

morning rise	5100 Jan 16 23:31	11°329'46		evening set	5107 Jan 01 23:23	25°335'33	
retrograde	5100 Apr 13 21:19	13°322'13					
opposition	5100 Jul 01 08:47	12°300'18	1°22'25	conjunction	5107 Jan 17 10:04	26°310'04	1°05'43
min. Earth dist.	5100 Jul 02 02:00	11°359'07	29.31985 AU	minimum elong	5107 Jan 17 10:04	26°310'04	1°05'44
direct	5100 Sep 20 10:33	10°335'55		max. Earth dist.	5107 Jan 16 18:47	26°308'38	31.29766 AU
evening set	5100 Dec 19 10:52	12°331'23		morning rise	5107 Feb 01 18:37	26°344'25	
				retrograde	5107 Apr 30 00:05	28°337'19	
conjunction	5101 Jan 03 23:17	13°305'59	1°16'26	opposition	5107 Jul 17 20:23	27°315'09	1°09'05
minimum elong	5101 Jan 03 23:17	13°305'59	1°16'27	min. Earth dist.	5107 Jul 18 11:35	27°314'07	29.29500 AU
max. Earth dist.	5101 Jan 03 06:11	13°304'22	31.31943 AU	direct	5107 Oct 06 21:36	25°350'53	
morning rise	5101 Jan 19 09:08	13°340'22		evening set	5108 Jan 04 09:06	27°345'59	
retrograde	5101 Apr 16 07:29	15°332'54					
opposition	5101 Jul 03 20:25	14°310'59	1°20'51	conjunction	5108 Jan 19 19:27	28°320'30	1°03'36
min. Earth dist.	5101 Jul 04 12:44	14°309'53	29.32007 AU	minimum elong	5108 Jan 19 19:27	28°320'30	1°03'36
direct	5101 Sep 22 22:12	12°346'39		max. Earth dist.	5108 Jan 19 04:39	28°319'06	31.29150 AU
evening set	5101 Dec 21 21:08	14°342'06		morning rise	5108 Feb 04 03:55	28°354'50	
					5108 Mar 08 03:35	0°	
conjunction	5102 Jan 06 09:08	15°316'41	1°14'54	retrograde	5108 May 01 10:48	0°47'49	
minimum elong	5102 Jan 06 09:08	15°316'41	1°14'55		5108 Jun 27 12:55	30°R3	
max. Earth dist.	5102 Jan 05 15:34	15°315'02	31.31909 AU	opposition	5108 Jul 19 08:27	29°325'35	1°06'46
morning rise	5102 Jan 21 18:49	15°351'04		min. Earth dist.	5108 Jul 19 21:46	29°324'41	29.28907 AU
retrograde	5102 Apr 18 19:04	17°343'41		direct	5108 Oct 08 09:39	28°301'20	
opposition	5102 Jul 06 08:19	16°321'45	1°19'09	evening set	5109 Jan 05 18:52	29°356'24	
min. Earth dist.	5102 Jul 07 00:51	16°320'38	29.31915 AU		5109 Jan 07 10:06	0°	
direct	5102 Sep 25 07:43	14°357'27					
evening set	5102 Dec 24 07:16	16°352'53		conjunction	5109 Jan 21 04:58	0°30'54	1°01'23
				minimum elong	5109 Jan 21 04:59	0°30'54	1°01'24
conjunction	5103 Jan 08 19:04	17°327'26	1°13'16	max. Earth dist.	5109 Jan 20 14:54	0°29'34	31.28592 AU
minimum elong	5103 Jan 08 19:05	17°327'26	1°13'16	morning rise	5109 Feb 05 13:16	1°05'15	
max. Earth dist.	5103 Jan 08 02:35	17°325'54	31.31744 AU	retrograde	5109 May 03 20:22	2°58'19	
morning rise	5103 Jan 24 04:22	18°301'49		opposition	5109 Jul 21 20:30	1°36'03	1°04'21
retrograde	5103 Apr 21 05:13	19°354'30		min. Earth dist.	5109 Jul 22 09:59	1°35'08	29.28399 AU
opposition	5103 Jul 08 20:17	18°332'33	1°17'21	direct	5109 Oct 10 19:51	0°11'50	
min. Earth dist.	5103 Jul 09 12:31	18°331'27	29.31665 AU	evening set	5110 Jan 08 04:33	2°06'52	
direct	5103 Sep 27 20:52	17°308'17					
evening set	5103 Dec 26 17:32	19°303'39		conjunction	5110 Jan 23 14:30	2°41'21	0°59'04
max. Earth dist.	5104 Jan 10 11:30	19°336'35	31.31429 AU	minimum elong	5110 Jan 23 14:30	2°41'21	0°59'05
				max. Earth dist.	5110 Jan 23 01:44	2°40'09	31.28133 AU
conjunction	5104 Jan 11 04:53	19°338'12	1°11'31	morning rise	5110 Feb 07 22:38	3°15'43	
minimum elong	5104 Jan 11 04:53	19°338'12	1°11'32	retrograde	5110 May 06 06:26	5°08'53	
morning rise	5104 Jan 26 14:06	20°312'34		opposition	5110 Jul 24 08:37	3°46'37	1°01'51
retrograde	5104 Apr 22 17:57	22°305'19		min. Earth dist.	5110 Jul 24 20:35	3°45'48	29.27962 AU
opposition	5104 Jul 10 08:16	20°343'20	1°15'26	direct	5110 Oct 13 07:11	2°22'27	
min. Earth dist.	5104 Jul 10 23:59	20°342'16	29.31282 AU	evening set	5111 Jan 10 14:16	4°17'27	
direct	5104 Sep 29 08:31	19°319'04					
evening set	5104 Dec 28 03:26	21°314'23		conjunction	5111 Jan 25 23:52	4°51'57	0°56'41
				minimum elong	5111 Jan 25 23:52	4°51'57	0°56'42
conjunction	5105 Jan 12 14:41	21°348'55	1°09'41	max. Earth dist.	5111 Jan 25 11:09	4°50'45	31.27729 AU
minimum elong	5105 Jan 12 14:41	21°348'55	1°09'42	morning rise	5111 Feb 10 07:58	5°26'19	
max. Earth dist.	5105 Jan 11 22:40	21°347'25	31.30973 AU	retrograde	5111 May 08 18:17	7°19'37	
morning rise	5105 Jan 27 23:34	22°323'17		opposition	5111 Jul 26 20:52	5°57'20	0°59'15
retrograde	5105 Apr 25 03:41	24°316'05		min. Earth dist.	5111 Jul 27 08:28	5°56'33	29.27582 AU
opposition	5105 Jul 12 20:21	22°354'02	1°13'25	direct	5111 Oct 15 15:56	4°33'15	
min. Earth dist.	5105 Jul 13 12:28	22°352'57	29.30752 AU	evening set	5112 Jan 12 23:51	6°28'14	
direct	5105 Oct 01 21:16	21°329'47					
evening set	5105 Dec 30 13:31	23°325'02		conjunction	5112 Jan 28 09:25	7°02'43	0°54'12
max. Earth dist.	5106 Jan 14 07:50	23°358'00	31.30403 AU	minimum elong	5112 Jan 28 09:25	7°02'43	0°54'13
				max. Earth dist.	5112 Jan 27 22:23	7°01'41	31.27361 AU
conjunction	5106 Jan 15 00:21	23°359'33	1°07'45	morning rise	5112 Feb 12 17:17	7°37'06	
minimum elong	5106 Jan 15 00:21	23°359'33	1°07'45	retrograde	5112 May 10 04:58	9°30'32	
morning rise	5106 Jan 30 09:13	24°333'54		opposition	5112 Jul 28 09:11	8°08'15	0°56'33
retrograde	5106 Apr 27 14:45	26°326'45		min. Earth dist.	5112 Jul 28 20:03	8°07'31	29.27201 AU
opposition	5106 Jul 15 08:11	25°304'39	1°11'18	direct	5112 Oct 17 04:20	6°44'14	
min. Earth dist.	5106 Jul 15 23:02	25°303'38	29.30139 AU	evening set	5113 Jan 14 09:34	8°39'12	
direct	5106 Oct 04 09:21	23°340'22					

conjunction	5113 Jan 29 18:47	9° \approx 13'41	0°51'39	retrograde	5119 May 26 11:03	24° \approx 50'11	
minimum elong	5113 Jan 29 18:47	9° \approx 13'41	0°51'39	opposition	5119 Aug 14 01:09	23° \approx 27'29	0°35'40
max. Earth dist.	5113 Jan 29 07:19	9° \approx 12'36	31.26973 AU	min. Earth dist.	5119 Aug 14 08:03	23° \approx 27'01	29.21825 AU
morning rise	5113 Feb 14 02:45	9° \approx 48'04		direct	5119 Nov 02 16:07	22° \approx 03'38	
retrograde	5113 May 12 18:37	11° \approx 41'38		evening set	5120 Jan 30 05:33	23° \approx 58'11	
opposition	5113 Jul 30 21:32	10° \approx 19'20	0°53'47				
min. Earth dist.	5113 Jul 31 07:33	10° \approx 18'40	29.26786 AU	conjunction	5120 Feb 14 13:45	24° \approx 32'40	0°31'53
direct	5113 Oct 19 15:04	8° \approx 55'24		minimum elong	5120 Feb 14 13:45	24° \approx 32'40	0°31'54
evening set	5114 Jan 16 19:15	10° \approx 50'21		max. Earth dist.	5120 Feb 14 06:19	24° \approx 31'58	31.21281 AU
				morning rise	5120 Feb 29 21:28	25° \approx 07'07	
conjunction	5114 Feb 01 04:25	11° \approx 24'50	0°49'01	retrograde	5120 May 27 22:44	27° \approx 01'24	
minimum elong	5114 Feb 01 04:26	11° \approx 24'50	0°49'01	opposition	5120 Aug 15 13:48	25° \approx 38'37	0°32'27
max. Earth dist.	5114 Jan 31 18:29	11° \approx 23'54	31.26511 AU	min. Earth dist.	5120 Aug 15 20:11	25° \approx 38'11	29.20779 AU
morning rise	5114 Feb 16 12:07	11° \approx 59'13		direct	5120 Nov 04 01:43	24° \approx 14'44	
retrograde	5114 May 15 05:07	13° \approx 52'56		evening set	5121 Jan 31 14:57	26° \approx 09'13	
opposition	5114 Aug 02 09:59	12° \approx 30'36	0°50'56				
min. Earth dist.	5114 Aug 02 20:15	12° \approx 29'55	29.26268 AU	conjunction	5121 Feb 15 23:14	26° \approx 43'41	0°28'51
direct	5114 Oct 22 02:45	11° \approx 06'43		minimum elong	5121 Feb 15 23:14	26° \approx 43'41	0°28'51
evening set	5115 Jan 19 05:07	13° \approx 01'39		max. Earth dist.	5121 Feb 15 17:45	26° \approx 43'11	31.20266 AU
				morning rise	5121 Mar 03 06:49	27° \approx 18'09	
conjunction	5115 Feb 03 13:59	13° \approx 36'08	0°46'18	retrograde	5121 May 30 08:45	29° \approx 12'33	
minimum elong	5115 Feb 03 13:59	13° \approx 36'08	0°46'19	opposition	5121 Aug 18 02:26	27° \approx 49'40	0°29'11
max. Earth dist.	5115 Feb 03 03:44	13° \approx 35'10	31.25948 AU	min. Earth dist.	5121 Aug 18 07:42	27° \approx 49'18	29.19799 AU
morning rise	5115 Feb 18 21:45	14° \approx 10'31		direct	5121 Nov 06 14:15	26° \approx 25'48	
	5115 Mar 14 21:59	15° \approx		evening set	5122 Feb 03 00:34	28° \approx 20'12	
retrograde	5115 May 17 17:33	16° \approx 04'21					
	5115 Jul 24 18:14	15° \approx		conjunction	5122 Feb 18 08:34	28° \approx 54'41	0°25'47
opposition	5115 Aug 04 22:34	14° \approx 42'00	0°48'00	minimum elong	5122 Feb 18 08:34	28° \approx 54'41	0°25'47
min. Earth dist.	5115 Aug 05 07:27	14° \approx 41'24	29.25639 AU	max. Earth dist.	5122 Feb 18 03:01	28° \approx 54'10	31.19343 AU
direct	5115 Oct 24 14:55	13° \approx 18'09		morning rise	5122 Mar 05 16:19	29° \approx 29'09	
	5116 Jan 15 15:13	15° \approx			5122 Mar 20 03:12	0° \approx	
evening set	5116 Jan 21 14:47	15° \approx 13'01		retrograde	5122 Jun 01 21:45	1° \approx 23'40	
				opposition	5122 Aug 20 15:02	0° \approx 00'43	0°25'52
conjunction	5116 Feb 05 23:35	15° \approx 47'31	0°43'32	min. Earth dist.	5122 Aug 20 18:57	0° \approx 00'27	29.18930 AU
minimum elong	5116 Feb 05 23:35	15° \approx 47'31	0°43'33		5122 Aug 21 01:39	30° \approx	
max. Earth dist.	5116 Feb 05 14:18	15° \approx 46'39	31.25243 AU	direct	5122 Nov 09 00:06	28° \approx 36'53	
morning rise	5116 Feb 21 07:12	16° \approx 21'55			5123 Jan 21 17:48	0° \approx	
retrograde	5116 May 19 04:30	18° \approx 15'52		evening set	5123 Feb 05 10:02	0° \approx 31'15	
opposition	5116 Aug 06 11:20	16° \approx 53'27	0°45'00				
min. Earth dist.	5116 Aug 06 20:46	16° \approx 52'48	29.24863 AU	conjunction	5123 Feb 20 18:07	1° \approx 05'44	0°22'40
direct	5116 Oct 26 03:46	15° \approx 29'38		minimum elong	5123 Feb 20 18:07	1° \approx 05'44	0°22'40
evening set	5117 Jan 23 00:36	17° \approx 24'26		max. Earth dist.	5123 Feb 20 14:34	1° \approx 05'25	31.18521 AU
				morning rise	5123 Mar 08 01:45	1° \approx 40'13	
conjunction	5117 Feb 07 09:15	17° \approx 58'56	0°40'42	retrograde	5123 Jun 04 08:29	3° \approx 34'53	
minimum elong	5117 Feb 07 09:15	17° \approx 58'56	0°40'43	opposition	5123 Aug 23 03:53	2° \approx 11'52	0°22'31
max. Earth dist.	5117 Feb 07 00:10	17° \approx 58'05	31.24403 AU	min. Earth dist.	5123 Aug 23 07:26	2° \approx 11'38	29.18149 AU
morning rise	5117 Feb 22 16:53	18° \approx 33'21		direct	5123 Nov 11 11:13	0° \approx 48'05	
retrograde	5117 May 21 16:02	20° \approx 27'22		evening set	5124 Feb 07 19:31	2° \approx 42'25	
opposition	5117 Aug 08 23:45	19° \approx 04'53	0°41'57				
min. Earth dist.	5117 Aug 09 07:43	19° \approx 04'21	29.23942 AU	conjunction	5124 Feb 23 03:27	3° \approx 16'55	0°19'31
direct	5117 Oct 28 16:37	17° \approx 41'04		minimum elong	5124 Feb 23 03:27	3° \approx 16'55	0°19'31
evening set	5118 Jan 25 10:23	19° \approx 35'48		max. Earth dist.	5124 Feb 23 00:12	3° \approx 16'37	31.17789 AU
				morning rise	5124 Mar 09 11:18	3° \approx 51'25	
conjunction	5118 Feb 09 18:53	20° \approx 10'18	0°37'49	retrograde	5124 Jun 05 21:44	5° \approx 46'13	
minimum elong	5118 Feb 09 18:53	20° \approx 10'18	0°37'50	opposition	5124 Aug 24 16:37	4° \approx 23'11	0°19'08
max. Earth dist.	5118 Feb 09 10:02	20° \approx 09'28	31.23420 AU	min. Earth dist.	5124 Aug 24 18:22	4° \approx 23'03	29.17439 AU
morning rise	5118 Feb 25 02:32	20° \approx 44'43		direct	5124 Nov 12 22:54	2° \approx 59'27	
retrograde	5118 May 24 01:31	22° \approx 38'50		evening set	5125 Feb 09 05:07	4° \approx 53'45	
opposition	5118 Aug 11 12:30	21° \approx 16'15	0°38'50				
min. Earth dist.	5118 Aug 11 20:53	21° \approx 15'41	29.22912 AU	conjunction	5125 Feb 24 13:04	5° \approx 28'16	0°16'20
direct	5118 Oct 31 03:36	19° \approx 52'25		minimum elong	5125 Feb 24 13:04	5° \approx 28'16	0°16'20
evening set	5119 Jan 27 19:54	21° \approx 47'04		max. Earth dist.	5125 Feb 24 11:04	5° \approx 28'05	31.17087 AU
				morning rise	5125 Mar 11 20:54	6° \approx 02'47	
conjunction	5119 Feb 12 04:22	22° \approx 21'33	0°34'53	retrograde	5125 Jun 08 09:39	7° \approx 57'44	
minimum elong	5119 Feb 12 04:22	22° \approx 21'33	0°34'53	opposition	5125 Aug 27 05:23	6° \approx 34'40	0°15'42
max. Earth dist.	5119 Feb 11 20:53	22° \approx 20'51	31.22360 AU	min. Earth dist.	5125 Aug 27 07:24	6° \approx 34'32	29.16744 AU
morning rise	5119 Feb 27 11:56	22° \approx 55'59		direct	5125 Nov 15 10:50	5° \approx 11'00	

evening set	5126 Feb 11 14:48	7° ✕ 05'18		max. Earth dist.	5131 Mar 10 00:46	18° ✕ 40'05	31.11626 AU
				morning rise	5131 Mar 25 08:20	19° ✕ 14'41	
conjunction	5126 Feb 26 22:42	7° ✕ 39'49	0°13'07	retrograde	5131 Jun 22 08:00	21° ✕ 10'30	
minimum elong	5126 Feb 26 22:43	7° ✕ 39'49	0°13'08	opposition	5131 Sep 10 11:29	19° ✕ 47'05	-0°05'10
behind sun begin	5126 Feb 26 18:49	7° ✕ 39'28		min. Earth dist.	5131 Sep 10 09:00	19° ✕ 47'15	29.11027 AU
behind sun end	5126 Feb 27 02:37	7° ✕ 40'10		direct	5131 Nov 29 06:44	18° ✕ 23'36	
max. Earth dist.	5126 Feb 26 21:23	7° ✕ 39'42	31.16393 AU	evening set	5132 Feb 25 01:35	20° ✕ 17'37	
morning rise	5126 Mar 14 06:38	8° ✕ 14'21					
retrograde	5126 Jun 10 22:07	10° ✕ 09'28		conjunction	5132 Mar 11 09:35	20° ✕ 52'12	-0°06'31
opposition	5126 Aug 29 18:14	8° ✕ 46'22	0°12'15	minimum elong	5132 Mar 11 09:35	20° ✕ 52'12	0°06'31
min. Earth dist.	5126 Aug 29 18:29	8° ✕ 46'21	29.16025 AU	behind sun begin	5132 Mar 11 03:33	20° ✕ 51'40	
direct	5126 Nov 17 23:15	7° ✕ 22'46		behind sun end	5132 Mar 11 15:36	20° ✕ 52'45	
evening set	5127 Feb 14 00:30	9° ✕ 17'03		max. Earth dist.	5132 Mar 11 12:23	20° ✕ 52'26	31.10427 AU
				morning rise	5132 Mar 26 18:11	21° ✕ 26'53	
conjunction	5127 Mar 01 08:18	9° ✕ 51'35	0°09'54	retrograde	5132 Jun 23 18:45	23° ✕ 22'49	
minimum elong	5127 Mar 01 08:17	9° ✕ 51'35	0°09'54	opposition	5132 Sep 12 00:36	21° ✕ 59'17	-0°08'39
behind sun begin	5127 Mar 01 03:03	9° ✕ 51'06		min. Earth dist.	5132 Sep 11 21:53	21° ✕ 59'28	29.09836 AU
behind sun end	5127 Mar 01 13:32	9° ✕ 52'03		direct	5132 Nov 30 17:45	20° ✕ 35'48	
max. Earth dist.	5127 Mar 01 07:20	9° ✕ 51'30	31.15640 AU	evening set	5133 Feb 26 11:28	22° ✕ 29'46	
morning rise	5127 Mar 16 16:20	10° ✕ 26'09					
retrograde	5127 Jun 13 09:05	12° ✕ 21'25		conjunction	5133 Mar 13 19:24	23° ✕ 04'21	-0°09'46
opposition	5127 Sep 01 07:21	10° ✕ 58'17	0°08'47	minimum elong	5133 Mar 13 19:24	23° ✕ 04'21	0°09'46
min. Earth dist.	5127 Sep 01 07:56	10° ✕ 58'15	29.15243 AU	behind sun begin	5133 Mar 13 14:07	23° ✕ 03'52	
direct	5127 Nov 20 10:02	9° ✕ 34'45		behind sun end	5133 Mar 14 00:41	23° ✕ 04'50	
evening set	5128 Feb 16 10:18	11° ✕ 28'59		max. Earth dist.	5133 Mar 13 22:32	23° ✕ 04'37	31.09269 AU
				morning rise	5133 Mar 29 04:16	23° ✕ 39'02	
conjunction	5128 Mar 02 18:11	12° ✕ 03'32	0°06'39	retrograde	5133 Jun 26 08:23	25° ✕ 35'05	
minimum elong	5128 Mar 02 18:11	12° ✕ 03'32	0°06'40	opposition	5133 Sep 14 13:25	24° ✕ 11'28	-0°12'07
behind sun begin	5128 Mar 02 12:12	12° ✕ 02'59		min. Earth dist.	5133 Sep 14 08:54	24° ✕ 11'46	29.08720 AU
behind sun end	5128 Mar 03 00:11	12° ✕ 04'05		direct	5133 Dec 03 05:45	22° ✕ 47'58	
max. Earth dist.	5128 Mar 02 18:31	12° ✕ 03'33	31.14813 AU	evening set	5134 Feb 28 21:18	24° ✕ 41'54	
morning rise	5128 Mar 18 02:14	12° ✕ 38'07					
retrograde	5128 Jun 14 19:51	14° ✕ 33'32		conjunction	5134 Mar 16 05:19	25° ✕ 16'30	-0°12'59
opposition	5128 Sep 02 20:15	13° ✕ 10'22	0°05'18	minimum elong	5134 Mar 16 05:19	25° ✕ 16'30	0°12'59
min. Earth dist.	5128 Sep 02 19:36	13° ✕ 10'25	29.14354 AU	behind sun begin	5134 Mar 16 01:20	25° ✕ 16'08	
direct	5128 Nov 21 22:26	11° ✕ 46'52		behind sun end	5134 Mar 16 09:17	25° ✕ 16'52	
evening set	5129 Feb 17 20:14	13° ✕ 41'05		max. Earth dist.	5134 Mar 16 09:44	25° ✕ 16'54	31.08192 AU
				morning rise	5134 Mar 31 14:17	25° ✕ 51'13	
conjunction	5129 Mar 05 04:00	14° ✕ 15'38	0°03'24	retrograde	5134 Jun 28 21:07	27° ✕ 47'23	
minimum elong	5129 Mar 05 03:59	14° ✕ 15'38	0°03'24	opposition	5134 Sep 17 02:34	26° ✕ 23'41	-0°15'35
behind sun begin	5129 Mar 04 21:38	14° ✕ 15'04		min. Earth dist.	5134 Sep 16 21:58	26° ✕ 23'59	29.07706 AU
behind sun end	5129 Mar 05 10:21	14° ✕ 16'13		direct	5134 Dec 05 17:37	25° ✕ 00'13	
max. Earth dist.	5129 Mar 05 03:52	14° ✕ 15'38	31.13863 AU	evening set	5135 Mar 03 07:01	26° ✕ 54'06	
morning rise	5129 Mar 20 12:18	14° ✕ 50'15					
retrograde	5129 Jun 17 08:28	16° ✕ 45'49		conjunction	5135 Mar 18 15:08	27° ✕ 28'43	-0°16'12
opposition	5129 Sep 05 09:20	15° ✕ 22'35	0°01'49	minimum elong	5135 Mar 18 15:07	27° ✕ 28'43	0°16'12
min. Earth dist.	5129 Sep 05 08:35	15° ✕ 22'38	29.13347 AU	behind sun begin	5135 Mar 18 14:46	27° ✕ 28'41	
direct	5129 Nov 24 08:19	13° ✕ 59'06		behind sun end	5135 Mar 18 15:29	27° ✕ 28'44	
evening set	5130 Feb 20 06:01	15° ✕ 53'16		max. Earth dist.	5135 Mar 18 20:40	27° ✕ 29'13	31.07242 AU
				morning rise	5135 Apr 03 00:16	28° ✕ 03'27	
conjunction	5130 Mar 07 13:57	16° ✕ 27'50	0°00'04	retrograde	5135 Jul 01 09:54	29° ✕ 59'45	
minimum elong	5130 Mar 07 13:57	16° ✕ 27'50	0°00'04	opposition	5135 Sep 19 15:35	28° ✕ 35'59	-0°19'01
behind sun begin	5130 Mar 07 08:00	16° ✕ 27'18		min. Earth dist.	5135 Sep 19 08:51	28° ✕ 36'27	29.06808 AU
behind sun end	5130 Mar 07 19:53	16° ✕ 28'21		direct	5135 Dec 08 05:51	27° ✕ 12'33	
max. Earth dist.	5130 Mar 07 15:20	16° ✕ 27'53	31.12790 AU	evening set	5136 Mar 04 16:58	29° ✕ 06'24	
desc. node	5130 Mar 15 01:49	16° ✕ 44'52					
morning rise	5130 Mar 22 22:12	17° ✕ 02'28		conjunction	5136 Mar 20 01:05	29° ✕ 41'02	-0°19'24
retrograde	5130 Jun 19 18:46	18° ✕ 58'09		minimum elong	5136 Mar 20 01:05	29° ✕ 41'02	0°19'24
opposition	5130 Sep 07 22:24	17° ✕ 34'50	-0°01'41	max. Earth dist.	5136 Mar 20 07:10	29° ✕ 41'36	31.06390 AU
min. Earth dist.	5130 Sep 07 20:56	17° ✕ 34'56	29.12211 AU		5136 Mar 28 09:26	0° ∇	
direct	5130 Nov 26 20:58	16° ✕ 11'22		morning rise	5136 Apr 04 10:30	0° ∇ 15'48	
evening set	5131 Feb 22 15:57	18° ✕ 05'28		retrograde	5136 Jul 02 21:46	2° ∇ 12'14	
				opposition	5136 Sep 21 04:38	0° ∇ 48'26	-0°22'26
conjunction	5131 Mar 09 23:45	18° ✕ 40'02	-0°03'16	min. Earth dist.	5136 Sep 20 21:58	0° ∇ 48'53	29.06011 AU
minimum elong	5131 Mar 09 23:45	18° ✕ 40'02	0°03'17		5136 Oct 22 18:15	30° ℞ ✕	
behind sun begin	5131 Mar 09 17:23	18° ✕ 39'27		direct	5136 Dec 09 16:58	29° ✕ 25'03	
behind sun end	5131 Mar 10 06:07	18° ✕ 40'37			5137 Jan 24 17:45	0° ∇	

evening set	5137 Mar 07 02:51	1°♈18'52	opposition	5143 Oct 08 01:17	16°♈19'58 -0°45'12
			min. Earth dist.	5143 Oct 07 14:50	16°♈20'41 28.99845 AU
conjunction	5137 Mar 22 11:13	1°♈53'31 -0°22'35	direct	5143 Dec 26 01:11	14°♈56'45
minimum elong	5137 Mar 22 11:12	1°♈53'31 0°22'35	evening set	5144 Mar 22 03:13	16°♈50'21
max. Earth dist.	5137 Mar 22 18:57	1°♈54'15 31.05630 AU			
morning rise	5137 Apr 06 20:43	2°♈28'18	conjunction	5144 Apr 06 12:30	17°♈25'07 -0°43'42
retrograde	5137 Jul 05 09:53	4°♈24'53	minimum elong	5144 Apr 06 12:30	17°♈25'07 0°43'42
opposition	5137 Sep 23 17:40	3°♈01'02 -0°25'49	max. Earth dist.	5144 Apr 06 23:51	17°♈26'11 30.99232 AU
min. Earth dist.	5137 Sep 23 09:27	3°♈01'36 29.05268 AU	morning rise	5144 Apr 21 23:44	18°♈00'06
direct	5137 Dec 12 06:08	1°♈37'42	retrograde	5144 Jul 21 02:14	19°♈57'34
evening set	5138 Mar 09 12:56	3°♈31'30	opposition	5144 Oct 09 14:14	18°♈33'15 -0°48'14
			min. Earth dist.	5144 Oct 09 02:10	18°♈34'05 28.98655 AU
conjunction	5138 Mar 24 21:12	4°♈06'11 -0°25'44	direct	5144 Dec 27 13:35	17°♈10'00
minimum elong	5138 Mar 24 21:12	4°♈06'11 0°25'44	evening set	5145 Mar 24 13:48	19°♈03'35
max. Earth dist.	5138 Mar 25 04:50	4°♈06'54 31.04901 AU			
morning rise	5138 Apr 09 07:04	4°♈41'00	conjunction	5145 Apr 08 23:10	19°♈38'22 -0°46'30
retrograde	5138 Jul 07 22:47	6°♈37'44	minimum elong	5145 Apr 08 23:10	19°♈38'22 0°46'30
opposition	5138 Sep 26 06:54	5°♈13'51 -0°29'10	max. Earth dist.	5145 Apr 09 10:41	19°♈39'27 30.98040 AU
min. Earth dist.	5138 Sep 25 22:26	5°♈14'25 29.04554 AU	morning rise	5145 Apr 24 10:46	20°♈13'22
direct	5138 Dec 14 16:24	3°♈50'34	retrograde	5145 Jul 23 15:04	22°♈10'55
evening set	5139 Mar 11 23:03	5°♈44'21	opposition	5145 Oct 12 03:28	20°♈46'31 -0°51'11
			min. Earth dist.	5145 Oct 11 15:39	20°♈47'20 28.97497 AU
conjunction	5139 Mar 27 07:36	6°♈19'02 -0°28'51	direct	5145 Dec 30 01:17	19°♈23'16
minimum elong	5139 Mar 27 07:35	6°♈19'02 0°28'51	evening set	5146 Mar 27 00:09	21°♈16'47
max. Earth dist.	5139 Mar 27 16:57	6°♈19'54 31.04176 AU			
morning rise	5139 Apr 11 17:29	6°♈53'53	conjunction	5146 Apr 11 09:50	21°♈51'36 -0°49'13
retrograde	5139 Jul 10 09:21	8°♈50'46	minimum elong	5146 Apr 11 09:50	21°♈51'36 0°49'14
opposition	5139 Sep 28 20:07	7°♈26'50 -0°32'29	max. Earth dist.	5146 Apr 11 23:02	21°♈52'51 30.96915 AU
min. Earth dist.	5139 Sep 28 10:54	7°♈27'28 29.03808 AU	morning rise	5146 Apr 26 21:34	22°♈26'37
direct	5139 Dec 17 04:42	6°♈03'37	retrograde	5146 Jul 26 04:03	24°♈24'17
evening set	5140 Mar 13 09:23	7°♈57'22	opposition	5146 Oct 14 16:32	22°♈59'48 -0°54'04
			min. Earth dist.	5146 Oct 14 03:06	23°♈00'43 28.96417 AU
conjunction	5140 Mar 28 17:55	8°♈32'04 -0°31'55	direct	5147 Jan 01 14:55	21°♈36'32
minimum elong	5140 Mar 28 17:55	8°♈32'04 0°31'55	evening set	5147 Mar 29 10:48	23°♈30'03
max. Earth dist.	5140 Mar 29 02:47	8°♈32'54 31.03402 AU			
morning rise	5140 Apr 13 04:13	9°♈06'56	conjunction	5147 Apr 13 20:32	24°♈04'52 -0°51'53
retrograde	5140 Jul 11 22:49	11°♈03'58	minimum elong	5147 Apr 13 20:32	24°♈04'52 0°51'53
opposition	5140 Sep 30 09:23	9°♈40'00 -0°35'45	max. Earth dist.	5147 Apr 14 09:37	24°♈06'07 30.95890 AU
min. Earth dist.	5140 Sep 29 23:27	9°♈40'41 29.02997 AU	morning rise	5147 Apr 29 08:44	24°♈39'56
direct	5140 Dec 18 14:34	8°♈16'48	retrograde	5147 Jul 28 17:04	26°♈37'43
evening set	5141 Mar 15 19:49	10°♈10'32	opposition	5147 Oct 17 05:40	25°♈13'10 -0°56'51
			min. Earth dist.	5147 Oct 16 15:57	25°♈14'07 28.95465 AU
conjunction	5141 Mar 31 04:35	10°♈45'15 -0°34'57	direct	5148 Jan 04 01:26	23°♈49'55
minimum elong	5141 Mar 31 04:34	10°♈45'15 0°34'57	evening set	5148 Mar 30 21:17	25°♈43'24
max. Earth dist.	5141 Mar 31 14:42	10°♈46'12 31.02522 AU			
morning rise	5141 Apr 15 14:57	11°♈20'09	conjunction	5148 Apr 15 07:27	26°♈18'15 -0°54'27
retrograde	5141 Jul 14 10:16	13°♈17'19	minimum elong	5148 Apr 15 07:27	26°♈18'15 0°54'28
opposition	5141 Oct 02 22:36	11°♈53'17 -0°38'57	max. Earth dist.	5148 Apr 15 22:22	26°♈19'40 30.94986 AU
min. Earth dist.	5141 Oct 02 12:54	11°♈53'57 29.02057 AU	morning rise	5148 Apr 30 19:48	26°♈53'21
direct	5141 Dec 21 01:53	10°♈30'06	retrograde	5148 Jul 30 03:59	28°♈51'15
evening set	5142 Mar 18 06:22	12°♈23'48	opposition	5148 Oct 18 18:43	27°♈26'40 -0°59'34
			min. Earth dist.	5148 Oct 18 04:01	27°♈27'41 28.94613 AU
conjunction	5142 Apr 02 15:13	12°♈58'32 -0°37'55	direct	5149 Jan 05 13:58	26°♈03'27
minimum elong	5142 Apr 02 15:13	12°♈58'32 0°37'55	evening set	5149 Apr 02 08:03	27°♈56'56
max. Earth dist.	5142 Apr 03 01:09	12°♈59'28 31.01529 AU			
morning rise	5142 Apr 18 01:56	13°♈33'27	conjunction	5149 Apr 17 18:17	28°♈31'48 -0°56'57
retrograde	5142 Jul 17 00:18	15°♈30'44	minimum elong	5149 Apr 17 18:17	28°♈31'48 0°56'58
opposition	5142 Oct 05 11:54	14°♈06'38 -0°42'07	max. Earth dist.	5149 Apr 18 08:55	28°♈33'12 30.94189 AU
min. Earth dist.	5142 Oct 05 00:57	14°♈07'23 29.01002 AU	morning rise	5149 May 03 07:06	29°♈06'56
direct	5142 Dec 23 13:36	12°♈43'26		5149 May 28 23:24	0°♈
evening set	5143 Mar 20 16:46	14°♈37'05	retrograde	5149 Aug 01 17:36	1°♈04'57
				5149 Oct 09 06:49	30°♈
conjunction	5143 Apr 05 01:48	15°♈11'50 -0°40'50	opposition	5149 Oct 21 07:43	29°♈40'20 -1°02'12
minimum elong	5143 Apr 05 01:48	15°♈11'50 0°40'51	min. Earth dist.	5149 Oct 20 16:07	29°♈41'25 28.93867 AU
max. Earth dist.	5143 Apr 05 12:27	15°♈12'51 31.00409 AU	direct	5150 Jan 07 23:50	28°♈17'09
morning rise	5143 Apr 20 12:46	15°♈46'47		5150 Mar 30 22:24	0°♈
retrograde	5143 Jul 19 12:59	17°♈44'10	evening set	5150 Apr 04 18:47	0°♈10'39

conjunction	5150 Apr 20 05:23	0°845'33 -0°59'22	opposition	5156 Nov 06 03:30	15°820'38 -1°17'48
minimum elong	5150 Apr 20 05:22	0°845'33 0°59'22		5156 Nov 18 17:08	15°8
max. Earth dist.	5150 Apr 20 21:35	0°847'05 30.93472 AU	direct	5157 Jan 23 09:19	13°857'26
morning rise	5150 May 05 18:24	1°820'43		5157 Mar 26 10:05	15°8
retrograde	5150 Aug 04 05:21	3°818'51	evening set	5157 Apr 20 01:09	15°850'52
opposition	5150 Oct 23 20:54	1°854'14 -1°04'44			
min. Earth dist.	5150 Oct 23 05:13	1°855'19 28.93182 AU	conjunction	5157 May 05 13:52	16°825'56 -1°13'36
direct	5151 Jan 10 11:00	0°831'05	minimum elong	5157 May 05 13:52	16°825'56 1°13'38
evening set	5151 Apr 07 05:36	2°824'35	max. Earth dist.	5157 May 06 08:30	16°827'42 30.87688 AU
			morning rise	5157 May 21 05:23	17°801'18
conjunction	5151 Apr 22 16:24	2°859'31 -1°01'42	retrograde	5157 Aug 20 03:23	18°859'59
minimum elong	5151 Apr 22 16:24	2°859'31 1°01'42	opposition	5157 Nov 08 16:19	17°834'58 -1°19'36
max. Earth dist.	5151 Apr 23 08:43	3°801'03 30.92815 AU	min. Earth dist.	5157 Nov 07 22:31	17°836'11 28.87256 AU
morning rise	5151 May 08 05:51	3°834'42	direct	5158 Jan 25 23:02	16°811'42
retrograde	5151 Aug 06 19:13	5°832'59	evening set	5158 Apr 22 12:36	18°805'06
opposition	5151 Oct 26 10:00	4°808'20 -1°07'11			
min. Earth dist.	5151 Oct 25 17:08	4°809'30 28.92533 AU	conjunction	5158 May 08 01:30	18°840'12 -1°15'13
direct	5152 Jan 12 21:59	2°845'14	minimum elong	5158 May 08 01:30	18°840'12 1°15'14
evening set	5152 Apr 08 16:42	4°838'45	max. Earth dist.	5158 May 08 19:36	18°841'55 30.86721 AU
			morning rise	5158 May 23 17:33	19°815'35
conjunction	5152 Apr 24 03:46	5°813'42 -1°03'56	retrograde	5158 Aug 22 17:31	21°814'18
minimum elong	5152 Apr 24 03:46	5°813'42 1°03'56	min. Earth dist.	5158 Nov 10 10:44	19°850'28 28.86346 AU
max. Earth dist.	5152 Apr 24 20:42	5°815'18 30.92146 AU	opposition	5158 Nov 11 05:11	19°849'11 -1°21'16
morning rise	5152 May 09 17:32	5°848'55	direct	5159 Jan 28 10:22	18°825'53
retrograde	5152 Aug 08 07:54	7°847'19	evening set	5159 Apr 24 23:53	20°819'15
opposition	5152 Oct 27 23:04	6°822'39 -1°09'31			
min. Earth dist.	5152 Oct 27 06:56	6°823'46 28.91852 AU	conjunction	5159 May 10 13:15	20°854'22 -1°16'43
direct	5153 Jan 14 08:15	4°859'34	minimum elong	5159 May 10 13:15	20°854'22 1°16'44
evening set	5153 Apr 11 03:54	6°853'06	max. Earth dist.	5159 May 11 08:49	20°856'13 30.85855 AU
			morning rise	5159 May 26 05:36	21°829'48
conjunction	5153 Apr 26 15:18	7°828'04 -1°06'04	retrograde	5159 Aug 25 04:32	23°828'32
minimum elong	5153 Apr 26 15:18	7°828'04 1°06'05	opposition	5159 Nov 13 17:59	22°803'22 -1°22'48
max. Earth dist.	5153 Apr 27 08:35	7°829'43 30.91434 AU	min. Earth dist.	5159 Nov 12 23:29	22°804'39 28.85545 AU
morning rise	5153 May 12 05:21	8°803'19	direct	5160 Jan 30 22:27	20°840'02
retrograde	5153 Aug 10 22:07	10°801'49	evening set	5160 Apr 26 11:26	22°833'23
opposition	5153 Oct 30 12:08	8°837'07 -1°11'45			
min. Earth dist.	5153 Oct 29 18:45	8°838'19 28.91096 AU	conjunction	5160 May 12 01:07	23°808'31 -1°18'07
direct	5154 Jan 16 20:06	7°814'02	minimum elong	5160 May 12 01:07	23°808'31 1°18'07
evening set	5154 Apr 13 15:10	9°807'34	max. Earth dist.	5160 May 12 20:39	23°810'23 30.85129 AU
			morning rise	5160 May 27 17:55	23°843'59
conjunction	5154 Apr 29 02:44	9°842'34 -1°08'07	retrograde	5160 Aug 26 17:35	25°842'45
minimum elong	5154 Apr 29 02:44	9°842'34 1°08'07	min. Earth dist.	5160 Nov 14 10:51	24°818'55 28.84894 AU
max. Earth dist.	5154 Apr 29 19:41	9°844'10 30.90617 AU	opposition	5160 Nov 15 06:30	24°817'33 -1°24'14
morning rise	5154 May 14 17:14	10°817'51	direct	5161 Feb 01 09:18	22°854'11
retrograde	5154 Aug 13 12:09	12°816'26	evening set	5161 Apr 28 22:58	24°847'33
min. Earth dist.	5154 Nov 01 08:51	10°852'48 28.90234 AU			
opposition	5154 Nov 02 01:27	10°851'40 -1°13'53	conjunction	5161 May 14 13:01	25°822'43 -1°19'23
direct	5155 Jan 19 08:15	9°828'34	minimum elong	5161 May 14 13:00	25°822'43 1°19'24
evening set	5155 Apr 16 02:28	11°822'04	max. Earth dist.	5161 May 15 09:19	25°824'39 30.84536 AU
			morning rise	5161 May 30 06:12	25°858'12
conjunction	5155 May 01 14:31	11°857'06 -1°10'03	retrograde	5161 Aug 29 05:38	27°857'02
minimum elong	5155 May 01 14:31	11°857'06 1°10'04	opposition	5161 Nov 17 19:17	26°831'48 -1°25'31
max. Earth dist.	5155 May 02 08:28	11°858'48 30.89705 AU	min. Earth dist.	5161 Nov 17 00:04	26°833'08 28.84378 AU
morning rise	5155 May 17 05:16	12°832'25	direct	5162 Feb 03 19:25	25°808'27
retrograde	5155 Aug 16 02:19	14°831'02	evening set	5162 May 01 10:24	27°801'50
opposition	5155 Nov 04 14:26	13°806'12 -1°15'54			
min. Earth dist.	5155 Nov 03 20:54	13°807'24 28.89271 AU	conjunction	5162 May 17 00:55	27°837'02 -1°20'32
direct	5156 Jan 21 22:11	11°843'03	minimum elong	5162 May 17 00:55	27°837'02 1°20'32
evening set	5156 Apr 17 13:53	13°836'31	max. Earth dist.	5162 May 17 21:51	27°839'01 30.84094 AU
			morning rise	5162 Jun 01 18:29	28°812'32
conjunction	5156 May 03 02:08	14°811'34 -1°11'53		5162 Aug 05 09:22	0°II
minimum elong	5156 May 03 02:08	14°811'34 1°11'54	retrograde	5162 Aug 31 19:38	0°II11'26
max. Earth dist.	5156 May 03 19:19	14°813'12 30.88708 AU		5162 Sep 27 16:34	30°8
morning rise	5156 May 18 17:27	14°846'55	min. Earth dist.	5162 Nov 19 11:16	28°847'38 28.83991 AU
	5156 May 24 16:36	15°8	opposition	5162 Nov 20 07:56	28°846'12 -1°26'41
retrograde	5156 Aug 17 15:24	16°845'34	direct	5163 Feb 06 06:58	27°822'52
min. Earth dist.	5156 Nov 05 10:21	15°821'49 28.88262 AU	evening set	5163 May 03 22:13	29°816'16

conjunction	5163 May 19 13:00	29° 8 51'30 -1°21'33	retrograde	5169 Sep 16 19:49	15° II 56'38	
minimum elong	5163 May 19 13:00	29° 8 51'30 1°21'35	min. Earth dist.	5169 Dec 05 04:05	14° II 32'46	28.81366 AU
max. Earth dist.	5163 May 20 09:50	29° 8 53'28 30.83753 AU	opposition	5169 Dec 06 00:07	14° II 31'22	-1°31'04
	5163 May 23 06:43	0° II	direct	5170 Feb 21 19:09	13° II 07'58	
morning rise	5163 Jun 04 07:07	0° II 27'03	evening set	5170 May 19 11:21	15° II 01'31	
retrograde	5163 Sep 03 09:24	2° II 26'00				
opposition	5163 Nov 22 20:37	1° II 00'47 -1°27'43	conjunction	5170 Jun 04 05:13	15° II 36'58	-1°25'13
min. Earth dist.	5163 Nov 22 00:44	1° II 02'10 28.83699 AU	minimum elong	5170 Jun 04 05:13	15° II 36'58	1°25'13
	5164 Jan 02 14:23	30° 8	max. Earth dist.	5170 Jun 05 02:14	15° II 38'57	30.81032 AU
direct	5164 Feb 08 17:56	29° 8 37'28	morning rise	5170 Jun 20 02:19	16° II 12'43	
	5164 Mar 16 02:00	0° II	retrograde	5170 Sep 19 07:57	18° II 11'46	
evening set	5164 May 05 10:02	1° II 30'55	opposition	5170 Dec 08 12:35	16° II 46'27	-1°31'08
			min. Earth dist.	5170 Dec 07 17:25	16° II 47'48	28.80894 AU
conjunction	5164 May 21 01:23	2° II 06'11 -1°22'28	direct	5171 Feb 24 05:40	15° II 23'00	
minimum elong	5164 May 21 01:23	2° II 06'11 1°22'28	evening set	5171 May 21 23:41	17° II 16'32	
max. Earth dist.	5164 May 21 23:15	2° II 08'15 30.83489 AU				
morning rise	5164 Jun 05 19:48	2° II 41'46	conjunction	5171 Jun 06 18:05	17° II 52'00	-1°25'13
retrograde	5164 Sep 04 23:46	4° II 40'46	minimum elong	5171 Jun 06 18:05	17° II 52'00	1°25'15
opposition	5164 Nov 24 09:13	3° II 15'34 -1°28'37	max. Earth dist.	5171 Jun 07 15:16	17° II 54'00	30.80610 AU
min. Earth dist.	5164 Nov 23 12:27	3° II 17'01 28.83441 AU	morning rise	5171 Jun 22 15:37	18° II 27'48	
direct	5165 Feb 10 06:53	1° II 52'17	retrograde	5171 Sep 21 20:44	20° II 26'47	
evening set	5165 May 07 22:07	3° II 45'47	min. Earth dist.	5171 Dec 10 04:26	19° II 02'52	28.80521 AU
			opposition	5171 Dec 11 00:40	19° II 01'27	-1°31'05
conjunction	5165 May 23 13:41	4° II 21'05 -1°23'14	direct	5172 Feb 26 17:36	17° II 37'56	
minimum elong	5165 May 23 13:41	4° II 21'05 1°23'15	evening set	5172 May 23 12:10	19° II 31'29	
max. Earth dist.	5165 May 24 10:38	4° II 23'04 30.83224 AU				
morning rise	5165 Jun 08 08:39	4° II 56'42	conjunction	5172 Jun 08 06:55	20° II 06'59	-1°25'06
retrograde	5165 Sep 07 13:55	6° II 55'46	minimum elong	5172 Jun 08 06:55	20° II 06'59	1°25'07
opposition	5165 Nov 26 21:56	5° II 30'35 -1°29'22	max. Earth dist.	5172 Jun 09 03:45	20° II 08'57	30.80289 AU
min. Earth dist.	5165 Nov 26 01:54	5° II 31'58 28.83169 AU	morning rise	5172 Jun 24 04:59	20° II 42'48	
direct	5166 Feb 12 17:25	4° II 07'18	retrograde	5172 Sep 23 08:54	22° II 41'46	
evening set	5166 May 10 10:14	6° II 00'51	opposition	5172 Dec 12 12:58	21° II 16'24	-1°30'53
			min. Earth dist.	5172 Dec 11 17:34	21° II 17'46	28.80273 AU
conjunction	5166 May 26 02:23	6° II 36'10 -1°23'53	direct	5173 Feb 28 04:22	19° II 52'51	
minimum elong	5166 May 26 02:23	6° II 36'10 1°23'54	evening set	5173 May 26 00:26	21° II 46'25	
max. Earth dist.	5166 May 27 00:16	6° II 38'15 30.82917 AU				
morning rise	5166 Jun 10 21:35	7° II 11'49	conjunction	5173 Jun 10 19:46	22° II 21'56	-1°24'51
retrograde	5166 Sep 10 03:48	9° II 10'55	minimum elong	5173 Jun 10 19:47	22° II 21'56	1°24'52
opposition	5166 Nov 29 10:35	7° II 45'45 -1°30'00	max. Earth dist.	5173 Jun 11 17:34	22° II 24'00	30.80112 AU
min. Earth dist.	5166 Nov 28 14:24	7° II 47'09 28.82821 AU	morning rise	5173 Jun 26 18:08	22° II 57'46	
direct	5167 Feb 15 07:09	6° II 22'28	retrograde	5173 Sep 25 22:04	24° II 56'42	
evening set	5167 May 12 22:31	8° II 16'01	min. Earth dist.	5173 Dec 14 04:38	23° II 32'47	28.80162 AU
			opposition	5173 Dec 15 01:03	23° II 31'21	-1°30'33
conjunction	5167 May 28 14:59	8° II 51'23 -1°24'24	direct	5174 Mar 02 16:31	22° II 07'46	
minimum elong	5167 May 28 14:59	8° II 51'23 1°24'26	evening set	5174 May 28 13:01	24° II 01'21	
max. Earth dist.	5167 May 29 11:34	8° II 53'20 30.82531 AU				
morning rise	5167 Jun 13 10:50	9° II 27'04	conjunction	5174 Jun 13 08:40	24° II 36'54	-1°24'28
retrograde	5167 Sep 12 19:02	11° II 26'11	minimum elong	5174 Jun 13 08:40	24° II 36'54	1°24'29
opposition	5167 Dec 01 23:16	10° II 00'59 -1°30'29	max. Earth dist.	5174 Jun 14 05:39	24° II 38'53	30.80077 AU
min. Earth dist.	5167 Dec 01 03:12	10° II 02'23 28.82391 AU	morning rise	5174 Jun 29 07:37	25° II 12'46	
direct	5168 Feb 17 19:02	8° II 37'41	retrograde	5174 Sep 28 12:03	27° II 11'40	
evening set	5168 May 14 10:50	10° II 31'14	opposition	5174 Dec 17 13:13	25° II 46'19	-1°30'04
			min. Earth dist.	5174 Dec 16 17:26	25° II 47'43	28.80205 AU
conjunction	5168 May 30 03:51	11° II 06'38 -1°24'48	direct	5175 Mar 05 02:54	24° II 22'44	
minimum elong	5168 May 30 03:51	11° II 06'38 1°24'48	evening set	5175 May 31 01:29	26° II 16'21	
max. Earth dist.	5168 May 31 01:06	11° II 08'39 30.82052 AU				
morning rise	5168 Jun 14 24:00	11° II 42'21	conjunction	5175 Jun 15 21:48	26° II 51'56	-1°23'57
retrograde	5168 Sep 14 06:25	13° II 41'26	minimum elong	5175 Jun 15 21:48	26° II 51'56	1°23'59
opposition	5168 Dec 03 11:42	12° II 16'13 -1°30'51	max. Earth dist.	5175 Jun 16 19:56	26° II 54'01	30.80183 AU
min. Earth dist.	5168 Dec 02 16:14	12° II 17'34 28.81879 AU	morning rise	5175 Jul 01 21:04	27° II 27'49	
direct	5169 Feb 19 07:35	10° II 52'52	retrograde	5175 Oct 01 01:55	29° II 26'41	
evening set	5169 May 16 23:09	12° II 46'25	min. Earth dist.	5175 Dec 19 05:11	28° II 02'47	28.80355 AU
			opposition	5175 Dec 20 01:15	28° II 01'22	-1°29'27
conjunction	5169 Jun 01 16:34	13° II 21'50 -1°25'04	direct	5176 Mar 06 16:33	26° II 37'47	
minimum elong	5169 Jun 01 16:34	13° II 21'50 1°25'06	evening set	5176 Jun 01 14:18	28° II 31'26	
max. Earth dist.	5169 Jun 02 13:10	13° II 23'47 30.81539 AU				
morning rise	5169 Jun 17 13:15	13° II 57'35	conjunction	5176 Jun 17 10:55	29° II 07'03	-1°23'19

minimum elong	5176 Jun 17 10:55	29° Π 07'03	1°23'19	opposition	5183 Jan 04 12:47	13° \mathbb{E} 48'31	-1°21'20
max. Earth dist.	5176 Jun 18 07:48	29° Π 09'01	30.80384 AU	min. Earth dist.	5183 Jan 03 19:42	13° \mathbb{E} 49'43	28.81026 AU
morning rise	5176 Jul 03 10:46	29° Π 42'58		direct	5183 Mar 23 03:08	12° \mathbb{E} 24'41	
	5176 Jul 11 07:08	0° \mathbb{E}		evening set	5183 Jun 18 09:55	14° \mathbb{E} 18'32	
retrograde	5176 Oct 02 16:45	1° \mathbb{E} 41'48					
opposition	5176 Dec 21 13:12	0° \mathbb{E} 16'32	-1°28'41	conjunction	5183 Jul 04 09:53	14° \mathbb{E} 54'20	-1°15'19
min. Earth dist.	5176 Dec 20 17:22	0° \mathbb{E} 17'56	28.80590 AU	minimum elong	5183 Jul 04 09:53	14° \mathbb{E} 54'20	1°15'20
	5176 Dec 31 10:20	30° \mathbb{R} Π		max. Earth dist.	5183 Jul 05 03:23	14° \mathbb{E} 55'59	30.80947 AU
direct	5177 Mar 09 04:10	28° Π 52'57		morning rise	5183 Jul 20 12:40	15° \mathbb{E} 30'24	
	5177 May 12 14:42	0° \mathbb{E}		retrograde	5183 Oct 19 11:23	17° \mathbb{E} 28'45	
evening set	5177 Jun 04 03:08	0° \mathbb{E} 46'39		min. Earth dist.	5184 Jan 06 08:29	16° \mathbb{E} 04'42	28.81018 AU
				opposition	5184 Jan 07 00:29	16° \mathbb{E} 03'34	-1°19'40
conjunction	5177 Jun 20 00:20	1° \mathbb{E} 22'18	-1°22'32	direct	5184 Mar 24 13:49	14° \mathbb{E} 39'41	
minimum elong	5177 Jun 20 00:20	1° \mathbb{E} 22'18	1°22'34	evening set	5184 Jun 19 23:02	16° \mathbb{E} 33'33	
max. Earth dist.	5177 Jun 20 21:55	1° \mathbb{E} 24'20	30.80629 AU				
morning rise	5177 Jul 06 00:27	1° \mathbb{E} 58'14		conjunction	5184 Jul 05 23:35	17° \mathbb{E} 09'23	-1°13'42
retrograde	5177 Oct 05 05:20	3° \mathbb{E} 57'03		minimum elong	5184 Jul 05 23:35	17° \mathbb{E} 09'23	1°13'42
min. Earth dist.	5177 Dec 23 06:09	2° \mathbb{E} 33'10	28.80832 AU	max. Earth dist.	5184 Jul 06 17:51	17° \mathbb{E} 11'06	30.80973 AU
opposition	5177 Dec 24 01:17	2° \mathbb{E} 31'50	-1°27'47	morning rise	5184 Jul 22 02:34	17° \mathbb{E} 45'27	
direct	5178 Mar 11 16:26	1° \mathbb{E} 08'15		retrograde	5184 Oct 21 00:07	19° \mathbb{E} 43'42	
evening set	5178 Jun 06 16:04	3° \mathbb{E} 01'59		opposition	5185 Jan 08 11:55	18° \mathbb{E} 18'32	-1°17'53
				min. Earth dist.	5185 Jan 07 19:50	18° \mathbb{E} 19'40	28.81085 AU
conjunction	5178 Jun 22 13:40	3° \mathbb{E} 37'40	-1°21'38	direct	5185 Mar 27 03:21	16° \mathbb{E} 54'36	
minimum elong	5178 Jun 22 13:40	3° \mathbb{E} 37'40	1°21'38	evening set	5185 Jun 22 12:16	18° \mathbb{E} 48'30	
max. Earth dist.	5178 Jun 23 10:07	3° \mathbb{E} 39'36	30.80866 AU				
morning rise	5178 Jul 08 14:20	4° \mathbb{E} 13'38		conjunction	5185 Jul 08 13:07	19° \mathbb{E} 24'21	-1°11'59
retrograde	5178 Oct 07 20:23	6° \mathbb{E} 12'24		minimum elong	5185 Jul 08 13:07	19° \mathbb{E} 24'21	1°12'00
opposition	5178 Dec 26 13:19	4° \mathbb{E} 47'13	-1°26'46	max. Earth dist.	5185 Jul 09 05:59	19° \mathbb{E} 25'56	30.81108 AU
min. Earth dist.	5178 Dec 25 18:07	4° \mathbb{E} 48'34	28.81034 AU	morning rise	5185 Jul 24 16:39	20° \mathbb{E} 00'26	
direct	5179 Mar 14 04:35	3° \mathbb{E} 23'37		retrograde	5185 Oct 23 14:06	21° \mathbb{E} 58'36	
evening set	5179 Jun 09 05:16	5° \mathbb{E} 17'24		opposition	5186 Jan 10 23:26	20° \mathbb{E} 33'27	-1°15'59
				min. Earth dist.	5186 Jan 10 07:33	20° \mathbb{E} 34'34	28.81290 AU
conjunction	5179 Jun 25 03:22	5° \mathbb{E} 53'07	-1°20'37	direct	5186 Mar 29 14:49	19° \mathbb{E} 09'28	
minimum elong	5179 Jun 25 03:23	5° \mathbb{E} 53'07	1°20'38	evening set	5186 Jun 25 01:19	21° \mathbb{E} 03'24	
max. Earth dist.	5179 Jun 25 23:36	5° \mathbb{E} 55'01	30.81014 AU				
morning rise	5179 Jul 11 04:25	6° \mathbb{E} 29'06		conjunction	5186 Jul 11 02:46	21° \mathbb{E} 39'17	-1°10'09
retrograde	5179 Oct 10 08:56	8° \mathbb{E} 27'48		minimum elong	5186 Jul 11 02:46	21° \mathbb{E} 39'17	1°10'09
min. Earth dist.	5179 Dec 28 07:39	7° \mathbb{E} 03'53	28.81133 AU	max. Earth dist.	5186 Jul 11 20:24	21° \mathbb{E} 40'56	30.81377 AU
opposition	5179 Dec 29 01:19	7° \mathbb{E} 02'39	-1°25'36	morning rise	5186 Jul 27 06:31	22° \mathbb{E} 15'23	
direct	5180 Mar 15 15:52	5° \mathbb{E} 39'01		retrograde	5186 Oct 26 02:37	24° \mathbb{E} 13'27	
evening set	5180 Jun 10 18:27	7° \mathbb{E} 32'49		opposition	5187 Jan 13 10:55	22° \mathbb{E} 48'20	-1°13'58
				min. Earth dist.	5187 Jan 12 19:33	22° \mathbb{E} 49'25	28.81621 AU
conjunction	5180 Jun 26 17:06	8° \mathbb{E} 08'33	-1°19'28	direct	5187 Apr 01 03:08	21° \mathbb{E} 24'21	
minimum elong	5180 Jun 26 17:06	8° \mathbb{E} 08'33	1°19'28	evening set	5187 Jun 27 14:40	23° \mathbb{E} 18'19	
max. Earth dist.	5180 Jun 27 12:34	8° \mathbb{E} 10'23	30.81074 AU				
morning rise	5180 Jul 12 18:33	8° \mathbb{E} 44'34		conjunction	5187 Jul 13 16:29	23° \mathbb{E} 54'13	-1°08'12
retrograde	5180 Oct 11 21:59	10° \mathbb{E} 43'11		minimum elong	5187 Jul 13 16:29	23° \mathbb{E} 54'13	1°08'13
opposition	5180 Dec 30 13:13	9° \mathbb{E} 18'02	-1°24'18	max. Earth dist.	5187 Jul 14 08:59	23° \mathbb{E} 55'46	30.81790 AU
min. Earth dist.	5180 Dec 29 19:07	9° \mathbb{E} 19'19	28.81139 AU	morning rise	5187 Jul 29 20:43	24° \mathbb{E} 30'20	
direct	5181 Mar 18 04:18	7° \mathbb{E} 54'21		retrograde	5187 Oct 28 17:52	26° \mathbb{E} 28'19	
evening set	5181 Jun 13 07:34	9° \mathbb{E} 48'10		opposition	5188 Jan 15 22:10	25° \mathbb{E} 03'16	-1°11'50
				min. Earth dist.	5188 Jan 15 06:32	25° \mathbb{E} 04'22	28.82096 AU
conjunction	5181 Jun 29 06:35	10° \mathbb{E} 23'55	-1°18'12	direct	5188 Apr 02 15:41	23° \mathbb{E} 39'15	
minimum elong	5181 Jun 29 06:35	10° \mathbb{E} 23'55	1°18'13	evening set	5188 Jun 29 04:01	25° \mathbb{E} 33'17	
max. Earth dist.	5181 Jun 30 01:08	10° \mathbb{E} 25'40	30.81041 AU				
morning rise	5181 Jul 15 08:30	10° \mathbb{E} 59'57		conjunction	5188 Jul 15 06:17	26° \mathbb{E} 09'13	-1°06'09
retrograde	5181 Oct 14 09:42	12° \mathbb{E} 58'30		minimum elong	5188 Jul 15 06:17	26° \mathbb{E} 09'13	1°06'10
min. Earth dist.	5182 Jan 01 08:32	11° \mathbb{E} 34'30	28.81085 AU	max. Earth dist.	5188 Jul 15 23:00	26° \mathbb{E} 10'47	30.82320 AU
opposition	5182 Jan 02 01:11	11° \mathbb{E} 33'20	-1°22'53	morning rise	5188 Jul 31 10:47	26° \mathbb{E} 45'21	
direct	5182 Mar 20 15:02	10° \mathbb{E} 09'35		retrograde	5188 Oct 30 06:08	28° \mathbb{E} 43'15	
evening set	5182 Jun 15 20:40	12° \mathbb{E} 03'25		opposition	5189 Jan 17 09:36	27° \mathbb{E} 18'16	-1°09'35
				min. Earth dist.	5189 Jan 16 19:16	27° \mathbb{E} 19'17	28.82673 AU
conjunction	5182 Jul 01 20:18	12° \mathbb{E} 39'11	-1°16'49	direct	5189 Apr 05 03:10	25° \mathbb{E} 54'16	
minimum elong	5182 Jul 01 20:18	12° \mathbb{E} 39'11	1°16'49	evening set	5189 Jul 01 17:17	27° \mathbb{E} 48'21	
max. Earth dist.	5182 Jul 02 15:05	12° \mathbb{E} 40'57	30.80987 AU				
morning rise	5182 Jul 17 22:32	13° \mathbb{E} 15'14		conjunction	5189 Jul 17 19:58	28° \mathbb{E} 24'18	-1°04'00
retrograde	5182 Oct 16 22:31	15° \mathbb{E} 13'40		minimum elong	5189 Jul 17 19:58	28° \mathbb{E} 24'18	1°04'02

max. Earth dist.	5189 Jul 18 12:05	28° $\overline{25}$ '49	30.82946 AU	min. Earth dist.	5196 Feb 02 06:23	13° $\overline{03}$ '58	28.86073 AU
morning rise	5189 Aug 03 00:48	29° $\overline{00}$ '28		direct	5196 Apr 20 13:00	11° $\overline{38}$ '59	
	5189 Sep 01 15:06	0° $\overline{0}$		evening set	5196 Jul 17 16:53	13° $\overline{03}$ '17	
retrograde	5189 Nov 01 19:28	0° $\overline{05}$ '16					
	5190 Jan 03 21:14	30° $\overline{08}$ ' $\overline{25}$		conjunction	5196 Aug 02 22:04	14° $\overline{09}$ '19	-0°46'28
opposition	5190 Jan 19 20:54	29° $\overline{03}$ '22	-1°07'14	minimum elong	5196 Aug 02 22:04	14° $\overline{09}$ '19	0°46'28
min. Earth dist.	5190 Jan 19 06:07	29° $\overline{03}$ '42	28.83312 AU	max. Earth dist.	5196 Aug 03 07:57	14° $\overline{10}$ '14	30.86259 AU
direct	5190 Apr 07 15:23	28° $\overline{09}$ '23		morning rise	5196 Aug 19 04:45	14° $\overline{45}$ '30	
	5190 Jul 02 16:08	0° $\overline{0}$			5196 Aug 25 22:25	15° $\overline{0}$	
evening set	5190 Jul 04 06:53	0° $\overline{03}$ '31		retrograde	5196 Nov 17 10:19	16° $\overline{42}$ '23	
				opposition	5197 Feb 04 02:40	15° $\overline{17}$ '40	-0°48'10
conjunction	5190 Jul 20 09:54	0° $\overline{39}$ '30	-1°01'45	min. Earth dist.	5197 Feb 03 17:09	15° $\overline{18}$ '21	28.86509 AU
minimum elong	5190 Jul 20 09:54	0° $\overline{39}$ '30	1°01'46		5197 Feb 14 13:59	15° $\overline{0}$	
max. Earth dist.	5190 Jul 21 01:04	0° $\overline{40}$ '55	30.83584 AU	direct	5197 Apr 23 02:05	13° $\overline{53}$ '16	
morning rise	5190 Aug 05 15:04	1° $\overline{15}$ '40			5197 Jun 27 00:23	15° $\overline{0}$	
retrograde	5190 Nov 04 07:44	3° $\overline{13}$ '24		evening set	5197 Jul 20 06:18	15° $\overline{47}$ '35	
opposition	5191 Jan 22 08:12	1° $\overline{48}$ '34	-1°04'46				
min. Earth dist.	5191 Jan 21 19:10	1° $\overline{49}$ '29	28.83941 AU	conjunction	5197 Aug 05 11:50	16° $\overline{23}$ '38	-0°43'40
direct	5191 Apr 10 01:34	0° $\overline{24}$ '33		minimum elong	5197 Aug 05 11:50	16° $\overline{23}$ '38	0°43'41
evening set	5191 Jul 06 20:30	2° $\overline{18}$ '45		max. Earth dist.	5197 Aug 05 21:54	16° $\overline{24}$ '34	30.86736 AU
				morning rise	5197 Aug 21 18:36	16° $\overline{59}$ '48	
conjunction	5191 Jul 23 00:03	2° $\overline{54}$ '45	-0°59'25	retrograde	5197 Nov 19 21:27	18° $\overline{56}$ '33	
minimum elong	5191 Jul 23 00:03	2° $\overline{54}$ '45	0°59'26	opposition	5198 Feb 06 13:34	17° $\overline{31}$ '51	-0°45'08
max. Earth dist.	5191 Jul 23 14:51	2° $\overline{56}$ '08	30.84189 AU	min. Earth dist.	5198 Feb 06 05:24	17° $\overline{32}$ '26	28.87043 AU
morning rise	5191 Aug 08 05:26	3° $\overline{30}$ '56		direct	5198 Apr 25 14:10	16° $\overline{07}$ '24	
retrograde	5191 Nov 06 20:42	5° $\overline{28}$ '33		evening set	5198 Jul 22 19:52	18° $\overline{01}$ '44	
opposition	5192 Jan 24 19:27	4° $\overline{03}$ '47	-1°02'13				
min. Earth dist.	5192 Jan 24 06:21	4° $\overline{04}$ '42	28.84494 AU	conjunction	5198 Aug 08 01:41	18° $\overline{37}$ '48	-0°40'48
direct	5192 Apr 11 13:17	2° $\overline{39}$ '44		minimum elong	5198 Aug 08 01:42	18° $\overline{37}$ '48	0°40'48
evening set	5192 Jul 08 10:18	4° $\overline{33}$ '59		max. Earth dist.	5198 Aug 08 10:58	18° $\overline{38}$ '39	30.87344 AU
				morning rise	5198 Aug 24 08:41	19° $\overline{13}$ '58	
conjunction	5192 Jul 24 14:01	5° $\overline{09}$ '59	-0°56'59	retrograde	5198 Nov 22 10:50	21° $\overline{10}$ '33	
minimum elong	5192 Jul 24 14:02	5° $\overline{09}$ '59	0°56'59	opposition	5199 Feb 09 00:10	19° $\overline{45}$ '55	-0°42'02
max. Earth dist.	5192 Jul 25 03:02	5° $\overline{11}$ '12	30.84695 AU	min. Earth dist.	5199 Feb 08 15:27	19° $\overline{46}$ '32	28.87715 AU
morning rise	5192 Aug 09 19:46	5° $\overline{46}$ '10		direct	5199 Apr 28 02:44	18° $\overline{21}$ '25	
retrograde	5192 Nov 08 08:05	7° $\overline{43}$ '40		evening set	5199 Jul 25 09:31	20° $\overline{15}$ '47	
opposition	5193 Jan 26 06:44	6° $\overline{18}$ '56	-0°59'34				
min. Earth dist.	5193 Jan 25 19:10	6° $\overline{19}$ '45	28.84960 AU	conjunction	5199 Aug 10 15:34	20° $\overline{51}$ '51	-0°37'52
direct	5193 Apr 14 00:11	4° $\overline{54}$ '50		minimum elong	5199 Aug 10 15:34	20° $\overline{51}$ '51	0°37'53
evening set	5193 Jul 10 23:52	6° $\overline{49}$ '05		max. Earth dist.	5199 Aug 11 00:12	20° $\overline{52}$ '39	30.88083 AU
				morning rise	5199 Aug 26 22:42	21° $\overline{28}$ '02	
conjunction	5193 Jul 27 04:09	7° $\overline{25}$ '06	-0°54'28	retrograde	5199 Nov 24 22:54	23° $\overline{24}$ '29	
minimum elong	5193 Jul 27 04:09	7° $\overline{25}$ '06	0°54'29	opposition	5200 Feb 11 11:00	21° $\overline{59}$ '54	-0°38'52
max. Earth dist.	5193 Jul 27 17:18	7° $\overline{26}$ '20	30.85126 AU	min. Earth dist.	5200 Feb 11 03:38	22° $\overline{00}$ '26	28.88532 AU
morning rise	5193 Aug 12 10:00	8° $\overline{01}$ '17		direct	5200 Apr 29 13:20	20° $\overline{35}$ '24	
retrograde	5193 Nov 10 19:29	9° $\overline{58}$ '39		evening set	5200 Jul 26 22:59	22° $\overline{29}$ '49	
opposition	5194 Jan 28 17:51	8° $\overline{33}$ '56	-0°56'50				
min. Earth dist.	5194 Jan 28 06:42	8° $\overline{34}$ '43	28.85347 AU	conjunction	5200 Aug 12 05:21	23° $\overline{05}$ '54	-0°34'53
direct	5194 Apr 16 13:05	7° $\overline{09}$ '45		minimum elong	5200 Aug 12 05:21	23° $\overline{05}$ '54	0°34'53
evening set	5194 Jul 13 13:34	9° $\overline{04}$ '02		max. Earth dist.	5200 Aug 12 13:55	23° $\overline{06}$ '41	30.88979 AU
				morning rise	5200 Aug 28 12:31	23° $\overline{42}$ '04	
conjunction	5194 Jul 29 18:04	9° $\overline{40}$ '03	-0°51'52	retrograde	5200 Nov 26 11:12	25° $\overline{38}$ '25	
minimum elong	5194 Jul 29 18:04	9° $\overline{40}$ '03	0°51'52	opposition	5201 Feb 12 21:37	24° $\overline{13}$ '55	-0°35'39
max. Earth dist.	5194 Jul 30 05:14	9° $\overline{41}$ '06	30.85501 AU	min. Earth dist.	5201 Feb 12 13:49	24° $\overline{14}$ '28	28.89482 AU
morning rise	5194 Aug 15 00:22	10° $\overline{16}$ '14		direct	5201 May 02 01:04	22° $\overline{49}$ '25	
retrograde	5194 Nov 13 08:42	12° $\overline{13}$ '27		evening set	5201 Jul 29 12:41	24° $\overline{43}$ '55	
opposition	5195 Jan 31 04:56	10° $\overline{48}$ '44	-0°54'02				
min. Earth dist.	5195 Jan 30 18:32	10° $\overline{49}$ '28	28.85710 AU	conjunction	5201 Aug 14 19:08	25° $\overline{19}$ '59	-0°31'50
direct	5195 Apr 19 00:15	9° $\overline{24}$ '28		minimum elong	5201 Aug 14 19:08	25° $\overline{19}$ '59	0°31'51
evening set	5195 Jul 16 03:12	11° $\overline{18}$ '46		max. Earth dist.	5201 Aug 15 02:22	25° $\overline{20}$ '39	30.89990 AU
				morning rise	5201 Aug 31 02:31	25° $\overline{56}$ '10	
conjunction	5195 Aug 01 08:11	11° $\overline{54}$ '48	-0°49'12	retrograde	5201 Nov 28 22:25	27° $\overline{52}$ '25	
minimum elong	5195 Aug 01 08:11	11° $\overline{54}$ '48	0°49'13	opposition	5202 Feb 15 08:18	26° $\overline{28}$ '01	-0°32'22
max. Earth dist.	5195 Aug 01 19:37	11° $\overline{55}$ '51	30.85858 AU	min. Earth dist.	5202 Feb 15 01:50	26° $\overline{28}$ '29	28.90541 AU
morning rise	5195 Aug 17 14:32	12° $\overline{30}$ '59		direct	5202 May 04 11:10	25° $\overline{03}$ '32	
retrograde	5195 Nov 15 20:11	14° $\overline{28}$ '01		evening set	5202 Aug 01 02:17	26° $\overline{58}$ '06	
opposition	5196 Feb 02 15:48	13° $\overline{03}$ '18	-0°51'08				

conjunction	5202 Aug 17 09:08	27° Ω 34'12	-0°28'45	conjunction	5208 Aug 30 20:33	10° η 59'35	-0°09'31
minimum elong	5202 Aug 17 09:08	27° Ω 34'12	0°28'44	minimum elong	5208 Aug 30 20:34	10° η 59'35	0°09'31
max. Earth dist.	5202 Aug 17 16:37	27° Ω 34'53	30.91074 AU	behind sun begin	5208 Aug 30 15:07	10° η 59'06	
morning rise	5202 Sep 02 16:27	28° Ω 10'21		behind sun end	5208 Aug 31 02:00	11° η 00'04	
	5202 Nov 11 18:14	0° η		max. Earth dist.	5208 Aug 30 21:18	10° η 59'39	30.96350 AU
retrograde	5202 Dec 01 09:39	0° η 06'31		morning rise	5208 Sep 16 03:54	11° η 35'39	
	5202 Dec 21 06:16	30° κ 8 Ω		retrograde	5208 Dec 14 11:30	13° η 31'01	
opposition	5203 Feb 17 18:57	28° Ω 42'14	-0°29'02	opposition	5209 Mar 02 10:28	12° η 07'04	-0°08'23
min. Earth dist.	5203 Feb 17 12:59	28° Ω 42'39	28.91616 AU	min. Earth dist.	5209 Mar 02 10:18	12° η 07'04	28.96731 AU
direct	5203 May 06 23:02	27° Ω 17'46		direct	5209 May 19 23:51	10° η 42'24	
evening set	5203 Aug 03 16:16	29° Ω 12'25		evening set	5209 Aug 17 02:42	12° η 37'16	
conjunction	5203 Aug 19 23:05	29° Ω 48'30	-0°25'37	conjunction	5209 Sep 02 10:16	13° η 13'19	-0°06'16
minimum elong	5203 Aug 19 23:05	29° Ω 48'30	0°25'37	minimum elong	5209 Sep 02 10:16	13° η 13'19	0°06'16
max. Earth dist.	5203 Aug 20 04:26	29° Ω 49'00	30.92138 AU	behind sun begin	5209 Sep 02 04:02	13° η 12'46	
	5203 Aug 25 02:29	0° η		behind sun end	5209 Sep 02 16:30	13° η 13'53	
morning rise	5203 Sep 05 06:36	0° η 24'40		max. Earth dist.	5209 Sep 02 10:35	13° η 13'21	30.97122 AU
retrograde	5203 Dec 03 22:35	2° η 20'43		morning rise	5209 Sep 18 17:30	13° η 49'22	
opposition	5204 Feb 20 05:34	0° η 56'32	-0°25'40	retrograde	5209 Dec 16 22:57	15° η 44'34	
min. Earth dist.	5204 Feb 20 00:32	0° η 56'54	28.92658 AU	opposition	5210 Mar 04 20:42	14° η 20'39	-0°04'53
	5204 Mar 27 17:06	30° κ 8 Ω		min. Earth dist.	5210 Mar 04 20:18	14° η 20'40	28.97526 AU
direct	5204 May 08 09:08	29° Ω 32'04		direct	5210 May 22 12:45	12° η 55'55	
	5204 Jun 18 13:51	0° η		evening set	5210 Aug 19 16:21	14° η 50'49	
evening set	5204 Aug 05 06:05	1° η 26'47		conjunction	5210 Sep 04 23:50	15° η 26'51	-0°03'00
conjunction	5204 Aug 21 13:12	2° η 02'53	-0°22'26	minimum elong	5210 Sep 04 23:50	15° η 26'51	0°02'59
minimum elong	5204 Aug 21 13:12	2° η 02'53	0°22'26	behind sun begin	5210 Sep 04 17:16	15° η 26'16	
max. Earth dist.	5204 Aug 21 18:32	2° η 03'22	30.93134 AU	behind sun end	5210 Sep 05 06:25	15° η 27'26	
morning rise	5204 Sep 06 20:34	2° η 39'02		max. Earth dist.	5210 Sep 04 22:48	15° η 26'48	30.97954 AU
retrograde	5204 Dec 05 09:43	4° η 34'58		morning rise	5210 Sep 21 07:03	16° η 02'53	
opposition	5205 Feb 21 16:20	3° η 10'52	-0°22'15	retrograde	5210 Dec 19 09:28	17° η 57'56	
min. Earth dist.	5205 Feb 21 12:31	3° η 11'08	28.93605 AU	opposition	5211 Mar 07 07:07	16° η 34'03	-0°01'23
direct	5205 May 10 21:32	1° η 46'23		min. Earth dist.	5211 Mar 07 07:55	16° η 33'59	28.98414 AU
evening set	5205 Aug 07 19:50	3° η 41'09		direct	5211 May 24 23:21	15° η 09'17	
conjunction	5205 Aug 24 02:59	4° η 17'14	-0°19'14	asc. node	5211 Jul 29 17:15	16° η 16'21	
minimum elong	5205 Aug 24 02:59	4° η 17'14	0°19'15	evening set	5211 Aug 22 05:53	17° η 04'11	
max. Earth dist.	5205 Aug 24 06:14	4° η 17'32	30.94043 AU	conjunction	5211 Sep 07 13:29	17° η 40'14	0°00'22
morning rise	5205 Sep 09 10:31	4° η 53'22		minimum elong	5211 Sep 07 13:29	17° η 40'14	0°00'22
retrograde	5205 Dec 07 23:23	6° η 49'11		behind sun begin	5211 Sep 07 06:55	17° η 39'39	
opposition	5206 Feb 24 02:58	5° η 25'08	-0°18'49	behind sun end	5211 Sep 07 20:03	17° η 40'48	
min. Earth dist.	5206 Feb 23 23:28	5° η 25'23	28.94466 AU	max. Earth dist.	5211 Sep 07 12:48	17° η 40'13	30.98894 AU
direct	5206 May 13 10:43	4° η 00'37		morning rise	5211 Sep 23 20:25	18° η 16'13	
evening set	5206 Aug 10 09:40	5° η 55'26		retrograde	5211 Dec 21 19:51	20° η 11'07	
conjunction	5206 Aug 26 17:02	6° η 31'31	-0°16'01	opposition	5212 Mar 08 17:22	18° η 47'18	0°02'08
minimum elong	5206 Aug 26 17:02	6° η 31'31	0°16'01	min. Earth dist.	5212 Mar 08 18:22	18° η 47'14	28.99408 AU
max. Earth dist.	5206 Aug 26 19:58	6° η 31'47	30.94857 AU	direct	5212 May 26 11:09	17° η 22'30	
morning rise	5206 Sep 12 00:26	7° η 07'38		evening set	5212 Aug 23 19:30	19° η 17'27	
retrograde	5206 Dec 10 10:07	9° η 03'18		conjunction	5212 Sep 09 02:55	19° η 53'28	0°03'43
opposition	5207 Feb 26 13:32	7° η 39'17	-0°15'22	minimum elong	5212 Sep 09 02:54	19° η 53'28	0°03'42
min. Earth dist.	5207 Feb 26 11:53	7° η 39'24	28.95243 AU	behind sun begin	5212 Sep 08 20:22	19° η 52'53	
direct	5207 May 15 22:50	6° η 14'44		behind sun end	5212 Sep 09 09:26	19° η 54'03	
evening set	5207 Aug 12 23:30	8° η 09'34		max. Earth dist.	5212 Sep 09 00:36	19° η 53'18	30.99959 AU
conjunction	5207 Aug 29 06:56	8° η 45'39	-0°12'47	morning rise	5212 Sep 25 09:50	20° η 29'27	
minimum elong	5207 Aug 29 06:55	8° η 45'39	0°12'47	retrograde	5212 Dec 23 07:30	22° η 24'13	
behind sun begin	5207 Aug 29 02:56	8° η 45'17		opposition	5213 Mar 11 03:43	21° η 00'28	0°05'38
behind sun end	5207 Aug 29 10:55	8° η 46'00		min. Earth dist.	5213 Mar 11 05:03	21° η 00'22	29.00546 AU
max. Earth dist.	5207 Aug 29 08:27	8° η 45'47	30.95620 AU	direct	5213 May 28 20:54	19° η 35'40	
morning rise	5207 Sep 14 14:22	9° η 21'44		evening set	5213 Aug 26 08:49	21° η 30'39	
retrograde	5207 Dec 12 23:34	11° η 17'15		conjunction	5213 Sep 11 16:22	22° η 06'39	0°06'58
opposition	5208 Feb 28 23:57	9° η 53'16	-0°11'53	minimum elong	5213 Sep 11 16:22	22° η 06'39	0°06'58
min. Earth dist.	5208 Feb 28 22:09	9° η 53'24	28.95985 AU	behind sun begin	5213 Sep 11 10:16	22° η 06'07	
direct	5208 May 17 12:03	8° η 28'39		behind sun end	5213 Sep 11 22:28	22° η 07'12	
evening set	5208 Aug 14 13:07	10° η 23'31		max. Earth dist.	5213 Sep 11 14:34	22° η 06'31	31.01149 AU
				morning rise	5213 Sep 27 22:58	22° η 42'37	

retrograde	5213 Dec 25 17:03	24° <u>♏</u> 37'16		retrograde	5220 Jan 08 15:04	7° <u>♏</u> 55'38	
opposition	5214 Mar 13 14:04	23° <u>♏</u> 13'37	0°09'08	opposition	5220 Mar 26 04:05	6° <u>♏</u> 32'24	0°29'35
min. Earth dist.	5214 Mar 13 16:23	23° <u>♏</u> 13'27	29.01771 AU	min. Earth dist.	5220 Mar 26 11:47	6° <u>♏</u> 31'51	29.08180 AU
direct	5214 May 31 08:56	21° <u>♏</u> 48'50		direct	5220 Jun 13 09:34	5° <u>♏</u> 07'34	
evening set	5214 Aug 28 22:30	23° <u>♏</u> 43'53		evening set	5220 Sep 11 07:51	7° <u>♏</u> 02'53	
conjunction	5214 Sep 14 05:50	24° <u>♏</u> 19'52	0°10'13	conjunction	5220 Sep 27 14:23	7° <u>♏</u> 38'46	0°29'15
minimum elong	5214 Sep 14 05:50	24° <u>♏</u> 19'52	0°10'13	minimum elong	5220 Sep 27 14:23	7° <u>♏</u> 38'46	0°29'15
behind sun begin	5214 Sep 14 00:38	24° <u>♏</u> 19'24		max. Earth dist.	5220 Sep 27 05:41	7° <u>♏</u> 37'58	31.08548 AU
behind sun end	5214 Sep 14 11:02	24° <u>♏</u> 20'20		morning rise	5220 Oct 13 19:09	8° <u>♏</u> 14'30	
max. Earth dist.	5214 Sep 14 02:14	24° <u>♏</u> 19'33	31.02413 AU	retrograde	5221 Jan 10 01:17	10° <u>♏</u> 08'21	
morning rise	5214 Sep 30 12:24	24° <u>♏</u> 55'48		opposition	5221 Mar 28 14:19	8° <u>♏</u> 45'09	0°32'51
retrograde	5214 Dec 28 05:34	26° <u>♏</u> 50'21		min. Earth dist.	5221 Mar 28 22:33	8° <u>♏</u> 44'35	29.08927 AU
opposition	5215 Mar 16 00:13	25° <u>♏</u> 26'47	0°12'36	direct	5221 Jun 15 21:52	7° <u>♏</u> 20'17	
min. Earth dist.	5215 Mar 16 02:40	25° <u>♏</u> 26'37	29.03047 AU	evening set	5221 Sep 13 21:08	9° <u>♏</u> 15'37	
direct	5215 Jun 02 20:42	24° <u>♏</u> 02'01		conjunction	5221 Sep 30 03:19	9° <u>♏</u> 51'28	0°32'17
evening set	5215 Aug 31 12:08	25° <u>♏</u> 57'09		minimum elong	5221 Sep 30 03:19	9° <u>♏</u> 51'28	0°32'18
conjunction	5215 Sep 16 19:28	26° <u>♏</u> 33'07	0°13'28	max. Earth dist.	5221 Sep 29 16:48	9° <u>♏</u> 50'30	31.09284 AU
minimum elong	5215 Sep 16 19:28	26° <u>♏</u> 33'07	0°13'28	morning rise	5221 Oct 16 07:56	10° <u>♏</u> 27'11	
behind sun begin	5215 Sep 16 15:54	26° <u>♏</u> 32'48		retrograde	5222 Jan 12 12:08	12° <u>♏</u> 20'54	
behind sun end	5215 Sep 16 23:01	26° <u>♏</u> 33'26		opposition	5222 Mar 31 00:32	10° <u>♏</u> 57'44	0°36'04
max. Earth dist.	5215 Sep 16 15:46	26° <u>♏</u> 32'48	31.03671 AU	min. Earth dist.	5222 Mar 31 09:18	10° <u>♏</u> 57'07	29.09669 AU
morning rise	5215 Oct 03 01:39	27° <u>♏</u> 09'01		direct	5222 Jun 18 08:09	9° <u>♏</u> 32'49	
retrograde	5215 Dec 30 16:07	29° <u>♏</u> 03'29		evening set	5222 Sep 16 10:18	11° <u>♏</u> 28'10	
opposition	5216 Mar 17 10:41	27° <u>♏</u> 40'01	0°16'04	conjunction	5222 Oct 02 16:24	12° <u>♏</u> 03'59	0°35'16
min. Earth dist.	5216 Mar 17 14:58	27° <u>♏</u> 39'43	29.04285 AU	minimum elong	5222 Oct 02 16:24	12° <u>♏</u> 03'59	0°35'16
direct	5216 Jun 04 07:55	26° <u>♏</u> 15'15		max. Earth dist.	5222 Oct 02 06:19	12° <u>♏</u> 03'03	31.10027 AU
evening set	5216 Sep 02 01:41	28° <u>♏</u> 10'27		morning rise	5222 Oct 18 20:29	12° <u>♏</u> 39'40	
conjunction	5216 Sep 18 08:49	28° <u>♏</u> 46'23	0°16'41	retrograde	5223 Jan 14 20:29	14° <u>♏</u> 33'15	
minimum elong	5216 Sep 18 08:48	28° <u>♏</u> 46'23	0°16'41	opposition	5223 Apr 02 10:41	13° <u>♏</u> 10'07	0°39'14
max. Earth dist.	5216 Sep 18 03:39	28° <u>♏</u> 45'56	31.04872 AU	min. Earth dist.	5223 Apr 02 20:25	13° <u>♏</u> 09'26	29.10432 AU
morning rise	5216 Oct 04 14:50	29° <u>♏</u> 22'16		direct	5223 Jun 20 20:18	11° <u>♏</u> 45'10	
	5216 Oct 22 19:38	0° <u>♏</u>		evening set	5223 Sep 18 23:30	13° <u>♏</u> 40'33	
retrograde	5217 Jan 01 05:09	1° <u>♏</u> 16'37		conjunction	5223 Oct 05 05:10	14° <u>♏</u> 16'20	0°38'12
	5217 Mar 15 20:49	30° <u>♏</u>		minimum elong	5223 Oct 05 05:10	14° <u>♏</u> 16'20	0°38'12
opposition	5217 Mar 19 21:02	29° <u>♏</u> 53'14	0°19'30	max. Earth dist.	5223 Oct 04 17:30	14° <u>♏</u> 15'15	31.10829 AU
min. Earth dist.	5217 Mar 20 01:14	29° <u>♏</u> 52'56	29.05434 AU	morning rise	5223 Oct 21 09:02	14° <u>♏</u> 51'58	
direct	5217 Jun 06 21:13	28° <u>♏</u> 28'29		retrograde	5224 Jan 17 07:49	16° <u>♏</u> 45'27	
	5217 Aug 24 09:43	0° <u>♏</u>		opposition	5224 Apr 03 20:52	15° <u>♏</u> 22'22	0°42'20
evening set	5217 Sep 04 15:20	0° <u>♏</u> 23'43		min. Earth dist.	5224 Apr 04 06:15	15° <u>♏</u> 21'42	29.11287 AU
conjunction	5217 Sep 20 22:19	0° <u>♏</u> 59'39	0°19'53	direct	5224 Jun 22 07:37	13° <u>♏</u> 57'23	
minimum elong	5217 Sep 20 22:19	0° <u>♏</u> 59'39	0°19'53	evening set	5224 Sep 20 12:20	15° <u>♏</u> 52'47	
max. Earth dist.	5217 Sep 20 16:09	0° <u>♏</u> 59'05	31.05954 AU	conjunction	5224 Oct 06 17:49	16° <u>♏</u> 28'33	0°41'04
morning rise	5217 Oct 07 04:02	1° <u>♏</u> 35'29		minimum elong	5224 Oct 06 17:49	16° <u>♏</u> 28'33	0°41'04
retrograde	5218 Jan 03 16:47	3° <u>♏</u> 29'44		max. Earth dist.	5224 Oct 06 06:39	16° <u>♏</u> 27'31	31.11727 AU
opposition	5218 Mar 22 07:25	2° <u>♏</u> 06'24	0°22'54	morning rise	5224 Oct 22 21:09	17° <u>♏</u> 04'09	
min. Earth dist.	5218 Mar 22 13:32	2° <u>♏</u> 05'58	29.06465 AU	retrograde	5225 Jan 18 17:13	18° <u>♏</u> 57'33	
direct	5218 Jun 09 09:08	0° <u>♏</u> 41'38		opposition	5225 Apr 06 07:09	17° <u>♏</u> 34'31	0°45'22
evening set	5218 Sep 07 04:55	2° <u>♏</u> 36'54		min. Earth dist.	5225 Apr 06 17:48	17° <u>♏</u> 33'46	29.12249 AU
conjunction	5218 Sep 23 11:50	3° <u>♏</u> 12'49	0°23'02	direct	5225 Jun 24 18:02	16° <u>♏</u> 09'32	
minimum elong	5218 Sep 23 11:49	3° <u>♏</u> 12'49	0°23'02	evening set	5225 Sep 23 01:19	18° <u>♏</u> 04'59	
max. Earth dist.	5218 Sep 23 04:44	3° <u>♏</u> 12'10	31.06926 AU	conjunction	5225 Oct 09 06:27	18° <u>♏</u> 40'42	0°43'53
morning rise	5218 Oct 09 17:16	3° <u>♏</u> 48'38		minimum elong	5225 Oct 09 06:27	18° <u>♏</u> 40'42	0°43'53
retrograde	5219 Jan 06 04:18	5° <u>♏</u> 42'44		max. Earth dist.	5225 Oct 08 18:22	18° <u>♏</u> 39'36	31.12754 AU
opposition	5219 Mar 24 17:44	4° <u>♏</u> 19'28	0°26'16	morning rise	5225 Oct 25 09:31	19° <u>♏</u> 16'17	
min. Earth dist.	5219 Mar 24 23:58	4° <u>♏</u> 19'02	29.07367 AU	retrograde	5226 Jan 21 05:20	21° <u>♏</u> 09'35	
direct	5219 Jun 11 22:39	2° <u>♏</u> 54'41		opposition	5226 Apr 08 17:09	19° <u>♏</u> 46'38	0°48'21
evening set	5219 Sep 09 18:31	4° <u>♏</u> 49'59		min. Earth dist.	5226 Apr 09 03:13	19° <u>♏</u> 45'55	29.13324 AU
conjunction	5219 Sep 26 01:07	5° <u>♏</u> 25'52	0°26'10	direct	5226 Jun 27 07:18	18° <u>♏</u> 21'40	
minimum elong	5219 Sep 26 01:07	5° <u>♏</u> 25'52	0°26'10	evening set	5226 Sep 25 14:20	20° <u>♏</u> 17'11	
max. Earth dist.	5219 Sep 25 16:21	5° <u>♏</u> 25'04	31.07771 AU	conjunction	5226 Oct 11 19:11	20° <u>♏</u> 52'53	0°46'38
morning rise	5219 Oct 12 06:18	6° <u>♏</u> 01'39					

minimum elong	5226 Oct 11 19:11	20° <u>♂</u> 52'53	0°46'38	opposition	5233 Apr 23 17:22	5° <u>♂</u> 11'12	1°06'52
max. Earth dist.	5226 Oct 11 06:46	20° <u>♂</u> 51'44	31.13865 AU	min. Earth dist.	5233 Apr 24 08:10	5° <u>♂</u> 10'10	29.19945 AU
morning rise	5226 Oct 27 21:46	21° <u>♂</u> 28'25		direct	5233 Jul 12 18:26	3° <u>♂</u> 46'14	
retrograde	5227 Jan 23 16:39	23° <u>♂</u> 21'39		evening set	5233 Oct 11 08:00	5° <u>♂</u> 41'55	
opposition	5227 Apr 11 03:27	21° <u>♂</u> 58'47	0°51'14				
min. Earth dist.	5227 Apr 11 14:57	21° <u>♂</u> 57'58	29.14470 AU	conjunction	5233 Oct 27 10:15	6° <u>♂</u> 17'23	1°03'41
direct	5227 Jun 29 19:04	20° <u>♂</u> 33'51		minimum elong	5233 Oct 27 10:15	6° <u>♂</u> 17'23	1°03'42
evening set	5227 Sep 28 03:14	22° <u>♂</u> 29'25		max. Earth dist.	5233 Oct 26 17:04	6° <u>♂</u> 15'48	31.20194 AU
				morning rise	5233 Nov 12 09:36	6° <u>♂</u> 52'39	
conjunction	5227 Oct 14 07:45	23° <u>♂</u> 05'06	0°49'18	retrograde	5234 Feb 07 15:55	8° <u>♂</u> 45'16	
minimum elong	5227 Oct 14 07:44	23° <u>♂</u> 05'06	0°49'19	opposition	5234 Apr 26 03:39	7° <u>♂</u> 22'44	1°09'09
max. Earth dist.	5227 Oct 13 18:57	23° <u>♂</u> 03'55	31.15020 AU	min. Earth dist.	5234 Apr 26 20:01	7° <u>♂</u> 21'35	29.20538 AU
morning rise	5227 Oct 30 09:54	23° <u>♂</u> 40'35		direct	5234 Jul 15 05:02	5° <u>♂</u> 57'44	
retrograde	5228 Jan 26 03:47	25° <u>♂</u> 33'45		evening set	5234 Oct 13 20:32	7° <u>♂</u> 53'24	
opposition	5228 Apr 12 13:39	24° <u>♂</u> 10'59	0°54'04				
min. Earth dist.	5228 Apr 13 00:59	24° <u>♂</u> 10'11	29.15613 AU	conjunction	5234 Oct 29 22:17	8° <u>♂</u> 28'50	1°05'46
direct	5228 Jul 01 08:19	22° <u>♂</u> 46'05		minimum elong	5234 Oct 29 22:17	8° <u>♂</u> 28'50	1°05'47
evening set	5228 Sep 29 16:14	24° <u>♂</u> 41'42		max. Earth dist.	5234 Oct 29 04:08	8° <u>♂</u> 27'09	31.20781 AU
				morning rise	5234 Nov 14 21:17	9° <u>♂</u> 04'03	
conjunction	5228 Oct 15 20:18	25° <u>♂</u> 17'21	0°51'54	retrograde	5235 Feb 10 02:39	10° <u>♂</u> 56'34	
minimum elong	5228 Oct 15 20:18	25° <u>♂</u> 17'21	0°51'55	opposition	5235 Apr 28 13:54	9° <u>♂</u> 34'02	1°11'20
max. Earth dist.	5228 Oct 15 06:11	25° <u>♂</u> 16'03	31.16136 AU	min. Earth dist.	5235 Apr 29 05:39	9° <u>♂</u> 32'56	29.21126 AU
morning rise	5228 Oct 31 22:03	25° <u>♂</u> 52'49		direct	5235 Jul 17 18:24	8° <u>♂</u> 08'59	
retrograde	5229 Jan 27 15:14	27° <u>♂</u> 45'55		evening set	5235 Oct 16 08:46	10° <u>♂</u> 04'39	
opposition	5229 Apr 14 23:58	26° <u>♂</u> 23'12	0°56'48				
min. Earth dist.	5229 Apr 15 12:34	26° <u>♂</u> 22'19	29.16710 AU	conjunction	5235 Nov 01 10:06	10° <u>♂</u> 40'03	1°07'46
direct	5229 Jul 03 19:09	24° <u>♂</u> 58'20		minimum elong	5235 Nov 01 10:06	10° <u>♂</u> 40'03	1°07'47
evening set	5229 Oct 02 05:02	26° <u>♂</u> 53'59		max. Earth dist.	5235 Oct 31 15:54	10° <u>♂</u> 38'22	31.21373 AU
				morning rise	5235 Nov 17 08:31	11° <u>♂</u> 15'13	
conjunction	5229 Oct 18 08:53	27° <u>♂</u> 29'36	0°54'26	retrograde	5236 Feb 12 12:45	13° <u>♂</u> 07'40	
minimum elong	5229 Oct 18 08:53	27° <u>♂</u> 29'36	0°54'27	opposition	5236 Apr 30 00:19	11° <u>♂</u> 45'08	1°13'24
max. Earth dist.	5229 Oct 17 18:51	27° <u>♂</u> 28'18	31.17178 AU	min. Earth dist.	5236 Apr 30 17:09	11° <u>♂</u> 43'58	29.21763 AU
morning rise	5229 Nov 03 10:07	28° <u>♂</u> 05'01		direct	5236 Jul 19 05:47	10° <u>♂</u> 20'04	
retrograde	5230 Jan 30 01:56	29° <u>♂</u> 58'02		evening set	5236 Oct 17 20:56	12° <u>♂</u> 15'44	
opposition	5230 Apr 17 10:20	28° <u>♂</u> 35'24	0°59'27				
min. Earth dist.	5230 Apr 17 23:34	28° <u>♂</u> 34'28	29.17687 AU	conjunction	5236 Nov 02 21:51	12° <u>♂</u> 51'06	1°09'39
direct	5230 Jul 06 08:20	27° <u>♂</u> 10'31		minimum elong	5236 Nov 02 21:51	12° <u>♂</u> 51'06	1°09'40
evening set	5230 Oct 04 18:05	29° <u>♂</u> 06'12		max. Earth dist.	5236 Nov 02 03:42	12° <u>♂</u> 49'25	31.22054 AU
				morning rise	5236 Nov 18 19:48	13° <u>♂</u> 26'14	
conjunction	5230 Oct 20 21:23	29° <u>♂</u> 41'47	0°56'53		5237 Jan 11 20:02	15° <u>♂</u>	
minimum elong	5230 Oct 20 21:22	29° <u>♂</u> 41'47	0°56'53	retrograde	5237 Feb 13 23:08	15° <u>♂</u> 18'36	
max. Earth dist.	5230 Oct 20 05:24	29° <u>♂</u> 40'19	31.18092 AU		5237 Mar 19 15:52	15° <u>♂</u> 18'36	
	5230 Oct 29 02:16	0° <u>♂</u>		opposition	5237 May 02 10:33	13° <u>♂</u> 56'06	1°15'22
morning rise	5230 Nov 05 22:16	0° <u>♂</u> 17'10		min. Earth dist.	5237 May 03 02:43	13° <u>♂</u> 54'59	29.22492 AU
retrograde	5231 Feb 01 12:25	2° <u>♂</u> 10'06		direct	5237 Jul 21 18:49	12° <u>♂</u> 31'03	
opposition	5231 Apr 19 20:37	0° <u>♂</u> 47'30	1°02'01	evening set	5237 Oct 20 09:03	14° <u>♂</u> 26'43	
min. Earth dist.	5231 Apr 20 10:26	0° <u>♂</u> 46'32	29.18551 AU		5237 Nov 04 11:18	15° <u>♂</u>	
	5231 May 19 23:31	30° <u>♂</u> 18'18					
direct	5231 Jul 08 19:17	29° <u>♂</u> 22'36		conjunction	5237 Nov 05 09:28	15° <u>♂</u> 02'03	1°11'27
	5231 Aug 26 12:07	0° <u>♂</u>		minimum elong	5237 Nov 05 09:28	15° <u>♂</u> 02'03	1°11'28
evening set	5231 Oct 07 06:50	1° <u>♂</u> 18'18		max. Earth dist.	5237 Nov 04 14:36	15° <u>♂</u> 00'18	31.22836 AU
				morning rise	5237 Nov 21 06:59	15° <u>♂</u> 37'09	
conjunction	5231 Oct 23 09:55	1° <u>♂</u> 53'51	0°59'14	retrograde	5238 Feb 16 10:18	17° <u>♂</u> 29'29	
minimum elong	5231 Oct 23 09:54	1° <u>♂</u> 53'51	0°59'15	opposition	5238 May 04 20:57	16° <u>♂</u> 07'02	1°17'13
max. Earth dist.	5231 Oct 22 18:14	1° <u>♂</u> 52'24	31.18887 AU	min. Earth dist.	5238 May 05 13:39	16° <u>♂</u> 05'52	29.23340 AU
morning rise	5231 Nov 08 10:10	2° <u>♂</u> 29'11			5238 Jun 20 06:26	15° <u>♂</u> 18'18	
retrograde	5232 Feb 03 20:33	4° <u>♂</u> 22'01		direct	5238 Jul 24 05:49	14° <u>♂</u> 42'00	
opposition	5232 Apr 21 07:05	2° <u>♂</u> 59'27	1°04'30		5238 Aug 26 18:00	15° <u>♂</u>	
min. Earth dist.	5232 Apr 21 22:03	2° <u>♂</u> 58'24	29.19289 AU	evening set	5238 Oct 22 21:04	16° <u>♂</u> 37'43	
direct	5232 Jul 10 07:24	1° <u>♂</u> 34'32					
evening set	5232 Oct 08 19:28	3° <u>♂</u> 30'13		conjunction	5238 Nov 07 21:09	17° <u>♂</u> 13'01	1°13'08
				minimum elong	5238 Nov 07 21:09	17° <u>♂</u> 13'01	1°13'08
conjunction	5232 Oct 24 21:59	4° <u>♂</u> 05'44	1°01'30	max. Earth dist.	5238 Nov 07 03:04	17° <u>♂</u> 11'20	31.23732 AU
minimum elong	5232 Oct 24 21:59	4° <u>♂</u> 05'44	1°01'31	morning rise	5238 Nov 23 18:04	17° <u>♂</u> 48'04	
max. Earth dist.	5232 Oct 24 04:34	4° <u>♂</u> 04'07	31.19581 AU	retrograde	5239 Feb 18 20:32	19° <u>♂</u> 40'22	
morning rise	5232 Nov 09 21:57	4° <u>♂</u> 41'02		opposition	5239 May 07 07:20	18° <u>♂</u> 18'00	1°18'58
retrograde	5233 Feb 05 07:21	6° <u>♂</u> 33'45		min. Earth dist.	5239 May 08 00:08	18° <u>♂</u> 16'50	29.24266 AU

direct	5239 Jul 26 18:53	16° \mathcal{M} .53'02		conjunction	5245 Nov 23 05:05	2° \mathcal{A} 31'39	1°21'51
evening set	5239 Oct 25 09:09	18° \mathcal{M} .48'47		minimum elong	5245 Nov 23 05:05	2° \mathcal{A} 31'39	1°21'52
				morning rise	5245 Dec 08 22:37	3° \mathcal{A} 06'29	
conjunction	5239 Nov 10 08:37	19° \mathcal{M} .24'03	1°14'43	retrograde	5246 Mar 05 18:34	4° \mathcal{A} 58'37	
minimum elong	5239 Nov 10 08:37	19° \mathcal{M} .24'03	1°14'44	opposition	5246 May 22 09:45	3° \mathcal{A} 36'36	1°27'51
max. Earth dist.	5239 Nov 09 13:22	19° \mathcal{M} .22'16	31.24689 AU	min. Earth dist.	5246 May 23 05:01	3° \mathcal{A} 35'17	29.29177 AU
morning rise	5239 Nov 26 05:11	19° \mathcal{M} .59'05		direct	5246 Aug 11 02:12	2° \mathcal{A} 11'48	
retrograde	5240 Feb 21 07:24	21° \mathcal{M} .51'22		evening set	5246 Nov 09 19:55	4° \mathcal{A} 07'39	
opposition	5240 May 08 17:46	20° \mathcal{M} .29'05	1°20'36				
min. Earth dist.	5240 May 09 10:32	20° \mathcal{M} .27'55	29.25244 AU	conjunction	5246 Nov 25 16:08	4° \mathcal{A} 42'41	1°22'38
direct	5240 Jul 28 05:26	19° \mathcal{M} .04'10		minimum elong	5246 Nov 25 16:08	4° \mathcal{A} 42'41	1°22'38
evening set	5240 Oct 26 20:54	20° \mathcal{M} .59'58		max. Earth dist.	5246 Nov 24 18:16	4° \mathcal{A} 40'39	31.29242 AU
				morning rise	5246 Dec 11 09:15	5° \mathcal{A} 17'29	
conjunction	5240 Nov 11 20:05	21° \mathcal{M} .35'13	1°16'11	retrograde	5247 Mar 08 05:55	7° \mathcal{A} 09'35	
minimum elong	5240 Nov 11 20:05	21° \mathcal{M} .35'13	1°16'11	opposition	5247 May 24 20:31	5° \mathcal{A} 47'33	1°28'38
max. Earth dist.	5240 Nov 11 01:40	21° \mathcal{M} .33'30	31.25651 AU	min. Earth dist.	5247 May 25 16:24	5° \mathcal{A} 46'11	29.29466 AU
morning rise	5240 Nov 27 16:00	22° \mathcal{M} .10'12		direct	5247 Aug 13 14:06	4° \mathcal{A} 22'43	
retrograde	5241 Feb 22 15:44	24° \mathcal{M} .02'29		evening set	5247 Nov 12 07:16	6° \mathcal{A} 18'32	
opposition	5241 May 11 04:23	22° \mathcal{M} .40'17	1°22'07	max. Earth dist.	5247 Nov 27 06:11	6° \mathcal{A} 51'36	31.29515 AU
min. Earth dist.	5241 May 11 22:07	22° \mathcal{M} .39'04	29.26180 AU				
direct	5241 Jul 30 17:06	21° \mathcal{M} .15'26		conjunction	5247 Nov 28 03:09	6° \mathcal{A} 53'33	1°23'18
evening set	5241 Oct 29 09:00	23° \mathcal{M} .11'16		minimum elong	5247 Nov 28 03:09	6° \mathcal{A} 53'33	1°23'19
max. Earth dist.	5241 Nov 13 11:37	23° \mathcal{M} .44'38	31.26552 AU	morning rise	5247 Dec 13 19:41	7° \mathcal{A} 28'18	
				retrograde	5248 Mar 09 15:57	9° \mathcal{A} 20'21	
conjunction	5241 Nov 14 07:33	23° \mathcal{M} .46'29	1°17'32	opposition	5248 May 26 07:21	7° \mathcal{A} 58'18	1°29'17
minimum elong	5241 Nov 14 07:33	23° \mathcal{M} .46'29	1°17'34	min. Earth dist.	5248 May 27 03:12	7° \mathcal{A} 56'56	29.29735 AU
morning rise	5241 Nov 30 03:08	24° \mathcal{M} .21'27		direct	5248 Aug 15 04:11	6° \mathcal{A} 33'27	
retrograde	5242 Feb 25 02:51	26° \mathcal{M} .13'42		evening set	5248 Nov 13 18:31	8° \mathcal{A} 29'14	
opposition	5242 May 13 14:48	24° \mathcal{M} .51'35	1°23'30				
min. Earth dist.	5242 May 14 08:13	24° \mathcal{M} .50'23	29.27036 AU	conjunction	5248 Nov 29 13:47	9° \mathcal{A} 04'12	1°23'51
direct	5242 Aug 02 03:28	23° \mathcal{M} .26'45		minimum elong	5248 Nov 29 13:47	9° \mathcal{A} 04'12	1°23'51
evening set	5242 Oct 31 20:57	25° \mathcal{M} .22'37		max. Earth dist.	5248 Nov 28 15:58	9° \mathcal{A} 02'11	31.29802 AU
				morning rise	5248 Dec 15 06:02	9° \mathcal{A} 38'56	
conjunction	5242 Nov 16 19:09	25° \mathcal{M} .57'49	1°18'47	retrograde	5249 Mar 12 02:16	11° \mathcal{A} 30'56	
minimum elong	5242 Nov 16 19:09	25° \mathcal{M} .57'49	1°18'48	opposition	5249 May 28 18:07	10° \mathcal{A} 08'53	1°29'48
max. Earth dist.	5242 Nov 15 23:32	25° \mathcal{M} .55'59	31.27338 AU	min. Earth dist.	5249 May 29 13:28	10° \mathcal{A} 07'33	29.30059 AU
morning rise	5242 Dec 02 14:04	26° \mathcal{M} .32'45		direct	5249 Aug 17 15:18	8° \mathcal{A} 44'01	
retrograde	5243 Feb 27 11:40	28° \mathcal{M} .24'59		evening set	5249 Nov 16 05:39	10° \mathcal{A} 39'47	
opposition	5243 May 16 01:38	27° \mathcal{M} .02'55	1°24'46	max. Earth dist.	5249 Dec 01 04:04	11° \mathcal{A} 12'49	31.30154 AU
min. Earth dist.	5243 May 16 20:32	27° \mathcal{M} .01'37	29.27765 AU				
direct	5243 Aug 04 13:34	25° \mathcal{M} .38'08		conjunction	5249 Dec 02 00:38	11° \mathcal{A} 14'44	1°24'16
evening set	5243 Nov 03 08:49	27° \mathcal{M} .34'00		minimum elong	5249 Dec 02 00:38	11° \mathcal{A} 14'44	1°24'17
max. Earth dist.	5243 Nov 18 09:54	28° \mathcal{M} .07'15	31.28003 AU	morning rise	5249 Dec 17 16:15	11° \mathcal{A} 49'25	
				retrograde	5250 Mar 14 10:31	13° \mathcal{A} 41'24	
conjunction	5243 Nov 19 06:26	28° \mathcal{M} .09'09	1°19'55	opposition	5250 May 31 04:56	12° \mathcal{A} 19'22	1°30'12
minimum elong	5243 Nov 19 06:26	28° \mathcal{M} .09'09	1°19'57	min. Earth dist.	5250 Jun 01 00:44	12° \mathcal{A} 18'00	29.30450 AU
morning rise	5243 Dec 05 00:58	28° \mathcal{M} .44'03		direct	5250 Aug 20 03:51	10° \mathcal{A} 54'31	
	5244 Jan 14 05:27	0° \mathcal{A}		evening set	5250 Nov 18 16:55	12° \mathcal{A} 50'16	
retrograde	5244 Feb 29 22:11	0° \mathcal{A} 36'16					
	5244 Apr 18 04:51	30° \mathcal{R} \mathcal{M} .		conjunction	5250 Dec 04 11:16	13° \mathcal{A} 25'11	1°24'35
opposition	5244 May 17 12:19	29° \mathcal{M} .14'15	1°25'55	minimum elong	5250 Dec 04 11:16	13° \mathcal{A} 25'11	1°24'35
min. Earth dist.	5244 May 18 06:39	29° \mathcal{M} .12'59	29.28359 AU	max. Earth dist.	5250 Dec 03 13:55	13° \mathcal{A} 23'12	31.30599 AU
direct	5244 Aug 06 02:37	27° \mathcal{M} .49'27		morning rise	5250 Dec 20 02:35	13° \mathcal{A} 59'50	
evening set	5244 Nov 04 20:37	29° \mathcal{M} .45'20		retrograde	5251 Mar 16 21:38	15° \mathcal{A} 51'49	
	5244 Nov 11 13:04	0° \mathcal{A}		opposition	5251 Jun 02 15:48	14° \mathcal{A} 29'49	1°30'27
conjunction	5244 Nov 20 17:48	0° \mathcal{A} 20'27	1°20'56	min. Earth dist.	5251 Jun 03 10:30	14° \mathcal{A} 28'32	29.30932 AU
minimum elong	5244 Nov 20 17:48	0° \mathcal{A} 20'27	1°20'57	direct	5251 Aug 22 14:56	13° \mathcal{A} 05'00	
max. Earth dist.	5244 Nov 19 20:58	0° \mathcal{A} 18'31	31.28524 AU	evening set	5251 Nov 21 03:48	15° \mathcal{A} 00'45	
morning rise	5244 Dec 06 11:47	0° \mathcal{A} 55'19					
retrograde	5245 Mar 03 08:21	2° \mathcal{A} 47'30		conjunction	5251 Dec 06 21:50	15° \mathcal{A} 35'38	1°24'46
opposition	5245 May 19 23:02	1° \mathcal{A} 25'29	1°26'57	minimum elong	5251 Dec 06 21:50	15° \mathcal{A} 35'38	1°24'48
min. Earth dist.	5245 May 20 18:40	1° \mathcal{A} 24'08	29.28828 AU	max. Earth dist.	5251 Dec 06 01:30	15° \mathcal{A} 33'45	31.31105 AU
direct	5245 Aug 08 13:10	0° \mathcal{A} 00'42		morning rise	5251 Dec 22 12:35	16° \mathcal{A} 10'17	
evening set	5245 Nov 07 08:18	1° \mathcal{A} 56'34		retrograde	5252 Mar 18 06:06	18° \mathcal{A} 02'17	
max. Earth dist.	5245 Nov 22 08:05	2° \mathcal{A} 29'42	31.28937 AU	opposition	5252 Jun 04 02:52	16° \mathcal{A} 40'19	1°30'35
				min. Earth dist.	5252 Jun 04 22:30	16° \mathcal{A} 38'58	29.31456 AU
				direct	5252 Aug 24 01:22	15° \mathcal{A} 15'34	

evening set	5252 Nov 22 14:52	17° \nearrow 11'18		max. Earth dist.	5258 Dec 21 02:51	0° \searrow 48'30	31.32604 AU
max. Earth dist.	5252 Dec 07 11:46	17° \nearrow 44'15	31.31636 AU	morning rise	5259 Jan 06 11:13	1° \searrow 24'53	
				retrograde	5259 Apr 03 06:46	3° \searrow 17'04	
conjunction	5252 Dec 08 08:22	17° \nearrow 46'10	1°24'50	opposition	5259 Jun 20 09:34	1° \searrow 55'12	1°27'53
minimum elong	5252 Dec 08 08:22	17° \nearrow 46'10	1°24'50	min. Earth dist.	5259 Jun 21 05:35	1° \searrow 53'50	29.32556 AU
morning rise	5252 Dec 23 22:49	18° \nearrow 20'47		direct	5259 Sep 09 12:29	0° \searrow 30'38	
retrograde	5253 Mar 20 16:10	20° \nearrow 12'48		evening set	5259 Dec 08 18:38	2° \searrow 26'16	
opposition	5253 Jun 06 13:42	18° \nearrow 50'53	1°30'35				
min. Earth dist.	5253 Jun 07 08:24	18° \nearrow 49'36	29.31966 AU	conjunction	5259 Dec 24 09:11	3° \searrow 00'58	1°21'52
direct	5253 Aug 26 13:05	17° \nearrow 26'11		minimum elong	5259 Dec 24 09:11	3° \searrow 00'58	1°21'54
evening set	5253 Nov 25 01:55	19° \nearrow 21'56		max. Earth dist.	5259 Dec 23 12:08	2° \searrow 59'00	31.32338 AU
				morning rise	5260 Jan 08 21:01	3° \searrow 35'26	
conjunction	5253 Dec 10 19:01	19° \nearrow 56'47	1°24'46	retrograde	5260 Apr 04 17:58	5° \searrow 27'38	
minimum elong	5253 Dec 10 19:01	19° \nearrow 56'47	1°24'48	opposition	5260 Jun 21 20:54	4° \searrow 05'43	1°27'00
max. Earth dist.	5253 Dec 09 22:24	19° \nearrow 54'52	31.32110 AU	min. Earth dist.	5260 Jun 22 15:46	4° \searrow 04'26	29.32267 AU
morning rise	5253 Dec 26 09:00	20° \nearrow 31'22		direct	5260 Sep 11 00:26	2° \searrow 41'08	
retrograde	5254 Mar 23 02:29	22° \nearrow 23'26		evening set	5260 Dec 10 05:01	4° \searrow 36'43	
opposition	5254 Jun 09 00:55	21° \nearrow 01'33	1°30'27				
min. Earth dist.	5254 Jun 09 20:35	21° \nearrow 00'13	29.32405 AU	conjunction	5260 Dec 25 19:18	5° \searrow 11'24	1°20'59
direct	5254 Aug 28 22:42	19° \nearrow 36'54		minimum elong	5260 Dec 25 19:18	5° \searrow 11'24	1°20'59
evening set	5254 Nov 27 12:51	21° \nearrow 32'39		max. Earth dist.	5260 Dec 24 23:18	5° \searrow 09'32	31.32039 AU
max. Earth dist.	5254 Dec 12 09:10	22° \nearrow 05'34	31.32494 AU	morning rise	5261 Jan 10 06:40	5° \searrow 45'51	
				retrograde	5261 Apr 07 02:05	7° \searrow 38'05	
conjunction	5254 Dec 13 05:31	22° \nearrow 07'28	1°24'35	opposition	5261 Jun 24 08:17	6° \searrow 16'08	1°25'59
minimum elong	5254 Dec 13 05:31	22° \nearrow 07'28	1°24'35	min. Earth dist.	5261 Jun 25 03:51	6° \searrow 14'47	29.31985 AU
morning rise	5254 Dec 28 19:04	22° \nearrow 42'03		direct	5261 Sep 13 11:31	4° \searrow 51'32	
retrograde	5255 Mar 25 12:49	24° \nearrow 34'08		evening set	5261 Dec 12 15:25	6° \searrow 47'05	
opposition	5255 Jun 11 12:07	23° \nearrow 12'17	1°30'12	max. Earth dist.	5261 Dec 27 09:31	7° \searrow 19'53	31.31790 AU
min. Earth dist.	5255 Jun 12 07:13	23° \nearrow 10'59	29.32717 AU				
direct	5255 Aug 31 11:14	21° \nearrow 47'41		conjunction	5261 Dec 28 05:16	7° \searrow 21'44	1°19'58
evening set	5255 Nov 29 23:51	23° \nearrow 43'26		minimum elong	5261 Dec 28 05:16	7° \searrow 21'44	1°20'00
				morning rise	5262 Jan 12 16:23	7° \searrow 56'10	
conjunction	5255 Dec 15 16:00	24° \nearrow 18'13	1°24'16	retrograde	5262 Apr 09 11:29	9° \searrow 48'25	
minimum elong	5255 Dec 15 16:00	24° \nearrow 18'13	1°24'18	opposition	5262 Jun 26 19:41	8° \searrow 26'27	1°24'51
max. Earth dist.	5255 Dec 14 18:48	24° \nearrow 16'15	31.32738 AU	min. Earth dist.	5262 Jun 27 13:42	8° \searrow 25'13	29.31767 AU
morning rise	5255 Dec 31 05:12	24° \nearrow 52'46		direct	5262 Sep 15 23:18	7° \searrow 01'53	
retrograde	5256 Mar 27 00:41	26° \nearrow 44'54		evening set	5262 Dec 15 01:38	8° \searrow 57'23	
opposition	5256 Jun 12 23:26	25° \nearrow 23'04	1°29'48				
min. Earth dist.	5256 Jun 13 19:01	25° \nearrow 21'43	29.32902 AU	conjunction	5262 Dec 30 15:06	9° \searrow 32'02	1°18'51
direct	5256 Sep 01 22:25	23° \nearrow 58'29		minimum elong	5262 Dec 30 15:06	9° \searrow 32'02	1°18'52
evening set	5256 Dec 01 10:34	25° \nearrow 54'13		max. Earth dist.	5262 Dec 29 19:54	9° \searrow 30'14	31.31614 AU
max. Earth dist.	5256 Dec 16 06:08	26° \nearrow 27'05	31.32843 AU	morning rise	5263 Jan 15 01:52	10° \searrow 06'27	
				retrograde	5263 Apr 11 21:30	11° \searrow 58'46	
conjunction	5256 Dec 17 02:28	26° \nearrow 28'59	1°23'51	opposition	5263 Jun 29 07:18	10° \searrow 36'47	1°23'36
minimum elong	5256 Dec 17 02:28	26° \nearrow 28'59	1°23'51	min. Earth dist.	5263 Jun 30 01:30	10° \searrow 35'32	29.31644 AU
morning rise	5257 Jan 01 15:12	27° \nearrow 03'31		direct	5263 Sep 18 08:08	9° \searrow 12'15	
retrograde	5257 Mar 29 10:57	28° \nearrow 55'40		evening set	5263 Dec 17 11:47	11° \searrow 07'43	
opposition	5257 Jun 15 10:48	27° \nearrow 33'50	1°29'17	max. Earth dist.	5264 Jan 01 06:49	11° \searrow 40'39	31.31542 AU
min. Earth dist.	5257 Jun 16 06:34	27° \nearrow 32'29	29.32917 AU				
direct	5257 Sep 04 12:05	26° \nearrow 09'16		conjunction	5264 Jan 02 00:58	11° \searrow 42'21	1°17'37
evening set	5257 Dec 03 21:29	28° \nearrow 04'59		minimum elong	5264 Jan 02 00:58	11° \searrow 42'21	1°17'39
				morning rise	5264 Jan 17 11:25	12° \searrow 16'46	
conjunction	5257 Dec 19 12:48	28° \nearrow 39'44	1°23'18	retrograde	5264 Apr 13 07:37	14° \searrow 09'09	
minimum elong	5257 Dec 19 12:48	28° \nearrow 39'44	1°23'20	opposition	5264 Jun 30 18:45	12° \searrow 47'10	1°22'13
max. Earth dist.	5257 Dec 18 15:20	28° \nearrow 37'44	31.32788 AU	min. Earth dist.	5264 Jul 01 11:47	12° \searrow 46'01	29.31594 AU
morning rise	5258 Jan 04 01:19	29° \nearrow 14'14		direct	5264 Sep 19 20:10	11° \searrow 22'41	
	5258 Jan 26 07:35	0° \searrow		evening set	5264 Dec 18 21:56	13° \searrow 18'09	
retrograde	5258 Mar 31 21:59	1° \searrow 06'24					
	5258 Jun 08 10:29	30° \nwarrow		conjunction	5265 Jan 03 10:41	13° \searrow 52'46	1°16'17
opposition	5258 Jun 17 22:03	29° \nearrow 44'34	1°28'39	minimum elong	5265 Jan 03 10:41	13° \searrow 52'46	1°16'17
min. Earth dist.	5258 Jun 18 17:29	29° \nearrow 43'14	29.32796 AU	max. Earth dist.	5265 Jan 02 16:16	13° \searrow 51'02	31.31519 AU
direct	5258 Sep 06 23:16	28° \nearrow 19'59		morning rise	5265 Jan 18 20:59	14° \searrow 27'11	
	5258 Nov 29 01:02	0° \searrow		retrograde	5265 Apr 15 19:45	16° \searrow 19'38	
evening set	5258 Dec 06 08:09	0° \searrow 15'41		opposition	5265 Jul 03 06:22	14° \searrow 57'40	1°20'43
				min. Earth dist.	5265 Jul 03 23:17	14° \searrow 56'31	29.31583 AU
conjunction	5258 Dec 21 23:14	0° \searrow 50'24	1°22'39	direct	5265 Sep 22 06:33	13° \searrow 33'14	
minimum elong	5258 Dec 21 23:14	0° \searrow 50'24	1°22'39	evening set	5265 Dec 21 08:00	15° \searrow 28'42	

conjunction	5266 Jan 05 20:33	16°30'31"8	1°14'49"	min. Earth dist.	5272 Jul 19 08:55	0°11'36"	29.29106 AU
minimum elong	5266 Jan 05 20:33	16°30'31"8	1°14'50"		5272 Jul 26 12:30	30°18'30"	
max. Earth dist.	5266 Jan 05 03:36	16°30'14"3	31.31502 AU	direct	5272 Oct 07 17:15	28°34'8"21	
morning rise	5266 Jan 21 06:26	16°33'74"			5272 Dec 15 07:12	0°11'36"	
retrograde	5266 Apr 18 06:13	18°33'01"4		evening set	5273 Jan 05 06:10	0°11'43'28	
opposition	5266 Jul 05 18:04	17°30'8"16	1°19'07"				
min. Earth dist.	5266 Jul 06 10:47	17°30'07"8	29.31537 AU	conjunction	5273 Jan 20 16:42	1°17'59"	1°01'47"
direct	5266 Sep 24 19:07	15°34'35"4		minimum elong	5273 Jan 20 16:42	1°17'59"	1°01'47"
evening set	5266 Dec 23 18:16	17°33'9"21		max. Earth dist.	5273 Jan 20 02:06	1°16'36"	31.28708 AU
				morning rise	5273 Feb 05 01:14	1°52'21"	
conjunction	5267 Jan 08 06:18	18°31'35"6	1°13'15"	retrograde	5273 May 03 06:36	3°45'20"	
minimum elong	5267 Jan 08 06:18	18°31'35"6	1°13'15"	opposition	5273 Jul 21 05:49	2°23'05"	1°04'49"
max. Earth dist.	5267 Jan 07 12:41	18°31'27"7	31.31436 AU	min. Earth dist.	5273 Jul 21 19:41	2°22'08"	29.28398 AU
morning rise	5267 Jan 23 16:06	18°34'8"20		direct	5273 Oct 10 05:54	0°58'48"	
retrograde	5267 Apr 20 18:04	20°34'05"7		evening set	5274 Jan 07 15:57	2°53'51"	
opposition	5267 Jul 08 05:53	19°31'8"59	1°17'23"	max. Earth dist.	5274 Jan 22 11:23	3°26'58"	31.28019 AU
min. Earth dist.	5267 Jul 08 21:49	19°31'7"54	29.31438 AU				
direct	5267 Sep 27 05:37	17°35'44"0		conjunction	5274 Jan 23 02:05	3°28'21"	0°59'33"
evening set	5267 Dec 26 04:12	19°35'05"5		minimum elong	5274 Jan 23 02:06	3°28'21"	0°59'34"
				morning rise	5274 Feb 07 10:34	4°02'43"	
conjunction	5268 Jan 10 16:06	20°32'44"0	1°11'35"	retrograde	5274 May 05 18:14	5°55'47"	
minimum elong	5268 Jan 10 16:06	20°32'44"0	1°11'36"	opposition	5274 Jul 23 17:55	4°33'28"	1°02'24"
max. Earth dist.	5268 Jan 09 23:50	20°32'30"8	31.31282 AU	min. Earth dist.	5274 Jul 24 07:14	4°32'33"	29.27750 AU
morning rise	5268 Jan 26 01:30	20°35'02"		direct	5274 Oct 12 15:54	3°09'11"	
retrograde	5268 Apr 22 04:08	22°35'14"5		evening set	5275 Jan 10 01:34	5°04'11"	
opposition	5268 Jul 09 17:53	21°32'9"46	1°15'33"				
min. Earth dist.	5268 Jul 10 10:17	21°32'8"39	29.31222 AU	conjunction	5275 Jan 25 11:37	5°38'41"	0°57'14"
direct	5268 Sep 28 19:08	20°30'52"9		minimum elong	5275 Jan 25 11:37	5°38'41"	0°57'14"
evening set	5268 Dec 27 14:26	22°30'05"2		max. Earth dist.	5275 Jan 24 22:52	5°37'29"	31.27416 AU
max. Earth dist.	5269 Jan 11 08:57	22°33'35"0	31.31012 AU	morning rise	5275 Feb 09 19:48	6°13'02"	
				retrograde	5275 May 08 04:31	8°06'12"	
conjunction	5269 Jan 12 01:54	22°33'52"6	1°09'49"	opposition	5275 Jul 26 06:08	6°43'50"	0°59'52"
minimum elong	5269 Jan 12 01:54	22°33'52"6	1°09'49"	min. Earth dist.	5275 Jul 26 18:38	6°42'59"	29.27190 AU
morning rise	5269 Jan 27 11:13	23°30'9"48		direct	5275 Oct 15 03:47	5°19'36"	
retrograde	5269 Apr 24 16:14	25°30'23"4		evening set	5276 Jan 12 11:11	7°14'34"	
opposition	5269 Jul 12 05:36	23°34'03"4	1°13'36"				
min. Earth dist.	5269 Jul 12 20:54	23°33'39"32	29.30880 AU	conjunction	5276 Jan 27 20:53	7°49'03"	0°54'50"
direct	5269 Oct 01 07:29	22°31'6"18		minimum elong	5276 Jan 27 20:53	7°49'03"	0°54'51"
evening set	5269 Dec 30 00:32	24°31'13"9		max. Earth dist.	5276 Jan 27 08:02	7°47'51"	31.26919 AU
				morning rise	5276 Feb 12 05:08	8°23'25"	
conjunction	5270 Jan 14 11:48	24°34'6"12	1°07'57"	retrograde	5276 May 09 16:49	10°16'42"	
minimum elong	5270 Jan 14 11:49	24°34'6"12	1°07'58"	opposition	5276 Jul 27 18:16	8°54'19"	0°57'16"
max. Earth dist.	5270 Jan 13 19:36	24°34'44"0	31.30595 AU	min. Earth dist.	5276 Jul 28 05:25	8°53'33"	29.26741 AU
morning rise	5270 Jan 29 20:48	25°32'03"4		direct	5276 Oct 16 13:56	7°30'08"	
retrograde	5270 Apr 27 01:04	27°31'32"3		evening set	5277 Jan 13 20:45	9°25'04"	
opposition	5270 Jul 14 17:45	25°35'12"1	1°11'33"				
min. Earth dist.	5270 Jul 15 09:51	25°35'01"15	29.30395 AU	conjunction	5277 Jan 29 06:25	9°59'34"	0°52'21"
direct	5270 Oct 03 19:03	24°32'7"06		minimum elong	5277 Jan 29 06:25	9°59'34"	0°52'21"
evening set	5271 Jan 01 10:31	26°32'22"2		max. Earth dist.	5277 Jan 28 19:20	9°58'31"	31.26505 AU
				morning rise	5277 Feb 13 14:23	10°33'56"	
conjunction	5271 Jan 16 21:28	26°35'6"54	1°05'59"	retrograde	5277 May 12 03:30	12°27'20"	
minimum elong	5271 Jan 16 21:28	26°35'6"54	1°05'59"	opposition	5277 Jul 30 06:27	11°04'57"	0°54'34"
max. Earth dist.	5271 Jan 16 05:29	26°35'52"4	31.30055 AU	min. Earth dist.	5277 Jul 30 17:34	11°04'11"	29.26348 AU
morning rise	5271 Feb 01 06:20	27°31'16"		direct	5277 Oct 19 02:48	9°40'51"	
retrograde	5271 Apr 29 10:46	29°32'40"9		evening set	5278 Jan 16 06:29	11°35'46"	
opposition	5271 Jul 17 05:46	28°30'2"03	1°09'24"				
min. Earth dist.	5271 Jul 17 20:31	28°30'1"03	29.29786 AU	conjunction	5278 Jan 31 15:49	12°10'16"	0°49'47"
direct	5271 Oct 06 07:29	26°33'74"7		minimum elong	5278 Jan 31 15:50	12°10'16"	0°49'48"
evening set	5272 Jan 03 20:27	28°33'25"8		max. Earth dist.	5278 Jan 31 04:45	12°09'13"	31.26145 AU
				morning rise	5278 Feb 15 23:51	12°44'38"	
conjunction	5272 Jan 19 07:08	29°30'7"30	1°03'55"	retrograde	5278 May 14 16:35	14°38'10"	
minimum elong	5272 Jan 19 07:08	29°30'7"30	1°03'57"	opposition	5278 Aug 01 18:45	13°15'47"	0°51'47"
max. Earth dist.	5272 Jan 18 15:22	29°30'6"02	31.29400 AU	min. Earth dist.	5278 Aug 02 04:12	13°15'09"	29.25988 AU
morning rise	5272 Feb 03 15:51	29°34'15"2		direct	5278 Oct 21 14:43	11°51'46"	
	5272 Feb 12 01:36	0°11'36"		evening set	5279 Jan 18 16:03	13°46'41"	
retrograde	5272 Apr 30 20:53	1°34'48"					
opposition	5272 Jul 18 17:47	0°12'37"	1°07'10"	conjunction	5279 Feb 03 01:15	14°21'10"	0°47'09"

minimum elong	5279 Feb 03 01:15	14° \approx 21'10	0°47'09	opposition	5285 Aug 17 10:59	28° \approx 35'36	0°30'27
max. Earth dist.	5279 Feb 02 15:20	14° \approx 20'14	31.25774 AU	min. Earth dist.	5285 Aug 17 16:59	28° \approx 35'12	29.21015 AU
morning rise	5279 Feb 18 09:06	14° \approx 55'34		direct	5285 Nov 05 20:52	27° \approx 11'48	
	5279 Feb 20 09:40	15° \approx		evening set	5286 Feb 02 12:10	29° \approx 06'21	
retrograde	5279 May 17 02:19	16° \approx 49'14					
opposition	5279 Aug 04 07:20	15° \approx 26'51	0°48'56	conjunction	5286 Feb 17 20:30	29° \approx 40'50	0°26'59
min. Earth dist.	5279 Aug 04 17:13	15° \approx 26'11	29.25602 AU	minimum elong	5286 Feb 17 20:30	29° \approx 40'50	0°27'00
	5279 Aug 21 02:42	15° \approx		max. Earth dist.	5286 Feb 17 14:47	29° \approx 40'18	31.20486 AU
direct	5279 Oct 24 01:55	14° \approx 02'55			5286 Feb 26 07:36	0° \approx	
	5279 Dec 23 10:47	15° \approx		morning rise	5286 Mar 05 04:09	0° \approx 15'18	
evening set	5280 Jan 21 01:47	15° \approx 57'48		retrograde	5286 Jun 01 08:21	2° \approx 09'46	
				opposition	5286 Aug 19 23:49	0° \approx 46'56	0°27'11
conjunction	5280 Feb 05 10:48	16° \approx 32'18	0°44'26	min. Earth dist.	5286 Aug 20 05:37	0° \approx 46'33	29.19987 AU
minimum elong	5280 Feb 05 10:49	16° \approx 32'18	0°44'28		5286 Sep 19 14:17	30° \approx	
max. Earth dist.	5280 Feb 05 01:30	16° \approx 31'25	31.25366 AU	direct	5286 Nov 08 09:50	29° \approx 23'08	
morning rise	5280 Feb 20 18:38	17° \approx 06'42			5286 Dec 26 05:38	0° \approx	
retrograde	5280 May 18 12:52	19° \approx 00'30		evening set	5287 Feb 04 21:41	1° \approx 17'36	
opposition	5280 Aug 05 19:39	17° \approx 38'07	0°46'00				
min. Earth dist.	5280 Aug 06 04:06	17° \approx 37'32	29.25146 AU	conjunction	5287 Feb 20 05:49	1° \approx 52'05	0°23'55
direct	5280 Oct 25 14:09	16° \approx 14'14		minimum elong	5287 Feb 20 05:49	1° \approx 52'05	0°23'55
evening set	5281 Jan 22 11:35	18° \approx 09'06		max. Earth dist.	5287 Feb 20 00:28	1° \approx 51'35	31.19496 AU
				morning rise	5287 Mar 07 13:37	2° \approx 26'33	
conjunction	5281 Feb 06 20:25	18° \approx 43'36	0°41'40	retrograde	5287 Jun 03 21:18	4° \approx 21'08	
minimum elong	5281 Feb 06 20:25	18° \approx 43'36	0°41'40	opposition	5287 Aug 22 12:30	2° \approx 58'12	0°23'53
max. Earth dist.	5281 Feb 06 11:12	18° \approx 42'44	31.24855 AU	min. Earth dist.	5287 Aug 22 16:17	2° \approx 57'57	29.19036 AU
morning rise	5281 Feb 22 04:13	19° \approx 18'01		direct	5287 Nov 10 21:38	1° \approx 34'24	
retrograde	5281 May 21 00:05	21° \approx 11'57		evening set	5288 Feb 07 07:16	3° \approx 28'49	
opposition	5281 Aug 08 08:19	19° \approx 49'32	0°43'00				
min. Earth dist.	5281 Aug 08 17:08	19° \approx 48'56	29.24580 AU	conjunction	5288 Feb 22 15:23	4° \approx 03'19	0°20'49
direct	5281 Oct 28 00:00	18° \approx 25'43		minimum elong	5288 Feb 22 15:23	4° \approx 03'19	0°20'50
evening set	5282 Jan 24 21:18	20° \approx 20'32		max. Earth dist.	5288 Feb 22 11:18	4° \approx 02'56	31.18584 AU
				morning rise	5288 Mar 08 23:10	4° \approx 37'48	
conjunction	5282 Feb 09 06:04	20° \approx 55'02	0°38'50	retrograde	5288 Jun 05 07:40	6° \approx 32'29	
minimum elong	5282 Feb 09 06:04	20° \approx 55'02	0°38'51	opposition	5288 Aug 24 01:12	5° \approx 09'29	0°20'33
max. Earth dist.	5282 Feb 08 21:57	20° \approx 54'17	31.24223 AU	min. Earth dist.	5288 Aug 24 05:05	5° \approx 09'14	29.18176 AU
morning rise	5282 Feb 24 13:43	21° \approx 29'28		direct	5288 Nov 12 09:03	3° \approx 45'43	
retrograde	5282 May 23 10:15	23° \approx 23'32		evening set	5289 Feb 08 16:51	5° \approx 40'05	
opposition	5282 Aug 10 20:58	22° \approx 01'04	0°39'57				
min. Earth dist.	5282 Aug 11 04:41	22° \approx 00'33	29.23864 AU	conjunction	5289 Feb 24 00:56	6° \approx 14'35	0°17'41
direct	5282 Oct 30 12:46	20° \approx 37'17		minimum elong	5289 Feb 24 00:56	6° \approx 14'35	0°17'41
evening set	5283 Jan 27 07:12	22° \approx 32'03		max. Earth dist.	5289 Feb 23 21:57	6° \approx 14'18	31.17777 AU
				morning rise	5289 Mar 11 08:47	6° \approx 49'05	
conjunction	5283 Feb 11 15:41	23° \approx 06'33	0°35'56	retrograde	5289 Jun 07 19:11	8° \approx 43'53	
minimum elong	5283 Feb 11 15:42	23° \approx 06'33	0°35'56	opposition	5289 Aug 26 13:54	7° \approx 20'51	0°17'11
max. Earth dist.	5283 Feb 11 07:03	23° \approx 05'44	31.23442 AU	min. Earth dist.	5289 Aug 26 15:49	7° \approx 20'43	29.17397 AU
morning rise	5283 Feb 26 23:27	23° \approx 41'00		direct	5289 Nov 14 21:59	5° \approx 57'08	
retrograde	5283 May 25 22:14	25° \approx 35'11		evening set	5290 Feb 11 02:26	7° \approx 51'27	
opposition	5283 Aug 13 09:43	24° \approx 12'39	0°36'50				
min. Earth dist.	5283 Aug 13 17:13	24° \approx 12'08	29.23022 AU	conjunction	5290 Feb 26 10:22	8° \approx 25'58	0°14'31
direct	5283 Nov 01 22:28	22° \approx 48'52		minimum elong	5290 Feb 26 10:22	8° \approx 25'58	0°14'32
evening set	5284 Jan 29 16:48	24° \approx 43'34		behind sun begin	5290 Feb 26 07:25	8° \approx 25'42	
				behind sun end	5290 Feb 26 13:19	8° \approx 26'14	
conjunction	5284 Feb 14 01:22	25° \approx 18'04	0°33'00	max. Earth dist.	5290 Feb 26 07:52	8° \approx 25'44	31.17028 AU
minimum elong	5284 Feb 14 01:22	25° \approx 18'04	0°33'01	morning rise	5290 Mar 13 18:20	9° \approx 00'29	
max. Earth dist.	5284 Feb 13 18:19	25° \approx 17'24	31.22534 AU	retrograde	5290 Jun 10 07:03	10° \approx 55'26	
morning rise	5284 Feb 29 09:00	25° \approx 52'31		opposition	5290 Aug 29 02:53	9° \approx 32'22	0°13'47
retrograde	5284 May 27 08:31	27° \approx 46'48		min. Earth dist.	5290 Aug 29 04:43	9° \approx 32'14	29.16679 AU
opposition	5284 Aug 14 22:26	26° \approx 24'10	0°33'40	direct	5290 Nov 17 08:32	8° \approx 08'42	
min. Earth dist.	5284 Aug 15 05:33	26° \approx 23'41	29.22045 AU	evening set	5291 Feb 13 12:01	10° \approx 02'59	
direct	5284 Nov 03 10:05	25° \approx 00'23					
evening set	5285 Jan 31 02:35	26° \approx 55'00		conjunction	5291 Feb 28 20:03	10° \approx 37'30	0°11'20
				minimum elong	5291 Feb 28 20:03	10° \approx 37'30	0°11'20
conjunction	5285 Feb 15 10:52	27° \approx 29'30	0°30'01	behind sun begin	5291 Feb 28 15:19	10° \approx 37'04	
minimum elong	5285 Feb 15 10:52	27° \approx 29'30	0°30'00	behind sun end	5291 Mar 01 00:48	10° \approx 37'56	
max. Earth dist.	5285 Feb 15 03:27	27° \approx 28'48	31.21527 AU	max. Earth dist.	5291 Feb 28 19:11	10° \approx 37'26	31.16327 AU
morning rise	5285 Mar 02 18:40	28° \approx 03'58		morning rise	5291 Mar 16 04:00	11° \approx 12'03	
retrograde	5285 May 29 21:04	29° \approx 58'20		retrograde	5291 Jun 12 17:28	13° \approx 07'09	

opposition	5291 Aug 31 15:44	11° 11 44'03	0°10'22	minimum elong	5297 Mar 13 07:22	23° 11 50'17	0°08'08
min. Earth dist.	5291 Aug 31 16:08	11° 11 44'01	29.15972 AU	behind sun begin	5297 Mar 13 01:39	23° 11 49'46	
direct	5291 Nov 19 20:51	10° 10 20'27		behind sun end	5297 Mar 13 13:05	23° 11 50'49	
evening set	5292 Feb 15 21:47	12° 12 14'42		max. Earth dist.	5297 Mar 13 09:29	23° 11 50'28	31.10633 AU
				morning rise	5297 Mar 28 16:05	24° 12 24'58	
conjunction	5292 Mar 02 05:39	12° 12 49'14	0°08'09	retrograde	5297 Jun 25 19:15	26° 12 20'57	
minimum elong	5292 Mar 02 05:38	12° 12 49'14	0°08'09	opposition	5297 Sep 13 22:18	24° 12 57'28	-0°10'21
behind sun begin	5292 Mar 01 23:56	12° 12 48'43		min. Earth dist.	5297 Sep 13 20:02	24° 12 57'37	29.09992 AU
behind sun end	5292 Mar 02 11:21	12° 12 49'45		direct	5297 Dec 02 15:56	23° 12 34'01	
max. Earth dist.	5292 Mar 02 04:31	12° 12 49'09	31.15614 AU	evening set	5298 Feb 28 09:10	25° 12 28'02	
morning rise	5292 Mar 17 13:50	13° 13 23'48					
retrograde	5292 Jun 14 05:45	15° 15 19'04		conjunction	5298 Mar 15 17:13	26° 16 02'38	-0°11'19
opposition	5292 Sep 02 04:44	13° 13 55'56	0°06'55	minimum elong	5298 Mar 15 17:13	26° 16 02'38	0°11'19
min. Earth dist.	5292 Sep 02 04:45	13° 13 55'56	29.15243 AU	behind sun begin	5298 Mar 15 12:29	26° 16 02'12	
direct	5292 Nov 21 06:24	12° 12 32'24		behind sun end	5298 Mar 15 21:58	26° 16 03'04	
evening set	5293 Feb 17 07:32	14° 14 26'37		max. Earth dist.	5298 Mar 15 20:27	26° 16 02'55	31.09350 AU
				morning rise	5298 Mar 31 02:04	26° 16 37'20	
conjunction	5293 Mar 04 15:31	15° 15 01'10	0°04'56	retrograde	5298 Jun 28 07:48	28° 18 33'24	
minimum elong	5293 Mar 04 15:31	15° 15 01'10	0°04'55	opposition	5298 Sep 16 11:22	27° 18 09'49	-0°13'47
behind sun begin	5293 Mar 04 09:17	15° 15 00'36		min. Earth dist.	5298 Sep 16 07:15	27° 18 10'06	29.08707 AU
behind sun end	5293 Mar 04 21:46	15° 15 01'44		direct	5298 Dec 05 05:41	25° 18 46'22	
max. Earth dist.	5293 Mar 04 16:07	15° 15 01'12	31.14844 AU	evening set	5299 Mar 02 19:07	27° 18 40'19	
morning rise	5293 Mar 19 23:37	15° 15 35'45					
retrograde	5293 Jun 16 16:35	17° 17 31'11		conjunction	5299 Mar 18 03:08	28° 18 14'56	-0°14'30
opposition	5293 Sep 04 17:44	16° 16 08'01	0°03'28	minimum elong	5299 Mar 18 03:07	28° 18 14'56	0°14'31
min. Earth dist.	5293 Sep 04 17:19	16° 16 08'03	29.14424 AU	behind sun begin	5299 Mar 18 00:09	28° 18 14'40	
direct	5293 Nov 23 17:42	14° 14 44'32		behind sun end	5299 Mar 18 06:05	28° 18 15'12	
evening set	5294 Feb 19 17:33	16° 16 38'44		max. Earth dist.	5299 Mar 18 06:43	28° 18 15'16	31.08082 AU
				morning rise	5299 Apr 02 12:13	28° 18 49'39	
conjunction	5294 Mar 07 01:23	17° 17 13'17	0°01'41		5299 May 08 04:13	0° 19 00'00	
minimum elong	5294 Mar 07 01:22	17° 17 13'17	0°01'42	retrograde	5299 Jun 30 20:13	0° 19 45'51	
behind sun begin	5294 Mar 06 18:58	17° 17 12'42			5299 Aug 25 23:17	30° 20 30'00	
behind sun end	5294 Mar 07 07:45	17° 17 13'52		opposition	5299 Sep 19 00:27	29° 20 22'09	-0°17'11
max. Earth dist.	5294 Mar 07 01:33	17° 17 13'17	31.13983 AU	min. Earth dist.	5299 Sep 18 20:16	29° 20 22'26	29.07489 AU
morning rise	5294 Mar 22 09:43	17° 17 47'54		direct	5299 Dec 07 16:55	27° 20 58'42	
retrograde	5294 Jun 19 06:11	19° 19 43'29		evening set	5300 Mar 05 04:55	29° 20 52'36	
opposition	5294 Sep 07 06:54	18° 18 20'16	0°00'00		5300 Mar 08 12:38	0° 21 00'00	
min. Earth dist.	5294 Sep 07 05:28	18° 18 20'22	29.13508 AU				
desc. node	5294 Sep 07 22:23	18° 18 19'13		conjunction	5300 Mar 20 13:08	0° 21 27'13	-0°17'41
direct	5294 Nov 26 04:09	16° 16 56'49		minimum elong	5300 Mar 20 13:08	0° 21 27'13	0°17'40
evening set	5295 Feb 22 03:22	18° 18 50'59		max. Earth dist.	5300 Mar 20 18:31	0° 21 27'43	31.06908 AU
				morning rise	5300 Apr 04 22:18	1° 21 01'58	
conjunction	5295 Mar 09 11:19	19° 19 25'33	-0°01'40	retrograde	5300 Jul 03 06:22	2° 21 58'17	
minimum elong	5295 Mar 09 11:19	19° 19 25'33	0°01'40	opposition	5300 Sep 21 13:25	1° 21 34'31	-0°20'34
behind sun begin	5295 Mar 09 04:55	19° 19 24'59		min. Earth dist.	5300 Sep 21 07:32	1° 21 34'55	29.06362 AU
behind sun end	5295 Mar 09 17:43	19° 19 26'08		direct	5300 Dec 10 05:37	0° 21 11'04	
max. Earth dist.	5295 Mar 09 12:49	19° 19 25'38	31.12992 AU	evening set	5301 Mar 07 14:55	2° 21 04'55	
morning rise	5295 Mar 24 19:40	20° 20 00'11					
retrograde	5295 Jun 21 18:18	21° 21 55'56		conjunction	5301 Mar 22 23:02	2° 21 39'34	-0°20'49
opposition	5295 Sep 09 20:09	20° 20 32'38	-0°03'27	minimum elong	5301 Mar 22 23:02	2° 21 39'34	0°20'50
min. Earth dist.	5295 Sep 09 18:55	20° 20 32'43	29.12448 AU	max. Earth dist.	5301 Mar 23 04:22	2° 21 40'04	31.05837 AU
direct	5295 Nov 28 16:28	19° 19 09'13		morning rise	5301 Apr 07 08:30	3° 21 14'20	
evening set	5296 Feb 24 13:25	21° 21 03'20		retrograde	5301 Jul 05 18:14	5° 21 10'47	
				opposition	5301 Sep 24 02:27	3° 21 46'57	-0°23'55
conjunction	5296 Mar 10 21:19	21° 21 37'55	-0°04'55	min. Earth dist.	5301 Sep 23 19:51	3° 21 47'24	29.05358 AU
minimum elong	5296 Mar 10 21:20	21° 21 37'55	0°04'54	direct	5301 Dec 12 15:41	2° 21 23'32	
behind sun begin	5296 Mar 10 15:06	21° 21 37'21		evening set	5302 Mar 10 00:47	4° 21 17'21	
behind sun end	5296 Mar 11 03:35	21° 21 38'29					
max. Earth dist.	5296 Mar 10 22:43	21° 21 38'01	31.11874 AU	conjunction	5302 Mar 25 09:09	4° 21 52'01	-0°23'57
morning rise	5296 Mar 26 05:56	22° 22 12'34		minimum elong	5302 Mar 25 09:09	4° 21 52'01	0°23'56
retrograde	5296 Jun 23 07:54	24° 24 08'26		max. Earth dist.	5302 Mar 25 16:35	4° 21 52'42	31.04885 AU
opposition	5296 Sep 11 09:04	22° 22 45'03	-0°06'54	morning rise	5302 Apr 09 18:40	5° 21 26'48	
min. Earth dist.	5296 Sep 11 06:23	22° 22 45'14	29.11264 AU	retrograde	5302 Jul 08 05:18	7° 21 23'24	
direct	5296 Nov 30 04:00	21° 21 21'37		opposition	5302 Sep 26 15:33	5° 21 59'30	-0°27'15
evening set	5297 Feb 25 23:23	23° 23 15'42		min. Earth dist.	5302 Sep 26 08:03	6° 21 00'01	29.04453 AU
				direct	5302 Dec 15 03:07	4° 21 36'08	
conjunction	5297 Mar 13 07:22	23° 23 50'18	-0°08'07	evening set	5303 Mar 12 10:47	6° 21 29'55	

conjunction	5303 Mar 27 19:08	7° Υ 04'36	-0°27'02	direct	5309 Dec 30 12:38	20° Υ 08'21	
minimum elong	5303 Mar 27 19:08	7° Υ 04'36	0°27'03	evening set	5310 Mar 27 11:32	22° Υ 01'57	
max. Earth dist.	5303 Mar 28 02:35	7° Υ 05'18	31.04032 AU				
morning rise	5303 Apr 12 05:02	7° Υ 39'26		conjunction	5310 Apr 11 20:55	22° Υ 36'44	-0°47'22
retrograde	5303 Jul 10 18:35	9° Υ 36'10		minimum elong	5310 Apr 11 20:55	22° Υ 36'44	0°47'22
opposition	5303 Sep 29 04:39	8° Υ 12'14	-0°30'32	max. Earth dist.	5310 Apr 12 08:10	22° Υ 37'48	30.97502 AU
min. Earth dist.	5303 Sep 28 19:55	8° Υ 12'50	29.03638 AU	morning rise	5310 Apr 27 08:34	23° Υ 11'45	
direct	5303 Dec 17 13:23	6° Υ 48'54		retrograde	5310 Jul 26 12:51	25° Υ 09'20	
evening set	5304 Mar 13 20:52	8° Υ 42'40		opposition	5310 Oct 15 01:07	23° Υ 44'55	-0°52'04
				min. Earth dist.	5310 Oct 14 13:00	23° Υ 45'45	28.96952 AU
conjunction	5304 Mar 29 05:27	9° Υ 17'21	-0°30'05	direct	5311 Jan 01 23:52	22° Υ 21'39	
minimum elong	5304 Mar 29 05:26	9° Υ 17'21	0°30'05	evening set	5311 Mar 29 21:55	24° Υ 15'11	
max. Earth dist.	5304 Mar 29 14:26	9° Υ 18'12	31.03228 AU				
morning rise	5304 Apr 13 15:26	9° Υ 52'13		conjunction	5311 Apr 14 07:41	24° Υ 50'01	-0°50'01
retrograde	5304 Jul 12 06:20	11° Υ 49'06		minimum elong	5311 Apr 14 07:41	24° Υ 50'01	0°50'03
opposition	5304 Sep 30 17:41	10° Υ 25'08	-0°33'47	max. Earth dist.	5311 Apr 14 20:47	24° Υ 51'15	30.96350 AU
min. Earth dist.	5304 Sep 30 08:57	10° Υ 25'43	29.02850 AU	morning rise	5311 Apr 29 19:30	25° Υ 25'03	
direct	5304 Dec 19 00:19	9° Υ 01'50		retrograde	5311 Jul 29 00:03	27° Υ 22'43	
evening set	5305 Mar 16 07:07	10° Υ 55'36		opposition	5311 Oct 17 14:14	25° Υ 58'13	-0°54'53
				min. Earth dist.	5311 Oct 17 01:25	25° Υ 59'06	28.95825 AU
conjunction	5305 Mar 31 15:46	11° Υ 30'18	-0°33'06	direct	5312 Jan 04 12:21	24° Υ 34'56	
minimum elong	5305 Mar 31 15:46	11° Υ 30'18	0°33'07	evening set	5312 Mar 31 08:36	26° Υ 28'25	
max. Earth dist.	5305 Apr 01 00:58	11° Υ 31'10	31.02451 AU				
morning rise	5305 Apr 16 02:03	12° Υ 05'11		conjunction	5312 Apr 15 18:26	27° Υ 03'15	-0°52'36
retrograde	5305 Jul 14 20:15	14° Υ 02'13		minimum elong	5312 Apr 15 18:26	27° Υ 03'15	0°52'36
opposition	5305 Oct 03 06:50	12° Υ 38'12	-0°36'58	max. Earth dist.	5312 Apr 16 07:23	27° Υ 04'29	30.95267 AU
min. Earth dist.	5305 Oct 02 20:31	12° Υ 38'54	29.02064 AU	morning rise	5312 May 01 06:40	27° Υ 38'20	
direct	5305 Dec 21 10:48	11° Υ 14'57		retrograde	5312 Jul 30 12:51	29° Υ 36'05	
evening set	5306 Mar 18 17:23	13° Υ 08'42		opposition	5312 Oct 19 03:10	28° Υ 11'30	-0°57'36
				min. Earth dist.	5312 Oct 18 13:16	28° Υ 12'28	28.94803 AU
conjunction	5306 Apr 03 02:08	13° Υ 43'25	-0°36'04	direct	5313 Jan 05 22:54	26° Υ 48'12	
minimum elong	5306 Apr 03 02:08	13° Υ 43'25	0°36'04	evening set	5313 Apr 02 19:11	28° Υ 41'41	
max. Earth dist.	5306 Apr 03 12:03	13° Υ 44'22	31.01633 AU				
morning rise	5306 Apr 18 12:38	14° Υ 18'20		conjunction	5313 Apr 18 05:19	29° Υ 16'32	-0°55'07
retrograde	5306 Jul 17 09:02	16° Υ 15'31		minimum elong	5313 Apr 18 05:19	29° Υ 16'32	0°55'08
opposition	5306 Oct 05 20:14	14° Υ 51'27	-0°40'07	max. Earth dist.	5313 Apr 18 19:50	29° Υ 17'55	30.94291 AU
min. Earth dist.	5306 Oct 05 10:26	14° Υ 52'07	29.01223 AU	morning rise	5313 May 03 17:44	29° Υ 51'38	
direct	5306 Dec 23 22:30	13° Υ 28'13			5313 May 07 12:44	0° \mathcal{B}	
evening set	5307 Mar 21 03:51	15° Υ 21'57		retrograde	5313 Aug 02 00:12	1° \mathcal{B} 49'31	
				opposition	5313 Oct 21 16:18	0° \mathcal{B} 24'52	-1°00'15
conjunction	5307 Apr 05 12:49	15° Υ 56'41	-0°38'59	min. Earth dist.	5313 Oct 21 02:11	0° \mathcal{B} 25'51	28.93895 AU
minimum elong	5307 Apr 05 12:49	15° Υ 56'41	0°38'59		5313 Nov 05 23:39	30° \mathcal{R} Υ	
max. Earth dist.	5307 Apr 05 23:32	15° Υ 57'42	31.00752 AU	direct	5314 Jan 08 09:50	29° Υ 01'35	
morning rise	5307 Apr 20 23:31	16° Υ 31'37			5314 Mar 09 08:17	0° \mathcal{B}	
retrograde	5307 Jul 19 23:12	18° Υ 28'55		evening set	5314 Apr 05 05:45	0° \mathcal{B} 55'03	
opposition	5307 Oct 08 09:20	17° Υ 04'48	-0°43'12				
min. Earth dist.	5307 Oct 07 22:10	17° Υ 05'33	29.00290 AU	conjunction	5314 Apr 20 16:05	1° \mathcal{B} 29'55	-0°57'33
direct	5307 Dec 26 11:49	15° Υ 41'35		minimum elong	5314 Apr 20 16:05	1° \mathcal{B} 29'55	0°57'33
evening set	5308 Mar 22 14:28	17° Υ 35'17		max. Earth dist.	5314 Apr 21 07:01	1° \mathcal{B} 31'20	30.93456 AU
				morning rise	5314 May 06 04:53	2° \mathcal{B} 05'03	
conjunction	5308 Apr 06 23:30	18° Υ 10'03	-0°41'50	retrograde	5314 Aug 04 14:08	4° \mathcal{B} 03'03	
minimum elong	5308 Apr 06 23:30	18° Υ 10'03	0°41'50	opposition	5314 Oct 24 05:20	2° \mathcal{B} 38'22	-1°02'48
max. Earth dist.	5308 Apr 07 09:55	18° Υ 11'02	30.99757 AU	min. Earth dist.	5314 Oct 23 13:28	2° \mathcal{B} 39'28	28.93126 AU
morning rise	5308 Apr 22 10:35	18° Υ 45'00		direct	5315 Jan 10 20:02	1° \mathcal{B} 15'06	
retrograde	5308 Jul 21 12:26	20° Υ 42'25		evening set	5315 Apr 07 16:32	3° \mathcal{B} 08'34	
opposition	5308 Oct 09 22:41	19° Υ 18'12	-0°46'14				
min. Earth dist.	5308 Oct 09 12:02	19° Υ 18'56	28.99247 AU	conjunction	5315 Apr 23 03:06	3° \mathcal{B} 43'28	-0°59'54
direct	5308 Dec 27 23:15	17° Υ 54'59		minimum elong	5315 Apr 23 03:06	3° \mathcal{B} 43'28	0°59'55
evening set	5309 Mar 25 00:54	19° Υ 48'38		max. Earth dist.	5315 Apr 23 18:52	3° \mathcal{B} 44'58	30.92735 AU
				morning rise	5315 May 08 16:15	4° \mathcal{B} 18'38	
conjunction	5309 Apr 09 10:15	20° Υ 23'25	-0°44'38	retrograde	5315 Aug 07 03:04	6° \mathcal{B} 16'45	
minimum elong	5309 Apr 09 10:15	20° Υ 23'25	0°44'39	opposition	5315 Oct 26 18:21	4° \mathcal{B} 52'03	-1°05'16
max. Earth dist.	5309 Apr 09 21:58	20° Υ 24'31	30.98661 AU	min. Earth dist.	5315 Oct 26 02:51	4° \mathcal{B} 53'07	28.92466 AU
morning rise	5309 Apr 24 21:27	20° Υ 58'24		direct	5316 Jan 13 07:13	3° \mathcal{B} 28'49	
retrograde	5309 Jul 23 23:51	22° Υ 55'54		evening set	5316 Apr 09 03:21	5° \mathcal{B} 22'18	
opposition	5309 Oct 12 11:52	21° Υ 31'35	-0°49'11				
min. Earth dist.	5309 Oct 11 24:00	21° Υ 32'24	28.98106 AU	conjunction	5316 Apr 24 14:16	5° \mathcal{B} 57'14	-1°02'09

minimum elong	5316 Apr 24 14:16	5°8'57"14	1°02'09	morning rise	5322 May 24 03:14	19°8'59"18	
max. Earth dist.	5316 Apr 25 07:04	5°8'58"50	30.92125 AU	retrograde	5322 Aug 23 00:12	21°8'58"02	
morning rise	5316 May 10 03:41	6°8'32"25		opposition	5322 Nov 11 13:53	20°8'33"07	-1°19'35
retrograde	5316 Aug 08 17:52	8°8'30"39		min. Earth dist.	5322 Nov 10 20:25	20°8'34"19	28.87766 AU
opposition	5316 Oct 28 07:18	7°8'05"57	-1°07'38	direct	5323 Jan 28 19:25	19°8'09"57	
min. Earth dist.	5316 Oct 27 14:14	7°8'07"07	28.91889 AU	evening set	5323 Apr 25 10:27	21°8'03"24	
direct	5317 Jan 14 19:50	5°8'42"46					
evening set	5317 Apr 11 14:18	7°8'36"16		conjunction	5323 May 10 23:29	21°8'38"31	-1°15'11
				minimum elong	5323 May 10 23:29	21°8'38"31	1°15'12
conjunction	5317 Apr 27 01:20	8°8'11"14	-1°04'19	max. Earth dist.	5323 May 11 17:55	21°8'40"16	30.87257 AU
minimum elong	5317 Apr 27 01:20	8°8'11"14	1°04'21	morning rise	5323 May 26 15:33	22°8'13"55	
max. Earth dist.	5317 Apr 27 18:06	8°8'12"49	30.91566 AU	retrograde	5323 Aug 25 14:03	24°8'12"41	
morning rise	5317 May 12 15:11	8°8'46"27		min. Earth dist.	5323 Nov 13 08:02	22°8'48"58	28.86880 AU
retrograde	5317 Aug 11 07:38	10°8'44"49		opposition	5323 Nov 14 02:37	22°8'47"40	-1°21'10
opposition	5317 Oct 30 20:29	9°8'20"06	-1°09'54	direct	5324 Jan 31 06:26	21°8'24"27	
min. Earth dist.	5317 Oct 30 03:54	9°8'21"14	28.91354 AU	evening set	5324 Apr 26 22:00	23°8'17"53	
direct	5318 Jan 17 06:35	7°8'56"57					
evening set	5318 Apr 14 01:22	9°8'50"29		conjunction	5324 May 12 11:22	23°8'53"00	-1°16'36
				minimum elong	5324 May 12 11:21	23°8'53"00	1°16'37
conjunction	5318 Apr 29 12:51	10°8'25"28	-1°06'23	max. Earth dist.	5324 May 13 06:14	23°8'54"48	30.86379 AU
minimum elong	5318 Apr 29 12:50	10°8'25"28	1°06'24	morning rise	5324 May 28 03:49	24°8'28"27	
max. Earth dist.	5318 Apr 30 06:56	10°8'27"11	30.91032 AU	retrograde	5324 Aug 27 01:34	26°8'27"14	
morning rise	5318 May 15 02:53	11°8'00"44		opposition	5324 Nov 15 15:32	25°8'02"09	-1°22'38
retrograde	5318 Aug 13 20:50	12°8'59"12		min. Earth dist.	5324 Nov 14 21:32	25°8'03"23	28.86046 AU
opposition	5318 Nov 02 09:30	11°8'34"28	-1°12'03	direct	5325 Feb 01 17:52	23°8'38"52	
min. Earth dist.	5318 Nov 01 15:54	11°8'35"41	28.90807 AU	evening set	5325 Apr 29 09:23	25°8'32"16	
direct	5319 Jan 19 19:39	10°8'11"22					
evening set	5319 Apr 16 12:41	12°8'04"55		conjunction	5325 May 14 23:11	26°8'07"25	-1°17'55
				minimum elong	5325 May 14 23:11	26°8'07"25	1°17'57
conjunction	5319 May 02 00:18	12°8'39"56	-1°08'21	max. Earth dist.	5325 May 15 18:57	26°8'09"18	30.85595 AU
minimum elong	5319 May 02 00:18	12°8'39"56	1°08'23	morning rise	5325 May 30 15:57	26°8'42"53	
max. Earth dist.	5319 May 02 17:34	12°8'41"34	30.90457 AU	retrograde	5325 Aug 29 15:10	28°8'41"41	
morning rise	5319 May 17 14:53	13°8'15"13		min. Earth dist.	5325 Nov 17 08:48	27°8'17"54	28.85316 AU
	5319 Jul 18 07:46	15°8'		opposition	5325 Nov 18 04:17	27°8'16"33	-1°23'59
retrograde	5319 Aug 16 11:53	15°8'13"47		direct	5326 Feb 04 06:02	25°8'53"14	
	5319 Sep 15 00:39	15°8'		evening set	5326 May 01 21:04	27°8'46"38	
opposition	5319 Nov 04 22:40	13°8'49"03	-1°14'06				
min. Earth dist.	5319 Nov 04 05:18	13°8'50"14	28.90202 AU	conjunction	5326 May 17 11:06	28°8'21"48	-1°19'07
direct	5320 Jan 22 07:25	12°8'25"58		minimum elong	5326 May 17 11:06	28°8'21"48	1°19'08
evening set	5320 Apr 18 00:04	14°8'19"30		max. Earth dist.	5326 May 18 06:44	28°8'23"40	30.84920 AU
				morning rise	5326 Jun 02 04:24	28°8'57"17	
conjunction	5320 May 03 12:08	14°8'54"33	-1°10'13		5326 Jul 03 04:57	0°8'	
minimum elong	5320 May 03 12:08	14°8'54"33	1°10'13	retrograde	5326 Sep 01 04:33	0°8'56"08	
max. Earth dist.	5320 May 04 06:34	14°8'56"18	30.89789 AU		5326 Nov 02 21:34	30°8'	
	5320 May 05 21:27	15°8'		opposition	5326 Nov 20 17:04	29°8'30"57	-1°25'12
morning rise	5320 May 19 02:53	15°8'29"53		min. Earth dist.	5326 Nov 19 22:07	29°8'32"15	28.84718 AU
retrograde	5320 Aug 17 23:52	17°8'28"31		direct	5327 Feb 06 16:22	28°8'07"36	
opposition	5320 Nov 06 11:40	16°8'03"44	-1°16'03		5327 May 03 21:45	0°8'	
min. Earth dist.	5320 Nov 05 18:10	16°8'04"57	28.89475 AU	evening set	5327 May 04 08:37	0°8'01"00	
	5320 Dec 20 06:22	15°8'					
direct	5321 Jan 23 20:25	14°8'40"39		conjunction	5327 May 19 23:14	0°8'36"12	-1°20'11
	5321 Feb 26 10:10	15°8'		minimum elong	5327 May 19 23:14	0°8'36"12	1°20'13
evening set	5321 Apr 20 11:36	16°8'34"11		max. Earth dist.	5327 May 20 20:12	0°8'38"12	30.84385 AU
				morning rise	5327 Jun 04 16:49	1°8'11"43	
conjunction	5321 May 05 23:52	17°8'09"15	-1°11'59	retrograde	5327 Sep 03 18:17	3°8'10"36	
minimum elong	5321 May 05 23:52	17°8'09"15	1°12'00	min. Earth dist.	5327 Nov 22 09:35	1°8'46"47	28.84238 AU
max. Earth dist.	5321 May 06 17:29	17°8'10"55	30.89017 AU	opposition	5327 Nov 23 05:42	1°8'45"23	-1°26'17
morning rise	5321 May 21 15:09	17°8'44"36		direct	5328 Feb 09 05:46	0°8'22"02	
retrograde	5321 Aug 20 13:01	19°8'43"18		evening set	5328 May 05 20:27	2°8'15"27	
min. Earth dist.	5321 Nov 08 06:55	18°8'19"41	28.88658 AU				
opposition	5321 Nov 09 00:48	18°8'18"27	-1°17'52	conjunction	5328 May 21 11:16	2°8'50"41	-1°21'09
direct	5322 Jan 26 07:40	16°8'55"20		minimum elong	5328 May 21 11:16	2°8'50"41	1°21'09
evening set	5322 Apr 22 22:55	18°8'48"50		max. Earth dist.	5328 May 22 07:33	2°8'52"36	30.83963 AU
				morning rise	5328 Jun 06 05:25	3°8'26"14	
conjunction	5322 May 08 11:38	19°8'23"55	-1°13'38	retrograde	5328 Sep 05 09:26	5°8'25"09	
minimum elong	5322 May 08 11:38	19°8'23"55	1°13'38	opposition	5328 Nov 24 18:22	3°8'59"55	-1°27'14
max. Earth dist.	5322 May 09 06:13	19°8'25"41	30.88150 AU	min. Earth dist.	5328 Nov 23 22:22	4°8'01"19	28.83878 AU

direct	5329 Feb 10 17:15	2°II36'35	retrograde	5335 Sep 22 05:08	21°II10'50
evening set	5329 May 08 08:12	4°II30'02	opposition	5335 Dec 11 10:27	19°II45'35 -1°30'07
			min. Earth dist.	5335 Dec 10 15:37	19°II46'54 28.81245 AU
conjunction	5329 May 23 23:35	5°II05'18 -1°21'58	direct	5336 Feb 27 01:31	18°II22'08
minimum elong	5329 May 23 23:35	5°II05'18 1°22'00	evening set	5336 May 23 22:03	20°II15'43
max. Earth dist.	5329 May 24 21:19	5°II07'21 30.83646 AU			
morning rise	5329 Jun 08 18:00	5°II40'53	conjunction	5336 Jun 08 16:32	20°II51'11 -1°24'13
retrograde	5329 Sep 07 21:52	7°II39'50	minimum elong	5336 Jun 08 16:32	20°II51'11 1°24'14
min. Earth dist.	5329 Nov 26 10:41	6°II16'02 28.83595 AU	max. Earth dist.	5336 Jun 09 13:37	20°II53'11 30.80897 AU
opposition	5329 Nov 27 07:02	6°II14'38 -1°28'03	morning rise	5336 Jun 24 14:01	21°II26'58
direct	5330 Feb 13 05:57	4°II51'19	retrograde	5336 Sep 23 18:29	23°II25'58
evening set	5330 May 10 20:09	6°II44'47	opposition	5336 Dec 12 22:37	22°II00'41 -1°29'59
			min. Earth dist.	5336 Dec 12 03:00	22°II02'03 28.80732 AU
conjunction	5330 May 26 11:50	7°II20'05 -1°22'41	direct	5337 Feb 28 15:19	20°II37'10
minimum elong	5330 May 26 11:49	7°II20'05 1°22'41	evening set	5337 May 26 10:33	22°II30'45
max. Earth dist.	5330 May 27 08:51	7°II22'04 30.83396 AU			
morning rise	5330 Jun 11 06:50	7°II55'42	conjunction	5337 Jun 11 05:19	23°II06'15 -1°24'02
retrograde	5330 Sep 10 12:26	9°II54'42	minimum elong	5337 Jun 11 05:19	23°II06'15 1°24'04
opposition	5330 Nov 29 19:44	8°II29'31 -1°28'44	max. Earth dist.	5337 Jun 12 01:25	23°II08'09 30.80428 AU
min. Earth dist.	5330 Nov 28 23:11	8°II30'56 28.83359 AU	morning rise	5337 Jun 27 03:25	23°II42'04
direct	5331 Feb 15 17:09	7°II06'13	retrograde	5337 Sep 26 09:13	25°II41'01
evening set	5331 May 13 08:18	8°II59'44	opposition	5337 Dec 15 10:53	24°II15'41 -1°29'43
			min. Earth dist.	5337 Dec 14 15:41	24°II17'02 28.80324 AU
conjunction	5331 May 29 00:29	9°II35'04 -1°23'15	direct	5338 Mar 03 02:59	22°II52'07
minimum elong	5331 May 29 00:29	9°II35'04 1°23'16	evening set	5338 May 28 22:52	24°II45'42
max. Earth dist.	5331 May 29 22:16	9°II37'08 30.83143 AU			
morning rise	5331 Jun 13 19:48	10°II10'43	conjunction	5338 Jun 13 18:16	25°II21'15 -1°23'44
retrograde	5331 Sep 13 00:49	12°II09'45	minimum elong	5338 Jun 13 18:16	25°II21'15 1°23'44
opposition	5331 Dec 02 08:16	10°II44'35 -1°29'17	max. Earth dist.	5338 Jun 14 15:37	25°II23'15 30.80075 AU
min. Earth dist.	5331 Dec 01 12:29	10°II45'58 28.83088 AU	morning rise	5338 Jun 29 16:40	25°II57'05
direct	5332 Feb 18 04:51	9°II21'19	retrograde	5338 Sep 28 21:24	27°II56'00
evening set	5332 May 14 20:37	11°II14'51	opposition	5338 Dec 17 22:59	26°II30'38 -1°29'19
			min. Earth dist.	5338 Dec 17 03:31	26°II32'00 28.80031 AU
conjunction	5332 May 30 13:12	11°II50'13 -1°23'42	direct	5339 Mar 05 15:40	25°II07'02
minimum elong	5332 May 30 13:12	11°II50'13 1°23'43	evening set	5339 May 31 11:28	27°II00'38
max. Earth dist.	5332 May 31 10:15	11°II52'13 30.82847 AU			
morning rise	5332 Jun 15 09:00	12°II25'54	conjunction	5339 Jun 16 07:13	27°II36'11 -1°23'17
retrograde	5332 Sep 14 15:18	14°II24'58	minimum elong	5339 Jun 16 07:13	27°II36'11 1°23'18
opposition	5332 Dec 03 20:53	12°II59'49 -1°29'42	max. Earth dist.	5339 Jun 17 03:38	27°II38'07 30.79861 AU
min. Earth dist.	5332 Dec 03 00:29	13°II01'14 28.82749 AU	morning rise	5339 Jul 02 06:12	28°II12'03
direct	5333 Feb 19 16:07	11°II36'31		5339 Sep 05 15:25	0°☾
evening set	5333 May 17 08:54	13°II30'05	retrograde	5339 Oct 01 12:24	0°☾10'55
				5339 Oct 27 12:52	30°RII
conjunction	5333 Jun 02 01:52	14°II05'29 -1°24'01	opposition	5339 Dec 20 10:56	28°II45'33 -1°28'46
minimum elong	5333 Jun 02 01:52	14°II05'29 1°24'03	min. Earth dist.	5339 Dec 19 15:17	28°II46'56 28.79896 AU
max. Earth dist.	5333 Jun 02 22:49	14°II07'28 30.82448 AU	direct	5340 Mar 07 03:33	27°II21'55
morning rise	5333 Jun 17 22:07	14°II41'12	evening set	5340 Jun 01 23:59	29°II15'32
retrograde	5333 Sep 17 02:42	16°II40'17			
opposition	5333 Dec 06 09:37	15°II15'06 -1°29'58	conjunction	5340 Jun 17 20:17	29°II51'08 -1°22'43
min. Earth dist.	5333 Dec 05 14:22	15°II16'27 28.82304 AU	minimum elong	5340 Jun 17 20:17	29°II51'08 1°22'44
direct	5334 Feb 22 03:27	13°II51'47	max. Earth dist.	5340 Jun 18 17:42	29°II53'09 30.79794 AU
evening set	5334 May 19 21:16	15°II45'21		5340 Jun 21 18:18	0°☾
			morning rise	5340 Jul 03 19:36	0°☾27'01
conjunction	5334 Jun 04 14:47	16°II20'47 -1°24'13	retrograde	5340 Oct 03 01:14	2°☾25'50
minimum elong	5334 Jun 04 14:47	16°II20'47 1°24'14	opposition	5340 Dec 21 23:01	1°☾00'29 -1°28'06
max. Earth dist.	5334 Jun 05 11:46	16°II22'46 30.81971 AU	min. Earth dist.	5340 Dec 21 03:47	1°☾01'50 28.79901 AU
morning rise	5334 Jun 20 11:26	16°II56'31		5341 Jan 31 00:49	30°RII
retrograde	5334 Sep 19 16:14	18°II55'35	direct	5341 Mar 09 16:06	29°II36'51
opposition	5334 Dec 08 21:58	17°II30'23 -1°30'06		5341 Apr 15 09:45	0°☾
min. Earth dist.	5334 Dec 08 01:59	17°II31'46 28.81787 AU	evening set	5341 Jun 04 12:27	1°☾30'29
direct	5335 Feb 24 15:17	16°II07'00			
evening set	5335 May 22 09:46	18°II00'35	conjunction	5341 Jun 20 09:13	2°☾06'06 -1°22'01
			minimum elong	5341 Jun 20 09:13	2°☾06'06 1°22'03
conjunction	5335 Jun 07 03:39	18°II36'02 -1°24'17	max. Earth dist.	5341 Jun 21 06:08	2°☾08'05 30.79883 AU
minimum elong	5335 Jun 07 03:39	18°II36'02 1°24'19	morning rise	5341 Jul 06 09:03	2°☾42'01
max. Earth dist.	5335 Jun 07 23:53	18°II37'56 30.81430 AU	retrograde	5341 Oct 05 15:12	4°☾40'49
morning rise	5335 Jun 23 00:52	19°II11'48	opposition	5341 Dec 24 11:01	3°☾15'30 -1°27'17

min. Earth dist.	5341 Dec 23 15:00	3°☾16'54	28.80051 AU	morning rise	5348 Jul 22 10:36	18°☾28'46	
direct	5342 Mar 12 03:49	1°☾51'50		retrograde	5348 Oct 21 10:43	20°☾27'04	
evening set	5342 Jun 07 01:14	3°☾45'31		opposition	5349 Jan 08 21:55	19°☾01'54	-1°17'56
				min. Earth dist.	5349 Jan 08 05:29	19°☾03'04	28.81145 AU
conjunction	5342 Jun 22 22:27	4°☾21'10	-1°21'12	direct	5349 Mar 27 13:16	17°☾38'01	
minimum elong	5342 Jun 22 22:27	4°☾21'10	1°21'13	evening set	5349 Jun 22 20:48	19°☾31'52	
max. Earth dist.	5342 Jun 23 19:30	4°☾23'09	30.80081 AU				
morning rise	5342 Jul 08 22:43	4°☾57'07		conjunction	5349 Jul 08 21:22	20°☾07'42	-1°12'03
retrograde	5342 Oct 08 02:42	6°☾55'52		minimum elong	5349 Jul 08 21:22	20°☾07'42	1°12'04
opposition	5342 Dec 26 22:58	5°☾30'35	-1°26'20	max. Earth dist.	5349 Jul 09 15:28	20°☾09'24	30.81114 AU
min. Earth dist.	5342 Dec 26 04:07	5°☾31'55	28.80291 AU	morning rise	5349 Jul 25 00:25	20°☾43'46	
direct	5343 Mar 14 14:35	4°☾06'57		retrograde	5349 Oct 23 23:04	22°☾41'59	
evening set	5343 Jun 09 14:06	6°☾00'40		opposition	5350 Jan 11 09:32	21°☾16'49	-1°16'06
				min. Earth dist.	5350 Jan 10 17:56	21°☾17'55	28.81227 AU
conjunction	5343 Jun 25 11:52	6°☾36'20	-1°20'15	direct	5350 Mar 30 02:18	19°☾52'52	
minimum elong	5343 Jun 25 11:52	6°☾36'20	1°20'16	evening set	5350 Jun 25 10:03	21°☾46'44	
max. Earth dist.	5343 Jun 26 08:49	6°☾38'19	30.80356 AU				
morning rise	5343 Jul 11 12:31	7°☾12'19		conjunction	5350 Jul 11 11:01	22°☾22'35	-1°10'17
retrograde	5343 Oct 10 16:54	9°☾11'01		minimum elong	5350 Jul 11 11:01	22°☾22'35	1°10'19
opposition	5343 Dec 29 10:50	7°☾45'48	-1°25'15	max. Earth dist.	5350 Jul 12 04:05	22°☾24'11	30.81251 AU
min. Earth dist.	5343 Dec 28 15:23	7°☾47'10	28.80568 AU	morning rise	5350 Jul 27 14:33	22°☾58'41	
direct	5344 Mar 16 01:59	6°☾22'09		retrograde	5350 Oct 26 12:57	24°☾56'46	
evening set	5344 Jun 11 03:09	8°☾15'55		opposition	5351 Jan 13 20:49	23°☾31'37	-1°14'10
				min. Earth dist.	5351 Jan 13 04:49	23°☾32'45	28.81413 AU
conjunction	5344 Jun 27 01:13	8°☾51'37	-1°19'10	direct	5351 Apr 01 14:28	22°☾07'37	
minimum elong	5344 Jun 27 01:13	8°☾51'37	1°19'11	evening set	5351 Jun 27 23:17	24°☾01'31	
max. Earth dist.	5344 Jun 27 21:16	8°☾53'31	30.80618 AU				
morning rise	5344 Jul 13 02:21	9°☾27'37		conjunction	5351 Jul 14 00:42	24°☾37'24	-1°08'26
retrograde	5344 Oct 12 05:01	11°☾26'17		minimum elong	5351 Jul 14 00:42	24°☾37'24	1°08'27
opposition	5344 Dec 30 22:52	10°☾01'06	-1°24'02	max. Earth dist.	5351 Jul 14 17:45	24°☾39'00	30.81487 AU
min. Earth dist.	5344 Dec 30 04:55	10°☾02'22	28.80815 AU	morning rise	5351 Jul 30 04:32	25°☾13'30	
direct	5345 Mar 18 12:00	8°☾37'26		retrograde	5351 Oct 29 00:41	27°☾11'30	
evening set	5345 Jun 13 16:12	10°☾31'14		opposition	5352 Jan 16 08:17	25°☾46'22	-1°12'07
				min. Earth dist.	5352 Jan 15 17:25	25°☾47'25	28.81717 AU
conjunction	5345 Jun 29 14:54	11°☾06'58	-1°17'59	direct	5352 Apr 03 01:43	24°☾22'20	
minimum elong	5345 Jun 29 14:55	11°☾06'58	1°18'00	evening set	5352 Jun 29 12:23	26°☾16'16	
max. Earth dist.	5345 Jun 30 11:09	11°☾08'52	30.80837 AU				
morning rise	5345 Jul 15 16:19	11°☾42'59		conjunction	5352 Jul 15 14:16	26°☾52'10	-1°06'28
retrograde	5345 Oct 14 17:48	13°☾41'35		minimum elong	5352 Jul 15 14:16	26°☾52'10	1°06'29
opposition	5346 Jan 02 10:43	12°☾16'26	-1°22'41	max. Earth dist.	5352 Jul 16 07:07	26°☾53'45	30.81871 AU
min. Earth dist.	5346 Jan 01 16:32	12°☾17'43	28.80985 AU	morning rise	5352 Jul 31 18:24	27°☾28'17	
direct	5346 Mar 21 01:13	10°☾52'43		retrograde	5352 Oct 30 14:47	29°☾26'11	
evening set	5346 Jun 16 05:26	12°☾46'33		opposition	5353 Jan 17 19:34	28°☾01'07	-1°09'57
				min. Earth dist.	5353 Jan 17 03:54	28°☾02'13	28.82167 AU
conjunction	5346 Jul 02 04:28	13°☾22'18	-1°16'40	direct	5353 Apr 05 13:18	26°☾37'04	
minimum elong	5346 Jul 02 04:28	13°☾22'18	1°16'41	evening set	5353 Jul 02 01:43	28°☾31'02	
max. Earth dist.	5346 Jul 02 22:59	13°☾24'03	30.80968 AU				
morning rise	5346 Jul 18 06:29	13°☾58'20		conjunction	5353 Jul 18 03:54	29°☾06'57	-1°04'23
retrograde	5346 Oct 17 07:33	15°☾56'52		minimum elong	5353 Jul 18 03:55	29°☾06'57	1°04'24
opposition	5347 Jan 04 22:39	14°☾31'42	-1°21'13	max. Earth dist.	5353 Jul 18 20:07	29°☾08'29	30.82395 AU
min. Earth dist.	5347 Jan 04 05:34	14°☾32'54	28.81077 AU	morning rise	5353 Aug 03 08:28	29°☾43'06	
direct	5347 Mar 23 12:15	13°☾07'56			5353 Aug 11 04:40	0°♂	
evening set	5347 Jun 18 18:35	15°☾01'47		retrograde	5353 Nov 02 01:55	1°♂40'55	
				opposition	5354 Jan 20 06:56	0°♂15'54	-1°07'41
conjunction	5347 Jul 04 18:16	15°☾37'34	-1°15'14	min. Earth dist.	5354 Jan 19 16:32	0°♂16'55	28.82766 AU
minimum elong	5347 Jul 04 18:16	15°☾37'34	1°15'15		5354 Jan 29 17:14	30°♂☾	
max. Earth dist.	5347 Jul 05 13:14	15°☾39'21	30.81026 AU	direct	5354 Apr 07 23:03	28°☾51'51	
morning rise	5347 Jul 20 20:30	16°☾13'36			5354 Jun 12 08:58	0°♂	
retrograde	5347 Oct 19 19:56	18°☾12'02		evening set	5354 Jul 04 14:58	0°♂45'53	
opposition	5348 Jan 07 10:16	16°☾46'52	-1°19'38				
min. Earth dist.	5348 Jan 06 17:31	16°☾48'03	28.81104 AU	conjunction	5354 Jul 20 17:45	1°♂21'49	-1°02'13
direct	5348 Mar 25 01:01	15°☾23'03		minimum elong	5354 Jul 20 17:46	1°♂21'49	1°02'14
evening set	5348 Jun 20 07:49	17°☾16'54		max. Earth dist.	5354 Jul 21 10:20	1°♂23'22	30.83066 AU
				morning rise	5354 Aug 05 22:33	1°♂57'58	
conjunction	5348 Jul 06 07:49	17°☾52'42	-1°13'42	retrograde	5354 Nov 04 14:02	3°♂55'42	
minimum elong	5348 Jul 06 07:49	17°☾52'42	1°13'43	opposition	5355 Jan 22 18:08	2°♂30'47	-1°05'19
max. Earth dist.	5348 Jul 07 01:16	17°☾54'20	30.81059 AU	min. Earth dist.	5355 Jan 22 03:24	2°♂31'49	28.83475 AU

direct	5355 Apr 10 11:31	1°06'44"	conjunction	5361 Aug 05 19:44	17°07'19" -0°44'33"
evening set	5355 Jul 07 04:32	3°00'51"	minimum elong	5361 Aug 05 19:45	17°07'19" 0°44'34"
			max. Earth dist.	5361 Aug 06 06:03	17°08'17" 30.87484 AU
conjunction	5355 Jul 23 07:32	3°03'48" -0°59'57"	morning rise	5361 Aug 22 02:21	17°04'30"
minimum elong	5355 Jul 23 07:32	3°03'48" 0°59'57"	retrograde	5361 Nov 20 09:53	19°04'25"
max. Earth dist.	5355 Jul 23 22:35	3°03'13" 30.83817 AU	opposition	5362 Feb 07 00:08	18°01'54" -0°46'08"
morning rise	5355 Aug 08 12:45	4°01'25"	min. Earth dist.	5362 Feb 06 14:37	18°01'29" 28.87725 AU
retrograde	5355 Nov 07 03:04	6°01'03"	direct	5362 Apr 26 00:32	16°05'13"
opposition	5356 Jan 25 05:22	4°04'54" -1°02'50"	evening set	5362 Jul 23 04:13	18°04'51"
min. Earth dist.	5356 Jan 24 15:44	4°04'46" 28.84255 AU			
direct	5356 Apr 11 21:11	3°02'14"	conjunction	5362 Aug 08 09:42	19°02'15" -0°41'45"
evening set	5356 Jul 08 18:01	5°01'55"	minimum elong	5362 Aug 08 09:42	19°02'15" 0°41'46"
			max. Earth dist.	5362 Aug 08 19:02	19°02'24" 30.87934 AU
conjunction	5356 Jul 24 21:34	5°05'15" -0°57'35"	morning rise	5362 Aug 24 16:32	19°05'05"
minimum elong	5356 Jul 24 21:34	5°05'15" 0°57'36"	retrograde	5362 Nov 22 20:30	21°05'45"
max. Earth dist.	5356 Jul 25 13:00	5°05'22" 30.84604 AU	opposition	5363 Feb 09 11:05	20°03'01" -0°43'05"
morning rise	5356 Aug 10 02:53	6°02'05"	min. Earth dist.	5363 Feb 09 03:11	20°03'04" 28.88202 AU
retrograde	5356 Nov 08 15:24	8°02'54"	direct	5363 Apr 28 11:20	19°05'52"
opposition	5357 Jan 26 16:36	7°00'55" -1°00'15"	evening set	5363 Jul 25 17:46	21°00'13"
min. Earth dist.	5357 Jan 26 03:28	7°01'51" 28.85023 AU			
direct	5357 Apr 14 09:06	5°03'53"	conjunction	5363 Aug 10 23:37	21°03'16" -0°38'52"
evening set	5357 Jul 11 07:40	7°03'10"	minimum elong	5363 Aug 10 23:37	21°03'16" 0°38'52"
			max. Earth dist.	5363 Aug 11 08:59	21°03'08" 30.88448 AU
conjunction	5357 Jul 27 11:27	8°07'08" -0°55'08"	morning rise	5363 Aug 27 06:30	22°01'26"
minimum elong	5357 Jul 27 11:27	8°07'08" 0°55'08"	retrograde	5363 Nov 25 08:05	24°09'02"
max. Earth dist.	5357 Jul 28 00:55	8°08'23" 30.85353 AU	opposition	5364 Feb 11 21:45	22°04'28" -0°39'59"
morning rise	5357 Aug 12 17:13	8°04'31"	min. Earth dist.	5364 Feb 11 13:35	22°04'50" 28.88750 AU
retrograde	5357 Nov 11 05:52	10°04'08"	direct	5364 Apr 29 23:55	21°02'00"
opposition	5358 Jan 29 03:54	9°01'67" -0°57'35"	evening set	5364 Jul 27 07:25	23°01'42"
min. Earth dist.	5358 Jan 28 15:31	9°01'59" 28.85732 AU			
direct	5358 Apr 16 21:27	7°05'20"	conjunction	5364 Aug 12 13:22	23°05'27" -0°35'57"
evening set	5358 Jul 13 21:26	9°04'21"	minimum elong	5364 Aug 12 13:22	23°05'27" 0°35'58"
			max. Earth dist.	5364 Aug 12 21:16	23°05'11" 30.89052 AU
conjunction	5358 Jul 30 01:42	10°02'22" -0°52'36"	morning rise	5364 Aug 28 20:31	24°02'37"
minimum elong	5358 Jul 30 01:42	10°02'22" 0°52'37"	retrograde	5364 Nov 26 20:00	26°02'30"
max. Earth dist.	5358 Jul 30 15:10	10°02'37" 30.86006 AU	opposition	5365 Feb 13 08:34	24°05'32" -0°36'49"
morning rise	5358 Aug 15 07:35	10°05'32"	min. Earth dist.	5365 Feb 13 01:19	24°05'03" 28.89425 AU
retrograde	5358 Nov 13 17:48	12°05'55"	direct	5365 May 02 09:33	23°03'40"
opposition	5359 Jan 31 15:04	11°03'11" -0°54'50"	evening set	5365 Jul 29 20:49	25°02'27"
min. Earth dist.	5359 Jan 31 04:05	11°03'20" 28.86326 AU			
direct	5359 Apr 19 10:30	10°07'10"	conjunction	5365 Aug 15 03:12	26°04'31" -0°32'58"
evening set	5359 Jul 16 11:15	12°01'30"	minimum elong	5365 Aug 15 03:12	26°04'31" 0°32'58"
			max. Earth dist.	5365 Aug 15 11:37	26°05'17" 30.89791 AU
conjunction	5359 Aug 01 15:48	12°03'37" -0°49'59"	morning rise	5365 Aug 31 10:19	26°04'40"
minimum elong	5359 Aug 01 15:48	12°03'37" 0°50'00"	retrograde	5365 Nov 29 06:42	28°03'59"
max. Earth dist.	5359 Aug 02 03:27	12°03'36" 30.86563 AU	opposition	5366 Feb 15 19:15	27°01'23" -0°33'36"
morning rise	5359 Aug 17 22:02	13°01'34"	min. Earth dist.	5366 Feb 15 12:13	27°01'30" 28.90218 AU
	5359 Oct 21 15:41	15°01'	direct	5366 May 04 21:44	25°04'00"
retrograde	5359 Nov 16 07:57	15°01'05"	evening set	5366 Aug 01 10:33	27°04'27"
	5359 Dec 12 03:55	15°01'			
opposition	5360 Feb 03 02:11	13°04'18" -0°52'00"	conjunction	5366 Aug 17 17:00	28°01'30" -0°29'56"
min. Earth dist.	5360 Feb 02 15:18	13°04'04" 28.86835 AU	minimum elong	5366 Aug 17 17:00	28°01'30" 0°29'57"
direct	5360 Apr 20 23:01	12°02'20"	max. Earth dist.	5366 Aug 17 23:42	28°01'07" 30.90659 AU
evening set	5360 Jul 18 00:50	14°01'29"	morning rise	5366 Sep 03 00:22	28°05'39"
				5366 Oct 06 05:16	0°01'
conjunction	5360 Aug 03 05:44	14°05'23" -0°47'18"	retrograde	5366 Dec 01 19:26	0°01'50"
minimum elong	5360 Aug 03 05:44	14°05'23" 0°47'20"		5367 Jan 28 21:59	30°01'
max. Earth dist.	5360 Aug 03 16:58	14°05'34" 30.87034 AU	opposition	5367 Feb 18 05:49	29°02'27" -0°30'20"
	5360 Aug 06 13:51	15°01'	min. Earth dist.	5367 Feb 17 23:12	29°02'55" 28.91148 AU
morning rise	5360 Aug 19 12:06	15°02'48"	direct	5367 May 07 08:56	28°01'56"
retrograde	5360 Nov 17 20:12	17°02'54"	evening set	5367 Aug 04 00:11	29°05'27"
opposition	5361 Feb 04 13:21	16°01'10" -0°49'06"		5367 Aug 05 15:15	0°01'
min. Earth dist.	5361 Feb 04 04:05	16°01'49" 28.87282 AU			
	5361 Mar 16 20:37	15°01'	conjunction	5367 Aug 20 06:58	0°01'32" -0°26'51"
direct	5361 Apr 23 11:29	14°03'57"	minimum elong	5367 Aug 20 06:58	0°01'32" 0°26'51"
	5361 May 30 11:42	15°01'	max. Earth dist.	5367 Aug 20 14:08	0°01'33" 30.91637 AU
evening set	5361 Jul 20 14:29	16°03'11"	morning rise	5367 Sep 05 14:14	1°01'08"

retrograde	5367 Dec 04 06:39	3° \mathring{M} 04'45	opposition	5374 Mar 05 08:01	15° \mathring{M} 04'51	-0°06'31
opposition	5368 Feb 20 16:32	1° \mathring{M} 40'27 -0°27'02	min. Earth dist.	5374 Mar 05 07:48	15° \mathring{M} 04'51	28.97348 AU
min. Earth dist.	5368 Feb 20 11:03	1° \mathring{M} 40'50 28.92159 AU	direct	5374 May 22 19:49	13° \mathring{M} 40'13	
direct	5368 May 08 20:54	0° \mathring{M} 15'57	evening set	5374 Aug 20 00:33	15° \mathring{M} 35'04	
evening set	5368 Aug 05 13:48	2° \mathring{M} 10'32				
conjunction	5368 Aug 21 20:38	2° \mathring{M} 46'36 -0°23'44	conjunction	5374 Sep 05 08:07	16° \mathring{M} 11'08	-0°04'33
minimum elong	5368 Aug 21 20:38	2° \mathring{M} 46'36 0°23'45	minimum elong	5374 Sep 05 08:06	16° \mathring{M} 11'08	0°04'34
max. Earth dist.	5368 Aug 22 02:15	2° \mathring{M} 47'07 30.92683 AU	behind sun begin	5374 Sep 05 01:39	16° \mathring{M} 10'33	
morning rise	5368 Sep 07 04:05	3° \mathring{M} 22'45	behind sun end	5374 Sep 05 14:34	16° \mathring{M} 11'42	
retrograde	5368 Dec 05 20:32	5° \mathring{M} 18'45	max. Earth dist.	5374 Sep 05 08:20	16° \mathring{M} 11'08	30.97683 AU
opposition	5369 Feb 22 03:08	3° \mathring{M} 54'32 -0°23'40	morning rise	5374 Sep 21 15:13	16° \mathring{M} 47'11	
min. Earth dist.	5369 Feb 21 21:40	3° \mathring{M} 54'55 28.93208 AU	retrograde	5374 Dec 19 18:17	18° \mathring{M} 42'22	
direct	5369 May 11 08:49	2° \mathring{M} 30'03	opposition	5375 Mar 07 18:18	17° \mathring{M} 18'29	-0°03'04
evening set	5369 Aug 08 03:37	4° \mathring{M} 24'43	min. Earth dist.	5375 Mar 07 18:39	17° \mathring{M} 18'28	28.98021 AU
			direct	5375 May 25 08:29	15° \mathring{M} 53'48	
			evening set	5375 Aug 22 14:15	17° \mathring{M} 48'41	
conjunction	5369 Aug 24 10:39	5° \mathring{M} 00'47 -0°20'35				
minimum elong	5369 Aug 24 10:39	5° \mathring{M} 00'47 0°20'35	conjunction	5375 Sep 07 21:37	18° \mathring{M} 24'43	-0°01'17
max. Earth dist.	5369 Aug 24 15:51	5° \mathring{M} 01'16 30.93711 AU	minimum elong	5375 Sep 07 21:39	18° \mathring{M} 24'43	0°01'16
morning rise	5369 Sep 09 18:02	5° \mathring{M} 36'55	behind sun begin	5375 Sep 07 15:03	18° \mathring{M} 24'08	
retrograde	5369 Dec 08 08:50	7° \mathring{M} 32'49	behind sun end	5375 Sep 08 04:15	18° \mathring{M} 25'18	
opposition	5370 Feb 24 13:47	6° \mathring{M} 08'41 -0°20'17	max. Earth dist.	5375 Sep 07 20:00	18° \mathring{M} 24'38	30.98379 AU
min. Earth dist.	5370 Feb 24 10:11	6° \mathring{M} 08'56 28.94211 AU	morning rise	5375 Sep 24 04:49	19° \mathring{M} 00'44	
direct	5370 May 13 21:02	4° \mathring{M} 44'13	retrograde	5375 Dec 22 05:28	20° \mathring{M} 55'47	
evening set	5370 Aug 10 17:32	6° \mathring{M} 38'57	asc. node	5376 Jan 26 12:48	20° \mathring{M} 35'33	
			opposition	5376 Mar 09 04:39	19° \mathring{M} 31'55	0°00'24
conjunction	5370 Aug 27 00:42	7° \mathring{M} 15'01 -0°17'24	min. Earth dist.	5376 Mar 09 05:25	19° \mathring{M} 31'52	28.98752 AU
minimum elong	5370 Aug 27 00:42	7° \mathring{M} 15'01 0°17'25	direct	5376 May 26 19:21	18° \mathring{M} 07'10	
max. Earth dist.	5370 Aug 27 04:28	7° \mathring{M} 15'22 30.94678 AU	evening set	5376 Aug 24 03:33	20° \mathring{M} 02'04	
morning rise	5370 Sep 12 08:07	7° \mathring{M} 51'08				
retrograde	5370 Dec 10 22:28	9° \mathring{M} 46'55	conjunction	5376 Sep 09 11:06	20° \mathring{M} 38'06	0°02'04
opposition	5371 Feb 27 00:22	8° \mathring{M} 22'52 -0°16'52	minimum elong	5376 Sep 09 11:05	20° \mathring{M} 38'06	0°02'03
min. Earth dist.	5371 Feb 26 20:45	8° \mathring{M} 23'07 28.95122 AU	behind sun begin	5376 Sep 09 04:29	20° \mathring{M} 37'31	
direct	5371 May 16 10:18	6° \mathring{M} 58'22	behind sun end	5376 Sep 09 17:41	20° \mathring{M} 38'41	
evening set	5371 Aug 13 07:24	8° \mathring{M} 53'10	max. Earth dist.	5376 Sep 09 09:59	20° \mathring{M} 38'03	30.99141 AU
			morning rise	5376 Sep 25 17:57	21° \mathring{M} 14'06	
conjunction	5371 Aug 29 14:35	9° \mathring{M} 29'14 -0°14'12	retrograde	5376 Dec 23 15:23	23° \mathring{M} 08'59	
minimum elong	5371 Aug 29 14:35	9° \mathring{M} 29'14 0°14'12	opposition	5377 Mar 11 15:01	21° \mathring{M} 45'10	0°03'52
behind sun begin	5371 Aug 29 11:37	9° \mathring{M} 28'58	min. Earth dist.	5377 Mar 11 16:50	21° \mathring{M} 45'02	28.99560 AU
behind sun end	5371 Aug 29 17:33	9° \mathring{M} 29'30	direct	5377 May 29 06:45	20° \mathring{M} 20'22	
max. Earth dist.	5371 Aug 29 17:05	9° \mathring{M} 29'27 30.95531 AU	evening set	5377 Aug 26 17:06	22° \mathring{M} 15'18	
morning rise	5371 Sep 14 21:58	10° \mathring{M} 05'20				
retrograde	5371 Dec 13 09:23	12° \mathring{M} 00'59	conjunction	5377 Sep 12 00:30	22° \mathring{M} 51'18	0°05'18
opposition	5372 Feb 29 11:04	10° \mathring{M} 37'00 -0°13'26	minimum elong	5377 Sep 12 00:29	22° \mathring{M} 51'18	0°05'18
min. Earth dist.	5372 Feb 29 09:21	10° \mathring{M} 37'07 28.95932 AU	behind sun begin	5377 Sep 11 18:07	22° \mathring{M} 50'44	
direct	5372 May 17 21:15	9° \mathring{M} 12'28	behind sun end	5377 Sep 12 06:52	22° \mathring{M} 51'52	
evening set	5372 Aug 14 21:08	11° \mathring{M} 07'17	max. Earth dist.	5377 Sep 11 21:55	22° \mathring{M} 51'06	31.00014 AU
			morning rise	5377 Sep 28 07:22	23° \mathring{M} 27'16	
conjunction	5372 Aug 31 04:32	11° \mathring{M} 43'22 -0°11'00	retrograde	5377 Dec 26 03:40	25° \mathring{M} 22'01	
minimum elong	5372 Aug 31 04:31	11° \mathring{M} 43'22 0°11'00	opposition	5378 Mar 14 01:07	23° \mathring{M} 58'15	0°07'19
behind sun begin	5372 Aug 30 23:38	11° \mathring{M} 42'55	min. Earth dist.	5378 Mar 14 02:38	23° \mathring{M} 58'08	29.00500 AU
behind sun end	5372 Aug 31 09:25	11° \mathring{M} 43'48	direct	5378 May 31 18:35	22° \mathring{M} 33'25	
max. Earth dist.	5372 Aug 31 06:30	11° \mathring{M} 43'32 30.96304 AU	evening set	5378 Aug 29 06:33	24° \mathring{M} 28'23	
morning rise	5372 Sep 16 11:48	12° \mathring{M} 19'27				
retrograde	5372 Dec 14 21:24	14° \mathring{M} 14'56	conjunction	5378 Sep 14 13:59	25° \mathring{M} 04'22	0°08'31
opposition	5373 Mar 02 21:30	12° \mathring{M} 51'00 -0°09'59	minimum elong	5378 Sep 14 13:59	25° \mathring{M} 04'22	0°08'30
min. Earth dist.	5373 Mar 02 19:57	12° \mathring{M} 51'07 28.96660 AU	behind sun begin	5378 Sep 14 08:15	25° \mathring{M} 03'52	
direct	5373 May 20 10:01	11° \mathring{M} 26'26	behind sun end	5378 Sep 14 19:43	25° \mathring{M} 04'53	
evening set	5373 Aug 17 10:54	13° \mathring{M} 21'16	max. Earth dist.	5378 Sep 14 11:29	25° \mathring{M} 04'10	31.01012 AU
			morning rise	5378 Sep 30 20:33	25° \mathring{M} 40'19	
conjunction	5373 Sep 02 18:15	13° \mathring{M} 57'20 -0°07'47	retrograde	5378 Dec 28 14:41	27° \mathring{M} 34'57	
minimum elong	5373 Sep 02 18:15	13° \mathring{M} 57'20 0°07'46	opposition	5379 Mar 16 11:29	26° \mathring{M} 11'14	0°10'45
behind sun begin	5373 Sep 02 12:19	13° \mathring{M} 56'49	min. Earth dist.	5379 Mar 16 14:20	26° \mathring{M} 11'02	29.01568 AU
behind sun end	5373 Sep 03 00:11	13° \mathring{M} 57'52	direct	5379 Jun 03 07:06	24° \mathring{M} 46'24	
max. Earth dist.	5373 Sep 02 18:24	13° \mathring{M} 57'21 30.97006 AU	evening set	5379 Aug 31 19:54	26° \mathring{M} 41'24	
morning rise	5373 Sep 19 01:36	14° \mathring{M} 33'24				
retrograde	5373 Dec 17 08:54	16° \mathring{M} 28'45	conjunction	5379 Sep 17 03:13	27° \mathring{M} 17'23	0°11'43



















































































































minimum elong	5379 Sep 17 03:12	27° 17 '23	0°11'43	minimum elong	5385 Sep 30 11:09	10° 35 '16	0°30'26
behind sun begin	5379 Sep 16 22:38	27° 16 '58		max. Earth dist.	5385 Sep 30 02:48	10° 34 '30	31.08893 AU
behind sun end	5379 Sep 17 07:46	27° 17 '47		morning rise	5385 Oct 16 15:50	11° 11 '01	
max. Earth dist.	5379 Sep 16 23:50	27° 17 '05	31.02151 AU	retrograde	5386 Jan 12 20:20	13° 04 '51	
morning rise	5379 Oct 03 09:38	27° 15 '17		opposition	5386 Mar 31 11:21	11° 41 '40	0°34'05
retrograde	5379 Dec 31 03:09	29° 14 '49		min. Earth dist.	5386 Mar 31 19:44	11° 41 '04	29.09329 AU
opposition	5380 Mar 17 21:40	28° 14 '11	0°14'11	direct	5386 Jun 18 16:49	10° 16 '48	
min. Earth dist.	5380 Mar 18 00:00	28° 14 '01	29.02755 AU	evening set	5386 Sep 16 18:09	12° 12 '07	
direct	5380 Jun 04 20:17	26° 15 '21					
evening set	5380 Sep 02 09:21	28° 15 '46		conjunction	5386 Oct 03 00:15	12° 47 '56	0°33'24
				minimum elong	5386 Oct 03 00:15	12° 47 '56	0°33'24
conjunction	5380 Sep 18 16:31	29° 13 '23	0°14'54	max. Earth dist.	5386 Oct 02 14:04	12° 47 '00	31.09732 AU
minimum elong	5380 Sep 18 16:31	29° 13 '23	0°14'54	morning rise	5386 Oct 19 04:45	13° 23 '39	
behind sun begin	5380 Sep 18 14:16	29° 13 '11		retrograde	5387 Jan 15 07:46	15° 17 '21	
behind sun end	5380 Sep 18 18:46	29° 13 '35		opposition	5387 Apr 02 21:33	13° 54 '12	0°37'15
max. Earth dist.	5380 Sep 18 12:27	29° 13 '01	31.03376 AU	min. Earth dist.	5387 Apr 03 05:52	13° 53 '37	29.10147 AU
	5380 Oct 02 01:32	0° 06 '16		direct	5387 Jun 21 04:51	12° 29 '18	
morning rise	5380 Oct 04 22:42	0° 06 '16		evening set	5387 Sep 19 07:14	14° 24 '38	
retrograde	5381 Jan 01 14:26	2° 00 '41					
opposition	5381 Mar 20 07:54	0° 37 '09	0°17'35	conjunction	5387 Oct 05 13:10	15° 00 '26	0°36'20
min. Earth dist.	5381 Mar 20 11:54	0° 36 '52	29.04014 AU	minimum elong	5387 Oct 05 13:10	15° 00 '26	0°36'21
	5381 Apr 12 01:16	30° 12 '11		max. Earth dist.	5387 Oct 05 03:00	14° 59 '29	31.10525 AU
direct	5381 Jun 07 06:52	29° 12 '21		morning rise	5387 Oct 21 17:11	15° 36 '05	
	5381 Aug 01 04:08	0° 07 '29		retrograde	5388 Jan 17 17:43	17° 29 '41	
evening set	5381 Sep 04 22:45	1° 07 '29		opposition	5388 Apr 04 07:50	16° 06 '34	0°40'21
				min. Earth dist.	5388 Apr 04 17:41	16° 05 '52	29.10945 AU
conjunction	5381 Sep 21 05:55	1° 43 '25	0°18'04	direct	5388 Jun 22 17:11	14° 41 '38	
minimum elong	5381 Sep 21 05:55	1° 43 '25	0°18'05	evening set	5388 Sep 20 20:20	16° 36 '59	
max. Earth dist.	5381 Sep 21 01:29	1° 43 '01	31.04641 AU				
morning rise	5381 Oct 07 11:50	2° 19 '17		conjunction	5388 Oct 07 01:58	17° 12 '45	0°39'12
retrograde	5382 Jan 04 02:52	4° 13 '35		minimum elong	5388 Oct 07 01:58	17° 12 '45	0°39'12
opposition	5382 Mar 22 18:08	2° 50 '09	0°20'58	max. Earth dist.	5388 Oct 06 14:47	17° 11 '43	31.11339 AU
min. Earth dist.	5382 Mar 22 22:18	2° 49 '52	29.05254 AU	morning rise	5388 Oct 23 05:43	17° 48 '22	
direct	5382 Jun 09 20:04	1° 25 '22		retrograde	5389 Jan 19 05:18	19° 41 '51	
evening set	5382 Sep 07 12:25	3° 20 '33		opposition	5389 Apr 06 17:50	18° 18 '46	0°43'23
				min. Earth dist.	5389 Apr 07 03:14	18° 18 '06	29.11779 AU
conjunction	5382 Sep 23 19:16	3° 56 '29	0°21'13	direct	5389 Jun 25 06:21	16° 53 '47	
minimum elong	5382 Sep 23 19:16	3° 56 '29	0°21'13	evening set	5389 Sep 23 09:24	18° 49 '10	
max. Earth dist.	5382 Sep 23 13:04	3° 55 '55	31.05845 AU				
morning rise	5382 Oct 10 00:59	4° 32 '19		conjunction	5389 Oct 09 14:45	19° 24 '55	0°42'01
retrograde	5383 Jan 06 14:14	6° 26 '31		minimum elong	5389 Oct 09 14:45	19° 24 '55	0°42'02
opposition	5383 Mar 25 04:27	5° 03 '09	0°24'19	max. Earth dist.	5389 Oct 09 03:01	19° 23 '50	31.12197 AU
min. Earth dist.	5383 Mar 25 09:56	5° 02 '46	29.06430 AU	morning rise	5389 Oct 25 18:06	20° 00 '30	
direct	5383 Jun 12 06:25	3° 38 '22		retrograde	5390 Jan 21 16:02	21° 53 '52	
evening set	5383 Sep 10 01:52	5° 33 '36		opposition	5390 Apr 09 04:06	20° 30 '50	0°46'21
				min. Earth dist.	5390 Apr 09 14:50	20° 30 '04	29.12691 AU
conjunction	5383 Sep 26 08:43	6° 09 '30	0°24'19	direct	5390 Jun 27 17:23	19° 05 '51	
minimum elong	5383 Sep 26 08:42	6° 09 '30	0°24'20	evening set	5390 Sep 25 22:20	21° 01 '16	
max. Earth dist.	5383 Sep 26 02:24	6° 08 '56	31.06967 AU				
morning rise	5383 Oct 12 14:00	6° 45 '19		conjunction	5390 Oct 12 03:26	21° 36 '58	0°44'46
retrograde	5384 Jan 08 23:49	8° 39 '23		minimum elong	5390 Oct 12 03:26	21° 36 '58	0°44'46
opposition	5384 Mar 26 14:49	7° 16 '06	0°27'37	max. Earth dist.	5390 Oct 11 15:43	21° 35 '54	31.13158 AU
min. Earth dist.	5384 Mar 26 21:03	7° 15 '40	29.07495 AU	morning rise	5390 Oct 28 06:20	22° 12 '31	
direct	5384 Jun 13 19:03	5° 51 '19		retrograde	5391 Jan 24 03:52	24° 05 '47	
evening set	5384 Sep 11 15:19	7° 46 '34		opposition	5391 Apr 11 14:14	22° 42 '49	0°49'15
				min. Earth dist.	5391 Apr 12 00:36	22° 42 '05	29.13701 AU
conjunction	5384 Sep 27 21:48	8° 22 '27	0°27'24	direct	5391 Jun 30 07:02	21° 17 '51	
minimum elong	5384 Sep 27 21:48	8° 22 '27	0°27'23	evening set	5391 Sep 28 11:19	23° 13 '18	
max. Earth dist.	5384 Sep 27 13:21	8° 21 '40	31.07981 AU				
morning rise	5384 Oct 14 02:58	8° 58 '13		conjunction	5391 Oct 14 15:59	23° 48 '59	0°47'27
retrograde	5385 Jan 10 10:55	10° 52 '11		minimum elong	5391 Oct 14 15:59	23° 48 '59	0°47'28
opposition	5385 Mar 29 01:07	9° 28 '57	0°30'52	max. Earth dist.	5391 Oct 14 03:10	23° 47 '48	31.14225 AU
min. Earth dist.	5385 Mar 29 08:01	9° 28 '28	29.08462 AU	morning rise	5391 Oct 30 18:32	24° 24 '30	
direct	5385 Jun 16 05:37	8° 04 '08		retrograde	5392 Jan 26 14:55	26° 17 '42	
evening set	5385 Sep 14 04:41	9° 59 '25		opposition	5392 Apr 13 00:28	24° 54 '48	0°52'05
				min. Earth dist.	5392 Apr 13 11:31	24° 54 '02	29.14836 AU
conjunction	5385 Sep 30 11:10	10° 35 '16	0°30'26	direct	5392 Jul 01 17:32	23° 29 '52	

evening set	5392 Sep 29 23:59	25° <u>♂</u> 25'22		max. Earth dist.	5398 Oct 29 13:29	9° <u>♂</u> 12'11	31.21292 AU
				morning rise	5398 Nov 15 06:17	9° <u>♂</u> 49'03	
conjunction	5392 Oct 16 04:30	26° <u>♂</u> 01'02	0°50'04	retrograde	5399 Feb 10 14:12	11° <u>♂</u> 41'44	
minimum elong	5392 Oct 16 04:29	26° <u>♂</u> 01'02	0°50'04	opposition	5399 Apr 29 00:52	10° <u>♂</u> 19'17	1°09'30
max. Earth dist.	5392 Oct 15 16:13	25° <u>♂</u> 59'54	31.15400 AU	min. Earth dist.	5399 Apr 29 16:57	10° <u>♂</u> 18'10	29.21653 AU
morning rise	5392 Nov 01 06:33	26° <u>♂</u> 36'31		direct	5399 Jul 18 01:58	8° <u>♂</u> 54'24	
retrograde	5393 Jan 28 00:10	28° <u>♂</u> 29'38		evening set	5399 Oct 16 17:21	10° <u>♂</u> 50'06	
opposition	5393 Apr 15 10:41	27° <u>♂</u> 06'51	0°54'50				
min. Earth dist.	5393 Apr 15 22:11	27° <u>♂</u> 06'03	29.16028 AU	conjunction	5399 Nov 01 19:05	11° <u>♂</u> 25'32	1°06'04
direct	5393 Jul 04 05:57	25° <u>♂</u> 41'57		minimum elong	5399 Nov 01 19:05	11° <u>♂</u> 25'32	1°06'06
evening set	5393 Oct 02 12:59	27° <u>♂</u> 37'31		max. Earth dist.	5399 Nov 01 01:27	11° <u>♂</u> 23'54	31.21885 AU
				morning rise	5399 Nov 17 17:56	12° <u>♂</u> 00'44	
conjunction	5393 Oct 18 16:59	28° <u>♂</u> 13'09	0°52'36	retrograde	5400 Feb 13 01:24	13° <u>♂</u> 53'19	
minimum elong	5393 Oct 18 16:59	28° <u>♂</u> 13'09	0°52'37	opposition	5400 May 01 11:11	12° <u>♂</u> 30'52	1°11'36
max. Earth dist.	5393 Oct 18 02:58	28° <u>♂</u> 11'52	31.16604 AU	min. Earth dist.	5400 May 02 03:12	12° <u>♂</u> 29'46	29.22207 AU
morning rise	5393 Nov 03 18:45	28° <u>♂</u> 48'36		direct	5400 Jul 20 16:18	11° <u>♂</u> 05'57	
	5393 Dec 11 00:28	0° <u>♂</u>		evening set	5400 Oct 19 05:42	13° <u>♂</u> 01'38	
retrograde	5394 Jan 30 11:14	0° <u>♂</u> 41'40					
	5394 Mar 23 06:14	30° <u>♂</u>		conjunction	5400 Nov 04 06:56	13° <u>♂</u> 37'02	1°07'59
opposition	5394 Apr 17 20:50	29° <u>♂</u> 18'59	0°57'30	minimum elong	5400 Nov 04 06:56	13° <u>♂</u> 37'02	1°08'00
min. Earth dist.	5394 Apr 18 08:41	29° <u>♂</u> 18'09	29.17233 AU	max. Earth dist.	5400 Nov 03 12:08	13° <u>♂</u> 35'17	31.22415 AU
direct	5394 Jul 06 15:57	27° <u>♂</u> 54'07		morning rise	5400 Nov 20 05:25	14° <u>♂</u> 12'12	
evening set	5394 Oct 05 01:51	29° <u>♂</u> 49'44			5400 Dec 13 17:30	15° <u>♂</u>	
	5394 Oct 09 18:48	0° <u>♂</u>		retrograde	5401 Feb 15 11:52	16° <u>♂</u> 04'41	
					5401 Apr 23 03:56	15° <u>♂</u>	
conjunction	5394 Oct 21 05:37	0° <u>♂</u> 25'21	0°55'04	opposition	5401 May 03 21:33	14° <u>♂</u> 42'14	1°13'36
minimum elong	5394 Oct 21 05:37	0° <u>♂</u> 25'21	0°55'04	min. Earth dist.	5401 May 04 14:17	14° <u>♂</u> 41'04	29.22738 AU
max. Earth dist.	5394 Oct 20 16:01	0° <u>♂</u> 24'06	31.17773 AU	direct	5401 Jul 23 03:50	13° <u>♂</u> 17'15	
morning rise	5394 Nov 06 06:46	1° <u>♂</u> 00'46			5401 Oct 15 16:47	15° <u>♂</u>	
retrograde	5395 Feb 01 20:43	2° <u>♂</u> 53'46		evening set	5401 Oct 21 17:56	15° <u>♂</u> 12'56	
opposition	5395 Apr 20 07:17	1° <u>♂</u> 31'10	1°00'06				
min. Earth dist.	5395 Apr 20 20:31	1° <u>♂</u> 30'15	29.18363 AU	conjunction	5401 Nov 06 18:52	15° <u>♂</u> 48'17	1°09'48
direct	5395 Jul 09 02:28	0° <u>♂</u> 06'20		minimum elong	5401 Nov 06 18:52	15° <u>♂</u> 48'17	1°09'49
evening set	5395 Oct 07 14:38	2° <u>♂</u> 02'00		max. Earth dist.	5401 Nov 06 00:42	15° <u>♂</u> 46'37	31.22943 AU
				morning rise	5401 Nov 22 16:44	16° <u>♂</u> 23'25	
conjunction	5395 Oct 23 17:53	2° <u>♂</u> 37'34	0°57'27	retrograde	5402 Feb 17 20:47	18° <u>♂</u> 15'49	
minimum elong	5395 Oct 23 17:52	2° <u>♂</u> 37'34	0°57'28	opposition	5402 May 06 07:53	16° <u>♂</u> 53'22	1°15'29
max. Earth dist.	5395 Oct 23 02:35	2° <u>♂</u> 36'09	31.18852 AU	min. Earth dist.	5402 May 07 00:53	16° <u>♂</u> 52'11	29.23279 AU
morning rise	5395 Nov 08 18:43	3° <u>♂</u> 12'58		direct	5402 Jul 25 16:55	15° <u>♂</u> 28'22	
retrograde	5396 Feb 04 07:16	5° <u>♂</u> 05'54		evening set	5402 Oct 24 06:11	17° <u>♂</u> 24'02	
opposition	5396 Apr 21 17:37	3° <u>♂</u> 43'21	1°02'35	max. Earth dist.	5402 Nov 08 11:03	17° <u>♂</u> 57'33	31.23519 AU
min. Earth dist.	5396 Apr 22 06:43	3° <u>♂</u> 42'27	29.19387 AU				
direct	5396 Jul 10 14:14	2° <u>♂</u> 18'32		conjunction	5402 Nov 09 06:30	17° <u>♂</u> 59'21	1°11'31
evening set	5396 Oct 09 03:24	4° <u>♂</u> 14'13		minimum elong	5402 Nov 09 06:30	17° <u>♂</u> 59'21	1°11'32
				morning rise	5402 Nov 25 04:01	18° <u>♂</u> 34'27	
conjunction	5396 Oct 25 06:23	4° <u>♂</u> 49'46	0°59'44	retrograde	5403 Feb 20 07:33	20° <u>♂</u> 26'46	
minimum elong	5396 Oct 25 06:22	4° <u>♂</u> 49'46	0°59'44	opposition	5403 May 08 18:18	19° <u>♂</u> 04'20	1°17'16
max. Earth dist.	5396 Oct 24 14:57	4° <u>♂</u> 48'20	31.19798 AU	min. Earth dist.	5403 May 09 10:58	19° <u>♂</u> 03'11	29.23910 AU
morning rise	5396 Nov 10 06:37	5° <u>♂</u> 25'07		direct	5403 Jul 28 03:53	17° <u>♂</u> 39'19	
retrograde	5397 Feb 05 16:37	7° <u>♂</u> 17'58		evening set	5403 Oct 26 18:01	19° <u>♂</u> 34'59	
opposition	5397 Apr 24 04:02	5° <u>♂</u> 55'29	1°04'59				
min. Earth dist.	5397 Apr 24 18:52	5° <u>♂</u> 54'27	29.20272 AU	conjunction	5403 Nov 11 18:03	20° <u>♂</u> 10'17	1°13'08
direct	5397 Jul 13 01:43	4° <u>♂</u> 30'39		minimum elong	5403 Nov 11 18:03	20° <u>♂</u> 10'17	1°13'09
evening set	5397 Oct 11 16:12	6° <u>♂</u> 26'21		max. Earth dist.	5403 Nov 10 23:41	20° <u>♂</u> 08'35	31.24190 AU
				morning rise	5403 Nov 27 14:54	20° <u>♂</u> 45'20	
conjunction	5397 Oct 27 18:44	7° <u>♂</u> 01'52	1°01'56	retrograde	5404 Feb 22 16:13	22° <u>♂</u> 37'36	
minimum elong	5397 Oct 27 18:44	7° <u>♂</u> 01'52	1°01'58	opposition	5404 May 10 04:49	21° <u>♂</u> 15'14	1°18'56
max. Earth dist.	5397 Oct 27 02:01	7° <u>♂</u> 00'19	31.20616 AU	min. Earth dist.	5404 May 10 22:16	21° <u>♂</u> 14'01	29.24632 AU
morning rise	5397 Nov 12 18:37	7° <u>♂</u> 37'10		direct	5404 Jul 29 15:00	19° <u>♂</u> 50'14	
retrograde	5398 Feb 08 03:46	9° <u>♂</u> 29'56		evening set	5404 Oct 28 06:04	21° <u>♂</u> 45'55	
opposition	5398 Apr 26 14:23	8° <u>♂</u> 07'28	1°07'18	max. Earth dist.	5404 Nov 12 10:09	22° <u>♂</u> 19'23	31.24968 AU
min. Earth dist.	5398 Apr 27 04:57	8° <u>♂</u> 06'27	29.21018 AU				
direct	5398 Jul 15 14:19	6° <u>♂</u> 42'37		conjunction	5404 Nov 13 05:31	22° <u>♂</u> 21'11	1°14'38
evening set	5398 Oct 14 04:51	8° <u>♂</u> 38'19		minimum elong	5404 Nov 13 05:31	22° <u>♂</u> 21'11	1°14'39
				morning rise	5404 Nov 29 02:04	22° <u>♂</u> 56'12	
conjunction	5398 Oct 30 06:57	9° <u>♂</u> 13'48	1°04'03	retrograde	5405 Feb 24 02:23	24° <u>♂</u> 48'26	
minimum elong	5398 Oct 30 06:57	9° <u>♂</u> 13'48	1°04'03	opposition	5405 May 12 15:02	23° <u>♂</u> 26'08	1°20'29

min. Earth dist.	5405 May 13 07:46	23° ℓ 24'58	29.25448 AU	conjunction	5411 Nov 29 12:51	7° ♊ 39'03	1°22'03
direct	5405 Aug 01 02:06	22° ℓ 01'10		minimum elong	5411 Nov 29 12:51	7° ♊ 39'03	1°22'05
evening set	5405 Oct 30 18:01	23° ℓ 56'54		max. Earth dist.	5411 Nov 28 14:53	7° ♊ 37'01	31.29348 AU
				morning rise	5411 Dec 15 06:01	8° ♊ 13'51	
conjunction	5405 Nov 15 17:08	24° ℓ 32'08	1°16'02	retrograde	5412 Mar 11 04:11	10° ♊ 05'58	
minimum elong	5405 Nov 15 17:08	24° ℓ 32'08	1°16'04	opposition	5412 May 27 17:49	8° ♊ 43'57	1°27'59
max. Earth dist.	5405 Nov 14 22:17	24° ℓ 30'23	31.25801 AU	min. Earth dist.	5412 May 28 13:14	8° ♊ 42'37	29.29543 AU
morning rise	5405 Dec 01 13:03	25° ℓ 07'08		direct	5412 Aug 16 13:18	7° ♊ 19'09	
retrograde	5406 Feb 26 11:37	26° ℓ 59'21		evening set	5412 Nov 15 04:01	9° ♊ 14'59	
opposition	5406 May 15 01:39	25° ℓ 37'07	1°21'55				
min. Earth dist.	5406 May 15 19:36	25° ℓ 35'52	29.26295 AU	conjunction	5412 Nov 30 23:56	9° ♊ 50'00	1°22'39
direct	5406 Aug 03 12:29	24° ℓ 12'13		minimum elong	5412 Nov 30 23:56	9° ♊ 50'00	1°22'40
evening set	5406 Nov 02 05:55	26° ℓ 07'59		max. Earth dist.	5412 Nov 30 02:50	9° ♊ 48'02	31.29549 AU
max. Earth dist.	5406 Nov 17 09:00	26° ℓ 41'23	31.26644 AU	morning rise	5412 Dec 16 16:30	10° ♊ 24'46	
				retrograde	5413 Mar 13 12:37	12° ♊ 16'50	
conjunction	5406 Nov 18 04:29	26° ℓ 43'11	1°17'20	opposition	5413 May 30 04:31	10° ♊ 54'49	1°28'33
minimum elong	5406 Nov 18 04:28	26° ℓ 43'11	1°17'21	min. Earth dist.	5413 May 31 00:57	10° ♊ 53'24	29.29712 AU
morning rise	5406 Dec 03 23:59	27° ℓ 18'09		direct	5413 Aug 19 01:22	9° ♊ 29'59	
retrograde	5407 Feb 28 22:33	29° ℓ 10'22		evening set	5413 Nov 17 15:26	11° ♊ 25'47	
opposition	5407 May 17 12:10	27° ℓ 48'12	1°23'14				
min. Earth dist.	5407 May 18 05:29	27° ℓ 47'00	29.27112 AU	conjunction	5413 Dec 03 10:45	12° ♊ 00'46	1°23'08
direct	5407 Aug 06 00:01	26° ℓ 23'21		minimum elong	5413 Dec 03 10:45	12° ♊ 00'46	1°23'09
evening set	5407 Nov 04 17:49	28° ℓ 19'09		max. Earth dist.	5413 Dec 02 12:46	11° ♊ 58'43	31.29711 AU
				morning rise	5413 Dec 19 03:00	12° ♊ 35'30	
conjunction	5407 Nov 20 15:55	28° ℓ 54'20	1°18'30	retrograde	5414 Mar 15 21:49	14° ♊ 27'31	
minimum elong	5407 Nov 20 15:55	28° ℓ 54'20	1°18'32	opposition	5414 Jun 01 15:17	13° ♊ 05'29	1°29'01
max. Earth dist.	5407 Nov 19 20:00	28° ℓ 52'29	31.27418 AU	min. Earth dist.	5414 Jun 02 10:45	13° ♊ 04'09	29.29876 AU
morning rise	5407 Dec 06 10:53	29° ℓ 29'16		direct	5414 Aug 21 13:02	11° ♊ 40'38	
	5407 Dec 21 02:33	0° ♊		evening set	5414 Nov 20 02:28	13° ♊ 36'23	
retrograde	5408 Mar 02 09:17	1° ♊ 21'29					
opposition	5408 May 18 22:50	29° ℓ 59'22	1°24'26	conjunction	5414 Dec 05 21:24	14° ♊ 11'20	1°23'30
	5408 May 18 13:45	30° ♋		minimum elong	5414 Dec 05 21:24	14° ♊ 11'20	1°23'31
min. Earth dist.	5408 May 19 17:26	29° ℓ 58'05	29.27855 AU	max. Earth dist.	5414 Dec 05 00:17	14° ♊ 09'23	31.29882 AU
direct	5408 Aug 07 10:57	28° ℓ 34'33		morning rise	5414 Dec 21 13:04	14° ♊ 46'02	
	5408 Oct 22 17:24	0° ♊		retrograde	5415 Mar 18 06:09	16° ♊ 38'02	
evening set	5408 Nov 06 05:35	0° ♊ 30'24		opposition	5415 Jun 04 02:15	15° ♊ 15'59	1°29'20
max. Earth dist.	5408 Nov 21 07:23	1° ♊ 03'42	31.28103 AU	min. Earth dist.	5415 Jun 04 22:27	15° ♊ 14'36	29.30087 AU
				direct	5415 Aug 23 23:17	13° ♊ 51'08	
conjunction	5408 Nov 22 03:17	1° ♊ 05'33	1°19'34	evening set	5415 Nov 22 13:32	15° ♊ 46'50	
minimum elong	5408 Nov 22 03:17	1° ♊ 05'33	1°19'35	max. Earth dist.	5415 Dec 07 10:51	16° ♊ 19'48	31.30143 AU
morning rise	5408 Dec 07 21:47	1° ♊ 40'26					
retrograde	5409 Mar 04 20:44	3° ♊ 32'38		conjunction	5415 Dec 08 07:58	16° ♊ 21'46	1°23'45
opposition	5409 May 21 09:31	2° ♊ 10'35	1°25'30	minimum elong	5415 Dec 08 07:58	16° ♊ 21'46	1°23'46
min. Earth dist.	5409 May 22 04:02	2° ♊ 09'19	29.28466 AU	morning rise	5415 Dec 23 23:17	16° ♊ 56'26	
direct	5409 Aug 10 00:52	0° ♊ 45'48		retrograde	5416 Mar 19 16:10	18° ♊ 48'25	
evening set	5409 Nov 08 17:29	2° ♊ 41'40		opposition	5416 Jun 05 12:57	17° ♊ 26'22	1°29'32
				min. Earth dist.	5416 Jun 06 07:54	17° ♊ 25'04	29.30394 AU
conjunction	5409 Nov 24 14:36	3° ♊ 16'46	1°20'30	direct	5416 Aug 25 10:19	16° ♊ 01'31	
minimum elong	5409 Nov 24 14:36	3° ♊ 16'46	1°20'32	evening set	5416 Nov 24 00:31	17° ♊ 57'13	
max. Earth dist.	5409 Nov 23 17:29	3° ♊ 14'49	31.28642 AU				
morning rise	5409 Dec 10 08:40	3° ♊ 51'38		conjunction	5416 Dec 09 18:32	18° ♊ 32'07	1°23'52
retrograde	5410 Mar 07 07:35	5° ♊ 43'49		minimum elong	5416 Dec 09 18:32	18° ♊ 32'07	1°23'53
opposition	5410 May 23 20:14	4° ♊ 21'48	1°26'27	max. Earth dist.	5416 Dec 08 21:32	18° ♊ 30'09	31.30499 AU
min. Earth dist.	5410 May 24 15:24	4° ♊ 20'28	29.28950 AU	morning rise	5416 Dec 25 09:24	19° ♊ 06'45	
direct	5410 Aug 12 12:07	2° ♊ 57'01		retrograde	5417 Mar 22 02:19	20° ♊ 58'45	
evening set	5410 Nov 11 05:08	4° ♊ 52'53		opposition	5417 Jun 07 23:55	19° ♊ 36'43	1°29'36
max. Earth dist.	5410 Nov 26 05:22	5° ♊ 26'03	31.29055 AU	min. Earth dist.	5417 Jun 08 19:25	19° ♊ 35'23	29.30805 AU
				direct	5417 Aug 27 21:08	18° ♊ 11'54	
conjunction	5410 Nov 27 01:56	5° ♊ 27'58	1°21'20	evening set	5417 Nov 26 11:26	20° ♊ 07'36	
minimum elong	5410 Nov 27 01:56	5° ♊ 27'58	1°21'21	max. Earth dist.	5417 Dec 11 08:52	20° ♊ 40'35	31.30951 AU
morning rise	5410 Dec 12 19:23	6° ♊ 02'47					
retrograde	5411 Mar 09 16:58	7° ♊ 54'56		conjunction	5417 Dec 12 05:03	20° ♊ 42'28	1°23'52
opposition	5411 May 26 07:05	6° ♊ 32'56	1°27'17	minimum elong	5417 Dec 12 05:03	20° ♊ 42'28	1°23'54
min. Earth dist.	5411 May 27 02:40	6° ♊ 31'35	29.29294 AU	morning rise	5417 Dec 27 19:27	21° ♊ 17'05	
direct	5411 Aug 15 01:22	5° ♊ 08'09		retrograde	5418 Mar 24 12:57	23° ♊ 09'05	
evening set	5411 Nov 13 16:40	7° ♊ 04'00		opposition	5418 Jun 10 10:50	21° ♊ 47'06	1°29'33
				min. Earth dist.	5418 Jun 11 05:40	21° ♊ 45'49	29.31271 AU

direct	5418 Aug 30 09:48	20° \mathring{A} 22'20		conjunction	5424 Dec 27 05:42	5° \mathring{B} 56'31	1°20'33
evening set	5418 Nov 28 22:24	22° \mathring{A} 18'02		minimum elong	5424 Dec 27 05:42	5° \mathring{B} 56'31	1°20'34
				morning rise	5425 Jan 11 17:32	6° \mathring{B} 31'00	
conjunction	5418 Dec 14 15:28	22° \mathring{A} 52'53	1°23'45	retrograde	5425 Apr 08 12:25	8° \mathring{B} 23'12	
minimum elong	5418 Dec 14 15:28	22° \mathring{A} 52'53	1°23'46	opposition	5425 Jun 25 17:40	7° \mathring{B} 01'19	1°25'33
max. Earth dist.	5418 Dec 13 18:43	22° \mathring{A} 50'57	31.31435 AU	min. Earth dist.	5425 Jun 26 12:21	7° \mathring{B} 00'03	29.32551 AU
morning rise	5418 Dec 30 05:33	23° \mathring{A} 27'29		direct	5425 Sep 14 19:13	5° \mathring{B} 36'46	
retrograde	5419 Mar 27 00:11	25° \mathring{A} 19'31		evening set	5425 Dec 14 01:31	7° \mathring{B} 32'20	
opposition	5419 Jun 12 21:54	23° \mathring{A} 57'34	1°29'21				
min. Earth dist.	5419 Jun 13 16:47	23° \mathring{A} 56'17	29.31764 AU	conjunction	5425 Dec 29 15:47	8° \mathring{B} 07'02	1°19'36
direct	5419 Sep 01 20:03	22° \mathring{A} 32'51		minimum elong	5425 Dec 29 15:47	8° \mathring{B} 07'02	1°19'38
evening set	5419 Dec 01 09:05	24° \mathring{A} 28'34		max. Earth dist.	5425 Dec 28 19:25	8° \mathring{B} 05'07	31.32350 AU
max. Earth dist.	5419 Dec 16 06:15	25° \mathring{A} 01'33	31.31907 AU	morning rise	5426 Jan 14 03:16	8° \mathring{B} 41'29	
				retrograde	5426 Apr 10 22:30	10° \mathring{B} 33'44	
conjunction	5419 Dec 17 01:52	25° \mathring{A} 03'23	1°23'31	opposition	5426 Jun 28 05:11	9° \mathring{B} 11'48	1°24'29
minimum elong	5419 Dec 17 01:52	25° \mathring{A} 03'23	1°23'32	min. Earth dist.	5426 Jun 29 00:26	9° \mathring{B} 10'29	29.32299 AU
morning rise	5420 Jan 01 15:26	25° \mathring{A} 37'57		direct	5426 Sep 17 06:03	7° \mathring{B} 47'14	
retrograde	5420 Mar 28 10:09	27° \mathring{A} 30'02		evening set	5426 Dec 16 11:51	9° \mathring{B} 42'46	
opposition	5420 Jun 14 09:04	26° \mathring{A} 08'07	1°29'02	max. Earth dist.	5426 Dec 31 06:31	10° \mathring{B} 15'38	31.32093 AU
min. Earth dist.	5420 Jun 15 04:10	26° \mathring{A} 06'49	29.32195 AU				
direct	5420 Sep 03 09:10	24° \mathring{A} 43'28		conjunction	5427 Jan 01 01:49	10° \mathring{B} 17'26	1°18'33
evening set	5420 Dec 02 20:04	26° \mathring{A} 39'10		minimum elong	5427 Jan 01 01:49	10° \mathring{B} 17'26	1°18'34
				morning rise	5427 Jan 16 12:57	10° \mathring{B} 51'52	
conjunction	5420 Dec 18 12:15	27° \mathring{A} 13'58	1°23'09	retrograde	5427 Apr 13 08:52	12° \mathring{B} 44'08	
minimum elong	5420 Dec 18 12:15	27° \mathring{A} 13'58	1°23'10	opposition	5427 Jun 30 16:38	11° \mathring{B} 22'11	1°23'19
max. Earth dist.	5420 Dec 17 15:28	27° \mathring{A} 12'02	31.32299 AU	min. Earth dist.	5427 Jul 01 11:00	11° \mathring{B} 20'56	29.32041 AU
morning rise	5421 Jan 03 01:35	27° \mathring{A} 48'31		direct	5427 Sep 19 18:20	9° \mathring{B} 57'37	
retrograde	5421 Mar 30 22:04	29° \mathring{A} 40'37		evening set	5427 Dec 18 22:04	11° \mathring{B} 53'07	
opposition	5421 Jun 16 20:08	28° \mathring{A} 18'44	1°28'35				
min. Earth dist.	5421 Jun 17 14:49	28° \mathring{A} 17'28	29.32538 AU	conjunction	5428 Jan 03 11:33	12° \mathring{B} 27'45	1°17'23
direct	5421 Sep 05 21:05	26° \mathring{A} 54'07		minimum elong	5428 Jan 03 11:34	12° \mathring{B} 27'45	1°17'24
evening set	5421 Dec 05 06:54	28° \mathring{A} 49'50		max. Earth dist.	5428 Jan 02 15:59	12° \mathring{B} 25'56	31.31859 AU
				morning rise	5428 Jan 18 22:31	13° \mathring{B} 02'11	
conjunction	5421 Dec 20 22:49	29° \mathring{A} 24'37	1°22'41	retrograde	5428 Apr 14 19:58	14° \mathring{B} 54'30	
minimum elong	5421 Dec 20 22:49	29° \mathring{A} 24'37	1°22'42	opposition	5428 Jul 02 04:08	13° \mathring{B} 32'30	1°22'01
max. Earth dist.	5421 Dec 20 02:59	29° \mathring{A} 22'46	31.32574 AU	min. Earth dist.	5428 Jul 02 22:02	13° \mathring{B} 31'17	29.31848 AU
morning rise	5422 Jan 05 11:35	29° \mathring{A} 59'08		direct	5428 Sep 21 04:15	12° \mathring{B} 07'58	
	5422 Jan 05 21:07	0° \mathring{B}		evening set	5428 Dec 20 08:12	14° \mathring{B} 03'26	
retrograde	5422 Apr 02 07:15	1° \mathring{B} 51'16					
opposition	5422 Jun 19 07:36	0° \mathring{B} 29'25	1°28'01	conjunction	5429 Jan 04 21:30	14° \mathring{B} 38'03	1°16'07
min. Earth dist.	5422 Jun 20 03:12	0° \mathring{B} 28'04	29.32744 AU	minimum elong	5429 Jan 04 21:30	14° \mathring{B} 38'03	1°16'07
	5422 Jul 07 15:15	30° \mathring{R} \mathring{A}		max. Earth dist.	5429 Jan 04 03:31	14° \mathring{B} 36'23	31.31704 AU
direct	5422 Sep 08 09:16	29° \mathring{A} 04'50		morning rise	5429 Jan 20 08:00	15° \mathring{B} 12'28	
	5422 Nov 07 06:52	0° \mathring{B}		retrograde	5429 Apr 17 06:04	17° \mathring{B} 04'51	
evening set	5422 Dec 07 17:41	1° \mathring{B} 00'31		opposition	5429 Jul 04 15:39	15° \mathring{B} 42'51	1°20'35
				min. Earth dist.	5429 Jul 05 09:11	15° \mathring{B} 41'39	29.31725 AU
conjunction	5422 Dec 23 09:02	1° \mathring{B} 35'16	1°22'05	direct	5429 Sep 23 17:23	14° \mathring{B} 18'21	
minimum elong	5422 Dec 23 09:02	1° \mathring{B} 35'16	1°22'06	evening set	5429 Dec 22 18:28	16° \mathring{B} 13'48	
max. Earth dist.	5422 Dec 22 12:24	1° \mathring{B} 33'21	31.32717 AU				
morning rise	5423 Jan 07 21:35	2° \mathring{B} 09'47		conjunction	5430 Jan 07 07:15	16° \mathring{B} 48'25	1°14'44
retrograde	5423 Apr 04 17:21	4° \mathring{B} 01'56		minimum elong	5430 Jan 07 07:16	16° \mathring{B} 48'25	1°14'45
opposition	5423 Jun 21 18:56	2° \mathring{B} 40'06	1°27'19	max. Earth dist.	5430 Jan 06 12:47	16° \mathring{B} 46'41	31.31632 AU
min. Earth dist.	5423 Jun 22 13:35	2° \mathring{B} 38'49	29.32813 AU	morning rise	5430 Jan 22 17:39	17° \mathring{B} 22'49	
direct	5423 Sep 10 21:05	1° \mathring{B} 15'32		retrograde	5430 Apr 19 18:42	19° \mathring{B} 15'16	
evening set	5423 Dec 10 04:22	3° \mathring{B} 11'11		opposition	5430 Jul 07 03:16	17° \mathring{B} 53'17	1°19'03
				min. Earth dist.	5430 Jul 07 19:37	17° \mathring{B} 52'10	29.31685 AU
conjunction	5423 Dec 25 19:27	3° \mathring{B} 45'56	1°21'22	direct	5430 Sep 26 05:21	16° \mathring{B} 28'51	
minimum elong	5423 Dec 25 19:27	3° \mathring{B} 45'56	1°21'24	evening set	5430 Dec 25 04:23	18° \mathring{B} 24'17	
max. Earth dist.	5423 Dec 24 23:18	3° \mathring{B} 44'03	31.32710 AU				
morning rise	5424 Jan 10 07:32	4° \mathring{B} 20'25		conjunction	5431 Jan 09 17:00	18° \mathring{B} 58'53	1°13'14
retrograde	5424 Apr 06 02:22	6° \mathring{B} 12'36		minimum elong	5431 Jan 09 17:00	18° \mathring{B} 58'53	1°13'15
opposition	5424 Jun 23 06:18	4° \mathring{B} 50'44	1°26'30	max. Earth dist.	5431 Jan 09 00:07	18° \mathring{B} 57'19	31.31612 AU
min. Earth dist.	5424 Jun 24 02:02	4° \mathring{B} 49'24	29.32743 AU	morning rise	5431 Jan 25 02:59	19° \mathring{B} 33'17	
direct	5424 Sep 12 07:35	3° \mathring{B} 26'11		retrograde	5431 Apr 22 04:16	21° \mathring{B} 25'49	
evening set	5424 Dec 11 15:02	5° \mathring{B} 21'49		opposition	5431 Jul 09 15:05	20° \mathring{B} 03'51	1°17'24
max. Earth dist.	5424 Dec 26 09:22	5° \mathring{B} 54'37	31.32585 AU	min. Earth dist.	5431 Jul 10 07:51	20° \mathring{B} 02'43	29.31668 AU
				direct	5431 Sep 28 17:10	18° \mathring{B} 39'30	

evening set	5431 Dec 27 14:33	20°33'45"		conjunction	5438 Jan 24 13:34	4°14'42"	0°59'58"
max. Earth dist.	5432 Jan 11 09:38	21°30'7.54"	31.31600 AU	minimum elong	5438 Jan 24 13:35	4°14'42"	0°59'59"
				max. Earth dist.	5438 Jan 23 23:03	4°13'20"	31.29303 AU
conjunction	5432 Jan 12 02:44	21°30'9.30"	1°11'38"	morning rise	5438 Feb 08 22:07	4°49'04"	
minimum elong	5432 Jan 12 02:44	21°30'9.30"	1°11'40"	retrograde	5438 May 07 05:01	6°42'08"	
morning rise	5432 Jan 27 12:37	21°34'3.54"		opposition	5438 Jul 25 03:07	5°19'58"	1°02'52"
retrograde	5432 Apr 23 14:41	23°36'30"		min. Earth dist.	5438 Jul 25 17:33	5°18'59"	29.28948 AU
opposition	5432 Jul 11 02:39	22°31'4.34"	1°15'38"	direct	5438 Oct 14 01:28	3°55'46"	
min. Earth dist.	5432 Jul 11 18:08	22°31'3.31"	29.31632 AU	evening set	5439 Jan 11 12:45	5°50'51"	
direct	5432 Sep 30 05:03	20°35'0.16"					
evening set	5432 Dec 29 00:40	22°34'5.40"		conjunction	5439 Jan 26 22:59	6°25'22"	0°57'43"
				minimum elong	5439 Jan 26 22:59	6°25'22"	0°57'43"
conjunction	5433 Jan 13 12:37	23°32'0.16"	1°09'56"	max. Earth dist.	5439 Jan 26 08:02	6°23'57"	31.28510 AU
minimum elong	5433 Jan 13 12:37	23°32'0.16"	1°09'57"	morning rise	5439 Feb 11 07:34	6°59'44"	
max. Earth dist.	5433 Jan 12 20:16	23°31'8.44"	31.31527 AU	retrograde	5439 May 09 17:33	8°52'51"	
morning rise	5433 Jan 28 22:11	23°35'4.39"		opposition	5439 Jul 27 15:15	7°30'35"	1°00'25"
retrograde	5433 Apr 26 00:37	25°34'7.21"		min. Earth dist.	5439 Jul 28 04:27	7°29'41"	29.28146 AU
opposition	5433 Jul 13 14:40	24°32'5.25"	1°13'46"	direct	5439 Oct 16 13:17	6°06'22"	
min. Earth dist.	5433 Jul 14 06:52	24°32'4.18"	29.31518 AU	evening set	5440 Jan 13 22:27	8°01'23"	
direct	5433 Oct 02 15:59	23°30'1.10"					
evening set	5433 Dec 31 10:46	24°35'6.33"		conjunction	5440 Jan 29 08:36	8°35'53"	0°55'23"
				minimum elong	5440 Jan 29 08:36	8°35'53"	0°55'23"
conjunction	5434 Jan 15 22:22	25°31'0.7"	1°08'08"	max. Earth dist.	5440 Jan 28 19:17	8°34'38"	31.27709 AU
minimum elong	5434 Jan 15 22:22	25°31'0.7"	1°08'09"	morning rise	5440 Feb 13 16:54	9°10'15"	
max. Earth dist.	5434 Jan 15 06:16	25°32'9.37"	31.31365 AU	retrograde	5440 May 11 03:06	11°03'27"	
morning rise	5434 Jan 31 07:43	26°30'5.31"		opposition	5440 Jul 29 03:21	9°41'06"	0°57'53"
retrograde	5434 Apr 28 10:53	27°35'8.17"		min. Earth dist.	5440 Jul 29 16:43	9°40'12"	29.27367 AU
opposition	5434 Jul 16 02:38	26°36'2.1"	1°11'47"	direct	5440 Oct 18 01:12	8°16'53"	
min. Earth dist.	5434 Jul 16 17:35	26°35'2.0"	29.31285 AU	evening set	5441 Jan 15 08:14	10°11'51"	
direct	5434 Oct 05 03:58	25°31'2.09"					
evening set	5435 Jan 02 20:56	27°30'7.29"		conjunction	5441 Jan 30 18:03	10°46'20"	0°52'58"
				minimum elong	5441 Jan 30 18:03	10°46'20"	0°52'58"
conjunction	5435 Jan 18 08:12	27°34'2.03"	1°06'14"	max. Earth dist.	5441 Jan 30 05:00	10°45'07"	31.26977 AU
minimum elong	5435 Jan 18 08:12	27°34'2.03"	1°06'15"	morning rise	5441 Feb 15 02:21	11°20'42"	
max. Earth dist.	5435 Jan 17 15:57	27°34'0.32"	31.31064 AU	retrograde	5441 May 13 14:10	13°13'58"	
morning rise	5435 Feb 02 17:21	28°31'6.26"		opposition	5441 Jul 31 15:31	11°51'35"	0°55'16"
	5435 Apr 07 10:38	0°		min. Earth dist.	5441 Aug 01 02:58	11°50'48"	29.26674 AU
retrograde	5435 Apr 30 21:06	0°09'18"		direct	5441 Oct 20 13:41	10°27'23"	
	5435 May 24 20:04	30°R3		evening set	5442 Jan 17 17:49	12°22'18"	
opposition	5435 Jul 18 14:44	28°34'7.20"	1°09'42"				
min. Earth dist.	5435 Jul 19 06:14	28°34'6.17"	29.30921 AU	conjunction	5442 Feb 02 03:28	12°56'48"	0°50'28"
direct	5435 Oct 07 14:12	27°32'3.09"		minimum elong	5442 Feb 02 03:28	12°56'48"	0°50'29"
evening set	5436 Jan 05 06:54	29°31'8.27"		max. Earth dist.	5442 Feb 01 15:36	12°55'41"	31.26327 AU
				morning rise	5442 Feb 17 11:34	13°31'10"	
conjunction	5436 Jan 20 18:01	29°35'3.00"	1°04'14"		5442 Apr 07 12:47	15°	
minimum elong	5436 Jan 20 18:02	29°35'3.00"	1°04'15"	retrograde	5442 May 16 00:35	15°24'33"	
max. Earth dist.	5436 Jan 20 02:44	29°35'1.34"	31.30626 AU		5442 Jun 24 17:51	15°R	
	5436 Jan 23 20:30	0°		opposition	5442 Aug 03 03:53	14°02'07"	0°52'34"
morning rise	5436 Feb 05 02:56	0°27'23"		min. Earth dist.	5442 Aug 03 15:25	14°01'20"	29.26074 AU
retrograde	5436 May 02 07:07	2°20'19"		direct	5442 Oct 23 00:56	12°37'59"	
opposition	5436 Jul 20 02:48	0°58'18"	1°07'31"	evening set	5443 Jan 20 03:25	14°32'51"	
min. Earth dist.	5436 Jul 20 17:39	0°57'17"	29.30390 AU		5443 Feb 01 06:53	15°	
	5436 Aug 28 15:55	30°R3					
direct	5436 Oct 09 02:00	29°34'0.7"		conjunction	5443 Feb 04 12:54	15°07'21"	0°47'54"
	5436 Nov 18 06:53	0°		minimum elong	5443 Feb 04 12:54	15°07'21"	0°47'55"
evening set	5437 Jan 06 17:03	1°29'21"		max. Earth dist.	5443 Feb 04 02:00	15°06'20"	31.25778 AU
max. Earth dist.	5437 Jan 21 11:47	2°02'24"	31.30025 AU	morning rise	5443 Feb 19 20:56	15°41'44"	
				retrograde	5443 May 18 11:02	17°35'14"	
conjunction	5437 Jan 22 03:45	2°03'5.4"	1°02'08"	opposition	5443 Aug 05 16:02	16°12'48"	0°49'47"
minimum elong	5437 Jan 22 03:45	2°03'5.4"	1°02'09"	min. Earth dist.	5443 Aug 06 01:47	16°12'08"	29.25546 AU
morning rise	5437 Feb 06 12:37	2°38'17"			5443 Sep 28 15:57	15°R	
retrograde	5437 May 04 18:43	4°31'17"		direct	5443 Oct 25 12:50	14°48'43"	
opposition	5437 Jul 22 14:52	3°09'11"	1°05'14"		5443 Nov 20 18:02	15°	
min. Earth dist.	5437 Jul 23 05:32	3°08'12"	29.29724 AU	evening set	5444 Jan 22 13:03	16°43'34"	
direct	5437 Oct 11 12:08	1°45'00"					
evening set	5438 Jan 09 02:57	3°40'10"		conjunction	5444 Feb 06 22:18	17°18'04"	0°45'16"
				minimum elong	5444 Feb 06 22:19	17°18'04"	0°45'16"

max. Earth dist.	5444 Feb 06 11:41	17°  17'04	31.25272 AU	min. Earth dist.	5450 Aug 21 13:56	1°  31'40	29.20522 AU
morning rise	5444 Feb 22 06:21	17°  52'28		direct	5450 Nov 09 19:41	0°  08'16	
retrograde	5444 May 19 21:43	19°  46'06		evening set	5451 Feb 06 09:02	2°  02'52	
opposition	5444 Aug 07 04:26	18°  23'39	0°46'55				
min. Earth dist.	5444 Aug 07 14:14	18°  22'59	29.25052 AU	conjunction	5451 Feb 21 17:23	2°  37'22	0°25'09
direct	5444 Oct 26 22:36	16°  59'39		minimum elong	5451 Feb 21 17:23	2°  37'22	0°25'10
evening set	5445 Jan 23 22:37	18°  54'28		max. Earth dist.	5451 Feb 21 11:09	2°  36'47	31.19970 AU
				morning rise	5451 Mar 09 01:13	3°  11'51	
conjunction	5445 Feb 08 07:48	19°  28'58	0°42'33	retrograde	5451 Jun 05 07:37	5°  06'22	
minimum elong	5445 Feb 08 07:48	19°  28'58	0°42'33	opposition	5451 Aug 23 20:55	3°  43'32	0°25'14
max. Earth dist.	5445 Feb 07 22:43	19°  28'07	31.24776 AU	min. Earth dist.	5451 Aug 24 02:59	3°  43'08	29.19432 AU
morning rise	5445 Feb 23 15:39	20°  03'23		direct	5451 Nov 12 07:51	2°  19'45	
retrograde	5445 May 22 08:00	21°  57'10		evening set	5452 Feb 08 18:36	4°  14'15	
opposition	5445 Aug 09 16:50	20°  34'42	0°43'59				
min. Earth dist.	5445 Aug 10 01:36	20°  34'07	29.24529 AU	conjunction	5452 Feb 24 02:56	4°  48'46	0°22'06
direct	5445 Oct 29 09:41	19°  10'46		minimum elong	5452 Feb 24 02:56	4°  48'46	0°22'07
evening set	5446 Jan 26 08:25	21°  05'35		max. Earth dist.	5452 Feb 23 21:44	4°  48'17	31.18884 AU
				morning rise	5452 Mar 10 10:46	5°  23'15	
conjunction	5446 Feb 10 17:16	21°  40'05	0°39'47	retrograde	5452 Jun 06 17:49	7°  17'51	
minimum elong	5446 Feb 10 17:16	21°  40'05	0°39'47	opposition	5452 Aug 25 09:33	5°  54'56	0°21'58
max. Earth dist.	5446 Feb 10 07:52	21°  39'12	31.24237 AU	min. Earth dist.	5452 Aug 25 13:44	5°  54'39	29.18352 AU
morning rise	5446 Feb 26 01:13	22°  14'30		direct	5452 Nov 13 20:43	4°  31'08	
retrograde	5446 May 24 20:32	24°  08'26		evening set	5453 Feb 10 04:12	6°  25'34	
opposition	5446 Aug 12 05:27	22°  45'57	0°41'00				
min. Earth dist.	5446 Aug 12 13:42	22°  45'24	29.23963 AU	conjunction	5453 Feb 25 12:19	7°  00'04	0°19'02
direct	5446 Oct 31 19:05	21°  22'05		minimum elong	5453 Feb 25 12:19	7°  00'04	0°19'01
evening set	5447 Jan 28 17:58	23°  16'52		max. Earth dist.	5453 Feb 25 07:31	6°  59'37	31.17833 AU
				morning rise	5453 Mar 12 20:15	7°  34'35	
conjunction	5447 Feb 13 02:52	23°  51'23	0°36'57	retrograde	5453 Jun 09 04:07	9°  29'17	
minimum elong	5447 Feb 13 02:52	23°  51'23	0°36'57	opposition	5453 Aug 27 22:22	8°  06'16	0°18'39
max. Earth dist.	5447 Feb 12 19:04	23°  50'39	31.23622 AU	min. Earth dist.	5453 Aug 28 02:15	8°  06'00	29.17356 AU
morning rise	5447 Feb 28 10:36	24°  25'49		direct	5453 Nov 16 07:18	6°  42'29	
retrograde	5447 May 27 07:43	26°  19'53		evening set	5454 Feb 12 13:44	8°  36'50	
opposition	5447 Aug 14 18:08	24°  57'22	0°37'57				
min. Earth dist.	5447 Aug 15 02:07	24°  56'50	29.23287 AU	conjunction	5454 Feb 27 21:55	9°  11'21	0°15'55
direct	5447 Nov 03 07:37	23°  33'33		minimum elong	5454 Feb 27 21:55	9°  11'21	0°15'55
evening set	5448 Jan 31 03:52	25°  28'19		behind sun begin	5454 Feb 27 20:37	9°  11'14	
				behind sun end	5454 Feb 27 23:13	9°  11'28	
conjunction	5448 Feb 15 12:28	26°  02'49	0°34'04	max. Earth dist.	5454 Feb 27 19:04	9°  11'06	31.16893 AU
minimum elong	5448 Feb 15 12:28	26°  02'49	0°34'05	morning rise	5454 Mar 15 05:46	9°  45'52	
max. Earth dist.	5448 Feb 15 04:04	26°  02'02	31.22893 AU	retrograde	5454 Jun 11 14:04	11°  40'42	
morning rise	5448 Mar 01 20:20	26°  37'16		opposition	5454 Aug 30 11:08	10°  17'37	0°15'19
retrograde	5448 May 28 21:16	28°  31'28		min. Earth dist.	5454 Aug 30 13:29	10°  17'28	29.16466 AU
opposition	5448 Aug 16 06:38	27°  08'54	0°34'50	direct	5454 Nov 18 19:08	8°  53'51	
min. Earth dist.	5448 Aug 16 13:34	27°  08'26	29.22494 AU	evening set	5455 Feb 14 23:18	10°  48'09	
direct	5448 Nov 04 18:41	25°  45'07					
evening set	5449 Feb 01 13:39	27°  39'50		conjunction	5455 Mar 02 07:18	11°  22'41	0°12'47
				minimum elong	5455 Mar 02 07:18	11°  22'41	0°12'48
conjunction	5449 Feb 16 22:15	28°  14'21	0°31'08	behind sun begin	5455 Mar 02 03:13	11°  22'19	
minimum elong	5449 Feb 16 22:15	28°  14'21	0°31'09	behind sun end	5455 Mar 02 11:23	11°  23'03	
max. Earth dist.	5449 Feb 16 15:05	28°  13'41	31.22027 AU	max. Earth dist.	5455 Mar 02 04:30	11°  22'26	31.16063 AU
morning rise	5449 Mar 04 05:58	28°  48'48		morning rise	5455 Mar 17 15:24	11°  57'13	
	5449 Apr 09 16:45	0°  00'00		retrograde	5455 Jun 14 02:38	13°  52'11	
retrograde	5449 May 31 07:49	0°  43'08		opposition	5455 Sep 01 23:55	12°  29'03	0°11'57
	5449 Jul 24 10:56	30°  00'00		min. Earth dist.	5455 Sep 02 01:22	12°  28'57	29.15690 AU
opposition	5449 Aug 18 19:29	29°  20'30	0°31'41	direct	5455 Nov 21 04:54	11°  05'19	
min. Earth dist.	5449 Aug 19 02:49	29°  20'00	29.21560 AU	evening set	5456 Feb 17 08:52	12°  59'35	
direct	5449 Nov 07 06:14	27°  56'43					
evening set	5450 Feb 03 23:22	29°  51'23		conjunction	5456 Mar 03 16:59	13°  34'07	0°09'38
	5450 Feb 07 20:37	0°  00'00		minimum elong	5456 Mar 03 16:59	13°  34'07	0°09'39
				behind sun begin	5456 Mar 03 11:40	13°  33'38	
conjunction	5450 Feb 19 07:46	0°  25'53	0°28'10	behind sun end	5456 Mar 03 22:18	13°  34'36	
minimum elong	5450 Feb 19 07:46	0°  25'53	0°28'11	max. Earth dist.	5456 Mar 03 16:09	13°  34'03	31.15324 AU
max. Earth dist.	5450 Feb 19 00:43	0° 25'14	31.21047 AU	morning rise	5456 Mar 19 00:59	14° 08'41	
morning rise	5450 Mar 06 15:36	1° 00'21		retrograde	5456 Jun 15 13:13	16° 03'47	
retrograde	5450 Jun 02 20:01	2° 54'46		opposition	5456 Sep 03 12:40	14° 40'36	0°08'33
opposition	5450 Aug 21 08:12	1° 32'03	0°28'29	min. Earth dist.	5456 Sep 03 13:27	14° 40'33	29.14976 AU

direct	5456 Nov 22 16:31	13° 16 '57		behind sun end	5462 Mar 17 09:24	26° 46 '54	
evening set	5457 Feb 18 18:38	15° 11 '11		max. Earth dist.	5462 Mar 17 06:11	26° 46 '36	31.10566 AU
				morning rise	5462 Apr 01 12:53	27° 21 '07	
conjunction	5457 Mar 06 02:35	15° 45 '43	0°06'29	retrograde	5462 Jun 29 16:09	29° 17 '06	
minimum elong	5457 Mar 06 02:34	15° 45 '43	0°06'29	opposition	5462 Sep 17 19:07	27° 53 '39	-0°11'56
behind sun begin	5457 Mar 05 20:32	15° 45 '10		min. Earth dist.	5462 Sep 17 16:15	27° 53 '50	29.10014 AU
behind sun end	5457 Mar 06 08:36	15° 46 '16		direct	5462 Dec 06 13:48	26° 30 '15	
max. Earth dist.	5457 Mar 06 01:40	15° 45 '39	31.14645 AU	evening set	5463 Mar 04 06:00	28° 24 '17	
morning rise	5457 Mar 21 10:48	16° 20 '17					
retrograde	5457 Jun 18 02:50	18° 15 '33		conjunction	5463 Mar 19 14:10	28° 58 '54	-0°12'47
opposition	5457 Sep 06 01:34	16° 52 '20	0°05'09	minimum elong	5463 Mar 19 14:10	28° 58 '54	0°12'47
min. Earth dist.	5457 Sep 06 00:53	16° 52 '23	29.14311 AU	behind sun begin	5463 Mar 19 10:05	28° 58 '32	
direct	5457 Nov 25 02:29	15° 28 '44		behind sun end	5463 Mar 19 18:15	28° 59 '16	
evening set	5458 Feb 21 04:14	17° 22 '57		max. Earth dist.	5463 Mar 19 17:51	28° 59 '14	31.09430 AU
				morning rise	5463 Apr 03 23:02	29° 33 '36	
conjunction	5458 Mar 08 12:15	17° 57 '30	0°03'18		5463 Apr 16 04:56	0° 00 '	
minimum elong	5458 Mar 08 12:15	17° 57 '30	0°03'18	retrograde	5463 Jul 02 02:52	1° 29 '43	
behind sun begin	5458 Mar 08 05:53	17° 56 '55		opposition	5463 Sep 20 08:14	0° 06 '10	-0°15'19
behind sun end	5458 Mar 08 18:37	17° 58 '04		min. Earth dist.	5463 Sep 20 04:18	0° 06 '26	29.08827 AU
max. Earth dist.	5458 Mar 08 12:55	17° 57 '32	31.13973 AU		5463 Sep 24 02:57	30° 00 '	
morning rise	5458 Mar 23 20:27	18° 32 '05		direct	5463 Dec 09 02:31	28° 42 '46	
retrograde	5458 Jun 20 14:17	20° 27 '31			5464 Feb 17 07:48	0° 00 '	
opposition	5458 Sep 08 14:41	19° 04 '16	0°01'44	evening set	5464 Mar 05 16:05	0° 00 '36'44	
min. Earth dist.	5458 Sep 08 14:10	19° 04 '19	29.13630 AU				
direct	5458 Nov 27 13:31	17° 40 '44		conjunction	5464 Mar 21 00:08	1° 11 '21	-0°15'56
evening set	5459 Feb 23 14:08	19° 34 '55		minimum elong	5464 Mar 21 00:08	1° 11 '21	0°15'56
				behind sun begin	5464 Mar 20 22:53	1° 11 '14	
conjunction	5459 Mar 10 22:04	20° 09 '29	0°00'02	behind sun end	5464 Mar 21 01:23	1° 11 '28	
minimum elong	5459 Mar 10 22:05	20° 09 '29	0°00'02	max. Earth dist.	5464 Mar 21 03:30	1° 11 '40	31.08222 AU
behind sun begin	5459 Mar 10 17:00	20° 09 '02		morning rise	5464 Apr 05 09:19	1° 46 '06	
behind sun end	5459 Mar 11 03:11	20° 09 '56		retrograde	5464 Jul 03 15:24	3° 42 '19	
max. Earth dist.	5459 Mar 10 23:05	20° 09 '30	31.13277 AU	opposition	5464 Sep 21 21:17	2° 18 '40	-0°18'41
desc. node	5459 Mar 13 11:05	20° 15 '15		min. Earth dist.	5464 Sep 21 16:47	2° 18 '58	29.07623 AU
morning rise	5459 Mar 26 06:29	20° 44 '06		direct	5464 Dec 10 13:00	0° 55 '15	
retrograde	5459 Jun 23 03:54	22° 39 '40		evening set	5465 Mar 08 01:59	2° 49 '10	
opposition	5459 Sep 11 03:31	21° 16 '24	-0°01'42				
min. Earth dist.	5459 Sep 11 01:27	21° 16 '32	29.12899 AU	conjunction	5465 Mar 23 10:16	3° 23 '48	-0°19'03
direct	5459 Nov 30 02:03	19° 52 '54		minimum elong	5465 Mar 23 10:15	3° 23 '48	0°19'04
evening set	5460 Feb 26 00:05	21° 47 '05		max. Earth dist.	5465 Mar 23 15:32	3° 24 '17	31.07025 AU
				morning rise	5465 Apr 07 19:27	3° 58 '33	
conjunction	5460 Mar 12 08:02	22° 21 '39	-0°03'15	retrograde	5465 Jul 06 01:47	5° 54 '54	
minimum elong	5460 Mar 12 08:02	22° 21 '39	0°03'15	opposition	5465 Sep 24 10:29	4° 31 '10	-0°22'01
behind sun begin	5460 Mar 12 01:40	22° 21 '05		min. Earth dist.	5465 Sep 24 05:11	4° 31 '31	29.06456 AU
behind sun end	5460 Mar 12 14:24	22° 22 '14		direct	5465 Dec 13 00:51	3° 07 '45	
max. Earth dist.	5460 Mar 12 09:33	22° 21 '45	31.12491 AU	evening set	5466 Mar 10 11:57	5° 01 '37	
morning rise	5460 Mar 27 16:32	22° 56 '18					
retrograde	5460 Jun 24 16:46	24° 52 '01		conjunction	5466 Mar 25 20:09	5° 36 '15	-0°22'10
opposition	5460 Sep 12 16:43	23° 28 '42	-0°05'07	minimum elong	5466 Mar 25 20:09	5° 36 '15	0°22'10
min. Earth dist.	5460 Sep 12 15:09	23° 28 '48	29.12064 AU	max. Earth dist.	5466 Mar 26 01:31	5° 36 '45	31.05908 AU
direct	5460 Dec 01 13:44	22° 05 '15		morning rise	5466 Apr 10 05:41	6° 11 '02	
evening set	5461 Feb 27 10:00	23° 59 '24		retrograde	5466 Jul 08 15:12	8° 07 '31	
				opposition	5466 Sep 26 23:35	6° 43 '41	-0°25'20
conjunction	5461 Mar 14 18:01	24° 33 '59	-0°06'27	min. Earth dist.	5466 Sep 26 16:41	6° 44 '09	29.05394 AU
minimum elong	5461 Mar 14 18:02	24° 33 '59	0°06'27	direct	5466 Dec 15 10:36	5° 20 '17	
behind sun begin	5461 Mar 14 11:59	24° 33 '26		evening set	5467 Mar 12 21:57	7° 14 '07	
behind sun end	5461 Mar 15 00:04	24° 34 '32					
max. Earth dist.	5461 Mar 14 20:23	24° 34 '10	31.11598 AU	conjunction	5467 Mar 28 06:21	7° 48 '47	-0°25'14
morning rise	5461 Mar 30 02:35	25° 08 '39		minimum elong	5467 Mar 28 06:21	7° 48 '47	0°25'14
retrograde	5461 Jun 27 04:23	27° 04 '31		max. Earth dist.	5467 Mar 28 13:20	7° 49 '26	31.04886 AU
opposition	5461 Sep 15 05:51	25° 41 '08	-0°08'32	morning rise	5467 Apr 12 15:58	8° 23 '35	
min. Earth dist.	5461 Sep 15 02:45	25° 41 '21	29.11098 AU	retrograde	5467 Jul 11 02:43	10° 20 '12	
direct	5461 Dec 04 02:43	24° 17 '43		opposition	5467 Sep 29 12:36	8° 56 '19	-0°28'36
evening set	5462 Mar 01 20:07	26° 11 '49		min. Earth dist.	5467 Sep 29 05:38	8° 56 '47	29.04430 AU
				direct	5467 Dec 17 21:19	7° 32 '56	
conjunction	5462 Mar 17 04:04	26° 46 '25	-0°09'37	evening set	5468 Mar 14 08:02	9° 26 '45	
minimum elong	5462 Mar 17 04:04	26° 46 '25	0°09'37				
behind sun begin	5462 Mar 16 22:44	26° 45 '56		conjunction	5468 Mar 29 16:31	10° 01 '25	-0°28'16

minimum elong	5468 Mar 29 16:31	10° Υ 01'25	0°28'16	evening set	5475 Mar 30 09:00	24° Υ 59'48	
max. Earth dist.	5468 Mar 30 00:08	10° Υ 02'08	31.03980 AU				
morning rise	5468 Apr 14 02:23	10° Υ 36'15		conjunction	5475 Apr 14 18:28	25° Υ 34'36	-0°48'12
retrograde	5468 Jul 12 17:01	12° Υ 33'01		minimum elong	5475 Apr 14 18:28	25° Υ 34'36	0°48'12
opposition	5468 Oct 01 01:38	11° Υ 09'04	-0°31'50	max. Earth dist.	5475 Apr 15 05:47	25° Υ 35'41	30.97831 AU
min. Earth dist.	5468 Sep 30 16:48	11° Υ 09'41	29.03567 AU	morning rise	5475 Apr 30 06:07	26° Υ 09'38	
direct	5468 Dec 19 09:46	9° Υ 45'44		retrograde	5475 Jul 29 09:48	28° Υ 07'16	
evening set	5469 Mar 16 18:05	11° Υ 39'32		opposition	5475 Oct 17 22:18	26° Υ 42'57	-0°52'56
				min. Earth dist.	5475 Oct 17 09:56	26° Υ 43'48	28.97267 AU
conjunction	5469 Apr 01 02:38	12° Υ 14'14	-0°31'16	direct	5476 Jan 04 19:58	25° Υ 19'45	
minimum elong	5469 Apr 01 02:38	12° Υ 14'14	0°31'17	evening set	5476 Mar 31 19:41	27° Υ 13'21	
max. Earth dist.	5469 Apr 01 11:07	12° Υ 15'02	31.03148 AU				
morning rise	5469 Apr 16 12:44	12° Υ 49'05		conjunction	5476 Apr 16 05:25	27° Υ 48'11	-0°50'47
retrograde	5469 Jul 15 06:30	14° Υ 46'00		minimum elong	5476 Apr 16 05:25	27° Υ 48'10	0°50'48
opposition	5469 Oct 03 14:57	13° Υ 22'01	-0°35'01	max. Earth dist.	5476 Apr 16 17:50	27° Υ 49'21	30.96630 AU
min. Earth dist.	5469 Oct 03 06:16	13° Υ 22'37	29.02774 AU	morning rise	5476 May 01 17:17	28° Υ 23'14	
direct	5469 Dec 21 20:48	11° Υ 58'44			5476 Jun 25 00:53	0° \mathcal{B}	
evening set	5470 Mar 19 04:15	13° Υ 52'31		retrograde	5476 Jul 30 21:00	0° \mathcal{B} 20'57	
					5476 Sep 05 18:32	30° $\mathcal{R}\Upsilon$	
conjunction	5470 Apr 03 13:01	14° Υ 27'14	-0°34'14	opposition	5476 Oct 19 11:34	28° Υ 56'31	-0°55'40
minimum elong	5470 Apr 03 13:01	14° Υ 27'14	0°34'14	min. Earth dist.	5476 Oct 18 23:28	28° Υ 57'21	28.96052 AU
max. Earth dist.	5470 Apr 03 22:44	14° Υ 28'09	31.02382 AU	direct	5477 Jan 06 07:33	27° Υ 33'17	
morning rise	5470 Apr 18 23:17	15° Υ 02'07		evening set	5477 Apr 03 06:13	29° Υ 26'49	
retrograde	5470 Jul 17 19:01	16° Υ 59'10			5477 Apr 17 22:40	0° \mathcal{B}	
opposition	5470 Oct 06 04:01	15° Υ 35'10	-0°38'09				
min. Earth dist.	5470 Oct 05 17:38	15° Υ 35'52	29.02017 AU	conjunction	5477 Apr 18 16:09	0° \mathcal{B} 01'39	-0°53'18
direct	5470 Dec 24 09:23	14° Υ 11'55		minimum elong	5477 Apr 18 16:09	0° \mathcal{B} 01'39	0°53'19
evening set	5471 Mar 21 14:38	16° Υ 05'42		max. Earth dist.	5477 Apr 19 05:04	0° \mathcal{B} 02'53	30.95425 AU
				morning rise	5477 May 04 04:20	0° \mathcal{B} 36'44	
conjunction	5471 Apr 05 23:24	16° Υ 40'26	-0°37'08	retrograde	5477 Aug 02 10:40	2° \mathcal{B} 34'32	
minimum elong	5471 Apr 05 23:24	16° Υ 40'26	0°37'09	min. Earth dist.	5477 Oct 21 10:57	1° \mathcal{B} 10'56	28.94870 AU
max. Earth dist.	5471 Apr 06 09:01	16° Υ 41'20	31.01620 AU	opposition	5477 Oct 22 00:41	1° \mathcal{B} 10'00	-0°58'19
morning rise	5471 Apr 21 10:03	17° Υ 15'21			5477 Dec 11 07:40	30° $\mathcal{R}\Upsilon$	
retrograde	5471 Jul 20 08:28	19° Υ 12'33		direct	5478 Jan 08 19:38	29° Υ 46'43	
opposition	5471 Oct 08 17:20	17° Υ 48'29	-0°41'14		5478 Feb 05 17:53	0° \mathcal{B}	
min. Earth dist.	5471 Oct 08 07:11	17° Υ 49'11	29.01250 AU	evening set	5478 Apr 05 16:57	1° \mathcal{B} 40'13	
direct	5471 Dec 26 20:55	16° Υ 25'18					
evening set	5472 Mar 23 01:01	18° Υ 19'03		conjunction	5478 Apr 21 03:03	2° \mathcal{B} 15'05	-0°55'45
				minimum elong	5478 Apr 21 03:03	2° \mathcal{B} 15'05	0°55'46
conjunction	5472 Apr 07 10:04	18° Υ 53'49	-0°40'00	max. Earth dist.	5478 Apr 21 16:38	2° \mathcal{B} 16'22	30.94266 AU
minimum elong	5472 Apr 07 10:04	18° Υ 53'49	0°40'00	morning rise	5478 May 06 15:35	2° \mathcal{B} 50'11	
max. Earth dist.	5472 Apr 07 21:12	18° Υ 54'52	31.00821 AU	retrograde	5478 Aug 04 23:26	4° \mathcal{B} 48'04	
morning rise	5472 Apr 22 20:45	19° Υ 28'45		opposition	5478 Oct 24 13:47	3° \mathcal{B} 23'26	-1°00'53
retrograde	5472 Jul 21 20:43	21° Υ 26'05		min. Earth dist.	5478 Oct 24 00:23	3° \mathcal{B} 24'21	28.93772 AU
opposition	5472 Oct 10 06:30	20° Υ 02'00	-0°44'16	direct	5479 Jan 11 06:17	2° \mathcal{B} 00'08	
min. Earth dist.	5472 Oct 09 19:25	20° Υ 02'45	29.00411 AU	evening set	5479 Apr 08 03:36	3° \mathcal{B} 53'37	
direct	5472 Dec 28 10:16	18° Υ 38'50					
evening set	5473 Mar 25 11:42	20° Υ 32'35		conjunction	5479 Apr 23 14:04	4° \mathcal{B} 28'29	-0°58'06
				minimum elong	5479 Apr 23 14:04	4° \mathcal{B} 28'29	0°58'07
conjunction	5473 Apr 09 20:44	21° Υ 07'21	-0°42'48	max. Earth dist.	5479 Apr 24 04:52	4° \mathcal{B} 29'54	30.93226 AU
minimum elong	5473 Apr 09 20:44	21° Υ 07'21	0°42'48	morning rise	5479 May 09 02:50	5° \mathcal{B} 03'37	
max. Earth dist.	5473 Apr 10 07:16	21° Υ 08'21	30.99939 AU	retrograde	5479 Aug 07 12:39	7° \mathcal{B} 01'36	
morning rise	5473 Apr 25 07:51	21° Υ 42'19		min. Earth dist.	5479 Oct 26 11:31	5° \mathcal{B} 37'56	28.92790 AU
retrograde	5473 Jul 24 09:41	23° Υ 39'47		opposition	5479 Oct 27 02:44	5° \mathcal{B} 36'54	-1°03'21
opposition	5473 Oct 12 19:54	22° Υ 15'37	-0°47'13	direct	5480 Jan 13 19:04	4° \mathcal{B} 13'35	
min. Earth dist.	5473 Oct 12 08:36	22° Υ 16'24	28.99485 AU	evening set	5480 Apr 09 14:24	6° \mathcal{B} 07'03	
direct	5473 Dec 30 20:57	20° Υ 52'28					
evening set	5474 Mar 27 22:13	22° Υ 46'11		conjunction	5480 Apr 25 00:56	6° \mathcal{B} 41'57	-1°00'22
				minimum elong	5480 Apr 25 00:56	6° \mathcal{B} 41'57	1°00'23
conjunction	5474 Apr 12 07:36	23° Υ 20'58	-0°45'32	max. Earth dist.	5480 Apr 25 15:45	6° \mathcal{B} 43'22	30.92300 AU
minimum elong	5474 Apr 12 07:36	23° Υ 20'58	0°45'32	morning rise	5480 May 10 14:09	7° \mathcal{B} 17'07	
max. Earth dist.	5474 Apr 12 19:30	23° Υ 22'06	30.98942 AU	retrograde	5480 Aug 09 02:41	9° \mathcal{B} 15'12	
morning rise	5474 Apr 27 18:50	23° Υ 55'58		opposition	5480 Oct 28 15:49	7° \mathcal{B} 50'26	-1°05'44
retrograde	5474 Jul 26 20:13	25° Υ 53'32		min. Earth dist.	5480 Oct 28 00:38	7° \mathcal{B} 51'29	28.91940 AU
opposition	5474 Oct 15 09:14	24° Υ 29'18	-0°50'07	direct	5481 Jan 15 06:31	6° \mathcal{B} 27'09	
min. Earth dist.	5474 Oct 14 21:44	24° Υ 30'05	28.98424 AU	evening set	5481 Apr 12 01:08	8° \mathcal{B} 20'37	
direct	5475 Jan 02 09:26	23° Υ 06'08					

conjunction	5481 Apr 27 12:07	8°8'55"33	-1°02'33	retrograde	5487 Aug 25 21:04	24°8'55"27	
minimum elong	5481 Apr 27 12:07	8°8'55"33	1°02'34	opposition	5487 Nov 14 11:03	23°8'30"33	-1°19'30
max. Earth dist.	5481 Apr 28 04:44	8°8'57"08	30.91513 AU	min. Earth dist.	5487 Nov 13 17:42	23°8'31"45	28.87353 AU
morning rise	5481 May 13 01:30	9°8'30"44		direct	5488 Jan 31 13:35	22°8'07"22	
retrograde	5481 Aug 11 15:42	11°8'28"55		evening set	5488 Apr 27 07:58	24°8'00"53	
opposition	5481 Oct 31 04:50	10°8'04"09	-1°08'01				
min. Earth dist.	5481 Oct 30 12:21	10°8'05"17	28.91210 AU	conjunction	5488 May 12 21:06	24°8'36"00	-1°15'04
direct	5482 Jan 17 19:44	8°8'40"53		minimum elong	5488 May 12 21:06	24°8'36"00	1°15'05
evening set	5482 Apr 14 12:03	10°8'34"21		max. Earth dist.	5488 May 13 15:56	24°8'37"47	30.86866 AU
				morning rise	5488 May 28 13:05	25°8'11"25	
conjunction	5482 Apr 29 23:10	11°8'09"19	-1°04'39	retrograde	5488 Aug 27 10:48	27°8'10"13	
minimum elong	5482 Apr 29 23:10	11°8'09"19	1°04'40	opposition	5488 Nov 15 23:56	25°8'45"14	-1°21'00
max. Earth dist.	5482 Apr 30 15:28	11°8'10"52	30.90837 AU	min. Earth dist.	5488 Nov 15 05:21	25°8'46"31	28.86501 AU
morning rise	5482 May 15 13:05	11°8'44"33		direct	5489 Feb 02 02:55	24°8'22"01	
retrograde	5482 Aug 14 05:09	13°8'42"51		evening set	5489 Apr 29 19:35	26°8'15"31	
opposition	5482 Nov 02 17:54	12°8'18"03	-1°10'13				
min. Earth dist.	5482 Nov 02 01:07	12°8'19"12	28.90586 AU	conjunction	5489 May 15 08:55	26°8'50"39	-1°16'25
direct	5483 Jan 20 06:10	10°8'54"49		minimum elong	5489 May 15 08:55	26°8'50"39	1°16'26
evening set	5483 Apr 16 23:03	12°8'48"19		max. Earth dist.	5489 May 16 03:17	26°8'52"23	30.86006 AU
				morning rise	5489 May 31 01:27	27°8'26"05	
conjunction	5483 May 02 10:36	13°8'23"18	-1°06'38	retrograde	5489 Aug 30 01:12	29°8'24"55	
minimum elong	5483 May 02 10:36	13°8'23"18	1°06'39	opposition	5489 Nov 18 12:52	27°8'59"51	-1°22'24
max. Earth dist.	5483 May 03 04:29	13°8'25"00	30.90236 AU	min. Earth dist.	5489 Nov 17 18:51	28°8'01"05	28.85664 AU
morning rise	5483 May 18 00:42	13°8'58"34		direct	5490 Feb 04 14:41	26°8'36"34	
	5483 Jun 17 07:12	15°8'		evening set	5490 May 02 07:00	28°8'30"02	
retrograde	5483 Aug 16 16:30	15°8'56"58					
	5483 Oct 19 03:14	15°8'		conjunction	5490 May 17 20:54	29°8'05"12	-1°17'39
opposition	5483 Nov 05 06:47	14°8'32"10	-1°12'17	minimum elong	5490 May 17 20:54	29°8'05"12	1°17'41
min. Earth dist.	5483 Nov 04 13:42	14°8'33"21	28.90006 AU	max. Earth dist.	5490 May 18 16:42	29°8'07"04	30.85192 AU
direct	5484 Jan 22 18:27	13°8'09"00		morning rise	5490 Jun 02 13:41	29°8'40"40	
	5484 Apr 17 07:08	15°8'			5490 Jun 11 10:51	0°8'	
evening set	5484 Apr 18 10:18	15°8'02"30		retrograde	5490 Sep 01 14:10	1°8'39"30	
				min. Earth dist.	5490 Nov 20 06:34	0°8'15"40	28.84883 AU
conjunction	5484 May 03 22:00	15°8'37"31	-1°08'32	opposition	5490 Nov 21 01:35	0°8'14"21	-1°23'40
minimum elong	5484 May 03 22:00	15°8'37"31	1°08'33		5490 Nov 29 17:29	30°8'	
max. Earth dist.	5484 May 04 15:25	15°8'39"11	30.89674 AU	direct	5491 Feb 07 04:17	28°8'51"02	
morning rise	5484 May 19 12:35	16°8'12"49			5491 Apr 13 12:16	0°8'	
retrograde	5484 Aug 18 07:15	18°8'11"20		evening set	5491 May 04 18:44	0°8'44"28	
opposition	5484 Nov 06 19:50	16°8'46"32	-1°14'16				
min. Earth dist.	5484 Nov 06 01:57	16°8'47"46	28.89447 AU	conjunction	5491 May 20 08:49	1°8'19"40	-1°18'47
direct	5485 Jan 24 04:45	15°8'23"23		minimum elong	5491 May 20 08:49	1°8'19"40	1°18'47
evening set	5485 Apr 20 21:29	17°8'16"55		max. Earth dist.	5491 May 21 04:00	1°8'21"29	30.84460 AU
				morning rise	5491 Jun 05 02:09	1°8'55"10	
conjunction	5485 May 06 09:33	17°8'51"58	-1°10'20	retrograde	5491 Sep 04 03:51	3°8'54"00	
minimum elong	5485 May 06 09:32	17°8'51"58	1°10'20	opposition	5491 Nov 23 14:11	2°8'28"48	-1°24'48
max. Earth dist.	5485 May 07 03:55	17°8'53"42	30.89086 AU	min. Earth dist.	5491 Nov 22 19:08	2°8'30"08	28.84222 AU
morning rise	5485 May 22 00:24	18°8'27"18		direct	5492 Feb 09 15:08	1°8'05"27	
retrograde	5485 Aug 20 18:36	20°8'25"55		evening set	5492 May 06 06:17	2°8'58"52	
opposition	5485 Nov 09 09:01	19°8'01"06	-1°16'07				
min. Earth dist.	5485 Nov 08 15:40	19°8'02"18	28.88836 AU	conjunction	5492 May 21 20:53	3°8'34"05	-1°19'47
direct	5486 Jan 26 16:09	17°8'37"59		minimum elong	5492 May 21 20:53	3°8'34"05	1°19'48
evening set	5486 Apr 23 08:59	19°8'31"31		max. Earth dist.	5492 May 22 17:38	3°8'36"03	30.83857 AU
				morning rise	5492 Jun 06 14:29	4°8'09"37	
conjunction	5486 May 08 21:22	20°8'06"35	-1°12'01	retrograde	5492 Sep 05 16:23	6°8'08"28	
minimum elong	5486 May 08 21:22	20°8'06"35	1°12'02	min. Earth dist.	5492 Nov 24 07:21	4°8'44"35	28.83689 AU
max. Earth dist.	5486 May 09 15:38	20°8'08"19	30.88441 AU	opposition	5492 Nov 25 02:51	4°8'43"14	-1°25'49
morning rise	5486 May 24 12:38	20°8'41"57		direct	5493 Feb 11 04:34	3°8'19"52	
retrograde	5486 Aug 23 08:26	22°8'40"39		evening set	5493 May 08 17:55	5°8'13"17	
opposition	5486 Nov 11 21:56	21°8'15"48	-1°17'52				
min. Earth dist.	5486 Nov 11 03:37	21°8'17"04	28.88145 AU	conjunction	5493 May 24 08:50	5°8'48"31	-1°20'40
direct	5487 Jan 29 03:35	19°8'52"39		minimum elong	5493 May 24 08:50	5°8'48"31	1°20'41
evening set	5487 Apr 25 20:34	21°8'46"12		max. Earth dist.	5493 May 25 05:09	5°8'50"27	30.83404 AU
				morning rise	5493 Jun 09 03:00	6°8'24"05	
conjunction	5487 May 11 09:15	22°8'21"18	-1°13'36	retrograde	5493 Sep 08 06:56	8°8'22"58	
minimum elong	5487 May 11 09:15	22°8'21"18	1°13'36	opposition	5493 Nov 27 15:30	6°8'57"42	-1°26'42
max. Earth dist.	5487 May 12 03:27	22°8'23"01	30.87690 AU	min. Earth dist.	5493 Nov 26 19:09	6°8'59"07	28.83311 AU
morning rise	5487 May 27 00:56	22°8'56"41		direct	5494 Feb 13 15:50	5°8'34"19	

evening set	5494 May 11 05:43	7° Π 27'44		min. Earth dist.	5500 Dec 13 11:57	22° Π 44'04	28.81871 AU
				opposition	5500 Dec 14 07:25	22° Π 42'42	-1°29'05
conjunction	5494 May 26 21:06	8° Π 03'01	-1°21'26	direct	5501 Mar 01 23:56	21° Π 19'18	
minimum elong	5494 May 26 21:06	8° Π 03'01	1°21'28	evening set	5501 May 27 19:28	23° Π 12'55	
max. Earth dist.	5494 May 27 18:28	8° Π 05'02	30.83082 AU				
morning rise	5494 Jun 11 15:37	8° Π 38'36		conjunction	5501 Jun 12 13:59	23° Π 48'24	-1°23'14
retrograde	5494 Sep 10 18:01	10° Π 37'31		minimum elong	5501 Jun 12 13:59	23° Π 48'24	1°23'14
min. Earth dist.	5494 Nov 29 08:05	9° Π 13'39	28.83052 AU	max. Earth dist.	5501 Jun 13 11:16	23° Π 50'24	30.81587 AU
opposition	5494 Nov 30 04:01	9° Π 12'15	-1°27'26	morning rise	5501 Jun 28 11:32	24° Π 24'11	
direct	5495 Feb 16 03:15	7° Π 48'53		retrograde	5501 Sep 27 18:06	26° Π 23'10	
evening set	5495 May 13 17:38	9° Π 42'20		opposition	5501 Dec 16 19:49	24° Π 57'57	-1°28'53
				min. Earth dist.	5501 Dec 16 00:32	24° Π 59'18	28.81464 AU
conjunction	5495 May 29 09:27	10° Π 17'38	-1°22'04	direct	5502 Mar 04 14:00	23° Π 34'30	
minimum elong	5495 May 29 09:27	10° Π 17'38	1°22'05	evening set	5502 May 30 08:04	25° Π 28'06	
max. Earth dist.	5495 May 30 06:50	10° Π 19'39	30.82887 AU				
morning rise	5495 Jun 14 04:26	10° Π 53'15		conjunction	5502 Jun 15 02:57	26° Π 03'37	-1°22'59
retrograde	5495 Sep 13 07:50	12° Π 52'11		minimum elong	5502 Jun 15 02:57	26° Π 03'37	1°23'00
opposition	5495 Dec 02 16:33	11° Π 26'57	-1°28'03	max. Earth dist.	5502 Jun 15 23:07	26° Π 05'31	30.81192 AU
min. Earth dist.	5495 Dec 01 19:34	11° Π 28'25	28.82899 AU	morning rise	5502 Jul 01 01:06	26° Π 39'26	
direct	5496 Feb 18 14:20	10° Π 03'36		retrograde	5502 Sep 30 08:25	28° Π 38'22	
evening set	5496 May 15 05:37	11° Π 57'04		opposition	5502 Dec 19 07:57	27° Π 13'07	-1°28'33
				min. Earth dist.	5502 Dec 18 12:29	27° Π 14'28	28.81087 AU
conjunction	5496 May 30 21:46	12° Π 32'24	-1°22'35	direct	5503 Mar 07 01:53	25° Π 49'36	
minimum elong	5496 May 30 21:46	12° Π 32'24	1°22'37	evening set	5503 Jun 01 20:36	27° Π 43'13	
max. Earth dist.	5496 May 31 19:21	12° Π 34'27	30.82756 AU				
morning rise	5496 Jun 15 17:11	13° Π 08'03		conjunction	5503 Jun 17 16:01	28° Π 18'45	-1°22'36
retrograde	5496 Sep 14 20:27	15° Π 07'03		minimum elong	5503 Jun 17 16:01	28° Π 18'45	1°22'37
min. Earth dist.	5496 Dec 03 09:15	13° Π 43'14	28.82793 AU	max. Earth dist.	5503 Jun 18 12:51	28° Π 20'43	30.80833 AU
opposition	5496 Dec 04 05:16	13° Π 41'50	-1°28'32	morning rise	5503 Jul 03 14:29	28° Π 54'36	
direct	5497 Feb 20 00:01	12° Π 18'30			5503 Aug 05 07:09	0° Θ	
evening set	5497 May 17 17:45	14° Π 12'01		retrograde	5503 Oct 02 19:51	0° Θ 53'29	
					5503 Dec 02 10:41	30° \mathcal{R} Π	
conjunction	5497 Jun 02 10:26	14° Π 47'22	-1°22'58	opposition	5503 Dec 21 20:11	29° Π 28'13	-1°28'04
minimum elong	5497 Jun 02 10:27	14° Π 47'22	1°22'59	min. Earth dist.	5503 Dec 21 01:20	29° Π 29'32	28.80770 AU
max. Earth dist.	5497 Jun 03 08:27	14° Π 49'27	30.82663 AU	direct	5504 Mar 08 14:02	28° Π 04'40	
morning rise	5497 Jun 18 06:13	15° Π 23'03		evening set	5504 Jun 03 09:01	29° Π 58'16	
retrograde	5497 Sep 17 10:21	17° Π 22'04			5504 Jun 04 03:51	0° Θ	
opposition	5497 Dec 06 17:45	15° Π 56'53	-1°28'52				
min. Earth dist.	5497 Dec 05 20:52	15° Π 58'21	28.82686 AU	conjunction	5504 Jun 19 04:52	0° Θ 33'50	-1°22'06
direct	5498 Feb 22 12:39	14° Π 33'34		minimum elong	5504 Jun 19 04:52	0° Θ 33'50	1°22'08
evening set	5498 May 20 06:11	16° Π 27'08		max. Earth dist.	5504 Jun 20 01:26	0° Θ 35'47	30.80575 AU
				morning rise	5504 Jul 05 03:49	1° Θ 09'42	
conjunction	5498 Jun 04 23:11	17° Π 02'31	-1°23'13	retrograde	5504 Oct 04 09:50	3° Θ 08'33	
minimum elong	5498 Jun 04 23:11	17° Π 02'31	1°23'15	opposition	5504 Dec 23 08:16	1° Θ 43'15	-1°27'28
max. Earth dist.	5498 Jun 05 20:12	17° Π 04'30	30.82522 AU	min. Earth dist.	5504 Dec 22 12:32	1° Θ 44'38	28.80569 AU
morning rise	5498 Jun 20 19:32	17° Π 38'14		direct	5505 Mar 11 01:42	0° Θ 19'40	
retrograde	5498 Sep 20 00:33	19° Π 37'17		evening set	5505 Jun 05 21:39	2° Θ 13'17	
min. Earth dist.	5498 Dec 08 10:41	18° Π 13'29	28.82512 AU				
opposition	5498 Dec 09 06:26	18° Π 12'06	-1°29'04	conjunction	5505 Jun 21 17:56	2° Θ 48'53	-1°21'29
direct	5499 Feb 24 23:34	16° Π 48'46		minimum elong	5505 Jun 21 17:56	2° Θ 48'53	1°21'29
evening set	5499 May 22 18:35	18° Π 42'22		max. Earth dist.	5505 Jun 22 14:38	2° Θ 50'50	30.80430 AU
				morning rise	5505 Jul 07 17:21	3° Θ 24'46	
conjunction	5499 Jun 07 12:11	19° Π 17'47	-1°23'21	retrograde	5505 Oct 06 21:52	5° Θ 23'35	
minimum elong	5499 Jun 07 12:11	19° Π 17'47	1°23'21	opposition	5505 Dec 25 20:21	3° Θ 58'17	-1°26'44
max. Earth dist.	5499 Jun 08 09:51	19° Π 19'50	30.82296 AU	min. Earth dist.	5505 Dec 25 01:37	3° Θ 59'36	28.80497 AU
morning rise	5499 Jun 23 08:47	19° Π 53'32		direct	5506 Mar 13 11:29	2° Θ 34'40	
retrograde	5499 Sep 22 13:56	21° Π 52'34		evening set	5506 Jun 08 10:14	4° Θ 28'18	
opposition	5499 Dec 11 18:51	20° Π 27'24	-1°29'09				
min. Earth dist.	5499 Dec 10 22:44	20° Π 28'48	28.82228 AU	conjunction	5506 Jun 24 07:07	5° Θ 03'55	-1°20'43
direct	5500 Feb 27 12:45	19° Π 04'03		minimum elong	5506 Jun 24 07:07	5° Θ 03'55	1°20'45
evening set	5500 May 25 07:09	20° Π 57'39		max. Earth dist.	5506 Jun 25 04:09	5° Θ 05'55	30.80434 AU
				morning rise	5506 Jul 10 06:55	5° Θ 39'51	
conjunction	5500 Jun 10 01:02	21° Π 33'06	-1°23'21	retrograde	5506 Oct 09 10:16	7° Θ 38'36	
minimum elong	5500 Jun 10 01:02	21° Π 33'06	1°23'23	opposition	5506 Dec 28 08:16	6° Θ 13'20	-1°25'52
max. Earth dist.	5500 Jun 10 21:22	21° Π 35'02	30.81973 AU	min. Earth dist.	5506 Dec 27 12:31	6° Θ 14'43	28.80558 AU
morning rise	5500 Jun 25 22:16	22° Π 08'52		direct	5507 Mar 16 00:07	4° Θ 49'41	
retrograde	5500 Sep 25 04:35	24° Π 07'54		evening set	5507 Jun 10 23:00	6° Θ 43'22	

conjunction	5507 Jun 26 20:11	7° 0 19'01	-1°19'51	direct	5514 Mar 31 11:57	20° 0 36'25	
minimum elong	5507 Jun 26 20:12	7° 0 19'01	1°19'52	evening set	5514 Jun 26 18:46	22° 0 30'18	
max. Earth dist.	5507 Jun 27 16:29	7° 0 20'56	30.80554 AU				
morning rise	5507 Jul 12 20:31	7° 0 54'57		conjunction	5514 Jul 12 19:19	23° 0 06'08	-1°10'22
retrograde	5507 Oct 11 22:54	9° 0 53'41		minimum elong	5514 Jul 12 19:19	23° 0 06'08	1°10'24
opposition	5507 Dec 30 20:15	8° 0 28'27	-1°24'51	max. Earth dist.	5514 Jul 13 12:34	23° 0 07'45	30.81820 AU
min. Earth dist.	5507 Dec 30 01:27	8° 0 29'46	28.80741 AU	morning rise	5514 Jul 28 22:27	23° 0 42'13	
direct	5508 Mar 17 09:56	7° 0 04'48		retrograde	5514 Oct 27 21:10	25° 0 40'24	
evening set	5508 Jun 12 11:44	8° 0 58'31		opposition	5515 Jan 15 06:54	24° 0 15'17	-1°14'17
				min. Earth dist.	5515 Jan 14 15:51	24° 0 16'21	28.81887 AU
conjunction	5508 Jun 28 09:33	9° 0 34'11	-1°18'51	direct	5515 Apr 02 23:03	22° 0 51'23	
minimum elong	5508 Jun 28 09:33	9° 0 34'11	1°18'53	evening set	5515 Jun 29 07:54	24° 0 45'15	
max. Earth dist.	5508 Jun 29 06:40	9° 0 36'11	30.80793 AU				
morning rise	5508 Jul 14 10:09	10° 0 10'09		conjunction	5515 Jul 15 08:57	25° 0 21'06	-1°08'35
retrograde	5508 Oct 13 12:04	12° 0 08'50		minimum elong	5515 Jul 15 08:57	25° 0 21'06	1°08'35
opposition	5509 Jan 01 08:07	10° 0 43'39	-1°23'43	max. Earth dist.	5515 Jul 16 02:01	25° 0 22'42	30.81850 AU
min. Earth dist.	5508 Dec 31 12:50	10° 0 45'00	28.81009 AU	morning rise	5515 Jul 31 12:24	25° 0 57'12	
direct	5509 Mar 19 21:56	9° 0 20'00		retrograde	5515 Oct 30 09:24	27° 0 55'15	
evening set	5509 Jun 15 00:40	11° 0 13'46		opposition	5516 Jan 17 18:16	26° 0 30'09	-1°12'19
				min. Earth dist.	5516 Jan 17 02:37	26° 0 31'15	28.81935 AU
conjunction	5509 Jun 30 22:49	11° 0 49'28	-1°17'43	direct	5516 Apr 04 11:48	25° 0 06'10	
minimum elong	5509 Jun 30 22:49	11° 0 49'28	1°17'44	evening set	5516 Jun 30 21:10	27° 0 00'03	
max. Earth dist.	5509 Jul 01 18:39	11° 0 51'20	30.81092 AU				
morning rise	5509 Jul 17 00:02	12° 0 25'27		conjunction	5516 Jul 16 22:32	27° 0 35'55	-1°06'41
retrograde	5509 Oct 16 02:29	14° 0 24'06		minimum elong	5516 Jul 16 22:32	27° 0 35'55	1°06'42
opposition	5510 Jan 03 20:04	12° 0 58'57	-1°22'27	max. Earth dist.	5516 Jul 17 14:38	27° 0 37'26	30.81937 AU
min. Earth dist.	5510 Jan 03 01:40	13° 0 00'15	28.81318 AU	morning rise	5516 Aug 02 02:26	28° 0 12'01	
direct	5510 Mar 22 08:58	11° 0 35'18			5516 Oct 07 07:53	0° 0 09'59	
evening set	5510 Jun 17 13:46	13° 0 29'07		retrograde	5516 Oct 31 21:21	0° 0 09'59	
					5516 Nov 25 16:33	30° 0 09'59	
conjunction	5510 Jul 03 12:32	14° 0 04'51	-1°16'29	opposition	5517 Jan 19 05:44	28° 0 44'52	-1°10'14
minimum elong	5510 Jul 03 12:32	14° 0 04'51	1°16'30	min. Earth dist.	5517 Jan 18 15:15	28° 0 45'53	28.82080 AU
max. Earth dist.	5510 Jul 04 08:58	14° 0 06'46	30.81384 AU	direct	5517 Apr 06 21:39	27° 0 20'49	
morning rise	5510 Jul 19 13:59	14° 0 40'52		evening set	5517 Jul 03 10:15	29° 0 14'44	
retrograde	5510 Oct 18 15:57	16° 0 39'27					
opposition	5511 Jan 06 07:50	15° 0 14'20	-1°21'03	conjunction	5517 Jul 19 12:13	29° 0 50'37	-1°04'41
min. Earth dist.	5511 Jan 05 14:01	15° 0 15'36	28.81578 AU	minimum elong	5517 Jul 19 12:14	29° 0 50'37	1°04'41
direct	5511 Mar 24 22:38	13° 0 50'40		max. Earth dist.	5517 Jul 20 04:53	29° 0 52'11	30.82144 AU
evening set	5511 Jun 20 03:05	15° 0 44'32			5517 Jul 23 16:13	0° 0 09'59	
				morning rise	5517 Aug 04 16:21	0° 0 26'43	
conjunction	5511 Jul 06 02:10	16° 0 20'17	-1°15'07	retrograde	5517 Nov 03 09:29	2° 0 24'34	
minimum elong	5511 Jul 06 02:10	16° 0 20'17	1°15'08	opposition	5518 Jan 21 17:00	0° 0 59'29	-1°08'03
max. Earth dist.	5511 Jul 06 20:53	16° 0 22'03	30.81616 AU	min. Earth dist.	5518 Jan 21 02:04	1° 0 00'32	28.82339 AU
morning rise	5511 Jul 22 04:09	16° 0 56'19			5518 Mar 01 15:11	30° 0 09'59	
retrograde	5511 Oct 21 06:21	18° 0 54'50		direct	5518 Apr 09 09:41	29° 0 35'23	
opposition	5512 Jan 08 19:44	17° 0 29'45	-1°19'32		5518 May 17 13:41	0° 0 09'59	
min. Earth dist.	5512 Jan 08 02:12	17° 0 30'58	28.81766 AU	evening set	5518 Jul 05 23:38	1° 0 29'20	
direct	5512 Mar 26 10:26	16° 0 06'01					
evening set	5512 Jun 21 16:10	17° 0 59'54		conjunction	5518 Jul 22 01:51	2° 0 05'14	-1°02'36
				minimum elong	5518 Jul 22 01:51	2° 0 05'14	1°02'37
conjunction	5512 Jul 07 15:49	18° 0 35'41	-1°13'39	max. Earth dist.	5518 Jul 22 17:09	2° 0 06'40	30.82477 AU
minimum elong	5512 Jul 07 15:49	18° 0 35'41	1°13'40	morning rise	5518 Aug 07 06:27	2° 0 41'22	
max. Earth dist.	5512 Jul 08 10:38	18° 0 37'28	30.81749 AU	retrograde	5518 Nov 05 22:19	4° 0 39'07	
morning rise	5512 Jul 23 18:05	19° 0 11'44		opposition	5519 Jan 24 04:13	3° 0 14'03	-1°05'45
retrograde	5512 Oct 22 19:00	21° 0 10'10		min. Earth dist.	5519 Jan 23 14:00	3° 0 15'03	28.82752 AU
opposition	5513 Jan 10 07:39	19° 0 45'04	-1°17'54	direct	5519 Apr 11 20:23	1° 0 49'56	
min. Earth dist.	5513 Jan 09 15:17	19° 0 46'14	28.81849 AU	evening set	5519 Jul 08 12:49	3° 0 43'55	
direct	5513 Mar 28 23:14	18° 0 21'18					
evening set	5513 Jun 24 05:28	20° 0 15'11		conjunction	5519 Jul 24 15:36	4° 0 19'51	-1°00'24
				minimum elong	5519 Jul 24 15:37	4° 0 19'51	1°00'25
conjunction	5513 Jul 10 05:34	20° 0 51'00	-1°12'04	max. Earth dist.	5519 Jul 25 07:47	4° 0 21'22	30.82964 AU
minimum elong	5513 Jul 10 05:34	20° 0 51'00	1°12'05	morning rise	5519 Aug 09 20:21	4° 0 55'59	
max. Earth dist.	5513 Jul 10 23:13	20° 0 52'39	30.81811 AU	retrograde	5519 Nov 08 10:42	6° 0 53'38	
morning rise	5513 Jul 26 08:19	21° 0 27'03		opposition	5520 Jan 26 15:27	5° 0 28'39	-1°03'22
retrograde	5513 Oct 25 09:40	23° 0 25'21		min. Earth dist.	5520 Jan 26 01:26	5° 0 29'38	28.83305 AU
opposition	5514 Jan 12 19:13	22° 0 00'16	-1°16'09	direct	5520 Apr 13 09:15	4° 0 04'31	
min. Earth dist.	5514 Jan 12 02:40	22° 0 01'26	28.81878 AU	evening set	5520 Jul 10 02:03	5° 0 58'34	

conjunction	5520 Jul 26 05:06	6°♏34'30 -0°58'07	retrograde	5526 Nov 24 05:01	22°♏37'06
minimum elong	5520 Jul 26 05:06	6°♏34'30 0°58'09	opposition	5527 Feb 10 21:01	21°♏12'32 -0°44'08
max. Earth dist.	5520 Jul 26 19:55	6°♏35'53 30.83601 AU	min. Earth dist.	5527 Feb 10 11:38	21°♏13'12 28.88028 AU
morning rise	5520 Aug 11 10:20	7°♏10'39	direct	5527 Apr 29 19:55	19°♏48'16
retrograde	5520 Nov 10 00:43	9°♏08'14	evening set	5527 Jul 27 01:27	21°♏42'38
opposition	5521 Jan 28 02:41	7°♏43'19 -1°00'52			
min. Earth dist.	5521 Jan 27 12:43	7°♏44'18 28.84002 AU	conjunction	5527 Aug 12 06:51	22°♏18'40 -0°39'53
direct	5521 Apr 15 20:14	6°♏19'11	minimum elong	5527 Aug 12 06:51	22°♏18'40 0°39'53
evening set	5521 Jul 12 15:27	8°♏13'18	max. Earth dist.	5527 Aug 12 15:49	22°♏19'30 30.88267 AU
			morning rise	5527 Aug 28 13:40	22°♏54'51
conjunction	5521 Jul 28 19:00	8°♏49'16 -0°55'45	retrograde	5527 Nov 26 16:20	24°♏51'36
minimum elong	5521 Jul 28 19:00	8°♏49'16 0°55'46	opposition	5528 Feb 13 07:57	23°♏27'03 -0°41'06
max. Earth dist.	5521 Jul 29 10:12	8°♏50'41 30.84343 AU	min. Earth dist.	5528 Feb 12 23:39	23°♏27'38 28.88548 AU
morning rise	5521 Aug 14 00:23	9°♏25'26	direct	5528 May 01 06:46	22°♏02'43
retrograde	5521 Nov 12 13:39	11°♏22'56	evening set	5528 Jul 28 14:50	23°♏57'04
opposition	5522 Jan 30 13:46	9°♏58'06 -0°58'17			
min. Earth dist.	5522 Jan 30 00:59	9°♏59'00 28.84772 AU	conjunction	5528 Aug 13 20:42	24°♏33'07 -0°37'01
direct	5522 Apr 18 08:40	8°♏33'59	minimum elong	5528 Aug 13 20:42	24°♏33'07 0°37'02
evening set	5522 Jul 15 05:03	10°♏28'10	max. Earth dist.	5528 Aug 14 06:11	24°♏34'00 30.88801 AU
			morning rise	5528 Aug 30 03:32	25°♏09'17
conjunction	5522 Jul 31 08:54	11°♏04'10 -0°53'17	retrograde	5528 Nov 28 03:05	27°♏05'53
minimum elong	5522 Jul 31 08:55	11°♏04'10 0°53'19	opposition	5529 Feb 14 18:44	25°♏41'21 -0°38'00
max. Earth dist.	5522 Jul 31 22:46	11°♏05'28 30.85140 AU	min. Earth dist.	5529 Feb 14 11:01	25°♏41'54 28.89098 AU
morning rise	5522 Aug 16 14:39	11°♏40'20	direct	5529 May 03 19:08	24°♏16'57
retrograde	5522 Nov 15 04:48	13°♏37'45	evening set	5529 Jul 31 04:33	26°♏11'19
min. Earth dist.	5523 Feb 01 12:00	12°♏13'54 28.85562 AU			
opposition	5523 Feb 02 00:52	12°♏13'00 -0°55'37	conjunction	5529 Aug 16 10:31	26°♏47'22 -0°34'06
direct	5523 Apr 20 21:27	10°♏48'54	minimum elong	5529 Aug 16 10:31	26°♏47'22 0°34'06
evening set	5523 Jul 17 18:38	12°♏43'09	max. Earth dist.	5529 Aug 16 18:15	26°♏48'05 30.89396 AU
			morning rise	5529 Sep 01 17:39	27°♏23'32
conjunction	5523 Aug 02 22:48	13°♏19'10 -0°50'45	retrograde	5529 Nov 30 16:00	29°♏19'58
minimum elong	5523 Aug 02 22:48	13°♏19'10 0°50'45	opposition	5530 Feb 17 05:19	27°♏55'27 -0°34'51
max. Earth dist.	5523 Aug 03 12:08	13°♏20'24 30.85902 AU	min. Earth dist.	5530 Feb 16 21:52	27°♏55'59 28.89742 AU
morning rise	5523 Aug 19 04:42	13°♏55'20	direct	5530 May 06 05:57	26°♏30'58
	5523 Sep 20 19:46	15°♏	evening set	5530 Aug 02 18:07	28°♏25'23
retrograde	5523 Nov 17 16:28	15°♏52'40			
	5524 Jan 16 03:01	15°♏♏	conjunction	5530 Aug 19 00:26	29°♏01'25 -0°31'08
opposition	5524 Feb 04 12:05	14°♏27'59 -0°52'51	minimum elong	5530 Aug 19 00:26	29°♏01'25 0°31'09
min. Earth dist.	5524 Feb 04 01:01	14°♏28'46 28.86296 AU	max. Earth dist.	5530 Aug 19 08:31	29°♏02'10 30.90086 AU
direct	5524 Apr 22 08:43	13°♏03'52	morning rise	5530 Sep 04 07:31	29°♏37'34
evening set	5524 Jul 19 08:16	14°♏58'10		5530 Sep 14 20:29	0°♏
	5524 Jul 20 04:22	15°♏	retrograde	5530 Dec 03 03:19	1°♏33'52
			opposition	5531 Feb 19 16:03	0°♏09'23 -0°31'39
conjunction	5524 Aug 04 12:51	15°♏34'11 -0°48'08	min. Earth dist.	5531 Feb 19 09:37	0°♏09'50 28.90492 AU
minimum elong	5524 Aug 04 12:51	15°♏34'11 0°48'09		5531 Feb 25 04:38	30°♏♏
max. Earth dist.	5524 Aug 05 01:20	15°♏35'21 30.86607 AU	direct	5531 May 08 18:50	28°♏44'52
morning rise	5524 Aug 20 18:59	16°♏10'22		5531 Jul 17 08:47	0°♏
retrograde	5524 Nov 19 05:30	18°♏07'34	evening set	5531 Aug 05 07:35	0°♏39'18
opposition	5525 Feb 05 23:05	16°♏42'57 -0°50'01			
min. Earth dist.	5525 Feb 05 11:54	16°♏43'44 28.86949 AU	conjunction	5531 Aug 21 14:00	1°♏15'20 -0°28'07
direct	5525 Apr 24 21:25	15°♏18'48	minimum elong	5531 Aug 21 14:00	1°♏15'20 0°28'07
evening set	5525 Jul 21 22:03	17°♏13'08	max. Earth dist.	5531 Aug 21 20:53	1°♏15'58 30.90913 AU
			morning rise	5531 Sep 06 21:17	1°♏51'28
conjunction	5525 Aug 07 02:52	17°♏49'10 -0°45'27	retrograde	5531 Dec 05 16:55	3°♏47'38
minimum elong	5525 Aug 07 02:53	17°♏49'10 0°45'27	opposition	5532 Feb 22 02:38	2°♏23'12 -0°28'24
max. Earth dist.	5525 Aug 07 13:50	17°♏50'11 30.87214 AU	min. Earth dist.	5532 Feb 21 19:44	2°♏23'41 28.91387 AU
morning rise	5525 Aug 23 09:19	18°♏25'21	direct	5532 May 10 07:42	0°♏58'39
retrograde	5525 Nov 21 18:01	20°♏22'25	evening set	5532 Aug 06 21:08	2°♏53'08
opposition	5526 Feb 08 10:13	18°♏57'50 -0°47'07			
min. Earth dist.	5526 Feb 08 00:45	18°♏58'30 28.87518 AU	conjunction	5532 Aug 23 03:48	3°♏29'11 -0°25'03
direct	5526 Apr 27 07:32	17°♏33'38	minimum elong	5532 Aug 23 03:48	3°♏29'11 0°25'05
evening set	5526 Jul 24 11:42	19°♏27'58	max. Earth dist.	5532 Aug 23 10:34	3°♏29'48 30.91875 AU
			morning rise	5532 Sep 08 11:04	4°♏05'19
conjunction	5526 Aug 09 16:58	20°♏04'01 -0°42'42	retrograde	5532 Dec 07 04:17	6°♏01'21
minimum elong	5526 Aug 09 16:59	20°♏04'01 0°42'43	opposition	5533 Feb 23 13:16	4°♏36'59 -0°25'07
max. Earth dist.	5526 Aug 10 03:44	20°♏05'01 30.87757 AU	min. Earth dist.	5533 Feb 23 07:52	4°♏37'22 28.92417 AU
morning rise	5526 Aug 25 23:28	20°♏40'12	direct	5533 May 12 18:56	3°♏12'27

evening set	5533 Aug 09 10:44	5° \mathring{M} 06'59		direct	5539 May 26 14:51	16° \mathring{M} 36'08	
				evening set	5539 Aug 23 21:14	18° \mathring{M} 30'59	
conjunction	5533 Aug 25 17:37	5° \mathring{M} 43'02	-0°21'58				
minimum elong	5533 Aug 25 17:37	5° \mathring{M} 43'02	0°21'58	conjunction	5539 Sep 09 04:42	19° \mathring{M} 07'01	-0°02'54
max. Earth dist.	5533 Aug 25 23:46	5° \mathring{M} 43'36	30.92972 AU	minimum elong	5539 Sep 09 04:41	19° \mathring{M} 07'01	0°02'54
morning rise	5533 Sep 11 00:59	6° \mathring{M} 19'09		behind sun begin	5539 Sep 08 22:06	19° \mathring{M} 06'26	
retrograde	5533 Dec 09 17:44	8° \mathring{M} 15'04		behind sun end	5539 Sep 09 11:15	19° \mathring{M} 07'36	
opposition	5534 Feb 25 23:46	6° \mathring{M} 50'49	-0°21'47	max. Earth dist.	5539 Sep 09 05:04	19° \mathring{M} 07'02	30.98997 AU
min. Earth dist.	5534 Feb 25 18:02	6° \mathring{M} 51'13	28.93545 AU	morning rise	5539 Sep 25 11:43	19° \mathring{M} 43'04	
direct	5534 May 15 07:37	5° \mathring{M} 26'18		retrograde	5539 Dec 23 14:19	21° \mathring{M} 38'16	
evening set	5534 Aug 12 00:30	7° \mathring{M} 20'53		opposition	5540 Mar 10 15:13	20° \mathring{M} 14'28	-0°01'19
				min. Earth dist.	5540 Mar 10 15:47	20° \mathring{M} 14'25	28.99366 AU
conjunction	5534 Aug 28 07:25	7° \mathring{M} 56'57	-0°18'50	direct	5540 May 28 03:57	18° \mathring{M} 49'51	
minimum elong	5534 Aug 28 07:25	7° \mathring{M} 56'57	0°18'50	asc. node	5540 Jul 29 12:03	19° \mathring{M} 50'36	
max. Earth dist.	5534 Aug 28 12:26	7° \mathring{M} 57'25	30.94122 AU	evening set	5540 Aug 25 10:57	20° \mathring{M} 44'44	
morning rise	5534 Sep 13 14:48	8° \mathring{M} 33'04					
retrograde	5534 Dec 12 06:11	10° \mathring{M} 28'53		conjunction	5540 Sep 10 18:18	21° \mathring{M} 20'45	0°00'24
opposition	5535 Feb 28 10:23	9° \mathring{M} 04'44	-0°18'25	minimum elong	5540 Sep 10 18:19	21° \mathring{M} 20'45	0°00'23
min. Earth dist.	5535 Feb 28 06:18	9° \mathring{M} 05'01	28.94710 AU	behind sun begin	5540 Sep 10 11:45	21° \mathring{M} 20'11	
direct	5535 May 17 17:48	7° \mathring{M} 40'14		behind sun end	5540 Sep 11 00:53	21° \mathring{M} 21'20	
evening set	5535 Aug 14 14:11	9° \mathring{M} 34'54		max. Earth dist.	5540 Sep 10 16:57	21° \mathring{M} 20'42	30.99736 AU
				morning rise	5540 Sep 27 01:23	21° \mathring{M} 56'46	
conjunction	5535 Aug 30 21:21	10° \mathring{M} 10'58	-0°15'40	retrograde	5540 Dec 25 02:58	23° \mathring{M} 51'50	
minimum elong	5535 Aug 30 21:21	10° \mathring{M} 10'58	0°15'40	opposition	5541 Mar 13 01:26	22° \mathring{M} 28'03	0°02'07
behind sun begin	5535 Aug 30 20:36	10° \mathring{M} 10'54		min. Earth dist.	5541 Mar 13 01:57	22° \mathring{M} 28'01	29.00097 AU
behind sun end	5535 Aug 30 22:06	10° \mathring{M} 11'02		direct	5541 May 30 16:58	21° \mathring{M} 03'23	
max. Earth dist.	5535 Aug 31 02:05	10° \mathring{M} 11'23	30.95281 AU	evening set	5541 Aug 28 00:34	22° \mathring{M} 58'18	
morning rise	5535 Sep 16 04:38	10° \mathring{M} 47'04					
retrograde	5535 Dec 14 17:30	12° \mathring{M} 42'46		conjunction	5541 Sep 13 08:00	23° \mathring{M} 34'19	0°03'39
opposition	5536 Mar 01 20:56	11° \mathring{M} 18'44	-0°15'01	minimum elong	5541 Sep 13 08:00	23° \mathring{M} 34'19	0°03'40
min. Earth dist.	5536 Mar 01 17:04	11° \mathring{M} 19'00	28.95837 AU	behind sun begin	5541 Sep 13 01:27	23° \mathring{M} 33'44	
direct	5536 May 19 06:04	9° \mathring{M} 54'15		behind sun end	5541 Sep 13 14:32	23° \mathring{M} 34'53	
evening set	5536 Aug 16 03:59	11° \mathring{M} 48'58		max. Earth dist.	5541 Sep 13 06:17	23° \mathring{M} 34'12	31.00461 AU
				morning rise	5541 Sep 29 14:50	24° \mathring{M} 10'18	
conjunction	5536 Sep 01 11:07	12° \mathring{M} 25'02	-0°12'30	retrograde	5541 Dec 27 13:40	26° \mathring{M} 05'12	
minimum elong	5536 Sep 01 11:07	12° \mathring{M} 25'02	0°12'30	opposition	5542 Mar 15 11:51	24° \mathring{M} 41'27	0°05'32
behind sun begin	5536 Sep 01 06:57	12° \mathring{M} 24'40		min. Earth dist.	5542 Mar 15 14:04	24° \mathring{M} 41'18	29.00840 AU
behind sun end	5536 Sep 01 15:17	12° \mathring{M} 25'24		direct	5542 Jun 02 04:36	23° \mathring{M} 16'44	
max. Earth dist.	5536 Sep 01 13:48	12° \mathring{M} 25'16	30.96368 AU	evening set	5542 Aug 30 14:05	25° \mathring{M} 11'41	
morning rise	5536 Sep 17 18:32	13° \mathring{M} 01'08					
retrograde	5536 Dec 16 05:02	14° \mathring{M} 56'44		conjunction	5542 Sep 15 21:26	25° \mathring{M} 47'40	0°06'51
opposition	5537 Mar 04 07:38	13° \mathring{M} 32'46	-0°11'37	minimum elong	5542 Sep 15 21:26	25° \mathring{M} 47'40	0°06'51
min. Earth dist.	5537 Mar 04 05:07	13° \mathring{M} 32'57	28.96878 AU	behind sun begin	5542 Sep 15 15:19	25° \mathring{M} 47'08	
direct	5537 May 21 16:27	12° \mathring{M} 08'16		behind sun end	5542 Sep 16 03:33	25° \mathring{M} 48'13	
evening set	5537 Aug 18 17:48	14° \mathring{M} 03'03		max. Earth dist.	5542 Sep 15 18:59	25° \mathring{M} 47'28	31.01233 AU
				morning rise	5542 Oct 02 04:09	26° \mathring{M} 23'37	
conjunction	5537 Sep 04 01:12	14° \mathring{M} 39'07	-0°09'18	retrograde	5542 Dec 30 02:31	28° \mathring{M} 18'23	
minimum elong	5537 Sep 04 01:11	14° \mathring{M} 39'07	0°09'18	opposition	5543 Mar 17 22:02	26° \mathring{M} 54'40	0°08'57
behind sun begin	5537 Sep 03 19:41	14° \mathring{M} 38'38		min. Earth dist.	5543 Mar 17 23:52	26° \mathring{M} 54'33	29.01644 AU
behind sun end	5537 Sep 04 06:42	14° \mathring{M} 39'36		direct	5543 Jun 04 18:11	25° \mathring{M} 29'55	
max. Earth dist.	5537 Sep 04 03:48	14° \mathring{M} 39'20	30.97348 AU	evening set	5543 Sep 02 03:34	27° \mathring{M} 24'53	
morning rise	5537 Sep 20 08:23	15° \mathring{M} 15'11					
retrograde	5537 Dec 18 15:35	17° \mathring{M} 10'40		conjunction	5543 Sep 18 10:49	28° \mathring{M} 00'52	0°10'01
opposition	5538 Mar 06 18:09	15° \mathring{M} 46'47	-0°08'11	minimum elong	5543 Sep 18 10:49	28° \mathring{M} 00'52	0°10'01
min. Earth dist.	5538 Mar 06 16:41	15° \mathring{M} 46'53	28.97793 AU	behind sun begin	5543 Sep 18 05:32	28° \mathring{M} 00'24	
direct	5538 May 24 04:17	14° \mathring{M} 22'15		behind sun end	5543 Sep 18 16:05	28° \mathring{M} 01'20	
evening set	5538 Aug 21 07:43	16° \mathring{M} 17'05		max. Earth dist.	5543 Sep 18 07:29	28° \mathring{M} 00'34	31.02079 AU
				morning rise	5543 Oct 04 17:20	28° \mathring{M} 36'47	
conjunction	5538 Sep 06 14:59	16° \mathring{M} 53'08	-0°06'07		5543 Nov 18 19:47	0° \mathring{M}	
minimum elong	5538 Sep 06 14:59	16° \mathring{M} 53'08	0°06'07	retrograde	5544 Jan 01 14:24	0° \mathring{M} 31'25	
behind sun begin	5538 Sep 06 08:44	16° \mathring{M} 52'34			5544 Feb 14 23:37	30° \mathring{R} \mathring{M}	
behind sun end	5538 Sep 06 21:15	16° \mathring{M} 53'41		opposition	5544 Mar 19 08:22	29° \mathring{M} 07'44	0°12'21
max. Earth dist.	5538 Sep 06 15:22	16° \mathring{M} 53'09	30.98217 AU	min. Earth dist.	5544 Mar 19 11:27	29° \mathring{M} 07'31	29.02558 AU
morning rise	5538 Sep 22 22:17	17° \mathring{M} 29'11		direct	5544 Jun 06 05:24	27° \mathring{M} 42'58	
retrograde	5538 Dec 22 03:55	19° \mathring{M} 24'32		evening set	5544 Sep 03 16:51	29° \mathring{M} 37'57	
opposition	5539 Mar 09 04:41	18° \mathring{M} 00'41	-0°04'45		5544 Sep 13 18:04	0° \mathring{M}	
min. Earth dist.	5539 Mar 09 03:48	18° \mathring{M} 00'45	28.98619 AU				

conjunction	5544 Sep 20 00:10	0° <u>♁</u> 13'55	0°13'10	morning rise	5550 Oct 20 12:26	14° <u>♁</u> 07'27	
minimum elong	5544 Sep 20 00:10	0° <u>♁</u> 13'55	0°13'10	retrograde	5551 Jan 16 17:12	16° <u>♁</u> 01'18	
behind sun begin	5544 Sep 19 20:24	0° <u>♁</u> 13'35		opposition	5551 Apr 04 08:18	14° <u>♁</u> 38'08	0°35'17
behind sun end	5544 Sep 20 03:55	0° <u>♁</u> 14'15		min. Earth dist.	5551 Apr 04 16:45	14° <u>♁</u> 37'33	29.10102 AU
max. Earth dist.	5544 Sep 19 20:52	0° <u>♁</u> 13'37	31.03054 AU	direct	5551 Jun 22 13:32	13° <u>♁</u> 13'19	
morning rise	5544 Oct 06 06:27	0° <u>♁</u> 49'49		evening set	5551 Sep 20 14:52	15° <u>♁</u> 08'37	
retrograde	5545 Jan 03 00:45	2° <u>♁</u> 44'19					
opposition	5545 Mar 21 18:36	1° <u>♁</u> 20'42	0°15'43	conjunction	5551 Oct 06 20:55	15° <u>♁</u> 44'26	0°34'30
min. Earth dist.	5545 Mar 21 21:30	1° <u>♁</u> 20'30	29.03582 AU	minimum elong	5551 Oct 06 20:55	15° <u>♁</u> 44'26	0°34'30
	5545 May 23 23:47	30° <u>♁</u> 17		max. Earth dist.	5551 Oct 06 11:11	15° <u>♁</u> 43'32	31.10495 AU
direct	5545 Jun 08 18:15	29° <u>♁</u> 55'55		morning rise	5551 Oct 23 01:16	16° <u>♁</u> 20'08	
	5545 Jun 24 07:23	0° <u>♁</u>		retrograde	5552 Jan 19 05:23	18° <u>♁</u> 13'51	
evening set	5545 Sep 06 06:24	1° <u>♁</u> 50'57		opposition	5552 Apr 05 18:26	16° <u>♁</u> 50'43	0°38'22
				min. Earth dist.	5552 Apr 06 02:47	16° <u>♁</u> 50'08	29.10893 AU
conjunction	5545 Sep 22 13:28	2° <u>♁</u> 26'54	0°16'19	direct	5552 Jun 24 03:27	15° <u>♁</u> 25'52	
minimum elong	5545 Sep 22 13:28	2° <u>♁</u> 26'54	0°16'19	evening set	5552 Sep 22 04:07	17° <u>♁</u> 21'11	
max. Earth dist.	5545 Sep 22 08:38	2° <u>♁</u> 26'28	31.04137 AU				
morning rise	5545 Oct 08 19:38	3° <u>♁</u> 02'47		conjunction	5552 Oct 08 09:56	17° <u>♁</u> 56'59	0°37'22
retrograde	5546 Jan 05 11:58	4° <u>♁</u> 57'09		minimum elong	5552 Oct 08 09:55	17° <u>♁</u> 56'58	0°37'23
opposition	5546 Mar 24 04:47	3° <u>♁</u> 33'38	0°19'04	max. Earth dist.	5552 Oct 07 23:05	17° <u>♁</u> 55'59	31.11242 AU
min. Earth dist.	5546 Mar 24 08:35	3° <u>♁</u> 33'22	29.04722 AU	morning rise	5552 Oct 24 13:57	18° <u>♁</u> 32'38	
direct	5546 Jun 11 04:22	2° <u>♁</u> 08'51		retrograde	5553 Jan 20 16:35	20° <u>♁</u> 26'13	
evening set	5546 Sep 08 19:46	4° <u>♁</u> 03'56		opposition	5553 Apr 08 04:44	19° <u>♁</u> 03'07	0°41'25
				min. Earth dist.	5553 Apr 08 14:39	19° <u>♁</u> 02'25	29.11620 AU
conjunction	5546 Sep 25 02:52	4° <u>♁</u> 39'53	0°19'26	direct	5553 Jun 26 15:17	17° <u>♁</u> 38'13	
minimum elong	5546 Sep 25 02:52	4° <u>♁</u> 39'53	0°19'26	evening set	5553 Sep 24 17:14	19° <u>♁</u> 33'33	
max. Earth dist.	5546 Sep 24 22:30	4° <u>♁</u> 39'29	31.05312 AU				
morning rise	5546 Oct 11 08:38	5° <u>♁</u> 15'44		conjunction	5553 Oct 10 22:52	20° <u>♁</u> 09'19	0°40'10
retrograde	5547 Jan 07 22:12	7° <u>♁</u> 10'00		minimum elong	5553 Oct 10 22:52	20° <u>♁</u> 09'19	0°40'11
opposition	5547 Mar 26 15:05	5° <u>♁</u> 46'35	0°22'24	max. Earth dist.	5553 Oct 10 11:48	20° <u>♁</u> 08'17	31.11950 AU
min. Earth dist.	5547 Mar 26 19:36	5° <u>♁</u> 46'16	29.05912 AU	morning rise	5553 Oct 27 02:28	20° <u>♁</u> 44'55	
direct	5547 Jun 13 15:35	4° <u>♁</u> 21'49		retrograde	5554 Jan 23 02:40	22° <u>♁</u> 38'23	
evening set	5547 Sep 11 09:09	6° <u>♁</u> 16'57		opposition	5554 Apr 10 14:48	21° <u>♁</u> 15'19	0°44'23
				min. Earth dist.	5554 Apr 11 00:47	21° <u>♁</u> 14'37	29.12313 AU
conjunction	5547 Sep 27 15:55	6° <u>♁</u> 52'52	0°22'32	direct	5554 Jun 29 04:37	19° <u>♁</u> 50'22	
minimum elong	5547 Sep 27 15:55	6° <u>♁</u> 52'52	0°22'32	evening set	5554 Sep 27 06:20	21° <u>♁</u> 45'43	
max. Earth dist.	5547 Sep 27 09:44	6° <u>♁</u> 52'18	31.06511 AU				
morning rise	5547 Oct 13 21:36	7° <u>♁</u> 28'42		conjunction	5554 Oct 13 11:33	22° <u>♁</u> 21'27	0°42'55
retrograde	5548 Jan 10 09:36	9° <u>♁</u> 22'53		minimum elong	5554 Oct 13 11:33	22° <u>♁</u> 21'27	0°42'56
opposition	5548 Mar 28 01:20	7° <u>♁</u> 59'33	0°25'41	max. Earth dist.	5554 Oct 12 23:00	22° <u>♁</u> 20'17	31.12649 AU
min. Earth dist.	5548 Mar 28 06:16	7° <u>♁</u> 59'12	29.07105 AU	morning rise	5554 Oct 29 14:52	22° <u>♁</u> 57'01	
direct	5548 Jun 15 01:57	6° <u>♁</u> 34'47		retrograde	5555 Jan 25 13:37	24° <u>♁</u> 50'22	
evening set	5548 Sep 12 22:35	8° <u>♁</u> 29'59		opposition	5555 Apr 13 01:02	23° <u>♁</u> 27'19	0°47'17
				min. Earth dist.	5555 Apr 13 11:44	23° <u>♁</u> 26'34	29.13047 AU
conjunction	5548 Sep 29 05:20	9° <u>♁</u> 05'53	0°25'35	direct	5555 Jul 01 15:23	22° <u>♁</u> 02'20	
minimum elong	5548 Sep 29 05:20	9° <u>♁</u> 05'53	0°25'35	evening set	5555 Sep 29 19:00	23° <u>♁</u> 57'41	
max. Earth dist.	5548 Sep 28 23:11	9° <u>♁</u> 05'19	31.07662 AU				
morning rise	5548 Oct 15 10:34	9° <u>♁</u> 41'41		conjunction	5555 Oct 16 00:04	24° <u>♁</u> 33'24	0°45'36
retrograde	5549 Jan 11 18:53	11° <u>♁</u> 35'45		minimum elong	5555 Oct 16 00:04	24° <u>♁</u> 33'24	0°45'36
opposition	5549 Mar 30 11:36	10° <u>♁</u> 12'30	0°28'56	max. Earth dist.	5555 Oct 15 12:13	24° <u>♁</u> 32'18	31.13407 AU
min. Earth dist.	5549 Mar 30 18:09	10° <u>♁</u> 12'02	29.08214 AU	morning rise	5555 Nov 01 02:52	25° <u>♁</u> 08'56	
direct	5549 Jun 17 14:00	8° <u>♁</u> 47'44		retrograde	5556 Jan 27 22:58	27° <u>♁</u> 02'10	
evening set	5549 Sep 15 12:10	10° <u>♁</u> 42'59		opposition	5556 Apr 14 11:12	25° <u>♁</u> 39'09	0°50'06
				min. Earth dist.	5556 Apr 14 22:24	25° <u>♁</u> 38'22	29.13843 AU
conjunction	5549 Oct 01 18:37	11° <u>♁</u> 18'51	0°28'36	direct	5556 Jul 03 03:08	24° <u>♁</u> 14'10	
minimum elong	5549 Oct 01 18:37	11° <u>♁</u> 18'51	0°28'36	evening set	5556 Oct 01 07:56	26° <u>♁</u> 09'32	
max. Earth dist.	5549 Oct 01 10:29	11° <u>♁</u> 18'06	31.08722 AU				
morning rise	5549 Oct 17 23:42	11° <u>♁</u> 54'37		conjunction	5556 Oct 17 12:31	26° <u>♁</u> 45'12	0°48'13
retrograde	5550 Jan 14 07:03	13° <u>♁</u> 48'35		minimum elong	5556 Oct 17 12:31	26° <u>♁</u> 45'12	0°48'13
opposition	5550 Apr 01 21:53	12° <u>♁</u> 25'23	0°32'08	max. Earth dist.	5556 Oct 16 23:11	26° <u>♁</u> 43'58	31.14257 AU
min. Earth dist.	5550 Apr 02 04:27	12° <u>♁</u> 24'55	29.09218 AU	morning rise	5556 Nov 02 15:05	27° <u>♁</u> 20'43	
direct	5550 Jun 20 02:07	11° <u>♁</u> 00'35		retrograde	5557 Jan 29 09:28	29° <u>♁</u> 13'51	
evening set	5550 Sep 18 01:32	12° <u>♁</u> 55'52		opposition	5557 Apr 16 21:13	27° <u>♁</u> 50'54	0°52'52
				min. Earth dist.	5557 Apr 17 08:16	27° <u>♁</u> 50'07	29.14761 AU
conjunction	5550 Oct 04 07:49	13° <u>♁</u> 31'43	0°31'34	direct	5557 Jul 05 13:35	26° <u>♁</u> 25'54	
minimum elong	5550 Oct 04 07:49	13° <u>♁</u> 31'43	0°31'35	evening set	5557 Oct 03 20:42	28° <u>♁</u> 21'19	
max. Earth dist.	5550 Oct 03 23:12	13° <u>♁</u> 30'55	31.09655 AU				

conjunction	5557 Oct 20 01:07	28° <u>♎</u> 56'58	0°50'45	retrograde	5564 Feb 14 12:48	14° <u>♍</u> 36'24	
minimum elong	5557 Oct 20 01:07	28° <u>♎</u> 56'58	0°50'46	opposition	5564 May 01 21:14	13° <u>♍</u> 13'58	1°09'45
max. Earth dist.	5557 Oct 19 12:28	28° <u>♎</u> 55'48	31.15227 AU	min. Earth dist.	5564 May 02 12:32	13° <u>♍</u> 12'54	29.21856 AU
morning rise	5557 Nov 05 03:04	29° <u>♎</u> 32'26		direct	5564 Jul 21 00:18	11° <u>♍</u> 49'06	
	5557 Nov 18 05:54	0° <u>♍</u>		evening set	5564 Oct 19 13:20	13° <u>♍</u> 44'49	
retrograde	5558 Jan 31 17:59	1° <u>♍</u> 25'30					
opposition	5558 Apr 19 07:29	0° <u>♍</u> 02'37	0°55'32	conjunction	5564 Nov 04 15:05	14° <u>♍</u> 20'15	1°06'16
min. Earth dist.	5558 Apr 19 19:32	0° <u>♍</u> 01'47	29.15788 AU	minimum elong	5564 Nov 04 15:05	14° <u>♍</u> 20'15	1°06'18
	5558 Apr 20 20:56	30° <u>♏</u> <u>♎</u>		max. Earth dist.	5564 Nov 03 22:01	14° <u>♍</u> 18'40	31.22144 AU
direct	5558 Jul 08 00:53	28° <u>♎</u> 37'39		morning rise	5564 Nov 20 13:51	14° <u>♍</u> 55'28	
	5558 Sep 20 11:19	0° <u>♍</u>			5564 Nov 22 16:19	15° <u>♍</u>	
evening set	5558 Oct 06 09:24	0° <u>♍</u> 33'07		retrograde	5565 Feb 15 22:07	16° <u>♍</u> 48'04	
				opposition	5565 May 04 07:33	15° <u>♍</u> 25'39	1°11'47
conjunction	5558 Oct 22 13:20	1° <u>♍</u> 08'44	0°53'14	min. Earth dist.	5565 May 04 23:45	15° <u>♍</u> 24'32	29.22515 AU
minimum elong	5558 Oct 22 13:19	1° <u>♍</u> 08'44	0°53'15		5565 May 19 22:19	15° <u>♏</u> <u>♍</u>	
max. Earth dist.	5558 Oct 21 23:27	1° <u>♍</u> 07'27	31.16312 AU	direct	5565 Jul 23 13:12	14° <u>♍</u> 00'46	
morning rise	5558 Nov 07 15:00	1° <u>♍</u> 44'11			5565 Sep 23 17:59	15° <u>♍</u>	
retrograde	5559 Feb 03 05:30	3° <u>♍</u> 37'11		evening set	5565 Oct 22 01:53	15° <u>♍</u> 56'28	
opposition	5559 Apr 21 17:36	2° <u>♍</u> 14'24	0°58'08	max. Earth dist.	5565 Nov 06 08:19	16° <u>♍</u> 30'08	31.22764 AU
min. Earth dist.	5559 Apr 22 05:05	2° <u>♍</u> 13'36	29.16911 AU				
direct	5559 Jul 10 11:42	0° <u>♍</u> 49'28		conjunction	5565 Nov 07 03:02	16° <u>♍</u> 31'52	1°08'07
evening set	5559 Oct 08 22:05	2° <u>♍</u> 45'00		minimum elong	5565 Nov 07 03:02	16° <u>♍</u> 31'52	1°08'08
max. Earth dist.	5559 Oct 24 11:58	3° <u>♍</u> 19'19	31.17450 AU	morning rise	5565 Nov 23 01:29	17° <u>♍</u> 07'03	
				retrograde	5566 Feb 18 08:13	18° <u>♍</u> 59'33	
conjunction	5559 Oct 25 01:45	3° <u>♍</u> 20'35	0°55'37	opposition	5566 May 06 17:55	17° <u>♍</u> 37'09	1°13'43
minimum elong	5559 Oct 25 01:45	3° <u>♍</u> 20'35	0°55'38	min. Earth dist.	5566 May 07 10:04	17° <u>♍</u> 36'02	29.23110 AU
morning rise	5559 Nov 10 02:52	3° <u>♍</u> 56'00		direct	5566 Jul 26 00:32	16° <u>♍</u> 12'14	
retrograde	5560 Feb 05 15:23	5° <u>♍</u> 48'57		evening set	5566 Oct 24 13:58	18° <u>♍</u> 07'55	
opposition	5560 Apr 23 03:49	4° <u>♍</u> 26'16	1°00'39				
min. Earth dist.	5560 Apr 23 16:56	4° <u>♍</u> 25'21	29.18064 AU	conjunction	5566 Nov 09 14:51	18° <u>♍</u> 43'17	1°09'53
direct	5560 Jul 11 22:03	3° <u>♍</u> 01'22		minimum elong	5566 Nov 09 14:51	18° <u>♍</u> 43'17	1°09'54
evening set	5560 Oct 10 10:50	4° <u>♍</u> 56'58		max. Earth dist.	5566 Nov 08 20:48	18° <u>♍</u> 41'36	31.23328 AU
				morning rise	5566 Nov 25 12:39	19° <u>♍</u> 18'24	
conjunction	5560 Oct 26 14:06	5° <u>♍</u> 32'32	0°57'56	retrograde	5567 Feb 20 15:56	21° <u>♍</u> 10'50	
minimum elong	5560 Oct 26 14:06	5° <u>♍</u> 32'32	0°57'57	opposition	5567 May 09 04:24	19° <u>♍</u> 48'26	1°15'32
max. Earth dist.	5560 Oct 25 23:30	5° <u>♍</u> 31'11	31.18591 AU	min. Earth dist.	5567 May 09 21:39	19° <u>♍</u> 47'14	29.23667 AU
morning rise	5560 Nov 11 14:52	6° <u>♍</u> 07'54		direct	5567 Jul 28 12:02	18° <u>♍</u> 23'29	
retrograde	5561 Feb 07 03:28	8° <u>♍</u> 00'49		evening set	5567 Oct 27 02:10	20° <u>♍</u> 19'08	
opposition	5561 Apr 25 14:03	6° <u>♍</u> 38'12	1°03'04	max. Earth dist.	5567 Nov 11 07:18	20° <u>♍</u> 52'41	31.23895 AU
min. Earth dist.	5561 Apr 26 02:54	6° <u>♍</u> 37'19	29.19169 AU				
direct	5561 Jul 14 11:50	5° <u>♍</u> 13'21		conjunction	5567 Nov 12 02:29	20° <u>♍</u> 54'28	1°11'32
evening set	5561 Oct 12 23:38	7° <u>♍</u> 09'00		minimum elong	5567 Nov 12 02:29	20° <u>♍</u> 54'28	1°11'32
max. Earth dist.	5561 Oct 28 10:56	7° <u>♍</u> 43'06	31.19642 AU	morning rise	5567 Nov 27 23:58	21° <u>♍</u> 29'33	
				retrograde	5568 Feb 23 02:38	23° <u>♍</u> 21'53	
conjunction	5561 Oct 29 02:28	7° <u>♍</u> 44'32	1°00'09	opposition	5568 May 10 14:34	21° <u>♍</u> 59'29	1°17'14
minimum elong	5561 Oct 29 02:28	7° <u>♍</u> 44'32	1°00'10	min. Earth dist.	5568 May 11 07:07	21° <u>♍</u> 58'20	29.24255 AU
morning rise	5561 Nov 14 02:42	8° <u>♍</u> 19'52		direct	5568 Jul 29 22:55	20° <u>♍</u> 34'30	
retrograde	5562 Feb 09 14:44	10° <u>♍</u> 12'43		evening set	5568 Oct 28 14:11	22° <u>♍</u> 30'09	
opposition	5562 Apr 28 00:27	8° <u>♍</u> 50'11	1°05'24				
min. Earth dist.	5562 Apr 28 14:46	8° <u>♍</u> 49'11	29.20185 AU	conjunction	5568 Nov 13 14:10	23° <u>♍</u> 05'27	1°13'04
direct	5562 Jul 16 23:29	7° <u>♍</u> 25'20		minimum elong	5568 Nov 13 14:09	23° <u>♍</u> 05'27	1°13'06
evening set	5562 Oct 15 12:17	9° <u>♍</u> 21'02		max. Earth dist.	5568 Nov 12 19:20	23° <u>♍</u> 03'42	31.24501 AU
				morning rise	5568 Nov 29 11:03	23° <u>♍</u> 40'30	
conjunction	5562 Oct 31 14:48	9° <u>♍</u> 56'32	1°02'17	retrograde	5569 Feb 24 11:20	25° <u>♍</u> 32'46	
minimum elong	5562 Oct 31 14:47	9° <u>♍</u> 56'32	1°02'18	opposition	5569 May 13 01:05	24° <u>♍</u> 10'23	1°18'50
max. Earth dist.	5562 Oct 30 23:01	9° <u>♍</u> 55'04	31.20599 AU	min. Earth dist.	5569 May 13 18:46	24° <u>♍</u> 09'10	29.24909 AU
morning rise	5562 Nov 16 14:31	10° <u>♍</u> 31'49		direct	5569 Aug 01 09:38	22° <u>♍</u> 45'23	
retrograde	5563 Feb 12 01:04	12° <u>♍</u> 24'36		evening set	5569 Oct 31 02:09	24° <u>♍</u> 41'03	
opposition	5563 Apr 30 10:50	11° <u>♍</u> 02'07	1°07'38	max. Earth dist.	5569 Nov 15 06:36	25° <u>♍</u> 14'32	31.25205 AU
min. Earth dist.	5563 May 01 01:16	11° <u>♍</u> 01'07	29.21076 AU				
direct	5563 Jul 19 12:34	9° <u>♍</u> 37'17		conjunction	5569 Nov 16 01:37	25° <u>♍</u> 16'18	1°14'31
evening set	5563 Oct 18 00:51	11° <u>♍</u> 32'59		minimum elong	5569 Nov 16 01:37	25° <u>♍</u> 16'18	1°14'32
max. Earth dist.	5563 Nov 02 09:26	12° <u>♍</u> 06'51	31.21427 AU	morning rise	5569 Dec 01 22:04	25° <u>♍</u> 51'19	
				retrograde	5570 Feb 26 22:01	27° <u>♍</u> 43'31	
conjunction	5563 Nov 03 02:50	12° <u>♍</u> 08'27	1°04'20	opposition	5570 May 15 11:29	26° <u>♍</u> 21'11	1°20'19
minimum elong	5563 Nov 03 02:50	12° <u>♍</u> 08'27	1°04'20	min. Earth dist.	5570 May 16 04:15	26° <u>♍</u> 20'02	29.25659 AU
morning rise	5563 Nov 19 02:13	12° <u>♍</u> 43'42		direct	5570 Aug 03 22:37	24° <u>♍</u> 56'13	

evening set	5570 Nov 02 14:02	26° ℳ 51'53		minimum elong	5576 Dec 01 08:46	10° ↗ 33'30	1°21'30
				morning rise	5576 Dec 17 01:56	11° ↗ 08'18	
conjunction	5570 Nov 18 13:02	27° ℳ 27'06	1°15'51	retrograde	5577 Mar 13 22:45	13° ↗ 00'25	
minimum elong	5570 Nov 18 13:02	27° ℳ 27'06	1°15'53	opposition	5577 May 30 14:10	11° ↗ 38'29	1°27'18
max. Earth dist.	5570 Nov 17 17:48	27° ℳ 25'19	31.26001 AU	min. Earth dist.	5577 May 31 09:08	11° ↗ 37'11	29.30469 AU
morning rise	5570 Dec 04 08:59	28° ℳ 02'05		direct	5577 Aug 19 07:40	10° ↗ 13'45	
retrograde	5571 Mar 01 08:50	29° ℳ 54'17		evening set	5577 Nov 18 00:03	12° ↗ 09'35	
opposition	5571 May 17 21:59	28° ℳ 32'00	1°21'41				
min. Earth dist.	5571 May 18 15:32	28° ℳ 30'47	29.26508 AU	conjunction	5577 Dec 03 19:53	12° ↗ 44'36	1°21'59
direct	5571 Aug 06 09:11	27° ℳ 07'04		minimum elong	5577 Dec 03 19:53	12° ↗ 44'36	1°22'01
evening set	5571 Nov 05 01:41	29° ℳ 02'46		max. Earth dist.	5577 Dec 02 22:38	12° ↗ 42'38	31.30503 AU
max. Earth dist.	5571 Nov 20 05:35	29° ℳ 36'13	31.26879 AU	morning rise	5577 Dec 19 12:27	13° ↗ 19'22	
				retrograde	5578 Mar 16 07:17	15° ↗ 11'28	
conjunction	5571 Nov 21 00:21	29° ℳ 37'58	1°17'04	opposition	5578 Jun 02 01:08	13° ↗ 49'32	1°27'49
minimum elong	5571 Nov 21 00:20	29° ℳ 37'58	1°17'05	min. Earth dist.	5578 Jun 02 21:26	13° ↗ 48'09	29.30681 AU
	5571 Nov 30 22:14	0° ↗		direct	5578 Aug 21 18:33	12° ↗ 24'48	
morning rise	5571 Dec 06 19:48	0° ↗ 12'55		evening set	5578 Nov 20 11:28	14° ↗ 20'36	
retrograde	5572 Mar 02 19:07	2° ↗ 05'05		max. Earth dist.	5578 Dec 05 09:19	14° ↗ 53'35	31.30671 AU
opposition	5572 May 19 08:30	0° ↗ 42'53	1°22'55				
min. Earth dist.	5572 May 20 01:49	0° ↗ 41'41	29.27383 AU	conjunction	5578 Dec 06 06:49	14° ↗ 55'35	1°22'24
	5572 Jun 15 10:59	30° ℳ		minimum elong	5578 Dec 06 06:49	14° ↗ 55'35	1°22'27
direct	5572 Aug 07 21:57	29° ℳ 18'01		morning rise	5578 Dec 21 23:01	15° ↗ 30'20	
	5572 Sep 28 20:09	0° ↗		retrograde	5579 Mar 18 17:27	17° ↗ 22'24	
evening set	5572 Nov 06 13:37	1° ↗ 13'46		opposition	5579 Jun 04 11:54	16° ↗ 00'27	1°28'12
				min. Earth dist.	5579 Jun 05 07:29	15° ↗ 59'06	29.30805 AU
conjunction	5572 Nov 22 11:40	1° ↗ 48'55	1°18'10	direct	5579 Aug 24 07:18	14° ↗ 35'41	
minimum elong	5572 Nov 22 11:40	1° ↗ 48'55	1°18'12	evening set	5579 Nov 22 22:40	16° ↗ 31'27	
max. Earth dist.	5572 Nov 21 15:44	1° ↗ 47'04	31.27746 AU				
morning rise	5572 Dec 08 06:45	2° ↗ 23'50		conjunction	5579 Dec 08 17:35	17° ↗ 06'25	1°22'42
retrograde	5573 Mar 05 07:05	4° ↗ 16'00		minimum elong	5579 Dec 08 17:35	17° ↗ 06'25	1°22'43
opposition	5573 May 21 19:02	2° ↗ 53'53	1°24'03	max. Earth dist.	5579 Dec 07 19:47	17° ↗ 04'23	31.30766 AU
min. Earth dist.	5573 May 22 12:49	2° ↗ 52'39	29.28240 AU	morning rise	5579 Dec 24 09:23	17° ↗ 41'07	
direct	5573 Aug 10 09:21	1° ↗ 29'04		retrograde	5580 Mar 20 03:52	19° ↗ 33'10	
evening set	5573 Nov 09 01:23	3° ↗ 24'51		opposition	5580 Jun 05 22:48	18° ↗ 11'12	1°28'27
				min. Earth dist.	5580 Jun 06 19:05	18° ↗ 09'48	29.30898 AU
conjunction	5573 Nov 24 23:07	3° ↗ 59'59	1°19'10	direct	5580 Aug 25 17:34	16° ↗ 46'24	
minimum elong	5573 Nov 24 23:07	3° ↗ 59'59	1°19'11	evening set	5580 Nov 24 09:47	18° ↗ 42'09	
max. Earth dist.	5573 Nov 24 03:54	3° ↗ 58'12	31.28559 AU	max. Earth dist.	5580 Dec 09 07:15	19° ↗ 15'07	31.30862 AU
morning rise	5573 Dec 10 17:33	4° ↗ 34'52					
retrograde	5574 Mar 07 16:49	6° ↗ 27'02		conjunction	5580 Dec 10 04:19	19° ↗ 17'04	1°22'53
opposition	5574 May 24 05:50	5° ↗ 04'59	1°25'03	minimum elong	5580 Dec 10 04:19	19° ↗ 17'04	1°22'54
min. Earth dist.	5574 May 25 00:20	5° ↗ 03'43	29.28998 AU	morning rise	5580 Dec 25 19:36	19° ↗ 51'45	
direct	5574 Aug 12 22:09	3° ↗ 40'13		retrograde	5581 Mar 22 13:32	21° ↗ 43'46	
evening set	5574 Nov 11 13:07	5° ↗ 36'02		opposition	5581 Jun 08 09:38	20° ↗ 21'47	1°28'35
				min. Earth dist.	5581 Jun 09 05:22	20° ↗ 20'25	29.31005 AU
conjunction	5574 Nov 27 10:13	6° ↗ 11'08	1°20'03	direct	5581 Aug 28 06:43	18° ↗ 56'59	
minimum elong	5574 Nov 27 10:13	6° ↗ 11'08	1°20'04	evening set	5581 Nov 26 20:54	20° ↗ 52'42	
max. Earth dist.	5574 Nov 26 13:34	6° ↗ 09'13	31.29260 AU				
morning rise	5574 Dec 13 04:20	6° ↗ 46'00		conjunction	5581 Dec 12 14:51	21° ↗ 27'35	1°22'57
retrograde	5575 Mar 10 03:33	8° ↗ 38'09		minimum elong	5581 Dec 12 14:51	21° ↗ 27'35	1°22'57
opposition	5575 May 26 16:35	7° ↗ 16'09	1°25'55	max. Earth dist.	5581 Dec 11 17:07	21° ↗ 25'34	31.31005 AU
min. Earth dist.	5575 May 27 10:52	7° ↗ 14'54	29.29641 AU	morning rise	5581 Dec 28 05:48	22° ↗ 02'14	
direct	5575 Aug 15 09:23	5° ↗ 51'25		retrograde	5582 Mar 25 01:40	23° ↗ 54'14	
evening set	5575 Nov 14 00:47	7° ↗ 47'15		opposition	5582 Jun 10 20:38	22° ↗ 32'15	1°28'35
				min. Earth dist.	5582 Jun 11 16:03	22° ↗ 30'55	29.31202 AU
conjunction	5575 Nov 29 21:35	8° ↗ 22'20	1°20'49	direct	5582 Aug 30 18:39	21° ↗ 07'27	
minimum elong	5575 Nov 29 21:35	8° ↗ 22'20	1°20'49	evening set	5582 Nov 29 07:37	23° ↗ 03'09	
max. Earth dist.	5575 Nov 29 01:30	8° ↗ 20'28	31.29820 AU	max. Earth dist.	5582 Dec 14 05:02	23° ↗ 36'08	31.31246 AU
morning rise	5575 Dec 15 15:03	8° ↗ 57'09					
retrograde	5576 Mar 11 11:45	10° ↗ 49'17		conjunction	5582 Dec 15 01:18	23° ↗ 38'01	1°22'53
opposition	5576 May 28 03:22	9° ↗ 27'20	1°26'41	minimum elong	5582 Dec 15 01:18	23° ↗ 38'01	1°22'55
min. Earth dist.	5576 May 28 22:56	9° ↗ 25'59	29.30128 AU	morning rise	5582 Dec 30 15:42	24° ↗ 12'38	
direct	5576 Aug 16 20:46	8° ↗ 02'37		retrograde	5583 Mar 27 11:00	26° ↗ 04'39	
evening set	5576 Nov 15 12:34	9° ↗ 58'27		opposition	5583 Jun 13 07:39	24° ↗ 42'40	1°28'28
max. Earth dist.	5576 Nov 30 11:23	10° ↗ 31'31	31.30237 AU	min. Earth dist.	5583 Jun 14 03:09	24° ↗ 41'20	29.31479 AU
				direct	5583 Sep 02 07:37	23° ↗ 17'55	
conjunction	5576 Dec 01 08:46	10° ↗ 33'30	1°21'28	evening set	5583 Dec 01 18:35	25° ↗ 13'37	

conjunction	5583 Dec 17 11:41	25° 7 48'27	1°22'43	minimum elong	5589 Dec 30 01:50	8° 3 52'00	1°19'12
minimum elong	5583 Dec 17 11:41	25° 7 48'27	1°22'44	morning rise	5590 Jan 14 13:38	9° 3 26'29	
max. Earth dist.	5583 Dec 16 14:40	25° 7 46'30	31.31570 AU	retrograde	5590 Apr 11 09:02	11° 3 18'42	
morning rise	5584 Jan 02 01:52	26° 7 23'03		opposition	5590 Jun 28 14:23	9° 3 56'49	1°24'04
retrograde	5584 Mar 28 21:48	28° 7 15'05		min. Earth dist.	5590 Jun 29 09:19	9° 3 55'32	29.32547 AU
opposition	5584 Jun 14 18:28	26° 7 53'08	1°28'13	direct	5590 Sep 17 15:18	8° 3 32'16	
min. Earth dist.	5584 Jun 15 13:09	26° 7 51'51	29.31830 AU	evening set	5590 Dec 16 21:33	10° 3 27'51	
direct	5584 Sep 03 18:42	25° 7 28'25					
evening set	5584 Dec 03 05:24	27° 7 24'07		conjunction	5591 Jan 01 11:49	11° 3 02'32	1°18'12
				minimum elong	5591 Jan 01 11:50	11° 3 02'32	1°18'13
conjunction	5584 Dec 18 22:14	27° 7 58'56	1°22'25	max. Earth dist.	5590 Dec 31 15:11	11° 3 00'36	31.32333 AU
minimum elong	5584 Dec 18 22:14	27° 7 58'56	1°22'27	morning rise	5591 Jan 16 23:28	11° 3 37'00	
max. Earth dist.	5584 Dec 18 02:23	27° 7 57'05	31.31926 AU	retrograde	5591 Apr 13 21:11	13° 3 29'15	
morning rise	5585 Jan 03 11:51	28° 7 33'30		opposition	5591 Jul 01 01:50	12° 3 07'19	1°22'58
	5585 Feb 20 05:50	0° 3		min. Earth dist.	5591 Jul 01 20:39	12° 3 06'02	29.32247 AU
retrograde	5585 Mar 31 06:37	0° 3 25'34		direct	5591 Sep 20 02:49	10° 3 42'46	
	5585 May 10 10:07	30° 8 7		evening set	5591 Dec 19 07:54	12° 3 38'17	
opposition	5585 Jun 17 05:41	29° 7 03'39	1°27'50	conjunction	5592 Jan 03 22:00	13° 3 12'58	1°17'06
min. Earth dist.	5585 Jun 18 01:08	29° 7 02'19	29.32182 AU	minimum elong	5592 Jan 03 22:00	13° 3 12'58	1°17'07
direct	5585 Sep 06 06:40	27° 7 39'00		max. Earth dist.	5592 Jan 03 02:38	13° 3 11'09	31.31990 AU
evening set	5585 Dec 05 16:12	29° 7 34'41		morning rise	5592 Jan 19 09:11	13° 3 47'24	
	5585 Dec 17 02:54	0° 3		retrograde	5592 Apr 15 06:30	15° 3 39'41	
conjunction	5585 Dec 21 08:28	0° 3 09'29	1°22'00	opposition	5592 Jul 02 13:14	14° 3 17'42	1°21'44
minimum elong	5585 Dec 21 08:28	0° 3 09'29	1°22'01	min. Earth dist.	5592 Jul 03 08:18	14° 3 16'24	29.31867 AU
max. Earth dist.	5585 Dec 20 12:01	0° 3 07'34	31.32268 AU	direct	5592 Sep 21 15:47	12° 3 53'08	
morning rise	5586 Jan 05 21:49	0° 3 44'02		evening set	5592 Dec 20 18:19	14° 3 48'37	
retrograde	5586 Apr 02 17:47	2° 3 36'08		max. Earth dist.	5593 Jan 04 11:57	15° 3 21'24	31.31610 AU
opposition	5586 Jun 19 16:50	1° 3 14'15	1°27'20				
min. Earth dist.	5586 Jun 20 11:12	1° 3 13'00	29.32491 AU	conjunction	5593 Jan 05 07:53	15° 3 23'16	1°15'54
	5586 Aug 13 22:35	30° 8 7		minimum elong	5593 Jan 05 07:53	15° 3 23'16	1°15'56
direct	5586 Sep 08 18:04	29° 7 49'38		morning rise	5593 Jan 20 18:56	15° 3 57'42	
	5586 Oct 04 02:31	0° 3		retrograde	5593 Apr 17 17:35	17° 3 50'00	
evening set	5586 Dec 08 02:57	1° 3 45'19		opposition	5593 Jul 05 00:43	16° 3 27'59	1°20'24
conjunction	5586 Dec 23 18:52	2° 3 20'06	1°21'28	min. Earth dist.	5593 Jul 05 18:38	16° 3 26'46	29.31497 AU
minimum elong	5586 Dec 23 18:52	2° 3 20'06	1°21'30	direct	5593 Sep 24 03:24	15° 3 03'25	
max. Earth dist.	5586 Dec 22 22:51	2° 3 18'13	31.32530 AU	evening set	5593 Dec 23 04:21	16° 3 58'51	
morning rise	5587 Jan 08 07:46	2° 3 54'38		conjunction	5594 Jan 07 17:41	17° 3 33'29	1°14'35
retrograde	5587 Apr 05 02:25	4° 3 46'46		minimum elong	5594 Jan 07 17:41	17° 3 33'29	1°14'36
opposition	5587 Jun 22 04:09	3° 3 24'54	1°26'42	max. Earth dist.	5594 Jan 06 23:19	17° 3 31'46	31.31258 AU
min. Earth dist.	5587 Jun 22 23:37	3° 3 23'34	29.32711 AU	morning rise	5594 Jan 23 04:17	18° 3 07'54	
direct	5587 Sep 11 04:30	2° 3 00'19		retrograde	5594 Apr 20 02:32	20° 3 00'15	
evening set	5587 Dec 10 13:40	3° 3 55'59		opposition	5594 Jul 07 12:25	18° 3 38'12	1°18'56
max. Earth dist.	5587 Dec 25 09:09	4° 3 28'52	31.32694 AU	min. Earth dist.	5594 Jul 08 06:32	18° 3 36'57	29.31184 AU
				direct	5594 Sep 26 15:54	17° 3 13'39	
conjunction	5587 Dec 26 05:12	4° 3 30'44	1°20'49	evening set	5594 Dec 25 14:31	19° 3 09'02	
minimum elong	5587 Dec 26 05:12	4° 3 30'44	1°20'50	max. Earth dist.	5595 Jan 09 09:03	19° 3 41'56	31.31002 AU
morning rise	5588 Jan 10 17:47	5° 3 05'15					
retrograde	5588 Apr 06 12:23	6° 3 57'25		conjunction	5595 Jan 10 03:24	19° 3 43'39	1°13'10
opposition	5588 Jun 23 15:26	5° 3 35'34	1°25'56	minimum elong	5595 Jan 10 03:24	19° 3 43'39	1°13'12
min. Earth dist.	5588 Jun 24 10:07	5° 3 34'17	29.32796 AU	morning rise	5595 Jan 25 13:52	20° 3 18'04	
direct	5588 Sep 12 16:28	4° 3 11'00		retrograde	5595 Apr 22 13:40	22° 3 10'28	
evening set	5588 Dec 12 00:26	6° 3 06'39		opposition	5595 Jul 09 23:48	20° 3 48'24	1°17'22
conjunction	5588 Dec 27 15:30	6° 3 41'23	1°20'03	min. Earth dist.	5595 Jul 10 16:13	20° 3 47'17	29.30975 AU
minimum elong	5588 Dec 27 15:30	6° 3 41'23	1°20'05	direct	5595 Sep 29 03:32	19° 3 23'53	
max. Earth dist.	5588 Dec 26 19:01	6° 3 39'28	31.32704 AU	evening set	5595 Dec 28 00:33	21° 3 19'16	
morning rise	5589 Jan 12 03:43	7° 3 15'53		conjunction	5596 Jan 12 13:12	21° 3 53'53	1°11'39
retrograde	5589 Apr 08 23:04	9° 3 08'05		minimum elong	5596 Jan 12 13:12	21° 3 53'53	1°11'40
opposition	5589 Jun 26 02:53	7° 3 46'13	1°25'04	max. Earth dist.	5596 Jan 11 19:43	21° 3 52'15	31.30839 AU
min. Earth dist.	5589 Jun 26 22:14	7° 3 44'54	29.32744 AU	morning rise	5596 Jan 27 23:20	22° 3 28'17	
direct	5589 Sep 15 02:10	6° 3 21'40		retrograde	5596 Apr 23 22:20	24° 3 20'46	
evening set	5589 Dec 14 11:03	8° 3 17'17		opposition	5596 Jul 11 11:30	22° 3 58'43	1°15'42
max. Earth dist.	5589 Dec 29 06:03	8° 3 50'09	31.32585 AU	min. Earth dist.	5596 Jul 12 04:21	22° 3 57'34	29.30855 AU
				direct	5596 Sep 30 13:51	21° 3 34'16	
conjunction	5589 Dec 30 01:50	8° 3 52'00	1°19'11	evening set	5596 Dec 29 10:33	23° 3 29'37	

conjunction	5597 Jan 13 22:52	24°304'13	1°10'02
minimum elong	5597 Jan 13 22:52	24°304'13	1°10'03
max. Earth dist.	5597 Jan 13 06:12	24°302'39	31.30759 AU
morning rise	5597 Jan 29 08:46	24°338'37	
retrograde	5597 Apr 26 08:07	26°331'11	
opposition	5597 Jul 13 23:09	25°309'10	1°13'54
min. Earth dist.	5597 Jul 14 14:37	25°308'07	29.30781 AU
direct	5597 Oct 03 01:07	23°344'47	
evening set	5597 Dec 31 20:37	25°340'08	

conjunction	5598 Jan 16 08:34	26°314'43	1°08'18
minimum elong	5598 Jan 16 08:34	26°314'43	1°08'19
max. Earth dist.	5598 Jan 15 15:58	26°313'10	31.30697 AU
morning rise	5598 Jan 31 18:16	26°349'07	
retrograde	5598 Apr 28 19:19	28°341'48	
opposition	5598 Jul 16 11:00	27°319'47	1°12'00
min. Earth dist.	5598 Jul 17 02:37	27°318'43	29.30723 AU
direct	5598 Oct 05 09:35	25°355'28	
evening set	5599 Jan 03 06:28	27°350'48	

conjunction	5599 Jan 18 18:15	28°325'23	1°06'28
minimum elong	5599 Jan 18 18:15	28°325'23	1°06'30
max. Earth dist.	5599 Jan 18 02:55	28°323'57	31.30622 AU
morning rise	5599 Feb 03 03:40	28°359'47	
	5599 Mar 05 06:32	0°≈	
retrograde	5599 May 01 05:37	0°≈52'34	
	5599 Jun 30 10:52	30°R3	
opposition	5599 Jul 18 22:53	29°330'33	1°10'00
min. Earth dist.	5599 Jul 19 13:51	29°329'33	29.30602 AU
direct	5599 Oct 07 22:20	28°306'19	
	5600 Jan 04 22:46	0°≈	
evening set	5600 Jan 05 16:38	0°≈01'38	
max. Earth dist.	5600 Jan 20 11:54	0°≈34'41	31.30462 AU

conjunction	5600 Jan 21 03:58	0°≈36'12	1°04'33
minimum elong	5600 Jan 21 03:58	0°≈36'12	1°04'33
morning rise	5600 Feb 05 13:18	1°≈10'35	
retrograde	5600 May 02 18:33	3°≈03'28	
opposition	5600 Jul 20 10:45	1°≈41'27	1°07'53
min. Earth dist.	5600 Jul 21 01:23	1°≈40'28	29.30395 AU
direct	5600 Oct 09 08:45	0°≈17'15	
evening set	5601 Jan 07 02:39	2°≈12'33	

conjunction	5601 Jan 22 13:52	2°≈47'07	1°02'31
minimum elong	5601 Jan 22 13:52	2°≈47'07	1°02'33
max. Earth dist.	5601 Jan 21 23:10	2°≈45'44	31.30192 AU
morning rise	5601 Feb 06 22:49	3°≈21'30	
retrograde	5601 May 05 04:34	5°≈14'28	
opposition	5601 Jul 22 22:56	3°≈52'26	1°05'41
min. Earth dist.	5601 Jul 23 13:46	3°≈51'26	29.30052 AU
direct	5601 Oct 11 20:49	2°≈28'16	
evening set	5602 Jan 09 12:42	4°≈23'32	