opposition	1100 Jan 21 j 03:15	6°♑58'36	0°10'10
min. Earth dist.	1100 Jan 21 j 14:34	6°♑57'49	29.07970 AU
direct	1100 Apr 09 j 19:00	5°♑33'27	
evening set	1100 Jul 09 j 03:56	7°♑29'22	
conjunction	1100 Jul 25 j 10:41	8°♑05'18	0°11'39
minimum elong	1100 Jul 25 j 10:40	8°♑05'18	0°11'38
behind sun begin	1100 Jul 25 j 06:04	8°♑04'53	
behind sun end	1100 Jul 25 j 15:17	8°♑05'42	
max. Earth dist.	1100 Jul 24 j 20:49	8°♑04'01	31.08499 AU
morning rise	1100 Aug 10 j 14:54	8°♑41'01	
retrograde	1100 Nov 06 j 08:53	10°♑34'14	
opposition	1101 Jan 22 j 13:44	9°♑11'26	0°14'34
min. Earth dist.	1101 Jan 23 j 02:54	9°♑10'30	29.09029 AU
direct	1101 Apr 12 j 06:10	7°♑46'16	
evening set	1101 Jul 11 j 17:18	9°♑42'14	
conjunction	1101 Jul 27 j 23:40	10°♑18'08	0°15'44
minimum elong	1101 Jul 27 j 23:40	10°♑18'08	0°15'44
behind sun begin	1101 Jul 27 j 23:04	10°♑18'04	
behind sun end	1101 Jul 28 j 00:16	10°♑18'11	
max. Earth dist.	1101 Jul 27 j 08:45	10°♑16'45	31.09506 AU
morning rise	1101 Aug 13 j 03:31	10°♑53'48	
retrograde	1101 Nov 08 j 19:14	12°♑46'55	
opposition	1102 Jan 25 j 00:04	11°♑24'11	0°18'56
min. Earth dist.	1102 Jan 25 j 13:07	11°♑23'16	29.09975 AU
direct	1102 Apr 14 j 19:11	9°♑59'00	
evening set	1102 Jul 14 j 06:43	11°♑55'00	
conjunction	1102 Jul 30 j 12:43	12°♑30'52	0°19'48
minimum elong	1102 Jul 30 j 12:43	12°♑30'52	0°19'47
max. Earth dist.	1102 Jul 29 j 20:30	12°♑29'22	31.10389 AU
morning rise	1102 Aug 15 j 16:06	13°♑06'30	
retrograde	1102 Nov 11 j 05:11	14°♑59'30	
opposition	1103 Jan 27 j 10:24	13°♑36'49	0°23'16
min. Earth dist.	1103 Jan 28 j 01:03	13°♑35'47	29.10816 AU
direct	1103 Apr 17 j 05:31	12°♑11'36	
evening set	1103 Jul 16 j 19:58	14°♑07'38	
max. Earth dist.	1103 Aug 01 j 09:11	14°♑41'56	31.11176 AU
conjunction	1103 Aug 02 j 01:43	14°♑43'27	0°23'50
minimum elong	1103 Aug 02 j 01:43	14°♑43'27	0°23'51
	1103 Aug 09 j 12:17	15°♑	
morning rise	1103 Aug 18 j 04:37	15°♑19'03	
retrograde	1103 Nov 13 j 15:00	17°♑11'56	
opposition	1104 Jan 29 j 20:44	15°♑49'17	0°27'34
min. Earth dist.	1104 Jan 30 j 11:46	15°♑48'14	29.11546 AU
	1104 Mar 01 j 02:47	15°℞♑	
direct	1104 Apr 18 j 17:51	14°♑24'02	
	1104 Jun 05 j 11:01	15°♑	
evening set	1104 Jul 18 j 09:16	16°♑20'05	
conjunction	1104 Aug 03 j 14:28	16°♑55'52	0°27'50
minimum elong	1104 Aug 03 j 14:28	16°♑55'52	0°27'50
max. Earth dist.	1104 Aug 02 j 20:15	16°♑54'11	31.11865 AU
morning rise	1104 Aug 19 j 16:57	17°♑31'25	
retrograde	1104 Nov 15 j 01:28	19°♑24'12	
opposition	1105 Jan 31 j 07:04	18°♑01'34	0°31'49
min. Earth dist.	1105 Jan 31 j 22:54	18°♑00'27	29.12219 AU
direct	1105 Apr 21 j 04:48	16°♑36'16	
evening set	1105 Jul 20 j 22:15	18°♑32'20	
max. Earth dist.	1105 Aug 05 j 09:30	19°♑06'26	31.12518 AU
conjunction	1105 Aug 06 j 03:13	19°♑08'05	0°31'47
minimum elong	1105 Aug 06 j 03:12	19°♑08'05	0°31'48
morning rise	1105 Aug 22 j 05:04	19°♑43'35	
retrograde	1105 Nov 17 j 11:09	21°♑36'15	
opposition	1106 Feb 02 j 17:25	20°♑13'39	0°36'00
min. Earth dist.	1106 Feb 03 j 10:01	20°♑12'29	29.12867 AU
direct	1106 Apr 23 j 18:06	18°♑48'19	
evening set	1106 Jul 23 j 11:08	20°♑44'23	
conjunction	1106 Aug 08 j 15:30	21°♑20'05	0°35'41
minimum elong	1106 Aug 08 j 15:30	21°♑20'05	0°35'41
max. Earth dist.	1106 Aug 07 j 20:13	21°♑18'18	31.13178 AU
morning rise	1106 Aug 24 j 17:03	21°♑55'33	
retrograde	1106 Nov 19 j 22:36	23°♑48'08	
opposition	1107 Feb 05 j 03:40	22°♑25'32	0°40'09
min. Earth dist.	1107 Feb 05 j 20:04	22°♑24'23	29.13555 AU
direct	1107 Apr 26 j 06:00	21°♑00'10	
evening set	1107 Jul 25 j 23:56	22°♑56'16	
max. Earth dist.	1107 Aug 10 j 09:20	23°♑30'12	31.13888 AU
conjunction	1107 Aug 11 j 04:00	23°♑31'56	0°39'32
minimum elong	1107 Aug 11 j 04:00	23°♑31'56	0°39'32
morning rise	1107 Aug 27 j 04:50	24°♑07'21	
retrograde	1107 Nov 22 j 08:25	25°♑59'50	
opposition	1108 Feb 07 j 13:59	24°♑37'17	0°44'13
min. Earth dist.	1108 Feb 08 j 07:31	24°♑36'03	29.14315 AU
direct	1108 Apr 27 j 18:17	23°♑11'54	
evening set	1108 Jul 27 j 12:47	25°♑08'02	
conjunction	1108 Aug 12 j 16:14	25°♑43'39	0°43'19
minimum elong	1108 Aug 12 j 16:14	25°♑43'39	0°43'18
max. Earth dist.	1108 Aug 11 j 20:30	25°♑41'50	31.14707 AU
morning rise	1108 Aug 28 j 16:39	26°♑19'01	
retrograde	1108 Nov 23 j 20:47	28°♑11'26	
opposition	1109 Feb 09 j 00:18	26°♑48'56	0°48'14
min. Earth dist.	1109 Feb 09 j 17:04	26°♑47'46	29.15195 AU
direct	1109 Apr 30 j 07:31	25°♑23'34	
evening set	1109 Jul 30 j 01:17	27°♑19'44	
max. Earth dist.	1109 Aug 14 j 09:00	27°♑53'33	31.15639 AU
conjunction	1109 Aug 15 j 04:20	27°♑55'20	0°47'02
minimum elong	1109 Aug 15 j 04:20	27°♑55'20	0°47'02
morning rise	1109 Aug 31 j 04:04	28°♑30'39	
	1109 Oct 20 j 07:52	0°♒	
retrograde	1109 Nov 26 j 06:56	0°♒23'02	
	1110 Jan 02 j 19:42	30°℞♑	
opposition	1110 Feb 11 j 10:46	29°♑00'35	0°52'10
min. Earth dist.	1110 Feb 12 j 04:43	28°♑59'20	29.16193 AU
direct	1110 May 02 j 18:50	27°♑35'16	
evening set	1110 Aug 01 j 13:53	29°♑31'29	
	1110 Aug 14 j 12:39	0°♒	
conjunction	1110 Aug 17 j 16:25	0°♒07'02	0°50'41
minimum elong	1110 Aug 17 j 16:24	0°♒07'02	0°50'40
max. Earth dist.	1110 Aug 16 j 20:43	0°♒05'13	31.16688 AU
morning rise	1110 Sep 02 j 15:41	0°♒42'19	
retrograde	1110 Nov 28 j 16:57	2°♒34'38	
opposition	1111 Feb 13 j 20:58	1°♒12'18	0°56'02
min. Earth dist.	1111 Feb 14 j 14:22	1°♒11'06	29.17269 AU
	1111 Apr 06 j 13:45	30°℞♑	
direct	1111 May 05 j 07:23	29°♑47'02	
	1111 Jun 02 j 14:04	0°♒	
evening set	1111 Aug 04 j 02:32	1°♒43'18	
max. Earth dist.	1111 Aug 19 j 08:09	2°♒16'56	31.17773 AU
conjunction	1111 Aug 20 j 04:32	2°♒18'49	0°54'16
minimum elong	1111 Aug 20 j 04:31	2°♒18'49	0°54'16

morning rise	1111 Sep 05 j 03:13	2°♑54'04	
retrograde	1111 Dec 01 j 03:11	4°♑46'21	
opposition	1112 Feb 16 j 07:31	3°♑24'06	0°59'49
min. Earth dist.	1112 Feb 17 j 02:01	3°♑22'49	29.18365 AU
direct	1112 May 06 j 17:21	1°♑58'53	
evening set	1112 Aug 05 j 15:03	3°♑55'12	
conjunction	1112 Aug 21 j 16:34	4°♑30'41	0°57'46
minimum elong	1112 Aug 21 j 16:33	4°♑30'41	0°57'45
max. Earth dist.	1112 Aug 20 j 20:19	4°♑28'48	31.18846 AU
morning rise	1112 Sep 06 j 14:35	5°♑05'53	
retrograde	1112 Dec 02 j 12:50	6°♑58'09	
opposition	1113 Feb 17 j 18:05	5°♑35'59	1°03'31
min. Earth dist.	1113 Feb 18 j 12:45	5°♑34'41	29.19402 AU
direct	1113 May 09 j 05:03	4°♑10'47	
evening set	1113 Aug 08 j 03:41	6°♑07'09	
max. Earth dist.	1113 Aug 23 j 06:51	6°♑40'34	31.19838 AU
conjunction	1113 Aug 24 j 04:30	6°♑42'35	1°01'11
minimum elong	1113 Aug 24 j 04:30	6°♑42'35	1°01'11
morning rise	1113 Sep 09 j 02:02	7°♑17'45	
retrograde	1113 Dec 04 j 23:03	9°♑09'59	
opposition	1114 Feb 20 j 04:41	7°♑47'52	1°07'06
min. Earth dist.	1114 Feb 20 j 23:58	7°♑46'32	29.20362 AU
direct	1114 May 11 j 15:39	6°♑22'42	
evening set	1114 Aug 10 j 16:00	8°♑19'05	
conjunction	1114 Aug 26 j 16:27	8°♑54'29	1°04'30
minimum elong	1114 Aug 26 j 16:27	8°♑54'29	1°04'29
max. Earth dist.	1114 Aug 25 j 19:18	8°♑52'31	31.20730 AU
morning rise	1114 Sep 11 j 13:16	9°♑29'36	
retrograde	1114 Dec 07 j 08:05	11°♑21'48	
opposition	1115 Feb 22 j 15:25	9°♑59'43	1°10'36
min. Earth dist.	1115 Feb 23 j 11:35	9°♑58'20	29.21188 AU
direct	1115 May 14 j 04:04	8°♑34'34	
evening set	1115 Aug 13 j 04:34	10°♑30'57	
max. Earth dist.	1115 Aug 28 j 05:23	11°♑04'11	31.21493 AU
conjunction	1115 Aug 29 j 04:16	11°♑06'19	1°07'44
minimum elong	1115 Aug 29 j 04:16	11°♑06'19	1°07'44
morning rise	1115 Sep 14 j 00:38	11°♑41'22	
retrograde	1115 Dec 09 j 19:24	13°♑33'31	
opposition	1116 Feb 25 j 02:00	12°♑11'28	1°14'00
min. Earth dist.	1116 Feb 25 j 22:01	12°♑10'05	29.21899 AU
direct	1116 May 15 j 15:06	10°♑46'18	
evening set	1116 Aug 14 j 16:50	12°♑42'42	
conjunction	1116 Aug 30 j 16:07	13°♑18'00	1°10'51
minimum elong	1116 Aug 30 j 16:07	13°♑18'00	1°10'50
max. Earth dist.	1116 Aug 29 j 17:43	13°♑15'55	31.22139 AU
morning rise	1116 Sep 15 j 11:42	13°♑53'01	
retrograde	1116 Dec 11 j 05:03	15°♑45'07	
opposition	1117 Feb 26 j 12:51	14°♑23'04	1°17'17
min. Earth dist.	1117 Feb 27 j 10:11	14°♑21'36	29.22500 AU
direct	1117 May 18 j 03:41	12°♑57'54	
evening set	1117 Aug 17 j 04:56	14°♑54'16	
max. Earth dist.	1117 Sep 01 j 04:01	15°♑27'20	31.22703 AU
conjunction	1117 Sep 02 j 03:31	15°♑29'31	1°13'52
minimum elong	1117 Sep 02 j 03:31	15°♑29'31	1°13'53
morning rise	1117 Sep 17 j 22:40	16°♑04'29	
retrograde	1117 Dec 13 j 16:55	17°♑56'31	
opposition	1118 Feb 28 j 23:29	16°♑34'28	1°20'27
min. Earth dist.	1118 Mar 01 j 20:12	16°♑33'02	29.23035 AU
direct	1118 May 20 j 17:31	15°♑09'16	
evening set	1118 Aug 19 j 16:54	17°♑05'37	
conjunction	1118 Sep 04 j 15:01	17°♑40'49	1°16'47
minimum elong	1118 Sep 04 j 15:00	17°♑40'49	1°16'47
max. Earth dist.	1118 Sep 03 j 15:49	17°♑38'40	31.23209 AU
morning rise	1118 Sep 20 j 09:27	18°♑15'44	
retrograde	1118 Dec 16 j 02:32	20°♑07'43	
opposition	1119 Mar 03 j 10:09	18°♑45'39	1°23'31
min. Earth dist.	1119 Mar 04 j 08:06	18°♑44'08	29.23546 AU
direct	1119 May 23 j 05:28	17°♑20'26	
evening set	1119 Aug 22 j 04:49	19°♑16'45	
max. Earth dist.	1119 Sep 06 j 02:59	19°♑49'45	31.23729 AU
conjunction	1119 Sep 07 j 02:19	19°♑51'55	1°19'35
minimum elong	1119 Sep 07 j 02:19	19°♑51'55	1°19'36
morning rise	1119 Sep 22 j 20:14	20°♑26'46	
retrograde	1119 Dec 18 j 12:29	22°♑18'42	
opposition	1120 Mar 04 j 20:54	20°♑56'39	1°26'26
min. Earth dist.	1120 Mar 05 j 17:57	20°♑55'11	29.24084 AU
direct	1120 May 24 j 18:49	19°♑31'24	
evening set	1120 Aug 23 j 16:33	21°♑27'42	
conjunction	1120 Sep 08 j 13:24	22°♑02'49	1°22'16
minimum elong	1120 Sep 08 j 13:23	22°♑02'49	1°22'16
max. Earth dist.	1120 Sep 07 j 13:53	22°♑00'38	31.24290 AU
morning rise	1120 Sep 24 j 06:41	22°♑37'38	
retrograde	1120 Dec 19 j 22:36	24°♑29'33	
opposition	1121 Mar 07 j 07:47	23°♑07'29	1°29'15
min. Earth dist.	1121 Mar 08 j 05:18	23°♑06'00	29.24706 AU
direct	1121 May 27 j 05:52	21°♑42'16	
evening set	1121 Aug 26 j 04:09	23°♑38'33	
max. Earth dist.	1121 Sep 10 j 01:46	24°♑11'30	31.24961 AU
conjunction	1121 Sep 11 j 00:29	24°♑13'37	1°24'50
minimum elong	1121 Sep 11 j 00:29	24°♑13'37	1°24'51
morning rise	1121 Sep 26 j 17:07	24°♑48'23	
retrograde	1121 Dec 22 j 07:38	26°♑40'17	
opposition	1122 Mar 09 j 18:36	25°♑18'16	1°31'55
min. Earth dist.	1122 Mar 10 j 15:39	25°♑16'48	29.25423 AU
direct	1122 May 29 j 18:10	23°♑53'05	
evening set	1122 Aug 28 j 15:45	25°♑49'22	
max. Earth dist.	1122 Sep 12 j 11:57	26°♑22'13	31.25723 AU
conjunction	1122 Sep 13 j 11:24	26°♑24'24	1°27'17
minimum elong	1122 Sep 13 j 11:24	26°♑24'24	1°27'16
morning rise	1122 Sep 29 j 03:35	26°♑59'08	
retrograde	1122 Dec 24 j 17:42	28°♑51'02	
opposition	1123 Mar 12 j 05:28	27°♑29'04	1°34'28
min. Earth dist.	1123 Mar 13 j 02:26	27°♑27'37	29.26228 AU
direct	1123 Jun 01 j 04:24	26°♑03'56	
evening set	1123 Aug 31 j 03:14	28°♑00'15	
conjunction	1123 Sep 15 j 22:26	28°♑35'15	1°29'36
minimum elong	1123 Sep 15 j 22:26	28°♑35'15	1°29'36
max. Earth dist.	1123 Sep 15 j 00:11	28°♑33'10	31.26541 AU
morning rise	1123 Oct 01 j 13:52	29°♑09'56	
	1123 Oct 26 j 05:02	0°♎	
retrograde	1123 Dec 27 j 02:28	1°♎01'52	
	1124 Mar 01 j 10:19	30°℞♑	
opposition	1124 Mar 13 j 16:27	29°♑39'58	1°36'52
min. Earth dist.	1124 Mar 14 j 13:52	29°♑38'29	29.27046 AU
direct	1124 Jun 02 j 15:53	28°♑14'55	
	1124 Aug 27 j 09:26	0°♎	
evening set	1124 Sep 01 j 14:52	0°♎11'14	
max. Earth dist.	1124 Sep 16 j 09:57	0°♎44'01	31.27355 AU
conjunction	1124 Sep 17 j 09:17	0°♎46'12	1°31'47
minimum elong	1124 Sep 17 j 09:17	0°♎46'12	1°31'46
morning rise	1124 Oct 03 j 00:18	1°♎20'51	

retrograde	1124 Dec 28 j 14:01	3°♎12'50	
opposition	1125 Mar 16 j 03:31	1°♎50'58	1°39'08
min. Earth dist.	1125 Mar 17 j 00:17	1°♎49'33	29.27844 AU
direct	1125 Jun 05 j 01:59	0°♎26'00	
evening set	1125 Sep 04 j 02:08	2°♎22'20	
conjunction	1125 Sep 19 j 20:08	2°♎57'15	1°33'50
minimum elong	1125 Sep 19 j 20:08	2°♎57'15	1°33'50
max. Earth dist.	1125 Sep 18 j 21:40	2°♎55'10	31.28102 AU
morning rise	1125 Oct 05 j 10:25	3°♎31'53	
retrograde	1125 Dec 30 j 23:51	5°♎23'54	
opposition	1126 Mar 18 j 14:46	4°♎02'06	1°41'15
min. Earth dist.	1126 Mar 19 j 12:40	4°♎00'35	29.28545 AU
direct	1126 Jun 07 j 13:57	2°♎37'11	
evening set	1126 Sep 06 j 13:40	4°♎33'32	
max. Earth dist.	1126 Sep 21 j 07:30	5°♎06'14	31.28743 AU
conjunction	1126 Sep 22 j 06:56	5°♎08'25	1°35'45
minimum elong	1126 Sep 22 j 06:56	5°♎08'25	1°35'44
morning rise	1126 Oct 07 j 20:48	5°♎43'00	
retrograde	1127 Jan 02 j 12:00	7°♎35'03	
opposition	1127 Mar 21 j 01:49	6°♎13'16	1°43'14
min. Earth dist.	1127 Mar 21 j 23:00	6°♎11'49	29.29118 AU
direct	1127 Jun 10 j 03:03	4°♎48'24	
evening set	1127 Sep 09 j 01:05	6°♎44'46	
conjunction	1127 Sep 24 j 17:51	7°♎19'36	1°37'32
minimum elong	1127 Sep 24 j 17:51	7°♎19'36	1°37'32
max. Earth dist.	1127 Sep 23 j 18:38	7°♎17'27	31.29233 AU
morning rise	1127 Oct 10 j 07:03	7°♎54'10	
retrograde	1128 Jan 04 j 22:20	9°♎46'15	
opposition	1128 Mar 22 j 13:15	8°♎24'28	1°45'03
min. Earth dist.	1128 Mar 23 j 11:39	8°♎22'56	29.29543 AU
direct	1128 Jun 11 j 14:43	6°♎59'39	
evening set	1128 Sep 10 j 12:20	8°♎55'59	
max. Earth dist.	1128 Sep 25 j 05:09	9°♎28'37	31.29583 AU
conjunction	1128 Sep 26 j 04:29	9°♎30'47	1°39'10
minimum elong	1128 Sep 26 j 04:29	9°♎30'47	1°39'09
morning rise	1128 Oct 11 j 17:11	10°♎05'18	
retrograde	1129 Jan 06 j 08:35	11°♎57'24	
opposition	1129 Mar 25 j 00:35	10°♎35'38	1°46'43
min. Earth dist.	1129 Mar 25 j 22:13	10°♎34'09	29.29815 AU
direct	1129 Jun 14 j 04:21	9°♎10'49	
evening set	1129 Sep 12 j 23:32	11°♎07'08	
conjunction	1129 Sep 28 j 15:07	11°♎41'54	1°40'39
minimum elong	1129 Sep 28 j 15:06	11°♎41'54	1°40'40
max. Earth dist.	1129 Sep 27 j 15:18	11°♎39'41	31.29786 AU
morning rise	1129 Oct 14 j 03:18	12°♎16'23	
retrograde	1130 Jan 08 j 19:25	14°♎08'29	
opposition	1130 Mar 27 j 11:53	12°♎46'42	1°48'15
min. Earth dist.	1130 Mar 28 j 10:12	12°♎45'10	29.29975 AU
direct	1130 Jun 16 j 16:10	11°♎21'53	
evening set	1130 Sep 15 j 10:29	13°♎18'09	
max. Earth dist.	1130 Sep 30 j 02:32	13°♎50'44	31.29895 AU
conjunction	1130 Oct 01 j 01:38	13°♎52'53	1°42'00
minimum elong	1130 Oct 01 j 01:38	13°♎52'53	1°42'00
morning rise	1130 Oct 16 j 13:16	14°♎27'20	
retrograde	1131 Jan 11 j 04:16	16°♎19'26	
opposition	1131 Mar 29 j 23:15	14°♎57'37	1°49'37
min. Earth dist.	1131 Mar 30 j 21:15	14°♎56'07	29.30035 AU
direct	1131 Jun 19 j 05:36	13°♎32'48	
evening set	1131 Sep 17 j 21:25	15°♎29'01	
conjunction	1131 Oct 03 j 11:53	16°♎03'42	1°43'13
minimum elong	1131 Oct 03 j 11:53	16°♎03'42	1°43'13
max. Earth dist.	1131 Oct 02 j 12:07	16°♎01'29	31.29933 AU
morning rise	1131 Oct 18 j 23:08	16°♎38'07	
retrograde	1132 Jan 13 j 13:41	18°♎30'14	
opposition	1132 Mar 31 j 10:37	17°♎08'22	1°50'49
min. Earth dist.	1132 Apr 01 j 08:19	17°♎06'53	29.30079 AU
direct	1132 Jun 20 j 16:29	15°♎43'33	
evening set	1132 Sep 19 j 08:05	17°♎39'42	
conjunction	1132 Oct 04 j 22:10	18°♎14'21	1°44'16
minimum elong	1132 Oct 04 j 22:09	18°♎14'21	1°44'16
max. Earth dist.	1132 Oct 03 j 23:58	18°♎12'17	31.29984 AU
morning rise	1132 Oct 20 j 08:46	18°♎48'44	
retrograde	1133 Jan 14 j 21:34	20°♎40'52	
opposition	1133 Apr 02 j 22:09	19°♎18'58	1°51'52
min. Earth dist.	1133 Apr 03 j 19:47	19°♎17'30	29.30155 AU
direct	1133 Jun 23 j 04:12	17°♎54'10	
evening set	1133 Sep 21 j 18:39	19°♎50'15	
max. Earth dist.	1133 Oct 06 j 09:22	20°♎22'45	31.30100 AU
conjunction	1133 Oct 07 j 08:03	20°♎24'52	1°45'11
minimum elong	1133 Oct 07 j 08:03	20°♎24'52	1°45'11
morning rise	1133 Oct 22 j 18:23	20°♎59'13	
retrograde	1134 Jan 17 j 08:34	22°♎51'23	
opposition	1134 Apr 05 j 09:32	21°♎29'28	1°52'46
min. Earth dist.	1134 Apr 06 j 05:51	21°♎28'05	29.30318 AU
direct	1134 Jun 25 j 14:19	20°♎04'41	
evening set	1134 Sep 24 j 05:08	22°♎00'44	
conjunction	1134 Oct 09 j 18:11	22°♎35'19	1°45'56
minimum elong	1134 Oct 09 j 18:11	22°♎35'19	1°45'55
max. Earth dist.	1134 Oct 08 j 20:54	22°♎33'19	31.30301 AU
morning rise	1134 Oct 25 j 03:54	23°♎09'39	
retrograde	1135 Jan 19 j 17:34	25°♎01'51	
opposition	1135 Apr 07 j 21:00	23°♎39'57	1°53'30
min. Earth dist.	1135 Apr 08 j 17:48	23°♎38'32	29.30559 AU
direct	1135 Jun 28 j 01:54	22°♎15'13	
evening set	1135 Sep 26 j 15:41	24°♎11'13	
max. Earth dist.	1135 Oct 11 j 06:43	24°♎43'46	31.30585 AU
conjunction	1135 Oct 12 j 04:07	24°♎45'47	1°46'32
minimum elong	1135 Oct 12 j 04:07	24°♎45'47	1°46'33
morning rise	1135 Oct 27 j 13:32	25°♎20'05	
retrograde	1136 Jan 22 j 05:13	27°♎12'21	
opposition	1136 Apr 09 j 08:31	25°♎50'27	1°54'03
min. Earth dist.	1136 Apr 10 j 03:53	25°♎49'08	29.30859 AU
direct	1136 Jun 29 j 13:40	24°♎25'47	
evening set	1136 Sep 28 j 01:57	26°♎21'46	
conjunction	1136 Oct 13 j 13:58	26°♎56'18	1°46'59
minimum elong	1136 Oct 13 j 13:58	26°♎56'18	1°46'59
max. Earth dist.	1136 Oct 12 j 17:27	26°♎54'23	31.30889 AU
morning rise	1136 Oct 28 j 22:53	27°♎30'35	
retrograde	1137 Jan 23 j 15:43	29°♎22'56	
opposition	1137 Apr 11 j 20:20	28°♎01'02	1°54'27
min. Earth dist.	1137 Apr 12 j 16:19	27°♎59'41	29.31165 AU
direct	1137 Jul 02 j 00:08	26°♎36'26	
evening set	1137 Sep 30 j 12:20	28°♎32'24	
conjunction	1137 Oct 15 j 23:53	29°♎06'54	1°47'17
minimum elong	1137 Oct 15 j 23:53	29°♎06'54	1°47'18
max. Earth dist.	1137 Oct 15 j 03:51	29°♎05'01	31.31181 AU
morning rise	1137 Oct 31 j 08:27	29°♎41'10	
	1137 Nov 09 j 02:40	0°♏	
retrograde	1138 Jan 26 j 02:33	1°♏33'34	
opposition	1138 Apr 14 j 07:55	0°♏11'42	1°54'41
min. Earth dist.	1138 Apr 15 j 02:49	0°♏10'24	29.31418 AU

	1138 Apr 21 j 12:19	30°♑♎	
direct	1138 Jul 04 j 13:34	28°♎47'09	
	1138 Sep 12 j 03:21	0°♏	
evening set	1138 Oct 02 j 22:44	0°♏43'05	
conjunction	1138 Oct 18 j 09:48	1°♏17'34	1°47'26
minimum elong	1138 Oct 18 j 09:47	1°♏17'34	1°47'25
max. Earth dist.	1138 Oct 17 j 13:30	1°♏15'40	31.31386 AU
morning rise	1138 Nov 02 j 18:01	1°♏51'48	
retrograde	1139 Jan 28 j 14:21	3°♏44'18	
opposition	1139 Apr 16 j 19:49	2°♏22'25	1°54'46
min. Earth dist.	1139 Apr 17 j 15:05	2°♏21'06	29.31579 AU
direct	1139 Jul 07 j 01:19	0°♏57'56	
evening set	1139 Oct 05 j 09:01	2°♏53'49	
conjunction	1139 Oct 20 j 19:42	3°♏28'17	1°47'25
minimum elong	1139 Oct 20 j 19:42	3°♏28'17	1°47'25
max. Earth dist.	1139 Oct 20 j 00:25	3°♏26'28	31.31482 AU
morning rise	1139 Nov 05 j 03:27	4°♏02'30	
retrograde	1140 Jan 30 j 23:41	5°♏55'03	
opposition	1140 Apr 18 j 07:48	4°♏33'10	1°54'40
min. Earth dist.	1140 Apr 19 j 02:37	4°♏31'53	29.31597 AU
direct	1140 Jul 08 j 14:47	3°♏08'44	
evening set	1140 Oct 06 j 19:23	5°♏04'34	
max. Earth dist.	1140 Oct 21 j 09:29	5°♏37'07	31.31435 AU
conjunction	1140 Oct 22 j 05:31	5°♏39'00	1°47'15
minimum elong	1140 Oct 22 j 05:31	5°♏39'00	1°47'15
morning rise	1140 Nov 06 j 13:04	6°♏13'13	
retrograde	1141 Feb 01 j 10:12	8°♏05'50	
opposition	1141 Apr 20 j 19:47	6°♏43'55	1°54'25
min. Earth dist.	1141 Apr 21 j 14:16	6°♏42'39	29.31489 AU
direct	1141 Jul 11 j 01:44	5°♏19'30	
evening set	1141 Oct 09 j 05:25	7°♏15'17	
conjunction	1141 Oct 24 j 15:20	7°♏49'41	1°46'56
minimum elong	1141 Oct 24 j 15:20	7°♏49'41	1°46'56
max. Earth dist.	1141 Oct 23 j 20:41	7°♏47'56	31.31252 AU
morning rise	1141 Nov 08 j 22:26	8°♏23'53	
retrograde	1142 Feb 03 j 18:38	10°♏16'34	
opposition	1142 Apr 23 j 07:51	8°♏54'36	1°54'00
min. Earth dist.	1142 Apr 24 j 02:33	8°♏53'20	29.31228 AU
direct	1142 Jul 13 j 14:10	7°♏30'13	
evening set	1142 Oct 11 j 15:36	9°♏25'55	
max. Earth dist.	1142 Oct 26 j 05:37	9°♏58'29	31.30940 AU
conjunction	1142 Oct 27 j 00:59	10°♏00'18	1°46'28
minimum elong	1142 Oct 27 j 00:59	10°♏00'18	1°46'27
morning rise	1142 Nov 11 j 07:58	10°♏34'30	
retrograde	1143 Feb 06 j 05:43	12°♏27'13	
opposition	1143 Apr 25 j 19:42	11°♏05'13	1°53'25
min. Earth dist.	1143 Apr 26 j 13:16	11°♏04'01	29.30865 AU
direct	1143 Jul 16 j 00:59	9°♏40'49	
evening set	1143 Oct 14 j 01:31	11°♏36'27	
conjunction	1143 Oct 29 j 10:41	12°♏10'49	1°45'51
minimum elong	1143 Oct 29 j 10:41	12°♏10'49	1°45'51
max. Earth dist.	1143 Oct 28 j 16:38	12°♏09'07	31.30538 AU
morning rise	1143 Nov 13 j 17:14	12°♏45'00	
retrograde	1144 Feb 08 j 14:43	14°♏37'47	
opposition	1144 Apr 27 j 07:54	13°♏15'42	1°52'41
min. Earth dist.	1144 Apr 28 j 01:51	13°♏14'29	29.30443 AU
direct	1144 Jul 17 j 12:41	11°♏51'19	
evening set	1144 Oct 15 j 11:17	13°♏46'51	
conjunction	1144 Oct 30 j 20:00	14°♏21'12	1°45'05
minimum elong	1144 Oct 30 j 20:00	14°♏21'12	1°45'05
max. Earth dist.	1144 Oct 30 j 02:11	14°♏19'32	31.30124 AU
morning rise	1144 Nov 15 j 02:25	14°♏55'22	
	1144 Nov 17 j 05:09	15°♏	
retrograde	1145 Feb 10 j 01:59	16°♏48'13	
opposition	1145 Apr 29 j 19:56	15°♏26'05	1°51'47
min. Earth dist.	1145 Apr 30 j 12:07	15°♏24'59	29.30039 AU
	1145 May 16 j 02:58	15°♑♏	
direct	1145 Jul 20 j 00:09	14°♏01'43	
	1145 Sep 19 j 12:28	15°♏	
evening set	1145 Oct 17 j 21:00	15°♏57'10	
conjunction	1145 Nov 02 j 05:26	16°♏31'31	1°44'10
minimum elong	1145 Nov 02 j 05:27	16°♏31'31	1°44'10
max. Earth dist.	1145 Nov 01 j 12:41	16°♏29'56	31.29746 AU
morning rise	1145 Nov 17 j 11:35	17°♏05'40	
retrograde	1146 Feb 12 j 12:25	18°♏58'36	
opposition	1146 May 02 j 07:57	17°♏36'24	1°50'44
min. Earth dist.	1146 May 03 j 00:21	17°♏35'18	29.29710 AU
direct	1146 Jul 22 j 10:03	16°♏12'04	
evening set	1146 Oct 20 j 06:41	18°♏07'29	
conjunction	1146 Nov 04 j 14:50	18°♏41'48	1°43'06
minimum elong	1146 Nov 04 j 14:50	18°♏41'48	1°43'06
max. Earth dist.	1146 Nov 03 j 23:11	18°♏40'19	31.29472 AU
morning rise	1146 Nov 19 j 20:46	19°♏15'57	
retrograde	1147 Feb 14 j 23:22	21°♏08'58	
opposition	1147 May 04 j 20:02	19°♏46'45	1°49'31
min. Earth dist.	1147 May 05 j 10:38	19°♏45'46	29.29473 AU
direct	1147 Jul 24 j 23:26	18°♏22'28	
evening set	1147 Oct 22 j 16:18	20°♏17'50	
max. Earth dist.	1147 Nov 06 j 08:43	20°♏50'42	31.29284 AU
conjunction	1147 Nov 07 j 00:04	20°♏52'09	1°41'54
minimum elong	1147 Nov 07 j 00:04	20°♏52'09	1°41'54
morning rise	1147 Nov 22 j 05:51	21°♏26'18	
retrograde	1148 Feb 17 j 11:55	23°♏19'25	
opposition	1148 May 06 j 08:18	21°♏57'12	1°48'09
min. Earth dist.	1148 May 06 j 22:31	21°♏56'14	29.29333 AU
direct	1148 Jul 26 j 10:45	20°♏32'59	
evening set	1148 Oct 24 j 01:47	22°♏28'19	
conjunction	1148 Nov 08 j 09:26	23°♏02'37	1°40'32
minimum elong	1148 Nov 08 j 09:26	23°♏02'37	1°40'32
max. Earth dist.	1148 Nov 07 j 19:48	23°♏01'20	31.29182 AU
morning rise	1148 Nov 23 j 14:57	23°♏36'46	
retrograde	1149 Feb 18 j 21:40	25°♏30'00	
opposition	1149 May 08 j 20:32	24°♏07'47	1°46'37
min. Earth dist.	1149 May 09 j 09:46	24°♏06'53	29.29238 AU
direct	1149 Jul 28 j 23:27	22°♏43'40	
evening set	1149 Oct 26 j 11:21	24°♏38'57	
conjunction	1149 Nov 10 j 18:36	25°♏13'15	1°39'02
minimum elong	1149 Nov 10 j 18:37	25°♏13'15	1°39'02
max. Earth dist.	1149 Nov 10 j 04:46	25°♏11'56	31.29102 AU
morning rise	1149 Nov 26 j 00:10	25°♏47'25	
retrograde	1150 Feb 21 j 08:53	27°♏40'45	
opposition	1150 May 11 j 08:49	26°♏18'32	1°44'56
min. Earth dist.	1150 May 11 j 21:17	26°♏17'41	29.29152 AU
direct	1150 Jul 31 j 10:21	24°♏54'30	
evening set	1150 Oct 28 j 20:50	26°♏49'44	
conjunction	1150 Nov 13 j 04:00	27°♏24'02	1°37'23
minimum elong	1150 Nov 13 j 04:00	27°♏24'02	1°37'22
max. Earth dist.	1150 Nov 12 j 15:53	27°♏22'54	31.28990 AU
morning rise	1150 Nov 28 j 09:15	27°♏58'12	
retrograde	1151 Feb 23 j 18:04	29°♏51'39	
opposition	1151 May 13 j 21:14	28°♏29'26	1°43'06

min. Earth dist.	1151 May 14 j 09:38	28°♏28'36	29.29000 AU
direct	1151 Aug 02 j 23:03	27°♏05'29	
evening set	1151 Oct 31 j 06:32	29°♏00'40	
conjunction	1151 Nov 15 j 13:19	29°♏34'57	1°35'35
minimum elong	1151 Nov 15 j 13:19	29°♏34'58	1°35'35
max. Earth dist.	1151 Nov 15 j 00:50	29°♏33'47	31.28808 AU
	1151 Nov 26 j 15:56	0°♐	
morning rise	1151 Nov 30 j 18:37	0°♐09'08	
retrograde	1152 Feb 26 j 06:07	2°♐02'42	
opposition	1152 May 15 j 09:46	0°♐40'28	1°41'06
min. Earth dist.	1152 May 15 j 20:46	0°♐39'44	29.28766 AU
	1152 Jun 10 j 10:53	30°℞♏	
direct	1152 Aug 04 j 10:05	29°♏16'34	
	1152 Sep 25 j 18:59	0°♐	
evening set	1152 Nov 01 j 15:58	1°♐11'41	
conjunction	1152 Nov 16 j 22:41	1°♐45'59	1°33'40
minimum elong	1152 Nov 16 j 22:41	1°♐45'59	1°33'39
max. Earth dist.	1152 Nov 16 j 11:26	1°♐44'55	31.28508 AU
morning rise	1152 Dec 02 j 03:47	2°♐20'10	
retrograde	1153 Feb 27 j 15:07	4°♐13'51	
opposition	1153 May 17 j 22:29	2°♐51'35	1°38'59
min. Earth dist.	1153 May 18 j 09:57	2°♐50'48	29.28398 AU
direct	1153 Aug 06 j 21:25	1°♐27'44	
evening set	1153 Nov 04 j 01:38	3°♐22'46	
conjunction	1153 Nov 19 j 08:06	3°♐57'03	1°31'36
minimum elong	1153 Nov 19 j 08:07	3°♐57'03	1°31'36
max. Earth dist.	1153 Nov 18 j 20:55	3°♐56'00	31.28080 AU
morning rise	1153 Dec 04 j 13:14	4°♐31'14	
retrograde	1154 Mar 02 j 02:21	6°♐25'01	
opposition	1154 May 20 j 10:55	5°♐02'41	1°36'42
min. Earth dist.	1154 May 20 j 20:55	5°♐02'01	29.27887 AU
direct	1154 Aug 09 j 08:25	3°♐38'51	
evening set	1154 Nov 06 j 11:14	5°♐33'49	
conjunction	1154 Nov 21 j 17:34	6°♐08'06	1°29'24
minimum elong	1154 Nov 21 j 17:35	6°♐08'06	1°29'24
max. Earth dist.	1154 Nov 21 j 06:53	6°♐07'05	31.27498 AU
morning rise	1154 Dec 06 j 22:38	6°♐42'18	
retrograde	1155 Mar 04 j 13:20	8°♐36'10	
opposition	1155 May 22 j 23:42	7°♐13'46	1°34'18
min. Earth dist.	1155 May 23 j 10:12	7°♐13'03	29.27241 AU
direct	1155 Aug 11 j 18:30	5°♐49'56	
evening set	1155 Nov 08 j 20:36	7°♐44'47	
conjunction	1155 Nov 24 j 02:51	8°♐19'04	1°27'05
minimum elong	1155 Nov 24 j 02:51	8°♐19'04	1°27'06
max. Earth dist.	1155 Nov 23 j 17:14	8°♐18'09	31.26807 AU
morning rise	1155 Dec 09 j 07:52	8°♐53'16	
retrograde	1156 Mar 06 j 00:33	10°♐47'12	
opposition	1156 May 24 j 12:23	9°♐24'43	1°31'45
min. Earth dist.	1156 May 24 j 21:18	9°♐24'07	29.26495 AU
direct	1156 Aug 13 j 08:03	8°♐00'53	
evening set	1156 Nov 10 j 06:01	9°♐55'38	
conjunction	1156 Nov 25 j 12:04	10°♐29'55	1°24'39
minimum elong	1156 Nov 25 j 12:04	10°♐29'55	1°24'39
max. Earth dist.	1156 Nov 25 j 02:32	10°♐29'01	31.26043 AU
morning rise	1156 Dec 10 j 17:12	11°♐04'07	
retrograde	1157 Mar 08 j 13:14	12°♐58'08	
opposition	1157 May 27 j 01:04	11°♐35'33	1°29'05
min. Earth dist.	1157 May 27 j 09:40	11°♐34'58	29.25732 AU
direct	1157 Aug 15 j 18:51	10°♐11'43	
evening set	1157 Nov 12 j 15:11	12°♐06'21	
conjunction	1157 Nov 27 j 21:17	12°♐40'38	1°22'05
minimum elong	1157 Nov 27 j 21:18	12°♐40'38	1°22'05
max. Earth dist.	1157 Nov 27 j 13:38	12°♐39'55	31.25289 AU
morning rise	1157 Dec 13 j 02:19	13°♐14'51	
retrograde	1158 Mar 10 j 23:04	15°♐08'57	
opposition	1158 May 29 j 13:44	13°♐46'16	1°26'17
min. Earth dist.	1158 May 29 j 21:06	13°♐45'47	29.24988 AU
direct	1158 Aug 18 j 07:45	12°♐22'27	
evening set	1158 Nov 15 j 00:31	14°♐17'01	
conjunction	1158 Nov 30 j 06:21	14°♐51'17	1°19'24
minimum elong	1158 Nov 30 j 06:21	14°♐51'17	1°19'24
max. Earth dist.	1158 Nov 29 j 22:43	14°♐50'34	31.24588 AU
morning rise	1158 Dec 15 j 11:33	15°♐25'31	
retrograde	1159 Mar 13 j 11:03	17°♐19'43	
opposition	1159 Jun 01 j 02:24	15°♐56'59	1°23'22
min. Earth dist.	1159 Jun 01 j 08:33	15°♐56'34	29.24334 AU
direct	1159 Aug 20 j 19:04	14°♐33'11	
evening set	1159 Nov 17 j 09:41	16°♐27'40	
conjunction	1159 Dec 02 j 15:37	17°♐01'58	1°16'37
minimum elong	1159 Dec 02 j 15:37	17°♐01'58	1°16'37
max. Earth dist.	1159 Dec 02 j 10:07	17°♐01'27	31.23979 AU
morning rise	1159 Dec 17 j 20:43	17°♐36'13	
retrograde	1160 Mar 14 j 21:06	19°♐30'31	
opposition	1160 Jun 02 j 15:15	18°♐07'44	1°20'19
min. Earth dist.	1160 Jun 02 j 20:46	18°♐07'22	29.23762 AU
direct	1160 Aug 22 j 07:56	16°♐44'01	
evening set	1160 Nov 18 j 18:53	18°♐38'26	
conjunction	1160 Dec 04 j 00:38	19°♐12'44	1°13'42
minimum elong	1160 Dec 04 j 00:38	19°♐12'44	1°13'42
max. Earth dist.	1160 Dec 03 j 19:20	19°♐12'14	31.23461 AU
morning rise	1160 Dec 19 j 05:59	19°♐47'00	
retrograde	1161 Mar 17 j 09:24	21°♐41'26	
opposition	1161 Jun 05 j 03:59	20°♐18'38	1°17'09
min. Earth dist.	1161 Jun 05 j 07:40	20°♐18'23	29.23268 AU
direct	1161 Aug 24 j 18:55	18°♐54'58	
evening set	1161 Nov 21 j 04:07	20°♐49'21	
conjunction	1161 Dec 06 j 09:56	21°♐23'39	1°10'41
minimum elong	1161 Dec 06 j 09:57	21°♐23'39	1°10'41
max. Earth dist.	1161 Dec 06 j 06:08	21°♐23'18	31.22982 AU
morning rise	1161 Dec 21 j 15:17	21°♐57'57	
retrograde	1162 Mar 19 j 18:58	23°♐52'32	
opposition	1162 Jun 07 j 16:46	22°♐29'43	1°13'51
min. Earth dist.	1162 Jun 07 j 20:34	22°♐29'27	29.22794 AU
direct	1162 Aug 27 j 05:58	21°♐06'08	
evening set	1162 Nov 23 j 13:28	23°♐00'28	
conjunction	1162 Dec 08 j 19:13	23°♐34'47	1°07'33
minimum elong	1162 Dec 08 j 19:13	23°♐34'47	1°07'33
max. Earth dist.	1162 Dec 08 j 16:01	23°♐34'29	31.22518 AU
morning rise	1162 Dec 24 j 00:43	24°♐09'06	
retrograde	1163 Mar 22 j 06:46	26°♐03'50	
opposition	1163 Jun 10 j 05:38	24°♐41'00	1°10'28
min. Earth dist.	1163 Jun 10 j 07:37	24°♐40'52	29.22304 AU
direct	1163 Aug 29 j 16:39	23°♐17'30	
evening set	1163 Nov 25 j 22:45	25°♐11'47	
conjunction	1163 Dec 11 j 04:28	25°♐46'07	1°04'20
minimum elong	1163 Dec 11 j 04:28	25°♐46'07	1°04'20
max. Earth dist.	1163 Dec 11 j 01:59	25°♐45'53	31.21999 AU
morning rise	1163 Dec 26 j 10:05	26°♐20'28	
retrograde	1164 Mar 23 j 18:32	28°♐15'21	
opposition	1164 Jun 11 j 18:48	26°♐52'30	1°06'58
min. Earth dist.	1164 Jun 11 j 21:05	26°♐52'21	29.21754 AU

direct	1164 Aug 31 j 02:12	25°♐29'05	
evening set	1164 Nov 27 j 08:10	27°♐23'19	
conjunction	1164 Dec 12 j 13:58	27°♐57'40	1°01'00
minimum elong	1164 Dec 12 j 13:58	27°♐57'40	1°01'00
max. Earth dist.	1164 Dec 12 j 12:40	27°♐57'32	31.21407 AU
morning rise	1164 Dec 27 j 19:40	28°♐32'02	
	1165 Feb 13 j 15:17	0°♑	
retrograde	1165 Mar 26 j 06:38	0°♑27'04	
	1165 May 07 j 12:20	30°℞♐	
opposition	1165 Jun 14 j 07:41	29°♐04'11	1°03'22
min. Earth dist.	1165 Jun 14 j 08:30	29°♐04'08	29.21093 AU
direct	1165 Sep 02 j 14:44	27°♐40'48	
evening set	1165 Nov 29 j 17:41	29°♐35'00	
	1165 Dec 10 j 20:29	0°♑	
conjunction	1165 Dec 14 j 23:25	0°♑09'22	0°57'36
minimum elong	1165 Dec 14 j 23:25	0°♑09'22	0°57'36
max. Earth dist.	1165 Dec 14 j 21:48	0°♑09'13	31.20681 AU
morning rise	1165 Dec 30 j 05:24	0°♑43'46	
retrograde	1166 Mar 28 j 20:28	2°♑38'56	
opposition	1166 Jun 16 j 20:48	1°♑16'00	0°59'40
min. Earth dist.	1166 Jun 16 j 21:36	1°♑15'57	29.20300 AU
	1166 Aug 14 j 17:11	30°℞♐	
direct	1166 Sep 05 j 00:43	29°♐52'39	
	1166 Sep 26 j 03:17	0°♑	
evening set	1166 Dec 02 j 03:05	1°♑46'48	
conjunction	1166 Dec 17 j 09:00	2°♑21'10	0°54'06
minimum elong	1166 Dec 17 j 09:00	2°♑21'10	0°54'06
max. Earth dist.	1166 Dec 17 j 08:54	2°♑21'10	31.19812 AU
morning rise	1167 Jan 01 j 14:59	2°♑55'35	
retrograde	1167 Mar 31 j 07:10	4°♑50'53	
opposition	1167 Jun 19 j 09:54	3°♑27'53	0°55'54
min. Earth dist.	1167 Jun 19 j 09:50	3°♑27'53	29.19345 AU
direct	1167 Sep 07 j 13:15	2°♑04'33	
evening set	1167 Dec 04 j 12:38	3°♑58'37	
conjunction	1167 Dec 19 j 18:28	4°♑33'00	0°50'32
minimum elong	1167 Dec 19 j 18:28	4°♑33'00	0°50'32
max. Earth dist.	1167 Dec 19 j 17:58	4°♑32'57	31.18806 AU
morning rise	1168 Jan 04 j 00:49	5°♑07'27	
retrograde	1168 Apr 01 j 20:35	7°♑02'50	
opposition	1168 Jun 20 j 23:02	5°♑39'44	0°52'02
min. Earth dist.	1168 Jun 20 j 22:11	5°♑39'47	29.18286 AU
direct	1168 Sep 09 j 01:02	4°♑16'24	
evening set	1168 Dec 05 j 21:53	6°♑10'22	
conjunction	1168 Dec 21 j 03:58	6°♑44'47	0°46'53
minimum elong	1168 Dec 21 j 03:58	6°♑44'47	0°46'53
max. Earth dist.	1168 Dec 21 j 05:16	6°♑44'54	31.17702 AU
morning rise	1169 Jan 05 j 10:25	7°♑19'15	
retrograde	1169 Apr 04 j 07:45	9°♑14'44	
opposition	1169 Jun 23 j 12:10	7°♑51'31	0°48'07
min. Earth dist.	1169 Jun 23 j 11:00	7°♑51'36	29.17147 AU
direct	1169 Sep 11 j 14:38	6°♑28'10	
evening set	1169 Dec 08 j 07:20	8°♑22'03	
conjunction	1169 Dec 23 j 13:23	8°♑56'28	0°43'11
minimum elong	1169 Dec 23 j 13:23	8°♑56'28	0°43'10
max. Earth dist.	1169 Dec 23 j 14:47	8°♑56'36	31.16567 AU
morning rise	1170 Jan 07 j 20:10	9°♑30'58	
retrograde	1170 Apr 06 j 20:01	11°♑26'32	
opposition	1170 Jun 26 j 01:01	10°♑03'13	0°44'07
min. Earth dist.	1170 Jun 25 j 22:08	10°♑03'25	29.16022 AU
direct	1170 Sep 14 j 02:03	8°♑39'51	
evening set	1170 Dec 10 j 16:40	10°♑33'39	

conjunction	1170 Dec 25 j 22:53	11°♑08'05	0°39'24
minimum elong	1170 Dec 25 j 22:53	11°♑08'05	0°39'24
max. Earth dist.	1170 Dec 26 j 01:46	11°♑08'21	31.15460 AU
morning rise	1171 Jan 10 j 05:48	11°♑42'36	
retrograde	1171 Apr 09 j 05:27	13°♑38'16	
opposition	1171 Jun 28 j 14:12	12°♑14'52	0°40'03
min. Earth dist.	1171 Jun 28 j 11:07	12°♑15'04	29.14957 AU
direct	1171 Sep 16 j 14:09	10°♑51'31	
evening set	1171 Dec 13 j 01:56	12°♑45'13	
conjunction	1171 Dec 28 j 08:15	13°♑19'40	0°35'35
minimum elong	1171 Dec 28 j 08:15	13°♑19'40	0°35'35
max. Earth dist.	1171 Dec 28 j 12:11	13°♑20'02	31.14454 AU
morning rise	1172 Jan 12 j 15:26	13°♑54'12	
retrograde	1172 Apr 10 j 17:18	15°♑50'00	
opposition	1172 Jun 30 j 03:12	14°♑26'30	0°35'56
min. Earth dist.	1172 Jun 29 j 21:55	14°♑26'52	29.13995 AU
direct	1172 Sep 18 j 01:46	13°♑03'10	
evening set	1172 Dec 14 j 11:22	14°♑56'48	
conjunction	1172 Dec 29 j 17:46	15°♑31'16	0°31'42
minimum elong	1172 Dec 29 j 17:46	15°♑31'16	0°31'42
max. Earth dist.	1172 Dec 29 j 22:33	15°♑31'43	31.13539 AU
morning rise	1173 Jan 14 j 01:15	16°♑05'51	
retrograde	1173 Apr 13 j 04:41	18°♑01'46	
opposition	1173 Jul 02 j 16:12	16°♑38'13	0°31'45
min. Earth dist.	1173 Jul 02 j 10:57	16°♑38'34	29.13135 AU
direct	1173 Sep 20 j 11:38	15°♑14'54	
evening set	1173 Dec 16 j 20:44	17°♑08'29	
conjunction	1174 Jan 01 j 03:23	17°♑42'58	0°27'46
minimum elong	1174 Jan 01 j 03:24	17°♑42'58	0°27'46
max. Earth dist.	1174 Jan 01 j 09:47	17°♑43'34	31.12726 AU
morning rise	1174 Jan 16 j 11:03	18°♑17'34	
retrograde	1174 Apr 15 j 16:12	20°♑13'37	
opposition	1174 Jul 05 j 05:11	18°♑50'02	0°27'31
min. Earth dist.	1174 Jul 04 j 22:03	18°♑50'31	29.12344 AU
direct	1174 Sep 22 j 23:25	17°♑26'45	
evening set	1174 Dec 19 j 06:12	19°♑20'18	
conjunction	1175 Jan 03 j 12:51	19°♑54'48	0°23'47
minimum elong	1175 Jan 03 j 12:51	19°♑54'48	0°23'47
max. Earth dist.	1175 Jan 03 j 19:20	19°♑55'24	31.11961 AU
morning rise	1175 Jan 18 j 20:55	20°♑29'26	
retrograde	1175 Apr 18 j 05:36	22°♑25'38	
opposition	1175 Jul 07 j 18:23	21°♑01'59	0°23'14
min. Earth dist.	1175 Jul 07 j 10:54	21°♑02'30	29.11601 AU
direct	1175 Sep 25 j 08:25	19°♑38'46	
evening set	1175 Dec 21 j 15:42	21°♑32'16	
conjunction	1176 Jan 05 j 22:40	22°♑06'48	0°19'46
minimum elong	1176 Jan 05 j 22:40	22°♑06'48	0°19'46
max. Earth dist.	1176 Jan 06 j 07:03	22°♑07'35	31.11224 AU
morning rise	1176 Jan 21 j 06:51	22°♑41'27	
retrograde	1176 Apr 19 j 17:17	24°♑37'48	
opposition	1176 Jul 09 j 07:30	23°♑14'07	0°18'55
min. Earth dist.	1176 Jul 08 j 22:58	23°♑14'42	29.10852 AU
direct	1176 Sep 26 j 20:23	21°♑50'57	
evening set	1176 Dec 23 j 01:25	23°♑44'25	
conjunction	1177 Jan 07 j 08:25	24°♑18'57	0°15'44
minimum elong	1177 Jan 07 j 08:24	24°♑18'57	0°15'43
behind sun begin	1177 Jan 07 j 06:44	24°♑18'48	
behind sun end	1177 Jan 07 j 10:05	24°♑19'07	
max. Earth dist.	1177 Jan 07 j 16:31	24°♑19'43	31.10464 AU
morning rise	1177 Jan 22 j 17:04	24°♑53'39	
retrograde	1177 Apr 22 j 07:51	26°♑50'09	

opposition	1177 Jul	11 j 20:41	25°♑26'25	0°14'35
min. Earth dist.	1177 Jul	11 j 11:28	25°♑27'03	29.10065 AU
direct	1177 Sep	29 j 07:13	24°♑03'17	
evening set	1177 Dec	25 j 11:11	25°♑56'43	
conjunction	1178 Jan	09 j 18:28	26°♑31'17	0°11'40
minimum elong	1178 Jan	09 j 18:28	26°♑31'17	0°11'39
behind sun begin	1178 Jan	09 j 13:52	26°♑30'52	
behind sun end	1178 Jan	09 j 23:05	26°♑31'43	
max. Earth dist.	1178 Jan	10 j 04:07	26°♑32'11	31.09623 AU
morning rise	1178 Jan	25 j 03:15	27°♑06'01	
retrograde	1178 Apr	24 j 20:03	29°♑02'39	
opposition	1178 Jul	14 j 09:50	27°♑38'52	0°10'13
min. Earth dist.	1178 Jul	14 j 00:32	27°♑39'30	29.09173 AU
direct	1178 Oct	01 j 19:50	26°♑15'45	
evening set	1178 Dec	27 j 21:10	28°♑09'10	
conjunction	1179 Jan	12 j 04:33	28°♑43'45	0°07'35
minimum elong	1179 Jan	12 j 04:32	28°♑43'45	0°07'35
behind sun begin	1179 Jan	11 j 22:42	28°♑43'13	
behind sun end	1179 Jan	12 j 10:22	28°♑44'17	
max. Earth dist.	1179 Jan	12 j 13:58	28°♑44'38	31.08686 AU
morning rise	1179 Jan	27 j 13:43	29°♑18'31	
	1179 Feb	16 j 06:03	0°♒	
retrograde	1179 Apr	27 j 09:42	1°♒15'16	
	1179 Jul	11 j 16:29	30°℞♑	
opposition	1179 Jul	16 j 23:06	29°♑51'25	0°05'49
min. Earth dist.	1179 Jul	16 j 12:27	29°♑52'08	29.08177 AU
direct	1179 Oct	04 j 07:11	28°♑28'19	
	1179 Dec	20 j 06:58	0°♒	
evening set	1179 Dec	30 j 06:59	0°♒21'41	
conjunction	1180 Jan	14 j 14:37	0°♒56'17	0°03'29
minimum elong	1180 Jan	14 j 14:37	0°♒56'17	0°03'30
behind sun begin	1180 Jan	14 j 08:16	0°♒55'43	
behind sun end	1180 Jan	14 j 20:59	0°♒56'52	
max. Earth dist.	1180 Jan	15 j 00:57	0°♒57'15	31.07623 AU
morning rise	1180 Jan	30 j 00:05	1°♒31'05	
retrograde	1180 Apr	28 j 20:48	3°♒27'57	
opposition	1180 Jul	18 j 12:26	2°♒04'01	0°01'26
min. Earth dist.	1180 Jul	18 j 02:09	2°♒04'43	29.07061 AU
direct	1180 Oct	05 j 19:37	0°♒40'55	
desc. node	1180 Nov	15 j 04:42	1°♒08'14	
evening set	1180 Dec	31 j 16:56	2°♒34'13	
conjunction	1181 Jan	16 j 00:51	3°♒08'50	-0°00'43
minimum elong	1181 Jan	16 j 00:49	3°♒08'50	0°00'43
behind sun begin	1181 Jan	15 j 18:26	3°♒08'16	
behind sun end	1181 Jan	16 j 07:13	3°♒09'25	
max. Earth dist.	1181 Jan	16 j 11:44	3°♒09'52	31.06473 AU
morning rise	1181 Jan	31 j 10:38	3°♒43'40	
retrograde	1181 May	01 j 09:39	5°♒40'37	
opposition	1181 Jul	21 j 01:21	4°♒16'36	-0°02'58
min. Earth dist.	1181 Jul	20 j 13:29	4°♒17'24	29.05875 AU
direct	1181 Oct	08 j 07:49	2°♒53'28	
evening set	1182 Jan	03 j 02:55	4°♒46'43	
conjunction	1182 Jan	18 j 10:57	5°♒21'22	-0°04'52
minimum elong	1182 Jan	18 j 10:57	5°♒21'22	0°04'52
behind sun begin	1182 Jan	18 j 04:42	5°♒20'48	
behind sun end	1182 Jan	18 j 17:12	5°♒21'56	
max. Earth dist.	1182 Jan	18 j 22:15	5°♒22'25	31.05267 AU
morning rise	1182 Feb	02 j 21:10	5°♒56'13	
retrograde	1182 May	03 j 20:56	7°♒53'17	
opposition	1182 Jul	23 j 14:31	6°♒29'09	-0°07'21
min. Earth dist.	1182 Jul	23 j 02:57	6°♒29'57	29.04682 AU
direct	1182 Oct	10 j 18:18	5°♒06'01	
evening set	1183 Jan	05 j 12:40	6°♒59'12	
conjunction	1183 Jan	20 j 21:01	7°♒33'52	-0°08'57
minimum elong	1183 Jan	20 j 21:02	7°♒33'52	0°08'57
behind sun begin	1183 Jan	20 j 15:31	7°♒33'22	
behind sun end	1183 Jan	21 j 02:33	7°♒34'22	
max. Earth dist.	1183 Jan	21 j 09:59	7°♒35'05	31.04096 AU
morning rise	1183 Feb	05 j 07:27	8°♒08'45	
retrograde	1183 May	06 j 08:08	10°♒05'55	
opposition	1183 Jul	26 j 03:31	8°♒41'42	-0°11'44
min. Earth dist.	1183 Jul	25 j 14:08	8°♒42'37	29.03545 AU
direct	1183 Oct	13 j 06:18	7°♒18'33	
evening set	1184 Jan	07 j 22:43	9°♒11'41	
conjunction	1184 Jan	23 j 07:11	9°♒46'23	-0°13'02
minimum elong	1184 Jan	23 j 07:10	9°♒46'23	0°13'01
behind sun begin	1184 Jan	23 j 03:13	9°♒46'01	
behind sun end	1184 Jan	23 j 11:08	9°♒46'44	
max. Earth dist.	1184 Jan	23 j 20:07	9°♒47'36	31.03007 AU
morning rise	1184 Feb	07 j 18:06	10°♒21'17	
retrograde	1184 May	07 j 21:13	12°♒18'35	
opposition	1184 Jul	27 j 16:34	10°♒54'17	-0°16'06
min. Earth dist.	1184 Jul	27 j 02:50	10°♒55'13	29.02526 AU
direct	1184 Oct	14 j 14:57	9°♒31'08	
evening set	1185 Jan	09 j 08:37	11°♒24'15	
conjunction	1185 Jan	24 j 17:31	11°♒58'57	-0°17'05
minimum elong	1185 Jan	24 j 17:31	11°♒58'57	0°17'06
max. Earth dist.	1185 Jan	25 j 08:26	12°♒00'22	31.02042 AU
morning rise	1185 Feb	09 j 04:38	12°♒33'54	
retrograde	1185 May	10 j 09:02	14°♒31'19	
opposition	1185 Jul	30 j 05:31	13°♒06'58	-0°20'26
min. Earth dist.	1185 Jul	29 j 14:30	13°♒08'00	29.01618 AU
direct	1185 Oct	17 j 02:46	11°♒43'50	
evening set	1186 Jan	11 j 18:46	13°♒36'56	
conjunction	1186 Jan	27 j 03:45	14°♒11'40	-0°21'08
minimum elong	1186 Jan	27 j 03:45	14°♒11'40	0°21'08
max. Earth dist.	1186 Jan	27 j 18:34	14°♒13'03	31.01196 AU
morning rise	1186 Feb	11 j 15:22	14°♒46'38	
	1186 Feb	17 j 17:38	15°♒	
retrograde	1186 May	12 j 23:48	16°♒44'11	
opposition	1186 Aug	01 j 18:28	15°♒19'47	-0°24'46
min. Earth dist.	1186 Aug	01 j 02:34	15°♒20'52	29.00834 AU
	1186 Aug	13 j 22:33	15°℞♒	
direct	1186 Oct	19 j 13:00	13°♒56'41	
	1186 Dec	21 j 03:33	15°♒	
evening set	1187 Jan	14 j 04:53	15°♒49'47	
conjunction	1187 Jan	29 j 14:15	16°♒24'32	-0°25'10
minimum elong	1187 Jan	29 j 14:15	16°♒24'32	0°25'10
max. Earth dist.	1187 Jan	30 j 06:54	16°♒26'07	31.00454 AU
morning rise	1187 Feb	14 j 02:06	16°♒59'33	
retrograde	1187 May	15 j 12:30	18°♒57'14	
opposition	1187 Aug	04 j 07:33	17°♒32'48	-0°29'03
min. Earth dist.	1187 Aug	03 j 15:16	17°♒33'55	29.00135 AU
direct	1187 Oct	22 j 00:40	16°♒09'44	
evening set	1188 Jan	16 j 15:06	18°♒02'50	
conjunction	1188 Feb	01 j 00:41	18°♒37'37	-0°29'09
minimum elong	1188 Feb	01 j 00:41	18°♒37'37	0°29'09
max. Earth dist.	1188 Feb	01 j 17:28	18°♒39'12	30.99797 AU
morning rise	1188 Feb	16 j 13:01	19°♒12'40	
retrograde	1188 May	17 j 02:57	21°♒10'29	
opposition	1188 Aug	05 j 20:35	19°♒46'01	-0°33'18
min. Earth dist.	1188 Aug	05 j 02:57	19°♒47'14	28.99500 AU
direct	1188 Oct	23 j 11:22	18°♒23'00	

evening set	1189 Jan 18 j 01:35	20°♒16'06	
conjunction	1189 Feb 02 j 11:28	20°♒50'55	-0°33'06
minimum elong	1189 Feb 02 j 11:27	20°♒50'55	0°33'06
max. Earth dist.	1189 Feb 03 j 05:08	20°♒52'35	30.99157 AU
morning rise	1189 Feb 18 j 00:07	21°♒26'00	
retrograde	1189 May 19 j 15:46	23°♒23'56	
opposition	1189 Aug 08 j 09:33	21°♒59'27	-0°37'30
min. Earth dist.	1189 Aug 07 j 16:23	22°♒00'38	28.98862 AU
direct	1189 Oct 25 j 23:50	20°♒36'29	
evening set	1190 Jan 20 j 12:10	22°♒29'35	
conjunction	1190 Feb 04 j 22:22	23°♒04'25	-0°37'01
minimum elong	1190 Feb 04 j 22:22	23°♒04'25	0°37'00
max. Earth dist.	1190 Feb 05 j 16:32	23°♒06'08	30.98504 AU
morning rise	1190 Feb 20 j 11:21	23°♒39'32	
retrograde	1190 May 22 j 06:35	25°♒37'35	
opposition	1190 Aug 10 j 22:33	24°♒13'05	-0°41'39
min. Earth dist.	1190 Aug 10 j 04:00	24°♒14'21	28.98179 AU
direct	1190 Oct 28 j 12:23	22°♒50'07	
evening set	1191 Jan 22 j 22:52	24°♒43'13	
conjunction	1191 Feb 07 j 09:14	25°♒18'05	-0°40'52
minimum elong	1191 Feb 07 j 09:14	25°♒18'05	0°40'52
max. Earth dist.	1191 Feb 08 j 03:24	25°♒19'48	30.97768 AU
morning rise	1191 Feb 22 j 22:40	25°♒53'14	
retrograde	1191 May 24 j 18:19	27°♒51'25	
opposition	1191 Aug 13 j 11:48	26°♒26'51	-0°45'45
min. Earth dist.	1191 Aug 12 j 18:02	26°♒28'04	28.97403 AU
direct	1191 Oct 30 j 23:09	25°♒03'54	
evening set	1192 Jan 25 j 09:40	26°♒56'58	
conjunction	1192 Feb 09 j 20:30	27°♒31'51	-0°44'40
minimum elong	1192 Feb 09 j 20:30	27°♒31'51	0°44'39
max. Earth dist.	1192 Feb 10 j 15:38	27°♒33'40	30.96936 AU
morning rise	1192 Feb 25 j 10:12	28°♒07'02	
	1192 May 08 j 05:27	0°♓	
retrograde	1192 May 26 j 06:21	0°♓05'18	
	1192 Jun 13 j 12:43	30°R♒	
min. Earth dist.	1192 Aug 14 j 05:53	28°♒41'58	28.96510 AU
opposition	1192 Aug 15 j 00:45	28°♒40'40	-0°49'46
direct	1192 Nov 01 j 11:38	27°♒17'42	
evening set	1193 Jan 26 j 20:39	29°♒10'45	
conjunction	1193 Feb 11 j 07:40	29°♒45'39	-0°48'23
minimum elong	1193 Feb 11 j 07:40	29°♒45'39	0°48'23
max. Earth dist.	1193 Feb 12 j 02:02	29°♒47'24	30.95987 AU
	1193 Feb 17 j 15:00	0°♓	
morning rise	1193 Feb 26 j 21:56	0°♓20'51	
retrograde	1193 May 28 j 19:32	2°♓19'12	
opposition	1193 Aug 17 j 13:50	0°♓54'29	-0°53'43
min. Earth dist.	1193 Aug 16 j 19:24	0°♓55'45	28.95524 AU
	1193 Sep 22 j 12:00	30°R♒	
direct	1193 Nov 03 j 21:24	29°♒31'28	
	1193 Dec 14 j 21:55	0°♓	
evening set	1194 Jan 29 j 07:27	1°♓24'28	
conjunction	1194 Feb 13 j 18:57	1°♓59'24	-0°52'03
minimum elong	1194 Feb 13 j 18:56	1°♓59'24	0°52'03
max. Earth dist.	1194 Feb 14 j 14:43	2°♓01'16	30.94962 AU
morning rise	1194 Mar 01 j 09:24	2°♓34'38	
retrograde	1194 May 31 j 06:59	4°♓33'01	
min. Earth dist.	1194 Aug 19 j 07:30	3°♓09'32	28.94481 AU
opposition	1194 Aug 20 j 02:42	3°♓08'13	-0°57'36
direct	1194 Nov 06 j 09:59	1°♓45'10	
evening set	1195 Jan 31 j 18:28	3°♓38'08	
conjunction	1195 Feb 16 j 06:08	4°♓13'04	-0°55'37
minimum elong	1195 Feb 16 j 06:07	4°♓13'04	0°55'38
max. Earth dist.	1195 Feb 17 j 01:25	4°♓14'54	30.93928 AU
morning rise	1195 Mar 03 j 21:09	4°♓48'19	
retrograde	1195 Jun 02 j 20:47	6°♓46'47	
opposition	1195 Aug 22 j 15:37	5°♓21'52	-1°01'23
min. Earth dist.	1195 Aug 21 j 19:58	5°♓23'14	28.93478 AU
direct	1195 Nov 08 j 20:06	3°♓58'46	
evening set	1196 Feb 03 j 05:20	5°♓51'43	
conjunction	1196 Feb 18 j 17:28	6°♓26'41	-0°59'07
minimum elong	1196 Feb 18 j 17:27	6°♓26'41	0°59'07
max. Earth dist.	1196 Feb 19 j 14:18	6°♓28'39	30.92943 AU
morning rise	1196 Mar 05 j 08:46	7°♓01'57	
retrograde	1196 Jun 04 j 08:45	9°♓00'29	
min. Earth dist.	1196 Aug 23 j 08:37	7°♓36'51	28.92540 AU
opposition	1196 Aug 24 j 04:27	7°♓35'29	-1°05'04
direct	1196 Nov 10 j 07:36	6°♓12'22	
evening set	1197 Feb 04 j 16:28	8°♓05'17	
conjunction	1197 Feb 20 j 04:52	8°♓40'16	-1°02'32
minimum elong	1197 Feb 20 j 04:52	8°♓40'16	1°02'31
max. Earth dist.	1197 Feb 21 j 01:37	8°♓42'14	30.92060 AU
morning rise	1197 Mar 07 j 20:38	9°♓15'35	
retrograde	1197 Jun 06 j 23:18	11°♓14'10	
opposition	1197 Aug 26 j 16:59	9°♓49'07	-1°08'40
min. Earth dist.	1197 Aug 25 j 19:59	9°♓50'34	28.91721 AU
direct	1197 Nov 12 j 18:25	8°♓25'58	
evening set	1198 Feb 07 j 03:35	10°♓18'54	
conjunction	1198 Feb 22 j 16:20	10°♓53'55	-1°05'51
minimum elong	1198 Feb 22 j 16:19	10°♓53'55	1°05'50
max. Earth dist.	1198 Feb 23 j 13:57	10°♓55'58	30.91287 AU
morning rise	1198 Mar 10 j 08:27	11°♓29'15	
retrograde	1198 Jun 09 j 12:31	13°♓27'55	
min. Earth dist.	1198 Aug 28 j 09:02	12°♓04'16	28.91018 AU
opposition	1198 Aug 29 j 05:46	12°♓02'50	-1°12'10
direct	1198 Nov 15 j 06:36	10°♓39'42	
evening set	1199 Feb 09 j 14:39	12°♓32'38	
conjunction	1199 Feb 25 j 03:48	13°♓07'41	-1°09'04
minimum elong	1199 Feb 25 j 03:48	13°♓07'41	1°09'04
max. Earth dist.	1199 Feb 26 j 02:06	13°♓09'48	30.90649 AU
morning rise	1199 Mar 12 j 20:18	13°♓43'03	
retrograde	1199 Jun 12 j 03:29	15°♓41'48	
opposition	1199 Aug 31 j 18:25	14°♓16'41	-1°15'33
min. Earth dist.	1199 Aug 30 j 20:10	14°♓18'14	28.90435 AU
direct	1199 Nov 17 j 18:59	12°♓53'34	
evening set	1200 Feb 12 j 02:02	14°♓46'33	
conjunction	1200 Feb 27 j 15:28	15°♓21'37	-1°12'11
minimum elong	1200 Feb 27 j 15:27	15°♓21'37	1°12'11
max. Earth dist.	1200 Feb 28 j 13:52	15°♓23'44	30.90105 AU
morning rise	1200 Mar 14 j 08:28	15°♓57'02	
retrograde	1200 Jun 13 j 16:00	17°♓55'52	
min. Earth dist.	1200 Sep 01 j 09:35	16°♓32'14	28.89942 AU
opposition	1200 Sep 02 j 07:05	16°♓30'45	-1°18'50
direct	1200 Nov 19 j 05:28	15°♓07'40	
evening set	1201 Feb 13 j 13:27	17°♓00'40	
conjunction	1201 Mar 01 j 03:24	17°♓35'46	-1°15'12
minimum elong	1201 Mar 01 j 03:24	17°♓35'46	1°15'12
max. Earth dist.	1201 Mar 02 j 02:53	17°♓38'00	30.89640 AU
morning rise	1201 Mar 16 j 20:42	18°♓11'13	
retrograde	1201 Jun 16 j 05:25	20°♓10'08	
opposition	1201 Sep 04 j 19:39	18°♓45'02	-1°21'59
min. Earth dist.	1201 Sep 03 j 21:06	18°♓46'36	28.89490 AU

direct	1201 Nov 21 j 17:52	17°♓21'59	
evening set	1202 Feb 16 j 01:07	19°♓15'02	
conjunction	1202 Mar 03 j 15:14	19°♓50'10	-1°18'06
minimum elong	1202 Mar 03 j 15:14	19°♓50'10	1°18'06
max. Earth dist.	1202 Mar 04 j 13:57	19°♓52'19	30.89185 AU
morning rise	1202 Mar 19 j 09:04	20°♓25'38	
retrograde	1202 Jun 18 j 19:23	22°♓24'40	
min. Earth dist.	1202 Sep 06 j 10:30	21°♓01'05	28.89037 AU
opposition	1202 Sep 07 j 08:24	20°♓59'34	-1°25'02
direct	1202 Nov 24 j 03:29	19°♓36'32	
evening set	1203 Feb 18 j 12:51	21°♓29'38	
conjunction	1203 Mar 06 j 03:31	22°♓04'48	-1°20'53
minimum elong	1203 Mar 06 j 03:31	22°♓04'48	1°20'53
max. Earth dist.	1203 Mar 07 j 03:18	22°♓07'03	30.88702 AU
morning rise	1203 Mar 21 j 21:35	22°♓40'18	
retrograde	1203 Jun 21 j 07:19	24°♓39'24	
opposition	1203 Sep 09 j 21:02	23°♓14'18	-1°27'56
min. Earth dist.	1203 Sep 08 j 22:46	23°♓15'50	28.88518 AU
direct	1203 Nov 26 j 15:52	21°♓51'16	
evening set	1204 Feb 21 j 00:51	23°♓44'24	
conjunction	1204 Mar 07 j 15:47	24°♓19'35	-1°23'32
minimum elong	1204 Mar 07 j 15:47	24°♓19'35	1°23'32
max. Earth dist.	1204 Mar 08 j 14:23	24°♓21'44	30.88137 AU
morning rise	1204 Mar 23 j 10:26	24°♓55'08	
retrograde	1204 Jun 22 j 21:01	26°♓54'17	
min. Earth dist.	1204 Sep 10 j 11:45	25°♓30'41	28.87905 AU
opposition	1204 Sep 11 j 09:44	25°♓29'09	-1°30'43
direct	1204 Nov 28 j 01:46	24°♓06'07	
evening set	1205 Feb 22 j 12:53	25°♓59'16	
conjunction	1205 Mar 10 j 04:20	26°♓34'29	-1°26'04
minimum elong	1205 Mar 10 j 04:20	26°♓34'29	1°26'04
max. Earth dist.	1205 Mar 11 j 03:40	26°♓36'41	30.87453 AU
morning rise	1205 Mar 25 j 23:15	27°♓10'02	
retrograde	1205 Jun 25 j 09:01	29°♓09'14	
opposition	1205 Sep 13 j 22:14	27°♓44'03	-1°33'21
min. Earth dist.	1205 Sep 13 j 00:46	27°♓45'33	28.87169 AU
direct	1205 Nov 30 j 12:51	26°♓20'58	
evening set	1206 Feb 25 j 00:57	28°♓14'08	
conjunction	1206 Mar 12 j 16:45	28°♓49'22	-1°28'28
minimum elong	1206 Mar 12 j 16:45	28°♓49'22	1°28'28
max. Earth dist.	1206 Mar 13 j 15:17	28°♓51'30	30.86687 AU
morning rise	1206 Mar 28 j 12:11	29°♓24'57	
	1206 Apr 13 j 23:58	0°♈	
retrograde	1206 Jun 27 j 23:27	1°♈24'09	
	1206 Sep 15 j 19:05	30°℞♓	
opposition	1206 Sep 16 j 10:44	29°♓58'55	-1°35'51
min. Earth dist.	1206 Sep 15 j 12:46	0°♈00'26	28.86378 AU
direct	1206 Dec 03 j 00:06	28°♓35'45	
	1207 Feb 14 j 00:18	0°♈	
evening set	1207 Feb 27 j 12:53	0°♈28'55	
conjunction	1207 Mar 15 j 05:07	1°♈04'10	-1°30'45
minimum elong	1207 Mar 15 j 05:07	1°♈04'10	1°30'44
max. Earth dist.	1207 Mar 16 j 04:03	1°♈06'20	30.85870 AU
morning rise	1207 Mar 31 j 00:58	1°♈39'47	
retrograde	1207 Jun 30 j 12:18	3°♈38'59	
opposition	1207 Sep 18 j 23:13	2°♈13'40	-1°38'12
min. Earth dist.	1207 Sep 18 j 02:05	2°♈15'08	28.85570 AU
direct	1207 Dec 05 j 12:43	0°♈50'27	
evening set	1208 Mar 01 j 00:59	2°♈43'36	
conjunction	1208 Mar 16 j 17:42	3°♈18'53	-1°32'52
minimum elong	1208 Mar 16 j 17:42	3°♈18'53	1°32'53
max. Earth dist.	1208 Mar 17 j 16:45	3°♈21'04	30.85088 AU
morning rise	1208 Apr 01 j 13:57	3°♈54'31	
retrograde	1208 Jul 02 j 02:34	5°♈53'42	
opposition	1208 Sep 20 j 11:19	4°♈28'19	-1°40'25
min. Earth dist.	1208 Sep 19 j 13:09	4°♈29'52	28.84822 AU
direct	1208 Dec 07 j 01:16	3°♈05'01	
evening set	1209 Mar 03 j 13:14	4°♈58'11	
conjunction	1209 Mar 19 j 06:15	5°♈33'30	-1°34'52
minimum elong	1209 Mar 19 j 06:15	5°♈33'30	1°34'52
max. Earth dist.	1209 Mar 20 j 05:06	5°♈35'39	30.84372 AU
morning rise	1209 Apr 04 j 03:00	6°♈09'09	
retrograde	1209 Jul 04 j 15:30	8°♈08'20	
opposition	1209 Sep 22 j 23:37	6°♈42'53	-1°42'28
min. Earth dist.	1209 Sep 22 j 02:21	6°♈44'22	28.84173 AU
direct	1209 Dec 09 j 12:25	5°♈19'33	
evening set	1210 Mar 06 j 01:14	7°♈12'43	
conjunction	1210 Mar 21 j 18:49	7°♈48'02	-1°36'43
minimum elong	1210 Mar 21 j 18:49	7°♈48'02	1°36'43
max. Earth dist.	1210 Mar 22 j 18:39	7°♈50'18	30.83784 AU
morning rise	1210 Apr 06 j 15:49	8°♈23'43	
retrograde	1210 Jul 07 j 05:44	10°♈22'53	
opposition	1210 Sep 25 j 11:43	8°♈57'24	-1°44'22
min. Earth dist.	1210 Sep 24 j 13:20	8°♈58'58	28.83652 AU
direct	1210 Dec 12 j 01:55	7°♈34'01	
evening set	1211 Mar 08 j 13:35	9°♈27'12	
conjunction	1211 Mar 24 j 07:26	10°♈02'34	-1°38'25
minimum elong	1211 Mar 24 j 07:26	10°♈02'34	1°38'25
max. Earth dist.	1211 Mar 25 j 06:31	10°♈04'45	30.83333 AU
morning rise	1211 Apr 09 j 05:02	10°♈38'16	
retrograde	1211 Jul 09 j 19:21	12°♈37'26	
opposition	1211 Sep 27 j 23:53	11°♈11'56	-1°46'06
min. Earth dist.	1211 Sep 27 j 02:05	11°♈13'27	28.83286 AU
direct	1211 Dec 14 j 12:33	9°♈48'31	
evening set	1212 Mar 10 j 01:50	11°♈41'44	
conjunction	1212 Mar 25 j 20:19	12°♈17'07	-1°39'58
minimum elong	1212 Mar 25 j 20:19	12°♈17'07	1°39'59
max. Earth dist.	1212 Mar 26 j 20:34	12°♈19'25	30.83032 AU
morning rise	1212 Apr 10 j 18:11	12°♈52'52	
retrograde	1212 Jul 11 j 07:10	14°♈52'01	
opposition	1212 Sep 29 j 11:53	13°♈26'31	-1°47'41
min. Earth dist.	1212 Sep 28 j 13:34	13°♈28'05	28.83044 AU
direct	1212 Dec 16 j 00:57	12°♈03'06	
evening set	1213 Mar 12 j 14:22	13°♈56'21	
conjunction	1213 Mar 28 j 09:08	14°♈31'46	-1°41'22
minimum elong	1213 Mar 28 j 09:08	14°♈31'46	1°41'22
max. Earth dist.	1213 Mar 29 j 08:20	14°♈33'57	30.82851 AU
morning rise	1213 Apr 13 j 07:34	15°♈07'32	
retrograde	1213 Jul 13 j 20:45	17°♈06'41	
opposition	1213 Oct 01 j 23:51	15°♈41'12	-1°49'06
min. Earth dist.	1213 Oct 01 j 01:43	15°♈42'45	28.82918 AU
direct	1213 Dec 18 j 10:50	14°♈17'48	
evening set	1214 Mar 15 j 02:54	16°♈11'06	
conjunction	1214 Mar 30 j 22:13	16°♈46'33	-1°42'37
minimum elong	1214 Mar 30 j 22:13	16°♈46'33	1°42'37
max. Earth dist.	1214 Mar 31 j 22:23	16°♈48'50	30.82755 AU
morning rise	1214 Apr 15 j 20:54	17°♈22'20	
retrograde	1214 Jul 16 j 08:54	19°♈21'30	
opposition	1214 Oct 04 j 11:51	17°♈56'03	-1°50'20
min. Earth dist.	1214 Oct 03 j 14:13	17°♈57'34	28.82846 AU
direct	1214 Dec 20 j 21:40	16°♈32'39	

evening set	1215 Mar 17 j 15:34	18°♈26'01	
conjunction	1215 Apr 02 j 11:16	19°♈01'29	-1°43'42
minimum elong	1215 Apr 02 j 11:16	19°♈01'29	1°43'41
max. Earth dist.	1215 Apr 03 j 10:28	19°♈03'40	30.82700 AU
morning rise	1215 Apr 18 j 10:29	19°♈37'18	
retrograde	1215 Jul 18 j 22:54	21°♈36'28	
opposition	1215 Oct 06 j 23:49	20°♈11'03	-1°51'25
min. Earth dist.	1215 Oct 06 j 02:04	20°♈12'35	28.82784 AU
direct	1215 Dec 23 j 08:36	18°♈47'38	
evening set	1216 Mar 19 j 04:33	20°♈41'04	
conjunction	1216 Apr 04 j 00:44	21°♈16'34	-1°44'38
minimum elong	1216 Apr 04 j 00:44	21°♈16'34	1°44'38
max. Earth dist.	1216 Apr 04 j 23:50	21°♈18'45	30.82601 AU
morning rise	1216 Apr 20 j 00:18	21°♈52'25	
retrograde	1216 Jul 20 j 11:14	23°♈51'35	
opposition	1216 Oct 08 j 11:45	22°♈26'11	-1°52'19
min. Earth dist.	1216 Oct 07 j 15:21	22°♈27'37	28.82655 AU
direct	1216 Dec 24 j 20:09	21°♈02'45	
evening set	1217 Mar 21 j 17:35	22°♈56'14	
conjunction	1217 Apr 06 j 14:16	23°♈31'46	-1°45'24
minimum elong	1217 Apr 06 j 14:16	23°♈31'46	1°45'23
max. Earth dist.	1217 Apr 07 j 12:37	23°♈33'52	30.82437 AU
morning rise	1217 Apr 22 j 14:14	24°♈07'37	
retrograde	1217 Jul 23 j 01:40	26°♈06'45	
opposition	1217 Oct 10 j 23:38	24°♈41'21	-1°53'03
min. Earth dist.	1217 Oct 10 j 02:47	24°♈42'49	28.82443 AU
direct	1217 Dec 27 j 08:23	23°♈17'53	
evening set	1218 Mar 24 j 06:34	25°♈11'24	
conjunction	1218 Apr 09 j 03:37	25°♈46'58	-1°46'01
minimum elong	1218 Apr 09 j 03:37	25°♈46'58	1°46'01
max. Earth dist.	1218 Apr 10 j 01:10	25°♈49'00	30.82178 AU
morning rise	1218 Apr 25 j 04:03	26°♈22'51	
retrograde	1218 Jul 25 j 14:47	28°♈21'56	
opposition	1218 Oct 13 j 11:39	26°♈56'32	-1°53'37
min. Earth dist.	1218 Oct 12 j 16:18	26°♈57'53	28.82155 AU
direct	1218 Dec 29 j 19:50	25°♈33'00	
evening set	1219 Mar 26 j 19:34	27°♈26'33	
conjunction	1219 Apr 11 j 17:15	28°♈02'08	-1°46'28
minimum elong	1219 Apr 11 j 17:15	28°♈02'08	1°46'27
max. Earth dist.	1219 Apr 12 j 15:00	28°♈04'11	30.81878 AU
morning rise	1219 Apr 27 j 18:00	28°♈38'03	
	1219 Jun 09 j 22:21	0°♉	
retrograde	1219 Jul 28 j 05:22	0°♉37'03	
	1219 Sep 15 j 12:04	30°℞♈	
opposition	1219 Oct 15 j 23:16	29°♈11'38	-1°54'01
min. Earth dist.	1219 Oct 15 j 03:31	29°♈13'01	28.81840 AU
direct	1220 Jan 01 j 09:45	27°♈48'02	
evening set	1220 Mar 28 j 08:46	29°♈41'37	
	1220 Apr 05 j 15:20	0°♉	
conjunction	1220 Apr 13 j 06:46	0°♉17'14	-1°46'45
minimum elong	1220 Apr 13 j 06:46	0°♉17'14	1°46'46
max. Earth dist.	1220 Apr 14 j 03:11	0°♉19'09	30.81568 AU
morning rise	1220 Apr 29 j 08:06	0°♉53'10	
retrograde	1220 Jul 29 j 18:41	2°♉52'06	
opposition	1220 Oct 17 j 10:59	1°♉26'39	-1°54'15
min. Earth dist.	1220 Oct 16 j 16:24	1°♉27'57	28.81556 AU
direct	1221 Jan 02 j 21:08	0°♉03'00	
evening set	1221 Mar 30 j 21:46	1°♉56'36	
conjunction	1221 Apr 15 j 20:23	2°♉32'15	-1°46'53
minimum elong	1221 Apr 15 j 20:23	2°♉32'15	1°46'52
max. Earth dist.	1221 Apr 16 j 17:32	2°♉34'14	30.81311 AU
morning rise	1221 May 01 j 21:55	3°♉08'12	
retrograde	1221 Aug 01 j 06:50	5°♉07'02	
opposition	1221 Oct 19 j 22:25	3°♉41'35	-1°54'18
min. Earth dist.	1221 Oct 19 j 03:36	3°♉42'55	28.81338 AU
direct	1222 Jan 05 j 10:01	2°♉17'53	
evening set	1222 Apr 02 j 10:57	4°♉11'31	
conjunction	1222 Apr 18 j 09:52	4°♉47'11	-1°46'51
minimum elong	1222 Apr 18 j 09:52	4°♉47'11	1°46'51
max. Earth dist.	1222 Apr 19 j 05:38	4°♉49'03	30.81156 AU
morning rise	1222 May 04 j 11:58	5°♉23'09	
retrograde	1222 Aug 03 j 20:45	7°♉21'55	
opposition	1222 Oct 22 j 09:56	5°♉56'29	-1°54'10
min. Earth dist.	1222 Oct 21 j 15:27	5°♉57'47	28.81255 AU
direct	1223 Jan 07 j 20:36	4°♉32'43	
evening set	1223 Apr 04 j 23:57	6°♉26'23	
conjunction	1223 Apr 20 j 23:29	7°♉02'06	-1°46'39
minimum elong	1223 Apr 20 j 23:29	7°♉02'06	1°46'38
max. Earth dist.	1223 Apr 21 j 20:09	7°♉04'02	30.81135 AU
morning rise	1223 May 07 j 01:51	7°♉38'05	
retrograde	1223 Aug 06 j 08:22	9°♉36'46	
opposition	1223 Oct 24 j 21:23	8°♉11'21	-1°53'52
min. Earth dist.	1223 Oct 24 j 03:22	8°♉12'38	28.81301 AU
direct	1224 Jan 10 j 07:54	6°♉47'34	
evening set	1224 Apr 06 j 13:15	8°♉41'17	
conjunction	1224 Apr 22 j 13:10	9°♉17'00	-1°46'17
minimum elong	1224 Apr 22 j 13:10	9°♉17'00	1°46'17
max. Earth dist.	1224 Apr 23 j 08:43	9°♉18'50	30.81266 AU
morning rise	1224 May 08 j 16:02	9°♉53'01	
retrograde	1224 Aug 07 j 21:06	11°♉51'38	
opposition	1224 Oct 26 j 08:38	10°♉26'15	-1°53'24
min. Earth dist.	1224 Oct 25 j 14:23	10°♉27'32	28.81505 AU
direct	1225 Jan 11 j 18:50	9°♉02'26	
evening set	1225 Apr 09 j 02:32	10°♉56'13	
conjunction	1225 Apr 25 j 02:57	11°♉31'58	-1°45'46
minimum elong	1225 Apr 25 j 02:58	11°♉31'58	1°45'45
max. Earth dist.	1225 Apr 25 j 22:45	11°♉33'49	30.81534 AU
morning rise	1225 May 11 j 06:07	12°♉08'00	
retrograde	1225 Aug 10 j 08:23	14°♉06'33	
opposition	1225 Oct 28 j 20:05	12°♉41'13	-1°52'45
min. Earth dist.	1225 Oct 28 j 02:54	12°♉42'26	28.81838 AU
direct	1226 Jan 14 j 05:30	11°♉17'25	
evening set	1226 Apr 11 j 15:44	13°♉11'15	
conjunction	1226 Apr 27 j 16:38	13°♉47'02	-1°45'04
minimum elong	1226 Apr 27 j 16:38	13°♉47'02	1°45'05
max. Earth dist.	1226 Apr 28 j 11:51	13°♉48'50	30.81936 AU
morning rise	1226 May 13 j 20:12	14°♉23'05	
	1226 May 31 j 09:34	15°♉	
retrograde	1226 Aug 12 j 22:27	16°♉21'34	
	1226 Oct 29 j 03:10	15°℞♉	
opposition	1226 Oct 31 j 07:23	14°♉56'18	-1°51'55
min. Earth dist.	1226 Oct 30 j 13:41	14°♉57'34	28.82275 AU
direct	1227 Jan 16 j 16:34	13°♉32'29	
	1227 Apr 01 j 19:30	15°♉	
evening set	1227 Apr 14 j 05:20	15°♉26'24	
conjunction	1227 Apr 30 j 06:36	16°♉02'13	-1°44'13
minimum elong	1227 Apr 30 j 06:36	16°♉02'13	1°44'13
max. Earth dist.	1227 May 01 j 01:06	16°♉03'56	30.82396 AU
morning rise	1227 May 16 j 10:33	16°♉38'17	
retrograde	1227 Aug 15 j 10:47	18°♉36'42	
opposition	1227 Nov 02 j 18:42	17°♉11'31	-1°50'55

min. Earth dist.	1227 Nov 02 j 02:43	17°♉12'39	28.82749 AU
direct	1228 Jan 19 j 03:48	15°♉47'41	
evening set	1228 Apr 15 j 18:59	17°♉41'41	
conjunction	1228 May 01 j 20:50	18°♉17'31	-1°43'12
minimum elong	1228 May 01 j 20:50	18°♉17'31	1°43'13
max. Earth dist.	1228 May 02 j 15:03	18°♉19'13	30.82868 AU
morning rise	1228 May 18 j 01:03	18°♉53'36	
retrograde	1228 Aug 17 j 00:55	20°♉51'55	
opposition	1228 Nov 04 j 05:57	19°♉26'48	-1°49'45
min. Earth dist.	1228 Nov 03 j 13:55	19°♉27'56	28.83187 AU
direct	1229 Jan 20 j 17:31	18°♉02'57	
evening set	1229 Apr 18 j 08:48	19°♉57'01	
conjunction	1229 May 04 j 10:54	20°♉32'53	-1°42'02
minimum elong	1229 May 04 j 10:54	20°♉32'53	1°42'01
max. Earth dist.	1229 May 05 j 03:21	20°♉34'25	30.83267 AU
morning rise	1229 May 20 j 15:33	21°♉08'59	
retrograde	1229 Aug 19 j 14:07	23°♉07'12	
opposition	1229 Nov 06 j 17:18	21°♉42'08	-1°48'25
min. Earth dist.	1229 Nov 06 j 02:52	21°♉43'09	28.83549 AU
direct	1230 Jan 23 j 04:56	20°♉18'14	
evening set	1230 Apr 20 j 22:30	22°♉12'20	
conjunction	1230 May 07 j 01:13	22°♉48'14	-1°40'43
minimum elong	1230 May 07 j 01:13	22°♉48'14	1°40'43
max. Earth dist.	1230 May 07 j 17:40	22°♉49'46	30.83586 AU
morning rise	1230 May 23 j 06:02	23°♉24'21	
retrograde	1230 Aug 22 j 03:18	25°♉22'26	
opposition	1230 Nov 09 j 04:29	23°♉57'24	-1°46'55
min. Earth dist.	1230 Nov 08 j 14:25	23°♉58'23	28.83812 AU
direct	1231 Jan 25 j 18:18	22°♉33'27	
evening set	1231 Apr 23 j 12:21	24°♉27'34	
conjunction	1231 May 09 j 15:23	25°♉03'29	-1°39'14
minimum elong	1231 May 09 j 15:23	25°♉03'29	1°39'13
max. Earth dist.	1231 May 10 j 05:41	25°♉04'49	30.83820 AU
morning rise	1231 May 25 j 20:43	25°♉39'37	
retrograde	1231 Aug 24 j 17:42	27°♉37'34	
opposition	1231 Nov 11 j 15:40	26°♉12'32	-1°45'15
min. Earth dist.	1231 Nov 11 j 02:35	26°♉13'27	28.84014 AU
direct	1232 Jan 28 j 06:20	24°♉48'31	
evening set	1232 Apr 25 j 02:09	26°♉42'40	
conjunction	1232 May 11 j 05:45	27°♉18'36	-1°37'37
minimum elong	1232 May 11 j 05:45	27°♉18'36	1°37'37
max. Earth dist.	1232 May 11 j 20:15	27°♉19'57	30.83999 AU
morning rise	1232 May 27 j 11:13	27°♉54'44	
retrograde	1232 Aug 26 j 04:43	29°♉52'31	
opposition	1232 Nov 13 j 02:38	28°♉27'30	-1°43'26
min. Earth dist.	1232 Nov 12 j 14:35	28°♉28'21	28.84175 AU
direct	1233 Jan 29 j 18:52	27°♉03'25	
evening set	1233 Apr 27 j 16:01	28°♉57'35	
conjunction	1233 May 13 j 19:54	29°♉33'32	-1°35'50
minimum elong	1233 May 13 j 19:55	29°♉33'32	1°35'50
max. Earth dist.	1233 May 14 j 08:44	29°♉34'44	30.84180 AU
	1233 May 25 j 16:12	0°♊	
morning rise	1233 May 30 j 01:49	0°♊09'41	
retrograde	1233 Aug 28 j 17:37	2°♊07'19	
opposition	1233 Nov 15 j 13:36	0°♊42'19	-1°41'28
min. Earth dist.	1233 Nov 15 j 01:41	0°♊43'09	28.84372 AU
	1233 Dec 11 j 14:28	30°℞♉	
direct	1234 Feb 01 j 06:26	29°♉18'08	
	1234 Mar 23 j 16:39	0°♊	
evening set	1234 Apr 30 j 05:37	1°♊12'20	
conjunction	1234 May 16 j 09:58	1°♊48'18	-1°33'55
minimum elong	1234 May 16 j 09:59	1°♊48'18	1°33'56
max. Earth dist.	1234 May 16 j 22:53	1°♊49'31	30.84400 AU
morning rise	1234 Jun 01 j 16:04	2°♊24'28	
retrograde	1234 Aug 31 j 04:26	4°♊21'57	
opposition	1234 Nov 18 j 00:35	2°♊56'58	-1°39'20
min. Earth dist.	1234 Nov 17 j 14:02	2°♊57'43	28.84630 AU
direct	1235 Feb 03 j 17:28	1°♊32'44	
evening set	1235 May 02 j 19:25	3°♊26'58	
conjunction	1235 May 19 j 00:10	4°♊02'57	-1°31'52
minimum elong	1235 May 19 j 00:10	4°♊02'57	1°31'51
max. Earth dist.	1235 May 19 j 12:02	4°♊04'04	30.84718 AU
morning rise	1235 Jun 04 j 06:35	4°♊39'07	
retrograde	1235 Sep 02 j 17:25	6°♊36'27	
opposition	1235 Nov 20 j 11:16	5°♊11'31	-1°37'04
min. Earth dist.	1235 Nov 20 j 00:18	5°♊12'17	28.84997 AU
direct	1236 Feb 06 j 04:47	3°♊47'13	
evening set	1236 May 04 j 09:17	5°♊41'30	
conjunction	1236 May 20 j 14:22	6°♊17'30	-1°29'40
minimum elong	1236 May 20 j 14:23	6°♊17'30	1°29'41
max. Earth dist.	1236 May 21 j 01:34	6°♊18'33	30.85142 AU
morning rise	1236 Jun 05 j 21:02	6°♊53'41	
retrograde	1236 Sep 04 j 04:18	8°♊50'53	
opposition	1236 Nov 21 j 22:10	7°♊26'00	-1°34'39
min. Earth dist.	1236 Nov 21 j 12:41	7°♊26'41	28.85488 AU
direct	1237 Feb 07 j 15:58	6°♊01'40	
evening set	1237 May 06 j 22:57	7°♊56'01	
conjunction	1237 May 23 j 04:28	8°♊32'02	-1°27'20
minimum elong	1237 May 23 j 04:28	8°♊32'02	1°27'20
max. Earth dist.	1237 May 23 j 15:32	8°♊33'04	30.85709 AU
morning rise	1237 Jun 08 j 11:17	9°♊08'13	
retrograde	1237 Sep 06 j 17:04	11°♊05'18	
opposition	1237 Nov 24 j 08:52	9°♊40'30	-1°32'05
min. Earth dist.	1237 Nov 23 j 22:59	9°♊41'12	28.86110 AU
direct	1238 Feb 10 j 05:01	8°♊16'08	
evening set	1238 May 09 j 12:50	10°♊10'34	
conjunction	1238 May 25 j 18:34	10°♊46'37	-1°24'52
minimum elong	1238 May 25 j 18:35	10°♊46'37	1°24'53
max. Earth dist.	1238 May 26 j 04:19	10°♊47'31	30.86398 AU
morning rise	1238 Jun 11 j 01:43	11°♊22'48	
retrograde	1238 Sep 09 j 05:42	13°♊19'46	
opposition	1238 Nov 26 j 19:37	11°♊55'04	-1°29'22
min. Earth dist.	1238 Nov 26 j 11:07	11°♊55'40	28.86855 AU
direct	1239 Feb 12 j 15:39	10°♊30'42	
evening set	1239 May 12 j 02:38	12°♊25'13	
conjunction	1239 May 28 j 08:54	13°♊01'17	-1°22'16
minimum elong	1239 May 28 j 08:55	13°♊01'17	1°22'16
max. Earth dist.	1239 May 28 j 18:48	13°♊02'13	30.87189 AU
morning rise	1239 Jun 13 j 16:07	13°♊37'29	
retrograde	1239 Sep 11 j 18:53	15°♊34'20	
opposition	1239 Nov 29 j 06:17	14°♊09'44	-1°26'31
min. Earth dist.	1239 Nov 28 j 22:06	14°♊10'19	28.87653 AU
direct	1240 Feb 15 j 04:48	12°♊45'23	
evening set	1240 May 13 j 16:48	14°♊40'00	
conjunction	1240 May 29 j 23:10	15°♊16'05	-1°19'33
minimum elong	1240 May 29 j 23:10	15°♊16'05	1°19'33
max. Earth dist.	1240 May 30 j 06:56	15°♊16'48	30.87999 AU
morning rise	1240 Jun 15 j 06:42	15°♊52'16	
retrograde	1240 Sep 13 j 09:24	17°♊49'01	
opposition	1240 Nov 30 j 16:56	16°♊24'31	-1°23'32
min. Earth dist.	1240 Nov 30 j 09:50	16°♊25'01	28.88455 AU

direct	1241 Feb 16 j 16:54	15°♊00'09	
evening set	1241 May 16 j 06:50	16°♊54'51	
conjunction	1241 Jun 01 j 13:39	17°♊30'58	-1°16'42
minimum elong	1241 Jun 01 j 13:39	17°♊30'58	1°16'41
max. Earth dist.	1241 Jun 01 j 21:25	17°♊31'41	30.88772 AU
morning rise	1241 Jun 17 j 21:08	18°♊07'10	
retrograde	1241 Sep 15 j 20:41	20°♊03'47	
opposition	1241 Dec 03 j 03:43	18°♊39'22	-1°20'26
min. Earth dist.	1241 Dec 02 j 21:50	18°♊39'47	28.89184 AU
direct	1242 Feb 19 j 05:33	17°♊15'00	
evening set	1242 May 18 j 20:52	19°♊09'45	
conjunction	1242 Jun 04 j 03:51	19°♊45'52	-1°13'44
minimum elong	1242 Jun 04 j 03:51	19°♊45'52	1°13'45
max. Earth dist.	1242 Jun 04 j 09:28	19°♊46'23	30.89468 AU
morning rise	1242 Jun 20 j 11:39	20°♊22'05	
retrograde	1242 Sep 18 j 10:16	22°♊18'32	
opposition	1242 Dec 05 j 14:26	20°♊54'12	-1°17'12
min. Earth dist.	1242 Dec 05 j 09:05	20°♊54'35	28.89826 AU
direct	1243 Feb 21 j 17:30	19°♊29'47	
evening set	1243 May 21 j 11:01	21°♊24'35	
conjunction	1243 Jun 06 j 18:21	22°♊00'43	-1°10'40
minimum elong	1243 Jun 06 j 18:22	22°♊00'43	1°10'40
max. Earth dist.	1243 Jun 06 j 23:32	22°♊01'12	30.90056 AU
morning rise	1243 Jun 23 j 02:09	22°♊36'55	
retrograde	1243 Sep 20 j 21:33	24°♊33'13	
opposition	1243 Dec 08 j 01:04	23°♊08'56	-1°13'52
min. Earth dist.	1243 Dec 07 j 21:34	23°♊09'11	28.90365 AU
direct	1244 Feb 24 j 04:52	21°♊44'27	
evening set	1244 May 23 j 01:09	23°♊39'17	
conjunction	1244 Jun 08 j 08:41	24°♊15'26	-1°07'30
minimum elong	1244 Jun 08 j 08:42	24°♊15'26	1°07'31
max. Earth dist.	1244 Jun 08 j 12:10	24°♊15'45	30.90572 AU
morning rise	1244 Jun 24 j 16:40	24°♊51'38	
retrograde	1244 Sep 22 j 09:48	26°♊47'45	
opposition	1244 Dec 09 j 11:34	25°♊23'30	-1°10'26
min. Earth dist.	1244 Dec 09 j 08:04	25°♊23'45	28.90845 AU
direct	1245 Feb 25 j 16:37	23°♊58'56	
evening set	1245 May 25 j 15:04	25°♊53'48	
conjunction	1245 Jun 10 j 22:47	26°♊29'56	-1°04'14
minimum elong	1245 Jun 10 j 22:47	26°♊29'56	1°04'14
max. Earth dist.	1245 Jun 11 j 01:23	26°♊30'11	30.91033 AU
morning rise	1245 Jun 27 j 06:46	27°♊06'08	
retrograde	1245 Sep 24 j 19:10	29°♊02'04	
opposition	1245 Dec 11 j 22:10	27°♊37'51	-1°06'53
min. Earth dist.	1245 Dec 11 j 20:27	27°♊37'58	28.91305 AU
direct	1246 Feb 28 j 04:04	26°♊13'13	
evening set	1246 May 28 j 04:57	28°♊08'06	
conjunction	1246 Jun 13 j 12:56	28°♊44'14	-1°00'53
minimum elong	1246 Jun 13 j 12:57	28°♊44'14	1°00'53
max. Earth dist.	1246 Jun 13 j 14:56	28°♊44'25	30.91514 AU
morning rise	1246 Jun 29 j 20:58	29°♊20'25	
	1246 Jul 18 j 23:04	0°♋	
retrograde	1246 Sep 27 j 06:43	1°♋16'10	
	1246 Dec 09 j 15:02	30°℞♊	
opposition	1246 Dec 14 j 08:24	29°♊51'58	-1°03'15
min. Earth dist.	1246 Dec 14 j 06:37	29°♊52'06	28.91797 AU
direct	1247 Mar 02 j 16:33	28°♊27'14	
	1247 May 20 j 08:11	0°♋	
evening set	1247 May 30 j 18:55	0°♋22'09	
conjunction	1247 Jun 16 j 02:59	0°♋58'18	-0°57'26
minimum elong	1247 Jun 16 j 02:59	0°♋58'18	0°57'26
max. Earth dist.	1247 Jun 16 j 03:33	0°♋58'21	30.92039 AU
morning rise	1247 Jul 02 j 11:07	1°♋34'28	
retrograde	1247 Sep 29 j 17:49	3°♋30'03	
opposition	1247 Dec 16 j 18:49	2°♋05'52	-0°59'32
min. Earth dist.	1247 Dec 16 j 18:26	2°♋05'54	28.92369 AU
direct	1248 Mar 04 j 03:06	0°♋41'04	
evening set	1248 Jun 01 j 08:43	2°♋36'01	
conjunction	1248 Jun 17 j 17:02	3°♋12'09	-0°53'54
minimum elong	1248 Jun 17 j 17:03	3°♋12'09	0°53'55
max. Earth dist.	1248 Jun 17 j 17:48	3°♋12'13	30.92663 AU
morning rise	1248 Jul 04 j 01:01	3°♋48'18	
retrograde	1248 Oct 01 j 05:05	5°♋43'42	
opposition	1248 Dec 18 j 05:03	4°♋19'35	-0°55'43
min. Earth dist.	1248 Dec 18 j 04:47	4°♋19'36	28.93045 AU
direct	1249 Mar 06 j 16:47	2°♋54'43	
evening set	1249 Jun 03 j 22:36	4°♋49'42	
conjunction	1249 Jun 20 j 06:52	5°♋25'50	-0°50'18
minimum elong	1249 Jun 20 j 06:52	5°♋25'50	0°50'18
max. Earth dist.	1249 Jun 20 j 05:52	5°♋25'45	30.93415 AU
morning rise	1249 Jul 06 j 14:58	6°♋01'58	
retrograde	1249 Oct 03 j 17:57	7°♋57'13	
opposition	1249 Dec 20 j 15:22	6°♋33'09	-0°51'49
min. Earth dist.	1249 Dec 20 j 15:38	6°♋33'08	28.93876 AU
direct	1250 Mar 09 j 04:48	5°♋08'14	
evening set	1250 Jun 06 j 12:13	7°♋03'17	
conjunction	1250 Jun 22 j 20:46	7°♋39'26	-0°46'37
minimum elong	1250 Jun 22 j 20:47	7°♋39'26	0°46'38
max. Earth dist.	1250 Jun 22 j 20:16	7°♋39'23	30.94318 AU
morning rise	1250 Jul 09 j 04:40	8°♋15'32	
retrograde	1250 Oct 06 j 04:46	10°♋10'39	
opposition	1250 Dec 23 j 01:42	8°♋46'40	-0°47'50
min. Earth dist.	1250 Dec 23 j 02:50	8°♋46'35	28.94832 AU
direct	1251 Mar 11 j 17:20	7°♋21'45	
evening set	1251 Jun 09 j 02:10	9°♋16'52	
conjunction	1251 Jun 25 j 10:39	9°♋53'00	-0°42'52
minimum elong	1251 Jun 25 j 10:39	9°♋53'00	0°42'52
max. Earth dist.	1251 Jun 25 j 08:21	9°♋52'47	30.95344 AU
morning rise	1251 Jul 11 j 18:39	10°♋29'06	
retrograde	1251 Oct 08 j 18:18	12°♋24'03	
opposition	1251 Dec 25 j 11:50	11°♋00'11	-0°43'47
min. Earth dist.	1251 Dec 25 j 13:10	11°♋00'05	28.95900 AU
direct	1252 Mar 13 j 05:19	9°♋35'16	
evening set	1252 Jun 10 j 16:03	11°♋30'28	
conjunction	1252 Jun 27 j 00:40	12°♋06'36	-0°39'03
minimum elong	1252 Jun 27 j 00:41	12°♋06'36	0°39'03
max. Earth dist.	1252 Jun 26 j 22:27	12°♋06'24	30.96436 AU
morning rise	1252 Jul 13 j 08:24	12°♋42'41	
retrograde	1252 Oct 10 j 05:33	14°♋37'32	
opposition	1252 Dec 26 j 22:14	13°♋13'46	-0°39'41
min. Earth dist.	1252 Dec 27 j 01:14	13°♋13'33	28.97002 AU
direct	1253 Mar 15 j 16:52	11°♋48'52	
evening set	1253 Jun 13 j 05:52	13°♋44'08	
conjunction	1253 Jun 29 j 14:24	14°♋20'16	-0°35'10
minimum elong	1253 Jun 29 j 14:24	14°♋20'16	0°35'10
max. Earth dist.	1253 Jun 29 j 10:35	14°♋19'55	30.97540 AU
morning rise	1253 Jul 15 j 22:07	14°♋56'20	
retrograde	1253 Oct 12 j 17:53	16°♋51'04	
opposition	1253 Dec 29 j 08:31	15°♋27'24	-0°35'30
min. Earth dist.	1253 Dec 29 j 11:26	15°♋27'12	28.98081 AU
direct	1254 Mar 18 j 04:49	14°♋02'30	

evening set	1254 Jun	15 j 19:49	15°♓57'51	
conjunction	1254 Jul	02 j 04:22	16°♓33'59	-0°31'15
minimum elong	1254 Jul	02 j 04:22	16°♓33'59	0°31'15
max. Earth dist.	1254 Jul	01 j 23:36	16°♓33'32	30.98577 AU
morning rise	1254 Jul	18 j 11:51	17°♓10'02	
retrograde	1254 Oct	15 j 03:48	19°♓04'37	
opposition	1254 Dec	31 j 18:51	17°♓41'04	-0°31'17
min. Earth dist.	1254 Dec	31 j 23:49	17°♓40'43	28.99080 AU
direct	1255 Mar	20 j 15:36	16°♓16'09	
evening set	1255 Jun	18 j 09:47	18°♓11'33	
conjunction	1255 Jul	04 j 18:21	18°♓47'41	-0°27'16
minimum elong	1255 Jul	04 j 18:21	18°♓47'41	0°27'16
max. Earth dist.	1255 Jul	04 j 12:28	18°♓47'08	30.99534 AU
morning rise	1255 Jul	21 j 01:40	19°♓23'42	
retrograde	1255 Oct	17 j 15:26	21°♓18'09	
opposition	1256 Jan	03 j 05:09	19°♓54'41	-0°27'01
min. Earth dist.	1256 Jan	03 j 10:17	19°♓54'19	28.99974 AU
direct	1256 Mar	22 j 03:44	18°♓29'44	
evening set	1256 Jun	19 j 23:44	20°♓25'12	
conjunction	1256 Jul	06 j 08:07	21°♓01'18	-0°23'16
minimum elong	1256 Jul	06 j 08:07	21°♓01'18	0°23'16
max. Earth dist.	1256 Jul	06 j 00:36	21°♓00'37	31.00377 AU
morning rise	1256 Jul	22 j 15:14	21°♓37'18	
retrograde	1256 Oct	19 j 01:54	23°♓31'37	
opposition	1257 Jan	04 j 15:30	22°♓08'12	-0°22'43
min. Earth dist.	1257 Jan	04 j 22:17	22°♓07'44	29.00784 AU
direct	1257 Mar	24 j 13:57	20°♓43'12	
evening set	1257 Jun	22 j 13:27	22°♓38'43	
conjunction	1257 Jul	08 j 21:53	23°♓14'48	-0°19'14
minimum elong	1257 Jul	08 j 21:53	23°♓14'48	0°19'14
max. Earth dist.	1257 Jul	08 j 14:10	23°♓14'06	31.01156 AU
morning rise	1257 Jul	25 j 04:42	23°♓50'47	
retrograde	1257 Oct	21 j 12:26	25°♓44'57	
opposition	1258 Jan	07 j 01:42	24°♓21'35	-0°18'23
min. Earth dist.	1258 Jan	07 j 08:58	24°♓21'04	29.01530 AU
direct	1258 Mar	27 j 03:33	22°♓56'32	
evening set	1258 Jun	25 j 03:11	24°♓52'05	
conjunction	1258 Jul	11 j 11:23	25°♓28'09	-0°15'11
minimum elong	1258 Jul	11 j 11:23	25°♓28'09	0°15'11
behind sun begin	1258 Jul	11 j 09:33	25°♓27'59	
behind sun end	1258 Jul	11 j 13:12	25°♓28'19	
max. Earth dist.	1258 Jul	11 j 01:40	25°♓27'16	31.01892 AU
morning rise	1258 Jul	27 j 18:07	26°♓04'06	
retrograde	1258 Oct	24 j 00:29	27°♓58'07	
opposition	1259 Jan	09 j 11:55	26°♓34'47	-0°14'02
min. Earth dist.	1259 Jan	09 j 19:59	26°♓34'13	29.02266 AU
direct	1259 Mar	29 j 15:37	25°♓09'41	
evening set	1259 Jun	27 j 16:47	27°♓05'17	
conjunction	1259 Jul	14 j 01:00	27°♓41'19	-0°11'07
minimum elong	1259 Jul	14 j 01:00	27°♓41'19	0°11'06
behind sun begin	1259 Jul	13 j 20:09	27°♓40'54	
behind sun end	1259 Jul	14 j 05:50	27°♓41'45	
max. Earth dist.	1259 Jul	13 j 15:33	27°♓40'28	31.02629 AU
morning rise	1259 Jul	30 j 07:17	28°♓17'14	
	1259 Sep	30 j 22:29	0°♈	
retrograde	1259 Oct	26 j 10:33	0°♈11'06	
	1259 Nov	21 j 06:15	30°℞♓	
opposition	1260 Jan	11 j 22:03	28°♓47'49	-0°09'41
min. Earth dist.	1260 Jan	12 j 07:10	28°♓47'11	29.03014 AU
direct	1260 Mar	31 j 04:06	27°♓22'40	
evening set	1260 Jun	29 j 06:26	29°♓18'18	
conjunction	1260 Jul	15 j 14:17	29°♓54'19	-0°07'03
minimum elong	1260 Jul	15 j 14:18	29°♓54'19	0°07'03
behind sun begin	1260 Jul	15 j 08:13	29°♓53'47	
behind sun end	1260 Jul	15 j 20:22	29°♓54'51	
max. Earth dist.	1260 Jul	15 j 03:08	29°♓53'18	31.03416 AU
	1260 Jul	18 j 03:35	0°♈	
morning rise	1260 Jul	31 j 20:27	0°♈30'12	
retrograde	1260 Oct	27 j 23:38	2°♈23'55	
opposition	1261 Jan	13 j 08:14	1°♈00'41	-0°05'18
min. Earth dist.	1261 Jan	13 j 17:14	1°♈00'03	29.03849 AU
	1261 Feb	22 j 07:04	30°℞♓	
direct	1261 Apr	02 j 16:58	29°♓35'30	
	1261 May	11 j 13:48	0°♈	
evening set	1261 Jul	01 j 19:39	1°♈31'09	
conjunction	1261 Jul	18 j 03:28	2°♈07'09	-0°02'58
minimum elong	1261 Jul	18 j 03:27	2°♈07'09	0°02'58
behind sun begin	1261 Jul	17 j 20:52	2°♈06'35	
behind sun end	1261 Jul	18 j 10:01	2°♈07'44	
max. Earth dist.	1261 Jul	17 j 16:46	2°♈06'11	31.04293 AU
morning rise	1261 Aug	03 j 09:07	2°♈43'00	
retrograde	1261 Oct	30 j 10:09	4°♈36'36	
opposition	1262 Jan	15 j 18:29	3°♈13'25	-0°00'55
min. Earth dist.	1262 Jan	16 j 04:46	3°♈12'41	29.04789 AU
asc. node	1262 Apr	03 j 00:32	1°♈48'18	
direct	1262 Apr	05 j 05:25	1°♈48'13	
evening set	1262 Jul	04 j 09:05	3°♈43'54	
conjunction	1262 Jul	20 j 16:33	4°♈19'53	0°01'15
minimum elong	1262 Jul	20 j 16:34	4°♈19'53	0°01'15
behind sun begin	1262 Jul	20 j 09:58	4°♈19'18	
behind sun end	1262 Jul	20 j 23:09	4°♈20'28	
max. Earth dist.	1262 Jul	20 j 04:41	4°♈18'48	31.05304 AU
morning rise	1262 Aug	05 j 22:01	4°♈55'42	
retrograde	1262 Nov	01 j 21:44	6°♈49'10	
opposition	1263 Jan	18 j 04:29	5°♈26'04	0°03'28
min. Earth dist.	1263 Jan	18 j 14:13	5°♈25'23	29.05859 AU
direct	1263 Apr	07 j 17:52	4°♈00'52	
evening set	1263 Jul	06 j 22:31	5°♈56'37	
conjunction	1263 Jul	23 j 05:48	6°♈32'35	0°05'23
minimum elong	1263 Jul	23 j 05:47	6°♈32'35	0°05'22
behind sun begin	1263 Jul	22 j 23:26	6°♈32'01	
behind sun end	1263 Jul	23 j 12:09	6°♈33'08	
max. Earth dist.	1263 Jul	22 j 17:38	6°♈31'28	31.06429 AU
morning rise	1263 Aug	08 j 10:47	7°♈08'21	
retrograde	1263 Nov	04 j 07:37	9°♈01'43	
opposition	1264 Jan	20 j 14:47	7°♈38'43	0°07'50
min. Earth dist.	1264 Jan	21 j 01:59	7°♈37'56	29.07040 AU
direct	1264 Apr	09 j 04:27	6°♈13'32	
evening set	1264 Jul	08 j 11:49	8°♈09'21	
conjunction	1264 Jul	24 j 18:47	8°♈45'17	0°09'27
minimum elong	1264 Jul	24 j 18:48	8°♈45'17	0°09'27
behind sun begin	1264 Jul	24 j 13:20	8°♈44'48	
behind sun end	1264 Jul	25 j 00:15	8°♈45'46	
max. Earth dist.	1264 Jul	24 j 06:08	8°♈44'07	31.07650 AU
morning rise	1264 Aug	09 j 23:25	9°♈21'01	
retrograde	1264 Nov	05 j 19:09	11°♈14'18	
opposition	1265 Jan	22 j 00:56	9°♈51'25	0°12'12
min. Earth dist.	1265 Jan	22 j 11:57	9°♈50'38	29.08274 AU
direct	1265 Apr	11 j 16:07	8°♈26'15	
evening set	1265 Jul	11 j 01:15	10°♈22'07	
conjunction	1265 Jul	27 j 07:51	10°♈58'02	0°13'31
minimum elong	1265 Jul	27 j 07:51	10°♈58'02	0°13'31
behind sun begin	1265 Jul	27 j 04:19	10°♈57'43	

behind sun end	1265 Jul 27 j 11:23	10°♌58'21	
max. Earth dist.	1265 Jul 26 j 18:02	10°♌56'46	31.08886 AU
morning rise	1265 Aug 12 j 12:05	11°♌33'45	
retrograde	1265 Nov 08 j 04:57	13°♌26'57	
opposition	1266 Jan 24 j 11:12	12°♌04'09	0°16'33
min. Earth dist.	1266 Jan 24 j 23:39	12°♌03'16	29.09511 AU
direct	1266 Apr 14 j 01:57	10°♌39'00	
evening set	1266 Jul 13 j 14:34	12°♌34'56	
conjunction	1266 Jul 29 j 20:58	13°♌10'49	0°17'34
minimum elong	1266 Jul 29 j 20:58	13°♌10'49	0°17'34
max. Earth dist.	1266 Jul 29 j 07:02	13°♌09'32	31.10087 AU
morning rise	1266 Aug 15 j 00:43	13°♌46'30	
	1266 Sep 22 j 15:04	15°♌	
retrograde	1266 Nov 10 j 14:38	15°♌39'36	
	1266 Dec 30 j 22:35	15°℞♌	
opposition	1267 Jan 26 j 21:33	14°♌16'53	0°20'52
min. Earth dist.	1267 Jan 27 j 10:33	14°♌15'59	29.10658 AU
direct	1267 Apr 16 j 14:57	12°♌51'45	
evening set	1267 Jul 16 j 04:07	14°♌47'44	
	1267 Jul 21 j 18:49	15°♌	
conjunction	1267 Aug 01 j 10:00	15°♌23'35	0°21'35
minimum elong	1267 Aug 01 j 10:00	15°♌23'35	0°21'35
max. Earth dist.	1267 Jul 31 j 18:01	15°♌22'07	31.11176 AU
morning rise	1267 Aug 17 j 13:23	15°♌59'13	
retrograde	1267 Nov 13 j 02:07	17°♌52'14	
opposition	1268 Jan 29 j 07:54	16°♌29'35	0°25'09
min. Earth dist.	1268 Jan 29 j 21:42	16°♌28'37	29.11698 AU
direct	1268 Apr 18 j 01:53	15°♌04'26	
evening set	1268 Jul 17 j 17:25	17°♌00'28	
conjunction	1268 Aug 02 j 23:05	17°♌36'17	0°25'35
minimum elong	1268 Aug 02 j 23:05	17°♌36'17	0°25'35
max. Earth dist.	1268 Aug 02 j 07:13	17°♌34'49	31.12147 AU
morning rise	1268 Aug 19 j 01:50	18°♌11'52	
retrograde	1268 Nov 14 j 11:59	20°♌04'46	
opposition	1269 Jan 30 j 18:25	18°♌42'11	0°29'24
min. Earth dist.	1269 Jan 31 j 09:26	18°♌41'08	29.12604 AU
direct	1269 Apr 20 j 14:11	17°♌17'01	
evening set	1269 Jul 20 j 06:37	19°♌13'04	
conjunction	1269 Aug 05 j 11:44	19°♌48'50	0°29'32
minimum elong	1269 Aug 05 j 11:44	19°♌48'50	0°29'31
max. Earth dist.	1269 Aug 04 j 17:55	19°♌47'11	31.12997 AU
morning rise	1269 Aug 21 j 14:11	20°♌24'23	
retrograde	1269 Nov 17 j 00:22	22°♌17'11	
opposition	1270 Feb 02 j 04:45	20°♌54'37	0°33'36
min. Earth dist.	1270 Feb 02 j 19:55	20°♌53'34	29.13405 AU
direct	1270 Apr 23 j 03:20	19°♌29'25	
evening set	1270 Jul 22 j 19:44	21°♌25'29	
max. Earth dist.	1270 Aug 07 j 06:56	21°♌59'35	31.13740 AU
conjunction	1270 Aug 08 j 00:36	22°♌01'13	0°33'26
minimum elong	1270 Aug 08 j 00:36	22°♌01'13	0°33'26
morning rise	1270 Aug 24 j 02:24	22°♌36'43	
retrograde	1270 Nov 19 j 10:16	24°♌29'25	
opposition	1271 Feb 04 j 15:06	23°♌06'52	0°37'44
min. Earth dist.	1271 Feb 05 j 07:55	23°♌05'42	29.14110 AU
direct	1271 Apr 25 j 16:11	21°♌41'38	
evening set	1271 Jul 25 j 08:52	23°♌37'43	
conjunction	1271 Aug 10 j 13:12	24°♌13'24	0°37'17
minimum elong	1271 Aug 10 j 13:12	24°♌13'24	0°37'16
max. Earth dist.	1271 Aug 09 j 18:09	24°♌11'39	31.14421 AU
morning rise	1271 Aug 26 j 14:37	24°♌48'51	
retrograde	1271 Nov 21 j 21:42	26°♌41'26	
opposition	1272 Feb 07 j 01:24	25°♌18'55	0°41'49
min. Earth dist.	1272 Feb 07 j 17:47	25°♌17'47	29.14774 AU
direct	1272 Apr 27 j 05:21	23°♌53'38	
evening set	1272 Jul 26 j 21:40	25°♌49'44	
max. Earth dist.	1272 Aug 11 j 06:23	26°♌23'37	31.15069 AU
conjunction	1272 Aug 12 j 01:35	26°♌25'23	0°41'04
minimum elong	1272 Aug 12 j 01:35	26°♌25'23	0°41'04
morning rise	1272 Aug 28 j 02:22	27°♌00'47	
retrograde	1272 Nov 23 j 07:22	28°♌53'17	
opposition	1273 Feb 08 j 11:52	27°♌30'47	0°45'50
min. Earth dist.	1273 Feb 09 j 05:36	27°♌29'32	29.15445 AU
direct	1273 Apr 29 j 16:48	26°♌05'28	
evening set	1273 Jul 29 j 10:25	28°♌01'34	
conjunction	1273 Aug 14 j 13:51	28°♌37'11	0°44'48
minimum elong	1273 Aug 14 j 13:51	28°♌37'11	0°44'47
max. Earth dist.	1273 Aug 13 j 18:21	28°♌35'23	31.15765 AU
morning rise	1273 Aug 30 j 14:09	29°♌12'32	
	1273 Sep 22 j 21:58	0°♍	
retrograde	1273 Nov 25 j 18:04	1°♍04'56	
	1274 Jan 31 j 09:03	30°℞♌	
opposition	1274 Feb 10 j 22:05	29°♌42'28	0°49'47
min. Earth dist.	1274 Feb 11 j 15:20	29°♌41'16	29.16173 AU
direct	1274 May 02 j 05:11	28°♌17'08	
	1274 Jul 25 j 18:17	0°♍	
evening set	1274 Jul 31 j 23:07	0°♍13'15	
max. Earth dist.	1274 Aug 16 j 05:52	0°♍46'58	31.16531 AU
conjunction	1274 Aug 17 j 02:02	0°♍48'50	0°48'27
minimum elong	1274 Aug 17 j 02:02	0°♍48'50	0°48'27
morning rise	1274 Sep 02 j 01:48	1°♍24'09	
retrograde	1274 Nov 28 j 03:21	3°♍16'29	
opposition	1275 Feb 13 j 08:32	1°♍54'04	0°53'39
min. Earth dist.	1275 Feb 14 j 02:34	1°♍52'48	29.17004 AU
direct	1275 May 04 j 15:25	0°♍28'45	
evening set	1275 Aug 03 j 11:41	2°♍24'54	
conjunction	1275 Aug 19 j 14:12	3°♍00'26	0°52'02
minimum elong	1275 Aug 19 j 14:12	3°♍00'26	0°52'02
max. Earth dist.	1275 Aug 18 j 18:36	2°♍58'37	31.17409 AU
morning rise	1275 Sep 04 j 13:18	3°♍35'42	
retrograde	1275 Nov 30 j 12:12	5°♍27'59	
opposition	1276 Feb 15 j 18:56	4°♍05'38	0°57'27
min. Earth dist.	1276 Feb 16 j 12:54	4°♍04'23	29.17924 AU
direct	1276 May 06 j 03:44	2°♍40'21	
evening set	1276 Aug 05 j 00:19	4°♍36'33	
max. Earth dist.	1276 Aug 20 j 05:20	5°♍10'08	31.18376 AU
conjunction	1276 Aug 21 j 02:09	5°♍12'04	0°55'33
minimum elong	1276 Aug 21 j 02:09	5°♍12'03	0°55'33
morning rise	1276 Sep 06 j 00:49	5°♍47'17	
retrograde	1276 Dec 01 j 23:21	7°♍39'33	
opposition	1277 Feb 17 j 05:23	6°♍17'16	1°01'09
min. Earth dist.	1277 Feb 17 j 23:27	6°♍16'01	29.18935 AU
direct	1277 May 08 j 13:23	4°♍52'02	
evening set	1277 Aug 07 j 12:34	6°♍48'17	
conjunction	1277 Aug 23 j 14:04	7°♍23'45	0°58'59
minimum elong	1277 Aug 23 j 14:04	7°♍23'45	0°58'59
max. Earth dist.	1277 Aug 22 j 18:03	7°♍21'54	31.19394 AU
morning rise	1277 Sep 08 j 12:01	7°♍58'57	
retrograde	1277 Dec 04 j 08:51	9°♍51'11	
opposition	1278 Feb 19 j 15:58	8°♍29'00	1°04'46
min. Earth dist.	1278 Feb 20 j 10:57	8°♍27'41	29.19947 AU
direct	1278 May 11 j 00:49	7°♍03'49	
evening set	1278 Aug 10 j 01:10	9°♍00'07	

max. Earth dist.	1278 Aug 25 j 04:22	9°♑33'32	31.20389 AU
conjunction	1278 Aug 26 j 01:57	9°♑35'32	1°02'19
minimum elong	1278 Aug 26 j 01:56	9°♑35'32	1°02'19
morning rise	1278 Sep 10 j 23:28	10°♑10'41	
retrograde	1278 Dec 06 j 21:11	12°♑02'55	
opposition	1279 Feb 22 j 02:23	10°♑40'48	1°08'17
min. Earth dist.	1279 Feb 22 j 21:13	10°♑39'30	29.20916 AU
direct	1279 May 13 j 13:27	9°♑15'39	
evening set	1279 Aug 12 j 13:36	11°♑12'00	
conjunction	1279 Aug 28 j 13:58	11°♑47'24	1°05'34
minimum elong	1279 Aug 28 j 13:57	11°♑47'24	1°05'34
max. Earth dist.	1279 Aug 27 j 16:49	11°♑45'26	31.21298 AU
morning rise	1279 Sep 13 j 10:42	12°♑22'29	
retrograde	1279 Dec 09 j 07:15	14°♑14'42	
opposition	1280 Feb 24 j 13:13	12°♑52'38	1°11'43
min. Earth dist.	1280 Feb 25 j 09:32	12°♑51'14	29.21778 AU
direct	1280 May 15 j 01:49	11°♑27'31	
evening set	1280 Aug 14 j 01:57	13°♑23'54	
max. Earth dist.	1280 Aug 29 j 03:17	13°♑57'10	31.22100 AU
conjunction	1280 Aug 30 j 01:37	13°♑59'15	1°08'43
minimum elong	1280 Aug 30 j 01:37	13°♑59'15	1°08'43
morning rise	1280 Sep 14 j 21:54	14°♑34'18	
retrograde	1280 Dec 10 j 18:49	16°♑26'29	
opposition	1281 Feb 25 j 23:55	15°♑04'27	1°15'01
min. Earth dist.	1281 Feb 26 j 19:40	15°♑03'05	29.22517 AU
direct	1281 May 17 j 14:48	13°♑39'21	
evening set	1281 Aug 16 j 14:15	15°♑35'45	
conjunction	1281 Sep 01 j 13:25	16°♑11'03	1°11'46
minimum elong	1281 Sep 01 j 13:25	16°♑11'03	1°11'46
max. Earth dist.	1281 Aug 31 j 14:50	16°♑08'57	31.22763 AU
morning rise	1281 Sep 17 j 09:00	16°♑46'03	
retrograde	1281 Dec 13 j 05:12	18°♑38'12	
opposition	1282 Feb 28 j 10:38	17°♑16'11	1°18'13
min. Earth dist.	1282 Mar 01 j 07:53	17°♑14'43	29.23130 AU
direct	1282 May 20 j 02:57	15°♑51'05	
evening set	1282 Aug 19 j 02:30	17°♑47'28	
max. Earth dist.	1282 Sep 03 j 02:01	18°♑20'35	31.23314 AU
conjunction	1282 Sep 04 j 01:06	18°♑22'43	1°14'43
minimum elong	1282 Sep 04 j 01:06	18°♑22'43	1°14'43
morning rise	1282 Sep 19 j 20:09	18°♑57'41	
retrograde	1282 Dec 15 j 16:06	20°♑49'46	
opposition	1283 Mar 02 j 21:22	19°♑27'46	1°21'19
min. Earth dist.	1283 Mar 03 j 18:18	19°♑26'19	29.23617 AU
direct	1283 May 22 j 16:42	18°♑02'38	
evening set	1283 Aug 21 j 14:38	19°♑59'01	
conjunction	1283 Sep 06 j 12:35	20°♑34'13	1°17'33
minimum elong	1283 Sep 06 j 12:35	20°♑34'13	1°17'33
max. Earth dist.	1283 Sep 05 j 12:44	20°♑32'00	31.23748 AU
morning rise	1283 Sep 22 j 07:01	21°♑09'08	
retrograde	1283 Dec 18 j 00:55	23°♑01'10	
opposition	1284 Mar 04 j 08:10	21°♑39'09	1°24'17
min. Earth dist.	1284 Mar 05 j 05:59	21°♑37'39	29.24029 AU
direct	1284 May 24 j 03:41	20°♑14'00	
evening set	1284 Aug 23 j 02:30	22°♑10'20	
conjunction	1284 Sep 07 j 23:59	22°♑45'30	1°20'16
minimum elong	1284 Sep 07 j 23:59	22°♑45'30	1°20'16
max. Earth dist.	1284 Sep 07 j 00:47	22°♑43'21	31.24134 AU
morning rise	1284 Sep 23 j 17:46	23°♑20'22	
retrograde	1284 Dec 19 j 09:04	25°♑12'20	
opposition	1285 Mar 06 j 18:57	23°♑50'19	1°27'07
min. Earth dist.	1285 Mar 07 j 16:42	23°♑48'49	29.24402 AU
direct	1285 May 26 j 16:27	22°♑25'08	
evening set	1285 Aug 25 j 14:14	24°♑21'26	
max. Earth dist.	1285 Sep 09 j 10:49	24°♑54'18	31.24510 AU
conjunction	1285 Sep 10 j 11:00	24°♑56'33	1°22'52
minimum elong	1285 Sep 10 j 11:00	24°♑56'33	1°22'52
morning rise	1285 Sep 26 j 04:21	25°♑31'22	
retrograde	1285 Dec 21 j 19:26	27°♑23'18	
opposition	1286 Mar 09 j 05:41	26°♑01'15	1°29'50
min. Earth dist.	1286 Mar 10 j 03:14	25°♑59'46	29.24809 AU
direct	1286 May 29 j 02:29	24°♑36'03	
evening set	1286 Aug 28 j 01:50	26°♑32'19	
conjunction	1286 Sep 12 j 22:10	27°♑07'23	1°25'21
minimum elong	1286 Sep 12 j 22:09	27°♑07'23	1°25'21
max. Earth dist.	1286 Sep 11 j 23:07	27°♑05'14	31.24938 AU
morning rise	1286 Sep 28 j 14:44	27°♑42'09	
retrograde	1286 Dec 24 j 03:39	29°♑34'04	
opposition	1287 Mar 11 j 16:30	28°♑12'01	1°32'25
min. Earth dist.	1287 Mar 12 j 14:27	28°♑10'30	29.25280 AU
direct	1287 May 31 j 14:31	26°♑46'48	
evening set	1287 Aug 30 j 13:30	28°♑43'03	
max. Earth dist.	1287 Sep 14 j 09:12	29°♑15'51	31.25464 AU
conjunction	1287 Sep 15 j 09:04	29°♑18'05	1°27'42
minimum elong	1287 Sep 15 j 09:03	29°♑18'05	1°27'42
morning rise	1287 Oct 01 j 01:12	29°♑52'48	
	1287 Oct 04 j 09:01	0°♎	
retrograde	1287 Dec 26 j 14:48	1°♎44'42	
opposition	1288 Mar 13 j 03:21	0°♎22'40	1°34'53
min. Earth dist.	1288 Mar 14 j 00:17	0°♎21'13	29.25868 AU
	1288 Mar 26 j 23:55	30°℞♑	
direct	1288 Jun 02 j 02:02	28°♑57'29	
	1288 Aug 05 j 08:48	0°♎	
evening set	1288 Sep 01 j 00:46	0°♎53'44	
conjunction	1288 Sep 16 j 19:53	1°♎28'43	1°29'56
minimum elong	1288 Sep 16 j 19:53	1°♎28'43	1°29'56
max. Earth dist.	1288 Sep 15 j 21:15	1°♎26'36	31.26096 AU
morning rise	1288 Oct 02 j 11:18	2°♎03'24	
retrograde	1288 Dec 28 j 00:17	3°♎55'19	
opposition	1289 Mar 15 j 14:21	2°♎33'18	1°37'11
min. Earth dist.	1289 Mar 16 j 12:06	2°♎31'48	29.26548 AU
direct	1289 Jun 04 j 13:14	1°♎08'11	
evening set	1289 Sep 03 j 12:12	3°♎04'26	
max. Earth dist.	1289 Sep 18 j 07:35	3°♎37'14	31.26814 AU
conjunction	1289 Sep 19 j 06:39	3°♎39'23	1°32'02
minimum elong	1289 Sep 19 j 06:38	3°♎39'23	1°32'02
morning rise	1289 Oct 04 j 21:38	4°♎14'02	
retrograde	1289 Dec 30 j 11:44	6°♎05'58	
opposition	1290 Mar 18 j 01:06	4°♎44'00	1°39'22
min. Earth dist.	1290 Mar 18 j 21:47	4°♎42'35	29.27281 AU
direct	1290 Jun 07 j 01:33	3°♎18'56	
evening set	1290 Sep 05 j 23:35	5°♎15'13	
conjunction	1290 Sep 21 j 17:31	5°♎50'08	1°34'00
minimum elong	1290 Sep 21 j 17:31	5°♎50'08	1°34'01
max. Earth dist.	1290 Sep 20 j 18:44	5°♎48'01	31.27541 AU
morning rise	1290 Oct 07 j 07:51	6°♎24'45	
retrograde	1291 Jan 01 j 22:34	8°♎16'43	
opposition	1291 Mar 20 j 12:15	6°♎54'49	1°41'24
min. Earth dist.	1291 Mar 21 j 09:56	6°♎53'19	29.28004 AU
direct	1291 Jun 09 j 13:21	5°♎29'49	
evening set	1291 Sep 08 j 10:52	7°♎26'07	
max. Earth dist.	1291 Sep 23 j 05:31	7°♎58'52	31.28236 AU

conjunction	1291 Sep 24 j 04:11	8°♎00'59	1°35'50	
minimum elong	1291 Sep 24 j 04:11	8°♎00'59	1°35'50	
morning rise	1291 Oct 09 j 17:58	8°♎35'34		
retrograde	1292 Jan 04 j 09:30	10°♎27'34		
opposition	1292 Mar 21 j 23:25	9°♎05'43	1°43'17	
min. Earth dist.	1292 Mar 22 j 20:28	9°♎04'16	29.28655 AU	
direct	1292 Jun 11 j 02:52	7°♎40'47		
evening set	1292 Sep 09 j 22:12	9°♎37'05		
conjunction	1292 Sep 25 j 14:53	10°♎11'55	1°37'32	
minimum elong	1292 Sep 25 j 14:53	10°♎11'55	1°37'32	
max. Earth dist.	1292 Sep 24 j 15:40	10°♎09'45	31.28833 AU	
morning rise	1292 Oct 11 j 04:09	10°♎46'28		
retrograde	1293 Jan 05 j 19:22	12°♎38'31		
opposition	1293 Mar 24 j 10:41	11°♎16'41	1°45'01	
min. Earth dist.	1293 Mar 25 j 08:21	11°♎15'12	29.29215 AU	
direct	1293 Jun 13 j 13:27	9°♎51'49		
evening set	1293 Sep 12 j 09:17	11°♎48'07		
max. Earth dist.	1293 Sep 27 j 03:02	12°♎20'49	31.29324 AU	
conjunction	1293 Sep 28 j 01:33	12°♎22'55	1°39'05	
minimum elong	1293 Sep 28 j 01:32	12°♎22'55	1°39'05	
morning rise	1293 Oct 13 j 14:13	12°♎57'26		
retrograde	1294 Jan 08 j 03:58	14°♎49'30		
opposition	1294 Mar 26 j 21:59	13°♎27'42	1°46'36	
min. Earth dist.	1294 Mar 27 j 19:39	13°♎26'13	29.29629 AU	
direct	1294 Jun 16 j 02:18	12°♎02'52		
evening set	1294 Sep 14 j 20:33	13°♎59'08		
conjunction	1294 Sep 30 j 12:05	14°♎33'55	1°40'30	
minimum elong	1294 Sep 30 j 12:04	14°♎33'55	1°40'30	
max. Earth dist.	1294 Sep 29 j 12:25	14°♎31'42	31.29669 AU	
morning rise	1294 Oct 16 j 00:21	15°♎08'24		
retrograde	1295 Jan 10 j 14:50	17°♎00'30		
opposition	1295 Mar 29 j 09:16	15°♎38'42	1°48'02	
min. Earth dist.	1295 Mar 30 j 06:46	15°♎37'13	29.29917 AU	
direct	1295 Jun 18 j 12:24	14°♎13'53		
evening set	1295 Sep 17 j 07:32	16°♎10'08		
conjunction	1295 Oct 02 j 22:42	16°♎44'52	1°41'46	
minimum elong	1295 Oct 02 j 22:42	16°♎44'52	1°41'46	
max. Earth dist.	1295 Oct 02 j 00:03	16°♎42'45	31.29891 AU	
morning rise	1295 Oct 18 j 10:17	17°♎19'19		
retrograde	1296 Jan 12 j 23:11	19°♎11'26		
opposition	1296 Mar 30 j 20:47	17°♎49'38	1°49'19	
min. Earth dist.	1296 Mar 31 j 18:51	17°♎48'07	29.30081 AU	
direct	1296 Jun 20 j 00:40	16°♎24'50		
evening set	1296 Sep 18 j 18:23	18°♎21'01		
max. Earth dist.	1296 Oct 03 j 09:22	18°♎53'31	31.30016 AU	
conjunction	1296 Oct 04 j 08:51	18°♎55'43	1°42'53	
minimum elong	1296 Oct 04 j 08:51	18°♎55'43	1°42'54	
morning rise	1296 Oct 19 j 20:09	19°♎30'08		
retrograde	1297 Jan 14 j 10:03	21°♎22'17		
opposition	1297 Apr 02 j 08:07	20°♎00'26	1°50'26	
min. Earth dist.	1297 Apr 03 j 05:17	19°♎59'00	29.30173 AU	
direct	1297 Jun 22 j 11:57	18°♎35'39		
evening set	1297 Sep 21 j 05:05	20°♎31'47		
conjunction	1297 Oct 06 j 19:11	21°♎06'27	1°43'52	
minimum elong	1297 Oct 06 j 19:11	21°♎06'27	1°43'51	
max. Earth dist.	1297 Oct 05 j 20:50	21°♎04'21	31.30079 AU	
morning rise	1297 Oct 22 j 05:52	21°♎40'50		
retrograde	1298 Jan 16 j 19:13	23°♎33'00		
opposition	1298 Apr 04 j 19:30	22°♎11'07	1°51'24	
min. Earth dist.	1298 Apr 05 j 17:27	22°♎09'37	29.30234 AU	
direct	1298 Jun 24 j 22:35	20°♎46'20		
evening set	1298 Sep 23 j 15:48	22°♎42'25		
max. Earth dist.	1298 Oct 08 j 06:51	23°♎14'56	31.30154 AU	
conjunction	1298 Oct 09 j 05:17	23°♎17'02	1°44'42	
minimum elong	1298 Oct 09 j 05:17	23°♎17'02	1°44'42	
morning rise	1298 Oct 24 j 15:37	23°♎51'24		
retrograde	1299 Jan 19 j 06:20	25°♎43'35		
opposition	1299 Apr 07 j 06:56	24°♎21'40	1°52'13	
min. Earth dist.	1299 Apr 08 j 03:21	24°♎20'17	29.30330 AU	
direct	1299 Jun 27 j 11:13	22°♎56'54		
evening set	1299 Sep 26 j 02:15	24°♎52'56		
conjunction	1299 Oct 11 j 15:15	25°♎27'31	1°45'23	
minimum elong	1299 Oct 11 j 15:15	25°♎27'31	1°45'22	
max. Earth dist.	1299 Oct 10 j 17:33	25°♎25'29	31.30278 AU	
morning rise	1299 Oct 27 j 01:03	26°♎01'51		
retrograde	1300 Jan 21 j 17:23	27°♎54'05		
opposition	1300 Apr 08 j 18:36	26°♎32'09	1°52'51	
min. Earth dist.	1300 Apr 09 j 15:19	26°♎30'44	29.30508 AU	
direct	1300 Jun 28 j 23:22	25°♎07'25		
evening set	1300 Sep 27 j 12:41	27°♎03'25		
max. Earth dist.	1300 Oct 12 j 04:21	27°♎36'01	31.30508 AU	
conjunction	1300 Oct 13 j 01:13	27°♎37'58	1°45'54	
minimum elong	1300 Oct 13 j 01:13	27°♎37'58	1°45'55	
morning rise	1300 Oct 28 j 10:36	28°♎12'16		
	1301 Jan 06 j 19:34	0°♏		
retrograde	1301 Jan 23 j 04:15	0°♏04'33		
	1301 Feb 08 j 14:45	30°℞♎		
opposition	1301 Apr 11 j 06:03	28°♎42'37	1°53'21	
min. Earth dist.	1301 Apr 12 j 01:30	28°♎41'17	29.30774 AU	
direct	1301 Jul 01 j 12:45	27°♎17'56		
evening set	1301 Sep 29 j 23:04	29°♎13'55		
conjunction	1301 Oct 15 j 11:04	29°♎48'26	1°46'17	
minimum elong	1301 Oct 15 j 11:04	29°♎48'26	1°46'17	
max. Earth dist.	1301 Oct 14 j 14:12	29°♎46'29	31.30810 AU	
	1301 Oct 20 j 14:38	0°♏		
morning rise	1301 Oct 30 j 20:08	0°♏22'43		
retrograde	1302 Jan 25 j 14:23	2°♏15'04		
opposition	1302 Apr 13 j 17:41	0°♏53'09	1°53'40	
min. Earth dist.	1302 Apr 14 j 13:07	0°♏51'50	29.31105 AU	
	1302 May 18 j 21:43	30°℞♎		
direct	1302 Jul 03 j 23:15	29°♎28'32		
	1302 Aug 17 j 15:36	0°♏		
evening set	1302 Oct 02 j 09:20	1°♏24'29		
conjunction	1302 Oct 17 j 21:00	1°♏58'59	1°46'30	
minimum elong	1302 Oct 17 j 20:59	1°♏58'59	1°46'30	
max. Earth dist.	1302 Oct 17 j 01:32	1°♏57'10	31.31151 AU	
morning rise	1302 Nov 02 j 05:33	2°♏33'15		
retrograde	1303 Jan 27 j 23:30	4°♏25'40		
opposition	1303 Apr 16 j 05:23	3°♏03'46	1°53'49	
min. Earth dist.	1303 Apr 17 j 00:22	3°♏02'29	29.31432 AU	
direct	1303 Jul 06 j 12:42	1°♏39'15		
evening set	1303 Oct 04 j 19:45	3°♏35'09		
max. Earth dist.	1303 Oct 19 j 10:43	4°♏07'45	31.31467 AU	
conjunction	1303 Oct 20 j 06:48	4°♏09'38	1°46'34	
minimum elong	1303 Oct 20 j 06:48	4°♏09'38	1°46'34	
morning rise	1303 Nov 04 j 15:07	4°♏43'53		
retrograde	1304 Jan 30 j 11:04	6°♏36'22		
opposition	1304 Apr 17 j 17:14	5°♏14'30	1°53'48	
min. Earth dist.	1304 Apr 18 j 11:32	5°♏13'15	29.31727 AU	
direct	1304 Jul 07 j 23:19	3°♏50'02		
evening set	1304 Oct 06 j 05:50	5°♏45'55		

conjunction	1304 Oct 21 j 16:38	6°♑20'22	1°46'29
minimum elong	1304 Oct 21 j 16:38	6°♑20'22	1°46'29
max. Earth dist.	1304 Oct 20 j 21:56	6°♑18'37	31.31713 AU
morning rise	1304 Nov 06 j 00:27	6°♑54'36	
retrograde	1305 Jan 31 j 19:27	8°♑47'10	
opposition	1305 Apr 20 j 05:13	7°♑25'18	1°53'38
min. Earth dist.	1305 Apr 20 j 23:57	7°♑24'01	29.31914 AU
direct	1305 Jul 10 j 11:31	6°♑00'54	
evening set	1305 Oct 08 j 16:14	7°♑56'43	
max. Earth dist.	1305 Oct 23 j 06:59	8°♑29'20	31.31843 AU
conjunction	1305 Oct 24 j 02:27	8°♑31'10	1°46'15
minimum elong	1305 Oct 24 j 02:27	8°♑31'10	1°46'14
morning rise	1305 Nov 08 j 10:05	9°♑05'23	
retrograde	1306 Feb 03 j 06:14	10°♑58'00	
opposition	1306 Apr 22 j 17:00	9°♑36'08	1°53'18
min. Earth dist.	1306 Apr 23 j 10:45	9°♑34'56	29.31973 AU
direct	1306 Jul 12 j 22:13	8°♑11'46	
evening set	1306 Oct 11 j 02:28	10°♑07'33	
conjunction	1306 Oct 26 j 12:25	10°♑41'58	1°45'51
minimum elong	1306 Oct 26 j 12:25	10°♑41'58	1°45'52
max. Earth dist.	1306 Oct 25 j 17:55	10°♑40'14	31.31819 AU
morning rise	1306 Nov 10 j 19:35	11°♑16'11	
retrograde	1307 Feb 05 j 15:56	13°♑08'53	
opposition	1307 Apr 25 j 05:13	11°♑46'58	1°52'48
min. Earth dist.	1307 Apr 25 j 23:47	11°♑45'43	29.31873 AU
direct	1307 Jul 15 j 08:44	10°♑22'39	
evening set	1307 Oct 13 j 12:37	12°♑18'21	
conjunction	1307 Oct 28 j 22:06	12°♑52'45	1°45'19
minimum elong	1307 Oct 28 j 22:06	12°♑52'45	1°45'18
max. Earth dist.	1307 Oct 28 j 03:29	12°♑51'00	31.31650 AU
morning rise	1307 Nov 13 j 05:05	13°♑26'57	
	1308 Jan 04 j 22:34	15°♑	
retrograde	1308 Feb 08 j 03:12	15°♑19'43	
	1308 Mar 14 j 08:36	15°℞♑	
opposition	1308 Apr 26 j 17:18	13°♑57'46	1°52'09
min. Earth dist.	1308 Apr 27 j 10:29	13°♑56'36	29.31621 AU
direct	1308 Jul 16 j 21:20	12°♑33'27	
evening set	1308 Oct 14 j 22:41	14°♑29'05	
	1308 Oct 28 j 18:56	15°♑	
conjunction	1308 Oct 30 j 07:51	15°♑03'28	1°44'37
minimum elong	1308 Oct 30 j 07:51	15°♑03'28	1°44'38
max. Earth dist.	1308 Oct 29 j 13:33	15°♑01'45	31.31328 AU
morning rise	1308 Nov 14 j 14:32	15°♑37'39	
retrograde	1309 Feb 09 j 14:26	17°♑30'28	
opposition	1309 Apr 29 j 05:22	16°♑08'28	1°51'20
min. Earth dist.	1309 Apr 29 j 23:10	16°♑07'15	29.31246 AU
	1309 Jun 17 j 07:30	15°℞♑	
direct	1309 Jul 19 j 08:51	14°♑44'10	
	1309 Aug 19 j 19:25	15°♑	
evening set	1309 Oct 17 j 08:34	16°♑39'43	
conjunction	1309 Nov 01 j 17:28	17°♑14'04	1°43'47
minimum elong	1309 Nov 01 j 17:28	17°♑14'04	1°43'47
max. Earth dist.	1309 Oct 31 j 23:58	17°♑12'26	31.30912 AU
morning rise	1309 Nov 16 j 23:55	17°♑48'15	
retrograde	1310 Feb 12 j 01:08	19°♑41'07	
opposition	1310 May 01 j 17:28	18°♑19'02	1°50'22
min. Earth dist.	1310 May 02 j 10:04	18°♑17'55	29.30782 AU
direct	1310 Jul 21 j 22:16	16°♑54'44	
evening set	1310 Oct 19 j 18:23	18°♑50'13	
max. Earth dist.	1310 Nov 03 j 09:22	19°♑22'55	31.30433 AU
conjunction	1310 Nov 04 j 02:51	19°♑24'34	1°42'48
minimum elong	1310 Nov 04 j 02:51	19°♑24'34	1°42'48
morning rise	1310 Nov 19 j 09:09	19°♑58'44	
retrograde	1311 Feb 14 j 11:44	21°♑51'40	
opposition	1311 May 04 j 05:39	20°♑29'31	1°49'14
min. Earth dist.	1311 May 04 j 22:00	20°♑28'24	29.30313 AU
direct	1311 Jul 24 j 09:15	19°♑05'14	
evening set	1311 Oct 22 j 04:01	21°♑00'38	
conjunction	1311 Nov 06 j 12:18	21°♑34'57	1°41'41
minimum elong	1311 Nov 06 j 12:18	21°♑34'57	1°41'40
max. Earth dist.	1311 Nov 05 j 20:39	21°♑33'29	31.29983 AU
morning rise	1311 Nov 21 j 18:16	22°♑09'07	
retrograde	1312 Feb 16 j 21:06	24°♑02'07	
opposition	1312 May 05 j 17:54	22°♑39'55	1°47'57
min. Earth dist.	1312 May 06 j 09:16	22°♑38'53	29.29888 AU
direct	1312 Jul 25 j 23:04	21°♑15'40	
evening set	1312 Oct 23 j 13:39	23°♑10'59	
conjunction	1312 Nov 07 j 21:30	23°♑45'19	1°40'24
minimum elong	1312 Nov 07 j 21:30	23°♑45'19	1°40'24
max. Earth dist.	1312 Nov 07 j 05:41	23°♑43'49	31.29606 AU
morning rise	1312 Nov 23 j 03:27	24°♑19'28	
retrograde	1313 Feb 18 j 08:53	26°♑12'34	
opposition	1313 May 08 j 06:04	24°♑50'20	1°46'31
min. Earth dist.	1313 May 08 j 20:10	24°♑49'23	29.29556 AU
direct	1313 Jul 28 j 10:00	23°♑26'08	
evening set	1313 Oct 25 j 23:10	25°♑21'24	
conjunction	1313 Nov 10 j 06:55	25°♑55'43	1°38'59
minimum elong	1313 Nov 10 j 06:55	25°♑55'43	1°38'58
max. Earth dist.	1313 Nov 09 j 16:58	25°♑54'24	31.29313 AU
morning rise	1313 Nov 25 j 12:32	26°♑29'53	
retrograde	1314 Feb 20 j 17:16	28°♑23'04	
opposition	1314 May 10 j 18:16	27°♑00'50	1°44'56
min. Earth dist.	1314 May 11 j 08:11	26°♑59'54	29.29289 AU
direct	1314 Jul 30 j 22:04	25°♑36'42	
evening set	1314 Oct 28 j 08:49	27°♑31'56	
conjunction	1314 Nov 12 j 16:11	28°♑06'14	1°37'25
minimum elong	1314 Nov 12 j 16:11	28°♑06'14	1°37'26
max. Earth dist.	1314 Nov 12 j 02:12	28°♑04'55	31.29089 AU
morning rise	1314 Nov 27 j 21:49	28°♑40'25	
	1315 Jan 09 j 00:12	0°♐	
retrograde	1315 Feb 23 j 04:15	0°♐33'43	
	1315 Apr 11 j 07:40	30°℞♑	
opposition	1315 May 13 j 06:36	29°♑11'29	1°43'11
min. Earth dist.	1315 May 13 j 18:50	29°♑10'39	29.29077 AU
direct	1315 Aug 02 j 08:28	27°♑47'25	
evening set	1315 Oct 30 j 18:13	29°♑42'36	
	1315 Nov 07 j 13:35	0°♐	
conjunction	1315 Nov 15 j 01:27	0°♐16'55	1°35'43
minimum elong	1315 Nov 15 j 01:27	0°♐16'55	1°35'43
max. Earth dist.	1315 Nov 14 j 12:58	0°♐15'45	31.28880 AU
morning rise	1315 Nov 30 j 06:51	0°♐51'06	
retrograde	1316 Feb 25 j 14:22	2°♐44'32	
opposition	1316 May 14 j 19:09	1°♐22'18	1°41'17
min. Earth dist.	1316 May 15 j 07:44	1°♐21'27	29.28861 AU
	1316 Jul 24 j 12:31	30°℞♑	
direct	1316 Aug 03 j 18:14	29°♑58'19	
	1316 Aug 13 j 23:42	0°♐	
evening set	1316 Nov 01 j 03:48	1°♐53'27	
conjunction	1316 Nov 16 j 10:46	2°♐27'45	1°33'52
minimum elong	1316 Nov 16 j 10:46	2°♐27'45	1°33'53
max. Earth dist.	1316 Nov 15 j 22:44	2°♐26'37	31.28655 AU
morning rise	1316 Dec 01 j 16:09	3°♐01'57	

retrograde	1317 Feb 27 j 01:57	4°♐55'30	
opposition	1317 May 17 j 07:26	3°♐33'16	1°39'15
min. Earth dist.	1317 May 17 j 18:23	3°♐32'31	29.28597 AU
direct	1317 Aug 06 j 06:05	2°♐09'21	
evening set	1317 Nov 03 j 13:23	4°♐04'27	
conjunction	1317 Nov 18 j 20:10	4°♐38'45	1°31'53
minimum elong	1317 Nov 18 j 20:10	4°♐38'45	1°31'53
max. Earth dist.	1317 Nov 18 j 08:31	4°♐37'39	31.28345 AU
morning rise	1317 Dec 04 j 01:28	5°♐12'56	
retrograde	1318 Mar 01 j 14:06	7°♐06'38	
opposition	1318 May 19 j 20:06	5°♐44'21	1°37'03
min. Earth dist.	1318 May 20 j 07:25	5°♐43'35	29.28238 AU
direct	1318 Aug 08 j 16:31	4°♐20'30	
evening set	1318 Nov 05 j 22:54	6°♐15'32	
conjunction	1318 Nov 21 j 05:32	6°♐49'50	1°29'47
minimum elong	1318 Nov 21 j 05:32	6°♐49'50	1°29'47
max. Earth dist.	1318 Nov 20 j 18:55	6°♐48'50	31.27931 AU
morning rise	1318 Dec 06 j 10:41	7°♐24'02	
retrograde	1319 Mar 04 j 01:24	9°♐17'50	
opposition	1319 May 22 j 08:45	7°♐55'31	1°34'44
min. Earth dist.	1319 May 22 j 18:49	7°♐54'51	29.27745 AU
direct	1319 Aug 11 j 04:51	6°♐31'43	
evening set	1319 Nov 08 j 08:33	8°♐26'42	
conjunction	1319 Nov 23 j 14:55	9°♐00'59	1°27'32
minimum elong	1319 Nov 23 j 14:55	9°♐00'59	1°27'32
max. Earth dist.	1319 Nov 23 j 04:02	8°♐59'58	31.27374 AU
morning rise	1319 Dec 08 j 20:09	9°♐35'12	
retrograde	1320 Mar 05 j 13:19	11°♐29'06	
opposition	1320 May 23 j 21:29	10°♐06'43	1°32'16
min. Earth dist.	1320 May 24 j 07:28	10°♐06'03	29.27126 AU
direct	1320 Aug 12 j 15:55	8°♐42'56	
evening set	1320 Nov 09 j 17:56	10°♐37'49	
conjunction	1320 Nov 25 j 00:21	11°♐12'07	1°25'10
minimum elong	1320 Nov 25 j 00:21	11°♐12'07	1°25'11
max. Earth dist.	1320 Nov 24 j 15:00	11°♐11'14	31.26686 AU
morning rise	1320 Dec 10 j 05:26	11°♐46'20	
retrograde	1321 Mar 08 j 00:03	13°♐40'19	
opposition	1321 May 26 j 10:10	12°♐17'52	1°29'41
min. Earth dist.	1321 May 26 j 19:32	12°♐17'14	29.26357 AU
direct	1321 Aug 15 j 06:13	10°♐54'05	
evening set	1321 Nov 12 j 03:29	12°♐48'52	
conjunction	1321 Nov 27 j 09:36	13°♐23'10	1°22'41
minimum elong	1321 Nov 27 j 09:37	13°♐23'10	1°22'41
max. Earth dist.	1321 Nov 26 j 23:47	13°♐22'15	31.25872 AU
morning rise	1321 Dec 12 j 14:52	13°♐57'24	
retrograde	1322 Mar 10 j 12:13	15°♐51'27	
opposition	1322 May 28 j 22:45	14°♐28'54	1°26'58
min. Earth dist.	1322 May 29 j 07:08	14°♐28'20	29.25500 AU
direct	1322 Aug 17 j 17:45	13°♐05'06	
evening set	1322 Nov 14 j 12:47	14°♐59'47	
conjunction	1322 Nov 29 j 18:58	15°♐34'05	1°20'05
minimum elong	1322 Nov 29 j 18:58	15°♐34'05	1°20'06
max. Earth dist.	1322 Nov 29 j 10:54	15°♐33'20	31.24990 AU
morning rise	1322 Dec 15 j 00:05	16°♐08'20	
retrograde	1323 Mar 12 j 20:51	18°♐02'27	
opposition	1323 May 31 j 11:34	16°♐39'48	1°24'08
min. Earth dist.	1323 May 31 j 19:41	16°♐39'15	29.24605 AU
direct	1323 Aug 20 j 06:35	15°♐15'59	
evening set	1323 Nov 16 j 22:00	17°♐10'34	
conjunction	1323 Dec 02 j 03:58	17°♐44'52	1°17'23
minimum elong	1323 Dec 02 j 03:59	17°♐44'52	1°17'22
max. Earth dist.	1323 Dec 01 j 20:10	17°♐44'07	31.24120 AU
morning rise	1323 Dec 17 j 09:17	18°♐19'07	
retrograde	1324 Mar 14 j 07:44	20°♐13'19	
opposition	1324 Jun 02 j 00:14	18°♐50'34	1°21'11
min. Earth dist.	1324 Jun 02 j 06:26	18°♐50'09	29.23759 AU
direct	1324 Aug 21 j 18:16	17°♐26'45	
evening set	1324 Nov 18 j 07:14	19°♐21'14	
conjunction	1324 Dec 03 j 13:14	19°♐55'32	1°14'33
minimum elong	1324 Dec 03 j 13:14	19°♐55'32	1°14'34
max. Earth dist.	1324 Dec 03 j 07:00	19°♐54'57	31.23308 AU
morning rise	1324 Dec 18 j 18:30	20°♐29'48	
retrograde	1325 Mar 16 j 17:45	22°♐24'06	
opposition	1325 Jun 04 j 12:52	21°♐01'17	1°18'06
min. Earth dist.	1325 Jun 04 j 19:03	21°♐00'52	29.22998 AU
direct	1325 Aug 24 j 04:59	19°♐37'30	
evening set	1325 Nov 20 j 16:28	21°♐31'54	
conjunction	1325 Dec 05 j 22:23	22°♐06'12	1°11'38
minimum elong	1325 Dec 05 j 22:24	22°♐06'12	1°11'37
max. Earth dist.	1325 Dec 05 j 17:07	22°♐05'42	31.22610 AU
morning rise	1325 Dec 21 j 03:47	22°♐40'29	
retrograde	1326 Mar 19 j 04:51	24°♐34'53	
opposition	1326 Jun 07 j 01:31	23°♐12'01	1°14'55
min. Earth dist.	1326 Jun 07 j 05:29	23°♐11'45	29.22341 AU
direct	1326 Aug 26 j 16:31	21°♐48'17	
evening set	1326 Nov 23 j 01:35	23°♐42'37	
conjunction	1326 Dec 08 j 07:26	24°♐16'56	1°08'35
minimum elong	1326 Dec 08 j 07:26	24°♐16'56	1°08'36
max. Earth dist.	1326 Dec 08 j 02:59	24°♐16'30	31.22002 AU
morning rise	1326 Dec 23 j 12:57	24°♐51'14	
retrograde	1327 Mar 21 j 16:43	26°♐45'47	
opposition	1327 Jun 09 j 14:26	25°♐22'52	1°11'37
min. Earth dist.	1327 Jun 09 j 18:12	25°♐22'37	29.21778 AU
direct	1327 Aug 29 j 02:08	23°♐59'11	
evening set	1327 Nov 25 j 10:45	25°♐53'28	
conjunction	1327 Dec 10 j 16:41	26°♐27'48	1°05'27
minimum elong	1327 Dec 10 j 16:42	26°♐27'48	1°05'27
max. Earth dist.	1327 Dec 10 j 13:53	26°♐27'32	31.21481 AU
morning rise	1327 Dec 25 j 22:14	27°♐02'07	
retrograde	1328 Mar 23 j 04:15	28°♐56'48	
opposition	1328 Jun 11 j 03:11	27°♐33'53	1°08'12
min. Earth dist.	1328 Jun 11 j 05:16	27°♐33'44	29.21266 AU
direct	1328 Aug 30 j 13:29	26°♐10'16	
evening set	1328 Nov 26 j 20:01	28°♐04'31	
conjunction	1328 Dec 12 j 01:50	28°♐38'51	1°02'12
minimum elong	1328 Dec 12 j 01:50	28°♐38'51	1°02'13
max. Earth dist.	1328 Dec 11 j 23:07	28°♐38'36	31.20983 AU
morning rise	1328 Dec 27 j 07:40	29°♐13'13	
	1329 Jan 18 j 19:14	0°♑	
retrograde	1329 Mar 25 j 17:15	1°♑08'03	
	1329 Jun 04 j 10:08	30°℞♐	
opposition	1329 Jun 13 j 16:07	29°♐45'06	1°04'41
min. Earth dist.	1329 Jun 13 j 17:49	29°♐44'59	29.20768 AU
direct	1329 Sep 01 j 23:48	28°♐21'34	
	1329 Nov 21 j 23:28	0°♑	
evening set	1329 Nov 29 j 05:16	0°♑15'47	
conjunction	1329 Dec 14 j 11:14	0°♑50'08	0°58'52
minimum elong	1329 Dec 14 j 11:14	0°♑50'08	0°58'51
max. Earth dist.	1329 Dec 14 j 10:22	0°♑50'03	31.20467 AU
morning rise	1329 Dec 29 j 17:01	1°♑24'30	
retrograde	1330 Mar 28 j 05:06	3°♑19'29	

opposition	1330 Jun 16 j 05:04	1°♓56'32	1°01'05
min. Earth dist.	1330 Jun 16 j 05:58	1°♓56'28	29.20214 AU
direct	1330 Sep 04 j 12:57	0°♓33'04	
evening set	1330 Dec 01 j 14:46	2°♓27'15	
conjunction	1330 Dec 16 j 20:35	3°♓01'37	0°55'27
minimum elong	1330 Dec 16 j 20:36	3°♓01'37	0°55'27
max. Earth dist.	1330 Dec 16 j 19:23	3°♓01'30	31.19889 AU
morning rise	1331 Jan 01 j 02:41	3°♓36'01	
retrograde	1331 Mar 30 j 18:42	5°♓31'09	
opposition	1331 Jun 18 j 18:10	4°♓08'09	0°57'22
min. Earth dist.	1331 Jun 18 j 18:01	4°♓08'10	29.19592 AU
direct	1331 Sep 06 j 23:44	2°♓44'46	
evening set	1331 Dec 04 j 00:06	4°♓38'54	
conjunction	1331 Dec 19 j 06:06	5°♓13'17	0°51'57
minimum elong	1331 Dec 19 j 06:07	5°♓13'17	0°51'56
max. Earth dist.	1331 Dec 19 j 06:26	5°♓13'19	31.19204 AU
morning rise	1332 Jan 03 j 12:14	5°♓47'43	
retrograde	1332 Apr 01 j 04:54	7°♓42'59	
opposition	1332 Jun 20 j 07:22	6°♓19'57	0°53'35
min. Earth dist.	1332 Jun 20 j 07:13	6°♓19'58	29.18838 AU
direct	1332 Sep 08 j 12:24	4°♓56'36	
evening set	1332 Dec 05 j 09:43	6°♓50'41	
conjunction	1332 Dec 20 j 15:41	7°♓25'05	0°48'22
minimum elong	1332 Dec 20 j 15:41	7°♓25'05	0°48'23
max. Earth dist.	1332 Dec 20 j 15:51	7°♓25'06	31.18395 AU
morning rise	1333 Jan 04 j 22:07	7°♓59'32	
retrograde	1333 Apr 03 j 17:06	9°♓54'56	
opposition	1333 Jun 22 j 20:16	8°♓31'50	0°49'43
min. Earth dist.	1333 Jun 22 j 18:43	8°♓31'57	29.17955 AU
direct	1333 Sep 11 j 00:26	7°♓08'31	
evening set	1333 Dec 07 j 19:14	9°♓02'31	
conjunction	1333 Dec 23 j 01:20	9°♓36'56	0°44'43
minimum elong	1333 Dec 23 j 01:20	9°♓36'56	0°44'43
max. Earth dist.	1333 Dec 23 j 02:29	9°♓37'03	31.17443 AU
morning rise	1334 Jan 07 j 07:54	10°♓11'25	
retrograde	1334 Apr 06 j 04:03	12°♓06'56	
opposition	1334 Jun 25 j 09:31	10°♓43'45	0°45'47
min. Earth dist.	1334 Jun 25 j 08:21	10°♓43'50	29.16947 AU
direct	1334 Sep 13 j 11:51	9°♓20'26	
evening set	1334 Dec 10 j 04:35	11°♓14'21	
conjunction	1334 Dec 25 j 10:47	11°♓48'47	0°41'00
minimum elong	1334 Dec 25 j 10:47	11°♓48'47	0°41'01
max. Earth dist.	1334 Dec 25 j 12:45	11°♓48'58	31.16404 AU
morning rise	1335 Jan 09 j 17:35	12°♓23'17	
retrograde	1335 Apr 08 j 14:56	14°♓18'54	
opposition	1335 Jun 27 j 22:36	12°♓55'38	0°41'47
min. Earth dist.	1335 Jun 27 j 19:32	12°♓55'50	29.15872 AU
direct	1335 Sep 15 j 23:56	11°♓32'18	
evening set	1335 Dec 12 j 14:02	13°♓26'07	
conjunction	1335 Dec 27 j 20:16	14°♓00'34	0°37'14
minimum elong	1335 Dec 27 j 20:16	14°♓00'34	0°37'14
max. Earth dist.	1335 Dec 27 j 22:44	14°♓00'48	31.15320 AU
morning rise	1336 Jan 12 j 03:22	14°♓35'06	
retrograde	1336 Apr 10 j 02:25	16°♓30'50	
opposition	1336 Jun 29 j 11:40	15°♓07'27	0°37'44
min. Earth dist.	1336 Jun 29 j 08:36	15°♓07'39	29.14806 AU
direct	1336 Sep 17 j 09:32	13°♓44'07	
evening set	1336 Dec 13 j 23:21	15°♓37'51	
conjunction	1336 Dec 29 j 05:50	16°♓12'19	0°33'25
minimum elong	1336 Dec 29 j 05:50	16°♓12'19	0°33'25
max. Earth dist.	1336 Dec 29 j 10:01	16°♓12'42	31.14279 AU
morning rise	1337 Jan 13 j 13:04	16°♓46'52	
retrograde	1337 Apr 12 j 13:45	18°♓42'42	
opposition	1337 Jul 02 j 00:39	17°♓19'14	0°33'37
min. Earth dist.	1337 Jul 01 j 19:45	17°♓19'34	29.13792 AU
direct	1337 Sep 19 j 20:52	15°♓55'54	
evening set	1337 Dec 16 j 08:50	17°♓49'34	
conjunction	1337 Dec 31 j 15:15	18°♓24'02	0°29'32
minimum elong	1337 Dec 31 j 15:15	18°♓24'02	0°29'31
max. Earth dist.	1337 Dec 31 j 19:36	18°♓24'27	31.13311 AU
morning rise	1338 Jan 15 j 22:50	18°♓58'38	
retrograde	1338 Apr 15 j 02:54	20°♓54'35	
opposition	1338 Jul 04 j 13:43	19°♓31'02	0°29'27
min. Earth dist.	1338 Jul 04 j 08:11	19°♓31'25	29.12881 AU
direct	1338 Sep 22 j 07:19	18°♓07'43	
evening set	1338 Dec 18 j 18:12	20°♓01'20	
conjunction	1339 Jan 03 j 00:55	20°♓35'50	0°25'37
minimum elong	1339 Jan 03 j 00:55	20°♓35'50	0°25'37
max. Earth dist.	1339 Jan 03 j 07:26	20°♓36'26	31.12451 AU
morning rise	1339 Jan 18 j 08:36	21°♓10'26	
retrograde	1339 Apr 17 j 15:21	23°♓06'31	
opposition	1339 Jul 07 j 02:49	21°♓42'55	0°25'14
min. Earth dist.	1339 Jul 06 j 20:05	21°♓43'22	29.12064 AU
direct	1339 Sep 24 j 19:33	20°♓19'38	
evening set	1339 Dec 21 j 03:42	22°♓13'12	
conjunction	1340 Jan 05 j 10:26	22°♓47'43	0°21'39
minimum elong	1340 Jan 05 j 10:26	22°♓47'43	0°21'39
max. Earth dist.	1340 Jan 05 j 16:58	22°♓48'19	31.11687 AU
morning rise	1340 Jan 20 j 18:35	23°♓22'21	
retrograde	1340 Apr 19 j 04:58	25°♓18'34	
opposition	1340 Jul 08 j 15:53	23°♓54'55	0°20'58
min. Earth dist.	1340 Jul 08 j 07:52	23°♓55'28	29.11337 AU
direct	1340 Sep 26 j 05:36	22°♓31'41	
evening set	1340 Dec 22 j 13:14	24°♓25'13	
conjunction	1341 Jan 06 j 20:15	24°♓59'45	0°17'39
minimum elong	1341 Jan 06 j 20:15	24°♓59'45	0°17'40
max. Earth dist.	1341 Jan 07 j 04:30	25°♓00'31	31.10978 AU
morning rise	1341 Jan 22 j 04:32	25°♓34'25	
retrograde	1341 Apr 21 j 16:26	27°♓30'46	
opposition	1341 Jul 11 j 04:53	26°♓07'05	0°16'40
min. Earth dist.	1341 Jul 10 j 20:38	26°♓07'38	29.10640 AU
direct	1341 Sep 28 j 18:07	24°♓43'54	
evening set	1341 Dec 24 j 22:57	26°♓37'24	
conjunction	1342 Jan 09 j 06:04	27°♓11'57	0°13'38
minimum elong	1342 Jan 09 j 06:03	27°♓11'57	0°13'37
behind sun begin	1342 Jan 09 j 02:27	27°♓11'37	
behind sun end	1342 Jan 09 j 09:40	27°♓12'17	
max. Earth dist.	1342 Jan 09 j 14:34	27°♓12'45	31.10298 AU
morning rise	1342 Jan 24 j 14:42	27°♓46'39	
retrograde	1342 Apr 24 j 06:22	29°♓43'08	
opposition	1342 Jul 13 j 18:02	28°♓19'25	0°12'21
min. Earth dist.	1342 Jul 13 j 08:11	28°♓20'05	29.09952 AU
direct	1342 Oct 01 j 06:16	26°♓56'17	
evening set	1342 Dec 27 j 08:38	28°♓49'45	
conjunction	1343 Jan 11 j 15:55	29°♓24'20	0°09'35
minimum elong	1343 Jan 11 j 15:55	29°♓24'20	0°09'36
behind sun begin	1343 Jan 11 j 10:35	29°♓23'51	
behind sun end	1343 Jan 11 j 21:15	29°♓24'49	
max. Earth dist.	1343 Jan 12 j 01:29	29°♓25'13	31.09582 AU
morning rise	1343 Jan 27 j 00:49	29°♓59'04	
	1343 Jan 27 j 10:56	0°♒	

retrograde	1343 Apr 26 j 18:12	1°♒55'42	
opposition	1343 Jul 16 j 07:24	0°♒31'56	0°08'00
min. Earth dist.	1343 Jul 15 j 21:57	0°♒32'35	29.09211 AU
	1343 Aug 05 j 09:51	30°♑℞	
direct	1343 Oct 03 j 17:39	29°♑08'51	
	1343 Nov 28 j 18:26	0°♒	
evening set	1343 Dec 29 j 18:32	1°♒02'17	
conjunction	1344 Jan 14 j 02:04	1°♒36'53	0°05'32
minimum elong	1344 Jan 14 j 02:03	1°♒36'53	0°05'32
behind sun begin	1344 Jan 13 j 19:53	1°♒36'19	
behind sun end	1344 Jan 14 j 08:13	1°♒37'26	
max. Earth dist.	1344 Jan 14 j 12:20	1°♒37'50	31.08806 AU
morning rise	1344 Jan 29 j 11:15	2°♒11'39	
retrograde	1344 Apr 28 j 06:00	4°♒08'25	
opposition	1344 Jul 17 j 20:29	2°♒44'36	0°03'38
min. Earth dist.	1344 Jul 17 j 09:30	2°♒45'21	29.08378 AU
direct	1344 Oct 05 j 05:37	1°♒21'32	
evening set	1344 Dec 31 j 04:37	3°♒14'57	
conjunction	1345 Jan 15 j 12:15	3°♒49'33	0°01'26
minimum elong	1345 Jan 15 j 12:15	3°♒49'33	0°01'27
behind sun begin	1345 Jan 15 j 05:50	3°♒48'59	
behind sun end	1345 Jan 15 j 18:39	3°♒50'08	
max. Earth dist.	1345 Jan 15 j 22:25	3°♒50'30	31.07903 AU
morning rise	1345 Jan 30 j 21:50	4°♒24'22	
retrograde	1345 Apr 30 j 18:07	6°♒21'16	
desc. node	1345 May 19 j 23:19	6°♒15'24	
opposition	1345 Jul 20 j 09:50	4°♒57'23	-0°00'44
min. Earth dist.	1345 Jul 19 j 23:19	4°♒58'06	29.07415 AU
direct	1345 Oct 07 j 15:45	3°♒34'20	
evening set	1346 Jan 02 j 14:33	5°♒27'41	
conjunction	1346 Jan 17 j 22:30	6°♒02'19	-0°02'46
minimum elong	1346 Jan 17 j 22:31	6°♒02'19	0°02'47
behind sun begin	1346 Jan 17 j 16:07	6°♒01'44	
behind sun end	1346 Jan 18 j 04:54	6°♒02'54	
max. Earth dist.	1346 Jan 18 j 09:56	6°♒03'23	31.06872 AU
morning rise	1346 Feb 02 j 08:17	6°♒37'09	
retrograde	1346 May 03 j 05:58	8°♒34'10	
opposition	1346 Jul 22 j 23:04	7°♒10'12	-0°05'06
min. Earth dist.	1346 Jul 22 j 11:14	7°♒11'01	29.06311 AU
direct	1346 Oct 10 j 03:45	5°♒47'09	
evening set	1347 Jan 05 j 00:42	7°♒40'26	
conjunction	1347 Jan 20 j 08:45	8°♒15'05	-0°06'51
minimum elong	1347 Jan 20 j 08:45	8°♒15'05	0°06'50
behind sun begin	1347 Jan 20 j 02:46	8°♒14'33	
behind sun end	1347 Jan 20 j 14:43	8°♒15'38	
max. Earth dist.	1347 Jan 20 j 19:45	8°♒16'07	31.05720 AU
morning rise	1347 Feb 04 j 19:01	8°♒49'57	
retrograde	1347 May 05 j 19:14	10°♒47'05	
opposition	1347 Jul 25 j 12:22	9°♒23'01	-0°09'27
min. Earth dist.	1347 Jul 25 j 00:30	9°♒23'49	29.05126 AU
direct	1347 Oct 12 j 14:07	7°♒59'56	
evening set	1348 Jan 07 j 10:37	9°♒53'09	
conjunction	1348 Jan 22 j 19:04	10°♒27'50	-0°10'54
minimum elong	1348 Jan 22 j 19:05	10°♒27'50	0°10'54
behind sun begin	1348 Jan 22 j 14:10	10°♒27'23	
behind sun end	1348 Jan 22 j 23:59	10°♒28'17	
max. Earth dist.	1348 Jan 23 j 07:53	10°♒29'02	31.04504 AU
morning rise	1348 Feb 07 j 05:33	11°♒02'43	
retrograde	1348 May 07 j 07:25	12°♒59'56	
opposition	1348 Jul 27 j 01:30	11°♒35'46	-0°13'48
min. Earth dist.	1348 Jul 26 j 12:50	11°♒36'38	29.03896 AU
direct	1348 Oct 14 j 02:15	10°♒12'39	
evening set	1349 Jan 08 j 20:47	12°♒05'51	
conjunction	1349 Jan 24 j 05:20	12°♒40'32	-0°14'56
minimum elong	1349 Jan 24 j 05:19	12°♒40'32	0°14'56
behind sun begin	1349 Jan 24 j 02:44	12°♒40'18	
behind sun end	1349 Jan 24 j 07:54	12°♒40'46	
max. Earth dist.	1349 Jan 24 j 17:53	12°♒41'43	31.03288 AU
morning rise	1349 Feb 08 j 16:16	13°♒15'27	
	1349 Apr 11 j 20:22	15°♒	
retrograde	1349 May 09 j 21:05	15°♒12'46	
	1349 Jun 07 j 10:28	15°♑℞	
opposition	1349 Jul 29 j 14:28	13°♒48'30	-0°18'07
min. Earth dist.	1349 Jul 29 j 00:47	13°♒49'26	29.02713 AU
direct	1349 Oct 16 j 12:16	12°♒25'22	
evening set	1350 Jan 11 j 06:51	14°♒18'31	
conjunction	1350 Jan 26 j 15:43	14°♒53'14	-0°18'57
minimum elong	1350 Jan 26 j 15:43	14°♒53'14	0°18'58
max. Earth dist.	1350 Jan 27 j 05:58	14°♒54'34	31.02132 AU
	1350 Jan 29 j 15:07	15°♒	
morning rise	1350 Feb 11 j 02:53	15°♒28'10	
retrograde	1350 May 12 j 09:19	17°♒25'36	
opposition	1350 Aug 01 j 03:36	16°♒01'15	-0°22'25
min. Earth dist.	1350 Jul 31 j 13:29	16°♒02'13	29.01610 AU
	1350 Sep 12 j 00:12	15°♑℞	
direct	1350 Oct 19 j 00:54	14°♒38'07	
	1350 Nov 24 j 00:04	15°♒	
evening set	1351 Jan 13 j 16:54	16°♒31'14	
conjunction	1351 Jan 29 j 01:59	17°♒05'58	-0°22'58
minimum elong	1351 Jan 29 j 01:59	17°♒05'58	0°22'57
max. Earth dist.	1351 Jan 29 j 16:40	17°♒07'21	31.01093 AU
morning rise	1351 Feb 13 j 13:34	17°♒40'57	
retrograde	1351 May 15 j 00:06	19°♒38'30	
opposition	1351 Aug 03 j 16:37	18°♒14'05	-0°26'41
min. Earth dist.	1351 Aug 03 j 00:47	18°♒15'09	29.00631 AU
direct	1351 Oct 21 j 13:06	16°♒50'57	
evening set	1352 Jan 16 j 03:09	18°♒44'03	
conjunction	1352 Jan 31 j 12:30	19°♒18'49	-0°26'56
minimum elong	1352 Jan 31 j 12:29	19°♒18'49	0°26'56
max. Earth dist.	1352 Feb 01 j 04:16	19°♒20'19	31.00158 AU
morning rise	1352 Feb 16 j 00:26	19°♒53'50	
retrograde	1352 May 16 j 12:10	21°♒51'30	
opposition	1352 Aug 05 j 05:34	20°♒27'02	-0°30'55
min. Earth dist.	1352 Aug 04 j 13:58	20°♒28'06	28.99758 AU
direct	1352 Oct 23 j 00:15	19°♒03'56	
evening set	1353 Jan 17 j 13:24	20°♒57'02	
conjunction	1353 Feb 01 j 23:05	21°♒31'49	-0°30'52
minimum elong	1353 Feb 01 j 23:05	21°♒31'49	0°30'51
max. Earth dist.	1353 Feb 02 j 15:53	21°♒33'25	30.99340 AU
morning rise	1353 Feb 17 j 11:21	22°♒06'52	
retrograde	1353 May 19 j 00:33	24°♒04'40	
opposition	1353 Aug 07 j 18:29	22°♒40'10	-0°35'06
min. Earth dist.	1353 Aug 07 j 01:06	22°♒41'22	28.98980 AU
direct	1353 Oct 25 j 12:19	21°♒17'07	
evening set	1354 Jan 19 j 23:45	23°♒10'12	
conjunction	1354 Feb 04 j 09:34	23°♒45'01	-0°34'45
minimum elong	1354 Feb 04 j 09:34	23°♒45'01	0°34'46
max. Earth dist.	1354 Feb 05 j 02:34	23°♒46'37	30.98588 AU
morning rise	1354 Feb 19 j 22:18	24°♒20'06	
retrograde	1354 May 21 j 13:20	26°♒18'02	
opposition	1354 Aug 10 j 07:38	24°♒53'30	-0°39'14
min. Earth dist.	1354 Aug 09 j 14:32	24°♒54'41	28.98263 AU
direct	1354 Oct 27 j 22:33	23°♒30'29	

evening set	1355 Jan 22 j 10:12	25°♒23'35	
conjunction	1355 Feb 06 j 20:28	25°♒58'25	-0°38'36
minimum elong	1355 Feb 06 j 20:28	25°♒58'25	0°38'36
max. Earth dist.	1355 Feb 07 j 14:56	26°♒00'10	30.97886 AU
morning rise	1355 Feb 22 j 09:25	26°♒33'32	
retrograde	1355 May 24 j 01:39	28°♒31'36	
opposition	1355 Aug 12 j 20:34	27°♒07'03	-0°43'20
min. Earth dist.	1355 Aug 12 j 02:09	27°♒08'19	28.97562 AU
direct	1355 Oct 30 j 10:18	25°♒44'04	
evening set	1356 Jan 24 j 20:56	27°♒37'10	
conjunction	1356 Feb 09 j 07:20	28°♒12'01	-0°42'24
minimum elong	1356 Feb 09 j 07:20	28°♒12'01	0°42'25
max. Earth dist.	1356 Feb 10 j 01:18	28°♒13'43	30.97172 AU
morning rise	1356 Feb 24 j 20:50	28°♒47'11	
	1356 Apr 01 j 22:36	0°♓	
retrograde	1356 May 25 j 14:40	0°♓45'22	
	1356 Jul 20 j 14:49	30°℞♒	
opposition	1356 Aug 14 j 09:39	29°♒20'47	-0°47'21
min. Earth dist.	1356 Aug 13 j 15:29	29°♒22'02	28.96834 AU
direct	1356 Oct 31 j 20:09	27°♒57'49	
evening set	1357 Jan 26 j 07:45	29°♒50'55	
	1357 Jan 30 j 09:24	0°♓	
conjunction	1357 Feb 10 j 18:35	0°♓25'49	-0°46'08
minimum elong	1357 Feb 10 j 18:34	0°♓25'49	0°46'07
max. Earth dist.	1357 Feb 11 j 13:55	0°♓27'38	30.96395 AU
morning rise	1357 Feb 26 j 08:15	1°♓00'59	
retrograde	1357 May 28 j 02:37	2°♓59'17	
opposition	1357 Aug 16 j 22:34	1°♓34'40	-0°51'18
min. Earth dist.	1357 Aug 16 j 04:01	1°♓35'56	28.96011 AU
direct	1357 Nov 03 j 07:24	0°♓11'42	
evening set	1358 Jan 28 j 18:45	2°♓04'47	
conjunction	1358 Feb 13 j 05:46	2°♓39'42	-0°49'47
minimum elong	1358 Feb 13 j 05:46	2°♓39'42	0°49'48
max. Earth dist.	1358 Feb 14 j 00:18	2°♓41'27	30.95527 AU
morning rise	1358 Feb 28 j 19:58	3°♓14'54	
retrograde	1358 May 30 j 17:03	5°♓13'18	
opposition	1358 Aug 19 j 11:40	3°♓48'36	-0°55'11
min. Earth dist.	1358 Aug 18 j 16:41	3°♓49'54	28.95099 AU
direct	1358 Nov 05 j 17:20	2°♓25'36	
evening set	1359 Jan 31 j 05:37	4°♓18'41	
conjunction	1359 Feb 15 j 17:04	4°♓53'37	-0°53'23
minimum elong	1359 Feb 15 j 17:04	4°♓53'37	0°53'22
max. Earth dist.	1359 Feb 16 j 12:38	4°♓55'28	30.94554 AU
morning rise	1359 Mar 03 j 07:34	5°♓28'51	
retrograde	1359 Jun 02 j 05:39	7°♓27'19	
min. Earth dist.	1359 Aug 21 j 05:58	6°♓03'49	28.94084 AU
opposition	1359 Aug 22 j 00:42	6°♓02'31	-0°58'59
direct	1359 Nov 08 j 06:05	4°♓39'29	
evening set	1360 Feb 02 j 16:41	6°♓32'31	
conjunction	1360 Feb 18 j 04:26	7°♓07'28	-0°56'53
minimum elong	1360 Feb 18 j 04:26	7°♓07'28	0°56'53
max. Earth dist.	1360 Feb 18 j 23:49	7°♓09'18	30.93520 AU
morning rise	1360 Mar 04 j 19:25	7°♓42'44	
retrograde	1360 Jun 03 j 20:28	9°♓41'14	
opposition	1360 Aug 23 j 13:24	8°♓16'21	-1°02'41
min. Earth dist.	1360 Aug 22 j 17:38	8°♓17'43	28.93038 AU
direct	1360 Nov 09 j 18:10	6°♓53'15	
evening set	1361 Feb 04 j 03:44	8°♓46'16	
conjunction	1361 Feb 19 j 15:48	9°♓21'14	-1°00'18
minimum elong	1361 Feb 19 j 15:48	9°♓21'14	1°00'18
max. Earth dist.	1361 Feb 20 j 11:50	9°♓23'08	30.92464 AU
morning rise	1361 Mar 07 j 07:10	9°♓56'32	
retrograde	1361 Jun 06 j 08:35	11°♓55'05	
min. Earth dist.	1361 Aug 25 j 07:04	10°♓31'25	28.92011 AU
opposition	1361 Aug 26 j 02:17	10°♓30'06	-1°06'18
direct	1361 Nov 12 j 05:34	9°♓06'57	
evening set	1362 Feb 06 j 14:38	10°♓59'55	
conjunction	1362 Feb 22 j 03:07	11°♓34'55	-1°03'38
minimum elong	1362 Feb 22 j 03:07	11°♓34'55	1°03'39
max. Earth dist.	1362 Feb 23 j 00:01	11°♓36'54	30.91475 AU
morning rise	1362 Mar 09 j 18:48	12°♓10'14	
retrograde	1362 Jun 08 j 22:15	14°♓08'50	
opposition	1362 Aug 28 j 15:00	12°♓43'46	-1°09'49
min. Earth dist.	1362 Aug 27 j 18:11	12°♓45'12	28.91073 AU
direct	1362 Nov 14 j 18:35	11°♓20'35	
evening set	1363 Feb 09 j 01:51	13°♓13'32	
conjunction	1363 Feb 24 j 14:32	13°♓48'33	-1°06'53
minimum elong	1363 Feb 24 j 14:32	13°♓48'33	1°06'52
max. Earth dist.	1363 Feb 25 j 11:26	13°♓50'32	30.90583 AU
morning rise	1363 Mar 12 j 06:45	14°♓23'54	
retrograde	1363 Jun 11 j 11:41	16°♓22'34	
min. Earth dist.	1363 Aug 30 j 07:19	14°♓58'50	28.90261 AU
opposition	1363 Aug 31 j 03:43	14°♓57'25	-1°13'14
direct	1363 Nov 17 j 05:33	13°♓34'13	
evening set	1364 Feb 11 j 12:57	15°♓27'10	
conjunction	1364 Feb 27 j 02:11	16°♓02'13	-1°10'01
minimum elong	1364 Feb 27 j 02:11	16°♓02'13	1°10'02
max. Earth dist.	1364 Feb 28 j 00:30	16°♓04'20	30.89835 AU
morning rise	1364 Mar 13 j 18:40	16°♓37'35	
retrograde	1364 Jun 12 j 23:51	18°♓36'19	
opposition	1364 Sep 01 j 16:16	17°♓11'08	-1°16'32
min. Earth dist.	1364 Aug 31 j 18:29	17°♓12'38	28.89578 AU
direct	1364 Nov 18 j 17:52	15°♓47'56	
evening set	1365 Feb 13 j 00:18	17°♓40'54	
conjunction	1365 Feb 28 j 13:42	18°♓15'57	-1°13'04
minimum elong	1365 Feb 28 j 13:42	18°♓15'57	1°13'03
max. Earth dist.	1365 Mar 01 j 11:35	18°♓18'02	30.89214 AU
morning rise	1365 Mar 16 j 06:43	18°♓51'22	
retrograde	1365 Jun 15 j 12:38	20°♓50'10	
min. Earth dist.	1365 Sep 03 j 07:14	19°♓26'28	28.89033 AU
opposition	1365 Sep 04 j 04:55	19°♓24'58	-1°19'43
direct	1365 Nov 21 j 03:36	18°♓01'47	
evening set	1366 Feb 15 j 11:36	19°♓54'46	
conjunction	1366 Mar 03 j 01:32	20°♓29'52	-1°15'59
minimum elong	1366 Mar 03 j 01:32	20°♓29'51	1°16'00
max. Earth dist.	1366 Mar 04 j 01:03	20°♓32'05	30.88722 AU
morning rise	1366 Mar 18 j 18:48	21°♓05'17	
retrograde	1366 Jun 18 j 00:37	23°♓04'11	
opposition	1366 Sep 06 j 17:31	21°♓38'58	-1°22'48
min. Earth dist.	1366 Sep 05 j 19:14	21°♓40'31	28.88592 AU
direct	1366 Nov 23 j 14:36	20°♓15'49	
evening set	1367 Feb 17 j 23:06	22°♓08'50	
conjunction	1367 Mar 05 j 13:18	22°♓43'58	-1°18'48
minimum elong	1367 Mar 05 j 13:18	22°♓43'58	1°18'48
max. Earth dist.	1367 Mar 06 j 12:12	22°♓46'08	30.88329 AU
morning rise	1367 Mar 21 j 07:09	23°♓19'26	
retrograde	1367 Jun 20 j 15:13	25°♓18'25	
min. Earth dist.	1367 Sep 08 j 07:33	23°♓54'47	28.88234 AU
opposition	1367 Sep 09 j 06:09	23°♓53'13	-1°25'45
direct	1367 Nov 26 j 00:09	22°♓30'05	
evening set	1368 Feb 20 j 10:48	24°♓23'09	

conjunction	1368 Mar 07 j 01:28	24°♓58'19	-1°21'30
minimum elong	1368 Mar 07 j 01:28	24°♓58'19	1°21'31
max. Earth dist.	1368 Mar 08 j 01:21	25°♓00'34	30.87970 AU
morning rise	1368 Mar 22 j 19:36	25°♓33'48	
retrograde	1368 Jun 22 j 03:47	27°♓32'52	
opposition	1368 Sep 10 j 18:37	26°♓07'41	-1°28'34
min. Earth dist.	1368 Sep 09 j 20:28	26°♓09'14	28.87879 AU
direct	1368 Nov 27 j 11:53	24°♓44'36	
evening set	1369 Feb 21 j 22:43	26°♓37'43	
conjunction	1369 Mar 09 j 13:43	27°♓12'54	-1°24'05
minimum elong	1369 Mar 09 j 13:42	27°♓12'54	1°24'04
max. Earth dist.	1369 Mar 10 j 13:03	27°♓15'06	30.87607 AU
morning rise	1369 Mar 25 j 08:18	27°♓48'25	
retrograde	1369 Jun 24 j 19:02	29°♓47'34	
min. Earth dist.	1369 Sep 12 j 08:23	28°♓23'58	28.87493 AU
opposition	1369 Sep 13 j 07:11	28°♓22'23	-1°31'15
direct	1369 Nov 29 j 23:15	26°♓59'18	
evening set	1370 Feb 24 j 10:38	28°♓52'28	
conjunction	1370 Mar 12 j 01:59	29°♓27'41	-1°26'32
minimum elong	1370 Mar 12 j 01:59	29°♓27'41	1°26'33
max. Earth dist.	1370 Mar 13 j 01:28	29°♓29'54	30.87166 AU
	1370 Mar 26 j 09:55	0°♈	
morning rise	1370 Mar 27 j 20:58	0°♈03'14	
retrograde	1370 Jun 27 j 08:00	2°♈02'27	
opposition	1370 Sep 15 j 19:55	0°♈37'15	-1°33'48
min. Earth dist.	1370 Sep 14 j 22:13	0°♈38'45	28.87013 AU
	1370 Oct 08 j 22:24	30°♑℞	
direct	1370 Dec 02 j 10:17	29°♓14'09	
	1371 Jan 23 j 21:13	0°♈	
evening set	1371 Feb 26 j 22:43	1°♈07'21	
conjunction	1371 Mar 14 j 14:35	1°♈42'35	-1°28'51
minimum elong	1371 Mar 14 j 14:35	1°♈42'35	1°28'51
max. Earth dist.	1371 Mar 15 j 14:05	1°♈44'48	30.86642 AU
morning rise	1371 Mar 30 j 09:57	2°♈18'10	
retrograde	1371 Jun 29 j 23:07	4°♈17'24	
min. Earth dist.	1371 Sep 17 j 09:52	2°♈53'44	28.86438 AU
opposition	1371 Sep 18 j 08:18	2°♈52'10	-1°36'13
direct	1371 Dec 04 j 23:47	1°♈29'03	
evening set	1372 Feb 29 j 10:58	3°♈22'15	
conjunction	1372 Mar 16 j 03:09	3°♈57'31	-1°31'03
minimum elong	1372 Mar 16 j 03:09	3°♈57'31	1°31'03
max. Earth dist.	1372 Mar 17 j 01:51	3°♈59'40	30.86018 AU
morning rise	1372 Mar 31 j 23:03	4°♈33'08	
retrograde	1372 Jul 01 j 13:23	6°♈32'22	
opposition	1372 Sep 19 j 20:50	5°♈07'05	-1°38'29
min. Earth dist.	1372 Sep 18 j 23:33	5°♈08'34	28.85791 AU
direct	1372 Dec 06 j 11:38	3°♈43'55	
evening set	1373 Mar 02 j 23:00	5°♈37'07	
conjunction	1373 Mar 18 j 15:44	6°♈12'25	-1°33'06
minimum elong	1373 Mar 18 j 15:44	6°♈12'25	1°33'05
max. Earth dist.	1373 Mar 19 j 15:13	6°♈14'38	30.85353 AU
morning rise	1373 Apr 03 j 11:53	6°♈48'03	
retrograde	1373 Jul 04 j 01:39	8°♈47'16	
min. Earth dist.	1373 Sep 21 j 10:57	7°♈23'29	28.85123 AU
opposition	1373 Sep 22 j 09:04	7°♈21'57	-1°40'36
direct	1373 Dec 09 j 00:43	5°♈58'43	
evening set	1374 Mar 05 j 11:18	7°♈51'55	
conjunction	1374 Mar 21 j 04:17	8°♈27'14	-1°35'00
minimum elong	1374 Mar 21 j 04:17	8°♈27'14	1°35'01
max. Earth dist.	1374 Mar 22 j 02:51	8°♈29'22	30.84701 AU
morning rise	1374 Apr 06 j 01:02	9°♈02'54	
retrograde	1374 Jul 06 j 14:49	11°♈02'06	
opposition	1374 Sep 24 j 21:23	9°♈36'43	-1°42'34
min. Earth dist.	1374 Sep 23 j 23:52	9°♈38'13	28.84513 AU
direct	1374 Dec 11 j 11:22	8°♈13'26	
evening set	1375 Mar 07 j 23:25	10°♈06'38	
conjunction	1375 Mar 23 j 17:01	10°♈41'59	-1°36'46
minimum elong	1375 Mar 23 j 17:01	10°♈41'59	1°36'45
max. Earth dist.	1375 Mar 24 j 16:52	10°♈44'14	30.84124 AU
morning rise	1375 Apr 08 j 14:03	11°♈17'40	
retrograde	1375 Jul 09 j 02:56	13°♈16'51	
min. Earth dist.	1375 Sep 26 j 11:40	11°♈52'58	28.83983 AU
opposition	1375 Sep 27 j 09:32	11°♈51'26	-1°44'22
direct	1375 Dec 13 j 23:18	10°♈28'06	
evening set	1376 Mar 09 j 11:51	12°♈21'19	
conjunction	1376 Mar 25 j 05:45	12°♈56'41	-1°38'23
minimum elong	1376 Mar 25 j 05:45	12°♈56'41	1°38'23
max. Earth dist.	1376 Mar 26 j 04:38	12°♈58'50	30.83654 AU
morning rise	1376 Apr 10 j 03:19	13°♈32'24	
retrograde	1376 Jul 10 j 16:12	15°♈31'34	
opposition	1376 Sep 28 j 21:32	14°♈06'07	-1°46'01
min. Earth dist.	1376 Sep 27 j 23:34	14°♈07'39	28.83585 AU
direct	1376 Dec 15 j 09:37	12°♈42'45	
evening set	1377 Mar 12 j 00:11	14°♈35'59	
conjunction	1377 Mar 27 j 18:36	15°♈11'22	-1°39'51
minimum elong	1377 Mar 27 j 18:36	15°♈11'22	1°39'50
max. Earth dist.	1377 Mar 28 j 18:29	15°♈13'37	30.83310 AU
morning rise	1377 Apr 12 j 16:28	15°♈47'06	
retrograde	1377 Jul 13 j 03:11	17°♈46'16	
min. Earth dist.	1377 Sep 30 j 11:55	16°♈22'20	28.83311 AU
opposition	1377 Oct 01 j 09:38	16°♈20'48	-1°47'31
direct	1377 Dec 17 j 20:58	14°♈57'25	
evening set	1378 Mar 14 j 12:30	16°♈50'41	
conjunction	1378 Mar 30 j 07:21	17°♈26'05	-1°41'10
minimum elong	1378 Mar 30 j 07:21	17°♈26'05	1°41'10
max. Earth dist.	1378 Mar 31 j 06:45	17°♈28'18	30.83113 AU
morning rise	1378 Apr 15 j 05:44	18°♈01'51	
retrograde	1378 Jul 15 j 17:36	20°♈01'01	
opposition	1378 Oct 03 j 21:41	18°♈35'33	-1°48'50
min. Earth dist.	1378 Oct 02 j 23:13	18°♈37'08	28.83176 AU
direct	1378 Dec 20 j 07:35	17°♈12'09	
evening set	1379 Mar 17 j 01:07	19°♈05'27	
conjunction	1379 Apr 01 j 20:25	19°♈40'54	-1°42'20
minimum elong	1379 Apr 01 j 20:25	19°♈40'54	1°42'19
max. Earth dist.	1379 Apr 02 j 20:06	19°♈43'08	30.83022 AU
morning rise	1379 Apr 17 j 19:12	20°♈16'41	
retrograde	1379 Jul 18 j 06:00	22°♈15'50	
opposition	1379 Oct 06 j 09:40	20°♈50'24	-1°49'59
min. Earth dist.	1379 Oct 05 j 12:17	20°♈51'54	28.83134 AU
direct	1379 Dec 22 j 18:05	19°♈27'00	
evening set	1380 Mar 18 j 13:49	21°♈20'22	
conjunction	1380 Apr 03 j 09:39	21°♈55'50	-1°43'20
minimum elong	1380 Apr 03 j 09:39	21°♈55'50	1°43'21
max. Earth dist.	1380 Apr 04 j 09:19	21°♈58'04	30.83022 AU
morning rise	1380 Apr 19 j 08:49	22°♈31'38	
retrograde	1380 Jul 19 j 20:57	24°♈30'47	
opposition	1380 Oct 07 j 21:34	23°♈05'23	-1°50'58
min. Earth dist.	1380 Oct 06 j 23:32	23°♈06'56	28.83149 AU
direct	1380 Dec 24 j 07:15	21°♈41'59	
evening set	1381 Mar 21 j 02:40	23°♈35'24	
conjunction	1381 Apr 05 j 22:48	24°♈10'54	-1°44'10

minimum elong	1381 Apr 05 j 22:48	24°♈10'54	1°44'10
max. Earth dist.	1381 Apr 06 j 21:41	24°♈13'04	30.83030 AU
morning rise	1381 Apr 21 j 22:27	24°♈46'45	
retrograde	1381 Jul 22 j 10:43	26°♈45'53	
opposition	1381 Oct 10 j 09:39	25°♈20'30	-1°51'47
min. Earth dist.	1381 Oct 09 j 13:01	25°♈21'57	28.83155 AU
direct	1381 Dec 26 j 18:39	23°♈57'06	
evening set	1382 Mar 23 j 15:36	25°♈50'35	
conjunction	1382 Apr 08 j 12:21	26°♈26'07	-1°44'51
minimum elong	1382 Apr 08 j 12:21	26°♈26'07	1°44'52
max. Earth dist.	1382 Apr 09 j 11:28	26°♈28'18	30.83013 AU
morning rise	1382 Apr 24 j 12:17	27°♈01'59	
retrograde	1382 Jul 25 j 00:33	29°♈01'06	
opposition	1382 Oct 12 j 21:31	27°♈35'44	-1°52'26
min. Earth dist.	1382 Oct 12 j 00:33	27°♈37'13	28.83095 AU
direct	1382 Dec 29 j 07:40	26°♈12'19	
evening set	1383 Mar 26 j 04:49	28°♈05'51	
conjunction	1383 Apr 11 j 01:53	28°♈41'24	-1°45'23
minimum elong	1383 Apr 11 j 01:53	28°♈41'24	1°45'22
max. Earth dist.	1383 Apr 11 j 23:19	28°♈43'25	30.82905 AU
morning rise	1383 Apr 27 j 02:24	29°♈17'18	
	1383 May 17 j 12:42	0°♉	
retrograde	1383 Jul 27 j 14:57	1°♉16'22	
	1383 Oct 10 j 01:34	30°℞♈	
opposition	1383 Oct 15 j 09:33	29°♈51'01	-1°52'54
min. Earth dist.	1383 Oct 14 j 13:50	29°♈52'24	28.82939 AU
direct	1383 Dec 31 j 18:59	28°♈27'33	
	1384 Mar 17 j 22:18	0°♉	
evening set	1384 Mar 27 j 17:56	0°♉21'06	
conjunction	1384 Apr 12 j 15:39	0°♉56'42	-1°45'45
minimum elong	1384 Apr 12 j 15:39	0°♉56'42	1°45'45
max. Earth dist.	1384 Apr 13 j 13:31	0°♉58'46	30.82694 AU
morning rise	1384 Apr 28 j 16:23	1°♉32'37	
retrograde	1384 Jul 29 j 03:38	3°♉31'37	
opposition	1384 Oct 16 j 21:16	2°♉06'16	-1°53'12
min. Earth dist.	1384 Oct 16 j 01:53	2°♉07'38	28.82677 AU
direct	1385 Jan 02 j 07:46	0°♉42'45	
evening set	1385 Mar 30 j 07:10	2°♉36'19	
conjunction	1385 Apr 15 j 05:11	3°♉11'57	-1°45'57
minimum elong	1385 Apr 15 j 05:11	3°♉11'57	1°45'57
max. Earth dist.	1385 Apr 16 j 01:26	3°♉13'51	30.82412 AU
morning rise	1385 May 01 j 06:31	3°♉47'53	
retrograde	1385 Jul 31 j 16:46	5°♉46'48	
opposition	1385 Oct 19 j 09:02	4°♉21'26	-1°53'20
min. Earth dist.	1385 Oct 18 j 14:09	4°♉22'46	28.82381 AU
direct	1386 Jan 04 j 18:48	2°♉57'51	
evening set	1386 Apr 01 j 20:09	4°♉51'26	
conjunction	1386 Apr 17 j 18:47	5°♉27'05	-1°46'00
minimum elong	1386 Apr 17 j 18:47	5°♉27'05	1°46'00
max. Earth dist.	1386 Apr 18 j 15:32	5°♉29'02	30.82105 AU
morning rise	1386 May 03 j 20:24	6°♉03'03	
retrograde	1386 Aug 03 j 03:35	8°♉01'53	
opposition	1386 Oct 21 j 20:42	6°♉36'29	-1°53'18
min. Earth dist.	1386 Oct 21 j 02:36	6°♉37'46	28.82081 AU
direct	1387 Jan 07 j 06:35	5°♉12'50	
evening set	1387 Apr 04 j 09:24	7°♉06'27	
conjunction	1387 Apr 20 j 08:26	7°♉42'08	-1°45'53
minimum elong	1387 Apr 20 j 08:26	7°♉42'08	1°45'52
max. Earth dist.	1387 Apr 21 j 04:04	7°♉43'58	30.81840 AU
morning rise	1387 May 06 j 10:33	8°♉18'06	
retrograde	1387 Aug 05 j 17:29	10°♉16'51	
opposition	1387 Oct 24 j 08:03	8°♉51'27	-1°53'05
min. Earth dist.	1387 Oct 23 j 13:40	8°♉52'45	28.81852 AU
direct	1388 Jan 09 j 17:14	7°♉27'43	
evening set	1388 Apr 05 j 22:38	9°♉21'23	
conjunction	1388 Apr 21 j 22:09	9°♉57'05	-1°45'36
minimum elong	1388 Apr 21 j 22:09	9°♉57'05	1°45'36
max. Earth dist.	1388 Apr 22 j 17:50	9°♉58'56	30.81648 AU
morning rise	1388 May 08 j 00:36	10°♉33'04	
retrograde	1388 Aug 07 j 04:32	12°♉31'44	
opposition	1388 Oct 25 j 19:33	11°♉06'20	-1°52'42
min. Earth dist.	1388 Oct 25 j 02:21	11°♉07'33	28.81720 AU
direct	1389 Jan 11 j 03:54	9°♉42'33	
evening set	1389 Apr 08 j 11:43	11°♉36'15	
conjunction	1389 Apr 24 j 11:43	12°♉11'58	-1°45'10
minimum elong	1389 Apr 24 j 11:43	12°♉11'58	1°45'09
max. Earth dist.	1389 Apr 25 j 07:13	12°♉13'48	30.81589 AU
morning rise	1389 May 10 j 14:31	12°♉47'59	
retrograde	1389 Aug 09 j 18:10	14°♉46'34	
opposition	1389 Oct 28 j 06:53	13°♉21'11	-1°52'09
min. Earth dist.	1389 Oct 27 j 12:55	13°♉22'27	28.81727 AU
direct	1390 Jan 13 j 17:04	11°♉57'21	
evening set	1390 Apr 11 j 01:02	13°♉51'06	
conjunction	1390 Apr 27 j 01:24	14°♉26'51	-1°44'34
minimum elong	1390 Apr 27 j 01:24	14°♉26'51	1°44'34
max. Earth dist.	1390 Apr 27 j 20:16	14°♉28'37	30.81668 AU
	1390 May 11 j 21:13	15°♉	
morning rise	1390 May 13 j 04:39	15°♉02'53	
retrograde	1390 Aug 12 j 06:46	17°♉01'23	
opposition	1390 Oct 30 j 18:14	15°♉36'02	-1°51'25
min. Earth dist.	1390 Oct 30 j 01:32	15°♉37'13	28.81888 AU
	1390 Nov 21 j 16:22	15°℞♉	
direct	1391 Jan 16 j 04:02	14°♉12'10	
	1391 Mar 11 j 02:31	15°♉	
evening set	1391 Apr 13 j 14:17	16°♉05'59	
conjunction	1391 Apr 29 j 15:18	16°♉41'46	-1°43'48
minimum elong	1391 Apr 29 j 15:18	16°♉41'46	1°43'48
max. Earth dist.	1391 Apr 30 j 10:28	16°♉43'34	30.81908 AU
morning rise	1391 May 15 j 18:50	17°♉17'49	
retrograde	1391 Aug 14 j 20:32	19°♉16'14	
opposition	1391 Nov 02 j 05:27	17°♉50'56	-1°50'32
min. Earth dist.	1391 Nov 01 j 12:12	17°♉52'10	28.82183 AU
direct	1392 Jan 18 j 16:49	16°♉27'04	
evening set	1392 Apr 15 j 03:48	18°♉20'57	
conjunction	1392 May 01 j 05:05	18°♉56'45	-1°42'53
minimum elong	1392 May 01 j 05:05	18°♉56'45	1°42'53
max. Earth dist.	1392 May 01 j 22:51	18°♉58'25	30.82264 AU
morning rise	1392 May 17 j 09:06	19°♉32'49	
retrograde	1392 Aug 16 j 11:08	21°♉31'10	
opposition	1392 Nov 03 j 16:41	20°♉05'56	-1°49'27
min. Earth dist.	1392 Nov 03 j 00:33	20°♉07'05	28.82591 AU
direct	1393 Jan 20 j 04:21	18°♉42'04	
evening set	1393 Apr 17 j 17:13	20°♉36'01	
conjunction	1393 May 03 j 19:07	21°♉11'52	-1°41'48
minimum elong	1393 May 03 j 19:07	21°♉11'52	1°41'48
max. Earth dist.	1393 May 04 j 13:28	21°♉13'35	30.82709 AU
morning rise	1393 May 19 j 23:19	21°♉47'57	
retrograde	1393 Aug 19 j 00:07	23°♉46'12	
opposition	1393 Nov 06 j 03:52	22°♉21'03	-1°48'13
min. Earth dist.	1393 Nov 05 j 12:04	22°♉22'10	28.83045 AU
direct	1394 Jan 22 j 17:27	20°♉57'11	
evening set	1394 Apr 20 j 06:52	22°♉51'12	

conjunction	1394 May 06 j 09:03	23°♉27'04	-1°40'34
minimum elong	1394 May 06 j 09:04	23°♉27'04	1°40'34
max. Earth dist.	1394 May 07 j 01:36	23°♉28'37	30.83174 AU
morning rise	1394 May 22 j 13:47	24°♉03'11	
retrograde	1394 Aug 21 j 13:41	26°♉01'21	
opposition	1394 Nov 08 j 15:08	24°♉36'16	-1°46'48
min. Earth dist.	1394 Nov 08 j 00:09	24°♉37'19	28.83496 AU
direct	1395 Jan 25 j 04:32	23°♉12'22	
evening set	1395 Apr 22 j 20:39	25°♉06'27	
conjunction	1395 May 08 j 23:25	25°♉42'21	-1°39'11
minimum elong	1395 May 08 j 23:25	25°♉42'21	1°39'10
max. Earth dist.	1395 May 09 j 15:57	25°♉43'54	30.83586 AU
morning rise	1395 May 25 j 04:18	26°♉18'28	
retrograde	1395 Aug 24 j 01:32	28°♉16'32	
opposition	1395 Nov 11 j 02:16	26°♉51'30	-1°45'14
min. Earth dist.	1395 Nov 10 j 12:33	26°♉52'28	28.83863 AU
direct	1396 Jan 27 j 16:34	25°♉27'34	
evening set	1396 Apr 24 j 10:32	27°♉21'41	
conjunction	1396 May 10 j 13:39	27°♉57'37	-1°37'39
minimum elong	1396 May 10 j 13:39	27°♉57'37	1°37'39
max. Earth dist.	1396 May 11 j 04:17	27°♉58'59	30.83924 AU
morning rise	1396 May 26 j 18:58	28°♉33'45	
	1396 Jul 12 j 07:10	0°♊	
retrograde	1396 Aug 25 j 15:34	0°♊31'40	
	1396 Oct 09 j 13:59	30°℞♉	
opposition	1396 Nov 12 j 13:26	29°♉06'40	-1°43'31
min. Earth dist.	1396 Nov 11 j 23:53	29°♉07'38	28.84154 AU
direct	1397 Jan 29 j 03:42	27°♉42'40	
evening set	1397 Apr 27 j 00:12	29°♉36'50	
	1397 May 07 j 11:07	0°♊	
conjunction	1397 May 13 j 03:46	0°♊12'46	-1°35'58
minimum elong	1397 May 13 j 03:46	0°♊12'46	1°35'57
max. Earth dist.	1397 May 13 j 17:59	0°♊14'06	30.84173 AU
morning rise	1397 May 29 j 09:19	0°♊48'55	
retrograde	1397 Aug 28 j 01:36	2°♊46'42	
opposition	1397 Nov 15 j 00:37	1°♊21'43	-1°41'38
min. Earth dist.	1397 Nov 14 j 12:45	1°♊22'34	28.84373 AU
	1398 Jan 19 j 22:18	30°℞♉	
direct	1398 Jan 31 j 14:56	29°♉57'39	
	1398 Feb 12 j 08:07	0°♊	
evening set	1398 Apr 29 j 13:59	1°♊51'49	
conjunction	1398 May 15 j 18:00	2°♊27'46	-1°34'08
minimum elong	1398 May 15 j 18:01	2°♊27'46	1°34'08
max. Earth dist.	1398 May 16 j 07:14	2°♊29'01	30.84391 AU
morning rise	1398 May 31 j 23:53	3°♊03'56	
retrograde	1398 Aug 30 j 14:07	5°♊01'33	
opposition	1398 Nov 17 j 11:26	3°♊36'35	-1°39'36
min. Earth dist.	1398 Nov 16 j 23:27	3°♊37'26	28.84575 AU
direct	1399 Feb 03 j 03:41	2°♊12'25	
evening set	1399 May 02 j 03:51	4°♊06'37	
conjunction	1399 May 18 j 08:13	4°♊42'36	-1°32'10
minimum elong	1399 May 18 j 08:13	4°♊42'36	1°32'10
max. Earth dist.	1399 May 18 j 20:24	4°♊43'44	30.84597 AU
morning rise	1399 Jun 03 j 14:25	5°♊18'45	
retrograde	1399 Sep 02 j 01:35	7°♊16'13	
opposition	1399 Nov 19 j 22:25	5°♊51'15	-1°37'26
min. Earth dist.	1399 Nov 19 j 12:06	5°♊51'59	28.84803 AU
direct	1400 Feb 05 j 14:20	4°♊27'00	
evening set	1400 May 03 j 17:30	6°♊21'14	
conjunction	1400 May 19 j 22:21	6°♊57'13	-1°30'04
minimum elong	1400 May 19 j 22:21	6°♊57'13	1°30'03
max. Earth dist.	1400 May 20 j 10:25	6°♊58'21	30.84860 AU
morning rise	1400 Jun 05 j 04:43	7°♊33'23	
retrograde	1400 Sep 03 j 14:03	9°♊30'41	
opposition	1400 Nov 21 j 09:05	8°♊05'45	-1°35'06
min. Earth dist.	1400 Nov 20 j 22:28	8°♊06'30	28.85097 AU
direct	1401 Feb 07 j 03:37	6°♊41'26	
evening set	1401 May 06 j 07:18	8°♊35'42	
conjunction	1401 May 22 j 12:21	9°♊11'41	-1°27'49
minimum elong	1401 May 22 j 12:21	9°♊11'41	1°27'49
max. Earth dist.	1401 May 22 j 22:55	9°♊12'41	30.85212 AU
morning rise	1401 Jun 07 j 19:05	9°♊47'51	
retrograde	1401 Sep 06 j 03:10	11°♊45'01	
opposition	1401 Nov 23 j 19:53	10°♊20'06	-1°32'39
min. Earth dist.	1401 Nov 23 j 10:21	10°♊20'46	28.85518 AU
direct	1402 Feb 09 j 15:16	8°♊55'43	
evening set	1402 May 08 j 20:51	10°♊50'01	
conjunction	1402 May 25 j 02:28	11°♊26'03	-1°25'27
minimum elong	1402 May 25 j 02:28	11°♊26'03	1°25'27
max. Earth dist.	1402 May 25 j 13:33	11°♊27'05	30.85702 AU
morning rise	1402 Jun 10 j 09:17	12°♊02'13	
retrograde	1402 Sep 08 j 15:15	13°♊59'13	
opposition	1402 Nov 26 j 06:33	12°♊34'22	-1°30'02
min. Earth dist.	1402 Nov 25 j 21:13	12°♊35'02	28.86066 AU
direct	1403 Feb 12 j 04:39	11°♊09'57	
evening set	1403 May 11 j 10:44	13°♊04'19	
conjunction	1403 May 27 j 16:31	13°♊40'21	-1°22'57
minimum elong	1403 May 27 j 16:31	13°♊40'21	1°22'57
max. Earth dist.	1403 May 28 j 01:54	13°♊41'14	30.86333 AU
morning rise	1403 Jun 12 j 23:43	14°♊16'32	
retrograde	1403 Sep 11 j 04:40	16°♊13'24	
opposition	1403 Nov 28 j 17:10	14°♊48'37	-1°27'17
min. Earth dist.	1403 Nov 28 j 08:20	14°♊49'15	28.86772 AU
direct	1404 Feb 14 j 15:44	13°♊24'11	
evening set	1404 May 13 j 00:28	15°♊18'38	
conjunction	1404 May 29 j 06:44	15°♊54'41	-1°20'19
minimum elong	1404 May 29 j 06:44	15°♊54'41	1°20'19
max. Earth dist.	1404 May 29 j 16:35	15°♊55'37	30.87107 AU
morning rise	1404 Jun 14 j 13:56	16°♊30'52	
retrograde	1404 Sep 12 j 16:44	18°♊27'37	
opposition	1404 Nov 30 j 03:51	17°♊02'56	-1°24'25
min. Earth dist.	1404 Nov 29 j 19:56	17°♊03'30	28.87599 AU
direct	1405 Feb 16 j 03:51	15°♊38'31	
evening set	1405 May 15 j 14:12	17°♊33'02	
conjunction	1405 May 31 j 20:39	18°♊09'07	-1°17'34
minimum elong	1405 May 31 j 20:39	18°♊09'07	1°17'34
max. Earth dist.	1405 Jun 01 j 04:54	18°♊09'53	30.88000 AU
morning rise	1405 Jun 17 j 04:12	18°♊45'18	
retrograde	1405 Sep 15 j 06:32	20°♊41'56	
opposition	1405 Dec 02 j 14:27	19°♊17'22	-1°21'24
min. Earth dist.	1405 Dec 02 j 06:34	19°♊17'56	28.88520 AU
direct	1406 Feb 18 j 14:54	17°♊52'58	
evening set	1406 May 18 j 04:11	19°♊47'34	
conjunction	1406 Jun 03 j 10:59	20°♊23'40	-1°14'42
minimum elong	1406 Jun 03 j 11:00	20°♊23'40	1°14'42
max. Earth dist.	1406 Jun 03 j 18:57	20°♊24'24	30.88933 AU
morning rise	1406 Jun 19 j 18:35	20°♊59'52	
retrograde	1406 Sep 17 j 16:53	22°♊56'23	
opposition	1406 Dec 05 j 01:04	21°♊31'57	-1°18'16
min. Earth dist.	1406 Dec 04 j 19:02	21°♊32'22	28.89449 AU
direct	1407 Feb 21 j 01:41	20°♊07'32	
evening set	1407 May 20 j 18:18	22°♊02'14	

conjunction	1407 Jun 06 j 01:22	22°♊38'20	-1°11'42
minimum elong	1407 Jun 06 j 01:23	22°♊38'20	1°11'42
max. Earth dist.	1407 Jun 06 j 07:55	22°♊38'57	30.89854 AU
morning rise	1407 Jun 22 j 09:08	23°♊14'32	
retrograde	1407 Sep 20 j 05:40	25°♊10'56	
opposition	1407 Dec 07 j 11:39	23°♊46'36	-1°15'01
min. Earth dist.	1407 Dec 07 j 05:43	23°♊47'01	28.90328 AU
direct	1408 Feb 23 j 13:43	22°♊22'11	
evening set	1408 May 22 j 08:25	24°♊16'57	
conjunction	1408 Jun 07 j 15:39	24°♊53'04	-1°08'37
minimum elong	1408 Jun 07 j 15:39	24°♊53'04	1°08'36
max. Earth dist.	1408 Jun 07 j 20:56	24°♊53'34	30.90683 AU
morning rise	1408 Jun 23 j 23:29	25°♊29'16	
retrograde	1408 Sep 21 j 16:52	27°♊25'32	
opposition	1408 Dec 08 j 22:24	26°♊01'17	-1°11'39
min. Earth dist.	1408 Dec 08 j 18:27	26°♊01'34	28.91112 AU
direct	1409 Feb 24 j 23:28	24°♊36'49	
evening set	1409 May 24 j 22:26	26°♊31'39	
conjunction	1409 Jun 10 j 06:01	27°♊07'47	-1°05'25
minimum elong	1409 Jun 10 j 06:01	27°♊07'47	1°05'25
max. Earth dist.	1409 Jun 10 j 10:30	27°♊08'12	30.91428 AU
morning rise	1409 Jun 26 j 13:53	27°♊43'59	
retrograde	1409 Sep 24 j 04:35	29°♊40'05	
opposition	1409 Dec 11 j 08:53	28°♊15'54	-1°08'11
min. Earth dist.	1409 Dec 11 j 05:07	28°♊16'10	28.91800 AU
direct	1410 Feb 27 j 12:51	26°♊51'24	
evening set	1410 May 27 j 12:33	28°♊46'16	
conjunction	1410 Jun 12 j 20:14	29°♊22'24	-1°02'07
minimum elong	1410 Jun 12 j 20:15	29°♊22'24	1°02'07
max. Earth dist.	1410 Jun 12 j 22:43	29°♊22'38	30.92080 AU
morning rise	1410 Jun 29 j 04:19	29°♊58'35	
	1410 Jun 29 j 19:52	0°♋	
retrograde	1410 Sep 26 j 16:46	1°♋54'32	
opposition	1410 Dec 13 j 19:29	0°♋30'24	-1°04'37
min. Earth dist.	1410 Dec 13 j 17:18	0°♋30'33	28.92419 AU
	1411 Jan 01 j 01:59	30°℞♊	
direct	1411 Mar 02 j 00:45	29°♊05'49	
	1411 Apr 29 j 11:13	0°♋	
evening set	1411 May 30 j 02:33	1°♋00'44	
conjunction	1411 Jun 15 j 10:35	1°♋36'52	-0°58'45
minimum elong	1411 Jun 15 j 10:35	1°♋36'52	0°58'45
max. Earth dist.	1411 Jun 15 j 12:58	1°♋37'06	30.92677 AU
morning rise	1411 Jul 01 j 18:32	2°♋13'02	
retrograde	1411 Sep 29 j 04:05	4°♋08'48	
opposition	1411 Dec 16 j 05:51	2°♋44'42	-1°00'57
min. Earth dist.	1411 Dec 16 j 04:20	2°♋44'49	28.92991 AU
direct	1412 Mar 03 j 14:20	1°♋20'03	
evening set	1412 May 31 j 16:36	3°♋15'00	
conjunction	1412 Jun 17 j 00:38	3°♋51'08	-0°55'17
minimum elong	1412 Jun 17 j 00:38	3°♋51'08	0°55'16
max. Earth dist.	1412 Jun 17 j 00:59	3°♋51'10	30.93259 AU
morning rise	1412 Jul 03 j 08:46	4°♋27'18	
retrograde	1412 Sep 30 j 17:07	6°♋22'53	
opposition	1412 Dec 17 j 16:16	4°♋58'49	-0°57'13
min. Earth dist.	1412 Dec 17 j 15:28	4°♋58'52	28.93589 AU
direct	1413 Mar 06 j 01:55	3°♋34'05	
evening set	1413 Jun 03 j 06:16	5°♋29'04	
conjunction	1413 Jun 19 j 14:36	6°♋05'12	-0°51'44
minimum elong	1413 Jun 19 j 14:37	6°♋05'12	0°51'45
max. Earth dist.	1413 Jun 19 j 15:19	6°♋05'16	30.93875 AU
morning rise	1413 Jul 05 j 22:35	6°♋41'20	
retrograde	1413 Oct 03 j 04:51	8°♋36'45	
opposition	1413 Dec 20 j 02:41	7°♋12'43	-0°53'23
min. Earth dist.	1413 Dec 20 j 02:58	7°♋12'41	28.94229 AU
direct	1414 Mar 08 j 15:37	5°♋47'56	
evening set	1414 Jun 05 j 20:13	7°♋42'56	
conjunction	1414 Jun 22 j 04:32	8°♋19'04	-0°48'07
minimum elong	1414 Jun 22 j 04:33	8°♋19'04	0°48'07
max. Earth dist.	1414 Jun 22 j 03:28	8°♋18'58	30.94568 AU
morning rise	1414 Jul 08 j 12:39	8°♋55'11	
retrograde	1414 Oct 05 j 17:20	10°♋50'25	
opposition	1414 Dec 22 j 12:50	9°♋26'25	-0°49'29
min. Earth dist.	1414 Dec 22 j 13:03	9°♋26'24	28.94973 AU
direct	1415 Mar 11 j 03:55	8°♋01'35	
evening set	1415 Jun 08 j 10:04	9°♋56'37	
conjunction	1415 Jun 24 j 18:33	10°♋32'45	-0°44'26
minimum elong	1415 Jun 24 j 18:34	10°♋32'45	0°44'27
max. Earth dist.	1415 Jun 24 j 17:28	10°♋32'39	30.95362 AU
morning rise	1415 Jul 11 j 02:28	11°♋08'52	
retrograde	1415 Oct 08 j 03:32	13°♋03'56	
opposition	1415 Dec 24 j 23:16	11°♋40'00	-0°45'30
min. Earth dist.	1415 Dec 25 j 00:55	11°♋39'53	28.95828 AU
direct	1416 Mar 12 j 15:17	10°♋15'08	
evening set	1416 Jun 09 j 23:46	12°♋10'13	
conjunction	1416 Jun 26 j 08:16	12°♋46'20	-0°40'41
minimum elong	1416 Jun 26 j 08:16	12°♋46'20	0°40'41
max. Earth dist.	1416 Jun 26 j 06:09	12°♋46'09	30.96291 AU
morning rise	1416 Jul 12 j 16:10	13°♋22'26	
retrograde	1416 Oct 09 j 15:58	15°♋17'21	
opposition	1416 Dec 26 j 09:29	13°♋53'30	-0°41'28
min. Earth dist.	1416 Dec 26 j 10:44	13°♋53'25	28.96809 AU
direct	1417 Mar 15 j 03:12	12°♋28'37	
evening set	1417 Jun 12 j 13:34	14°♋23'45	
conjunction	1417 Jun 28 j 22:06	14°♋59'53	-0°36'52
minimum elong	1417 Jun 28 j 22:06	14°♋59'53	0°36'53
max. Earth dist.	1417 Jun 28 j 19:20	14°♋59'38	30.97325 AU
morning rise	1417 Jul 15 j 05:52	15°♋35'57	
retrograde	1417 Oct 12 j 02:25	17°♋30'45	
opposition	1417 Dec 28 j 19:45	16°♋07'00	-0°37'21
min. Earth dist.	1417 Dec 28 j 22:41	16°♋06'48	28.97890 AU
direct	1418 Mar 17 j 12:37	14°♋42'06	
evening set	1418 Jun 15 j 03:21	16°♋37'19	
conjunction	1418 Jul 01 j 11:59	17°♋13'27	-0°33'00
minimum elong	1418 Jul 01 j 12:00	17°♋13'27	0°33'00
max. Earth dist.	1418 Jul 01 j 08:42	17°♋13'08	30.98439 AU
morning rise	1418 Jul 17 j 19:38	17°♋49'30	
retrograde	1418 Oct 14 j 13:19	19°♋44'10	
opposition	1418 Dec 31 j 05:59	18°♋20'32	-0°33'11
min. Earth dist.	1418 Dec 31 j 08:58	18°♋20'19	28.98997 AU
direct	1419 Mar 20 j 01:37	16°♋55'38	
evening set	1419 Jun 17 j 17:21	18°♋50'56	
conjunction	1419 Jul 04 j 01:48	19°♋27'03	-0°29'05
minimum elong	1419 Jul 04 j 01:49	19°♋27'03	0°29'05
max. Earth dist.	1419 Jul 03 j 20:45	19°♋26'35	30.99532 AU
morning rise	1419 Jul 20 j 09:20	20°♋03'05	
retrograde	1419 Oct 17 j 00:39	21°♋57'38	
opposition	1420 Jan 02 j 16:18	20°♋34'06	-0°28'58
min. Earth dist.	1420 Jan 02 j 20:47	20°♋33'47	29.00074 AU
direct	1420 Mar 21 j 12:12	19°♋09'12	
evening set	1420 Jun 19 j 07:11	21°♋04'35	
conjunction	1420 Jul 05 j 15:44	21°♋40'41	-0°25'07

minimum elong	1420 Jul	05 j 15:44	21°♋40'41	0°25'07
max. Earth dist.	1420 Jul	05 j 10:28	21°♋40'12	31.00571 AU
morning rise	1420 Jul	21 j 22:56	22°♋16'42	
retrograde	1420 Oct	18 j 11:43	24°♋11'07	
opposition	1421 Jan	04 j 02:40	22°♋47'41	-0°24'43
min. Earth dist.	1421 Jan	04 j 07:56	22°♋47'18	29.01056 AU
direct	1421 Mar	24 j 00:57	21°♋22'46	
evening set	1421 Jun	21 j 21:03	23°♋18'12	
conjunction	1421 Jul	08 j 05:23	23°♋54'17	-0°21'08
minimum elong	1421 Jul	08 j 05:23	23°♋54'17	0°21'08
max. Earth dist.	1421 Jul	07 j 21:53	23°♋53'36	31.01504 AU
morning rise	1421 Jul	24 j 12:33	24°♋30'16	
retrograde	1421 Oct	21 j 00:19	26°♋24'34	
opposition	1422 Jan	06 j 13:02	25°♋01'11	-0°20'26
min. Earth dist.	1422 Jan	06 j 19:14	25°♋00'45	29.01939 AU
direct	1422 Mar	26 j 12:37	23°♋36'14	
evening set	1422 Jun	24 j 10:53	25°♋31'44	
conjunction	1422 Jul	10 j 19:18	26°♋07'48	-0°17'07
minimum elong	1422 Jul	10 j 19:18	26°♋07'48	0°17'07
max. Earth dist.	1422 Jul	10 j 11:44	26°♋07'07	31.02326 AU
morning rise	1422 Jul	27 j 02:04	26°♋43'46	
retrograde	1422 Oct	23 j 11:30	28°♋37'55	
opposition	1423 Jan	08 j 23:18	27°♋14'36	-0°16'08
min. Earth dist.	1423 Jan	09 j 06:59	27°♋14'03	29.02703 AU
direct	1423 Mar	29 j 02:23	25°♋49'36	
evening set	1423 Jun	27 j 00:48	27°♋45'08	
conjunction	1423 Jul	13 j 08:57	28°♋21'12	-0°13'05
minimum elong	1423 Jul	13 j 08:57	28°♋21'12	0°13'06
behind sun begin	1423 Jul	13 j 05:09	28°♋20'51	
behind sun end	1423 Jul	13 j 12:45	28°♋21'32	
max. Earth dist.	1423 Jul	12 j 23:14	28°♋20'18	31.03057 AU
morning rise	1423 Jul	29 j 15:37	28°♋57'07	
	1423 Aug	30 j 14:27	0°♌	
retrograde	1423 Oct	25 j 23:48	0°♌51'08	
	1423 Dec	22 j 21:28	30°℞♋	
opposition	1424 Jan	11 j 09:32	29°♋27'51	-0°11'48
min. Earth dist.	1424 Jan	11 j 17:21	29°♋27'18	29.03401 AU
direct	1424 Mar	30 j 15:07	28°♋02'49	
evening set	1424 Jun	28 j 14:20	29°♋58'23	
	1424 Jun	29 j 08:16	0°♌	
conjunction	1424 Jul	14 j 22:25	0°♌34'25	-0°09'02
minimum elong	1424 Jul	14 j 22:25	0°♌34'25	0°09'02
behind sun begin	1424 Jul	14 j 16:50	0°♌33'55	
behind sun end	1424 Jul	15 j 04:00	0°♌34'55	
max. Earth dist.	1424 Jul	14 j 12:35	0°♌33'31	31.03724 AU
morning rise	1424 Jul	31 j 04:39	1°♌10'19	
retrograde	1424 Oct	27 j 09:52	3°♌04'10	
opposition	1425 Jan	12 j 19:50	1°♌40'56	-0°07'28
min. Earth dist.	1425 Jan	13 j 05:21	1°♌40'16	29.04059 AU
direct	1425 Apr	02 j 03:03	0°♌15'51	
evening set	1425 Jul	01 j 03:55	2°♌11'26	
conjunction	1425 Jul	17 j 11:47	2°♌47'27	-0°05'00
minimum elong	1425 Jul	17 j 11:47	2°♌47'27	0°05'01
behind sun begin	1425 Jul	17 j 05:22	2°♌46'53	
behind sun end	1425 Jul	17 j 18:11	2°♌48'01	
max. Earth dist.	1425 Jul	17 j 00:39	2°♌46'26	31.04390 AU
morning rise	1425 Aug	02 j 17:50	3°♌23'19	
retrograde	1425 Oct	29 j 22:01	5°♌17'01	
opposition	1426 Jan	15 j 05:49	3°♌53'50	-0°03'07
min. Earth dist.	1426 Jan	15 j 15:06	3°♌53'10	29.04733 AU
direct	1426 Apr	04 j 15:33	2°♌28'41	
evening set	1426 Jul	03 j 17:27	4°♌24'18	
conjunction	1426 Jul	20 j 01:09	5°♌00'18	-0°00'54
minimum elong	1426 Jul	20 j 01:07	5°♌00'18	0°00'53
behind sun begin	1426 Jul	19 j 18:32	4°♌59'43	
behind sun end	1426 Jul	20 j 07:43	5°♌00'53	
max. Earth dist.	1426 Jul	19 j 13:27	4°♌59'14	31.05081 AU
morning rise	1426 Aug	05 j 06:48	5°♌36'08	
asc. node	1426 Oct	06 j 12:59	7°♌18'25	
retrograde	1426 Nov	01 j 07:39	7°♌29'42	
opposition	1427 Jan	17 j 16:04	6°♌06'33	0°01'13
min. Earth dist.	1427 Jan	18 j 02:52	6°♌05'47	29.05468 AU
direct	1427 Apr	07 j 01:29	4°♌41'21	
evening set	1427 Jul	06 j 06:48	6°♌37'01	
conjunction	1427 Jul	22 j 14:16	7°♌12'59	0°03'16
minimum elong	1427 Jul	22 j 14:16	7°♌12'59	0°03'16
behind sun begin	1427 Jul	22 j 07:43	7°♌12'24	
behind sun end	1427 Jul	22 j 20:49	7°♌13'33	
max. Earth dist.	1427 Jul	22 j 02:20	7°♌11'53	31.05862 AU
morning rise	1427 Aug	07 j 19:35	7°♌48'47	
retrograde	1427 Nov	03 j 17:06	9°♌42'13	
opposition	1428 Jan	20 j 02:09	8°♌19'07	0°05'33
min. Earth dist.	1428 Jan	20 j 12:34	8°♌18'23	29.06299 AU
direct	1428 Apr	08 j 14:37	6°♌53'54	
evening set	1428 Jul	07 j 20:11	8°♌49'36	
conjunction	1428 Jul	24 j 03:18	9°♌25'32	0°07'18
minimum elong	1428 Jul	24 j 03:17	9°♌25'32	0°07'19
behind sun begin	1428 Jul	23 j 21:16	9°♌25'00	
behind sun end	1428 Jul	24 j 09:19	9°♌26'04	
max. Earth dist.	1428 Jul	23 j 14:13	9°♌24'20	31.06755 AU
morning rise	1428 Aug	09 j 08:17	10°♌01'18	
retrograde	1428 Nov	05 j 03:23	11°♌54'38	
opposition	1429 Jan	21 j 12:20	10°♌31'36	0°09'53
min. Earth dist.	1429 Jan	21 j 23:36	10°♌30'49	29.07271 AU
direct	1429 Apr	11 j 00:13	9°♌06'22	
evening set	1429 Jul	10 j 09:17	11°♌02'07	
conjunction	1429 Jul	26 j 16:17	11°♌38'03	0°11'20
minimum elong	1429 Jul	26 j 16:17	11°♌38'03	0°11'19
behind sun begin	1429 Jul	26 j 11:32	11°♌37'37	
behind sun end	1429 Jul	26 j 21:02	11°♌38'28	
max. Earth dist.	1429 Jul	26 j 03:37	11°♌36'53	31.07790 AU
morning rise	1429 Aug	11 j 20:48	12°♌13'46	
retrograde	1429 Nov	07 j 13:28	14°♌07'00	
opposition	1430 Jan	23 j 22:30	12°♌44'04	0°14'12
min. Earth dist.	1430 Jan	24 j 10:05	12°♌43'15	29.08347 AU
direct	1430 Apr	13 j 11:57	11°♌18'51	
evening set	1430 Jul	12 j 22:41	13°♌14'40	
conjunction	1430 Jul	29 j 05:13	13°♌50'33	0°15'21
minimum elong	1430 Jul	29 j 05:13	13°♌50'33	0°15'21
behind sun begin	1430 Jul	29 j 03:37	13°♌50'25	
behind sun end	1430 Jul	29 j 06:49	13°♌50'42	
max. Earth dist.	1430 Jul	28 j 14:55	13°♌49'14	31.08913 AU
morning rise	1430 Aug	14 j 09:28	14°♌26'15	
	1430 Aug	30 j 14:05	15°♌	
retrograde	1430 Nov	10 j 01:13	16°♌19'24	
	1431 Jan	24 j 07:28	15°℞♌	
opposition	1431 Jan	26 j 08:36	14°♌56'33	0°18'29
min. Earth dist.	1431 Jan	26 j 20:39	14°♌55'43	29.09505 AU
direct	1431 Apr	15 j 23:09	13°♌31'21	
	1431 Jul	02 j 12:43	15°♌	
evening set	1431 Jul	15 j 11:56	15°♌27'15	
conjunction	1431 Jul	31 j 18:17	16°♌03'07	0°19'21
minimum elong	1431 Jul	31 j 18:17	16°♌03'07	0°19'20
max. Earth dist.	1431 Jul	31 j 04:28	16°♌01'51	31.10074 AU

morning rise	1431 Aug 16 j 21:55	16°♑38'46	
retrograde	1431 Nov 12 j 11:51	18°♑31'51	
opposition	1432 Jan 28 j 18:57	17°♑09'05	0°22'45
min. Earth dist.	1432 Jan 29 j 08:13	17°♑08'10	29.10659 AU
direct	1432 Apr 17 j 12:23	15°♑43'55	
evening set	1432 Jul 17 j 01:08	17°♑39'52	
conjunction	1432 Aug 02 j 06:58	18°♑15'42	0°23'19
minimum elong	1432 Aug 02 j 06:57	18°♑15'42	0°23'20
max. Earth dist.	1432 Aug 01 j 15:21	18°♑14'16	31.11208 AU
morning rise	1432 Aug 18 j 10:19	18°♑51'19	
retrograde	1432 Nov 13 j 23:56	20°♑44'19	
opposition	1433 Jan 30 j 05:12	19°♑21'38	0°26'58
min. Earth dist.	1433 Jan 30 j 18:25	19°♑20'43	29.11764 AU
direct	1433 Apr 20 j 00:31	17°♑56'28	
evening set	1433 Jul 19 j 14:20	19°♑52'29	
conjunction	1433 Aug 04 j 19:55	20°♑28'17	0°27'15
minimum elong	1433 Aug 04 j 19:55	20°♑28'17	0°27'14
max. Earth dist.	1433 Aug 04 j 04:12	20°♑26'50	31.12255 AU
morning rise	1433 Aug 20 j 22:39	21°♑03'51	
retrograde	1433 Nov 16 j 10:31	22°♑56'46	
opposition	1434 Feb 01 j 15:32	21°♑34'09	0°31'09
min. Earth dist.	1434 Feb 02 j 06:33	21°♑33'06	29.12765 AU
direct	1434 Apr 22 j 12:46	20°♑08'59	
evening set	1434 Jul 22 j 03:37	22°♑05'01	
conjunction	1434 Aug 07 j 08:44	22°♑40'47	0°31'09
minimum elong	1434 Aug 07 j 08:44	22°♑40'47	0°31'09
max. Earth dist.	1434 Aug 06 j 15:30	22°♑39'12	31.13202 AU
morning rise	1434 Aug 23 j 11:06	23°♑16'19	
retrograde	1434 Nov 18 j 22:52	25°♑09'07	
opposition	1435 Feb 04 j 01:50	23°♑46'33	0°35'18
min. Earth dist.	1435 Feb 04 j 16:43	23°♑45'31	29.13650 AU
direct	1435 Apr 25 j 02:15	22°♑21'22	
evening set	1435 Jul 24 j 16:43	24°♑17'26	
conjunction	1435 Aug 09 j 21:25	24°♑53'09	0°34'59
minimum elong	1435 Aug 09 j 21:25	24°♑53'09	0°34'59
max. Earth dist.	1435 Aug 09 j 03:32	24°♑51'30	31.14023 AU
morning rise	1435 Aug 25 j 23:10	25°♑28'38	
retrograde	1435 Nov 21 j 08:22	27°♑21'21	
opposition	1436 Feb 06 j 12:18	25°♑58'49	0°39'22
min. Earth dist.	1436 Feb 07 j 04:50	25°♑57'39	29.14434 AU
direct	1436 Apr 26 j 13:20	24°♑33'36	
evening set	1436 Jul 26 j 05:42	26°♑29'40	
conjunction	1436 Aug 11 j 10:00	27°♑05'21	0°38'47
minimum elong	1436 Aug 11 j 10:00	27°♑05'21	0°38'47
max. Earth dist.	1436 Aug 10 j 15:38	27°♑03'39	31.14767 AU
morning rise	1436 Aug 27 j 11:16	27°♑40'47	
retrograde	1436 Nov 22 j 17:51	29°♑33'22	
opposition	1437 Feb 07 j 22:33	28°♑10'52	0°43'23
min. Earth dist.	1437 Feb 08 j 14:59	28°♑09'43	29.15139 AU
direct	1437 Apr 29 j 02:25	26°♑45'37	
evening set	1437 Jul 28 j 18:34	28°♑41'41	
conjunction	1437 Aug 13 j 22:22	29°♑17'20	0°42'30
minimum elong	1437 Aug 13 j 22:22	29°♑17'20	0°42'30
max. Earth dist.	1437 Aug 13 j 02:46	29°♑15'31	31.15444 AU
morning rise	1437 Aug 29 j 23:12	29°♑52'44	
	1437 Sep 02 j 08:16	0°♒	
retrograde	1437 Nov 25 j 03:48	1°♒45'13	
opposition	1438 Feb 10 j 08:55	0°♒22'43	0°47'20
min. Earth dist.	1438 Feb 11 j 02:19	0°♒21'30	29.15813 AU
	1438 Feb 24 j 02:03	30°℞♑	
direct	1438 May 01 j 12:32	28°♑57'25	
	1438 Jul 04 j 16:04	0°♒	
evening set	1438 Jul 31 j 07:19	0°♒53'30	
conjunction	1438 Aug 16 j 10:46	1°♒29'06	0°46'10
minimum elong	1438 Aug 16 j 10:46	1°♒29'06	0°46'11
max. Earth dist.	1438 Aug 15 j 15:32	1°♒27'19	31.16110 AU
morning rise	1438 Sep 01 j 10:56	2°♒04'27	
retrograde	1438 Nov 27 j 12:46	3°♒56'50	
opposition	1439 Feb 12 j 19:12	2°♒34'22	0°51'13
min. Earth dist.	1439 Feb 13 j 12:58	2°♒33'08	29.16486 AU
direct	1439 May 04 j 00:44	1°♒09'02	
evening set	1439 Aug 02 j 20:04	3°♒05'07	
conjunction	1439 Aug 18 j 22:52	3°♒40'41	0°49'46
minimum elong	1439 Aug 18 j 22:51	3°♒40'41	0°49'45
max. Earth dist.	1439 Aug 18 j 02:18	3°♒38'46	31.16809 AU
morning rise	1439 Sep 03 j 22:37	4°♒15'59	
retrograde	1439 Nov 29 j 23:27	6°♒08'18	
opposition	1440 Feb 15 j 05:36	4°♒45'51	0°55'01
min. Earth dist.	1440 Feb 15 j 23:18	4°♒44'36	29.17238 AU
direct	1440 May 05 j 11:48	3°♒20'30	
evening set	1440 Aug 04 j 08:23	5°♒16'35	
conjunction	1440 Aug 20 j 10:50	5°♒52'07	0°53'17
minimum elong	1440 Aug 20 j 10:50	5°♒52'07	0°53'17
max. Earth dist.	1440 Aug 19 j 15:18	5°♒50'18	31.17599 AU
morning rise	1440 Sep 05 j 09:52	6°♒27'22	
retrograde	1440 Dec 01 j 08:54	8°♒19'37	
opposition	1441 Feb 16 j 16:04	6°♒57'12	0°58'44
min. Earth dist.	1441 Feb 17 j 10:29	6°♒55'55	29.18082 AU
direct	1441 May 08 j 00:18	5°♒31'53	
evening set	1441 Aug 06 j 20:56	7°♒28'00	
conjunction	1441 Aug 22 j 22:44	8°♒03'29	0°56'43
minimum elong	1441 Aug 22 j 22:43	8°♒03'29	0°56'42
max. Earth dist.	1441 Aug 22 j 02:00	8°♒01'34	31.18505 AU
morning rise	1441 Sep 07 j 21:22	8°♒38'42	
retrograde	1441 Dec 03 j 20:29	10°♒30'54	
opposition	1442 Feb 19 j 02:17	9°♒08'34	1°02'22
min. Earth dist.	1442 Feb 19 j 20:00	9°♒07'19	29.19047 AU
direct	1442 May 10 j 11:44	7°♒43'15	
evening set	1442 Aug 09 j 09:21	9°♒39'26	
conjunction	1442 Aug 25 j 10:46	10°♒14'53	1°00'05
minimum elong	1442 Aug 25 j 10:45	10°♒14'53	1°00'05
max. Earth dist.	1442 Aug 24 j 14:37	10°♒13'01	31.19508 AU
morning rise	1442 Sep 10 j 08:39	10°♒50'03	
retrograde	1442 Dec 06 j 06:56	12°♒42'14	
opposition	1443 Feb 21 j 12:51	11°♒19'59	1°05'54
min. Earth dist.	1443 Feb 22 j 07:48	11°♒18'40	29.20090 AU
direct	1443 May 12 j 23:49	9°♒54'45	
evening set	1443 Aug 11 j 21:43	11°♒50'59	
conjunction	1443 Aug 27 j 22:28	12°♒26'23	1°03'21
minimum elong	1443 Aug 27 j 22:27	12°♒26'23	1°03'21
max. Earth dist.	1443 Aug 27 j 01:34	12°♒24'27	31.20574 AU
morning rise	1443 Sep 12 j 19:53	13°♒01'30	
retrograde	1443 Dec 08 j 19:21	14°♒53'41	
opposition	1444 Feb 23 j 23:20	13°♒31'30	1°09'21
min. Earth dist.	1444 Feb 24 j 17:40	13°♒30'14	29.21158 AU
direct	1444 May 14 j 13:05	12°♒06'20	
evening set	1444 Aug 13 j 10:05	14°♒02'38	
conjunction	1444 Aug 29 j 10:18	14°♒38'00	1°06'31
minimum elong	1444 Aug 29 j 10:18	14°♒38'00	1°06'32
max. Earth dist.	1444 Aug 28 j 13:14	14°♒36'02	31.21621 AU
morning rise	1444 Sep 14 j 07:04	15°♒13'04	

retrograde	1444 Dec 10 j 05:14	17°♑05'15	
opposition	1445 Feb 25 j 09:56	15°♑43'09	1°12'42
min. Earth dist.	1445 Feb 26 j 05:41	15°♑41'47	29.22192 AU
direct	1445 May 16 j 23:54	14°♑18'02	
evening set	1445 Aug 15 j 22:23	16°♑14'23	
conjunction	1445 Aug 31 j 22:06	16°♑49'42	1°09'36
minimum elong	1445 Aug 31 j 22:06	16°♑49'42	1°09'36
max. Earth dist.	1445 Aug 31 j 00:46	16°♑47'43	31.22608 AU
morning rise	1445 Sep 16 j 18:18	17°♑24'45	
retrograde	1445 Dec 12 j 15:00	19°♑16'54	
opposition	1446 Feb 27 j 20:36	17°♑54'53	1°15'56
min. Earth dist.	1446 Feb 28 j 16:11	17°♑53'31	29.23118 AU
direct	1446 May 19 j 12:54	16°♑29'48	
evening set	1446 Aug 18 j 10:48	18°♑26'10	
max. Earth dist.	1446 Sep 02 j 11:18	18°♑59'22	31.23461 AU
conjunction	1446 Sep 03 j 09:50	19°♑01'28	1°12'35
minimum elong	1446 Sep 03 j 09:50	19°♑01'28	1°12'35
morning rise	1446 Sep 19 j 05:27	19°♑36'28	
retrograde	1446 Dec 15 j 01:25	21°♑28'35	
opposition	1447 Mar 02 j 07:23	20°♑06'38	1°19'03
min. Earth dist.	1447 Mar 03 j 03:51	20°♑05'13	29.23920 AU
direct	1447 May 21 j 22:55	18°♑41'34	
evening set	1447 Aug 20 j 23:00	20°♑37'57	
conjunction	1447 Sep 05 j 21:35	21°♑13'12	1°15'27
minimum elong	1447 Sep 05 j 21:34	21°♑13'12	1°15'27
max. Earth dist.	1447 Sep 04 j 23:22	21°♑11'08	31.24188 AU
morning rise	1447 Sep 21 j 16:29	21°♑48'09	
retrograde	1447 Dec 17 j 10:20	23°♑40'15	
opposition	1448 Mar 03 j 18:16	22°♑18'20	1°22'04
min. Earth dist.	1448 Mar 04 j 15:10	22°♑16'53	29.24574 AU
direct	1448 May 23 j 11:13	20°♑53'17	
evening set	1448 Aug 22 j 11:05	22°♑49'39	
max. Earth dist.	1448 Sep 06 j 09:16	23°♑22'39	31.24775 AU
conjunction	1448 Sep 07 j 08:57	23°♑24'51	1°18'13
minimum elong	1448 Sep 07 j 08:57	23°♑24'51	1°18'13
morning rise	1448 Sep 23 j 03:26	23°♑59'46	
retrograde	1448 Dec 18 j 20:25	25°♑51'50	
opposition	1449 Mar 06 j 05:03	24°♑29'55	1°24'57
min. Earth dist.	1449 Mar 07 j 02:06	24°♑28'27	29.25109 AU
direct	1449 May 25 j 22:14	23°♑04'51	
evening set	1449 Aug 24 j 23:01	25°♑01'12	
conjunction	1449 Sep 09 j 20:30	25°♑36'23	1°20'51
minimum elong	1449 Sep 09 j 20:29	25°♑36'22	1°20'51
max. Earth dist.	1449 Sep 08 j 21:32	25°♑34'14	31.25243 AU
morning rise	1449 Sep 25 j 14:13	26°♑11'14	
retrograde	1449 Dec 21 j 05:07	28°♑03'16	
opposition	1450 Mar 08 j 15:49	26°♑41'20	1°27'43
min. Earth dist.	1450 Mar 09 j 13:54	26°♑39'48	29.25528 AU
direct	1450 May 28 j 10:10	25°♑16'15	
evening set	1450 Aug 27 j 11:00	27°♑12'35	
max. Earth dist.	1450 Sep 11 j 07:34	27°♑45'27	31.25631 AU
conjunction	1450 Sep 12 j 07:44	27°♑47'42	1°23'23
minimum elong	1450 Sep 12 j 07:44	27°♑47'42	1°23'23
morning rise	1450 Sep 28 j 01:03	28°♑22'31	
	1450 Nov 24 j 13:48	0°♎	
retrograde	1450 Dec 23 j 16:13	0°♎14'30	
	1451 Jan 22 j 08:10	30°℞♑	
opposition	1451 Mar 11 j 02:37	28°♑52'33	1°30'21
min. Earth dist.	1451 Mar 11 j 23:59	28°♑51'05	29.25898 AU
direct	1451 May 30 j 21:28	27°♑27'27	
evening set	1451 Aug 29 j 22:32	29°♑23'45	

conjunction	1451 Sep 14 j 18:48	29°♑58'49	1°25'47
minimum elong	1451 Sep 14 j 18:48	29°♑58'49	1°25'47
max. Earth dist.	1451 Sep 13 j 19:25	29°♑56'38	31.25982 AU
	1451 Sep 15 j 07:35	0°♎	
morning rise	1451 Sep 30 j 11:22	0°♎33'35	
retrograde	1451 Dec 26 j 01:59	2°♎25'33	
opposition	1452 Mar 12 j 13:36	1°♎03'34	1°32'51
min. Earth dist.	1452 Mar 13 j 11:56	1°♎02'01	29.26266 AU
	1452 Apr 24 j 22:58	30°℞♑	
direct	1452 Jun 01 j 10:23	29°♑38'27	
	1452 Jul 08 j 07:55	0°♎	
evening set	1452 Aug 31 j 10:07	1°♎34'42	
max. Earth dist.	1452 Sep 15 j 05:59	2°♎07'31	31.26374 AU
conjunction	1452 Sep 16 j 05:42	2°♎09'43	1°28'04
minimum elong	1452 Sep 16 j 05:42	2°♎09'43	1°28'04
morning rise	1452 Oct 01 j 21:49	2°♎44'27	
retrograde	1452 Dec 27 j 13:29	4°♎36'23	
opposition	1453 Mar 15 j 00:20	3°♎14'23	1°35'13
min. Earth dist.	1453 Mar 15 j 21:34	3°♎12'55	29.26693 AU
direct	1453 Jun 03 j 23:55	1°♎49'16	
evening set	1453 Sep 02 j 21:36	3°♎45'31	
conjunction	1453 Sep 18 j 16:39	4°♎20'29	1°30'13
minimum elong	1453 Sep 18 j 16:39	4°♎20'29	1°30'13
max. Earth dist.	1453 Sep 17 j 17:14	4°♎18'19	31.26835 AU
morning rise	1453 Oct 04 j 08:07	4°♎55'10	
retrograde	1453 Dec 29 j 23:09	6°♎47'06	
opposition	1454 Mar 17 j 11:21	5°♎25'06	1°37'27
min. Earth dist.	1454 Mar 18 j 09:17	5°♎23'35	29.27211 AU
direct	1454 Jun 06 j 11:09	4°♎00'00	
evening set	1454 Sep 05 j 08:58	5°♎56'15	
max. Earth dist.	1454 Sep 20 j 04:37	6°♎29'03	31.27398 AU
conjunction	1454 Sep 21 j 03:27	6°♎31'11	1°32'14
minimum elong	1454 Sep 21 j 03:27	6°♎31'11	1°32'15
morning rise	1454 Oct 06 j 18:21	7°♎05'49	
retrograde	1455 Jan 01 j 08:56	8°♎57'44	
opposition	1455 Mar 19 j 22:18	7°♎35'47	1°39'32
min. Earth dist.	1455 Mar 20 j 19:23	7°♎34'20	29.27803 AU
direct	1455 Jun 09 j 00:25	6°♎10'45	
evening set	1455 Sep 07 j 20:21	8°♎06'59	
conjunction	1455 Sep 23 j 14:11	8°♎41'53	1°34'08
minimum elong	1455 Sep 23 j 14:11	8°♎41'53	1°34'08
max. Earth dist.	1455 Sep 22 j 14:54	8°♎39'43	31.28021 AU
morning rise	1455 Oct 09 j 04:34	9°♎16'29	
retrograde	1456 Jan 03 j 19:44	11°♎08'26	
opposition	1456 Mar 21 j 09:23	9°♎46'31	1°41'29
min. Earth dist.	1456 Mar 22 j 06:38	9°♎45'04	29.28458 AU
direct	1456 Jun 10 j 10:57	8°♎21'32	
evening set	1456 Sep 09 j 07:26	10°♎17'47	
max. Earth dist.	1456 Sep 24 j 02:34	10°♎50'34	31.28671 AU
conjunction	1456 Sep 25 j 00:50	10°♎52'39	1°35'53
minimum elong	1456 Sep 25 j 00:50	10°♎52'39	1°35'53
morning rise	1456 Oct 10 j 14:36	11°♎27'13	
retrograde	1457 Jan 05 j 04:30	13°♎19'12	
opposition	1457 Mar 23 j 20:32	11°♎57'20	1°43'17
min. Earth dist.	1457 Mar 24 j 17:53	11°♎55'52	29.29083 AU
direct	1457 Jun 12 j 23:22	10°♎32'25	
evening set	1457 Sep 11 j 18:48	12°♎28'39	
conjunction	1457 Sep 27 j 11:28	13°♎03'29	1°37'30
minimum elong	1457 Sep 27 j 11:28	13°♎03'29	1°37'29
max. Earth dist.	1457 Sep 26 j 12:07	13°♎01'18	31.29267 AU
morning rise	1457 Oct 13 j 00:49	13°♎38'02	

retrograde	1458 Jan 07 j 14:50	15°♎30'03	
opposition	1458 Mar 26 j 07:38	14°♎08'13	1°44'56
min. Earth dist.	1458 Mar 27 j 04:45	14°♎06'46	29.29647 AU
direct	1458 Jun 15 j 09:42	12°♎43'21	
evening set	1458 Sep 14 j 05:59	14°♎39'36	
conjunction	1458 Sep 29 j 22:14	15°♎14'24	1°38'58
minimum elong	1458 Sep 29 j 22:14	15°♎14'24	1°38'58
max. Earth dist.	1458 Sep 28 j 23:56	15°♎12'19	31.29769 AU
morning rise	1458 Oct 15 j 10:53	15°♎48'55	
retrograde	1459 Jan 09 j 23:49	17°♎40'59	
opposition	1459 Mar 28 j 19:05	16°♎19'10	1°46'25
min. Earth dist.	1459 Mar 29 j 17:02	16°♎17'40	29.30089 AU
direct	1459 Jun 17 j 20:58	14°♎54'22	
evening set	1459 Sep 16 j 17:07	16°♎50'35	
max. Earth dist.	1459 Oct 01 j 09:21	17°♎23'10	31.30147 AU
conjunction	1459 Oct 02 j 08:39	17°♎25'21	1°40'18
minimum elong	1459 Oct 02 j 08:38	17°♎25'21	1°40'17
morning rise	1459 Oct 17 j 20:56	17°♎59'50	
retrograde	1460 Jan 12 j 11:09	19°♎51'56	
opposition	1460 Mar 30 j 06:26	18°♎30'09	1°47'46
min. Earth dist.	1460 Mar 31 j 03:30	18°♎28'42	29.30402 AU
direct	1460 Jun 19 j 07:53	17°♎05'22	
evening set	1460 Sep 18 j 04:08	19°♎01'35	
conjunction	1460 Oct 03 j 19:16	19°♎36'18	1°41'29
minimum elong	1460 Oct 03 j 19:16	19°♎36'18	1°41'29
max. Earth dist.	1460 Oct 02 j 20:34	19°♎34'11	31.30379 AU
morning rise	1460 Oct 19 j 06:55	20°♎10'45	
retrograde	1461 Jan 13 j 21:14	22°♎02'54	
opposition	1461 Apr 01 j 17:49	20°♎41'06	1°48'58
min. Earth dist.	1461 Apr 02 j 16:02	20°♎39'34	29.30569 AU
direct	1461 Jun 21 j 20:15	19°♎16'20	
evening set	1461 Sep 20 j 15:12	21°♎12'31	
max. Earth dist.	1461 Oct 05 j 06:32	21°♎45'02	31.30484 AU
conjunction	1461 Oct 06 j 05:44	21°♎47'12	1°42'31
minimum elong	1461 Oct 06 j 05:44	21°♎47'12	1°42'31
morning rise	1461 Oct 21 j 17:00	22°♎21'38	
retrograde	1462 Jan 16 j 08:55	24°♎13'47	
opposition	1462 Apr 04 j 05:12	22°♎51'58	1°50'00
min. Earth dist.	1462 Apr 05 j 02:28	22°♎50'31	29.30605 AU
direct	1462 Jun 24 j 09:34	21°♎27'13	
evening set	1462 Sep 23 j 02:00	23°♎23'22	
conjunction	1462 Oct 08 j 16:02	23°♎58'01	1°43'25
minimum elong	1462 Oct 08 j 16:02	23°♎58'01	1°43'26
max. Earth dist.	1462 Oct 07 j 17:00	23°♎55'52	31.30463 AU
morning rise	1462 Oct 24 j 02:47	24°♎32'24	
retrograde	1463 Jan 18 j 18:47	26°♎24'36	
opposition	1463 Apr 06 j 16:46	25°♎02'44	1°50'52
min. Earth dist.	1463 Apr 07 j 14:48	25°♎01'14	29.30554 AU
direct	1463 Jun 26 j 20:55	23°♎37'59	
evening set	1463 Sep 25 j 12:40	25°♎34'05	
max. Earth dist.	1463 Oct 10 j 03:56	26°♎06'37	31.30390 AU
conjunction	1463 Oct 11 j 02:14	26°♎08'42	1°44'10
minimum elong	1463 Oct 11 j 02:14	26°♎08'42	1°44'10
morning rise	1463 Oct 26 j 12:32	26°♎43'03	
retrograde	1464 Jan 21 j 04:35	28°♎35'15	
opposition	1464 Apr 08 j 04:11	27°♎13'21	1°51'36
min. Earth dist.	1464 Apr 09 j 01:16	27°♎11'55	29.30465 AU
direct	1464 Jun 28 j 10:50	25°♎48'37	
evening set	1464 Sep 26 j 23:08	27°♎44'38	
conjunction	1464 Oct 12 j 12:08	28°♎19'14	1°44'46
minimum elong	1464 Oct 12 j 12:08	28°♎19'14	1°44'46
max. Earth dist.	1464 Oct 11 j 13:36	28°♎17'07	31.30307 AU
morning rise	1464 Oct 27 j 22:06	28°♎53'34	
	1464 Nov 30 j 19:05	0°♏	
retrograde	1465 Jan 22 j 15:28	0°♏45'47	
	1465 Mar 18 j 19:19	30°℞♎	
opposition	1465 Apr 10 j 15:41	29°♎23'51	1°52'10
min. Earth dist.	1465 Apr 11 j 12:33	29°♎22'25	29.30415 AU
direct	1465 Jun 30 j 22:23	27°♎59'06	
evening set	1465 Sep 29 j 09:31	29°♎55'05	
	1465 Oct 01 j 15:17	0°♏	
conjunction	1465 Oct 14 j 22:09	0°♏29'39	1°45'13
minimum elong	1465 Oct 14 j 22:09	0°♏29'39	1°45'12
max. Earth dist.	1465 Oct 14 j 01:06	0°♏27'41	31.30286 AU
morning rise	1465 Oct 30 j 07:33	1°♏03'57	
retrograde	1466 Jan 24 j 23:40	2°♏56'13	
opposition	1466 Apr 13 j 03:11	1°♏34'16	1°52'34
min. Earth dist.	1466 Apr 13 j 23:33	1°♏32'52	29.30431 AU
direct	1466 Jul 03 j 11:15	0°♏09'33	
evening set	1466 Oct 01 j 19:57	2°♏05'29	
max. Earth dist.	1466 Oct 16 j 10:30	2°♏38'00	31.30361 AU
conjunction	1466 Oct 17 j 07:56	2°♏40'01	1°45'31
minimum elong	1466 Oct 17 j 07:56	2°♏40'01	1°45'31
morning rise	1466 Nov 01 j 17:05	3°♏14'18	
retrograde	1467 Jan 27 j 09:31	5°♏06'37	
opposition	1467 Apr 15 j 14:46	3°♏44'39	1°52'48
min. Earth dist.	1467 Apr 16 j 10:03	3°♏43'20	29.30562 AU
direct	1467 Jul 05 j 21:38	2°♏20'00	
evening set	1467 Oct 04 j 05:58	4°♏15'53	
conjunction	1467 Oct 19 j 17:42	4°♏50'24	1°45'40
minimum elong	1467 Oct 19 j 17:42	4°♏50'24	1°45'39
max. Earth dist.	1467 Oct 18 j 22:03	4°♏48'34	31.30532 AU
morning rise	1467 Nov 04 j 02:19	5°♏24'40	
retrograde	1468 Jan 29 j 18:15	7°♏17'04	
opposition	1468 Apr 17 j 02:32	5°♏55'06	1°52'53
min. Earth dist.	1468 Apr 17 j 21:58	5°♏53'47	29.30762 AU
direct	1468 Jul 07 j 08:26	4°♏30'31	
evening set	1468 Oct 05 j 16:15	6°♏26'22	
max. Earth dist.	1468 Oct 20 j 07:27	6°♏58'59	31.30764 AU
conjunction	1468 Oct 21 j 03:24	7°♏00'52	1°45'40
minimum elong	1468 Oct 21 j 03:24	7°♏00'52	1°45'40
morning rise	1468 Nov 05 j 11:49	7°♏35'07	
retrograde	1469 Jan 31 j 05:24	9°♏27'35	
opposition	1469 Apr 19 j 14:01	8°♏05'39	1°52'48
min. Earth dist.	1469 Apr 20 j 08:04	8°♏04'25	29.31000 AU
direct	1469 Jul 09 j 18:52	6°♏41'07	
evening set	1469 Oct 08 j 02:25	8°♏36'57	
conjunction	1469 Oct 23 j 13:16	9°♏11'25	1°45'30
minimum elong	1469 Oct 23 j 13:16	9°♏11'25	1°45'30
max. Earth dist.	1469 Oct 22 j 18:21	9°♏09'39	31.30990 AU
morning rise	1469 Nov 07 j 21:12	9°♏45'40	
retrograde	1470 Feb 02 j 15:31	11°♏38'13	
opposition	1470 Apr 22 j 01:59	10°♏16'17	1°52'33
min. Earth dist.	1470 Apr 22 j 20:41	10°♏15'01	29.31209 AU
direct	1470 Jul 12 j 06:12	8°♏51'50	
evening set	1470 Oct 10 j 12:35	10°♏47'38	
conjunction	1470 Oct 25 j 22:55	11°♏22'05	1°45'12
minimum elong	1470 Oct 25 j 22:55	11°♏22'05	1°45'12
max. Earth dist.	1470 Oct 25 j 04:10	11°♏20'19	31.31175 AU
morning rise	1470 Nov 10 j 06:36	11°♏56'18	
retrograde	1471 Feb 05 j 03:09	13°♏48'56	

opposition	1471 Apr 24 j 13:54	12°♏27'01	1°52'09
min. Earth dist.	1471 Apr 25 j 07:18	12°♏25'50	29.31345 AU
direct	1471 Jul 14 j 18:04	11°♏02'37	
evening set	1471 Oct 12 j 22:46	12°♏58'23	
conjunction	1471 Oct 28 j 08:43	13°♏32'48	1°44'44
minimum elong	1471 Oct 28 j 08:43	13°♏32'48	1°44'44
max. Earth dist.	1471 Oct 27 j 14:11	13°♏31'04	31.31257 AU
morning rise	1471 Nov 12 j 16:03	14°♏07'01	
	1471 Dec 08 j 16:18	15°♏	
retrograde	1472 Feb 07 j 13:59	15°♏59'44	
	1472 Apr 12 j 06:18	15°℞♏	
opposition	1472 Apr 26 j 01:57	14°♏37'47	1°51'35
min. Earth dist.	1472 Apr 26 j 19:57	14°♏36'34	29.31381 AU
direct	1472 Jul 16 j 04:42	13°♏13'27	
	1472 Oct 10 j 03:44	15°♏	
evening set	1472 Oct 14 j 08:48	15°♏09'09	
conjunction	1472 Oct 29 j 18:28	15°♏43'33	1°44'08
minimum elong	1472 Oct 29 j 18:28	15°♏43'33	1°44'08
max. Earth dist.	1472 Oct 29 j 00:45	15°♏41'53	31.31229 AU
morning rise	1472 Nov 14 j 01:30	16°♏17'46	
retrograde	1473 Feb 09 j 00:45	18°♏10'32	
opposition	1473 Apr 28 j 13:59	16°♏48'34	1°50'51
min. Earth dist.	1473 Apr 29 j 07:07	16°♏47'24	29.31269 AU
direct	1473 Jul 18 j 18:47	15°♏24'16	
evening set	1473 Oct 16 j 18:58	17°♏19'54	
max. Earth dist.	1473 Oct 31 j 09:51	17°♏52'35	31.31048 AU
conjunction	1473 Nov 01 j 04:08	17°♏54'18	1°43'23
minimum elong	1473 Nov 01 j 04:08	17°♏54'18	1°43'22
morning rise	1473 Nov 16 j 10:59	18°♏28'29	
retrograde	1474 Feb 11 j 12:33	20°♏21'19	
opposition	1474 May 01 j 02:05	18°♏59'19	1°49'58
min. Earth dist.	1474 May 01 j 19:08	18°♏58'09	29.31025 AU
direct	1474 Jul 21 j 06:36	17°♏35'01	
evening set	1474 Oct 19 j 04:54	19°♏30'36	
conjunction	1474 Nov 03 j 13:54	20°♏04'58	1°42'29
minimum elong	1474 Nov 03 j 13:54	20°♏04'58	1°42'29
max. Earth dist.	1474 Nov 02 j 20:57	20°♏03'22	31.30743 AU
morning rise	1474 Nov 18 j 20:22	20°♏39'09	
retrograde	1475 Feb 13 j 21:19	22°♏32'02	
opposition	1475 May 03 j 14:19	21°♏09'59	1°48'56
min. Earth dist.	1475 May 04 j 07:04	21°♏08'50	29.30654 AU
direct	1475 Jul 23 j 19:48	19°♏45'42	
evening set	1475 Oct 21 j 14:43	21°♏41'11	
conjunction	1475 Nov 05 j 23:15	22°♏15'32	1°41'26
minimum elong	1475 Nov 05 j 23:15	22°♏15'32	1°41'26
max. Earth dist.	1475 Nov 05 j 05:49	22°♏13'53	31.30337 AU
morning rise	1475 Nov 21 j 05:42	22°♏49'43	
retrograde	1476 Feb 16 j 07:44	24°♏42'39	
opposition	1476 May 05 j 02:27	23°♏20'31	1°47'45
min. Earth dist.	1476 May 05 j 18:14	23°♏19'27	29.30218 AU
direct	1476 Jul 25 j 07:13	21°♏56'15	
evening set	1476 Oct 23 j 00:24	23°♏51'38	
conjunction	1476 Nov 07 j 08:48	24°♏25'58	1°40'15
minimum elong	1476 Nov 07 j 08:48	24°♏25'59	1°40'15
max. Earth dist.	1476 Nov 06 j 17:03	24°♏24'30	31.29882 AU
morning rise	1476 Nov 22 j 14:53	25°♏00'09	
retrograde	1477 Feb 17 j 16:28	26°♏53'09	
opposition	1477 May 07 j 14:34	25°♏30'57	1°46'24
min. Earth dist.	1477 May 08 j 06:28	25°♏29'52	29.29761 AU
direct	1477 Jul 27 j 18:59	24°♏06'41	
evening set	1477 Oct 25 j 10:10	26°♏01'59	
conjunction	1477 Nov 09 j 18:08	26°♏36'19	1°38'55
minimum elong	1477 Nov 09 j 18:08	26°♏36'19	1°38'55
max. Earth dist.	1477 Nov 09 j 02:26	26°♏34'50	31.29453 AU
morning rise	1477 Nov 25 j 00:10	27°♏10'29	
retrograde	1478 Feb 20 j 03:25	29°♏03'33	
opposition	1478 May 10 j 02:45	27°♏41'19	1°44'54
min. Earth dist.	1478 May 10 j 16:46	27°♏40'22	29.29359 AU
direct	1478 Jul 30 j 06:05	26°♏17'05	
evening set	1478 Oct 27 j 19:38	28°♏12'19	
conjunction	1478 Nov 12 j 03:25	28°♏46'37	1°37'27
minimum elong	1478 Nov 12 j 03:25	28°♏46'38	1°37'27
max. Earth dist.	1478 Nov 11 j 13:08	28°♏45'17	31.29087 AU
morning rise	1478 Nov 27 j 09:11	29°♏20'48	
	1478 Dec 16 j 01:38	0°♐	
retrograde	1479 Feb 22 j 13:26	1°♐13'58	
	1479 May 07 j 12:01	30°℞♏	
opposition	1479 May 12 j 15:10	29°♏51'41	1°43'16
min. Earth dist.	1479 May 13 j 05:13	29°♏50'44	29.29042 AU
direct	1479 Aug 01 j 16:53	28°♏27'30	
	1479 Oct 19 j 15:33	0°♐	
evening set	1479 Oct 30 j 05:12	0°♐22'41	
conjunction	1479 Nov 14 j 12:43	0°♐56'59	1°35'50
minimum elong	1479 Nov 14 j 12:43	0°♐56'59	1°35'50
max. Earth dist.	1479 Nov 13 j 23:14	0°♐55'43	31.28826 AU
morning rise	1479 Nov 29 j 18:23	1°♐31'10	
retrograde	1480 Feb 25 j 00:59	3°♐24'27	
opposition	1480 May 14 j 03:18	2°♐02'09	1°41'28
min. Earth dist.	1480 May 14 j 15:29	2°♐01'20	29.28811 AU
direct	1480 Aug 03 j 03:45	0°♐38'02	
evening set	1480 Oct 31 j 14:42	2°♐33'11	
conjunction	1480 Nov 15 j 21:59	3°♐07'29	1°34'05
minimum elong	1480 Nov 15 j 21:59	3°♐07'29	1°34'06
max. Earth dist.	1480 Nov 15 j 09:07	3°♐06'16	31.28627 AU
morning rise	1480 Dec 01 j 03:35	3°♐41'40	
retrograde	1481 Feb 26 j 12:23	5°♐35'04	
opposition	1481 May 16 j 15:42	4°♐12'47	1°39'31
min. Earth dist.	1481 May 17 j 03:58	4°♐11'57	29.28632 AU
direct	1481 Aug 05 j 13:43	2°♐48'45	
evening set	1481 Nov 03 j 00:07	4°♐43'51	
conjunction	1481 Nov 18 j 07:16	5°♐18'09	1°32'12
minimum elong	1481 Nov 18 j 07:16	5°♐18'09	1°32'11
max. Earth dist.	1481 Nov 17 j 19:51	5°♐17'05	31.28460 AU
morning rise	1481 Dec 03 j 12:41	5°♐52'21	
retrograde	1482 Feb 28 j 23:53	7°♐45'52	
opposition	1482 May 19 j 04:06	6°♐23'35	1°37'26
min. Earth dist.	1482 May 19 j 15:02	6°♐22'51	29.28446 AU
direct	1482 Aug 08 j 03:06	4°♐59'39	
evening set	1482 Nov 05 j 09:43	6°♐54'43	
conjunction	1482 Nov 20 j 16:32	7°♐29'01	1°30'10
minimum elong	1482 Nov 20 j 16:33	7°♐29'01	1°30'10
max. Earth dist.	1482 Nov 20 j 04:57	7°♐27'56	31.28266 AU
morning rise	1482 Dec 05 j 22:00	8°♐03'13	
retrograde	1483 Mar 03 j 13:03	9°♐56'53	
opposition	1483 May 21 j 16:42	8°♐34'35	1°35'12
min. Earth dist.	1483 May 22 j 03:11	8°♐33'52	29.28230 AU
direct	1483 Aug 10 j 14:14	7°♐10'43	
evening set	1483 Nov 07 j 19:04	9°♐05'45	
conjunction	1483 Nov 23 j 01:53	9°♐40'04	1°28'00
minimum elong	1483 Nov 23 j 01:54	9°♐40'04	1°28'00
max. Earth dist.	1483 Nov 22 j 15:56	9°♐39'08	31.28007 AU
morning rise	1483 Dec 08 j 07:09	10°♐14'16	

retrograde	1484 Mar 04 j 22:40	12°♐08'03	
opposition	1484 May 23 j 05:21	10°♐45'45	1°32'49
min. Earth dist.	1484 May 23 j 15:26	10°♐45'04	29.27907 AU
direct	1484 Aug 12 j 02:47	9°♐21'58	
evening set	1484 Nov 09 j 04:45	11°♐16'57	
conjunction	1484 Nov 24 j 11:14	11°♐51'15	1°25'43
minimum elong	1484 Nov 24 j 11:15	11°♐51'15	1°25'43
max. Earth dist.	1484 Nov 24 j 00:44	11°♐50'16	31.27631 AU
morning rise	1484 Dec 09 j 16:37	12°♐25'28	
retrograde	1485 Mar 07 j 10:10	14°♐19'22	
opposition	1485 May 25 j 17:54	12°♐57'02	1°30'19
min. Earth dist.	1485 May 26 j 03:04	12°♐56'25	29.27463 AU
direct	1485 Aug 14 j 14:40	11°♐33'18	
evening set	1485 Nov 11 j 14:19	13°♐28'13	
conjunction	1485 Nov 26 j 20:48	14°♐02'32	1°23'19
minimum elong	1485 Nov 26 j 20:49	14°♐02'32	1°23'18
max. Earth dist.	1485 Nov 26 j 11:44	14°♐01'41	31.27109 AU
morning rise	1485 Dec 12 j 02:00	14°♐36'46	
retrograde	1486 Mar 09 j 20:16	16°♐30'46	
opposition	1486 May 28 j 06:48	15°♐08'23	1°27'40
min. Earth dist.	1486 May 28 j 16:14	15°♐07'45	29.26858 AU
direct	1486 Aug 17 j 03:09	13°♐44'41	
evening set	1486 Nov 13 j 23:50	15°♐39'31	
conjunction	1486 Nov 29 j 06:06	16°♐13'50	1°20'47
minimum elong	1486 Nov 29 j 06:06	16°♐13'50	1°20'48
max. Earth dist.	1486 Nov 28 j 20:53	16°♐12'57	31.26442 AU
morning rise	1486 Dec 14 j 11:26	16°♐48'05	
retrograde	1487 Mar 12 j 07:22	18°♐42'10	
opposition	1487 May 30 j 19:35	17°♐19'43	1°24'55
min. Earth dist.	1487 May 31 j 03:27	17°♐19'11	29.26112 AU
direct	1487 Aug 19 j 14:55	15°♐56'01	
evening set	1487 Nov 16 j 09:19	17°♐50'45	
conjunction	1487 Dec 01 j 15:34	18°♐25'04	1°18'09
minimum elong	1487 Dec 01 j 15:34	18°♐25'04	1°18'09
max. Earth dist.	1487 Dec 01 j 07:15	18°♐24'17	31.25630 AU
morning rise	1487 Dec 16 j 20:52	18°♐59'20	
retrograde	1488 Mar 13 j 16:58	20°♐53'31	
opposition	1488 Jun 01 j 08:21	19°♐30'58	1°22'02
min. Earth dist.	1488 Jun 01 j 16:39	19°♐30'25	29.25249 AU
direct	1488 Aug 21 j 01:51	18°♐07'16	
evening set	1488 Nov 17 j 18:41	20°♐01'54	
conjunction	1488 Dec 03 j 00:53	20°♐36'13	1°15'24
minimum elong	1488 Dec 03 j 00:53	20°♐36'13	1°15'24
max. Earth dist.	1488 Dec 02 j 17:19	20°♐35'30	31.24741 AU
morning rise	1488 Dec 18 j 06:15	21°♐10'29	
retrograde	1489 Mar 16 j 03:56	23°♐04'44	
opposition	1489 Jun 03 j 21:03	21°♐42'06	1°19'02
min. Earth dist.	1489 Jun 04 j 03:33	21°♐41'40	29.24325 AU
direct	1489 Aug 23 j 13:03	20°♐18'23	
evening set	1489 Nov 20 j 03:59	22°♐12'54	
conjunction	1489 Dec 05 j 10:01	22°♐47'13	1°12'32
minimum elong	1489 Dec 05 j 10:01	22°♐47'13	1°12'32
max. Earth dist.	1489 Dec 05 j 03:02	22°♐46'33	31.23813 AU
morning rise	1489 Dec 20 j 15:29	23°♐21'30	
retrograde	1490 Mar 18 j 15:23	25°♐15'51	
opposition	1490 Jun 06 j 09:56	23°♐53'06	1°15'56
min. Earth dist.	1490 Jun 06 j 16:19	23°♐52'41	29.23419 AU
direct	1490 Aug 25 j 23:35	22°♐29'23	
evening set	1490 Nov 22 j 13:13	24°♐23'49	
conjunction	1490 Dec 07 j 19:18	24°♐58'08	1°09'35
minimum elong	1490 Dec 07 j 19:19	24°♐58'08	1°09'35
max. Earth dist.	1490 Dec 07 j 14:09	24°♐57'38	31.22943 AU
morning rise	1490 Dec 23 j 00:44	25°♐32'25	
retrograde	1491 Mar 21 j 02:50	27°♐26'52	
opposition	1491 Jun 08 j 22:42	26°♐04'02	1°12'43
min. Earth dist.	1491 Jun 09 j 03:21	26°♐03'43	29.22580 AU
direct	1491 Aug 28 j 12:24	24°♐40'20	
evening set	1491 Nov 24 j 22:28	26°♐34'41	
conjunction	1491 Dec 10 j 04:24	27°♐09'00	1°06'31
minimum elong	1491 Dec 10 j 04:24	27°♐09'00	1°06'31
max. Earth dist.	1491 Dec 09 j 23:20	27°♐08'31	31.22155 AU
morning rise	1491 Dec 25 j 10:05	27°♐43'19	
retrograde	1492 Mar 22 j 15:56	29°♐37'52	
opposition	1492 Jun 10 j 11:31	28°♐14'58	1°09'23
min. Earth dist.	1492 Jun 10 j 15:17	28°♐14'43	29.21841 AU
direct	1492 Aug 29 j 22:46	26°♐51'18	
evening set	1492 Nov 26 j 07:39	28°♐45'35	
conjunction	1492 Dec 11 j 13:44	29°♐19'55	1°03'21
minimum elong	1492 Dec 11 j 13:44	29°♐19'55	1°03'22
max. Earth dist.	1492 Dec 11 j 10:42	29°♐19'38	31.21456 AU
morning rise	1492 Dec 26 j 19:21	29°♐54'15	
	1492 Dec 29 j 10:01	0°♑	
retrograde	1493 Mar 25 j 02:07	1°♑48'56	
opposition	1493 Jun 13 j 00:16	0°♑25'59	1°05'58
min. Earth dist.	1493 Jun 13 j 03:07	0°♑25'48	29.21166 AU
	1493 Jun 29 j 07:18	30°℞♐	
direct	1493 Sep 01 j 11:09	29°♐02'22	
	1493 Oct 31 j 20:18	0°♑	
evening set	1493 Nov 28 j 17:02	0°♑56'36	
conjunction	1493 Dec 13 j 22:56	1°♑30'57	1°00'06
minimum elong	1493 Dec 13 j 22:56	1°♑30'57	1°00'06
max. Earth dist.	1493 Dec 13 j 19:55	1°♑30'40	31.20826 AU
morning rise	1493 Dec 29 j 04:50	2°♑05'18	
retrograde	1494 Mar 27 j 14:58	4°♑00'06	
opposition	1494 Jun 15 j 13:12	2°♑37'09	1°02'26
min. Earth dist.	1494 Jun 15 j 14:36	2°♑37'03	29.20553 AU
direct	1494 Sep 03 j 22:48	1°♑13'35	
evening set	1494 Dec 01 j 02:10	3°♑07'46	
conjunction	1494 Dec 16 j 08:13	3°♑42'08	0°56'45
minimum elong	1494 Dec 16 j 08:13	3°♑42'08	0°56'46
max. Earth dist.	1494 Dec 16 j 07:05	3°♑42'02	31.20218 AU
morning rise	1494 Dec 31 j 14:08	4°♑16'31	
retrograde	1495 Mar 30 j 01:59	6°♑11'28	
opposition	1495 Jun 18 j 02:17	4°♑48'28	0°58'48
min. Earth dist.	1495 Jun 18 j 03:37	4°♑48'23	29.19939 AU
direct	1495 Sep 06 j 11:01	3°♑24'59	
evening set	1495 Dec 03 j 11:37	5°♑19'07	
conjunction	1495 Dec 18 j 17:36	5°♑53'30	0°53'19
minimum elong	1495 Dec 18 j 17:36	5°♑53'30	0°53'19
max. Earth dist.	1495 Dec 18 j 16:42	5°♑53'25	31.19601 AU
morning rise	1496 Jan 02 j 23:47	6°♑27'55	
retrograde	1496 Mar 31 j 13:52	8°♑23'00	
opposition	1496 Jun 19 j 15:05	6°♑59'59	0°55'06
min. Earth dist.	1496 Jun 19 j 14:44	7°♑00'01	29.19291 AU
direct	1496 Sep 07 j 22:19	5°♑36'33	
evening set	1496 Dec 04 j 21:03	7°♑30'40	
conjunction	1496 Dec 20 j 03:07	8°♑05'03	0°49'48
minimum elong	1496 Dec 20 j 03:07	8°♑05'03	0°49'49
max. Earth dist.	1496 Dec 20 j 03:03	8°♑05'03	31.18910 AU
morning rise	1497 Jan 04 j 09:24	8°♑39'30	
retrograde	1497 Apr 03 j 00:26	10°♑34'45	

opposition	1497 Jun 22 j 04:15	9°♓11'41	0°51'18
min. Earth dist.	1497 Jun 22 j 04:16	9°♓11'41	29.18555 AU
direct	1497 Sep 10 j 09:05	7°♓48'19	
evening set	1497 Dec 07 j 06:30	9°♓42'22	
conjunction	1497 Dec 22 j 12:37	10°♓16'47	0°46'13
minimum elong	1497 Dec 22 j 12:37	10°♓16'47	0°46'13
max. Earth dist.	1497 Dec 22 j 13:22	10°♓16'51	31.18125 AU
morning rise	1498 Jan 06 j 19:03	10°♓51'14	
retrograde	1498 Apr 05 j 12:10	12°♓46'38	
opposition	1498 Jun 24 j 17:20	11°♓23'32	0°47'26
min. Earth dist.	1498 Jun 24 j 15:41	11°♓23'39	29.17698 AU
direct	1498 Sep 12 j 20:11	10°♓00'12	
evening set	1498 Dec 09 j 16:07	11°♓54'12	
conjunction	1498 Dec 24 j 22:13	12°♓28'37	0°42'34
minimum elong	1498 Dec 24 j 22:13	12°♓28'37	0°42'35
max. Earth dist.	1498 Dec 24 j 23:02	12°♓28'42	31.17203 AU
morning rise	1499 Jan 09 j 04:55	13°♓03'07	
retrograde	1499 Apr 08 j 00:26	14°♓58'39	
opposition	1499 Jun 27 j 06:32	13°♓35'29	0°43'29
min. Earth dist.	1499 Jun 27 j 05:11	13°♓35'34	29.16719 AU
direct	1499 Sep 15 j 06:26	12°♓12'09	
evening set	1499 Dec 12 j 01:32	14°♓06'05	
conjunction	1499 Dec 27 j 07:54	14°♓40'32	0°38'51
minimum elong	1499 Dec 27 j 07:54	14°♓40'32	0°38'51
max. Earth dist.	1499 Dec 27 j 10:09	14°♓40'44	31.16165 AU
morning rise	1500 Jan 11 j 14:44	15°♓15'03	
retrograde	1500 Apr 09 j 12:27	17°♓10'41	
opposition	1500 Jun 28 j 19:37	15°♓47'26	0°39'29
min. Earth dist.	1500 Jun 28 j 17:01	15°♓47'37	29.15608 AU
direct	1500 Sep 16 j 18:56	14°♓24'06	
evening set	1500 Dec 13 j 11:07	16°♓17'58	
conjunction	1500 Dec 28 j 17:24	16°♓52'25	0°35'05
minimum elong	1500 Dec 28 j 17:25	16°♓52'25	0°35'05
max. Earth dist.	1500 Dec 28 j 19:20	16°♓52'36	31.15016 AU
morning rise	1501 Jan 13 j 00:37	17°♓26'58	
retrograde	1501 Apr 12 j 01:50	19°♓22'43	
opposition	1501 Jul 01 j 08:40	17°♓59'21	0°35'26
min. Earth dist.	1501 Jul 01 j 05:34	17°♓59'34	29.14436 AU
direct	1501 Sep 19 j 04:59	16°♓36'01	
evening set	1501 Dec 15 j 20:30	18°♓29'48	
conjunction	1501 Dec 31 j 03:03	19°♓04'16	0°31'16
minimum elong	1501 Dec 31 j 03:04	19°♓04'16	0°31'15
max. Earth dist.	1501 Dec 31 j 06:56	19°♓04'38	31.13835 AU
morning rise	1502 Jan 15 j 10:20	19°♓38'50	
retrograde	1502 Apr 14 j 12:41	21°♓34'41	
opposition	1502 Jul 03 j 21:50	20°♓11'13	0°31'20
min. Earth dist.	1502 Jul 03 j 17:47	20°♓11'30	29.13260 AU
direct	1502 Sep 21 j 17:31	18°♓47'52	
evening set	1502 Dec 18 j 05:56	20°♓41'35	
conjunction	1503 Jan 02 j 12:28	21°♓16'03	0°27'25
minimum elong	1503 Jan 02 j 12:28	21°♓16'03	0°27'25
max. Earth dist.	1503 Jan 02 j 16:28	21°♓16'26	31.12696 AU
morning rise	1503 Jan 17 j 20:09	21°♓50'39	
retrograde	1503 Apr 17 j 02:29	23°♓46'37	
opposition	1503 Jul 06 j 10:54	22°♓23'03	0°27'11
min. Earth dist.	1503 Jul 06 j 05:22	22°♓23'25	29.12165 AU
direct	1503 Sep 24 j 05:40	20°♓59'42	
evening set	1503 Dec 20 j 15:22	22°♓53'20	
conjunction	1504 Jan 04 j 22:09	23°♓27'50	0°23'31
minimum elong	1504 Jan 04 j 22:09	23°♓27'51	0°23'30
max. Earth dist.	1504 Jan 05 j 04:02	23°♓28'23	31.11640 AU
morning rise	1504 Jan 20 j 05:58	24°♓02'28	
retrograde	1504 Apr 18 j 14:06	25°♓58'32	
opposition	1504 Jul 07 j 23:50	24°♓34'53	0°22'59
min. Earth dist.	1504 Jul 07 j 18:00	24°♓35'17	29.11167 AU
direct	1504 Sep 25 j 17:52	23°♓11'33	
evening set	1504 Dec 22 j 00:54	25°♓05'09	
conjunction	1505 Jan 06 j 07:46	25°♓39'40	0°19'34
minimum elong	1505 Jan 06 j 07:46	25°♓39'40	0°19'35
max. Earth dist.	1505 Jan 06 j 14:15	25°♓40'16	31.10711 AU
morning rise	1505 Jan 21 j 15:55	26°♓14'19	
retrograde	1505 Apr 21 j 02:06	28°♓10'31	
opposition	1505 Jul 10 j 12:49	26°♓46'49	0°18'45
min. Earth dist.	1505 Jul 10 j 04:54	26°♓47'21	29.10291 AU
direct	1505 Sep 28 j 05:25	25°♓23'31	
evening set	1505 Dec 24 j 10:19	27°♓17'03	
conjunction	1506 Jan 08 j 17:19	27°♓51'36	0°15'36
minimum elong	1506 Jan 08 j 17:20	27°♓51'36	0°15'36
behind sun begin	1506 Jan 08 j 15:28	27°♓51'26	
behind sun end	1506 Jan 08 j 19:11	27°♓51'46	
max. Earth dist.	1506 Jan 09 j 00:58	27°♓52'18	31.09881 AU
morning rise	1506 Jan 24 j 01:44	28°♓26'17	
	1506 Mar 17 j 05:29	0°♒	
retrograde	1506 Apr 23 j 12:55	0°♒22'37	
	1506 May 31 j 24:00	30°℞♓	
opposition	1506 Jul 13 j 02:03	28°♓58'52	0°14'29
min. Earth dist.	1506 Jul 12 j 18:03	28°♓59'25	29.09512 AU
direct	1506 Sep 30 j 16:42	27°♓35'37	
evening set	1506 Dec 26 j 19:53	29°♓29'07	
	1507 Jan 09 j 12:26	0°♒	
conjunction	1507 Jan 11 j 03:08	0°♒03'41	0°11'37
minimum elong	1507 Jan 11 j 03:07	0°♒03'40	0°11'37
behind sun begin	1507 Jan 10 j 22:30	0°♒03'15	
behind sun end	1507 Jan 11 j 07:45	0°♒04'06	
max. Earth dist.	1507 Jan 11 j 12:03	0°♒04'30	31.09151 AU
morning rise	1507 Jan 26 j 11:47	0°♒38'23	
retrograde	1507 Apr 26 j 01:14	2°♒34'52	
opposition	1507 Jul 15 j 15:01	1°♒11'05	0°10'12
min. Earth dist.	1507 Jul 15 j 05:06	1°♒11'45	29.08804 AU
	1507 Sep 05 j 16:47	30°℞♓	
direct	1507 Oct 03 j 04:08	29°♓47'53	
	1507 Oct 29 j 21:50	0°♒	
evening set	1507 Dec 29 j 05:36	1°♒41'21	
conjunction	1508 Jan 13 j 12:56	2°♒15'56	0°07'36
minimum elong	1508 Jan 13 j 12:55	2°♒15'56	0°07'36
behind sun begin	1508 Jan 13 j 07:06	2°♒15'24	
behind sun end	1508 Jan 13 j 18:45	2°♒16'27	
max. Earth dist.	1508 Jan 13 j 22:08	2°♒16'47	31.08456 AU
morning rise	1508 Jan 28 j 22:00	2°♒50'41	
retrograde	1508 Apr 27 j 13:21	4°♒47'19	
opposition	1508 Jul 17 j 04:13	3°♒23'29	0°05'53
min. Earth dist.	1508 Jul 16 j 18:28	3°♒24'09	29.08120 AU
direct	1508 Oct 04 j 14:03	2°♒00'20	
evening set	1508 Dec 30 j 15:19	3°♒53'46	
conjunction	1509 Jan 14 j 22:56	4°♒28'22	0°03'35
minimum elong	1509 Jan 14 j 22:57	4°♒28'22	0°03'35
behind sun begin	1509 Jan 14 j 16:36	4°♒27'47	
behind sun end	1509 Jan 15 j 05:18	4°♒28'56	
max. Earth dist.	1509 Jan 15 j 09:49	4°♒29'23	31.07762 AU
morning rise	1509 Jan 30 j 08:08	5°♒03'09	
retrograde	1509 Apr 30 j 01:03	6°♒59'55	
opposition	1509 Jul 19 j 17:19	5°♒36'04	0°01'34

min. Earth dist.	1509 Jul 19 j 06:17	5°♒36'49	29.07400 AU
direct	1509 Oct 07 j 01:37	4°♒12'57	
desc. node	1509 Nov 29 j 01:17	4°♒59'01	
evening set	1510 Jan 02 j 01:23	6°♒06'22	
conjunction	1510 Jan 17 j 09:01	6°♒40'59	-0°00'34
minimum elong	1510 Jan 17 j 09:01	6°♒40'59	0°00'34
behind sun begin	1510 Jan 17 j 02:38	6°♒40'24	
behind sun end	1510 Jan 17 j 15:24	6°♒41'34	
max. Earth dist.	1510 Jan 17 j 19:27	6°♒41'57	31.07015 AU
morning rise	1510 Feb 01 j 18:40	7°♒15'47	
retrograde	1510 May 02 j 15:02	9°♒12'43	
opposition	1510 Jul 22 j 06:39	7°♒48'48	-0°02'46
min. Earth dist.	1510 Jul 21 j 19:20	7°♒49'34	29.06622 AU
direct	1510 Oct 09 j 10:53	6°♒25'43	
evening set	1511 Jan 04 j 11:18	8°♒19'06	
conjunction	1511 Jan 19 j 19:18	8°♒53'44	-0°04'40
minimum elong	1511 Jan 19 j 19:19	8°♒53'44	0°04'40
behind sun begin	1511 Jan 19 j 13:02	8°♒53'10	
behind sun end	1511 Jan 20 j 01:35	8°♒54'19	
max. Earth dist.	1511 Jan 20 j 07:17	8°♒54'52	31.06178 AU
morning rise	1511 Feb 04 j 05:08	9°♒28'35	
retrograde	1511 May 05 j 03:05	11°♒25'38	
opposition	1511 Jul 24 j 19:55	10°♒01'39	-0°07'06
min. Earth dist.	1511 Jul 24 j 08:08	10°♒02'28	29.05721 AU
direct	1511 Oct 11 j 23:24	8°♒38'35	
evening set	1512 Jan 06 j 21:34	10°♒31'56	
conjunction	1512 Jan 22 j 05:40	11°♒06'35	-0°08'41
minimum elong	1512 Jan 22 j 05:40	11°♒06'35	0°08'41
behind sun begin	1512 Jan 22 j 00:05	11°♒06'05	
behind sun end	1512 Jan 22 j 11:15	11°♒07'05	
max. Earth dist.	1512 Jan 22 j 17:06	11°♒07'39	31.05223 AU
morning rise	1512 Feb 06 j 15:57	11°♒41'27	
retrograde	1512 May 06 j 17:51	13°♒38'36	
opposition	1512 Jul 26 j 09:00	12°♒14'33	-0°11'25
min. Earth dist.	1512 Jul 25 j 20:26	12°♒15'25	29.04709 AU
direct	1512 Oct 13 j 10:52	10°♒51'28	
evening set	1513 Jan 08 j 07:42	12°♒44'46	
conjunction	1513 Jan 23 j 16:07	13°♒19'27	-0°12'42
minimum elong	1513 Jan 23 j 16:07	13°♒19'27	0°12'42
behind sun begin	1513 Jan 23 j 12:00	13°♒19'04	
behind sun end	1513 Jan 23 j 20:15	13°♒19'49	
max. Earth dist.	1513 Jan 24 j 04:48	13°♒20'38	31.04148 AU
morning rise	1513 Feb 08 j 02:38	13°♒54'20	
	1513 Mar 12 j 21:48	15°♒	
retrograde	1513 May 09 j 05:53	15°♒51'36	
	1513 Jul 08 j 11:35	15°℞♒	
opposition	1513 Jul 28 j 22:16	14°♒27'27	-0°15'43
min. Earth dist.	1513 Jul 28 j 09:53	14°♒28'17	29.03593 AU
direct	1513 Oct 15 j 23:01	13°♒04'21	
evening set	1514 Jan 10 j 17:43	14°♒57'34	
	1514 Jan 11 j 19:55	15°♒	
conjunction	1514 Jan 26 j 02:21	15°♒32'16	-0°16'43
minimum elong	1514 Jan 26 j 02:20	15°♒32'16	0°16'43
max. Earth dist.	1514 Jan 26 j 15:21	15°♒33'30	31.03019 AU
morning rise	1514 Feb 10 j 13:15	16°♒07'12	
retrograde	1514 May 11 j 19:07	18°♒04'32	
opposition	1514 Jul 31 j 11:23	16°♒40'17	-0°20'00
min. Earth dist.	1514 Jul 30 j 21:23	16°♒41'15	29.02457 AU
direct	1514 Oct 18 j 11:12	15°♒17'10	
evening set	1515 Jan 13 j 03:55	17°♒10'20	
conjunction	1515 Jan 28 j 12:45	17°♒45'04	-0°20'42
minimum elong	1515 Jan 28 j 12:45	17°♒45'04	0°20'41
max. Earth dist.	1515 Jan 29 j 02:32	17°♒46'21	31.01881 AU
morning rise	1515 Feb 13 j 00:02	18°♒20'01	
retrograde	1515 May 14 j 06:55	20°♒17'27	
min. Earth dist.	1515 Aug 02 j 10:42	18°♒54'02	29.01355 AU
opposition	1515 Aug 03 j 00:27	18°♒53'06	-0°24'15
direct	1515 Oct 20 j 22:58	17°♒29'58	
evening set	1516 Jan 15 j 14:03	19°♒23'06	
conjunction	1516 Jan 30 j 23:14	19°♒57'50	-0°24'39
minimum elong	1516 Jan 30 j 23:14	19°♒57'50	0°24'39
max. Earth dist.	1516 Jan 31 j 14:13	19°♒59'15	31.00820 AU
morning rise	1516 Feb 15 j 10:48	20°♒32'49	
retrograde	1516 May 15 j 19:44	22°♒30'22	
opposition	1516 Aug 04 j 13:23	21°♒05'56	-0°28'28
min. Earth dist.	1516 Aug 03 j 21:44	21°♒07'00	29.00338 AU
direct	1516 Oct 22 j 11:08	19°♒42'48	
evening set	1517 Jan 17 j 00:19	21°♒35'54	
conjunction	1517 Feb 01 j 09:36	22°♒10'40	-0°28'34
minimum elong	1517 Feb 01 j 09:36	22°♒10'40	0°28'34
max. Earth dist.	1517 Feb 02 j 00:49	22°♒12'06	30.99848 AU
morning rise	1517 Feb 16 j 21:36	22°♒45'41	
retrograde	1517 May 18 j 07:27	24°♒43'21	
min. Earth dist.	1517 Aug 06 j 10:53	23°♒19'56	28.99437 AU
opposition	1517 Aug 07 j 02:30	23°♒18'51	-0°32'39
direct	1517 Oct 24 j 21:14	21°♒55'44	
evening set	1518 Jan 19 j 10:33	23°♒48'49	
conjunction	1518 Feb 03 j 20:16	24°♒23'36	-0°32'27
minimum elong	1518 Feb 03 j 20:16	24°♒23'36	0°32'28
max. Earth dist.	1518 Feb 04 j 13:20	24°♒25'13	30.99006 AU
morning rise	1518 Feb 19 j 08:29	24°♒58'39	
retrograde	1518 May 20 j 19:05	26°♒56'27	
opposition	1518 Aug 09 j 15:28	25°♒31'55	-0°36'46
min. Earth dist.	1518 Aug 08 j 22:21	25°♒33'06	28.98649 AU
direct	1518 Oct 27 j 08:34	24°♒08'50	
evening set	1519 Jan 21 j 20:58	26°♒01'55	
conjunction	1519 Feb 06 j 06:49	26°♒36'43	-0°36'18
minimum elong	1519 Feb 06 j 06:49	26°♒36'43	0°36'18
max. Earth dist.	1519 Feb 06 j 23:39	26°♒38'19	30.98270 AU
morning rise	1519 Feb 21 j 19:36	27°♒11'48	
retrograde	1519 May 23 j 09:04	29°♒09'44	
min. Earth dist.	1519 Aug 11 j 11:04	27°♒46'23	28.97966 AU
opposition	1519 Aug 12 j 04:33	27°♒45'11	-0°40'51
direct	1519 Oct 29 j 17:19	26°♒22'07	
evening set	1520 Jan 24 j 07:27	28°♒15'13	
conjunction	1520 Feb 08 j 17:44	28°♒50'03	-0°40'05
minimum elong	1520 Feb 08 j 17:44	28°♒50'03	0°40'05
max. Earth dist.	1520 Feb 09 j 12:15	28°♒51'48	30.97611 AU
morning rise	1520 Feb 24 j 06:42	29°♒25'10	
	1520 Mar 11 j 14:59	0°♓	
retrograde	1520 May 24 j 21:18	1°♓23'14	
	1520 Aug 12 j 21:52	30°℞♒	
opposition	1520 Aug 13 j 17:26	29°♒58'39	-0°44'53
min. Earth dist.	1520 Aug 12 j 23:21	29°♒59'54	28.97330 AU
direct	1520 Oct 31 j 05:13	28°♒35'39	
	1521 Jan 12 j 08:38	0°♓	
evening set	1521 Jan 25 j 18:09	0°♓28'45	
conjunction	1521 Feb 10 j 04:36	1°♓03'37	-0°43'49
minimum elong	1521 Feb 10 j 04:36	1°♓03'37	0°43'49
max. Earth dist.	1521 Feb 10 j 22:49	1°♓05'20	30.96997 AU
morning rise	1521 Feb 25 j 18:04	1°♓38'46	
retrograde	1521 May 27 j 12:47	3°♓36'57	

min. Earth dist.	1521 Aug 15 j 11:36	2°♓13'40	28.96725 AU
opposition	1521 Aug 16 j 06:30	2°♓12'22	-0°48'50
direct	1521 Nov 02 j 15:50	0°♓49'24	
evening set	1522 Jan 28 j 04:49	2°♓42'31	
conjunction	1522 Feb 12 j 15:38	3°♓17'25	-0°47'29
minimum elong	1522 Feb 12 j 15:38	3°♓17'25	0°47'29
max. Earth dist.	1522 Feb 13 j 11:05	3°♓19'15	30.96367 AU
morning rise	1522 Feb 28 j 05:23	3°♓52'36	
retrograde	1522 May 30 j 01:20	5°♓50'55	
opposition	1522 Aug 18 j 19:39	4°♓26'18	-0°52'44
min. Earth dist.	1522 Aug 18 j 01:09	4°♓27'35	28.96075 AU
direct	1522 Nov 05 j 02:59	3°♓03'22	
evening set	1523 Jan 30 j 15:50	4°♓56'30	
conjunction	1523 Feb 15 j 02:56	5°♓31'25	-0°51'06
minimum elong	1523 Feb 15 j 02:56	5°♓31'25	0°51'05
max. Earth dist.	1523 Feb 15 j 22:18	5°♓33'15	30.95684 AU
morning rise	1523 Mar 02 j 17:06	6°♓06'38	
retrograde	1523 Jun 01 j 16:17	8°♓05'03	
opposition	1523 Aug 21 j 08:33	6°♓40'24	-0°56'33
min. Earth dist.	1523 Aug 20 j 13:01	6°♓41'45	28.95347 AU
direct	1523 Nov 07 j 15:09	5°♓17'28	
evening set	1524 Feb 02 j 02:59	7°♓10'37	
conjunction	1524 Feb 17 j 14:22	7°♓45'33	-0°54'37
minimum elong	1524 Feb 17 j 14:22	7°♓45'33	0°54'37
max. Earth dist.	1524 Feb 18 j 09:46	7°♓47'23	30.94884 AU
morning rise	1524 Mar 04 j 04:56	8°♓20'48	
retrograde	1524 Jun 03 j 05:57	10°♓19'19	
opposition	1524 Aug 22 j 21:42	8°♓54'36	-1°00'16
min. Earth dist.	1524 Aug 22 j 03:01	8°♓55'53	28.94493 AU
direct	1524 Nov 09 j 03:36	7°♓31'39	
evening set	1525 Feb 03 j 13:59	9°♓24'46	
conjunction	1525 Feb 19 j 01:47	9°♓59'44	-0°58'04
minimum elong	1525 Feb 19 j 01:47	9°♓59'44	0°58'04
max. Earth dist.	1525 Feb 19 j 21:45	10°♓01'38	30.93973 AU
morning rise	1525 Mar 06 j 16:39	10°♓35'00	
retrograde	1525 Jun 05 j 19:43	12°♓33'35	
opposition	1525 Aug 25 j 10:40	11°♓08'48	-1°03'55
min. Earth dist.	1525 Aug 24 j 14:44	11°♓10'10	28.93526 AU
direct	1525 Nov 11 j 16:49	9°♓45'49	
evening set	1526 Feb 06 j 01:14	11°♓38'54	
conjunction	1526 Feb 21 j 13:14	12°♓13'53	-1°01'25
minimum elong	1526 Feb 21 j 13:14	12°♓13'53	1°01'26
max. Earth dist.	1526 Feb 22 j 08:48	12°♓15'44	30.92965 AU
morning rise	1526 Mar 09 j 04:39	12°♓49'11	
retrograde	1526 Jun 08 j 07:32	14°♓47'49	
opposition	1526 Aug 27 j 23:41	13°♓22'56	-1°07'27
min. Earth dist.	1526 Aug 27 j 04:28	13°♓24'15	28.92505 AU
direct	1526 Nov 14 j 03:35	11°♓59'53	
evening set	1527 Feb 08 j 12:18	13°♓52'56	
conjunction	1527 Feb 24 j 00:51	14°♓27'56	-1°04'41
minimum elong	1527 Feb 24 j 00:50	14°♓27'56	1°04'41
max. Earth dist.	1527 Feb 24 j 21:46	14°♓29'55	30.91932 AU
morning rise	1527 Mar 11 j 16:31	15°♓03'16	
retrograde	1527 Jun 10 j 19:23	17°♓01'56	
opposition	1527 Aug 30 j 12:27	15°♓36'57	-1°10'54
min. Earth dist.	1527 Aug 29 j 16:13	15°♓38'21	28.91477 AU
direct	1527 Nov 16 j 16:14	14°♓13'52	
evening set	1528 Feb 10 j 23:39	16°♓06'52	
conjunction	1528 Feb 26 j 12:20	16°♓41'54	-1°07'51
minimum elong	1528 Feb 26 j 12:20	16°♓41'54	1°07'51
max. Earth dist.	1528 Feb 27 j 08:38	16°♓43'49	30.90923 AU
morning rise	1528 Mar 13 j 04:33	17°♓17'15	
retrograde	1528 Jun 12 j 08:42	19°♓15'58	
min. Earth dist.	1528 Aug 31 j 04:54	17°♓52'17	28.90518 AU
opposition	1528 Sep 01 j 01:07	17°♓50'53	-1°14'14
direct	1528 Nov 18 j 02:02	16°♓27'45	
evening set	1529 Feb 12 j 10:50	18°♓20'44	
conjunction	1529 Feb 28 j 00:01	18°♓55'47	-1°10'55
minimum elong	1529 Feb 28 j 00:01	18°♓55'47	1°10'55
max. Earth dist.	1529 Feb 28 j 21:54	18°♓57'51	30.90003 AU
morning rise	1529 Mar 15 j 16:28	19°♓31'10	
retrograde	1529 Jun 14 j 19:51	21°♓29'55	
opposition	1529 Sep 03 j 13:48	20°♓04'47	-1°17'27
min. Earth dist.	1529 Sep 02 j 16:55	20°♓06'13	28.89658 AU
direct	1529 Nov 20 j 14:12	18°♓41'36	
evening set	1530 Feb 14 j 22:08	20°♓34'35	
conjunction	1530 Mar 02 j 11:34	21°♓09'39	-1°13'53
minimum elong	1530 Mar 02 j 11:34	21°♓09'39	1°13'53
max. Earth dist.	1530 Mar 03 j 09:06	21°♓11'41	30.89210 AU
morning rise	1530 Mar 18 j 04:34	21°♓45'03	
retrograde	1530 Jun 17 j 10:01	23°♓43'53	
min. Earth dist.	1530 Sep 05 j 04:48	22°♓20'11	28.88938 AU
opposition	1530 Sep 06 j 02:27	22°♓18'41	-1°20'33
direct	1530 Nov 23 j 00:17	20°♓55'29	
evening set	1531 Feb 17 j 09:32	22°♓48'29	
conjunction	1531 Mar 04 j 23:26	23°♓23'34	-1°16'44
minimum elong	1531 Mar 04 j 23:25	23°♓23'34	1°16'44
max. Earth dist.	1531 Mar 05 j 22:11	23°♓25'43	30.88539 AU
morning rise	1531 Mar 20 j 16:44	23°♓59'00	
retrograde	1531 Jun 19 j 22:06	25°♓57'53	
opposition	1531 Sep 08 j 14:57	24°♓32'39	-1°23'33
min. Earth dist.	1531 Sep 07 j 17:33	24°♓34'08	28.88334 AU
direct	1531 Nov 25 j 10:54	23°♓09'27	
evening set	1532 Feb 19 j 21:04	25°♓02'29	
conjunction	1532 Mar 06 j 11:20	25°♓37'36	-1°19'28
minimum elong	1532 Mar 06 j 11:20	25°♓37'36	1°19'28
max. Earth dist.	1532 Mar 07 j 10:10	25°♓39'45	30.88000 AU
morning rise	1532 Mar 22 j 05:06	26°♓13'03	
retrograde	1532 Jun 21 j 13:12	28°♓12'00	
min. Earth dist.	1532 Sep 09 j 04:54	26°♓48'19	28.87847 AU
opposition	1532 Sep 10 j 03:28	26°♓46'45	-1°26'24
direct	1532 Nov 26 j 22:45	25°♓23'34	
evening set	1533 Feb 21 j 08:36	27°♓16'38	
conjunction	1533 Mar 08 j 23:11	27°♓51'47	-1°22'05
minimum elong	1533 Mar 08 j 23:11	27°♓51'47	1°22'05
max. Earth dist.	1533 Mar 09 j 22:23	27°♓53'58	30.87543 AU
morning rise	1533 Mar 24 j 17:22	28°♓27'16	
	1533 May 14 j 14:13	0°♈	
retrograde	1533 Jun 24 j 03:01	0°♈26'18	
	1533 Aug 04 j 13:17	30°♑℞	
opposition	1533 Sep 12 j 16:10	29°♓01'03	-1°29'08
min. Earth dist.	1533 Sep 11 j 18:19	29°♓02'34	28.87433 AU
direct	1533 Nov 29 j 10:27	27°♓37'53	
evening set	1534 Feb 23 j 20:20	29°♓30'59	
	1534 Mar 08 j 18:18	0°♈	
conjunction	1534 Mar 11 j 11:25	0°♈06'10	-1°24'35
minimum elong	1534 Mar 11 j 11:25	0°♈06'10	1°24'35
max. Earth dist.	1534 Mar 12 j 11:13	0°♈08'25	30.87155 AU
morning rise	1534 Mar 27 j 05:57	0°♈41'41	
retrograde	1534 Jun 26 j 17:32	2°♈40'47	
min. Earth dist.	1534 Sep 14 j 05:42	1°♈17'08	28.87052 AU

opposition	1534 Sep 15 j 04:35	1°♈15'33	-1°31'44
	1534 Nov 10 j 18:17	30°♓	
direct	1534 Dec 01 j 23:06	29°♓52'24	
	1534 Dec 22 j 18:48	0°♈	
evening set	1535 Feb 26 j 08:24	1°♈45'33	
conjunction	1535 Mar 13 j 23:44	2°♈20'46	-1°26'57
minimum elong	1535 Mar 13 j 23:44	2°♈20'46	1°26'57
max. Earth dist.	1535 Mar 14 j 22:51	2°♈22'57	30.86757 AU
morning rise	1535 Mar 29 j 18:49	2°♈56'19	
retrograde	1535 Jun 29 j 06:53	4°♈55'29	
opposition	1535 Sep 17 j 17:14	3°♈30'15	-1°34'12
min. Earth dist.	1535 Sep 16 j 19:26	3°♈31'45	28.86641 AU
direct	1535 Dec 04 j 09:45	2°♈07'07	
evening set	1536 Feb 28 j 20:26	4°♈00'18	
conjunction	1536 Mar 15 j 12:20	4°♈35'32	-1°29'11
minimum elong	1536 Mar 15 j 12:20	4°♈35'32	1°29'11
max. Earth dist.	1536 Mar 16 j 12:15	4°♈37'48	30.86304 AU
morning rise	1536 Mar 31 j 07:37	5°♈11'08	
retrograde	1536 Jun 30 j 20:24	7°♈10'20	
min. Earth dist.	1536 Sep 18 j 07:20	5°♈46'38	28.86143 AU
opposition	1536 Sep 19 j 05:38	5°♈45'05	-1°36'31
direct	1536 Dec 05 j 22:33	4°♈21'57	
evening set	1537 Mar 02 j 08:43	6°♈15'10	
conjunction	1537 Mar 18 j 00:52	6°♈50'26	-1°31'17
minimum elong	1537 Mar 18 j 00:52	6°♈50'26	1°31'17
max. Earth dist.	1537 Mar 18 j 23:28	6°♈52'35	30.85762 AU
morning rise	1537 Apr 02 j 20:45	7°♈26'03	
retrograde	1537 Jul 03 j 10:06	9°♈25'18	
opposition	1537 Sep 21 j 18:13	8°♈00'01	-1°38'41
min. Earth dist.	1537 Sep 20 j 20:35	8°♈01'31	28.85567 AU
direct	1537 Dec 08 j 08:47	6°♈36'51	
evening set	1538 Mar 04 j 20:47	8°♈30'04	
conjunction	1538 Mar 20 j 13:32	9°♈05'22	-1°33'15
minimum elong	1538 Mar 20 j 13:32	9°♈05'22	1°33'14
max. Earth dist.	1538 Mar 21 j 13:01	9°♈07'35	30.85140 AU
morning rise	1538 Apr 05 j 09:43	9°♈41'01	
retrograde	1538 Jul 05 j 21:13	11°♈40'15	
min. Earth dist.	1538 Sep 23 j 09:00	10°♈16'26	28.84911 AU
opposition	1538 Sep 24 j 06:36	10°♈14'56	-1°40'43
direct	1538 Dec 10 j 21:18	8°♈51'43	
evening set	1539 Mar 07 j 09:09	10°♈44'56	
conjunction	1539 Mar 23 j 02:13	11°♈20'15	-1°35'04
minimum elong	1539 Mar 23 j 02:13	11°♈20'15	1°35'04
max. Earth dist.	1539 Mar 24 j 00:36	11°♈22'22	30.84478 AU
morning rise	1539 Apr 07 j 22:58	11°♈55'55	
retrograde	1539 Jul 08 j 10:43	13°♈55'09	
opposition	1539 Sep 26 j 18:45	12°♈29'47	-1°42'35
min. Earth dist.	1539 Sep 25 j 21:05	12°♈31'17	28.84255 AU
direct	1539 Dec 13 j 07:24	11°♈06'30	
evening set	1540 Mar 08 j 21:25	12°♈59'44	
conjunction	1540 Mar 24 j 14:59	13°♈35'04	-1°36'45
minimum elong	1540 Mar 24 j 14:59	13°♈35'04	1°36'44
max. Earth dist.	1540 Mar 25 j 14:11	13°♈37'16	30.83824 AU
morning rise	1540 Apr 09 j 12:02	14°♈10'46	
retrograde	1540 Jul 09 j 22:26	16°♈09'58	
min. Earth dist.	1540 Sep 27 j 09:52	14°♈46'02	28.83635 AU
opposition	1540 Sep 28 j 06:59	14°♈44'33	-1°44'18
direct	1540 Dec 14 j 17:56	13°♈21'13	
evening set	1541 Mar 11 j 09:34	15°♈14'27	
conjunction	1541 Mar 27 j 03:33	15°♈49'49	-1°38'16
minimum elong	1541 Mar 27 j 03:33	15°♈49'49	1°38'17
max. Earth dist.	1541 Mar 28 j 02:31	15°♈51'59	30.83256 AU
morning rise	1541 Apr 12 j 01:05	16°♈25'32	
retrograde	1541 Jul 12 j 12:30	18°♈24'43	
opposition	1541 Sep 30 j 19:05	16°♈59'15	-1°45'52
min. Earth dist.	1541 Sep 29 j 21:05	17°♈00'48	28.83125 AU
direct	1541 Dec 17 j 06:17	15°♈35'52	
evening set	1542 Mar 13 j 21:59	17°♈29'07	
conjunction	1542 Mar 29 j 16:22	18°♈04'31	-1°39'40
minimum elong	1542 Mar 29 j 16:22	18°♈04'31	1°39'39
max. Earth dist.	1542 Mar 30 j 15:31	18°♈06'42	30.82796 AU
morning rise	1542 Apr 14 j 14:20	18°♈40'15	
retrograde	1542 Jul 15 j 01:17	20°♈39'25	
min. Earth dist.	1542 Oct 02 j 10:01	19°♈15'24	28.82743 AU
opposition	1542 Oct 03 j 07:08	19°♈13'55	-1°47'15
direct	1542 Dec 19 j 17:46	17°♈50'29	
evening set	1543 Mar 16 j 10:22	19°♈43'46	
conjunction	1543 Apr 01 j 05:19	20°♈19'12	-1°40'53
minimum elong	1543 Apr 01 j 05:19	20°♈19'12	1°40'54
max. Earth dist.	1543 Apr 02 j 04:50	20°♈21'25	30.82491 AU
morning rise	1543 Apr 17 j 03:38	20°♈54'57	
retrograde	1543 Jul 17 j 15:24	22°♈54'06	
opposition	1543 Oct 05 j 19:02	21°♈28'36	-1°48'30
min. Earth dist.	1543 Oct 04 j 20:47	21°♈30'09	28.82508 AU
direct	1543 Dec 22 j 06:18	20°♈05'08	
evening set	1544 Mar 17 j 22:54	21°♈58'27	
conjunction	1544 Apr 02 j 18:08	22°♈33'54	-1°41'58
minimum elong	1544 Apr 02 j 18:08	22°♈33'54	1°41'58
max. Earth dist.	1544 Apr 03 j 17:07	22°♈36'04	30.82320 AU
morning rise	1544 Apr 18 j 16:58	23°♈09'41	
retrograde	1544 Jul 19 j 05:08	25°♈08'49	
min. Earth dist.	1544 Oct 06 j 09:42	23°♈44'49	28.82416 AU
opposition	1544 Oct 07 j 07:02	23°♈43'19	-1°49'34
direct	1544 Dec 23 j 17:20	22°♈19'51	
evening set	1545 Mar 20 j 11:23	24°♈13'12	
conjunction	1545 Apr 05 j 07:15	24°♈48'41	-1°42'54
minimum elong	1545 Apr 05 j 07:14	24°♈48'41	1°42'54
max. Earth dist.	1545 Apr 06 j 07:13	24°♈50'57	30.82297 AU
morning rise	1545 Apr 21 j 06:21	25°♈24'30	
retrograde	1545 Jul 21 j 19:36	27°♈23'36	
opposition	1545 Oct 09 j 18:52	25°♈58'08	-1°50'28
min. Earth dist.	1545 Oct 08 j 20:53	25°♈59'40	28.82446 AU
direct	1545 Dec 26 j 06:41	24°♈34'40	
evening set	1546 Mar 23 j 00:06	26°♈28'04	
conjunction	1546 Apr 07 j 20:17	27°♈03'35	-1°43'39
minimum elong	1546 Apr 07 j 20:17	27°♈03'35	1°43'39
max. Earth dist.	1546 Apr 08 j 19:06	27°♈05'44	30.82376 AU
morning rise	1546 Apr 23 j 20:01	27°♈39'25	
retrograde	1546 Jul 24 j 09:00	29°♈38'31	
min. Earth dist.	1546 Oct 11 j 09:36	28°♈14'34	28.82561 AU
opposition	1546 Oct 12 j 06:48	28°♈13'05	-1°51'12
direct	1546 Dec 28 j 17:15	26°♈49'37	
evening set	1547 Mar 25 j 13:00	28°♈43'05	
conjunction	1547 Apr 10 j 09:47	29°♈18'37	-1°44'16
minimum elong	1547 Apr 10 j 09:47	29°♈18'37	1°44'16
max. Earth dist.	1547 Apr 11 j 09:19	29°♈20'50	30.82499 AU
morning rise	1547 Apr 26 j 09:44	29°♈54'29	
	1547 Apr 28 j 22:11	0°♉	
retrograde	1547 Jul 26 j 21:10	1°♉53'33	
opposition	1547 Oct 14 j 18:31	0°♉28'10	-1°51'45
min. Earth dist.	1547 Oct 13 j 21:38	0°♉29'38	28.82679 AU

	1547 Oct 31 j 18:59	30°℞♈	
direct	1547 Dec 31 j 05:31	29°♈04'42	
	1548 Feb 27 j 05:14	0°♉	
evening set	1548 Mar 27 j 02:08	0°♉58'13	
conjunction	1548 Apr 11 j 23:14	1°♉33'47	-1°44'42
minimum elong	1548 Apr 11 j 23:14	1°♉33'47	1°44'42
max. Earth dist.	1548 Apr 12 j 21:12	1°♉35'51	30.82608 AU
morning rise	1548 Apr 27 j 23:43	2°♉09'41	
retrograde	1548 Jul 28 j 11:27	4°♉08'43	
min. Earth dist.	1548 Oct 15 j 09:50	2°♉44'48	28.82764 AU
opposition	1548 Oct 16 j 06:24	2°♉43'21	-1°52'08
direct	1549 Jan 01 j 15:52	1°♉19'53	
evening set	1549 Mar 29 j 15:08	3°♉13'26	
conjunction	1549 Apr 14 j 12:47	3°♉49'02	-1°45'00
minimum elong	1549 Apr 14 j 12:47	3°♉49'02	1°45'00
max. Earth dist.	1549 Apr 15 j 11:00	3°♉51'08	30.82643 AU
morning rise	1549 Apr 30 j 13:35	4°♉24'57	
retrograde	1549 Jul 30 j 23:06	6°♉23'57	
opposition	1549 Oct 18 j 18:21	4°♉58'36	-1°52'22
min. Earth dist.	1549 Oct 17 j 22:56	4°♉59'58	28.82751 AU
direct	1550 Jan 04 j 02:59	3°♉35'06	
evening set	1550 Apr 01 j 04:23	5°♉28'41	
conjunction	1550 Apr 17 j 02:31	6°♉04'18	-1°45'07
minimum elong	1550 Apr 17 j 02:31	6°♉04'18	1°45'07
max. Earth dist.	1550 Apr 17 j 23:32	6°♉06'16	30.82598 AU
morning rise	1550 May 03 j 03:48	6°♉40'14	
retrograde	1550 Aug 02 j 12:30	8°♉39'09	
min. Earth dist.	1550 Oct 20 j 10:30	7°♉15'11	28.82663 AU
opposition	1550 Oct 21 j 06:00	7°♉13'49	-1°52'24
direct	1551 Jan 06 j 15:04	5°♉50'14	
evening set	1551 Apr 03 j 17:42	7°♉43'52	
conjunction	1551 Apr 19 j 16:17	8°♉19'30	-1°45'05
minimum elong	1551 Apr 19 j 16:17	8°♉19'30	1°45'06
max. Earth dist.	1551 Apr 20 j 12:48	8°♉21'26	30.82470 AU
morning rise	1551 May 05 j 17:59	8°♉55'28	
retrograde	1551 Aug 05 j 00:26	10°♉54'18	
opposition	1551 Oct 23 j 17:46	9°♉28'57	-1°52'17
min. Earth dist.	1551 Oct 22 j 23:47	9°♉30'13	28.82514 AU
direct	1552 Jan 09 j 02:19	8°♉05'19	
evening set	1552 Apr 05 j 06:49	9°♉58'57	
conjunction	1552 Apr 21 j 05:56	10°♉34'37	-1°44'54
minimum elong	1552 Apr 21 j 05:57	10°♉34'37	1°44'53
max. Earth dist.	1552 Apr 22 j 02:09	10°♉36'31	30.82323 AU
morning rise	1552 May 07 j 07:58	11°♉10'35	
retrograde	1552 Aug 06 j 14:07	13°♉09'20	
min. Earth dist.	1552 Oct 24 j 10:40	11°♉45'17	28.82369 AU
opposition	1552 Oct 25 j 05:14	11°♉43'58	-1°52'00
direct	1553 Jan 10 j 15:00	10°♉20'16	
evening set	1553 Apr 07 j 20:07	12°♉13'56	
conjunction	1553 Apr 23 j 19:35	12°♉49'38	-1°44'33
minimum elong	1553 Apr 23 j 19:35	12°♉49'38	1°44'33
max. Earth dist.	1553 Apr 24 j 14:49	12°♉51'26	30.82198 AU
morning rise	1553 May 09 j 22:07	13°♉25'37	
	1553 Jul 01 j 10:48	15°♉	
retrograde	1553 Aug 09 j 03:20	15°♉24'16	
	1553 Sep 17 j 10:02	15°℞♉	
opposition	1553 Oct 27 j 16:46	13°♉58'54	-1°51'32
min. Earth dist.	1553 Oct 26 j 23:32	14°♉00'07	28.82284 AU
direct	1554 Jan 13 j 02:29	12°♉35'08	
evening set	1554 Apr 10 j 09:16	14°♉28'50	
	1554 Apr 24 j 08:46	15°♉	

conjunction	1554 Apr 26 j 09:23	15°♉04'34	-1°44'02
minimum elong	1554 Apr 26 j 09:23	15°♉04'34	1°44'01
max. Earth dist.	1554 Apr 27 j 05:09	15°♉06'25	30.82159 AU
morning rise	1554 May 12 j 12:11	15°♉40'34	
retrograde	1554 Aug 11 j 17:18	17°♉39'07	
min. Earth dist.	1554 Oct 29 j 10:28	16°♉15'00	28.82288 AU
opposition	1554 Oct 30 j 04:06	16°♉13'46	-1°50'54
	1554 Dec 22 j 06:34	15°℞♉	
direct	1555 Jan 15 j 16:22	14°♉49'57	
	1555 Feb 08 j 17:34	15°♉	
evening set	1555 Apr 12 j 22:42	16°♉43'41	
conjunction	1555 Apr 28 j 23:06	17°♉19'26	-1°43'22
minimum elong	1555 Apr 28 j 23:06	17°♉19'26	1°43'22
max. Earth dist.	1555 Apr 29 j 17:28	17°♉21'10	30.82222 AU
morning rise	1555 May 15 j 02:25	17°♉55'28	
retrograde	1555 Aug 14 j 06:15	19°♉53'55	
opposition	1555 Nov 01 j 15:23	18°♉28'35	-1°50'06
min. Earth dist.	1555 Oct 31 j 22:37	18°♉29'46	28.82423 AU
direct	1556 Jan 18 j 03:15	17°♉04'44	
evening set	1556 Apr 14 j 11:56	18°♉58'32	
conjunction	1556 Apr 30 j 12:57	19°♉34'19	-1°42'32
minimum elong	1556 Apr 30 j 12:58	19°♉34'19	1°42'32
max. Earth dist.	1556 May 01 j 08:06	19°♉36'06	30.82424 AU
morning rise	1556 May 16 j 16:28	20°♉10'21	
retrograde	1556 Aug 15 j 18:54	22°♉08'43	
min. Earth dist.	1556 Nov 02 j 09:57	20°♉44'37	28.82688 AU
opposition	1556 Nov 03 j 02:40	20°♉43'26	-1°49'08
direct	1557 Jan 19 j 15:54	19°♉19'34	
evening set	1557 Apr 17 j 01:14	21°♉13'24	
conjunction	1557 May 03 j 02:35	21°♉49'13	-1°41'33
minimum elong	1557 May 03 j 02:36	21°♉49'13	1°41'34
max. Earth dist.	1557 May 03 j 20:19	21°♉50'53	30.82770 AU
morning rise	1557 May 19 j 06:39	22°♉25'17	
retrograde	1557 Aug 18 j 09:22	24°♉23'34	
opposition	1557 Nov 05 j 13:59	22°♉58'21	-1°48'00
min. Earth dist.	1557 Nov 04 j 21:24	22°♉59'31	28.83097 AU
direct	1558 Jan 22 j 02:33	21°♉34'28	
evening set	1558 Apr 19 j 14:42	23°♉28'23	
conjunction	1558 May 05 j 16:38	24°♉04'13	-1°40'25
minimum elong	1558 May 05 j 16:38	24°♉04'13	1°40'24
max. Earth dist.	1558 May 06 j 10:49	24°♉05'56	30.83230 AU
morning rise	1558 May 21 j 20:55	24°♉40'19	
retrograde	1558 Aug 20 j 20:29	26°♉38'30	
min. Earth dist.	1558 Nov 07 j 09:39	25°♉14'28	28.83593 AU
opposition	1558 Nov 08 j 01:08	25°♉13'22	-1°46'41
direct	1559 Jan 24 j 13:32	23°♉49'30	
evening set	1559 Apr 22 j 04:21	25°♉43'29	
conjunction	1559 May 08 j 06:40	26°♉19'21	-1°39'07
minimum elong	1559 May 08 j 06:41	26°♉19'21	1°39'08
max. Earth dist.	1559 May 08 j 23:37	26°♉20'56	30.83770 AU
morning rise	1559 May 24 j 11:23	26°♉55'27	
retrograde	1559 Aug 23 j 09:29	28°♉53'34	
opposition	1559 Nov 10 j 12:18	27°♉28'31	-1°45'13
min. Earth dist.	1559 Nov 09 j 20:47	27°♉29'37	28.84143 AU
direct	1560 Jan 27 j 01:00	26°♉04'39	
evening set	1560 Apr 23 j 17:59	27°♉58'42	
conjunction	1560 May 09 j 20:41	28°♉34'36	-1°37'40
minimum elong	1560 May 09 j 20:42	28°♉34'36	1°37'39
max. Earth dist.	1560 May 10 j 13:11	28°♉36'09	30.84307 AU
morning rise	1560 May 26 j 01:40	29°♉10'43	
	1560 Jun 19 j 01:24	0°♊	

retrograde	1560 Aug 24 j 21:14	1°♊08'46	
	1560 Nov 02 j 08:46	30°℞♉	
opposition	1560 Nov 11 j 23:35	29°♉43'47	-1°43'35
min. Earth dist.	1560 Nov 11 j 09:48	29°♉44'46	28.84662 AU
direct	1561 Jan 28 j 11:07	28°♉19'54	
	1561 Apr 19 j 19:40	0°♊	
evening set	1561 Apr 26 j 07:45	0°♊14'01	
conjunction	1561 May 12 j 10:57	0°♊49'56	-1°36'04
minimum elong	1561 May 12 j 10:57	0°♊49'56	1°36'04
max. Earth dist.	1561 May 13 j 02:29	0°♊51'23	30.84804 AU
morning rise	1561 May 28 j 16:14	1°♊26'04	
retrograde	1561 Aug 27 j 10:28	3°♊24'00	
opposition	1561 Nov 14 j 10:39	1°♊59'05	-1°41'47
min. Earth dist.	1561 Nov 13 j 20:46	2°♊00'04	28.85107 AU
direct	1562 Jan 30 j 23:13	0°♊35'09	
evening set	1562 Apr 28 j 21:42	2°♊29'20	
conjunction	1562 May 15 j 01:15	3°♊05'16	-1°34'19
minimum elong	1562 May 15 j 01:15	3°♊05'16	1°34'19
max. Earth dist.	1562 May 15 j 15:12	3°♊06'34	30.85195 AU
morning rise	1562 May 31 j 06:54	3°♊41'25	
retrograde	1562 Aug 29 j 22:42	5°♊39'13	
opposition	1562 Nov 16 j 21:53	4°♊14'20	-1°39'51
min. Earth dist.	1562 Nov 16 j 09:52	4°♊15'11	28.85448 AU
direct	1563 Feb 02 j 11:08	2°♊50'21	
evening set	1563 May 01 j 11:31	4°♊44'34	
conjunction	1563 May 17 j 15:37	5°♊20'31	-1°32'26
minimum elong	1563 May 17 j 15:37	5°♊20'31	1°32'26
max. Earth dist.	1563 May 18 j 05:16	5°♊21'48	30.85495 AU
morning rise	1563 Jun 02 j 21:26	5°♊56'40	
retrograde	1563 Sep 01 j 11:32	7°♊54'19	
opposition	1563 Nov 19 j 08:48	6°♊29'28	-1°37'45
min. Earth dist.	1563 Nov 18 j 20:58	6°♊30'18	28.85694 AU
direct	1564 Feb 05 j 01:08	5°♊05'23	
evening set	1564 May 03 j 01:28	6°♊59'38	
conjunction	1564 May 19 j 05:47	7°♊35'36	-1°30'24
minimum elong	1564 May 19 j 05:48	7°♊35'37	1°30'24
max. Earth dist.	1564 May 19 j 17:32	7°♊36'42	30.85723 AU
morning rise	1564 Jun 04 j 12:02	8°♊11'46	
retrograde	1564 Sep 03 j 00:27	10°♊09'15	
opposition	1564 Nov 20 j 19:48	8°♊44'24	-1°35'31
min. Earth dist.	1564 Nov 20 j 09:18	8°♊45'08	28.85911 AU
direct	1565 Feb 06 j 12:21	7°♊20'14	
evening set	1565 May 05 j 15:05	9°♊14'30	
conjunction	1565 May 21 j 19:59	9°♊50'29	-1°28'15
minimum elong	1565 May 21 j 20:00	9°♊50'29	1°28'15
max. Earth dist.	1565 May 22 j 08:02	9°♊51'37	30.85939 AU
morning rise	1565 Jun 07 j 02:22	10°♊26'39	
retrograde	1565 Sep 05 j 13:06	12°♊23'58	
opposition	1565 Nov 23 j 06:39	10°♊59'07	-1°33'09
min. Earth dist.	1565 Nov 22 j 20:41	10°♊59'49	28.86124 AU
direct	1566 Feb 09 j 02:13	9°♊34'52	
evening set	1566 May 08 j 05:01	11°♊29'09	
conjunction	1566 May 24 j 10:09	12°♊05'09	-1°25'58
minimum elong	1566 May 24 j 10:09	12°♊05'09	1°25'57
max. Earth dist.	1566 May 24 j 20:15	12°♊06'06	30.86185 AU
morning rise	1566 Jun 09 j 16:56	12°♊41'19	
retrograde	1566 Sep 08 j 02:42	14°♊38'28	
opposition	1566 Nov 25 j 17:18	13°♊13'37	-1°30'38
min. Earth dist.	1566 Nov 25 j 07:49	13°♊14'17	28.86404 AU
direct	1567 Feb 11 j 14:14	11°♊49'17	
evening set	1567 May 10 j 18:47	13°♊43'36	
conjunction	1567 May 27 j 00:24	14°♊19'38	-1°23'33
minimum elong	1567 May 27 j 00:24	14°♊19'38	1°23'33
max. Earth dist.	1567 May 27 j 10:49	14°♊20'36	30.86504 AU
morning rise	1567 Jun 12 j 07:15	14°♊55'48	
retrograde	1567 Sep 10 j 13:18	16°♊52'46	
opposition	1567 Nov 28 j 04:05	15°♊27'57	-1°27'59
min. Earth dist.	1567 Nov 27 j 19:39	15°♊28'33	28.86773 AU
direct	1568 Feb 14 j 02:17	14°♊03'34	
evening set	1568 May 12 j 08:26	15°♊57'54	
conjunction	1568 May 28 j 14:17	16°♊33'56	-1°21'01
minimum elong	1568 May 28 j 14:17	16°♊33'56	1°21'00
max. Earth dist.	1568 May 28 j 23:26	16°♊34'47	30.86947 AU
morning rise	1568 Jun 13 j 21:27	17°♊10'06	
retrograde	1568 Sep 12 j 02:03	19°♊06'55	
opposition	1568 Nov 29 j 14:42	17°♊42'09	-1°25'12
min. Earth dist.	1568 Nov 29 j 06:00	17°♊42'46	28.87282 AU
direct	1569 Feb 15 j 13:55	16°♊17'43	
evening set	1569 May 14 j 22:11	18°♊12'05	
conjunction	1569 May 31 j 04:24	18°♊48'09	-1°18'21
minimum elong	1569 May 31 j 04:24	18°♊48'09	1°18'22
max. Earth dist.	1569 May 31 j 13:26	18°♊48'59	30.87525 AU
morning rise	1569 Jun 16 j 11:41	19°♊24'19	
retrograde	1569 Sep 14 j 13:10	21°♊20'59	
opposition	1569 Dec 02 j 01:20	19°♊56'18	-1°22'17
min. Earth dist.	1569 Dec 01 j 18:05	19°♊56'49	28.87933 AU
direct	1570 Feb 17 j 23:58	18°♊31'49	
evening set	1570 May 17 j 11:58	20°♊26'16	
conjunction	1570 Jun 02 j 18:32	21°♊02'20	-1°15'34
minimum elong	1570 Jun 02 j 18:33	21°♊02'20	1°15'34
max. Earth dist.	1570 Jun 03 j 02:48	21°♊03'06	30.88259 AU
morning rise	1570 Jun 19 j 02:03	21°♊38'31	
retrograde	1570 Sep 17 j 01:23	23°♊35'03	
opposition	1570 Dec 04 j 11:51	22°♊10'27	-1°19'15
min. Earth dist.	1570 Dec 04 j 04:10	22°♊11'00	28.88716 AU
direct	1571 Feb 20 j 11:47	20°♊45'58	
evening set	1571 May 20 j 01:51	22°♊40'30	
conjunction	1571 Jun 05 j 08:36	23°♊16'34	-1°12'40
minimum elong	1571 Jun 05 j 08:36	23°♊16'35	1°12'40
max. Earth dist.	1571 Jun 05 j 15:49	23°♊17'15	30.89093 AU
morning rise	1571 Jun 21 j 16:16	23°♊52'46	
retrograde	1571 Sep 19 j 12:38	25°♊49'11	
opposition	1571 Dec 06 j 22:27	24°♊24'41	-1°16'05
min. Earth dist.	1571 Dec 06 j 16:24	24°♊25'07	28.89591 AU
direct	1572 Feb 22 j 22:35	23°♊00'12	
evening set	1572 May 21 j 15:41	24°♊54'49	
conjunction	1572 Jun 06 j 22:49	25°♊30'55	-1°09'39
minimum elong	1572 Jun 06 j 22:49	25°♊30'55	1°09'39
max. Earth dist.	1572 Jun 07 j 05:50	25°♊31'34	30.90001 AU
morning rise	1572 Jun 23 j 06:31	26°♊07'06	
retrograde	1572 Sep 21 j 01:04	28°♊03'25	
opposition	1572 Dec 08 j 08:56	26°♊39'02	-1°12'49
min. Earth dist.	1572 Dec 08 j 03:02	26°♊39'27	28.90493 AU
direct	1573 Feb 24 j 11:25	25°♊14'33	
evening set	1573 May 24 j 05:41	27°♊09'15	
conjunction	1573 Jun 09 j 12:56	27°♊45'22	-1°06'32
minimum elong	1573 Jun 09 j 12:56	27°♊45'22	1°06'33
max. Earth dist.	1573 Jun 09 j 18:01	27°♊45'50	30.90893 AU
morning rise	1573 Jun 25 j 20:53	28°♊21'33	
	1573 Aug 21 j 22:20	0°♋	
retrograde	1573 Sep 23 j 13:56	0°♋17'45	
	1573 Oct 26 j 14:32	30°℞♊	

opposition	1573 Dec 10 j 19:35	28°♊53'28	-1°09'26
min. Earth dist.	1573 Dec 10 j 15:12	28°♊53'46	28.91360 AU
direct	1574 Feb 26 j 22:02	27°♊28'58	
evening set	1574 May 26 j 19:43	29°♊23'45	
conjunction	1574 Jun 12 j 03:22	29°♊59'53	-1°03'20
minimum elong	1574 Jun 12 j 03:22	29°♊59'53	1°03'19
max. Earth dist.	1574 Jun 12 j 08:17	0°♋00'20	30.91718 AU
	1574 Jun 12 j 04:42	0°♋	
morning rise	1574 Jun 28 j 11:14	0°♋36'03	
retrograde	1574 Sep 26 j 02:37	2°♋32'06	
opposition	1574 Dec 13 j 06:05	1°♋07'54	-1°05'56
min. Earth dist.	1574 Dec 13 j 02:36	1°♋08'09	28.92129 AU
	1575 Jan 28 j 15:54	30°℞♊	
direct	1575 Mar 01 j 11:56	29°♊43'23	
	1575 Apr 01 j 23:39	0°♋	
evening set	1575 May 29 j 09:53	1°♋38'14	
conjunction	1575 Jun 14 j 17:34	2°♋14'22	-1°00'01
minimum elong	1575 Jun 14 j 17:34	2°♋14'22	1°00'02
max. Earth dist.	1575 Jun 14 j 20:05	2°♋14'36	30.92450 AU
morning rise	1575 Jul 01 j 01:39	2°♋50'32	
retrograde	1575 Sep 28 j 16:06	4°♋46'26	
opposition	1575 Dec 15 j 16:38	3°♋22'18	-1°02'21
min. Earth dist.	1575 Dec 15 j 13:54	3°♋22'29	28.92818 AU
direct	1576 Mar 03 j 00:21	1°♋57'43	
evening set	1576 May 30 j 23:40	3°♋52'37	
conjunction	1576 Jun 16 j 07:41	4°♋28'45	-0°56'38
minimum elong	1576 Jun 16 j 07:41	4°♋28'45	0°56'37
max. Earth dist.	1576 Jun 16 j 10:08	4°♋28'59	30.93098 AU
morning rise	1576 Jul 02 j 15:38	5°♋04'55	
retrograde	1576 Sep 30 j 02:49	7°♋00'40	
opposition	1576 Dec 17 j 03:11	5°♋36'34	-0°58'41
min. Earth dist.	1576 Dec 17 j 01:56	5°♋36'39	28.93428 AU
direct	1577 Mar 05 j 12:54	4°♋11'56	
evening set	1577 Jun 02 j 13:40	6°♋06'52	
conjunction	1577 Jun 18 j 21:44	6°♋43'00	-0°53'09
minimum elong	1577 Jun 18 j 21:44	6°♋43'00	0°53'10
max. Earth dist.	1577 Jun 18 j 22:19	6°♋43'03	30.93702 AU
morning rise	1577 Jul 05 j 05:52	7°♋19'09	
retrograde	1577 Oct 02 j 15:49	9°♋14'43	
opposition	1577 Dec 19 j 13:23	7°♋50'40	-0°54'56
min. Earth dist.	1577 Dec 19 j 12:20	7°♋50'44	28.94018 AU
direct	1578 Mar 08 j 01:07	6°♋25'58	
evening set	1578 Jun 05 j 03:34	8°♋20'55	
conjunction	1578 Jun 21 j 11:51	8°♋57'04	-0°49'37
minimum elong	1578 Jun 21 j 11:51	8°♋57'04	0°49'36
max. Earth dist.	1578 Jun 21 j 12:02	8°♋57'05	30.94288 AU
morning rise	1578 Jul 07 j 19:52	9°♋33'12	
retrograde	1578 Oct 05 j 02:41	11°♋28'35	
opposition	1578 Dec 21 j 23:48	10°♋04'34	-0°51'07
min. Earth dist.	1578 Dec 22 j 00:29	10°♋04'31	28.94615 AU
direct	1579 Mar 10 j 11:49	8°♋39'48	
evening set	1579 Jun 07 j 17:21	10°♋34'47	
conjunction	1579 Jun 24 j 01:42	11°♋10'55	-0°46'00
minimum elong	1579 Jun 24 j 01:42	11°♋10'55	0°46'00
max. Earth dist.	1579 Jun 24 j 00:53	11°♋10'50	30.94917 AU
morning rise	1579 Jul 10 j 09:43	11°♋47'03	
retrograde	1579 Oct 07 j 13:23	13°♋42'14	
opposition	1579 Dec 24 j 09:58	12°♋18'16	-0°47'13
min. Earth dist.	1579 Dec 24 j 10:17	12°♋18'15	28.95273 AU
direct	1580 Mar 12 j 00:13	10°♋53'26	
evening set	1580 Jun 09 j 07:07	12°♋48'27	
conjunction	1580 Jun 25 j 15:30	13°♋24'35	-0°42'19
minimum elong	1580 Jun 25 j 15:30	13°♋24'35	0°42'19
max. Earth dist.	1580 Jun 25 j 13:45	13°♋24'25	30.95620 AU
morning rise	1580 Jul 11 j 23:27	14°♋00'41	
retrograde	1580 Oct 08 j 23:13	15°♋55'43	
opposition	1580 Dec 25 j 20:13	14°♋31'48	-0°43'14
min. Earth dist.	1580 Dec 25 j 22:00	14°♋31'40	28.96042 AU
direct	1581 Mar 14 j 10:43	13°♋06'54	
evening set	1581 Jun 11 j 20:44	15°♋01'57	
conjunction	1581 Jun 28 j 05:18	15°♋38'04	-0°38'34
minimum elong	1581 Jun 28 j 05:18	15°♋38'04	0°38'35
max. Earth dist.	1581 Jun 28 j 03:27	15°♋37'54	30.96458 AU
morning rise	1581 Jul 14 j 13:09	16°♋14'09	
retrograde	1581 Oct 11 j 10:19	18°♋09'02	
opposition	1581 Dec 28 j 06:25	16°♋45'11	-0°39'13
min. Earth dist.	1581 Dec 28 j 08:02	16°♋45'04	28.96934 AU
direct	1582 Mar 16 j 22:49	15°♋20'15	
evening set	1582 Jun 14 j 10:35	17°♋15'21	
conjunction	1582 Jun 30 j 19:02	17°♋51'27	-0°34'47
minimum elong	1582 Jun 30 j 19:02	17°♋51'27	0°34'46
max. Earth dist.	1582 Jun 30 j 15:42	17°♋51'09	30.97421 AU
morning rise	1582 Jul 17 j 02:51	18°♋27'32	
retrograde	1582 Oct 23 21:39	20°♋22'16	
opposition	1583 Jan 09 16:36	18°♋58'29	-0°35'07
min. Earth dist.	1583 Jan 09 19:13	18°♋58'18	28.97971 AU
direct	1583 Mar 29 09:09	17°♋33'32	
evening set	1583 Jun 27 00:14	19°♋28'42	
conjunction	1583 Jul 13 08:52	20°♋04'48	-0°30'55
minimum elong	1583 Jul 13 08:52	20°♋04'48	0°30'56
max. Earth dist.	1583 Jul 13 05:56	20°♋04'32	30.98523 AU
morning rise	1583 Jul 29 16:24	20°♋40'51	
retrograde	1583 Oct 26 08:55	22°♋35'27	
opposition	1584 Jan 12 02:50	21°♋11'47	-0°30'58
min. Earth dist.	1584 Jan 12 05:58	21°♋11'33	28.99112 AU
direct	1584 Mar 30 22:34	19°♋46'50	
evening set	1584 Jun 28 13:55	21°♋42'04	
conjunction	1584 Jul 14 22:21	22°♋18'10	-0°27'01
minimum elong	1584 Jul 14 22:21	22°♋18'10	0°27'01
max. Earth dist.	1584 Jul 14 17:32	22°♋17'43	30.99710 AU
morning rise	1584 Jul 31 05:54	22°♋54'11	
retrograde	1584 Oct 27 21:43	24°♋48'41	
opposition	1585 Jan 13 13:03	23°♋25'06	-0°26'47
min. Earth dist.	1585 Jan 13 16:40	23°♋24'51	29.00320 AU
direct	1585 Apr 02 10:26	22°♋00'10	
evening set	1585 Jul 01 03:40	23°♋55'30	
conjunction	1585 Jul 17 12:13	24°♋31'35	-0°23'05
minimum elong	1585 Jul 17 12:13	24°♋31'35	0°23'06
max. Earth dist.	1585 Jul 17 07:29	24°♋31'09	31.00911 AU
morning rise	1585 Aug 02 19:25	25°♋07'35	
retrograde	1585 Oct 30 08:42	27°♋01'57	
opposition	1586 Jan 15 23:15	25°♋38'29	-0°22'33
min. Earth dist.	1586 Jan 16 04:29	25°♋38'07	29.01499 AU
direct	1586 Apr 04 22:35	24°♋13'33	
evening set	1586 Jul 03 17:39	26°♋08'57	
conjunction	1586 Jul 20 01:59	26°♋45'01	-0°19'07
minimum elong	1586 Jul 20 01:59	26°♋45'01	0°19'07
max. Earth dist.	1586 Jul 19 19:10	26°♋44'24	31.02063 AU
morning rise	1586 Aug 05 09:06	27°♋21'00	
retrograde	1586 Nov 01 22:08	29°♋15'14	
opposition	1587 Jan 18 09:32	27°♋51'52	-0°18'17
min. Earth dist.	1587 Jan 18 14:58	27°♋51'29	29.02606 AU

direct	1587 Apr 07	11:18	26°♋26'56		
evening set	1587 Jul 06	07:23	28°♋22'23		
conjunction	1587 Jul 22	15:41	28°♋58'27	-0°15'07	
minimum elong	1587 Jul 22	15:41	28°♋58'27	0°15'07	
behind sun begin	1587 Jul 22	13:45	28°♋58'16		
behind sun end	1587 Jul 22	17:36	28°♋58'37		
max. Earth dist.	1587 Jul 22	08:25	28°♋57'47	31.03107 AU	
morning rise	1587 Aug 07	22:25	29°♋34'23		
	1587 Aug 20	01:52	0°♌		
retrograde	1587 Nov 04	08:48	1°♌28'30		
opposition	1588 Jan 20	19:57	0°♌05'12	-0°14'00	
min. Earth dist.	1588 Jan 21	03:20	0°♌04'41	29.03600 AU	
	1588 Jan 23	21:49	30°℞♋		
direct	1588 Apr 08	22:42	28°♋40'15		
	1588 Jun 20	15:54	0°♌		
evening set	1588 Jul 07	21:10	0°♌35'45		
conjunction	1588 Jul 24	05:19	1°♌11'47	-0°11'06	
minimum elong	1588 Jul 24	05:18	1°♌11'47	0°11'06	
behind sun begin	1588 Jul 24	00:27	1°♌11'22		
behind sun end	1588 Jul 24	10:09	1°♌12'13		
max. Earth dist.	1588 Jul 23	20:35	1°♌11'00	31.04055 AU	
morning rise	1588 Aug 09	11:52	1°♌47'43		
retrograde	1588 Nov 05	19:59	3°♌41'41		
opposition	1589 Jan 22	06:05	2°♌18'27	-0°09'42	
min. Earth dist.	1589 Jan 22	13:27	2°♌17'56	29.04490 AU	
direct	1589 Apr 11	11:24	0°♌53'27		
evening set	1589 Jul 10	10:54	2°♌48'59		
conjunction	1589 Jul 26	18:54	3°♌25'01	-0°07'06	
minimum elong	1589 Jul 26	18:54	3°♌25'01	0°07'06	
behind sun begin	1589 Jul 26	12:50	3°♌24'29		
behind sun end	1589 Jul 27	00:59	3°♌25'34		
max. Earth dist.	1589 Jul 26	08:56	3°♌24'07	31.04894 AU	
morning rise	1589 Aug 12	01:11	4°♌00'55		
retrograde	1589 Nov 08	05:59	5°♌54'44		
opposition	1590 Jan 24	16:26	4°♌31'34	-0°05'23	
min. Earth dist.	1590 Jan 25	01:35	4°♌30'55	29.05295 AU	
direct	1590 Apr 13	21:59	3°♌06'31		
evening set	1590 Jul 13	00:32	5°♌02'05		
conjunction	1590 Jul 29	08:25	5°♌38'06	-0°03'04	
minimum elong	1590 Jul 29	08:25	5°♌38'06	0°03'04	
behind sun begin	1590 Jul 29	01:51	5°♌37'31		
behind sun end	1590 Jul 29	14:58	5°♌38'41		
max. Earth dist.	1590 Jul 28	21:54	5°♌37'08	31.05669 AU	
morning rise	1590 Aug 14	14:21	6°♌13'57		
retrograde	1590 Nov 10	16:25	8°♌07'38		
opposition	1591 Jan 27	02:33	6°♌44'31	-0°01'04	
min. Earth dist.	1591 Jan 27	11:54	6°♌43'51	29.06038 AU	
direct	1591 Apr 16	10:04	5°♌19'25		
asc. node	1591 Apr 28	12:56	5°♌21'51		
evening set	1591 Jul 15	14:09	7°♌15'01		
conjunction	1591 Jul 31	21:40	7°♌51'00	0°01'04	
minimum elong	1591 Jul 31	21:42	7°♌51'00	0°01'04	
behind sun begin	1591 Jul 31	15:06	7°♌50'25		
behind sun end	1591 Aug 01	04:17	7°♌51'35		
max. Earth dist.	1591 Jul 31	09:38	7°♌49'54	31.06404 AU	
morning rise	1591 Aug 17	03:23	8°♌26'49		
retrograde	1591 Nov 13	02:51	10°♌20'22		
opposition	1592 Jan 29	12:48	8°♌57'17	0°03'14	
min. Earth dist.	1592 Jan 29	23:13	8°♌56'33	29.06790 AU	
direct	1592 Apr 17	20:34	7°♌32'09		
evening set	1592 Jul 17	03:19	9°♌27'46		
conjunction	1592 Aug 02	10:49	10°♌03'44	0°05'08	
minimum elong	1592 Aug 02	10:49	10°♌03'44	0°05'08	
behind sun begin	1592 Aug 02	04:25	10°♌03'10		
behind sun end	1592 Aug 02	17:12	10°♌04'17		
max. Earth dist.	1592 Aug 01	23:09	10°♌02'40	31.07165 AU	
morning rise	1592 Aug 18	16:03	10°♌39'31		
retrograde	1592 Nov 14	12:51	12°♌32'56		
opposition	1593 Jan 30	22:58	11°♌09'53	0°07'32	
min. Earth dist.	1593 Jan 31	09:55	11°♌09'07	29.07568 AU	
direct	1593 Apr 20	09:58	9°♌44'43		
evening set	1593 Jul 19	16:47	11°♌40'23		
conjunction	1593 Aug 04	23:50	12°♌16'18	0°09'08	
minimum elong	1593 Aug 04	23:50	12°♌16'18	0°09'07	
behind sun begin	1593 Aug 04	18:16	12°♌15'49		
behind sun end	1593 Aug 05	05:23	12°♌16'48		
max. Earth dist.	1593 Aug 04	10:26	12°♌15'04	31.07982 AU	
morning rise	1593 Aug 21	04:51	12°♌52'03		
retrograde	1593 Nov 17	00:35	14°♌45'22		
opposition	1594 Feb 02	09:01	13°♌22'21	0°11'49	
min. Earth dist.	1594 Feb 02	20:06	13°♌21'35	29.08439 AU	
direct	1594 Apr 22	21:34	11°♌57'09		
evening set	1594 Jul 22	06:02	13°♌52'53		
conjunction	1594 Aug 07	12:57	14°♌28'46	0°13'07	
minimum elong	1594 Aug 07	12:57	14°♌28'46	0°13'07	
behind sun begin	1594 Aug 07	09:09	14°♌28'26		
behind sun end	1594 Aug 07	16:45	14°♌29'07		
max. Earth dist.	1594 Aug 07	00:06	14°♌27'36	31.08897 AU	
	1594 Aug 21	15:52	15°♌		
morning rise	1594 Aug 23	17:23	15°♌04'29		
retrograde	1594 Nov 19	10:53	16°♌57'41		
opposition	1595 Feb 04	19:18	15°♌34'45	0°16'05	
min. Earth dist.	1595 Feb 05	07:26	15°♌33'54	29.09409 AU	
	1595 Feb 26	00:40	15°℞♌		
direct	1595 Apr 25	09:38	14°♌09'34		
	1595 Jun 21	07:42	15°♌		
evening set	1595 Jul 24	19:12	16°♌05'20		
max. Earth dist.	1595 Aug 09	11:25	16°♌39'53	31.09929 AU	
conjunction	1595 Aug 10	01:40	16°♌41'12	0°17'06	
minimum elong	1595 Aug 10	01:40	16°♌41'12	0°17'05	
morning rise	1595 Aug 26	05:50	17°♌16'52		
retrograde	1595 Nov 21	23:56	19°♌09'59		
opposition	1596 Feb 07	05:26	17°♌47'08	0°20'20	
min. Earth dist.	1596 Feb 07	17:08	17°♌46'19	29.10492 AU	
direct	1596 Apr 26	22:46	16°♌21'58		
evening set	1596 Jul 26	08:22	18°♌17'48		
conjunction	1596 Aug 11	14:36	18°♌53'39	0°21'03	
minimum elong	1596 Aug 11	14:36	18°♌53'39	0°21'03	
max. Earth dist.	1596 Aug 11	00:34	18°♌52'21	31.11045 AU	
morning rise	1596 Aug 27	18:13	19°♌29'17		
retrograde	1596 Nov 23	10:23	21°♌22'19		
opposition	1597 Feb 08	15:38	19°♌59'34	0°24'32	
min. Earth dist.	1597 Feb 09	04:57	19°♌58'38	29.11637 AU	
direct	1597 Apr 29	10:21	18°♌34'25		
evening set	1597 Jul 28	21:37	20°♌30'20		
conjunction	1597 Aug 14	03:28	21°♌06'09	0°24'58	
minimum elong	1597 Aug 14	03:27	21°♌06'09	0°24'58	
max. Earth dist.	1597 Aug 13	12:22	21°♌04'45	31.12202 AU	
morning rise	1597 Aug 30	06:44	21°♌41'45		
retrograde	1597 Nov 25	21:34	23°♌34'42		
opposition	1598 Feb 11	01:49	22°♌12'04	0°28'43	
min. Earth dist.	1598 Feb 11	14:52	22°♌11'09	29.12777 AU	
direct	1598 May 01	23:01	20°♌46'56		

evening set	1598 Jul 31 10:52	22°♌42'55	
conjunction	1598 Aug 16 16:19	23°♌18'42	0°28'51
minimum elong	1598 Aug 16 16:18	23°♌18'42	0°28'52
max. Earth dist.	1598 Aug 16 00:21	23°♌17'14	31.13304 AU
morning rise	1598 Sep 01 19:02	23°♌54'15	
retrograde	1598 Nov 28 08:01	25°♌47'09	
opposition	1599 Feb 13 12:14	24°♌24'35	0°32'51
min. Earth dist.	1599 Feb 14 02:53	24°♌23'33	29.13853 AU
direct	1599 May 04 09:29	22°♌59'29	
evening set	1599 Aug 03 00:03	24°♌55'30	
conjunction	1599 Aug 19 05:08	25°♌31'15	0°32'42
minimum elong	1599 Aug 19 05:08	25°♌31'15	0°32'42
max. Earth dist.	1599 Aug 18 12:40	25°♌29'44	31.14328 AU
morning rise	1599 Sep 04 07:20	26°♌06'46	
retrograde	1599 Nov 30 18:24	27°♌59'34	
opposition	1600 Feb 15 22:35	26°♌37'05	0°36'55
min. Earth dist.	1600 Feb 16 13:27	26°♌36'02	29.14816 AU
direct	1600 May 05 21:24	25°♌11'58	
evening set	1600 Aug 04 13:09	27°♌08'01	
conjunction	1600 Aug 20 17:43	27°♌43'44	0°36'29
minimum elong	1600 Aug 20 17:43	27°♌43'44	0°36'29
max. Earth dist.	1600 Aug 19 23:40	27°♌42'04	31.15225 AU
morning rise	1600 Sep 05 19:31	28°♌19'13	
	1600 Nov 05 18:02	0°♍	
retrograde	1600 Dec 02 04:06	0°♍11'56	
	1600 Dec 28 21:54	30°℞♌	
opposition	1601 Feb 17 09:01	28°♌49'29	0°40'57
min. Earth dist.	1601 Feb 18 01:01	28°♌48'22	29.15661 AU
direct	1601 May 08 08:15	27°♌24'21	
evening set	1601 Aug 07 02:11	29°♌20'25	
conjunction	1601 Aug 23 06:29	29°♌56'06	0°40'13
minimum elong	1601 Aug 23 06:29	29°♌56'06	0°40'13
max. Earth dist.	1601 Aug 22 12:32	29°♌54'26	31.16000 AU
	1601 Aug 25 00:30	0°♍	
morning rise	1601 Sep 08 07:38	0°♍31'32	
retrograde	1601 Dec 04 12:58	2°♍24'09	