

direct	1100 Jan 09 j 16:09	7°♄34'06		minimum elong	1106 May 23 j 03:25	7°♄13'17	0°01'42
				behind sun begin	1106 May 22 j 20:39	7°♄12'18	
conjunction	1100 Apr 25 j 22:52	11°♄35'56	0°-20'-28	behind sun end	1106 May 23 j 10:12	7°♄14'15	
minimum elong	1100 Apr 25 j 22:52	11°♄35'56	0°20'29	max. Earth dist.	1106 May 22 j 21:10	7°♄12'23	20.16862 AU
max. Earth dist.	1100 Apr 26 j 03:06	11°♄36'32	20.55218 AU	retrograde	1106 Sep 10 j 23:49	11°♄27'49	
	1100 Jul 03 j 00:51	15°♄		asc. node	1106 Nov 21 j 16:03	9°♄35'02	
retrograde	1100 Aug 15 j 05:30	15°♄45'43		opposition	1106 Nov 25 j 07:43	9°♄25'40	0°00'02
	1100 Sep 28 j 01:32	15°♄♄		min. Earth dist.	1106 Nov 25 j 13:51	9°♄25'01	18.13637 AU
opposition	1100 Oct 30 j 13:11	13°♄44'33	0°-21'-2	direct	1107 Feb 07 j 21:57	7°♄24'07	
min. Earth dist.	1100 Oct 30 j 10:35	13°♄44'49	18.52193 AU				
direct	1101 Jan 13 j 00:56	11°♄45'23		conjunction	1107 May 27 j 23:03	11°♄35'26	0°01'45
	1101 Apr 16 j 15:48	15°♄		minimum elong	1107 May 27 j 23:05	11°♄35'26	0°01'44
				behind sun begin	1107 May 27 j 16:18	11°♄34'27	
conjunction	1101 Apr 30 j 13:42	15°♄48'24	0°-17'-34	behind sun end	1107 May 28 j 05:51	11°♄36'25	
minimum elong	1101 Apr 30 j 13:42	15°♄48'24	0°17'34	max. Earth dist.	1107 May 27 j 14:25	11°♄34'10	20.10477 AU
max. Earth dist.	1101 Apr 30 j 15:51	15°♄48'42	20.49137 AU	retrograde	1107 Sep 15 j 17:50	15°♄50'49	
retrograde	1101 Aug 19 j 19:55	19°♄58'56		opposition	1107 Nov 29 j 20:43	13°♄48'36	0°03'45
opposition	1101 Nov 03 j 22:56	17°♄57'34	0°-17'-45	min. Earth dist.	1107 Nov 30 j 03:53	13°♄47'50	18.07308 AU
min. Earth dist.	1101 Nov 03 j 21:15	17°♄57'44	18.45989 AU	direct	1108 Feb 12 j 13:02	11°♄46'41	
direct	1102 Jan 17 j 11:31	15°♄57'59					
				conjunction	1108 May 31 j 19:48	15°♄59'34	0°05'06
conjunction	1102 May 05 j 05:17	20°♄02'15	0°-14'-32	minimum elong	1108 May 31 j 19:48	15°♄59'34	0°05'07
minimum elong	1102 May 05 j 05:16	20°♄02'15	0°14'34	behind sun begin	1108 May 31 j 13:14	15°♄58'37	
behind sun begin	1102 May 05 j 02:34	20°♄01'52		behind sun end	1108 Jun 01 j 02:23	16°♄00'32	
behind sun end	1102 May 05 j 07:58	20°♄02'38		max. Earth dist.	1108 May 31 j 10:20	15°♄58'11	20.04196 AU
max. Earth dist.	1102 May 05 j 05:42	20°♄02'19	20.42829 AU	retrograde	1108 Sep 19 j 10:59	20°♄15'47	
retrograde	1102 Aug 24 j 09:25	24°♄13'34		opposition	1108 Dec 03 j 10:35	18°♄13'32	0°07'28
opposition	1102 Nov 08 j 09:21	22°♄12'00	0°-14'-21	min. Earth dist.	1108 Dec 03 j 19:28	18°♄12'35	18.01083 AU
min. Earth dist.	1102 Nov 08 j 09:56	22°♄11'56	18.39603 AU	direct	1109 Feb 16 j 03:01	16°♄11'19	
direct	1103 Jan 21 j 21:34	20°♄12'01					
				conjunction	1109 Jun 05 j 17:12	20°♄25'45	0°08'26
conjunction	1103 May 09 j 21:28	24°♄17'35	0°-11'-26	minimum elong	1109 Jun 05 j 17:12	20°♄25'45	0°08'26
minimum elong	1103 May 09 j 21:29	24°♄17'35	0°11'26	behind sun begin	1109 Jun 05 j 11:17	20°♄24'54	
behind sun begin	1103 May 09 j 16:40	24°♄16'54		behind sun end	1109 Jun 05 j 23:07	20°♄26'37	
behind sun end	1103 May 10 j 02:18	24°♄18'16		max. Earth dist.	1109 Jun 05 j 05:03	20°♄23'57	19.98031 AU
max. Earth dist.	1103 May 09 j 19:51	24°♄17'21	20.36395 AU	retrograde	1109 Sep 24 j 06:07	24°♄42'49	
retrograde	1103 Aug 29 j 00:47	28°♄29'41		opposition	1109 Dec 08 j 01:04	22°♄40'33	0°11'10
opposition	1103 Nov 12 j 20:05	26°♄27'56	0°-10'-51	min. Earth dist.	1109 Dec 08 j 11:17	22°♄39'27	17.94976 AU
min. Earth dist.	1103 Nov 12 j 21:30	26°♄27'47	18.33121 AU	direct	1110 Feb 20 j 19:44	20°♄38'00	
direct	1104 Jan 26 j 09:22	24°♄27'31					
				conjunction	1110 Jun 10 j 15:41	24°♄54'01	0°11'45
conjunction	1104 May 13 j 14:43	28°♄34'28	0°-8'-15	minimum elong	1110 Jun 10 j 15:41	24°♄54'01	0°11'45
minimum elong	1104 May 13 j 14:43	28°♄34'28	0°08'16	behind sun begin	1110 Jun 10 j 11:00	24°♄53'20	
behind sun begin	1104 May 13 j 08:46	28°♄33'37		behind sun end	1110 Jun 10 j 20:21	24°♄54'42	
behind sun end	1104 May 13 j 20:40	28°♄35'19		max. Earth dist.	1110 Jun 10 j 02:49	24°♄52'06	19.91962 AU
max. Earth dist.	1104 May 13 j 11:41	28°♄34'03	20.29873 AU	retrograde	1110 Sep 29 j 01:08	29°♄11'52	
retrograde	1104 Jun 07 j 06:53	0°♄		opposition	1110 Dec 12 j 16:22	27°♄09'35	0°14'51
opposition	1104 Sep 01 j 15:24	2°♄47'21		min. Earth dist.	1110 Dec 13 j 04:11	27°♄08'19	17.88954 AU
min. Earth dist.	1104 Nov 16 j 07:19	0°♄45'27	0°-7'-16	direct	1111 Feb 25 j 12:00	25°♄06'44	
	1104 Nov 16 j 10:51	0°♄45'04	18.26587 AU				
	1104 Dec 04 j 13:47	30°♄♄		conjunction	1111 Jun 15 j 14:50	29°♄24'16	0°15'01
direct	1105 Jan 29 j 20:27	28°♄44'38		minimum elong	1111 Jun 15 j 14:50	29°♄24'16	0°15'01
	1105 Mar 25 j 15:08	0°♄		behind sun begin	1111 Jun 15 j 12:44	29°♄23'58	
				behind sun end	1111 Jun 15 j 16:56	29°♄24'35	
conjunction	1105 May 18 j 08:43	2°♄53'00	0°-5'00	max. Earth dist.	1111 Jun 14 j 22:58	29°♄21'53	19.85984 AU
minimum elong	1105 May 18 j 08:42	2°♄53'00	0°05'01		1111 Jun 25 j 12:10	0°♄	
behind sun begin	1105 May 18 j 02:08	2°♄52'03		retrograde	1111 Oct 03 j 21:14	3°♄42'53	
behind sun end	1105 May 18 j 15:17	2°♄53'57		opposition	1111 Dec 17 j 08:27	1°♄40'35	0°18'27
max. Earth dist.	1105 May 18 j 03:24	2°♄52'15	20.23350 AU	min. Earth dist.	1111 Dec 17 j 21:55	1°♄39'08	17.83023 AU
retrograde	1105 Sep 06 j 08:00	7°♄06'42			1112 Jan 31 j 18:11	30°♄♄	
opposition	1105 Nov 20 j 19:10	5°♄04'39	0°-3'-38	direct	1112 Mar 01 j 06:01	29°♄37'22	
min. Earth dist.	1105 Nov 20 j 23:31	5°♄04'11	18.20082 AU		1112 Mar 30 j 10:24	0°♄	
direct	1106 Feb 03 j 09:45	3°♄03'27					
				conjunction	1112 Jun 19 j 15:03	3°♄56'26	0°18'13
conjunction	1106 May 23 j 03:26	7°♄13'17	0°-1'-41	minimum elong	1112 Jun 19 j 15:03	3°♄56'26	0°18'13

max. Earth dist.	1112 Jun 18 j 22:27	3°♄53'55	19.80084 AU	minimum elong	1120 Jul 28 j 09:44	11°♃05'42	0°38'35
retrograde	1112 Oct 07 j 18:21	8°♄15'44			1120 Oct 13 j 00:22	15°♃	
opposition	1112 Dec 21 j 01:11	6°♄13'23	0°21'59	retrograde	1120 Nov 14 j 03:54	15°♃28'33	
min. Earth dist.	1112 Dec 21 j 15:59	6°♄11'47	17.77174 AU		1120 Dec 16 j 17:48	15°♃♂	
direct	1113 Mar 06 j 00:34	4°♄09'49		opposition	1121 Jan 26 j 14:56	13°♃25'52	0°43'53
				min. Earth dist.	1121 Jan 27 j 11:30	13°♃23'37	17.40943 AU
conjunction	1113 Jun 24 j 15:44	8°♄30'19	0°21'20	direct	1121 Apr 12 j 09:08	11°♃19'51	
minimum elong	1113 Jun 24 j 15:44	8°♄30'19	0°21'20		1121 Jul 20 j 07:05	15°♃	
max. Earth dist.	1113 Jun 23 j 20:13	8°♄27'22	19.74301 AU				
retrograde	1113 Oct 12 j 15:02	12°♄50'17		conjunction	1121 Aug 02 j 13:28	15°♃49'21	0°40'09
opposition	1113 Dec 25 j 18:45	10°♄47'53	0°25'23	minimum elong	1121 Aug 02 j 13:28	15°♃49'21	0°40'09
min. Earth dist.	1113 Dec 26 j 11:13	10°♄46'05	17.71479 AU	max. Earth dist.	1121 Aug 01 j 12:33	15°♃45'28	19.39653 AU
direct	1114 Mar 10 j 19:36	8°♄43'55		retrograde	1121 Nov 19 j 02:23	20°♃12'24	
				opposition	1122 Jan 31 j 13:31	18°♃09'49	0°45'31
conjunction	1114 Jun 29 j 17:01	13°♄05'49	0°24'19	min. Earth dist.	1122 Feb 01 j 11:09	18°♃07'27	17.38590 AU
minimum elong	1114 Jun 29 j 17:01	13°♄05'49	0°24'19	direct	1122 Apr 17 j 09:26	16°♃03'42	
max. Earth dist.	1114 Jun 28 j 21:10	13°♄02'48	19.68690 AU				
retrograde	1114 Oct 17 j 13:42	17°♄26'22		conjunction	1122 Aug 07 j 17:10	20°♃33'55	0°41'28
opposition	1114 Dec 30 j 12:54	15°♄23'53	0°28'39	minimum elong	1122 Aug 07 j 17:10	20°♃33'55	0°41'28
min. Earth dist.	1114 Dec 31 j 06:09	15°♄22'01	17.65974 AU	max. Earth dist.	1122 Aug 06 j 15:56	20°♃29'59	19.37584 AU
direct	1115 Mar 15 j 15:58	13°♄19'35		retrograde	1122 Nov 24 j 03:11	24°♃57'07	
				opposition	1123 Feb 05 j 12:29	22°♃54'39	0°46'51
conjunction	1115 Jul 04 j 18:52	17°♄42'48	0°27'10	min. Earth dist.	1123 Feb 06 j 09:13	22°♃52'23	17.36783 AU
minimum elong	1115 Jul 04 j 18:52	17°♄42'48	0°27'11	direct	1123 Apr 22 j 12:03	20°♃48'28	
max. Earth dist.	1115 Jul 03 j 20:35	17°♄39'23	19.63310 AU				
retrograde	1115 Oct 22 j 10:34	22°♄03'52		conjunction	1123 Aug 12 j 21:11	25°♃19'18	0°42'31
opposition	1116 Jan 04 j 07:37	20°♄01'19	0°31'45	minimum elong	1123 Aug 12 j 21:11	25°♃19'18	0°42'31
min. Earth dist.	1116 Jan 05 j 02:35	19°♄59'15	17.60748 AU	max. Earth dist.	1123 Aug 11 j 20:34	25°♃15'27	19.36025 AU
direct	1116 Mar 19 j 12:24	17°♄56'37		retrograde	1123 Nov 29 j 02:17	29°♃42'34	
				opposition	1124 Feb 10 j 12:05	27°♃40'13	0°47'51
conjunction	1116 Jul 08 j 21:20	22°♄21'07	0°29'52	min. Earth dist.	1124 Feb 11 j 09:52	27°♃37'51	17.35476 AU
minimum elong	1116 Jul 08 j 21:19	22°♄21'06	0°29'51	direct	1124 Apr 26 j 13:23	25°♃34'01	
max. Earth dist.	1116 Jul 07 j 22:52	22°♄17'40	19.58237 AU		1124 Aug 15 j 15:10	0°♃	
retrograde	1116 Oct 26 j 09:40	26°♄42'39		max. Earth dist.	1124 Aug 15 j 23:44	0°♃01'21	19.34960 AU
opposition	1117 Jan 08 j 03:02	24°♄40'01	0°34'39				
min. Earth dist.	1117 Jan 08 j 22:11	24°♄37'56	17.55850 AU	conjunction	1124 Aug 17 j 01:04	0°♃05'19	0°43'16
direct	1117 Mar 24 j 10:23	22°♄34'59		minimum elong	1124 Aug 17 j 01:03	0°♃05'19	0°43'15
				retrograde	1124 Dec 03 j 03:36	4°♃28'35	
conjunction	1117 Jul 13 j 23:53	27°♄00'39	0°32'22	opposition	1125 Feb 14 j 12:09	2°♃26'21	0°48'32
minimum elong	1117 Jul 13 j 23:53	27°♄00'39	0°32'22	min. Earth dist.	1125 Feb 15 j 09:00	2°♃24'05	17.34643 AU
max. Earth dist.	1117 Jul 12 j 23:48	26°♄56'56	19.53527 AU	direct	1125 May 01 j 17:02	0°♃20'09	
	1117 Sep 05 j 00:59	0°♃		max. Earth dist.	1125 Aug 21 j 04:41	4°♃47'59	19.34344 AU
retrograde	1117 Oct 31 j 06:47	1°♃22'36					
	1117 Dec 28 j 09:30	30°♃♄		conjunction	1125 Aug 22 j 04:47	4°♃51'45	0°43'43
opposition	1118 Jan 12 j 23:10	29°♄19'54	0°37'20	minimum elong	1125 Aug 22 j 04:47	4°♃51'45	0°43'44
min. Earth dist.	1118 Jan 13 j 19:46	29°♄17'39	17.51367 AU	retrograde	1125 Dec 08 j 03:02	9°♃14'56	
direct	1118 Mar 29 j 08:28	27°♄14'32		opposition	1126 Feb 19 j 12:45	7°♃12'50	0°48'53
	1118 Jun 21 j 03:22	0°♃		min. Earth dist.	1126 Feb 20 j 10:13	7°♃10'30	17.34248 AU
max. Earth dist.	1118 Jul 18 j 02:49	1°♃37'35	19.49270 AU	direct	1126 May 06 j 18:58	5°♃06'39	
				max. Earth dist.	1126 Aug 26 j 07:23	9°♃34'30	19.34172 AU
conjunction	1118 Jul 19 j 02:54	1°♃41'18	0°34'40				
minimum elong	1118 Jul 19 j 02:54	1°♃41'18	0°34'40	conjunction	1126 Aug 27 j 08:15	9°♃38'25	0°43'52
retrograde	1118 Nov 05 j 06:10	6°♃03'36		minimum elong	1126 Aug 27 j 08:15	9°♃38'25	0°43'52
opposition	1119 Jan 17 j 19:42	4°♃00'53	0°39'47	retrograde	1126 Dec 13 j 04:19	14°♃01'25	
min. Earth dist.	1119 Jan 18 j 15:53	3°♃58'40	17.47354 AU	opposition	1127 Feb 24 j 13:23	11°♃59'25	0°48'53
direct	1119 Apr 03 j 08:19	1°♃55'14		min. Earth dist.	1127 Feb 25 j 10:00	11°♃57'11	17.34295 AU
max. Earth dist.	1119 Jul 23 j 05:18	6°♃19'09	19.45506 AU	direct	1127 May 11 j 22:44	9°♃53'14	
conjunction	1119 Jul 24 j 06:13	6°♃23'00	0°36'44	conjunction	1127 Sep 01 j 11:37	14°♃25'02	0°43'43
minimum elong	1119 Jul 24 j 06:13	6°♃23'00	0°36'44	minimum elong	1127 Sep 01 j 11:37	14°♃25'02	0°43'43
retrograde	1119 Nov 10 j 03:46	10°♃45'36		max. Earth dist.	1127 Aug 31 j 12:20	14°♃21'22	19.34432 AU
opposition	1120 Jan 22 j 17:07	8°♃42'53	0°41'59	retrograde	1127 Dec 18 j 03:54	18°♃47'47	
min. Earth dist.	1120 Jan 23 j 14:31	8°♃40'32	17.43870 AU	opposition	1128 Feb 29 j 14:33	16°♃45'53	0°48'33
direct	1120 Apr 07 j 07:38	6°♃37'01		min. Earth dist.	1128 Mar 01 j 11:13	16°♃43'38	17.34767 AU
max. Earth dist.	1120 Jul 27 j 08:44	11°♃01'49	19.42298 AU	direct	1128 May 16 j 01:09	14°♃39'44	
conjunction	1120 Jul 28 j 09:44	11°♃05'42	0°38'34	conjunction	1128 Sep 05 j 14:14	19°♃11'23	0°43'16

minimum elong	1128 Sep 05 j 14:14	19° Υ 11'23	0°43'16	minimum elong	1136 Oct 13 j 11:40	26° Ω 50'31	0°29'49
max. Earth dist.	1128 Sep 04 j 14:33	19° Υ 07'39	19.35133 AU	max. Earth dist.	1136 Oct 13 j 01:35	26° Ω 48'57	19.59212 AU
retrograde	1128 Dec 22 j 04:26	23° Υ 33'49			1136 Dec 08 j 21:31	0° \mathcal{M}	
opposition	1129 Mar 05 j 15:46	21° Υ 31'58	0°47'52	retrograde	1137 Jan 28 j 09:37	1° \mathcal{M} 08'13	
min. Earth dist.	1129 Mar 06 j 11:30	21° Υ 29'50	17.35701 AU		1137 Mar 22 j 11:41	30° \mathcal{R} Ω	
direct	1129 May 21 j 05:06	19° Υ 25'52		opposition	1137 Apr 12 j 23:42	29° Ω 07'17	0°31'45
				min. Earth dist.	1137 Apr 13 j 08:35	29° Ω 06'21	17.61766 AU
conjunction	1129 Sep 10 j 16:32	23° Υ 57'14	0°42'31	direct	1137 Jun 29 j 03:47	27° Ω 02'53	
minimum elong	1129 Sep 10 j 16:32	23° Υ 57'14	0°42'30		1137 Sep 24 j 12:27	0° \mathcal{M}	
max. Earth dist.	1129 Sep 09 j 18:55	23° Υ 53'50	19.36305 AU				
retrograde	1129 Dec 27 j 03:15	28° Υ 19'15		conjunction	1137 Oct 18 j 07:53	1° \mathcal{M} 27'30	0°27'08
opposition	1130 Mar 10 j 17:03	26° Υ 17'28	0°46'52	minimum elong	1137 Oct 18 j 07:53	1° \mathcal{M} 27'30	0°27'09
min. Earth dist.	1130 Mar 11 j 12:03	26° Υ 15'25	17.37105 AU	max. Earth dist.	1137 Oct 17 j 23:22	1° \mathcal{M} 26'11	19.64409 AU
direct	1130 May 26 j 08:28	24° Υ 11'27		retrograde	1138 Feb 02 j 06:54	5° \mathcal{M} 44'26	
				opposition	1138 Apr 17 j 23:33	3° \mathcal{M} 43'42	0°28'40
conjunction	1130 Sep 15 j 18:00	28° Υ 42'22	0°41'28	min. Earth dist.	1138 Apr 18 j 05:50	3° \mathcal{M} 43'02	17.67111 AU
minimum elong	1130 Sep 15 j 18:00	28° Υ 42'22	0°41'29	direct	1138 Jul 04 j 05:09	1° \mathcal{M} 39'39	
max. Earth dist.	1130 Sep 14 j 20:34	28° Υ 39'00	19.37965 AU				
	1130 Oct 06 j 13:37	0° Ω		conjunction	1138 Oct 23 j 03:23	6° \mathcal{M} 03'02	0°24'18
retrograde	1131 Jan 01 j 02:07	3° Ω 03'54		minimum elong	1138 Oct 23 j 03:23	6° \mathcal{M} 03'02	0°24'18
opposition	1131 Mar 15 j 18:21	1° Ω 02'10	0°45'32	max. Earth dist.	1138 Oct 22 j 21:05	6° \mathcal{M} 02'03	19.69890 AU
min. Earth dist.	1131 Mar 16 j 12:24	1° Ω 00'14	17.39022 AU	retrograde	1139 Feb 07 j 02:03	10° \mathcal{M} 19'09	
	1131 Apr 09 j 22:02	30° \mathcal{R} Υ		opposition	1139 Apr 22 j 23:22	8° \mathcal{M} 18'36	0°25'24
direct	1131 May 31 j 12:23	28° Υ 56'14		min. Earth dist.	1139 Apr 23 j 05:05	8° \mathcal{M} 18'00	17.72716 AU
	1131 Jul 20 j 14:01	0° Ω		direct	1139 Jul 09 j 04:27	6° \mathcal{M} 14'56	
conjunction	1131 Sep 20 j 18:55	3° Ω 26'35	0°40'08	conjunction	1139 Oct 27 j 21:53	10° \mathcal{M} 36'58	0°21'19
minimum elong	1131 Sep 20 j 18:55	3° Ω 26'35	0°40'08	minimum elong	1139 Oct 27 j 21:53	10° \mathcal{M} 36'58	0°21'18
max. Earth dist.	1131 Sep 19 j 23:49	3° Ω 23'35	19.40145 AU	max. Earth dist.	1139 Oct 27 j 16:43	10° \mathcal{M} 36'10	19.75607 AU
retrograde	1132 Jan 06 j 00:15	7° Ω 47'34		retrograde	1140 Feb 11 j 22:06	14° \mathcal{M} 52'17	
opposition	1132 Mar 19 j 19:35	5° Ω 45'54	0°43'54	opposition	1140 Apr 26 j 22:37	12° \mathcal{M} 51'53	0°22'00
min. Earth dist.	1132 Mar 20 j 12:05	5° Ω 44'08	17.41460 AU	min. Earth dist.	1140 Apr 27 j 01:39	12° \mathcal{M} 51'34	17.78516 AU
direct	1132 Jun 04 j 16:49	3° Ω 40'06		direct	1140 Jul 13 j 04:56	10° \mathcal{M} 48'35	
					1140 Oct 29 j 04:07	15° \mathcal{M}	
conjunction	1132 Sep 24 j 19:01	8° Ω 09'44	0°38'32	conjunction	1140 Oct 31 j 15:41	15° \mathcal{M} 09'14	0°18'13
minimum elong	1132 Sep 24 j 19:01	8° Ω 09'44	0°38'32	minimum elong	1140 Oct 31 j 15:42	15° \mathcal{M} 09'14	0°18'14
max. Earth dist.	1132 Sep 24 j 00:55	8° Ω 06'53	19.42868 AU	max. Earth dist.	1140 Oct 31 j 13:00	15° \mathcal{M} 08'49	19.81482 AU
retrograde	1133 Jan 09 j 21:29	12° Ω 30'08		retrograde	1141 Feb 15 j 15:55	19° \mathcal{M} 23'42	
opposition	1133 Mar 24 j 20:51	10° Ω 28'33	0°41'58	opposition	1141 May 01 j 21:31	17° \mathcal{M} 23'27	0°18'29
min. Earth dist.	1133 Mar 25 j 12:13	10° Ω 26'54	17.44475 AU	min. Earth dist.	1141 May 01 j 23:56	17° \mathcal{M} 23'11	17.84459 AU
direct	1133 Jun 09 j 19:55	8° Ω 22'56		direct	1141 Jul 18 j 03:30	15° \mathcal{M} 20'30	
conjunction	1133 Sep 29 j 18:16	12° Ω 51'44	0°36'42	conjunction	1141 Nov 05 j 08:25	19° \mathcal{M} 39'42	0°15'01
minimum elong	1133 Sep 29 j 18:16	12° Ω 51'44	0°36'42	minimum elong	1141 Nov 05 j 08:24	19° \mathcal{M} 39'42	0°15'01
max. Earth dist.	1133 Sep 29 j 02:33	12° Ω 49'16	19.46173 AU	behind sun begin	1141 Nov 05 j 05:50	19° \mathcal{M} 39'19	
retrograde	1134 Jan 14 j 19:25	17° Ω 11'31		behind sun end	1141 Nov 05 j 10:59	19° \mathcal{M} 40'05	
opposition	1134 Mar 29 j 21:50	15° Ω 10'03	0°39'47	max. Earth dist.	1141 Nov 05 j 06:31	19° \mathcal{M} 39'25	19.87486 AU
min. Earth dist.	1134 Mar 30 j 10:56	15° Ω 08'39	17.48046 AU	retrograde	1142 Feb 20 j 10:41	23° \mathcal{M} 53'20	
direct	1134 Jun 14 j 23:50	13° Ω 04'40		opposition	1142 May 06 j 19:39	21° \mathcal{M} 53'10	0°14'53
				min. Earth dist.	1142 May 06 j 19:29	21° \mathcal{M} 53'11	17.90500 AU
conjunction	1134 Oct 04 j 16:54	17° Ω 32'34	0°34'37	direct	1142 Jul 23 j 02:24	19° \mathcal{M} 50'34	
minimum elong	1134 Oct 04 j 16:54	17° Ω 32'34	0°34'36				
max. Earth dist.	1134 Oct 04 j 02:43	17° Ω 30'21	19.50024 AU	conjunction	1142 Nov 10 j 00:25	24° \mathcal{M} 08'18	0°11'46
retrograde	1135 Jan 19 j 15:44	21° Ω 51'41		minimum elong	1142 Nov 10 j 00:25	24° \mathcal{M} 08'18	0°11'46
opposition	1135 Apr 03 j 22:35	19° Ω 50'23	0°37'20	behind sun begin	1142 Nov 09 j 19:44	24° \mathcal{M} 07'36	
min. Earth dist.	1135 Apr 04 j 10:48	19° Ω 49'05	17.52163 AU	behind sun end	1142 Nov 10 j 05:06	24° \mathcal{M} 09'00	
direct	1135 Jun 20 j 01:03	17° Ω 45'17		max. Earth dist.	1142 Nov 10 j 01:07	24° \mathcal{M} 08'24	19.93560 AU
				retrograde	1143 Feb 25 j 02:49	28° \mathcal{M} 21'02	
conjunction	1135 Oct 09 j 14:44	22° Ω 12'11	0°32'19	opposition	1143 May 11 j 17:14	26° \mathcal{M} 20'59	0°11'12
minimum elong	1135 Oct 09 j 14:44	22° Ω 12'11	0°32'19	min. Earth dist.	1143 May 11 j 16:21	26° \mathcal{M} 21'05	17.96605 AU
max. Earth dist.	1135 Oct 09 j 02:35	22° Ω 10'17	19.54401 AU	direct	1143 Jul 28 j 00:18	24° \mathcal{M} 18'43	
retrograde	1136 Jan 24 j 13:44	26° Ω 30'35					
opposition	1136 Apr 07 j 23:10	24° Ω 29'29	0°34'39	conjunction	1143 Nov 14 j 15:19	28° \mathcal{M} 34'55	0°08'27
min. Earth dist.	1136 Apr 08 j 08:49	24° Ω 28'27	17.56756 AU	minimum elong	1143 Nov 14 j 15:19	28° \mathcal{M} 34'55	0°08'27
direct	1136 Jun 24 j 03:45	22° Ω 24'43		behind sun begin	1143 Nov 14 j 09:33	28° \mathcal{M} 34'03	
				behind sun end	1143 Nov 14 j 21:06	28° \mathcal{M} 35'47	
conjunction	1136 Oct 13 j 11:40	26° Ω 50'31	0°29'49				

max. Earth dist.	1143 Nov 14 j 16:47	28° \mathbb{M} 35'08	19.99710 AU	min. Earth dist.	1150 Jun 11 j 15:04	26° \mathbb{Z} 43'26	18.41530 AU
	1143 Dec 08 j 04:08	0° \mathbb{Z}		direct	1150 Aug 28 j 07:08	24° \mathbb{Z} 42'18	
retrograde	1144 Feb 29 j 20:05	2° \mathbb{Z} 46'48					
opposition	1144 May 15 j 14:10	0° \mathbb{Z} 46'49	0°07'30	conjunction	1150 Dec 14 j 00:05	28° \mathbb{Z} 48'16	0°-14'-27
min. Earth dist.	1144 May 15 j 10:41	0° \mathbb{Z} 47'10	18.02793 AU	minimum elong	1150 Dec 14 j 00:05	28° \mathbb{Z} 48'16	0°14'28
	1144 Jun 04 j 00:10	30° \mathbb{R} \mathbb{M}		behind sun begin	1150 Dec 13 j 20:59	28° \mathbb{Z} 47'49	
direct	1144 Jul 31 j 21:32	28° \mathbb{M} 44'51		behind sun end	1150 Dec 14 j 03:12	28° \mathbb{Z} 48'43	
	1144 Sep 24 j 22:12	0° \mathbb{Z}		max. Earth dist.	1150 Dec 14 j 15:24	28° \mathbb{Z} 50'33	20.44754 AU
					1151 Jan 03 j 05:48	0° \mathbb{Z}	
conjunction	1144 Nov 18 j 05:19	2° \mathbb{Z} 59'32	0°05'08	retrograde	1151 Mar 31 j 20:17	2° \mathbb{Z} 54'42	
minimum elong	1144 Nov 18 j 05:18	2° \mathbb{Z} 59'31	0°05'07	opposition	1151 Jun 16 j 21:07	0° \mathbb{Z} 55'31	0°-17'-39
behind sun begin	1144 Nov 17 j 22:56	2° \mathbb{Z} 58'35		min. Earth dist.	1151 Jun 16 j 05:51	0° \mathbb{Z} 57'04	18.47924 AU
behind sun end	1144 Nov 18 j 11:40	3° \mathbb{Z} 00'28			1151 Jul 10 j 16:38	30° \mathbb{R} \mathbb{Z}	
max. Earth dist.	1144 Nov 18 j 09:45	3° \mathbb{Z} 00'10	20.05934 AU	direct	1151 Sep 01 j 22:15	28° \mathbb{Z} 56'11	
retrograde	1145 Mar 05 j 10:51	7° \mathbb{Z} 10'32			1151 Oct 22 j 14:00	0° \mathbb{Z}	
opposition	1145 May 20 j 10:29	5° \mathbb{Z} 10'37	0°03'46				
min. Earth dist.	1145 May 20 j 05:53	5° \mathbb{Z} 11'05	18.09059 AU	conjunction	1151 Dec 18 j 08:51	3° \mathbb{Z} 00'50	0°-17'-27
direct	1145 Aug 05 j 18:07	3° \mathbb{Z} 09'00		minimum elong	1151 Dec 18 j 08:51	3° \mathbb{Z} 00'50	0°17'28
				max. Earth dist.	1151 Dec 19 j 00:31	3° \mathbb{Z} 03'10	20.51068 AU
conjunction	1145 Nov 22 j 18:19	7° \mathbb{Z} 22'07	0°01'46	retrograde	1152 Apr 04 j 08:56	7° \mathbb{Z} 06'39	
minimum elong	1145 Nov 22 j 18:20	7° \mathbb{Z} 22'07	0°01'46	opposition	1152 Jun 20 j 12:46	5° \mathbb{Z} 07'35	0°-20'-56
behind sun begin	1145 Nov 22 j 11:47	7° \mathbb{Z} 21'09		min. Earth dist.	1152 Jun 19 j 20:19	5° \mathbb{Z} 09'14	18.54151 AU
behind sun end	1145 Nov 23 j 00:53	7° \mathbb{Z} 23'05		direct	1152 Sep 05 j 10:23	3° \mathbb{Z} 08'37	
max. Earth dist.	1145 Nov 22 j 23:38	7° \mathbb{Z} 22'54	20.12253 AU				
retrograde	1146 Mar 10 j 02:34	11° \mathbb{Z} 32'17		conjunction	1152 Dec 21 j 17:12	7° \mathbb{Z} 11'59	0°-20'-20
opposition	1146 May 25 j 05:47	9° \mathbb{Z} 32'26	0°00'04	minimum elong	1152 Dec 21 j 17:12	7° \mathbb{Z} 11'59	0°20'21
min. Earth dist.	1146 May 24 j 22:43	9° \mathbb{Z} 33'09	18.15435 AU	max. Earth dist.	1152 Dec 22 j 11:08	7° \mathbb{Z} 14'39	20.57167 AU
desc. node	1146 May 31 j 09:55	9° \mathbb{Z} 17'18		retrograde	1153 Apr 08 j 20:29	11° \mathbb{Z} 17'11	
direct	1146 Aug 10 j 13:13	7° \mathbb{Z} 31'08		min. Earth dist.	1153 Jun 24 j 10:03	9° \mathbb{Z} 20'00	18.60110 AU
				opposition	1153 Jun 25 j 03:41	9° \mathbb{Z} 18'14	0°-24'-4
conjunction	1146 Nov 27 j 06:42	11° \mathbb{Z} 42'47	0°-1'-39	direct	1153 Sep 10 j 00:38	7° \mathbb{Z} 19'38	
minimum elong	1146 Nov 27 j 06:41	11° \mathbb{Z} 42'47	0°01'41				
behind sun begin	1146 Nov 27 j 00:09	11° \mathbb{Z} 41'49		conjunction	1153 Dec 26 j 01:00	11° \mathbb{Z} 21'46	0°-23'-7
behind sun end	1146 Nov 27 j 13:14	11° \mathbb{Z} 43'45		minimum elong	1153 Dec 26 j 01:00	11° \mathbb{Z} 21'46	0°23'09
max. Earth dist.	1146 Nov 27 j 15:00	11° \mathbb{Z} 44'01	20.18672 AU	max. Earth dist.	1153 Dec 26 j 18:52	11° \mathbb{Z} 24'24	20.62970 AU
retrograde	1147 Mar 14 j 15:48	15° \mathbb{Z} 52'07		retrograde	1154 Apr 13 j 08:09	15° \mathbb{Z} 26'23	
opposition	1147 May 30 j 00:40	13° \mathbb{Z} 52'22	0°-3'-36	opposition	1154 Jun 29 j 17:57	13° \mathbb{Z} 27'31	0°-27'-4
min. Earth dist.	1147 May 29 j 16:10	13° \mathbb{Z} 53'14	18.21899 AU	min. Earth dist.	1154 Jun 28 j 23:45	13° \mathbb{Z} 29'20	18.65759 AU
direct	1147 Aug 15 j 07:45	11° \mathbb{Z} 51'27		direct	1154 Sep 14 j 11:31	11° \mathbb{Z} 29'12	
conjunction	1147 Dec 01 j 17:57	16° \mathbb{Z} 01'36	0°-4'-58	conjunction	1154 Dec 30 j 08:32	15° \mathbb{Z} 30'11	0°-25'-46
minimum elong	1147 Dec 01 j 17:58	16° \mathbb{Z} 01'36	0°04'58	minimum elong	1154 Dec 30 j 08:31	15° \mathbb{Z} 30'11	0°25'46
behind sun begin	1147 Dec 01 j 11:35	16° \mathbb{Z} 00'40		max. Earth dist.	1154 Dec 31 j 04:13	15° \mathbb{Z} 33'05	20.68430 AU
behind sun end	1147 Dec 02 j 00:20	16° \mathbb{Z} 02'32		retrograde	1155 Apr 17 j 18:59	19° \mathbb{Z} 34'14	
max. Earth dist.	1147 Dec 02 j 03:07	16° \mathbb{Z} 02'58	20.25181 AU	opposition	1155 Jul 04 j 07:41	17° \mathbb{Z} 35'25	0°-29'-55
retrograde	1148 Mar 18 j 06:41	20° \mathbb{Z} 10'11		min. Earth dist.	1155 Jul 03 j 12:18	17° \mathbb{Z} 37'21	18.71027 AU
opposition	1148 Jun 02 j 18:49	18° \mathbb{Z} 10'32	0°-7'-14	direct	1155 Sep 19 j 00:35	15° \mathbb{Z} 37'23	
min. Earth dist.	1148 Jun 02 j 08:02	18° \mathbb{Z} 11'38	18.28446 AU				
direct	1148 Aug 19 j 00:29	16° \mathbb{Z} 10'00		conjunction	1156 Jan 03 j 15:18	19° \mathbb{Z} 37'13	0°-28'-16
				minimum elong	1156 Jan 03 j 15:18	19° \mathbb{Z} 37'13	0°28'17
conjunction	1148 Dec 05 j 04:46	20° \mathbb{Z} 18'44	0°-8'-11	max. Earth dist.	1156 Jan 04 j 10:48	19° \mathbb{Z} 40'05	20.73502 AU
minimum elong	1148 Dec 05 j 04:45	20° \mathbb{Z} 18'44	0°08'12	retrograde	1156 Apr 21 j 05:49	23° \mathbb{Z} 40'45	
behind sun begin	1148 Dec 04 j 22:56	20° \mathbb{Z} 17'53		opposition	1156 Jul 07 j 20:53	21° \mathbb{Z} 41'56	0°-32'-35
behind sun end	1148 Dec 05 j 10:35	20° \mathbb{Z} 19'35		min. Earth dist.	1156 Jul 07 j 01:15	21° \mathbb{Z} 43'54	18.75913 AU
max. Earth dist.	1148 Dec 05 j 16:51	20° \mathbb{Z} 20'32	20.31741 AU	direct	1156 Sep 22 j 10:47	19° \mathbb{Z} 44'08	
retrograde	1149 Mar 22 j 18:48	24° \mathbb{Z} 26'33					
opposition	1149 Jun 07 j 12:12	22° \mathbb{Z} 27'04	0°-10'-47	conjunction	1157 Jan 06 j 21:54	23° \mathbb{Z} 42'52	0°-30'-36
min. Earth dist.	1149 Jun 07 j 00:00	22° \mathbb{Z} 28'18	18.35007 AU	minimum elong	1157 Jan 06 j 21:54	23° \mathbb{Z} 42'52	0°30'37
direct	1149 Aug 23 j 16:50	20° \mathbb{Z} 26'56		max. Earth dist.	1157 Jan 07 j 19:04	23° \mathbb{Z} 45'58	20.78189 AU
				retrograde	1157 Apr 25 j 15:35	27° \mathbb{Z} 45'54	
conjunction	1149 Dec 09 j 14:41	24° \mathbb{Z} 34'15	0°-11'-21	opposition	1157 Jul 12 j 09:07	25° \mathbb{Z} 47'04	0°-35'-5
minimum elong	1149 Dec 09 j 14:41	24° \mathbb{Z} 34'15	0°11'22	min. Earth dist.	1157 Jul 11 j 12:20	25° \mathbb{Z} 49'09	18.80405 AU
behind sun begin	1149 Dec 09 j 09:50	24° \mathbb{Z} 33'33		direct	1157 Sep 26 j 22:18	23° \mathbb{Z} 49'28	
behind sun end	1149 Dec 09 j 19:31	24° \mathbb{Z} 34'58					
max. Earth dist.	1149 Dec 10 j 03:22	24° \mathbb{Z} 36'09	20.38290 AU	conjunction	1158 Jan 11 j 03:51	27° \mathbb{Z} 47'11	0°-32'-47
retrograde	1150 Mar 27 j 08:32	28° \mathbb{Z} 41'23		minimum elong	1158 Jan 11 j 03:51	27° \mathbb{Z} 47'11	0°32'47
opposition	1150 Jun 12 j 04:58	26° \mathbb{Z} 42'02	0°-14'-16	max. Earth dist.	1158 Jan 12 j 00:48	27° \mathbb{Z} 50'14	20.82497 AU

	1158 Feb 20 j 04:58	0°♊	conjunction	1166 Feb 11 j 20:28	29°♊50'25	0°-43'-24
retrograde	1158 Apr 30 j 01:15	1°♊49'46	minimum elong	1166 Feb 11 j 20:28	29°♊50'25	0°43'25
	1158 Jul 13 j 01:38	30°♊♄	max. Earth dist.	1166 Feb 12 j 20:54	29°♊53'55	21.05327 AU
opposition	1158 Jul 16 j 20:56	29°♄50'53	0°-37'-23	1166 Feb 14 j 15:11	0°♋	
min. Earth dist.	1158 Jul 16 j 00:03	29°♄52'58	18.84553 AU	retrograde	1166 Jun 01 j 23:28	3°♋51'43
direct	1158 Oct 01 j 07:11	27°♄53'26		min. Earth dist.	1166 Aug 18 j 02:34	1°♋55'06
	1158 Dec 13 j 16:17	0°♊		opposition	1166 Aug 19 j 01:18	1°♋52'50
					1166 Oct 22 j 06:29	30°♊♄
conjunction	1159 Jan 15 j 09:28	1°♊50'14	0°-34'-46	direct	1166 Nov 02 j 16:01	29°♊56'41
minimum elong	1159 Jan 15 j 09:28	1°♊50'14	0°34'48		1166 Nov 14 j 00:28	0°♋
max. Earth dist.	1159 Jan 16 j 08:10	1°♊53'32	20.86474 AU			
retrograde	1159 May 04 j 10:23	5°♊52'25		conjunction	1167 Feb 16 j 01:41	3°♋49'18
min. Earth dist.	1159 Jul 20 j 09:46	3°♊55'44	18.88373 AU	minimum elong	1167 Feb 16 j 01:41	3°♋49'18
opposition	1159 Jul 21 j 08:03	3°♊53'30	0°-39'-29	max. Earth dist.	1167 Feb 17 j 02:34	3°♋52'52
direct	1159 Oct 05 j 17:08	1°♊56'14		retrograde	1167 Jun 06 j 08:35	7°♋50'42
				min. Earth dist.	1167 Aug 22 j 10:13	5°♋54'06
conjunction	1160 Jan 19 j 14:44	5°♊52'09	0°-36'-35	opposition	1167 Aug 23 j 09:22	5°♋51'47
minimum elong	1160 Jan 19 j 14:44	5°♊52'09	0°36'36	direct	1167 Nov 06 j 23:35	3°♋55'43
max. Earth dist.	1160 Jan 20 j 13:17	5°♊55'26	20.90145 AU			
retrograde	1160 May 07 j 19:08	9°♊54'02		conjunction	1168 Feb 20 j 07:07	7°♋48'11
opposition	1160 Jul 24 j 18:43	7°♊55'05	0°-41'-22	minimum elong	1168 Feb 20 j 07:07	7°♋48'11
min. Earth dist.	1160 Jul 23 j 20:28	7°♊57'18	18.91914 AU	max. Earth dist.	1168 Feb 21 j 06:31	7°♋51'32
direct	1160 Oct 09 j 00:38	5°♊57'59		retrograde	1168 Jun 09 j 16:37	11°♋49'44
				opposition	1168 Aug 26 j 17:16	9°♋50'44
conjunction	1161 Jan 22 j 19:54	9°♊53'09	0°-38'-12	min. Earth dist.	1168 Aug 25 j 19:48	9°♋52'53
minimum elong	1161 Jan 22 j 19:54	9°♊53'09	0°38'14	direct	1168 Nov 10 j 03:53	7°♋54'40
max. Earth dist.	1161 Jan 23 j 20:02	9°♊56'39	20.93534 AU			
retrograde	1161 May 12 j 04:34	13°♊54'46		conjunction	1169 Feb 23 j 12:56	11°♋47'05
min. Earth dist.	1161 Jul 28 j 05:10	11°♊58'10	18.95150 AU	minimum elong	1169 Feb 23 j 12:56	11°♋47'05
opposition	1161 Jul 29 j 04:42	11°♊55'49	0°-43'-3	max. Earth dist.	1169 Feb 24 j 12:19	11°♋50'26
direct	1161 Oct 13 j 09:04	9°♊58'54		retrograde	1169 Jun 14 j 01:14	15°♋48'46
				min. Earth dist.	1169 Aug 30 j 03:13	13°♋51'51
conjunction	1162 Jan 27 j 00:46	13°♊53'25	0°-39'-38	opposition	1169 Aug 31 j 00:51	13°♋49'41
minimum elong	1162 Jan 27 j 00:46	13°♊53'24	0°39'39	direct	1169 Nov 14 j 10:56	11°♋53'34
max. Earth dist.	1162 Jan 28 j 00:34	13°♊56'51	20.96611 AU			
retrograde	1162 Feb 15 j 10:53	15°♊		conjunction	1170 Feb 27 j 18:40	15°♋45'58
opposition	1162 May 16 j 12:28	17°♊54'51		minimum elong	1170 Feb 27 j 18:40	15°♋45'58
min. Earth dist.	1162 Aug 02 j 14:20	15°♊55'54	0°-44'-32	max. Earth dist.	1170 Feb 28 j 16:26	15°♋49'05
direct	1162 Aug 01 j 15:12	15°♊58'12	18.98078 AU	retrograde	1170 Jun 18 j 08:57	19°♋47'51
	1162 Aug 26 j 21:36	15°♊♄		opposition	1170 Sep 04 j 08:22	17°♋48'37
conjunction	1162 Oct 17 j 15:24	13°♊59'09		min. Earth dist.	1170 Sep 03 j 12:31	17°♋50'37
minimum elong	1162 Dec 06 j 04:51	15°♊		direct	1170 Nov 18 j 15:27	15°♋52'25
max. Earth dist.						
retrograde	1163 Jan 31 j 05:43	17°♊53'07	0°-40'-53	conjunction	1171 Mar 04 j 00:49	19°♋44'53
opposition	1163 Jan 31 j 05:43	17°♊53'07	0°40'54	minimum elong	1171 Mar 04 j 00:49	19°♋44'53
min. Earth dist.	1163 Feb 01 j 06:50	17°♊56'44	20.99374 AU	max. Earth dist.	1171 Mar 04 j 22:40	19°♋48'01
direct	1163 May 20 j 22:24	21°♊54'25		retrograde	1171 Jun 22 j 17:29	23°♋47'00
retrograde	1163 Aug 06 j 23:32	19°♊55'30	0°-45'-47	opposition	1171 Sep 08 j 15:33	21°♋47'36
opposition	1163 Aug 05 j 23:19	19°♊57'55	19.00662 AU	min. Earth dist.	1171 Sep 07 j 19:30	21°♋49'38
min. Earth dist.	1163 Oct 21 j 23:01	17°♊58'56		direct	1171 Nov 22 j 21:56	19°♋51'17
direct						
conjunction	1164 Feb 04 j 10:25	21°♊52'25	0°-41'-55	conjunction	1172 Mar 07 j 07:05	23°♋43'55
minimum elong	1164 Feb 04 j 10:25	21°♊52'25	0°41'56	minimum elong	1172 Mar 07 j 07:05	23°♋43'55
max. Earth dist.	1164 Feb 05 j 10:59	21°♊55'57	21.01775 AU	max. Earth dist.	1172 Mar 08 j 03:25	23°♋46'49
retrograde	1164 May 24 j 06:02	25°♊53'41		retrograde	1172 Jun 26 j 01:10	27°♋46'19
opposition	1164 Aug 09 j 09:10	23°♊57'06	19.02875 AU	opposition	1172 Sep 11 j 22:45	25°♋46'45
min. Earth dist.	1164 Aug 10 j 08:33	23°♊54'46	0°-46'-49	min. Earth dist.	1172 Sep 11 j 04:31	25°♋48'35
direct	1164 Oct 25 j 04:13	21°♊58'23		direct	1172 Nov 26 j 02:12	23°♋50'16
conjunction	1165 Feb 07 j 15:28	25°♊51'29	0°-42'-46	conjunction	1173 Mar 11 j 13:53	27°♋43'10
minimum elong	1165 Feb 07 j 15:28	25°♊51'29	0°42'47	minimum elong	1173 Mar 11 j 13:53	27°♋43'10
max. Earth dist.	1165 Feb 08 j 16:57	25°♊55'09	21.03780 AU	max. Earth dist.	1173 Mar 12 j 10:13	27°♋46'04
retrograde	1165 May 28 j 15:42	29°♊52'44			1173 Apr 22 j 22:04	0°♌
opposition	1165 Aug 14 j 16:53	27°♊53'51	0°-47'-38	retrograde	1173 Jun 30 j 10:18	1°♌45'54
min. Earth dist.	1165 Aug 13 j 16:51	27°♊56'15	19.04656 AU		1173 Sep 10 j 12:47	30°♊♄
direct	1165 Oct 29 j 11:41	25°♊57'36		min. Earth dist.	1173 Sep 15 j 11:10	29°♋48'02
				opposition	1173 Sep 16 j 05:33	29°♋46'10

direct	1173 Nov 30 j 08:30	27° κ 49'33		min. Earth dist.	1181 Oct 18 j 09:27	2° Ϡ 12'39	18.69979 AU
	1174 Feb 12 j 22:11	0° ϒ		direct	1182 Jan 01 j 08:51	0° Ϡ 13'40	
conjunction	1174 Mar 15 j 20:54	1° ϒ 42'48	0°-40'-51	conjunction	1182 Apr 18 j 03:34	4° Ϡ 13'08	0°-25'-37
minimum elong	1174 Mar 15 j 20:54	1° ϒ 42'48	0°40'52	minimum elong	1182 Apr 18 j 03:34	4° Ϡ 13'08	0°25'38
max. Earth dist.	1174 Mar 16 j 15:40	1° ϒ 45'29	20.98895 AU	max. Earth dist.	1182 Apr 18 j 11:12	4° Ϡ 14'13	20.67292 AU
retrograde	1174 Jul 04 j 18:13	5° ϒ 45'57		retrograde	1182 Aug 07 j 09:45	8° Ϡ 21'20	
opposition	1174 Sep 20 j 12:39	3° ϒ 46'04	0°-44'-28	opposition	1182 Oct 23 j 02:47	6° Ϡ 20'33	0°-26'-52
min. Earth dist.	1174 Sep 19 j 20:05	3° ϒ 47'45	18.97591 AU	min. Earth dist.	1182 Oct 22 j 20:59	6° Ϡ 21'09	18.64509 AU
direct	1174 Dec 04 j 12:30	1° ϒ 49'17		direct	1183 Jan 05 j 15:23	4° Ϡ 22'07	
conjunction	1175 Mar 20 j 04:23	5° ϒ 42'59	0°-39'-36	conjunction	1183 Apr 22 j 16:42	8° Ϡ 22'40	0°-22'-57
minimum elong	1175 Mar 20 j 04:23	5° ϒ 42'59	0°39'37	minimum elong	1183 Apr 22 j 16:42	8° Ϡ 22'40	0°22'57
max. Earth dist.	1175 Mar 20 j 23:04	5° ϒ 45'39	20.96146 AU	max. Earth dist.	1183 Apr 22 j 22:45	8° Ϡ 23'32	20.61653 AU
retrograde	1175 Jul 09 j 04:32	9° ϒ 46'36		retrograde	1183 Aug 12 j 00:32	12° Ϡ 31'37	
opposition	1175 Sep 24 j 19:39	7° ϒ 46'34	0°-42'-59	opposition	1183 Oct 27 j 11:49	10° Ϡ 30'39	0°-23'-50
min. Earth dist.	1175 Sep 24 j 02:58	7° ϒ 48'16	18.94669 AU	min. Earth dist.	1183 Oct 27 j 06:47	10° Ϡ 31'11	18.58690 AU
direct	1175 Dec 08 j 18:52	5° ϒ 49'38		direct	1184 Jan 10 j 01:24	8° Ϡ 31'52	
conjunction	1176 Mar 23 j 12:27	9° ϒ 43'54	0°-38'-9	conjunction	1184 Apr 26 j 06:41	12° Ϡ 33'35	0°-20'-9
minimum elong	1176 Mar 23 j 12:27	9° ϒ 43'54	0°38'10	minimum elong	1184 Apr 26 j 06:41	12° Ϡ 33'35	0°20'10
max. Earth dist.	1176 Mar 24 j 05:24	9° ϒ 46'19	20.93063 AU	max. Earth dist.	1184 Apr 26 j 10:30	12° Ϡ 34'07	20.55681 AU
retrograde	1176 Jul 12 j 13:06	13° ϒ 48'02		retrograde	1184 Jun 10 j 00:05	15° Ϡ	
opposition	1176 Sep 28 j 02:48	11° ϒ 47'54	0°-41'-17	opposition	1184 Aug 15 j 12:20	16° Ϡ 43'17	
min. Earth dist.	1176 Sep 27 j 12:10	11° ϒ 49'23	18.91428 AU	min. Earth dist.	1184 Oct 23 j 17:43	15° Ϡ	
direct	1176 Dec 11 j 23:13	9° ϒ 50'48		opposition	1184 Oct 30 j 21:14	14° Ϡ 42'07	0°-20'-40
conjunction	1177 Mar 27 j 21:15	13° ϒ 45'43	0°-36'-31	min. Earth dist.	1184 Oct 30 j 18:50	14° Ϡ 42'22	18.52585 AU
minimum elong	1177 Mar 27 j 21:15	13° ϒ 45'43	0°36'33	direct	1185 Jan 13 j 08:57	12° Ϡ 42'57	
max. Earth dist.	1177 Mar 28 j 13:42	13° ϒ 48'04	20.89672 AU		1185 Mar 30 j 15:33	15° Ϡ	
retrograde	1177 Jul 17 j 00:29	17° ϒ 50'25		conjunction	1185 Apr 30 j 21:23	16° Ϡ 45'53	0°-17'-13
opposition	1177 Oct 02 j 10:02	15° ϒ 50'11	0°-39'-22	minimum elong	1185 Apr 30 j 21:23	16° Ϡ 45'53	0°17'14
min. Earth dist.	1177 Oct 01 j 19:31	15° ϒ 51'40	18.87864 AU	max. Earth dist.	1185 Apr 30 j 23:33	16° Ϡ 46'11	20.49475 AU
direct	1177 Dec 16 j 05:47	13° ϒ 52'56		retrograde	1185 Aug 20 j 03:56	20° Ϡ 56'22	
conjunction	1178 Apr 01 j 06:24	17° ϒ 48'36	0°-34'-41	opposition	1185 Nov 04 j 07:00	18° Ϡ 55'00	0°-17'-22
minimum elong	1178 Apr 01 j 06:24	17° ϒ 48'36	0°34'42	min. Earth dist.	1185 Nov 04 j 05:16	18° Ϡ 55'11	18.46280 AU
max. Earth dist.	1178 Apr 01 j 21:00	17° ϒ 50'41	20.85941 AU	direct	1186 Jan 17 j 20:01	16° Ϡ 55'26	
retrograde	1178 Jul 21 j 10:02	21° ϒ 53'57		conjunction	1186 May 05 j 12:40	20° Ϡ 59'37	0°-14'-12
opposition	1178 Oct 06 j 17:41	19° ϒ 53'37	0°-37'-15	minimum elong	1186 May 05 j 12:40	20° Ϡ 59'37	0°14'12
min. Earth dist.	1178 Oct 06 j 05:26	19° ϒ 54'53	18.83963 AU	behind sun begin	1186 May 05 j 09:37	20° Ϡ 59'11	
direct	1178 Dec 20 j 10:53	17° ϒ 56'13		behind sun end	1186 May 05 j 15:44	21° Ϡ 00'04	
conjunction	1179 Apr 05 j 16:34	21° ϒ 52'42	0°-32'-41	max. Earth dist.	1186 May 05 j 13:04	20° Ϡ 59'41	20.43087 AU
minimum elong	1179 Apr 05 j 16:34	21° ϒ 52'42	0°32'42	retrograde	1186 Aug 24 j 16:51	25° Ϡ 10'55	
max. Earth dist.	1179 Apr 06 j 06:18	21° ϒ 54'40	20.81877 AU	opposition	1186 Nov 08 j 17:22	23° Ϡ 09'21	0°-13'-58
retrograde	1179 Jul 25 j 22:27	25° ϒ 58'44		min. Earth dist.	1186 Nov 08 j 17:59	23° Ϡ 09'17	18.39835 AU
opposition	1179 Oct 11 j 01:22	23° ϒ 58'19	0°-34'-56	direct	1187 Jan 22 j 05:00	21° Ϡ 09'23	
min. Earth dist.	1179 Oct 10 j 13:36	23° ϒ 59'32	18.79707 AU	conjunction	1187 May 10 j 04:56	25° Ϡ 14'54	0°-11'-5
direct	1179 Dec 24 j 18:16	22° ϒ 00'43		minimum elong	1187 May 10 j 04:56	25° Ϡ 14'54	0°11'06
conjunction	1180 Apr 09 j 03:26	25° ϒ 58'08	0°-30'-30	behind sun begin	1187 May 09 j 23:58	25° Ϡ 14'11	
minimum elong	1180 Apr 09 j 03:26	25° ϒ 58'08	0°30'31	behind sun end	1187 May 10 j 09:54	25° Ϡ 15'37	
max. Earth dist.	1180 Apr 09 j 14:53	25° ϒ 59'47	20.77424 AU	max. Earth dist.	1187 May 10 j 03:34	25° Ϡ 14'43	20.36610 AU
retrograde	1180 Jul 15 j 10:13	0° Ϡ		retrograde	1187 Aug 29 j 09:02	29° Ϡ 27'00	
opposition	1180 Jul 29 j 09:04	0° Ϡ 04'52		opposition	1187 Nov 13 j 03:58	27° Ϡ 25'16	0°-10'-27
opposition	1180 Aug 12 j 11:45	30° Ϡ		min. Earth dist.	1187 Nov 13 j 05:15	27° Ϡ 25'07	18.33329 AU
min. Earth dist.	1180 Oct 14 j 09:35	28° ϒ 04'22	0°-32'-25	direct	1188 Jan 26 j 17:08	25° Ϡ 24'53	
direct	1180 Oct 14 j 00:26	28° ϒ 05'19	18.75051 AU	conjunction	1188 May 13 j 22:04	29° Ϡ 31'48	0°-7'-53
conjunction	1180 Dec 28 j 00:07	26° ϒ 06'32		minimum elong	1188 May 13 j 22:05	29° Ϡ 31'48	0°07'54
direct	1181 Apr 12 j 04:54	0° Ϡ		behind sun begin	1188 May 13 j 16:02	29° Ϡ 30'56	
conjunction	1181 Apr 13 j 15:11	0° Ϡ 04'57	0°-28'-8	behind sun end	1188 May 14 j 04:07	29° Ϡ 32'40	
minimum elong	1181 Apr 13 j 15:11	0° Ϡ 04'57	0°28'08	max. Earth dist.	1188 May 13 j 19:08	29° Ϡ 31'23	20.30079 AU
max. Earth dist.	1181 Apr 14 j 01:12	0° Ϡ 06'23	20.72568 AU	retrograde	1188 May 21 j 22:04	0° Ϡ	
retrograde	1181 Aug 02 j 22:34	4° Ϡ 12'24		opposition	1188 Sep 01 j 23:13	3° Ϡ 44'43	
opposition	1181 Oct 18 j 17:54	2° Ϡ 11'47	0°-29'-44	opposition	1188 Nov 16 j 15:20	1° Ϡ 42'49	0°-6'-52
				min. Earth dist.	1188 Nov 16 j 18:48	1° Ϡ 42'27	18.26798 AU

	1189 Jan 03 j 22:56	30°R♄		conjunction	1195 Jun 15 j 22:25	0°♄22'25	0°15'23
direct	1189 Jan 30 j 03:50	29°♄42'04		minimum elong	1195 Jun 15 j 22:25	0°♄22'25	0°15'23
	1189 Feb 25 j 06:25	0°♄		behind sun begin	1195 Jun 15 j 20:58	0°♄22'12	
				behind sun end	1195 Jun 15 j 23:52	0°♄22'38	
conjunction	1189 May 18 j 15:54	3°♄50'24	0°-4'-38	max. Earth dist.	1195 Jun 15 j 06:12	0°♄19'59	19.85700 AU
minimum elong	1189 May 18 j 15:55	3°♄50'24	0°04'40	retrograde	1195 Oct 04 j 05:23	4°♄41'04	
behind sun begin	1189 May 18 j 09:18	3°♄49'27		opposition	1195 Dec 17 j 16:43	2°♄38'41	0°18'52
behind sun end	1189 May 18 j 22:31	3°♄51'21		min. Earth dist.	1195 Dec 18 j 06:19	2°♄37'12	17.82632 AU
max. Earth dist.	1189 May 18 j 11:01	3°♄49'42	20.23565 AU	direct	1196 Mar 01 j 14:09	0°♄35'24	
retrograde	1189 Sep 06 j 16:06	8°♄04'09					
opposition	1189 Nov 21 j 03:07	6°♄02'08	0°-3'-13	conjunction	1196 Jun 19 j 22:38	4°♄54'25	0°18'35
min. Earth dist.	1189 Nov 21 j 07:14	6°♄01'42	18.20305 AU	minimum elong	1196 Jun 19 j 22:38	4°♄54'25	0°18'35
direct	1190 Feb 03 j 17:02	4°♄01'00		max. Earth dist.	1196 Jun 19 j 05:40	4°♄51'51	19.79591 AU
				retrograde	1196 Oct 08 j 01:50	9°♄13'44	
conjunction	1190 May 23 j 10:44	8°♄10'49	0°-1'-18	opposition	1196 Dec 21 j 09:34	7°♄11'17	0°22'23
minimum elong	1190 May 23 j 10:43	8°♄10'49	0°01'19	min. Earth dist.	1196 Dec 22 j 00:37	7°♄09'39	17.76581 AU
behind sun begin	1190 May 23 j 03:57	8°♄09'51		direct	1197 Mar 06 j 08:42	5°♄07'38	
behind sun end	1190 May 23 j 17:30	8°♄11'48					
max. Earth dist.	1190 May 23 j 04:37	8°♄09'57	20.17094 AU	conjunction	1197 Jun 24 j 23:06	9°♄28'04	0°21'41
retrograde	1190 Sep 11 j 07:51	12°♄25'25		minimum elong	1197 Jun 24 j 23:06	9°♄28'04	0°21'40
asc. node	1190 Oct 11 j 21:25	12°♄01'40		max. Earth dist.	1197 Jun 24 j 03:23	9°♄25'05	19.73618 AU
opposition	1190 Nov 25 j 15:39	10°♄23'19	0°00'27	retrograde	1197 Oct 12 j 22:40	13°♄48'04	
min. Earth dist.	1190 Nov 25 j 21:47	10°♄22'39	18.13872 AU	opposition	1197 Dec 26 j 03:02	11°♄45'31	0°25'46
direct	1191 Feb 08 j 05:48	8°♄21'50		min. Earth dist.	1197 Dec 26 j 19:29	11°♄43'44	17.70713 AU
				direct	1198 Mar 11 j 04:13	9°♄41'27	
conjunction	1191 May 28 j 06:23	12°♄33'09	0°02'08	max. Earth dist.	1198 Jun 29 j 04:29	14°♄00'16	19.67854 AU
minimum elong	1191 May 28 j 06:22	12°♄33'09	0°02'08				
behind sun begin	1191 May 27 j 23:36	12°♄32'11		conjunction	1198 Jun 30 j 00:28	14°♄03'18	0°24'39
behind sun end	1191 May 28 j 13:08	12°♄34'08		minimum elong	1198 Jun 30 j 00:28	14°♄03'18	0°24'39
max. Earth dist.	1191 May 27 j 21:59	12°♄31'56	20.10709 AU	retrograde	1198 Oct 17 j 20:21	18°♄23'53	
retrograde	1191 Sep 16 j 01:35	16°♄48'37		opposition	1198 Dec 30 j 21:03	16°♄21'16	0°29'01
opposition	1191 Nov 30 j 04:47	14°♄46'27	0°04'10	min. Earth dist.	1198 Dec 31 j 14:24	16°♄19'22	17.65078 AU
min. Earth dist.	1191 Nov 30 j 11:49	14°♄45'41	18.07521 AU	direct	1199 Mar 16 j 00:32	14°♄16'49	
direct	1192 Feb 12 j 20:17	12°♄44'37		max. Earth dist.	1199 Jul 04 j 03:51	18°♄36'35	19.62366 AU
conjunction	1192 Jun 01 j 03:09	16°♄57'30	0°05'29	conjunction	1199 Jul 05 j 02:15	18°♄40'01	0°27'29
minimum elong	1192 Jun 01 j 03:09	16°♄57'30	0°05'29	minimum elong	1199 Jul 05 j 02:14	18°♄40'01	0°27'29
behind sun begin	1192 May 31 j 20:37	16°♄56'33		retrograde	1199 Oct 22 j 17:52	23°♄01'10	
behind sun end	1192 Jun 01 j 09:40	16°♄58'27		opposition	1200 Jan 04 j 15:49	20°♄58'27	0°32'05
max. Earth dist.	1192 May 31 j 17:38	16°♄56'06	20.04379 AU	min. Earth dist.	1200 Jan 05 j 10:35	20°♄56'24	17.59766 AU
retrograde	1192 Sep 19 j 19:10	21°♄13'47		direct	1200 Mar 19 j 20:53	18°♄53'38	
opposition	1192 Dec 03 j 18:38	19°♄11'35	0°07'53	max. Earth dist.	1200 Jul 08 j 06:17	23°♄14'42	19.57227 AU
min. Earth dist.	1192 Dec 04 j 03:43	19°♄10'36	18.01221 AU				
direct	1193 Feb 16 j 11:07	17°♄09'26		conjunction	1200 Jul 09 j 04:35	23°♄18'08	0°30'09
				minimum elong	1200 Jul 09 j 04:34	23°♄18'07	0°30'10
conjunction	1193 Jun 06 j 00:41	21°♄23'52	0°08'49	retrograde	1200 Oct 26 j 16:56	27°♄39'46	
minimum elong	1193 Jun 06 j 00:41	21°♄23'52	0°08'50	opposition	1201 Jan 08 j 11:11	25°♄37'00	0°34'58
behind sun begin	1193 Jun 05 j 18:53	21°♄23'01		min. Earth dist.	1201 Jan 09 j 06:10	25°♄34'55	17.54827 AU
behind sun end	1193 Jun 06 j 06:29	21°♄24'42		direct	1201 Mar 24 j 19:09	23°♄31'51	
max. Earth dist.	1193 Jun 05 j 12:27	21°♄22'03	19.98112 AU	max. Earth dist.	1201 Jul 13 j 07:13	27°♄53'52	19.52504 AU
retrograde	1193 Sep 24 j 14:06	25°♄40'59					
opposition	1193 Dec 08 j 09:16	23°♄38'43	0°11'36	conjunction	1201 Jul 14 j 07:12	27°♄57'33	0°32'37
min. Earth dist.	1193 Dec 08 j 19:33	23°♄37'37	17.94983 AU	minimum elong	1201 Jul 14 j 07:12	27°♄57'33	0°32'37
direct	1194 Feb 21 j 03:23	21°♄36'13					
				retrograde	1201 Aug 17 j 14:39	0°♄	
conjunction	1194 Jun 10 j 23:07	25°♄52'12	0°12'07	retrograde	1201 Oct 31 j 14:35	2°♄19'39	
minimum elong	1194 Jun 10 j 23:07	25°♄52'12	0°12'07	opposition	1202 Jan 13 j 07:18	0°♄16'51	0°37'37
behind sun begin	1194 Jun 10 j 18:38	25°♄51'32		min. Earth dist.	1202 Jan 14 j 03:31	0°♄14'38	17.50358 AU
behind sun end	1194 Jun 11 j 03:36	25°♄52'51		direct	1202 Jan 19 j 17:36	30°R♄	
max. Earth dist.	1194 Jun 10 j 09:56	25°♄50'13	19.91881 AU	direct	1202 Mar 29 j 15:58	28°♄11'24	
retrograde	1194 Sep 09 j 23:12	0°♄					
retrograde	1194 Sep 29 j 09:15	0°♄10'06		max. Earth dist.	1202 Jun 03 j 21:15	0°♄	
opposition	1194 Oct 18 j 22:54	30°R♄		conjunction	1202 Jul 19 j 10:12	2°♄38'15	0°34'54
min. Earth dist.	1194 Dec 13 j 12:51	28°♄06'29	17.88774 AU	minimum elong	1202 Jul 19 j 10:12	2°♄38'15	0°34'53
direct	1195 Feb 25 j 20:02	26°♄04'55		retrograde	1202 Nov 05 j 14:46	7°♄00'45	
				opposition	1203 Jan 18 j 03:59	4°♄57'57	0°40'02
	1195 Jun 09 j 17:49	0°♄		min. Earth dist.	1203 Jan 18 j 23:51	4°♄55'46	17.46389 AU

direct	1203 Apr 03 j 16:10	2°♄52'16		retrograde	1210 Dec 13 j 13:18	15°♃02'22	
				opposition	1211 Feb 24 j 22:30	13°♃00'18	0°48'52
conjunction	1203 Jul 24 j 13:38	7°♄20'10	0°36'56	min. Earth dist.	1211 Feb 25 j 19:02	12°♃58'04	17.33299 AU
minimum elong	1203 Jul 24 j 13:38	7°♄20'10	0°36'57	direct	1211 May 12 j 07:34	10°♃54'02	
max. Earth dist.	1203 Jul 23 j 12:56	7°♄16'20	19.44576 AU				
retrograde	1203 Nov 10 j 12:30	11°♄43'00		conjunction	1211 Sep 01 j 20:24	15°♃25'58	0°43'42
opposition	1204 Jan 23 j 01:21	9°♄40'15	0°42'12	minimum elong	1211 Sep 01 j 20:24	15°♃25'58	0°43'42
min. Earth dist.	1204 Jan 23 j 22:24	9°♄37'57	17.42974 AU	max. Earth dist.	1211 Aug 31 j 21:14	15°♃22'19	19.33428 AU
direct	1204 Apr 07 j 14:22	7°♄34'23		retrograde	1211 Dec 18 j 13:01	19°♃48'51	
				opposition	1212 Feb 29 j 23:38	17°♃46'50	0°48'30
conjunction	1204 Jul 28 j 17:21	12°♄03'16	0°38'45	min. Earth dist.	1212 Mar 01 j 20:19	17°♃44'36	17.33765 AU
minimum elong	1204 Jul 28 j 17:20	12°♄03'16	0°38'44	direct	1212 May 16 j 10:28	15°♃40'36	
max. Earth dist.	1204 Jul 27 j 16:49	11°♄59'28	19.41442 AU				
	1204 Sep 18 j 06:45	15°♄		conjunction	1212 Sep 05 j 23:09	20°♃12'20	0°43'12
retrograde	1204 Nov 14 j 13:10	16°♄26'24		minimum elong	1212 Sep 05 j 23:09	20°♃12'20	0°43'12
	1205 Jan 12 j 23:03	15°♄		max. Earth dist.	1212 Sep 04 j 23:39	20°♃08'38	19.34148 AU
opposition	1205 Jan 26 j 23:19	14°♄23'44	0°44'05	retrograde	1212 Dec 22 j 12:52	24°♃34'51	
min. Earth dist.	1205 Jan 27 j 19:39	14°♄21'30	17.40113 AU	opposition	1213 Mar 06 j 00:51	22°♃32'53	0°47'47
direct	1205 Apr 12 j 16:29	12°♄17'46		min. Earth dist.	1213 Mar 06 j 20:18	22°♃30'47	17.34738 AU
	1205 Jul 04 j 08:40	15°♄		direct	1213 May 21 j 14:17	20°♃26'39	
				max. Earth dist.	1213 Sep 10 j 04:06	24°♃54'44	19.35377 AU
conjunction	1205 Aug 02 j 21:06	16°♄47'29	0°40'19				
minimum elong	1205 Aug 02 j 21:06	16°♄47'29	0°40'19	conjunction	1213 Sep 11 j 01:20	24°♃58'04	0°42'25
max. Earth dist.	1205 Aug 01 j 20:23	16°♄43'38	19.38849 AU	minimum elong	1213 Sep 11 j 01:20	24°♃58'04	0°42'25
retrograde	1205 Nov 19 j 11:16	21°♄10'51		retrograde	1213 Dec 27 j 12:06	29°♃20'09	
opposition	1206 Jan 31 j 22:01	19°♄08'17	0°45'41	opposition	1214 Mar 11 j 02:11	27°♃18'14	0°46'44
min. Earth dist.	1206 Feb 01 j 19:32	19°♄05'56	17.37795 AU	min. Earth dist.	1214 Mar 11 j 21:01	27°♃16'11	17.36220 AU
direct	1206 Apr 17 j 16:13	17°♄02'14		direct	1214 May 26 j 18:00	25°♃12'04	
max. Earth dist.	1206 Aug 07 j 00:11	21°♄28'48	19.36790 AU	max. Earth dist.	1214 Sep 15 j 05:47	29°♃39'42	19.37135 AU
conjunction	1206 Aug 08 j 01:08	21°♄32'42	0°41'36	conjunction	1214 Sep 16 j 02:50	29°♃43'01	0°41'20
minimum elong	1206 Aug 08 j 01:08	21°♄32'42	0°41'36	minimum elong	1214 Sep 16 j 02:50	29°♃43'01	0°41'19
retrograde	1206 Nov 24 j 12:27	25°♄56'12			1214 Sep 20 j 14:47	0°♄	
opposition	1207 Feb 05 j 21:00	23°♄53'46	0°46'59	retrograde	1215 Jan 01 j 10:35	4°♄04'35	
min. Earth dist.	1207 Feb 06 j 17:45	23°♄51'30	17.35980 AU	opposition	1215 Mar 16 j 03:20	2°♄02'43	0°45'22
direct	1207 Apr 22 j 20:03	21°♄47'39		min. Earth dist.	1215 Mar 16 j 20:57	2°♄00'49	17.38261 AU
max. Earth dist.	1207 Aug 12 j 04:44	26°♄14'52	19.35203 AU		1215 May 20 j 15:24	30°♄	
				direct	1215 May 31 j 21:37	29°♃56'39	
conjunction	1207 Aug 13 j 05:24	26°♄18'44	0°42'37		1215 Jun 12 j 04:02	0°♄	
minimum elong	1207 Aug 13 j 05:24	26°♄18'44	0°42'37	max. Earth dist.	1215 Sep 20 j 09:17	4°♄24'06	19.39461 AU
	1207 Oct 21 j 08:58	0°♃					
retrograde	1207 Nov 29 j 11:20	0°♃42'17		conjunction	1215 Sep 21 j 03:49	4°♄27'01	0°39'58
	1208 Jan 08 j 13:27	30°♄		minimum elong	1215 Sep 21 j 03:49	4°♄27'01	0°39'58
opposition	1208 Feb 10 j 20:53	28°♄39'57	0°47'57	retrograde	1216 Jan 06 j 09:13	8°♄48'02	
min. Earth dist.	1208 Feb 11 j 18:45	28°♄37'34	17.34633 AU	opposition	1216 Mar 20 j 04:42	6°♄46'17	0°43'42
direct	1208 Apr 26 j 21:15	26°♄33'48		min. Earth dist.	1216 Mar 20 j 20:50	6°♄44'33	17.40864 AU
	1208 Jul 30 j 21:09	0°♃		direct	1216 Jun 05 j 01:38	4°♄40'24	
max. Earth dist.	1208 Aug 16 j 08:10	1°♃01'21	19.34086 AU	max. Earth dist.	1216 Sep 24 j 10:09	9°♄07'16	19.42362 AU
conjunction	1208 Aug 17 j 09:22	1°♃05'18	0°43'20	conjunction	1216 Sep 25 j 03:49	9°♄10'03	0°38'21
minimum elong	1208 Aug 17 j 09:22	1°♃05'18	0°43'21	minimum elong	1216 Sep 25 j 03:49	9°♄10'03	0°38'21
retrograde	1208 Dec 03 j 12:38	5°♃28'51		retrograde	1217 Jan 10 j 06:56	13°♄30'30	
opposition	1209 Feb 14 j 21:03	3°♃26'37	0°48'36	opposition	1217 Mar 25 j 05:56	11°♄28'52	0°41'45
min. Earth dist.	1209 Feb 15 j 17:55	3°♃24'20	17.33740 AU	min. Earth dist.	1217 Mar 25 j 20:46	11°♄27'16	17.44058 AU
direct	1209 May 02 j 01:30	1°♃20'24		direct	1217 Jun 10 j 04:22	9°♄23'12	
conjunction	1209 Aug 22 j 13:23	5°♃52'13	0°43'46	conjunction	1217 Sep 30 j 03:20	13°♄52'04	0°36'29
minimum elong	1209 Aug 22 j 13:23	5°♃52'13	0°43'45	minimum elong	1217 Sep 30 j 03:20	13°♄52'04	0°36'28
max. Earth dist.	1209 Aug 21 j 13:13	5°♃48'25	19.33410 AU	max. Earth dist.	1217 Sep 29 j 12:06	13°♄49'41	19.45844 AU
retrograde	1209 Dec 08 j 12:21	10°♃15'37		retrograde	1218 Jan 15 j 05:02	18°♄11'54	
opposition	1210 Feb 19 j 21:40	8°♃13'28	0°48'54	opposition	1218 Mar 30 j 06:51	16°♄10'27	0°39'31
min. Earth dist.	1210 Feb 20 j 19:17	8°♃11'07	17.33292 AU	min. Earth dist.	1218 Mar 30 j 19:43	16°♄09'04	17.47794 AU
direct	1210 May 07 j 03:32	6°♃07'14		direct	1218 Jun 15 j 08:07	14°♄05'04	
conjunction	1210 Aug 27 j 16:59	10°♃39'10	0°43'53	conjunction	1218 Oct 05 j 02:05	18°♄33'04	0°34'22
minimum elong	1210 Aug 27 j 16:59	10°♃39'10	0°43'53	minimum elong	1218 Oct 05 j 02:05	18°♄33'04	0°34'23
max. Earth dist.	1210 Aug 26 j 16:10	10°♃35'16	19.33194 AU	max. Earth dist.	1218 Oct 04 j 12:05	18°♄30'52	19.49843 AU

retrograde	1219 Jan 20 j 01:51	22°♄52'16		direct	1226 Jul 23 j 12:24	20°♁53'47	
opposition	1219 Apr 04 j 07:50	20°♄51'00	0°37'03				
min. Earth dist.	1219 Apr 04 j 19:43	20°♄49'44	17.52033 AU	conjunction	1226 Nov 10 j 10:41	25°♁11'37	0°11'21
direct	1219 Jun 20 j 09:43	18°♄45'57		minimum elong	1226 Nov 10 j 10:41	25°♁11'37	0°11'21
				behind sun begin	1226 Nov 10 j 05:49	25°♁10'54	
conjunction	1219 Oct 10 j 00:02	23°♄12'58	0°32'03	behind sun end	1226 Nov 10 j 15:32	25°♁12'21	
minimum elong	1219 Oct 10 j 00:02	23°♄12'58	0°32'03	max. Earth dist.	1226 Nov 10 j 11:04	25°♁11'41	19.93095 AU
max. Earth dist.	1219 Oct 09 j 12:09	23°♄11'07	19.54310 AU	retrograde	1227 Feb 25 j 13:00	29°♁24'26	
retrograde	1220 Jan 24 j 23:38	27°♄31'29		opposition	1227 May 12 j 02:59	27°♁24'22	0°10'45
opposition	1220 Apr 08 j 08:33	25°♄30'26	0°34'20	min. Earth dist.	1227 May 12 j 02:21	27°♁24'26	17.96128 AU
min. Earth dist.	1220 Apr 08 j 18:07	25°♄29'25	17.56689 AU	direct	1227 Jul 28 j 09:08	25°♁22'03	
direct	1220 Jun 24 j 12:53	23°♄25'45					
				conjunction	1227 Nov 15 j 01:28	29°♁38'21	0°08'02
conjunction	1220 Oct 13 j 21:15	27°♄51'41	0°29'32	minimum elong	1227 Nov 15 j 01:28	29°♁38'21	0°08'02
minimum elong	1220 Oct 13 j 21:15	27°♄51'41	0°29'32	behind sun begin	1227 Nov 14 j 19:35	29°♁37'28	
max. Earth dist.	1220 Oct 13 j 11:03	27°♄50'06	19.59158 AU	behind sun end	1227 Nov 15 j 07:20	29°♁39'13	
	1220 Nov 18 j 13:04	0°♁		max. Earth dist.	1227 Nov 15 j 02:56	29°♁38'33	19.99235 AU
retrograde	1221 Jan 28 j 19:31	2°♁09'30			1227 Nov 20 j 22:41	0°♁	
opposition	1221 Apr 13 j 09:06	0°♁08'39	0°31'25	retrograde	1228 Mar 01 j 06:23	3°♁50'16	
min. Earth dist.	1221 Apr 13 j 17:59	0°♁07'43	17.61714 AU	opposition	1228 May 15 j 23:53	1°♁50'15	0°07'01
	1221 Apr 16 j 19:06	30°♁		min. Earth dist.	1228 May 15 j 20:26	1°♁50'36	18.02334 AU
direct	1221 Jun 29 j 12:52	28°♄04'19			1228 Jul 10 j 14:26	30°♁	
	1221 Sep 06 j 10:50	0°♁		direct	1228 Aug 01 j 07:50	29°♁48'15	
					1228 Aug 22 j 16:41	0°♁	
conjunction	1221 Oct 18 j 17:36	2°♁29'06	0°26'50				
minimum elong	1221 Oct 18 j 17:36	2°♁29'06	0°26'49	conjunction	1228 Nov 18 j 15:34	4°♁03'00	0°04'42
max. Earth dist.	1221 Oct 18 j 09:00	2°♁27'46	19.64340 AU	minimum elong	1228 Nov 18 j 15:34	4°♁03'00	0°04'42
retrograde	1222 Feb 02 j 17:04	6°♁46'09		behind sun begin	1228 Nov 18 j 09:09	4°♁02'02	
opposition	1222 Apr 18 j 09:11	4°♁45'30	0°28'18	behind sun end	1228 Nov 18 j 21:59	4°♁03'57	
min. Earth dist.	1222 Apr 18 j 15:36	4°♁44'49	17.67018 AU	max. Earth dist.	1228 Nov 18 j 20:03	4°♁03'39	20.05505 AU
direct	1222 Jul 04 j 15:03	2°♁41'32		retrograde	1229 Mar 05 j 20:44	8°♁14'02	
				opposition	1229 May 20 j 20:05	6°♁14'05	0°03'18
conjunction	1222 Oct 23 j 13:13	7°♁05'03	0°23'58	min. Earth dist.	1229 May 20 j 15:34	6°♁14'32	18.08680 AU
minimum elong	1222 Oct 23 j 13:13	7°♁05'03	0°23'57	direct	1229 Aug 06 j 03:22	4°♁12'24	
max. Earth dist.	1222 Oct 23 j 06:33	7°♁04'01	19.69762 AU				
retrograde	1223 Feb 07 j 11:36	11°♁21'19		conjunction	1229 Nov 23 j 04:37	8°♁25'37	0°01'19
opposition	1223 Apr 23 j 09:01	9°♁20'50	0°25'01	minimum elong	1229 Nov 23 j 04:36	8°♁25'37	0°01'19
min. Earth dist.	1223 Apr 23 j 14:56	9°♁20'13	17.72549 AU	behind sun begin	1229 Nov 22 j 22:03	8°♁24'39	
direct	1223 Jul 09 j 13:31	7°♁17'13		behind sun end	1229 Nov 23 j 11:09	8°♁26'35	
				max. Earth dist.	1229 Nov 23 j 10:03	8°♁26'25	20.11927 AU
conjunction	1223 Oct 28 j 07:57	11°♁39'25	0°20'57	retrograde	1230 Mar 10 j 12:26	12°♁35'48	
minimum elong	1223 Oct 28 j 07:57	11°♁39'25	0°20'58	desc. node	1230 Apr 13 j 19:21	12°♁06'45	
max. Earth dist.	1223 Oct 28 j 02:28	11°♁38'35	19.75395 AU	opposition	1230 May 25 j 15:31	10°♁35'56	0°00'-24
	1223 Dec 28 j 21:30	15°♁		min. Earth dist.	1230 May 25 j 08:16	10°♁36'41	18.15170 AU
retrograde	1224 Feb 12 j 08:43	15°♁54'52		direct	1230 Aug 10 j 23:07	8°♁34'37	
	1224 Mar 30 j 17:54	15°♁					
opposition	1224 Apr 27 j 08:21	13°♁54'31	0°21'35	conjunction	1230 Nov 27 j 16:55	12°♁46'20	0°-2'-6
min. Earth dist.	1224 Apr 27 j 11:37	13°♁54'11	17.78256 AU	minimum elong	1230 Nov 27 j 16:56	12°♁46'20	0°02'06
direct	1224 Jul 13 j 14:38	11°♁51'15		behind sun begin	1230 Nov 27 j 10:23	12°♁45'22	
	1224 Oct 12 j 10:38	15°♁		behind sun end	1230 Nov 27 j 23:28	12°♁47'18	
				max. Earth dist.	1230 Nov 28 j 01:24	12°♁47'36	20.18467 AU
conjunction	1224 Nov 01 j 01:44	16°♁12'03	0°17'50	retrograde	1231 Mar 15 j 02:05	16°♁55'42	
minimum elong	1224 Nov 01 j 01:44	16°♁12'03	0°17'49	opposition	1231 May 30 j 10:26	14°♁55'57	0°-4'-5
max. Earth dist.	1224 Oct 31 j 22:34	16°♁11'34	19.81172 AU	min. Earth dist.	1231 May 30 j 01:55	14°♁56'50	18.21754 AU
retrograde	1225 Feb 16 j 01:55	20°♁26'39		direct	1231 Aug 15 j 17:06	12°♁55'02	
opposition	1225 May 02 j 07:17	18°♁26'26	0°18'03				
min. Earth dist.	1225 May 02 j 10:00	18°♁26'09	17.84099 AU	conjunction	1231 Dec 02 j 04:22	17°♁05'15	0°-5'-24
direct	1225 Jul 18 j 12:10	16°♁23'30		minimum elong	1231 Dec 02 j 04:22	17°♁05'15	0°05'25
				behind sun begin	1231 Dec 01 j 22:02	17°♁04'20	
conjunction	1225 Nov 05 j 18:37	20°♁42'50	0°14'37	behind sun end	1231 Dec 02 j 10:41	17°♁06'11	
minimum elong	1225 Nov 05 j 18:38	20°♁42'50	0°14'38	max. Earth dist.	1231 Dec 02 j 13:39	17°♁06'39	20.25095 AU
behind sun begin	1225 Nov 05 j 15:42	20°♁42'23		retrograde	1232 Mar 18 j 16:29	21°♁13'50	
behind sun end	1225 Nov 05 j 21:34	20°♁43'16		opposition	1232 Jun 03 j 04:36	19°♁14'14	0°-7'-43
max. Earth dist.	1225 Nov 05 j 16:24	20°♁42'30	19.87083 AU	min. Earth dist.	1232 Jun 02 j 17:42	19°♁15'21	18.28408 AU
retrograde	1226 Feb 20 j 21:13	24°♁56'32		direct	1232 Aug 19 j 10:09	17°♁13'42	
opposition	1226 May 07 j 05:17	22°♁56'24	0°14'26				
min. Earth dist.	1226 May 07 j 05:23	22°♁56'23	17.90058 AU	conjunction	1232 Dec 05 j 15:09	21°♁22'29	0°-8'-38

minimum elong	1232 Dec 05 j 15:10	21° $\overline{\text{A}}$ 22'29	0°08'38	opposition	1240 Jul 08 j 07:01	22° $\overline{\text{B}}$ 45'45	0°-33'00
behind sun begin	1232 Dec 05 j 09:26	21° $\overline{\text{A}}$ 21'39		direct	1240 Sep 22 j 21:21	20° $\overline{\text{B}}$ 47'52	
behind sun end	1232 Dec 05 j 20:53	21° $\overline{\text{A}}$ 23'20					
max. Earth dist.	1232 Dec 06 j 03:20	21° $\overline{\text{A}}$ 24'19	20.31743 AU	conjunction	1241 Jan 07 j 08:38	24° $\overline{\text{B}}$ 46'38	0°-30'-57
retrograde	1233 Mar 23 j 05:38	25° $\overline{\text{A}}$ 30'19		minimum elong	1241 Jan 07 j 08:38	24° $\overline{\text{B}}$ 46'38	0°30'59
opposition	1233 Jun 07 j 22:11	23° $\overline{\text{A}}$ 30'52	0°-11'-17	max. Earth dist.	1241 Jan 08 j 05:42	24° $\overline{\text{B}}$ 49'43	20.77808 AU
min. Earth dist.	1233 Jun 07 j 10:06	23° $\overline{\text{A}}$ 32'06	18.35035 AU	retrograde	1241 Apr 26 j 01:22	28° $\overline{\text{B}}$ 49'38	
direct	1233 Aug 24 j 02:31	21° $\overline{\text{A}}$ 30'45		opposition	1241 Jul 12 j 19:17	26° $\overline{\text{B}}$ 50'45	0°-35'-27
				min. Earth dist.	1241 Jul 11 j 22:39	26° $\overline{\text{B}}$ 52'49	18.80033 AU
conjunction	1233 Dec 10 j 01:14	25° $\overline{\text{A}}$ 38'07	0°-11'-48	direct	1241 Sep 27 j 08:48	24° $\overline{\text{B}}$ 53'04	
minimum elong	1233 Dec 10 j 01:13	25° $\overline{\text{A}}$ 38'07	0°11'49				
behind sun begin	1233 Dec 09 j 20:34	25° $\overline{\text{A}}$ 37'27		conjunction	1242 Jan 11 j 14:26	28° $\overline{\text{B}}$ 50'49	0°-33'-6
behind sun end	1233 Dec 10 j 05:52	25° $\overline{\text{A}}$ 38'48		minimum elong	1242 Jan 11 j 14:25	28° $\overline{\text{B}}$ 50'49	0°33'07
max. Earth dist.	1233 Dec 10 j 13:52	25° $\overline{\text{A}}$ 40'01	20.38337 AU	max. Earth dist.	1242 Jan 12 j 11:24	28° $\overline{\text{B}}$ 53'53	20.82148 AU
retrograde	1234 Mar 27 j 19:00	29° $\overline{\text{A}}$ 45'14			1242 Jan 31 j 13:54	0° \approx	
opposition	1234 Jun 12 j 14:58	27° $\overline{\text{A}}$ 45'56	0°-14'-46	retrograde	1242 Apr 30 j 10:42	2° \approx 53'23	
min. Earth dist.	1234 Jun 12 j 01:06	27° $\overline{\text{A}}$ 47'20	18.41585 AU	min. Earth dist.	1242 Jul 16 j 09:56	0° \approx 56'34	18.84246 AU
direct	1234 Aug 28 j 17:35	25° $\overline{\text{A}}$ 46'13		opposition	1242 Jul 17 j 06:56	0° \approx 54'28	0°-37'-43
					1242 Aug 09 j 21:02	30° $\overline{\text{R}}$ $\overline{\text{B}}$	
conjunction	1234 Dec 14 j 10:51	29° $\overline{\text{A}}$ 52'14	0°-14'-53	direct	1242 Oct 01 j 16:53	28° $\overline{\text{B}}$ 56'59	
minimum elong	1234 Dec 14 j 10:51	29° $\overline{\text{A}}$ 52'14	0°14'54		1242 Nov 21 j 05:19	0° \approx	
behind sun begin	1234 Dec 14 j 08:08	29° $\overline{\text{A}}$ 51'50					
behind sun end	1234 Dec 14 j 13:34	29° $\overline{\text{A}}$ 52'38		conjunction	1243 Jan 15 j 20:04	2° \approx 53'48	0°-35'-4
max. Earth dist.	1234 Dec 15 j 02:01	29° $\overline{\text{A}}$ 54'30	20.44809 AU	minimum elong	1243 Jan 15 j 20:04	2° \approx 53'48	0°35'05
	1234 Dec 16 j 14:44	0° $\overline{\text{B}}$		max. Earth dist.	1243 Jan 16 j 18:58	2° \approx 57'08	20.86219 AU
retrograde	1235 Apr 01 j 07:16	3° $\overline{\text{B}}$ 58'40		retrograde	1243 May 04 j 20:06	6° \approx 55'59	
opposition	1235 Jun 17 j 07:19	1° $\overline{\text{B}}$ 59'30	0°-18'-9	opposition	1243 Jul 21 j 18:01	4° \approx 57'04	0°-39'-47
min. Earth dist.	1235 Jun 16 j 16:21	2° $\overline{\text{B}}$ 01'01	18.47968 AU	min. Earth dist.	1243 Jul 20 j 19:42	4° \approx 59'17	18.88183 AU
direct	1235 Sep 02 j 08:26	0° $\overline{\text{B}}$ 00'11		direct	1243 Oct 06 j 03:13	2° \approx 59'46	
conjunction	1235 Dec 18 j 19:38	4° $\overline{\text{B}}$ 04'52	0°-17'-53	conjunction	1244 Jan 20 j 01:12	6° \approx 55'44	0°-36'-51
minimum elong	1235 Dec 18 j 19:38	4° $\overline{\text{B}}$ 04'52	0°17'54	minimum elong	1244 Jan 20 j 01:11	6° \approx 55'44	0°36'52
max. Earth dist.	1235 Dec 19 j 11:01	4° $\overline{\text{B}}$ 07'09	20.51090 AU	max. Earth dist.	1244 Jan 20 j 23:55	6° \approx 59'03	20.90021 AU
retrograde	1236 Apr 04 j 19:58	8° $\overline{\text{B}}$ 10'40		retrograde	1244 May 08 j 05:19	10° \approx 57'37	
opposition	1236 Jun 20 j 23:03	6° $\overline{\text{B}}$ 11'37	0°-21'-25	min. Earth dist.	1244 Jul 24 j 06:12	9° \approx 00'56	18.91858 AU
min. Earth dist.	1236 Jun 20 j 06:48	6° $\overline{\text{B}}$ 13'15	18.54140 AU	opposition	1244 Jul 25 j 04:38	8° \approx 58'41	0°-41'-39
direct	1236 Sep 05 j 21:59	4° $\overline{\text{B}}$ 12'39		direct	1244 Oct 09 j 10:01	7° \approx 01'35	
conjunction	1236 Dec 22 j 04:12	8° $\overline{\text{B}}$ 16'04	0°-20'-46	conjunction	1245 Jan 23 j 06:23	10° \approx 56'49	0°-38'-26
minimum elong	1236 Dec 22 j 04:12	8° $\overline{\text{B}}$ 16'04	0°20'48	minimum elong	1245 Jan 23 j 06:23	10° \approx 56'49	0°38'26
max. Earth dist.	1236 Dec 22 j 21:44	8° $\overline{\text{B}}$ 18'40	20.57113 AU	max. Earth dist.	1245 Jan 24 j 06:43	11° \approx 00'21	20.93545 AU
retrograde	1237 Apr 09 j 07:10	12° $\overline{\text{B}}$ 21'14		retrograde	1245 May 12 j 14:05	14° \approx 58'25	
opposition	1237 Jun 25 j 13:54	10° $\overline{\text{B}}$ 22'17	0°-24'-33	opposition	1245 Jul 29 j 14:27	12° \approx 59'31	0°-43'-18
min. Earth dist.	1237 Jun 24 j 20:44	10° $\overline{\text{B}}$ 24'01	18.60010 AU	min. Earth dist.	1245 Jul 28 j 14:55	13° \approx 01'52	18.95227 AU
direct	1237 Sep 10 j 11:12	8° $\overline{\text{B}}$ 23'39		direct	1245 Oct 13 j 19:10	11° \approx 02'37	
conjunction	1237 Dec 26 j 12:03	12° $\overline{\text{B}}$ 25'51	0°-23'-32	conjunction	1246 Jan 27 j 11:14	14° \approx 57'11	0°-39'-51
minimum elong	1237 Dec 26 j 12:03	12° $\overline{\text{B}}$ 25'51	0°23'32	minimum elong	1246 Jan 27 j 11:14	14° \approx 57'11	0°39'52
max. Earth dist.	1237 Dec 27 j 05:23	12° $\overline{\text{B}}$ 28'24	20.62815 AU	max. Earth dist.	1246 Jan 28 j 11:05	15° \approx 00'38	20.96754 AU
retrograde	1238 Apr 13 j 18:46	16° $\overline{\text{B}}$ 30'26			1246 Jan 28 j 06:41	15° \approx	
min. Earth dist.	1238 Jun 29 j 10:20	14° $\overline{\text{B}}$ 33'21	18.65548 AU	retrograde	1246 May 16 j 23:21	18° \approx 58'37	
opposition	1238 Jun 30 j 04:18	14° $\overline{\text{B}}$ 31'33	0°-27'-32	min. Earth dist.	1246 Aug 02 j 00:53	17° \approx 02'03	18.98277 AU
direct	1238 Sep 14 j 23:06	12° $\overline{\text{B}}$ 33'12		opposition	1246 Aug 03 j 00:09	16° \approx 59'43	0°-44'-44
				direct	1246 Oct 18 j 01:03	15° \approx 03'01	
conjunction	1238 Dec 30 j 19:26	16° $\overline{\text{B}}$ 34'12	0°-26'-10	conjunction	1247 Jan 31 j 16:02	18° \approx 57'00	0°-41'-3
minimum elong	1238 Dec 30 j 19:26	16° $\overline{\text{B}}$ 34'12	0°26'11	minimum elong	1247 Jan 31 j 16:02	18° \approx 57'00	0°41'04
max. Earth dist.	1238 Dec 31 j 14:43	16° $\overline{\text{B}}$ 37'02	20.68165 AU	max. Earth dist.	1247 Feb 01 j 17:17	19° \approx 00'39	20.99623 AU
retrograde	1239 Apr 18 j 05:10	20° $\overline{\text{B}}$ 38'13		retrograde	1247 May 21 j 07:44	22° \approx 58'18	
opposition	1239 Jul 04 j 18:01	18° $\overline{\text{B}}$ 39'22	0°-30'-21	min. Earth dist.	1247 Aug 06 j 09:12	21° \approx 01'50	19.00950 AU
min. Earth dist.	1239 Jul 03 j 23:01	18° $\overline{\text{B}}$ 41'16	18.70712 AU	opposition	1247 Aug 07 j 09:23	20° \approx 59'26	0°-45'-58
direct	1239 Sep 19 j 11:27	16° $\overline{\text{B}}$ 41'16		direct	1247 Oct 22 j 09:08	19° \approx 02'54	
conjunction	1240 Jan 04 j 02:13	20° $\overline{\text{B}}$ 41'07	0°-28'-39	conjunction	1248 Feb 04 j 20:50	22° \approx 56'24	0°-42'-4
minimum elong	1240 Jan 04 j 02:13	20° $\overline{\text{B}}$ 41'07	0°28'39	minimum elong	1248 Feb 04 j 20:50	22° \approx 56'24	0°42'05
max. Earth dist.	1240 Jan 04 j 21:20	20° $\overline{\text{B}}$ 43'56	20.73153 AU	max. Earth dist.	1248 Feb 05 j 21:17	22° \approx 59'55	21.02095 AU
retrograde	1240 Apr 21 j 15:31	24° $\overline{\text{B}}$ 44'37		retrograde	1248 May 24 j 16:40	26° \approx 57'37	
min. Earth dist.	1240 Jul 07 j 11:32	22° $\overline{\text{B}}$ 47'42	18.75540 AU				

opposition	1248 Aug 10 j 18:17	24° \approx 58'46	0°-46'-58	opposition	1256 Sep 12 j 08:09	26° \times 48'11	0°-46'-40
min. Earth dist.	1248 Aug 09 j 18:54	25° \approx 01'06	19.03218 AU	min. Earth dist.	1256 Sep 11 j 13:39	26° \times 50'03	19.02823 AU
direct	1248 Oct 25 j 14:31	23° \approx 02'24		direct	1256 Nov 26 j 11:47	24° \times 51'41	
conjunction	1249 Feb 08 j 01:54	26° \approx 55'30	0°-42'-53	conjunction	1257 Mar 11 j 23:32	28° \times 44'28	0°-41'-47
minimum elong	1249 Feb 08 j 01:54	26° \approx 55'30	0°42'54	minimum elong	1257 Mar 11 j 23:32	28° \times 44'28	0°41'48
max. Earth dist.	1249 Feb 09 j 03:14	26° \approx 59'09	21.04129 AU	max. Earth dist.	1257 Mar 12 j 20:16	28° \times 47'26	21.01806 AU
	1249 Apr 09 j 22:42	0° \times			1257 Apr 03 j 08:47	0° \vee	
retrograde	1249 May 29 j 01:12	0° \times 56'41		retrograde	1257 Jun 30 j 19:52	2° \vee 47'04	
	1249 Jul 18 j 19:01	30° \approx			1257 Sep 16 j 15:01	0° \vee 47'21	0°-45'-35
min. Earth dist.	1249 Aug 14 j 02:56	29° \approx 00'13	19.05003 AU	min. Earth dist.	1257 Sep 15 j 20:16	0° \vee 49'15	19.00767 AU
opposition	1249 Aug 15 j 02:48	28° \approx 57'50	0°-47'-44		1257 Oct 06 j 16:18	30° \approx	
direct	1249 Oct 29 j 21:33	27° \approx 01'36		direct	1257 Nov 30 j 18:15	28° \times 50'45	
	1250 Jan 27 j 09:08	0° \times			1258 Jan 22 j 13:29	0° \vee	
conjunction	1250 Feb 12 j 06:50	0° \times 54'22	0°-43'-29	conjunction	1258 Mar 16 j 06:17	2° \vee 43'54	0°-40'-42
minimum elong	1250 Feb 12 j 06:50	0° \times 54'22	0°43'30	minimum elong	1258 Mar 16 j 06:17	2° \vee 43'54	0°40'44
max. Earth dist.	1250 Feb 13 j 06:56	0° \times 57'50	21.05656 AU	max. Earth dist.	1258 Mar 17 j 01:23	2° \vee 46'37	20.99578 AU
retrograde	1250 Jun 02 j 09:16	4° \times 55'36		retrograde	1258 Jul 05 j 04:03	6° \vee 46'57	
opposition	1250 Aug 19 j 11:16	2° \times 56'43	0°-48'-17	opposition	1258 Sep 20 j 22:07	4° \vee 47'06	0°-44'-17
min. Earth dist.	1250 Aug 18 j 12:37	2° \times 58'59	19.06270 AU	min. Earth dist.	1258 Sep 20 j 05:04	4° \vee 48'50	18.98374 AU
direct	1250 Nov 03 j 02:54	1° \times 00'33		direct	1258 Dec 04 j 22:12	2° \vee 50'24	
conjunction	1251 Feb 16 j 12:13	4° \times 53'06	0°-43'-53	conjunction	1259 Mar 20 j 13:49	6° \vee 44'01	0°-39'-26
minimum elong	1251 Feb 16 j 12:12	4° \times 53'06	0°43'54	minimum elong	1259 Mar 20 j 13:49	6° \vee 44'01	0°39'26
max. Earth dist.	1251 Feb 17 j 12:48	4° \times 56'37	21.06647 AU	max. Earth dist.	1259 Mar 21 j 08:55	6° \vee 46'45	20.97026 AU
retrograde	1251 Jun 06 j 18:24	8° \times 54'23		retrograde	1259 Jul 09 j 13:51	10° \vee 47'32	
opposition	1251 Aug 23 j 19:19	6° \times 55'26	0°-48'-36	min. Earth dist.	1259 Sep 24 j 11:54	8° \vee 49'21	18.95645 AU
min. Earth dist.	1251 Aug 22 j 20:26	6° \times 57'43	19.06974 AU	opposition	1259 Sep 25 j 05:00	8° \vee 47'37	0°-42'-46
direct	1251 Nov 07 j 09:32	4° \times 59'18		direct	1259 Dec 09 j 04:28	6° \vee 50'47	
conjunction	1252 Feb 20 j 17:32	8° \times 51'40	0°-44'-4	conjunction	1260 Mar 23 j 21:47	10° \vee 44'58	0°-37'-58
minimum elong	1252 Feb 20 j 17:32	8° \times 51'40	0°44'04	minimum elong	1260 Mar 23 j 21:47	10° \vee 44'58	0°37'59
max. Earth dist.	1252 Feb 21 j 16:34	8° \times 54'58	21.07069 AU	max. Earth dist.	1260 Mar 24 j 14:59	10° \vee 47'26	20.94128 AU
retrograde	1252 Jun 10 j 01:47	12° \times 53'04		retrograde	1260 Jul 12 j 22:56	14° \vee 49'03	
min. Earth dist.	1252 Aug 26 j 05:56	10° \times 56'09	19.07115 AU	opposition	1260 Sep 28 j 12:14	12° \vee 49'02	0°-41'-3
opposition	1252 Aug 27 j 03:16	10° \times 54'01	0°-48'-41	min. Earth dist.	1260 Sep 27 j 21:13	12° \vee 50'34	18.92570 AU
direct	1252 Nov 10 j 14:27	8° \times 57'52		direct	1260 Dec 12 j 08:41	10° \vee 52'05	
conjunction	1253 Feb 23 j 23:12	12° \times 50'08	0°-44'-2	conjunction	1261 Mar 28 j 06:29	14° \vee 46'56	0°-36'-18
minimum elong	1253 Feb 23 j 23:12	12° \times 50'08	0°44'03	minimum elong	1261 Mar 28 j 06:29	14° \vee 46'56	0°36'19
max. Earth dist.	1253 Feb 24 j 22:31	12° \times 53'28	21.06936 AU	max. Earth dist.	1261 Mar 28 j 23:20	14° \vee 49'20	20.90878 AU
retrograde	1253 Jun 14 j 10:57	16° \times 51'39		retrograde	1261 Jul 17 j 09:40	18° \vee 51'35	
opposition	1253 Aug 31 j 10:38	14° \times 52'28	0°-48'-32	opposition	1261 Oct 02 j 19:22	16° \vee 51'30	0°-39'-7
min. Earth dist.	1253 Aug 30 j 13:11	14° \times 54'38	19.06709 AU	min. Earth dist.	1261 Oct 02 j 04:36	16° \vee 53'01	18.89123 AU
direct	1253 Nov 14 j 21:06	12° \times 56'16		direct	1261 Dec 16 j 15:27	14° \vee 54'25	
conjunction	1254 Feb 28 j 04:48	16° \times 48'32	0°-43'-47	conjunction	1262 Apr 01 j 15:44	18° \vee 50'01	0°-34'-27
minimum elong	1254 Feb 28 j 04:48	16° \times 48'32	0°43'48	minimum elong	1262 Apr 01 j 15:44	18° \vee 50'01	0°34'28
max. Earth dist.	1254 Mar 01 j 02:35	16° \times 51'38	21.06285 AU	max. Earth dist.	1262 Apr 02 j 06:24	18° \vee 52'07	20.87241 AU
retrograde	1254 Jun 18 j 17:59	20° \times 50'14		retrograde	1262 Jul 21 j 19:29	22° \vee 55'18	
opposition	1254 Sep 04 j 18:05	18° \times 50'55	0°-48'-8	opposition	1262 Oct 07 j 03:00	20° \vee 55'09	0°-36'-58
min. Earth dist.	1254 Sep 03 j 22:11	18° \times 52'55	19.05829 AU	min. Earth dist.	1262 Oct 06 j 14:40	20° \vee 56'24	18.85285 AU
direct	1254 Nov 19 j 01:16	16° \times 54'37		direct	1262 Dec 20 j 20:05	18° \vee 57'53	
conjunction	1255 Mar 04 j 10:42	20° \times 46'57	0°-43'-19	conjunction	1263 Apr 06 j 01:52	22° \vee 54'18	0°-32'-25
minimum elong	1255 Mar 04 j 10:42	20° \times 46'57	0°43'21	minimum elong	1263 Apr 06 j 01:52	22° \vee 54'18	0°32'26
max. Earth dist.	1255 Mar 05 j 08:51	20° \times 50'07	21.05188 AU	max. Earth dist.	1263 Apr 06 j 15:42	22° \vee 56'17	20.83197 AU
retrograde	1255 Jun 23 j 03:09	24° \times 48'53		retrograde	1263 Jul 26 j 07:42	27° \vee 00'15	
min. Earth dist.	1255 Sep 08 j 05:01	22° \times 51'28	19.04516 AU	opposition	1263 Oct 11 j 10:44	25° \vee 00'00	0°-34'-38
opposition	1255 Sep 09 j 01:11	22° \times 49'26	0°-47'-31	min. Earth dist.	1263 Oct 10 j 23:01	25° \vee 01'12	18.81010 AU
direct	1255 Nov 23 j 08:01	20° \times 53'02		direct	1263 Dec 25 j 03:46	23° \vee 02'31	
conjunction	1256 Mar 07 j 16:52	24° \times 45'32	0°-42'-39	conjunction	1264 Apr 09 j 12:44	26° \vee 59'51	0°-30'-13
minimum elong	1256 Mar 07 j 16:52	24° \times 45'32	0°42'40	minimum elong	1264 Apr 09 j 12:44	26° \vee 59'51	0°30'13
max. Earth dist.	1256 Mar 08 j 13:27	24° \times 48'29	21.03678 AU	max. Earth dist.	1264 Apr 09 j 23:57	27° \vee 01'27	20.78694 AU
retrograde	1256 Jun 26 j 10:34	28° \times 47'48			1264 Jun 06 j 19:42	0° \times	

retrograde	1264 Jul 29 j 18:14	1°♄06'28			1271 Sep 30 j 23:26	30°♄♄	
	1264 Sep 22 j 03:59	30°♄♄		opposition	1271 Nov 13 j 12:43	28°♄24'15	0°-10'-3
opposition	1264 Oct 14 j 18:49	29°♄06'05	0°-32'-6	min. Earth dist.	1271 Nov 13 j 13:37	28°♄24'10	18.34451 AU
min. Earth dist.	1264 Oct 14 j 09:51	29°♄07'00	18.76280 AU	direct	1272 Jan 27 j 02:31	26°♄23'55	
direct	1264 Dec 28 j 09:37	27°♄08'20			1272 May 05 j 13:41	0°♄♄	
	1265 Mar 25 j 12:54	0°♄		conjunction	1272 May 14 j 06:09	0°♄30'35	0°-7'-31
conjunction	1265 Apr 14 j 00:26	1°♄06'37	0°-27'-50	minimum elong	1272 May 14 j 06:08	0°♄30'34	0°07'32
minimum elong	1265 Apr 14 j 00:26	1°♄06'37	0°27'51	behind sun begin	1272 May 14 j 00:01	0°♄29'42	
max. Earth dist.	1265 Apr 14 j 10:22	1°♄08'03	20.73750 AU	behind sun end	1272 May 14 j 12:15	0°♄31'27	
retrograde	1265 Aug 03 j 07:16	5°♄13'56		max. Earth dist.	1272 May 14 j 03:20	0°♄30'11	20.31235 AU
opposition	1265 Oct 19 j 03:11	3°♄13'22	0°-29'-23	retrograde	1272 Sep 02 j 06:53	4°♄43'18	
min. Earth dist.	1265 Oct 18 j 18:53	3°♄14'14	18.71110 AU	opposition	1272 Nov 16 j 23:57	2°♄41'27	0°-6'-28
direct	1266 Jan 01 j 18:01	1°♄15'20		min. Earth dist.	1272 Nov 17 j 03:07	2°♄41'07	18.27990 AU
				direct	1273 Jan 30 j 12:36	0°♄40'46	
conjunction	1266 Apr 18 j 12:32	5°♄14'36	0°-25'-18	conjunction	1273 May 18 j 23:57	4°♄48'52	0°-4'-16
minimum elong	1266 Apr 18 j 12:32	5°♄14'36	0°25'18	minimum elong	1273 May 18 j 23:57	4°♄48'52	0°04'17
max. Earth dist.	1266 Apr 18 j 19:57	5°♄15'40	20.68381 AU	behind sun begin	1273 May 18 j 17:18	4°♄47'55	
retrograde	1266 Aug 07 j 18:52	9°♄22'38		behind sun end	1273 May 19 j 06:36	4°♄49'50	
opposition	1266 Oct 23 j 12:00	7°♄21'52	0°-26'-30	max. Earth dist.	1273 May 18 j 19:25	4°♄48'14	20.24794 AU
min. Earth dist.	1266 Oct 23 j 06:23	7°♄22'27	18.65553 AU	retrograde	1273 Sep 07 j 00:29	9°♄02'28	
direct	1267 Jan 06 j 01:20	5°♄23'28		opposition	1273 Nov 21 j 11:45	7°♄00'31	0°-2'-49
				min. Earth dist.	1273 Nov 21 j 15:27	7°♄00'08	18.21560 AU
conjunction	1267 Apr 23 j 01:38	9°♄23'48	0°-22'-37	direct	1274 Feb 04 j 01:55	4°♄59'29	
minimum elong	1267 Apr 23 j 01:38	9°♄23'48	0°22'39				
max. Earth dist.	1267 Apr 23 j 07:45	9°♄24'41	20.62669 AU	conjunction	1274 May 23 j 18:35	9°♄09'07	0°00'-55
retrograde	1267 Aug 12 j 08:25	13°♄32'33		minimum elong	1274 May 23 j 18:36	9°♄09'07	0°00'56
opposition	1267 Oct 27 j 20:50	11°♄31'35	0°-23'-28	behind sun begin	1274 May 23 j 11:50	9°♄08'08	
min. Earth dist.	1267 Oct 27 j 15:52	11°♄32'06	18.59684 AU	behind sun end	1274 May 24 j 01:22	9°♄10'05	
direct	1268 Jan 10 j 10:36	9°♄32'48		max. Earth dist.	1274 May 23 j 12:37	9°♄08'15	20.18370 AU
				asc. node	1274 Aug 31 j 10:17	13°♄20'18	
conjunction	1268 Apr 26 j 15:23	13°♄34'16	0°-19'-48	retrograde	1274 Sep 11 j 16:12	13°♄23'36	
minimum elong	1268 Apr 26 j 15:23	13°♄34'16	0°19'49	opposition	1274 Nov 26 j 00:20	11°♄21'36	0°00'52
max. Earth dist.	1268 Apr 26 j 19:09	13°♄34'49	20.56665 AU	min. Earth dist.	1274 Nov 26 j 06:20	11°♄20'57	18.15150 AU
	1268 May 21 j 16:59	15°♄		direct	1275 Feb 08 j 13:20	9°♄20'14	
retrograde	1268 Aug 15 j 20:53	17°♄43'46					
opposition	1268 Oct 31 j 06:15	15°♄42'35	0°-20'-17	conjunction	1275 May 28 j 14:21	13°♄31'24	0°02'31
min. Earth dist.	1268 Oct 31 j 03:51	15°♄42'50	18.53569 AU	minimum elong	1275 May 28 j 14:21	13°♄31'24	0°02'31
	1268 Nov 17 j 14:04	15°♄♄		behind sun begin	1275 May 28 j 07:35	13°♄30'25	
direct	1269 Jan 13 j 18:55	13°♄43'24		behind sun end	1275 May 28 j 21:07	13°♄32'23	
	1269 Mar 10 j 04:59	15°♄		max. Earth dist.	1275 May 28 j 06:11	13°♄30'12	20.11980 AU
conjunction	1269 May 01 j 05:50	17°♄46'04	0°-16'-52	retrograde	1275 Sep 16 j 11:06	17°♄46'46	
minimum elong	1269 May 01 j 05:50	17°♄46'04	0°16'53	opposition	1275 Nov 30 j 13:21	15°♄44'43	0°04'35
max. Earth dist.	1269 May 01 j 08:17	17°♄46'25	20.50462 AU	min. Earth dist.	1275 Nov 30 j 20:19	15°♄43'58	18.08764 AU
retrograde	1269 Aug 20 j 11:24	21°♄56'20		direct	1276 Feb 13 j 04:44	13°♄43'01	
opposition	1269 Nov 04 j 15:53	19°♄54'57	0°-16'-58				
min. Earth dist.	1269 Nov 04 j 13:57	19°♄55'09	18.47284 AU	conjunction	1276 Jun 01 j 11:08	17°♄55'46	0°05'52
direct	1270 Jan 18 j 05:30	17°♄55'23		minimum elong	1276 Jun 01 j 11:08	17°♄55'46	0°05'52
				behind sun begin	1276 Jun 01 j 04:40	17°♄54'50	
conjunction	1270 May 05 j 21:03	21°♄59'18	0°-13'-50	behind sun end	1276 Jun 01 j 17:35	17°♄56'43	
minimum elong	1270 May 05 j 21:03	21°♄59'18	0°13'51	max. Earth dist.	1276 Jun 01 j 01:29	17°♄54'21	20.05581 AU
behind sun begin	1270 May 05 j 17:42	21°♄58'50		retrograde	1276 Sep 20 j 03:49	22°♄11'59	
behind sun end	1270 May 06 j 00:24	21°♄59'47		opposition	1276 Dec 04 j 03:20	20°♄09'54	0°08'19
max. Earth dist.	1270 May 05 j 21:31	21°♄59'22	20.44113 AU	min. Earth dist.	1276 Dec 04 j 12:37	20°♄08'54	18.02366 AU
retrograde	1270 Aug 25 j 00:32	26°♄10'22		direct	1277 Feb 16 j 18:15	18°♄07'52	
opposition	1270 Nov 09 j 02:07	24°♄08'48	0°-13'-34				
min. Earth dist.	1270 Nov 09 j 02:32	24°♄08'45	18.40893 AU	conjunction	1277 Jun 06 j 08:31	22°♄22'10	0°09'12
direct	1271 Jan 22 j 14:36	22°♄08'50		minimum elong	1277 Jun 06 j 08:31	22°♄22'10	0°09'12
				behind sun begin	1277 Jun 06 j 02:50	22°♄21'20	
conjunction	1271 May 10 j 13:09	26°♄14'06	0°-10'-43	behind sun end	1277 Jun 06 j 14:12	22°♄23'00	
minimum elong	1271 May 10 j 13:09	26°♄14'06	0°10'43	max. Earth dist.	1277 Jun 05 j 20:16	22°♄20'21	19.99182 AU
behind sun begin	1271 May 10 j 08:02	26°♄13'22		retrograde	1277 Sep 24 j 23:31	26°♄39'14	
behind sun end	1271 May 10 j 18:17	26°♄14'50		opposition	1277 Dec 08 j 17:58	24°♄37'04	0°12'02
max. Earth dist.	1271 May 10 j 12:08	26°♄13'57	20.37697 AU	min. Earth dist.	1277 Dec 09 j 04:21	24°♄35'57	17.95969 AU
	1271 Jul 28 j 14:17	0°♄♄		direct	1278 Feb 21 j 11:40	22°♄34'40	
retrograde	1271 Aug 29 j 16:38	0°♄25'59					

conjunction	1278 Jun 11 j 07:02	26°II50'31	0°12'30	min. Earth dist.	1286 Jan 14 j 11:00	1°Ω11'37	17.50587 AU
minimum elong	1278 Jun 11 j 07:01	26°II50'31	0°12'31		1286 Feb 12 j 16:27	30°R☉	
behind sun begin	1278 Jun 11 j 02:46	26°II49'53		direct	1286 Mar 30 j 00:26	29°☉08'21	
behind sun end	1278 Jun 11 j 11:17	26°II51'08			1286 May 13 j 14:47	0°Ω	
max. Earth dist.	1278 Jun 10 j 17:34	26°II48'30	19.92776 AU				
	1278 Aug 08 j 21:39	0°☉		conjunction	1286 Jul 19 j 17:09	3°Ω35'04	0°35'07
retrograde	1278 Sep 29 j 17:28	1°☉08'21		minimum elong	1286 Jul 19 j 17:09	3°Ω35'04	0°35'07
	1278 Nov 21 j 19:32	30°RII		max. Earth dist.	1286 Jul 18 j 17:48	3°Ω31'28	19.48519 AU
opposition	1278 Dec 13 j 09:16	29°II06'06	0°15'41	retrograde	1286 Nov 05 j 21:28	7°Ω57'31	
min. Earth dist.	1278 Dec 13 j 21:44	29°II04'46	17.89577 AU	opposition	1287 Jan 18 j 11:38	5°Ω54'42	0°40'16
direct	1279 Feb 26 j 03:51	27°II03'19		min. Earth dist.	1287 Jan 19 j 07:21	5°Ω52'32	17.46637 AU
	1279 May 24 j 14:51	0°☉		direct	1287 Apr 03 j 23:16	3°Ω49'02	
conjunction	1279 Jun 16 j 06:12	1°☉20'41	0°15'46	conjunction	1287 Jul 24 j 20:33	8°Ω16'50	0°37'09
minimum elong	1279 Jun 16 j 06:12	1°☉20'41	0°15'45	minimum elong	1287 Jul 24 j 20:33	8°Ω16'50	0°37'08
max. Earth dist.	1279 Jun 15 j 13:51	1°☉18'14	19.86413 AU	max. Earth dist.	1287 Jul 23 j 19:55	8°Ω13'01	19.44830 AU
retrograde	1279 Oct 04 j 13:37	5°☉39'17		retrograde	1287 Nov 10 j 20:08	12°Ω39'39	
opposition	1279 Dec 18 j 01:14	3°☉36'56	0°19'17	opposition	1288 Jan 23 j 09:02	10°Ω36'53	0°42'24
min. Earth dist.	1279 Dec 18 j 14:56	3°☉35'27	17.83255 AU	min. Earth dist.	1288 Jan 24 j 05:52	10°Ω34'36	17.43219 AU
direct	1280 Mar 01 j 22:38	1°☉33'42		direct	1288 Apr 07 j 22:29	8°Ω31'03	
				max. Earth dist.	1288 Jul 27 j 23:52	12°Ω56'04	19.41667 AU
conjunction	1280 Jun 20 j 06:11	5°☉52'35	0°18'57	conjunction	1288 Jul 29 j 00:11	12°Ω59'51	0°38'56
minimum elong	1280 Jun 20 j 06:11	5°☉52'35	0°18'57	minimum elong	1288 Jul 29 j 00:11	12°Ω59'51	0°38'56
max. Earth dist.	1280 Jun 19 j 13:06	5°☉50'00	19.80132 AU		1288 Aug 31 j 07:42	15°Ω	
retrograde	1280 Oct 08 j 09:19	10°☉11'51		retrograde	1288 Nov 14 j 20:20	17°Ω22'58	
opposition	1280 Dec 21 j 17:54	8°☉09'24	0°22'47	opposition	1289 Jan 27 j 06:58	15°Ω20'18	0°44'16
min. Earth dist.	1280 Dec 22 j 09:11	8°☉07'45	17.77050 AU	min. Earth dist.	1289 Jan 28 j 03:19	15°Ω18'04	17.40303 AU
direct	1281 Mar 06 j 17:01	6°☉05'47			1289 Feb 04 j 01:06	15°RΩ	
max. Earth dist.	1281 Jun 24 j 10:54	10°☉23'05	19.74027 AU	direct	1289 Apr 12 j 23:32	13°Ω14'20	
					1289 Jun 17 j 03:37	15°Ω	
conjunction	1281 Jun 25 j 06:38	10°☉26'05	0°22'01	max. Earth dist.	1289 Aug 02 j 03:09	17°Ω40'07	19.38990 AU
minimum elong	1281 Jun 25 j 06:38	10°☉26'05	0°22'02				
retrograde	1281 Oct 13 j 06:13	14°☉46'01		conjunction	1289 Aug 03 j 04:07	17°Ω44'00	0°40'28
opposition	1281 Dec 26 j 11:10	12°☉43'27	0°26'09	minimum elong	1289 Aug 03 j 04:07	17°Ω44'00	0°40'27
min. Earth dist.	1281 Dec 27 j 03:37	12°☉41'40	17.71067 AU	retrograde	1289 Nov 19 j 19:18	22°Ω07'22	
direct	1282 Mar 11 j 12:42	10°☉39'24		opposition	1290 Feb 01 j 05:35	20°Ω04'47	0°45'50
max. Earth dist.	1282 Jun 29 j 11:54	14°☉58'05	19.68163 AU	min. Earth dist.	1290 Feb 02 j 03:13	20°Ω02'25	17.37876 AU
				direct	1290 Apr 17 j 23:55	17°Ω58'44	
conjunction	1282 Jun 30 j 07:48	15°☉01'06	0°24'59	max. Earth dist.	1290 Aug 07 j 07:09	22°Ω25'13	19.36790 AU
minimum elong	1282 Jun 30 j 07:48	15°☉01'06	0°24'59				
retrograde	1282 Oct 18 j 03:42	19°☉21'38		conjunction	1290 Aug 08 j 08:16	22°Ω29'09	0°41'43
opposition	1282 Dec 31 j 05:09	17°☉18'59	0°29'22	minimum elong	1290 Aug 08 j 08:16	22°Ω29'09	0°41'44
min. Earth dist.	1282 Dec 31 j 22:37	17°☉17'04	17.65349 AU	retrograde	1290 Nov 24 j 20:07	26°Ω52'40	
direct	1283 Mar 16 j 08:33	15°☉14'31		opposition	1291 Feb 06 j 04:45	24°Ω50'11	0°47'06
max. Earth dist.	1283 Jul 04 j 11:11	19°☉34'11	19.62609 AU	min. Earth dist.	1291 Feb 07 j 01:42	24°Ω47'54	17.35894 AU
				direct	1291 Apr 23 j 02:48	22°Ω44'02	
conjunction	1283 Jul 05 j 09:27	19°☉37'35	0°27'47	max. Earth dist.	1291 Aug 12 j 11:22	27°Ω11'08	19.35018 AU
minimum elong	1283 Jul 05 j 09:27	19°☉37'35	0°27'48				
retrograde	1283 Oct 23 j 01:21	23°☉58'40		conjunction	1291 Aug 13 j 12:31	27°Ω15'04	0°42'42
opposition	1284 Jan 04 j 23:43	21°☉55'55	0°32'25	minimum elong	1291 Aug 13 j 12:31	27°Ω15'04	0°42'43
min. Earth dist.	1284 Jan 05 j 18:19	21°☉53'53	17.59991 AU		1291 Sep 29 j 15:28	0°♃	
direct	1284 Mar 20 j 05:18	19°☉51'04		retrograde	1291 Nov 29 j 19:15	1°♃38'39	
					1292 Feb 02 j 01:55	30°RΩ	
conjunction	1284 Jul 09 j 11:42	24°☉15'25	0°30'25	opposition	1292 Feb 11 j 04:35	29°Ω36'16	0°48'02
minimum elong	1284 Jul 09 j 11:42	24°☉15'25	0°30'25	min. Earth dist.	1292 Feb 12 j 02:41	29°Ω33'51	17.34350 AU
max. Earth dist.	1284 Jul 08 j 13:42	24°☉12'03	19.57443 AU	direct	1292 Apr 27 j 04:35	27°Ω30'03	
retrograde	1284 Oct 26 j 23:58	28°☉37'00			1292 Jul 15 j 05:58	0°♃	
opposition	1285 Jan 08 j 19:04	26°☉34'12	0°35'15				
min. Earth dist.	1285 Jan 09 j 13:57	26°☉32'08	17.55044 AU	conjunction	1292 Aug 17 j 16:37	2°♃01'33	0°43'24
direct	1285 Mar 25 j 02:22	24°☉29'02		minimum elong	1292 Aug 17 j 16:37	2°♃01'33	0°43'23
				max. Earth dist.	1292 Aug 16 j 15:04	1°♃57'32	19.33701 AU
conjunction	1285 Jul 14 j 14:04	28°☉54'35	0°32'52	retrograde	1292 Dec 03 j 20:18	6°♃25'07	
minimum elong	1285 Jul 14 j 14:04	28°☉54'35	0°32'52	opposition	1293 Feb 15 j 04:45	4°♃22'48	0°48'39
max. Earth dist.	1285 Jul 13 j 14:19	28°☉50'56	19.52726 AU	min. Earth dist.	1293 Feb 16 j 01:47	4°♃20'30	17.33255 AU
	1285 Aug 01 j 10:20	0°Ω		direct	1293 May 02 j 08:46	2°♃16'32	
retrograde	1285 Oct 31 j 22:13	3°Ω16'39					
opposition	1286 Jan 13 j 15:07	1°Ω13'48	0°37'53				

conjunction	1293 Aug 22 j 20:31	6° \mathring{M} 48'20	0°43'47	conjunction	1301 Sep 30 j 11:00	14° \mathring{U} 49'39	0°36'16
minimum elong	1293 Aug 22 j 20:31	6° \mathring{M} 48'20	0°43'48	minimum elong	1301 Sep 30 j 11:00	14° \mathring{U} 49'39	0°36'17
max. Earth dist.	1293 Aug 21 j 19:51	6° \mathring{M} 44'28	19.32828 AU	max. Earth dist.	1301 Sep 29 j 20:06	14° \mathring{U} 47'19	19.45231 AU
retrograde	1293 Dec 08 j 19:23	11° \mathring{M} 11'48		retrograde	1302 Jan 15 j 13:40	19° \mathring{U} 09'43	
opposition	1294 Feb 20 j 05:22	9° \mathring{M} 09'34	0°48'55	opposition	1302 Mar 30 j 14:38	17° \mathring{U} 08'18	0°39'17
min. Earth dist.	1294 Feb 21 j 03:12	9° \mathring{M} 07'11	17.32615 AU	min. Earth dist.	1302 Mar 31 j 03:26	17° \mathring{U} 06'56	17.47227 AU
direct	1294 May 07 j 11:06	7° \mathring{M} 03'15		direct	1302 Jun 15 j 15:01	15° \mathring{U} 02'59	
max. Earth dist.	1294 Aug 26 j 23:02	11° \mathring{M} 31'16	19.32433 AU				
conjunction	1294 Aug 28 j 00:09	11° \mathring{M} 35'13	0°43'52	conjunction	1302 Oct 05 j 09:54	19° \mathring{U} 31'12	0°34'09
minimum elong	1294 Aug 28 j 00:09	11° \mathring{M} 35'13	0°43'52	minimum elong	1302 Oct 05 j 09:54	19° \mathring{U} 31'12	0°34'08
retrograde	1294 Dec 13 j 20:28	15° \mathring{M} 58'30		max. Earth dist.	1302 Oct 04 j 20:00	19° \mathring{U} 29'01	19.49318 AU
opposition	1295 Feb 25 j 06:01	13° \mathring{M} 56'19	0°48'51	retrograde	1303 Jan 20 j 10:20	23° \mathring{U} 50'36	
min. Earth dist.	1295 Feb 26 j 02:39	13° \mathring{M} 54'04	17.32461 AU	opposition	1303 Apr 04 j 15:40	21° \mathring{U} 49'23	0°36'46
direct	1295 May 12 j 15:31	11° \mathring{M} 49'58		min. Earth dist.	1303 Apr 05 j 03:27	21° \mathring{U} 48'07	17.51538 AU
max. Earth dist.	1295 Sep 01 j 04:08	16° \mathring{M} 18'16	19.32530 AU	direct	1303 Jun 20 j 16:59	19° \mathring{U} 44'22	
conjunction	1295 Sep 02 j 03:34	16° \mathring{M} 21'57	0°43'39	conjunction	1303 Oct 10 j 08:08	24° \mathring{U} 11'35	0°31'48
minimum elong	1295 Sep 02 j 03:34	16° \mathring{M} 21'57	0°43'39	minimum elong	1303 Oct 10 j 08:08	24° \mathring{U} 11'35	0°31'48
retrograde	1295 Dec 18 j 19:46	20° \mathring{M} 44'58		max. Earth dist.	1303 Oct 09 j 20:27	24° \mathring{U} 09'46	19.53838 AU
opposition	1296 Mar 01 j 07:11	18° \mathring{M} 42'51	0°48'26	retrograde	1304 Jan 25 j 08:17	28° \mathring{U} 30'16	
min. Earth dist.	1296 Mar 02 j 04:01	18° \mathring{M} 40'35	17.32817 AU	opposition	1304 Apr 08 j 16:33	26° \mathring{U} 29'15	0°34'02
direct	1296 May 16 j 18:04	16° \mathring{M} 36'30		min. Earth dist.	1304 Apr 09 j 02:16	26° \mathring{U} 28'13	17.56230 AU
max. Earth dist.	1296 Sep 05 j 06:38	21° \mathring{M} 04'38	19.33165 AU	direct	1304 Jun 24 j 20:15	24° \mathring{U} 24'35	
conjunction	1296 Sep 06 j 06:09	21° \mathring{M} 08'20	0°43'07	conjunction	1304 Oct 14 j 05:25	28° \mathring{U} 50'41	0°29'15
minimum elong	1296 Sep 06 j 06:08	21° \mathring{M} 08'20	0°43'08	minimum elong	1304 Oct 14 j 05:25	28° \mathring{U} 50'41	0°29'14
retrograde	1296 Dec 22 j 20:22	25° \mathring{M} 31'00		max. Earth dist.	1304 Oct 13 j 19:05	28° \mathring{U} 49'04	19.58700 AU
opposition	1297 Mar 06 j 08:20	23° \mathring{M} 28'56	0°47'41	1304 Nov 01 j 21:08	0° \mathring{M} .		
min. Earth dist.	1297 Mar 07 j 03:40	23° \mathring{M} 26'50	17.33733 AU	retrograde	1305 Jan 29 j 04:12	3° \mathring{M} 08'38	
direct	1297 May 21 j 21:54	21° \mathring{M} 22'37		opposition	1305 Apr 13 j 17:13	1° \mathring{M} 07'47	0°31'05
max. Earth dist.	1297 Sep 10 j 11:19	25° \mathring{M} 50'50	19.34367 AU	min. Earth dist.	1305 Apr 14 j 02:12	1° \mathring{M} 06'50	17.61249 AU
conjunction	1297 Sep 11 j 08:28	25° \mathring{M} 54'10	0°42'18	1305 May 12 j 00:03	30° \mathring{R} \mathring{U} .		
minimum elong	1297 Sep 11 j 08:28	25° \mathring{M} 54'10	0°42'18	direct	1305 Jun 29 j 20:54	29° \mathring{U} 03'26	
retrograde	1297 Dec 03 j 15:47	0° \mathring{U} .		1305 Aug 16 j 01:48	0° \mathring{M} .		
1297 Dec 27 j 19:24	0° \mathring{U} 16'24			conjunction	1305 Oct 19 j 02:03	3° \mathring{M} 28'21	0°26'31
1298 Jan 21 j 06:43	30° \mathring{R} \mathring{M} .			minimum elong	1305 Oct 19 j 02:03	3° \mathring{M} 28'21	0°26'31
opposition	1298 Mar 11 j 09:32	28° \mathring{M} 14'25	0°46'36	max. Earth dist.	1305 Oct 18 j 17:25	3° \mathring{M} 27'00	19.63858 AU
min. Earth dist.	1298 Mar 12 j 04:23	28° \mathring{M} 12'22	17.35226 AU	retrograde	1306 Feb 03 j 01:22	7° \mathring{M} 45'29	
direct	1298 May 27 j 00:45	26° \mathring{M} 08'11		opposition	1306 Apr 18 j 17:17	5° \mathring{M} 44'48	0°27'56
1298 Sep 05 j 23:55	0° \mathring{U} .			min. Earth dist.	1306 Apr 18 j 23:59	5° \mathring{M} 44'06	17.66514 AU
conjunction	1298 Sep 16 j 10:03	0° \mathring{U} 39'17	0°41'12	direct	1306 Jul 04 j 22:49	3° \mathring{M} 40'48	
minimum elong	1298 Sep 16 j 10:03	0° \mathring{U} 39'17	0°41'12	conjunction	1306 Oct 23 j 21:51	8° \mathring{M} 04'25	0°23'38
max. Earth dist.	1298 Sep 15 j 13:09	0° \mathring{U} 36'00	19.36171 AU	minimum elong	1306 Oct 23 j 21:51	8° \mathring{M} 04'25	0°23'38
retrograde	1299 Jan 01 j 18:52	5° \mathring{U} 01'04		max. Earth dist.	1306 Oct 23 j 14:51	8° \mathring{M} 03'20	19.69231 AU
opposition	1299 Mar 16 j 10:52	2° \mathring{U} 59'09	0°45'12	retrograde	1307 Feb 07 j 20:23	12° \mathring{M} 20'44	
min. Earth dist.	1299 Mar 17 j 04:05	2° \mathring{U} 57'18	17.37340 AU	opposition	1307 Apr 23 j 17:16	10° \mathring{M} 20'12	0°24'38
direct	1299 Jun 01 j 04:10	0° \mathring{U} 53'04		min. Earth dist.	1307 Apr 23 j 23:24	10° \mathring{M} 19'33	17.71988 AU
conjunction	1299 Sep 21 j 11:05	5° \mathring{U} 23'38	0°39'49	direct	1307 Jul 09 j 22:28	8° \mathring{M} 16'31	
minimum elong	1299 Sep 21 j 11:05	5° \mathring{U} 23'38	0°39'48	conjunction	1307 Oct 28 j 16:36	12° \mathring{M} 38'47	0°20'36
max. Earth dist.	1299 Sep 20 j 16:52	5° \mathring{U} 20'46	19.38594 AU	minimum elong	1307 Oct 28 j 16:36	12° \mathring{M} 38'47	0°20'36
retrograde	1300 Jan 06 j 17:30	9° \mathring{U} 44'52		max. Earth dist.	1307 Oct 28 j 11:02	12° \mathring{M} 37'55	19.74799 AU
opposition	1300 Mar 20 j 12:16	7° \mathring{U} 43'06	0°43'31	1307 Dec 07 j 16:41	15° \mathring{M} .		
min. Earth dist.	1300 Mar 21 j 04:11	7° \mathring{U} 41'23	17.40058 AU	retrograde	1308 Feb 12 j 16:28	16° \mathring{M} 54'15	
direct	1300 Jun 05 j 08:05	5° \mathring{U} 37'13		1308 Apr 25 j 05:32	15° \mathring{R} \mathring{M} .		
conjunction	1300 Sep 25 j 11:21	10° \mathring{U} 07'06	0°38'10	opposition	1308 Apr 27 j 16:37	14° \mathring{M} 53'50	0°21'11
minimum elong	1300 Sep 25 j 11:21	10° \mathring{U} 07'06	0°38'10	min. Earth dist.	1308 Apr 27 j 20:08	14° \mathring{M} 53'28	17.77626 AU
max. Earth dist.	1300 Sep 24 j 17:52	10° \mathring{U} 04'21	19.41626 AU	direct	1308 Jul 13 j 23:16	12° \mathring{M} 50'28	
retrograde	1301 Jan 10 j 15:20	14° \mathring{U} 27'47		1308 Sep 25 j 10:11	15° \mathring{M} .		
opposition	1301 Mar 25 j 13:29	12° \mathring{U} 26'10	0°41'32	conjunction	1308 Nov 01 j 10:32	17° \mathring{M} 11'19	0°17'28
min. Earth dist.	1301 Mar 26 j 03:58	12° \mathring{U} 24'37	17.43384 AU	minimum elong	1308 Nov 01 j 10:32	17° \mathring{M} 11'19	0°17'29
direct	1301 Jun 10 j 10:59	10° \mathring{U} 20'33		max. Earth dist.	1308 Nov 01 j 07:04	17° \mathring{M} 10'47	19.80515 AU
				retrograde	1309 Feb 16 j 09:58	21° \mathring{M} 25'54	
				opposition	1309 May 02 j 15:24	19° \mathring{M} 25'35	0°17'38

min. Earth dist.	1309 May 02 j 18:22	19° \mathbb{M} 25'16	17.83422 AU	conjunction	1315 Dec 02 j 13:26	18° \mathbb{Z} 05'04	0°-5'-47
direct	1309 Jul 18 j 21:35	17° \mathbb{M} 22'32		minimum elong	1315 Dec 02 j 13:26	18° \mathbb{Z} 05'04	0°05'47
conjunction	1309 Nov 06 j 03:25	21° \mathbb{M} 41'55	0°14'15	behind sun begin	1315 Dec 02 j 07:10	18° \mathbb{Z} 04'08	
minimum elong	1309 Nov 06 j 03:25	21° \mathbb{M} 41'55	0°14'15	behind sun end	1315 Dec 02 j 19:42	18° \mathbb{Z} 05'59	
behind sun begin	1309 Nov 06 j 00:10	21° \mathbb{M} 41'25		max. Earth dist.	1315 Dec 02 j 22:46	18° \mathbb{Z} 06'28	20.24970 AU
behind sun end	1309 Nov 06 j 06:40	21° \mathbb{M} 42'24		retrograde	1316 Mar 19 j 03:10	22° \mathbb{Z} 13'47	
max. Earth dist.	1309 Nov 06 j 01:10	21° \mathbb{M} 41'34	19.86394 AU	opposition	1316 Jun 03 j 13:15	20° \mathbb{Z} 14'18	0°-8'-8
retrograde	1310 Feb 21 j 04:55	25° \mathbb{M} 55'36		min. Earth dist.	1316 Jun 03 j 02:15	20° \mathbb{Z} 15'25	18.28315 AU
opposition	1310 May 07 j 13:31	23° \mathbb{M} 55'22	0°14'00	direct	1316 Aug 19 j 18:31	18° \mathbb{Z} 13'52	
min. Earth dist.	1310 May 07 j 13:43	23° \mathbb{M} 55'21	17.89366 AU	conjunction	1316 Dec 06 j 00:31	22° \mathbb{Z} 22'52	0°-9'00
direct	1310 Jul 23 j 20:49	21° \mathbb{M} 52'37		minimum elong	1316 Dec 06 j 00:30	22° \mathbb{Z} 22'52	0°09'02
conjunction	1310 Nov 10 j 19:19	26° \mathbb{M} 10'31	0°10'58	behind sun begin	1316 Dec 05 j 18:53	22° \mathbb{Z} 22'03	
minimum elong	1310 Nov 10 j 19:19	26° \mathbb{M} 10'31	0°10'58	behind sun end	1316 Dec 06 j 06:07	22° \mathbb{Z} 23'42	
behind sun begin	1310 Nov 10 j 14:19	26° \mathbb{M} 09'46		max. Earth dist.	1316 Dec 06 j 12:34	22° \mathbb{Z} 24'41	20.31676 AU
behind sun end	1310 Nov 11 j 00:19	26° \mathbb{M} 11'16		retrograde	1317 Mar 23 j 15:09	26° \mathbb{Z} 30'50	
max. Earth dist.	1310 Nov 10 j 19:41	26° \mathbb{M} 10'34	19.92415 AU	opposition	1317 Jun 08 j 06:50	24° \mathbb{Z} 31'31	0°-11'-42
retrograde	1311 Jan 27 j 07:19	0° \mathbb{Z}		min. Earth dist.	1317 Jun 07 j 19:02	24° \mathbb{Z} 32'43	18.34983 AU
opposition	1311 Feb 25 j 20:43	0° \mathbb{Z} 23'19		direct	1317 Aug 24 j 10:53	22° \mathbb{Z} 31'30	
min. Earth dist.	1311 Mar 28 j 04:49	30° \mathbb{R} \mathbb{M}		conjunction	1317 Dec 10 j 10:46	26° \mathbb{Z} 39'06	0°-12'-11
direct	1311 May 12 j 11:12	28° \mathbb{M} 23'10	0°10'19	minimum elong	1317 Dec 10 j 10:46	26° \mathbb{Z} 39'06	0°12'11
conjunction	1311 May 12 j 10:32	28° \mathbb{M} 23'14	17.95477 AU	behind sun begin	1317 Dec 10 j 06:17	26° \mathbb{Z} 38'26	
direct	1311 Jul 28 j 18:04	26° \mathbb{M} 20'45		behind sun end	1317 Dec 10 j 15:15	26° \mathbb{Z} 39'45	
conjunction	1311 Nov 05 j 07:46	0° \mathbb{Z}		max. Earth dist.	1317 Dec 10 j 23:13	26° \mathbb{Z} 40'57	20.38290 AU
minimum elong	1311 Nov 15 j 10:13	0° \mathbb{Z} 37'07	0°07'39	retrograde	1318 Feb 13 j 08:59	0° \mathbb{Z}	
behind sun begin	1311 Nov 15 j 04:15	0° \mathbb{Z} 36'13		opposition	1318 Mar 28 j 05:31	0° \mathbb{Z} 46'21	
behind sun end	1311 Nov 15 j 16:10	0° \mathbb{Z} 38'00		min. Earth dist.	1318 May 11 j 17:48	30° \mathbb{R} \mathbb{Z}	
max. Earth dist.	1311 Nov 15 j 11:51	0° \mathbb{Z} 37'20	19.98624 AU	opposition	1318 Jun 12 j 23:52	28° \mathbb{Z} 47'10	0°-15'-11
retrograde	1312 Mar 01 j 14:42	4° \mathbb{Z} 49'03		direct	1318 Jun 12 j 10:11	28° \mathbb{Z} 48'33	18.41530 AU
opposition	1312 May 16 j 08:05	2° \mathbb{Z} 48'59	0°06'36	direct	1318 Aug 29 j 02:20	26° \mathbb{Z} 47'33	
min. Earth dist.	1312 May 16 j 04:22	2° \mathbb{Z} 49'22	18.01780 AU	conjunction	1318 Dec 14 j 20:26	0° \mathbb{Z} 53'46	0°-15'-16
direct	1312 Aug 01 j 15:22	0° \mathbb{Z} 46'55		minimum elong	1318 Dec 14 j 20:27	0° \mathbb{Z} 53'46	0°15'17
conjunction	1312 Nov 19 j 00:17	5° \mathbb{Z} 01'46	0°04'19	behind sun begin	1318 Dec 14 j 18:07	0° \mathbb{Z} 53'26	
minimum elong	1312 Nov 19 j 00:17	5° \mathbb{Z} 01'46	0°04'19	behind sun end	1318 Dec 14 j 22:46	0° \mathbb{Z} 54'06	
behind sun begin	1312 Nov 18 j 17:49	5° \mathbb{Z} 00'48		max. Earth dist.	1318 Dec 15 j 11:22	0° \mathbb{Z} 56'00	20.44735 AU
behind sun end	1312 Nov 19 j 06:44	5° \mathbb{Z} 02'44		retrograde	1319 Apr 01 j 16:59	5° \mathbb{Z} 00'20	
max. Earth dist.	1312 Nov 19 j 04:49	5° \mathbb{Z} 02'25	20.05013 AU	opposition	1319 Jun 17 j 16:23	3° \mathbb{Z} 01'16	0°-18'-34
retrograde	1313 Mar 06 j 05:16	9° \mathbb{Z} 12'51		min. Earth dist.	1319 Jun 17 j 01:53	3° \mathbb{Z} 02'44	18.47867 AU
opposition	1313 May 21 j 04:24	7° \mathbb{Z} 12'55	0°02'52	direct	1319 Sep 02 j 17:32	1° \mathbb{Z} 02'01	
min. Earth dist.	1313 May 20 j 23:39	7° \mathbb{Z} 13'24	18.08255 AU	conjunction	1319 Dec 19 j 05:30	5° \mathbb{Z} 06'53	0°-18'-16
direct	1313 Aug 06 j 11:05	5° \mathbb{Z} 11'14		minimum elong	1319 Dec 19 j 05:29	5° \mathbb{Z} 06'53	0°18'17
conjunction	1313 Nov 23 j 13:26	9° \mathbb{Z} 24'35	0°00'56	max. Earth dist.	1319 Dec 19 j 20:31	5° \mathbb{Z} 09'07	20.50950 AU
minimum elong	1313 Nov 23 j 13:26	9° \mathbb{Z} 24'35	0°00'56	retrograde	1320 Apr 05 j 05:47	9° \mathbb{Z} 12'46	
behind sun begin	1313 Nov 23 j 06:54	9° \mathbb{Z} 23'37		opposition	1320 Jun 21 j 08:06	7° \mathbb{Z} 13'48	0°-21'-49
behind sun end	1313 Nov 23 j 19:59	9° \mathbb{Z} 25'33		min. Earth dist.	1320 Jun 20 j 16:11	7° \mathbb{Z} 15'24	18.53957 AU
max. Earth dist.	1313 Nov 23 j 19:00	9° \mathbb{Z} 25'24	20.11570 AU	direct	1320 Sep 06 j 06:43	5° \mathbb{Z} 14'52	
desc. node	1314 Mar 03 j 00:30	13° \mathbb{Z} 33'14		conjunction	1320 Dec 22 j 14:06	9° \mathbb{Z} 18'26	0°-21'-8
retrograde	1314 Mar 10 j 22:02	13° \mathbb{Z} 34'51		minimum elong	1320 Dec 22 j 14:06	9° \mathbb{Z} 18'26	0°21'09
opposition	1314 May 25 j 23:50	11° \mathbb{Z} 35'03	0°00'-50	max. Earth dist.	1320 Dec 23 j 07:14	9° \mathbb{Z} 20'58	20.56876 AU
min. Earth dist.	1314 May 25 j 16:17	11° \mathbb{Z} 35'49	18.14876 AU	retrograde	1321 Apr 09 j 16:45	13° \mathbb{Z} 23'39	
direct	1314 Aug 11 j 06:45	9° \mathbb{Z} 33'46		opposition	1321 Jun 25 j 23:10	11° \mathbb{Z} 24'45	0°-24'-56
conjunction	1314 Nov 28 j 01:58	13° \mathbb{Z} 45'40	0°-2'-29	min. Earth dist.	1321 Jun 25 j 06:30	11° \mathbb{Z} 26'25	18.59719 AU
minimum elong	1314 Nov 28 j 01:57	13° \mathbb{Z} 45'40	0°02'30	direct	1321 Sep 10 j 20:48	9° \mathbb{Z} 26'06	
behind sun begin	1314 Nov 27 j 19:25	13° \mathbb{Z} 44'42		conjunction	1321 Dec 26 j 21:57	13° \mathbb{Z} 28'23	0°-23'-53
behind sun end	1314 Nov 28 j 08:29	13° \mathbb{Z} 46'37		minimum elong	1321 Dec 26 j 21:57	13° \mathbb{Z} 28'23	0°23'55
max. Earth dist.	1314 Nov 28 j 10:26	13° \mathbb{Z} 46'56	20.18240 AU	max. Earth dist.	1321 Dec 27 j 14:54	13° \mathbb{Z} 30'53	20.62472 AU
retrograde	1315 Mar 15 j 11:24	17° \mathbb{Z} 55'08		retrograde	1322 Apr 14 j 04:14	17° \mathbb{Z} 32'59	
opposition	1315 May 30 j 18:55	15° \mathbb{Z} 55'29	0°-4'-31	opposition	1322 Jun 30 j 13:31	15° \mathbb{Z} 34'05	0°-27'-54
min. Earth dist.	1315 May 30 j 10:20	15° \mathbb{Z} 56'22	18.21581 AU	min. Earth dist.	1322 Jun 29 j 19:50	15° \mathbb{Z} 35'52	18.65156 AU
direct	1315 Aug 16 j 00:47	13° \mathbb{Z} 54'39		direct	1322 Sep 15 j 08:34	13° \mathbb{Z} 35'41	

conjunction	1322 Dec 31 j 05:25	17°☾36'44	0°-26'-30	opposition	1330 Aug 03 j 09:23	18°☾01'02	0°-44'-53
minimum elong	1322 Dec 31 j 05:25	17°☾36'44	0°26'31	direct	1330 Oct 18 j 10:19	16°☾04'20	
max. Earth dist.	1323 Jan 01 j 00:26	17°☾39'32	20.67739 AU				
retrograde	1323 Apr 18 j 14:16	21°☾40'44		conjunction	1331 Feb 01 j 01:52	19°☾58'21	0°-41'-11
min. Earth dist.	1323 Jul 04 j 08:36	19°☾43'41	18.70263 AU	minimum elong	1331 Feb 01 j 01:52	19°☾58'21	0°41'12
opposition	1323 Jul 05 j 03:13	19°☾41'49	0°-30'-42	max. Earth dist.	1331 Feb 02 j 03:07	20°☾02'00	20.99758 AU
direct	1323 Sep 19 j 21:08	17°☾43'39		retrograde	1331 May 21 j 17:10	23°☾59'38	
				opposition	1331 Aug 07 j 18:38	22°☾00'48	0°-46'-5
conjunction	1324 Jan 04 j 12:02	21°☾43'30	0°-28'-57	min. Earth dist.	1331 Aug 06 j 18:43	22°☾03'12	19.01094 AU
minimum elong	1324 Jan 04 j 12:02	21°☾43'30	0°28'59	direct	1331 Oct 22 j 18:05	20°☾04'19	
max. Earth dist.	1324 Jan 05 j 07:01	21°☾46'17	20.72698 AU				
retrograde	1324 Apr 22 j 00:53	25°☾46'57		conjunction	1332 Feb 05 j 06:41	23°☾57'51	0°-42'-10
opposition	1324 Jul 08 j 16:12	23°☾48'00	0°-33'-19	minimum elong	1332 Feb 05 j 06:41	23°☾57'51	0°42'11
min. Earth dist.	1324 Jul 07 j 20:43	23°☾49'57	18.75091 AU	max. Earth dist.	1332 Feb 06 j 06:58	24°☾01'21	21.02234 AU
direct	1324 Sep 23 j 07:45	21°☾50'00		retrograde	1332 May 25 j 01:39	27°☾59'05	
				min. Earth dist.	1332 Aug 10 j 04:31	26°☾02'35	19.03338 AU
conjunction	1325 Jan 07 j 18:28	25°☾48'46	0°-31'-14	opposition	1332 Aug 11 j 03:40	26°☾00'16	0°-47'-3
minimum elong	1325 Jan 07 j 18:28	25°☾48'46	0°31'15	direct	1332 Oct 25 j 23:13	24°☾03'55	
max. Earth dist.	1325 Jan 08 j 15:30	25°☾51'51	20.77379 AU				
retrograde	1325 Apr 26 j 10:03	29°☾51'41		conjunction	1333 Feb 08 j 11:48	27°☾57'04	0°-42'-56
min. Earth dist.	1325 Jul 12 j 07:45	27°☾54'46	18.79643 AU	minimum elong	1333 Feb 08 j 11:48	27°☾57'04	0°42'58
opposition	1325 Jul 13 j 04:16	27°☾52'43	0°-35'-45	max. Earth dist.	1333 Feb 09 j 12:55	28°☾00'41	21.04216 AU
direct	1325 Sep 27 j 18:22	25°☾54'56			1333 Mar 17 j 20:21	0°☾	
				retrograde	1333 May 29 j 10:38	1°☾58'16	
conjunction	1326 Jan 12 j 00:16	29°☾52'41	0°-33'-21	opposition	1333 Aug 15 j 12:09	29°☾59'27	0°-47'-47
minimum elong	1326 Jan 12 j 00:16	29°☾52'41	0°33'22	min. Earth dist.	1333 Aug 14 j 12:45	0°☾01'48	19.05051 AU
max. Earth dist.	1326 Jan 12 j 21:12	29°☾55'44	20.81808 AU		1333 Aug 15 j 06:41	30°☾	
	1326 Jan 14 j 02:21	0°☾		direct	1333 Oct 30 j 06:58	28°☾03'14	
retrograde	1326 Apr 30 j 19:48	3°☾55'09			1334 Jan 08 j 12:55	0°☾	
opposition	1326 Jul 17 j 15:59	1°☾56'11	0°-37'-59				
min. Earth dist.	1326 Jul 16 j 18:44	1°☾58'18	18.83963 AU	conjunction	1334 Feb 12 j 16:50	1°☾56'04	0°-43'-31
	1326 Sep 24 j 17:35	30°☾		minimum elong	1334 Feb 12 j 16:50	1°☾56'03	0°43'32
direct	1326 Oct 02 j 03:25	29°☾58'36		max. Earth dist.	1334 Feb 13 j 16:30	1°☾59'27	21.05657 AU
	1326 Oct 09 j 13:30	0°☾		retrograde	1334 Jun 02 j 19:13	5°☾57'17	
				opposition	1334 Aug 19 j 20:39	3°☾58'25	0°-48'-18
conjunction	1327 Jan 16 j 05:46	3°☾55'25	0°-35'-18	min. Earth dist.	1334 Aug 18 j 22:19	4°☾00'39	19.06219 AU
minimum elong	1327 Jan 16 j 05:46	3°☾55'25	0°35'19	direct	1334 Nov 03 j 11:42	2°☾02'14	
max. Earth dist.	1327 Jan 17 j 04:45	3°☾58'46	20.85996 AU				
retrograde	1327 May 05 j 04:51	7°☾57'31		conjunction	1335 Feb 16 j 22:02	5°☾54'49	0°-43'-53
min. Earth dist.	1327 Jul 21 j 04:41	6°☾00'48	18.88020 AU	minimum elong	1335 Feb 16 j 22:02	5°☾54'49	0°43'53
opposition	1327 Jul 22 j 03:05	5°☾58'33	0°-40'-2	max. Earth dist.	1335 Feb 17 j 22:17	5°☾58'17	21.06542 AU
direct	1327 Oct 06 j 12:36	4°☾01'12		retrograde	1335 Jun 07 j 03:27	9°☾56'05	
				min. Earth dist.	1335 Aug 23 j 06:10	7°☾59'23	19.06815 AU
conjunction	1328 Jan 20 j 10:58	7°☾57'11	0°-37'-3	opposition	1335 Aug 24 j 04:41	7°☾57'08	0°-48'-35
minimum elong	1328 Jan 20 j 10:58	7°☾57'11	0°37'03	direct	1335 Nov 07 j 19:17	6°☾00'59	
max. Earth dist.	1328 Jan 21 j 09:40	8°☾00'28	20.89920 AU				
retrograde	1328 May 08 j 13:56	11°☾58'59		conjunction	1336 Feb 21 j 03:16	9°☾53'21	0°-44'-1
opposition	1328 Jul 25 j 13:34	10°☾00'03	0°-41'-51	minimum elong	1336 Feb 21 j 03:16	9°☾53'21	0°44'03
min. Earth dist.	1328 Jul 24 j 14:56	10°☾02'18	18.91814 AU	max. Earth dist.	1336 Feb 22 j 01:55	9°☾56'35	21.06872 AU
direct	1328 Oct 09 j 19:59	8°☾02'54		retrograde	1336 Jun 10 j 11:55	13°☾54'42	
				opposition	1336 Aug 27 j 12:21	11°☾55'37	0°-48'-37
conjunction	1329 Jan 23 j 16:07	11°☾58'09	0°-38'-37	min. Earth dist.	1336 Aug 26 j 15:12	11°☾57'44	19.06888 AU
minimum elong	1329 Jan 23 j 16:07	11°☾58'09	0°38'38	direct	1336 Nov 10 j 23:50	9°☾59'25	
max. Earth dist.	1329 Jan 24 j 16:31	12°☾01'41	20.93554 AU				
	1329 Mar 23 j 20:05	15°☾		conjunction	1337 Feb 24 j 08:44	13°☾51'41	0°-43'-57
retrograde	1329 May 12 j 23:08	15°☾59'42		minimum elong	1337 Feb 24 j 08:44	13°☾51'41	0°43'58
	1329 Jul 04 j 02:35	15°☾		max. Earth dist.	1337 Feb 25 j 07:56	13°☾55'00	21.06697 AU
opposition	1329 Jul 29 j 23:37	14°☾00'49	0°-43'-29	retrograde	1337 Jun 14 j 19:29	17°☾53'09	
min. Earth dist.	1329 Jul 29 j 00:05	14°☾03'10	18.95279 AU	opposition	1337 Aug 31 j 19:45	15°☾53'56	0°-48'-26
direct	1329 Oct 14 j 04:13	12°☾03'54		min. Earth dist.	1337 Aug 30 j 22:21	15°☾56'05	19.06472 AU
	1330 Jan 10 j 20:47	15°☾		direct	1337 Nov 15 j 06:30	13°☾57'41	
conjunction	1330 Jan 27 j 20:52	15°☾58'29	0°-40'00	conjunction	1338 Feb 28 j 14:03	17°☾49'55	0°-43'-40
minimum elong	1330 Jan 27 j 20:52	15°☾58'29	0°40'00	minimum elong	1338 Feb 28 j 14:03	17°☾49'55	0°43'42
max. Earth dist.	1330 Jan 28 j 20:45	16°☾01'56	20.96844 AU	max. Earth dist.	1338 Mar 01 j 11:48	17°☾53'01	21.06065 AU
retrograde	1330 May 17 j 07:45	19°☾59'53		retrograde	1338 Jun 19 j 03:30	21°☾51'35	
min. Earth dist.	1330 Aug 02 j 10:02	18°☾03'21	18.98393 AU	min. Earth dist.	1338 Sep 04 j 07:00	19°☾54'14	19.05640 AU

opposition	1338 Sep 05 j 03:06	19° ✕ 52'12	0°-48'00	min. Earth dist.	1346 Oct 06 j 23:44	21° ∩ 56'39	18.85763 AU
direct	1338 Nov 19 j 11:07	17° ✕ 55'52		direct	1346 Dec 21 j 05:27	19° ∩ 58'09	
conjunction	1339 Mar 04 j 19:55	21° ✕ 48'10	0°-43'-11	conjunction	1347 Apr 06 j 10:51	23° ∩ 54'29	0°-32'-6
minimum elong	1339 Mar 04 j 19:55	21° ✕ 48'10	0°43'12	minimum elong	1347 Apr 06 j 10:52	23° ∩ 54'29	0°32'07
max. Earth dist.	1339 Mar 05 j 18:14	21° ✕ 51'22	21.05037 AU	max. Earth dist.	1347 Apr 07 j 00:33	23° ∩ 56'27	20.83649 AU
retrograde	1339 Jun 23 j 11:37	25° ✕ 50'04		retrograde	1347 Jul 26 j 16:25	28° ∩ 00'19	
opposition	1339 Sep 09 j 10:02	23° ✕ 50'33	0°-47'-21	opposition	1347 Oct 11 j 19:39	26° ∩ 00'03	0°-34'-16
min. Earth dist.	1339 Sep 08 j 13:41	23° ✕ 52'36	19.04419 AU	min. Earth dist.	1347 Oct 11 j 08:04	26° ∩ 01'15	18.81431 AU
direct	1339 Nov 23 j 16:59	21° ✕ 54'08		direct	1347 Dec 25 j 13:12	24° ∩ 02'35	
conjunction	1340 Mar 08 j 01:57	25° ✕ 46'36	0°-42'-29	conjunction	1348 Apr 09 j 21:39	27° ∩ 59'47	0°-29'-52
minimum elong	1340 Mar 08 j 01:57	25° ✕ 46'36	0°42'31	minimum elong	1348 Apr 09 j 21:39	27° ∩ 59'47	0°29'54
max. Earth dist.	1340 Mar 08 j 22:40	25° ✕ 49'33	21.03637 AU	max. Earth dist.	1348 Apr 10 j 08:33	28° ∩ 01'20	20.79085 AU
retrograde	1340 Jun 26 j 19:22	29° ✕ 48'48		retrograde	1348 May 16 j 04:57	0° ♁	
opposition	1340 Sep 12 j 17:03	27° ✕ 49'10	0°-46'-28	retrograde	1348 Jul 30 j 02:49	2° ♁ 06'17	
min. Earth dist.	1340 Sep 11 j 22:12	27° ✕ 51'04	19.02844 AU	opposition	1348 Oct 15 j 03:51	0° ♁ 05'52	0°-31'-43
direct	1340 Nov 26 j 21:17	25° ✕ 52'38		min. Earth dist.	1348 Oct 14 j 18:53	0° ♁ 06'47	18.76640 AU
conjunction	1341 Mar 12 j 08:26	29° ✕ 45'22	0°-41'-35	direct	1348 Oct 17 j 12:43	30° ∩	
minimum elong	1341 Mar 12 j 08:26	29° ✕ 45'22	0°41'37	direct	1348 Dec 28 j 19:11	28° ∩ 08'06	
max. Earth dist.	1341 Mar 13 j 05:32	29° ✕ 48'23	21.01886 AU	direct	1349 Mar 07 j 01:35	0° ♁	
retrograde	1341 Jul 01 j 04:28	3° ∩ 47'55		conjunction	1349 Apr 14 j 09:04	2° ♁ 06'14	0°-27'-29
opposition	1341 Sep 16 j 23:50	1° ∩ 48'11	0°-45'-22	minimum elong	1349 Apr 14 j 09:04	2° ♁ 06'14	0°27'29
min. Earth dist.	1341 Sep 16 j 04:50	1° ∩ 50'06	19.00914 AU	max. Earth dist.	1349 Apr 14 j 19:02	2° ♁ 07'40	20.74088 AU
direct	1341 Dec 01 j 03:09	29° ✕ 51'35		retrograde	1349 Aug 03 j 15:28	6° ♁ 13'26	
conjunction	1342 Mar 16 j 15:15	3° ∩ 44'40	0°-40'-30	opposition	1349 Oct 19 j 12:06	4° ♁ 12'50	0°-28'-59
minimum elong	1342 Mar 16 j 15:15	3° ∩ 44'40	0°40'30	min. Earth dist.	1349 Oct 19 j 03:44	4° ♁ 13'42	18.71434 AU
max. Earth dist.	1342 Mar 17 j 10:35	3° ∩ 47'26	20.99793 AU	direct	1350 Jan 02 j 04:02	2° ♁ 14'46	
retrograde	1342 Jul 05 j 12:29	7° ∩ 47'39		conjunction	1350 Apr 18 j 21:08	6° ♁ 13'54	0°-24'-56
opposition	1342 Sep 21 j 06:52	5° ∩ 47'49	0°-44'-2	minimum elong	1350 Apr 18 j 21:08	6° ♁ 13'54	0°24'58
min. Earth dist.	1342 Sep 20 j 13:34	5° ∩ 49'34	18.98652 AU	max. Earth dist.	1350 Apr 19 j 04:33	6° ♁ 14'57	20.68707 AU
direct	1342 Dec 05 j 07:06	3° ∩ 51'06		retrograde	1350 Aug 08 j 02:26	10° ♁ 21'48	
conjunction	1343 Mar 20 j 22:41	7° ∩ 44'40	0°-39'-12	opposition	1350 Oct 23 j 20:45	8° ♁ 21'01	0°-26'-5
minimum elong	1343 Mar 20 j 22:41	7° ∩ 44'40	0°39'13	min. Earth dist.	1350 Oct 23 j 14:58	8° ♁ 21'37	18.65892 AU
max. Earth dist.	1343 Mar 21 j 18:09	7° ∩ 47'27	20.97362 AU	direct	1351 Jan 06 j 10:31	6° ♁ 22'36	
retrograde	1343 Jul 09 j 22:47	11° ∩ 48'07		conjunction	1351 Apr 23 j 10:03	10° ♁ 22'48	0°-22'-15
opposition	1343 Sep 25 j 13:50	9° ∩ 48'13	0°-42'-30	minimum elong	1351 Apr 23 j 10:03	10° ♁ 22'48	0°22'15
min. Earth dist.	1343 Sep 24 j 20:38	9° ∩ 49'57	18.96029 AU	max. Earth dist.	1351 Apr 23 j 16:29	10° ♁ 23'43	20.63028 AU
direct	1343 Dec 09 j 13:19	7° ∩ 51'24		retrograde	1351 Aug 12 j 16:28	14° ♁ 31'26	
conjunction	1344 Mar 24 j 06:41	11° ∩ 45'31	0°-37'-42	opposition	1351 Oct 28 j 05:33	12° ♁ 30'27	0°-23'-3
minimum elong	1344 Mar 24 j 06:41	11° ∩ 45'31	0°37'43	min. Earth dist.	1351 Oct 28 j 00:18	12° ♁ 31'00	18.60073 AU
max. Earth dist.	1344 Mar 25 j 00:01	11° ∩ 48'00	20.94557 AU	direct	1352 Jan 10 j 20:19	10° ♁ 31'41	
retrograde	1344 Jul 13 j 07:29	15° ∩ 49'31		conjunction	1352 Apr 26 j 23:35	14° ♁ 33'02	0°-19'-25
opposition	1344 Sep 28 j 20:57	13° ∩ 49'32	0°-40'-45	minimum elong	1352 Apr 26 j 23:35	14° ♁ 33'02	0°19'27
min. Earth dist.	1344 Sep 28 j 05:53	13° ∩ 51'04	18.93032 AU	max. Earth dist.	1352 Apr 27 j 03:37	14° ♁ 33'36	20.57091 AU
direct	1344 Dec 12 j 17:31	11° ∩ 52'36		retrograde	1352 May 04 j 17:35	15° ♁	
conjunction	1345 Mar 28 j 15:26	15° ∩ 47'23	0°-36'-1	retrograde	1352 Aug 16 j 04:11	18° ♁ 42'26	
minimum elong	1345 Mar 28 j 15:26	15° ∩ 47'23	0°36'03	opposition	1352 Oct 31 j 14:48	16° ♁ 41'16	0°-19'-52
max. Earth dist.	1345 Mar 29 j 08:26	15° ∩ 49'49	20.91364 AU	min. Earth dist.	1352 Oct 31 j 12:03	16° ♁ 41'33	18.54043 AU
retrograde	1345 Jul 17 j 18:44	19° ∩ 51'57		direct	1352 Dec 18 j 19:41	15° ∩	
opposition	1345 Oct 03 j 04:14	17° ∩ 51'54	0°-38'-47	direct	1353 Jan 14 j 03:42	14° ♁ 42'07	
min. Earth dist.	1345 Oct 02 j 13:33	17° ∩ 53'24	18.89620 AU	conjunction	1353 Feb 09 j 06:39	15° ♁	
direct	1345 Dec 17 j 00:19	15° ∩ 54'50		conjunction	1353 May 01 j 13:57	18° ♁ 44'41	0°-16'-29
conjunction	1346 Apr 02 j 00:37	19° ∩ 50'21	0°-34'-9	minimum elong	1353 May 01 j 13:58	18° ♁ 44'41	0°16'30
minimum elong	1346 Apr 02 j 00:37	19° ∩ 50'21	0°34'10	max. Earth dist.	1353 May 01 j 16:57	18° ♁ 45'07	20.50987 AU
max. Earth dist.	1346 Apr 02 j 15:09	19° ∩ 52'26	20.87734 AU	retrograde	1353 Aug 20 j 19:26	22° ♁ 54'53	
retrograde	1346 Jul 22 j 04:26	23° ∩ 55'34		opposition	1353 Nov 05 j 00:23	20° ♁ 53'32	0°-16'-33
opposition	1346 Oct 07 j 11:58	21° ∩ 55'24	0°-36'-38	min. Earth dist.	1353 Nov 04 j 22:03	20° ♁ 53'47	18.47867 AU
conjunction	1347 Apr 06 j 10:51	23° ∩ 54'29	0°-32'-6	direct	1354 Jan 18 j 14:07	18° ♁ 54'02	
minimum elong	1347 Apr 06 j 10:52	23° ∩ 54'29	0°32'07	conjunction	1354 May 06 j 04:58	22° ♁ 57'53	0°-13'-27
max. Earth dist.	1347 Apr 07 j 00:33	23° ∩ 56'27	20.83649 AU	minimum elong	1354 May 06 j 04:58	22° ♁ 57'53	0°13'28
retrograde	1347 Jul 26 j 16:25	28° ∩ 00'19					
opposition	1347 Oct 11 j 19:39	26° ∩ 00'03	0°-34'-16				
min. Earth dist.	1347 Oct 11 j 08:04	26° ∩ 01'15	18.81431 AU				
direct	1347 Dec 25 j 13:12	24° ∩ 02'35					

behind sun begin	1354 May 06 j 01:19	22°♄57'21		retrograde	1360 Sep 20 j 12:39	23°♃11'37	
behind sun end	1354 May 06 j 08:37	22°♄58'24		opposition	1360 Dec 04 j 12:04	21°♃09'34	0°08'45
max. Earth dist.	1354 May 06 j 05:48	22°♄58'00	20.44752 AU	min. Earth dist.	1360 Dec 04 j 21:33	21°♃08'33	18.03057 AU
retrograde	1354 Aug 25 j 08:47	27°♄08'55		direct	1361 Feb 17 j 03:22	19°♃07'36	
opposition	1354 Nov 09 j 10:39	25°♄07'25	0°-13'-8				
min. Earth dist.	1354 Nov 09 j 10:43	25°♄07'24	18.41590 AU	conjunction	1361 Jun 06 j 16:38	23°♃21'47	0°09'35
direct	1355 Jan 22 j 22:59	23°♄07'32		minimum elong	1361 Jun 06 j 16:38	23°♃21'47	0°09'35
				behind sun begin	1361 Jun 06 j 11:05	23°♃20'59	
conjunction	1355 May 10 j 21:03	27°♄12'44	0°-10'-20	behind sun end	1361 Jun 06 j 22:12	23°♃22'36	
minimum elong	1355 May 10 j 21:04	27°♄12'44	0°10'21	max. Earth dist.	1361 Jun 06 j 04:11	23°♃19'56	19.99793 AU
behind sun begin	1355 May 10 j 15:48	27°♄11'59		retrograde	1361 Sep 25 j 07:29	27°♃38'48	
behind sun end	1355 May 11 j 02:20	27°♄13'29		opposition	1361 Dec 09 j 02:38	25°♃36'38	0°12'27
max. Earth dist.	1355 May 10 j 20:36	27°♄12'40	20.38449 AU	min. Earth dist.	1361 Dec 09 j 13:04	25°♃35'30	17.96498 AU
	1355 Jul 01 j 16:24	0°♃		direct	1362 Feb 21 j 20:09	23°♃34'14	
retrograde	1355 Aug 30 j 00:53	1°♃24'36					
	1355 Oct 30 j 01:11	30°♃		conjunction	1362 Jun 11 j 15:04	27°♃49'57	0°12'53
opposition	1355 Nov 13 j 21:08	29°♄22'59	0°-9'-38	minimum elong	1362 Jun 11 j 15:03	27°♃49'57	0°12'52
min. Earth dist.	1355 Nov 13 j 21:42	29°♄22'55	18.35256 AU	behind sun begin	1362 Jun 11 j 11:01	27°♃49'21	
direct	1356 Jan 27 j 10:17	27°♄22'46		behind sun end	1362 Jun 11 j 19:06	27°♃50'32	
	1356 Apr 18 j 16:54	0°♃		max. Earth dist.	1362 Jun 11 j 01:12	27°♃47'53	19.93226 AU
					1362 Jul 19 j 07:11	0°♄	
conjunction	1356 May 14 j 13:59	1°♃29'22	0°-7'-9	retrograde	1362 Sep 30 j 01:59	2°♄07'42	
minimum elong	1356 May 14 j 13:59	1°♃29'22	0°07'09	opposition	1362 Dec 13 j 18:00	0°♄05'26	0°16'06
behind sun begin	1356 May 14 j 07:46	1°♃28'29		min. Earth dist.	1362 Dec 14 j 06:38	0°♄04'04	17.89949 AU
behind sun end	1356 May 14 j 20:11	1°♃30'16			1362 Dec 15 j 20:20	30°♃	
max. Earth dist.	1356 May 14 j 11:29	1°♃29'02	20.32091 AU	direct	1363 Feb 26 j 12:29	28°♃02'37	
retrograde	1356 Sep 02 j 15:51	5°♃42'07			1363 May 06 j 20:48	0°♄	
opposition	1356 Nov 17 j 08:31	3°♃40'23	0°-6'-2				
min. Earth dist.	1356 Nov 17 j 11:28	3°♃40'04	18.28886 AU	conjunction	1363 Jun 16 j 14:12	2°♄19'49	0°16'07
direct	1357 Jan 30 j 20:43	1°♃39'50		minimum elong	1363 Jun 16 j 14:12	2°♄19'49	0°16'08
				max. Earth dist.	1363 Jun 15 j 21:43	2°♄17'21	19.86720 AU
conjunction	1357 May 19 j 07:41	5°♃47'54	0°-3'-53	retrograde	1363 Oct 04 j 21:53	6°♄38'19	
minimum elong	1357 May 19 j 07:41	5°♃47'54	0°03'55	opposition	1363 Dec 18 j 09:49	4°♄35'54	0°19'40
behind sun begin	1357 May 19 j 01:00	5°♃46'56		min. Earth dist.	1363 Dec 18 j 23:26	4°♄34'26	17.83502 AU
behind sun end	1357 May 19 j 14:21	5°♃48'52		direct	1364 Mar 02 j 07:13	2°♄32'39	
max. Earth dist.	1357 May 19 j 03:40	5°♃47'21	20.25720 AU				
retrograde	1357 Sep 07 j 09:01	10°♃01'31		conjunction	1364 Jun 20 j 14:07	6°♄51'21	0°19'17
opposition	1357 Nov 21 j 20:20	7°♄59'43	0°-2'-23	minimum elong	1364 Jun 20 j 14:07	6°♄51'21	0°19'17
min. Earth dist.	1357 Nov 21 j 23:53	7°♄59'20	18.22499 AU	max. Earth dist.	1364 Jun 19 j 20:54	6°♄48'45	19.80336 AU
direct	1358 Feb 04 j 09:31	5°♄58'51		retrograde	1364 Oct 08 j 17:27	11°♄10'31	
				opposition	1364 Dec 22 j 02:29	9°♄08'00	0°23'09
conjunction	1358 May 24 j 02:32	10°♃08'25	0°00'-31	min. Earth dist.	1364 Dec 22 j 17:46	9°♄06'20	17.77217 AU
minimum elong	1358 May 24 j 02:30	10°♃08'25	0°00'32	direct	1365 Mar 07 j 01:06	7°♄04'19	
behind sun begin	1358 May 23 j 19:45	10°♃07'26					
behind sun end	1358 May 24 j 09:15	10°♃09'23		conjunction	1365 Jun 25 j 14:20	11°♄24'27	0°22'21
max. Earth dist.	1358 May 23 j 20:35	10°♃07'34	20.19310 AU	minimum elong	1365 Jun 25 j 14:20	11°♄24'27	0°22'21
asc. node	1358 Jul 20 j 07:15	13°♃11'31		max. Earth dist.	1365 Jun 24 j 18:45	11°♄21'28	19.74169 AU
retrograde	1358 Sep 12 j 01:12	14°♃22'55		retrograde	1365 Oct 13 j 14:16	15°♄44'18	
opposition	1358 Nov 26 j 08:52	12°♄21'02	0°01'18	opposition	1365 Dec 26 j 19:42	13°♄41'39	0°26'30
min. Earth dist.	1358 Nov 26 j 14:59	12°♄20'23	18.16073 AU	min. Earth dist.	1365 Dec 27 j 11:54	13°♄39'53	17.71189 AU
direct	1359 Feb 08 j 21:57	10°♃19'49		direct	1366 Mar 11 j 21:11	11°♄37'33	
conjunction	1359 May 28 j 22:20	14°♃30'56	0°02'54	conjunction	1366 Jun 30 j 15:30	15°♄59'06	0°25'17
minimum elong	1359 May 28 j 22:22	14°♃30'56	0°02'54	minimum elong	1366 Jun 30 j 15:30	15°♄59'06	0°25'17
behind sun begin	1359 May 28 j 15:37	14°♄29'57		max. Earth dist.	1366 Jun 29 j 19:46	15°♄56'06	19.68277 AU
behind sun end	1359 May 29 j 05:07	14°♄31'55		retrograde	1366 Oct 18 j 11:15	20°♄19'34	
max. Earth dist.	1359 May 28 j 14:16	14°♄29'45	20.12865 AU	opposition	1366 Dec 31 j 13:33	18°♄16'50	0°29'41
retrograde	1359 Sep 16 j 19:17	18°♄46'18		min. Earth dist.	1367 Jan 01 j 06:53	18°♄14'56	17.65468 AU
opposition	1359 Nov 30 j 22:04	16°♄44'21	0°05'01	direct	1367 Mar 16 j 16:53	16°♄12'21	
min. Earth dist.	1359 Dec 01 j 05:05	16°♄43'36	18.09599 AU				
direct	1360 Feb 13 j 12:42	14°♄42'46		conjunction	1367 Jul 05 j 17:04	20°♄35'16	0°28'04
				minimum elong	1367 Jul 05 j 17:04	20°♄35'16	0°28'03
conjunction	1360 Jun 01 j 19:05	18°♄55'25	0°06'15	max. Earth dist.	1367 Jul 04 j 19:06	20°♄31'55	19.62741 AU
minimum elong	1360 Jun 01 j 19:05	18°♄55'25	0°06'15	retrograde	1367 Oct 23 j 08:52	24°♄56'19	
behind sun begin	1360 Jun 01 j 12:41	18°♄54'29		opposition	1368 Jan 05 j 08:10	22°♄53'31	0°32'42
behind sun end	1360 Jun 02 j 01:29	18°♄56'21		min. Earth dist.	1368 Jan 06 j 02:20	22°♄51'32	17.60145 AU
max. Earth dist.	1360 Jun 01 j 09:10	18°♄53'57	20.06345 AU	direct	1368 Mar 20 j 13:42	20°♄48'41	

conjunction	1368 Jul 09 j 19:09	25°☾12'56	0°30'40			1376 Feb 25 j 07:23	30°R♄		
minimum elong	1368 Jul 09 j 19:09	25°☾12'56	0°30'41	direct		1376 Apr 27 j 12:34	28°♁29'24		
max. Earth dist.	1368 Jul 08 j 21:33	25°☾09'37	19.57621 AU			1376 Jun 26 j 12:48	0°♃		
retrograde	1368 Oct 27 j 07:44	29°☾34'31			max. Earth dist.	1376 Aug 16 j 22:55	2°♃56'53	19.33393 AU	
opposition	1369 Jan 09 j 03:30	27°☾31'42	0°35'31						
min. Earth dist.	1369 Jan 09 j 22:06	27°☾29'40	17.55255 AU		conjunction	1376 Aug 18 j 00:31	3°♃00'54	0°43'25	
direct	1369 Mar 25 j 11:07	25°☾26'35			minimum elong	1376 Aug 18 j 00:31	3°♃00'54	0°43'25	
					retrograde	1376 Dec 04 j 04:41	7°♃24'33		
conjunction	1369 Jul 14 j 21:39	29°☾52'05	0°33'06		opposition	1377 Feb 15 j 13:16	5°♃22'11	0°48'39	
minimum elong	1369 Jul 14 j 21:39	29°☾52'05	0°33'05		min. Earth dist.	1377 Feb 16 j 10:31	5°♃19'51	17.32866 AU	
max. Earth dist.	1369 Jul 13 j 22:12	29°☾48'29	19.52972 AU		direct	1377 May 02 j 17:19	3°♃15'52		
	1369 Jul 17 j 01:00	0°♁			max. Earth dist.	1377 Aug 22 j 03:37	7°♃43'45	19.32369 AU	
retrograde	1369 Nov 01 j 05:56	4°♁14'11							
opposition	1370 Jan 13 j 23:25	2°♁11'23	0°38'07		conjunction	1377 Aug 23 j 04:31	7°♃47'39	0°43'46	
min. Earth dist.	1370 Jan 14 j 18:55	2°♁09'15	17.50863 AU		minimum elong	1377 Aug 23 j 04:31	7°♃47'39	0°43'45	
direct	1370 Mar 30 j 08:09	0°♁06'00			retrograde	1377 Dec 09 j 03:26	12°♃11'10		
max. Earth dist.	1370 Jul 19 j 01:49	4°♁29'11	19.48821 AU		opposition	1378 Feb 20 j 13:41	10°♃08'50	0°48'52	
					min. Earth dist.	1378 Feb 21 j 11:46	10°♃06'25	17.32094 AU	
conjunction	1370 Jul 20 j 00:47	4°♁32'44	0°35'19		direct	1378 May 07 j 19:28	8°♃02'26		
minimum elong	1370 Jul 20 j 00:47	4°♁32'44	0°35'19		max. Earth dist.	1378 Aug 27 j 07:04	12°♃30'26	19.31860 AU	
retrograde	1370 Nov 06 j 06:39	8°♁55'16							
opposition	1371 Jan 18 j 20:04	6°♁52'32	0°40'29		conjunction	1378 Aug 28 j 08:09	12°♃34'23	0°43'48	
min. Earth dist.	1371 Jan 19 j 15:42	6°♁50'23	17.46949 AU		minimum elong	1378 Aug 28 j 08:09	12°♃34'23	0°43'49	
direct	1371 Apr 04 j 07:27	4°♁46'58			retrograde	1378 Dec 14 j 04:28	16°♃57'41		
max. Earth dist.	1371 Jul 24 j 03:44	9°♁11'01	19.45144 AU		opposition	1379 Feb 25 j 14:21	14°♃55'22	0°48'45	
					min. Earth dist.	1379 Feb 26 j 11:02	14°♃53'07	17.31844 AU	
conjunction	1371 Jul 25 j 04:12	9°♁14'48	0°37'19		direct	1379 May 13 j 00:07	12°♃48'54		
minimum elong	1371 Jul 25 j 04:12	9°♁14'48	0°37'20		max. Earth dist.	1379 Sep 01 j 11:58	17°♃17'10	19.31880 AU	
retrograde	1371 Nov 11 j 04:52	13°♁37'45							
opposition	1372 Jan 23 j 17:28	11°♁35'05	0°42'35		conjunction	1379 Sep 02 j 11:23	17°♃20'51	0°43'33	
min. Earth dist.	1372 Jan 24 j 14:14	11°♁32'48	17.43519 AU		minimum elong	1379 Sep 02 j 11:23	17°♃20'51	0°43'33	
direct	1372 Apr 08 j 05:44	9°♁29'21			retrograde	1379 Dec 19 j 03:21	21°♃43'51		
max. Earth dist.	1372 Jul 28 j 07:54	13°♁54'27	19.41938 AU		opposition	1380 Mar 01 j 15:24	19°♃41'35	0°48'18	
					min. Earth dist.	1380 Mar 02 j 12:16	19°♃39'19	17.32151 AU	
conjunction	1372 Jul 29 j 08:02	13°♁58'12	0°39'05		direct	1380 May 17 j 02:24	17°♃35'07		
minimum elong	1372 Jul 29 j 08:02	13°♁58'12	0°39'05						
	1372 Aug 15 j 00:27	15°♁			conjunction	1380 Sep 06 j 14:01	22°♃06'54	0°42'59	
retrograde	1372 Nov 15 j 06:01	18°♁21'28			minimum elong	1380 Sep 06 j 14:01	22°♃06'54	0°42'59	
opposition	1373 Jan 27 j 15:28	16°♁18'52	0°44'25		max. Earth dist.	1380 Sep 05 j 14:41	22°♃03'13	19.32494 AU	
min. Earth dist.	1373 Jan 28 j 12:00	16°♁16'37	17.40532 AU		retrograde	1380 Dec 23 j 03:56	26°♃29'33		
	1373 Mar 01 j 03:00	15°R♁			opposition	1381 Mar 06 j 16:23	24°♃27'20	0°47'30	
direct	1373 Apr 13 j 07:04	14°♁13'02			min. Earth dist.	1381 Mar 07 j 11:30	24°♃25'16	17.33073 AU	
	1373 May 25 j 18:16	15°♁			direct	1381 May 22 j 06:36	22°♃20'53		
max. Earth dist.	1373 Aug 02 j 10:48	18°♁38'50	19.39161 AU						
conjunction	1373 Aug 03 j 11:57	18°♁42'45	0°40'35		conjunction	1381 Sep 11 j 16:16	26°♃52'23	0°42'08	
minimum elong	1373 Aug 03 j 11:57	18°♁42'45	0°40'36		minimum elong	1381 Sep 11 j 16:16	26°♃52'23	0°42'08	
retrograde	1373 Nov 20 j 04:12	23°♁06'15			max. Earth dist.	1381 Sep 10 j 19:18	26°♃49'05	19.33726 AU	
opposition	1374 Feb 01 j 14:14	21°♁03'43	0°45'57			1381 Nov 05 j 13:56	0°♁		
min. Earth dist.	1374 Feb 02 j 12:01	21°♁01'20	17.37978 AU		retrograde	1381 Dec 28 j 02:40	1°♁14'38		
direct	1374 Apr 18 j 07:18	18°♁57'44				1382 Feb 20 j 23:09	30°R♃		
					opposition	1382 Mar 11 j 17:40	29°♃12'30	0°46'24	
conjunction	1374 Aug 08 j 16:14	23°♁28'13	0°41'49		min. Earth dist.	1382 Mar 12 j 12:19	29°♃10'29	17.34616 AU	
minimum elong	1374 Aug 08 j 16:14	23°♁28'13	0°41'48		direct	1382 May 27 j 09:04	27°♃06'10		
max. Earth dist.	1374 Aug 07 j 15:02	23°♁24'16	19.36813 AU			1382 Aug 21 j 10:35	0°♁		
retrograde	1374 Nov 25 j 05:16	27°♁51'50							
opposition	1375 Feb 06 j 13:20	25°♁49'23	0°47'11		conjunction	1382 Sep 16 j 17:51	1°♁37'16	0°41'00	
min. Earth dist.	1375 Feb 07 j 10:32	25°♁47'03	17.35834 AU		minimum elong	1382 Sep 16 j 17:51	1°♁37'16	0°40'59	
direct	1375 Apr 23 j 11:02	23°♁43'17			max. Earth dist.	1382 Sep 15 j 21:10	1°♁34'00	19.35596 AU	
					retrograde	1383 Jan 02 j 02:28	5°♁59'03		
conjunction	1375 Aug 13 j 20:32	28°♁14'21	0°42'46		opposition	1383 Mar 16 j 18:52	3°♁57'03	0°44'58	
minimum elong	1375 Aug 13 j 20:32	28°♁14'21	0°42'45		min. Earth dist.	1383 Mar 17 j 11:42	3°♁55'14	17.36804 AU	
max. Earth dist.	1375 Aug 12 j 19:02	28°♁10'21	19.34876 AU		direct	1383 Jun 01 j 12:54	1°♁50'52		
	1375 Sep 11 j 16:32	0°♃							
retrograde	1375 Nov 30 j 03:33	2°♃38'01			conjunction	1383 Sep 21 j 19:00	6°♁21'28	0°39'35	
opposition	1376 Feb 11 j 13:12	0°♃35'37	0°48'05		minimum elong	1383 Sep 21 j 19:00	6°♁21'28	0°39'36	
min. Earth dist.	1376 Feb 12 j 11:30	0°♃33'10	17.34124 AU		max. Earth dist.	1383 Sep 21 j 01:02	6°♁18'38	19.38101 AU	
					retrograde	1384 Jan 07 j 01:04	10°♁42'44		

opposition	1384 Mar 20 j 20:17	8° 40 '55	0°43'15	min. Earth dist.	1392 Apr 28 j 04:37	15° 11 '52'59	17.76791 AU
min. Earth dist.	1384 Mar 21 j 12:04	8° 43 '39'13	17.39599 AU		1392 May 20 j 00:36	15° 11 ' 11	
direct	1384 Jun 05 j 15:28	6° 43 '35'00		direct	1392 Jul 14 j 07:56	13° 11 ' 49 '56	
					1392 Sep 05 j 04:32	15° 11 ' 11	
conjunction	1384 Sep 25 j 19:14	11° 43 '04'56	0°37'55	conjunction	1392 Nov 01 j 19:12	18° 11 '10'56	0°17'03
minimum elong	1384 Sep 25 j 19:14	11° 43 '04'56	0°37'55	minimum elong	1392 Nov 01 j 19:12	18° 11 '10'56	0°17'02
max. Earth dist.	1384 Sep 25 j 01:50	11° 43 '02'12	19.41195 AU	max. Earth dist.	1392 Nov 01 j 15:31	18° 11 '10'23	19.79683 AU
retrograde	1385 Jan 11 j 00:09	15° 43 '25'42		retrograde	1393 Feb 16 j 18:22	22° 11 '25'37	
opposition	1385 Mar 25 j 21:32	13° 43 '24'03	0°41'14	opposition	1393 May 02 j 23:46	20° 11 '25'15	0°17'10
min. Earth dist.	1385 Mar 26 j 11:49	13° 43 '22'31	17.42964 AU	min. Earth dist.	1393 May 03 j 02:44	20° 11 '24'57	17.82603 AU
direct	1385 Jun 10 j 18:49	11° 43 '18'25		direct	1393 Jul 19 j 05:27	18° 11 '22'07	
conjunction	1385 Sep 30 j 19:05	15° 43 '47'37	0°36'00	conjunction	1393 Nov 06 j 12:03	22° 11 '41'38	0°13'49
minimum elong	1385 Sep 30 j 19:05	15° 43 '47'37	0°35'59	minimum elong	1393 Nov 06 j 12:03	22° 11 '41'38	0°13'49
max. Earth dist.	1385 Sep 30 j 04:14	15° 43 '45'17	19.44815 AU	behind sun begin	1393 Nov 06 j 08:29	22° 11 '41'06	
retrograde	1386 Jan 15 j 22:00	20° 43 '07'45		behind sun end	1393 Nov 06 j 15:36	22° 11 '42'10	
opposition	1386 Mar 30 j 22:39	18° 43 '06'21	0°38'57	max. Earth dist.	1393 Nov 06 j 09:58	22° 11 '41'19	19.85606 AU
min. Earth dist.	1386 Mar 31 j 11:37	18° 43 '04'57	17.46803 AU	retrograde	1394 Feb 21 j 13:16	26° 11 '55'24	
direct	1386 Jun 15 j 21:55	16° 43 '01'01		opposition	1394 May 07 j 21:47	24° 11 '55'07	0°13'32
conjunction	1386 Oct 05 j 18:10	20° 43 '29'21	0°33'50	min. Earth dist.	1394 May 07 j 21:52	24° 11 '55'06	17.88627 AU
minimum elong	1386 Oct 05 j 18:10	20° 43 '29'21	0°33'51	direct	1394 Jul 24 j 05:22	22° 11 '52'18	
max. Earth dist.	1386 Oct 05 j 04:00	20° 43 '27'08	19.48879 AU	conjunction	1394 Nov 11 j 04:01	27° 11 '10'18	0°10'32
retrograde	1387 Jan 20 j 19:51	24° 43 '48'52		minimum elong	1394 Nov 11 j 04:01	27° 11 '10'18	0°10'31
opposition	1387 Apr 04 j 23:50	22° 43 '47'39	0°36'25	behind sun begin	1394 Nov 10 j 22:51	27° 11 '09'31	
min. Earth dist.	1387 Apr 05 j 11:39	22° 43 '46'23	17.51075 AU	behind sun end	1394 Nov 11 j 09:11	27° 11 '11'05	
direct	1387 Jun 21 j 00:36	20° 43 '42'38		max. Earth dist.	1394 Nov 11 j 04:30	27° 11 '10'22	19.91743 AU
conjunction	1387 Oct 10 j 16:26	25° 43 '09'59	0°31'28	retrograde	1394 Dec 31 j 08:00	0° 43 ' 27	
minimum elong	1387 Oct 10 j 16:26	25° 43 '09'59	0°31'27	retrograde	1395 Feb 26 j 05:35	1° 43 ' 23 '10	
max. Earth dist.	1387 Oct 10 j 04:36	25° 43 '08'08	19.53339 AU	opposition	1395 Apr 27 j 16:04	30° 43 ' 11	
retrograde	1388 Jan 25 j 17:03	29° 43 '28'48		opposition	1395 May 12 j 19:30	29° 43 '22'59	0°09'50
opposition	1388 Apr 09 j 00:48	27° 43 '27'47	0°33'39	min. Earth dist.	1395 May 12 j 18:36	29° 43 '23'04	17.94886 AU
min. Earth dist.	1388 Apr 09 j 10:46	27° 43 '26'43	17.55692 AU	direct	1395 Jul 29 j 01:36	27° 43 '20'30	
direct	1388 Jun 25 j 03:53	25° 43 '23'07			1395 Oct 19 j 19:15	0° 43 ' 27	
conjunction	1388 Oct 14 j 13:57	29° 43 '49'22	0°28'54	conjunction	1395 Nov 15 j 18:51	1° 43 '36'58	0°07'13
minimum elong	1388 Oct 14 j 13:57	29° 43 '49'22	0°28'54	minimum elong	1395 Nov 15 j 18:52	1° 43 '36'58	0°07'13
max. Earth dist.	1388 Oct 14 j 03:09	29° 43 '47'41	19.58117 AU	behind sun begin	1395 Nov 15 j 12:49	1° 43 '36'04	
	1388 Oct 17 j 09:55	0° 43 ' 11		behind sun end	1395 Nov 16 j 00:55	1° 43 '37'52	
retrograde	1389 Jan 29 j 13:16	4° 43 ' 11 '07'26		max. Earth dist.	1395 Nov 15 j 20:53	1° 43 '37'15	19.98120 AU
opposition	1389 Apr 14 j 01:24	2° 43 ' 11 '06'35	0°30'41	retrograde	1396 Mar 01 j 23:00	5° 43 '48'58	
min. Earth dist.	1389 Apr 14 j 10:33	2° 43 ' 11 '05'37	17.60622 AU	opposition	1396 May 16 j 16:21	3° 43 '48'53	0°06'07
direct	1389 Jun 30 j 05:00	0° 43 ' 11 '02'14		min. Earth dist.	1396 May 16 j 12:23	3° 43 '49'18	18.01362 AU
conjunction	1389 Oct 19 j 10:42	4° 43 ' 11 '27'19	0°26'08	direct	1396 Aug 01 j 23:57	1° 43 '46'47	
minimum elong	1389 Oct 19 j 10:42	4° 43 ' 11 '27'19	0°26'08	conjunction	1396 Nov 19 j 09:05	6° 43 '01'45	0°03'53
max. Earth dist.	1389 Oct 19 j 01:48	4° 43 ' 11 '25'56	19.63182 AU	minimum elong	1396 Nov 19 j 09:04	6° 43 '01'45	0°03'53
retrograde	1390 Feb 03 j 10:01	8° 43 ' 11 '44'35		behind sun begin	1396 Nov 19 j 02:35	6° 43 '00'47	
opposition	1390 Apr 19 j 01:39	6° 43 ' 11 '43'53	0°27'31	behind sun end	1396 Nov 19 j 15:34	6° 43 '02'43	
min. Earth dist.	1390 Apr 19 j 08:38	6° 43 ' 11 '43'09	17.65791 AU	max. Earth dist.	1396 Nov 19 j 13:49	6° 43 '02'26	20.04686 AU
direct	1390 Jul 05 j 07:33	4° 43 ' 11 '39'52		retrograde	1397 Mar 06 j 14:07	10° 43 '12'52	
conjunction	1390 Oct 24 j 06:29	9° 43 ' 11 '03'39	0°23'14	opposition	1397 May 21 j 12:33	8° 43 '12'56	0°02'23
minimum elong	1390 Oct 24 j 06:29	9° 43 ' 11 '03'39	0°23'14	min. Earth dist.	1397 May 21 j 07:43	8° 43 '13'26	18.08012 AU
max. Earth dist.	1390 Oct 23 j 23:03	9° 43 ' 11 '02'30	19.68466 AU	direct	1397 Aug 06 j 18:58	6° 43 '11'14	
retrograde	1391 Feb 08 j 04:47	13° 43 ' 11 '20'06		conjunction	1397 Nov 23 j 22:19	10° 43 '24'41	0°00'29
opposition	1391 Apr 24 j 01:38	11° 43 ' 11 '19'32	0°24'11	minimum elong	1397 Nov 23 j 22:20	10° 43 '24'42	0°00'29
min. Earth dist.	1391 Apr 24 j 07:54	11° 43 ' 11 '18'53	17.71188 AU	behind sun begin	1397 Nov 23 j 15:49	10° 43 '23'43	
direct	1391 Jul 10 j 06:40	9° 43 ' 11 '15'49		behind sun end	1397 Nov 24 j 04:52	10° 43 '25'40	
conjunction	1391 Oct 29 j 01:22	13° 43 ' 11 '38'15	0°20'12	max. Earth dist.	1397 Nov 24 j 04:12	10° 43 '25'33	20.11407 AU
minimum elong	1391 Oct 29 j 01:22	13° 43 ' 11 '38'15	0°20'12	desc. node	1398 Jan 13 j 23:00	13° 43 '14'53	
max. Earth dist.	1391 Oct 28 j 19:39	13° 43 ' 11 '37'22	19.73977 AU	retrograde	1398 Mar 11 j 06:20	14° 43 '34'59	
retrograde	1391 Nov 20 j 07:51	15° 43 ' 11 ' 11		opposition	1398 May 26 j 08:09	12° 43 '35'13	0°-1'-19
opposition	1392 Feb 13 j 01:04	17° 43 ' 11 '53'49		min. Earth dist.	1398 May 26 j 00:29	12° 43 '36'00	18.14775 AU
opposition	1392 Apr 28 j 00:55	15° 43 ' 11 '53'22	0°20'44	direct	1398 Aug 11 j 15:02	10° 43 '33'56	

conjunction	1398 Nov 28 j 10:49	14°♂45'55	0°-2'-55	direct	1405 Sep 11 j 06:06	10°♁26'37	
minimum elong	1398 Nov 28 j 10:49	14°♂45'55	0°02'56				
behind sun begin	1398 Nov 28 j 04:18	14°♂44'57		conjunction	1405 Dec 27 j 07:34	14°♁28'58	0°-24'-17
behind sun end	1398 Nov 28 j 17:21	14°♂46'52		minimum elong	1405 Dec 27 j 07:33	14°♁28'58	0°24'17
max. Earth dist.	1398 Nov 28 j 19:26	14°♂47'12	20.18193 AU	max. Earth dist.	1405 Dec 28 j 00:04	14°♁31'25	20.62030 AU
retrograde	1399 Mar 15 j 20:25	18°♂55'24		retrograde	1406 Apr 14 j 13:51	18°♁33'34	
opposition	1399 May 31 j 03:19	16°♂55'47	0°-5'00	opposition	1406 Jun 30 j 22:16	16°♁34'38	0°-28'-19
min. Earth dist.	1399 May 30 j 18:52	16°♂56'39	18.21573 AU	min. Earth dist.	1406 Jun 30 j 04:47	16°♁36'23	18.64677 AU
direct	1399 Aug 16 j 08:59	14°♂54'58		direct	1406 Sep 15 j 18:26	14°♁36'10	
conjunction	1399 Dec 02 j 22:32	19°♂05'27	0°-6'-13	conjunction	1406 Dec 31 j 14:51	18°♁37'18	0°-26'-52
minimum elong	1399 Dec 02 j 22:32	19°♂05'27	0°06'14	minimum elong	1406 Dec 31 j 14:51	18°♁37'18	0°26'53
behind sun begin	1399 Dec 02 j 16:20	19°♂04'32		max. Earth dist.	1407 Jan 01 j 09:40	18°♁40'04	20.67243 AU
behind sun end	1399 Dec 03 j 04:45	19°♂06'22		retrograde	1407 Apr 18 j 23:13	22°♁41'18	
max. Earth dist.	1399 Dec 03 j 07:54	19°♂06'51	20.24988 AU	opposition	1407 Jul 05 j 12:00	20°♁42'22	0°-31'-6
retrograde	1400 Mar 19 j 11:25	23°♂14'10		min. Earth dist.	1407 Jul 04 j 17:40	20°♁44'12	18.69764 AU
opposition	1400 Jun 03 j 21:36	21°♂14'43	0°-8'-38	direct	1407 Sep 20 j 06:40	18°♁44'08	
min. Earth dist.	1400 Jun 03 j 10:43	21°♂15'49	18.28346 AU	conjunction	1408 Jan 04 j 21:34	22°♁44'06	0°-29'-18
direct	1400 Aug 20 j 02:42	19°♂14'17		minimum elong	1408 Jan 04 j 21:34	22°♁44'06	0°29'18
conjunction	1400 Dec 06 j 09:41	23°♂23'21	0°-9'-26	max. Earth dist.	1408 Jan 05 j 16:28	22°♁46'53	20.72210 AU
minimum elong	1400 Dec 06 j 09:41	23°♂23'21	0°09'27	retrograde	1408 Apr 22 j 09:52	26°♁47'35	
behind sun begin	1400 Dec 06 j 04:11	23°♂22'33		min. Earth dist.	1408 Jul 08 j 05:22	24°♁50'35	18.74629 AU
behind sun end	1400 Dec 06 j 15:11	23°♂24'10		opposition	1408 Jul 09 j 00:51	24°♁48'38	0°-33'-42
max. Earth dist.	1400 Dec 06 j 21:31	23°♂25'08	20.31704 AU	direct	1408 Sep 23 j 16:30	22°♁50'38	
retrograde	1401 Mar 24 j 00:33	27°♂31'19		conjunction	1409 Jan 08 j 03:59	26°♁49'32	0°-31'-34
opposition	1401 Jun 08 j 15:25	25°♂32'01	0°-12'-11	minimum elong	1409 Jan 08 j 03:59	26°♁49'32	0°31'35
min. Earth dist.	1401 Jun 08 j 03:56	25°♂33'11	18.34999 AU	max. Earth dist.	1409 Jan 09 j 01:03	26°♁52'37	20.76950 AU
direct	1401 Aug 24 j 19:13	23°♂32'01			1409 Mar 11 j 07:45	0°≈	
conjunction	1401 Dec 10 j 20:01	27°♂39'39	0°-12'-36	retrograde	1409 Apr 26 j 18:55	0°≈52'31	
minimum elong	1401 Dec 10 j 20:01	27°♂39'40	0°12'38		1409 Jun 14 j 04:55	30°R♁	
behind sun begin	1401 Dec 10 j 15:45	27°♂39'02		opposition	1409 Jul 13 j 13:09	28°♁53'36	0°-36'-6
behind sun end	1401 Dec 11 j 00:17	27°♂40'17		min. Earth dist.	1409 Jul 12 j 16:43	28°♁55'38	18.79255 AU
max. Earth dist.	1401 Dec 11 j 08:11	27°♂41'29	20.38276 AU	direct	1409 Sep 28 j 03:33	26°♁55'50	
retrograde	1402 Jan 21 j 03:45	0°♁			1409 Dec 27 j 23:38	0°≈	
opposition	1402 Mar 28 j 14:30	1°♁46'54		conjunction	1410 Jan 12 j 09:43	0°≈53'44	0°-33'-39
min. Earth dist.	1402 Jun 08 j 07:08	30°R♂		minimum elong	1410 Jan 12 j 09:43	0°≈53'44	0°33'40
direct	1402 Jun 13 j 08:30	29°♂47'44	0°-15'-40	max. Earth dist.	1410 Jan 13 j 06:44	0°≈56'48	20.81462 AU
	1402 Jun 12 j 19:01	29°♂49'06	18.41479 AU	retrograde	1410 May 01 j 05:02	4°≈56'19	
	1402 Aug 29 j 11:10	27°♂48'06		min. Earth dist.	1410 Jul 17 j 03:34	2°≈59'33	18.83659 AU
	1402 Nov 12 j 04:16	0°♁		opposition	1410 Jul 18 j 00:57	2°≈57'25	0°-38'-19
conjunction	1402 Dec 15 j 05:55	1°♁54'23	0°-15'-41	direct	1410 Oct 02 j 11:32	0°≈59'52	
minimum elong	1402 Dec 15 j 05:55	1°♁54'23	0°15'42	conjunction	1411 Jan 16 j 15:24	4°≈56'52	0°-35'-34
behind sun begin	1402 Dec 15 j 04:08	1°♁54'07		minimum elong	1411 Jan 16 j 15:24	4°≈56'52	0°35'35
behind sun end	1402 Dec 15 j 07:41	1°♁54'38		max. Earth dist.	1411 Jan 17 j 14:27	5°≈00'13	20.85732 AU
max. Earth dist.	1402 Dec 15 j 20:20	1°♁56'32	20.44635 AU	retrograde	1411 May 05 j 13:54	8°≈59'06	
retrograde	1403 Apr 02 j 02:28	6°♁00'55		opposition	1411 Jul 22 j 12:06	7°≈00'13	0°-40'-19
min. Earth dist.	1403 Jun 17 j 11:01	4°♁03'17	18.47717 AU	min. Earth dist.	1411 Jul 21 j 13:52	7°≈02'27	18.87794 AU
opposition	1403 Jun 18 j 01:04	4°♁01'52	0°-19'-2	direct	1411 Oct 06 j 21:25	5°≈02'56	
direct	1403 Sep 03 j 02:17	2°♁02'35		conjunction	1412 Jan 20 j 20:39	8°≈59'06	0°-37'-18
conjunction	1403 Dec 19 j 15:00	6°♁07'31	0°-18'-40	minimum elong	1412 Jan 20 j 20:39	8°≈59'06	0°37'20
minimum elong	1403 Dec 19 j 15:00	6°♁07'31	0°18'41	max. Earth dist.	1412 Jan 21 j 19:20	9°≈02'24	20.89724 AU
max. Earth dist.	1403 Dec 20 j 05:28	6°♁09'40	20.50737 AU	retrograde	1412 May 08 j 23:58	13°≈01'02	
retrograde	1404 Apr 05 j 15:36	10°♁13'23		opposition	1412 Jul 25 j 22:48	11°≈02'12	0°-42'-8
opposition	1404 Jun 21 j 16:52	8°♁14'24	0°-22'-16	min. Earth dist.	1412 Jul 25 j 00:10	11°≈04'28	18.91637 AU
min. Earth dist.	1404 Jun 21 j 01:15	8°♁15'58	18.53677 AU	direct	1412 Oct 10 j 04:34	9°≈05'08	
direct	1404 Sep 06 j 16:32	6°♁15'25		conjunction	1413 Jan 24 j 01:54	13°≈00'33	0°-38'-51
conjunction	1404 Dec 22 j 23:41	10°♁19'03	0°-21'-32	minimum elong	1413 Jan 24 j 01:53	13°≈00'33	0°38'51
minimum elong	1404 Dec 22 j 23:41	10°♁19'03	0°21'34	max. Earth dist.	1413 Jan 25 j 02:14	13°≈04'05	20.93387 AU
max. Earth dist.	1404 Dec 23 j 16:13	10°♁21'30	20.56533 AU	retrograde	1413 Feb 28 j 22:41	15°≈	
retrograde	1405 Apr 10 j 01:54	14°♁24'15		opposition	1413 May 13 j 08:29	17°≈02'15	
opposition	1405 Jun 26 j 07:50	12°♁25'19	0°-25'-23	min. Earth dist.	1413 Jul 29 j 09:40	15°≈05'46	18.95115 AU
min. Earth dist.	1405 Jun 25 j 15:42	12°♁26'57	18.59318 AU				

opposition	1413 Jul 30 j 08:55	15° \approx 03'27	0°-43'-43	retrograde	1421 Jun 15 j 04:50	18° \times 55'55	
	1413 Jul 31 j 19:27	15° \approx		min. Earth dist.	1421 Aug 31 j 08:08	16° \times 58'43	19.05699 AU
direct	1413 Oct 14 j 13:09	13° \approx 06'37		opposition	1421 Sep 01 j 05:26	16° \times 56'35	0°-48'-21
	1413 Dec 22 j 15:36	15° \approx		direct	1421 Nov 15 j 16:34	15° \times 00'12	
conjunction	1414 Jan 28 j 06:53	17° \approx 01'22	0°-40'-12	conjunction	1422 Mar 01 j 00:07	18° \times 52'25	0°-43'-36
minimum elong	1414 Jan 28 j 06:53	17° \approx 01'22	0°40'14	minimum elong	1422 Mar 01 j 00:07	18° \times 52'25	0°43'36
max. Earth dist.	1414 Jan 29 j 06:31	17° \approx 04'47	20.96677 AU	max. Earth dist.	1422 Mar 01 j 21:57	18° \times 55'33	21.05323 AU
retrograde	1414 May 17 j 18:21	21° \approx 02'53		retrograde	1422 Jun 19 j 12:27	22° \times 54'03	
opposition	1414 Aug 03 j 18:50	19° \approx 04'06	0°-45'-6	opposition	1422 Sep 05 j 12:44	20° \times 54'35	0°-47'-54
min. Earth dist.	1414 Aug 02 j 19:39	19° \approx 06'25	18.98209 AU	min. Earth dist.	1422 Sep 04 j 16:31	20° \times 56'37	19.04943 AU
direct	1414 Oct 18 j 19:51	17° \approx 07'28		direct	1422 Nov 19 j 20:29	18° \times 58'09	
conjunction	1415 Feb 01 j 11:56	21° \approx 01'38	0°-41'-21	conjunction	1423 Mar 05 j 05:55	22° \times 50'28	0°-43'-4
minimum elong	1415 Feb 01 j 11:56	21° \approx 01'38	0°41'22	minimum elong	1423 Mar 05 j 05:55	22° \times 50'28	0°43'05
max. Earth dist.	1415 Feb 02 j 12:52	21° \approx 05'14	20.99543 AU	max. Earth dist.	1423 Mar 06 j 04:24	22° \times 53'41	21.04386 AU
retrograde	1415 May 22 j 02:48	25° \approx 03'00		retrograde	1423 Jun 23 j 21:09	26° \times 52'21	
min. Earth dist.	1415 Aug 07 j 04:45	23° \approx 06'35	19.00836 AU	opposition	1423 Sep 09 j 19:45	24° \times 52'47	0°-47'-12
opposition	1415 Aug 08 j 04:16	23° \approx 04'14	0°-46'-16	min. Earth dist.	1423 Sep 08 j 23:21	24° \times 54'51	19.03819 AU
direct	1415 Oct 23 j 03:29	21° \approx 07'46		direct	1423 Nov 24 j 02:55	22° \times 56'18	
conjunction	1416 Feb 05 j 16:58	25° \approx 01'25	0°-42'-18	conjunction	1424 Mar 08 j 11:56	26° \times 48'48	0°-42'-20
minimum elong	1416 Feb 05 j 16:58	25° \approx 01'25	0°42'20	minimum elong	1424 Mar 08 j 11:56	26° \times 48'48	0°42'21
max. Earth dist.	1416 Feb 06 j 16:42	25° \approx 04'51	21.01921 AU	max. Earth dist.	1424 Mar 09 j 08:44	26° \times 51'47	21.03090 AU
retrograde	1416 May 25 j 11:54	29° \approx 02'42			1424 May 11 j 16:04	0° Ψ	
opposition	1416 Aug 11 j 13:16	27° \approx 03'55	0°-47'-11	retrograde	1424 Jun 27 j 05:35	0° Ψ 51'02	
min. Earth dist.	1416 Aug 10 j 14:25	27° \approx 06'11	19.02962 AU		1424 Aug 13 j 22:09	30° \approx	
direct	1416 Oct 26 j 09:43	25° \approx 07'33		min. Earth dist.	1424 Sep 12 j 07:38	28° \times 53'18	19.02353 AU
conjunction	1417 Feb 08 j 22:10	29° \approx 00'47	0°-43'-3	opposition	1424 Sep 13 j 02:41	28° \times 51'22	0°-46'-17
minimum elong	1417 Feb 08 j 22:10	29° \approx 00'47	0°43'04	direct	1424 Nov 27 j 06:33	26° \times 54'49	
max. Earth dist.	1417 Feb 09 j 22:44	29° \approx 04'19	21.03769 AU		1425 Feb 26 j 19:08	0° Ψ	
retrograde	1417 Feb 26 j 05:42	0° \times		conjunction	1425 Mar 12 j 18:27	0° Ψ 47'38	0°-41'-25
opposition	1417 May 29 j 20:17	3° \times 02'00		minimum elong	1425 Mar 12 j 18:27	0° Ψ 47'38	0°41'25
min. Earth dist.	1417 Aug 15 j 21:58	1° \times 03'09	0°-47'-54	max. Earth dist.	1425 Mar 13 j 15:42	0° Ψ 50'40	21.01451 AU
direct	1417 Aug 14 j 22:59	1° \times 05'27	19.04528 AU	retrograde	1425 Jul 01 j 14:22	4° Ψ 50'14	
	1417 Sep 12 j 17:45	30° \approx		opposition	1425 Sep 17 j 09:38	2° Ψ 50'31	0°-45'-9
	1417 Oct 30 j 16:47	29° \approx 06'52		min. Earth dist.	1425 Sep 16 j 14:29	2° Ψ 52'27	19.00529 AU
	1417 Dec 15 j 20:20	0° \times		direct	1425 Dec 01 j 12:42	0° Ψ 53'55	
conjunction	1418 Feb 13 j 03:04	2° \times 59'43	0°-43'-35	conjunction	1426 Mar 17 j 01:09	4° Ψ 47'06	0°-40'-17
minimum elong	1418 Feb 13 j 03:04	2° \times 59'43	0°43'36	minimum elong	1426 Mar 17 j 01:09	4° Ψ 47'06	0°40'18
max. Earth dist.	1418 Feb 14 j 02:15	3° \times 03'03	21.05064 AU	max. Earth dist.	1426 Mar 17 j 20:34	4° Ψ 49'52	20.99455 AU
retrograde	1418 Jun 03 j 04:23	7° \times 00'56		retrograde	1426 Jul 05 j 23:40	8° Ψ 50'11	
min. Earth dist.	1418 Aug 19 j 08:24	5° \times 04'12	19.05554 AU	opposition	1426 Sep 21 j 16:47	6° Ψ 50'23	0°-43'-47
opposition	1418 Aug 20 j 06:29	5° \times 01'59	0°-48'-22	min. Earth dist.	1426 Sep 20 j 23:16	6° Ψ 52'09	18.98348 AU
direct	1418 Nov 03 j 22:36	3° \times 05'43		direct	1426 Dec 05 j 16:49	4° Ψ 53'43	
conjunction	1419 Feb 17 j 08:19	6° \times 58'17	0°-43'-55	conjunction	1427 Mar 21 j 08:45	8° Ψ 47'24	0°-38'-57
minimum elong	1419 Feb 17 j 08:19	6° \times 58'17	0°43'56	minimum elong	1427 Mar 21 j 08:45	8° Ψ 47'24	0°38'57
max. Earth dist.	1419 Feb 18 j 08:15	7° \times 01'43	21.05823 AU	max. Earth dist.	1427 Mar 22 j 04:17	8° Ψ 50'11	20.97086 AU
retrograde	1419 Jun 07 j 12:55	10° \times 59'30		retrograde	1427 Jul 10 j 09:01	12° Ψ 50'58	
opposition	1419 Aug 24 j 14:22	9° \times 00'26	0°-48'-36	opposition	1427 Sep 25 j 23:43	10° Ψ 51'07	0°-42'-13
min. Earth dist.	1419 Aug 23 j 16:13	9° \times 02'39	19.06052 AU	min. Earth dist.	1427 Sep 25 j 06:32	10° Ψ 52'52	18.95769 AU
direct	1419 Nov 08 j 05:16	7° \times 04'08		direct	1427 Dec 09 j 22:51	8° Ψ 54'22	
conjunction	1420 Feb 21 j 13:25	10° \times 56'30	0°-44'-1	conjunction	1428 Mar 24 j 16:48	12° Ψ 48'37	0°-37'-26
minimum elong	1420 Feb 21 j 13:25	10° \times 56'30	0°44'02	minimum elong	1428 Mar 24 j 16:48	12° Ψ 48'37	0°37'27
max. Earth dist.	1420 Feb 22 j 11:54	10° \times 59'43	21.06085 AU	max. Earth dist.	1428 Mar 25 j 10:03	12° Ψ 51'05	20.94301 AU
retrograde	1420 Jun 10 j 20:16	14° \times 57'48		retrograde	1428 Jul 13 j 18:38	16° Ψ 52'45	
opposition	1420 Aug 27 j 22:06	12° \times 58'35	0°-48'-36	opposition	1428 Sep 29 j 07:03	14° Ψ 52'49	0°-40'-26
min. Earth dist.	1420 Aug 27 j 01:00	13° \times 00'42	19.06090 AU	min. Earth dist.	1428 Sep 28 j 16:00	14° Ψ 54'21	18.92766 AU
direct	1420 Nov 11 j 10:04	11° \times 02'15		direct	1428 Dec 13 j 03:39	12° Ψ 55'57	
conjunction	1421 Feb 24 j 18:44	14° \times 54'30	0°-43'-55	conjunction	1429 Mar 29 j 01:32	16° Ψ 50'51	0°-35'-43
minimum elong	1421 Feb 24 j 18:44	14° \times 54'30	0°43'56	minimum elong	1429 Mar 29 j 01:32	16° Ψ 50'51	0°35'43
max. Earth dist.	1421 Feb 25 j 18:01	14° \times 57'50	21.05902 AU	max. Earth dist.	1429 Mar 29 j 18:27	16° Ψ 53'17	20.91070 AU

retrograde	1429 Jul 18 j 05:03	20° Υ 55'34		conjunction	1437 May 01 j 23:27	19° Υ 47'44	0°-16'-2
opposition	1429 Oct 03 j 14:28	18° Υ 55'33	0°-38'-26	minimum elong	1437 May 01 j 23:27	19° Υ 47'44	0°16'03
min. Earth dist.	1429 Oct 02 j 23:57	18° Υ 57'02	18.89290 AU	max. Earth dist.	1437 May 02 j 03:03	19° Υ 48'14	20.50811 AU
direct	1429 Dec 17 j 10:28	16° Υ 58'32		retrograde	1437 Aug 21 j 04:34	23° Υ 57'54	
conjunction	1430 Apr 02 j 10:54	20° Υ 54'08	0°-33'-49	opposition	1437 Nov 05 j 10:27	21° Υ 56'29	0°-16'-2
minimum elong	1430 Apr 02 j 10:54	20° Υ 54'08	0°33'50	min. Earth dist.	1437 Nov 05 j 07:35	21° Υ 56'47	18.47787 AU
max. Earth dist.	1430 Apr 03 j 01:10	20° Υ 56'11	20.87358 AU	direct	1438 Jan 19 j 00:40	19° Υ 56'57	
retrograde	1430 Jul 22 j 14:55	24° Υ 59'27		conjunction	1438 May 06 j 14:33	24° Υ 00'43	0°-12'-59
opposition	1430 Oct 07 j 22:12	22° Υ 59'19	0°-36'-14	minimum elong	1438 May 06 j 14:33	24° Υ 00'43	0°13'00
min. Earth dist.	1430 Oct 07 j 10:06	23° Υ 00'33	18.85337 AU	behind sun begin	1438 May 06 j 10:36	24° Υ 00'09	
direct	1430 Dec 21 j 15:54	21° Υ 02'04		behind sun end	1438 May 06 j 18:31	24° Υ 01'16	
conjunction	1431 Apr 06 j 21:06	24° Υ 58'28	0°-31'-44	max. Earth dist.	1438 May 06 j 15:49	24° Υ 00'53	20.44771 AU
minimum elong	1431 Apr 06 j 21:06	24° Υ 58'28	0°31'45	retrograde	1438 Aug 25 j 17:50	28° Υ 11'42	
max. Earth dist.	1431 Apr 07 j 10:39	25° Υ 00'25	20.83171 AU	opposition	1438 Nov 09 j 20:39	26° Υ 10'10	0°-12'-37
retrograde	1431 Jul 27 j 02:25	29° Υ 04'23		min. Earth dist.	1438 Nov 09 j 20:11	26° Υ 10'13	18.41710 AU
opposition	1431 Oct 12 j 06:00	27° Υ 04'05	0°-33'-51	direct	1439 Jan 23 j 09:12	24° Υ 10'18	
min. Earth dist.	1431 Oct 11 j 18:35	27° Υ 05'15	18.80904 AU	conjunction	1439 May 11 j 06:41	28° Υ 15'25	0°-9'-52
direct	1431 Dec 25 j 23:44	25° Υ 06'35		minimum elong	1439 May 11 j 06:41	28° Υ 15'25	0°09'53
conjunction	1432 Apr 10 j 07:44	29° Υ 03'49	0°-29'-29	behind sun begin	1439 May 11 j 01:14	28° Υ 14'39	
minimum elong	1432 Apr 10 j 07:44	29° Υ 03'49	0°29'29	behind sun end	1439 May 11 j 12:07	28° Υ 16'12	
max. Earth dist.	1432 Apr 10 j 18:31	29° Υ 05'22	20.78522 AU	max. Earth dist.	1439 May 11 j 06:51	28° Υ 15'27	20.38666 AU
retrograde	1432 Jul 30 j 12:33	3° Υ 10'22		retrograde	1439 Jun 10 j 21:17	0° Υ	
opposition	1432 Oct 15 j 14:02	1° Υ 09'53	0°-31'-16	opposition	1439 Aug 30 j 10:32	2° Υ 27'16	
min. Earth dist.	1432 Oct 15 j 05:07	1° Υ 10'48	18.76051 AU	min. Earth dist.	1439 Nov 14 j 07:18	0° Υ 25'38	0°-9'-6
direct	1432 Nov 14 j 18:52	30° Υ		direct	1439 Nov 14 j 07:18	0° Υ 25'38	18.35563 AU
conjunction	1432 Dec 29 j 05:54	29° Υ 12'04		direct	1439 Nov 24 j 11:50	30° Υ	
retrograde	1433 Feb 10 j 15:11	0° Υ		direct	1440 Jan 27 j 21:06	28° Υ 25'28	
conjunction	1433 Apr 14 j 19:08	3° Υ 10'12	0°-27'-4	conjunction	1440 Mar 29 j 18:11	0° Υ	
minimum elong	1433 Apr 14 j 19:08	3° Υ 10'12	0°27'05	conjunction	1440 May 14 j 23:32	2° Υ 32'00	0°-6'-40
max. Earth dist.	1433 Apr 15 j 05:15	3° Υ 11'39	20.73493 AU	minimum elong	1440 May 14 j 23:32	2° Υ 32'00	0°06'41
retrograde	1433 Aug 04 j 00:57	7° Υ 17'24		behind sun begin	1440 May 14 j 17:14	2° Υ 31'06	
opposition	1433 Oct 19 j 22:14	5° Υ 16'43	0°-28'-31	behind sun end	1440 May 15 j 05:50	2° Υ 32'54	
min. Earth dist.	1433 Oct 19 j 13:50	5° Υ 17'35	18.70846 AU	max. Earth dist.	1440 May 14 j 21:28	2° Υ 31'43	20.32480 AU
direct	1434 Jan 02 j 14:13	3° Υ 18'35		retrograde	1440 Sep 03 j 00:54	6° Υ 44'43	
conjunction	1434 Apr 19 j 06:58	7° Υ 17'41	0°-24'-30	opposition	1440 Nov 17 j 18:40	4° Υ 43'02	0°-5'-30
minimum elong	1434 Apr 19 j 06:58	7° Υ 17'41	0°24'30	min. Earth dist.	1440 Nov 17 j 21:13	4° Υ 42'45	18.29345 AU
max. Earth dist.	1434 Apr 19 j 14:33	7° Υ 18'46	20.68142 AU	direct	1441 Jan 31 j 06:47	2° Υ 42'33	
retrograde	1434 Aug 08 j 12:08	11° Υ 25'35		conjunction	1441 May 19 j 17:27	6° Υ 50'33	0°-3'-24
opposition	1434 Oct 24 j 06:51	9° Υ 24'41	0°-25'-36	minimum elong	1441 May 19 j 17:27	6° Υ 50'33	0°03'25
min. Earth dist.	1434 Oct 24 j 00:52	9° Υ 25'19	18.65362 AU	behind sun begin	1441 May 19 j 10:45	6° Υ 49'35	
direct	1435 Jan 06 j 21:19	7° Υ 26'11		behind sun end	1441 May 20 j 00:10	6° Υ 51'31	
conjunction	1435 Apr 23 j 19:50	11° Υ 26'21	0°-21'-48	max. Earth dist.	1441 May 19 j 13:54	6° Υ 50'04	20.26232 AU
minimum elong	1435 Apr 23 j 19:50	11° Υ 26'21	0°21'49	retrograde	1441 Sep 07 j 19:15	11° Υ 04'09	
max. Earth dist.	1435 Apr 24 j 02:39	11° Υ 27'20	20.62544 AU	opposition	1441 Nov 22 j 06:29	9° Υ 02'25	0°-1'-50
retrograde	1435 Jul 06 j 08:33	15° Υ		min. Earth dist.	1441 Nov 22 j 09:46	9° Υ 02'04	18.23049 AU
opposition	1435 Aug 13 j 01:28	15° Υ 34'58		direct	1442 Feb 04 j 20:11	7° Υ 01'36	
min. Earth dist.	1435 Oct 28 j 09:58	13° Υ 34'28	18.59652 AU	conjunction	1442 May 24 j 12:20	11° Υ 11'08	0°00'-1
direct	1436 Jan 11 j 06:23	11° Υ 35'02		minimum elong	1442 May 24 j 12:20	11° Υ 11'08	0°00'02
conjunction	1436 Apr 27 j 09:17	15° Υ 36'20	0°-18'-58	behind sun begin	1442 May 24 j 06:59	11° Υ 10'22	
minimum elong	1436 Apr 27 j 09:17	15° Υ 36'20	0°18'59	behind sun end	1442 May 24 j 17:40	11° Υ 11'53	
max. Earth dist.	1436 Apr 27 j 13:38	15° Υ 36'57	20.56744 AU	max. Earth dist.	1442 May 24 j 06:27	11° Υ 10'18	20.19876 AU
retrograde	1436 Aug 16 j 13:46	19° Υ 45'42		asc. node	1442 May 27 j 03:55	11° Υ 20'33	
opposition	1436 Nov 01 j 00:50	17° Υ 44'26	0°-19'-21	retrograde	1442 Sep 12 j 11:01	15° Υ 25'37	
min. Earth dist.	1436 Oct 31 j 21:38	17° Υ 44'46	18.53780 AU	opposition	1442 Nov 26 j 19:12	13° Υ 23'49	0°01'51
direct	1437 Jan 14 j 14:13	15° Υ 45'14		min. Earth dist.	1442 Nov 27 j 01:15	13° Υ 23'10	18.16639 AU
conjunction				direct	1443 Feb 09 j 07:42	11° Υ 22'39	
retrograde				conjunction	1443 May 29 j 08:15	15° Υ 33'43	0°03'24
opposition				minimum elong	1443 May 29 j 08:14	15° Υ 33'43	0°03'24
min. Earth dist.				behind sun begin	1443 May 29 j 01:31	15° Υ 32'44	
direct				behind sun end	1443 May 29 j 14:57	15° Υ 34'41	
				max. Earth dist.	1443 May 29 j 00:16	15° Υ 32'33	20.13411 AU

retrograde	1443 Sep 17 j 06:15	19°II49'04		min. Earth dist.	1451 Jan 01 j 16:38	19°☾17'38	17.65938 AU
opposition	1443 Dec 01 j 08:21	17°II47'10	0°05'34	direct	1451 Mar 17 j 02:36	17°☾15'04	
min. Earth dist.	1443 Dec 01 j 15:19	17°II46'25	18.10117 AU	max. Earth dist.	1451 Jul 05 j 04:41	21°☾34'37	19.63257 AU
direct	1444 Feb 13 j 23:06	15°II45'39					
conjunction	1444 Jun 02 j 05:00	19°II58'14	0°06'44	conjunction	1451 Jul 06 j 02:11	21°☾37'54	0°28'26
minimum elong	1444 Jun 02 j 04:59	19°II58'14	0°06'45	minimum elong	1451 Jul 06 j 02:11	21°☾37'54	0°28'26
behind sun begin	1444 Jun 01 j 22:40	19°II57'19		retrograde	1451 Oct 23 j 18:46	25°☾58'57	
behind sun end	1444 Jun 02 j 11:17	19°II59'09		opposition	1452 Jan 05 j 18:06	23°☾56'11	0°33'06
max. Earth dist.	1444 Jun 01 j 18:54	19°II56'45	20.06831 AU	min. Earth dist.	1452 Jan 06 j 11:44	23°☾54'15	17.60714 AU
retrograde	1444 Sep 20 j 22:47	24°II14'25		direct	1452 Mar 20 j 23:33	21°☾51'25	
opposition	1444 Dec 04 j 22:26	22°II12'25	0°09'17	max. Earth dist.	1452 Jul 09 j 07:10	26°☾12'20	19.58244 AU
min. Earth dist.	1444 Dec 05 j 07:58	22°II11'23	18.03506 AU	conjunction	1452 Jul 10 j 04:21	26°☾15'35	0°31'01
direct	1445 Feb 17 j 12:44	20°II10'29		minimum elong	1452 Jul 10 j 04:21	26°☾15'35	0°31'00
conjunction	1445 Jun 07 j 02:22	24°II24'36	0°10'04	retrograde	1452 Sep 20 j 14:09	0°♁	
minimum elong	1445 Jun 07 j 02:21	24°II24'36	0°10'03	retrograde	1452 Oct 27 j 17:05	0°♁37'10	
behind sun begin	1445 Jun 06 j 20:57	24°II23'49		retrograde	1452 Dec 04 j 09:12	30°R☾	
behind sun end	1445 Jun 07 j 07:45	24°II25'23		opposition	1453 Jan 09 j 13:25	28°☾34'25	0°35'53
max. Earth dist.	1445 Jun 06 j 14:03	24°II22'46	20.00207 AU	min. Earth dist.	1453 Jan 10 j 07:44	28°☾32'25	17.55928 AU
retrograde	1445 Sep 25 j 18:35	28°II41'35		direct	1453 Mar 25 j 20:10	26°☾29'23	
opposition	1445 Dec 09 j 12:59	26°II39'27	0°12'59	max. Earth dist.	1453 Jun 30 j 08:45	0°♁	
min. Earth dist.	1445 Dec 09 j 23:23	26°II38'20	17.96874 AU	max. Earth dist.	1453 Jul 14 j 07:43	0°♁51'15	19.53689 AU
direct	1446 Feb 22 j 06:05	24°II37'07		conjunction	1453 Jul 15 j 06:49	0°♁54'49	0°33'25
max. Earth dist.	1446 Jun 11 j 10:55	28°II50'41	19.93576 AU	minimum elong	1453 Jul 15 j 06:49	0°♁54'49	0°33'25
conjunction	1446 Jun 12 j 00:46	28°II52'45	0°13'21	retrograde	1453 Nov 01 j 16:23	5°♁16'54	
minimum elong	1446 Jun 12 j 00:46	28°II52'45	0°13'21	opposition	1454 Jan 14 j 09:25	3°♁14'10	0°38'28
behind sun begin	1446 Jun 11 j 21:03	28°II52'12		min. Earth dist.	1454 Jan 15 j 04:33	3°♁12'05	17.51606 AU
behind sun end	1446 Jun 12 j 04:29	28°II53'18		direct	1454 Mar 30 j 18:16	1°♁08'54	
retrograde	1446 Jun 30 j 21:00	0°☾		max. Earth dist.	1454 Jul 19 j 11:22	5°♁32'02	19.49579 AU
retrograde	1446 Sep 30 j 11:59	3°☾10'29		conjunction	1454 Jul 20 j 10:05	5°♁35'32	0°35'37
opposition	1446 Dec 14 j 04:11	1°☾08'13	0°16'37	minimum elong	1454 Jul 20 j 10:05	5°♁35'32	0°35'37
min. Earth dist.	1446 Dec 14 j 16:55	1°☾06'51	17.90279 AU	retrograde	1454 Nov 06 j 15:41	9°♁58'04	
direct	1447 Jan 11 j 02:57	30°R♁		opposition	1455 Jan 19 j 06:03	7°♁55'24	0°40'48
direct	1447 Feb 26 j 22:08	29°II05'27		min. Earth dist.	1455 Jan 20 j 01:38	7°♁53'15	17.47707 AU
conjunction	1447 Jun 16 j 23:48	3°☾22'35	0°16'35	direct	1455 Apr 04 j 16:44	5°♁49'56	
minimum elong	1447 Jun 16 j 23:48	3°☾22'35	0°16'34	conjunction	1455 Jul 25 j 13:38	10°♁17'41	0°37'35
max. Earth dist.	1447 Jun 16 j 07:38	3°☾20'09	19.87040 AU	minimum elong	1455 Jul 25 j 13:38	10°♁17'40	0°37'35
retrograde	1447 Oct 05 j 08:06	7°☾41'04		max. Earth dist.	1455 Jul 24 j 13:07	10°♁13'53	19.45888 AU
opposition	1447 Dec 18 j 20:01	5°☾38'40	0°20'10	retrograde	1455 Nov 11 j 15:16	14°♁40'35	
min. Earth dist.	1447 Dec 19 j 09:29	5°☾37'12	17.83818 AU	opposition	1456 Jan 24 j 03:33	12°♁37'58	0°42'52
direct	1448 Mar 02 j 16:51	3°☾35'27		min. Earth dist.	1456 Jan 25 j 00:12	12°♁35'43	17.44234 AU
conjunction	1448 Jun 20 j 23:27	7°☾54'04	0°19'43	direct	1456 Apr 08 j 16:09	10°♁32'19	
minimum elong	1448 Jun 20 j 23:27	7°☾54'04	0°19'44	conjunction	1456 Jul 29 j 17:26	15°♁01'03	0°39'19
max. Earth dist.	1448 Jun 20 j 06:31	7°☾51'30	19.80655 AU	minimum elong	1456 Jul 29 j 17:26	15°♁01'03	0°39'19
retrograde	1448 Oct 09 j 03:03	12°☾13'14		max. Earth dist.	1456 Jul 28 j 17:16	14°♁57'18	19.42606 AU
opposition	1448 Dec 22 j 12:36	10°☾10'43	0°23'37	retrograde	1456 Jul 29 j 10:39	15°♁	
min. Earth dist.	1448 Dec 23 j 03:48	10°☾09'04	17.77551 AU	retrograde	1456 Nov 15 j 15:19	19°♁24'16	
direct	1449 Mar 07 j 11:08	8°☾07'04		opposition	1457 Jan 28 j 01:38	17°♁21'42	0°44'40
conjunction	1449 Jun 25 j 23:41	12°☾27'07	0°22'46	min. Earth dist.	1457 Jan 28 j 22:16	17°♁19'27	17.41145 AU
minimum elong	1449 Jun 25 j 23:41	12°☾27'07	0°22'46	direct	1457 Apr 13 j 17:04	15°♁15'53	
max. Earth dist.	1449 Jun 25 j 04:32	12°☾24'13	19.74524 AU	conjunction	1457 Aug 03 j 21:32	19°♁45'29	0°40'47
retrograde	1449 Oct 13 j 23:53	16°☾46'58		minimum elong	1457 Aug 03 j 21:32	19°♁45'29	0°40'46
opposition	1449 Dec 27 j 05:38	14°☾44'19	0°26'57	max. Earth dist.	1457 Aug 02 j 20:01	19°♁41'30	19.39710 AU
min. Earth dist.	1449 Dec 27 j 21:29	14°☾42'36	17.71577 AU	retrograde	1457 Nov 20 j 14:30	24°♁08'54	
direct	1450 Mar 12 j 07:00	12°☾40'16		opposition	1458 Feb 02 j 00:16	22°♁06'23	0°46'09
max. Earth dist.	1450 Jun 30 j 05:23	16°☾58'48	19.68701 AU	min. Earth dist.	1458 Feb 02 j 22:07	22°♁03'59	17.38459 AU
conjunction	1450 Jul 01 j 00:45	17°☾01'45	0°25'40	direct	1458 Apr 18 j 17:35	20°♁00'24	
minimum elong	1450 Jul 01 j 00:45	17°☾01'45	0°25'40	max. Earth dist.	1458 Aug 08 j 00:29	24°♁26'47	19.37223 AU
retrograde	1450 Oct 18 j 20:36	21°☾22'12		conjunction	1458 Aug 09 j 01:52	24°♁30'44	0°41'58
opposition	1450 Dec 31 j 23:35	19°☾19'29	0°30'06	minimum elong	1458 Aug 09 j 01:51	24°♁30'44	0°41'58
				retrograde	1458 Nov 25 j 15:02	28°♁54'17	

opposition	1459 Feb 06 j 23:26	26°Ω51'48	0°47'20	conjunction	1466 Sep 17 j 03:00	2°♁38'30	0°40'49
min. Earth dist.	1459 Feb 07 j 20:47	26°Ω49'28	17.36173 AU	minimum elong	1466 Sep 17 j 03:00	2°♁38'30	0°40'49
direct	1459 Apr 23 j 20:33	24°Ω45'41		retrograde	1467 Jan 02 j 12:10	7°♁00'21	
max. Earth dist.	1459 Aug 13 j 04:10	29°Ω12'34	19.35147 AU	opposition	1467 Mar 17 j 04:12	4°♁58'25	0°44'45
				min. Earth dist.	1467 Mar 17 j 20:53	4°♁56'37	17.36999 AU
conjunction	1459 Aug 14 j 06:00	29°Ω16'36	0°42'53	direct	1467 Jun 01 j 21:10	2°♁52'20	
minimum elong	1459 Aug 14 j 06:00	29°Ω16'36	0°42'53	max. Earth dist.	1467 Sep 21 j 10:12	7°♁20'10	19.38310 AU
	1459 Aug 25 j 20:06	0°♃					
retrograde	1459 Nov 30 j 13:55	3°♃40'13		conjunction	1467 Sep 22 j 04:03	7°♁22'58	0°39'22
opposition	1460 Feb 11 j 23:10	1°♃37'45	0°48'11	minimum elong	1467 Sep 22 j 04:03	7°♁22'58	0°39'22
min. Earth dist.	1460 Feb 12 j 21:33	1°♃35'19	17.34333 AU	retrograde	1468 Jan 07 j 11:16	11°♁44'20	
	1460 Mar 25 j 16:05	30°♃		opposition	1468 Mar 21 j 05:37	9°♁42'35	0°42'59
direct	1460 Apr 27 j 22:19	29°Ω31'30		min. Earth dist.	1468 Mar 21 j 21:34	9°♁40'52	17.39804 AU
	1460 May 30 j 20:07	0°♃		direct	1468 Jun 06 j 00:20	7°♁36'44	
max. Earth dist.	1460 Aug 17 j 08:23	3°♃58'51	19.33546 AU	max. Earth dist.	1468 Sep 25 j 10:58	12°♁03'59	19.41386 AU
conjunction	1460 Aug 18 j 10:04	4°♃02'53	0°43'29	conjunction	1468 Sep 26 j 04:27	12°♁06'44	0°37'40
minimum elong	1460 Aug 18 j 10:04	4°♃02'53	0°43'29	minimum elong	1468 Sep 26 j 04:27	12°♁06'44	0°37'40
retrograde	1460 Dec 04 j 14:25	8°♃26'27		retrograde	1469 Jan 11 j 09:44	16°♁27'33	
opposition	1461 Feb 15 j 23:03	6°♃24'01	0°48'42	opposition	1469 Mar 26 j 06:44	14°♁25'59	0°40'56
min. Earth dist.	1461 Feb 16 j 20:25	6°♃21'41	17.32971 AU	min. Earth dist.	1469 Mar 26 j 21:09	14°♁24'26	17.43127 AU
direct	1461 May 03 j 02:37	4°♃17'39		direct	1469 Jun 11 j 03:02	12°♁20'24	
conjunction	1461 Aug 23 j 13:58	8°♃49'20	0°43'47	conjunction	1469 Oct 01 j 04:25	16°♁49'40	0°35'42
minimum elong	1461 Aug 23 j 13:58	8°♃49'20	0°43'48	minimum elong	1469 Oct 01 j 04:25	16°♁49'40	0°35'42
max. Earth dist.	1461 Aug 22 j 12:48	8°♃45'24	19.32436 AU	max. Earth dist.	1469 Sep 30 j 13:26	16°♁47'19	19.44936 AU
retrograde	1461 Dec 09 j 13:02	13°♃12'47		retrograde	1470 Jan 16 j 08:15	21°♁09'52	
opposition	1462 Feb 20 j 23:28	11°♃10'23	0°48'52	opposition	1470 Mar 31 j 08:03	19°♁08'29	0°38'37
min. Earth dist.	1462 Feb 21 j 21:35	11°♃07'59	17.32128 AU	min. Earth dist.	1470 Mar 31 j 21:24	19°♁07'03	17.46876 AU
direct	1462 May 08 j 04:59	9°♃03'56		direct	1470 Jun 16 j 07:07	17°♁03'11	
conjunction	1462 Aug 28 j 17:28	13°♃35'47	0°43'47	conjunction	1470 Oct 06 j 03:28	21°♁31'33	0°33'31
minimum elong	1462 Aug 28 j 17:28	13°♃35'47	0°43'47	minimum elong	1470 Oct 06 j 03:28	21°♁31'33	0°33'30
max. Earth dist.	1462 Aug 27 j 16:27	13°♃31'51	19.31872 AU	max. Earth dist.	1470 Oct 05 j 13:00	21°♁29'18	19.48888 AU
retrograde	1462 Dec 14 j 13:41	17°♃59'02		retrograde	1471 Jan 21 j 05:07	25°♁51'06	
opposition	1463 Feb 25 j 23:59	15°♃56'40	0°48'43	opposition	1471 Apr 05 j 09:13	23°♁49'53	0°36'02
min. Earth dist.	1463 Feb 26 j 20:34	15°♃54'25	17.31846 AU	min. Earth dist.	1471 Apr 05 j 21:16	23°♁48'36	17.51018 AU
direct	1463 May 13 j 09:51	13°♃50'10		direct	1471 Jun 21 j 09:42	21°♁44'52	
conjunction	1463 Sep 02 j 20:40	18°♃22'02	0°43'29	conjunction	1471 Oct 11 j 01:56	26°♁12'14	0°31'06
minimum elong	1463 Sep 02 j 20:40	18°♃22'02	0°43'29	minimum elong	1471 Oct 11 j 01:56	26°♁12'14	0°31'07
max. Earth dist.	1463 Sep 01 j 21:15	18°♃18'22	19.31886 AU	max. Earth dist.	1471 Oct 10 j 13:51	26°♁10'21	19.53206 AU
retrograde	1463 Dec 19 j 12:28	22°♃45'02			1471 Dec 23 j 12:10	0°♃	
opposition	1464 Mar 02 j 00:57	20°♃42'43	0°48'12	retrograde	1472 Jan 26 j 02:44	0°♃31'03	
min. Earth dist.	1464 Mar 02 j 21:41	20°♃40'28	17.32174 AU		1472 Feb 29 j 15:08	30°♃	
direct	1464 May 17 j 12:10	18°♃36'14		opposition	1472 Apr 09 j 10:07	28°♁30'00	0°33'14
				min. Earth dist.	1472 Apr 09 j 20:35	28°♁28'53	17.55486 AU
conjunction	1464 Sep 06 j 23:07	23°♃07'58	0°42'53	direct	1472 Jun 25 j 13:19	26°♁25'17	
minimum elong	1464 Sep 06 j 23:07	23°♃07'58	0°42'53		1472 Oct 01 j 04:15	0°♃	
max. Earth dist.	1464 Sep 06 j 00:01	23°♃04'20	19.32538 AU				
retrograde	1464 Dec 23 j 12:59	27°♃30'38		conjunction	1472 Oct 14 j 23:25	0°♃51'32	0°28'30
opposition	1465 Mar 07 j 01:53	25°♃28'24	0°47'22	minimum elong	1472 Oct 14 j 23:25	0°♃51'32	0°28'30
min. Earth dist.	1465 Mar 07 j 20:44	25°♃26'22	17.33146 AU	max. Earth dist.	1472 Oct 14 j 12:08	0°♃49'46	19.57829 AU
direct	1465 May 22 j 15:58	23°♃21'59		retrograde	1473 Jan 29 j 22:32	5°♃09'35	
max. Earth dist.	1465 Sep 11 j 04:35	27°♃50'12	19.33833 AU	opposition	1473 Apr 14 j 10:44	3°♃08'39	0°30'14
				min. Earth dist.	1473 Apr 14 j 20:11	3°♃07'39	17.60254 AU
conjunction	1465 Sep 12 j 01:25	27°♃53'29	0°41'59	direct	1473 Jun 30 j 14:30	1°♃04'12	
minimum elong	1465 Sep 12 j 01:25	27°♃53'29	0°41'58				
	1465 Oct 16 j 20:11	0°♁		conjunction	1473 Oct 19 j 20:10	5°♃29'16	0°25'44
retrograde	1465 Dec 28 j 12:10	2°♁15'45		minimum elong	1473 Oct 19 j 20:11	5°♃29'16	0°25'44
opposition	1466 Mar 12 j 03:00	0°♁13'40	0°46'13	max. Earth dist.	1473 Oct 19 j 11:00	5°♃27'50	19.62734 AU
min. Earth dist.	1466 Mar 12 j 21:34	0°♁11'39	17.34757 AU	retrograde	1474 Feb 03 j 19:11	9°♃46'30	
	1466 Mar 17 j 09:17	30°♃		opposition	1474 Apr 19 j 10:52	7°♃45'42	0°27'02
direct	1466 May 27 j 18:13	28°♃07'22		min. Earth dist.	1474 Apr 19 j 18:16	7°♃44'55	17.65272 AU
	1466 Aug 03 j 08:52	0°♁		direct	1474 Jul 05 j 16:54	5°♃41'32	
max. Earth dist.	1466 Sep 16 j 06:29	2°♁35'16	19.35772 AU				
				conjunction	1474 Oct 24 j 15:57	10°♃05'18	0°22'48

minimum elong	1474 Oct 24 j 15:57	10°M05'18	0°22'48	direct	1481 Aug 07 j 03:05	7°Z11'46	
max. Earth dist.	1474 Oct 24 j 08:07	10°M04'05	19.67888 AU	desc. node	1481 Nov 23 j 04:34	11°Z21'13	
retrograde	1475 Feb 08 j 13:53	14°M21'41					
opposition	1475 Apr 24 j 10:45	12°M20'59	0°23'42	conjunction	1481 Nov 24 j 07:46	11°Z25'22	0°00'00
min. Earth dist.	1475 Apr 24 j 17:11	12°M20'19	17.70560 AU	minimum elong	1481 Nov 24 j 07:45	11°Z25'22	0°00'01
direct	1475 Jul 10 j 16:41	10°M17'06		behind sun begin	1481 Nov 24 j 05:00	11°Z25'00	
				behind sun end	1481 Nov 24 j 10:31	11°Z25'44	
conjunction	1475 Oct 29 j 10:39	14°M39'30	0°19'45	max. Earth dist.	1481 Nov 24 j 13:43	11°Z26'15	20.11199 AU
minimum elong	1475 Oct 29 j 10:39	14°M39'30	0°19'44	retrograde	1482 Mar 11 j 16:29	15°Z35'45	
max. Earth dist.	1475 Oct 29 j 04:54	14°M38'37	19.73311 AU	opposition	1482 May 26 j 17:05	13°Z36'03	0°-1'-50
	1475 Nov 03 j 22:35	15°M		min. Earth dist.	1482 May 26 j 09:20	13°Z36'51	18.14607 AU
retrograde	1476 Feb 13 j 09:34	18°M55'00		direct	1482 Aug 11 j 23:22	11°Z34'50	
opposition	1476 Apr 28 j 09:57	16°M54'24	0°20'14				
min. Earth dist.	1476 Apr 28 j 13:49	16°M54'00	17.76100 AU	conjunction	1482 Nov 28 j 20:26	15°Z46'58	0°-3'-24
	1476 Jun 25 j 15:37	15°RM		minimum elong	1482 Nov 28 j 20:27	15°Z46'58	0°03'25
direct	1476 Jul 14 j 17:37	14°M50'49		behind sun begin	1482 Nov 28 j 13:57	15°Z46'00	
	1476 Aug 02 j 12:35	15°M		behind sun end	1482 Nov 29 j 02:57	15°Z47'56	
conjunction	1476 Nov 02 j 04:29	19°M11'46	0°16'35	max. Earth dist.	1482 Nov 29 j 04:55	15°Z48'14	20.18062 AU
minimum elong	1476 Nov 02 j 04:29	19°M11'46	0°16'36	retrograde	1483 Mar 16 j 06:09	19°Z56'34	
max. Earth dist.	1476 Nov 02 j 00:40	19°M11'11	19.78986 AU	opposition	1483 May 31 j 12:19	17°Z57'03	0°-5'-31
retrograde	1477 Feb 17 j 02:47	23°M26'24		min. Earth dist.	1483 May 31 j 03:57	17°Z57'54	18.21473 AU
opposition	1477 May 03 j 08:34	21°M25'53	0°16'39	direct	1483 Aug 16 j 16:39	15°Z56'16	
min. Earth dist.	1477 May 03 j 11:30	21°M25'35	17.81919 AU	conjunction	1483 Dec 03 j 08:13	20°Z06'56	0°-6'-41
direct	1477 Jul 19 j 15:35	19°M22'36		minimum elong	1483 Dec 03 j 08:13	20°Z06'56	0°06'42
				behind sun begin	1483 Dec 03 j 02:05	20°Z06'02	
conjunction	1477 Nov 06 j 21:21	23°M42'07	0°13'21	behind sun end	1483 Dec 03 j 14:21	20°Z07'50	
minimum elong	1477 Nov 06 j 21:21	23°M42'07	0°13'21	max. Earth dist.	1483 Dec 03 j 17:31	20°Z08'19	20.24907 AU
behind sun begin	1477 Nov 06 j 17:29	23°M41'32		retrograde	1484 Mar 19 j 22:12	24°Z15'45	
behind sun end	1477 Nov 07 j 01:13	23°M42'42		opposition	1484 Jun 04 j 06:43	22°Z16'23	0°-9'-9
max. Earth dist.	1477 Nov 06 j 19:28	23°M41'50	19.84951 AU	min. Earth dist.	1484 Jun 03 j 19:56	22°Z17'29	18.28275 AU
retrograde	1478 Feb 21 j 21:43	27°M55'51		direct	1484 Aug 20 j 11:38	20°Z16'02	
opposition	1478 May 08 j 06:40	25°M55'27	0°13'01	conjunction	1484 Dec 06 j 19:30	24°Z25'15	0°-9'-55
min. Earth dist.	1478 May 08 j 06:35	25°M55'28	17.88016 AU	minimum elong	1484 Dec 06 j 19:30	24°Z25'16	0°09'56
direct	1478 Jul 24 j 14:53	23°M52'32		behind sun begin	1484 Dec 06 j 14:09	24°Z24'28	
				behind sun end	1484 Dec 07 j 00:51	24°Z26'03	
conjunction	1478 Nov 11 j 13:13	28°M10'34	0°10'04	max. Earth dist.	1484 Dec 07 j 07:05	24°Z27'00	20.31636 AU
minimum elong	1478 Nov 11 j 13:13	28°M10'34	0°10'05	retrograde	1485 Mar 24 j 10:27	28°Z33'18	
behind sun begin	1478 Nov 11 j 07:53	28°M09'46		opposition	1485 Jun 09 j 00:33	26°Z34'05	0°-12'-42
behind sun end	1478 Nov 11 j 18:32	28°M11'21		min. Earth dist.	1485 Jun 08 j 13:23	26°Z35'13	18.34928 AU
max. Earth dist.	1478 Nov 11 j 13:46	28°M10'38	19.91185 AU	direct	1485 Aug 25 j 03:51	24°Z34'08	
	1478 Dec 12 j 02:30	0°Z					
retrograde	1479 Feb 26 j 13:41	2°Z23'26		conjunction	1485 Dec 11 j 06:01	28°Z41'55	0°-13'-4
opposition	1479 May 13 j 04:20	0°Z23'11	0°09'19	minimum elong	1485 Dec 11 j 06:00	28°Z41'55	0°13'05
min. Earth dist.	1479 May 13 j 03:12	0°Z23'18	17.94389 AU	behind sun begin	1485 Dec 11 j 01:59	28°Z41'20	
	1479 May 22 j 13:18	30°RM		behind sun end	1485 Dec 11 j 10:01	28°Z42'30	
direct	1479 Jul 29 j 11:03	28°M20'40		max. Earth dist.	1485 Dec 11 j 17:59	28°Z43'42	20.38198 AU
	1479 Oct 01 j 06:04	0°Z			1486 Jan 02 j 06:00	0°Z	
conjunction	1479 Nov 16 j 04:15	2°Z37'12	0°06'45	retrograde	1486 Mar 29 j 00:56	2°Z49'13	
minimum elong	1479 Nov 16 j 04:14	2°Z37'12	0°06'45	opposition	1486 Jun 13 j 17:45	0°Z50'07	0°-16'-10
behind sun begin	1479 Nov 15 j 22:06	2°Z36'17		min. Earth dist.	1486 Jun 13 j 04:30	0°Z51'27	18.41386 AU
behind sun end	1479 Nov 16 j 10:23	2°Z38'07			1486 Jul 05 j 00:38	30°RZ	
max. Earth dist.	1479 Nov 16 j 06:27	2°Z37'31	19.97687 AU	direct	1486 Aug 29 j 20:42	28°Z50'30	
retrograde	1480 Mar 02 j 08:12	6°Z49'14			1486 Oct 21 j 19:39	0°Z	
opposition	1480 May 17 j 01:05	4°Z49'09	0°05'36	conjunction	1486 Dec 15 j 15:51	2°Z56'53	0°-16'-9
min. Earth dist.	1480 May 16 j 20:55	4°Z49'35	18.00992 AU	minimum elong	1486 Dec 15 j 15:51	2°Z56'53	0°16'09
direct	1480 Aug 02 j 08:26	2°Z47'02		behind sun begin	1486 Dec 15 j 15:02	2°Z56'46	
				behind sun end	1486 Dec 15 j 16:40	2°Z57'00	
conjunction	1480 Nov 19 j 18:28	7°Z02'07	0°03'25	max. Earth dist.	1486 Dec 16 j 06:01	2°Z59'00	20.44523 AU
minimum elong	1480 Nov 19 j 18:29	7°Z02'07	0°03'25	retrograde	1487 Apr 02 j 12:18	7°Z03'27	
behind sun begin	1480 Nov 19 j 11:58	7°Z01'09		opposition	1487 Jun 18 j 10:23	5°Z04'25	0°-19'-31
behind sun end	1480 Nov 20 j 01:00	7°Z03'06		min. Earth dist.	1487 Jun 17 j 20:44	5°Z05'48	18.47582 AU
max. Earth dist.	1480 Nov 19 j 23:11	7°Z02'48	20.04378 AU	direct	1487 Sep 03 j 11:47	3°Z05'08	
retrograde	1481 Mar 06 j 22:58	11°Z13'19					
opposition	1481 May 21 j 21:27	9°Z13'26	0°01'52	conjunction	1487 Dec 20 j 01:01	7°Z10'07	0°-19'-7
min. Earth dist.	1481 May 21 j 16:30	9°Z13'56	18.07756 AU				

minimum elong	1487 Dec 20 j 01:01	7°☾10'07	0°19'08	minimum elong	1496 Jan 21 j 06:23	10°☾00'32	0°37'33
max. Earth dist.	1487 Dec 20 j 15:18	7°☾12'14	20.50586 AU	max. Earth dist.	1496 Jan 22 j 04:59	10°☾03'49	20.90248 AU
retrograde	1488 Apr 06 j 00:51	11°☾15'58		retrograde	1496 May 09 j 09:08	14°☾02'24	
min. Earth dist.	1488 Jun 21 j 10:35	9°☾18'31	18.53512 AU	min. Earth dist.	1496 Jul 25 j 09:12	12°☾05'53	18.92174 AU
opposition	1488 Jun 22 j 01:58	9°☾16'58	0°-22'-45	opposition	1496 Jul 26 j 07:49	12°☾03'38	0°-42'-23
direct	1488 Sep 07 j 02:11	7°☾17'57		direct	1496 Oct 10 j 14:22	10°☾06'37	
conjunction	1488 Dec 23 j 09:36	11°☾21'36	0°-21'-58	conjunction	1497 Jan 24 j 11:44	14°☾02'04	0°-39'-4
minimum elong	1488 Dec 23 j 09:36	11°☾21'36	0°21'58	minimum elong	1497 Jan 24 j 11:44	14°☾02'04	0°39'06
max. Earth dist.	1488 Dec 24 j 02:01	11°☾24'02	20.56368 AU	max. Earth dist.	1497 Jan 25 j 11:54	14°☾05'34	20.93931 AU
retrograde	1489 Apr 10 j 11:23	15°☾26'44			1497 Feb 10 j 06:47	15°☾	
opposition	1489 Jun 26 j 17:02	13°☾27'46	0°-25'-50	retrograde	1497 May 13 j 17:54	18°☾03'42	
min. Earth dist.	1489 Jun 26 j 01:09	13°☾29'22	18.59161 AU	opposition	1497 Jul 30 j 18:09	16°☾04'59	0°-43'-57
direct	1489 Sep 11 j 15:44	11°☾29'00		min. Earth dist.	1497 Jul 29 j 19:14	16°☾07'17	18.95648 AU
conjunction	1489 Dec 27 j 17:14	15°☾31'19	0°-24'-40	direct	1497 Aug 28 j 12:31	15°☾	
minimum elong	1489 Dec 27 j 17:14	15°☾31'19	0°24'42		1497 Oct 14 j 22:43	14°☾08'13	
max. Earth dist.	1489 Dec 28 j 09:51	15°☾33'47	20.61895 AU		1497 Nov 29 j 12:17	15°☾	
retrograde	1490 Apr 14 j 22:35	19°☾35'50		conjunction	1498 Jan 28 j 16:43	18°☾02'59	0°-40'-24
opposition	1490 Jul 01 j 07:22	17°☾36'51	0°-28'-45	minimum elong	1498 Jan 28 j 16:43	18°☾02'59	0°40'24
min. Earth dist.	1490 Jun 30 j 13:46	17°☾38'37	18.64580 AU	max. Earth dist.	1498 Jan 29 j 16:06	18°☾06'22	20.97186 AU
direct	1490 Sep 16 j 04:12	15°☾38'18		retrograde	1498 May 18 j 03:20	22°☾04'28	
conjunction	1491 Jan 01 j 00:33	19°☾39'24	0°-27'-14	min. Earth dist.	1498 Aug 03 j 05:14	20°☾08'04	18.98679 AU
minimum elong	1491 Jan 01 j 00:33	19°☾39'24	0°27'14	opposition	1498 Aug 04 j 04:08	20°☾05'47	0°-45'-18
max. Earth dist.	1491 Jan 01 j 19:27	19°☾42'11	20.67193 AU	direct	1498 Oct 19 j 04:57	18°☾09'12	
retrograde	1491 Apr 19 j 08:17	23°☾43'18		conjunction	1499 Feb 01 j 21:57	22°☾03'24	0°-41'-32
opposition	1491 Jul 05 j 20:57	21°☾44'19	0°-31'-29	minimum elong	1499 Feb 01 j 21:57	22°☾03'24	0°41'33
min. Earth dist.	1491 Jul 05 j 02:36	21°☾46'10	18.69779 AU	max. Earth dist.	1499 Feb 02 j 22:30	22°☾06'57	20.99959 AU
direct	1491 Sep 20 j 15:53	19°☾46'02		retrograde	1499 May 22 j 11:52	26°☾04'45	
conjunction	1492 Jan 05 j 07:11	23°☾45'57	0°-29'-38	opposition	1499 Aug 08 j 13:31	24°☾06'04	0°-46'-26
minimum elong	1492 Jan 05 j 07:11	23°☾45'57	0°29'40	min. Earth dist.	1499 Aug 07 j 14:38	24°☾08'21	19.01191 AU
max. Earth dist.	1492 Jan 06 j 02:11	23°☾48'45	20.72289 AU	direct	1499 Oct 23 j 13:01	22°☾09'38	
retrograde	1492 Apr 22 j 19:02	27°☾49'20		conjunction	1500 Feb 06 j 03:02	26°☾03'20	0°-42'-27
opposition	1492 Jul 09 j 09:51	25°☾50'21	0°-34'-3	minimum elong	1500 Feb 06 j 03:02	26°☾03'20	0°42'27
min. Earth dist.	1492 Jul 08 j 14:02	25°☾52'20	18.74778 AU	max. Earth dist.	1500 Feb 07 j 02:15	26°☾06'41	21.02203 AU
direct	1492 Sep 24 j 02:39	23°☾52'18			1500 May 12 j 03:43	0°☾	
conjunction	1493 Jan 08 j 13:32	27°☾51'10	0°-31'-53	retrograde	1500 May 25 j 21:08	0°☾04'36	
minimum elong	1493 Jan 08 j 13:32	27°☾51'10	0°31'53		1500 Jun 08 j 16:57	30°☾	
max. Earth dist.	1493 Jan 09 j 10:40	27°☾54'16	20.77166 AU	opposition	1500 Aug 11 j 22:42	28°☾05'52	0°-47'-20
	1493 Feb 16 j 02:45	0°☾		min. Earth dist.	1500 Aug 11 j 00:16	28°☾08'06	19.03165 AU
retrograde	1493 Apr 27 j 04:05	1°☾54'04		direct	1500 Oct 26 j 18:35	26°☾09'31	
opposition	1493 Jul 11 j 21:32	30°☾			1501 Feb 08 j 12:43	0°☾	
min. Earth dist.	1493 Jul 13 j 22:07	29°☾55'08	0°-36'-26	conjunction	1501 Feb 09 j 08:07	0°☾02'47	0°-43'-10
direct	1493 Jul 13 j 01:34	29°☾57'12	18.79541 AU	minimum elong	1501 Feb 09 j 08:07	0°☾02'47	0°43'11
	1493 Sep 28 j 12:35	27°☾57'21		max. Earth dist.	1501 Feb 10 j 08:12	0°☾06'15	21.03892 AU
	1493 Dec 09 j 14:15	0°☾		retrograde	1501 May 30 j 05:05	4°☾03'59	
conjunction	1494 Jan 12 j 19:23	1°☾55'14	0°-33'-57	min. Earth dist.	1501 Aug 15 j 08:59	2°☾07'25	19.04575 AU
minimum elong	1494 Jan 12 j 19:23	1°☾55'14	0°33'58	opposition	1501 Aug 16 j 07:24	2°☾05'10	0°-47'-59
max. Earth dist.	1494 Jan 13 j 16:26	1°☾58'18	20.81815 AU	direct	1501 Oct 31 j 02:21	0°☾08'53	
retrograde	1494 May 01 j 14:29	5°☾57'43		conjunction	1502 Feb 13 j 13:04	4°☾01'46	0°-43'-39
opposition	1494 Jul 18 j 09:56	3°☾58'50	0°-38'-37	minimum elong	1502 Feb 13 j 13:04	4°☾01'46	0°43'41
min. Earth dist.	1494 Jul 17 j 12:19	4°☾01'00	18.84069 AU	max. Earth dist.	1502 Feb 14 j 11:48	4°☾05'02	21.05050 AU
direct	1494 Oct 02 j 21:54	2°☾01'19		retrograde	1502 Jun 03 j 14:11	8°☾02'58	
conjunction	1495 Jan 17 j 01:01	5°☾58'18	0°-35'-50	opposition	1502 Aug 20 j 15:49	6°☾04'01	0°-48'-25
minimum elong	1495 Jan 17 j 01:01	5°☾58'18	0°35'51	min. Earth dist.	1502 Aug 19 j 18:02	6°☾06'12	19.05488 AU
max. Earth dist.	1495 Jan 18 j 00:03	6°☾01'39	20.86192 AU	direct	1502 Nov 04 j 07:44	4°☾07'44	
retrograde	1495 May 05 j 23:24	10°☾00'27		conjunction	1503 Feb 17 j 18:09	8°☾00'20	0°-43'-56
opposition	1495 Jul 22 j 21:12	8°☾01'38	0°-40'-36	minimum elong	1503 Feb 17 j 18:10	8°☾00'20	0°43'57
min. Earth dist.	1495 Jul 21 j 23:02	8°☾03'51	18.88289 AU	max. Earth dist.	1503 Feb 18 j 17:49	8°☾03'43	21.05720 AU
direct	1495 Oct 07 j 06:45	6°☾04'23		retrograde	1503 Jun 07 j 21:40	12°☾01'32	
conjunction	1496 Jan 21 j 06:23	10°☾00'32	0°-37'-33	opposition	1503 Aug 24 j 23:46	10°☾02'28	0°-48'-37
				min. Earth dist.	1503 Aug 24 j 01:54	10°☾04'40	19.05925 AU

direct	1503 Nov 08 j 14:34	8°♄06'10		direct	1511 Dec 10 j 08:41	9°♃56'54	
conjunction	1504 Feb 21 j 23:11	11°♄58'33	0°-44'-1	conjunction	1512 Mar 25 j 02:30	13°♃51'08	0°-37'-9
minimum elong	1504 Feb 21 j 23:11	11°♄58'33	0°44'02	minimum elong	1512 Mar 25 j 02:30	13°♃51'08	0°37'09
max. Earth dist.	1504 Feb 22 j 21:29	12°♄01'44	21.05947 AU	max. Earth dist.	1512 Mar 25 j 19:23	13°♃53'33	20.94216 AU
retrograde	1504 Jun 11 j 06:26	15°♄59'50		retrograde	1512 Jul 14 j 04:00	17°♃55'15	
min. Earth dist.	1504 Aug 27 j 10:13	14°♄02'45	19.05957 AU	opposition	1512 Sep 29 j 16:44	15°♃55'18	0°-40'-6
opposition	1504 Aug 28 j 07:21	14°♄00'38	0°-48'-34	min. Earth dist.	1512 Sep 29 j 01:59	15°♃56'48	18.92610 AU
direct	1504 Nov 11 j 19:35	12°♄04'17		direct	1512 Dec 13 j 13:18	13°♃58'24	
conjunction	1505 Feb 25 j 04:29	15°♄56'34	0°-43'-52	conjunction	1513 Mar 29 j 11:22	17°♃53'16	0°-35'-24
minimum elong	1505 Feb 25 j 04:29	15°♄56'34	0°43'52	minimum elong	1513 Mar 29 j 11:22	17°♃53'16	0°35'25
max. Earth dist.	1505 Feb 26 j 03:41	15°♄59'53	21.05782 AU	max. Earth dist.	1513 Mar 30 j 03:50	17°♃55'38	20.90831 AU
retrograde	1505 Jun 15 j 13:51	19°♄57'59		retrograde	1513 Jul 18 j 14:40	21°♃57'57	
opposition	1505 Sep 01 j 14:44	17°♄58'40	0°-48'-18	min. Earth dist.	1513 Oct 03 j 10:05	19°♃59'19	18.88964 AU
min. Earth dist.	1505 Aug 31 j 17:25	18°♄00'49	19.05602 AU	opposition	1513 Oct 04 j 00:10	19°♃57'52	0°-38'-4
direct	1505 Nov 16 j 01:27	16°♄02'17		direct	1513 Dec 17 j 20:27	18°♃00'47	
conjunction	1506 Mar 01 j 09:42	19°♄54'33	0°-43'-31	conjunction	1514 Apr 02 j 20:35	21°♃56'21	0°-33'-28
minimum elong	1506 Mar 01 j 09:42	19°♄54'33	0°43'32	minimum elong	1514 Apr 02 j 20:35	21°♃56'21	0°33'28
max. Earth dist.	1506 Mar 02 j 07:32	19°♄57'40	21.05253 AU	max. Earth dist.	1514 Apr 03 j 10:19	21°♃58'19	20.86946 AU
retrograde	1506 Jun 19 j 22:22	23°♄56'12		retrograde	1514 Jul 23 j 00:37	26°♃01'37	
opposition	1506 Sep 05 j 22:03	21°♄56'45	0°-47'-47	opposition	1514 Oct 08 j 07:55	24°♃01'22	0°-35'-50
min. Earth dist.	1506 Sep 05 j 01:37	21°♄58'48	19.04900 AU	min. Earth dist.	1514 Oct 07 j 20:05	24°♃02'35	18.84836 AU
direct	1506 Nov 20 j 06:19	20°♄00'19		direct	1514 Dec 22 j 01:57	22°♃04'02	
conjunction	1507 Mar 05 j 15:31	23°♄52'41	0°-42'-58	conjunction	1515 Apr 07 j 06:44	26°♃00'23	0°-31'-21
minimum elong	1507 Mar 05 j 15:31	23°♄52'41	0°42'58	minimum elong	1515 Apr 07 j 06:44	26°♃00'23	0°31'22
max. Earth dist.	1507 Mar 06 j 14:03	23°♄55'54	21.04370 AU	max. Earth dist.	1515 Apr 07 j 19:54	26°♃02'16	20.82594 AU
retrograde	1507 Jun 24 j 06:40	27°♄54'35		retrograde	1515 Jul 11 j 13:57	0°♄	
min. Earth dist.	1507 Sep 09 j 08:34	25°♄57'06	19.03832 AU	retrograde	1515 Jul 27 j 11:35	0°♄06'14	
opposition	1507 Sep 10 j 04:59	25°♄55'02	0°-47'-3	opposition	1515 Aug 12 j 11:02	30°♃	
direct	1507 Nov 24 j 11:46	23°♄58'35		min. Earth dist.	1515 Oct 12 j 15:31	28°♃05'50	0°-33'-25
conjunction	1508 Mar 08 j 21:29	27°♄51'07	0°-42'-12	direct	1515 Oct 12 j 04:22	28°♃06'58	18.80261 AU
minimum elong	1508 Mar 08 j 21:29	27°♄51'07	0°42'13	direct	1515 Dec 26 j 09:42	26°♃08'13	
max. Earth dist.	1508 Mar 09 j 18:21	27°♄54'06	21.03131 AU	1516 Apr 09 j 03:46	0°♄		
retrograde	1508 Apr 17 j 11:42	0°♃		conjunction	1516 Apr 10 j 17:14	0°♄05'24	0°-29'-5
retrograde	1508 Jun 27 j 14:48	1°♃53'21		minimum elong	1516 Apr 10 j 17:14	0°♄05'24	0°29'06
opposition	1508 Sep 10 j 21:57	30°♃		max. Earth dist.	1516 Apr 11 j 03:45	0°♄06'54	20.77833 AU
min. Earth dist.	1508 Sep 13 j 12:05	29°♄53'44	0°-46'-6	retrograde	1516 Jul 30 j 22:05	4°♄11'55	
direct	1508 Sep 12 j 16:53	29°♄55'40	19.02412 AU	opposition	1516 Oct 15 j 23:34	2°♄11'18	0°-30'-49
direct	1508 Nov 27 j 16:15	27°♄57'13		min. Earth dist.	1516 Oct 15 j 14:40	2°♄12'13	18.75324 AU
conjunction	1509 Feb 07 j 20:21	0°♃		direct	1516 Dec 29 j 15:55	0°♄13'23	
conjunction	1509 Mar 13 j 03:53	1°♃50'02	0°-41'-14	conjunction	1517 Apr 15 j 04:24	4°♄11'30	0°-26'-39
minimum elong	1509 Mar 13 j 03:53	1°♃50'02	0°41'15	minimum elong	1517 Apr 15 j 04:24	4°♄11'30	0°26'39
max. Earth dist.	1509 Mar 14 j 01:16	1°♃53'05	21.01523 AU	max. Earth dist.	1517 Apr 15 j 14:33	4°♄12'57	20.72743 AU
retrograde	1509 Jul 02 j 00:14	5°♃52'40		retrograde	1517 Aug 04 j 09:54	8°♄18'42	
opposition	1509 Sep 17 j 19:07	3°♃52'58	0°-44'-56	opposition	1517 Oct 20 j 07:46	6°♄17'54	0°-28'-2
min. Earth dist.	1509 Sep 17 j 00:06	3°♃54'53	19.00604 AU	min. Earth dist.	1517 Oct 19 j 23:20	6°♄18'46	18.70083 AU
direct	1509 Dec 01 j 22:02	1°♃56'24		direct	1518 Jan 03 j 00:22	4°♄19'40	
conjunction	1510 Mar 17 j 10:47	5°♃49'36	0°-40'-4	conjunction	1518 Apr 19 j 16:16	8°♄18'46	0°-24'-4
minimum elong	1510 Mar 17 j 10:47	5°♃49'36	0°40'05	minimum elong	1518 Apr 19 j 16:16	8°♄18'46	0°24'05
max. Earth dist.	1510 Mar 18 j 06:10	5°♃52'22	20.99528 AU	max. Earth dist.	1518 Apr 19 j 23:53	8°♄19'52	20.67378 AU
retrograde	1510 Jul 06 j 08:38	9°♃52'41		retrograde	1518 Aug 08 j 21:07	12°♄26'42	
min. Earth dist.	1510 Sep 21 j 08:54	7°♃54'40	18.98404 AU	opposition	1518 Oct 24 j 16:15	10°♄25'43	0°-25'-7
opposition	1510 Sep 22 j 02:15	7°♃52'54	0°-43'-32	min. Earth dist.	1518 Oct 24 j 10:07	10°♄26'21	18.64610 AU
direct	1510 Dec 06 j 02:14	5°♃56'15		direct	1519 Jan 07 j 07:07	8°♄27'09	
conjunction	1511 Mar 21 j 18:26	9°♃49'56	0°-38'-42	conjunction	1519 Apr 24 j 05:05	12°♄27'21	0°-21'-21
minimum elong	1511 Mar 21 j 18:26	9°♃49'56	0°38'44	minimum elong	1519 Apr 24 j 05:05	12°♄27'21	0°21'21
max. Earth dist.	1511 Mar 22 j 13:50	9°♃52'42	20.97109 AU	max. Earth dist.	1519 Apr 24 j 12:10	12°♄28'22	20.61807 AU
retrograde	1511 Jul 10 j 18:52	13°♃53'30		retrograde	1519 Jun 10 j 08:03	15°♄	
opposition	1511 Sep 26 j 09:23	11°♃53'39	0°-41'-55	retrograde	1519 Aug 13 j 10:26	16°♄36'02	
min. Earth dist.	1511 Sep 25 j 16:35	11°♃55'22	18.95747 AU	retrograde	1519 Oct 18 j 22:40	15°♃	

opposition	1519 Oct 29 j 01:02	14°♄34'54	0°-22'-2	conjunction	1526 May 24 j 21:55	12°♁14'22	0°00'30
min. Earth dist.	1519 Oct 28 j 19:20	14°♄35'29	18.58941 AU	minimum elong	1526 May 24 j 21:57	12°♁14'22	0°00'31
direct	1520 Jan 11 j 16:27	12°♄36'01		behind sun begin	1526 May 24 j 15:12	12°♁13'24	
	1520 Mar 30 j 02:05	15°♄		behind sun end	1526 May 25 j 04:42	12°♁15'21	
				max. Earth dist.	1526 May 24 j 15:48	12°♁13'30	20.19277 AU
conjunction	1520 Apr 27 j 18:21	16°♄37'22	0°-18'-30	retrograde	1526 Sep 12 j 21:28	16°♁29'01	
minimum elong	1520 Apr 27 j 18:21	16°♄37'22	0°18'32	opposition	1526 Nov 27 j 05:18	14°♁27'12	0°02'25
max. Earth dist.	1520 Apr 27 j 22:58	16°♄38'02	20.56060 AU	min. Earth dist.	1526 Nov 27 j 11:29	14°♁26'32	18.15991 AU
retrograde	1520 Aug 16 j 22:38	20°♄46'51		direct	1527 Feb 09 j 17:57	12°♁26'02	
opposition	1520 Nov 01 j 10:23	18°♄45'34	0°-18'-50				
min. Earth dist.	1520 Nov 01 j 06:54	18°♄45'56	18.53132 AU	conjunction	1527 May 29 j 17:55	16°♁37'10	0°03'54
direct	1521 Jan 15 j 00:01	16°♄46'22		minimum elong	1527 May 29 j 17:56	16°♁37'10	0°03'54
				behind sun begin	1527 May 29 j 11:15	16°♁36'12	
conjunction	1521 May 02 j 08:41	20°♄48'57	0°-15'-33	behind sun end	1527 May 30 j 00:37	16°♁38'09	
minimum elong	1521 May 02 j 08:40	20°♄48'57	0°15'34	max. Earth dist.	1527 May 29 j 09:55	16°♁36'00	20.12714 AU
behind sun begin	1521 May 02 j 07:28	20°♄48'47		retrograde	1527 Sep 17 j 15:47	20°♁52'39	
behind sun end	1521 May 02 j 09:52	20°♄49'07		opposition	1527 Dec 01 j 18:38	18°♁50'41	0°06'08
max. Earth dist.	1521 May 02 j 12:40	20°♄49'31	20.50199 AU	min. Earth dist.	1527 Dec 02 j 01:35	18°♁49'57	18.09374 AU
retrograde	1521 Aug 21 j 13:37	24°♄59'16		direct	1528 Feb 14 j 09:11	16°♁49'07	
opposition	1521 Nov 05 j 20:00	22°♄57'51	0°-15'-30				
min. Earth dist.	1521 Nov 05 j 16:56	22°♄58'11	18.47212 AU	conjunction	1528 Jun 02 j 14:30	21°♁01'44	0°07'14
direct	1522 Jan 19 j 10:01	20°♄58'21		minimum elong	1528 Jun 02 j 14:30	21°♁01'44	0°07'14
				behind sun begin	1528 Jun 02 j 08:18	21°♁00'50	
conjunction	1522 May 06 j 23:45	25°♄02'15	0°-12'-30	behind sun end	1528 Jun 02 j 20:43	21°♁02'39	
minimum elong	1522 May 06 j 23:45	25°♄02'15	0°12'31	max. Earth dist.	1528 Jun 02 j 04:18	21°♁00'14	20.06052 AU
behind sun begin	1522 May 06 j 19:30	25°♄01'38		retrograde	1528 Sep 21 j 08:47	25°♁18'01	
behind sun end	1522 May 07 j 04:01	25°♄02'51		opposition	1528 Dec 05 j 08:44	23°♁15'55	0°09'51
max. Earth dist.	1522 May 07 j 01:14	25°♄02'27	20.44233 AU	min. Earth dist.	1528 Dec 05 j 18:13	23°♁14'54	18.02698 AU
retrograde	1522 Aug 26 j 03:37	29°♄13'25		direct	1529 Feb 17 j 23:27	21°♁13'55	
opposition	1522 Nov 10 j 06:21	27°♄11'55	0°-12'-4				
min. Earth dist.	1522 Nov 10 j 05:42	27°♄11'59	18.41199 AU	conjunction	1529 Jun 07 j 12:00	25°♁28'02	0°10'33
direct	1523 Jan 23 j 19:00	25°♄12'06		minimum elong	1529 Jun 07 j 12:00	25°♁28'02	0°10'33
				behind sun begin	1529 Jun 07 j 06:48	25°♁27'16	
conjunction	1523 May 11 j 15:56	29°♄17'22	0°-9'-22	behind sun end	1529 Jun 07 j 17:12	25°♁28'48	
minimum elong	1523 May 11 j 15:56	29°♄17'22	0°09'23	max. Earth dist.	1529 Jun 06 j 23:53	25°♁26'14	19.99384 AU
behind sun begin	1523 May 11 j 10:20	29°♄16'34		retrograde	1529 Sep 26 j 03:50	29°♁45'05	
behind sun end	1523 May 11 j 21:32	29°♄18'10		opposition	1529 Dec 09 j 23:10	27°♁42'49	0°13'31
max. Earth dist.	1523 May 11 j 16:26	29°♄17'27	20.38175 AU	min. Earth dist.	1529 Dec 10 j 09:21	27°♁41'44	17.96047 AU
	1523 May 23 j 19:46	0°♁		direct	1530 Feb 22 j 16:34	25°♁40'23	
retrograde	1523 Aug 30 j 19:50	3°♁29'24					
opposition	1523 Nov 14 j 16:59	1°♁27'50	0°-8'-33	conjunction	1530 Jun 12 j 10:21	29°♁56'00	0°13'50
min. Earth dist.	1523 Nov 14 j 16:56	1°♁27'51	18.35083 AU	minimum elong	1530 Jun 12 j 10:21	29°♁56'00	0°13'49
	1523 Dec 23 j 14:09	30°♄		behind sun begin	1530 Jun 12 j 06:59	29°♁55'30	
direct	1524 Jan 28 j 05:58	29°♄27'44		behind sun end	1530 Jun 12 j 13:42	29°♁56'30	
	1524 Mar 03 j 10:01	0°♁		max. Earth dist.	1530 Jun 11 j 20:35	29°♁53'57	19.92758 AU
					1530 Jun 13 j 13:02	0°♁	
conjunction	1524 May 15 j 08:56	3°♁34'26	0°-6'-10	retrograde	1530 Sep 30 j 21:50	4°♁13'47	
minimum elong	1524 May 15 j 08:56	3°♁34'26	0°06'10	opposition	1530 Dec 14 j 14:27	2°♁11'24	0°17'08
behind sun begin	1524 May 15 j 02:32	3°♁33'31		min. Earth dist.	1530 Dec 15 j 02:56	2°♁10'03	17.89479 AU
behind sun end	1524 May 15 j 15:20	3°♁35'20		direct	1531 Feb 27 j 08:17	0°♁08'31	
max. Earth dist.	1524 May 15 j 06:52	3°♁34'09	20.32004 AU				
retrograde	1524 Sep 03 j 11:35	7°♁47'21		conjunction	1531 Jun 17 j 09:16	4°♁25'37	0°17'02
opposition	1524 Nov 18 j 04:31	5°♁45'43	0°-4'-57	minimum elong	1531 Jun 17 j 09:16	4°♁25'37	0°17'03
min. Earth dist.	1524 Nov 18 j 07:07	5°♁45'26	18.28858 AU	max. Earth dist.	1531 Jun 16 j 17:31	4°♁23'15	19.86266 AU
direct	1525 Jan 31 j 16:33	3°♁45'17		retrograde	1531 Oct 05 j 17:58	8°♁44'08	
				opposition	1531 Dec 19 j 06:12	6°♁41'36	0°20'41
conjunction	1525 May 20 j 02:56	7°♁53'26	0°-2'-54	min. Earth dist.	1531 Dec 19 j 19:12	6°♁40'11	17.83082 AU
minimum elong	1525 May 20 j 02:54	7°♁53'26	0°02'55	direct	1532 Mar 03 j 03:18	4°♁38'17	
behind sun begin	1525 May 19 j 20:10	7°♁52'28					
behind sun end	1525 May 20 j 09:39	7°♁54'24		conjunction	1532 Jun 21 j 08:59	8°♁56'52	0°20'10
max. Earth dist.	1525 May 19 j 23:26	7°♁52'58	20.25718 AU	minimum elong	1532 Jun 21 j 08:59	8°♁56'52	0°20'10
retrograde	1525 Sep 08 j 05:00	12°♁07'14		max. Earth dist.	1532 Jun 20 j 16:21	8°♁54'22	19.79967 AU
opposition	1525 Nov 22 j 16:33	10°♁05'31	0°-1'-17	retrograde	1532 Oct 09 j 12:58	13°♁16'05	
min. Earth dist.	1525 Nov 22 j 19:56	10°♁05'09	18.22497 AU	opposition	1532 Dec 22 j 22:47	11°♁13'27	0°24'06
direct	1526 Feb 05 j 05:31	8°♁04'44		min. Earth dist.	1532 Dec 23 j 13:37	11°♁11'50	17.76921 AU
asc. node	1526 Apr 01 j 03:47	9°♁20'41		direct	1533 Mar 07 j 20:24	9°♁09'44	

conjunction	1533 Jun 26 j 09:13	13° \mathcal{E} 29'46	0°23'11	min. Earth dist.	1541 Jan 29 j 09:37	18° \mathcal{Q} 24'47	17.40798 AU
minimum elong	1533 Jun 26 j 09:12	13° \mathcal{E} 29'46	0°23'11	direct	1541 Apr 14 j 03:17	16° \mathcal{Q} 21'20	
max. Earth dist.	1533 Jun 25 j 14:35	13° \mathcal{E} 26'57	19.73953 AU	max. Earth dist.	1541 Aug 03 j 06:36	20° \mathcal{Q} 47'04	19.39306 AU
retrograde	1533 Oct 14 j 10:19	17° \mathcal{E} 49'40					
opposition	1533 Dec 27 j 15:59	15° \mathcal{E} 46'57	0°27'24	conjunction	1541 Aug 04 j 08:19	20° \mathcal{Q} 51'04	0°40'59
min. Earth dist.	1533 Dec 28 j 07:15	15° \mathcal{E} 45'17	17.71070 AU	minimum elong	1541 Aug 04 j 08:19	20° \mathcal{Q} 51'04	0°41'00
direct	1534 Mar 12 j 16:59	13° \mathcal{E} 42'51		retrograde	1541 Nov 21 j 02:08	25° \mathcal{Q} 14'41	
				opposition	1542 Feb 02 j 11:33	23° \mathcal{Q} 12'11	0°46'22
conjunction	1534 Jul 01 j 10:22	18° \mathcal{E} 04'21	0°26'04	min. Earth dist.	1542 Feb 03 j 09:29	23° \mathcal{Q} 09'47	17.38003 AU
minimum elong	1534 Jul 01 j 10:22	18° \mathcal{E} 04'21	0°26'04	direct	1542 Apr 19 j 04:13	21° \mathcal{Q} 06'14	
max. Earth dist.	1534 Jun 30 j 15:25	18° \mathcal{E} 01'28	19.68259 AU	max. Earth dist.	1542 Aug 08 j 11:22	25° \mathcal{Q} 32'45	19.36717 AU
retrograde	1534 Oct 19 j 06:46	22° \mathcal{E} 24'53					
opposition	1535 Jan 01 j 09:56	20° \mathcal{E} 22'08	0°30'32	conjunction	1542 Aug 09 j 12:43	25° \mathcal{Q} 36'43	0°42'08
min. Earth dist.	1535 Jan 02 j 02:37	20° \mathcal{E} 20'19	17.65565 AU	minimum elong	1542 Aug 09 j 12:42	25° \mathcal{Q} 36'43	0°42'08
direct	1535 Mar 17 j 12:03	18° \mathcal{E} 17'43			1542 Nov 22 j 05:13	0° \mathcal{M}	
				retrograde	1542 Nov 26 j 02:52	0° \mathcal{M} 00'26	
conjunction	1535 Jul 06 j 11:57	22° \mathcal{E} 40'36	0°28'48		1542 Nov 30 j 00:02	30° \mathcal{R} \mathcal{Q}	
minimum elong	1535 Jul 06 j 11:57	22° \mathcal{E} 40'36	0°28'47	opposition	1543 Feb 07 j 10:43	27° \mathcal{Q} 57'57	0°47'30
max. Earth dist.	1535 Jul 05 j 15:00	22° \mathcal{E} 37'24	19.62955 AU	min. Earth dist.	1543 Feb 08 j 08:12	27° \mathcal{Q} 55'35	17.35626 AU
retrograde	1535 Oct 24 j 05:03	27° \mathcal{E} 01'47		direct	1543 Apr 24 j 07:15	25° \mathcal{Q} 51'50	
opposition	1536 Jan 06 j 04:37	24° \mathcal{E} 59'02	0°33'30		1543 Aug 08 j 14:50	0° \mathcal{M}	
min. Earth dist.	1536 Jan 06 j 21:45	24° \mathcal{E} 57'10	17.60470 AU				
direct	1536 Mar 21 j 09:30	22° \mathcal{E} 54'20		conjunction	1543 Aug 14 j 16:58	0° \mathcal{M} 22'52	0°43'00
				minimum elong	1543 Aug 14 j 16:58	0° \mathcal{M} 22'52	0°43'00
conjunction	1536 Jul 10 j 14:08	27° \mathcal{E} 18'35	0°31'22	max. Earth dist.	1543 Aug 13 j 15:02	0° \mathcal{M} 18'49	19.34571 AU
minimum elong	1536 Jul 10 j 14:07	27° \mathcal{E} 18'35	0°31'22	retrograde	1543 Dec 01 j 01:05	4° \mathcal{M} 46'37	
max. Earth dist.	1536 Jul 09 j 17:24	27° \mathcal{E} 15'25	19.58054 AU	opposition	1544 Feb 12 j 10:28	2° \mathcal{M} 44'08	0°48'18
	1536 Aug 26 j 12:09	0° \mathcal{Q}		min. Earth dist.	1544 Feb 13 j 08:49	2° \mathcal{M} 41'41	17.33736 AU
retrograde	1536 Oct 28 j 03:40	1° \mathcal{Q} 40'20		direct	1544 Apr 28 j 09:14	0° \mathcal{M} 37'51	
	1537 Jan 01 j 10:15	30° \mathcal{R} \mathcal{E}					
opposition	1537 Jan 10 j 00:05	29° \mathcal{E} 37'38	0°36'16	conjunction	1544 Aug 18 j 20:58	5° \mathcal{M} 09'19	0°43'34
min. Earth dist.	1537 Jan 10 j 18:14	29° \mathcal{E} 35'39	17.55772 AU	minimum elong	1544 Aug 18 j 20:58	5° \mathcal{M} 09'19	0°43'34
direct	1537 Mar 26 j 06:26	27° \mathcal{E} 32'43		max. Earth dist.	1544 Aug 17 j 19:31	5° \mathcal{M} 05'19	19.32939 AU
	1537 Jun 12 j 14:39	0° \mathcal{Q}		retrograde	1544 Dec 05 j 01:51	9° \mathcal{M} 33'00	
				opposition	1545 Feb 16 j 10:26	7° \mathcal{M} 30'31	0°48'46
conjunction	1537 Jul 15 j 16:53	1° \mathcal{Q} 58'16	0°33'45	min. Earth dist.	1545 Feb 17 j 07:42	7° \mathcal{M} 28'11	17.32361 AU
minimum elong	1537 Jul 15 j 16:53	1° \mathcal{Q} 58'16	0°33'44	direct	1545 May 03 j 13:49	5° \mathcal{M} 24'07	
max. Earth dist.	1537 Jul 14 j 18:05	1° \mathcal{Q} 54'45	19.53559 AU	max. Earth dist.	1545 Aug 22 j 23:52	9° \mathcal{M} 51'56	19.31837 AU
retrograde	1537 Nov 02 j 02:45	6° \mathcal{Q} 20'33					
opposition	1538 Jan 14 j 20:06	4° \mathcal{Q} 17'55	0°38'49	conjunction	1545 Aug 24 j 00:53	9° \mathcal{M} 55'51	0°43'49
min. Earth dist.	1538 Jan 15 j 15:05	4° \mathcal{Q} 15'50	17.51481 AU	minimum elong	1545 Aug 24 j 00:53	9° \mathcal{M} 55'51	0°43'48
direct	1538 Mar 31 j 04:30	2° \mathcal{Q} 12'45		retrograde	1545 Dec 10 j 00:07	14° \mathcal{M} 19'24	
				opposition	1546 Feb 21 j 10:46	12° \mathcal{M} 16'55	0°48'53
conjunction	1538 Jul 20 j 20:23	6° \mathcal{Q} 39'33	0°35'55	min. Earth dist.	1546 Feb 22 j 08:39	12° \mathcal{M} 14'32	17.31556 AU
minimum elong	1538 Jul 20 j 20:23	6° \mathcal{Q} 39'33	0°35'55	direct	1546 May 08 j 16:14	10° \mathcal{M} 10'25	
max. Earth dist.	1538 Jul 19 j 21:49	6° \mathcal{Q} 36'04	19.49444 AU	max. Earth dist.	1546 Aug 28 j 03:52	14° \mathcal{M} 38'27	19.31338 AU
retrograde	1538 Nov 07 j 03:22	11° \mathcal{Q} 02'17					
opposition	1539 Jan 19 j 17:01	8° \mathcal{Q} 59'43	0°41'07	conjunction	1546 Aug 29 j 04:24	14° \mathcal{M} 42'18	0°43'46
min. Earth dist.	1539 Jan 20 j 12:44	8° \mathcal{Q} 57'33	17.47550 AU	minimum elong	1546 Aug 29 j 04:24	14° \mathcal{M} 42'18	0°43'47
direct	1539 Apr 05 j 03:21	6° \mathcal{Q} 54'22		retrograde	1546 Dec 15 j 01:02	19° \mathcal{M} 05'38	
				opposition	1547 Feb 26 j 11:24	17° \mathcal{M} 03'11	0°48'40
conjunction	1539 Jul 25 j 23:59	11° \mathcal{Q} 22'15	0°37'52	min. Earth dist.	1547 Feb 27 j 07:36	17° \mathcal{M} 00'59	17.31364 AU
minimum elong	1539 Jul 25 j 23:58	11° \mathcal{Q} 22'15	0°37'52	direct	1547 May 13 j 20:58	14° \mathcal{M} 56'39	
max. Earth dist.	1539 Jul 24 j 23:28	11° \mathcal{Q} 18'27	19.45691 AU	max. Earth dist.	1547 Sep 02 j 08:30	19° \mathcal{M} 24'55	19.31464 AU
	1539 Oct 02 j 04:59	15° \mathcal{Q}					
retrograde	1539 Nov 12 j 02:24	15° \mathcal{Q} 45'23		conjunction	1547 Sep 03 j 07:29	19° \mathcal{M} 28'32	0°43'25
	1539 Dec 23 j 18:41	15° \mathcal{R} \mathcal{Q}		minimum elong	1547 Sep 03 j 07:29	19° \mathcal{M} 28'32	0°43'25
opposition	1540 Jan 24 j 14:38	13° \mathcal{Q} 42'51	0°43'09	retrograde	1547 Dec 19 j 23:36	23° \mathcal{M} 51'35	
min. Earth dist.	1540 Jan 25 j 11:19	13° \mathcal{Q} 40'35	17.43993 AU	opposition	1548 Mar 02 j 12:23	21° \mathcal{M} 49'13	0°48'07
direct	1540 Apr 09 j 02:32	11° \mathcal{Q} 37'17		min. Earth dist.	1548 Mar 03 j 08:41	21° \mathcal{M} 47'01	17.31822 AU
	1540 Jul 12 j 06:24	15° \mathcal{Q}		direct	1548 May 17 j 23:03	19° \mathcal{M} 42'42	
max. Earth dist.	1540 Jul 29 j 03:55	16° \mathcal{Q} 02'25	19.42311 AU	max. Earth dist.	1548 Sep 06 j 11:35	24° \mathcal{M} 10'54	19.32261 AU
conjunction	1540 Jul 30 j 04:06	16° \mathcal{Q} 06'10	0°39'33	conjunction	1548 Sep 07 j 10:10	24° \mathcal{M} 14'28	0°42'47
minimum elong	1540 Jul 30 j 04:06	16° \mathcal{Q} 06'10	0°39'33	minimum elong	1548 Sep 07 j 10:10	24° \mathcal{M} 14'28	0°42'46
retrograde	1540 Nov 16 j 03:32	20° \mathcal{Q} 29'35		retrograde	1548 Dec 24 j 00:35	28° \mathcal{M} 37'11	
opposition	1541 Jan 28 j 12:44	18° \mathcal{Q} 27'05	0°44'55	opposition	1549 Mar 07 j 13:14	26° \mathcal{M} 34'56	0°47'14

min. Earth dist. direct	1549 Mar 08 j 07:37 1549 May 23 j 03:25	26° Υ 32'56 24° Υ 28'30	17.32941 AU	max. Earth dist. retrograde	1556 Oct 14 j 23:38 1557 Jan 30 j 10:57	1° \mathbb{M} 56'53 6° \mathbb{M} 16'46	19.57618 AU
conjunction minimum elong max. Earth dist.	1549 Sep 12 j 12:36 1549 Sep 12 j 12:36 1549 Sep 11 j 16:06	29° Υ 00'02 29° Υ 00'02 28° Υ 56'49	0°41'51 0°41'51 19.33702 AU	opposition min. Earth dist. direct	1557 Apr 14 j 22:22 1557 Apr 15 j 07:56 1557 Jul 01 j 02:26	4° \mathbb{M} 15'48 4° \mathbb{M} 14'47 2° \mathbb{M} 11'19	0°29'43 17.60002 AU
retrograde opposition min. Earth dist.	1549 Sep 28 j 11:51 1549 Dec 28 j 23:12 1550 Mar 12 j 14:34	0° $\underline{\text{A}}$ 3° $\underline{\text{A}}$ 22'23 1° $\underline{\text{A}}$ 20'17	0°46'02	conjunction minimum elong max. Earth dist.	1557 Oct 20 j 08:04 1557 Oct 20 j 08:04 1557 Oct 19 j 22:45	6° \mathbb{M} 36'23 6° \mathbb{M} 36'23 6° \mathbb{M} 34'56	0°25'15 0°25'15 19.62455 AU
direct	1550 Mar 13 j 08:48 1550 Apr 15 j 02:55 1550 May 28 j 05:18	1° $\underline{\text{A}}$ 18'19 30° \mathbb{R} Υ 29° Υ 14'02	17.34686 AU	retrograde opposition min. Earth dist. direct	1558 Feb 04 j 06:45 1558 Apr 19 j 22:30 1558 Apr 20 j 06:07 1558 Jul 06 j 04:51	10° \mathbb{M} 53'36 8° \mathbb{M} 52'45 8° \mathbb{M} 51'57 6° \mathbb{M} 48'32	17.64969 AU
conjunction minimum elong max. Earth dist.	1550 Sep 17 j 14:16 1550 Sep 17 j 14:16 1550 Sep 16 j 18:05	3° $\underline{\text{A}}$ 45'11 3° $\underline{\text{A}}$ 45'11 3° $\underline{\text{A}}$ 42'01	0°40'37 0°40'37 19.35754 AU	conjunction minimum elong max. Earth dist.	1558 Oct 25 j 03:36 1558 Oct 25 j 03:36 1558 Oct 24 j 19:38	11° \mathbb{M} 12'18 11° \mathbb{M} 12'18 11° \mathbb{M} 11'04	0°22'18 0°22'18 19.67577 AU
retrograde opposition min. Earth dist. direct	1551 Jan 02 j 23:55 1551 Mar 17 j 15:51 1551 Mar 18 j 08:11 1551 Jun 02 j 09:26	8° $\underline{\text{A}}$ 07'06 6° $\underline{\text{A}}$ 05'11 6° $\underline{\text{A}}$ 03'25 3° $\underline{\text{A}}$ 59'08	0°44'31 17.37017 AU	retrograde opposition min. Earth dist. direct	1559 Jan 07 j 15:05 1559 Feb 09 j 01:21 1559 Mar 14 j 10:53 1559 Apr 24 j 22:14 1559 Apr 25 j 04:40 1559 Jul 11 j 04:31 1559 Oct 17 j 10:40	15° \mathbb{M} 15° \mathbb{M} 28'40 15° \mathbb{R} \mathbb{M} 13° \mathbb{M} 27'54 13° \mathbb{M} 27'14 11° \mathbb{M} 23'57 15° \mathbb{M}	0°23'07 17.70251 AU
conjunction minimum elong max. Earth dist.	1551 Sep 22 j 15:37 1551 Sep 22 j 15:37 1551 Sep 21 j 21:53	8° $\underline{\text{A}}$ 29'48 8° $\underline{\text{A}}$ 29'48 8° $\underline{\text{A}}$ 27'01	0°39'08 0°39'09 19.38354 AU	conjunction minimum elong max. Earth dist.	1559 Oct 29 j 22:19 1559 Oct 29 j 22:19 1559 Oct 29 j 16:44	15° \mathbb{M} 46'20 15° \mathbb{M} 46'20 15° \mathbb{M} 45'29	0°19'13 0°19'14 19.73019 AU
retrograde opposition min. Earth dist. direct	1552 Jan 07 j 22:22 1552 Mar 21 j 17:16 1552 Mar 22 j 09:13 1552 Jun 06 j 11:20	12° $\underline{\text{A}}$ 51'12 10° $\underline{\text{A}}$ 49'29 10° $\underline{\text{A}}$ 47'46 8° $\underline{\text{A}}$ 43'40	0°42'42 17.39864 AU	retrograde opposition min. Earth dist. direct	1560 Feb 13 j 20:33 1560 Apr 28 j 21:10 1560 Apr 29 j 01:05 1560 Jul 15 j 05:22	20° \mathbb{M} 01'50 18° \mathbb{M} 01'10 18° \mathbb{M} 00'45 15° \mathbb{M} 57'31	0°19'38 17.75842 AU
conjunction minimum elong max. Earth dist.	1552 Sep 26 j 16:07 1552 Sep 26 j 16:07 1552 Sep 25 j 22:35	13° $\underline{\text{A}}$ 13'43 13° $\underline{\text{A}}$ 13'43 13° $\underline{\text{A}}$ 10'57	0°37'23 0°37'23 19.41445 AU	conjunction minimum elong behind sun begin behind sun end max. Earth dist.	1560 Nov 02 j 16:00 1560 Nov 02 j 16:00 1560 Nov 02 j 15:04 1560 Nov 02 j 16:56 1560 Nov 02 j 12:14	20° \mathbb{M} 18'29 20° \mathbb{M} 18'29 20° \mathbb{M} 18'20 20° \mathbb{M} 18'37 20° \mathbb{M} 17'54	0°16'03 0°16'02 19.78773 AU
retrograde opposition min. Earth dist. direct	1553 Jan 11 j 22:15 1553 Mar 26 j 18:36 1553 Mar 27 j 08:56 1553 Jun 11 j 15:18	17° $\underline{\text{A}}$ 34'34 15° $\underline{\text{A}}$ 33'01 15° $\underline{\text{A}}$ 31'29 13° $\underline{\text{A}}$ 27'27	0°40'36 17.43174 AU	retrograde opposition min. Earth dist. direct	1561 Feb 17 j 13:57 1561 May 03 j 19:48 1561 May 03 j 22:32 1561 Jul 20 j 02:48	24° \mathbb{M} 33'05 22° \mathbb{M} 32'32 22° \mathbb{M} 32'15 20° \mathbb{M} 29'12	0°16'03 17.81763 AU
conjunction minimum elong max. Earth dist.	1553 Oct 01 j 16:12 1553 Oct 01 j 16:12 1553 Oct 01 j 01:06	17° $\underline{\text{A}}$ 56'45 17° $\underline{\text{A}}$ 56'45 17° $\underline{\text{A}}$ 54'22	0°35'23 0°35'22 19.44959 AU	conjunction minimum elong behind sun begin behind sun end max. Earth dist.	1561 Nov 07 j 08:45 1561 Nov 07 j 08:44 1561 Nov 07 j 04:34 1561 Nov 07 j 12:54 1561 Nov 07 j 07:10	24° \mathbb{M} 48'43 24° \mathbb{M} 48'43 24° \mathbb{M} 48'06 24° \mathbb{M} 49'21 24° \mathbb{M} 48'29	0°12'48 0°12'49 19.84856 AU
retrograde opposition min. Earth dist. direct	1554 Jan 16 j 19:47 1554 Mar 31 j 19:55 1554 Apr 01 j 09:26 1554 Jun 16 j 17:51	22° $\underline{\text{A}}$ 16'58 20° $\underline{\text{A}}$ 15'37 20° $\underline{\text{A}}$ 14'10 18° $\underline{\text{A}}$ 10'19	0°38'13 17.46871 AU	retrograde opposition min. Earth dist. direct	1562 Feb 22 j 08:33 1562 May 08 j 17:45 1562 May 08 j 17:31 1562 Jul 25 j 01:53	29° \mathbb{M} 02'26 27° \mathbb{M} 02'02 27° \mathbb{M} 02'04 24° \mathbb{M} 59'06	0°12'24 17.87987 AU
conjunction minimum elong max. Earth dist.	1554 Oct 06 j 15:23 1554 Oct 06 j 15:23 1554 Oct 06 j 00:36	22° $\underline{\text{A}}$ 38'43 22° $\underline{\text{A}}$ 38'43 22° $\underline{\text{A}}$ 36'24	0°33'09 0°33'09 19.48848 AU	conjunction minimum elong behind sun begin behind sun end max. Earth dist.	1562 Nov 12 j 00:38 1562 Nov 12 j 00:37 1562 Nov 11 j 19:07 1562 Nov 12 j 06:07 1562 Nov 12 j 01:15	29° \mathbb{M} 17'09 29° \mathbb{M} 17'09 29° \mathbb{M} 16'19 29° \mathbb{M} 17'58 29° \mathbb{M} 17'14	0°09'31 0°09'31 19.91223 AU
retrograde opposition min. Earth dist. direct	1555 Jan 21 j 18:12 1555 Apr 05 j 21:05 1555 Apr 06 j 09:10 1555 Jun 21 j 21:19	26° $\underline{\text{A}}$ 58'17 24° $\underline{\text{A}}$ 57'03 24° $\underline{\text{A}}$ 55'46 22° $\underline{\text{A}}$ 52'02	0°35'36 17.50939 AU	retrograde opposition min. Earth dist. direct	1562 Nov 23 j 15:56 1563 Feb 27 j 01:20 1563 May 13 j 15:17 1563 May 13 j 14:00 1563 Jun 23 j 03:36 1563 Jul 29 j 21:47 1563 Sep 03 j 19:00	0° \mathbb{A} 3° \mathbb{A} 30'00 1° \mathbb{A} 29'46 1° \mathbb{A} 29'54 30° \mathbb{R} \mathbb{M} 29° \mathbb{M} 27'14 0° \mathbb{A}	17.94488 AU
conjunction minimum elong	1555 Oct 11 j 13:46 1555 Oct 11 j 13:46	27° $\underline{\text{A}}$ 19'25 27° $\underline{\text{A}}$ 19'25	0°30'42 0°30'41	conjunction minimum elong behind sun begin behind sun end max. Earth dist.	1563 Nov 16 j 15:32	3° \mathbb{A} 43'48	0°06'11

minimum elong	1563 Nov 16 j 15:32	3° $\overline{\text{A}}$ 43'48	0°06'12	opposition	1570 Jun 14 j 04:38	1° $\overline{\text{B}}$ 55'48	0°-16'-46
behind sun begin	1563 Nov 16 j 09:18	3° $\overline{\text{A}}$ 42'52		min. Earth dist.	1570 Jun 13 j 15:35	1° $\overline{\text{B}}$ 57'07	18.41328 AU
behind sun end	1563 Nov 16 j 21:46	3° $\overline{\text{A}}$ 44'44			1570 Aug 17 j 20:03	30° $\overline{\text{R}}$ $\overline{\text{A}}$	
max. Earth dist.	1563 Nov 16 j 17:59	3° $\overline{\text{A}}$ 44'08	19.97840 AU	direct	1570 Aug 30 j 07:46	29° $\overline{\text{A}}$ 56'05	
retrograde	1564 Mar 02 j 18:52	7° $\overline{\text{A}}$ 55'48			1570 Sep 11 j 15:29	0° $\overline{\text{B}}$	
opposition	1564 May 17 j 12:03	5° $\overline{\text{A}}$ 55'45	0°04'58				
min. Earth dist.	1564 May 17 j 07:52	5° $\overline{\text{A}}$ 56'11	18.01183 AU	conjunction	1570 Dec 16 j 03:18	4° $\overline{\text{B}}$ 02'24	0°-16'-41
direct	1564 Aug 02 j 19:24	3° $\overline{\text{A}}$ 53'39		minimum elong	1570 Dec 16 j 03:18	4° $\overline{\text{B}}$ 02'24	0°16'41
				max. Earth dist.	1570 Dec 16 j 16:59	4° $\overline{\text{B}}$ 04'27	20.44420 AU
conjunction	1564 Nov 20 j 05:46	8° $\overline{\text{A}}$ 08'44	0°02'50	retrograde	1571 Apr 02 j 23:01	8° $\overline{\text{B}}$ 08'50	
minimum elong	1564 Nov 20 j 05:46	8° $\overline{\text{A}}$ 08'44	0°02'50	opposition	1571 Jun 18 j 21:04	6° $\overline{\text{B}}$ 09'44	0°-20'-7
behind sun begin	1564 Nov 19 j 23:13	8° $\overline{\text{A}}$ 07'45		min. Earth dist.	1571 Jun 18 j 07:43	6° $\overline{\text{B}}$ 11'05	18.47444 AU
behind sun end	1564 Nov 20 j 12:18	8° $\overline{\text{A}}$ 09'42		direct	1571 Sep 03 j 22:50	4° $\overline{\text{B}}$ 10'20	
max. Earth dist.	1564 Nov 20 j 10:28	8° $\overline{\text{A}}$ 09'25	20.04601 AU				
retrograde	1565 Mar 07 j 10:34	12° $\overline{\text{A}}$ 19'53		conjunction	1571 Dec 20 j 12:17	8° $\overline{\text{B}}$ 15'15	0°-19'-38
opposition	1565 May 22 j 08:21	10° $\overline{\text{A}}$ 20'01	0°01'14	minimum elong	1571 Dec 20 j 12:17	8° $\overline{\text{B}}$ 15'15	0°19'38
min. Earth dist.	1565 May 22 j 03:29	10° $\overline{\text{A}}$ 20'31	18.07999 AU	max. Earth dist.	1571 Dec 21 j 02:20	8° $\overline{\text{B}}$ 17'20	20.50426 AU
direct	1565 Aug 07 j 14:16	8° $\overline{\text{A}}$ 18'22		retrograde	1572 Apr 06 j 12:13	12° $\overline{\text{B}}$ 20'58	
desc. node	1565 Sep 21 j 14:19	9° $\overline{\text{A}}$ 09'14		opposition	1572 Jun 22 j 12:38	10° $\overline{\text{B}}$ 21'54	0°-23'-18
				min. Earth dist.	1572 Jun 21 j 21:17	10° $\overline{\text{B}}$ 23'27	18.53342 AU
conjunction	1565 Nov 24 j 19:09	12° $\overline{\text{A}}$ 31'57	0°00'-35	direct	1572 Sep 07 j 13:33	8° $\overline{\text{B}}$ 22'46	
minimum elong	1565 Nov 24 j 19:10	12° $\overline{\text{A}}$ 31'57	0°00'37				
behind sun begin	1565 Nov 24 j 12:38	12° $\overline{\text{A}}$ 30'59		conjunction	1572 Dec 23 j 20:39	12° $\overline{\text{B}}$ 26'21	0°-22'-27
behind sun end	1565 Nov 25 j 01:42	12° $\overline{\text{A}}$ 32'55		minimum elong	1572 Dec 23 j 20:39	12° $\overline{\text{B}}$ 26'21	0°22'29
max. Earth dist.	1565 Nov 25 j 01:11	12° $\overline{\text{A}}$ 32'51	20.11454 AU	max. Earth dist.	1572 Dec 24 j 12:58	12° $\overline{\text{B}}$ 28'46	20.56208 AU
retrograde	1566 Mar 12 j 03:03	16° $\overline{\text{A}}$ 42'17		retrograde	1573 Apr 10 j 21:47	16° $\overline{\text{B}}$ 31'23	
opposition	1566 May 27 j 04:04	14° $\overline{\text{A}}$ 42'36	0°-2'-28	min. Earth dist.	1573 Jun 26 j 11:43	14° $\overline{\text{B}}$ 33'57	18.59033 AU
min. Earth dist.	1566 May 26 j 20:27	14° $\overline{\text{A}}$ 43'23	18.14861 AU	opposition	1573 Jun 27 j 03:35	14° $\overline{\text{B}}$ 32'21	0°-26'-22
direct	1566 Aug 12 j 10:21	12° $\overline{\text{A}}$ 41'22		direct	1573 Sep 12 j 02:56	12° $\overline{\text{B}}$ 33'30	
conjunction	1566 Nov 29 j 07:47	16° $\overline{\text{A}}$ 53'29	0°-3'-58	conjunction	1573 Dec 28 j 04:19	16° $\overline{\text{B}}$ 35'47	0°-25'-8
minimum elong	1566 Nov 29 j 07:46	16° $\overline{\text{A}}$ 53'29	0°03'59	minimum elong	1573 Dec 28 j 04:19	16° $\overline{\text{B}}$ 35'47	0°25'09
behind sun begin	1566 Nov 29 j 01:18	16° $\overline{\text{A}}$ 52'31		max. Earth dist.	1573 Dec 28 j 21:04	16° $\overline{\text{B}}$ 38'16	20.61815 AU
behind sun end	1566 Nov 29 j 14:14	16° $\overline{\text{A}}$ 54'26		retrograde	1574 Apr 15 j 09:59	20° $\overline{\text{B}}$ 40'12	
max. Earth dist.	1566 Nov 29 j 16:05	16° $\overline{\text{A}}$ 54'43	20.18304 AU	opposition	1574 Jul 01 j 17:48	18° $\overline{\text{B}}$ 41'11	0°-29'-15
retrograde	1567 Mar 16 j 17:16	21° $\overline{\text{A}}$ 03'00		min. Earth dist.	1574 Jun 30 j 23:57	18° $\overline{\text{B}}$ 42'58	18.64564 AU
opposition	1567 May 31 j 23:20	19° $\overline{\text{A}}$ 03'29	0°-6'-9	direct	1574 Sep 16 j 15:23	16° $\overline{\text{B}}$ 42'36	
min. Earth dist.	1567 May 31 j 15:13	19° $\overline{\text{A}}$ 04'18	18.21692 AU				
direct	1567 Aug 17 j 04:22	17° $\overline{\text{A}}$ 02'41		conjunction	1575 Jan 01 j 11:30	20° $\overline{\text{B}}$ 43'42	0°-27'-40
				minimum elong	1575 Jan 01 j 11:30	20° $\overline{\text{B}}$ 43'42	0°27'42
conjunction	1567 Dec 03 j 19:42	21° $\overline{\text{A}}$ 13'18	0°-7'-15	max. Earth dist.	1575 Jan 02 j 06:34	20° $\overline{\text{B}}$ 46'30	20.67249 AU
minimum elong	1567 Dec 03 j 19:42	21° $\overline{\text{A}}$ 13'18	0°07'16	retrograde	1575 Apr 19 j 18:49	24° $\overline{\text{B}}$ 47'32	
behind sun begin	1567 Dec 03 j 13:41	21° $\overline{\text{A}}$ 12'25		opposition	1575 Jul 06 j 07:22	22° $\overline{\text{B}}$ 48'34	0°-31'-58
behind sun end	1567 Dec 04 j 01:44	21° $\overline{\text{A}}$ 14'11		min. Earth dist.	1575 Jul 05 j 12:54	22° $\overline{\text{B}}$ 50'25	18.69914 AU
max. Earth dist.	1567 Dec 04 j 04:49	21° $\overline{\text{A}}$ 14'40	20.25093 AU	direct	1575 Sep 21 j 02:59	20° $\overline{\text{B}}$ 50'17	
retrograde	1568 Mar 20 j 08:38	25° $\overline{\text{A}}$ 22'01					
opposition	1568 Jun 04 j 17:35	23° $\overline{\text{A}}$ 22'38	0°-9'-47	conjunction	1576 Jan 05 j 18:09	24° $\overline{\text{B}}$ 50'14	0°-30'-3
min. Earth dist.	1568 Jun 04 j 07:05	23° $\overline{\text{A}}$ 23'43	18.28422 AU	minimum elong	1576 Jan 05 j 18:08	24° $\overline{\text{B}}$ 50'14	0°30'04
direct	1568 Aug 20 j 22:28	21° $\overline{\text{A}}$ 22'14		max. Earth dist.	1576 Jan 06 j 13:23	24° $\overline{\text{B}}$ 53'03	20.72507 AU
				retrograde	1576 Apr 23 j 05:51	28° $\overline{\text{B}}$ 53'34	
conjunction	1568 Dec 07 j 07:02	25° $\overline{\text{A}}$ 31'24	0°-10'-28	opposition	1576 Jul 09 j 20:04	26° $\overline{\text{B}}$ 54'39	0°-34'-30
minimum elong	1568 Dec 07 j 07:02	25° $\overline{\text{A}}$ 31'24	0°10'28	min. Earth dist.	1576 Jul 09 j 00:01	26° $\overline{\text{B}}$ 56'40	18.75077 AU
behind sun begin	1568 Dec 07 j 01:51	25° $\overline{\text{A}}$ 30'39		direct	1576 Sep 24 j 13:02	24° $\overline{\text{B}}$ 56'39	
behind sun end	1568 Dec 07 j 12:12	25° $\overline{\text{A}}$ 32'10					
max. Earth dist.	1568 Dec 07 j 18:10	25° $\overline{\text{A}}$ 33'04	20.31736 AU	conjunction	1577 Jan 09 j 00:30	28° $\overline{\text{B}}$ 55'34	0°-32'-16
retrograde	1569 Mar 24 j 21:24	29° $\overline{\text{A}}$ 39'20		minimum elong	1577 Jan 09 j 00:30	28° $\overline{\text{B}}$ 55'34	0°32'17
opposition	1569 Jun 09 j 11:31	27° $\overline{\text{A}}$ 40'05	0°-13'-19	max. Earth dist.	1577 Jan 09 j 21:51	28° $\overline{\text{B}}$ 58'41	20.77548 AU
min. Earth dist.	1569 Jun 09 j 00:41	27° $\overline{\text{A}}$ 41'11	18.34978 AU		1577 Jan 27 j 12:46	0° $\overline{\text{C}}$	
direct	1569 Aug 25 j 15:10	25° $\overline{\text{A}}$ 40'03		retrograde	1577 Apr 27 j 14:40	2° $\overline{\text{C}}$ 58'26	
				min. Earth dist.	1577 Jul 13 j 11:51	1° $\overline{\text{C}}$ 01'40	18.79996 AU
conjunction	1569 Dec 11 j 17:25	29° $\overline{\text{A}}$ 47'47	0°-13'-37	opposition	1577 Jul 14 j 08:25	0° $\overline{\text{C}}$ 59'37	0°-36'-51
minimum elong	1569 Dec 11 j 17:25	29° $\overline{\text{A}}$ 47'47	0°13'38		1577 Aug 09 j 08:52	30° $\overline{\text{R}}$ $\overline{\text{B}}$	
behind sun begin	1569 Dec 11 j 13:44	29° $\overline{\text{A}}$ 47'14		direct	1577 Sep 28 j 23:23	29° $\overline{\text{B}}$ 01'55	
behind sun end	1569 Dec 11 j 21:07	29° $\overline{\text{A}}$ 48'19			1577 Nov 16 j 07:32	0° $\overline{\text{C}}$	
max. Earth dist.	1569 Dec 12 j 05:02	29° $\overline{\text{A}}$ 49'31	20.38193 AU				
	1569 Dec 15 j 02:43	0° $\overline{\text{B}}$		conjunction	1578 Jan 13 j 06:13	2° $\overline{\text{C}}$ 59'50	0°-34'-19
retrograde	1570 Mar 29 j 11:44	3° $\overline{\text{B}}$ 54'58		minimum elong	1578 Jan 13 j 06:13	2° $\overline{\text{C}}$ 59'50	0°34'19

max. Earth dist.	1578 Jan 14 j 03:30	3°02'57	20.82338 AU	conjunction	1586 Feb 23 23:51	5°06'43	0°-43'-47
retrograde	1578 May 02 j 01:07	7°02'20		minimum elong	1586 Feb 23 23:51	5°06'43	0°43'48
opposition	1578 Jul 18 j 20:13	5°03'34	0°-39'-1	max. Earth dist.	1586 Feb 24 22:28	5°09'57	21.05258 AU
min. Earth dist.	1578 Jul 17 j 22:29	5°05'44	18.84646 AU	retrograde	1586 Jun 13 23:38	9°07'45	
direct	1578 Oct 03 j 07:48	3°06'08		min. Earth dist.	1586 Aug 30 04:25	7°10'56	19.05682 AU
				opposition	1586 Aug 31 02:11	7°08'45	0°-48'-32
conjunction	1579 Jan 17 j 11:58	7°03'11	0°-36'-11	direct	1586 Nov 14 19:00	5°12'24	
minimum elong	1579 Jan 17 j 11:58	7°03'11	0°36'11				
max. Earth dist.	1579 Jan 18 j 11:03	7°06'32	20.86815 AU	conjunction	1587 Feb 28 04:54	9°04'54	0°-44'-2
retrograde	1579 May 06 j 09:47	11°05'19		minimum elong	1587 Feb 28 04:54	9°04'54	0°44'03
min. Earth dist.	1579 Jul 22 j 09:26	9°08'49	18.88947 AU	max. Earth dist.	1587 Mar 01 04:31	9°08'17	21.05913 AU
opposition	1579 Jul 23 j 07:23	9°06'38	0°-40'-58	retrograde	1587 Jun 18 07:29	13°05'57	
direct	1579 Oct 07 j 16:58	7°09'29		opposition	1587 Sep 04 09:56	11°06'50	0°-48'-41
				min. Earth dist.	1587 Sep 03 12:15	11°09'01	19.06132 AU
conjunction	1580 Jan 21 j 17:21	11°05'42	0°-37'-52	direct	1587 Nov 19 01:25	9°10'29	
minimum elong	1580 Jan 21 j 17:21	11°05'42	0°37'53				
max. Earth dist.	1580 Jan 22 j 15:52	11°08'58	20.90927 AU	conjunction	1588 Mar 03 09:51	13°02'47	0°-44'-4
	1580 Apr 22 j 07:37	15°		minimum elong	1588 Mar 03 09:51	13°02'47	0°44'04
retrograde	1580 May 09 j 20:03	15°07'33		max. Earth dist.	1588 Mar 04 08:13	13°05'59	21.06175 AU
	1580 May 27 j 13:52	15°R		retrograde	1588 Jun 21 15:33	17°03'57	
opposition	1580 Jul 26 j 18:10	13°08'55	0°-42'-43	opposition	1588 Sep 07 17:38	15°04'43	0°-48'-37
min. Earth dist.	1580 Jul 25 j 19:38	13°11'10	18.92860 AU	min. Earth dist.	1588 Sep 06 20:23	15°06'51	19.06212 AU
direct	1580 Oct 11 j 00:43	11°12'00		direct	1588 Nov 22 05:54	13°08'20	
	1581 Jan 22 j 19:06	15°					
conjunction	1581 Jan 24 j 22:39	15°07'28	0°-39'-22	conjunction	1589 Mar 07 14:58	17°00'33	0°-43'-53
minimum elong	1581 Jan 24 j 22:38	15°07'28	0°39'22	minimum elong	1589 Mar 07 14:58	17°00'33	0°43'55
max. Earth dist.	1581 Jan 25 j 22:34	15°10'56	20.94604 AU	max. Earth dist.	1589 Mar 08 14:17	17°03'53	21.06063 AU
retrograde	1581 May 14 j 04:24	19°09'05		retrograde	1589 Jun 25 23:35	21°01'53	
min. Earth dist.	1581 Jul 30 j 06:01	17°12'44	18.96301 AU	min. Earth dist.	1589 Sep 11 03:49	19°04'42	19.05914 AU
opposition	1581 Jul 31 j 04:34	17°10'29	0°-44'-15	opposition	1589 Sep 12 01:05	19°02'34	0°-48'-18
direct	1581 Oct 15 j 08:42	15°13'48		direct	1589 Nov 26 12:06	17°06'12	
conjunction	1582 Jan 29 j 03:49	19°08'35	0°-40'-40	conjunction	1590 Mar 11 20:18	20°58'25	0°-43'-30
minimum elong	1582 Jan 29 j 03:49	19°08'35	0°40'41	minimum elong	1590 Mar 11 20:18	20°58'25	0°43'31
max. Earth dist.	1582 Jan 30 j 02:47	19°11'54	20.97802 AU	max. Earth dist.	1590 Mar 12 18:11	21°01'32	21.05595 AU
retrograde	1582 May 18 j 14:21	23°10'01		retrograde	1590 Jun 30 08:18	25°00'00	
opposition	1582 Aug 04 j 14:33	21°11'24	0°-45'-34	min. Earth dist.	1590 Sep 15 11:49	23°02'39	19.05270 AU
min. Earth dist.	1582 Aug 03 j 15:53	21°13'39	18.99249 AU	opposition	1590 Sep 16 08:20	23°00'35	0°-47'-45
direct	1582 Oct 29 16:14	19°14'51		direct	1590 Nov 30 16:04	21°04'11	
conjunction	1583 Feb 12 09:03	23°09'03	0°-41'-45	conjunction	1591 Mar 16 02:07	24°56'32	0°-42'-55
minimum elong	1583 Feb 12 09:03	23°09'03	0°41'46	minimum elong	1591 Mar 16 02:07	24°56'32	0°42'57
max. Earth dist.	1583 Feb 13 09:02	23°12'30	21.00469 AU	max. Earth dist.	1591 Mar 17 00:38	24°59'45	21.04762 AU
retrograde	1583 Jun 01 22:34	27°10'18		retrograde	1591 Jul 04 16:39	28°58'25	
min. Earth dist.	1583 Aug 18 01:37	25°13'54	19.01635 AU	opposition	1591 Sep 20 15:28	26°58'57	0°-46'-59
opposition	1583 Aug 19 00:05	25°11'39	0°-46'-40	min. Earth dist.	1591 Sep 19 19:08	27°01'00	19.04238 AU
direct	1583 Nov 02 23:24	23°15'14		direct	1591 Dec 04 21:58	25°02'33	
conjunction	1584 Feb 16 14:04	27°08'52	0°-42'-39	conjunction	1592 Mar 19 08:04	28°55'06	0°-42'-7
minimum elong	1584 Feb 16 14:04	27°08'52	0°42'40	minimum elong	1592 Mar 19 08:04	28°55'06	0°42'08
max. Earth dist.	1584 Feb 17 12:47	27°12'09	21.02583 AU	max. Earth dist.	1592 Mar 20 04:52	28°58'04	21.03545 AU
	1584 Apr 11 14:28	0°			1592 Apr 07 11:24	0°	
retrograde	1584 Jun 05 07:27	1°10'01		retrograde	1592 Jul 08 02:12	2°57'21	
	1584 Aug 01 09:28	30°R		opposition	1592 Sep 23 22:35	0°57'49	0°-46'00
min. Earth dist.	1584 Aug 21 10:55	29°13'29	19.03481 AU	min. Earth dist.	1592 Sep 23 03:21	0°59'46	19.02824 AU
opposition	1584 Aug 22 09:07	29°11'16	0°-47'-31		1592 Oct 18 21:32	30°R	
direct	1584 Nov 06 06:21	27°14'53		direct	1592 Dec 08 02:07	29°01'24	
	1585 Jan 30 19:22	0°			1593 Jan 25 13:21	0°	
conjunction	1585 Feb 19 19:07	1°08'05	0°-43'-19	conjunction	1593 Mar 23 14:39	2°54'16	0°-41'-7
minimum elong	1585 Feb 19 19:06	1°08'05	0°43'20	minimum elong	1593 Mar 23 14:39	2°54'16	0°41'08
max. Earth dist.	1585 Feb 20 18:49	1°11'29	21.04162 AU	max. Earth dist.	1593 Mar 24 11:50	2°57'18	21.01925 AU
retrograde	1585 Jun 09 15:25	5°09'08		retrograde	1593 Jul 12 10:44	6°56'56	
opposition	1585 Aug 26 17:50	3°10'17	0°-48'-9	min. Earth dist.	1593 Sep 27 10:54	4°59'15	19.00982 AU
min. Earth dist.	1585 Aug 25 19:43	3°12'29	19.04805 AU	opposition	1593 Sep 28 05:40	4°57'21	0°-44'-47
direct	1585 Nov 10 13:13	1°13'56		direct	1593 Dec 12 07:46	3°00'53	

conjunction	1594 Mar 27 21:36	6° Υ 54'09	0°-39'-55
minimum elong	1594 Mar 27 21:36	6° Υ 54'09	0°39'56
max. Earth dist.	1594 Mar 28 16:41	6° Υ 56'53	20.99867 AU
retrograde	1594 Jul 16 20:53	10° Υ 57'18	
opposition	1594 Oct 02 12:55	8° Υ 57'38	0°-43'-21
min. Earth dist.	1594 Oct 01 19:46	8° Υ 59'22	18.98688 AU
direct	1594 Dec 16 12:40	7° Υ 01'05	
conjunction	1595 Apr 01 05:23	10° Υ 54'51	0°-38'-31
minimum elong	1595 Apr 01 05:23	10° Υ 54'51	0°38'31
max. Earth dist.	1595 Apr 02 00:19	10° Υ 57'33	20.97322 AU
retrograde	1595 Jul 21 05:55	14° Υ 58'29	
opposition	1595 Oct 06 20:02	12° Υ 58'44	0°-41'-41
min. Earth dist.	1595 Oct 06 03:39	13° Υ 00'24	18.95880 AU
direct	1595 Dec 20 18:37	11° Υ 02'03	
conjunction	1596 Apr 04 13:32	14° Υ 56'22	0°-36'-55
minimum elong	1596 Apr 04 13:32	14° Υ 56'22	0°36'56
max. Earth dist.	1596 Apr 05 05:53	14° Υ 58'42	20.94263 AU
retrograde	1596 Jul 24 15:45	19° Υ 00'33	
opposition	1596 Oct 10 03:32	17° Υ 00'39	0°-39'-49
min. Earth dist.	1596 Oct 09 13:04	17° Υ 02'07	18.92562 AU
direct	1596 Dec 24 00:17	15° Υ 03'47	
conjunction	1597 Apr 08 22:15	18° Υ 58'43	0°-35'-8
minimum elong	1597 Apr 08 22:16	18° Υ 58'43	0°35'08
max. Earth dist.	1597 Apr 09 14:19	19° Υ 01'01	20.90691 AU
retrograde	1597 Jul 29 01:50	23° Υ 03'27	
opposition	1597 Oct 14 11:03	21° Υ 03'23	0°-37'-45
min. Earth dist.	1597 Oct 13 21:22	21° Υ 04'47	18.88732 AU
direct	1597 Dec 28 07:10	19° Υ 06'18	
conjunction	1598 Apr 13 07:32	23° Υ 01'54	0°-33'-10
minimum elong	1598 Apr 13 07:32	23° Υ 01'54	0°33'11
max. Earth dist.	1598 Apr 13 20:56	23° Υ 03'49	20.86640 AU
retrograde	1598 Aug 02 11:20	27° Υ 07'12	
opposition	1598 Oct 18 18:38	25° Υ 06'56	0°-35'-29
min. Earth dist.	1598 Oct 18 07:03	25° Υ 08'07	18.84462 AU
direct	1599 Jan 01 13:08	23° Υ 09'34	
conjunction	1599 Apr 17 17:33	27° Υ 05'56	0°-31'-1
minimum elong	1599 Apr 17 17:33	27° Υ 05'56	0°31'02
max. Earth dist.	1599 Apr 18 06:36	27° Υ 07'48	20.82171 AU
retrograde	1599 Jun 12 15:22	0° Υ	
retrograde	1599 Aug 06 22:19	1° Υ 11'49	
retrograde	1599 Oct 02 19:11	30° Υ	
opposition	1599 Oct 23 02:19	29° Υ 11'21	0°-33'-1
min. Earth dist.	1599 Oct 22 15:26	29° Υ 12'28	18.79799 AU
direct	1600 Jan 05 20:48	27° Υ 13'42	
direct	1600 Mar 31 08:52	0° Υ	
conjunction	1600 Apr 21 03:50	1° Υ 10'53	0°-28'-42
minimum elong	1600 Apr 21 03:50	1° Υ 10'53	0°28'43
max. Earth dist.	1600 Apr 21 14:21	1° Υ 12'23	20.77348 AU
retrograde	1600 Aug 10 08:13	5° Υ 17'26	
opposition	1600 Oct 26 10:20	3° Υ 16'45	0°-30'-23
min. Earth dist.	1600 Oct 26 01:26	3° Υ 17'40	18.74828 AU
direct	1601 Jan 09 03:04	1° Υ 18'45	