong	4886 Oct	19	03:09	28°♎01'42	0°56'47
max. Earth dist.	4886 Oct	19	03:29	28°♎01'53	6.43542 AU
	4886 Oct	28	06:17	0°♏	
morning rise	4886 Nov	01	07:10	0°♏52'04	
	4887 Jan	18	12:13	15°♏	
retrograde	4887 Mar	02	00:06	17°♏42'16	
	4887 Apr	13	18:23	15°℞♏	
opposition	4887 May	01	13:32	12°♏46'40	1°24'08
min. Earth dist.	4887 May	01	22:21	12°♏43'48	4.46622 AU
direct	4887 Jul	02	19:35	7°♏44'18	
	4887 Sep	15	17:47	15°♏	
evening set	4887 Nov	05	23:31	25°♏06'25	
conjunction	4887 Nov	18	23:45	27°♏54'01	0°55'30
minimum elong	4887 Nov	18	23:46	27°♏54'01	0°55'31
max. Earth dist.	4887 Nov	17	21:03	27°♏39'38	6.47667 AU
	4887 Nov	28	17:56	0°♐	
morning rise	4887 Dec	01	21:22	0°♐40'24	
retrograde	4888 Mar	31	00:10	17°♐19'52	
opposition	4888 May	30	19:31	12°♐26'46	1°11'24
min. Earth dist.	4888 May	31	22:00	12°♐18'17	4.46803 AU
direct	4888 Aug	01	14:00	7°♐25'01	
evening set	4888 Dec	05	09:32	24°♐50'09	
max. Earth dist.	4888 Dec	16	06:20	27°♐11'54	6.43838 AU
conjunction	4888 Dec	18	05:12	27°♐37'27	0°39'30
minimum elong	4888 Dec	18	05:14	27°♐37'28	0°39'31
	4888 Dec	29	02:51	0°♑	
morning rise	4888 Dec	30	22:48	0°♑23'51	
retrograde	4889 May	01	00:07	17°♑22'24	
opposition	4889 Jun	30	22:19	12°♑30'15	0°39'32
min. Earth dist.	4889 Jul	02	11:05	12°♑18'32	4.39193 AU
direct	4889 Sep	01	11:59	7°♑29'45	
evening set	4890 Jan	05	01:47	25°♑17'10	
max. Earth dist.	4890 Jan	15	14:30	27°♑38'09	6.32983 AU
conjunction	4890 Jan	17	19:18	28°♑07'43	0°12'18
minimum elong	4890 Jan	17	19:19	28°♑07'44	0°12'19
behind sun begin	4890 Jan	17	13:58	28°♑04'45	
behind sun end	4890 Jan	18	00:39	28°♑10'43	
	4890 Jan	26	03:40	0°♒	
morning rise	4890 Jan	30	11:19	0°♒57'52	
	4890 Apr	13	11:20	15°♒	
retrograde	4890 Jun	02	21:48	18°♒43'37	
desc. node	4890 Jun	20	02:47	18°♒16'05	
	4890 Jul	24	16:16	15°℞♒	
opposition	4890 Aug	02	18:16	13°♒50'57	-0°05'14
min. Earth dist.	4890 Aug	04	07:22	13°♒39'05	4.25691 AU
direct	4890 Oct	03	10:55	8°♒52'29	
	4890 Dec	08	11:13	15°♒	
evening set	4891 Feb	05	23:17	27°♒18'03	
max. Earth dist.	4891 Feb	16	18:32	29°♒47'52	6.17885 AU
	4891 Feb	17	15:28	0°♓	
conjunction	4891 Feb	18	16:47	0°♓14'41	-0°19'45
minimum elong	4891 Feb	18	16:46	0°♓14'40	0°19'45
morning rise	4891 Mar	03	10:27	3°♓11'39	
retrograde	4891 Jul	08	08:25	22°♓05'47	
opposition	4891 Sep	06	20:39	17°♓11'05	-0°51'31
min. Earth dist.	4891 Sep	07	21:55	17°♓02'53	4.10051 AU
direct	4891 Nov	06	04:54	12°♓15'02	
	4892 Mar	04	18:57	0°♈	
evening set	4892 Mar	10	19:24	1°♈25'23	
conjunction	4892 Mar	23	16:16	4°♈29'43	-0°46'42
minimum elong	4892 Mar	23	16:14	4°♈29'42	0°46'41
max. Earth dist.	4892 Mar	22	18:48	4°♈16'52	6.03091 AU
morning rise	4892 Apr	05	14:28	7°♈35'05	
retrograde	4892 Aug	13	23:48	27°♈39'37	
opposition	4892 Oct	13	01:31	22°♈41'42	-1°22'17
min. Earth dist.	4892 Oct	13	05:13	22°♈40'29	3.97524 AU
direct	4892 Dec	10	22:57	17°♈47'36	
	4893 Mar	14	11:35	0°♉	
evening set	4893 Apr	15	20:01	7°♉32'54	
conjunction	4893 Apr	28	23:10	10°♉44'18	-0°57'21
minimum elong	4893 Apr	28	23:11	10°♉44'18	0°57'21
max. Earth dist.	4893 Apr	29	10:49	10°♉51'23	5.94000 AU
morning rise	4893 May	12	05:11	13°♉57'17	
	4893 May	16	13:21	15°♉	
	4893 Jul	27	15:19	0°♊	
retrograde	4893 Sep	21	12:40	4°♊42'40	
	4893 Nov	17	21:05	30°℞♉	
min. Earth dist.	4893 Nov	19	09:09	29°♉47'52	3.92997 AU
opposition	4893 Nov	20	05:39	29°♉40'58	-1°21'32
direct	4894 Jan	17	05:08	24°♉46'50	
	4894 Mar	15	17:48	0°♊	

evening set	4894 May 23	09:04	14°♊40'08		
conjunction	4894 Jun 05	20:17	17°♊55'06	-0°45'23	
minimum elong	4894 Jun 05	20:19	17°♊55'07	0°45'24	
max. Earth dist.	4894 Jun 07	16:31	18°♊21'50	5.94450 AU	
morning rise	4894 Jun 19	10:14	21°♊11'28		
	4894 Jul 27	21:38	0°♋		
retrograde	4894 Oct 29	04:14	11°♋44'30		
min. Earth dist.	4894 Dec 26	06:30	6°♋51'48	3.98415 AU	
opposition	4894 Dec 27	16:48	6°♋40'07	-0°47'43	
direct	4895 Feb 23	16:41	1°♋43'56		
evening set	4895 Jun 30	01:19	21°♋13'58		
conjunction	4895 Jul 13	17:58	24°♋26'51	-0°15'45	
minimum elong	4895 Jul 13	17:59	24°♋26'52	0°15'46	
behind sun begin	4895 Jul 13	17:14	24°♋26'26		
behind sun end	4895 Jul 13	18:44	24°♋27'18		
max. Earth dist.	4895 Jul 16	04:40	25°♋01'20	6.04247 AU	
morning rise	4895 Jul 27	12:18	27°♋40'20		
	4895 Aug 06	14:07	0°♌		
	4895 Oct 26	15:17	15°♌		
retrograde	4895 Dec 03	12:14	17°♌15'41		
	4896 Jan 10	03:58	15°℞♌		
asc. node	4896 Jan 11	07:14	14°♌52'16		
min. Earth dist.	4896 Jan 30	15:01	12°♌23'29	4.11430 AU	
opposition	4896 Feb 01	03:06	12°♌11'14	0°02'41	
direct	4896 Mar 30	22:22	7°♌12'13		
	4896 Jun 13	00:47	15°♌		
evening set	4896 Aug 04	11:26	26°♌00'52		
conjunction	4896 Aug 18	03:57	29°♌06'52	0°18'31	
minimum elong	4896 Aug 18	03:56	29°♌06'51	0°18'31	
max. Earth dist.	4896 Aug 20	04:19	29°♌34'17	6.19282 AU	
	4896 Aug 22	01:42	0°♍		
morning rise	4896 Aug 31	20:38	2°♍12'34		
retrograde	4897 Jan 04	08:32	20°♍35'51		
min. Earth dist.	4897 Mar 04	04:47	15°♍41'58	4.26981 AU	
opposition	4897 Mar 05	05:15	15°♍33'45	0°48'49	
direct	4897 May 04	08:25	10°♍32'30		
evening set	4897 Sep 07	20:50	28°♍39'02		
	4897 Sep 14	00:45	0°♎		
conjunction	4897 Sep 21	08:53	1°♎36'44	0°45'06	
minimum elong	4897 Sep 21	08:52	1°♎36'43	0°45'07	
max. Earth dist.	4897 Sep 22	10:40	1°♎50'54	6.34118 AU	
morning rise	4897 Oct 04	19:14	4°♎33'25		
retrograde	4898 Feb 04	05:41	21°♎56'34		
opposition	4898 Apr 05	11:26	16°♎58'03	1°17'22	
min. Earth dist.	4898 Apr 05	03:36	17°♎00'38	4.40003 AU	
direct	4898 Jun 05	20:32	11°♎55'48		
evening set	4898 Oct 10	06:33	29°♎31'29		
	4898 Oct 12	11:45	0°♏		
conjunction	4898 Oct 23	11:59	2°♏22'25	0°57'31	
minimum elong	4898 Oct 23	11:59	2°♏22'25	0°57'31	
max. Earth dist.	4898 Oct 23	07:26	2°♏19'58	6.44353 AU	
morning rise	4898 Nov 05	15:09	5°♏12'07		
	4898 Dec 24	21:23	15°♏		
retrograde	4899 Mar 06	05:49	21°♏59'49		
opposition	4899 May 05	18:53	17°♏04'40	1°23'37	
min. Earth dist.	4899 May 06	07:06	17°♏00'43	4.46913 AU	
	4899 May 22	08:14	15°℞♏		
direct	4899 Jul 07	03:56	12°♏02'21		
	4899 Aug 22	02:13	15°♏		
evening set	4899 Nov 10	06:22	29°♏24'23		
	4899 Nov 13	00:54	0°♐		
max. Earth dist.	4899 Nov 21	23:55	1°♐55'39	6.47417 AU	
conjunction	4899 Nov 23	05:57	2°♐11'50	0°54'04	
minimum elong	4899 Nov 23	05:57	2°♐11'50	0°54'05	
morning rise	4899 Dec 06	02:54	4°♐58'04		
retrograde	4900 Apr 05	06:40	21°♐38'59		
opposition	4900 Jun 05	02:49	16°♐46'05	1°07'57	
min. Earth dist.	4900 Jun 06	06:15	16°♐37'19	4.46065 AU	
direct	4900 Aug 06	20:28	11°♐44'30		
evening set	4900 Dec 10	16:27	29°♐11'57		
	4900 Dec 14	08:55	0°♑		
max. Earth dist.	4900 Dec 21	13:00	1°♑33'56	6.42692 AU	
conjunction	4900 Dec 23	11:46	1°♑59'32	0°36'13	
minimum elong	4900 Dec 23	11:47	1°♑59'32	0°36'13	
morning rise	4901 Jan 05	04:52	4°♑46'13		
retrograde	4901 May 06	12:10	21°♑49'36		
opposition	4901 Jul 06	10:27	16°♑57'30	0°33'48	
min. Earth dist.	4901 Jul 07	23:36	16°♑45'40	4.37722 AU	
direct	4901 Sep 06	22:14	11°♑57'19		
evening set	4902 Jan 10	11:16	29°♑48'35		
	4902 Jan 11	07:44	0°♒		
max. Earth dist.	4902 Jan 20	23:15	2°♒09'48	6.31307 AU	
conjunction	4902 Jan 23	04:29	2°♒39'44	0°07'56	
minimum elong	4902 Jan 23	04:28	2°♒39'44	0°07'57	
behind sun begin	4902 Jan 22	21:20	2°♒35'44		
behind sun end	4902 Jan 23	11:37	2°♒43'43		
morning rise	4902 Feb 04	20:40	5°♒30'34		
	4902 Mar 22	00:51	15°♒		
desc. node	4902 May 01	05:50	21°♒10'07		
retrograde	4902 Jun 08	17:09	23°♒23'45		
opposition	4902 Aug 08	12:50	18°♒30'50	-0°11'54	
min. Earth dist.	4902 Aug 10	00:23	18°♒19'26	4.23921 AU	
	4902 Sep 08	01:10	15°℞♒		
direct	4902 Oct 09	01:52	13°♒32'39		
	4902 Nov 08	23:00	15°♒		
	4903 Feb 02	14:49	0°♓		
evening set	4903 Feb 11	13:07	2°♓02'41		
max. Earth dist.	4903 Feb 22	12:50	4°♓35'36	6.16184 AU	
conjunction	4903 Feb 24	06:57	5°♓00'07	-0°24'00	
minimum elong	4903 Feb 24	06:56	5°♓00'06	0°24'01	
morning rise	4903 Mar 09	00:48	7°♓57'54		
retrograde	4903 Jul 14	09:33	27°♓00'11		
opposition	4903 Sep 12	21:10	22°♓05'06	-0°57'00	
min. Earth dist.	4903 Sep 13	20:01	21°♓57'41	4.08569 AU	
direct	4903 Nov 12	00:52	17°♓09'23		
	4904 Feb 17	23:01	0°♈		
evening set	4904 Mar 16	14:58	6°♈23'19		
conjunction	4904 Mar 29	12:15	9°♈28'22	-0°49'17	
minimum elong	4904 Mar 29	12:13	9°♈28'21	0°49'18	
max. Earth dist.	4904 Mar 28	17:38	9°♈17'12	6.01949 AU	
morning rise	4904 Apr 11	11:23	12°♈34'37		
	4904 Jul 08	21:38	0°♉		
retrograde	4904 Aug 20	03:07	2°♉44'53		
	4904 Oct 01	17:58	30°℞♈		
opposition	4904 Oct 19	05:08	27°♈46'24	-1°24'09	
min. Earth dist.	4904 Oct 19	04:58	27°♈46'27	3.96852 AU	
direct	4904 Dec 16	23:13	22°♈52'21		
	4905 Feb 23	15:31	0°♉		
evening set	4905 Apr 21	19:52	12°♉38'42		
	4905 May 01	12:52	15°♉		
conjunction	4905 May 05	00:07	15°♉50'38	-0°57'01	
minimum elong	4905 May 05	00:08	15°♉50'39	0°57'01	
max. Earth dist.	4905 May 05	17:02	16°♉00'56	5.93866 AU	
morning rise	4905 May 18	07:01	19°♉04'08		

	4905 Jul 05	13:20	0°♊		
retrograde	4905 Sep 27	16:40	9°♊49'43		
min. Earth dist.	4905 Nov 25	10:30	4°♊54'53	3.93421 AU	
opposition	4905 Nov 26	08:08	4°♊47'35	-1°18'37	
	4906 Jan 15	06:13	30°℞♉		
direct	4906 Jan 23	07:22	29°♉53'15		
	4906 Jan 31	08:01	0°♊		
evening set	4906 May 29	10:23	19°♊44'15		
conjunction	4906 Jun 11	22:30	22°♊59'14	-0°42'10	
minimum elong	4906 Jun 11	22:33	22°♊59'15	0°42'11	
max. Earth dist.	4906 Jun 13	21:24	23°♊27'28	5.95378 AU	
morning rise	4906 Jun 25	13:23	26°♊15'32		
	4906 Jul 11	10:25	0°♋		
retrograde	4906 Nov 04	01:05	16°♋42'51		
min. Earth dist.	4907 Jan 01	02:13	11°♋50'27	3.99758 AU	
opposition	4907 Jan 02	13:38	11°♋38'24	-0°41'27	
direct	4907 Mar 01	14:09	6°♋41'52		
evening set	4907 Jul 06	00:39	26°♋07'35		
conjunction	4907 Jul 19	17:31	29°♋19'51	-0°11'09	
minimum elong	4907 Jul 19	17:32	29°♋19'52	0°11'10	
behind sun begin	4907 Jul 19	11:24	29°♋16'18		
behind sun end	4907 Jul 19	23:41	29°♋23'27		
max. Earth dist.	4907 Jul 22	02:08	29°♋52'59	6.05872 AU	
	4907 Jul 22	14:08	0°♌		
morning rise	4907 Aug 02	12:07	2°♌32'40		
	4907 Sep 30	09:06	15°♌		
asc. node	4907 Nov 24	14:21	21°♌38'52		
retrograde	4907 Dec 09	02:12	21°♌59'42		
min. Earth dist.	4908 Feb 05	06:47	17°♌07'07	4.13167 AU	
opposition	4908 Feb 06	17:05	16°♌55'28	0°09'29	
	4908 Feb 21	07:09	15°℞♌		
direct	4908 Apr 05	16:31	11°♌56'06		
	4908 May 20	03:43	15°♌		
	4908 Aug 07	06:05	0°♍		
evening set	4908 Aug 10	05:51	0°♍40'14		
conjunction	4908 Aug 23	22:14	3°♍45'23	0°22'43	
minimum elong	4908 Aug 23	22:13	3°♍45'22	0°22'42	
max. Earth dist.	4908 Aug 25	21:18	4°♍11'58	6.21011 AU	
morning rise	4908 Sep 06	14:12	6°♍50'03		
retrograde	4909 Jan 09	16:29	25°♍05'44		
opposition	4909 Mar 10	13:43	20°♍04'09	0°53'50	
min. Earth dist.	4909 Mar 09	14:47	20°♍11'49	4.28569 AU	
direct	4909 May 09	19:52	15°♍02'47		
	4909 Aug 30	00:45	0°♎		
evening set	4909 Sep 13	09:56	3°♎05'48		
conjunction	4909 Sep 26	21:04	6°♎02'37	0°47'39	
minimum elong	4909 Sep 26	21:02	6°♎02'36	0°47'40	
max. Earth dist.	4909 Sep 27	17:52	6°♎14'01	6.35444 AU	
morning rise	4909 Oct 10	06:41	8°♎58'26		
retrograde	4910 Feb 09	11:08	26°♎16'35		
opposition	4910 Apr 10	16:50	21°♎18'33	1°19'30	
min. Earth dist.	4910 Apr 10	12:07	21°♎20'06	4.41003 AU	
direct	4910 Jun 11	05:41	16°♎16'15		
	4910 Sep 27	10:03	0°♏		
evening set	4910 Oct 15	15:07	3°♏50'04		
conjunction	4910 Oct 28	19:54	6°♏40'28	0°57'55	
minimum elong	4910 Oct 28	19:53	6°♏40'28	0°57'55	
max. Earth dist.	4910 Oct 28	13:23	6°♏36'58	6.44961 AU	
morning rise	4910 Nov 10	22:02	9°♏29'35		
	4910 Dec 07	08:45	15°♏		
retrograde	4911 Mar 11	08:44	26°♏15'18		
opposition	4911 May 10	23:27	21°♏20'32	1°22'37	
min. Earth dist.	4911 May 11	12:43	21°♏16'14	4.47111 AU	
direct	4911 Jul 12	09:13	16°♏18'19		
	4911 Oct 29	01:33	0°♐		
evening set	4911 Nov 15	12:24	3°♐40'18		
max. Earth dist.	4911 Nov 27	02:34	6°♐09'56	6.47182 AU	
conjunction	4911 Nov 28	11:11	6°♐27'33	0°52'19	
minimum elong	4911 Nov 28	11:13	6°♐27'33	0°52'20	
morning rise	4911 Dec 11	07:33	9°♐13'39		
retrograde	4912 Apr 09	13:54	25°♐55'52		
opposition	4912 Jun 09	09:37	21°♐03'11	1°04'07	
min. Earth dist.	4912 Jun 10	15:21	20°♐53'41	4.45385 AU	
direct	4912 Aug 11	04:13	16°♐01'45		
	4912 Nov 28	11:19	0°♑		
evening set	4912 Dec 14	21:58	3°♑31'04		
max. Earth dist.	4912 Dec 25	15:55	5°♑52'03	6.41585 AU	
conjunction	4912 Dec 27	16:50	6°♑18'53	0°32'45	
minimum elong	4912 Dec 27	16:52	6°♑18'54	0°32'45	
morning rise	4913 Jan 09	09:42	9°♑05'55		
retrograde	4913 May 10	22:53	26°♑14'09		
opposition	4913 Jul 10	21:33	21°♑21'59	0°27'54	
min. Earth dist.	4913 Jul 12	10:29	21°♑10'12	4.36225 AU	
direct	4913 Sep 11	06:15	16°♑22'00		
	4913 Dec 26	06:00	0°♒		
evening set	4914 Jan 14	19:22	4°♒17'19		
max. Earth dist.	4914 Jan 25	09:09	6°♒40'05	6.29520 AU	
conjunction	4914 Jan 27	12:33	7°♒09'07	0°03'32	
minimum elong	4914 Jan 27	12:33	7°♒09'07	0°03'33	
behind sun begin	4914 Jan 27	04:39	7°♒04'41		
behind sun end	4914 Jan 27	20:27	7°♒13'34		
morning rise	4914 Feb 09	04:38	10°♒00'40		
	4914 Mar 03	21:18	15°♒		
desc. node	4914 Mar 11	11:09	16°♒35'23		
retrograde	4914 Jun 13	11:52	28°♒01'54		
opposition	4914 Aug 13	06:18	23°♒08'47	-0°18'32	
min. Earth dist.	4914 Aug 14	17:32	22°♒57'29	4.21937 AU	
direct	4914 Oct 13	15:43	18°♒10'57		
	4915 Jan 16	18:52	0°♓		
evening set	4915 Feb 16	02:39	6°♓46'36		
max. Earth dist.	4915 Feb 27	03:21	9°♓20'50	6.14157 AU	
conjunction	4915 Feb 28	20:38	9°♓44'58	-0°28'09	
minimum elong	4915 Feb 28	20:36	9°♓44'57	0°28'08	
morning rise	4915 Mar 13	15:09	12°♓43'51		
	4915 Jun 14	00:30	0°♈		
retrograde	4915 Jul 19	10:22	1°♈55'50		
	4915 Aug 24	01:35	30°℞♓		
opposition	4915 Sep 17	21:39	27°♓00'18	-1°02'12	
min. Earth dist.	4915 Sep 18	17:20	26°♓53'53	4.06663 AU	
direct	4915 Nov 16	20:13	22°♓04'51		
	4916 Jan 29	18:51	0°♈		
evening set	4916 Mar 21	11:19	11°♈24'18		
conjunction	4916 Apr 03	09:30	14°♈30'27	-0°51'35	
minimum elong	4916 Apr 03	09:29	14°♈30'26	0°51'36	
max. Earth dist.	4916 Apr 02	20:17	14°♈22'29	6.00349 AU	
morning rise	4916 Apr 16	09:26	17°♈37'47		
	4916 Jun 11	15:06	0°♉		
retrograde	4916 Aug 25	11:39	7°♉55'46		
opposition	4916 Oct 24	10:38	2°♉56'47	-1°25'29	
min. Earth dist.	4916 Oct 24	08:23	2°♉57'32	3.95727 AU	
	4916 Nov 17	07:14	30°℞♈		
direct	4916 Dec 22	01:49	28°♈02'49		
	4917 Jan 25	10:19	0°♉		
	4917 Apr 14	23:29	15°♉		

evening set	4917 Apr 26 22:44	17°♉52'07	
conjunction	4917 May 10 04:04	21°♉04'50	-0°56'15
minimum elong	4917 May 10 04:05	21°♉04'51	0°56'16
max. Earth dist.	4917 May 11 00:56	21°♉17'32	5.93320 AU
morning rise	4917 May 23 12:16	24°♉19'09	
	4917 Jun 16 13:52	0°♊	
retrograde	4917 Oct 02 22:14	15°♊06'08	
opposition	4917 Dec 01 13:22	10°♊03'35	-1°15'04
min. Earth dist.	4917 Nov 30 12:31	10°♊11'58	3.93544 AU
direct	4918 Jan 28 10:05	5°♊09'04	
evening set	4918 Jun 03 16:14	24°♊59'04	
conjunction	4918 Jun 17 05:15	28°♊14'07	-0°38'32
minimum elong	4918 Jun 17 05:16	28°♊14'08	0°38'32
max. Earth dist.	4918 Jun 19 05:39	28°♊43'13	5.96149 AU
	4918 Jun 24 13:38	0°♋	
morning rise	4918 Jun 30 21:03	1°♋30'27	
retrograde	4918 Nov 09 01:39	21°♋52'14	
min. Earth dist.	4919 Jan 06 02:14	16°♋59'51	4.01077 AU
opposition	4919 Jan 07 14:08	16°♋47'36	-0°34'39
direct	4919 Mar 06 17:23	11°♋50'40	
	4919 Jul 05 23:36	0°♌	
evening set	4919 Jul 11 04:13	1°♌12'00	
conjunction	4919 Jul 24 21:34	4°♌23'37	-0°06'17
minimum elong	4919 Jul 24 21:35	4°♌23'38	0°06'17
behind sun begin	4919 Jul 24 13:40	4°♌19'03	
behind sun end	4919 Jul 25 05:29	4°♌28'13	
max. Earth dist.	4919 Jul 27 07:45	4°♌57'31	6.07649 AU
morning rise	4919 Aug 07 16:03	7°♌35'34	
	4919 Sep 09 23:44	15°♌	
asc. node	4919 Oct 04 10:35	19°♌47'25	
retrograde	4919 Dec 13 19:43	26°♌53'12	
min. Earth dist.	4920 Feb 10 00:52	22°♌00'39	4.15225 AU
opposition	4920 Feb 11 10:34	21°♌49'14	0°16'29
direct	4920 Apr 10 13:27	16°♌49'35	
	4920 Jul 21 03:51	0°♍	
evening set	4920 Aug 15 03:45	5°♍27'44	
conjunction	4920 Aug 28 19:27	8°♍31'40	0°26'56
minimum elong	4920 Aug 28 19:26	8°♍31'39	0°26'55
max. Earth dist.	4920 Aug 30 15:18	8°♍56'19	6.23192 AU
morning rise	4920 Sep 11 10:50	11°♍35'05	
retrograde	4921 Jan 14 01:00	29°♍41'13	
min. Earth dist.	4921 Mar 14 03:11	24°♍47'03	4.30711 AU
opposition	4921 Mar 15 00:14	24°♍40'01	0°58'41
direct	4921 May 14 11:05	19°♍38'25	
	4921 Aug 12 11:56	0°♎	
evening set	4921 Sep 18 00:20	7°♎35'43	
conjunction	4921 Oct 01 10:42	10°♎31'23	0°50'00
minimum elong	4921 Oct 01 10:40	10°♎31'22	0°50'01
max. Earth dist.	4921 Oct 02 05:28	10°♎41'38	6.37406 AU
morning rise	4921 Oct 14 19:02	13°♎25'54	
	4922 Jan 24 22:02	0°♏	
retrograde	4922 Feb 13 14:29	0°♏36'44	
	4922 Mar 05 04:19	30°℞♎	
opposition	4922 Apr 14 22:16	25°♎39'09	1°21'14
min. Earth dist.	4922 Apr 14 19:20	25°♎40'06	4.42652 AU
direct	4922 Jun 15 14:58	20°♎36'49	
	4922 Sep 09 23:50	0°♏	
evening set	4922 Oct 19 22:54	8°♏06'25	
conjunction	4922 Nov 02 02:33	10°♏55'57	0°58'02
minimum elong	4922 Nov 02 02:33	10°♏55'57	0°58'02
max. Earth dist.	4922 Nov 01 14:57	10°♏49'42	6.46159 AU
morning rise	4922 Nov 15 03:52	13°♏44'15	
	4922 Nov 21 02:11	15°♏	
	4923 Feb 26 17:26	0°♐	
retrograde	4923 Mar 15 11:31	0°♐26'17	
	4923 Apr 01 02:54	30°℞♏	
opposition	4923 May 15 02:49	25°♏31'48	1°21'13
min. Earth dist.	4923 May 15 19:22	25°♏26'27	4.47787 AU
direct	4923 Jul 16 16:01	20°♏29'33	
	4923 Oct 12 03:19	0°♐	
evening set	4923 Nov 19 15:43	7°♐49'53	
max. Earth dist.	4923 Dec 01 02:50	10°♐17'53	6.47268 AU
conjunction	4923 Dec 02 13:56	10°♐36'49	0°50'22
minimum elong	4923 Dec 02 13:57	10°♐36'50	0°50'22
morning rise	4923 Dec 15 09:29	13°♐22'37	
	4924 Apr 06 01:52	0°♑	
retrograde	4924 Apr 13 15:52	0°♑05'24	
	4924 Apr 21 05:50	30°℞♐	
opposition	4924 Jun 13 13:38	25°♐12'49	1°00'04
min. Earth dist.	4924 Jun 14 20:24	25°♐03'00	4.44872 AU
direct	4924 Aug 15 07:10	20°♐11'28	
	4924 Nov 11 20:35	0°♑	
evening set	4924 Dec 19 00:40	7°♑42'20	
max. Earth dist.	4924 Dec 29 16:40	10°♑02'38	6.40492 AU
conjunction	4924 Dec 31 19:05	10°♑30'23	0°29'12
minimum elong	4924 Dec 31 19:06	10°♑30'24	0°29'14
morning rise	4925 Jan 13 11:39	13°♑17'43	
	4925 Apr 27 00:18	0°♒	
retrograde	4925 May 15 08:29	0°♒31'04	
	4925 Jun 02 14:39	30°℞♑	
opposition	4925 Jul 15 06:00	25°♑38'52	0°21'59
min. Earth dist.	4925 Jul 16 20:55	25°♑26'27	4.34583 AU
direct	4925 Sep 15 13:37	20°♑39'04	
	4925 Dec 09 06:04	0°♒	
evening set	4926 Jan 19 00:59	8°♒39'11	
desc. node	4926 Jan 21 05:29	9°♒08'45	
max. Earth dist.	4926 Jan 29 13:09	11°♒01'43	6.27439 AU
conjunction	4926 Jan 31 18:07	11°♒31'47	-0°00'53
minimum elong	4926 Jan 31 18:07	11°♒31'47	0°00'53
behind sun begin	4926 Jan 31 10:09	11°♒27'17	
behind sun end	4926 Feb 01 02:06	11°♒36'17	
morning rise	4926 Feb 13 10:29	14°♒24'16	
	4926 Feb 16 01:54	15°♒	
	4926 May 07 16:30	0°♓	
retrograde	4926 Jun 18 03:46	2°♓34'57	
	4926 Jul 30 04:13	30°℞♒	
opposition	4926 Aug 17 22:04	27°♒41'34	-0°24'56
min. Earth dist.	4926 Aug 19 07:47	27°♒30'43	4.19546 AU
direct	4926 Oct 18 02:05	22°♒43'59	
	4926 Dec 28 23:27	0°♓	
evening set	4927 Feb 20 14:57	11°♓27'00	
max. Earth dist.	4927 Mar 03 19:27	14°♓04'16	6.11659 AU
conjunction	4927 Mar 05 09:27	14°♓26'36	-0°32'02
minimum elong	4927 Mar 05 09:25	14°♓26'35	0°32'02
morning rise	4927 Mar 18 04:27	17°♓26'49	
	4927 May 16 03:59	0°♈	
retrograde	4927 Jul 24 14:11	6°♈50'35	
opposition	4927 Sep 22 22:10	1°♈54'42	-1°06'58
min. Earth dist.	4927 Sep 23 16:31	1°♈48'43	4.04269 AU
	4927 Oct 07 22:47	30°℞♓	
direct	4927 Nov 21 16:30	26°♓59'31	
	4928 Jan 04 08:18	0°♈	
evening set	4928 Mar 26 08:49	16°♈26'37	

conjunction	4928 Apr 08	07:54	19°♈34'08	-0°53'30	
minimum elong	4928 Apr 08	07:53	19°♈34'07	0°53'30	
max. Earth dist.	4928 Apr 07	22:01	19°♈28'10	5.98281 AU	
morning rise	4928 Apr 21	09:04	22°♈42'58		
	4928 May 22	17:39	0°♉		
retrograde	4928 Aug 30	20:02	13°♉10'20		
opposition	4928 Oct 29	17:24	8°♉10'53	-1°26'10	
min. Earth dist.	4928 Oct 29	10:57	8°♉13'03	3.94240 AU	
direct	4928 Dec 27	02:55	3°♉17'01		
	4929 Mar 28	00:57	15°♉		
evening set	4929 May 02	04:18	23°♉10'55		
conjunction	4929 May 15	10:51	26°♉24'36	-0°55'01	
minimum elong	4929 May 15	10:52	26°♉24'36	0°55'02	
max. Earth dist.	4929 May 16	12:21	26°♉40'08	5.92558 AU	
morning rise	4929 May 28	20:22	29°♉39'52		
	4929 May 30	05:43	0°♊		
retrograde	4929 Oct 08	07:10	20°♊28'52		
opposition	4929 Dec 06	21:11	15°♊25'52	-1°10'48	
min. Earth dist.	4929 Dec 05	17:49	15°♊35'08	3.93594 AU	
direct	4930 Feb 02	17:39	10°♊31'06		
	4930 Jun 07	14:55	0°♋		
evening set	4930 Jun 09	00:49	0°♋20'12		
conjunction	4930 Jun 22	14:58	3°♋35'20	-0°34'30	
minimum elong	4930 Jun 22	15:00	3°♋35'21	0°34'31	
max. Earth dist.	4930 Jun 24	20:22	4°♋07'19	5.97012 AU	
morning rise	4930 Jul 06	07:27	6°♋51'33		
retrograde	4930 Nov 14	05:19	27°♋06'55		
min. Earth dist.	4931 Jan 11	03:58	22°♋14'43	4.02629 AU	
opposition	4931 Jan 12	16:45	22°♋02'11	-0°27'28	
direct	4931 Mar 11	22:02	17°♋04'52		
	4931 Jun 18	04:20	0°♌		
evening set	4931 Jul 16	10:00	6°♌20'47		
conjunction	4931 Jul 30	03:20	9°♌31'29	-0°01'16	
minimum elong	4931 Jul 30	03:19	9°♌31'28	0°01'16	
behind sun begin	4931 Jul 29	18:55	9°♌26'38		
behind sun end	4931 Jul 30	11:43	9°♌36'19		
max. Earth dist.	4931 Aug 01	12:40	10°♌04'43	6.09705 AU	
morning rise	4931 Aug 12	21:49	12°♌42'23		
asc. node	4931 Aug 13	04:09	12°♌46'01		
	4931 Aug 22	23:21	15°♌		
	4931 Nov 14	14:06	0°♍		
retrograde	4931 Dec 18	11:25	1°♍49'23		
	4932 Jan 21	03:52	30°℞♌		
min. Earth dist.	4932 Feb 14	19:35	26°♌56'52	4.17544 AU	
opposition	4932 Feb 16	04:47	26°♌45'37	0°23'24	
direct	4932 Apr 15	11:40	21°♌45'34		
	4932 Jul 01	17:41	0°♍		
evening set	4932 Aug 20	02:07	10°♍16'57		
conjunction	4932 Sep 02	17:17	13°♍19'36	0°31'00	
minimum elong	4932 Sep 02	17:16	13°♍19'35	0°31'00	
max. Earth dist.	4932 Sep 04	10:48	13°♍42'49	6.25562 AU	
morning rise	4932 Sep 16	07:40	16°♍21'34		
	4932 Nov 25	13:25	0°♎		
retrograde	4933 Jan 18	11:03	4°♎17'53		
	4933 Mar 14	02:10	30°℞♍		
opposition	4933 Mar 19	11:14	29°♍17'10	1°03'11	
min. Earth dist.	4933 Mar 18	16:45	29°♍23'20	4.32907 AU	
direct	4933 May 19	03:28	24°♍15'26		
	4933 Jul 22	13:52	0°♎		
evening set	4933 Sep 22	14:49	12°♎07'03		
conjunction	4933 Oct 06	00:06	15°♎01'34	0°52'06	
minimum elong	4933 Oct 06	00:05	15°♎01'33	0°52'05	
max. Earth dist.	4933 Oct 06	13:54	15°♎09'04	6.39235 AU	
morning rise	4933 Oct 19	07:31	17°♎54'56		
	4933 Dec 20	20:53	0°♏		
retrograde	4934 Feb 17	19:05	4°♏59'26		
opposition	4934 Apr 19	04:42	0°♏02'18	1°22'33	
min. Earth dist.	4934 Apr 19	04:41	0°♏02'18	4.44011 AU	
	4934 Apr 19	11:43	30°℞♎		
direct	4934 Jun 20	01:18	24°♎59'55		
	4934 Aug 19	17:33	0°♏		
evening set	4934 Oct 24	07:27	12°♏26'28		
	4934 Nov 05	05:48	15°♏		
conjunction	4934 Nov 06	10:21	15°♏15'22	0°57'51	
minimum elong	4934 Nov 06	10:21	15°♏15'22	0°57'52	
max. Earth dist.	4934 Nov 05	20:04	15°♏07'40	6.46953 AU	
morning rise	4934 Nov 19	10:33	18°♏02'58		
	4935 Jan 21	04:37	0°♐		
retrograde	4935 Mar 19	14:45	4°♐42'53		
	4935 May 17	21:09	30°℞♏		
opposition	4935 May 19	08:04	29°♏48'46	1°19'25	
min. Earth dist.	4935 May 20	02:40	29°♏42'47	4.47979 AU	
direct	4935 Jul 20	22:41	24°♏46'39		
	4935 Sep 21	10:21	0°♐		
evening set	4935 Nov 23	21:40	12°♐06'57		
max. Earth dist.	4935 Dec 05	03:50	14°♐32'34	6.46837 AU	
conjunction	4935 Dec 06	19:05	14°♐53'47	0°48'07	
minimum elong	4935 Dec 06	19:06	14°♐53'48	0°48'07	
morning rise	4935 Dec 19	14:13	17°♐39'34		
	4936 Feb 22	12:05	0°♑		
retrograde	4936 Apr 18	00:37	4°♑24'44		
	4936 Jun 14	06:44	30°℞♐		
opposition	4936 Jun 17	21:44	29°♐32'17	0°55'34	
min. Earth dist.	4936 Jun 19	07:15	29°♐21'35	4.43836 AU	
direct	4936 Aug 19	16:07	24°♐31'04		
	4936 Oct 22	10:03	0°♑		
evening set	4936 Dec 23	07:07	12°♑04'59		
max. Earth dist.	4937 Jan 02	21:32	14°♑24'55	6.38924 AU	
conjunction	4937 Jan 05	01:21	14°♑53'32	0°25'22	
minimum elong	4937 Jan 05	01:23	14°♑53'33	0°25'23	
morning rise	4937 Jan 17	17:41	17°♑41'25		
	4937 Mar 21	12:10	0°♒		
retrograde	4937 May 19	21:17	5°♒01'33		
opposition	4937 Jul 19	19:50	0°♒09'14	0°15'40	
min. Earth dist.	4937 Jul 21	10:06	29°♑57'01	4.32575 AU	
	4937 Jul 21	00:46	30°℞♑		
direct	4937 Sep 19	23:31	25°♑09'41		
	4937 Nov 17	15:34	0°♒		
desc. node	4937 Nov 30	17:01	2°♒09'03		
evening set	4938 Jan 23	12:02	13°♒15'37		
	4938 Jan 31	03:59	15°♒		
max. Earth dist.	4938 Feb 03	01:39	15°♒39'43	6.25149 AU	
conjunction	4938 Feb 05	05:12	16°♒09'08	-0°05'28	
minimum elong	4938 Feb 05	05:10	16°♒09'07	0°05'27	
behind sun begin	4938 Feb 04	21:29	16°♒04'45		
behind sun end	4938 Feb 05	12:52	16°♒13'29		
morning rise	4938 Feb 17	21:42	19°♒02'37		
	4938 Apr 11	03:55	0°♓		
retrograde	4938 Jun 23	04:05	7°♓23'30		
opposition	4938 Aug 22	20:09	2°♓29'53	-0°31'34	
min. Earth dist.	4938 Aug 24	05:25	2°♓19'10	4.17125 AU	
	4938 Sep 12	03:57	30°℞♒		
direct	4938 Oct 22	20:51	27°♒32'37		
	4938 Dec 01	21:57	0°♓		
evening set	4939 Feb 25	09:16	16°♓22'48		

max. Earth dist.	4939 Mar 08 16:34	19°♓02'33	6.09329 AU
conjunction	4939 Mar 10 04:14	19°♓23'37	-0°35'56
minimum elong	4939 Mar 10 04:12	19°♓23'36	0°35'56
morning rise	4939 Mar 23 00:01	22°♓25'09	
	4939 Apr 25 11:48	0°♈	
retrograde	4939 Jul 29 21:17	11°♈59'45	
opposition	4939 Sep 28 04:13	7°♈03'26	-1°11'29
min. Earth dist.	4939 Sep 28 18:26	6°♈58'47	4.02278 AU
direct	4939 Nov 26 16:12	2°♈08'34	
evening set	4940 Mar 31 11:17	21°♈41'28	
conjunction	4940 Apr 13 11:16	24°♈50'03	-0°55'05
minimum elong	4940 Apr 13 11:15	24°♈50'02	0°55'05
max. Earth dist.	4940 Apr 13 06:47	24°♈47'20	5.96834 AU
morning rise	4940 Apr 26 13:30	28°♈00'02	
	4940 May 04 22:05	0°♉	
	4940 Jul 19 01:07	15°♉	
retrograde	4940 Sep 05 07:39	18°♉33'54	
	4940 Oct 24 06:04	15°℞♉	
opposition	4940 Nov 04 03:46	13°♉33'52	-1°26'08
min. Earth dist.	4940 Nov 03 17:58	13°♉37'08	3.93524 AU
direct	4941 Jan 01 10:47	8°♉40'01	
	4941 Mar 06 11:06	15°♉	
evening set	4941 May 07 12:15	28°♉35'02	
	4941 May 13 08:26	0°♊	
conjunction	4941 May 20 20:03	1°♊49'13	-0°53'20
minimum elong	4941 May 20 20:04	1°♊49'14	0°53'20
max. Earth dist.	4941 May 22 04:07	2°♊08'44	5.92662 AU
morning rise	4941 Jun 03 06:35	5°♊04'56	
retrograde	4941 Oct 13 16:06	25°♊51'38	
min. Earth dist.	4941 Dec 10 23:09	20°♊58'17	3.94527 AU
opposition	4941 Dec 12 04:47	20°♊48'14	-1°05'57
direct	4942 Feb 08 01:22	15°♊53'12	
	4942 May 21 03:14	0°♋	
evening set	4942 Jun 14 08:52	5°♋38'00	
conjunction	4942 Jun 27 23:33	8°♋52'39	-0°30'16
minimum elong	4942 Jun 27 23:35	8°♋52'40	0°30'17
max. Earth dist.	4942 Jun 30 06:09	9°♋25'13	5.98649 AU
morning rise	4942 Jul 11 16:46	12°♋08'21	
	4942 Oct 12 13:34	0°♌	
retrograde	4942 Nov 19 02:39	2°♌14'11	
	4942 Dec 26 11:47	30°℞♋	
min. Earth dist.	4943 Jan 16 02:29	27°♋22'14	4.04775 AU
opposition	4943 Jan 17 16:16	27°♋09'22	-0°20'16
direct	4943 Mar 17 00:06	22°♋11'36	
	4943 May 29 09:09	0°♌	
asc. node	4943 Jun 23 04:49	5°♌00'52	
evening set	4943 Jul 21 12:17	11°♌20'20	
conjunction	4943 Aug 04 05:37	14°♌29'52	0°03'42
minimum elong	4943 Aug 04 05:36	14°♌29'52	0°03'41
behind sun begin	4943 Aug 03 21:18	14°♌25'06	
behind sun end	4943 Aug 04 13:54	14°♌34'37	
	4943 Aug 06 09:53	15°♌	
max. Earth dist.	4943 Aug 06 13:42	15°♌02'12	6.12159 AU
morning rise	4943 Aug 17 23:40	17°♌39'28	
	4943 Oct 16 10:01	0°♍	
retrograde	4943 Dec 23 01:48	6°♍35'05	
opposition	4944 Feb 20 19:28	1°♍31'38	0°29'54
min. Earth dist.	4944 Feb 19 12:40	1°♍42'03	4.20041 AU
	4944 Mar 03 07:29	30°℞♌	
direct	4944 Apr 20 07:54	26°♌31'18	
	4944 Jun 07 09:40	0°♍	
evening set	4944 Aug 24 20:28	14°♍55'38	
conjunction	4944 Sep 07 10:54	17°♍56'58	0°34'43
minimum elong	4944 Sep 07 10:52	17°♍56'57	0°34'44
max. Earth dist.	4944 Sep 09 00:54	18°♍18'06	6.27886 AU
morning rise	4944 Sep 21 00:25	20°♍57'34	
	4944 Nov 03 11:20	0°♎	
retrograde	4945 Jan 22 16:00	8°♎44'47	
opposition	4945 Mar 23 18:43	3°♎44'35	1°07'10
min. Earth dist.	4945 Mar 23 02:16	3°♎50'03	4.34896 AU
	4945 Apr 24 19:38	30°℞♍	
direct	4945 May 23 14:47	28°♍42'42	
	4945 Jun 21 19:36	0°♎	
evening set	4945 Sep 27 02:01	16°♎29'39	
conjunction	4945 Oct 10 10:25	19°♎23'11	0°53'50
minimum elong	4945 Oct 10 10:24	19°♎23'10	0°53'50
max. Earth dist.	4945 Oct 10 19:49	19°♎28'17	6.40749 AU
morning rise	4945 Oct 23 16:43	22°♎15'32	
	4945 Nov 30 09:33	0°♏	
retrograde	4946 Feb 21 22:36	9°♏15'03	
opposition	4946 Apr 23 08:51	4°♏18'28	1°23'26
min. Earth dist.	4946 Apr 23 12:11	4°♏17'23	4.44966 AU
	4946 Jun 02 09:32	30°℞♎	
direct	4946 Jun 24 09:11	29°♎16'07	
	4946 Jul 16 12:59	0°♏	
	4946 Oct 20 15:23	15°♏	
evening set	4946 Oct 28 13:59	16°♏41'02	
conjunction	4946 Nov 10 16:00	19°♏29'30	0°57'23
minimum elong	4946 Nov 10 16:00	19°♏29'30	0°57'23
max. Earth dist.	4946 Nov 09 20:23	19°♏18'57	6.47268 AU
morning rise	4946 Nov 23 15:33	22°♏16'44	
	4946 Dec 31 14:17	0°♐	
retrograde	4947 Mar 23 19:12	8°♐56'18	
opposition	4947 May 23 12:46	4°♐02'31	1°17'16
min. Earth dist.	4947 May 24 10:08	3°♐55'39	4.47665 AU
	4947 Jun 29 07:25	30°℞♏	
direct	4947 Jul 25 04:43	29°♏00'29	
	4947 Aug 20 06:39	0°♐	
evening set	4947 Nov 28 02:45	16°♐22'23	
max. Earth dist.	4947 Dec 09 07:15	18°♐47'25	6.45920 AU
conjunction	4947 Dec 10 23:48	19°♐09'24	0°45'38
minimum elong	4947 Dec 10 23:50	19°♐09'25	0°45'38
morning rise	4947 Dec 23 18:17	21°♐55'21	
	4948 Feb 01 05:47	0°♑	
retrograde	4948 Apr 22 08:08	8°♑44'37	
opposition	4948 Jun 22 06:18	3°♑52'20	0°50'48
min. Earth dist.	4948 Jun 23 16:31	3°♑41'26	4.42383 AU
	4948 Jul 27 02:51	30°℞♐	
direct	4948 Aug 23 22:50	28°♐51'24	
	4948 Sep 20 21:10	0°♑	
evening set	4948 Dec 27 14:39	16°♑29'46	
max. Earth dist.	4949 Jan 07 03:22	18°♑49'28	6.37042 AU
conjunction	4949 Jan 09 08:30	19°♑18'57	0°21'23
minimum elong	4949 Jan 09 08:30	19°♑18'57	0°21'23
morning rise	4949 Jan 22 00:50	22°♑07'33	
	4949 Feb 28 10:12	0°♒	
retrograde	4949 May 24 14:36	9°♒35'40	
opposition	4949 Jul 24 11:29	4°♒43'18	0°09'11
min. Earth dist.	4949 Jul 26 02:15	4°♒30'55	4.30378 AU
	4949 Sep 11 09:17	30°℞♑	
direct	4949 Sep 24 12:53	29°♑44'04	
	4949 Oct 07 15:21	0°♒	
desc. node	4949 Oct 10 08:00	0°♒07'08	
	4950 Jan 14 22:21	15°♒	
evening set	4950 Jan 28 00:31	17°♒56'22	

max. Earth dist.	4950 Feb 07	15:58	20°♒22'17	6.22823 AU
conjunction	4950 Feb 09	17:53	20°♒50'54	-0°10'00
minimum elong	4950 Feb 09	17:53	20°♒50'54	0°09'59
behind sun begin	4950 Feb 09	11:23	20°♒47'11	
behind sun end	4950 Feb 10	00:23	20°♒54'36	
morning rise	4950 Feb 22	10:41	23°♒45'29	
	4950 Mar 22	15:01	0°♓	
retrograde	4950 Jun 28	04:07	12°♓16'44	
opposition	4950 Aug 27	20:05	7°♓22'50	-0°38'03
min. Earth dist.	4950 Aug 29	02:12	7°♓13'07	4.14866 AU
direct	4950 Oct 27	14:49	2°♓26'01	
evening set	4951 Mar 02	04:58	21°♓22'38	
max. Earth dist.	4951 Mar 13	16:56	24°♓05'51	6.07330 AU
conjunction	4951 Mar 15	00:21	24°♓24'30	-0°39'35
minimum elong	4951 Mar 15	00:19	24°♓24'29	0°39'35
morning rise	4951 Mar 27	20:50	27°♓27'12	
	4951 Apr 07	18:01	0°♈	
retrograde	4951 Aug 04	05:58	17°♈11'22	
opposition	4951 Oct 03	11:04	12°♈14'32	-1°15'26
min. Earth dist.	4951 Oct 03	22:12	12°♈10'52	4.00728 AU
direct	4951 Dec 01	19:10	7°♈19'54	
evening set	4952 Apr 05	13:50	26°♈56'46	
conjunction	4952 Apr 18	14:50	0°♉06'14	-0°56'13
minimum elong	4952 Apr 18	14:50	0°♉06'14	0°56'14
	4952 Apr 18	04:33	0°♉	
max. Earth dist.	4952 Apr 18	16:27	0°♉07'13	5.95879 AU
morning rise	4952 May 01	18:04	3°♉17'08	
	4952 Jun 23	01:00	15°♉	
retrograde	4952 Sep 10	17:50	23°♉55'01	
opposition	4952 Nov 09	12:25	18°♉54'29	-1°25'21
min. Earth dist.	4952 Nov 08	23:29	18°♉58'48	3.93293 AU
	4952 Dec 13	11:56	15°℞♉	
direct	4953 Jan 06	16:48	14°♉00'37	
	4953 Jan 30	20:13	15°♉	
	4953 Apr 26	08:03	0°♊	
evening set	4953 May 12	18:45	3°♊55'10	
conjunction	4953 May 26	03:26	7°♊09'36	-0°51'13
minimum elong	4953 May 26	03:27	7°♊09'37	0°51'13
max. Earth dist.	4953 May 27	14:20	7°♊30'47	5.93140 AU
morning rise	4953 Jun 08	15:13	10°♊25'35	
	4953 Sep 22	07:25	0°♋	
retrograde	4953 Oct 18	19:45	1°♋08'33	
	4953 Nov 14	04:42	30°℞♊	
min. Earth dist.	4953 Dec 16	01:18	26°♊15'41	3.95665 AU
opposition	4953 Dec 17	09:22	26°♊04'47	-1°00'38
direct	4954 Feb 13	06:00	21°♊09'24	
	4954 May 01	19:53	0°♋	
evening set	4954 Jun 19	14:04	10°♋49'38	
conjunction	4954 Jul 03	05:29	14°♋03'48	-0°25'52
minimum elong	4954 Jul 03	05:31	14°♋03'49	0°25'52
max. Earth dist.	4954 Jul 05	13:43	14°♋37'12	6.00338 AU
morning rise	4954 Jul 16	23:02	17°♋18'50	
	4954 Sep 14	00:08	0°♌	
retrograde	4954 Nov 23	23:47	7°♌15'30	
min. Earth dist.	4955 Jan 21	00:43	2°♌23'10	4.06804 AU
opposition	4955 Jan 22	13:14	2°♌10'43	-0°13'04
	4955 Feb 08	03:48	30°℞♋	
direct	4955 Mar 22	01:21	27°♋12'34	
	4955 May 02	23:11	0°♌	
asc. node	4955 May 03	11:13	0°♌03'48	
	4955 Jul 21	00:39	15°♌	
evening set	4955 Jul 26	12:23	16°♌14'54	
conjunction	4955 Aug 09	05:36	19°♌23'24	0°08'26
minimum elong	4955 Aug 09	05:35	19°♌23'23	0°08'25
behind sun begin	4955 Aug 08	22:17	19°♌19'13	
behind sun end	4955 Aug 09	12:53	19°♌27'33	
max. Earth dist.	4955 Aug 11	12:29	19°♌54'51	6.14349 AU
morning rise	4955 Aug 22	23:19	22°♌31'49	
	4955 Sep 26	04:23	0°♍	
retrograde	4955 Dec 27	12:41	11°♍17'17	
min. Earth dist.	4956 Feb 24	02:22	6°♍24'16	4.22195 AU
opposition	4956 Feb 25	08:12	6°♍14'13	0°36'06
direct	4956 Apr 25	00:14	1°♍13'35	
evening set	4956 Aug 29	13:43	19°♍32'16	
conjunction	4956 Sep 12	03:24	22°♍32'28	0°38'13
minimum elong	4956 Sep 12	03:22	22°♍32'27	0°38'12
max. Earth dist.	4956 Sep 13	12:32	22°♍50'50	6.29837 AU
morning rise	4956 Sep 25	16:04	25°♍31'52	
	4956 Oct 16	09:54	0°♎	
retrograde	4957 Jan 26	23:44	13°♎11'28	
opposition	4957 Mar 28	02:09	8°♎11'45	1°10'45
min. Earth dist.	4957 Mar 27	13:20	8°♎16'00	4.36501 AU
direct	4957 May 28	03:23	3°♎09'42	
evening set	4957 Oct 01	13:00	20°♎53'03	
conjunction	4957 Oct 14	20:36	23°♎45'48	0°55'15
minimum elong	4957 Oct 14	20:35	23°♎45'47	0°55'16
max. Earth dist.	4957 Oct 15	02:06	23°♎48'46	6.41884 AU
morning rise	4957 Oct 28	01:57	26°♎37'20	
	4957 Nov 13	00:18	0°♏	
retrograde	4958 Feb 26	01:59	13°♏33'03	
opposition	4958 Apr 27	13:56	8°♏36'52	1°23'52
min. Earth dist.	4958 Apr 27	19:20	8°♏35'07	4.45589 AU
direct	4958 Jun 28	16:06	3°♏34'29	
	4958 Oct 03	23:10	15°♏	
evening set	4958 Nov 01	21:23	20°♏58'32	
conjunction	4958 Nov 14	22:40	23°♏46'41	0°56'35
minimum elong	4958 Nov 14	22:41	23°♏46'41	0°56'35
max. Earth dist.	4958 Nov 14	00:25	23°♏34'42	6.47345 AU
morning rise	4958 Nov 27	21:21	26°♏33'35	
	4958 Dec 14	05:08	0°♐	
retrograde	4959 Mar 28	00:49	13°♐13'22	
opposition	4959 May 27	18:59	8°♐19'56	1°14'39
min. Earth dist.	4959 May 28	18:39	8°♐12'21	4.47208 AU
direct	4959 Jul 29	12:12	3°♐18'03	
evening set	4959 Dec 02	09:27	20°♐41'41	
max. Earth dist.	4959 Dec 13	09:56	23°♐04'59	6.44967 AU
conjunction	4959 Dec 15	05:51	23°♐28'51	0°42'51
minimum elong	4959 Dec 15	05:52	23°♐28'52	0°42'52
morning rise	4959 Dec 28	00:03	26°♐15'03	
	4960 Jan 14	14:56	0°♑	
retrograde	4960 Apr 26	19:02	13°♑08'23	
opposition	4960 Jun 26	16:53	8°♑16'12	0°45'40
min. Earth dist.	4960 Jun 28	04:04	8°♑04'59	4.41011 AU
direct	4960 Aug 28	08:19	3°♑15'28	
evening set	4960 Dec 31	23:07	20°♑57'39	
max. Earth dist.	4961 Jan 11	13:01	23°♑18'31	6.35381 AU
conjunction	4961 Jan 13	16:54	23°♑47'24	0°17'14
minimum elong	4961 Jan 13	16:55	23°♑47'25	0°17'14
morning rise	4961 Jan 26	08:59	26°♑36'37	
	4961 Feb 10	21:01	0°♒	
retrograde	4961 May 29	06:48	14°♒11'51	
opposition	4961 Jul 29	04:17	9°♒19'22	0°02'36
min. Earth dist.	4961 Jul 30	17:36	9°♒07'27	4.28549 AU
desc. node	4961 Aug 20	03:18	6°♒39'47	

direct	4961 Sep 29 01:44	4°♒20'33	
	4961 Dec 28 13:55	15°♒	
evening set	4962 Feb 01 13:35	22°♒37'40	
max. Earth dist.	4962 Feb 12 06:42	25°♒05'13	6.20982 AU
conjunction	4962 Feb 14 06:51	25°♒32'56	-0°14'27
minimum elong	4962 Feb 14 06:50	25°♒32'56	0°14'27
behind sun begin	4962 Feb 14 03:03	25°♒30'45	
behind sun end	4962 Feb 14 10:37	25°♒35'06	
morning rise	4962 Feb 26 23:59	28°♒28'23	
	4962 Mar 05 16:42	0°♓	
retrograde	4962 Jul 03 05:16	17°♓08'14	
opposition	4962 Sep 01 19:35	12°♓13'58	-0°44'11
min. Earth dist.	4962 Sep 02 23:37	12°♓04'54	4.13145 AU
direct	4962 Nov 01 10:47	7°♓17'28	
evening set	4963 Mar 06 23:31	26°♓18'30	
conjunction	4963 Mar 19 19:30	29°♓21'13	-0°42'52
minimum elong	4963 Mar 19 19:28	29°♓21'12	0°42'52
max. Earth dist.	4963 Mar 18 16:49	29°♓05'20	6.05898 AU
	4963 Mar 22 12:40	0°♈	
morning rise	4963 Apr 01 16:32	2°♈24'49	
retrograde	4963 Aug 09 10:55	22°♈16'01	
opposition	4963 Oct 08 15:06	17°♈18'44	-1°18'38
min. Earth dist.	4963 Oct 08 23:05	17°♈16'06	3.99744 AU
direct	4963 Dec 06 18:33	12°♈24'22	
	4964 Apr 01 23:48	0°♉	
evening set	4964 Apr 10 13:33	2°♉03'14	
conjunction	4964 Apr 23 15:15	5°♉13'18	-0°56'51
minimum elong	4964 Apr 23 15:14	5°♉13'18	0°56'52
max. Earth dist.	4964 Apr 23 19:59	5°♉16'11	5.95415 AU
morning rise	4964 May 06 19:38	8°♉24'53	
	4964 Jun 03 21:58	15°♉	
retrograde	4964 Sep 15 21:33	29°♉04'49	
opposition	4964 Nov 14 16:28	24°♉03'47	-1°23'52
min. Earth dist.	4964 Nov 14 00:13	24°♉09'14	3.93414 AU
direct	4965 Jan 11 19:03	19°♉09'48	
	4965 Apr 08 13:35	0°♊	
evening set	4965 May 17 20:46	9°♊02'55	
conjunction	4965 May 31 06:33	12°♊17'31	-0°48'47
minimum elong	4965 May 31 06:35	12°♊17'32	0°48'47
max. Earth dist.	4965 Jun 01 21:30	12°♊41'06	5.93837 AU
morning rise	4965 Jun 13 19:07	15°♊33'34	
	4965 Aug 19 23:28	0°♋	
retrograde	4965 Oct 23 20:10	6°♋12'10	
min. Earth dist.	4965 Dec 21 00:42	1°♋19'05	3.96851 AU
opposition	4965 Dec 22 08:44	1°♋08'11	-0°55'06
	4965 Dec 30 19:14	30°℞♊	
direct	4966 Feb 18 07:07	26°♊12'29	
	4966 Apr 07 22:24	0°♋	
evening set	4966 Jun 24 14:49	15°♋48'33	
conjunction	4966 Jul 08 06:48	19°♋02'15	-0°21'28
minimum elong	4966 Jul 08 06:49	19°♋02'16	0°21'28
max. Earth dist.	4966 Jul 10 15:48	19°♋35'57	6.01895 AU
morning rise	4966 Jul 22 00:46	22°♋16'44	
	4966 Aug 25 06:52	0°♌	
retrograde	4966 Nov 28 15:19	12°♌05'01	
min. Earth dist.	4967 Jan 25 16:46	7°♌12'53	4.08576 AU
opposition	4967 Jan 27 05:21	7°♌00'27	-0°06'07
asc. node	4967 Mar 15 13:51	2°♌14'51	
direct	4967 Mar 26 19:25	2°♌01'58	
	4967 Jul 04 07:49	15°♌	
evening set	4967 Jul 31 08:41	20°♌59'26	

conjunction	4967 Aug 14 01:39	24°♌07'02	0°12'54
minimum elong	4967 Aug 14 01:38	24°♌07'01	0°12'55
behind sun begin	4967 Aug 13 20:41	24°♌04'12	
behind sun end	4967 Aug 14 06:36	24°♌09'50	
max. Earth dist.	4967 Aug 16 04:45	24°♌36'11	6.16185 AU
morning rise	4967 Aug 27 19:06	27°♌14'28	
	4967 Sep 09 02:42	0°♍	
retrograde	4967 Dec 31 23:14	15°♍51'40	
opposition	4968 Feb 29 18:12	10°♍49'03	0°41'50
min. Earth dist.	4968 Feb 28 15:15	10°♍58'08	4.23932 AU
direct	4968 Apr 29 15:07	5°♍48'10	
evening set	4968 Sep 03 04:20	24°♍02'52	
conjunction	4968 Sep 16 17:30	27°♍02'11	0°41'21
minimum elong	4968 Sep 16 17:28	27°♍02'10	0°41'20
max. Earth dist.	4968 Sep 18 00:22	27°♍19'15	6.31358 AU
morning rise	4968 Sep 30 05:12	0°♎00'35	
	4968 Sep 30 04:08	0°♎	
retrograde	4969 Jan 31 04:03	17°♎34'10	
opposition	4969 Apr 01 07:53	12°♎35'00	1°13'49
min. Earth dist.	4969 Mar 31 20:31	12°♎38'46	4.37725 AU
direct	4969 Jun 01 11:26	7°♎32'55	
evening set	4969 Oct 05 23:00	25°♎13'57	
conjunction	4969 Oct 19 05:39	28°♎06'01	0°56'19
minimum elong	4969 Oct 19 05:38	28°♎06'00	0°56'20
max. Earth dist.	4969 Oct 19 06:41	28°♎06'34	6.42730 AU
	4969 Oct 28 00:28	0°♏	
morning rise	4969 Nov 01 10:08	0°♏56'52	
	4970 Jan 17 18:02	15°♏	
retrograde	4970 Mar 02 06:58	17°♏49'40	
	4970 Apr 15 00:44	15°℞♏	
opposition	4970 May 01 18:29	12°♏53'57	1°23'49
min. Earth dist.	4970 May 02 03:02	12°♏51'10	4.46026 AU
direct	4970 Jul 02 23:59	7°♏51'36	
	4970 Sep 15 02:56	15°♏	
evening set	4970 Nov 06 03:59	25°♏15'08	
max. Earth dist.	4970 Nov 18 03:17	27°♏49'23	6.47328 AU
conjunction	4970 Nov 19 04:36	28°♏03'01	0°55'28
minimum elong	4970 Nov 19 04:37	28°♏03'02	0°55'29
	4970 Nov 28 05:57	0°♐	
morning rise	4970 Dec 02 02:35	0°♐49'40	
retrograde	4971 Apr 01 05:35	17°♐29'52	
opposition	4971 Jun 01 00:51	12°♐36'38	1°11'37
min. Earth dist.	4971 Jun 02 01:31	12°♐28'43	4.46751 AU
direct	4971 Aug 02 17:48	7°♐34'50	
evening set	4971 Dec 06 15:00	24°♐59'53	
max. Earth dist.	4971 Dec 17 14:44	27°♐23'03	6.44087 AU
conjunction	4971 Dec 19 10:58	27°♐47'10	0°39'50
minimum elong	4971 Dec 19 11:00	27°♐47'11	0°39'51
	4971 Dec 29 14:49	0°♑	
morning rise	4972 Jan 01 04:36	0°♑33'31	
retrograde	4972 May 01 04:15	17°♑30'37	
opposition	4972 Jul 01 02:31	12°♑38'28	0°40'17
min. Earth dist.	4972 Jul 02 14:39	12°♑26'57	4.39729 AU
direct	4972 Sep 01 16:46	7°♑37'57	
evening set	4973 Jan 05 06:32	25°♑23'31	
max. Earth dist.	4973 Jan 15 18:35	27°♑43'56	6.33760 AU
conjunction	4973 Jan 17 23:56	28°♑13'46	0°13'00
minimum elong	4973 Jan 17 23:57	28°♑13'46	0°13'01
behind sun begin	4973 Jan 17 19:03	28°♑11'03	
behind sun end	4973 Jan 18 04:51	28°♑16'30	
	4973 Jan 25 21:57	0°♒	
morning rise	4973 Jan 30 16:08	1°♒03'37	

	4973 Apr 13	04:56	15°♒		
retrograde	4973 Jun 02	23:19	18°♒45'56		
desc. node	4973 Jun 30	06:49	17°♒37'36		
	4973 Jul 25	01:06	15°℞♒		
opposition	4973 Aug 02	19:48	13°♒53'14	-0°04'00	
min. Earth dist.	4973 Aug 04	08:37	13°♒41'27	4.26659 AU	
direct	4973 Oct 03	13:56	8°♒54'36		
	4973 Dec 08	11:12	15°♒		
evening set	4974 Feb 06	01:15	27°♒16'56		
max. Earth dist.	4974 Feb 16	21:34	29°♒46'55	6.18970 AU	
	4974 Feb 17	20:11	0°♓		
conjunction	4974 Feb 18	18:51	0°♓13'06	-0°18'49	
minimum elong	4974 Feb 18	18:50	0°♓13'06	0°18'49	
morning rise	4974 Mar 03	12:11	3°♓09'30		
retrograde	4974 Jul 08	04:59	21°♓58'42		
opposition	4974 Sep 06	18:13	17°♓04'05	-0°50'05	
min. Earth dist.	4974 Sep 07	20:24	16°♓55'36	4.11167 AU	
direct	4974 Nov 06	04:16	12°♓07'53		
	4975 Mar 06	11:34	0°♈		
evening set	4975 Mar 11	17:54	1°♈14'32		
conjunction	4975 Mar 24	14:19	4°♈18'15	-0°45'53	
minimum elong	4975 Mar 24	14:17	4°♈18'14	0°45'53	
max. Earth dist.	4975 Mar 23	14:01	4°♈03'44	6.04113 AU	
morning rise	4975 Apr 06	12:19	7°♈23'01		
retrograde	4975 Aug 14	15:40	27°♈22'52		
opposition	4975 Oct 13	19:27	22°♈25'02	-1°21'21	
min. Earth dist.	4975 Oct 13	23:48	22°♈23'35	3.98333 AU	
direct	4975 Dec 11	18:53	17°♈30'45		
	4976 Mar 15	16:13	0°♉		
evening set	4976 Apr 15	14:41	7°♉13'31		
conjunction	4976 Apr 28	17:35	10°♉24'30	-0°57'06	
minimum elong	4976 Apr 28	17:35	10°♉24'30	0°57'06	
max. Earth dist.	4976 Apr 29	04:11	10°♉30'57	5.94525 AU	
morning rise	4976 May 11	22:57	13°♉36'59		
	4976 May 17	17:08	15°♉		
	4976 Jul 29	16:42	0°♊		
retrograde	4976 Sep 21	05:57	4°♊20'27		
	4976 Nov 14	19:54	30°℞♉		
opposition	4976 Nov 19	22:26	29°♉18'55	-1°21'45	
min. Earth dist.	4976 Nov 19	04:27	29°♉24'58	3.93155 AU	
direct	4977 Jan 16	23:40	24°♉24'48		
	4977 Mar 17	15:53	0°♊		
evening set	4977 May 23	02:04	14°♊18'01		
conjunction	4977 Jun 05	12:54	17°♊32'56	-0°45'54	
minimum elong	4977 Jun 05	12:56	17°♊32'57	0°45'55	
max. Earth dist.	4977 Jun 07	07:11	17°♊58'30	5.94223 AU	
morning rise	4977 Jun 19	02:38	20°♊49'17		
	4977 Jul 29	06:43	0°♋		
retrograde	4977 Oct 28	22:25	11°♋24'10		
min. Earth dist.	4977 Dec 26	00:53	6°♋31'35	3.97849 AU	
opposition	4977 Dec 27	11:04	6°♋19'58	-0°48'59	
direct	4978 Feb 23	09:19	1°♋23'56		
evening set	4978 Jun 29	19:28	20°♋56'25		
conjunction	4978 Jul 13	11:53	24°♋09'37	-0°16'45	
minimum elong	4978 Jul 13	11:54	24°♋09'38	0°16'46	
max. Earth dist.	4978 Jul 15	20:32	24°♋42'59	6.03407 AU	
morning rise	4978 Jul 27	06:16	27°♋23'32		
	4978 Aug 07	12:53	0°♌		
	4978 Oct 28	10:48	15°♌		
retrograde	4978 Dec 03	10:56	17°♌03'21		
	4979 Jan 08	05:14	15°℞♌		
asc. node	4979 Jan 23	10:10	13°♌08'39		
min. Earth dist.	4979 Jan 30	13:31	12°♌11'00	4.10432 AU	
opposition	4979 Feb 01	01:06	11°♌58'53	0°01'06	
direct	4979 Mar 31	19:39	7°♌00'02		
	4979 Jun 14	20:37	15°♌		
evening set	4979 Aug 05	08:30	25°♌52'00		
conjunction	4979 Aug 19	01:22	28°♌58'35	0°17'29	
minimum elong	4979 Aug 19	01:20	28°♌58'34	0°17'29	
max. Earth dist.	4979 Aug 21	04:23	29°♌27'35	6.18264 AU	
	4979 Aug 23	13:27	0°♍		
morning rise	4979 Sep 01	18:07	2°♍04'50		
retrograde	4980 Jan 05	10:41	20°♍32'25		
min. Earth dist.	4980 Mar 04	04:43	15°♍39'00	4.26068 AU	
opposition	4980 Mar 05	06:48	15°♍30'15	0°47'30	
direct	4980 May 04	07:23	10°♍29'12		
evening set	4980 Sep 07	21:21	28°♍38'11		
	4980 Sep 14	02:34	0°♎		
conjunction	4980 Sep 21	09:30	1°♎36'16	0°44'20	
minimum elong	4980 Sep 21	09:28	1°♎36'15	0°44'20	
max. Earth dist.	4980 Sep 22	11:54	1°♎50'48	6.33400 AU	
morning rise	4980 Oct 04	20:22	4°♎33'25		
retrograde	4981 Feb 04	10:26	21°♎59'05		
opposition	4981 Apr 05	15:09	17°♎00'23	1°16'32	
min. Earth dist.	4981 Apr 05	06:43	17°♎03'10	4.39540 AU	
direct	4981 Jun 05	23:36	11°♎58'11		
evening set	4981 Oct 10	08:43	29°♎34'34		
	4981 Oct 12	08:10	0°♏		
conjunction	4981 Oct 23	14:35	2°♏25'42	0°57'08	
minimum elong	4981 Oct 23	14:34	2°♏25'42	0°57'08	
max. Earth dist.	4981 Oct 23	13:31	2°♏25'07	6.44191 AU	
morning rise	4981 Nov 05	17:53	5°♏15'33		
	4981 Dec 24	16:17	15°♏		
retrograde	4982 Mar 06	08:22	22°♏03'33		
opposition	4982 May 05	22:29	17°♏08'13	1°23'21	
min. Earth dist.	4982 May 06	08:22	17°♏05'01	4.47046 AU	
	4982 May 23	00:05	15°℞♏		
direct	4982 Jul 07	05:51	12°♏05'56		
	4982 Aug 21	17:44	15°♏		
evening set	4982 Nov 10	08:50	29°♏26'56		
	4982 Nov 12	22:42	0°♐		
max. Earth dist.	4982 Nov 22	03:41	1°♐58'45	6.47826 AU	
conjunction	4982 Nov 23	08:30	2°♐14'17	0°54'07	
minimum elong	4982 Nov 23	08:31	2°♐14'17	0°54'08	
morning rise	4982 Dec 06	05:43	5°♐00'26		
retrograde	4983 Apr 05	09:17	21°♐39'42		
opposition	4983 Jun 05	04:42	16°♐46'44	1°08'19	
min. Earth dist.	4983 Jun 06	08:22	16°♐37'53	4.46679 AU	
direct	4983 Aug 06	23:43	11°♐45'02		
evening set	4983 Dec 10	17:42	29°♐10'22		
	4983 Dec 14	13:13	0°♑		
max. Earth dist.	4983 Dec 21	13:35	1°♑31'44	6.43430 AU	
conjunction	4983 Dec 23	13:08	1°♑57'42	0°36'44	
minimum elong	4983 Dec 23	13:09	1°♑57'43	0°36'44	
morning rise	4984 Jan 05	06:25	4°♑44'09		
retrograde	4984 May 05	10:30	21°♑44'45		
opposition	4984 Jul 05	09:21	16°♑52'34	0°34'51	
min. Earth dist.	4984 Jul 06	22:11	16°♑40'50	4.38504 AU	
direct	4984 Sep 05	21:11	11°♑52'11		
evening set	4985 Jan 09	10:38	29°♑41'16		
	4985 Jan 10	20:18	0°♒		
max. Earth dist.	4985 Jan 19	23:11	2°♒02'29	6.32051 AU	
conjunction	4985 Jan 22	04:00	2°♒32'08	0°08'50	

minimum elong	4985 Jan 22 04:00	2°♒32'08	0°08'52
behind sun begin	4985 Jan 21 21:08	2°♒28'18	
behind sun end	4985 Jan 22 10:52	2°♒35'58	
morning rise	4985 Feb 03 20:01	5°♒22'38	
	4985 Mar 21 19:23	15°♒	
desc. node	4985 May 12 05:23	22°♒08'57	
retrograde	4985 Jun 07 13:43	23°♒12'51	
opposition	4985 Aug 07 08:54	18°♒20'01	-0°10'23
min. Earth dist.	4985 Aug 08 22:11	18°♒08'05	4.24546 AU
	4985 Sep 04 22:24	15°℞♒	
direct	4985 Oct 07 23:28	13°♒21'41	
	4985 Nov 09 19:32	15°♒	
	4986 Feb 02 10:02	0°♓	
evening set	4986 Feb 10 10:52	1°♓50'21	
max. Earth dist.	4986 Feb 21 06:58	4°♓21'04	6.16612 AU
conjunction	4986 Feb 23 04:33	4°♓47'34	-0°22'58
minimum elong	4986 Feb 23 04:31	4°♓47'33	0°22'58
morning rise	4986 Mar 07 22:30	7°♓45'11	
retrograde	4986 Jul 13 03:16	26°♓45'30	
opposition	4986 Sep 11 15:22	21°♓50'32	-0°55'35
min. Earth dist.	4986 Sep 12 15:11	21°♓42'47	4.08739 AU
direct	4986 Nov 10 19:45	16°♓54'37	
	4987 Feb 17 21:48	0°♈	
evening set	4987 Mar 16 11:47	6°♈09'00	
conjunction	4987 Mar 29 09:07	9°♈14'06	-0°48'33
minimum elong	4987 Mar 29 09:06	9°♈14'05	0°48'33
max. Earth dist.	4987 Mar 28 13:38	9°♈02'24	6.01850 AU
morning rise	4987 Apr 11 07:55	12°♈20'17	
	4987 Jul 10 15:49	0°♉	
retrograde	4987 Aug 20 00:19	2°♉30'50	
	4987 Sep 29 13:01	30°℞♈	
opposition	4987 Oct 19 00:11	27°♈32'35	-1°23'29
min. Earth dist.	4987 Oct 19 02:26	27°♈31'51	3.96470 AU
direct	4987 Dec 16 19:34	22°♈38'30	
	4988 Feb 24 16:04	0°♉	
evening set	4988 Apr 20 17:19	12°♉27'09	
	4988 May 01 04:50	15°♉	
conjunction	4988 May 03 21:20	15°♉39'18	-0°56'52
minimum elong	4988 May 03 21:21	15°♉39'18	0°56'52
max. Earth dist.	4988 May 04 12:03	15°♉48'15	5.93239 AU
morning rise	4988 May 17 04:11	18°♉53'02	
	4988 Jul 05 05:57	0°♊	
retrograde	4988 Sep 26 14:32	9°♊41'24	
min. Earth dist.	4988 Nov 24 08:02	4°♊46'51	3.92624 AU
opposition	4988 Nov 25 06:05	4°♊39'25	-1°18'56
	4989 Jan 10 06:01	30°℞♉	
direct	4989 Jan 22 03:22	29°♉45'11	
	4989 Feb 03 02:32	0°♊	
evening set	4989 May 28 10:02	19°♊39'36	
conjunction	4989 Jun 10 21:57	22°♊54'55	-0°42'36
minimum elong	4989 Jun 10 21:59	22°♊54'56	0°42'36
max. Earth dist.	4989 Jun 12 19:31	23°♊22'26	5.94493 AU
morning rise	4989 Jun 24 12:44	26°♊11'36	
	4989 Jul 10 15:37	0°♋	
retrograde	4989 Nov 03 03:19	16°♋42'53	
min. Earth dist.	4989 Dec 31 04:07	11°♋50'28	3.98865 AU
opposition	4990 Jan 01 15:33	11°♋38'23	-0°42'23
direct	4990 Feb 28 16:06	6°♋41'56	
evening set	4990 Jul 05 02:38	26°♋10'33	
conjunction	4990 Jul 18 19:38	29°♋23'12	-0°11'51
minimum elong	4990 Jul 18 19:39	29°♋23'13	0°11'52
behind sun begin	4990 Jul 18 13:55	29°♋19'52	
behind sun end	4990 Jul 19 01:24	29°♋26'34	
max. Earth dist.	4990 Jul 21 07:05	29°♋58'03	6.05073 AU
	4990 Jul 21 10:24	0°♌	
morning rise	4990 Aug 01 14:03	2°♌36'20	
	4990 Sep 28 23:33	15°♌	
asc. node	4990 Dec 02 04:46	22°♌02'50	
retrograde	4990 Dec 08 08:04	22°♌06'34	
min. Earth dist.	4991 Feb 04 10:41	17°♌14'16	4.12533 AU
opposition	4991 Feb 05 22:13	17°♌02'13	0°08'24
	4991 Feb 21 09:46	15°℞♌	
direct	4991 Apr 05 20:04	12°♌02'58	
	4991 May 19 09:47	15°♌	
	4991 Aug 06 19:28	0°♍	
evening set	4991 Aug 10 09:45	0°♍48'24	
conjunction	4991 Aug 24 02:00	3°♍53'43	0°21'59
minimum elong	4991 Aug 24 01:59	3°♍53'42	0°21'59
max. Earth dist.	4991 Aug 26 01:57	4°♍20'48	6.20572 AU
morning rise	4991 Sep 06 18:16	6°♍58'38	
retrograde	4992 Jan 09 21:58	25°♍15'52	
opposition	4992 Mar 09 20:11	20°♍14'00	0°52'53
min. Earth dist.	4992 Mar 08 20:09	20°♍22'04	4.28349 AU
direct	4992 May 09 01:39	15°♍12'38	
	4992 Aug 28 11:13	0°♎	
evening set	4992 Sep 12 14:27	3°♎15'24	
conjunction	4992 Sep 26 01:51	6°♎12'17	0°47'05
minimum elong	4992 Sep 26 01:50	6°♎12'16	0°47'06
max. Earth dist.	4992 Sep 27 01:50	6°♎25'25	6.35460 AU
morning rise	4992 Oct 09 11:26	9°♎08'05	
retrograde	4993 Feb 08 16:13	26°♎26'04	
opposition	4993 Apr 09 22:53	21°♎27'50	1°18'51
min. Earth dist.	4993 Apr 09 16:34	21°♎29'55	4.41225 AU
direct	4993 Jun 10 11:13	16°♎25'35	
	4993 Sep 25 22:30	0°♏	
evening set	4993 Oct 14 19:23	3°♏57'54	
conjunction	4993 Oct 28 00:06	6°♏48'09	0°57'38
minimum elong	4993 Oct 28 00:06	6°♏48'09	0°57'38
max. Earth dist.	4993 Oct 27 17:22	6°♏44'32	6.45358 AU
morning rise	4993 Nov 10 02:33	9°♏37'11	
	4993 Dec 05 22:50	15°♏	
retrograde	4994 Mar 10 13:43	26°♏21'34	
opposition	4994 May 10 04:04	21°♏26'36	1°22'27
min. Earth dist.	4994 May 10 17:34	21°♏22'14	4.47641 AU
direct	4994 Jul 11 14:56	16°♏24'16	
	4994 Oct 27 20:18	0°♐	
evening set	4994 Nov 14 15:21	3°♐44'11	
max. Earth dist.	4994 Nov 26 06:55	6°♐14'17	6.47799 AU
conjunction	4994 Nov 27 14:27	6°♐31'17	0°52'27
minimum elong	4994 Nov 27 14:28	6°♐31'17	0°52'28
morning rise	4994 Dec 10 10:51	9°♐17'11	
retrograde	4995 Apr 09 14:27	25°♐57'19	
opposition	4995 Jun 09 11:39	21°♐04'29	1°04'35
min. Earth dist.	4995 Jun 10 16:26	20°♐55'17	4.46042 AU
direct	4995 Aug 11 05:32	16°♐02'54	
	4995 Nov 28 14:02	0°♑	
evening set	4995 Dec 14 23:50	3°♑30'16	
max. Earth dist.	4995 Dec 25 17:47	5°♑51'01	6.42224 AU
conjunction	4995 Dec 27 18:47	6°♑17'52	0°33'18
minimum elong	4995 Dec 27 18:48	6°♑17'53	0°33'19
morning rise	4996 Jan 09 11:44	9°♑04'40	
retrograde	4996 May 09 23:27	26°♑10'34	
opposition	4996 Jul 09 21:14	21°♑18'25	0°28'58
min. Earth dist.	4996 Jul 11 11:55	21°♑06'05	4.36783 AU

direct	4996 Sep	10	08:03	16°♓18'15	
	4996 Dec	25	15:31	0°♒	
evening set	4997 Jan	13	20:01	4°♒12'16	
max. Earth dist.	4997 Jan	24	07:09	6°♒33'24	6.29941 AU
conjunction	4997 Jan	26	13:15	7°♒03'55	0°04'25
minimum elong	4997 Jan	26	13:15	7°♒03'55	0°04'26
behind sun begin	4997 Jan	26	05:26	6°♒59'31	
behind sun end	4997 Jan	26	21:04	7°♒08'18	
morning rise	4997 Feb	08	05:29	9°♒55'19	
	4997 Mar	03	08:47	15°♒	
desc. node	4997 Mar	21	15:46	18°♒43'42	
retrograde	4997 Jun	12	09:03	27°♒54'46	
opposition	4997 Aug	12	04:09	23°♒01'41	-0°17'07
min. Earth dist.	4997 Aug	13	15:46	22°♒50'15	4.22187 AU
direct	4997 Oct	12	13:37	18°♒03'38	
	4998 Jan	16	08:23	0°♓	
evening set	4998 Feb	15	02:39	6°♓39'19	
max. Earth dist.	4998 Feb	26	02:56	9°♓13'13	6.14212 AU
conjunction	4998 Feb	27	20:46	9°♓37'41	-0°27'13
minimum elong	4998 Feb	27	20:45	9°♓37'40	0°27'13
morning rise	4998 Mar	12	15:07	12°♓36'31	
	4998 Jun	14	05:28	0°♈	
retrograde	4998 Jul	18	09:53	1°♈48'00	
	4998 Aug	21	16:54	30°℞♓	
opposition	4998 Sep	16	19:21	26°♓52'41	-1°01'00
min. Earth dist.	4998 Sep	17	17:26	26°♓45'29	4.06506 AU
direct	4998 Nov	15	19:35	21°♓57'07	
	4999 Jan	29	09:17	0°♈	
evening set	4999 Mar	21	11:46	11°♈18'08	
conjunction	4999 Apr	03	09:50	14°♈24'25	-0°50'59
minimum elong	4999 Apr	03	09:48	14°♈24'24	0°51'00
max. Earth dist.	4999 Apr	02	18:00	14°♈14'53	6.00000 AU
morning rise	4999 Apr	16	09:47	17°♈31'55	
	4999 Jun	12	02:11	0°♉	
retrograde	4999 Aug	25	10:49	7°♉51'06	
opposition	4999 Oct	24	09:55	2°♉52'20	-1°25'01
min. Earth dist.	4999 Oct	24	07:27	2°♉53'09	3.95246 AU
	4999 Nov	16	13:53	30°℞♈	
direct	4999 Dec	21	23:58	27°♈58'25	
	5000 Jan	26	01:13	0°♉	
	5000 Apr	15	04:45	15°♉	
evening set	5000 Apr	27	00:22	17°♉50'12	
conjunction	5000 May	10	05:31	21°♉03'06	-0°56'12
minimum elong	5000 May	10	05:31	21°♉03'07	0°56'12
max. Earth dist.	5000 May	11	01:43	21°♉15'25	5.92780 AU
morning rise	5000 May	23	13:31	24°♉17'36	
	5000 Jun	16	16:52	0°♊	
retrograde	5000 Oct	03	00:31	15°♊06'54	
opposition	5000 Dec	01	15:33	10°♊04'25	-1°15'25
min. Earth dist.	5000 Nov	30	14:58	10°♊12'44	3.92998 AU
direct	5001 Jan	28	12:54	5°♊09'58	
evening set	5001 Jun	03	19:00	25°♊01'56	
conjunction	5001 Jun	17	08:00	28°♊17'10	-0°38'58
minimum elong	5001 Jun	17	08:02	28°♊17'11	0°38'58
max. Earth dist.	5001 Jun	19	10:36	28°♊47'36	5.95670 AU
	5001 Jun	24	11:04	0°♋	
morning rise	5001 Jun	30	23:30	1°♋33'37	
retrograde	5001 Nov	09	06:58	21°♋57'21	
min. Earth dist.	5002 Jan	06	06:09	17°♋05'08	4.00700 AU
opposition	5002 Jan	07	18:35	16°♋52'43	-0°35'33
direct	5002 Mar	06	21:11	11°♋55'55	
	5002 Jul	05	16:52	0°♌	
evening set	5002 Jul	11	07:40	1°♌17'56	
conjunction	5002 Jul	25	00:42	4°♌29'34	-0°06'59
minimum elong	5002 Jul	25	00:42	4°♌29'34	0°06'59
behind sun begin	5002 Jul	24	16:57	4°♌25'05	
behind sun end	5002 Jul	25	08:27	4°♌34'04	
max. Earth dist.	5002 Jul	27	10:56	5°♌03'32	6.07361 AU
morning rise	5002 Aug	07	19:15	7°♌41'37	
	5002 Sep	09	14:49	15°♌	
asc. node	5002 Oct	13	01:38	21°♌21'54	
retrograde	5002 Dec	13	23:19	27°♌00'32	
min. Earth dist.	5003 Feb	10	05:11	22°♌08'12	4.15024 AU
opposition	5003 Feb	11	16:00	21°♌56'23	0°15'22
direct	5003 Apr	11	17:56	16°♌56'46	
	5003 Jul	21	17:58	0°♍	
evening set	5003 Aug	16	07:05	5°♍34'51	
conjunction	5003 Aug	29	22:55	8°♍38'51	0°26'11
minimum elong	5003 Aug	29	22:53	8°♍38'51	0°26'11
max. Earth dist.	5003 Aug	31	20:19	9°♍04'23	6.23062 AU
morning rise	5003 Sep	12	14:14	11°♍42'19	
retrograde	5004 Jan	15	07:02	29°♍49'19	
min. Earth dist.	5004 Mar	14	08:41	24°♍55'07	4.30617 AU
opposition	5004 Mar	15	05:59	24°♍48'00	0°57'43
direct	5004 May	14	16:34	19°♍46'30	
	5004 Aug	11	23:36	0°♎	
evening set	5004 Sep	18	04:04	7°♎43'34	
conjunction	5004 Oct	01	14:28	10°♎39'19	0°49'28
minimum elong	5004 Oct	01	14:27	10°♎39'18	0°49'28
max. Earth dist.	5004 Oct	02	09:01	10°♎49'26	6.37322 AU
morning rise	5004 Oct	14	23:11	13°♎33'59	
	5005 Jan	22	21:36	0°♏	
retrograde	5005 Feb	13	19:51	0°♏45'31	
	5005 Mar	07	15:43	30°℞♎	
opposition	5005 Apr	15	03:58	25°♎47'47	1°20'40
min. Earth dist.	5005 Apr	15	00:47	25°♎48'50	4.42578 AU
direct	5005 Jun	15	20:01	20°♎45'28	
	5005 Sep	09	09:34	0°♏	
evening set	5005 Oct	20	03:01	8°♏15'02	
conjunction	5005 Nov	02	07:03	11°♏04'42	0°57'49
minimum elong	5005 Nov	02	07:03	11°♏04'42	0°57'50
max. Earth dist.	5005 Nov	01	21:15	10°♏59'26	6.46111 AU
morning rise	5005 Nov	15	08:27	13°♏53'05	
	5005 Nov	20	14:08	15°♏	
	5006 Feb	24	04:34	0°♐	
retrograde	5006 Mar	15	16:18	0°♐35'34	
	5006 Apr	04	03:17	30°℞♏	
opposition	5006 May	15	08:15	25°♏41'02	1°21'11
min. Earth dist.	5006 May	15	23:57	25°♏35'58	4.47764 AU
direct	5006 Jul	16	20:17	20°♏38'51	
	5006 Oct	11	12:04	0°♐	
evening set	5006 Nov	19	20:44	7°♐59'14	
max. Earth dist.	5006 Dec	01	07:04	10°♐26'50	6.47277 AU
conjunction	5006 Dec	02	19:03	10°♐46'16	0°50'32
minimum elong	5006 Dec	02	19:04	10°♐46'16	0°50'32
morning rise	5006 Dec	15	15:01	13°♐32'11	
	5007 Apr	02	06:09	0°♑	
retrograde	5007 Apr	14	22:36	0°♑14'59	
	5007 Apr	27	13:13	30°℞♐	
opposition	5007 Jun	14	18:46	25°♐22'24	1°00'33
min. Earth dist.	5007 Jun	16	02:25	25°♐12'17	4.44914 AU
direct	5007 Aug	16	13:22	20°♐20'59	
	5007 Nov	12	05:48	0°♑	
evening set	5007 Dec	20	06:12	7°♑51'57	

max. Earth dist.	5007 Dec 30 22:32	10°♑12'22	6.40576 AU
conjunction	5008 Jan 02 00:58	10°♑40'06	0°29'42
minimum elong	5008 Jan 02 00:59	10°♑40'06	0°29'43
morning rise	5008 Jan 14 17:39	13°♑27'28	
	5008 Apr 24 16:10	0°♒	
retrograde	5008 May 15 12:01	0°♒40'16	
	5008 Jun 05 09:21	30°℞♑	
opposition	5008 Jul 15 10:25	25°♑48'04	0°22'54
min. Earth dist.	5008 Jul 17 00:22	25°♑35'58	4.34728 AU
direct	5008 Sep 15 17:13	20°♑48'13	
	5008 Dec 08 16:31	0°♒	
evening set	5009 Jan 19 06:49	8°♒48'14	
max. Earth dist.	5009 Jan 29 19:36	11°♒11'03	6.27645 AU
desc. node	5009 Jan 30 04:43	11°♒16'14	
conjunction	5009 Feb 01 00:02	11°♒40'48	-0°00'09
minimum elong	5009 Feb 01 00:02	11°♒40'48	0°00'09
behind sun begin	5009 Jan 31 16:08	11°♒36'21	
behind sun end	5009 Feb 01 07:55	11°♒45'15	
morning rise	5009 Feb 13 16:23	14°♒33'13	
	5009 Feb 15 15:58	15°♒	
	5009 May 06 18:42	0°♓	
retrograde	5009 Jun 18 08:45	2°♓42'42	
	5009 Jul 31 11:27	30°℞♒	
opposition	5009 Aug 18 01:54	27°♒49'24	-0°23'50
min. Earth dist.	5009 Aug 19 12:50	27°♒38'10	4.19805 AU
direct	5009 Oct 18 08:01	22°♒51'45	
	5009 Dec 28 11:48	0°♓	
evening set	5010 Feb 20 20:20	11°♓34'14	
max. Earth dist.	5010 Mar 03 23:23	14°♓10'33	6.11957 AU
conjunction	5010 Mar 05 14:48	14°♓33'42	-0°31'19
minimum elong	5010 Mar 05 14:47	14°♓33'41	0°31'19
morning rise	5010 Mar 18 09:49	17°♓33'46	
	5010 May 15 19:04	0°♈	
retrograde	5010 Jul 24 15:41	6°♈55'37	
opposition	5010 Sep 23 00:42	1°♈59'51	-1°06'01
min. Earth dist.	5010 Sep 23 18:30	1°♈54'02	4.04603 AU
	5010 Oct 08 19:00	30°℞♓	
direct	5010 Nov 21 18:58	27°♓04'37	
	5011 Jan 03 21:10	0°♈	
evening set	5011 Mar 27 13:03	16°♈30'50	
conjunction	5011 Apr 09 11:53	19°♈38'05	-0°53'02
minimum elong	5011 Apr 09 11:52	19°♈38'04	0°53'02
max. Earth dist.	5011 Apr 09 01:37	19°♈31'53	5.98621 AU
morning rise	5011 Apr 22 12:45	22°♈46'37	
	5011 May 23 15:17	0°♉	
retrograde	5011 Aug 31 21:35	13°♉12'06	
opposition	5011 Oct 30 19:18	8°♉12'43	-1°25'47
min. Earth dist.	5011 Oct 30 13:49	8°♉14'33	3.94542 AU
direct	5011 Dec 28 06:48	3°♉18'49	
	5012 Mar 28 01:42	15°♉	
evening set	5012 May 02 06:36	23°♉11'34	
conjunction	5012 May 15 12:56	26°♉25'00	-0°55'03
minimum elong	5012 May 15 12:57	26°♉25'01	0°55'04
max. Earth dist.	5012 May 16 15:09	26°♉40'58	5.92806 AU
morning rise	5012 May 28 22:01	29°♉39'58	
	5012 May 30 07:12	0°♊	
retrograde	5012 Oct 08 08:57	20°♊27'48	
opposition	5012 Dec 06 22:41	15°♊24'54	-1°11'16
min. Earth dist.	5012 Dec 05 19:46	15°♊34'00	3.93766 AU
direct	5013 Feb 02 19:29	10°♊30'12	
	5013 Jun 07 18:50	0°♋	
evening set	5013 Jun 09 01:49	0°♋18'27	
conjunction	5013 Jun 22 15:26	3°♋33'21	-0°35'04
minimum elong	5013 Jun 22 15:28	3°♋33'22	0°35'04
max. Earth dist.	5013 Jun 24 19:01	4°♋04'16	5.97067 AU
morning rise	5013 Jul 06 07:48	6°♋49'27	
retrograde	5013 Nov 14 04:59	27°♋04'58	
min. Earth dist.	5014 Jan 11 05:00	22°♋12'57	4.02568 AU
opposition	5014 Jan 12 18:21	22°♋00'12	-0°28'35
direct	5014 Mar 11 23:01	17°♋02'57	
	5014 Jun 18 08:35	0°♌	
evening set	5014 Jul 16 10:09	6°♌18'44	
conjunction	5014 Jul 30 03:25	9°♌29'27	-0°02'08
minimum elong	5014 Jul 30 03:24	9°♌29'26	0°02'08
behind sun begin	5014 Jul 29 19:00	9°♌24'35	
behind sun end	5014 Jul 30 11:47	9°♌34'17	
max. Earth dist.	5014 Aug 01 12:52	10°♌02'46	6.09538 AU
morning rise	5014 Aug 12 21:40	12°♌40'21	
asc. node	5014 Aug 23 03:59	15°♌00'41	
	5014 Aug 23 02:46	15°♌	
	5014 Nov 14 18:56	0°♍	
retrograde	5014 Dec 18 14:53	1°♍48'44	
	5015 Jan 21 03:51	30°℞♌	
min. Earth dist.	5015 Feb 14 22:53	26°♌55'55	4.17277 AU
opposition	5015 Feb 16 07:28	26°♌44'53	0°22'08
direct	5015 Apr 16 14:25	21°♌44'56	
	5015 Jul 02 19:41	0°♍	
evening set	5015 Aug 21 02:44	10°♍16'44	
conjunction	5015 Sep 03 17:58	13°♍19'34	0°30'11
minimum elong	5015 Sep 03 17:57	13°♍19'33	0°30'11
max. Earth dist.	5015 Sep 05 12:02	13°♍43'06	6.25201 AU
morning rise	5015 Sep 17 08:35	16°♍21'47	
	5015 Nov 26 11:35	0°♎	
retrograde	5016 Jan 19 13:38	4°♎20'00	
	5016 Mar 14 11:53	30°℞♍	
opposition	5016 Mar 19 14:49	29°♍19'07	1°02'11
min. Earth dist.	5016 Mar 18 19:23	29°♍25'36	4.32491 AU
direct	5016 May 19 05:10	24°♍17'25	
	5016 Jul 22 10:08	0°♎	
evening set	5016 Sep 22 16:58	12°♎10'05	
conjunction	5016 Oct 06 02:32	15°♎04'53	0°51'34
minimum elong	5016 Oct 06 02:31	15°♎04'52	0°51'33
max. Earth dist.	5016 Oct 06 17:01	15°♎12'46	6.38795 AU
morning rise	5016 Oct 19 10:10	17°♎58'32	
	5016 Dec 20 12:24	0°♏	
retrograde	5017 Feb 18 00:46	5°♏04'54	
opposition	5017 Apr 19 09:27	0°♏07'41	1°22'04
min. Earth dist.	5017 Apr 19 09:26	0°♏07'42	4.43568 AU
	5017 Apr 20 08:58	30°℞♎	
direct	5017 Jun 20 05:24	25°♎05'21	
	5017 Aug 19 05:35	0°♏	
evening set	5017 Oct 24 11:27	12°♏33'09	
	5017 Nov 04 21:04	15°♏	
conjunction	5017 Nov 06 14:34	15°♏22'20	0°57'41
minimum elong	5017 Nov 06 14:34	15°♏22'20	0°57'43
max. Earth dist.	5017 Nov 05 23:40	15°♏14'19	6.46534 AU
morning rise	5017 Nov 19 15:15	18°♏10'16	
	5018 Jan 20 12:15	0°♐	
retrograde	5018 Mar 19 21:24	4°♐51'43	
opposition	5018 May 19 13:42	29°♏57'31	1°19'28
	5018 May 19 06:00	30°℞♏	
min. Earth dist.	5018 May 20 08:06	29°♏51'35	4.47627 AU
direct	5018 Jul 21 03:29	24°♏55'23	
	5018 Sep 20 15:05	0°♐	
evening set	5018 Nov 24 03:16	12°♐16'53	

max. Earth dist.	5018 Dec 05 11:58	14°♐43'52	6.46597 AU
conjunction	5018 Dec 07 01:09	15°♐03'58	0°48'19
minimum elong	5018 Dec 07 01:10	15°♐03'59	0°48'19
morning rise	5018 Dec 19 20:24	17°♐49'57	
	5019 Feb 21 13:25	0°♑	
retrograde	5019 Apr 19 06:14	4°♑35'49	
	5019 Jun 16 23:39	30°℞♐	
opposition	5019 Jun 19 03:38	29°♐43'25	0°56'06
min. Earth dist.	5019 Jun 20 11:54	29°♐33'08	4.43751 AU
direct	5019 Aug 20 20:53	24°♐42'18	
	5019 Oct 22 10:48	0°♑	
evening set	5019 Dec 24 14:07	12°♑16'46	
max. Earth dist.	5020 Jan 04 04:41	14°♑36'49	6.39025 AU
conjunction	5020 Jan 06 08:23	15°♑05'21	0°25'52
minimum elong	5020 Jan 06 08:24	15°♑05'22	0°25'54
morning rise	5020 Jan 19 00:59	17°♑53'17	
	5020 Mar 20 13:52	0°♒	
retrograde	5020 May 20 04:13	5°♒12'43	
opposition	5020 Jul 20 01:27	0°♒20'31	0°16'35
min. Earth dist.	5020 Jul 21 15:57	0°♒08'14	4.32891 AU
	5020 Jul 22 17:45	30°℞♑	
direct	5020 Sep 20 06:36	25°♑21'00	
	5020 Nov 16 16:26	0°♒	
desc. node	5020 Dec 09 16:04	3°♒55'09	
evening set	5021 Jan 23 18:37	13°♒26'05	
	5021 Jan 30 16:20	15°♒	
max. Earth dist.	5021 Feb 03 08:57	15°♒50'26	6.25691 AU
conjunction	5021 Feb 05 11:54	16°♒19'27	-0°04'44
minimum elong	5021 Feb 05 11:54	16°♒19'27	0°04'44
behind sun begin	5021 Feb 05 04:06	16°♒15'01	
behind sun end	5021 Feb 05 19:42	16°♒23'52	
morning rise	5021 Feb 18 04:23	19°♒12'43	
	5021 Apr 10 14:26	0°♓	
retrograde	5021 Jun 23 06:05	7°♓30'55	
opposition	5021 Aug 22 23:46	2°♓37'23	-0°30'23
min. Earth dist.	5021 Aug 24 07:45	2°♓27'06	4.17897 AU
	5021 Sep 13 11:20	30°℞♒	
direct	5021 Oct 23 00:42	27°♒40'09	
	5021 Dec 01 02:02	0°♓	
evening set	5022 Feb 25 13:54	16°♓27'47	
max. Earth dist.	5022 Mar 08 21:13	19°♓07'14	6.10260 AU
conjunction	5022 Mar 10 08:39	19°♓28'07	-0°35'09
minimum elong	5022 Mar 10 08:37	19°♓28'06	0°35'09
morning rise	5022 Mar 23 04:12	22°♓29'09	
	5022 Apr 25 10:20	0°♈	
retrograde	5022 Jul 29 21:26	11°♈59'21	
opposition	5022 Sep 28 04:40	7°♈03'07	-1°10'24
min. Earth dist.	5022 Sep 28 19:52	6°♈58'08	4.03268 AU
direct	5022 Nov 26 19:37	2°♈08'09	
evening set	5023 Apr 01 12:04	21°♈37'32	
conjunction	5023 Apr 14 11:47	24°♈45'32	-0°54'36
minimum elong	5023 Apr 14 11:46	24°♈45'31	0°54'36
max. Earth dist.	5023 Apr 14 06:48	24°♈42'32	5.97779 AU
morning rise	5023 Apr 27 13:31	27°♈54'52	
	5023 May 06 07:11	0°♉	
	5023 Jul 20 23:35	15°♉	
retrograde	5023 Sep 06 03:57	18°♉24'21	
	5023 Oct 23 21:19	15°℞♉	
opposition	5023 Nov 05 00:55	13°♉24'32	-1°25'47
min. Earth dist.	5023 Nov 04 16:17	13°♉27'24	3.94313 AU
direct	5024 Jan 02 09:15	8°♉30'42	
	5024 Mar 07 08:16	15°♉	
evening set	5024 May 07 09:21	28°♉23'00	
	5024 May 14 01:26	0°♊	
conjunction	5024 May 20 16:30	1°♊36'41	-0°53'29
minimum elong	5024 May 20 16:31	1°♊36'42	0°53'29
max. Earth dist.	5024 May 21 21:10	1°♊54'07	5.93186 AU
morning rise	5024 Jun 03 02:45	4°♊51'58	
retrograde	5024 Oct 13 10:08	25°♊37'02	
min. Earth dist.	5024 Dec 10 19:27	20°♊43'38	3.94718 AU
opposition	5024 Dec 12 00:31	20°♊33'47	-1°06'42
direct	5025 Feb 07 21:28	15°♊38'47	
	5025 May 22 00:46	0°♋	
evening set	5025 Jun 14 03:58	5°♋23'16	
conjunction	5025 Jun 27 18:28	8°♋37'51	-0°31'03
minimum elong	5025 Jun 27 18:30	8°♋37'53	0°31'04
max. Earth dist.	5025 Jun 30 00:02	9°♋09'50	5.98508 AU
morning rise	5025 Jul 11 11:16	11°♋53'29	
	5025 Oct 14 09:46	0°♌	
retrograde	5025 Nov 19 00:39	2°♌01'07	
	5025 Dec 24 09:31	30°℞♋	
min. Earth dist.	5026 Jan 16 01:17	27°♋08'43	4.04317 AU
opposition	5026 Jan 17 13:25	26°♋56'24	-0°21'43
direct	5026 Mar 16 21:28	21°♋58'48	
	5026 May 30 07:08	0°♌	
asc. node	5026 Jul 04 23:54	7°♌26'40	
evening set	5026 Jul 21 08:13	11°♌09'15	
conjunction	5026 Aug 04 01:32	14°♌19'07	0°02'39
minimum elong	5026 Aug 04 01:30	14°♌19'06	0°02'38
behind sun begin	5026 Aug 03 17:08	14°♌14'18	
behind sun end	5026 Aug 04 09:53	14°♌23'55	
max. Earth dist.	5026 Aug 06 09:43	14°♌51'33	6.11439 AU
	5026 Aug 07 00:22	15°♌	
morning rise	5026 Aug 17 19:41	17°♌29'05	
	5026 Oct 17 02:20	0°♍	
retrograde	5026 Dec 23 01:09	6°♍28'27	
min. Earth dist.	5027 Feb 19 11:29	1°♍35'43	4.19161 AU
opposition	5027 Feb 20 19:16	1°♍24'59	0°28'27
	5027 Mar 03 10:43	30°℞♌	
direct	5027 Apr 21 05:11	26°♌24'46	
	5027 Jun 09 01:42	0°♍	
evening set	5027 Aug 25 19:14	14°♍51'54	
conjunction	5027 Sep 08 09:52	17°♍53'44	0°33'50
minimum elong	5027 Sep 08 09:50	17°♍53'43	0°33'50
max. Earth dist.	5027 Sep 09 23:28	18°♍14'42	6.26933 AU
morning rise	5027 Sep 21 23:44	20°♍54'53	
	5027 Nov 04 13:45	0°♎	
retrograde	5028 Jan 23 21:07	8°♎46'02	
opposition	5028 Mar 23 21:39	3°♎45'43	1°06'09
min. Earth dist.	5028 Mar 23 05:34	3°♎51'04	4.33949 AU
	5028 Apr 25 02:54	30°℞♍	
direct	5028 May 23 16:59	28°♍43'51	
	5028 Jun 21 14:21	0°♎	
evening set	5028 Sep 27 04:07	16°♎33'30	
conjunction	5028 Oct 10 12:56	19°♎27'32	0°53'17
minimum elong	5028 Oct 10 12:55	19°♎27'31	0°53'17
max. Earth dist.	5028 Oct 10 23:53	19°♎33'29	6.39882 AU
morning rise	5028 Oct 23 19:39	22°♎20'24	
	5028 Nov 30 00:32	0°♏	
retrograde	5029 Feb 22 03:45	9°♏22'50	
opposition	5029 Apr 23 14:01	4°♏26'04	1°22'58
min. Earth dist.	5029 Apr 23 15:45	4°♏25'30	4.44249 AU
	5029 Jun 04 14:23	30°℞♎	
direct	5029 Jun 24 11:57	29°♎23'42	

	5029 Jul	14	15:16	0°♏	
	5029 Oct	20	02:27	15°♏	
evening set	5029 Oct	28	18:47	16°♏50'26	
conjunction	5029 Nov	10	21:10	19°♏39'13	0°57'13
minimum elong	5029 Nov	10	21:11	19°♏39'13	0°57'13
max. Earth dist.	5029 Nov	10	03:55	19°♏29'56	6.46772 AU
morning rise	5029 Nov	23	20:58	22°♏26'45	
	5029 Dec	30	21:44	0°♐	
retrograde	5030 Mar	24	01:59	9°♐07'39	
opposition	5030 May	23	19:05	4°♐13'46	1°17'18
min. Earth dist.	5030 May	24	15:34	4°♐07'11	4.47413 AU
	5030 Jul	02	04:05	30°℞♏	
direct	5030 Jul	25	10:41	29°♏11'44	
	5030 Aug	17	20:21	0°♐	
evening set	5030 Nov	28	09:08	16°♐34'04	
max. Earth dist.	5030 Dec	09	13:42	18°♐59'10	6.45930 AU
conjunction	5030 Dec	11	06:18	19°♐21'10	0°45'50
minimum elong	5030 Dec	11	06:19	19°♐21'10	0°45'50
morning rise	5030 Dec	24	01:11	22°♐07'13	
	5031 Jan	31	11:40	0°♑	
retrograde	5031 Apr	23	14:37	8°♑55'56	
opposition	5031 Jun	23	12:10	4°♑03'34	0°51'20
min. Earth dist.	5031 Jun	24	21:44	3°♑52'51	4.42659 AU
	5031 Jul	30	18:37	30°℞♐	
direct	5031 Aug	25	05:08	29°♐02'30	
	5031 Sep	19	17:28	0°♑	
evening set	5031 Dec	28	20:51	16°♑39'52	
max. Earth dist.	5032 Jan	08	11:48	19°♑00'32	6.37573 AU
conjunction	5032 Jan	10	14:59	19°♑28'54	0°21'55
minimum elong	5032 Jan	10	15:00	19°♑28'54	0°21'55
morning rise	5032 Jan	23	07:14	22°♑17'17	
	5032 Feb	28	22:07	0°♒	
retrograde	5032 May	24	17:11	9°♒42'51	
opposition	5032 Jul	24	15:18	4°♒50'29	0°10'12
min. Earth dist.	5032 Jul	26	05:03	4°♒38'26	4.31141 AU
	5032 Sep	14	22:38	30°℞♑	
direct	5032 Sep	24	17:03	29°♑51'13	
	5032 Oct	04	11:38	0°♒	
desc. node	5032 Oct	19	16:02	0°♒47'42	
	5033 Jan	14	17:47	15°♒	
evening set	5033 Jan	28	05:05	18°♒00'58	
max. Earth dist.	5033 Feb	07	19:59	20°♒26'18	6.23752 AU
conjunction	5033 Feb	09	22:14	20°♒55'04	-0°09'12
minimum elong	5033 Feb	09	22:14	20°♒55'04	0°09'11
behind sun begin	5033 Feb	09	15:27	20°♒51'12	
behind sun end	5033 Feb	10	05:01	20°♒58'55	
morning rise	5033 Feb	22	15:02	23°♒49'13	
	5033 Mar	22	13:52	0°♓	
retrograde	5033 Jun	28	04:56	12°♓16'20	
opposition	5033 Aug	27	20:44	7°♓22'27	-0°36'44
min. Earth dist.	5033 Aug	29	03:35	7°♓12'29	4.15878 AU
direct	5033 Oct	27	18:08	2°♓25'27	
evening set	5034 Mar	02	06:17	21°♓18'42	
max. Earth dist.	5034 Mar	13	17:47	24°♓01'14	6.08338 AU
conjunction	5034 Mar	15	01:36	24°♓20'04	-0°38'45
minimum elong	5034 Mar	15	01:34	24°♓20'03	0°38'46
morning rise	5034 Mar	27	21:42	27°♓22'10	
	5034 Apr	08	04:12	0°♈	
retrograde	5034 Aug	04	01:52	17°♈01'34	
opposition	5034 Oct	03	07:53	12°♈04'53	-1°14'20
min. Earth dist.	5034 Oct	03	20:07	12°♈00'53	4.01637 AU
direct	5034 Dec	01	17:14	7°♈10'11	
evening set	5035 Apr	06	11:39	26°♈44'08	
conjunction	5035 Apr	19	12:06	29°♈53'04	-0°55'47
minimum elong	5035 Apr	19	12:05	29°♈53'03	0°55'48
max. Earth dist.	5035 Apr	19	10:17	29°♈51'58	5.96576 AU
	5035 Apr	19	23:33	0°♉	
morning rise	5035 May	02	15:02	3°♉03'27	
	5035 Jun	25	03:56	15°♉	
retrograde	5035 Sep	11	10:39	23°♉38'22	
opposition	5035 Nov	10	07:04	18°♉37'59	-1°25'11
min. Earth dist.	5035 Nov	09	18:58	18°♉42'02	3.93683 AU
	5035 Dec	11	00:46	15°℞♉	
direct	5036 Jan	07	12:44	13°♉44'04	
	5036 Feb	03	22:08	15°♉	
	5036 Apr	27	09:00	0°♊	
evening set	5036 May	12	13:47	3°♊37'42	
conjunction	5036 May	25	22:15	6°♊51'57	-0°51'29
minimum elong	5036 May	25	22:16	6°♊51'58	0°51'29
max. Earth dist.	5036 May	27	08:08	7°♊12'32	5.93197 AU
morning rise	5036 Jun	08	09:28	10°♊07'42	
	5036 Sep	25	18:14	0°♋	
retrograde	5036 Oct	18	16:11	0°♋51'18	
	5036 Nov	10	08:45	30°℞♊	
min. Earth dist.	5036 Dec	15	22:48	25°♊57'53	3.95366 AU
opposition	5036 Dec	17	04:44	25°♊47'43	-1°01'33
direct	5037 Feb	13	02:08	20°♊52'26	
	5037 May	02	23:52	0°♋	
evening set	5037 Jun	19	09:17	10°♋34'15	
conjunction	5037 Jul	03	00:29	13°♋48'37	-0°26'42
minimum elong	5037 Jul	03	00:30	13°♋48'38	0°26'42
max. Earth dist.	5037 Jul	05	07:57	14°♋21'36	5.99715 AU
morning rise	5037 Jul	16	17:57	17°♋03'56	
	5037 Sep	15	00:31	0°♌	
retrograde	5037 Nov	23	21:49	7°♌04'10	
min. Earth dist.	5038 Jan	20	22:08	2°♌12'09	4.05961 AU
opposition	5038 Jan	22	11:17	1°♌59'31	-0°14'31
	5038 Feb	06	13:30	30°℞♋	
direct	5038 Mar	21	20:53	27°♋01'34	
	5038 May	04	05:18	0°♌	
asc. node	5038 May	14	18:18	1°♌29'18	
	5038 Jul	21	12:20	15°♌	
evening set	5038 Jul	26	10:03	16°♌07'04	
conjunction	5038 Aug	09	03:13	19°♌16'02	0°07'27
minimum elong	5038 Aug	09	03:12	19°♌16'01	0°07'26
behind sun begin	5038 Aug	08	19:36	19°♌11'40	
behind sun end	5038 Aug	09	10:48	19°♌20'22	
max. Earth dist.	5038 Aug	11	09:11	19°♌47'02	6.13382 AU
morning rise	5038 Aug	22	21:08	22°♌24'59	
	5038 Sep	26	13:22	0°♍	
retrograde	5038 Dec	27	16:13	11°♍14'59	
min. Earth dist.	5039 Feb	24	04:32	6°♍21'53	4.21228 AU
opposition	5039 Feb	25	10:08	6°♍11'54	0°34'47
direct	5039 Apr	26	01:26	1°♍11'26	
evening set	5039 Aug	30	14:30	19°♍33'01	
conjunction	5039 Sep	13	04:34	22°♍33'44	0°37'25
minimum elong	5039 Sep	13	04:33	22°♍33'43	0°37'25
max. Earth dist.	5039 Sep	14	16:50	22°♍53'52	6.28992 AU
morning rise	5039 Sep	26	17:27	25°♍33'37	
	5039 Oct	17	07:05	0°♎	
retrograde	5040 Jan	28	03:51	13°♎16'25	
opposition	5040 Mar	28	06:33	8°♎16'36	1°09'51
min. Earth dist.	5040 Mar	27	15:28	8°♎21'36	4.35870 AU
direct	5040 May	28	05:06	3°♎14'42	

evening set	5040 Oct 01	16:27	20°♎59'29	
conjunction	5040 Oct 15	00:10	23°♎52'27	0°54'47
minimum elong	5040 Oct 15	00:09	23°♎52'27	0°54'48
max. Earth dist.	5040 Oct 15	06:59	23°♎56'09	6.41535 AU
morning rise	5040 Oct 28	05:52	26°♎44'15	
	5040 Nov 12	14:39	0°♏	
retrograde	5041 Feb 26	08:27	13°♏41'00	
opposition	5041 Apr 27	19:16	8°♏44'42	1°23'27
min. Earth dist.	5041 Apr 28	00:09	8°♏43'07	4.45536 AU
direct	5041 Jun 28	21:43	3°♏42'22	
	5041 Oct 03	11:44	15°♏	
evening set	5041 Nov 02	01:23	21°♏05'56	
max. Earth dist.	5041 Nov 14	06:17	23°♏42'58	6.47588 AU
conjunction	5041 Nov 15	02:54	23°♏54'04	0°56'30
minimum elong	5041 Nov 15	02:55	23°♏54'04	0°56'30
morning rise	5041 Nov 28	01:48	26°♏40'56	
	5041 Dec 13	19:40	0°♐	
retrograde	5042 Mar 28	03:59	13°♐19'40	
opposition	5042 May 27	22:58	8°♐26'03	1°14'48
min. Earth dist.	5042 May 28	20:59	8°♐18'59	4.47719 AU
direct	5042 Jul 29	15:27	3°♐24'05	
evening set	5042 Dec 02	12:31	20°♐45'45	
max. Earth dist.	5042 Dec 13	15:13	23°♐09'55	6.45694 AU
conjunction	5042 Dec 15	09:08	23°♐32'41	0°43'12
minimum elong	5042 Dec 15	09:09	23°♐32'41	0°43'13
morning rise	5042 Dec 28	03:19	26°♐18'36	
	5043 Jan 14	12:14	0°♑	
retrograde	5043 Apr 27	19:36	13°♑09'10	
opposition	5043 Jun 27	18:03	8°♑16'56	0°46'28
min. Earth dist.	5043 Jun 29	05:19	8°♑05'41	4.41866 AU
direct	5043 Aug 29	10:41	3°♑16'04	
evening set	5044 Jan 02	00:22	20°♑55'34	
max. Earth dist.	5044 Jan 12	12:14	23°♑15'03	6.36259 AU
conjunction	5044 Jan 14	18:02	23°♑44'58	0°18'00
minimum elong	5044 Jan 14	18:03	23°♑44'58	0°18'00
morning rise	5044 Jan 27	10:18	26°♑33'51	
	5044 Feb 12	04:10	0°♒	
retrograde	5044 May 29	04:57	14°♒05'40	
opposition	5044 Jul 29	02:12	9°♒13'10	0°03'58
min. Earth dist.	5044 Jul 30	16:29	9°♒00'55	4.29354 AU
desc. node	5044 Aug 31	16:36	5°♒26'41	
direct	5044 Sep 29	01:12	4°♒14'03	
	5044 Dec 29	04:19	15°♒	
evening set	5045 Feb 01	12:27	22°♒29'01	
max. Earth dist.	5045 Feb 12	05:07	24°♒56'00	6.21634 AU
conjunction	5045 Feb 14	05:52	25°♒24'02	-0°13'28
minimum elong	5045 Feb 14	05:51	25°♒24'01	0°13'26
behind sun begin	5045 Feb 14	01:13	25°♒21'22	
behind sun end	5045 Feb 14	10:30	25°♒26'41	
morning rise	5045 Feb 26	22:47	28°♒19'08	
	5045 Mar 06	08:05	0°♓	
retrograde	5045 Jul 03	00:30	16°♓56'08	
opposition	5045 Sep 01	14:52	12°♓01'59	-0°42'42
min. Earth dist.	5045 Sep 02	20:38	11°♓52'22	4.13574 AU
direct	5045 Nov 01	06:52	7°♓05'17	
evening set	5046 Mar 06	21:03	26°♓05'43	
max. Earth dist.	5046 Mar 18	10:29	28°♓50'15	6.06040 AU
conjunction	5046 Mar 19	16:48	29°♓08'17	-0°42'01
minimum elong	5046 Mar 19	16:46	29°♓08'16	0°42'01
	5046 Mar 23	07:42	0°♈	
morning rise	5046 Apr 01	13:52	2°♈11'48	
retrograde	5046 Aug 09	05:16	22°♈02'14	
opposition	5046 Oct 08	09:55	17°♈05'04	-1°17'43
min. Earth dist.	5046 Oct 08	19:05	17°♈02'03	3.99553 AU
direct	5046 Dec 06	14:23	12°♈10'32	
	5047 Apr 03	17:51	0°♉	
evening set	5047 Apr 11	10:55	1°♉51'06	
conjunction	5047 Apr 24	12:39	5°♉01'21	-0°56'32
minimum elong	5047 Apr 24	12:39	5°♉01'21	0°56'33
max. Earth dist.	5047 Apr 24	16:44	5°♉03'50	5.94927 AU
morning rise	5047 May 07	16:41	8°♉13'03	
	5047 Jun 05	15:03	15°♉	
retrograde	5047 Sep 16	20:58	28°♉55'11	
opposition	5047 Nov 15	13:55	23°♉54'19	-1°23'55
min. Earth dist.	5047 Nov 14	23:35	23°♉59'08	3.92663 AU
direct	5048 Jan 12	16:53	19°♉00'22	
	5048 Apr 09	02:33	0°♊	
evening set	5048 May 17	20:06	8°♊56'52	
conjunction	5048 May 31	05:43	12°♊11'50	-0°49'03
minimum elong	5048 May 31	05:44	12°♊11'51	0°49'04
max. Earth dist.	5048 Jun 01	19:32	12°♊34'48	5.92903 AU
morning rise	5048 Jun 13	18:18	15°♊28'19	
	5048 Aug 20	05:27	0°♋	
retrograde	5048 Oct 23	21:43	6°♋11'04	
min. Earth dist.	5048 Dec 21	01:12	1°♋18'22	3.95845 AU
opposition	5048 Dec 22	10:14	1°♋07'08	-0°55'53
	5048 Dec 30	17:42	30°℞♊	
direct	5049 Feb 18	06:31	26°♊11'32	
	5049 Apr 08	00:27	0°♋	
evening set	5049 Jun 24	17:11	15°♋51'15	
conjunction	5049 Jul 08	09:03	19°♋05'22	-0°22'05
minimum elong	5049 Jul 08	09:04	19°♋05'22	0°22'05
max. Earth dist.	5049 Jul 10	17:44	19°♋38'58	6.00913 AU
morning rise	5049 Jul 22	03:05	22°♋20'19	
	5049 Aug 25	00:27	0°♌	
retrograde	5049 Nov 28	21:28	12°♌12'41	
min. Earth dist.	5050 Jan 25	22:06	7°♌20'30	4.07703 AU
opposition	5050 Jan 27	10:56	7°♌07'58	-0°07'08
asc. node	5050 Mar 23	15:23	2°♌10'43	
direct	5050 Mar 27	00:57	2°♌09'32	
	5050 Jul 03	19:13	15°♌	
evening set	5050 Jul 31	13:24	21°♌09'17	
conjunction	5050 Aug 14	06:35	24°♌17'14	0°12'14
minimum elong	5050 Aug 14	06:34	24°♌17'13	0°12'14
behind sun begin	5050 Aug 14	01:07	24°♌14'07	
behind sun end	5050 Aug 14	12:01	24°♌20'20	
max. Earth dist.	5050 Aug 16	13:14	24°♌48'29	6.15507 AU
morning rise	5050 Aug 27	23:58	27°♌24'59	
	5050 Sep 08	12:16	0°♍	
retrograde	5051 Jan 01	06:48	16°♍04'36	
min. Earth dist.	5051 Feb 28	21:06	11°♍11'32	4.23492 AU
opposition	5051 Mar 02	02:03	11°♍01'47	0°40'55
direct	5051 Apr 30	21:09	6°♍01'00	
evening set	5051 Sep 04	10:36	24°♍16'08	
conjunction	5051 Sep 17	23:42	27°♍15'32	0°40'47
minimum elong	5051 Sep 17	23:40	27°♍15'31	0°40'46
max. Earth dist.	5051 Sep 19	07:14	27°♍32'58	6.31175 AU
	5051 Sep 30	10:03	0°♎	
morning rise	5051 Oct 01	11:43	0°♎14'05	
retrograde	5052 Feb 01	12:26	17°♎48'10	
opposition	5052 Apr 01	16:07	12°♎48'45	1°13'08
min. Earth dist.	5052 Apr 01	04:18	12°♎52'40	4.37786 AU
direct	5052 Jun 01	19:55	7°♎46'38	

evening set	5052 Oct	06	05:06	25°♎26'36	
conjunction	5052 Oct	19	12:03	28°♎18'37	0°55'58
minimum elong	5052 Oct	19	12:02	28°♎18'36	0°55'59
max. Earth dist.	5052 Oct	19	16:04	28°♎20'47	6.43027 AU
	5052 Oct	27	07:39	0°♏	
morning rise	5052 Nov	01	16:33	1°♏09'22	
	5053 Jan	16	11:09	15°♏	
retrograde	5053 Mar	02	12:13	18°♏01'06	
	5053 Apr	16	22:03	15°℞♏	
opposition	5053 May	02	01:21	13°♏05'12	1°23'30
min. Earth dist.	5053 May	02	07:59	13°♏03'03	4.46517 AU
direct	5053 Jul	03	05:44	8°♏02'52	
	5053 Sep	14	08:16	15°♏	
evening set	5053 Nov	06	09:08	25°♏24'18	
max. Earth dist.	5053 Nov	18	08:58	27°♏58'37	6.47978 AU
conjunction	5053 Nov	19	09:45	28°♏11'57	0°55'27
minimum elong	5053 Nov	19	09:46	28°♏11'57	0°55'28
	5053 Nov	27	18:48	0°♐	
morning rise	5053 Dec	02	07:55	0°♐58'24	
retrograde	5054 Apr	01	10:43	17°♐36'30	
opposition	5054 Jun	01	05:30	12°♐43'11	1°11'51
min. Earth dist.	5054 Jun	02	06:45	12°♐35'06	4.47491 AU
direct	5054 Aug	02	23:58	7°♐41'18	
evening set	5054 Dec	06	18:34	25°♐03'55	
max. Earth dist.	5054 Dec	17	17:17	27°♐26'18	6.44853 AU
conjunction	5054 Dec	19	14:38	27°♐50'58	0°40'14
minimum elong	5054 Dec	19	14:40	27°♐50'59	0°40'15
	5054 Dec	29	12:01	0°♑	
morning rise	5055 Jan	01	08:27	0°♑37'04	
retrograde	5055 May	02	05:19	17°♑31'35	
opposition	5055 Jul	02	04:08	12°♑39'22	0°41'08
min. Earth dist.	5055 Jul	03	16:10	12°♑27'52	4.40463 AU
direct	5055 Sep	02	18:21	7°♑38'39	
evening set	5056 Jan	06	08:28	25°♑22'18	
max. Earth dist.	5056 Jan	16	20:55	27°♑42'40	6.34401 AU
conjunction	5056 Jan	19	02:04	28°♑12'21	0°13'46
minimum elong	5056 Jan	19	02:04	28°♑12'21	0°13'47
behind sun begin	5056 Jan	18	21:45	28°♑09'57	
behind sun end	5056 Jan	19	06:24	28°♑14'45	
	5056 Jan	27	02:50	0°♒	
morning rise	5056 Jan	31	18:07	1°♒01'55	
	5056 Apr	13	15:46	15°♒	
retrograde	5056 Jun	02	23:01	18°♒41'51	
desc. node	5056 Jul	11	02:27	16°♒32'47	
	5056 Jul	24	11:20	15°℞♒	
opposition	5056 Aug	02	19:04	13°♒49'15	-0°02'41
min. Earth dist.	5056 Aug	04	09:32	13°♒36'57	4.27147 AU
direct	5056 Oct	03	14:26	8°♒50'29	
	5056 Dec	08	22:21	15°♒	
evening set	5057 Feb	06	02:03	27°♒11'57	
max. Earth dist.	5057 Feb	16	18:55	29°♒39'54	6.19248 AU
conjunction	5057 Feb	18	19:30	0°♓07'59	-0°17'54
minimum elong	5057 Feb	18	19:30	0°♓07'59	0°17'55
	5057 Feb	18	05:41	0°♓	
morning rise	5057 Mar	03	13:00	3°♓04'18	
retrograde	5057 Jul	08	03:02	21°♓52'20	
opposition	5057 Sep	06	16:17	16°♓57'49	-0°48'48
min. Earth dist.	5057 Sep	07	19:24	16°♓49'01	4.11194 AU
direct	5057 Nov	06	02:38	12°♓01'28	
	5058 Mar	06	21:24	0°♈	
evening set	5058 Mar	11	18:26	1°♈09'06	
conjunction	5058 Mar	24	14:59	4°♈12'56	-0°45'11
minimum elong	5058 Mar	24	14:58	4°♈12'56	0°45'10
max. Earth dist.	5058 Mar	23	14:07	3°♈58'04	6.03899 AU
morning rise	5058 Apr	06	12:44	7°♈17'45	
retrograde	5058 Aug	14	17:01	27°♈18'23	
opposition	5058 Oct	13	18:35	22°♈20'50	-1°20'39
min. Earth dist.	5058 Oct	14	01:05	22°♈18'41	3.97895 AU
direct	5058 Dec	11	18:55	17°♈26'35	
	5059 Mar	16	22:08	0°♉	
evening set	5059 Apr	16	16:26	7°♉11'54	
conjunction	5059 Apr	29	19:07	10°♉23'07	-0°56'52
minimum elong	5059 Apr	29	19:07	10°♉23'07	0°56'53
max. Earth dist.	5059 Apr	30	03:41	10°♉28'20	5.93920 AU
morning rise	5059 May	13	00:31	13°♉35'53	
	5059 May	18	20:13	15°♉	
	5059 Jul	30	16:27	0°♊	
retrograde	5059 Sep	22	07:51	4°♊21'54	
	5059 Nov	16	02:50	30°℞♉	
min. Earth dist.	5059 Nov	20	05:37	29°♉26'53	3.92478 AU
opposition	5059 Nov	21	00:26	29°♉20'33	-1°21'52
direct	5060 Jan	17	23:45	24°♉26'33	
	5060 Mar	17	12:25	0°♊	
evening set	5060 May	23	05:33	14°♊22'36	
conjunction	5060 Jun	05	16:14	17°♊37'47	-0°46'11
minimum elong	5060 Jun	05	16:16	17°♊37'48	0°46'12
max. Earth dist.	5060 Jun	07	10:07	18°♊03'10	5.93558 AU
morning rise	5060 Jun	19	05:49	20°♊54'24	
	5060 Jul	28	22:28	0°♋	
retrograde	5060 Oct	29	03:44	11°♋32'11	
min. Earth dist.	5060 Dec	26	06:01	6°♋39'36	3.97253 AU
opposition	5060 Dec	27	16:16	6°♋27'56	-0°49'43
direct	5061 Feb	23	14:58	1°♋31'58	
evening set	5061 Jun	30	00:22	21°♋06'09	
conjunction	5061 Jul	13	16:49	24°♋19'33	-0°17'21
minimum elong	5061 Jul	13	16:50	24°♋19'34	0°17'22
max. Earth dist.	5061 Jul	16	04:14	24°♋54'35	6.02934 AU
morning rise	5061 Jul	27	10:57	27°♋33'36	
	5061 Aug	06	23:44	0°♌	
	5061 Oct	26	22:48	15°♌	
retrograde	5061 Dec	03	18:29	17°♌15'14	
	5062 Jan	10	07:15	15°℞♌	
min. Earth dist.	5062 Jan	30	19:26	12°♌23'08	4.10101 AU
asc. node	5062 Jan	31	08:58	12°♌18'32	
opposition	5062 Feb	01	08:08	12°♌10'40	0°00'07
direct	5062 Apr	01	01:31	7°♌11'53	
	5062 Jun	14	00:45	15°♌	
evening set	5062 Aug	05	14:02	26°♌04'09	
conjunction	5062 Aug	19	06:39	29°♌10'45	0°16'48
minimum elong	5062 Aug	19	06:38	29°♌10'44	0°16'48
max. Earth dist.	5062 Aug	21	09:45	29°♌39'47	6.18045 AU
	5062 Aug	22	21:19	0°♍	
morning rise	5062 Sep	01	23:36	2°♍17'07	
retrograde	5063 Jan	05	17:14	20°♍45'39	
min. Earth dist.	5063 Mar	05	11:49	15°♍52'10	4.25940 AU
opposition	5063 Mar	06	14:24	15°♍43'13	0°46'34
direct	5063 May	05	14:27	10°♍42'09	
evening set	5063 Sep	09	02:48	28°♍50'48	
	5063 Sep	14	09:07	0°♎	
conjunction	5063 Sep	22	15:13	1°♎48'58	0°43'46
minimum elong	5063 Sep	22	15:12	1°♎48'57	0°43'46
max. Earth dist.	5063 Sep	23	19:54	2°♎04'45	6.33345 AU
morning rise	5063 Oct	06	02:03	4°♎46'10	

retrograde	5064 Feb 05 17:19	22°♎12'15	
opposition	5064 Apr 05 22:33	17°♎13'24	1°15'53
min. Earth dist.	5064 Apr 05 13:07	17°♎16'31	4.39527 AU
direct	5064 Jun 06 05:57	12°♎11'15	
evening set	5064 Oct 10 14:39	29°♎47'14	
	5064 Oct 11 14:28	0°♏	
conjunction	5064 Oct 23 20:30	2°♏38'24	0°56'50
minimum elong	5064 Oct 23 20:29	2°♏38'24	0°56'50
max. Earth dist.	5064 Oct 23 18:26	2°♏37'17	6.44198 AU
morning rise	5064 Nov 06 00:12	5°♏28'21	
	5064 Dec 23 17:31	15°♏	
retrograde	5065 Mar 06 16:35	22°♏16'33	
opposition	5065 May 06 05:37	17°♏21'06	1°23'08
min. Earth dist.	5065 May 06 16:06	17°♏17'42	4.47069 AU
	5065 May 25 03:30	15°℞♏	
direct	5065 Jul 07 13:22	12°♏18'44	
	5065 Aug 20 04:43	15°♏	
evening set	5065 Nov 10 14:57	29°♏39'31	
	5065 Nov 12 05:19	0°♐	
max. Earth dist.	5065 Nov 22 11:13	2°♐12'00	6.47869 AU
conjunction	5065 Nov 23 15:00	2°♐26'57	0°54'09
minimum elong	5065 Nov 23 15:01	2°♐26'57	0°54'10
morning rise	5065 Dec 06 12:20	5°♐13'10	
retrograde	5066 Apr 05 14:59	21°♐52'21	
opposition	5066 Jun 05 11:09	16°♐59'16	1°08'37
min. Earth dist.	5066 Jun 06 13:45	16°♐50'45	4.46750 AU
direct	5066 Aug 07 04:27	11°♐57'31	
evening set	5066 Dec 11 00:26	29°♐22'46	
	5066 Dec 13 21:11	0°♑	
max. Earth dist.	5066 Dec 21 20:53	1°♑44'24	6.43532 AU
conjunction	5066 Dec 23 20:02	2°♑10'08	0°37'06
minimum elong	5066 Dec 23 20:03	2°♑10'09	0°37'06
morning rise	5067 Jan 05 13:30	4°♑56'38	
retrograde	5067 May 06 17:47	21°♑56'41	
opposition	5067 Jul 06 15:15	17°♑04'32	0°35'35
min. Earth dist.	5067 Jul 08 05:10	16°♑52'27	4.38633 AU
direct	5067 Sep 07 04:22	12°♑04'04	
evening set	5068 Jan 10 17:38	29°♑53'04	
	5068 Jan 11 06:06	0°♒	
max. Earth dist.	5068 Jan 21 04:44	2°♒13'26	6.32202 AU
conjunction	5068 Jan 23 11:05	2°♒43'56	0°09'27
minimum elong	5068 Jan 23 11:05	2°♒43'56	0°09'28
behind sun begin	5068 Jan 23 04:25	2°♒40'13	
behind sun end	5068 Jan 23 17:45	2°♒47'39	
morning rise	5068 Feb 05 03:19	5°♒34'26	
	5068 Mar 21 02:03	15°♒	
desc. node	5068 May 20 15:45	22°♒53'01	
retrograde	5068 Jun 07 18:14	23°♒23'41	
opposition	5068 Aug 07 14:03	18°♒30'51	-0°09'23
min. Earth dist.	5068 Aug 09 02:46	18°♒19'05	4.24731 AU
	5068 Sep 07 02:27	15°℞♒	
direct	5068 Oct 08 04:26	13°♒32'24	
	5068 Nov 08 04:03	15°♒	
	5069 Feb 01 22:12	0°♓	
evening set	5069 Feb 10 17:41	2°♓00'53	
max. Earth dist.	5069 Feb 21 14:54	4°♓32'06	6.16833 AU
conjunction	5069 Feb 23 11:31	4°♓58'02	-0°22'17
minimum elong	5069 Feb 23 11:30	4°♓58'02	0°22'17
morning rise	5069 Mar 08 05:18	7°♓55'31	
retrograde	5069 Jul 13 08:48	26°♓54'23	
opposition	5069 Sep 11 19:51	21°♓59'32	-0°54'36
min. Earth dist.	5069 Sep 12 21:03	21°♓51'22	4.08987 AU
direct	5069 Nov 11 02:12	17°♓03'33	
	5070 Feb 17 12:23	0°♈	
evening set	5070 Mar 16 17:58	6°♈17'26	
conjunction	5070 Mar 29 15:06	9°♈22'21	-0°48'00
minimum elong	5070 Mar 29 15:04	9°♈22'20	0°48'01
max. Earth dist.	5070 Mar 28 17:48	9°♈09'35	6.02100 AU
morning rise	5070 Apr 11 13:53	12°♈28'23	
	5070 Jul 09 21:44	0°♉	
retrograde	5070 Aug 20 02:37	2°♉37'15	
	5070 Sep 30 15:18	30°℞♈	
opposition	5070 Oct 19 03:50	27°♈39'07	-1°22'55
min. Earth dist.	5070 Oct 19 05:32	27°♈38'33	3.96713 AU
direct	5070 Dec 16 23:07	22°♈45'00	
	5071 Feb 24 07:48	0°♉	
evening set	5071 Apr 21 22:11	12°♉32'59	
	5071 May 02 00:15	15°♉	
conjunction	5071 May 05 01:56	15°♉44'53	-0°56'44
minimum elong	5071 May 05 01:56	15°♉44'54	0°56'44
max. Earth dist.	5071 May 05 16:14	15°♉53'36	5.93459 AU
morning rise	5071 May 18 08:23	18°♉58'22	
	5071 Jul 06 00:05	0°♊	
retrograde	5071 Sep 27 17:32	9°♊45'39	
opposition	5071 Nov 26 09:38	4°♊43'44	-1°19'06
min. Earth dist.	5071 Nov 25 12:29	4°♊50'52	3.92781 AU
	5072 Jan 13 08:27	30°℞♉	
direct	5072 Jan 23 08:44	29°♉49'32	
	5072 Feb 02 09:02	0°♊	
evening set	5072 May 28 13:23	19°♊43'14	
conjunction	5072 Jun 11 01:08	22°♊58'24	-0°42'57
minimum elong	5072 Jun 11 01:10	22°♊58'25	0°42'58
max. Earth dist.	5072 Jun 12 23:45	23°♊26'32	5.94585 AU
morning rise	5072 Jun 24 15:32	26°♊14'53	
	5072 Jul 10 12:50	0°♋	
retrograde	5072 Nov 03 07:18	16°♋46'00	
min. Earth dist.	5072 Dec 31 07:52	11°♋53'37	3.98885 AU
opposition	5073 Jan 01 19:14	11°♋41'35	-0°43'15
direct	5073 Feb 28 19:31	6°♋45'15	
evening set	5073 Jul 05 05:19	26°♋13'33	
conjunction	5073 Jul 18 21:55	29°♋26'07	-0°12'34
minimum elong	5073 Jul 18 21:56	29°♋26'07	0°12'35
behind sun begin	5073 Jul 18 16:40	29°♋23'03	
behind sun end	5073 Jul 19 03:12	29°♋29'12	
max. Earth dist.	5073 Jul 21 07:58	0°♌00'09	6.04994 AU
	5073 Jul 21 07:42	0°♌	
morning rise	5073 Aug 01 16:22	2°♌39'15	
	5073 Sep 28 18:49	15°♌	
retrograde	5073 Dec 08 10:44	22°♌10'23	
asc. node	5073 Dec 11 07:33	22°♌09'33	
min. Earth dist.	5074 Feb 04 14:29	17°♌18'12	4.12368 AU
opposition	5074 Feb 06 02:28	17°♌05'58	0°07'14
	5074 Feb 22 02:35	15°℞♌	
direct	5074 Apr 05 23:38	12°♌06'48	
	5074 May 19 00:47	15°♌	
	5074 Aug 06 14:43	0°♍	
evening set	5074 Aug 10 12:09	0°♍52'26	
conjunction	5074 Aug 24 04:32	3°♍57'52	0°21'12
minimum elong	5074 Aug 24 04:31	3°♍57'51	0°21'12
max. Earth dist.	5074 Aug 26 05:27	4°♍25'32	6.20343 AU
morning rise	5074 Sep 06 20:42	7°♍02'54	
retrograde	5075 Jan 10 03:47	25°♍21'39	
min. Earth dist.	5075 Mar 10 01:18	20°♍27'48	4.28063 AU
opposition	5075 Mar 11 01:22	20°♍19'45	0°51'51

direct	5075 May 10 06:06	15°♍18'30	
	5075 Aug 29 02:37	0°♎	
evening set	5075 Sep 13 17:55	3°♎21'52	
conjunction	5075 Sep 27 05:24	6°♎18'57	0°46'30
minimum elong	5075 Sep 27 05:22	6°♎18'56	0°46'30
max. Earth dist.	5075 Sep 28 04:51	6°♎31'48	6.35122 AU
morning rise	5075 Oct 10 15:23	9°♎15'03	
retrograde	5076 Feb 09 22:12	26°♎34'41	
opposition	5076 Apr 10 04:46	21°♎36'19	1°18'14
min. Earth dist.	5076 Apr 09 22:19	21°♎38'27	4.40862 AU
direct	5076 Jun 10 16:01	16°♎34'04	
	5076 Sep 25 09:10	0°♏	
evening set	5076 Oct 15 00:14	4°♏07'26	
conjunction	5076 Oct 28 05:23	6°♏57'58	0°57'22
minimum elong	5076 Oct 28 05:23	6°♏57'58	0°57'22
max. Earth dist.	5076 Oct 28 00:22	6°♏55'16	6.45004 AU
morning rise	5076 Nov 10 07:58	9°♏47'15	
	5076 Dec 05 07:45	15°♏	
retrograde	5077 Mar 10 20:12	26°♏33'04	
opposition	5077 May 10 10:42	21°♏38'04	1°22'20
min. Earth dist.	5077 May 10 23:19	21°♏33'59	4.47315 AU
direct	5077 Jul 11 19:53	16°♏35'50	
	5077 Oct 27 02:19	0°♐	
evening set	5077 Nov 14 21:50	3°♐56'48	
conjunction	5077 Nov 27 21:04	6°♐44'05	0°52'31
minimum elong	5077 Nov 27 21:05	6°♐44'06	0°52'32
max. Earth dist.	5077 Nov 26 12:52	6°♐26'44	6.47529 AU
morning rise	5077 Dec 10 17:55	9°♐30'15	
retrograde	5078 Apr 09 23:37	26°♐11'21	
opposition	5078 Jun 09 18:53	21°♐18'33	1°04'56
min. Earth dist.	5078 Jun 11 00:15	21°♐09'09	4.45857 AU
direct	5078 Aug 11 13:12	16°♐16'59	
	5078 Nov 27 17:16	0°♑	
evening set	5078 Dec 15 07:33	3°♑45'10	
max. Earth dist.	5078 Dec 26 02:30	6°♑06'27	6.42158 AU
conjunction	5078 Dec 28 02:52	6°♑32'57	0°33'41
minimum elong	5078 Dec 28 02:53	6°♑32'57	0°33'41
morning rise	5079 Jan 09 19:58	9°♑19'52	
retrograde	5079 May 11 05:55	26°♑25'45	
opposition	5079 Jul 11 04:11	21°♑33'39	0°29'43
min. Earth dist.	5079 Jul 12 17:22	21°♑21'47	4.36887 AU
direct	5079 Sep 11 13:49	16°♑33'32	
	5079 Dec 25 18:51	0°♒	
evening set	5080 Jan 15 04:21	4°♒27'33	
max. Earth dist.	5080 Jan 25 16:55	6°♒49'24	6.30238 AU
conjunction	5080 Jan 27 21:37	7°♒19'08	0°05'01
minimum elong	5080 Jan 27 21:39	7°♒19'09	0°05'02
behind sun begin	5080 Jan 27 13:54	7°♒14'48	
behind sun end	5080 Jan 28 05:23	7°♒23'29	
morning rise	5080 Feb 09 13:52	10°♒10'27	
	5080 Mar 02 13:05	15°♒	
desc. node	5080 Mar 29 21:04	20°♒27'24	
retrograde	5080 Jun 12 16:06	28°♒08'19	
opposition	5080 Aug 12 10:22	23°♒15'21	-0°16'06
min. Earth dist.	5080 Aug 13 22:33	23°♒03'45	4.22689 AU
direct	5080 Oct 12 21:50	18°♒17'20	
	5081 Jan 15 15:34	0°♓	
evening set	5081 Feb 15 09:49	6°♓51'24	
max. Earth dist.	5081 Feb 26 09:18	9°♓24'39	6.14893 AU
conjunction	5081 Feb 28 03:51	9°♓49'29	-0°26'31
minimum elong	5081 Feb 28 03:49	9°♓49'28	0°26'31
morning rise	5081 Mar 12 22:10	12°♓47'59	
	5081 Jun 13 01:00	0°♈	
retrograde	5081 Jul 18 11:36	1°♈56'00	
	5081 Aug 23 04:00	30°℞♓	
opposition	5081 Sep 16 22:58	27°♓00'45	-0°59'57
min. Earth dist.	5081 Sep 17 20:04	26°♓53'53	4.07336 AU
direct	5081 Nov 15 23:50	22°♓05'08	
	5082 Jan 29 00:12	0°♈	
evening set	5082 Mar 21 16:12	11°♈23'13	
conjunction	5082 Apr 03 13:58	14°♈28'57	-0°50'25
minimum elong	5082 Apr 03 13:57	14°♈28'56	0°50'26
max. Earth dist.	5082 Apr 02 22:06	14°♈19'24	6.00887 AU
morning rise	5082 Apr 16 13:29	17°♈35'52	
	5082 Jun 12 00:57	0°♉	
retrograde	5082 Aug 25 10:49	7°♉50'45	
opposition	5082 Oct 24 10:31	2°♉52'04	-1°24'25
min. Earth dist.	5082 Oct 24 09:34	2°♉52'23	3.96073 AU
	5082 Nov 16 14:10	30°℞♈	
direct	5082 Dec 22 03:22	27°♈58'04	
	5083 Jan 26 06:03	0°♉	
	5083 Apr 15 10:46	15°♉	
evening set	5083 Apr 27 00:58	17°♉46'47	
conjunction	5083 May 10 05:46	20°♉59'11	-0°56'07
minimum elong	5083 May 10 05:47	20°♉59'12	0°56'08
max. Earth dist.	5083 May 11 01:25	21°♉11'08	5.93449 AU
morning rise	5083 May 23 13:15	24°♉13'08	
	5083 Jun 17 01:15	0°♊	
retrograde	5083 Oct 02 22:58	14°♊59'37	
opposition	5083 Dec 01 14:08	9°♊57'18	-1°15'45
min. Earth dist.	5083 Nov 30 14:35	10°♊05'15	3.93431 AU
direct	5084 Jan 28 12:07	5°♊02'55	
evening set	5084 Jun 02 17:01	24°♊53'24	
conjunction	5084 Jun 16 05:27	28°♊08'21	-0°39'30
minimum elong	5084 Jun 16 05:29	28°♊08'22	0°39'31
max. Earth dist.	5084 Jun 18 04:54	28°♊36'54	5.95798 AU
	5084 Jun 23 23:15	0°♋	
morning rise	5084 Jun 29 20:47	1°♋24'38	
retrograde	5084 Nov 08 04:04	21°♋48'43	
min. Earth dist.	5085 Jan 05 05:04	16°♋56'28	4.00520 AU
opposition	5085 Jan 06 17:14	16°♋44'09	-0°36'44
direct	5085 Mar 05 19:11	11°♋47'24	
	5085 Jul 05 04:03	0°♌	
evening set	5085 Jul 10 05:19	1°♌10'13	
conjunction	5085 Jul 23 22:19	4°♌22'01	-0°07'54
minimum elong	5085 Jul 23 22:20	4°♌22'02	0°07'54
behind sun begin	5085 Jul 23 14:51	4°♌17'41	
behind sun end	5085 Jul 24 05:49	4°♌26'23	
max. Earth dist.	5085 Jul 26 08:09	4°♌55'47	6.06911 AU
morning rise	5085 Aug 06 16:39	7°♌34'14	
	5085 Sep 09 01:14	15°♌	
asc. node	5085 Oct 22 20:48	22°♌57'17	
retrograde	5085 Dec 13 01:27	26°♌55'57	
min. Earth dist.	5086 Feb 09 06:57	22°♌03'19	4.14362 AU
opposition	5086 Feb 10 16:52	21°♌51'48	0°14'00
direct	5086 Apr 10 18:17	16°♌52'19	
	5086 Jul 20 23:07	0°♍	
evening set	5086 Aug 15 06:40	5°♍32'30	
conjunction	5086 Aug 28 22:35	8°♍36'55	0°25'18
minimum elong	5086 Aug 28 22:33	8°♍36'54	0°25'17
max. Earth dist.	5086 Aug 30 20:16	9°♍02'38	6.22249 AU
morning rise	5086 Sep 11 14:12	11°♍40'52	
retrograde	5087 Jan 14 09:59	29°♍51'28	

min. Earth dist.	5087 Mar 14 11:05	24°♍57'28	4.29752 AU
opposition	5087 Mar 15 09:26	24°♍50'00	0°56'39
direct	5087 May 14 17:43	19°♍48'32	
	5087 Aug 11 18:29	0°♎	
evening set	5087 Sep 18 06:36	7°♎48'07	
conjunction	5087 Oct 01 17:21	10°♎44'20	0°48'52
minimum elong	5087 Oct 01 17:20	10°♎44'19	0°48'52
max. Earth dist.	5087 Oct 02 13:05	10°♎55'08	6.36488 AU
morning rise	5087 Oct 15 02:21	13°♎39'29	
	5088 Jan 21 04:03	0°♏	
retrograde	5088 Feb 14 02:57	0°♏54'03	
	5088 Mar 08 21:58	30°℞♎	
opposition	5088 Apr 14 09:52	25°♎56'12	1°20'05
min. Earth dist.	5088 Apr 14 06:17	25°♎57'23	4.41831 AU
direct	5088 Jun 15 00:57	20°♎53'56	
	5088 Sep 07 17:50	0°♏	
evening set	5088 Oct 19 08:28	8°♏25'29	
conjunction	5088 Nov 01 12:43	11°♏15'30	0°57'33
minimum elong	5088 Nov 01 12:43	11°♏15'30	0°57'34
max. Earth dist.	5088 Nov 01 03:08	11°♏10'20	6.45504 AU
morning rise	5088 Nov 14 14:36	14°♏04'17	
	5088 Nov 18 23:02	15°♏	
	5089 Feb 20 04:22	0°♐	
retrograde	5089 Mar 15 00:27	0°♐48'36	
	5089 Apr 06 19:00	30°℞♏	
opposition	5089 May 14 15:38	25°♏53'54	1°21'04
min. Earth dist.	5089 May 15 06:36	25°♏49'04	4.47348 AU
direct	5089 Jul 16 02:53	20°♏51'41	
	5089 Oct 09 13:58	0°♐	
evening set	5089 Nov 19 03:54	8°♐13'03	
max. Earth dist.	5089 Nov 30 17:29	10°♐42'23	6.47098 AU
conjunction	5089 Dec 02 02:38	11°♐00'17	0°50'37
minimum elong	5089 Dec 02 02:39	11°♐00'18	0°50'37
morning rise	5089 Dec 14 22:41	13°♐46'21	
	5090 Mar 27 11:14	0°♑	
retrograde	5090 Apr 14 05:15	0°♑29'21	
	5090 May 01 23:38	30°℞♐	
opposition	5090 Jun 14 02:10	25°♐36'41	1°00'53
min. Earth dist.	5090 Jun 15 08:10	25°♐27'06	4.44988 AU
direct	5090 Aug 15 19:58	20°♐35'18	
	5090 Nov 10 07:27	0°♑	
evening set	5090 Dec 19 14:05	8°♑05'54	
max. Earth dist.	5090 Dec 30 06:45	10°♑26'26	6.40898 AU
conjunction	5091 Jan 01 08:51	10°♑53'58	0°30'05
minimum elong	5091 Jan 01 08:52	10°♑53'58	0°30'07
morning rise	5091 Jan 14 01:47	13°♑41'16	
	5091 Apr 21 21:56	0°♒	
retrograde	5091 May 15 19:08	0°♒52'28	
	5091 Jun 08 15:42	30°℞♑	
opposition	5091 Jul 15 16:40	26°♑00'17	0°23'40
min. Earth dist.	5091 Jul 17 06:55	25°♑48'04	4.35273 AU
direct	5091 Sep 16 01:19	21°♑00'21	
	5091 Dec 07 23:45	0°♒	
evening set	5092 Jan 19 13:33	8°♒58'37	
max. Earth dist.	5092 Jan 30 02:40	11°♒21'22	6.28378 AU
conjunction	5092 Feb 01 06:52	11°♒50'55	0°00'32
minimum elong	5092 Feb 01 06:51	11°♒50'55	0°00'32
behind sun begin	5092 Jan 31 22:53	11°♒46'26	
behind sun end	5092 Feb 01 14:49	11°♒55'24	
desc. node	5092 Feb 07 16:03	13°♒17'39	
morning rise	5092 Feb 13 23:08	14°♒43'00	
	5092 Feb 15 05:21	15°♒	
	5092 May 05 00:09	0°♓	
retrograde	5092 Jun 17 10:24	2°♓49'09	
	5092 Jul 31 13:31	30°℞♒	
opposition	5092 Aug 17 05:22	27°♒55'54	-0°22'42
min. Earth dist.	5092 Aug 18 15:20	27°♒45'00	4.20690 AU
direct	5092 Oct 17 11:56	22°♒58'12	
	5092 Dec 27 04:43	0°♓	
evening set	5093 Feb 20 00:40	11°♓37'49	
max. Earth dist.	5093 Mar 03 03:26	14°♓13'39	6.12911 AU
conjunction	5093 Mar 04 18:56	14°♓36'48	-0°30'33
minimum elong	5093 Mar 04 18:54	14°♓36'48	0°30'32
morning rise	5093 Mar 17 13:43	17°♓36'22	
	5093 May 14 21:07	0°♈	
retrograde	5093 Jul 23 15:58	6°♈53'55	
opposition	5093 Sep 22 00:53	1°♈58'15	-1°04'53
min. Earth dist.	5093 Sep 22 20:10	1°♈51'57	4.05520 AU
	5093 Oct 07 13:57	30°℞♓	
direct	5093 Nov 20 22:11	27°♓02'53	
	5094 Jan 03 05:41	0°♈	
evening set	5094 Mar 26 13:53	16°♈26'07	
conjunction	5094 Apr 08 12:31	19°♈32'53	-0°52'29
minimum elong	5094 Apr 08 12:30	19°♈32'53	0°52'29
max. Earth dist.	5094 Apr 08 00:59	19°♈25'56	5.99413 AU
morning rise	5094 Apr 21 12:59	22°♈40'54	
	5094 May 23 03:07	0°♉	
retrograde	5094 Aug 30 18:12	13°♉02'46	
opposition	5094 Oct 29 16:39	8°♉03'37	-1°25'18
min. Earth dist.	5094 Oct 29 12:19	8°♉05'03	3.95121 AU
direct	5094 Dec 27 04:51	3°♉09'43	
	5095 Mar 28 18:42	15°♉	
evening set	5095 May 02 04:33	23°♉00'48	
conjunction	5095 May 15 10:19	26°♉13'52	-0°55'04
minimum elong	5095 May 15 10:20	26°♉13'53	0°55'05
max. Earth dist.	5095 May 16 08:57	26°♉27'39	5.93093 AU
morning rise	5095 May 28 19:06	29°♉28'33	
	5095 May 30 23:17	0°♊	
retrograde	5095 Oct 08 04:33	20°♊15'44	
opposition	5095 Dec 06 19:35	15°♊13'00	-1°11'49
min. Earth dist.	5095 Dec 05 17:23	15°♊21'52	3.93714 AU
direct	5096 Feb 02 16:51	10°♊18'22	
evening set	5096 Jun 07 22:39	0°♋07'18	
	5096 Jun 07 10:25	0°♋	
conjunction	5096 Jun 21 12:11	3°♋22'18	-0°35'42
minimum elong	5096 Jun 21 12:12	3°♋22'19	0°35'42
max. Earth dist.	5096 Jun 23 15:12	3°♋52'55	5.96701 AU
morning rise	5096 Jul 05 04:08	6°♋38'27	
retrograde	5096 Nov 13 05:17	26°♋56'37	
min. Earth dist.	5097 Jan 10 05:33	22°♋04'12	4.01923 AU
opposition	5097 Jan 11 17:24	21°♋51'59	-0°29'49
direct	5097 Mar 10 21:53	16°♋54'55	
	5097 Jun 17 18:41	0°♌	
evening set	5097 Jul 15 08:40	6°♌13'16	
conjunction	5097 Jul 29 01:52	9°♌24'23	-0°03'02
minimum elong	5097 Jul 29 01:51	9°♌24'22	0°03'03
behind sun begin	5097 Jul 28 17:30	9°♌19'32	
behind sun end	5097 Jul 29 10:13	9°♌29'12	
max. Earth dist.	5097 Jul 31 11:28	9°♌57'50	6.08683 AU
morning rise	5097 Aug 11 20:15	12°♌35'45	
	5097 Aug 22 08:54	15°♌	
asc. node	5097 Sep 01 14:13	17°♌16'52	
	5097 Nov 13 23:45	0°♍	
retrograde	5097 Dec 17 16:48	1°♍48'21	

	5098 Jan	20	04:59	30°℞♌	
min. Earth dist.	5098 Feb	13	23:55	26°♌55'59	4.16339 AU
opposition	5098 Feb	15	09:47	26°♌44'31	0°20'51
direct	5098 Apr	15	14:01	21°♌44'47	
	5098 Jul	01	18:09	0°♍	
evening set	5098 Aug	20	04:15	10°♍19'38	
conjunction	5098 Sep	02	19:37	13°♍22'56	0°29'23
minimum elong	5098 Sep	02	19:36	13°♍22'55	0°29'23
max. Earth dist.	5098 Sep	04	14:04	13°♍46'45	6.24296 AU
morning rise	5098 Sep	16	10:30	16°♍25'40	
	5098 Nov	24	21:49	0°♎	
retrograde	5099 Jan	18	21:02	4°♎27'38	
	5099 Mar	15	16:18	30°℞♍	
opposition	5099 Mar	19	20:22	29°♍26'42	1°01'15
min. Earth dist.	5099 Mar	19	00:43	29°♍33'15	4.31719 AU
direct	5099 May	19	10:10	24°♍25'08	
	5099 Jul	21	17:03	0°♎	
evening set	5099 Sep	22	21:19	12°♎19'45	
conjunction	5099 Oct	06	07:12	15°♎14'54	0°51'02
minimum elong	5099 Oct	06	07:11	15°♎14'53	0°51'02
max. Earth dist.	5099 Oct	07	00:07	15°♎24'07	6.38247 AU
morning rise	5099 Oct	19	15:08	18°♎08'55	
	5099 Dec	19	12:49	0°♏	
retrograde	5100 Feb	18	06:53	5°♏17'04	
opposition	5100 Apr	19	16:15	0°♏19'41	1°21'33
min. Earth dist.	5100 Apr	19	14:11	0°♏20'22	4.43300 AU
	5100 Apr	22	04:25	30°℞♎	
direct	5100 Jun	20	10:26	25°♎17'24	
	5100 Aug	18	02:24	0°♏	
evening set	5100 Oct	24	17:14	12°♏45'23	
	5100 Nov	04	04:16	15°♏	
conjunction	5100 Nov	06	20:35	15°♏34'37	0°57'30
minimum elong	5100 Nov	06	20:35	15°♏34'37	0°57'31
max. Earth dist.	5100 Nov	06	08:28	15°♏28'05	6.46591 AU
morning rise	5100 Nov	19	21:24	18°♏22'35	
	5101 Jan	19	11:15	0°♐	
retrograde	5101 Mar	20	03:30	5°♐03'33	
opposition	5101 May	19	20:10	0°♐09'14	1°19'26
min. Earth dist.	5101 May	20	13:30	0°♐03'40	4.47985 AU
	5101 May	21	00:53	30°℞♏	
direct	5101 Jul	21	10:29	25°♏07'07	
	5101 Sep	19	14:48	0°♐	
evening set	5101 Nov	24	08:34	12°♐26'52	
max. Earth dist.	5101 Dec	05	17:13	14°♐53'38	6.47219 AU
conjunction	5101 Dec	07	06:28	15°♐13'45	0°48'30
minimum elong	5101 Dec	07	06:29	15°♐13'45	0°48'31
morning rise	5101 Dec	20	02:01	17°♐59'33	